CITY OF ONTARIO

Regular City Council/Housing Authority Meeting
JUNE 20, 2023

City Hall
303 East B Street, Ontario, CA 91764

MAYOR PAUL S. LEON • MAYOR PRO TEM DEBRA DORST-PORADA
COUNCIL MEMBERS ALAN D. WAPNER, JIM W. BOWMAN AND RUBEN VALENCIA

CITY CLERK SHEILA MAUTZ • TREASURER JAMES R. MILHISER
CITY MANAGER SCOTT OCHOA • CITY ATTORNEY RUBEN DURAN

WELCOME TO A MEETING OF THE ONTARIO CITY COUNCIL

All documents for public review are on file with the Records Management/City Clerk's Department located at 303 East B Street, Ontario, CA 91764.

Anyone wishing to speak in person during public comment or on a particular item will be required to fill out a blue slip. Blue slips must be turned in prior to public comment beginning or before an agenda item is taken up. The Clerk will not accept blue slips after that time. To comment by email, submit your comments no later than 4:00 p.m. on the day of the meeting by emailing your name, agenda item you are commenting on and your comments to publiccomments@ontarioca.gov. All comments received by the deadline will be forwarded to the City Council for consideration before action is taken on the matter and will be entered into the record.

Comments will be limited to 3 minutes. Speakers will be alerted when they have 1 minute remaining and when their time is up. Speakers are then to return to their seats and no further comments will be permitted.

In accordance with State Law, remarks during public comment are to be limited to subjects within Council's jurisdiction. Remarks on other agenda items will be limited to those items.

Remarks from those seated or standing in the back of the chamber will not permitted. All those wishing to speak including Council and Staff need to be recognized by the Chair before speaking.

ACCOMODATIONS

If you need special assistance or accommodations to participate in this meeting, please contact the City Clerk's office at 909-395-2009. Notification of 48 hours prior to the meeting will help the City make reasonable arrangements. Equipment for the hearing impaired is available in the Records Management Office.

ORDER OF BUSINESS

The regular City Council and Housing Authority meeting begins with Closed Session and Closed Session Comment at 5:30 p.m. Public Comment at 6:30 p.m. immediately followed by the Regular Meeting and Public Hearings. No agenda item will be introduced for consideration after 10:00 p.m. except by majority vote of the City Council.

CALL TO ORDER *(OPEN SESSION)*

ROLL CALL

Dorst-Porada, Wapner, Bowman, Valencia, Mayor/Chairman Leon

CLOSED SESSION PUBLIC COMMENT

The Closed Session Public Comment portion of the Council/Housing Authority meeting is limited to a maximum of 3 minutes for each speaker and comments will be limited to matters appearing on the Closed Session. Additional opportunities for further Public Comment will be given during and at the end of the meeting.

CLOSED SESSION

GC 54956.9 (d)(1), CONFERENCE WITH LEGAL COUNSEL, EXISTING LITIGATION: Agustin Martinez v. City of Ontario, and Does 1-10, inclusive, U.S. District Court, Central District of California, Case No. 5:21-cv-01099-JGB-SP

GC 54957.6, CONFERENCE WITH LABOR NEGOTIATIONS: City Negotiator: City Manager or his designees; Bargaining Units: Ontario Police Officers Association, Ontario Police Management Group, Ontario Professional Firefighters Association Local 1430, Ontario Fire Management Group, Department Heads, Executives, AFSCME Local 3061, Teamsters Local 1932, Association of Management Employees, Confidential Group, and Part-time Employees.

GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Property: APN: 1048-363-01; 434 North Euclid Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Faisal Afsari; Under negotiation: Price and terms of payment.

GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Property: APNs: 0218-101-03, 0218-101-04, 0218-101-05, 0218-101-06; Southeast Corner Riverside Drive and Vineyard Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: JCLIN INVESTMENT LP; Under negotiation: Price and terms of payment

GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Property: APNs: 0218-111-08, 0218-111-11, 0218-111-12, 0218-111-49, 0218-111-50; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: 15 Dairy River LLC; Under negotiation: Price and terms of payment

GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Property: APN: 0218-111-06; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Sanchez Family Trust; Under negotiation: Price and terms of payment

GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Property: APN: 0218-111-05; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Raymundo Flores; Under negotiation: Price and terms of payment

GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Property: APNs: 0218-111-04, 0218-111-45; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Ontario WF Farm LLC; Under negotiation: Price and terms of payment

ATTACHMENT: 20230620 Closed Session

PLEDGE OF ALLEGIANCE

Council Member Bowman

INVOCATION

Senior Pastor Gresford A. Thomas, Ontario Seventh-Day Adventist Church

REPORT ON CLOSED SESSION

City Attorney

SPECIAL CEREMONIES

ONTARIO 5K REINDEER RUN & RUDOLPH'S DASH CHECK PRESENTATION TO ONTARIO-MONTCLAIR SCHOOLS FOUNDATION

That the City Council present the Ontario-Montclair Schools Foundation with a check for the proceeds of the 2022 Ontario 5K Reindeer Run & Rudolph's DASH.

PUBLIC COMMENTS 6:30 P.M.

The Public Comment portion of the Council/Housing Authority meeting is limited to 30 minutes with each speaker given a maximum of 3 minutes. An opportunity for further Public Comment may be given at the end of the meeting. Under provisions of the Brown Act, Council is prohibited from taking action on oral requests.

To comment by email, submit your comments by email no later than 4:00 p.m. on the day of the meeting by emailing your name, agenda item you are commenting on and your comment to publiccomments@ontarioca.gov. All Comments received by the deadline will be forwarded to the City Council for consideration before action is taken on the matter and entered into the record. As previously noted -- if you wish to address the Council, fill out one of the blue slips at the rear of the chambers and give it to the City Clerk.

AGENDA REVIEW/ANNOUNCEMENTS

The City Manager will go over all updated materials and correspondence received after the Agenda was distributed to ensure Council Members have received them. He will also make any necessary recommendations regarding Agenda modifications or announcements regarding Agenda items to be considered.

CONSENT CALENDAR

All matters listed under CONSENT CALENDAR will be enacted by one motion in the form listed below – there will be no separate discussion on these items prior to the time Council votes on them, unless a member of the Council requests a specific item be removed from the Consent Calendar for a separate vote.

Each member of the public wishing to address the City Council on items listed on the Consent Calendar will be given a total of 3 minutes.

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1. APPROVAL OF MINUTES

Minutes for the regular meetings of the City Council and Housing Authority of May 16, 2023 and approving same as on file in the Records Management Department.

ATTACHMENT: 20230516 Minutes (Not official until approved)

2. BILLS & PAYROLL

Bills May 19, 2023 through June 1, 2023, and Payroll May 7, 2023 through May 20, 2023 when audited by the Finance Committee.

3. ANNUAL LEVY OF ASSESSMENTS WITHIN ONTARIO PARKWAY MAINTENANCE

ASSESSMENT DISTRICT NOS. 1, 2, 3 AND 4 FOR FISCAL YEAR 2023-24

That the City Council adopt Resolutions pertaining to the levy of assessments within Ontario Parkway Maintenance Assessment District (OPMAD) Nos. 1, 2, 3 and 4:

A. A Resolution initiating proceedings and ordering the preparation of an Engineer's Report for each district relating to the annual levy of assessments;
B. A Resolution giving preliminary approval of the Engineer's Report;
C. A Resolution for District Nos. 1, 2 and 3, and a Resolution for District No. 4, declaring the City's intention to levy the special assessments for Fiscal Year 2023-24 and set the date of July 18, 2023, for a Public Hearing on each district in accordance with the Landscaping and Lighting Act of 1972.

   A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, ORDERING THE PREPARATION OF THE ASSESSMENT ENGINEER'S REPORTS PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, FOR PROCEEDINGS FOR THE ANNUAL ASSESSMENT LEVY WITHIN ONTARIO PARKWAY MAINTENANCE ASSESSMENT DISTRICTS NO. 1, 2, 3 AND 4 FOR FISCAL YEAR 2023-24.

   A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING THE ASSESSMENT ENGINEER'S REPORTS FOR THE ANNUAL LEVY OF ASSESSMENTS WITHIN ONTARIO PARKWAY MAINTENANCE ASSESSMENT DISTRICTS NO. 1, 2, 3 AND 4 FOR FISCAL YEAR 2023-24.

   A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DECLARING ITS INTENTION TO PROVIDE FOR AN ANNUAL LEVY AND COLLECTION OF ASSESSMENTS FOR FISCAL YEAR 2023-24 IN ONTARIO PARKWAY MAINTENANCE ASSESSMENT DISTRICTS NO. 1, 2 AND 3, PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, AND SETTING A TIME AND PLACE FOR A PUBLIC HEARING THEREON.

   A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DECLARING ITS INTENTION TO PROVIDE FOR AN ANNUAL LEVY AND COLLECTION OF ASSESSMENTS FOR FISCAL YEAR 2023-24 IN ONTARIO PARKWAY MAINTENANCE ASSESSMENT DISTRICT NO. 4, PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, AND SETTING A TIME AND PLACE FOR A PUBLIC HEARING THEREON.

ATTACHMENT: OPMAD Levy^01 EXH A
ATTACHMENT: OPMAD Levy^02 Vicinity Maps
ATTACHMENT: OPMAD Levy 03 RESO - Ordering Engineer Report^RM
ATTACHMENT: OPMAD Levy^04 Boundary Maps
ATTACHMENT: OPMAD Levy^05 RESO - Approving Engineer Report^RM
ATTACHMENT: OPMAD Levy^06 RESO - Intention to Levy 1, 2, and 3^RM
ATTACHMENT: OPMAD Levy^07 RESO - Intention to Levy 4^RM

4. ANNUAL LEVY OF ASSESSMENTS WITHIN STREET LIGHTING MAINTENANCE DISTRICT NOS. 1 AND 2 FOR FISCAL YEAR 2023-24

That the City Council adopt Resolutions pertaining to the levy of assessments within Street Lighting Maintenance District (SLMD) Nos. 1 and 2:

A. A Resolution initiating proceedings and ordering the preparation of an Engineer's Report for each district relating to the annual levy of assessments;
B. A Resolution giving preliminary approval of the Engineer's Reports; and
C. A Resolution for each district declaring the City's intention to levy the special assessments for Fiscal Year 2023-24 and set the date of July 18, 2023, for a Public Hearing on each district in accordance with the Landscaping and Lighting Act of 1972.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, ORDERING THE PREPARATION OF THE ASSESSMENT ENGINEER'S REPORTS PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, FOR PROCEEDINGS FOR THE ANNUAL ASSESSMENT LEVY WITHIN ONTARIO STREET LIGHTING MAINTENANCE DISTRICTS NO. 1 AND NO. 2 FOR FISCAL YEAR 2023-24.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING THE ASSESSMENT ENGINEER'S REPORTS FOR THE ANNUAL LEVY OF ASSESSMENTS WITHIN ONTARIO STREET LIGHTING MAINTENANCE DISTRICTS NO. 1 AND NO. 2 FOR FISCAL YEAR 2023-24.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DECLARING ITS INTENTION TO PROVIDE FOR AN ANNUAL LEVY AND COLLECTION OF ASSESSMENTS FOR FISCAL YEAR 2023-24 IN ONTARIO STREET LIGHTING MAINTENANCE DISTRICT NO. 1 PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, AND SETTING A TIME AND PLACE FOR A PUBLIC HEARING THEREON.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DECLARING ITS INTENTION TO PROVIDE FOR AN ANNUAL LEVY AND COLLECTION OF ASSESSMENTS FOR FISCAL YEAR 2023-24 IN ONTARIO STREET LIGHTING MAINTENANCE DISTRICT NO. 2, PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, AND SETTING A TIME AND PLACE FOR A PUBLIC HEARING THEREON.

ATTACHMENT: SLMD Levy^01 Levy Table
ATTACHMENT: SLMD Levy^02 Vicinity Maps
ATTACHMENT: SLMD Levy^03 - Ordering Engineer Report^RESO^RM
ATTACHMENT: SLMD Levy^04 Boundary Maps
ATTACHMENT: SLMD Levy^05 - Approving Engineer Report^RESO^RM
ATTACHMENT: SLMD Levy^06 - Intention to Levy SLMD 1^RESO^RM
ATTACHMENT: SLMD Levy^07 - Intention to Levy SLMD 2^RESO^RM

5. **DECLARATION AND DISPOSITION OF SURPLUS REDEMPTION FUNDS IN ASSESSMENT DISTRICTS 106 AND 108**

That the City Council consider and adopt the attached resolutions declaring surplus amounts remaining in the redemption funds of Assessment Districts 106 and 108, and further resolve that the surplus funds for these districts be used for maintenance (capital replacement) of the public improvements funded by the districts.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, MAKING A DETERMINATION REGARDING SURPLUS AMOUNTS REMAINING IN AND FROM AND REDEMPTION FUND OF ASSESSMENT DISTRICT NO. 106 AND DIRECTING THE DISPOSITION OF SUCH SURPLUS AMOUNTS.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, MAKING A DETERMINATION REGARDING SURPLUS AMOUNTS REMAINING IN AND FROM AND REDEMPTION FUND OF ASSESSMENT DISTRICT NO. 108 AND DIRECTING THE DISPOSITION OF SUCH SURPLUS AMOUNTS.

ATTACHMENT: AD 106 Disposition and Declaration of Surplus Funds^01^RESO^RM
ATTACHMENT: AD 108 Disposition and Declaration of Surplus Funds^02^RESO^RM
ATTACHMENT: Assessment District Surplus Table^03 Exh A
ATTACHMENT: AD 106 Map^01A EXH B Back-Up Boundary Map
ATTACHMENT: AD 108 Map^02A EXH B Back-Up Boundary Map

6. **AN AGREEMENT FOR THE OPERATIONS AND MAINTENANCE OF THE WEST VALLEY CONNECTOR BUS RAPID TRANSIT PROJECT**

That the City Council approve an Agreement (on file in the Records Management Department) with Omnitrans for the operations and maintenance of the West Valley Connector Bus Rapid Transit Project; and authorize the City Manager or designee to execute said Agreement, future amendments and related documents.

7. **AN AMENDMENT TO THE GOODS AND SERVICES AGREEMENT WITH CITRUS MOTORS ONTARIO, INC. FOR THE PROCUREMENT OF FORD OEM PARTS AND SERVICES**

That the City Council approve and authorize the City Manager or his designee to execute Amendment No. 4 to the Goods & Services Agreement (on file with the Records Management Department) with Citrus Motors Ontario, Inc., of Ontario, California, for the procurement of Ford original equipment manufacturer parts and repair services, exercising the final one-year extension of the Agreement, and extending the term of the Agreement to June 30, 2024, in an amount not-to-exceed $150,000.

8. **AN AMENDMENT TO THE GOODS AND SERVICES AGREEMENT WITH SOUTHERN COUNTIES LUBRICANTS LLC FOR THE PROCUREMENT OF FLEET OILS, LUBRICANTS, AND COOLANTS**

That the City Council approve and authorize the City Manager or his designee to execute Amendment No. 3 (on file with the Records Management Department) to the Goods and Services Agreement with Southern Counties Lubricants LLC, of Orange, California, in the

amount of $200,000, increasing the total not-to-exceed contract amount to $460,000 for the procurement of fleet oils, lubricants, and coolants.

9. AN AMENDMENT TO THE MAINTENANCE SERVICES AGREEMENT WITH FUEL SERV, INC. FOR ON-CALL GARAGE AND FUEL SITE MAINTENANCE AND REPAIR SERVICES

That the City Council authorize the City Manager or his designee to execute Amendment No. 2 to the Maintenance Services Agreement (on File in the Records Management Department) with Fuel Serv, Inc. of Montclair, California, in the amount of $130,000, increasing the total not-to-exceed contract amount to $570,000 and extending the term of the Agreement to June 30, 2024, for garage and fuel site maintenance and repair services.

10. AN AMENDMENT TO THE GOODS AND SERVICES AGREEMENT WITH DANIELS TIRE SERVICE FOR TIRE REPAIR AND RETREADING

That the City Council approve and authorize the City Manager or his designee to execute Amendment No. 5 (on file with the Records Management Department) to the Goods and Services Agreement with Daniels Tire Service of Santa Fe Springs, California, in the amount of $200,000, increasing the total not-to-exceed contract amount to $800,000 and extending the term of the Agreement to June 30, 2024, for tire repair and retreading.

11. AN AMENDMENT TO THE GOODS AND SERVICES AGREEMENT WITH DANIELS TIRE SERVICE FOR THE PROCUREMENT OF NEW TIRES AND TIRE CASINGS

That the City Council approve and authorize the City Manager or his designee to execute Amendment No. 4 (on file with the Records Management Department) to the Goods and Services Agreement with Daniels Tire Service of Santa Fe Springs, California, in the amount of $220,000, increasing the total not-to-exceed contract amount to $960,000 and extending the term of the Agreement to June 30, 2024, for the procurement of new tires and tire casings.

12. AMENDMENTS TO THE GOODS AND SERVICES AGREEMENTS WITH FIX AUTO SOUTH ONTARIO, LOS ANGELES TRUCK CENTERS AND INLAND BODY AND PAINT CENTER FOR VEHICLE COLLISION REPAIR SERVICES

That the City Council take the following actions:

A. Approve and authorize the City Manager or his designee to execute Amendment No. 1 to the Goods and Services Agreement (on file with the Records Management Department) with Fix Auto of South Ontario (formerly California Collision Center), of Ontario, California, in the amount of $200,000, increasing the total not-to-exceed contract amount to $470,000, and extending the Agreement for up to two (2) one-year options for vehicle collision repair services;
B. Approve and authorize the City Manager or his designee to execute Amendment No. 1 to the Goods and Services Agreement (on file with the Records Management Department) with Los Angeles Truck Centers, of Whittier, California, in the amount of $250,000, increasing the total not-to-exceed contract amount to $475,000, and extending the Agreement for up to two (2) one-year options for vehicle collision repair services; and

C. Approve and authorize the City Manager or his designee to execute Amendment No. 2 (on file with the Records Management Department) to the Goods and Services Agreement with Inland Body and Paint Center, of Fontana, California, in the amount of $290,000, increasing the total not-to-exceed contract amount to $500,000, and extending the Agreement for up to two (2) one-year options for vehicle collision repair services.

13. AMENDMENTS TO THE GOODS AND SERVICES AGREEMENTS WITH LOS ANGELES TRUCK CENTERS AND SOUTHERN CALIFORNIA FLEET SERVICES FOR THE PROCUREMENT OF MEDIUM AND HEAVY-DUTY VEHICLE PARTS AND REPAIRS

That the City Council take the following actions:

A. Approve and authorize the City Manager or his designee to execute Amendment No. 1 to the Goods and Services Agreement (on file with the Records Management Department) with Los Angeles Truck Centers, of Whittier, California, for the procurement of medium and heavy-duty vehicle parts, and repairs, in the amount of $400,000, increasing the total not-to-exceed contract amount to $700,000 and extend the term of the Agreement for up to two (2) one-year options; and
B. Approve and authorize the City Manager or his designee to execute Amendment No. 1 to the Goods and Services Agreement (on file with the Records Management Department) with Southern California Fleet Services, of Corona, California, for the procurement of medium and heavy-duty vehicle parts and repairs, in the amount of $80,000, increasing the total not-to-exceed contract amount to $200,000 and extend the term of the Agreement for up to two (2) one-year options.

14. PRE-AUTHORIZE THE PURCHASE OF FLEET VEHICLES WITH NATIONAL AUTO FLEET GROUP

That the City Council pre-authorize the cooperative purchase and delivery of thirty-three (33) Ford Police Utility Vehicles for the Police Department from National Auto Fleet Group of Watsonville, California, consistent with the terms and conditions of the Sourcewell Cooperative Contract #091521-NAF in the amount of $1,512,500 plus a 20% contingency of $302,500 for a total not-to-exceed amount of $1,815,000.

15. AMENDMENTS TO THE ON-CALL ARCHITECTURAL SERVICES AGREEMENT WITH ROBERT BORDERS AND ASSOCIATES FOR VARIOUS CITYWIDE PROJECTS

That the City Council take the following actions:

A. Authorize the City Manager or his designee to execute Amendment No. 14 to the Design Services Agreement with Robert Borders and Associates of Costa Mesa, California, for the Sam Alba Park Restroom Renovation Project in the amount of $7,550 for a total not-to-exceed contract amount of $467,018;
B. Authorize the City Manager or his designee to complete and execute Amendment No. 15 to the Design Services Agreement with Robert Borders and Associates of Costa Mesa, California, for the Community Development Block Wall on Mountain Avenue Project in the amount of $6,380 for a total not-to-exceed contract amount of $473,398; and

C. Authorize the City Manager or his designee to execute all documents required for the completion of the project including, but not limited to, contracts, agreements, assessments, easements, reduction of retention accounts, and filing a notice of completion at the conclusion of all construction related activities.

16. A MAINTENANCE SERVICES AGREEMENT WITH BEAR ELECTRICAL SOLUTIONS, INC. FOR TRAFFIC SIGNAL MAINTENANCE SERVICES

That the City Council approve and authorize the City Manager or designee to execute a three-year Maintenance Services Agreement (on file in the Records Management Department) with Bear Electrical Solutions, Inc., of Alviso, California, to provide traffic signal maintenance and repair services for a not-to-exceed amount of $775,500 per year and $2,326,500 for the term of the contract.

17. A RESOLUTION TO STAND AGAINST ANTISEMITISM AND HATRED

That the City Council adopt a Resolution denouncing and condemning antisemitism and all forms of hatred.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, CONDEMNING AND REJECTING ANTISEMITISM AND SUPPORTING THE INTERNATIONAL HOLOCAUST REMEMBRANCE ALLIANCE BY AFFIRMING ONTARIO'S COMMITMENT TO ENSURING OUR COMMUNITY IS A SAFE AND WELCOMING PLACE.

ATTACHMENT: Stand Against Antisemitism and Hatred^RESO^RM

18. AN AMENDMENT WITH STANTEC CONSULTING SERVICES INC. FOR THE ON-CALL DESIGN SERVICES AGREEMENT FOR THE VINEYARD AVENUE SEWER DIVERSION

That the City Council approve and authorize the City Manager, or designee to execute Amendment No. 10 to the On-Call Design Services Agreement (on file in the Records Management Department) with Stantec Consulting Services, Inc., of Irvine, California, for a total-not-to-exceed amount of $256,295, and a term through May 6, 2024.

ATTACHMENT: Vineyard AR Exhibit A.pdf

19. ADOPTION OF AN ORDINANCE AMENDMENT CHAPTER 8B, OF TITLE 6, SECTIONS 6-8.49 AND 6-8.50 OF THE ONTARIO MUNICIPAL CODE RELATING TO COLLECTION AND PAYMENT AND THE DISABLED PERSON'S AND SENIOR CITIZEN'S DISCOUNT

That the City Council adopt an Ordinance amending Chapter 8B, of Title 6, Sections 6-8.49 and 6-8.50, of the Ontario Municipal Code relating to Collection and Payment and the Disabled Person's and Senior Citizen's Discount.

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, AMENDING CHAPTER 8B (WATER SERVICES) OF TITLE 6 (SANITATION AND HEALTH) OF THE ONTARIO MUNICIPAL CODE, RELATING TO WATER ACCOUNTS, PAYMENTS, AND SENIOR / DISABLED DISCOUNTS.

ATTACHMENT: Amending OMC Chapter 8B Water Service Re SB 998 and Senior-Disabled Discount^ORD^RM

20. A PROFESSIONAL SERVICES AGREEMENT WITH BABCOCK LABORATORIES, INC. FOR ANALYTICAL LABORATORY SERVICES

That the City Council approve and authorize the City Manager, or designee to execute a Professional Services Agreement (on file in the Records Management Department) with Babcock Laboratories, Inc., of Riverside, California, for Analytical Laboratory Services in the amount of $200,000 for Fiscal Year 2023-2024, with the option to extend the Agreement for up to three successive one-year periods; and authorize the annual cost of $200,000 per year consistent with City Council approved budgets, for a total not-to-exceed contract amount of $800,000.

21. AN AMENDMENT TO A PROFESSIONAL SERVICES AGREEMENT WITH RDC-S111, INC. FOR LANDSCAPE, ARCHITECTURE, AND URBAN DESIGN CONSULTING

That the City Council authorize the City Manager or his designee to execute Amendment No. 1 to the Professional Services Agreement (on file in the Records Management Department) with RDC-S111, Inc. of Long Beach, California, to provide additional services for the City's Regional Sports Complex located at Vineyard and Riverside Drive in the amount of $49,150 for a new not-to-exceed total of $290,912.

22. A RESOLUTION APPROVING THE LEVY OF THE ASSESSMENTS FOR FISCAL YEAR 2023-24 FOR THE DOWNTOWN ONTARIO COMMUNITY BENEFIT DISTRICT

That the City Council adopt a Resolution for the Downtown Ontario Improvement Association (DOIA) authorizing the levying of the special assessments for Fiscal Year 2023-24.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING THE LEVY OF THE ASSESSMENTS FOR FISCAL YEAR 2023-24 FOR THE DOWNTOWN ONTARIO COMMUNITY BENEFIT DISTRICT.

ATTACHMENT: Downtown Ontario CBD 23-24 RESO^RM
ATTACHMENT: FY2324 Downtown Ontario CBD Assessment Roll.pdf

23. AN AMENDMENT TO EXTEND THE PROFESSIONAL AGREEMENT FOR JAIL AND TRANSPORTATION SERVICES WITH UNIVERSAL PROTECTION SERVICES LP, ALLIED UNIVERAL PROTECTION SERVICES

That the City Council approve and authorize the City Manager or his designee to execute the third Amendment to the Professional Services Agreement (on file with Records Management) to increase the contracted dollar amount with Universal Protection Services LP, Allied Universal Protection Services of Atlanta, Georgia by $625,342, which would increase the total not-to-exceed to $2,331,738 and extend the term for one year.
Contract currently with vendor pending signature

24. A GOODS AND SERVICES AGREEMENT FOR LIBRARY MATERIALS INCLUDING CATALOGING AND PROCESSING SERVICES AND ONLINE COLLECTION ANALYSIS TOOL

That the City Council take the following actions:

A. Approve and authorize the City Manager or designee to execute a three-year agreement (on file in the Records Management Department) with Baker & Taylor, Inc. of Charlotte, North Carolina, with an annual amount of $380,000 and a total compensation not to exceed $1,900,000 for five years for the purchase of library materials including cataloging and processing services and subscription to an online library collection analysis tool; and
B. Authorize the extension of the Agreement for up to two additional one-year periods consistent with City Council approved budgets.

25. AN AMENDMENT TO THE OPERATING COVENANT AND TAX SHARING AGREEMENTS WITH NIKE, CARDINAL HEALTH AND RGH ENTERPRISES, CONCRETE HOLDING, AND HOME DEPOT

That the City Council take the following actions:

A. Adopt a Resolution approving Amendments to the Operating Covenant Agreement, (on file with the Records Management Department) by and between the City of Ontario and the following corporations: Nike Retail Services, Inc., Cardinal Health, 200, LLC. and RGH Enterprises, Inc., Concrete Holding Company of California, Inc., and Home Depot U.S.A., Inc. and
B. Authorize the City Manager or his designee to execute the Amendments to the Agreements.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING AMENDMENTS TO THE OPERATING COVENANT AND TAX SHARING AGREEMENTS WITH NIKE RETAIL SERVICES, INC., CARDINAL HEALTH, 200, LLC. AND RGH ENTERPRISES, INC., CONCRETE HOLDING COMPANY OF CALIFORNIA, INC., AND HOME DEPOT U.S.A., INC.

ATTACHMENT: Approving Amendments to OCA Agreements^01^RESO^RM
ATTACHMENT: Nike - OCA Amendment No. 1 ^ 02
ATTACHMENT: Cardinal Health & RGH - OCA Amendment No. 1 ^ 03
ATTACHMENT: Concrete Holding Company - OCA Amendment No. 1 ^ 04
ATTACHMENT: Home Depot - OCA Amendment No. 1 ^ 05

PUBLIC HEARINGS

Pursuant to Government Code Section 65009, if you challenge the City's zoning, planning or any other decision in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to the public hearing. Affidavits of posting compliance, for all items below,

are on file with the Records Management Department.

26. A PUBLIC HEARING TO CONSIDER A RESOLUTION REGARDING THE FORMATION OF THE CITY OF ONTARIO COMMUNITY FACILITIES DISTRICT NO. 61 (MERRILL COMMERCE CENTER); AND INTRODUCTION OF AN ORDINANCE LEVYING SPECIAL TAXES

That the City Council consider and:

A. Adopt a Resolution of Formation of Community Facilities District No. 61 (Merrill Commerce Center), authorizing the levy of special taxes within the community facilities district,
B. Adopt a Resolution calling a special election for City of Ontario Community Facilities District No. 61 (Merrill Commerce Center);
C. Adopt a Resolution declaring the results of the special election and directing the recording of a Notice of Special Tax Lien; and
D. Introduce and waive further reading of an ordinance levying special taxes within City of Ontario Community Facilities District No. 61 (Merrill Commerce Center)

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, OF FORMATION OF THE CITY OF ONTARIO COMMUNITY FACILITIES DISTRICT NO. 61 (MERRILL COMMERCE CENTER), AUTHORIZING THE LEVY OF A SPECIAL TAX.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, CALLING SPECIAL ELECTION FOR CITY OF ONTARIO COMMUNITY FACILITIES DISTRICT NO. 61 (MERRILL COMMERCE CENTER).

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DECLARING RESULTS OF SPECIAL ELECTION AND DIRECTING RECORDING OF NOTICE OF SPECIAL TAX LIEN FOR CITY OF ONTARIO COMMUNITY FACILITIES DISTRICT NO. 61 (MERRILL COMMERCE CENTER).

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, LEVYING SPECIAL TAXES WITHIN COMMUNITY FACILITY DISTRICT NO. 61 (MERRILL COMMERCE CENTER).

ATTACHMENT: CFD 61 Merrill Commerce Center Services 01^Resolution Formation^RM
ATTACHMENT: CFD 61 Merrill Commerce Center Services^01A RMA, EXH B
ATTACHMENT: CFD 61 Merrill Commerce Center Services 02^Resolution Calling Election^RM
ATTACHMENT: CFD 61 Merrill Commerce Center Services^03 Resolution Declaring Election^RM
ATTACHMENT: CFD 61 Merrill Commerce Center Services 04^ORD^RM

27. A PUBLIC HEARING TO CONSIDER AN ORDINANCE MODIFYING THE PROCESSING AND ADMINISTRATION FEE FOR THE DEVELOPMENT IMPACT FEE (DIF) DEFERRAL PROGRAM

That the City Council introduce and waive further reading of an Ordinance modifying the processing and administration fee for the Development Impact Fee (DIF) Deferral Program.

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, MODIFYING THE PROCESSING AND ADMINISTRATION FEE FOR THE DEVELOPMENT IMPACT FEE ("DIF") DEFERRAL PROGRAM.

ATTACHMENT: DIF_Deferral_Admin_Fee_ORD^RM.docx

28. A PUBLIC HEARING TO CONSIDER THE ADOPTION OF AN ORDINANCE APPROVING A DEVELOPMENT AGREEMENT (FILE NO. PDA21-006) BETWEEN THE CITY OF ONTARIO AND EUCLID LAND VENTURE 2 LLC

That the City Council introduce and waive further reading of an Ordinance approving a Development Agreement (File No. PDA21-006) between the City of Ontario and Euclid Land Venture 2 LLC, to establish the terms and conditions associated with Tentative Parcel Map No. 20517 (File No. PMTT22-005), an 80-acre property bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, within the Business Park and Industrial General land use district of the Ontario Ranch Business Park Specific Plan.

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PDA21-006, A DEVELOPMENT AGREEMENT BETWEEN THE CITY OF ONTARIO AND EUCLID LAND VENTURE 2 LLC, TO ESTABLISH THE TERMS AND CONDITIONS ASSOCIATED WITH TENTATIVE PARCEL MAP NO. 20517 (FILE NO. PMTT22-005), AN 80-ACRE PROPERTY BORDERED BY EUCALYPTUS, CAMPUS, MERRILL, AND SULTANA AVENUES, LOCATED WITHIN THE BUSINESS PARK AND INDUSTRIAL GENERAL LAND USE DISTRICTS OF THE ONTARIO RANCH BUSINESS PARK SPECIFIC PLAN AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 1054-041-01, 1054-041-02, 1054-031-01, 1054-031-02, 1054-261-01, 1054-261-02, 1054-291-01, AND 1054-291-02.

ATTACHMENT: File No. PDA21-006 Euclid Land Venture 2 LLC^01 EXH A&B.pdf
ATTACHMENT: 20230620 File No. PDA21-006^02PC Backup.pdf
ATTACHMENT: File No. PDA21-006 Euclid Land Venture 2 LLC 03^ORD^RM
ATTACHMENT: File No. PDA21-006 Euclid Land Venture 2 LLC^04 DEV AGR.docx

29. A PUBLIC HEARING TO CONSIDER THE ADOPTION OF AN ORDINANCE APPROVING A DEVELOPMENT AGREEMENT (FILE NO. PDA22-005) BETWEEN THE CITY OF ONTARIO AND RB ONTARIO LLC

That the City Council introduce and waive further reading of an Ordinance approving a Development Agreement (File No. PDA22-005) between the City of Ontario and RB Ontario LLC, to establish the terms and conditions associated with Tentative Tract Map 20536 (File No. PMTT22-021), a 23.2-acre property located approximately 875 feet south of the intersection of Riverside Drive and Archibald Avenue, within Planning Area 1 (Neighborhood 2) land use district of the Countryside Specific Plan.

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PDA22-005, A DEVELOPMENT AGREEMENT BETWEEN THE CITY OF ONTARIO AND RB ONTARIO LLC, TO ESTABLISH THE TERMS AND CONDITIONS ASSOCIATED WITH TENTATIVE TRACT MAP NO. 20536 (FILE NO. PMTT22-021), A 23.2 ACRE PROPERTY LOCATED APPROXIMATELY 875 FEET SOUTH OF THE INTERSECTION OF RIVERSIDE DRIVE AND ARCHIBALD AVENUE, WITHIN PLANNING AREA 1 (NEIGHBORHOOD 2) LAND USE DISTRICT OF THE COUNTRYSIDE SPECIFIC PLAN (FILE NO. PSP04-001) AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 0218-111-60 AND 0218-111-61.

ATTACHMENT: File No. PDA22-005 RB Ontario LLC^01 EXH A&B.pdf
ATTACHMENT: 20230620 File No. PDA22-005^02 PC Backup.pdf
ATTACHMENT: File No. PDA22-005 RB Ontario LLC 03^ORD^RM
ATTACHMENT: 20230620 File No. PDA22-005 RB Ontario LLC^04 DEV AGR

30. A PUBLIC HEARING TO CONSIDER AN AMENDMENT (FILE NO. PSPA22-001) TO THE RICH HAVEN SPECIFIC PLAN TO BRING THE SPECIFIC PLAN INTO COMPLIANCE WITH THE ONTARIO PLAN POLICY PLAN (GENERAL PLAN) LAND USE PLAN, GENERALLY BORDERED BY RIVERSIDE DRIVE, COLONY HIGH SCHOOL AND THE SCE SUBSTATION TO THE NORTH, HAMNER AVENUE/MILL CREEK AVENUE TO THE EAST, OLD EDISON AVENUE TO THE SOUTH, AND HAVEN AVENUE TO THE WEST

That the City Council consider and adopt:

A. A Resolution adopting the Final Environmental Impact Report (State Clearinghouse No. 2022100425) for the Rich Haven Specific Plan Amendment, a Mitigation Monitoring and Reporting Program, and a Statement of Overriding Considerations; and
B. A Resolution approving File No. PSPA22-001, an Amendment to the Rich Haven Specific Plan to bring the Specific Plan into compliance with The Ontario Plan Policy Plan (General Plan) land use plan that include: [1] the reduction of Low-Medium Density Residential land use acreage from 102.1 acres to 24.5 acres; [2] increase the Medium Density Residential land use acreage from 96.7 acres to 113.4 acres; [3] increase the Light Industrial land use acreage from 49.4 acres to 116.5 acres; [4] a reduction to the Mixed-Use Overlay land use acreage from 29.4 acres to 20.5 acres; [5] a reduction to the Regional Commercial land use acreage from 74 acres to 58.4 acres; [6] increase the Mixed-Use Standalone Residential Overlay land use acreage from 141.9 acres to 144.1 acres; [7] increase the Open Space – Non-Recreation land use acreage from 38.2 acres to 55 acres; and [8] various changes to the Specific Plan land use map (Planning Areas), development standards, exhibits, and text modification, to reflect the proposed land uses.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, ADOPTING ENVIRONMENTAL FINDINGS PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT AND CERTIFYING THE RICH-HAVEN SPECIFIC PLAN, 2022 AMENDMENT (FILE NO. PSPA22-001) FINAL ENVIRONMENTAL IMPACT REPORT (STATE CLEARINGHOUSE NO. 2022100425), AND ADOPTING FINDINGS OF OVERRIDING CONSIDERATIONS AND A MITIGATION MONITORING AND

REPORTING PROGRAM, GENERALLY LOCATED BY RIVERSIDE DRIVE, COLONY HIGH SCHOOL AND THE SCE SUBSTATION TO THE NORTH, HAMNER AVENUE/MILL CREEK AVENUE TO THE EAST, OLD EDISON AVENUE TO THE SOUTH, AND HAVEN AVENUE TO THE WEST, AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 0218-161-14, 0218-016-06, 0218-016-10, 0218-016-11, 0218-016-19, 0218-016-15, 0218-016-07, 0218-016-18, 0218-203-08, 0218-016-14, 0218-016-12, 0218-016-13, 0218-203-07, 0218-203-04, 0218-203-03, 0218-203-05, 0218-203-06, 0218-211-39, 0218-211-01, 0218-211-21, 0218-211-36, 0218-211-37 AND 0218-211-15.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PSPA22-001, AN AMENDMENT TO THE RICH-HAVEN SPECIFIC PLAN TO BRING THE SPECIFIC PLAN INTO COMPLIANCE WITH THE ONTARIO PLAN POLICY PLAN (GENERAL PLAN) LAND USE PLAN THAT INCLUDES: [1] THE REDUCTION OF LOW-MEDIUM DENSITY RESIDENTIAL LAND USE ACREAGE FROM 102.1 ACRES TO 24.5 ACRES; [2] INCREASE THE MEDIUM DENSITY RESIDENTIAL LAND USE ACREAGE FROM 96.7 ACRES TO 113.4 ACRES; [3] INCREASE THE LIGHT INDUSTRIAL LAND USE ACREAGE FROM 49.4 ACRES TO 116.5 ACRES; [4] A REDUCTION TO THE MIXED-USE OVERLAY LAND USE ACREAGE FROM 29.4 ACRES TO 20.5 ACRES; [5] A REDUCTION TO THE REGIONAL COMMERCIAL LAND USE ACREAGE FROM 74 ACRES TO 58.4 ACRES; [6] INCREASE THE MIXED-USE STANDALONE RESIDENTIAL OVERLAY LAND USE ACREAGE FROM 141.9 ACRES TO 144.1 ACRES; [7] INCREASE THE OPEN SPACE – NON-RECREATION LAND USE ACREAGE FROM 38.2 ACRES TO 55 ACRES; AND [8] VARIOUS CHANGES TO THE SPECIFIC PLAN LAND USE MAP (PLANNING AREAS), DEVELOPMENT STANDARDS, EXHIBITS, AND TEXT MODIFICATION, TO REFLECT THE PROPOSED LAND USES, GENERALLY LOCATED BY RIVERSIDE DRIVE, COLONY HIGH SCHOOL AND THE SCE SUBSTATION TO THE NORTH, HAMNER AVENUE/MILL CREEK AVENUE TO THE EAST, OLD EDISON AVENUE TO THE SOUTH, AND HAVEN AVENUE TO THE WEST, AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 0218-161-14, 0218-016-06, 0218-016-10, 0218-016-11, 0218-016-19, 0218-016-15, 0218-016-07, 0218-016-18, 0218-203-08, 0218-016-14, 0218-016-12, 0218-016-13, 0218-203-07, 0218-203-04, 0218-203-03, 0218-203-05, 0218-203-06, 0218-211-39, 0218-211-01, 0218-211-21, 0218-211-36, 0218-211-37 AND 0218-211-15.

ATTACHMENT: 20230620 File No. PSPA22-001 Rich Haven SPA^01 Exihibit A.docx
ATTACHMENT: File No. PSPA22-001 ^PC Backup.pdf
ATTACHMENT: 20230620 File No. PSPA22-001 Rich Haven SPA^02 EIR RESO.docx
ATTACHMENT: 20230620 File No. PSPA22-001 Rich Haven SPA^02A Draft EIR.pdf
ATTACHMENT: 20230620 File No. PSPA22-001 Rich Haven SPA^02B Response to Comments_MMRP.pdf
ATTACHMENT: 20230620 File No. PSPA22-001 Rich Haven SPA^02C Appendices.pdf
ATTACHMENT: File No. PSPA22-001 Rich Haven SPA^03^SPA^RESO^RM
ATTACHMENT: File No. PSPA22-001 Rich Haven SPA^04 SPA

31. A PUBLIC HEARING TO CONSIDER AN AMENDMENT TO THE COUNTRYSIDE SPECIFIC PLAN

That the City Council consider and adopt:

A. A Resolution adopting an Addendum to the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001); and
B. A Resolution adopting an Amendment to the Countryside Specific Plan (File No. PSPA22-002).

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING AN ADDENDUM TO THE COUNTRYSIDE SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT, PURSUANT TO THE REQUIREMENTS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AS AMENDED, FOR FILE NO PSPA22-002.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PSPA22-002, A SPECIFIC PLAN AMENDMENT FOR THE FOLLOWING CHANGES: (1) DIVIDE PLANNING AREA 1 NEIGHBORHOOD 2 INTO DIFFERENT SUBAREAS: NEIGHBORHOODS 2A, 2B, AND 2C; (2) INCREASE THE PLANNING AREA 1 UNIT COUNT FROM 442 UNITS TO 601 UNITS AND DENSITY FROM 5.56 DU/AC TO 7.74 DU/AC; (3) CHANGE PLANNING AREA 1 USES TO INCLUDE ATTACHED HOMES AND ELIMINATING THE RD 6000-SQUARE-FOOT LOT SIZE; AND (4) VARIOUS TEXT CHANGES TO BE CONSISTENT WITH THE ONTARIO PLAN 2050 POLICY PLAN, AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 0218-111-60 AND 0218-111-61.

ATTACHMENT: File No. PSPA22-002^01 PC Backup.pdf
ATTACHMENT: File No. PSPA22-002 ^02^RESO^ADDENDUM^RM
ATTACHMENT: File No. PSPA22-002^03 Addendum_FINAL.pdf
ATTACHMENT: File No. PSPA22-002^04 Addendum Appendices.pdf
ATTACHMENT: File No. PSPA22-002^05 SPA^RESO^RM
ATTACHMENT: File No. PSPA22-002^06 CountrysideSPA_RedlineDraft.pdf

STAFF MATTERS

City Manager Ochoa

COUNCIL MATTERS

Mayor Leon
Mayor pro Tem Dorst-Porada
Council Member Wapner
Council Member Bowman
Council Member Valencia

ADJOURNMENT

CITY OF ONTARIO
CLOSED SESSION REPORT
City Council // Housing Authority // Other // *(GC 54957.1)*
June 20, 2023

ROLL CALL: Dorst-Porada _, Wapner _, Bowman _, Valencia _, Mayor / Chairman Leon _.

STAFF: City Manager / Executive Director __, City Attorney __

In attendance: Dorst-Porada _, Wapner _, Bowman _, Valencia _, Mayor / Chairman Leon _.

- GC 54956.9 (d)(1), CONFERENCE WITH LEGAL COUNSEL, EXISTING LITIGATION: Agustin Martinez v. City of Ontario, and Does 1-10, inclusive, U.S. District Court, Central District of California, Case No. 5:21-cv-01099-JGB-SP

No Reportable Action	Continue	Approved
/ /	/ /	/ /

Disposition: _____

In attendance: Dorst-Porada _, Wapner _, Bowman _, Valencia _, Mayor / Chairman Leon _.

- GC 54957.6, CONFERENCE WITH LABOR NEGOTIATIONS: City Negotiator: City Manager or his designees; Bargaining Units: Ontario Police Officers Association, Ontario Police Management Group, Ontario Professional Firefighters Association Local 1430, Ontario Fire Management Group, Department Heads, Executives, AFSCME Local 3061, Teamsters Local 1932, Association of Management Employees, Confidential Group, and Part-time Employees.

No Reportable Action	Continue	Approved
/ /	/ /	/ /

Disposition: _____

CITY OF ONTARIO
CLOSED SESSION REPORT
City Council // Housing Authority // Other // *(GC 54957.1)*
June 20, 2023
(continued)

In attendance: Dorst-Porada _, Wapner _, Bowman _, Valencia _, Mayor / Chairman Leon _.

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
  Property: APN: 1048-363-01; 434 North Euclid Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Faisal Afsari; Under negotiation: Price and terms of payment

No Reportable Action	Continue	Approved
/ /	/ /	/ /

Disposition: _____

In attendance: Dorst-Porada _, Wapner _, Bowman _, Valencia _, Mayor / Chairman Leon _.

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
  Property: APNs: 0218-101-03, 0218-101-04, 0218-101-05, 0218-101-06; Southeast Corner Riverside Drive and Vineyard Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: JCLIN INVESTMENT LP; Under negotiation: Price and terms of payment

No Reportable Action	Continue	Approved
/ /	/ /	/ /

Disposition: _____

CITY OF ONTARIO
CLOSED SESSION REPORT
City Council // Housing Authority // Other // *(GC 54957.1)*
June 20, 2023
(continued)

In attendance: Dorst-Porada _, Wapner _, Bowman _, Valencia _, Mayor / Chairman Leon _.

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
  Property: APNs: 0218-111-08, 0218-111-11, 0218-111-12, 0218-111-49, 0218-111-50; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: 15 Dairy River LLC; Under negotiation: Price and terms of payment

No Reportable Action	Continue	Approved
/ /	/ /	/ /

Disposition: _____

In attendance: Dorst-Porada _, Wapner _, Bowman _, Valencia _, Mayor / Chairman Leon _.

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
  Property: APN: 0218-111-06; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Sanchez Family Trust; Under negotiation: Price and terms of payment

No Reportable Action	Continue	Approved
/ /	/ /	/ /

Disposition: _____

CITY OF ONTARIO
CLOSED SESSION REPORT
City Council // Housing Authority // Other // *(GC 54957.1)*
June 20, 2023
(continued)

In attendance: Dorst-Porada _, Wapner _, Bowman _, Valencia _, Mayor / Chairman Leon _.

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
  Property: APN: 0218-111-05; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Raymundo Flores; Under negotiation: Price and terms of payment

No Reportable Action	Continue	Approved
/ /	/ /	/ /

Disposition: _____

In attendance: Dorst-Porada _, Wapner _, Bowman _, Valencia _, Mayor / Chairman Leon _.

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
  Property: APNs: 0218-111-04, 0218-111-45; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Ontario WF Farm LLC; Under negotiation: Price and terms of payment

No Reportable Action	Continue	Approved
/ /	/ /	/ /

Disposition: _____

Reported by:

_____
City Attorney / City Manager / Executive Director

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **SPECIAL CEREMONIES**
Department: Recreation & Community Services Prepared By: Danielle Guevara Staff Member Presenting: Nicholas S. Gonzalez, Recreation & Community Services Director Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No:

SUBJECT: ONTARIO 5K REINDEER RUN & RUDOLPH'S DASH CHECK PRESENTATION TO ONTARIO-MONTCLAIR SCHOOLS FOUNDATION

RECOMMENDATION: That the City Council present the Ontario-Montclair Schools Foundation with a check for the proceeds of the 2022 Ontario 5K Reindeer Run & Rudolph's DASH.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Encourage, Provide or Support Enhanced Recreational, Educational, Cultural and Healthy City Programs, Policies and Activities

FISCAL IMPACT: The City enters into an agreement annually with the Ontario-Montclair Schools Foundation to split proceeds from this yearly event. As part of that agreement, 75% of the proceeds go to Ontario-Montclair Promise Scholars and 25% of the proceeds go to the City's Empowerment Scholarship program. The adjusted net proceeds for the 2022 event were $73,615.46, which are accounted for in the Recreation & Community Services Department's revenue account. There is no impact to the General Fund.

BACKGROUND & ANALYSIS: Each year the Recreation & Community Services Department partners with the Ontario-Montclair Schools Foundation (OMSF) to support and promote the 5K Reindeer Run & Rudolph's DASH, including seeking sponsors and marketing the event. OMSF garners district-wide support and volunteers. Additionally, OMSF assists with the event's promotion, marketing, and administrative support. In 2022, the 5K Reindeer Run & Rudolph's DASH brought 3,377 runners and $43,800 in sponsorship packages.

The Ontario-Montclair Promise Scholars is an award-winning program designed to assist Ontario-Montclair youth by helping prepare them for their journey toward a college education. Ontario-Montclair Promise Scholars utilizes the proceeds from the event to provide college and career curriculum in each K-6 classroom, take field trips to colleges, host parent presentations, plan college fairs, and assist students with college applications and financial aid forms.

The City's Empowerment Scholarship allows Ontario community members from low-income backgrounds to participate in fee-based recreation activities that will enrich their lives. Community

members can apply for Empowerment Scholarship funds by visiting the city website www.OntarioCA.gov/Recreation.

The adjusted net proceeds for this event were $73,615.46. Per the agreement between the City of Ontario and Ontario-Montclair Schools Foundation, $55,211.60 will benefit the Promise Scholars program, and $18,403.86 will fund the City's Empowerment Scholarships.

ONTARIO CITY COUNCIL/
ONTARIO HOUSING AUTHORITY
MINUTES
MAY 16, 2023
(Not Official Until Approved)

JOINT MEETINGS

The regular meetings of the Ontario City Council and the Housing Authority were held on Tuesday, May 16, 2023 at Ontario City Hall, 303 E. B Street Ontario, California.

CALL TO ORDER

Mayor Leon called the joint meetings to order at 5:30 p.m.

ROLL CALL

PRESENT:	Mayor/Chairman:	Paul S. Leon
	Mayor pro Tem/Vice Chair:	Debra Dorst-Porada
	Council/Authority Members:	Jim W. Bowman and Ruben Valencia
ABSENT:	Council/Authority Members:	Alan D. Wapner (excused).

Also present were City Manager / Executive Director Scott Ochoa, City Attorney/Legal Counsel Ruben Duran, and City Clerk / Secretary Sheila Mautz.

CLOSED SESSION

Mayor Leon inquired whether persons were present who wished to speak to the Closed Session items. Hearing no one, City Attorney Duran announced the matters for discussion as listed on the agenda, the City Council recessed to Closed Session, with the exception of Council Member Wapner, at 5:32 p.m. for discussion of the following:

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
  Property: APN: 1011-221-19; 1522 West Mission Boulevard; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: The Ramanbhai G. Patel and Manjulaben R. Patel Revocable Living Trust; Under negotiation: Price and terms of payment

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS
  Property: APN: 0110-321-43; 2151 East Convention Center Way; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: ONT Gateway LLC; Under negotiation: Price and terms of payment.

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS Property: APNs: 0218-101-03, 0218-101-04, 0218-101-05, 0218-101-06; Southeast Corner Riverside Drive and Vineyard Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: JCLIN INVESTMENT LP; Under negotiation: Price and terms of payment

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS Property: APNs: 0218-111-08, 0218-111-11, 0218-111-12, 0218-111-49, 0218-111-50; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: 15 Dairy River LLC; Under negotiation: Price and terms of payment.

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS Property: APN: 0218-111-06; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Sanchez Family Trust; Under negotiation: Price and terms of payment.

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS Property: APN: 0218-111-05; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Raymundo Flores; Under negotiation: Price and terms of payment

- GC 54956.8, CONFERENCE WITH REAL PROPERTY NEGOTIATORS Property: APNs: 0218-111-04, 0218-111-45; Southeast Corner Riverside Drive and Ontario Avenue; City/Authority negotiator: Scott Ochoa or his designee; Negotiating parties: Ontario WF Farm LLC; Under negotiation: Price and terms of payment

- GC 54956.9(d)(4), CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION One (1) Case

- GC 54957.6, CONFERENCE WITH LABOR NEGOTIATIONS: City Negotiator: City Manager or his designees; Bargaining Units: Ontario Police Officers Association, Ontario Police Management Group, Ontario Professional Firefighters Association Local 1430, Ontario Fire Management Group, Department Heads, Executives, AFSCME Local 3061, Teamsters Local 1932, Association of Management Employees, Confidential Group, and Part-time Employees.

OPEN MEETING CALLED TO ORDER

Mayor Leon reconvened the meetings at 6:31 p.m. for the regular session.

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was led by Mayor pro Tem Dorst-Porada.

INVOCATION

The invocation was led by Pastor Delfa Tangonan Nava with the Jesus is Lord Church Ontario.

REPORT ON CLOSED SESSION

City Attorney Duran announced there was no reportable action.

SPECIAL CEREMONIES

TWENTY-THIRD ANNUAL MODEL COLONY AWARDS

The City Council asked the Executive Director of Community Development Scott Murphy to present the 2023 "Model Colony" Awards for Historic Preservation. Awards were distributed.

RECOGNITION OF "HISTORIC PRESERVATION MONTH" IN THE CITY OF ONTARIO

The City Council proclaimed the Month of May 2023 as "Historic Preservation Month" in the City of Ontario.

PROCLAMATION OF MAY 20, 2023 AS KIDS TO PARKS DAY

The City Council proclaimed May 20, 2023 as Kids to Parks Day in the City of Ontario.

Mayor Leon recessed the meetings at 6:58 p.m. and reconvened at 7:12 p.m.

Mayor Leon announced his anticipated appointments to Boards and Commissions.

PUBLIC COMMENTS

Assistant City Clerk Isbell announced there were six written public comments.

Lee Jones, regarding community safety.
Rebecca Lowe, alleging possible fraud.
Jason Alonzo, in opposition of warehouses.
Ken Braithwaite, regarding games at Jay Littleton Ballpark.
Bobby, regarding crime in the City.
Lee Jones, specific questions regarding Item No. 7 of the agenda.

Mayor Leon called upon the first speaker.

Enrique, spoke about his Cinco de mayo event.

Stephanie Martinez, requested time limits on City electric vehicle chargers.

Joey Chavez, requested a tattoo show in the City.

Dawn Hundley, spoke regarding homelessness.

Marco Tule, spoke regarding the Inland Empire Utilities Agency and encouraged local participation.

Amanda Coker, with the Chino Water Basin Conservation announced upcoming events.

Randy Bekendam, thanked Ontario residents for support and announced the closing of Amy's Farm.

Randi Campbell, spoke on parking signs for electronic vehicle charging parking versus handicap parking.

Karen Haughey, representative of San Bernardino County Board Supervisor Hagman's office spoke of upcoming events.

AGENDA REVIEW/ANNOUNCEMENTS

City Manager Ochoa made no announcements.

CONSENT CALENDAR

MOTION: Moved by Mayor pro Tem Dorst-Porada seconded by Council Member Bowman and carried by a unanimous vote 4-0, with Council Member Wapner absent, to approve the Consent Calendar as presented.

1. APPROVAL OF MINUTES

Minutes for the regular meetings of the City Council and Housing Authority of April 18, 2023, and approving same as on file in the Records Management Department.

2. BILLS & PAYROLL

Bills April 14, 2023 through April 27, 2023 in the amount of $13,304,236.24, and Payroll April 9, 2023 through April 22, 2023 in the amount of $4,068,530.95, when audited by the Finance Committee

3. A RESOLUTION ORDERING THE SUMMARY VACATION OF TWO EASEMENTS FOR SANITARY SEWER AND PUBLIC UTILITY PURPOSES LOCATED AT THE SOUTHEAST CORNER OF SOUTH BON VIEW AVENUE AND EAST ONTARIO BOULEVARD

The City Council adopted a Resolution ordering the summary vacation of two easements for sanitary sewer and public utility purposes located at the southeast corner of South Bon View Avenue and East Ontario Boulevard.

RESOLUTION NO. 2023-033 A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, ORDERING THE SUMMARY VACATION OF TWO EASEMENTS FOR SANITARY SEWER AND PUBLIC UTILITY PURPOSES LOCATED AT THE SOUTHEAST CORNER OF SOUTH BON VIEW AVENUE AND EAST ONTARIO BOULEVARD.

4. AN AMENDMENT TO THE PROFESSIONAL SERVICES AGREEMENT FOR REMOTE ACCELA SUPPORT WITH TRUEPOINT SOLUTIONS, LLC

The City Council authorized the City Manager to execute an Amendment to the current Agreement with TruePoint Solutions, LLC., Loomis, California, for on-going service and support of the Accela Civic Platform for a total not to exceed amount of $650,000 and extend the term for two years.

5. AN AMENDMENT TO THE GOODS AND SERVICES AGREEMENT FOR THE PROCUREMENT OF ASPHALT MATERIALS

The City Council authorized the City Manager or his designee to execute Amendment No. 1 to the Goods and Services Agreement with All American Asphalt of Corona, California, to procure asphalt materials in an amount not-to-exceed $965,970.

6. AMENDMENTS TO THE EQUIPMENT PURCHASE AGREEMENTS WITH MCLAUGHLIN WASTE EQUIPMENT, INC. FOR COMMERCIAL BIN CONTAINERS AND ROLL-OFF CONTAINERS AND PARTS

The City Council took the following actions:

A. Authorized the City Manager or his designee to execute Amendment No. 4 to the existing Equipment Purchase Agreement with McLaughlin Waste Equipment, Inc. of Galt, California, for the procurement of commercial bin containers, exercising the option of a one-year extension of the agreement and extending the term of the agreement to June 30, 2024 in an amount not-to-exceed $1,000,000; and
B. Authorized the City Manager or his designee to execute Amendment No. 2 to the existing Equipment Purchase Agreement with McLaughlin Waste Equipment, Inc. of Galt, California, for the procurement of roll-o containers and parts, exercising the option of a one-year extension of the agreement and extending the term of the agreement to June 30, 2024 in an amount not-to-exceed $400,000.

7. ACCEPTANCE OF A WRITTEN PETITION TO CREATE A COMMUNITY FACILITIES DISTRICT; AND A RESOLUTION OF INTENTION TO ESTABLISH CITY OF ONTARIO COMMUNITY FACILITIES DISTRICT NO. 61 (MERRILL COMMERCE CENTER SERVICES) AND TO AUTHORIZE THE LEVY OF SPECIAL TAXES

The City Council consider and:

A. Accepted a written petition from Prologis LP, Research ("Landowner"), to create a Community Facilities District ("CFD") and to waive certain procedural matters, under the Mello-Roos Community Facilities Act of 1982; and
B. Adopted a Resolution of Intention to establish City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services), authorize the associated levy of special taxes therein; and set a public hearing for the formation of the CFD as part of the regularly scheduled City Council meeting on Tuesday, June 20, 2023.

RESOLUTION NO. 2023-034 A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, OF INTENTION TO ESTABLISH A COMMUNITY FACILITIES DISTRICT PROPOSED TO BE NAMED CITY OF ONTARIO COMMUNITY FACILITIES DISTRICT NO. 61 (MERRILL COMMERCE CENTER SERVICES) AND TO AUTHORIZE THE LEVY OF A SPECIAL TAX.

8. AN AMENDMENT TO THE PROFESSIONAL SERVICES AGREEMENT WITH HINDERLITER DE LLAMAS & ASSOCIATES (HDL) FOR SALES TAX CONSULTING AND REVENUE RECOVERY SERVICES AND AN AMENDMENT TO THE PROFESSIONAL SERVICES AGREEMENT WITH HDL COREN & CONE FOR PROPERTY TAX SERVICES

The City Council authorized the City Manager or his designee to execute the following amendments:

A. An Amendment with Hinderliter de Llamas & Associates adding indirect cost recovery to the scope of work, increasing compensation for a new not-to-exceed amount of $1,700,000 with an expiration of June 30, 2025, and an option to add two (2) additional one-year terms to the agreement; and
B. An Amendment for the HdL Coren & Cone agreement to increase compensation for a new not-to-exceed amount of $172,605 with an expiration of June 30, 2025, and an option to add two (2) additional one-year terms to the agreement.

9. A GRANT APPLICATION FROM THE ADMINISTRATION FOR COMMUNITY LIVING FOR THE ACTIVE SENIOR ON THE GO PROGRAM

The City Council authorized the City Manager, or his designee, to execute all documents necessary to apply for and accept a 12-month grant in the amount of $439,094 from the Administration for Community Living (ACL), a division of the U.S.

Department of Health and Human Services, for the Recreation & Community Services Department's Active Seniors on the Go program.

10. FISCAL YEAR 2022-23 THIRD QUARTER BUDGET UPDATE REPORT

A. The City Council approved the budget adjustments and recommendations as presented in the Fiscal Year 2022-23 Third Quarter Budget Update Report (Exhibit A), and adopt a Resolution pertaining to the City Clerk and Treasurer salary;
B. The City Council approve a revised Salary Schedule (Exhibit B) and for Unrepresented Part-time employees and authorize the City Manager to approve sta□ng programs and the assigned salary grade placement for each Part-Time classification with the recommendation of the Human Resources / Risk Management agency.

RESOLUTION NO. 2023-035 A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, SETTING THE COMPENSATION OF THE CITY CLERK AND CITY TREASURER AND RESCINDING PREVIOUS RESOLUTION NO. 2014-016.

PUBLIC HEARING

11. A PUBLIC HEARING TO CONSIDER ADOPTION OF A RESOLUTION TO UPDATE THE CITY'S DEVELOPMENT IMPACT FEES (DIF) MASTER FACILITIES PLAN

The City Council considered and adopted a Resolution to update the City's Development Impact Fees (DIF) Master Facilities Plan.

RESOLUTION NO. 2023-036 A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, ADOPTING THE DEVELOPMENT IMPACT FEES (DIF) MASTER FACILITIES PLAN UPDATE.

Notice of public hearing was duly given and affidavits of compliance are on file in the Records Management Department. There were no written communications.

Mayor Leon opened the public hearing and inquired if anyone was interested in speaking to the item. Hearing no one, Mayor Leon closed the public hearing and opened the item for Council discussion.

MOTION: Moved by Council Member Bowman seconded by Mayor pro Tem Dorst-Porada and carried by a unanimous vote 4-0, with Council Member Wapner absent, to adopt Resolution No. 2023-036.

12. A PUBLIC HEARING TO CONSIDER FILE NO. PUD22-005, A PLANNED UNIT DEVELOPMENT FOR A 2.38-ACRE PARCEL OF LAND LOCATED AT THE NORTHEAST CORNER OF EUCLID AVENUE AND D STREET, BORDERED BY E STREET ON THE NORTH AND LEMON AVENUE ON THE EAST

The City Council introduced and waived further reading of an Ordinance approving File No. PUD22-005, the D Block Planned Unit Development, establishing development standards and design guidelines to facilitate a commercial and residential mixed-use development located at the northeast corner of Euclid Avenue and D Street.

ORDINANCE NO. 3248 (FIRST READING) AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PUD22-005, A PLANNED UNIT DEVELOPMENT TO ESTABLISH DEVELOPMENT AND PERFORMANCE STANDARDS AND DESIGN GUIDELINES FOR 2.38-ACRES OF LAND LOCATED AT THE NORTHEAST CORNER OF EUCLID AVENUE AND D STREET, BORDERED BY E STREET ON THE NORTH AND LEMON AVENUE ON THE EAST WITHIN THE LUA-1 (EUCLID AVENUE ENTERTAINMENT) OF THE MU-1 (DOWNTOWN MIXED USE) ZONING DISTRICT, AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 1048-363-05, 1048-363-04, 1048-363-03 AND 1048-363-02.

Notice of public hearing was duly given and affidavits of compliance are on file in the Records Management Department. There was one written communication from Matthew Gelfand in support.

Mayor Leon opened the public hearing and inquired if anyone was interested in speaking to the item. Hearing no one, Mayor Leon closed the public hearing and opened the item for Council discussion.

MOTION: Moved by Council Member Bowman seconded by Mayor pro Tem Dorst-Porada and carried by a unanimous vote 4-0, with Council Member Wapner absent, introduce Ordinance No. 3248.

13. A PUBLIC HEARING TO CONSIDER THE ADOPTION OF AN ORDINANCE APPROVING A DEVELOPMENT AGREEMENT (FILE NO. PDA21-005) BETWEEN THE CITY OF ONTARIO AND GROVE LAND VENTURE LLC, TO ESTABLISH THE TERMS AND CONDITIONS ASSOCIATED WITH TENTATIVE PARCEL MAP 20161 (FILE NO. PMTT20-011), A 159.95 ACRE PROPERTY BORDERED BY EUCALYPTUS AVENUE TO THE NORTH, BON VIEW AVENUE TO THE WEST, MERRILL AVENUE TO THE SOUTH, AND GROVE AVENUE TO THE EAST, WITHIN THE INDUSTRIAL AND BUSINESS PARK LAND USE DISTRICTS OF THE SOUTH ONTARIO LOGISTICS CENTER SPECIFIC PLAN (FILE NO. PSP19-001) AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 1054-071-01, 1054-071-02, 1054-081-03, 1054-091-01, 1054-091-02, 1054-101-01, 1054-101-02, 1054-231-01, 1054-231-02, 1054-241-01, 1054-241-02, 1054-311-01, 1054-311-02, 1054-321-01 AND 1054-321-02)

The City Council introduced and waived further reading of an Ordinance approving a Development Agreement (File No. PDA21-005) between the City of Ontario and Grove Land Venture LLC, to establish the terms and conditions associated with Tentative Parcel Map 20161 (File No. PMTT20-011), a 159.95-acre property bordered by Eucalyptus Avenue to the north, Bon View Avenue to the west, Merrill Avenue to the south, and Grove Avenue to the east, within the Industrial and Business Park land use districts of the South Ontario Logistics Center Specific Plan.

ORDINANCE NO. 3249 (FIRST READING) AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PDA21-005, A DEVELOPMENT AGREEMENT BETWEEN THE CITY OF ONTARIO AND GROVE LAND VENTURE LLC, TO ESTABLISH THE TERMS AND CONDITIONS ASSOCIATED WITH TENTATIVE PARCEL MAP 20161 (FILE NO. PMTT20-011), A 159.95 ACRE PROPERTY BORDERED BY EUCALYPTUS AVENUE TO THE NORTH, BON VIEW AVENUE TO THE WEST, MERRILL AVENUE TO THE SOUTH, AND GROVE AVENUE TO THE EAST, WITHIN THE INDUSTRIAL AND BUSINESS PARK LAND USE DISTRICTS OF THE SOUTH ONTARIO LOGISTICS CENTER SPECIFIC PLAN (FILE NO. PSP19-001) AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 1054-071-01, 1054-071-02, 1054-081-03, 1054-091-01, 1054-091-02, 1054-101-01, 1054-101-02, 1054-231-01, 1054-231-02, 1054-241-01, 1054-241-02, 1054-311-01, 1054-311-02, 1054-321-01 AND 1054-321-02.

Notice of public hearing was duly given and affidavits of compliance are on file in the Records Management Department. There were no written communications.

Mayor Leon opened the public hearing and inquired if anyone was interested in speaking to the item. Hearing no one, Mayor Leon closed the public hearing and opened the item for Council discussion.

MOTION: Moved by Mayor pro Tem Dorst-Porada seconded by Council Member Bowman and carried by a unanimous vote 4-0, with Council Member Wapner absent, introduce Ordinance No. 3249.

14. A PUBLIC HEARING TO CONSIDER AN AMENDMENT TO THE SOUTH ONTARIO LOGISTICS CENTER SPECIFIC PLAN (FILE NO. PSPA22-008), TO REMOVE A 71.6-ACRE PORTION OF THE SPECIFIC PLAN, IN CONJUNCTION WITH A ZONE CHANGE (FILE NO. PZC23-001) LOCATED SOUTH OF EUCALYPTUS AVENUE, NORTH OF MERRILL AVENUE, WEST OF BON VIEW AVENUE, AND EAST OF CAMPUS AVENUE

The City Council took the following actions:

A. Adopted a Resolution approving File No. PSPA22-008, an Amendment to the South Ontario Logistics Center Specific Plan, including map and textual changes, to remove 71.6 acres from the Specific Plan; and

B. Introduced and waived further reading of an Ordinance adopting File No. PZC23-001, a Zone Change to establish the SP/AG (Specific Plan/Agriculture Overlay) zoning district on the Project site.

RESOLUTION NO. 2023-037 A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PSPA22-008, AMENDING THE SOUTH ONTARIO LOGISTICS CENTER SPECIFIC PLAN, INCLUDING MAP AND TEXTUAL CHANGES TO REMOVE A 71.6-ACRE PORTION OF LAND GENERALLY LOCATED SOUTH OF EUCALYPTUS AVENUE, NORTH OF MERRILL AVENUE, WEST OF BON VIEW AVENUE, AND EAST OF CAMPUS AVENUE FROM THE SPECIFIC PLAN, AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 1054-051-01, 1054-051-02, 1054-061-01, 1054-061-02, 1054-251-01, 1054-251-02, 1054-301-01 AND 1054-301-02.

ORDINANCE NO. 3250 (FIRST READING) AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PZC23-001, A REQUEST TO ESTABLISH THE SP(AG) (SPECIFIC PLAN/AGRICULTURE OVERLAY) ZONING DISTRICT ON THE 71.6-ACRE PROJECT SITE GENERALLY LOCATED SOUTH OF EUCALYPTUS AVENUE, NORTH OF MERRILL AVENUE, WEST OF BON VIEW AVENUE, AND EAST OF CAMPUS AVENUE, AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 1054-051-01, 1054-051-02, 1054-061-01, 1054-061-02, 1054-251-01, 1054-251-02, 1054-301-01 AND 1054-301-02.

Notice of public hearing was duly given and affidavits of compliance are on file in the Records Management Department. There were no one written communications.

Mayor Leon opened the public hearing and inquired if anyone was interested in speaking to the item.

Randy Bekendam, spoke in opposition of the item.

Hearing no one else, Mayor Leon closed the public hearing and opened the item for Council discussion. City Manager Ochoa and Executive Director of Community Development Scott Murphy provided additional information for Council.

MOTION: Moved by Mayor pro Tem Dorst-Porada seconded by Council Member Bowman and carried by a unanimous vote 4-0, with Council Member Wapner absent, adopt Resolution No. 2023-037 and introduce Ordinance No. 3250.

STAFF MATTERS

City Manager Ochoa made no comments.

COUNCIL MATTERS

Mayor pro Tem Dorst-Porada announced upcoming events in the City and encouraged local participation with the Inland Empire Utilities Agency.

Mayor Leon spoke regarding the Inland Empire Utilities Agency.

Council Member Bowman had no comments.

Council Member Valencia invited residents to a law enforcement memorial at the Ontario Town Square hosted by the Ontario Police Department.

ADJOURNMENT

Mayor Leon adjourned the meetings of the Joint Agencies at 8:06 p.m. in memory of Patrick Jones and announced the next regular meeting on June 6, 2023.

Respectfully submitted,

_____
SHEILA MAUTZ, CITY CLERK/SECRETARY

APPROVED:

_____
PAUL S. LEON, MAYOR/CHAIRMAN

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Financial Services Prepared By: Nathaniel Gibson Staff Member Presenting: Armen Harkalyan, Executive Director of Finance Reviewed By: Cecilia House, . . Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 3

SUBJECT: ANNUAL LEVY OF ASSESSMENTS WITHIN ONTARIO PARKWAY MAINTENANCE ASSESSMENT DISTRICT NOS. 1, 2, 3 AND 4 FOR FISCAL YEAR 2023-24

RECOMMENDATION: That the City Council adopt Resolutions pertaining to the levy of assessments within Ontario Parkway Maintenance Assessment District (OPMAD) Nos. 1, 2, 3 and 4:

A. A Resolution initiating proceedings and ordering the preparation of an Engineer's Report for each district relating to the annual levy of assessments;
B. A Resolution giving preliminary approval of the Engineer's Report;
C. A Resolution for District Nos. 1, 2 and 3, and a Resolution for District No. 4, declaring the City's intention to levy the special assessments for Fiscal Year 2023-24 and set the date of July 18, 2023, for a Public Hearing on each district in accordance with the Landscaping and Lighting Act of 1972.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Operate in a Businesslike Manner
Focus Resources in Ontario's Commercial and Residential Neighborhoods

FISCAL IMPACT: As proposed, special assessment revenue will generate approximately $287,360 from OPMAD Nos. 1, 2 and 3, and $367,087 from OPMAD No. 4 during Fiscal Year 2023-24. The total cost of $474,714 for operation and maintenance within OPMAD Nos. 1, 2 and 3 will exceed the assessment revenues by $187,354. The difference of $187,354 will be funded as follows: $186,980 as a transfer from the General Fund and the balance of $374 from the district 3 reserves. These amounts are included in the Fiscal Year 2023-24 Adopted Budget. The special assessment for OPMAD No. 4 is sufficient to pay all expenses within this service area.

BACKGROUND & ANALYSIS: The first of these districts was formed in 1976 pursuant to the Landscaping and Lighting Act of 1972 (the 1972 Act). Additional territories are annexed to the districts from time to time as development proceeds. The districts were formed to help minimize the continually increasing cost of maintaining and operating the landscaping along public streets where the property owners do not have direct access to the landscaping. A special assessment is

levied annually on benefiting properties for the cost of operation and maintenance of certain parkway landscaping facilities within the districts. The City's Public Works Agency establishes the annual operation and maintenance costs and administers the maintenance of the landscaping. Annually, an Engineer's Report for each district must be prepared which apportions these costs to each parcel within the districts. The locations of the districts are shown on the attached maps.

OPMAD Nos. 1, 2, and 3 are comprised of single-family residential developments. Due to varying characteristics, the districts are organized into benefit zones and/or maintenance areas. Each zone/maintenance area is assessed for only the operation and maintenance of the facilities from which it receives special direct benefit. The total assessment for each maintenance area is then apportioned to its constituent parcels.

Special assessment revenue will be generated in the combined amount of $287,360 from OPMAD Nos. 1, 2 and 3. The assessed tax rates for Fiscal Year 2022-23, and the proposed and maximum tax rates for Fiscal Year 2023-24, are shown in Exhibit A.

OPMAD No. 4 is comprised of single-family residential tracts and the Ontario Mills development area. The district is organized into 6 maintenance areas. Each maintenance area is assessed for only the operation and maintenance of the facilities from which it receives direct special benefit. The total assessment for each maintenance area is then apportioned to its constituent parcels.

The assessments for OPMAD No. 4 will generate a total of $367,087. OPMAD No. 4 will generate sufficient revenue to pay all expenses within the service area. The assessed tax rates for Fiscal Year 2022-23, and the maximum and proposed tax rates for Fiscal Year 2023-24, are shown in Exhibit A.

Pursuant to the 1972 Act, Engineer's Reports have been prepared for each district and are on file with the Records Management Department. Each report includes plans and specifications for the improvements and maintenance, an estimate of costs, a diagram of the area proposed to be assessed, and an assessment of the costs to the various parcels within each district.

A public hearing is required for each district prior to adoption of the proposed assessments. A combined public hearing will be held on July 18, 2023 for the purpose of accepting comments and written protests. At the conclusion of the public hearing, the City Council will consider adoption of Resolutions confirming the assessments and ordering the levy of the assessments for tax year 2023-24. Notice of the public hearing for the levy of assessments will be published in the local newspaper, in accordance with the applicable statutes.

Exhibit A

Ontario Parkway Maintenance Assessment Districts 1, 2 & 3

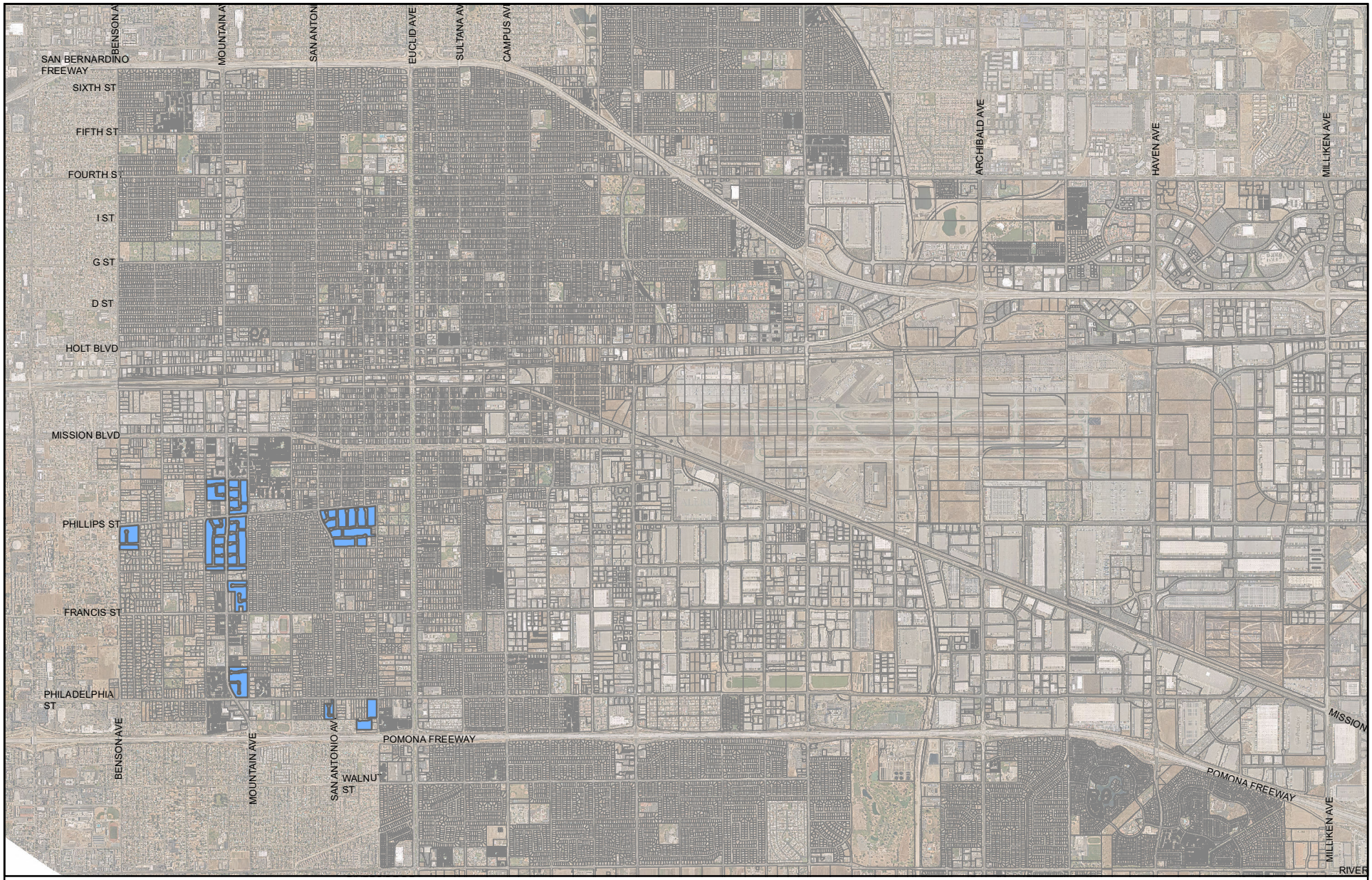
Proposed Levy Rates FY 2023-24

	Prior Year 2022-23	Maximum 2023-24	Proposed 2023-24
OPMAD No. 1	$ 66.32 per Lot	$ 66.32 per Lot	$ 66.32 per Lot
OPMAD No. 2	$ 34.04 per Lot	$ 34.04 per Lot	$ 34.04 per Lot
OPMAD No. 3, Zone 2000-1	$ 41.29 per Lot	$ 41.29 per Lot	$ 41.29 per Lot
OPMAD No. 3, Zone 2000-2	$ 191.97 per Lot	$ 286.14 per Lot	$ 201.81 per Lot

Ontario Parkway Maintenance Assessment District 4

Proposed Levy Rates FY 2023-24

	Prior Year 2022-23	Maximum 2023-24	Proposed 2023-24
MA#99-1	$ 57.32 per Lot	$ 69.63 per Lot	$ 60.26 per Lot
MA#99-2	$ 373.43 per Lot	$ 439.19 per Lot	$ 392.59 per Lot
MA#99-3	$1,160.38 per Acre	$1,577.04 per Acre	$1,219.90 per Acre
MA#00-1	$ 272.78 per Lot	$ 432.54 per Lot	$ 286.77 per Lot
MA#04-1	$ 1,097.25 per Lot	$ 2,755.20 per Lot	$ 1,153.51 per Lot
MA#05-1	$ 1,507.40 per Lot	$ 3,415.21 per Lot	$ 1,584.77 per Lot



Ontario Parkway Maintenance District No. 1
VICINITY MAP

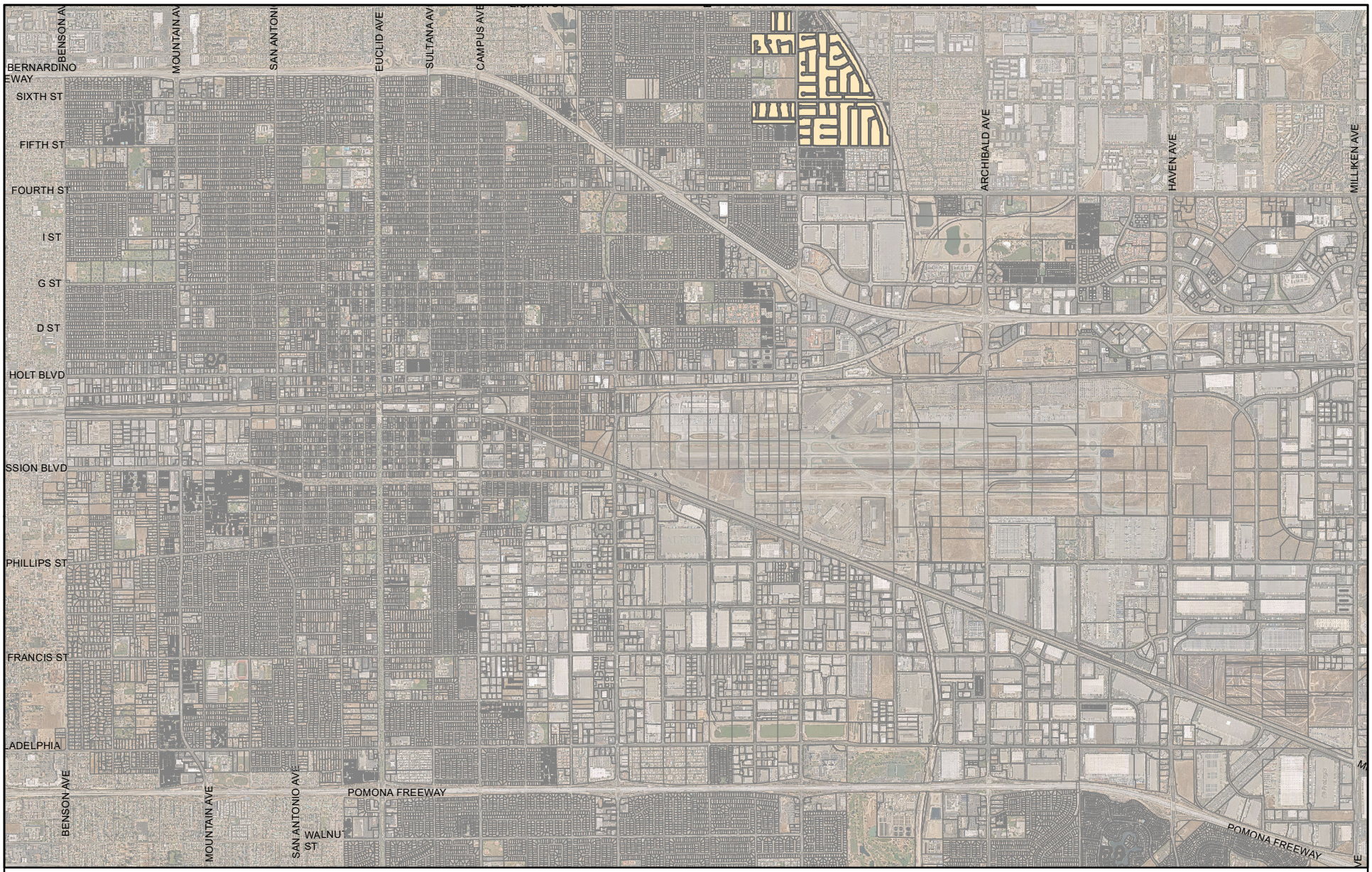
Legend

Boundary of Area Assessed

CITY OF ONTARIO

Date: 3/31/2023

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Ontario Parkway Maintenance District No. 2
VICINITY MAP

CITY OF ONTARIO

Legend

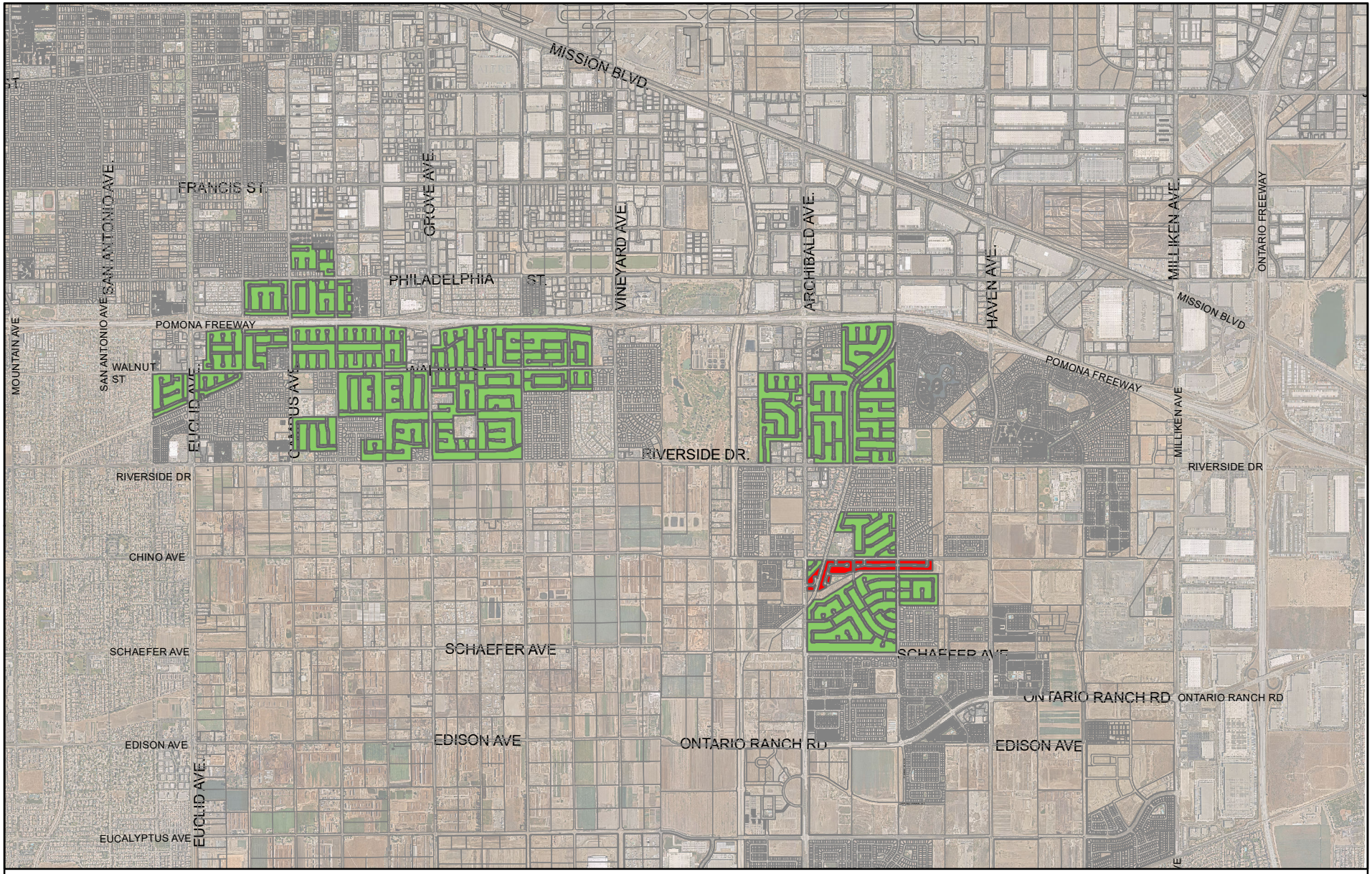
Boundary of Area Assessed

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Date: 3/31/2023

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Ontario Parkway Maintenance District No. 3
VICINITY MAP

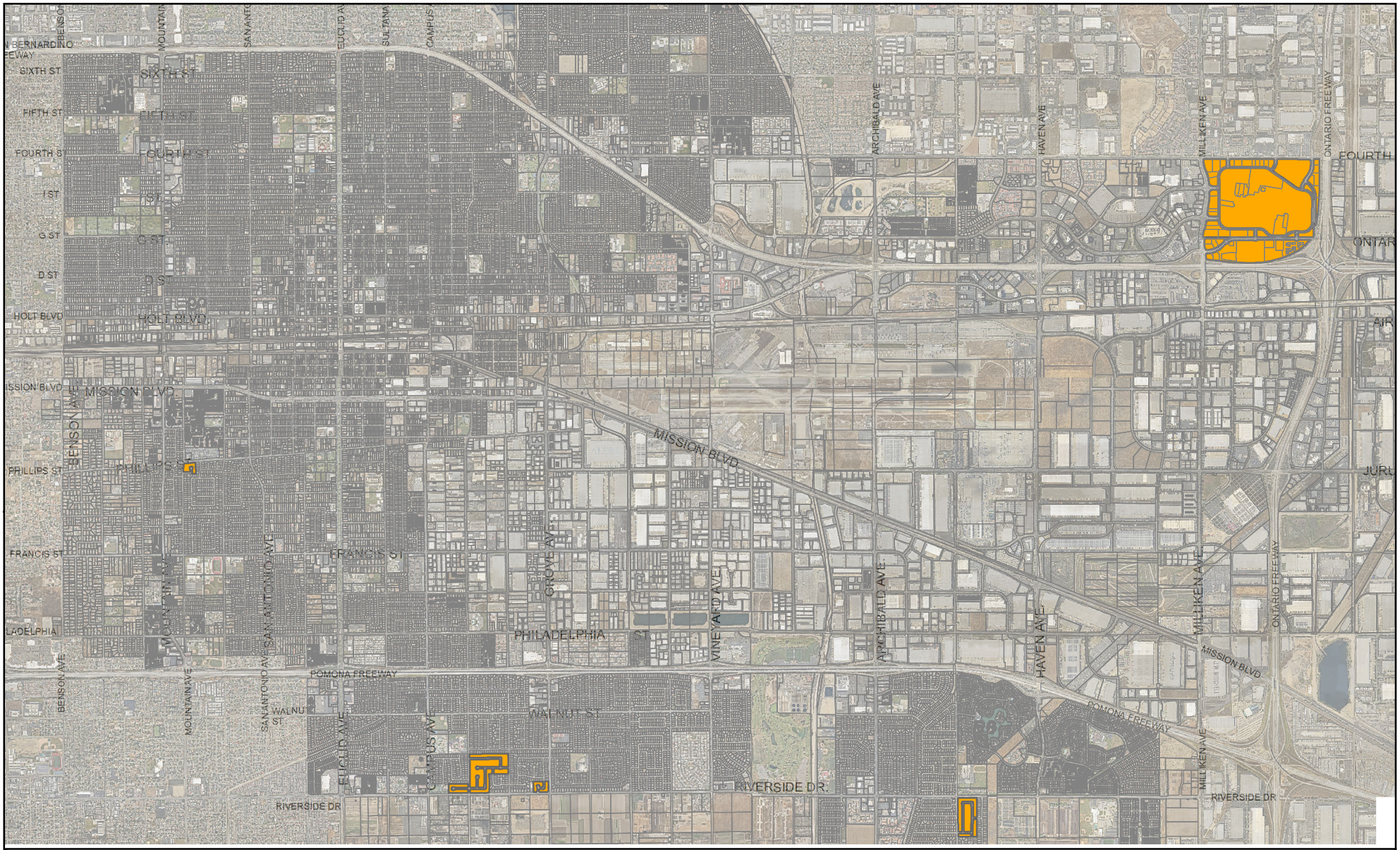
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- Boundary of Zone 2000-2
- Boundary of Zone 2000-1

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0 0.5 1 Miles

Date: 3/31/2023

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Ontario Parkway Maintenance District No. 4
VICINITY MAP

CITY OF ONTARIO

Legend

Boundary of Area Assessed

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0 0.5 1 Miles

Date: 3/31/2023

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RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, ORDERING THE PREPARATION OF THE ASSESSMENT ENGINEER'S REPORTS PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, FOR PROCEEDINGS FOR THE ANNUAL ASSESSMENT LEVY WITHIN ONTARIO PARKWAY MAINTENANCE ASSESSMENT DISTRICTS NO. 1, 2, 3 AND 4 FOR FISCAL YEAR 2023-24.

WHEREAS, the City Council of the City of Ontario, California, previously formed maintenance districts pursuant to the terms and provisions of the "Landscaping and Lighting Act of 1972," being Division 15, Part 2, of the Streets and Highways Code of the State of California (the "1972 Act"), known and designated as

CITY OF ONTARIO
PARKWAY MAINTENANCE ASSESSMENT DISTRICTS NO. 1, 2, 3 AND 4

(the "Districts"); and

WHEREAS, at this time the City Council desires to initiate proceedings to provide for the annual levy of assessments for the ensuing fiscal year to provide for the annual costs for maintenance of improvements within the Districts; and

WHEREAS, the proceedings for the annual levy of assessments shall relate to the fiscal year commencing July 1, 2023, and ending June 30, 2024; and

WHEREAS, there has been submitted to this City Council for its consideration at this time, maps showing the boundaries of the area affected by the levy of the assessment for the above-referenced fiscal year, and inventory maps showing and describing in general the works of improvement proposed to be maintained in said Districts, said description being sufficient to identify the works of improvement and the areas proposed to be assessed for said maintenance thereof.

NOW, THEREFORE, IT IS HEREBY RESOLVED as follows:

SECTION 1. That the above recitals are all true and correct.

SECTION 2. That the maps entitled

CITY OF ONTARIO
PARKWAY MAINTENANCE ASSESSMENT DISTRICTS NO. 1, 2, 3 AND 4
BOUNDARY AND INVENTORY MAPS

attached hereto, as submitted to this City Council, showing the boundaries of the proposed areas to be assessed and showing the works of improvement to be maintained, are hereby approved, and a copy thereof shall be on file in the Records Management Department and open to public inspection. The parcels and properties within said area are those proposed to be assessed to pay the costs and expenses for said maintenance work.

SECTION 3. That the proposed maintenance work within the area proposed to be assessed shall be for certain landscaping and appurtenant improvements, as said maintenance work is set forth in the Reports to be presented to this City Council for consideration.

SECTION 4. That the Assessment Engineer, Harris & Associates, is hereby ordered to prepare and file with this City Council the Assessment Engineer's Reports relating to said annual assessment and levy in accordance with the provisions of 1972 Act, Article XIIID of the Constitution of the State of California ("Article XIIID"), and the Proposition 218 Omnibus Implementation Act (Government Code Section 53750 and following) (the "Implementation Act") (the 1972 Act, Article XIIID and the Implementation Act are referred to collectively as the "Assessment Law").

SECTION 5. That upon completion, said Assessment Engineer's Reports shall be filed with the City Clerk, who shall then submit the same to this City Council for its consideration pursuant to the Assessment Law.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO LEGAL FORM:

_____
BEST BEST & KREIGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

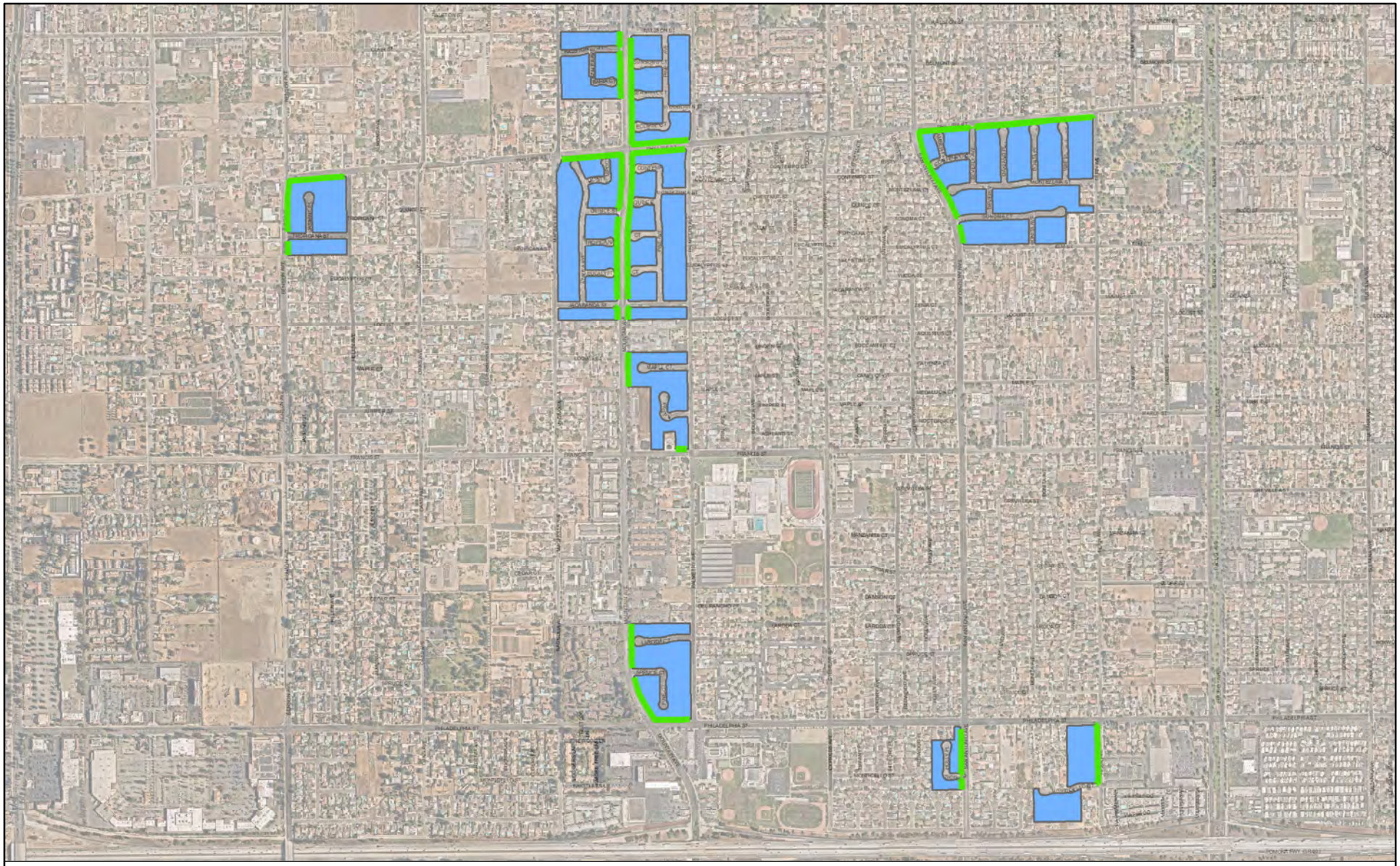
_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)



Ontario Parkway Maintenance District No. 1
Boundary and Inventory Map

Legend
- Areas Maintained
- Boundary of Area Assessed

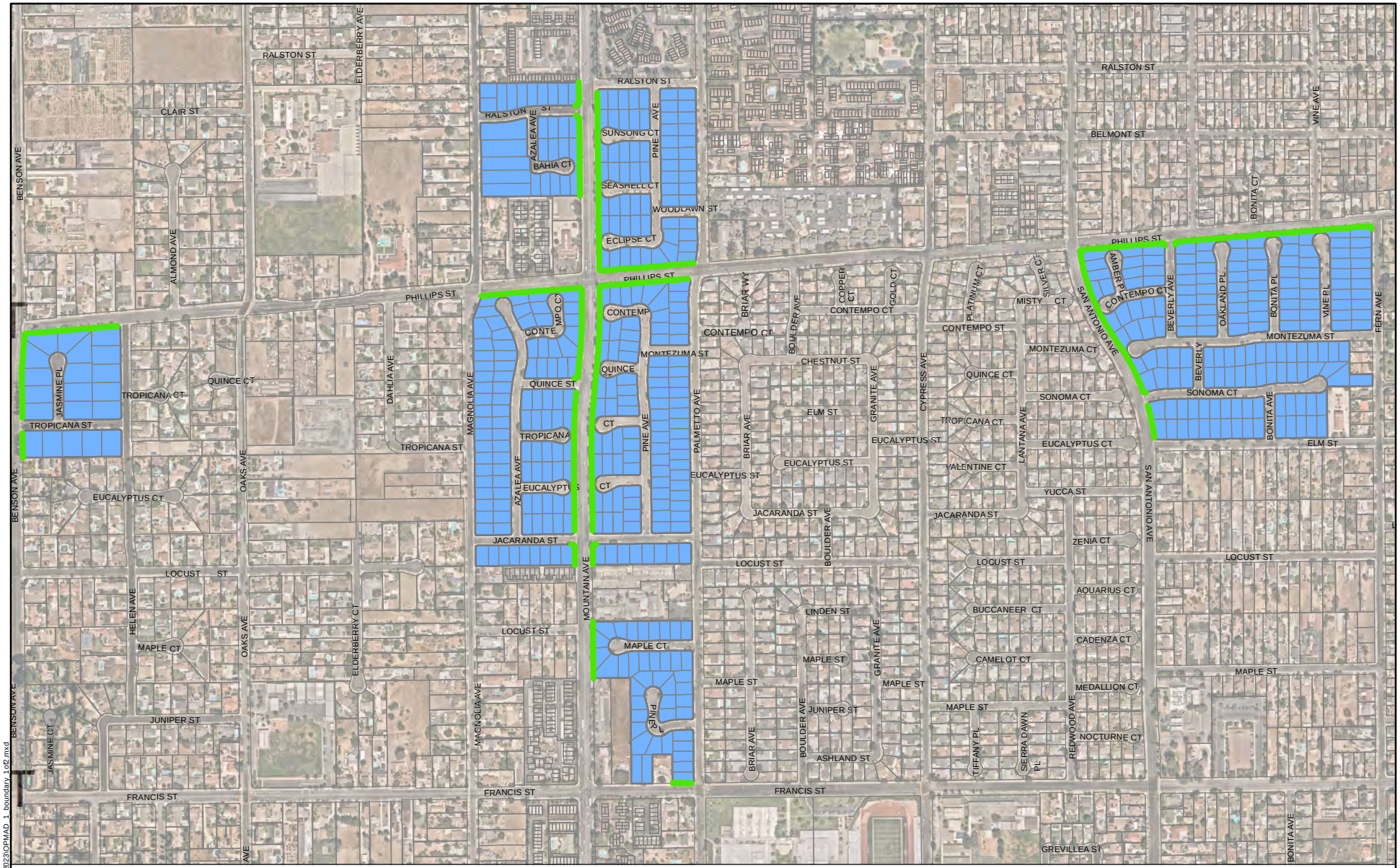
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0 700 1,400 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/30/2023

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Ontario Parkway Maintenance District No. 1
Boundary and Inventory Map

Map 1 of 2

Legend

- Areas Maintained
- Boundary of Area Assessed

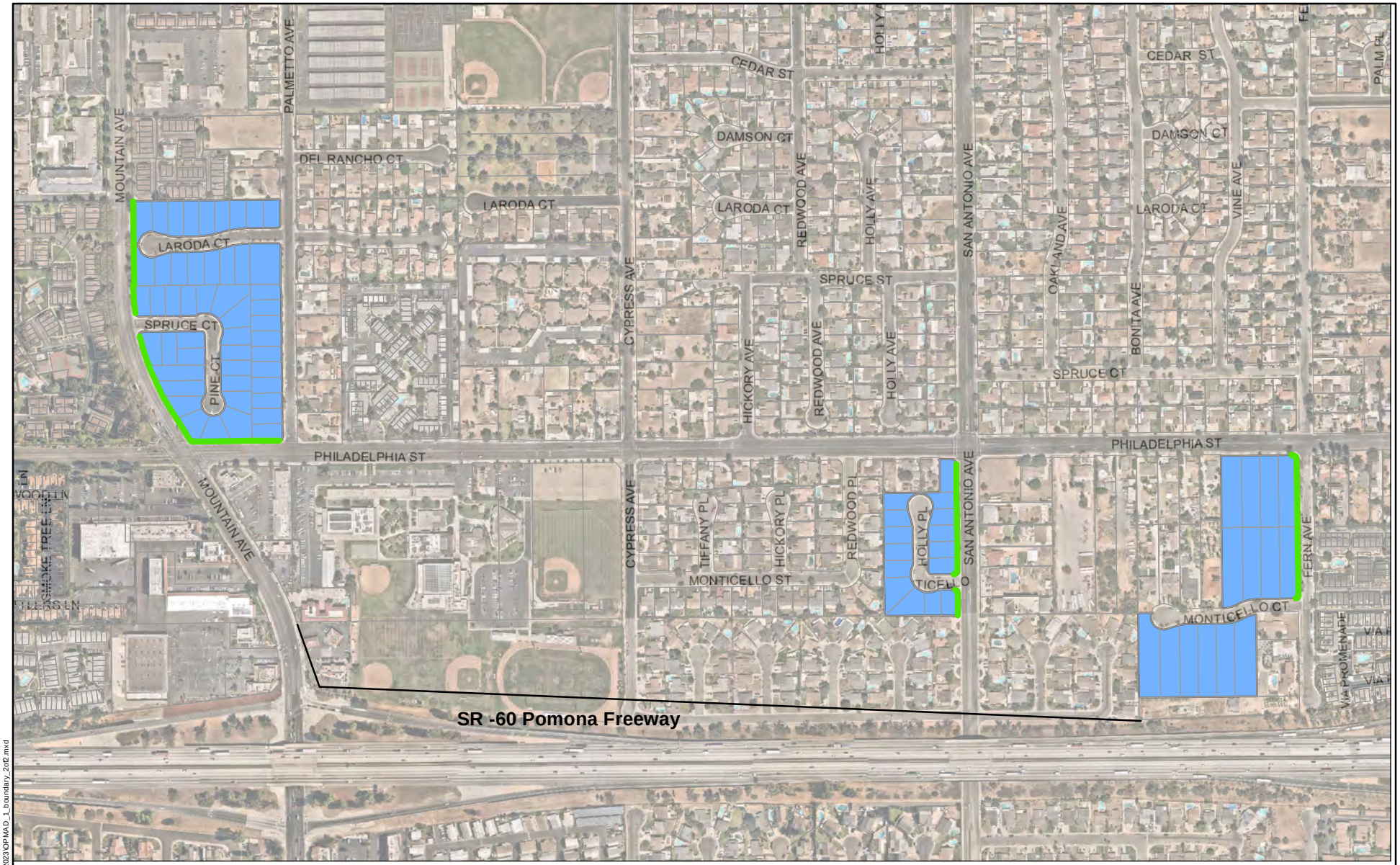
N
W E
S

0 425 850 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/30/2023

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Ontario Parkway Maintenance District No. 1
Boundary and Inventory Map

Legend — Map 2 of 2

- Areas Maintained
- Boundary of Area Assessed

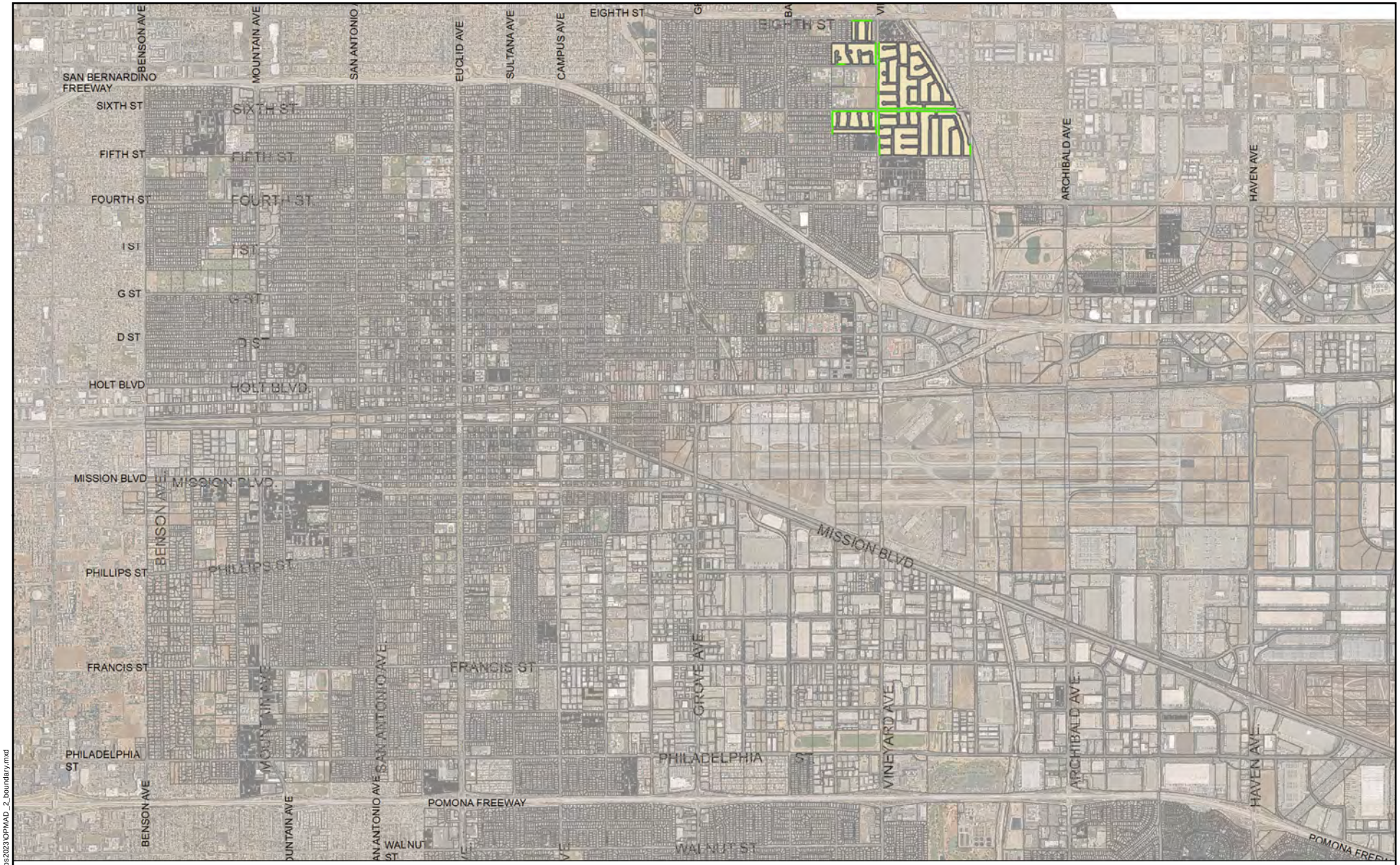
N W E S

0 285 570 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/30/2023

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Ontario Parkway Maintenance District No. 2
Boundary and Inventory Map

Legend

Areas Maintained

Boundary of Areas Assessed

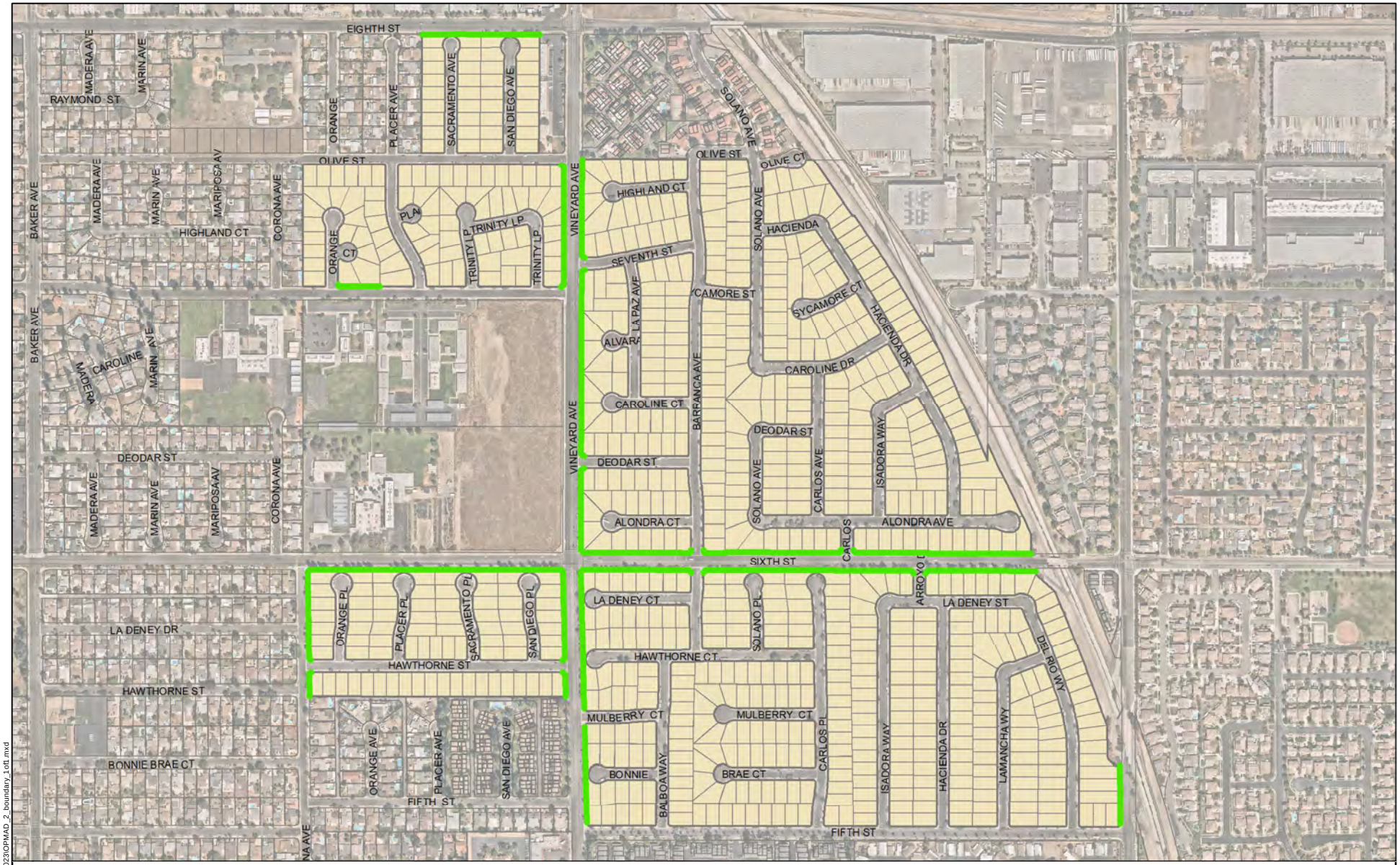
N
W E
S

0 2,050 4,100 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/30/2023

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Ontario Parkway Maintenance District No. 2
Boundary and Inventory Map

Map 1 of 1

Legend

- Areas Maintained
- Boundary of Areas Assessed

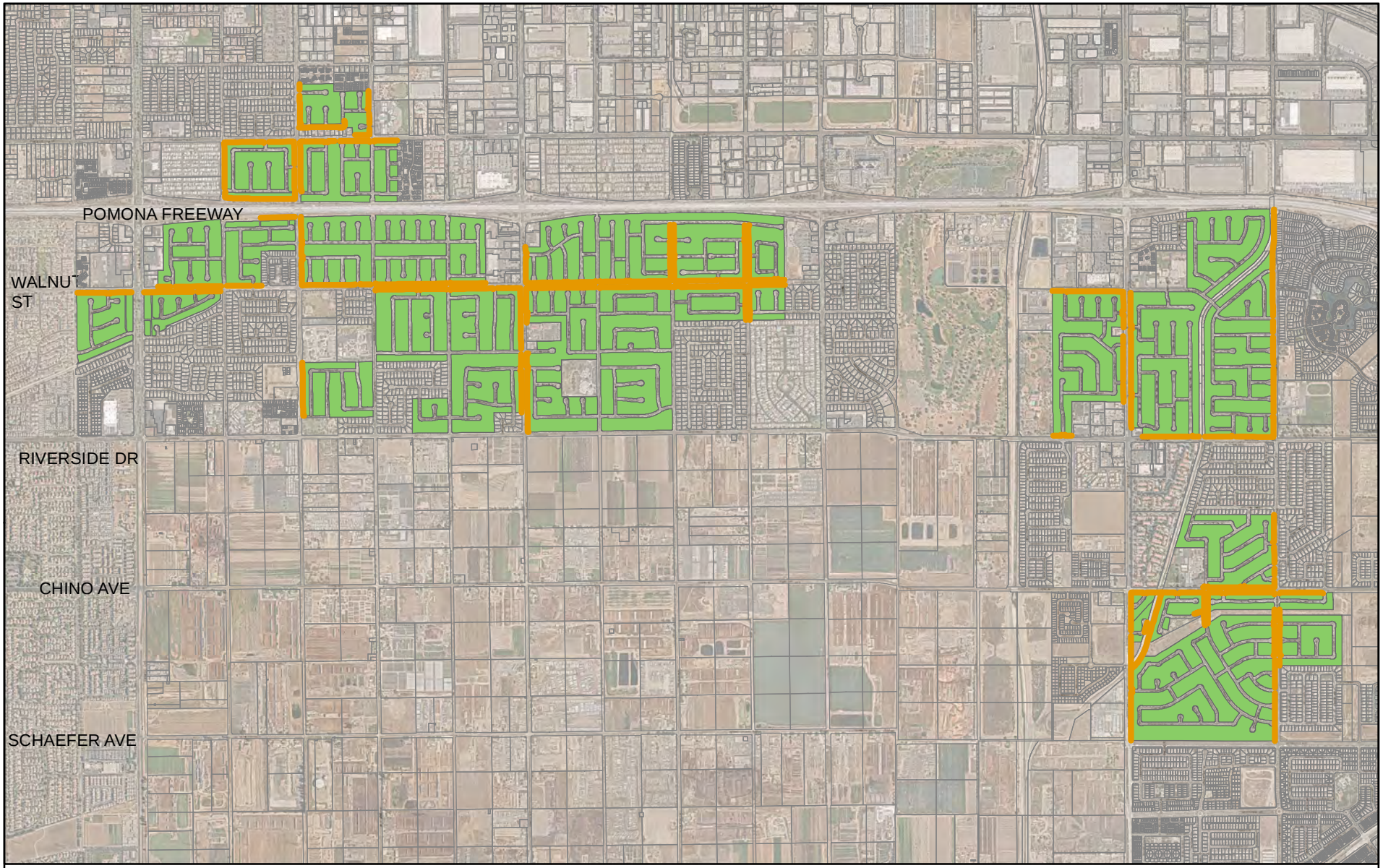
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S

0 360 720 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/30/2023

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Ontario Parkway Maintenance District No. 3
Boundary and Inventory Map

Legend
- Areas Maintained
- Boundary of Zone 2000-1

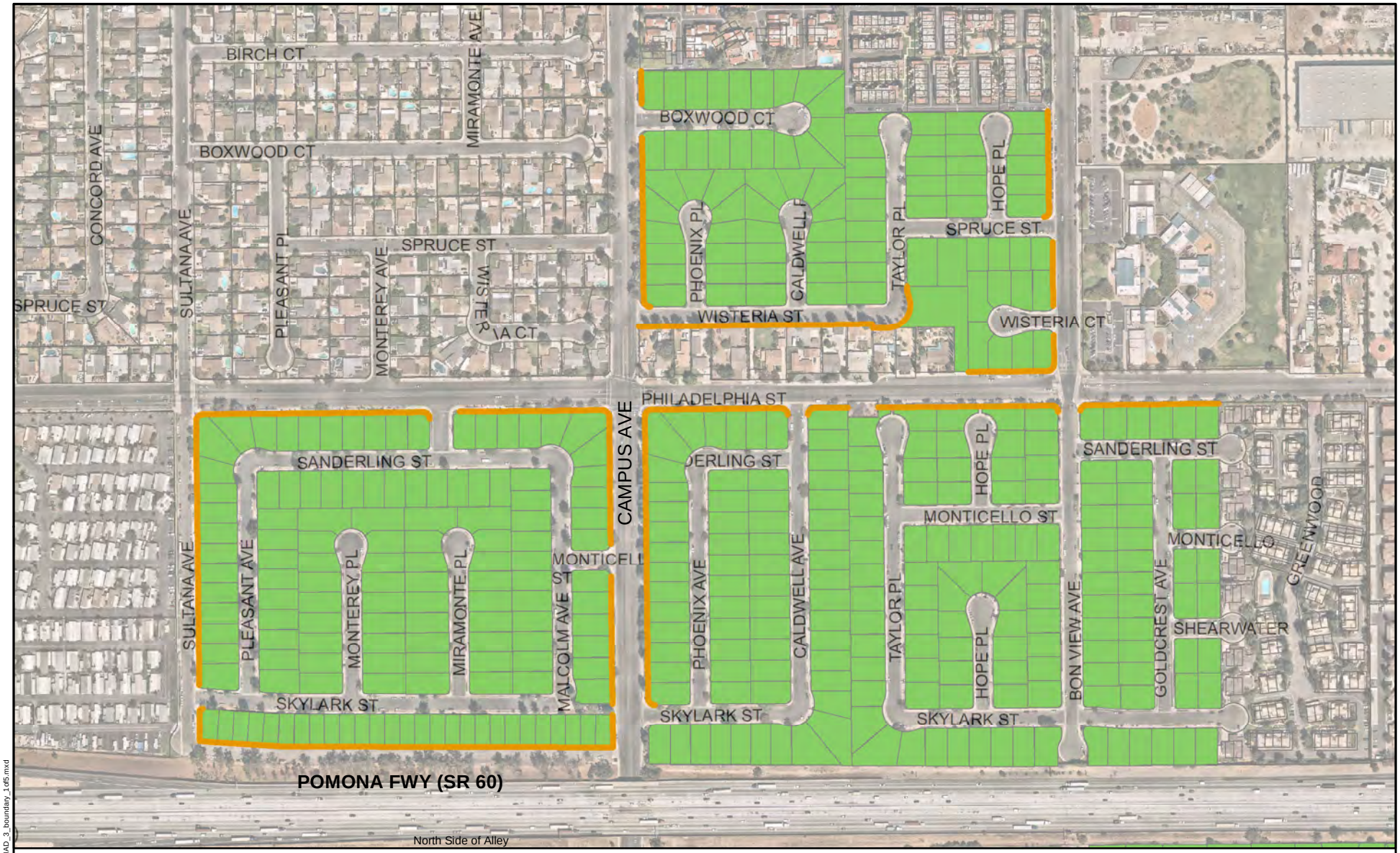
N
W E
S

0 1,250 2,500 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/30/2023

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Ontario Parkway Maintenance District No. 3
Boundary and Inventory Map

Legend Map 1 of 5

- Areas Maintained
- Boundary of Zone 2000-1

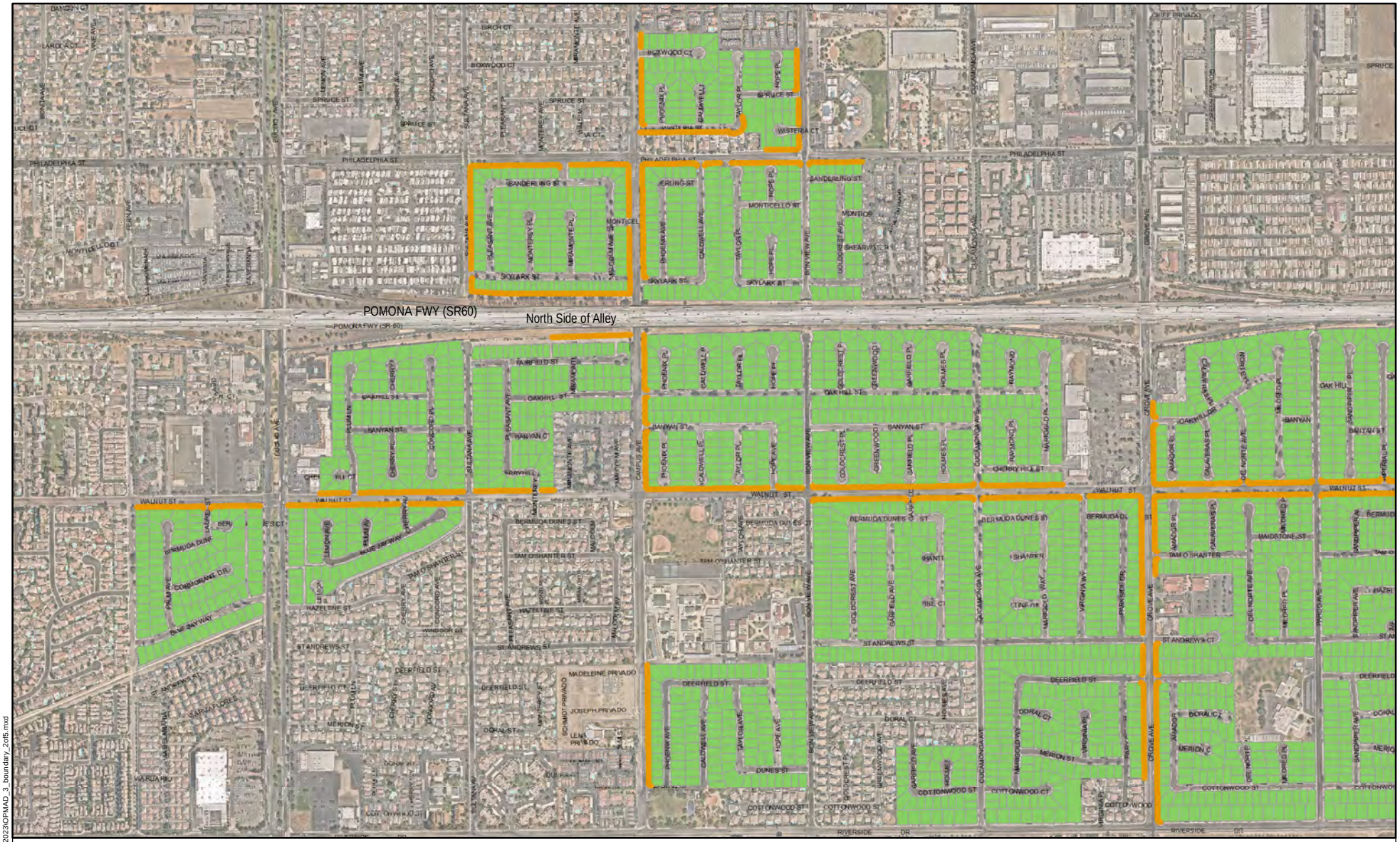
N
W E
S

0 220 440 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/30/2023

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Ontario Parkway Maintenance District No. 3
Boundary and Inventory Map

Legend — Map 2 of 5

- Areas Maintained
- Boundary of Zone 2000-1

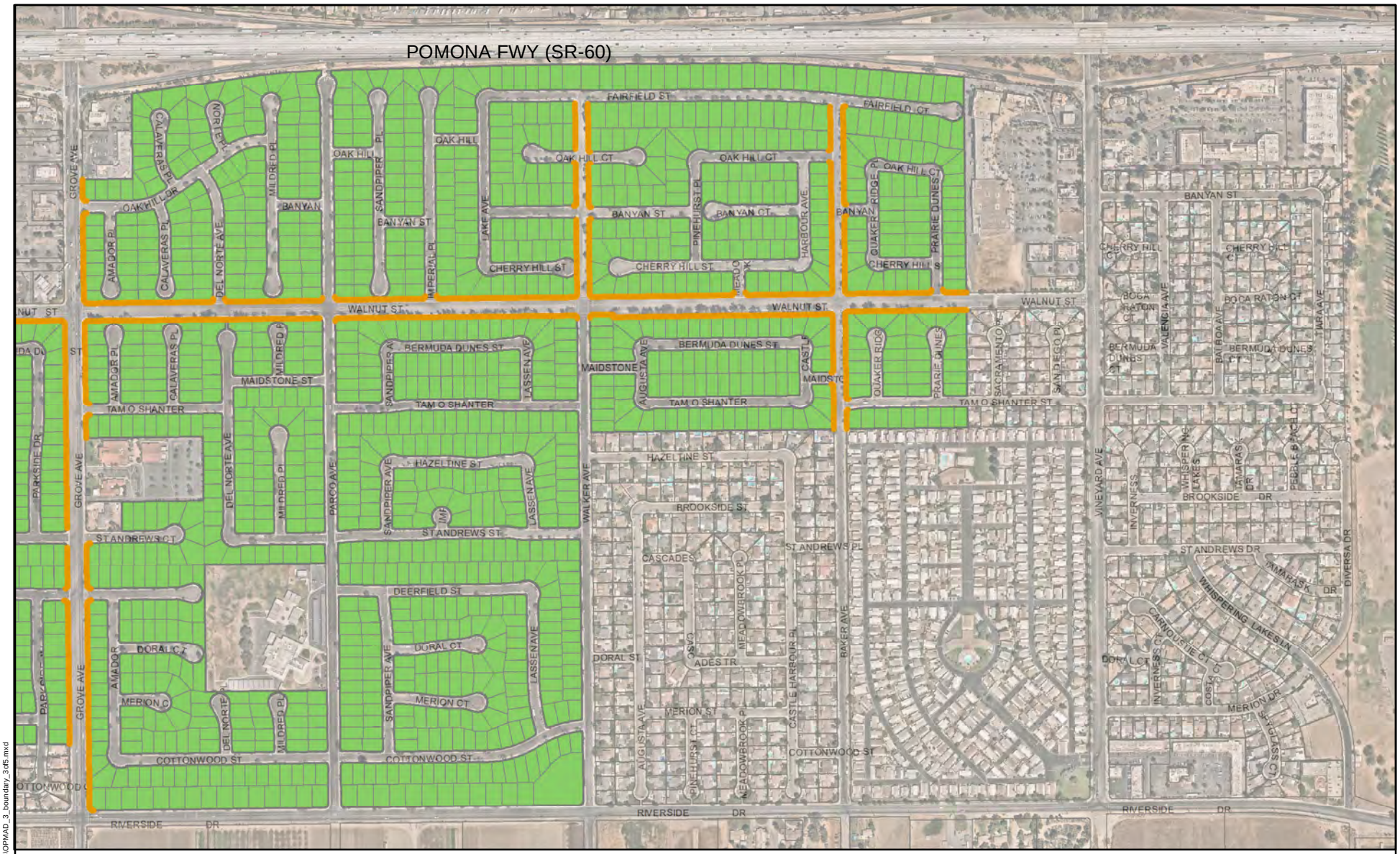
N W E S

0 550 1,100 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/30/2023

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Ontario Parkway Maintenance District No. 3
Boundary and Inventory Map

Legend — Map 3 of 5

- Areas Maintained
- Boundary of Zone 2000-1

N W E S

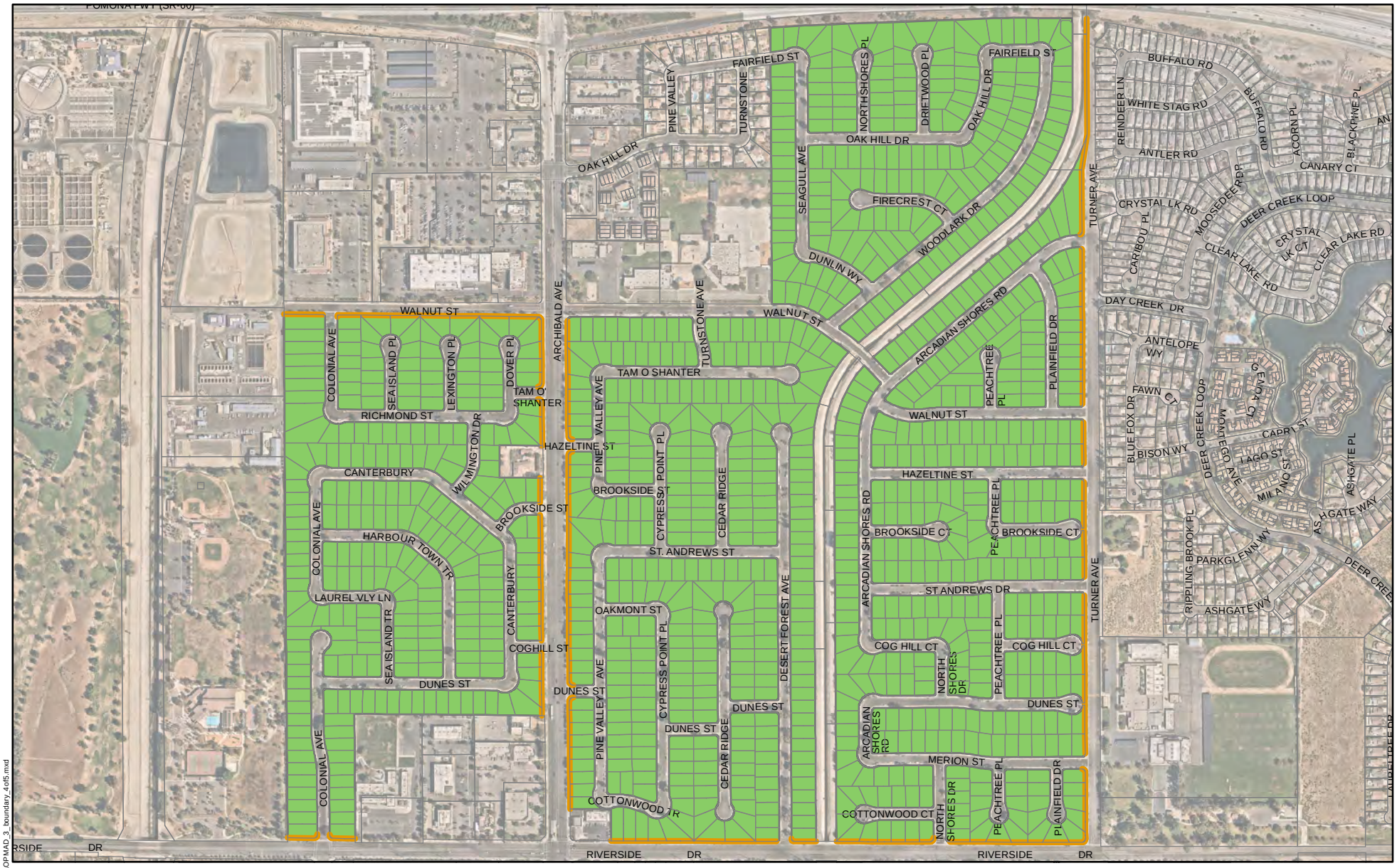
0 435 870 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/31/2023

CITY OF ONTARIO

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Ontario Parkway Maintenance District No. 3
Boundary and Inventory Map

Legend Map 4 of 5

- Areas Maintained
- Boundary of Zone 2000-1

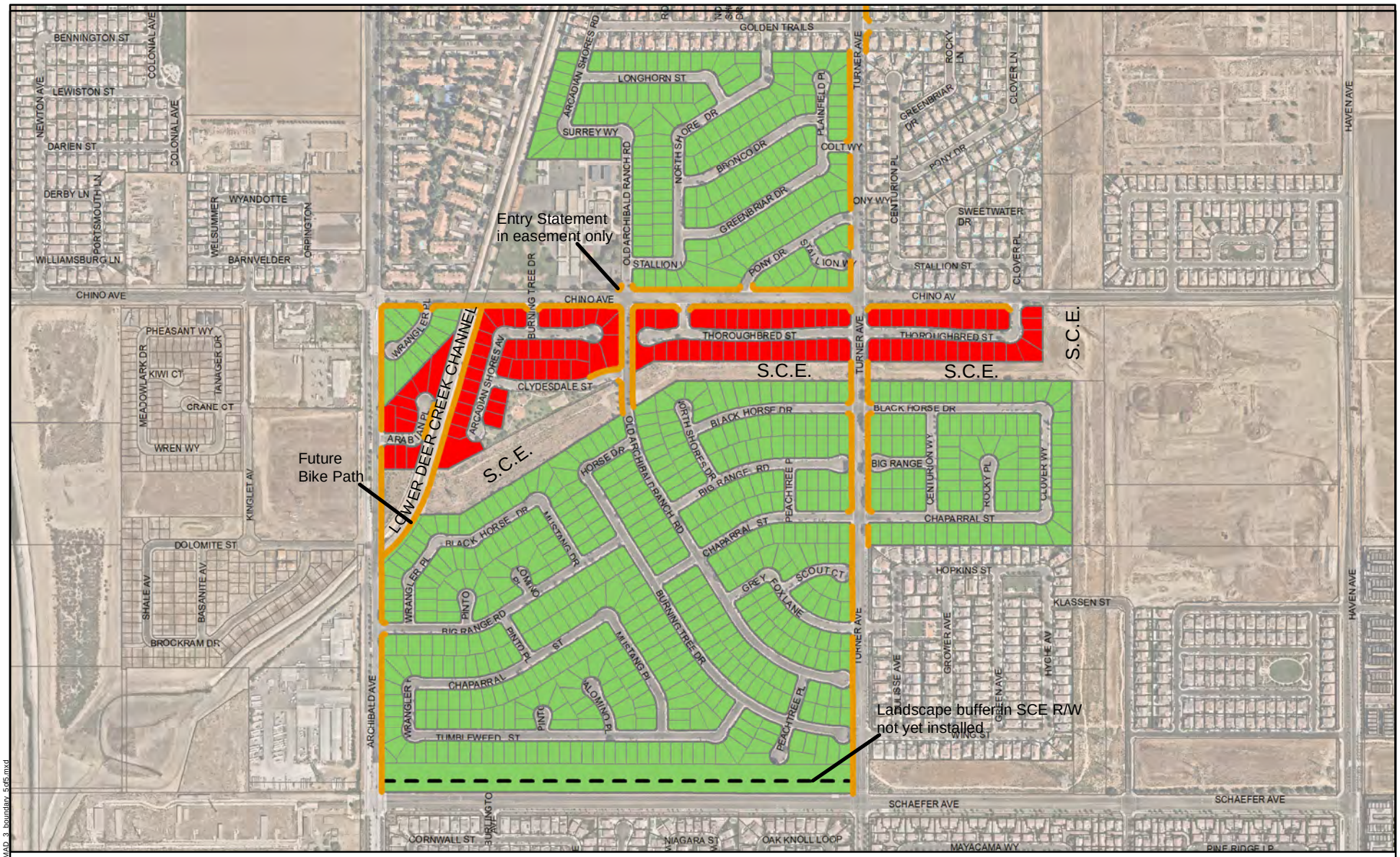
N W E S

0 350 700 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 4/3/2023

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Ontario Parkway Maintenance District No. 3
Boundary and Inventory Map

Map 5 of 5

Legend

- Areas Maintained
- Boundary of Zone 2000-1
- Boundary of Zone 2000-2

N
W E
S

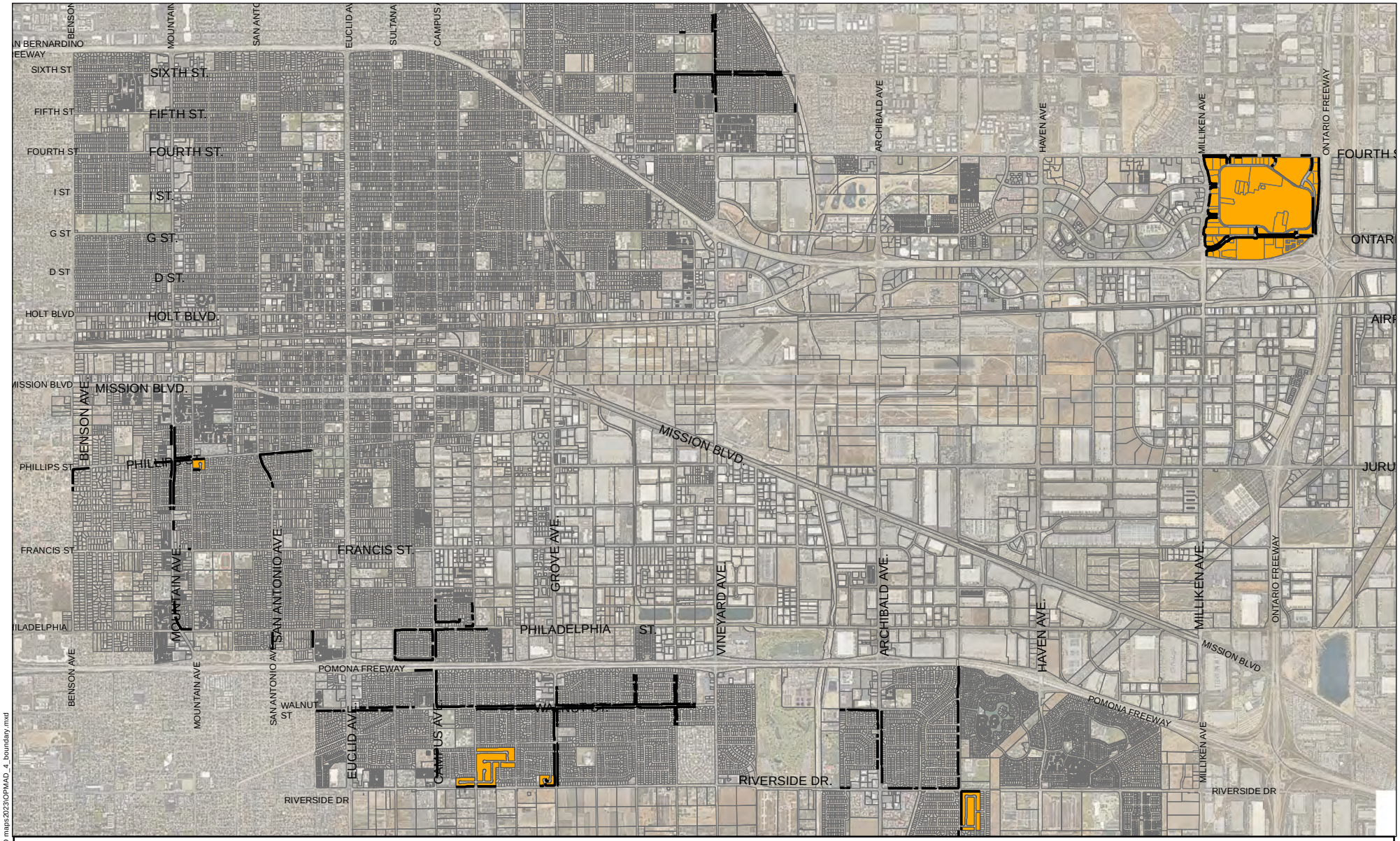
0 470 940 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/30/2023

CITY OF ONTARIO

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Ontario Parkway Maintenance District No. 4
Boundary and Inventory Map

Legend

- Areas Maintained
- **Boundary of Area Assessed**

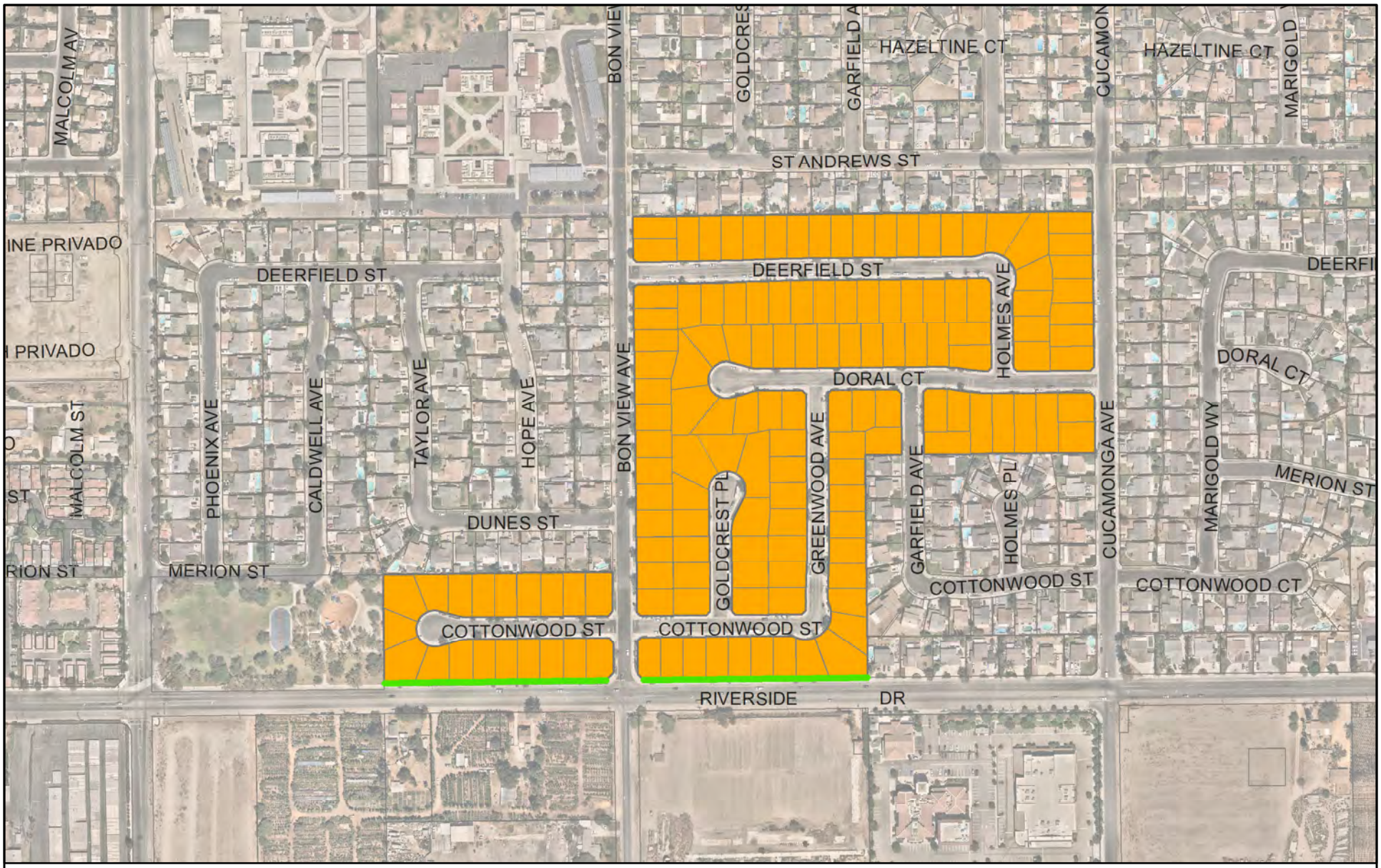
N
W E
S

0 2,300 4,600 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/31/2023

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Ontario Parkway Maintenance District No. 4
Boundary and Inventory Map

Legend — Map 1 of 5

- Areas Maintained
- MA - # Boundary and Maintenance Area #

N W E S

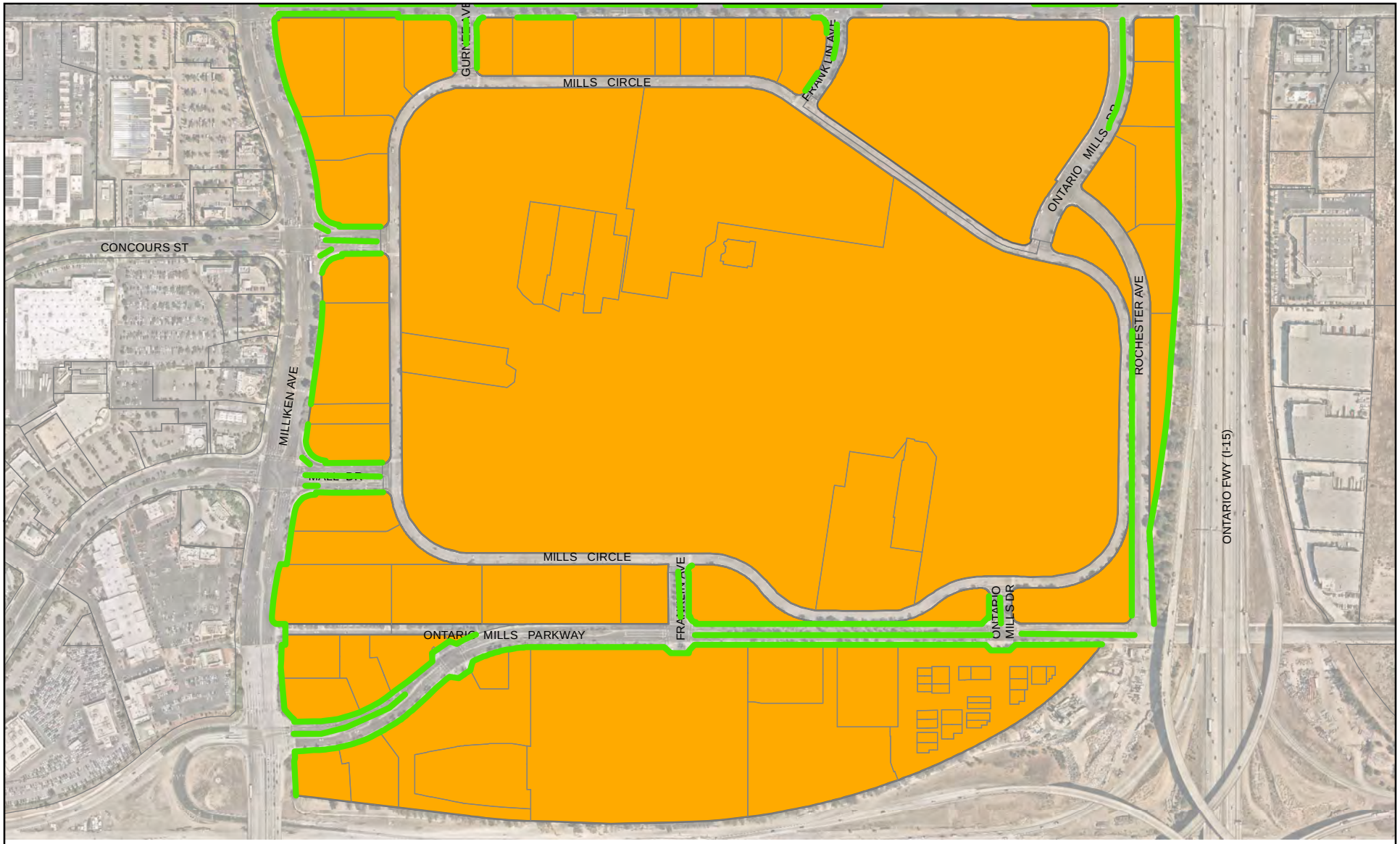
0 210 420 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 4/3/2023

CITY OF ONTARIO

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Ontario Parkway Maintenance District No. 4
Boundary and Inventoy Map

Legend Map 2 of 5

Areas Maintained

MA - # Boundary and Maintenance Area #

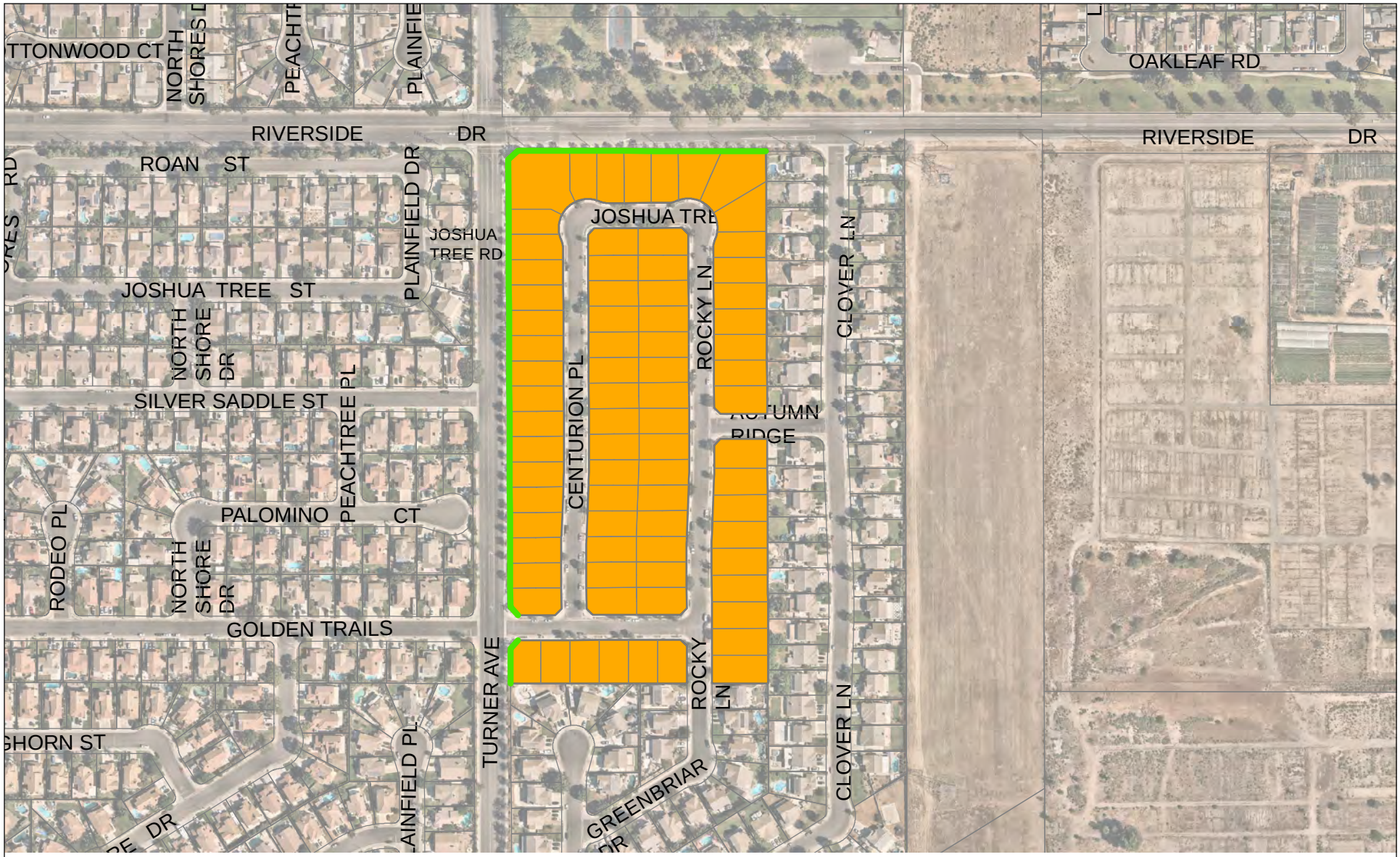
N W E S

0 305 610 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 4/3/2023

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Ontario Parkway Maintenance District No. 4
Boundary and Inventory Map

Legend

Areas Maintained

MA - # Boundary and Maintenance Area #

Map 3 of 5

N W E S

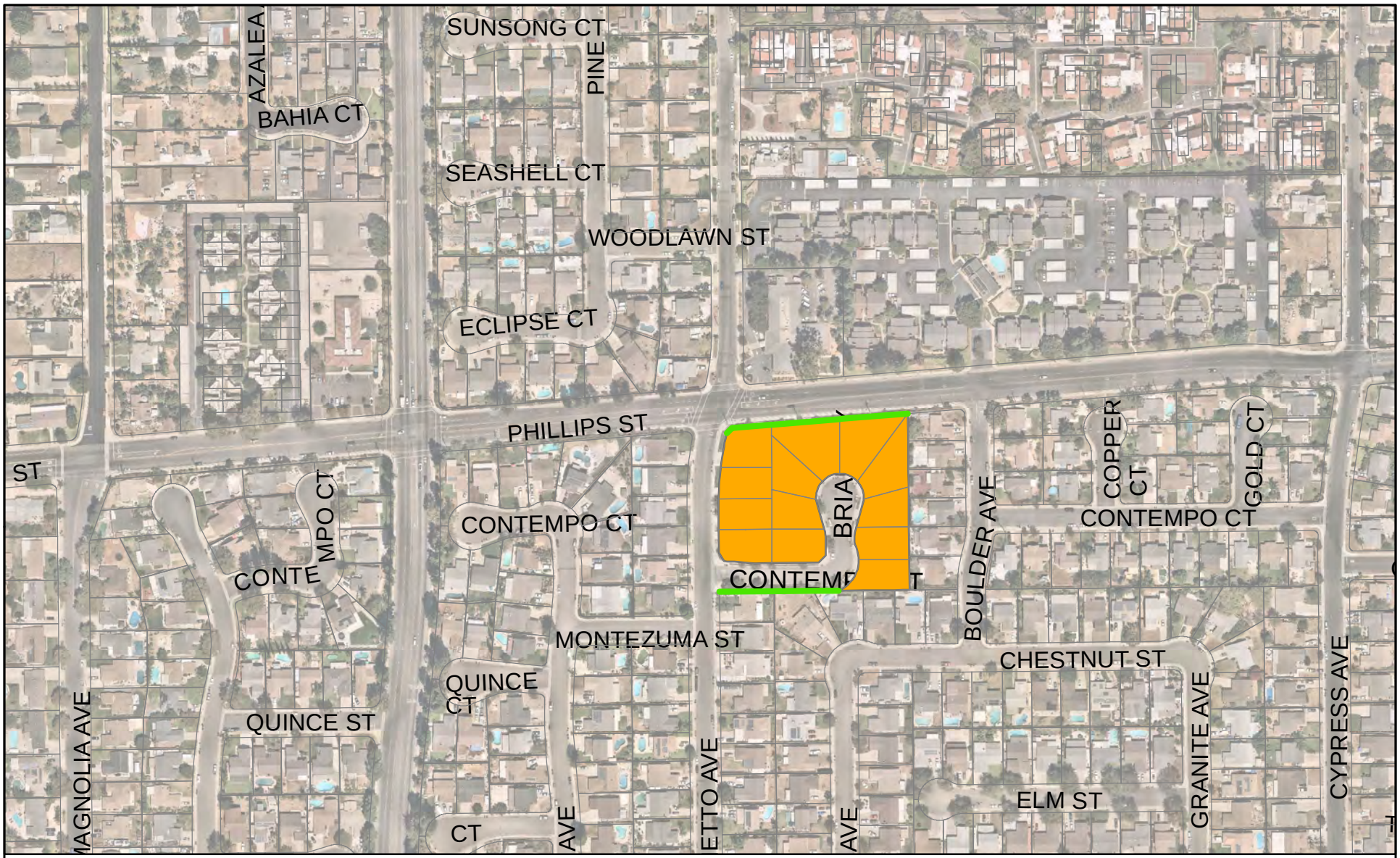
160 80 0 160 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/31/2023

CITY OF ONTARIO

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Ontario Parkway Maintenance District No. 4
Boundary and Inventory Map

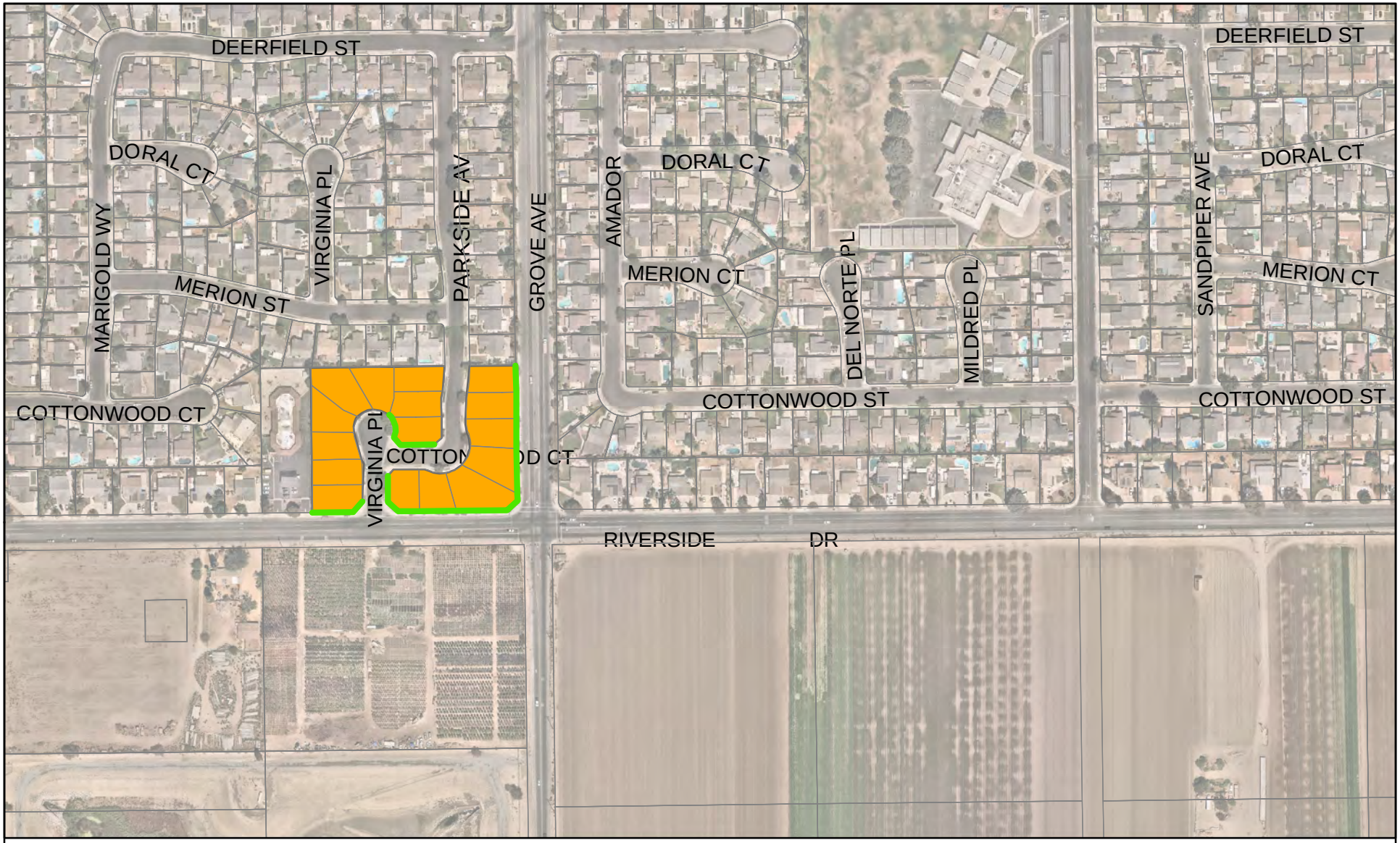
Legend
Map 4 of 5
Areas Maintained
MA - # Boundary and Maintenance Area #

N
W E
S
0 162.5 325 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 4/3/2023

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Ontario Parkway Maintenance District No 4
Boundary and Inventory Map

Map 5 of 5

Legend

- Areas Maintained
- MA - # Boundary and Maintenance Area #

N
W E
S

0 185 370 Feet

Note: Reference is hereby made to the Maps of the Assessor of the County of San Bernardino, California, For detailed descriptions of the lines and dimensions of the parcels shown hereon.

Date: 3/31/2023

CITY OF ONTARIO

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RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING THE ASSESSMENT ENGINEER'S REPORTS FOR THE ANNUAL LEVY OF ASSESSMENTS WITHIN ONTARIO PARKWAY MAINTENANCE ASSESSMENT DISTRICTS NO. 1, 2, 3 AND 4 FOR FISCAL YEAR 2023-24.

WHEREAS, the City Council of the City of Ontario, California, pursuant to the provisions of Division 15, Part 2, of the Streets and Highways Code of the State of California (the "1972 Act"), Article XIIID of the Constitution of the State of California ("Article XIIID"), and the Proposition 218 Omnibus Implementation Act (Government Code Section 53750 and following) (the "Implementation Act") (the 1972 Act, Article XIIID and the Implementation Act are referred to collectively as the "Assessment Law"), did, by previous Resolution, order the preparation of the Assessment Engineer's Reports for the annual levy of assessments for the referenced Fiscal Year in the maintenance assessment districts known and designated as

CITY OF ONTARIO
PARKWAY MAINTENANCE ASSESSMENT DISTRICTS NO. 1, 2, 3 AND 4
(the "Districts"); and

WHEREAS, there has now been presented to this City Council the Assessment Engineer's Reports as required by the Assessment Law and as previously directed by Resolution; and

WHEREAS, this City Council has now examined and reviewed the Assessment Engineer's Reports as presented, and is satisfied with each and all of the items and documents as set forth therein, and is satisfied that the assessments on a preliminary basis, have been spread in accordance with the special benefits received from the improvements to be maintained, as set forth in said Assessment Engineer's Reports.

NOW, THEREFORE, IT IS HEREBY RESOLVED as follows:

SECTION 1. That the above recitals are all true and correct.

SECTION 2. That the Assessment Engineer's Reports as presented, consisting of the following:

A. Plans and specifications describing the general nature, location, and extent of the improvements to be maintained and the extent of such maintenance;

B. An estimate of the cost of the maintenance of the improvements for the Districts for the referenced fiscal year;

C. A diagram for each District, showing the area and properties proposed to be assessed; and

D. An annual assessment for the referenced Fiscal Year of the estimated costs of the maintenance of those improvements to be maintained during such Fiscal Year, assessing the net amount upon all assessable lots and/or parcels within the Districts in proportion to the special benefits received;

are hereby approved on a preliminary basis and are ordered to be filed in the Records Management Department as a permanent record and to remain open to public inspection.

SECTION 3. That the City Clerk shall certify to the passage and adoption of this Resolution, and the minutes of this meeting shall so reflect the presentation of the Assessment Engineer's Reports.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO LEGAL FORM:

_____
BEST BEST & KREIGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DECLARING ITS INTENTION TO PROVIDE FOR AN ANNUAL LEVY AND COLLECTION OF ASSESSMENTS FOR FISCAL YEAR 2023-24 IN ONTARIO PARKWAY MAINTENANCE ASSESSMENT DISTRICTS NO. 1, 2 AND 3, PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, AND SETTING A TIME AND PLACE FOR A PUBLIC HEARING THEREON.

WHEREAS, the City Council of the City of Ontario, California, has previously formed landscaping maintenance assessment districts pursuant to the terms and provisions of the "Landscaping and Lighting Act of 1972," being Division 15, Part 2, of the Streets and Highways Code of the State of California, in what is known and designated as

CITY OF ONTARIO
PARKWAY MAINTENANCE ASSESSMENT DISTRICTS NO. 1, 2 AND 3

(hereinafter referred to as the Districts); and

WHEREAS, at this time, this City Council desires to conduct proceedings to provide for the annual levy of assessments for the ensuing fiscal year, to provide for the costs and expenses necessary for continual maintenance of improvements within said Districts; and

WHEREAS, at this time, there has been presented and approved by this City Council, the Engineer's Reports as required by law, and this City Council desires to conduct the proceedings for said annual levy.

NOW, THEREFORE, IT IS HEREBY RESOLVED as follows:

SECTION 1. That the above recitals are all true and correct.

SECTION 2. That the public interest and convenience requires, and it is the intention of this City Council, to undertake proceedings for the annual levy and collection of special assessments for the continual maintenance of certain improvements, all to service and benefit said Districts as said area is shown and delineated on the maps as previously approved by this City Council and on file in the Records Management Department, open to public inspection, and herein so referenced and made a part hereof, and proposed changes thereto are set forth in the Engineer’s Reports, incorporated herein as a part hereof.

REPORT

SECTION 3. That the Engineer's Reports regarding the annual levy for said Districts, which Reports are for maintenance for said fiscal year, are hereby approved and are directed to be filed in the Records Management Department.

ASSESSMENT

SECTION 4. That the public interest and convenience requires, and it is the intention of this City Council to order the annual assessment levy for the Districts as set forth and described in said Engineer's Reports, and further it is determined to be in the best public interest and convenience to levy and collect annual assessments to pay the costs and expenses of said maintenance and improvement as estimated in said Reports.

DESCRIPTION OF MAINTENANCE

SECTION 5. The assessments levied and collected shall be for the maintenance of certain parkway landscaping and appurtenant improvements, as set forth in the Engineer's Reports, referenced and so incorporated herein.

COUNTY AUDITOR

SECTION 6. The County Auditor shall enter on the County Assessment Roll the amount of the assessments, and the County Tax Collector shall collect said assessments at the time and in the same manner as County taxes are collected. After collection by the County, the net amount of the assessments, after the deduction of any compensation due to the County for collection, shall be paid to the Treasurer for purposes of paying for the costs and expenses of said Districts.

SPECIAL FUND

SECTION 7. That all monies collected shall be deposited in a special fund. Payment shall be made out of said fund only for the purpose provided for in this Resolution, and in order to expedite the making of this maintenance and improvement, the City Council may transfer into said fund as it may deem necessary to expedite the proceedings. Any such transfer shall be repaid out of the proceeds of the assessments provided for in this Resolution.

BOUNDARIES OF DISTRICTS

SECTION 8. Said contemplated maintenance work is in the opinion of this City Council, of direct benefit to the properties within the boundaries of the Districts, and this City Council makes the costs and expenses of said maintenance chargeable upon the Districts, which Districts said City Council hereby declares to be the Districts benefited by said improvement and maintenance, and to be further assessed to pay the costs and expenses thereof. Said Districts shall include each and every parcel of land within the boundaries of said Districts, as said Districts are shown on the maps as approved by this City Council and on file in the Records Management Department.

PUBLIC PROPERTY

SECTION 9. Any lots or parcels of land known as public property, as the same are defined in Section 22663 of Division 15, Part 2, of the Streets and Highways Code of the State of California, which are included within the boundaries of the Districts, shall be omitted and exempt from any assessment to be made under these proceedings to cover any of the costs and expenses of said improvement and maintenance work.

PUBLIC HEARING

SECTION 10. NOTICE IS HEREBY GIVEN THAT A PUBLIC HEARING WILL BE HELD THE 18th DAY OF JULY, 2023, AT THE HOUR OF 6:30 O'CLOCK P.M., IN THE REGULAR MEETING OF THE CITY COUNCIL, BEING IN THE COUNCIL CHAMBERS, WHICH IS THE TIME AND PLACE FIXED BY THIS CITY COUNCIL FOR THE HEARING OF PROTESTS OR OBJECTIONS IN REFERENCE TO THE ANNUAL LEVY OF ASSESSMENTS, TO THE EXTENT OF THE MAINTENANCE, BY PROPERTY OWNERS AFFECTED HEREBY AND ANY OTHER MATTERS CONTAINED IN THIS RESOLUTION; PROVIDED, THAT, IN THE EVENT THE JULY 18, 2023 CITY COUNCIL MEETING IS HELD VIA TELECONFERENCE AND/OR VIDEO CONFERENCE ONLY, THE MEANS BY WHICH THE PUBLIC MAY OBSERVE SUCH PUBLIC HEARING AND OFFER PUBLIC COMMENT SHALL BE PRESCRIBED IN THE NOTICE AND AGENDA FOR SUCH CITY COUNCIL MEETING. ANY PERSONS WHO WISH TO OBJECT TO THE PROCEEDINGS FOR THE ANNUAL LEVY SHOULD FILE A WRITTEN PROTEST WITH THE CITY CLERK PRIOR TO THE TIME SET AND SCHEDULED FOR SAID PUBLIC HEARING.

NOTICE

SECTION 11. That the City Clerk is hereby authorized and directed to publish, pursuant to Government Code Section 6061, a copy of this Resolution in the INLAND VALLEY DAILY BULLETIN, a newspaper of general circulation within said City, said publication shall be made one time and not less than ten (10) days before the date set for the Public Hearing.

SECTION 12. That this Resolution shall take effect immediately upon its adoption.

SECTION 13. For any and all information relating to the proceedings, protest procedure, any documentation and/or information of a procedural or technical nature, your attention is directed to the below listed person at the local agency or department so designated:

Cecilia House
City of Ontario
303 East “B” Street
Ontario, California 91764
(909) 395-2088

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO LEGAL FORM:

_____
BEST BEST & KREIGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023, by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DECLARING ITS INTENTION TO PROVIDE FOR AN ANNUAL LEVY AND COLLECTION OF ASSESSMENTS FOR FISCAL YEAR 2023-24 IN ONTARIO PARKWAY MAINTENANCE ASSESSMENT DISTRICT NO. 4, PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, AND SETTING A TIME AND PLACE FOR A PUBLIC HEARING THEREON.

WHEREAS, the City Council of the City of Ontario, California, has previously formed a landscaping maintenance assessment district, and authorized the levy of assessments therein pursuant to the terms and provisions of the "Landscaping and Lighting Act of 1972," being Division 15, Part 2, of the Streets and Highways Code of the State of California (the "1972 Act"), Article XIIID of the Constitution of the State of California ("Article XIIID"), and the Proposition 218 Omnibus Implementation Act (Government Code Section 53750 and following) (the "Implementation Act") (the 1972 Act, Article XIIID and the Implementation Act are referred to collectively as the "Assessment Law") in what is known and designated as

CITY OF ONTARIO
PARKWAY MAINTENANCE ASSESSMENT DISTRICT NO. 4

(the "District"); and

WHEREAS, the City Council previously undertook proceedings as required by the Assessment Law to consider the approval of the levy of (a) maximum annual assessments to finance the estimated costs of the maintenance of all of the improvements to ultimately be maintained upon the completion and acceptance thereof for maintenance, assessing the net amount upon all assessable lots and/or parcels within the District in proportion to the special benefits received; together with a formula pursuant to which such maximum assessment may be adjusted annually for inflation, and (b) an initial annual assessment of the estimated costs of the maintenance of those improvements to be maintained during such Fiscal Year, assessing the net amount upon all assessable lots and/or parcels within the District in proportion to the special benefits received; and

WHEREAS, upon the conclusion of the public hearing related to the proposed levy of the maximum annual assessments referred to in the preceding recital, the assessment ballots submitted in favor of the maximum annual assessments and the assessment ballots received in opposition to the levy of the maximum annual assessments were tabulated with assessment ballots weighted according to the proportional financial obligation of the affected properties; and

WHEREAS, as a result of the tabulation of the assessment ballots submitted, it was determined that the assessment ballots submitted, and not withdrawn, in favor of the proposed maximum annual assessment exceeded the assessment ballots submitted, and not withdrawn, in opposition to the levy of the maximum annual assessment; and

WHEREAS, this City Council has initiated proceedings to provide for the annual levy of assessments for the referenced Fiscal Year, to finance the costs and expenses necessary for continual maintenance of improvements within said District; and

WHEREAS, at this time, there has been presented and approved by this City Council, the Assessment Engineer's Report as required by the Assessment Law, and this City Council desires to conduct the proceedings to authorize said annual levy; and

WHEREAS, the proposed annual assessments for the referenced Fiscal Year as set forth in the Assessment Engineer's Report do not exceed the maximum annual assessments as previously authorized to be levied and, therefore, the proposed levy of assessments for the referenced Fiscal Year are not deemed to be "increased" over the maximum annual assessments.

NOW, THEREFORE, IT IS HEREBY RESOLVED as follows:

RECITALS

SECTION 1. That the above recitals are all true and correct.

IMPROVEMENTS AND MAINTENANCE

SECTION 2. That the public interest and convenience requires, and it is the intention of this City Council, to undertake proceedings for the annual levy and collection of special assessments for the continual maintenance of the improvements described below, all to service and specially benefit the properties within said District as said area is shown and delineated on a map as previously approved by this City Council and on file in the Records Management Department, open to public inspection, and herein so referenced and made a part hereof.

The improvements to be maintained include the landscaping, planting, shrubbery, trees, irrigation systems, hardscapes, fixtures, sidewalks within designated medians, parkways, other public rights-of-way and dedicated easements specially benefiting the properties within the District.

The maintenance of such landscaping shall include the furnishing of services and materials for the ordinary and usual maintenance and servicing of the improvements, including:

(a) Repair, removal, or replacement of all or any part of any improvement;

(b) Providing for the life, growth, health, and beauty of the improvements, including cultivation, irrigation, trimming, spraying, fertilizing, and/or treating for disease and injury; and

(c) The removal of trimmings, rubbish, and debris.

The annual assessment for the referenced Fiscal Year shall be levied only for those improvements completed or projected to be completed and accepted by this City Council for maintenance prior to or during said Fiscal Year.

ASSESSMENT ENGINEER'S REPORT

SECTION 3. That the Assessment Engineer's Report regarding the annual levy for said District, which Report is for maintenance for the said Fiscal Year, is hereby approved and is directed to be filed in the Records Management Department. Reference is made to such Report for a full and detailed description of the improvements to be maintained, the boundaries of the District and any zones therein, and the proposed assessments upon assessable lots and parcels of land within the District.

ASSESSMENT

SECTION 4. That the public interest and convenience requires, and it is the intention of this City Council to order the annual assessment levy for the District as set forth and described in said Assessment Engineer's Report, and further it is determined to be in the best public interest and convenience to levy and collect annual assessments to pay the costs and expenses of said maintenance and improvement as estimated in the Assessment Engineer's Report.

BOUNDARIES OF DISTRICT

SECTION 5. Said contemplated maintenance work is in the opinion of this City Council, of direct benefit to the properties within the boundaries of the District, and this City Council makes the costs and expenses of said maintenance chargeable upon a District, which District said City Council hereby declares to be the District benefited by said improvement and maintenance, and to be further assessed to pay the costs and expenses thereof. Said District shall include each and every parcel of land within the boundaries of said District, as said District is shown on a map as approved by this City Council and on file in the Records Management Department, and so designated by the name of the District.

PUBLIC HEARING

SECTION 6. NOTICE IS HEREBY GIVEN THAT A PUBLIC HEARING WILL BE HELD THE 18th DAY OF JULY, 2023, AT THE HOUR OF 6:30 O'CLOCK P.M., IN THE REGULAR MEETING OF THE CITY COUNCIL, BEING IN THE COUNCIL CHAMBERS, WHICH IS THE TIME AND PLACE FIXED BY THIS CITY COUNCIL FOR THE HEARING OF PROTESTS OR OBJECTIONS IN REFERENCE TO THE ANNUAL LEVY OF ASSESSMENTS, TO THE EXTENT OF THE MAINTENANCE, BY ANY INTERESTED PERSON AND ANY OTHER MATTERS CONTAINED IN THIS RESOLUTION; PROVIDED, THAT, IN THE EVENT THE JULY 18, 2023 CITY COUNCIL MEETING IS HELD VIA TELECONFERENCE AND/OR VIDEO CONFERENCE ONLY, THE MEANS BY WHICH THE PUBLIC MAY OBSERVE SUCH PUBLIC HEARING AND OFFER PUBLIC COMMENT SHALL BE PRESCRIBED IN THE NOTICE AND AGENDA FOR SUCH CITY COUNCIL MEETING. ANY PERSONS WHO WISH TO OBJECT TO THE PROCEEDINGS FOR THE ANNUAL LEVY SHOULD FILE A WRITTEN PROTEST WITH THE CITY CLERK PRIOR TO THE TIME SET AND SCHEDULED FOR SAID PUBLIC HEARING.

NOTICE

SECTION 7. That the City Clerk is hereby authorized and directed to publish, pursuant to Government Code Section 6061, a copy of this Resolution in the INLAND VALLEY DAILY BULLETIN, a newspaper of general circulation within said City, said publication shall be made one time and not less than ten (10) days before the date set for the Public Hearing.

EFFECTIVE DATE OF RESOLUTION

SECTION 8. That this Resolution shall take effect immediately upon its adoption.

PROCEEDING INQUIRIES

SECTION 9. For any and all information relating to the proceedings, protest procedure, any documentation and/or information of a procedural or technical nature, your attention is directed to the below listed person at the local agency or department so designated:

Cecilia House
City of Ontario
303 East “B” Street
Ontario, California 91764
(909) 395-2088

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO LEGAL FORM:

_____
BEST BEST & KREIGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Financial Services Prepared By: Nathaniel Gibson Staff Member Presenting: Armen Harkalyan, Executive Director of Finance Reviewed By: Cecilia House, . . Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 4

SUBJECT: ANNUAL LEVY OF ASSESSMENTS WITHIN STREET LIGHTING MAINTENANCE DISTRICT NOS. 1 AND 2 FOR FISCAL YEAR 2023-24

RECOMMENDATION:

That the City Council adopt Resolutions pertaining to the levy of assessments within Street Lighting Maintenance District (SLMD) Nos. 1 and 2:

A. A Resolution initiating proceedings and ordering the preparation of an Engineer's Report for each district relating to the annual levy of assessments;
B. A Resolution giving preliminary approval of the Engineer's Reports; and
C. A Resolution for each district declaring the City's intention to levy the special assessments for Fiscal Year 2023-24 and set the date of July 18, 2023, for a Public Hearing on each district in accordance with the Landscaping and Lighting Act of 1972.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Operate in a Businesslike Manner
Focus Resources in Ontario's Commercial and Residential Neighborhoods

FISCAL IMPACT: As proposed, special assessment revenue will be generated in the amount of $339,815 from SLMD No. 1 and $102,417 from SLMD No. 2 during Fiscal Year 2023-24. A portion of the facilities within SLMD No. 1 provide general benefit to the public at large and cannot be funded with the assessment. The amount of general benefit is $7,972. This amount will be provided from the General Fund and will be included in the Fiscal Year 2023-24 Budget.

BACKGROUND & ANALYSIS: Street Lighting Maintenance District No. 1 was formed in 1984, and Street Lighting Maintenance District No. 2 was formed in 1999, pursuant to the Landscaping and Lighting Act of 1972 (the 1972 Act), to help minimize the continually increasing cost for maintaining and operating the City's street lighting system. A special assessment is levied annually on benefiting properties for the cost of maintenance and operation of certain street lighting facilities within the districts. The locations of the districts are shown on the attached maps.

The City's Public Works Agency establishes the annual maintenance costs and maintains the street lighting system. An Engineer's Report for each district must be prepared annually, apportioning the costs to each parcel within the districts. The districts are comprised of commercial, industrial and some multi-family residential properties. Due to varying characteristics, the districts are organized into benefit zones and/or maintenance areas. Each zone/maintenance area is assessed for only the operation and maintenance of the facilities from which it receives direct special benefit. The total assessment for each zone/maintenance area is then apportioned to its constituent parcels. Therefore, the assessments are unique and specific to each individual parcel of property.

The City contracted with Harris and Associates to perform a Capital Replacement Study for SLMD 1 and 2. The study established a capital replacement plan which set the initial year replacement requirement amount higher and will gradually decrease over the years. The capital replacement cost for Fiscal Year 2023-24 is $189,896 and CPI is 7.3%. Capital replacement of $189,896 was apportioned as follows: ($117,637 for SLMD 1, zone 2000-1; $24,332 for SLMD 1, zone 2000-2; and $47,927 for SLMD 2).

The total assessment during tax year 2022-23 was $315,643 in SLMD No. 1, and $95,480 in SLMD No. 2. The City's proposed Fiscal Year 2023-24 assessment for the two street light maintenance districts is based on the previous year's actual expenses. The proposed total assessments for tax year 2023-24 are $339,815 in SLMD No. 1, and $102,417 in SLMD No. 2. A portion of the facilities within SLMD No. 1 provide general benefit to the public at large and cannot be funded with the assessment. The amount of this general benefit is $7,972 for Fiscal Year 2023-24. The general benefit will rely on a General Fund subsidy and is included in the City's adopted budget for Fiscal Year 2023-24. The assessed tax rates for Fiscal Year 2022-23, and the proposed and maximum tax rates for Fiscal Year 2023-24, are shown in Exhibit A.

Pursuant to the 1972 Act, Engineer's Reports have been prepared for each district, and are on file with the Records Management Department. Each report includes plans and specifications for the improvements being operated and maintained, an estimate of costs, a diagram of the area proposed to be assessed, and an assessment of the costs to the various parcels within the districts.

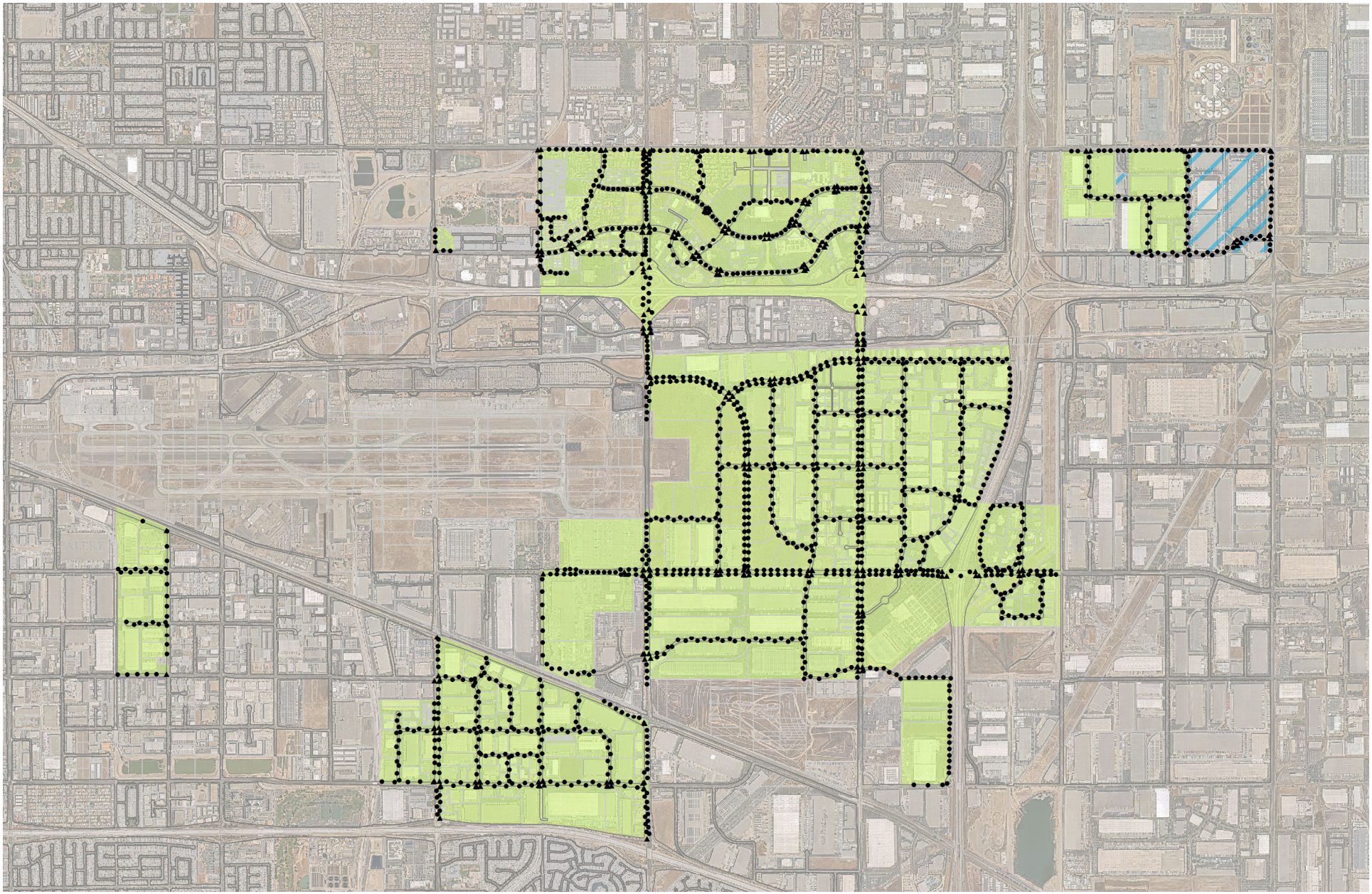
A public hearing is required for each district prior to adoption of the proposed assessments. A combined public hearing will be held on July 18, 2023, for the purpose of accepting comments and written protests for both districts. At the conclusion of the public hearing the City Council will consider adoption of Resolutions confirming the assessments and ordering the levy of the assessments for tax year 2023-24. Notice of the public hearing for the levy of assessments will be published in the local newspaper, in accordance with the applicable statutes.

EXHIBIT A

Street Lighting Maintenance Districts Proposed Levy Rates FY 23-24

		Prior Year 2022-23	Maximum 2023-24	Proposed 2023-24
SLMD No. 1, Zone 2000-1	per AU	$ 108.00	$ 185.00	$ 116.00
SLMD No. 1, Zone 2000-2	per AU	$ 63.00	$ 152.00	$ 67.00
SLMD No. 2, MA# 99-1		$ 4,358.00	$ 13,191.00	$ 4,677.00
SLMD No. 2, MA# 99-2		$ 2,333.00	$ 6,559.00	$ 2,503.00
SLMD No. 2, MA# 99-3		$ 4,666.00	$ 10,931.00	$ 5,006.00
SLMD No. 2, MA# 99-4		$ 1,554.00	$ 4,378.00	$ 1,642.00
SLMD No. 2, MA# 99-5		$ 1,282.00	$ 4,104.00	$ 1,376.00
SLMD No. 2, MA# 99-6		$ 12,565.00	$ 38,307.00	$ 13,483.00
SLMD No. 2, MA# 99-7		$ 422.00	$ 1,185.00	$ 453.00
SLMD No. 2, MA# 99-8		$ 3,111.00	$ 8,745.00	$ 3,338.00
SLMD No. 2, MA# 00-1		$ 2,839.00	$ 4,024.00	$ 3,046.00
SLMD No. 2, MA# 00-2		$ 1,555.00	$ 2,685.00	$ 1,668.00
SLMD No. 2, MA# 00-3		$ 8,552.00	$ 14,756.00	$ 9,174.00
SLMD No. 2, MA# 00-4		$ 52,240.00	$ 84,497.00	$ 56,053.00

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Street Light Maintenance District 1
Vicinity Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 1,800 3,600 7,200 Feet

Legend

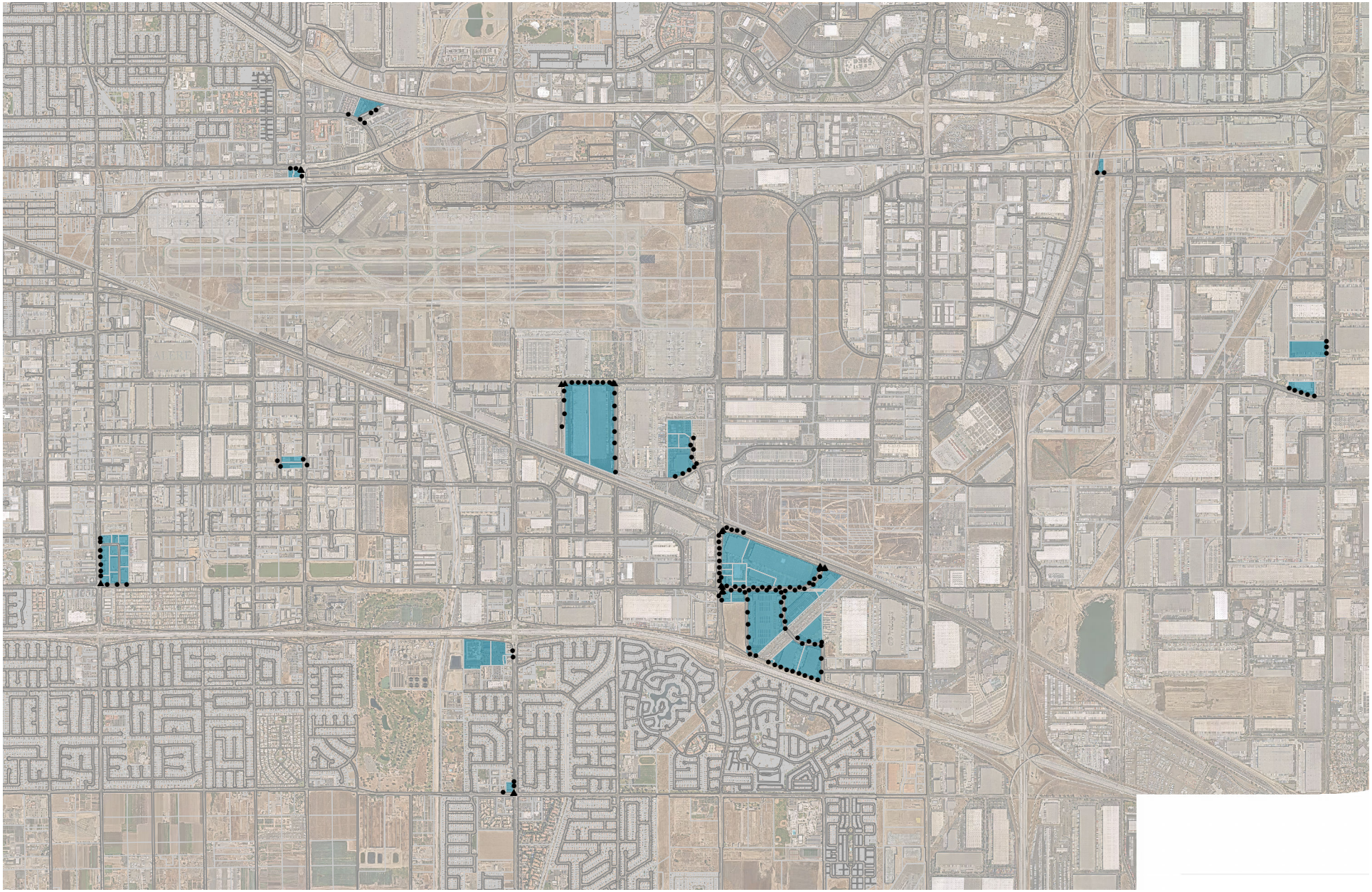
- Safety Light (339)
- Conventional (1,422)
- Zone 2000-1
- Zone 2000-2

N W E S

Note:
Reference is hereby made to the Maps of The Assessor of the County of San Berndardino, California, for a detailed description of the lines and dimensions of the parcels shown hereon.

Date: 3/13/2023

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Street Light Maintenance District 2
Vicinity Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 1,875 3,750 7,500 Feet

Legend

- ▲ Safety Light (19)
- • Conventional (134)
- Maintenance District 2

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Note:
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Date: 3/14/2023

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, ORDERING THE PREPARATION OF THE ASSESSMENT ENGINEER'S REPORTS PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, FOR PROCEEDINGS FOR THE ANNUAL ASSESSMENT LEVY WITHIN ONTARIO STREET LIGHTING MAINTENANCE DISTRICTS NO. 1 AND NO. 2 FOR FISCAL YEAR 2023-24.

WHEREAS, the City Council of the City of Ontario, California, previously formed maintenance districts pursuant to the terms and provisions of the "Landscaping and Lighting Act of 1972," being Division 15, Part 2, of the Streets and Highways Code of the State of California (the "1972 Act"), known and designated as

CITY OF ONTARIO
STREET LIGHTING MAINTENANCE DISTRICTS NO. 1 AND 2

(the "Districts"); and

WHEREAS, at this time the City Council desires to initiate proceedings to provide for the annual levy of assessments for the referenced Fiscal Year to provide for the annual costs for maintenance of improvements within the Districts; and

WHEREAS, the proceedings for the annual levy of assessments shall relate to the Fiscal Year commencing July 1, 2023, and ending June 30, 2024; and

WHEREAS, there has been submitted to this City Council for its consideration at this time, maps showing the boundaries of the areas affected by the levy of the assessments for the above-referenced Fiscal Year, and inventory maps showing and describing in general the works of improvement proposed to be maintained in said Districts, said description being sufficient to identify the works of improvement and the areas proposed to be assessed for said maintenance thereof.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ontario as follows:

SECTION 1. That the above recitals are all true and correct.

SECTION 2. That the maps entitled

CITY OF ONTARIO
STREET LIGHTING MAINTENANCE DISTRICTS NO. 1 AND 2
BOUNDARY MAP AND INVENTORY MAPS

attached hereto, as submitted to this City Council, showing the boundaries of the proposed areas to be assessed and showing the works of improvement to be maintained,

are hereby approved, and a copy thereof shall be on file in the Records Management Department and open to public inspection. The proposed parcels and properties within said areas are those to be assessed to pay the costs and expenses for said maintenance work.

SECTION 3. That the proposed maintenance work within the areas proposed to be assessed shall be for street lighting and signal and appurtenant improvements, as said maintenance work is set forth in the Reports to be presented to this City Council for consideration.

SECTION 4. That the Assessment Engineer, Harris & Associates, is hereby ordered to prepare and file with this City Council the Assessment Engineer's Reports relating to said annual assessment and levy in accordance with the provisions of 1972 Act, Article XIIID of the Constitution of the State of California ("Article XIIID"), and the Proposition 218 Omnibus Implementation Act (Government Code Section 53750 and following) (the "Implementation Act") (the 1972 Act, Article XIIID and the Implementation Act are referred to collectively as the "Assessment Law").

SECTION 5. That upon completion, said Assessment Engineer's Reports shall be filed with the City Clerk, who shall then submit the same to this City Council for its consideration pursuant to the Assessment Law.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO LEGAL FORM:

_____
BEST BEST & KREIGER LLP

CITY ATTORNEY
STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

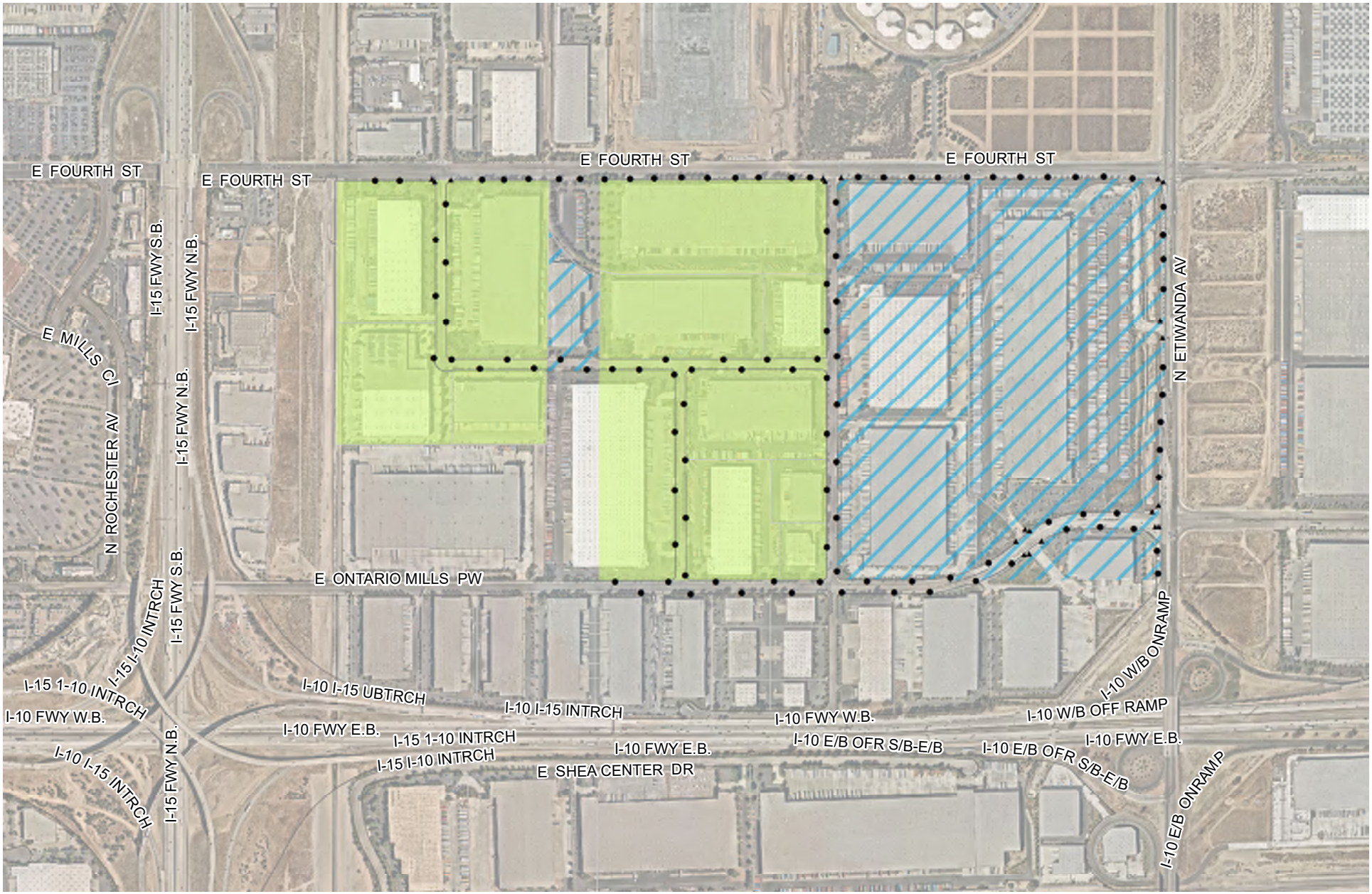
(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

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Street Light Maintenance District 1
Boundary and Inventory Map

Legend

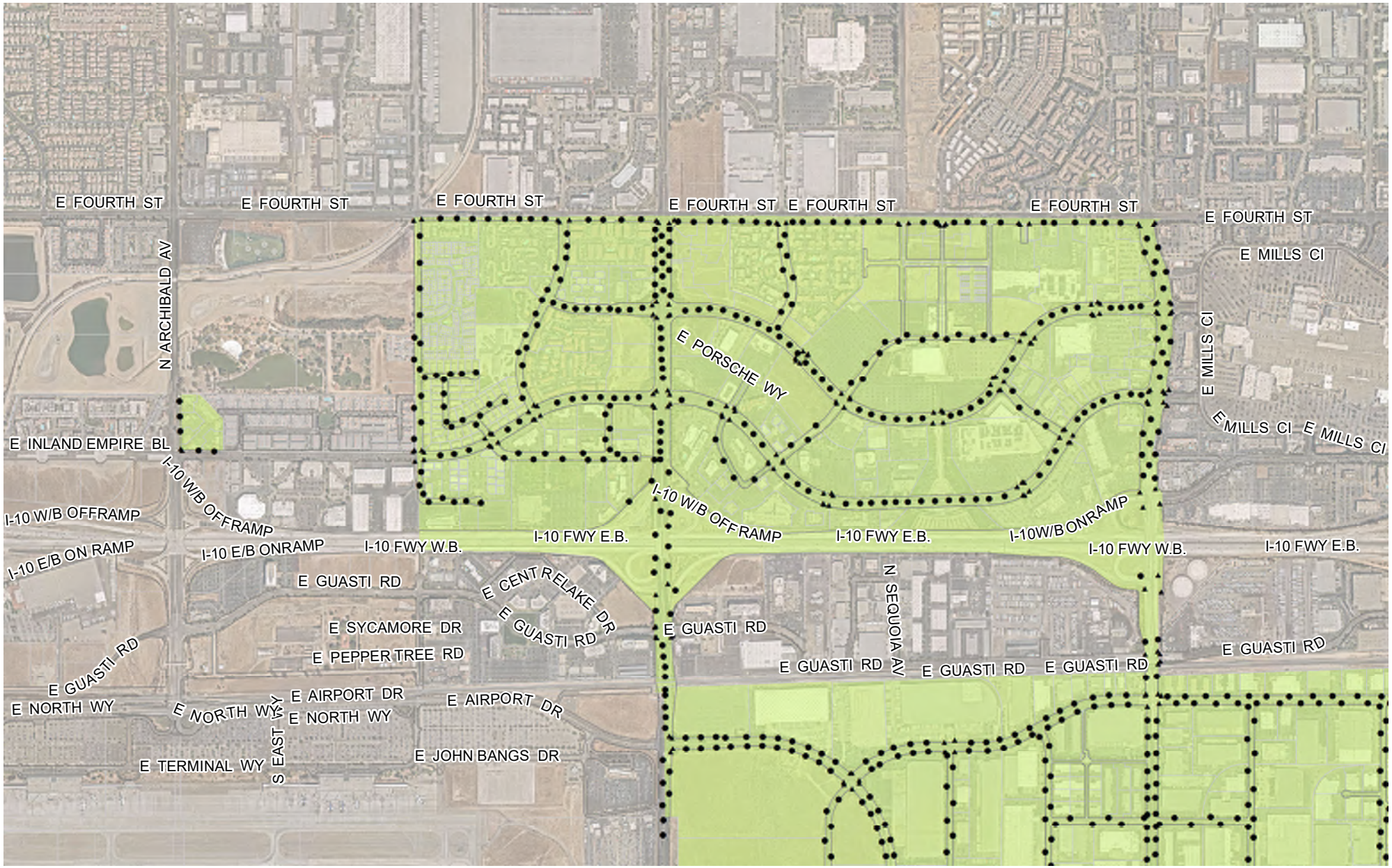
- Safety Light
- Conventional
- Zone 2000-1
- Zone 2000-2

0 462.5 925 1,850 Feet

N W E S

Note:
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Date: 3/13/2023



Street Light Maintenance District 1
Boundary and Inventory Map

CITY OF ONTARIO
SOUTHERN CALIFORNIA

0 750 1,500 3,000 Feet

Legend

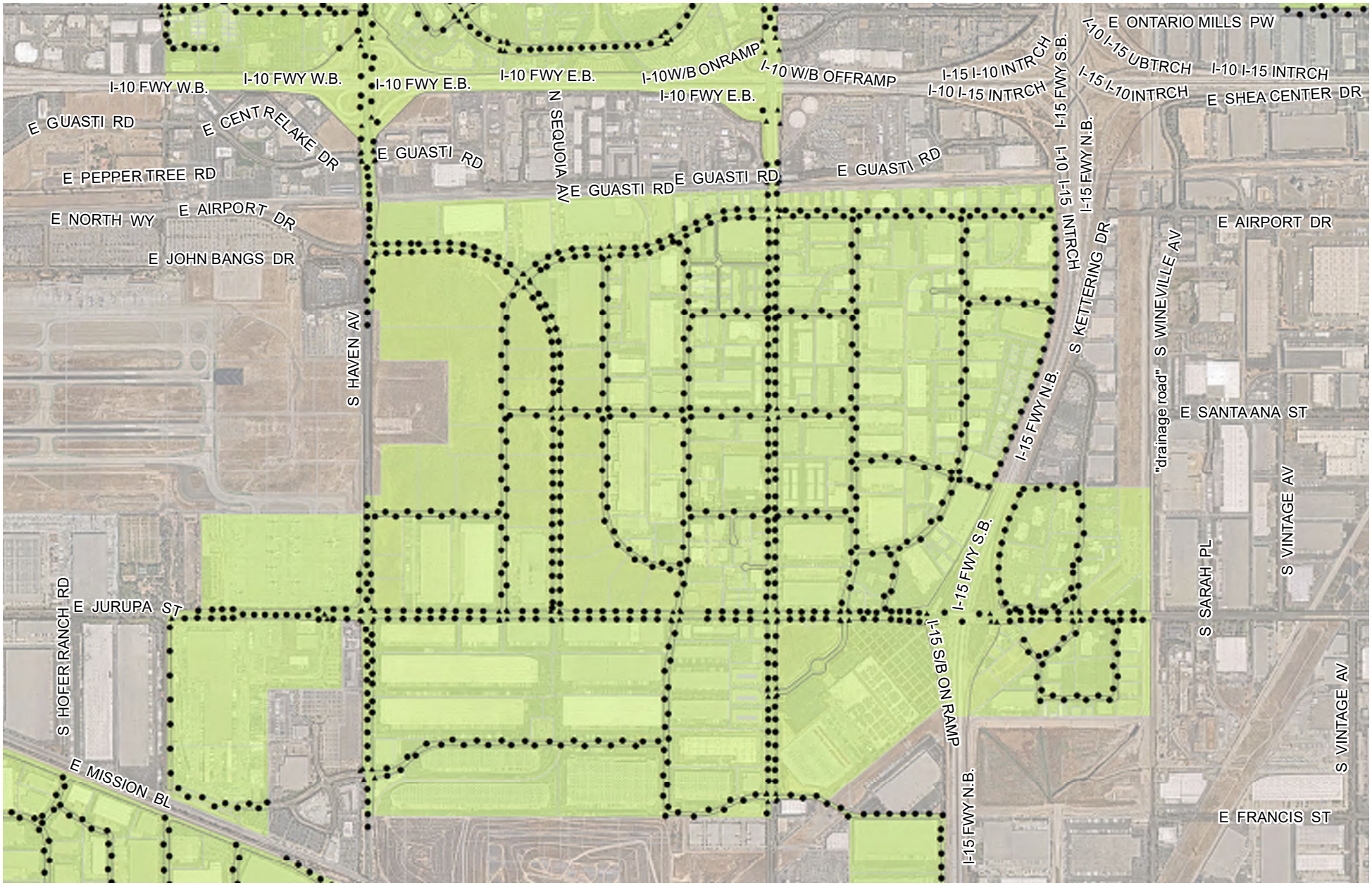
- Safety Light
- Conventional
- Zone 2000-1

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Date: 3/13/2023

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Street Light Maintenance District 1
Boundary and Inventory Map

Legend

- Safety Light
- Conventional
- Zone 2000-1

0 950 1,900 3,800 Feet

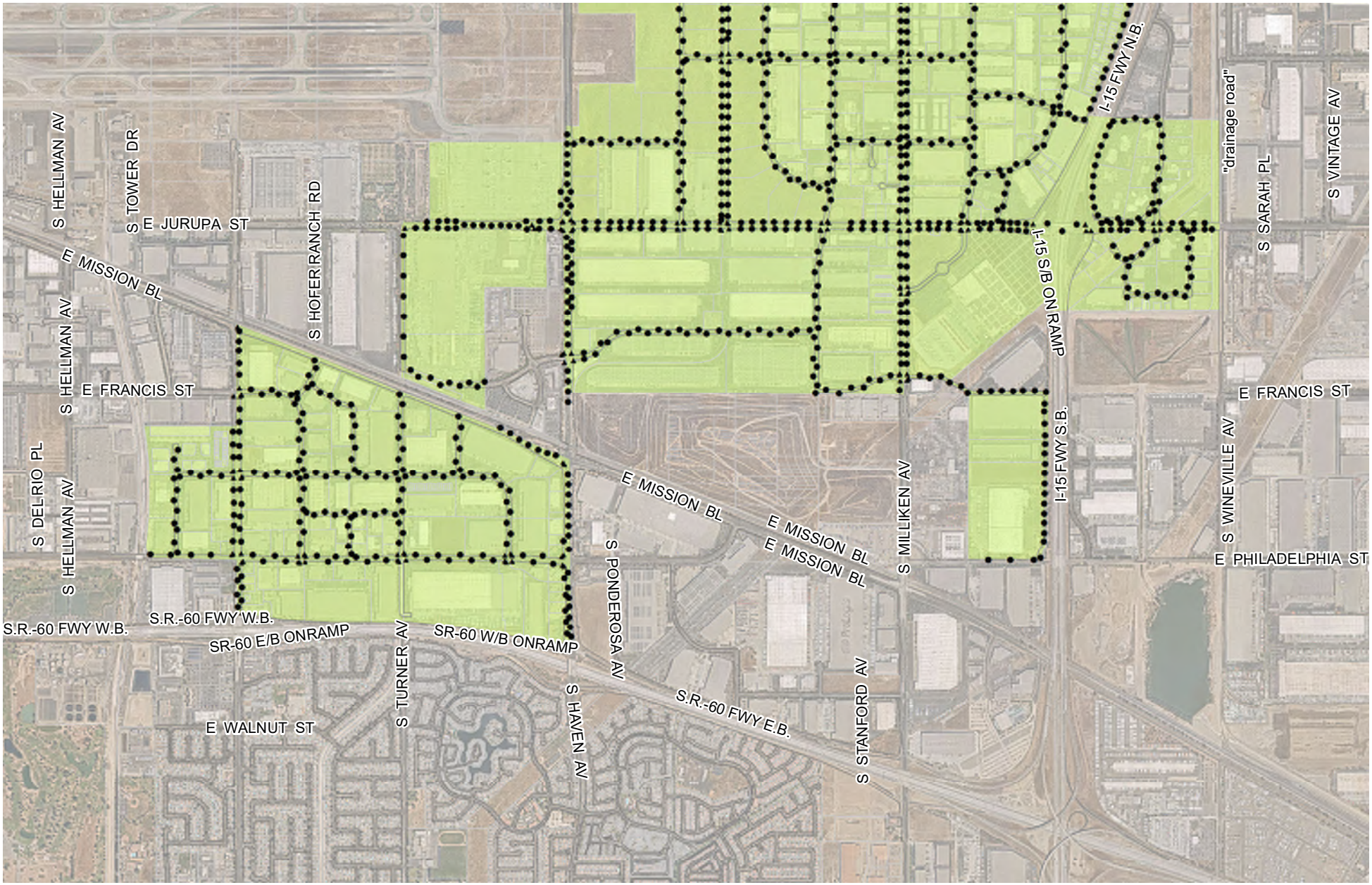
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Date: 3/13/2023

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Street Light Maintenance District 1
Boundary and Inventory Map

CITY OF ONTARIO

0 1,150 2,300 4,600 Feet

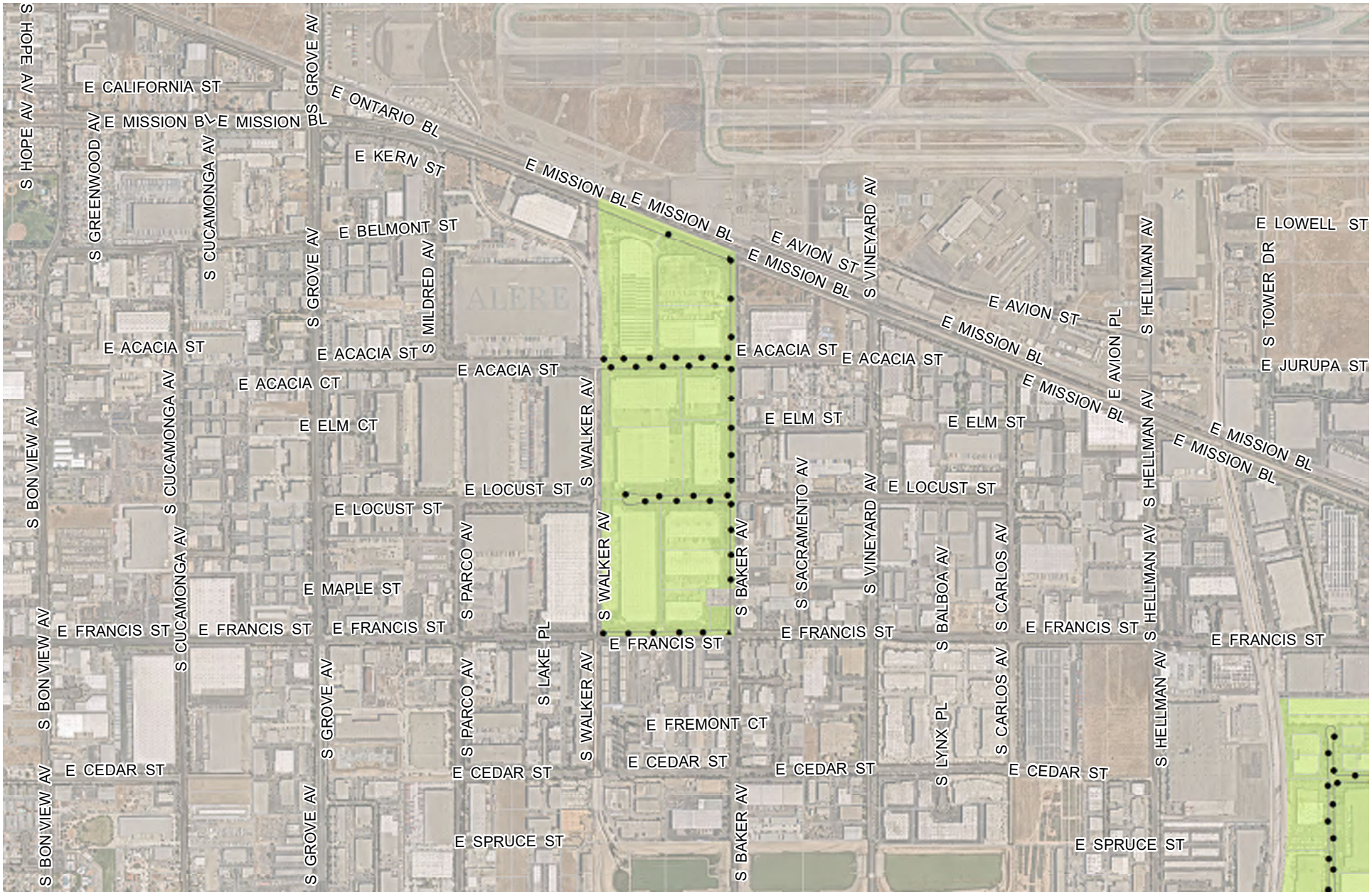
Legend

- Safety Light
- Conventional
- Zone 2000-1

N W E S

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Date: 3/13/2023



Street Light Maintenance District 1
Boundary and Inventory Map

Legend

- Safety Light
- Conventional
- Zone 2000-1

0 700 1,400 2,800 Feet

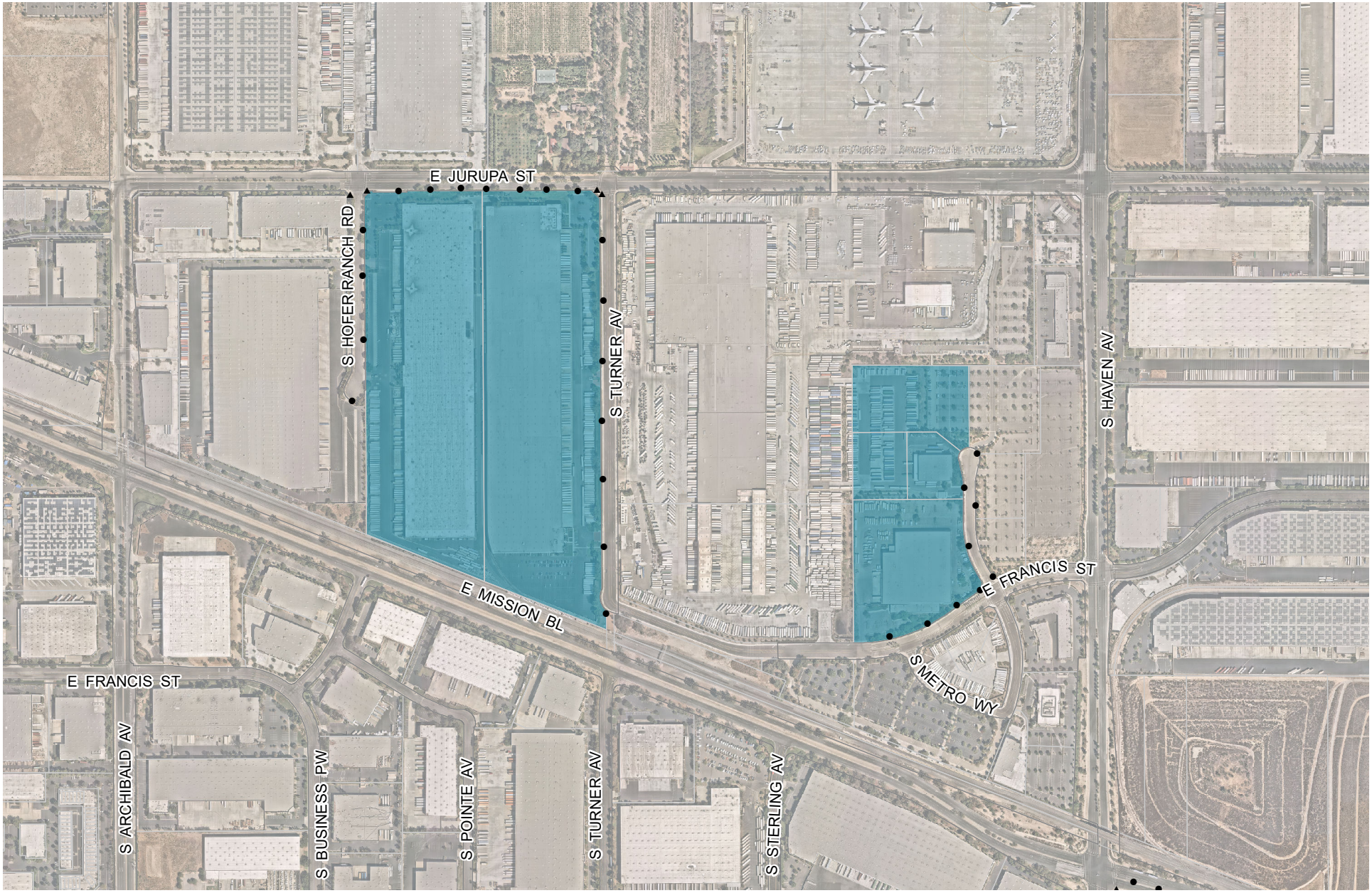
N W E S

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Date: 3/13/2023

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Street Light Maintenance District 2
Boundary and Inventory Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 395 790 1,580 Feet

Legend

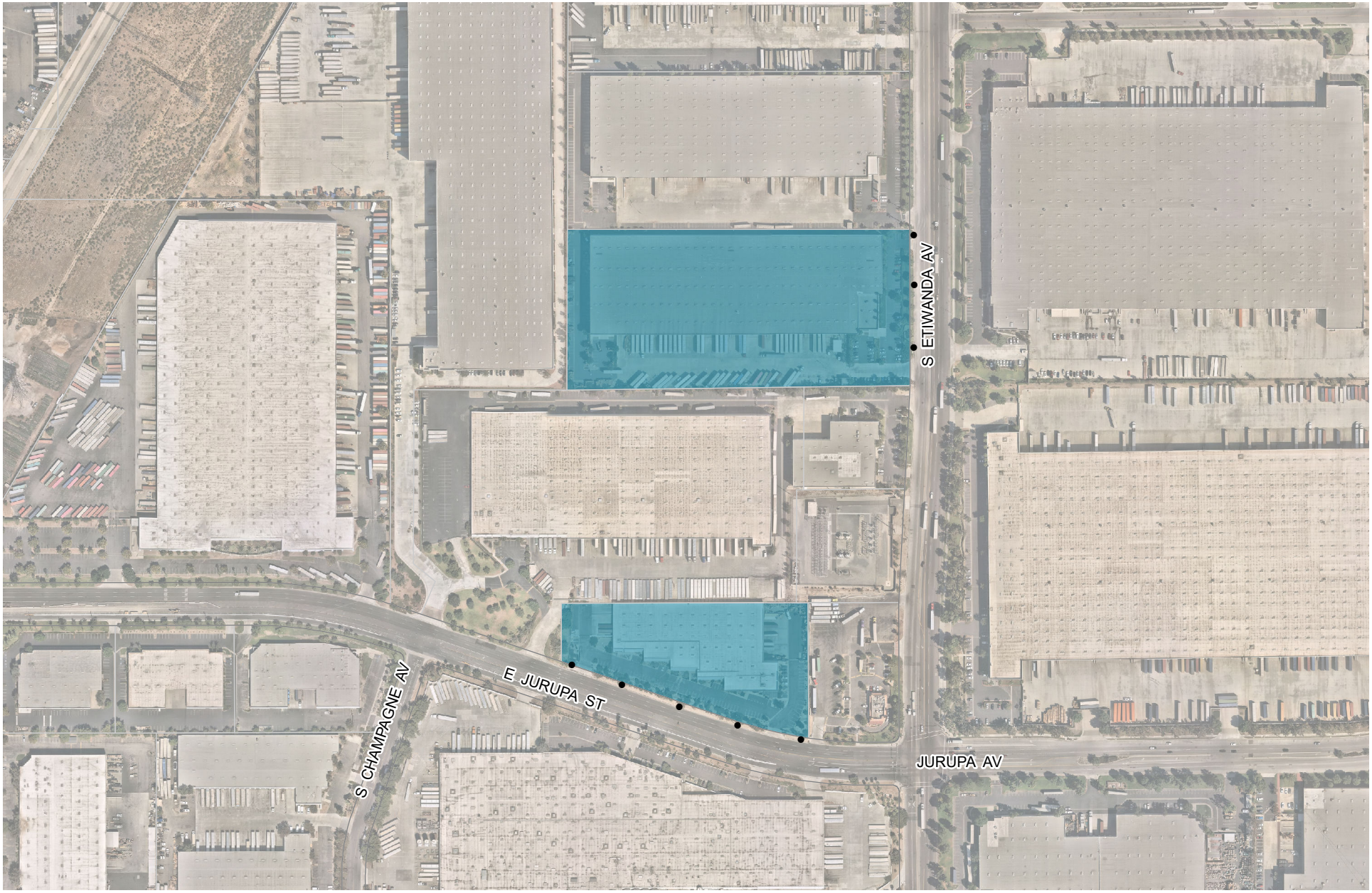
- ▲ Safety Light
- ● Conventional
- Maintenance District 2

N W E S

Note:
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Date: 3/13/2023

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Street Light Maintenance District 2
Boundary and Inventory Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 205 410 820 Feet

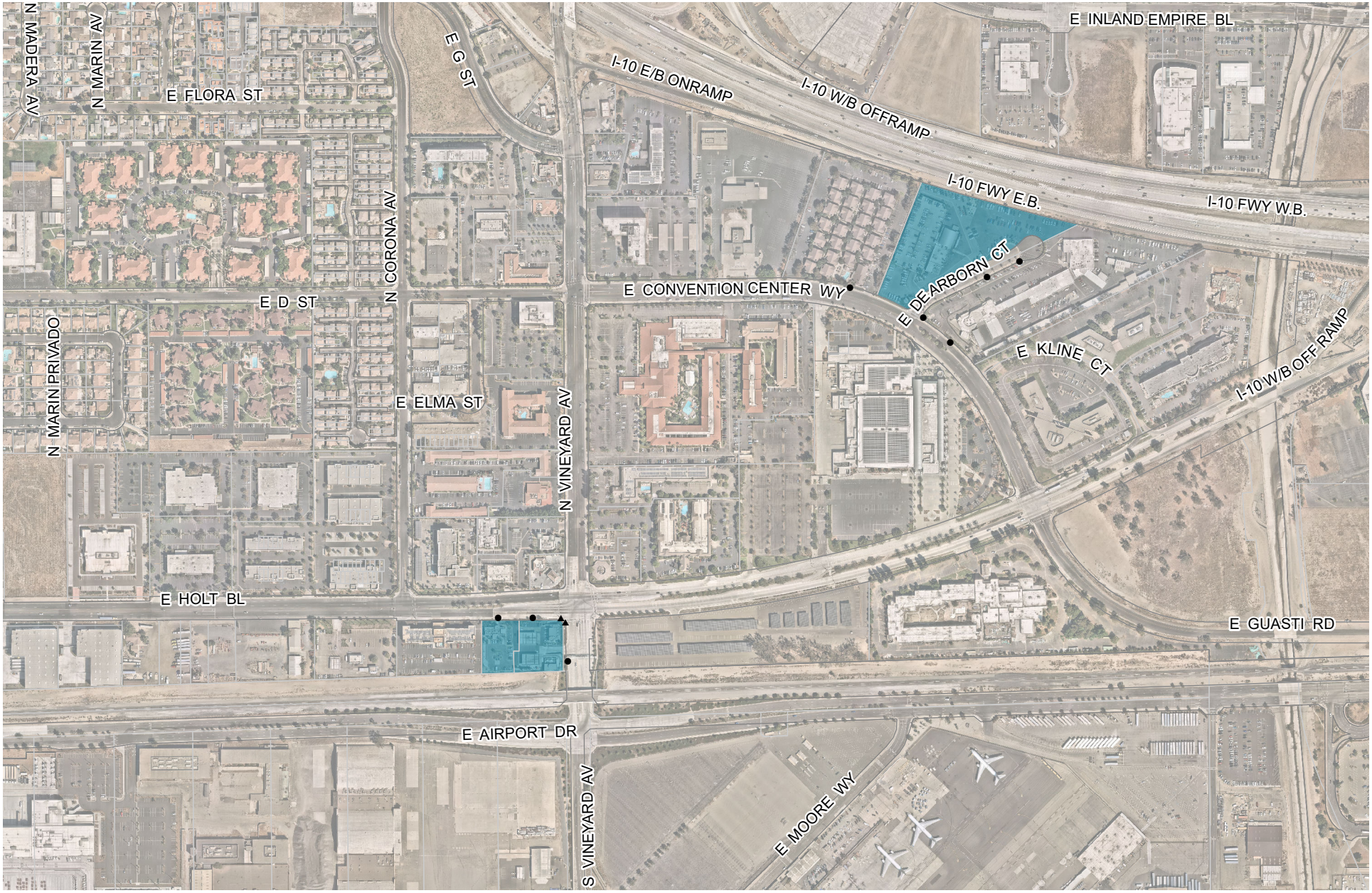
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- Conventional
- Maintenance District 2

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Note:
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Date: 3/13/2023



Street Light Maintenance District 2
Boundary and Inventory Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 310 620 1,240 Feet

Legend

- ▲ Safety Light
- ● Conventional
- Maintenance District 2

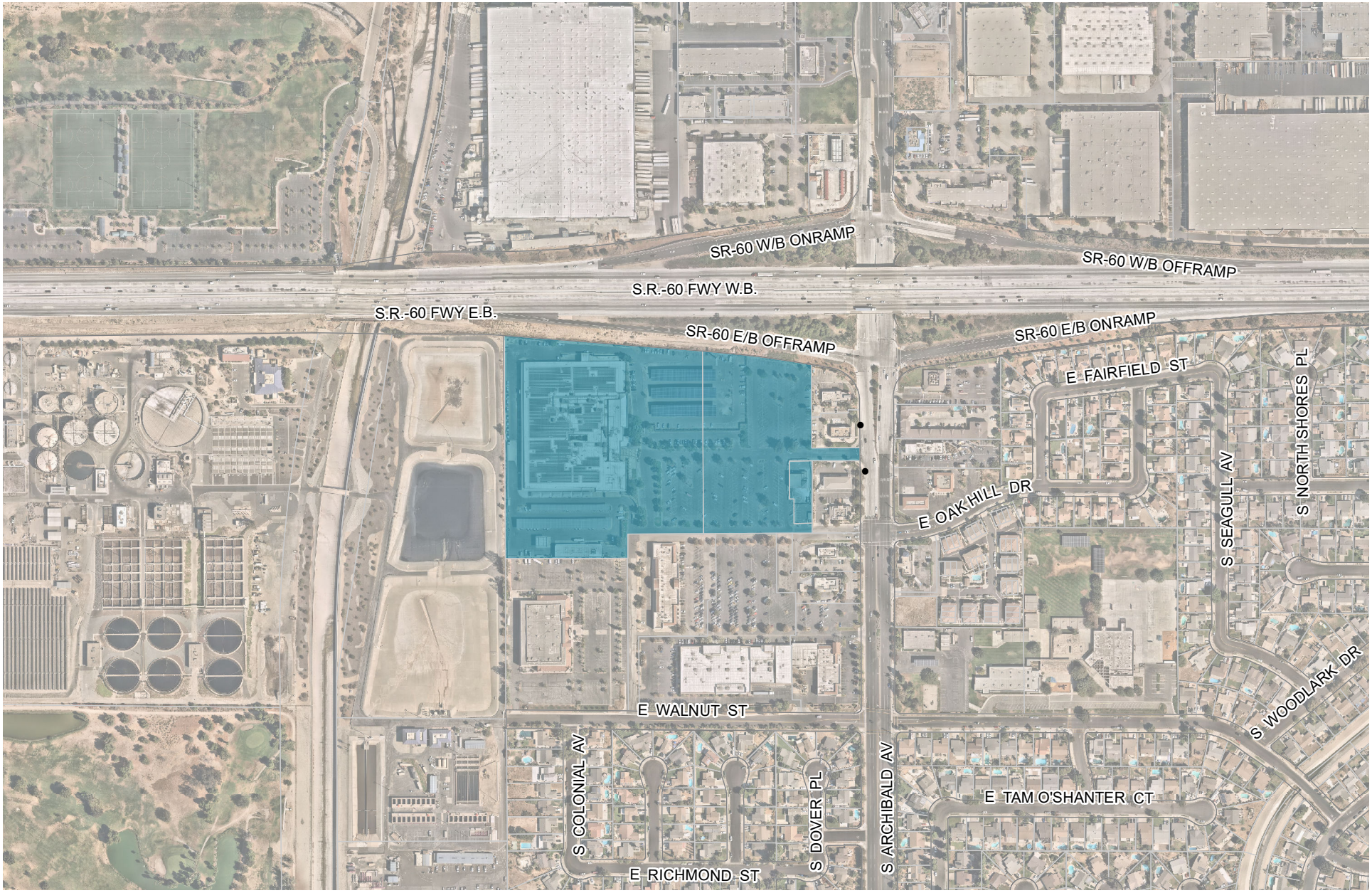
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Reference is hereby made to the Maps of The Assessor of the County of San Berndardino, California, for a detailed description of the lines and dimensions of the parcels shown hereon.

Date: 3/13/2023

S:\Engineering\Traffic & Transportation\Traffic Engineering\Research and General Inquiries\Street Light Maintenance District Count Request\FY 23-24\SLMD 2\SLMD 2 Count_2023-03-13_mapbook.mxd

S:\Engineering\Traffic & Transportation\Traffic Engineering\Research and General Inquiries\Street Light Maintenance District Count Request\FY 23-24\SLMD 2\SLMD 2 Count_2023-03-13_mapbook.mxd



Street Light Maintenance District 2
Boundary and Inventory Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 260 520 1,040 Feet

Legend

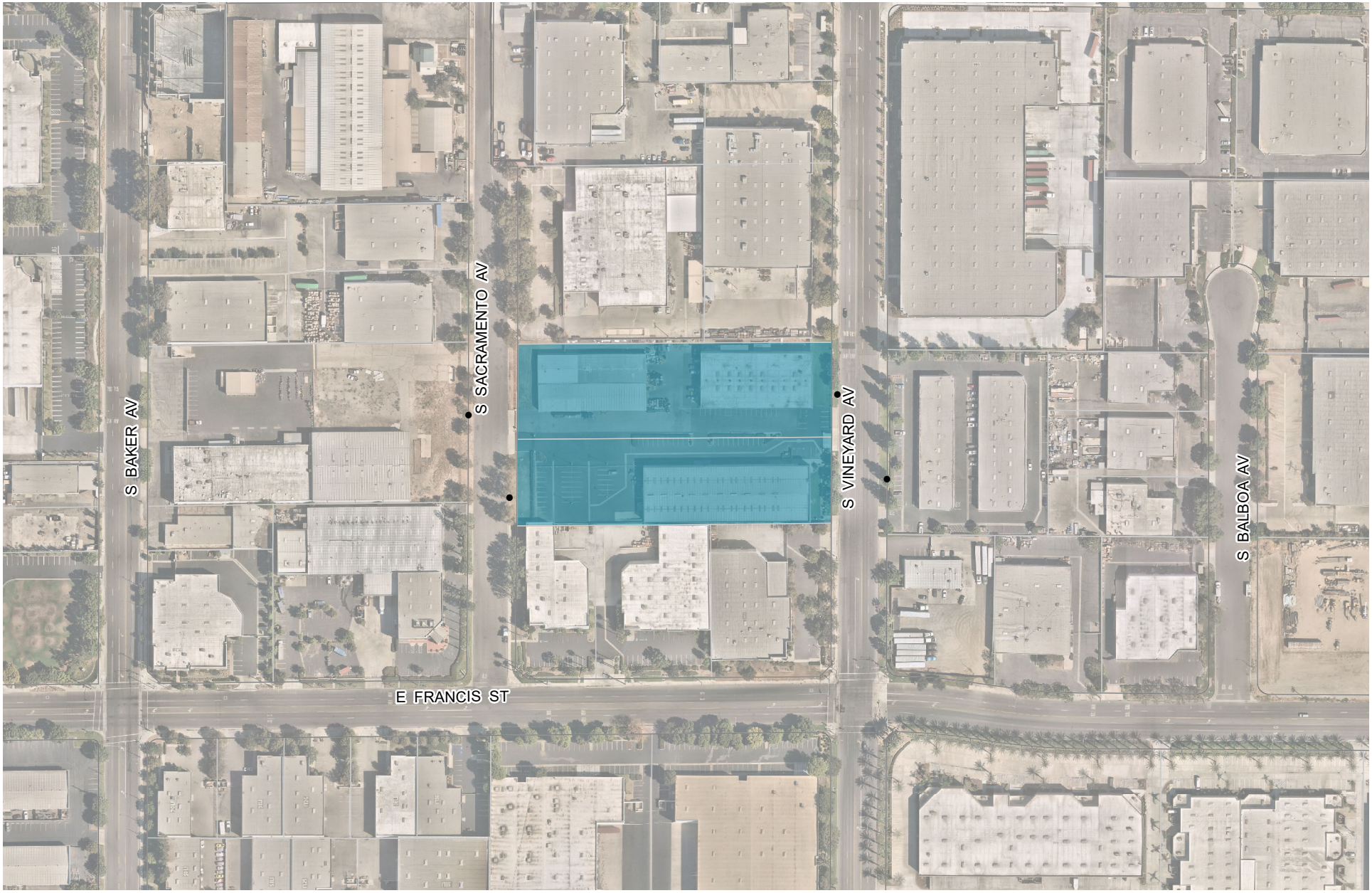
- Conventional
- Maintenance District 2

N W E S

Note:
Reference is hereby made to the Maps of The Assessor of the County of San Berndardino, California, for a detailed description of the lines and dimensions of the parcels shown hereon.

Date: 3/13/2023

S:\Engineering\Traffic & Transportation\Traffic Engineering\Research and General Inquiries\Street Light Maintenance District Count Request\FY 23-24\SLMD 2\SLMD 2 Count_2023-03-13_mapbook.mxd



Street Light Maintenance District 2
Boundary and Inventory Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 130 260 520 Feet

Legend

- Conventional
- Maintenance District 2

N W E S

Note:
Reference is hereby made to the Maps of The Assessor of the County of San Berndardino, California, for a detailed description of the lines and dimensions of the parcels shown hereon.

Date: 3/13/2023

S:\Engineering\Traffic & Transportation\Traffic Engineering\Research and General Inquiries\Street Light Maintenance District Count Request\FY 23-24\SLMD 2\SLMD 2 Count_2023-03-13_mapbook.mxd



Street Light Maintenance District 2 Boundary and Inventory Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 170 340 680 Feet

Legend

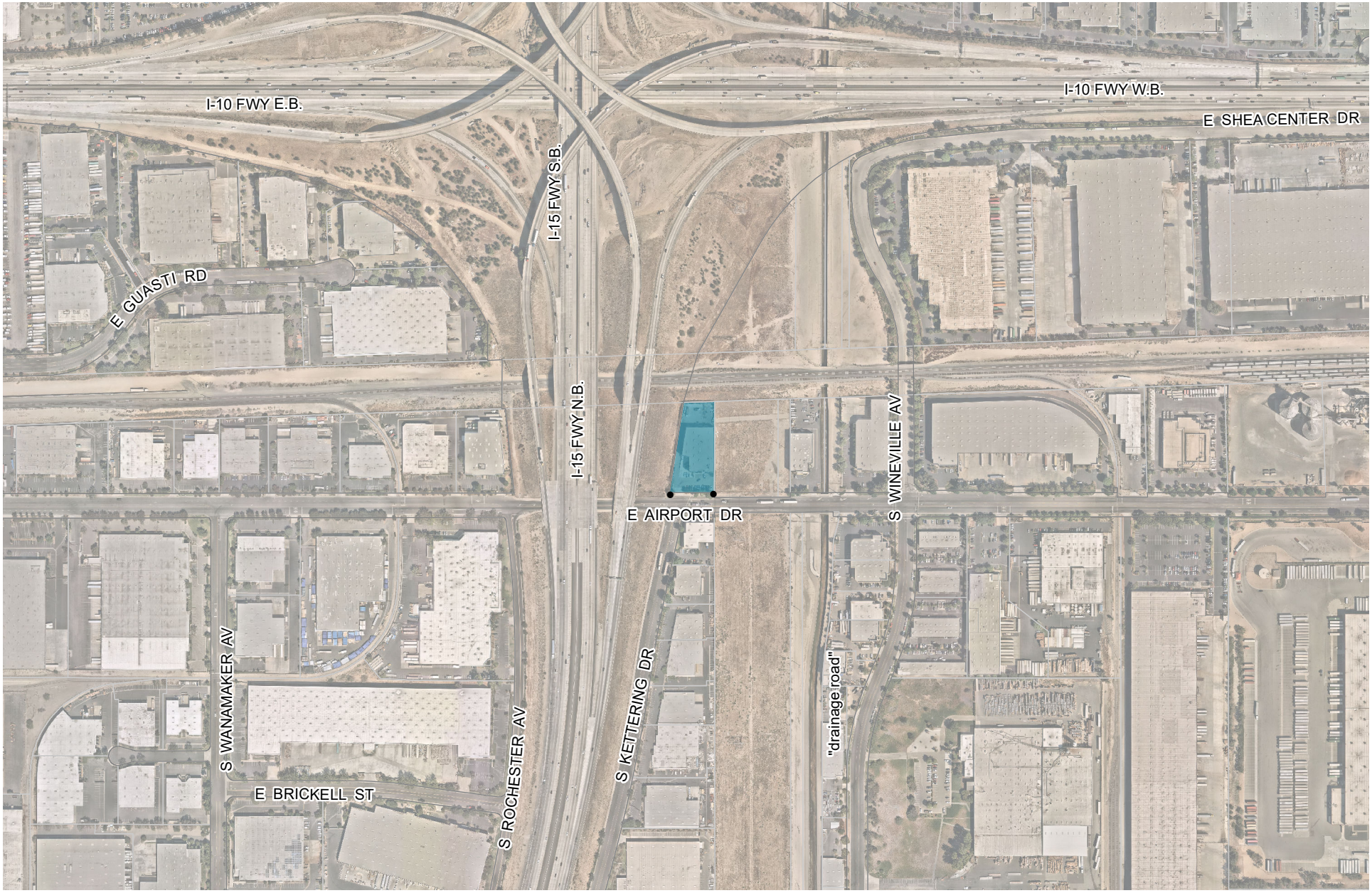
- ▲ Safety Light
- ● Conventional
- Maintenance District 2

N W E S

Note:
Reference is hereby made to the Maps of The Assessor of the County of San Berndardino, California, for a detailed description of the lines and dimensions of the parcels shown hereon.

Date: 3/13/2023

S:\Engineering\Traffic & Transportation\Traffic Engineering\Research and General Inquiries\Street Light Maintenance District Count Request\FY 23-24\SLMD 2\SLMD 2 Count_2023-03-13_mapbook.mxd



Street Light Maintenance District 2
Boundary and Inventory Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 300 600 1,200 Feet

Legend

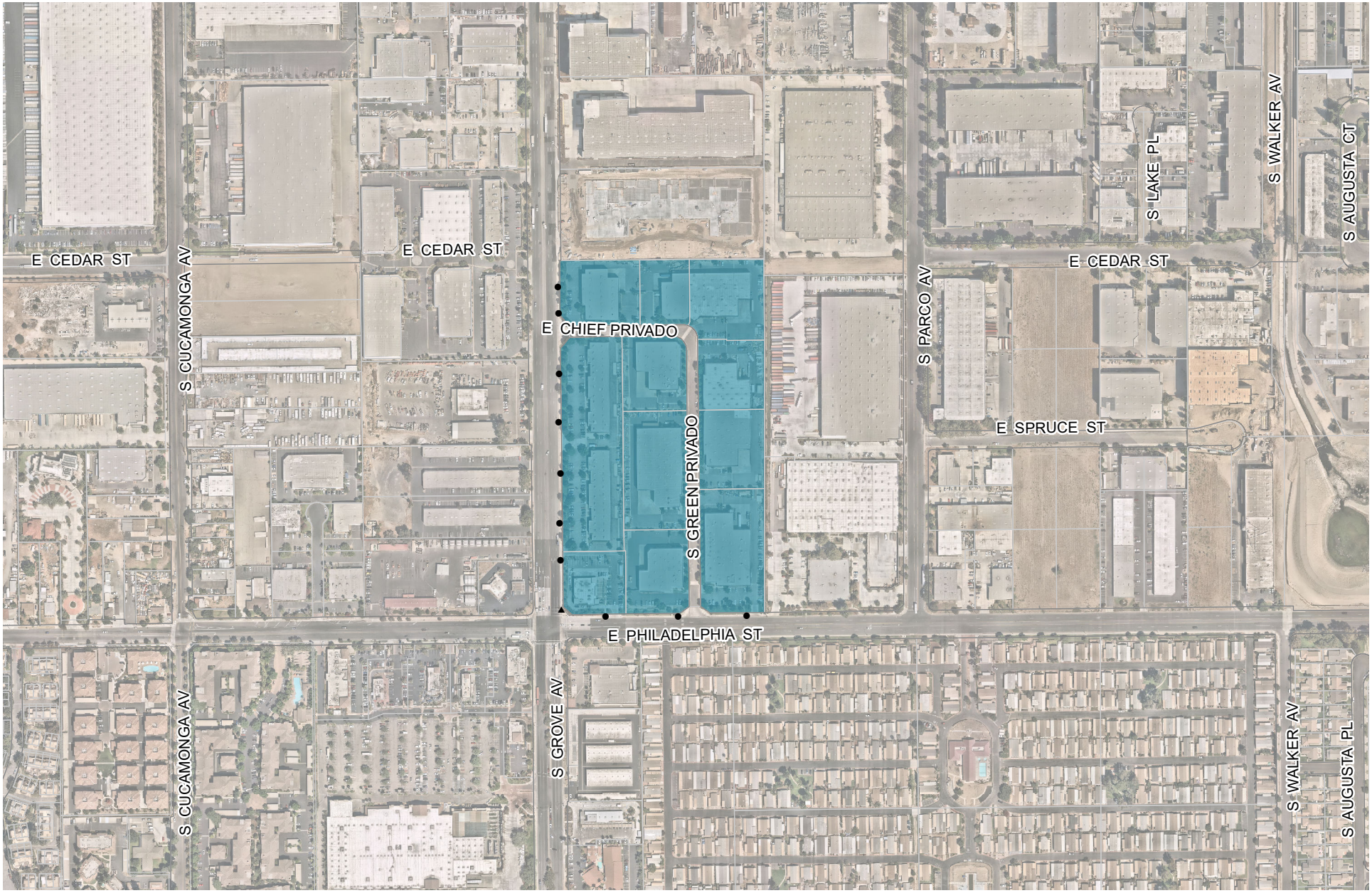
- Conventional
- Maintenance District 2

N W E S

Note:
Reference is hereby made to the Maps of The Assessor of the County of San Berndardino, California, for a detailed description of the lines and dimensions of the parcels shown hereon.

Date: 3/13/2023

S:\Engineering\Traffic & Transportation\Traffic Engineering\Research and General Inquiries\Street Light Maintenance District Count Requests\FY 23-24\SLMD 2\SLMD 2 Count_2023-03-13_mapbook.mxd



Street Light Maintenance District 2 Boundary and Inventory Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 262.5 525 1,050 Feet

Legend

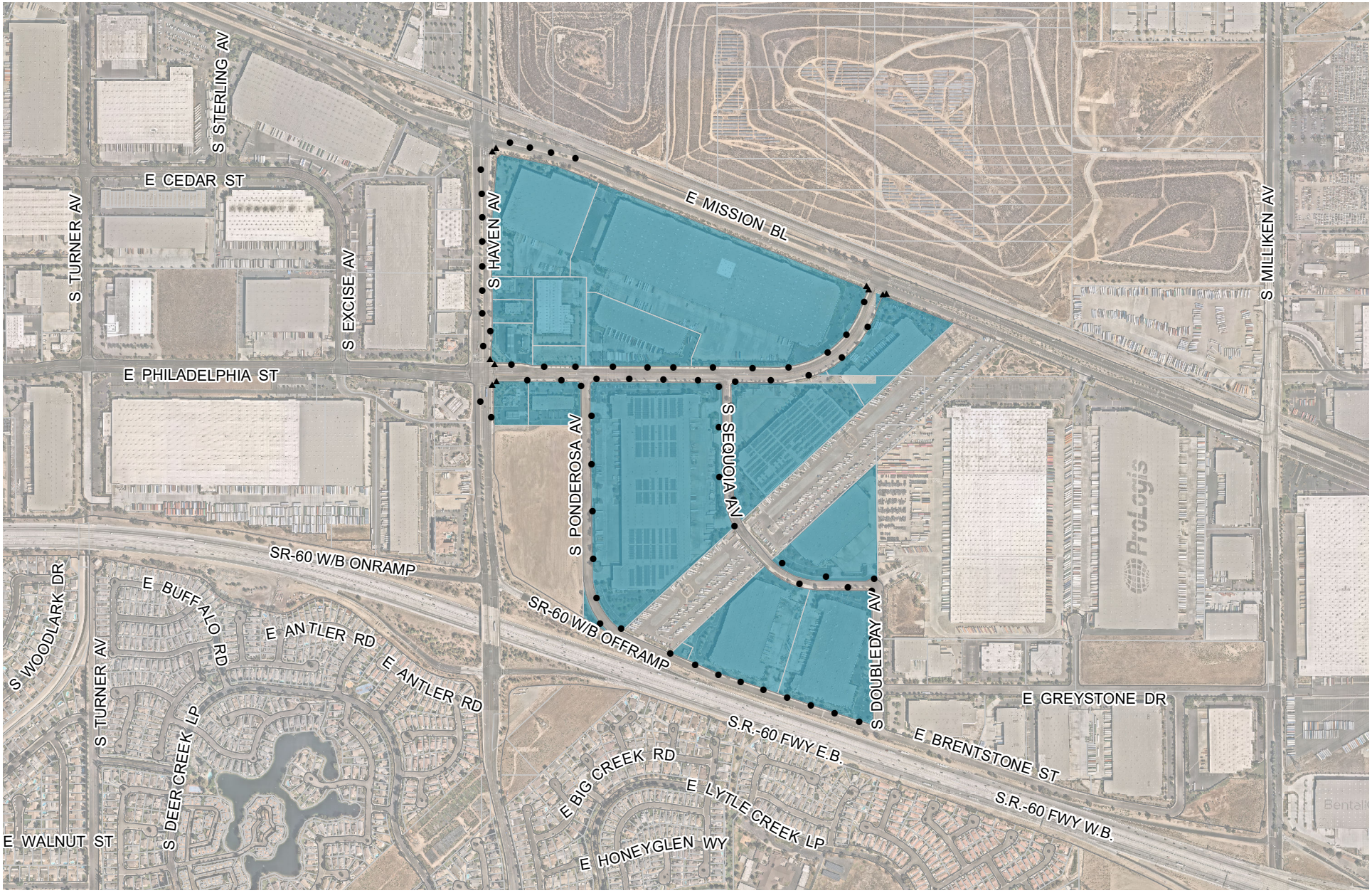
- ▲ Safety Light
- ● Conventional
- Maintenance District 2

N W E S

Note:
Reference is hereby made to the Maps of The Assessor of the County of San Berndardino, California, for a detailed description of the lines and dimensions of the parcels shown hereon.

Date: 3/13/2023

S:\Engineering\Traffic & Transportation\Traffic Engineering\Research and General Inquiries\Street Light Maintenance District Count Request\FY 23-24\SLMD 2\SLMD 2 Count_2023-03-13_mapbook.mxd



Street Light Maintenance District 2
Boundary and Inventory Map

CITY OF ONTARIO SOUTHERN CALIFORNIA

0 487.5 975 1,950 Feet

Legend

- ▲ Safety Light
- ● Conventional
- Maintenance District 2

N W E S

Note:
Reference is hereby made to the Maps of The Assessor of the County of San Berndardino, California, for a detailed description of the lines and dimensions of the parcels shown hereon.

Date: 3/13/2023

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING THE ASSESSMENT ENGINEER'S REPORTS FOR THE ANNUAL LEVY OF ASSESSMENTS WITHIN ONTARIO STREET LIGHTING MAINTENANCE DISTRICTS NO. 1 AND NO. 2 FOR FISCAL YEAR 2023-24.

WHEREAS, the City Council of the City of Ontario, California, pursuant to the provisions of Division 15, Part 2, of the Streets and Highways Code of the State of California (the "1972 Act"), Article XIIID of the Constitution of the State of California ("Article XIIID"), and the Proposition 218 Omnibus Implementation Act (Government Code Section 53750 and following) (the "Implementation Act") (the 1972 Act, Article XIIID and the Implementation Act are referred to collectively as the "Assessment Law"), did, by previous Resolution, order the preparation of the Assessment Engineer's Reports for the annual levy of assessments for the referenced Fiscal Year in the maintenance assessment districts known and designated as

CITY OF ONTARIO
STREET LIGHTING MAINTENANCE DISTRICTS NO. 1 AND 2

(the "Districts"); and

WHEREAS, there has now been presented to this City Council the Assessment Engineer's Reports as required by the Assessment Law and as previously directed by Resolution; and

WHEREAS, this City Council has now examined and reviewed the Assessment Engineer's Reports as presented, and is satisfied with each and all of the items and documents as set forth therein, and is satisfied that the assessments on a preliminary basis, have been assessed in accordance with the special benefits received from the improvements to be maintained, as set forth in said Assessment Engineer's Reports.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ontario as follows:

SECTION 1. That the above recitals are all true and correct.

SECTION 2. That the Assessment Engineer's Reports as presented, consisting of the following:

A. Plans and specifications describing the general nature, location, and extent of the improvements to be maintained and the extent of such maintenance for each District;

B. An estimate of the cost of the maintenance of the improvements for each District for the referenced Fiscal Year;

C. A diagram for each District, showing the area and properties proposed to be assessed; and

D. An annual assessment within each District for the referenced Fiscal Year of the estimated costs of the maintenance of those improvements to be maintained during such Fiscal Year, assessing the net amount upon all assessable lots and/or parcels within each District in proportion to the special benefits received;

are hereby approved on a preliminary basis and are ordered to be filed in the Records Management Department as a permanent record and to remain open to public inspection.

SECTION 3. That the City Clerk shall certify to the passage and adoption of this Resolution, and the minutes of this meeting shall so reflect the presentation of the Assessment Engineer's Reports.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO LEGAL FORM:

_____
BEST BEST & KREIGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DECLARING ITS INTENTION TO PROVIDE FOR AN ANNUAL LEVY AND COLLECTION OF ASSESSMENTS FOR FISCAL YEAR 2023-24 IN ONTARIO STREET LIGHTING MAINTENANCE DISTRICT NO. 1 PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, AND SETTING A TIME AND PLACE FOR A PUBLIC HEARING THEREON.

WHEREAS, the City Council of the City of Ontario, California, has previously formed a street lighting maintenance assessment district pursuant to the terms and provisions of the "Landscaping and Lighting Act of 1972," being Division 15, Part 2, of the Streets and Highways Code of the State of California (the “1972 Act”), in what is known and designated as

CITY OF ONTARIO
STREET LIGHTING MAINTENANCE DISTRICT NO. 1
(hereinafter referred to as the District); and

WHEREAS, the City Council has previously undertaken proceedings as required by the 1972 Act, Article XIIID of the Constitution of the State of California (“Article XIIID”), and the Proposition 218 Omnibus Implementation Act (Government Code Section 53750 and following) (the “Implementation Act and, together with the 1972 Act and Article XIIID, the “Assessment Law”) to approve and has approved the levy of maximum annual assessments to finance the estimated costs of the maintenance of all of the improvements to be maintained, assessing the net amount upon all assessable lots and/or parcels within the District in proportion to the special benefits received; together with a formula pursuant to which such maximum assessments may be adjusted annually for inflation; and

WHEREAS, at this time, this City Council desires to conduct proceedings to provide for the annual levy of assessments for the referenced Fiscal Year, to provide for the costs and expenses necessary for continual maintenance of improvements within said District; and

WHEREAS, at this time, there has been presented and approved by this City Council, the Engineer's Report as required by law, and this City Council desires to conduct the proceedings for said annual levy; and

WHEREAS, the proposed annual assessments for the referenced Fiscal Year as set forth in the Assessment Engineer’s Report do not exceed the maximum annual assessments as previously authorized to be levied and, therefore, the proposed levy of assessments for the referenced Fiscal Year are not deemed to be “increased” over the maximum annual assessments.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ontario as follows:

SECTION 1. That the above recitals are all true and correct.

SECTION 2. That the public interest and convenience requires, and it is the intention of this City Council, to undertake proceedings for the annual levy and collection of special assessments for the continual maintenance of certain improvements, all to service and specially benefit said District as said area is shown and delineated on the maps as previously approved by this City Council and on file in the Records Management Department, open to public inspection, and herein so referenced and made a part hereof, and proposed changes thereto are set forth in the Engineer's Report, incorporated herein as a part hereof.

REPORT

SECTION 3. That the Engineer's Report regarding the annual levy for said District, which Report is for maintenance for said Fiscal Year, is hereby approved and is directed to be filed in the Records Management Department. Reference is made to such Report for a full and detailed description of the improvements to be maintained, the boundaries of the District and the zones therein, and the proposed assessments on assessable lots and parcels of land within the District.

ASSESSMENT

SECTION 4. That the public interest and convenience requires, and it is the intention of this City Council to order the annual assessment levy for the District as set forth and described in said Engineer's Report, and further it is determined to be in the best public interest and convenience to levy and collect annual assessments to pay the costs and expenses of said maintenance and improvement as estimated in said Report.

DESCRIPTION OF MAINTENANCE

SECTION 5. The assessments levied and collected shall be for the maintenance of certain street lighting and appurtenant improvements, as set forth in the Engineer's Report, referenced and so incorporated herein.

COUNTY AUDITOR

SECTION 6. The County Auditor shall enter on the County Assessment Roll the amount of the assessments, and the County Tax Collector shall collect said assessments at the time and in the same manner as County taxes are collected. After collection by the County, the net amount of the assessments, after the deduction of any compensation due to the County for collection, shall be paid to the Treasurer for purposes of paying for the costs and expenses of said District.

SPECIAL FUND

SECTION 7. That all monies collected shall be deposited in a special fund. Payment shall be made out of said fund only for the purpose provided for in this Resolution, and in order to expedite the making of this maintenance and improvement, the City Council may transfer into said fund as it may deem necessary to expedite the proceedings. Any such transfer shall be repaid out of the proceeds of the assessments provided for in this Resolution.

BOUNDARIES OF DISTRICT

SECTION 8. Said contemplated maintenance work is in the opinion of this City Council, of special benefit to the properties within the boundaries of the District, and this City Council makes the costs and expenses of said maintenance chargeable upon the District, which District said City Council hereby declares to be the District specially benefited by said improvement and maintenance, and to be further assessed to pay the costs and expenses thereof. Said District shall include each and every parcel of land within the boundaries of said District, as said District is shown on the maps as approved by this City Council and on file in the Records Management Department.

PUBLIC HEARING

SECTION 9. NOTICE IS HEREBY GIVEN THAT A PUBLIC HEARING WILL BE HELD THE 18th DAY OF JULY, 2023, AT THE HOUR OF 6:30 O'CLOCK P.M., IN THE REGULAR MEETING OF THE CITY COUNCIL, BEING IN THE COUNCIL CHAMBERS, WHICH IS THE TIME AND PLACE FIXED BY THIS CITY COUNCIL FOR THE HEARING OF PROTESTS OR OBJECTIONS IN REFERENCE TO THE ANNUAL LEVY OF ASSESSMENTS, TO THE EXTENT OF THE MAINTENANCE, BY PROPERTY OWNERS AFFECTED HEREBY AND ANY OTHER MATTERS CONTAINED IN THIS RESOLUTION; PROVIDED, THAT, IN THE EVENT THE JULY 18, 2023 CITY COUNCIL MEETING IS HELD VIA TELECONFERENCE AND/OR VIDEO CONFERENCE ONLY, THE MEANS BY WHICH THE PUBLIC MAY OBSERVE SUCH PUBLIC HEARING AND OFFER PUBLIC COMMENT SHALL BE PRESCRIBED IN THE NOTICE AND AGENDA FOR SUCH CITY COUNCIL MEETING. ANY PERSONS WHO WISH TO OBJECT TO THE PROCEEDINGS FOR THE ANNUAL LEVY SHOULD FILE A WRITTEN PROTEST WITH THE CITY CLERK PRIOR TO THE TIME SET AND SCHEDULED FOR SAID PUBLIC HEARING.

NOTICE

SECTION 10. That the City Clerk is hereby authorized and directed to publish, pursuant to Government Code Section 6061, a copy of this Resolution in the INLAND VALLEY DAILY BULLETIN, a newspaper of general circulation within said City, said publication shall be made one time and not less than ten (10) days before the date set for the Public Hearing.

SECTION 11. That this Resolution shall take effect immediately upon its adoption.

SECTION 12. For any and all information relating to the proceedings, protest procedure, any documentation and/or information of a procedural or technical nature, your attention is directed to the below listed person at the local agency or department so designated:

Cecilia House
City of Ontario
303 East “B” Street
Ontario, California 91764
(909) 395-2088

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO LEGAL FORM:

_____
BEST BEST & KREIGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DECLARING ITS INTENTION TO PROVIDE FOR AN ANNUAL LEVY AND COLLECTION OF ASSESSMENTS FOR FISCAL YEAR 2023-24 IN ONTARIO STREET LIGHTING MAINTENANCE DISTRICT NO. 2, PURSUANT TO THE PROVISIONS OF DIVISION 15, PART 2, OF THE STREETS AND HIGHWAYS CODE OF THE STATE OF CALIFORNIA, AND SETTING A TIME AND PLACE FOR A PUBLIC HEARING THEREON.

WHEREAS, the City Council of the City of Ontario, California, has previously formed a street lighting maintenance assessment district, and authorized the levy of assessments therein pursuant to the terms and provisions of the "Landscaping and Lighting Act of 1972," being Division 15, Part 2, of the Streets and Highways Code of the State of California (the "1972 Act"), Article XIIID of the Constitution of the State of California ("Article XIIID"), and the Proposition 218 Omnibus Implementation Act (Government Code Section 53750 and following) (the "Implementation Act") (the 1972 Act, Article XIIID and the Implementation Act are referred to collectively as the "Assessment Law") in what is known and designated as

CITY OF ONTARIO
STREET LIGHTING MAINTENANCE DISTRICT NO. 2
(the "District"); and

WHEREAS, the City Council previously undertook proceedings as required by the Assessment Law to consider the approval of the levy of (a) maximum annual assessments to finance the estimated costs of the maintenance of all of the improvements to ultimately be maintained upon the completion and acceptance thereof for maintenance, assessing the net amount upon all assessable lots and/or parcels within the District in proportion to the special benefits received; together with a formula pursuant to which such maximum assessment may be adjusted annually for inflation, and (b) an initial annual assessment of the estimated costs of the maintenance of those improvements to be maintained during such Fiscal Year, assessing the net amount upon all assessable lots and/or parcels within the District in proportion to the special benefits received; and

WHEREAS, upon the conclusion of the public hearing related to the proposed levy of the maximum annual assessments referred to in the preceding recital, the assessment ballots submitted in favor of the maximum annual assessments and the assessment ballots received in opposition to the levy of the maximum annual assessments were tabulated with assessment ballots weighted according to the proportional financial obligation of the affected properties; and

WHEREAS, as a result of tabulation of the assessments ballots submitted, it was determined that the assessment ballots submitted, and not withdrawn, in favor of the proposed maximum annual assessment exceeded the assessment ballots submitted, and not withdrawn, in opposition to the levy of maximum annual assessment, and

WHEREAS, this City Council has initiated proceedings to provide for the annual levy of assessments for the referenced Fiscal Year, to finance the costs and expenses necessary for continual maintenance of improvements within said District; and

WHEREAS, at this time, there has been presented and approved by this City Council, the Assessment Engineer's Report as required by the Assessment Law, and this City Council desires to conduct the proceedings to authorize said annual levy; and

WHEREAS, the proposed annual assessments for the referenced Fiscal Year as set forth in the Assessment Engineer's Report do not exceed the maximum annual assessments as previously authorized to be levied and, therefore, the proposed levy of assessments for the referenced Fiscal Year are not deemed to be "increased" over the maximum annual assessments.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ontario as follows:

RECITALS

SECTION 1. That the above recitals are all true and correct.

IMPROVEMENTS AND MAINTENANCE

SECTION 2. That the public interest and convenience requires, and it is the intention of this City Council, to undertake proceedings for the annual levy and collection of special assessments for the continual maintenance of the improvements described below, all to service and specially benefit the properties within said District as said area is shown and delineated on a map as previously approved by this City Council and on file in the Records Management Department, open to public inspection, and herein so referenced and made a part hereof:

The improvements to be maintained include street lighting facilities specially benefiting the properties within the District. Such street lighting facilities include all works or improvements used or useful for street lighting, including luminaires, poles, supports, tunnels, manholes, vaults, conduits, pipes, wires, conductors, guys, stubs, platforms, braces, transformers, insulators, contacts, switches, capacitors, meters, communications circuits, appliances, attachments and appurtenances.

The maintenance of such street lighting facilities shall include the furnishing of services and materials for the ordinary and usual maintenance and servicing of the street lighting facilities, including:

(a) Repair, removal, or replacement of all or any part of any street lighting facility; and
(b) The provision of electric current for the operation of such street lighting facilities.

Reference is made to the Assessment Engineer's Report for further information regarding the improvements to be maintained and the scope of such maintenance.

The annual assessment for the referenced Fiscal Year shall be levied only for those improvements completed or projected to be completed and accepted by this City Council for maintenance prior to or during said Fiscal Year.

ASSESSMENT ENGINEER'S REPORT

SECTION 3. That the Assessment Engineer's Report regarding the annual levy for said District, which Report is for maintenance for the said Fiscal Year, is hereby approved and is directed to be filed in the Records Management Department. Reference is made to such Report for a full and detailed description of the improvements to be maintained, the boundaries of the District and any zones therein, and the proposed assessments upon assessable lots and parcels of land within the District.

ASSESSMENT

SECTION 4. That the public interest and convenience requires, and it is the intention of this City Council to order the annual assessment levy for the District as set forth and described in said Assessment Engineer's Report, and further it is determined to be in the best public interest and convenience to levy and collect annual assessments to pay the costs and expenses of said maintenance and improvement as estimated in the Assessment Engineer's Report.

BOUNDARIES OF DISTRICT

SECTION 5. Said contemplated maintenance work is in the opinion of this City Council, of direct benefit to the properties within the boundaries of the District, and this City Council makes the costs and expenses of said maintenance chargeable upon a District, which District said City Council hereby declares to be the District benefited by said improvement and maintenance, and to be further assessed to pay the costs and expenses thereof. Said District shall include each and every parcel of land within the boundaries of said District, as said District is shown on a map as approved by this City Council and on file in the Records Management Department, and so designated by the name of the District.

PUBLIC HEARING

SECTION 6. NOTICE IS HEREBY GIVEN THAT A PUBLIC HEARING WILL BE HELD THE 18th DAY OF JULY, 2023, AT THE HOUR OF 6:30 O'CLOCK P.M., IN THE REGULAR MEETING OF THE CITY COUNCIL, BEING IN THE COUNCIL CHAMBERS, WHICH IS THE TIME AND PLACE FIXED BY THIS CITY COUNCIL FOR THE HEARING OF PROTESTS OR OBJECTIONS IN REFERENCE TO THE ANNUAL LEVY OF ASSESSMENTS, TO THE EXTENT OF THE MAINTENANCE, BY ANY INTERESTED PERSON AND ANY OTHER MATTERS CONTAINED IN THIS RESOLUTION; PROVIDED, THAT, IN THE EVENT THE JULY 18, 2023 CITY COUNCIL MEETING IS HELD VIA TELECONFERENCE AND/OR VIDEO CONFERENCE ONLY, THE MEANS BY WHICH THE PUBLIC MAY OBSERVE SUCH PUBLIC HEARING AND OFFER PUBLIC COMMENT SHALL BE PRESCRIBED IN THE NOTICE AND AGENDA FOR SUCH CITY COUNCIL MEETING. ANY PERSONS WHO WISH TO OBJECT TO

THE PROCEEDINGS FOR THE ANNUAL LEVY SHOULD FILE A WRITTEN PROTEST WITH THE CITY CLERK PRIOR TO THE TIME SET AND SCHEDULED FOR SAID PUBLIC HEARING.

NOTICE

SECTION 7. That the City Clerk is hereby authorized and directed to publish, pursuant to Government Code Section 6061, a copy of this Resolution in the INLAND VALLEY DAILY BULLETIN, a newspaper of general circulation within said City, said publication shall be made one time and not less than ten (10) days before the date set for the Public Hearing.

EFFECTIVE DATE OF RESOLUTION

SECTION 8. That this Resolution shall take effect immediately upon its adoption.

PROCEEDING INQUIRIES

SECTION 9. For any and all information relating to the proceedings, protest procedure, any documentation and/or information of a procedural or technical nature, your attention is directed to the below listed person at the local agency or department so designated:

Cecilia House
City of Ontario
303 East “B” Street
Ontario, California 91764
(909) 395-2088

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO LEGAL FORM:

_____
BEST BEST & KREIGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023, by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Financial Services Prepared By: Cruz Torres Staff Member Presenting: Armen Harkalyan, Executive Director of Finance Reviewed By: Cecilia House Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 5

SUBJECT: DECLARATION AND DISPOSITION OF SURPLUS REDEMPTION FUNDS IN ASSESSMENT DISTRICTS 106 AND 108

RECOMMENDATION: That the City Council consider and adopt the attached resolutions declaring surplus amounts remaining in the redemption funds of Assessment Districts 106 and 108, and further resolve that the surplus funds for these districts be used for maintenance (capital replacement) of the public improvements funded by the districts.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Operate in a Businesslike Manner
Focus Resources in Ontario's Commercial and Residential Neighborhoods
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)

FISCAL IMPACT: As proposed, the total amount of surplus in the redemption funds for Assessment Districts 106 and 108 are $165,195 and $140,666, respectively. Designating the use of surplus funds for maintenance of the improvements funded by such districts will provide the City with additional funds to perform needed maintenance and will directly benefit the property within such districts. The City, including the agencies of Ontario Municipal Utilities Company, Public Works, and Community Development, will be able to use the surplus to fund capital replacement projects in these districts. After City Council approval, one of the aforementioned departments will be able to include the surplus amounts in their budget update to City Council in the next quarterly budget update for Fiscal Year 2023-24.

BACKGROUND & ANALYSIS: The City formed Assessment District 106 and 108 to finance various improvements including streets, storm drain, and streetlight improvements within the district, and issued approximately $23.5 million Special Assessment Bonds to finance the improvements in the districts. Boundaries of the Assessment Districts are as follows: AD 106 is located south of Jurupa Street, north of both Philadelphia Street and Mission Boulevard, west of Wineville Avenue and east of Haven Avenue; and AD 108 is located south of Fourth Street, north of Interstate 10, west of Interstate 15, and east of Milliken Avenue. Maps for both districts are attached as Exhibit B. The districts have no outstanding bonds, and the last debt service payment was made in September of

2020. All of the public improvements that were planned for the districts have been completed, and the districts have surplus funds remaining in their respective redemption funds. The estimated balance remaining in Assessment Districts 106 and 108 are $165,195 and $140,666, respectively, and each district has their own fund. Eligible improvement uses are listed in the Summary of Closed Districts Table, attached as Exhibit A.

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, MAKING A DETERMINATION REGARDING SURPLUS AMOUNTS REMAINING IN AND FROM AND REDEMPTION FUND OF ASSESSMENT DISTRICT NO. 106, AND DIRECTING THE DISPOSITION OF SUCH SURPLUS AMOUNTS.

WHEREAS, the City Council (the "City Council") of the City of Ontario (the "City"), pursuant to the Municipal Improvement Act of 1913 (being Division 12 of the California Streets and Highways Code), conducted proceedings for the formation of a special assessment district designated as "Assessment District No. 106" (the "Assessment District") to finance certain public improvements (the "Improvements"); and

WHEREAS, the City issued bonds (the "Bonds") to finance certain Improvements within the Assessment District pursuant to The Improvement Bond Act of 1915 (being division 10 of the California Streets and Highways Code) (the "Bond Act"); and

WHEREAS, the Bonds have been fully paid and are no longer outstanding; and

WHEREAS, the Improvements have been completed, all claims from the improvement fund for the Assessment District (the "Improvement Fund") have been paid and there are no amounts remaining in the Improvement Fund; and

WHEREAS, Section 8784 of the Bond Act provides that after payment of all bonds and the interest thereon, that surplus in the redemption fund shall (a) first be applied to repayment to a city of any special taxes levied by it for the purpose of advancing funds under Part 13 (commencing with Section 8800) of the Bond Act, less its recovery on the sale or redemption of the properties assessed, and also of any costs incurred by it under the Bond Act, (b) that the remainder shall be repaid in accordance with the provisions of Section 8783 of the Bond Act to persons paying supplemental assessments, if any, and (c) that the balance may be proportionately credited upon the final installments due upon the assessments securing the bonds and repaid to those persons whose assessments have been previously paid or may be transferred to the general fund of such city; and

WHEREAS, all Bonds and the interest thereon have been fully paid, there are no amounts to be repaid to the City for any special taxes levied by it for the purpose of advancing funds under Part 13 (commencing with Section 8800) of the Bond Act, and there are no amounts to be repaid to persons paying or who paid supplemental assessments pursuant to Section 8783 of the Bond Act; and

WHEREAS, as of the date hereof, there is an amount of not less than $165,194.93 in or from the redemption fund for the Assessment District (the "Redemption Fund"); and

WHEREAS, the City Council desires to determine that all amounts remaining on deposit in or from the Redemption Fund are surplus amounts, and to direct such surplus amounts to be applied to pay the costs of maintenance of the Improvements within the

Assessment District, which includes the furnishing of services and materials for the ordinary and usual maintenance, operation and servicing of any Improvement, including repair, removal or replacement of all or any part of any Improvement.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ontario as follows:

SECTION 1. The foregoing recitals are true and correct.

SECTION 2. All amounts on deposit in or from the Redemption Fund are hereby determined to be surplus for purposes of Section 8784 of the Bond Act. Such surplus amounts are hereby directed to be applied to the payment of costs of maintenance of the Improvements within the Assessment District, which includes the furnishing of services and materials for the ordinary and usual maintenance, operation and servicing of any Improvement, including repair, removal or replacement of all or any part of any Improvement.

The City Council finds that such use of the surplus amounts would benefit the property within the Assessment District.

SECTION 3. All actions heretofore taken by the officers, employees and agents of the City with respect to surplus amounts remaining in the Redemption Fund, or in connection with or related to any of the matters referred to herein, are hereby approved, confirmed and ratified.

SECTION 4. The officers, employees and agents of the City are hereby authorized and directed to take all actions and do all things that they, or any of them, may deem necessary or desirable to accomplish the purposes of this Resolution and not inconsistent with the provisions hereof.

SECTION 5. This Resolution shall take effect immediately upon its adoption.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED and ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO LEGAL FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, California, DO HEREBY CERTIFY that the foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the City Council of the City of Ontario, California, at their regular meeting held on June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, MAKING A DETERMINATION REGARDING SURPLUS AMOUNTS REMAINING IN AND FROM AND REDEMPTION FUND OF ASSESSMENT DISTRICT NO. 108, AND DIRECTING THE DISPOSITION OF SUCH SURPLUS AMOUNTS.

WHEREAS, the City Council (the "City Council") of the City of Ontario (the "City"), pursuant to the Municipal Improvement Act of 1913 (being Division 12 of the California Streets and Highways Code), conducted proceedings for the formation of a special assessment district designated as "Assessment District No. 108" (the "Assessment District") to finance certain public improvements (the "Improvements"); and

WHEREAS, the City issued bonds (the "Bonds") to finance certain Improvements within the Assessment District pursuant to The Improvement Bond Act of 1915 (being division 10 of the California Streets and Highways Code) (the "Bond Act"); and

WHEREAS, the Bonds have been fully paid and are no longer outstanding; and

WHEREAS, the Improvements have been completed, all claims from the improvement fund for the Assessment District (the "Improvement Fund") have been paid and there are no amounts remaining in the Improvement Fund; and

WHEREAS, Section 8784 of the Bond Act provides that after payment of all bonds and the interest thereon, that surplus in the redemption fund shall (a) first be applied to repayment to a city of any special taxes levied by it for the purpose of advancing funds under Part 13 (commencing with Section 8800) of the Bond Act, less its recovery on the sale or redemption of the properties assessed, and also of any costs incurred by it under the Bond Act, (b) that the remainder shall be repaid in accordance with the provisions of Section 8783 of the Bond Act to persons paying supplemental assessments, if any, and (c) that the balance may be proportionately credited upon the final installments due upon the assessments securing the bonds and repaid to those persons whose assessments have been previously paid or may be transferred to the general fund of such city; and

WHEREAS, all Bonds and the interest thereon have been fully paid, there are no amounts to be repaid to the City for any special taxes levied by it for the purpose of advancing funds under Part 13 (commencing with Section 8800) of the Bond Act, and there are no amounts to be repaid to persons paying or who paid supplemental assessments pursuant to Section 8783 of the Bond Act; and

WHEREAS, as of the date hereof, there is an amount of not less than $140,666.10 in or from the redemption fund for the Assessment District (the "Redemption Fund"); and

WHEREAS, the City Council desires to determine that all amounts remaining on deposit in or from the Redemption Fund are surplus amounts, and to direct such surplus amounts to be applied to pay the costs of maintenance of the Improvements within the Assessment District, which includes the furnishing of services and materials for the

ordinary and usual maintenance, operation and servicing of any Improvement, including repair, removal or replacement of all or any part of any Improvement;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ontario as follows:

SECTION 1. The foregoing recitals are true and correct.

SECTION 2. All amounts on deposit in or from the Redemption Fund are hereby determined to be surplus for purposes of Section 8784 of the Bond Act. Such surplus amounts are hereby directed to be applied to the payment of costs of maintenance of the Improvements within the Assessment District, which includes the furnishing of services and materials for the ordinary and usual maintenance, operation and servicing of any Improvement, including repair, removal or replacement of all or any part of any Improvement.

The City Council finds that such use of the surplus amounts would benefit the property within the Assessment District.

SECTION 3. All actions heretofore taken by the officers, employees and agents of the City with respect to surplus amounts remaining in the Redemption Fund, or in connection with or related to any of the matters referred to herein, are hereby approved, confirmed and ratified.

SECTION 4. The officers, employees and agents of the City are hereby authorized and directed to take all actions and do all things that they, or any of them, may deem necessary or desirable to accomplish the purposes of this Resolution and not inconsistent with the provisions hereof.

SECTION 5. This Resolution shall take effect immediately upon its adoption.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

EXHIBIT "A"

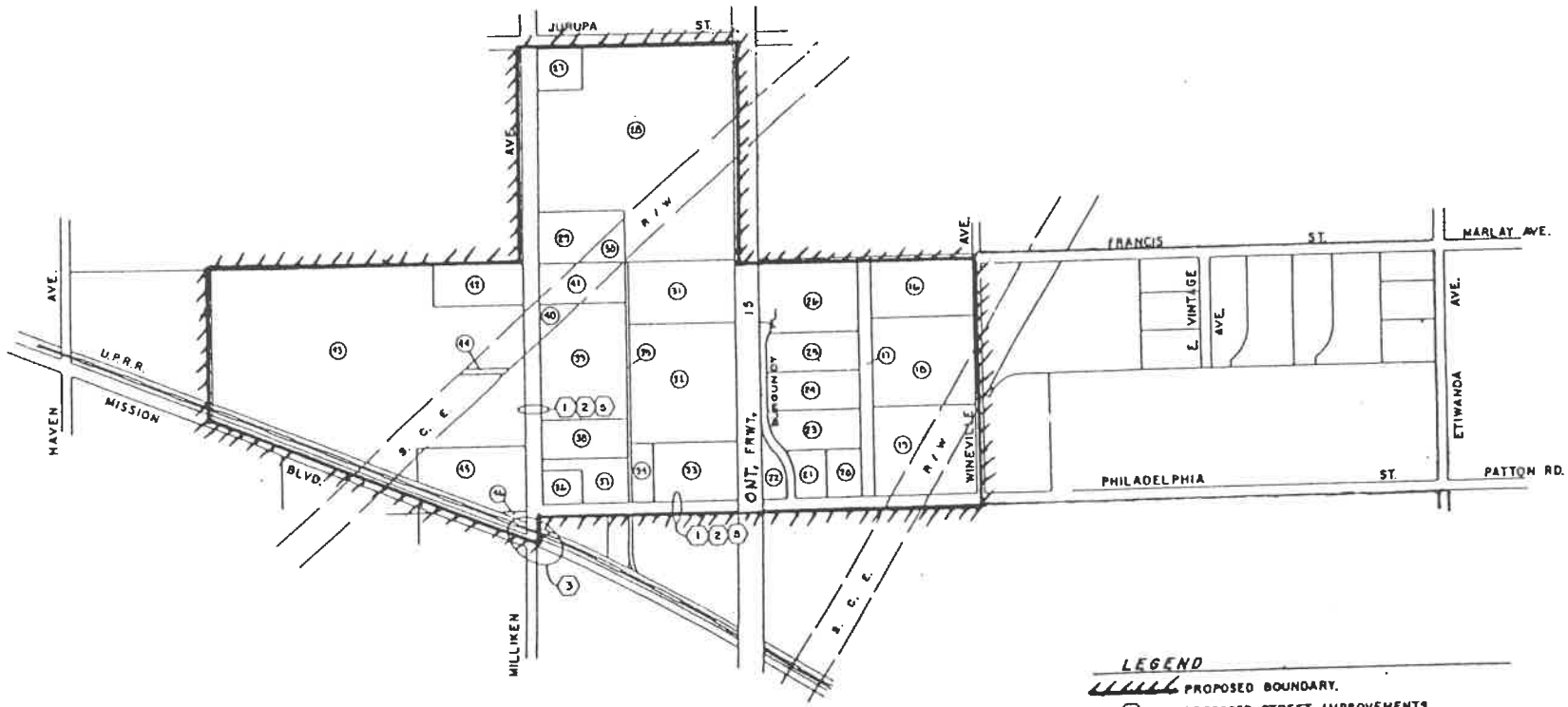
Summary of Closed Districts and Available Funds for Capital Replacement

District Name	Eligible Improvements	Type of Fund	Amount
AD 106	Streets, Storm Drain, Street Light	Redemption	$ 165,194.93
AD 108	Streets, Sewer, Water, Traffic Signals, and Storm Drain	Redemption	$ 140,666.10
		Total Surplus Monies	$ 305,861.03

IMPROVEMENT & BOUNDARY PLAT

PROPOSED ASSESSMENT DISTRICT NO. 106

CITY OF ONTARIO



LEGEND

- PROPOSED BOUNDARY.
- (1) PROPOSED STREET IMPROVEMENTS.
- (2) PROPOSED DRAINAGE SYSTEM IMPROVEMENTS.
- (3) PROPOSED TRAFFIC SIGNAL MODIFICATIONS.
- (4) PROPOSED WATER SYSTEM IMPROVEMENTS.
- (5) PROPOSED STREET LIGHTING IMPROVEMENTS.

1000 0 1000

SHEET 1 OF 1

ASSESSMENT DIAGRAM
ASSESSMENT DISTRICT NO. 108

CITY OF ONTARIO
COUNTY OF SAN BERNARDINO
STATE OF CALIFORNIA

AN ASSESSMENT WAS LEVIED BY THE CITY COUNCIL OF THE CITY OF ONTARIO, STATE OF CALIFORNIA ON THE LOTS, PIECES AND PARCELS OF LAND SHOWN ON THIS ASSESSEMENT DIAGRAM. THE ASSESSMENT WAS LEVIED ON THE ____DAY OF _____,1995; THE ASSESSMENT DIAGRAM AND THE ASSESSMENT ROLL WERE RECORDED IN THE OFFICE OF THE SUPERINTENDENT OF STREETS OF THE CITY OF ONTARIO ON THE ____DAY OF_____,1995. REFERENCE IS MADE TO THE ASSESSMENT ROLL RECORDED IN THE OFFICE OF SUPERINTENDENT OF STREETS FOR THE EXACT AMOUNT OF EACH ASSESSMENT LEVIED AGAINST EACH PARCEL OF LAND SHOWN ON THIS ASSESSEMNT DIAGRAM.

_____
CLERK OF THE CITY COUNCIL
CITY OF ONTARIO
STATE OF CALIFORNIA

FILED IN THE OFFICE OF THE CITY CLERK OF THE CITY OF ONTARIO THIS _____DAY OF_____,1995.

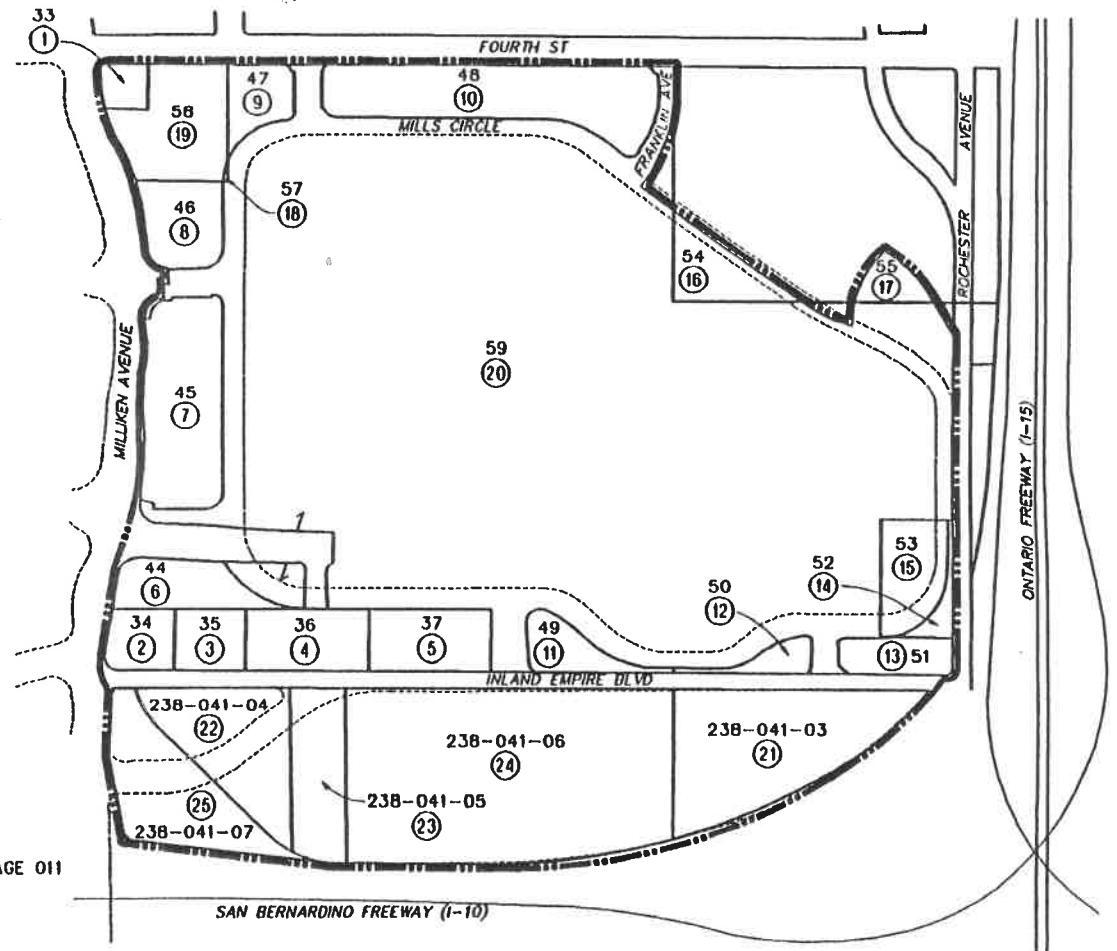
_____
CLERK OF THE CITY COUNCIL
CITY OF ONTARIO
STATE OF CALIFORNIA

RECORDED IN THE OFFICE OF THE SUPERINTENDENT OF STREETS THIS_____DAY OF_____,1995.

_____
SUPERINTENDENT OF STREETS
CITY OF ONTARIO
STATE OF CALIFORNIA

REFERENCE IS MADE TO THE MAP OF PROPOSED BOUNDARIES OF ASSESSMENT DISTRICT NO. 108 RECORDED MAY 30, 1995 IN BOOK 69 PAGE 59 OF ASSESSMENT MAPS, RECORD OF THE COUNTY OF SAN BERNARDINO, CALIFORNIA.

NOT TO SCALE



LEGEND

▬▪▬▪▬	DISTRICT BOUNDARY
34	ASSESSOR PARCEL NUMBER FOR BOOK 238, PAGE 011
238-041-05	ASSESSOR PARCEL NUMBER
----------	PROPOSED STREETS
(07)	ASSESSMENT NUMBER

G-14

136

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Engineering Prepared By: Jay Bautista Staff Member Presenting: Scott Murphy, Executive Director Community Development Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 6

SUBJECT: AN AGREEMENT FOR THE OPERATIONS AND MAINTENANCE OF THE WEST VALLEY CONNECTOR BUS RAPID TRANSIT PROJECT

RECOMMENDATION: That the City Council approve an Agreement (on file in the Records Management Department) with Omnitrans for the operations and maintenance of the West Valley Connector Bus Rapid Transit Project; and authorize the City Manager or designee to execute said Agreement, future amendments and related documents.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Pursue City's Goals and Objectives by Working with Other Governmental Agencies
Focus Resources in Ontario's Commercial and Residential Neighborhoods
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)

FISCAL IMPACT: There is not a direct fiscal impact associated with this action. This Agreement is a requirement of the previously approved agreement between the City and SBCTA for construction of the West Valley Connector project and simply establishes the operations and maintenance obligations of each party.

BACKGROUND & ANALYSIS: The San Bernardino County Transportation Authority (SBCTA), in cooperation with Omnitrans and the cities of Pomona, Montclair, Ontario, and Rancho Cucamonga, is constructing Phase 1 of the West Valley Connector Bus Rapid Transit (BRT) Project (Project). The Project is a 19-mile corridor from downtown Pomona to Victoria Gardens in Rancho Cucamonga located primarily along Holt Avenue/Boulevard and Foothill Boulevard in the counties of Los Angeles and San Bernardino, California. The Project proposes limited stops, providing speed and quality improvements to the public transit system within the corridor. The Project includes approximately 3.5 miles of dedicated BRT lanes with center-running stations on Holt Boulevard in Ontario. In addition, Transit Signal Priority (TSP) is included at the signalized intersections identified through a collaborative transportation operations analysis reviewed and approved by the City. The BRT system will be operated by Omnitrans and is scheduled to begin operation in late 2025.

SBCTA entered into separate Cooperative Agreements with Omnitrans and each participating city documenting their mutual roles and responsibilities to develop the Project. Those agreements anticipated that Omnitrans and each City making commitments to operate and maintain certain facilities and improvements installed as part of the Project. This Agreement is the culmination of that commitment between Omnitrans and the City and establishes the ongoing operations and maintenance of the improvements installed within Ontario as part of the Project. Obligations of the City include granting Omnitrans access to the stations, providing routine patrol and police services at the stations, and water usage at the stations. Project improvements within the public right of way, with the exception of the stations, will be maintained by the City.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Municipal Services Prepared By: Manuel Rebolledo Staff Member Presenting: Tito Haes, Executive Director Public Works Reviewed By: Bonnie Tam, Andrea Ampig Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 7

SUBJECT: **AN AMENDMENT TO THE GOODS AND SERVICES AGREEMENT WITH CITRUS MOTORS ONTARIO, INC. FOR THE PROCUREMENT OF FORD OEM PARTS AND SERVICES**

RECOMMENDATION: That the City Council approve and authorize the City Manager or his designee to execute Amendment No. 4 to the Goods & Services Agreement (on file with the Records Management Department) with Citrus Motors Ontario, Inc., of Ontario, California, for the procurement of Ford original equipment manufacturer parts and repair services, exercising the final one-year extension of the Agreement, and extending the term of the Agreement to June 30, 2024, in an amount not-to-exceed $150,000.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Maintain the Current High Level of Public Safety
Operate in a Businesslike Manner

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations in the Equipment Services Fund for the procurement of Ford original equipment manufacturer (OEM) parts and repair services. The total compensation paid by the City will be contingent upon actual services provided at the contracted rates set forth in the agreement and shall not exceed $530,000 over the five-year term.

BACKGROUND & ANALYSIS: The City owns, operates, maintains, and repairs over 700 vehicles and pieces of equipment to keep them safe and operational. The Fleet Services Department relies on vendors to supply parts and perform certain repairs to our fleet.

On August 18, 2019, the City Council awarded Bid No. 1151 and entered into a one-year agreement for $95,000 with four one-year extensions with Citrus Motors Ontario, Inc. The contract was amended in 2020, 2021, and 2022, to exercise the first three option years and increase the contract amount by $95,000 each year. Due to supply chain shortages and price increases in raw materials, Staff now recommends increasing the total authorized contract amount to ensure the Fleet Services Department can continue to maintain and service vehicles quickly and keep them operational.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Municipal Services Prepared By: Manuel Rebolledo Staff Member Presenting: Tito Haes, Executive Director Public Works Reviewed By: Bonnie Tam, Gina Gomez Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 8

SUBJECT: **AN AMENDMENT TO THE GOODS AND SERVICES AGREEMENT WITH SOUTHERN COUNTIES LUBRICANTS LLC FOR THE PROCUREMENT OF FLEET OILS, LUBRICANTS, AND COOLANTS**

RECOMMENDATION: That the City Council approve and authorize the City Manager or his designee to execute Amendment No. 3 (on file with the Records Management Department) to the Goods and Services Agreement with Southern Counties Lubricants LLC, of Orange, California, in the amount of $200,000, increasing the total not-to-exceed contract amount to $460,000 for the procurement of fleet oils, lubricants, and coolants.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Maintain the Current High Level of Public Safety
Operate in a Businesslike Manner

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations of $200,000 in the Equipment Services Fund for the procurement of fleet oils, lubricants, and coolants. The total compensation paid by the City will be contingent upon actual services provided at the contracted rates set forth in the agreement and shall not exceed $460,000 over the five-year term.

BACKGROUND & ANALYSIS: The City owns, operates, and maintains over 700 vehicles and pieces of equipment that require scheduled replacement of oils, lubricants and coolants to maximize their useful life.

On September 3, 2019, the City Council approved Bid No. 1165 and entered into a one-year agreement with Southern Counties Lubricants, LLC. Amendment No. 1 entered on July 1, 2020 extended the term of the Agreement to June 30, 2021. Amendment No. 2 entered on June 1, 2021 extended the term of the Agreement to June 30, 2024. Staff recommends increasing the total authorized compensation of this contract to ensure the Fleet Services Department can continue to maintain and service vehicles quickly and keep them operational.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Municipal Services Prepared By: Manuel Rebolledo Staff Member Presenting: Tito Haes, Executive Director Public Works Reviewed By: Bonnie Tam, Gina Gomez Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 9

SUBJECT: **AN AMENDMENT TO THE MAINTENANCE SERVICES AGREEMENT WITH FUEL SERV, INC. FOR ON-CALL GARAGE AND FUEL SITE MAINTENANCE AND REPAIR SERVICES**

RECOMMENDATION: That the City Council authorize the City Manager or his designee to execute Amendment No. 2 to the Maintenance Services Agreement (on File in the Records Management Department) with Fuel Serv, Inc. of Montclair, California, in the amount of $130,000, increasing the total not-to-exceed contract amount to $570,000 and extending the term of the Agreement to June 30, 2024, for garage and fuel site maintenance and repair services.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Maintain the Current High Level of Public Safety
Operate in a Businesslike Manner

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations in the Equipment Services Fund for garage and fuel site maintenance and repair services. The recommended Amendment increases the authorized contract amount by $130,000, for a new total not-to-exceed contract amount of $570,000. The total compensation paid by the City will be contingent upon actual services provided at the contracted rates set forth in the agreement and shall not exceed $570,000 over the five-year term.

BACKGROUND & ANALYSIS: On June 21, 2021, the City Council authorized the City Manager to execute Amendment No. 1 to the Maintenance Services Agreement with Fuel Serv, Inc. with the option to extend the Agreement for one additional year. The City's fueling equipment provides fuel for fleet vehicles and data for regulatory agencies' required reports. Services provided in the Agreement include installation of fuel tracking equipment on fleet vehicles, scheduled regulatory inspections, testing of the City's fuel sites required by state and local governing agencies, and maintenance on garage equipment to ensure safe and efficient operation.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Municipal Services Prepared By: Manuel Rebolledo Staff Member Presenting: Tito Haes, Executive Director Public Works Reviewed By: Bonnie Tam, Gina Gomez Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 10

SUBJECT: AN AMENDMENT TO THE GOODS AND SERVICES AGREEMENT WITH DANIELS TIRE SERVICE FOR TIRE REPAIR AND RETREADING

RECOMMENDATION: That the City Council approve and authorize the City Manager or his designee to execute Amendment No. 5 (on file with the Records Management Department) to the Goods and Services Agreement with Daniels Tire Service of Santa Fe Springs, California, in the amount of $200,000, increasing the total not-to-exceed contract amount to $800,000 and extending the term of the Agreement to June 30, 2024, for tire repair and retreading.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Maintain the Current High Level of Public Safety
Operate in a Businesslike Manner

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations in the Equipment Services Fund for tire repair and retreading. The recommended Amendment increases the authorized contract amount by $200,000, for a new total not-to-exceed contract amount of $800,000. The total compensation paid by the City will be contingent upon actual services provided at the contracted rates set forth in the Agreement and shall not exceed $800,000 over the five-year term.

BACKGROUND & ANALYSIS: The City owns, operates, and maintains over 700 vehicles and pieces of equipment that require tire repair and retreading to maximize the tire's useful life and minimize replacement costs. During Fiscal Year 2022-23, the Fleet Services Department recapped over 900 tires on the City's fleet of vehicles and equipment.

On July 16, 2019, the City Council approved the award of Bid No. 1135 to Daniels Tire Service, and entered into a one-year Goods & Services Agreement with four one-year options at the City's sole discretion. Staff recommends increasing the total authorized compensation by $200,000 for Fiscal Year 2023-24 to ensure the Fleet Services Department can continue to maintain and repair vehicles quickly and keep them operational so they can provide services to the City of Ontario residents.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Municipal Services Prepared By: Manuel Rebolledo Staff Member Presenting: Tito Haes, Executive Director Public Works Reviewed By: Bonnie Tam, Andrea Ampig Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 11

SUBJECT: AN AMENDMENT TO THE GOODS AND SERVICES AGREEMENT WITH DANIELS TIRE SERVICE FOR THE PROCUREMENT OF NEW TIRES AND TIRE CASINGS

RECOMMENDATION: That the City Council approve and authorize the City Manager or his designee to execute Amendment No. 4 (on file with the Records Management Department) to the Goods and Services Agreement with Daniels Tire Service of Santa Fe Springs, California, in the amount of $220,000, increasing the total not-to-exceed contract amount to $960,000 and extending the term of the Agreement to June 30, 2024, for the procurement of new tires and tire casings.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Maintain the Current High Level of Public Safety
Operate in a Businesslike Manner

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations in the Equipment Services Fund for the procurement of new tires and tire casings. The recommended Amendment increases the authorized contract amount by $220,000 for a new total not-to-exceed contract amount of $960,000. The total compensation paid by the City will be contingent upon actual services provided at the contracted rates set forth in the Agreement and shall not exceed $960,000 over the five-year term.

BACKGROUND & ANALYSIS: The City owns, operates, and maintains over 700 vehicles and pieces of equipment that require the replacement of tires when they have maximized their useful life due to normal wear and tear or become flat from road debris and no longer safe to use. During Fiscal Year 2022-23, the Fleet Services Department replaced 3,745 tires on the City's fleet of vehicles and equipment.

On February 5, 2019, the City Council awarded Bid No. 1062 and entered into a two-year agreement for $160,000 with two one-year extensions with Daniels Tire Service. Staff is recommending extending the contract one additional year for a full five-year contract term. Due to supply chain shortages and price increases in raw materials, Staff recommends increasing the total authorized amount by $220,000 for Fiscal Year 2023-24 to ensure the Fleet Services Department can continue to maintain and repair vehicles quickly and keep them operational.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Municipal Services Prepared By: Manuel Rebolledo Staff Member Presenting: Tito Haes, Executive Director Public Works Reviewed By: Bonnie Tam, Andrea Ampig Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 12

SUBJECT: **AMENDMENTS TO THE GOODS AND SERVICES AGREEMENTS WITH FIX AUTO SOUTH ONTARIO, LOS ANGELES TRUCK CENTERS AND INLAND BODY AND PAINT CENTER FOR VEHICLE COLLISION REPAIR SERVICES**

RECOMMENDATION: That the City Council take the following actions:

A. Approve and authorize the City Manager or his designee to execute Amendment No. 1 to the Goods and Services Agreement (on file with the Records Management Department) with Fix Auto of South Ontario (formerly California Collision Center), of Ontario, California, in the amount of $200,000, increasing the total not-to-exceed contract amount to $470,000, and extending the Agreement for up to two (2) one-year options for vehicle collision repair services;
B. Approve and authorize the City Manager or his designee to execute Amendment No. 1 to the Goods and Services Agreement (on file with the Records Management Department) with Los Angeles Truck Centers, of Whittier, California, in the amount of $250,000, increasing the total not-to-exceed contract amount to $475,000, and extending the Agreement for up to two (2) one-year options for vehicle collision repair services; and
C. Approve and authorize the City Manager or his designee to execute Amendment No. 2 (on file with the Records Management Department) to the Goods and Services Agreement with Inland Body and Paint Center, of Fontana, California, in the amount of $290,000, increasing the total not-to-exceed contract amount to $500,000, and extending the Agreement for up to two (2) one-year options for vehicle collision repair services.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Maintain the Current High Level of Public Safety
Operate in a Businesslike Manner

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations from the Equipment Services Fund for the procurement of vehicle collision repair services.

Fix Auto South Ontario

The recommended Amendment increases the authorized contract amount for option year one by $100,000 for Fiscal Year 2023-24, for a new total not-to-exceed contract amount of $370,000. The contract amount of option year two is $100,000, for a new total not-to-exceed contract amount of $470,000. The total compensation paid by the City will be contingent upon actual services provided at the contracted rates set forth in the Agreement and shall not exceed $470,000 over the five-year term.

Los Angeles Truck Centers

The recommended Amendment increases the authorized contract amount for option year one by $125,000 for Fiscal Year 2023-24, for a new total not-to-exceed contract amount of $350,000. The contract amount of option year two is $125,000, for a new total not-to-exceed contract amount of $475,000. The total compensation paid by the City will be contingent upon actual services provided at the contracted rates set forth in the Agreement and shall not exceed $475,000 over the five-year term.

Inland Body and Paint Center

The recommended Amendment increases the authorized contract amount for option year one by $145,000 for Fiscal Year 2023-24, for a new total not-to-exceed contract amount of $355,000. The contract amount of option year two is $145,000, for a new total not-to-exceed contract amount of $500,000. The total compensation paid by the City will be contingent upon actual services provided at the contracted rates set forth in the Agreement and shall not exceed $500,000 over the five-year term.

BACKGROUND & ANALYSIS: The City owns, operates, maintains, and repairs over 700 vehicles and pieces of equipment to keep them safe and operational. The Fleet Services Department relies on vendors to supply parts and perform certain repairs to our fleet.

On September 15, 2020, the City Council awarded Bid No. 1338 and entered into three-year Agreements with Fix Auto of South Ontario (formerly California Collision Center), Los Angeles Truck Centers, and Inland Body and Paint. Due to supply chain shortages and price increases in raw materials, Staff recommends increasing the total authorized compensation of these contracts to ensure the Fleet Services Department can continue to maintain and service vehicles quickly and keep them operational.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Municipal Services Prepared By: Manuel Rebolledo Staff Member Presenting: Tito Haes, Executive Director Public Works Reviewed By: Bonnie Tam, Andrea Ampig Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 13

SUBJECT: **AMENDMENTS TO THE GOODS AND SERVICES AGREEMENTS WITH LOS ANGELES TRUCK CENTERS AND SOUTHERN CALIFORNIA FLEET SERVICES FOR THE PROCUREMENT OF MEDIUM AND HEAVY-DUTY VEHICLE PARTS AND REPAIRS**

RECOMMENDATION: That the City Council take the following actions:

A. Approve and authorize the City Manager or his designee to execute Amendment No. 1 to the Goods and Services Agreement (on file with the Records Management Department) with Los Angeles Truck Centers, of Whittier, California, for the procurement of medium and heavy-duty vehicle parts, and repairs, in the amount of $400,000, increasing the total not-to-exceed contract amount to $700,000 and extend the term of the Agreement for up to two (2) one-year options; and
B. Approve and authorize the City Manager or his designee to execute Amendment No. 1 to the Goods and Services Agreement (on file with the Records Management Department) with Southern California Fleet Services, of Corona, California, for the procurement of medium and heavy-duty vehicle parts and repairs, in the amount of $80,000, increasing the total not-to-exceed contract amount to $200,000 and extend the term of the Agreement for up to two (2) one-year options.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Maintain the Current High Level of Public Safety
Operate in a Businesslike Manner

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations from the Equipment Services Fund for the procurement of medium and heavy-duty vehicle parts and repairs.

The recommended Amendment for Los Angeles Truck Centers increases the authorized contract amount for option year one by $200,000, for Fiscal Year 2023-24 and option year two by $200,000 for a new total not-to-exceed contract amount of $700,000. The total compensation paid by the City will be contingent upon actual services provided at the contracted rates set forth in the Agreement and shall not exceed $700,000 over the five-year term.

The recommended Amendment for Southern California Fleet Services increases the authorized contract amount for option year one by $40,000 for Fiscal Year 2023-24 and option year two by $40,000, for a new total not-to-exceed contract amount of $200,000. The total compensation paid by the City will be contingent upon actual services provided at the contracted rates set forth in the Agreement and shall not exceed $200,000 over the five-year term.

BACKGROUND & ANALYSIS: The City owns, operates, maintains, and repairs over 700 vehicles and pieces of equipment to keep them safe and operational. The Fleet Services Department relies on vendors to supply parts and perform certain repairs to our fleet.

On August 18, 2020, the City Council awarded Bid No. 1337 and entered into three-year Agreements with Los Angeles Truck Centers and Southern California Fleet Services. Staff recommends increasing the total authorized compensation of these Agreements to ensure the Fleet Services Department can continue to maintain and service vehicles quickly and keep them operational.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Municipal Services Prepared By: Manuel Rebolledo Staff Member Presenting: Tito Haes, Executive Director Public Works Reviewed By: Bonnie Tam Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 14

SUBJECT: PRE-AUTHORIZE THE PURCHASE OF FLEET VEHICLES WITH NATIONAL AUTO FLEET GROUP

RECOMMENDATION: That the City Council pre-authorize the cooperative purchase and delivery of thirty-three (33) Ford Police Utility Vehicles for the Police Department from National Auto Fleet Group of Watsonville, California, consistent with the terms and conditions of the Sourcewell Cooperative Contract #091521-NAF in the amount of $1,512,500 plus a 20% contingency of $302,500 for a total not-to-exceed amount of $1,815,000.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Maintain the Current High Level of Public Safety
Operate in a Businesslike Manner

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations from the Equipment Services Fund for the purchase of Police vehicles. The total cost of the vehicles recommended for purchase is $1,512,500 plus a 20% contingency of $302,500 to mitigate any unforeseen issues with supply chain surcharges and manufacturer price increases, for a total not-to-exceed amount of $1,815,000.

BACKGROUND & ANALYSIS: The fifteen (15) vehicles recommended for replacement in this action have outlived their useful life and is no longer cost effective to maintain them. They are scheduled for replacement pursuant to ongoing efforts to reduce expenses and maximize useful life expectancy while ensuring safe and reliable operations. This procurement action will result in the replaced vehicles being available to surplus, with any auction sale proceeds returning to the Equipment Service Fund. The eighteen (18) vehicle additions requested by the Police Department are a result of growth throughout the City leading to increased operations.

In general conformation with the provisions of Government Code Section 54201 through 54204, Ontario Municipal Code Section 2-6.29 allows for the purchase of supplies and equipment through cooperative purchasing programs, pursuant to California Government Code Section 6502 and City of Ontario Resolution No. 91-141. Cooperative purchasing allows the City to pool its procurement

power with other public agencies to obtain lower pricing than otherwise might be possible.

QUANTITY	TYPE	AGENCY	PRICE
33	Ford Police Utility Vehicles	Police Department	$1,815,000

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Public Works Prepared By: Adrian Escamilla Staff Member Presenting: Tito Haes, Executive Director Public Works Reviewed By: Bonnie Tam, Andrea Ampig Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 15

SUBJECT: AMENDMENTS TO THE ON-CALL ARCHITECTURAL SERVICES AGREEMENT WITH ROBERT BORDERS AND ASSOCIATES FOR VARIOUS CITYWIDE PROJECTS

RECOMMENDATION: That the City Council take the following actions:

A. Authorize the City Manager or his designee to execute Amendment No. 14 to the Design Services Agreement with Robert Borders and Associates of Costa Mesa, California, for the Sam Alba Park Restroom Renovation Project in the amount of $7,550 for a total not-to-exceed contract amount of $467,018;
B. Authorize the City Manager or his designee to complete and execute Amendment No. 15 to the Design Services Agreement with Robert Borders and Associates of Costa Mesa, California, for the Community Development Block Wall on Mountain Avenue Project in the amount of $6,380 for a total not-to-exceed contract amount of $473,398; and
C. Authorize the City Manager or his designee to execute all documents required for the completion of the project including, but not limited to, contracts, agreements, assessments, easements, reduction of retention accounts, and filing a notice of completion at the conclusion of all construction related activities.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations in the Community Development Block Grant (CDBG) Fund for the Sam Alba Park Restroom Renovation and Community Development Block Wall on Mountain Avenue Projects. The recommended Amendment No. 14 will increase the contract amount by $7,550 for a total contract amount not-to-exceed $467,018. The recommended Amendment No. 15 will increase the total contract amount by $6,380, for a total contract amount not-to-exceed $473,398. The total contract amount of $473,398 for the On-Call Agreement with Robert Borders and Associates includes On-Call work performed for various citywide projects.

BACKGROUND & ANALYSIS:

Sam Alba Park Restroom Renovation Project

The City receives an annual allocation from the CDBG program. The CDBG program is federal funding that is administered by the U.S. Department of Housing and Urban Development. CDBG funds can be used by local jurisdictions to support programs that benefit low and moderate-income areas and people, including infrastructure, community facilities and parks, and public services.

Approximately 500 square feet of the existing Sam Alba Park Restroom will be demolished and a new pre-fabricated restroom with one male and one female stall will be installed to meet the Americans with Disabilities Act (ADA) access requirements, improve infrastructure, and provide improved security monitoring for the Ontario Police Department. A total of $709,524 has been budgeted for the Sam Alba Restroom Renovation Project in the FY 2023-24 Capital Improvement Program Budget. Previously, design services were performed for the project totaling $52,675. Staff recommends performing additional design services for construction drawing revisions for a total amount of $7,550.

Community Block Wall on Mountain Avenue Project

On February 7, 2023, the City Council approved Amendment No. 13 for Robert Borders and Associates to design a community block wall and install landscaping on a public easement along Mountain Avenue between D Street and G Street. Due to project scope changes, additional funding is required for the Design Services to complete the project.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Engineering Prepared By: Francisco Herrera Staff Member Presenting: Scott Murphy, Executive Director Community Development Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 16

SUBJECT: A MAINTENANCE SERVICES AGREEMENT WITH BEAR ELECTRICAL SOLUTIONS, INC. FOR TRAFFIC SIGNAL MAINTENANCE SERVICES

RECOMMENDATION: That the City Council approve and authorize the City Manager or designee to execute a three-year Maintenance Services Agreement (on file in the Records Management Department) with Bear Electrical Solutions, Inc., of Alviso, California, to provide traffic signal maintenance and repair services for a not-to-exceed amount of $775,500 per year and $2,326,500 for the term of the contract.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Operate in a Businesslike Manner
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)

FISCAL IMPACT: The Agreement is for a three-year term with an optional two-year extension. The contract amount is for $705,000 plus a 10% contingency of $70,500 for a total authorized expenditure of $775,500 per year with an overall three year not-to exceed amount of $2,326,500. The Fiscal Year 2023-24 Adopted Budget includes the annual appropriations for services. If approved, appropriations will be added to the future years' budgets consistent with the annual budget adoption process.

BACKGROUND & ANALYSIS: Traffic signals contribute to the safety and security of pedestrians, bicycles, vehicles, homeowners, and businesses. Currently, there are approximately 230 traffic signals in the City that will be maintained through this proposed contract. The services to be performed, in general, consist of routine preventative maintenance, extraordinary maintenance, and additional maintenance of traffic signal systems for locations that are the responsibility of the City of Ontario.

In May 2023, the City solicited proposals for the traffic signal maintenance services. The City received 2 proposals from the following companies:

COMPANY	LOCATION
Bear Electrical Solutions, Inc,	Alviso, CA
Yunex LLC	Riverside, CA

After a thorough review of the proposals submitted, consideration was given to the overall proposal, experience of each company and team members, pricing, and references. Bear Electrical Solutions, Inc., has a large workforce of International Municipal Signal Association (ISMA) certified technicians and a large fleet of vehicles and equipment which ensures they have the resources to provide service to the City of Ontario without disruption, 24 hours per day, 365 days a year, including all holidays. Based on their combined qualifications and pricing, Staff recommends that the City enter into a Maintenance Services Agreement with Bear Electrical Solutions, Inc.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Records Management Prepared By: Claudia Y Isbell Department: Management Services Prepared By: Jordan T Villwock Staff Member Presenting: Darlene M. Sanchez, Assistant City Manager Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 17

SUBJECT: A RESOLUTION TO STAND AGAINST ANTISEMITISM AND HATRED

RECOMMENDATION: That the City Council adopt a Resolution denouncing and condemning antisemitism and all forms of hatred.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Maintain the Current High Level of Public Safety

FISCAL IMPACT: There is no direct fiscal impact associated with this action.

BACKGROUND & ANALYSIS:

Antisemitism is a persistent issue that continues to affect communities around the world. It is characterized by acts of hatred, discrimination, and prejudice against Jewish individuals and the Jewish community. Anti-Semitic incidents can range from hate speech and vandalism to physical violence, posing a serious threat to the safety, well-being, and sense of belonging of Jewish residents. The City of Ontario takes great pride in diversity and respect for all people, and the Jewish Community is an important part of the City's fabric, recognizing our diversity as a key strength for the City and our character.

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, CONDEMNING AND REJECTING ANTISEMITISM AND SUPPORTING THE INTERNATIONAL HOLOCAUST REMEMBRANCE ALLIANCE BY AFFIRMING ONTARIO'S COMMITMENT TO ENSURING OUR COMMUNITY IS A SAFE AND WELCOMING PLACE.

WHEREAS, the City of Ontario is committed to inclusion and advancement of diversity and equity for people of all races, ethnicities, national origins, religions, ages, genders, and backgrounds; and

WHEREAS, the City of Ontario takes great pride in diversity and respect for all people, and the Jewish community is an important part of the City's fabric, recognizing our diversity as a key strength for the City and our character; and

WHEREAS, the City of Ontario supports national, state, and local government efforts directed at eradicating antisemitism and all forms of hatred, and supports expanded education programs, including Holocaust programs, to counter intolerance and discrimination; and

WHEREAS, the City of Ontario condemns antisemitism in all its forms, including: hatred and prejudice directed towards Jewish community members; stereotypes or conspiracy theories about Jews; Holocaust denial or distortion, and; extremist indoctrination or recruitment related to any form of antisemitism; and

WHEREAS, the City of Ontario affirms that hatred and bias in any form are not acceptable in our community; and

WHEREAS, any victims of antisemitism in the City of Ontario are urged to report any incidents — as hate crimes or bias-related events — so that local law enforcement can respond, track such incidents, and bring perpetrators to justice.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ontario as follows:

SECTION 1. That the City of Ontario condemns all forms of hate, racism, and violence perpetrated, tolerated, or encouraged by any group or individual.

SECTION 2. That the City of Ontario supports our Jewish community members and condemns racism, intolerance, hate, and violent attacks against them.

SECTION 3. That the City of Ontario recognizes the International Holocaust Remembrance Alliance's (IHRA) working definition of antisemitism as "a certain perception of Jews, which may be expressed as hatred towards Jews. Rhetorical and physical manifestations of antisemitism are directed toward Jewish or non-Jewish individuals and/or their property, toward Jewish community institutions and religious facilities."

SECTION 4. That the City of Ontario will continue to work alongside the American Jewish Committee, the Anti-Defamation League, the United States Conference of Mayors, and Jewish Federation of the Greater San Gabriel and Pomona Valleys to combat and denounce antisemitism.

SECTION 5. The City Clerk shall certify the adoption of this Resolution.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Utilities Prepared By: Omar Gonzalez Staff Member Presenting: Scott Burton, Utilities General Manager Reviewed By: Dennice Raygoza, Albert G Gastelum, Michael Sigsbee Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 18

SUBJECT: AN AMENDMENT WITH STANTEC CONSULTING SERVICES INC. FOR THE ON-CALL DESIGN SERVICES AGREEMENT FOR THE VINEYARD AVENUE SEWER DIVERSION

RECOMMENDATION: That the City Council approve and authorize the City Manager, or designee to execute Amendment No. 10 to the On-Call Design Services Agreement (on file in the Records Management Department) with Stantec Consulting Services, Inc., of Irvine, California, for a total-not-to-exceed amount of $256,295, and a term through May 6, 2024.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Focus Resources in Ontario's Commercial and Residential Neighborhoods
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)

FISCAL IMPACT: Proposed Amendment No. 10 to Stantec Consulting Services, Inc. (Stantec) will increase the existing agreement by $256,295 for a total revised Agreement not-to-exceed amount of $1,446,418. Fiscal Year 2022-23 Adopted Capital Improvement Program includes appropriations from the Sewer Capital Fund for these services. The City and Stantec have agreed to the fixed billing rates and Stantec will be compensated for the scope of work at the approved billing rates. There is no impact to the General Fund.

BACKGROUND & ANALYSIS:

The City's sewer system is divided into separate sewersheds, each conveying wastewater towards regional Inland Empire Utilities Agency (IEUA) treatment facilities. Sewershed No. 3 is identified by the City's Sewer Master Plan (SMP) as a 3,070-acre region, generally located near the center of the Old Model Colony west of Vineyard Avenue and Cucamonga Creek. Future capacity deficiencies in Sewershed No. 3 (SS3) were identified in the SMP, in Vineyard Avenue south of Holt Boulevard to Airport Drive, and in an easement within the Ontario Airport west of Vineyard Avenue south of Airport Drive based on new development and the City's latest land use plan. To mitigate the future capacity deficiencies, the SMP identified the need for future sewer capital projects.

In October of 2018, the City awarded Stantec a Professional Design Services Agreement to perform a feasibility study to evaluate different solutions to mitigate the future deficiencies in SS3. This study, which was completed in July of 2020, made two separate recommendations to alleviate these deficiencies. The first is the construction of approximately 7,500 linear feet of 21-inch sewer in Holt Boulevard, between Vineyard Avenue and Grove Avenue, and in Grove Avenue, between Holt Boulevard and Airport Drive, that will redirect flows from Vineyard Ave to an existing 21-inch City sewer in Grove Avenue. The second recommendation is the construction of approximately 48 linear feet of 15-inch sewer in the intersection of Grove Avenue and Holt Boulevard to redirect flows from the City's existing 12-inch Holt Boulevard sewer into IEUA's 36-inch sewer in Holt Boulevard.

In May of 2019, City Council awarded On-Call Design Services Agreements with Stantec and two other consultants. Stantec and the other consultants were selected using a qualifications-based selection-process. The agreements were awarded as three-year agreements with two (2) additional one (1) year periods consistent with City Council approved budgets. As projects arise, Staff will request proposals from the consultants and amend the original agreement with revised scope of works and costs.

In November of 2020, Stantec was tasked to prepare construction documents for the Vineyard Avenue Sewer Diversion Project under their On-Call Design Service Agreement. The project design is currently at 90% completion. Concurrently, there are two other on-going projects that will also impact the entire Holt Boulevard sewer alignment, including the intersection at Grove Avenue, namely the San Bernardino County Transportation Authority's (SBCTA) West Valley Bus Rapid Transit (BRT) project and the City's Grove Avenue and Holt Boulevard Intersection Widening project.

In order to mitigate scheduling conflicts with all three projects, Staff solicited a proposal from Stantec in May of 2023 to prepare two individual phased construction packages for the Vineyard Avenue Sewer Diversion Project (Exhibit A). The phasing scope also includes continued coordination with SBCTA, San Bernardino County Flood Control District and Union Pacific Rail Road (UPRR), additional geotechnical investigation for the design of trenchless construction through the intersection of Holt Boulevard and Grove Avenue, traffic impact analysis and traffic control plans, an alignment revision along Holt Boulevard to accommodate median improvements that will be constructed as part of SBCTA's BRT project, and bid support services for both phases.

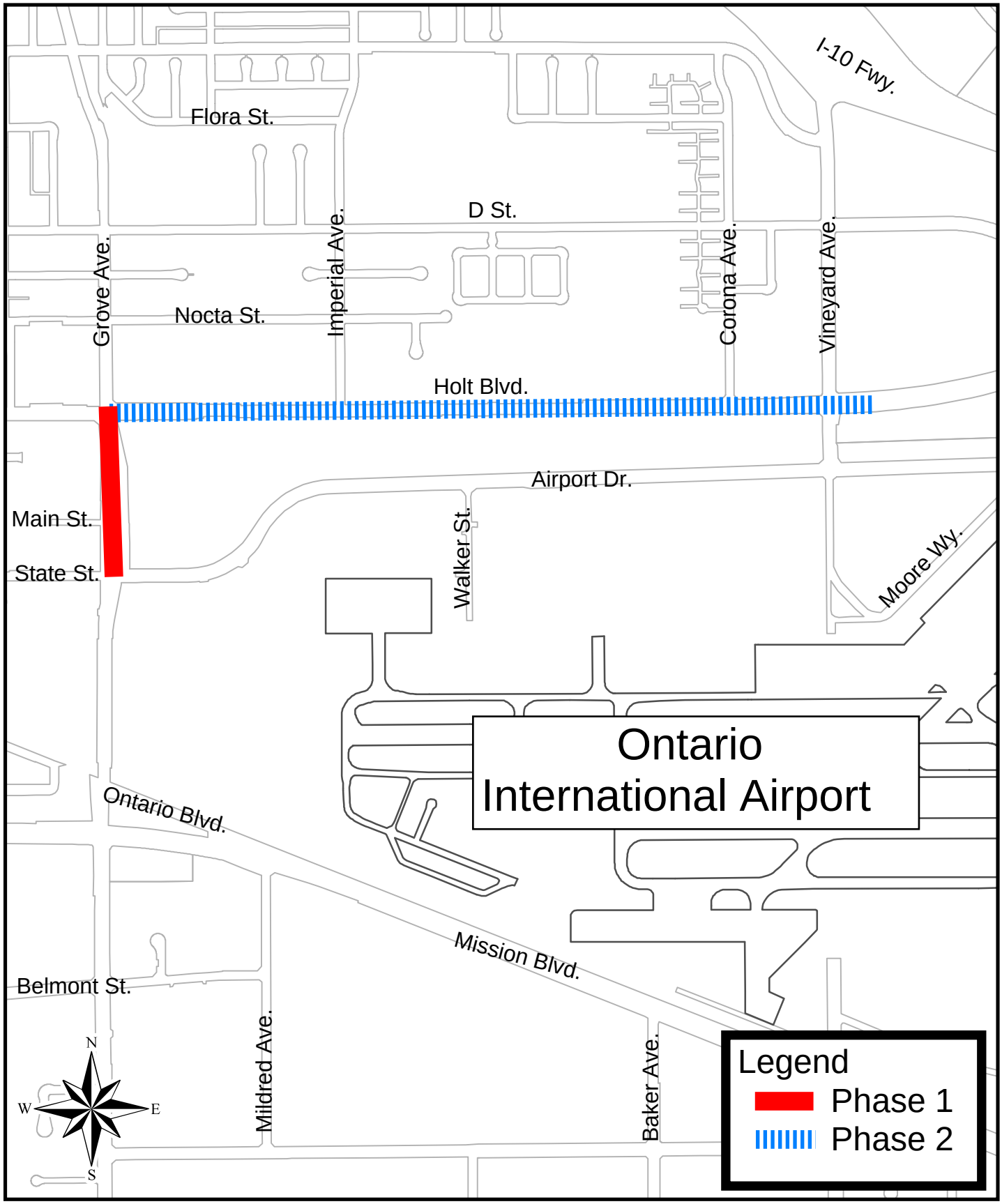
The first phase, Grove Avenue, which includes the UPRR Crossing and Intersection of Grove Avenue and Holt Boulevard, will be prioritized to allow for the construction of the sewer improvements as quickly as possible. The other two on-going projects will be coordinated such that they may be constructed after the first phase of sewer improvements are completed. The second phase of sewer improvements, Holt Boulevard, from easterly of the Grove Avenue and Holt Boulevard intersection to Vineyard Avenue, will be constructed as soon as practicable following completion of the BRT project.

Staff is recommending approval of Amendment No. 10 with Stantec for the On-Call Design Services Agreement based upon Stantec's qualifications, familiarity with the Project and performance in preparing the contract documents.

Exhibit "A"

OMUC CONTRACT NO. UT 1018
CITY OF ONTARIO
VINEYARD AVENUE
SEWER DIVERSION

ONTARIO MUNICIPAL UTILITIES COMPANY



CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Utilities Prepared By: Claudia Hernandez Staff Member Presenting: Scott Burton, Utilities General Manager Reviewed By: Dennice Raygoza, Albert G Gastelum, Michael Sigsbee Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 19

SUBJECT: **ADOPTION OF AN ORDINANCE AMENDMENT CHAPTER 8B, OF TITLE 6, SECTIONS 6-8.49 AND 6-8.50 OF THE ONTARIO MUNICIPAL CODE RELATING TO COLLECTION AND PAYMENT AND THE DISABLED PERSON'S AND SENIOR CITIZEN'S DISCOUNT**

RECOMMENDATION: That the City Council adopt an Ordinance amending Chapter 8B, of Title 6, Sections 6-8.49 and 6-8.50, of the Ontario Municipal Code relating to Collection and Payment and the Disabled Person's and Senior Citizen's Discount.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Operate in a Businesslike Manner

FISCAL IMPACT: There is no new fiscal impact anticipated from the proposed updates to Section 6–8.49 relating to the collection and payment provisions of the Ontario Municipal Code. The annual fiscal impact to fund the Disabled Person's and Senior Citizen's Discount program will be subject to future City Council approved budgets and the number of eligible participants that meet the program qualifications, currently anticipated to be approximately $200,000 per year, and will be shared between the Utility Enterprise Funds and the General Fund.

BACKGROUND & ANALYSIS: On June 6, 2023, the City Council introduced and waived further reading of an ordinance approving Municipal Code amendments to Section 6-8.49, Collection and Payment, and Section 6-8.50, Chapter 8B, Disabled Person's and Senior Citizen's Discount.

The changes to Section 6-8.49 of the Municipal Code, Collection and Payment, include updating bill due dates, when an account becomes past due, when late charges and penalties are assessed, and the processes for discontinuation of water services for non-payment for residential and commercial customers to comply with the California Water Shutoff Protection Act (SB 998). The administrative policies and procedures for the City's utility bills will be updated to reflect the changes in the Municipal Code.

In compliance with the State mandated water shutoff moratorium and as a requirement of participating in financial assistance programs such as the California Arrearage Payment Program (CAPP) and the Low-Income Household Water Assistance Program (LIHWAP) funded by the American Rescue Plan Act (ARPA) on behalf of the City's utility customers, late fees and penalties have not been charged during the COVID-19 pandemic. These financial assistance programs have provided over $2 million in direct utility bill payment assistance to the City's utility customers to date, but most of the programs are set to end later this year. Updating the City's program guidelines and resuming charging and collecting late fees would coincide with the state rescinding the California COVID-19 state of emergency and the federal end to the COVID-19 national public health emergency.

Changes to Section 6-8.50, Chapter 8B, Disabled Person's and Senior Citizen's Discount, include updating the income qualifications to match those included in SB 998, at or below 200% of federal poverty level, and changing the discount from a percentage, currently 10%, to a flat $15 per month, to be periodically updated and approved by the City Council. The administrative policies and procedures regarding the funding, income qualifications, and other qualifying requirements and operational guidelines to provide and administer these discounts will be updated as well.

The goal of providing these discounts is to assist disabled and senior low-income residents by making their utility bills more affordable so that they will be more able and more likely to stay current with their payments. This is also a financial and resource benefit to the City as it helps avoid costly "turn off" and "turn on" services and delinquent bill collection services. However, the annual household income requirements included in the Ontario Municipal Code are outdated and not in line with other similar program requirements. Updating the income qualifications to match those included in SB 998 and similar programs offered by other cities and utilities, such as Southern California Edison and Southern California Gas Company, will allow for more participation by the City's disabled and senior customers. The change to the discount from a percentage to a flat $15 per month, like the current average monthly discount for these customers, will streamline program administration and help promote water conservation goals.

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, AMENDING CHAPTER 8B (WATER SERVICES) OF TITLE 6 (SANITATION AND HEALTH) OF THE ONTARIO MUNICIPAL CODE, RELATING TO WATER ACCOUNTS, PAYMENTS, AND SENIOR/DISABLED DISCOUNTS.

WHEREAS, Chapter 8B of Title 6 of the Ontario Municipal Code contains provisions relating to water service accounts, payments, and a senior/disabled discount program available to certain customers of the Ontario Municipal Utilities Company; and

WHEREAS, in 2018, the California Legislature adopted Senate Bill 998 ("SB 998") which adopted new and expanded protections regarding discontinuation of residential water service for nonpayment and related matters; and

WHEREAS, the City previously adopted an administrative policy pursuant to SB 998 and desires to make related changes to the Municipal Code provisions concerning water service accounts and payments, including residential and non-residential delinquencies, and other water customer account procedures; and

WHEREAS, the City also desires to update the provisions of its Disabled Person's and Senior Citizen's Discount Program established under the Municipal Code.

NOW THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND ORDAINED by the City Council of the City of Ontario as follows:

SECTION 1. The Recitals set forth above are incorporated herein and made an operative part of this Ordinance.

SECTION 2. Subsections (n) through (p), inclusive, of Section 6-8.45 of Chapter 8B (Water Services) of Title 6 (Sanitation and Health) of the Ontario Municipal Code are hereby amended and reordered to read as follows:

(n) Single-family residential" means all developed parcels with one (1) single-family detached housing unit, and/or any single-family residential unit that is served water by an individual water meter.

(o) Utilities Customer Services Department" means the Utilities Customer Services Department of the Municipal Utilities Company.

(p) Utilities Customer Services Director" means the Director of the Utilities Customer Services Department of the Municipal Utilities Company, or his or her authorized representative.

SECTION 3. Section 6-8.49 of Chapter 8B (Water Services) of Title 6 (Sanitation and Health) of the Ontario Municipal Code is hereby amended to read as follows:

Sec. 6-8.49. Collection and payment.

(a) Unified billing system. The City may use a unified billing system for City-furnished services. The charges for water, refuse, storm water abatement, and wastewater services may be billed on the water bill and collected as one (1) item. Failure to pay the amount due in full for any of the services may result in the discontinuation of water services as provided below.

(b) Utility bill payment. Utility bills shall be due and payable to the Utilities Customer Services Department on the bill date to the customer of record. Any utility bill remaining unpaid eighteen (18) business days after such bill date shall be deemed past due and a late charge and penalties will be applied as set forth in §§ 1-2.06 and 1-2.07 of the Ontario Municipal Code. Should a residential account remain unpaid for a period of sixty (60) calendar days from the past due date, water service to the property may be disconnected for nonpayment after the City provides notice pursuant to the City's administrative policy on discontinuation of residential water service, described in paragraph (c) below. Should a non-residential account remain unpaid from thirty (30) calendar days from the past due date, water service to the property may be disconnected for non-payment after mailed notice to the customer of record at least ten (10) calendar days prior to termination.

Residential water customers may contest or appeal a bill in the manner described in the City's adopted policy for discontinuation of residential water service. Non-residential customers may contest or appeal a bill using the same dispute and appeal procedures described in the policy for discontinuation of residential water service.

(c) Disconnection of Residential Water Service. The City Manager may adopt and amend a written administrative policy on discontinuation of residential water service for nonpayment pursuant to Section 6-8.46, and such policy shall be available on the City's website. Such policy may include, but may not be limited to, supplementary provisions concerning billing procedures, discontinuation of service, notification procedures, restoration of service, procedures to contest or appeal a bill, extensions or other alternative payment arrangements, protections available to qualified low-income customers, procedures for becoming a customer of the City under specified circumstances, and related matters. To the extent a policy adopted pursuant to this section conflicts with any provisions of this chapter, this chapter shall control. Except as expressly provided in this section or the policy, the policy shall not apply to non-residential customers.

(d) Water turn on/off. Once terminated, service shall not be turned on again except upon payment of all amounts due on the utility account, including all late charges and penalties, and the cost of making a service call to turn the water off and/or on. The fee to cover the cost of making a service call to turn the water off and/or on shall be set forth in an ordinance adopted by the City Council. Residential customers who demonstrate a household income below 200 percent of the federal poverty line may be eligible for reduced turn-on fees pursuant to applicable law and as further described in the City's policy on discontinuation of residential water service.

(e) Customer liability. Failure to receive a bill shall not relieve the customer of liability. Any amount due shall be deemed a debt to the City, and is subject to the provisions set forth in §§ 1-2.06 and 1-2.07 of the Municipal Code.

(f) Special bill rate. Special bills, split bills, any other irregular bills, or bills covering irregular billing periods, shall be calculated by the Municipal Utilities Company; provided, however, the adjusted rate so made shall be reasonable in accordance with the rate schedule set forth in this section.

(g) Determination of minimum charges. For the purpose of determining minimum charges as set forth in this section, each separate meter connected to the water system shall be charged on individual readiness-to-serve meter fee and commodity charge.

SECTION 5. Section 6-8.50 of Chapter 8B (Water Services) of Title 6 (Sanitation and Health) of the Ontario Municipal Code is hereby amended to read as follows:

Sec. 6-8.50. Disabled person's and Senior Citizen's discount.

(a) Disabled person defined. A “disabled person” for the purposes of this section is an adult who has a mental or physical disability that, in the opinion of a licensed physician, renders him or her incapable of being gainfully employed.

(b) Eligible household. An eligible household for the purpose of this section is a separately billed dwelling unit, which (1) is occupied by a person age sixty-five (65) or older or by a disabled person, and (2) has annual gross household income at or below 200% of federal poverty level. The City may establish detailed qualifications and requirements for demonstrating annual gross household income in a written administrative policy adopted pursuant to Section 6-8.46.

(c) Applications. Applications for an eligible household discount shall be submitted in writing to the Utilities Customer Services Director. The application shall be on a form provided by the Utilities Customer Services Director, shall be completed to show the information elicited by the form and shall be signed under penalty of perjury by the applicant. When the discount is sought based upon a disabled person, the application shall be accompanied by a physician’s certificate stating that the person is a disabled person within the meaning of subsection (a) of this section. The Utilities Customer Services Director shall determine whether a household is an eligible household for the purpose of this section and his or her determination shall be final.

(d) Discount. The charges for water, refuse and wastewater service provided to an eligible household shall be discounted by an amount approved by the City Council pursuant to an ordinance or resolution. The discount shall be available only to customers with individually metered residential water service. The discount shall be in effect for a one (1) year period, which shall begin as determined by the City Council (e.g., upon approval of an individual application, upon the start of the following fiscal year, etc.). To renew the discount for an additional year, the customer must complete and return a renewal application to the City's Utilities Customer Services Department. A renewal notice

shall be mailed to the Customer with the utilities bill at or before the end of each year of eligibility. The discount offered under this subsection is subject to City Council approval through the annual budget process and the availability of funds allocated to fund the discount.

(e) Termination of eligibility. A household shall no longer be an eligible household if the Utilities Customer Services Department does not receive a renewal application, if any of the eligibility criteria set forth in subsection (b) cease to exist, or if funds to provide the discount are unavailable pursuant to subsection (d).

SECTION 6. Subsection (a) of Section 6-8.52 of Chapter 8B (Water Services) of Title 6 (Sanitation and Health) of the Ontario Municipal Code is hereby amended to read as follows:

(a) Application for service. Before water is turned on by the City for any purpose, the consumer shall apply for new service, at least one (1) business day before desired date of service, in which he or she guarantees payment of future utility bills for the service requested. The customer applying for service shall be held responsible for said utility bills until the service is discontinued on the next business day after the City is notified to discontinue service. Charges for service may be required to be paid until the requested date of discontinuance or such later date that providing for the one (1) business day advance notice requirement. When such notice is not received by the City, the customer shall be required to pay for service until one (1) business day after the City has knowledge that the customer has vacated the premises or otherwise discontinued service. No tenant applying for residential utility services shall be required to pay any charges or penalties on account of non-payment of charges by a previous tenant. The City may require that tenants seeking to establish service provide a written lease or rental agreement along with signed authorization from the landlord or property owner to ensure that the tenant is authorized to occupy the property and initiate utility services; provided, however, that the City will not require that service to tenants be furnished on the account of the landlord or property owner unless the property owner voluntarily agrees to that requirement in writing by completing a consent form provided by the City. The City shall require an applicant for utility services or restoration of services after turn-off for a delinquent bill to make an advance payment equal to twice the estimated monthly bill for water, refuse and wastewater services, provided that no such advance payment shall be less than Eighty Dollars ($80.00).

SECTION 7. If any section, sentence, clause, or phrase of this Ordinance of the application thereof to any entity, person, or circumstance is held for any reason to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect other provisions or applications of the Ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this Ordinance are severable. The People of the City of Ontario hereby declare that they would have adopted this Ordinance and each section, sentence, clause or phrase thereof, irrespective of the fact that any one or more section, subsections, sentences, clauses, or phrases by declared invalid or unconstitutional.

SECTION 8. The City Council finds that adoption of this Ordinance is exempt from the California Environmental Quality Act ("CEQA") pursuant to Section 15358 (the activity will not result in a direct or reasonably foreseeable indirect physical change in the environment) of the CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, because it has no potential for resulting in physical change to the environment, directly or indirectly. Moreover, the City Council finds that this Ordinance is also exempt under CEQA pursuant to Guidelines Section 15061(b)(3) (there exists no possibility that the activity will have a significant adverse effect on the environment).

SECTION 9. This Ordinance shall become effective thirty (30) days after its adoption by the City Council.

SECTION 10. The Mayor shall sign this Ordinance and the City Clerk shall certify as to the adoption and shall cause a summary thereof to be published at least once, in a newspaper of general circulation in the City of Ontario, California within fifteen (15) days of the adoption. The City Clerk shall post a certified copy of this Ordinance, including the vote for and against the same, in the Office of the City Clerk, in accordance with Government Code Section 36933.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO LEGAL FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Ordinance No. 3251 was duly introduced at a regular meeting of the City Council of the City of Ontario held June 6, 2023, and adopted at the regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

I hereby certify that the foregoing is the original of Ordinance No. 3251 duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023 and that Summaries of the Ordinance were published on June 13, 2023 and June 27, 2023 in the Inland Valley Daily Bulletin newspaper.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Utilities Prepared By: Joline Neal Staff Member Presenting: Scott Burton, Utilities General Manager Reviewed By: Dennice Raygoza, Albert G Gastelum, Michael Sigsbee Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 20

SUBJECT: A PROFESSIONAL SERVICES AGREEMENT WITH BABCOCK LABORATORIES, INC. FOR ANALYTICAL LABORATORY SERVICES

RECOMMENDATION: That the City Council approve and authorize the City Manager, or designee to execute a Professional Services Agreement (on file in the Records Management Department) with Babcock Laboratories, Inc., of Riverside, California, for Analytical Laboratory Services in the amount of $200,000 for Fiscal Year 2023-2024, with the option to extend the Agreement for up to three successive one-year periods; and authorize the annual cost of $200,000 per year consistent with City Council approved budgets, for a total not-to-exceed contract amount of $800,000.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Operate in a Businesslike Manner
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)

FISCAL IMPACT:

The Fiscal Year 2023-24 Adopted Budget includes appropriations from the Water Operating Fund for Analytical Laboratory Services.

The recommended Agreement amount is for a total-not-to-exceed amount of $200,000. The initial term of the Agreement will be from July 1, 2023, to June 30, 2024. At the City's discretion, up to three additional one-year extensions may be executed. Prices for the first year are fixed, after the first year, any proposed increase in fees will be negotiable annually but will not exceed 5% per year. Should the City exercise all three successive one-year extensions, the projected total amount to be expensed for the four years would amount to a not-to-exceed of $800,000. Actual expenditures will be based on listed prices and actual need for services, consistent with the City Council approved budgets for the Water Operating Fund. There is no impact to the General Fund.

BACKGROUND & ANALYSIS: The City must ensure that all regulatory monitoring and reporting is performed correctly, timely, and in a manner that meets all Federal and State requirements. The U.S. Environmental Protection Agency and the State Water Resources Control Board (Division of Drinking Water) require the City to monitor the quality of water at each source and at selected locations throughout the potable drinking water system in accordance with the Federal Safe Drinking Water Act and California Code of Regulations, Title 22, Division 4, Chapter 15.

On April 3, 2023, three proposals were received for Bid No. 1617 for Analytical Laboratory Services for the City's Drinking Water and Wastewater Monitoring.

Company	Location
Babcock Laboratories, Inc.	Riverside, CA
Enthalpy Analytical, LLC	Orange, CA
Eurofins Eaton Analytical, LLC	Pomona, CA

All proposals received were reviewed and evaluated for factors advantageous to the City, including fee proposal, environmental laboratory accreditation program, proficiency testing, qualifications and experience, availability and location, ability to perform required analyses, and quality/responsiveness of proposal. Of the three proposals, Babcock Laboratories, Inc. demonstrated the best qualifications, experience, and cost analysis for analytical services needed by the City.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Economic Development Prepared By: Peter Pallesen Staff Member Presenting: Jennifer McLain Hiramoto, Economic Development Director Reviewed By: Charity Hernandez Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 21

SUBJECT: AN AMENDMENT TO A PROFESSIONAL SERVICES AGREEMENT WITH RDC-S111, INC. FOR LANDSCAPE, ARCHITECTURE, AND URBAN DESIGN CONSULTING

RECOMMENDATION: That the City Council authorize the City Manager or his designee to execute Amendment No. 1 to the Professional Services Agreement (on file in the Records Management Department) with RDC-S111, Inc. of Long Beach, California, to provide additional services for the City's Regional Sports Complex located at Vineyard and Riverside Drive in the amount of $49,150 for a new not-to-exceed total of $290,912.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Invest in the Growth and Evolution of the City's Economy
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)
Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in Ontario Ranch

FISCAL IMPACT: The recommended Amendment No. 1 increases the authorized contract amount by $49,150 for a total contract amount not-to-exceed $290,912. Appropriations are included in the Capital Projects Fund in the FY 2023-24 Adopted Budget.

BACKGROUND & ANALYSIS: On October 18, 2022, City Council approved the Professional Services Agreement for Landscape, Architecture, and Urban Design services between the City and RDC-S111, Inc. The original agreement expires on July 30, 2023. This Amendment No. 1 to the agreement will extend the term of the agreement to December 31, 2023 and expand the scope of of services that are to be rendered by RDC-S111, Inc. to begin the design stage for the City's Regional Sports Complex, a public facility on approximately 180 acres of agricultural land located east of Vineyard Avenue between East Riverside Drive and Chino Avenue, the City is engaging RDC-S111, dba Studio One Eleven, to prepare conceptual planning and visioning studies that can be used to set the direction for a portion of the sports park. The scope of work includes high-level design services which will deliver base drawings and preliminary sketch concepts, an illustrative site plan, a conceptual aerial view, and three rendered perspective views of the design intent.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Economic Development Prepared By: Karla Tavera Staff Member Presenting: Jennifer McLain Hiramoto, Economic Development Director Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 22

SUBJECT: A RESOLUTION APPROVING THE LEVY OF THE ASSESSMENTS FOR FISCAL YEAR 2023-24 FOR THE DOWNTOWN ONTARIO COMMUNITY BENEFIT DISTRICT

RECOMMENDATION: That the City Council adopt a Resolution for the Downtown Ontario Improvement Association (DOIA) authorizing the levying of the special assessments for Fiscal Year 2023-24.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Invest in the Growth and Evolution of the City's Economy
Operate in a Businesslike Manner
Focus Resources in Ontario's Commercial and Residential Neighborhoods

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations of $145,000 from the General Fund for the parcels owned by the City and approximately $30,000 from the Ontario Housing Authority (OHA) Fund for the parcels owned by the OHA. Should there be any adjustments and/or corrections to the assessment amounts, the appropriations will be included in the next quarterly budget update to the City Council.

BACKGROUND & ANALYSIS: On August 20, 2019, the City Council approved the formation of the Downtown Ontario Community Benefit District (CBD) for an initial five-year term. The objective of the CBD is to provide enhanced services and improvements benefiting downtown businesses and property owners by increasing economic activity and enhancing the value of commercial, retail, and residential property.

As a key component of the overall downtown revitalization strategy, the implementation of the CBD has resulted in a cleaner downtown, new businesses, and is supporting the transformation of the downtown into an 18-hour vibrant hub of retail and residential activity.

California Streets and Highway Code, Section 36650, the law governing CBD requirements and processes, requires that the City Council authorize the levying of the assessments and approve an Annual Report. On February 21, 2023, the City Council approved the Fiscal Year 2022-23 Annual Report submitted by the Downtown Ontario Improvement Association (DOIA). This report is

consistent with the components outlined in the District Management Plan.

The following items are highlights of the Annual Report: Civil Sidewalk Improvements; Marketing/District Identity/Placemaking; and Administration. To continue levying the special assessment with the CBD program for the next fiscal year, the City Council must adopt a Resolution to approve this levying of assessments for Fiscal Year 2023-24. The CBD Board of Directors voted on May 25, 2023, in favor of a 2% increase on the property assessments. The details of this increase can be found in Exhibit A, which provides a breakdown of the assessment roll based on Assessment Parcel Numbers. The total assessments for all 204 parcels within the CBD for Fiscal Year 2023-24 equal $480,747. The City owns 70 parcels, representing approximately $155,000 in property assessments.

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING THE LEVY OF THE ASSESSMENTS FOR FISCAL YEAR 2023-24 FOR THE DOWNTOWN ONTARIO COMMUNITY BENEFIT DISTRICT.

WHEREAS, on August 20, 2019, the City Council approved a Management District Plan entitled the “Downtown Ontario CBD Management District Plan” (the “Management District Plan”).

WHEREAS, the City Council conducted the public hearing on August 20, 2019, at which ballots cast in favor of and in opposition to proposed assessment and formation of the Downtown Ontario Community Benefit ("District" or “CBD”) for a five-year term were tabulated; and

WHEREAS, of the ballots cast, property owners representing a majority of the total assessments voted in favor of the proposed assessment and formation of the CBD; and

WHEREAS, on August 20, 2019, the City Council adopted Resolution No. 2019-108 to establish the District and approve the levy of assessments commencing with FY 2019-2020, and ending with FY 2023-2024 with the provision for maximum five percent (5%) annual increases for the term of the CBD; and

WHEREAS, Streets and Highways Code Section 36650 requires the improvement association of a property-based community benefit district submit an Annual Report to the legislative body for approval beginning its second year of operation and each year thereafter; and

WHEREAS, on February 21, 2023 the City Council approved the FY 2022-23 Annual Report submitted by the Downtown Ontario Improvement Association (“DOIA).

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Ontario, California, as follows:

SECTION 1. That the CBD assessments to be levied for FY 2023-24, attached hereto as Exhibit 1, are hereby approved for submittal to the San Bernardino County Assessor for the period beginning July 1, 2023 and ending June 30, 2024.

SECTION 2. That Willdan Financial Services is hereby authorized to file all required documents and notice of assessments, in accordance with Section 3114 of the Streets and Highways Code, with the San Bernardino County Recorder.

SECTION 3. That the City Treasurer shall deposit all CBD assessments remitted into the fund established for the District for distribution to the District by the Director of Finance in accordance with the approved Management District plan.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

Downtown Ontario Community Benefit District
Fiscal Year 2023/24
Assessment Roll

Assessor's Parcel Number (APN)	Assessor's Parcel Number Formatted (APN)	Owner Name	Land Use	Linear Frontage (Ft)	Lot Size (Sq Ft)	Building Area (Sq Ft)	Linear Frontage Assess Rate ($/Ft)	Lot Size Assess Rate ($/Sq Ft)	Building Assess Rate ($/Sq Ft)	FY 2023/24 Assessment ($)
1048354010000	1048-354-01-0000	123 W E STREET LLC	MISCELLANEOUS	201	10,058	-	6.42	0.06420	0.1713	1,936.14
1048354020000	1048-354-02-0000	123 W E STREET LLC	OFFICE	50	8,850	18,084	6.42	0.06420	0.1713	3,986.96
1048354030000	1048-354-03-0000	123 W E STREET LLC	RETAIL SALES	187	7,812	9,068	6.42	0.06420	0.1713	3,255.42
1048354040000	1048-354-04-0000	WASHINGTON, CARRYE	RETAIL SALES	31	3,875	3,875	6.42	0.06420	0.1713	1,111.58
1048354050000	1048-354-05-0000	BORGES, BENITO I & ESTELA C JNT LIV	OFFICE	16	1,100	900	6.42	0.06420	0.1713	327.51
1048354060000	1048-354-06-0000	NOFFSINGER FAMILY TRUST 11/2/95	RETAIL SALES	16	1,890	1,200	6.42	0.06420	0.1713	429.62
1048354070000	1048-354-07-0000	WORK BOOT WAREHOUSE	RETAIL SALES	42	5,418	7,172	6.42	0.06420	0.1713	1,846.04
1048354080000	1048-354-08-0000	YAMAMOTO, HARVEY H TR & YAMAMOTO, CINDY M TR	RETAIL SALES	20	2,520	2,400	6.42	0.06420	0.1713	701.3
1048354090000	1048-354-09-0000	YAMAMOTO, HARVEY H TR & YAMAMOTO, CINDY M TR	RETAIL SALES	31	3,875	3,875	6.42	0.06420	0.1713	1,111.58
1048354100000	1048-354-10-0000	MARCOS, FARID	RETAIL SALES	31	3,906	3,100	6.42	0.06420	0.1713	980.82
1048354110000	1048-354-11-0000	CAMPUZANO, GLORIA	RETAIL SALES	250	15,750	9,325	6.42	0.06420	0.1713	4,213.52
1048354120000	1048-354-12-0000	CITY OF ONTARIO	VACANT	321	25,488	-	6.42	0.06420	0.1713	3,697.15
1048354130000	1048-354-13-0000	CITY OF ONTARIO	VACANT	70	6,580	-	6.42	0.06420	0.1713	871.84
1048355020000	1048-355-02-0000	CITY OF ONTARIO	VACANT	48	8,469	-	6.42	0.06420	0.1713	851.87
1048355030000	1048-355-03-0000	EUCLID PROPERTIES 531 LLC	OFFICE	173	5,922	4,900	6.42	0.06420	0.1713	2,330.22
1048355040000	1048-355-04-0000	EUCLID PROPERTIES 531 LLC	RETAIL SALES	46	5,764	4,042	6.42	0.06420	0.1713	1,357.76
1048355050000	1048-355-05-0000	LE, DA HONG & LE, NGOC DUNG	RETAIL SALES	31	3,927	1,659	6.42	0.06420	0.1713	735.32
1048355060000	1048-355-06-0000	LE, DA HONG & LE, NGOC DUNG	RETAIL SALES	41	3,876	2,449	6.42	0.06420	0.1713	931.57
1048355070000	1048-355-07-0000	CHEN, JEFFREY J H LIVING TR 3-9-06 & CHEN REVOCABLE TRUST 8-30-96	OFFICE	44	7,560	6,193	6.42	0.06420	0.1713	1,828.69
1048355080000	1048-355-08-0000	CHEN, JEFFREY J H LIVING TR 3-9-06 & CHEN REVOCABLE TRUST 8-30-96	OFFICE	44	5,555	4,579	6.42	0.06420	0.1713	1,423.49
1048355110000	1048-355-11-0000	CITY OF ONTARIO	VACANT	58	10,217	-	6.42	0.06420	0.1713	1,028.29
1048355130000	1048-355-13-0000	SELLERS, JUERGEN L TR & SELLERS, KATHERINE A TR	OFFICE	57	5,358	1,555	6.42	0.06420	0.1713	976.3
1048355150000	1048-355-15-0000	AEGIS REAL ESTATE MANAGEMENT CORP	OFFICE	333	16,992	7,204	6.42	0.06420	0.1713	4,462.79
1048355160000	1048-355-16-0000	TRUMAN JOHNSON INC	RETAIL SALES	250	15,646	2,349	6.42	0.06420	0.1713	3,011.86
1048356010000	1048-356-01-0000	WHITEHURST, DANIEL K & WHITEHURST, KATHLEEN M	CEMETERY/MORTUARY	259	19,492	7,083	6.42	0.06420	0.1713	4,127.48
1048356020000	1048-356-02-0000	635 NORTH EUCLID, LLC	RETAIL SALES	208	10,396	8,640	6.42	0.06420	0.1713	3,482.82
1048356030000	1048-356-03-0000	ALVA LUX GROUP LLC	OFFICE	48	5,850	3,449	6.42	0.06420	0.1713	1,274.54
1048356040000	1048-356-04-0000	MAGIC NUMBER 3 INVESTMENTS LLC	RESID. APARTMENTS	45	5,670	4,091	6.42	0.06420	0.1713	1,353.7
1048356050000	1048-356-05-0000	EAST FOREST INVESTMENT LLC	OFFICE	62	7,812	12,400	6.42	0.06420	0.1713	3,023.69
1048356060000	1048-356-06-0000	CARABAJAL, MARIA ZAIDA	OFFICE	31	3,906	1,752	6.42	0.06420	0.1713	749.9
1048356070000	1048-356-07-0000	LE, DA HONG & LE, NGOC-DUNG H	VACANT	31	3,906	-	6.42	0.06420	0.1713	449.79
1048356080000	1048-356-08-0000	CITY OF ONTARIO	OFFICE	31	2,480	2,480	6.42	0.06420	0.1713	783.06
1048356090000	1048-356-09-0000	ROSE-IN -BLOOM INC	OFFICE	111	2,480	2,170	6.42	0.06420	0.1713	1,243.56
1048356100000	1048-356-10-0000	ROSENBLUM, JERRY A & CHERYL REVOCABL	RESID. SINGLE FAMILY	46	2,852	-	6.42	0.06420	0.1713	478.42
1048356110000	1048-356-11-0000	CITY OF ONTARIO	VACANT	55	9,799	-	6.42	0.06420	0.1713	982.2
1048356120000	1048-356-12-0000	WHITEHURST, DANIEL K & WHITEHURST, KATHLEEN M	PARKING LOT	273	16,992	-	6.42	0.06420	0.1713	2,843.55
1048356130000	1048-356-13-0000	WHITEHURST, DANIEL K & WHITEHURST, KATHLEEN M	RETAIL SALES	62	5,564	2,068	6.42	0.06420	0.1713	1,109.5
1048361010000	1048-361-01-0000	HUNTS POINT FALLS LLC	RESTAURANT	250	15,710	5,454	6.42	0.06420	0.1713	3,547.85
1048361020000	1048-361-02-0000	HUNTS POINT FALLS LLC	PARKING LOT	48	7,681	-	6.42	0.06420	0.1713	801.28
1048361030000	1048-361-03-0000	HUNTS POINT FALLS LLC	PARKING LOT	50	6,930	-	6.42	0.06420	0.1713	765.91
1048361040000	1048-361-04-0000	SBM MORNING STAR LLC	RESID. SINGLE FAMILY	191	7,140	2,017	6.42	0.06420	0.1713	2,030.12
1048361050000	1048-361-05-0000	HODGSON, MICHAEL L & HODGSON, WINDY	RESID. SINGLE FAMILY	121	3,108	1,182	6.42	0.06420	0.1713	1,178.83
1048361060000	1048-361-06-0000	PIGLET & PIGGY ONTARIO FAMILY LP	PARKING LOT	58	8,352	-	6.42	0.06420	0.1713	908.56
1048361070000	1048-361-07-0000	PIGLET & PIGGY ONTARIO FAMILY LP	OFFICE	62	8,928	7,130	6.42	0.06420	0.1713	2,192.59
1048361080000	1048-361-08-0000	LIU, JAMES T	RETAIL SALES	202	8,352	5,292	6.42	0.06420	0.1713	2,739.56
1048361090000	1048-361-09-0000	YAN, LIPING & QIU, LIHUA	OFFICE	188	7,855	6,492	6.42	0.06420	0.1713	2,823.33
1048361100000	1048-361-10-0000	SERRANO, RIGOBERTO & SERRANO, PRIMITIVA	RETAIL SALES	62	7,812	5,263	6.42	0.06420	0.1713	1,801.12
1048361110000	1048-361-11-0000	SERRANO, RIGOBERTO & SERRANO, PRIMITIVA	PARKING LOT	62	7,812	-	6.42	0.06420	0.1713	899.57
1048361120000	1048-361-12-0000	HUNTS POINT FALLS LLC	PARKING LOT	62	7,855	-	6.42	0.06420	0.1713	902.33
1048362020000	1048-362-02-0000	BETHEL CONGREGATIONAL CHURCH	VACANT	46	8,142	-	6.42	0.06420	0.1713	818.04
1048362030000	1048-362-03-0000	WALLA WALL GROUP	OFFICE	273	16,800	9,342	6.42	0.06420	0.1713	4,431.5
1048362040000	1048-362-04-0000	ROSALES, BARBARA & ROSALES, FERNANDO	RESID. SINGLE FAMILY	86	7,680	2,209	6.42	0.06420	0.1713	1,423.58
1048362050000	1048-362-05-0000	ALELUK LLC	PARKING LOT	187	8,736	-	6.42	0.06420	0.1713	1,761.39
1048362060000	1048-362-06-0000	SCHNEIDER FAMILY TRUST 02/16/90 & JANSAK FAMILY TRUST 10/18/90	VETERINARIAN/HOSP	49	8,640	1,940	6.42	0.06420	0.1713	1,201.59
1048362070000	1048-362-07-0000	SHOKER BROTHERS LLC & TRIPLE S OIL LLC	MINI MART	250	15,624	1,148	6.42	0.06420	0.1713	2,804.71
1048362080000	1048-362-08-0000	ALELUK LLC	OFFICE	93	11,718	11,096	6.42	0.06420	0.1713	3,250.1
1048362090000	1048-362-09-0000	BETHEL CONGREGATIONAL CHURCH	CHURCH	220	11,782	-	6.42	0.06420	0.1713	2,168.8
1048362100000	1048-362-10-0000	PENTECOSTAL CHURCH OF GOD I M PAC RE	CHURCH	62	7,855	-	6.42	0.06420	0.1713	902.33
1048363010000	1048-363-01-0000	AFSARI, FAISAL & AFSARI, NUSRAT	AUTOMOTIVE USES	160	5,136	100	6.42	0.06420	0.1713	1,374.06
1048363020000	1048-363-02-0000	CITY OF ONTARIO	PARKING LOT	411	38,086	-	6.42	0.06420	0.1713	5,083.74

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1048363030000	1048-363-03-0000	CITY OF ONTARIO	PARKING LOT	224	11,512	-	6.42	0.06420	0.1713	2,177.15
1048363040000	1048-363-04-0000	CITY OF ONTARIO	BANK	205	10,080	10,500	6.42	0.06420	0.1713	3,761.89
1048363050000	1048-363-05-0000	CITY OF ONTARIO	RETAIL SALES	260	31,901	31,973	6.42	0.06420	0.1713	9,194.22
1048551100000	1048-551-10-0000	CITY OF ONTARIO	VACANT	430	46,602	-	6.42	0.06420	0.1713	5,752.45
1048551110000	1048-551-11-0000	ONTARIO HOUSING AUTHORITY	VACANT	349	29,886	-	6.42	0.06420	0.1713	4,159.26
1048551120000	1048-551-12-0000	ONTARIO HOUSING AUTHORITY	VACANT	287	21,240	-	6.42	0.06420	0.1713	3,206.15
1048551130000	1048-551-13-0000	ONTARIO HOUSING AUTHORITY	VACANT	206	6,430	-	6.42	0.06420	0.1713	1,735.33
1048552130000	1048-552-13-0000	CITY OF ONTARIO	PARKING LOT	546	34,579	-	6.42	0.06420	0.1713	5,725.29
1048552140000	1048-552-14-0000	CITY OF ONTARIO	PARKING LOT	97	19,096	-	6.42	0.06420	0.1713	1,848.7
1048552150000	1048-552-15-0000	ONTARIO HOUSING AUTHORITY	PARKING LOT	10	2,439	-	6.42	0.06420	0.1713	220.78
1048552170000	1048-552-17-0000	ONTARIO HOUSING AUTHORITY	BANK	218	10,993	6,800	6.42	0.06420	0.1713	3,270.15
1048552180000	1048-552-18-0000	CITY OF ONTARIO	VACANT	14	789	-	6.42	0.06420	0.1713	140.53
1048552220000	1048-552-22-0000	200 NORTH EUCLID LLC	Retail Sales	213	8,509	8,828	6.42	0.06420	0.1713	3,425.97
1048552230000	1048-552-23-0000	200 NORTH EUCLID LLC	Vacant	-	1,786	-	6.42	0.06420	0.1713	114.66
1048552240000	1048-552-24-0000	ONTARIO HOUSING AUTHORITY	Vacant	195	24,332	-	6.42	0.06420	0.1713	2,814.01
1048553010000	1048-553-01-0000	CITY OF ONTARIO HOUSING AUTHORITY	VACANT	185	7,434	-	6.42	0.06420	0.1713	1,664.96
1048553020000	1048-553-02-0000	CITY OF ONTARIO	RETAIL SALES	48	8,496	4,450	6.42	0.06420	0.1713	1,615.89
1048553030000	1048-553-03-0000	CITY OF ONTARIO	VACANT	48	8,496	-	6.42	0.06420	0.1713	853.6
1048553040000	1048-553-04-0000	CITY OF ONTARIO	PARKING LOT	225	8,496	-	6.42	0.06420	0.1713	1,989.94
1048553050000	1048-553-05-0000	ONTARIO HOUSING AUTHORITY	RETAIL SALES	40	5,760	-	6.42	0.06420	0.1713	626.59
1048553060000	1048-553-06-0000	ONTARIO HOUSING AUTHORITY	SHOPPING CENTERS	157	3,810	-	6.42	0.06420	0.1713	1,252.54
1048553070000	1048-553-07-0000	ONTARIO HOUSING AUTHORITY	RETAIL SALES	33	4,191	-	6.42	0.06420	0.1713	480.92
1048553080000	1048-553-08-0000	ONTARIO HOUSING AUTHORITY	SHOPPING CENTERS	53	6,731	-	6.42	0.06420	0.1713	772.39
1048553090000	1048-553-09-0000	ONTARIO HOUSING AUTHORITY	PARKING LOT	28	3,556	-	6.42	0.06420	0.1713	408.06
1048553100000	1048-553-10-0000	ONTARIO HOUSING AUTHORITY	PARKING LOT	146	2,520	-	6.42	0.06420	0.1713	1,099.1
1048553110000	1048-553-11-0000	ONTARIO HOUSING AUTHORITY	PARKING LOT	31	3,906	-	6.42	0.06420	0.1713	449.79
1048553120000	1048-553-12-0000	ONTARIO HOUSING AUTHORITY	RETAIL SALES	31	3,906	-	6.42	0.06420	0.1713	449.79
1048553130000	1048-553-13-0000	ONTARIO HOUSING AUTHORITY	RETAIL SALES	62	7,812	10,000	6.42	0.06420	0.1713	2,612.57
1048553140000	1048-553-14-0000	ONTARIO HOUSING AUTHORITY	RETAIL SALES	32	4,268	-	6.42	0.06420	0.1713	479.45
1048553150000	1048-553-15-0000	ONTARIO HOUSING AUTHORITY	RETAIL SALES	31	3,780	3,904	6.42	0.06420	0.1713	1,110.45
1048553160000	1048-553-16-0000	CITY OF ONTARIO	RETAIL SALES	31	8,854	3,250	6.42	0.06420	0.1713	1,324.17
1048553170000	1048-553-17-0000	CITY OF ONTARIO	RETAIL SALES	65	8,190	17,400	6.42	0.06420	0.1713	3,923.72
1048561070000	1048-561-07-0000	GROUP 1 EL MONTE PROPERTIES LTD	RESID. APARTMENTS	225	8,496	3,417	6.42	0.06420	0.1713	2,575.28
1048561080000	1048-561-08-0000	JOSHUA 1 PROPERTY MANAGEMENT LLC	MEDICAL/DENTAL/LABS	96	17,169	3,845	6.42	0.06420	0.1713	2,377.22
1048561090000	1048-561-09-0000	HU, ZHENGQIANG & DU, RUILAN	RESIDENTIAL	48	8,554	1,392	6.42	0.06420	0.1713	1,095.78
1048561100000	1048-561-10-0000	CABANAS, MIGUEL ANGEL & CABANAS, ANAHI	VACANT	48	8,496	-	6.42	0.06420	0.1713	853.6
1048561110000	1048-561-11-0000	CLS-INVESTMENTS INC & COMMUNITY LENDING SERVICES INC	OFFICE	123	8,400	1,190	6.42	0.06420	0.1713	1,532.79
1048561120000	1048-561-12-0000	BELLO, LAURA REVOCABLE TRUST 10/5/07	COMMERCIAL	102	4,896	1,728	6.42	0.06420	0.1713	1,265.17
1048561130000	1048-561-13-0000	FRONTIER CALIFORNIA INC	VACANT	642	54,516	109,032	6.42	0.06420	0.1713	26,298.75
1048562010000	1048-562-01-0000	UNITED CHRISTIAN CHURCH/HACIENDA HTS	CHURCH	417	42,834	-	6.42	0.06420	0.1713	5,427.08
1048562020000	1048-562-02-0000	RMEICH LLC	OFFICE	225	8,496	4,178	6.42	0.06420	0.1713	2,705.63
1048562030000	1048-562-03-0000	RUBEL FAMILY TRUST 1-7-91 - EST OF	SHOPPING CENTERS	369	34,161	19,923	6.42	0.06420	0.1713	7,974.93
1048562060000	1048-562-06-0000	HALE, KENNETH D	OFFICE	55	2,658	1,980	6.42	0.06420	0.1713	862.92
1048562070000	1048-562-07-0000	PAN DE VIDA SPANISH MINISTRY OF ONTA	COMMERCIAL	170	13,032	-	6.42	0.06420	0.1713	1,928.05
1048563010000	1048-563-01-0000	TORRES, MARIA & HORTA, OSVALDO ANDRES	OFFICE	175	6,096	1,194	6.42	0.06420	0.1713	1,719.4
1048563020000	1048-563-02-0000	JJDR REAL ESTATE CORP	VACANT	48	8,496	-	6.42	0.06420	0.1713	853.6
1048563030000	1048-563-03-0000	JJDR REAL ESTATE CORP	RETAIL SALES	96	16,992	6,767	6.42	0.06420	0.1713	2,866.39
1048563060000	1048-563-06-0000	CITY OF ONTARIO	VACANT	226	9,365	-	6.42	0.06420	0.1713	2,052.15
1048563070000	1048-563-07-0000	ROSENBLUM, JERRY A & CHERYL REV TR 1	OFFICE	48	7,536	5,154	6.42	0.06420	0.1713	1,674.85
1048563080000	1048-563-08-0000	ROSENBLUM, JERRY A & CHERYL REV TR 1	SHOPPING CENTERS	96	16,992	16,692	6.42	0.06420	0.1713	4,566.55
1048563090000	1048-563-09-0000	ROSENBLUM, JERRY A & CHERYL REV TR	AUTOMOTIVE USES	46	8,496	-	6.42	0.06420	0.1713	840.76
1048563100000	1048-563-10-0000	ROSENBLUM, JERRY A & CHERYL REV TR	AUTOMOTIVE USES	225	8,496	-	6.42	0.06420	0.1713	1,989.94
1048563110000	1048-563-11-0000	BECERRA, GLORIA A & AYALA, KRYSTAL J	RESIDENTIAL	47	2,400	790	6.42	0.06420	0.1713	591.15
1048563120000	1048-563-12-0000	JJDR REAL ESTATE CORPORATION	RETAIL SALES	48	7,953	3,360	6.42	0.06420	0.1713	1,394.31
1048563130000	1048-563-13-0000	JJDR REAL ESTATE CORPORATION	RETAIL SALES	225	8,754	13,104	6.42	0.06420	0.1713	4,251.22
1048564010000	1048-564-01-0000	LCS ENTERPRISES LLC	RETAIL SALES	176	7,680	6,888	6.42	0.06420	0.1713	2,802.89
1048564020000	1048-564-02-0000	JIANPING LLC	RETAIL SALES	48	8,496	16,724	6.42	0.06420	0.1713	3,718.42
1048564030000	1048-564-03-0000	Y&A INVESTMENT LLC & OPPENHEIM, SUZETTE SEPARATE PROP TR	RETAIL SALES	196	8,820	15,650	6.42	0.06420	0.1713	4,505.41
1048564040000	1048-564-04-0000	Y & A INVESTMENT LLC	RETAIL SALES	55	6,875	4,125	6.42	0.06420	0.1713	1,501.09
1048564050000	1048-564-05-0000	Y & A INVESTMENTS LLC	RETAIL SALES	36	3,906	2,733	6.42	0.06420	0.1713	950.05

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1048564060000	1048-564-06-0000	CITY OF ONTARIO	VACANT	61	7,812	-	6.42	0.06420	0.1713	893.15
1048564070000	1048-564-07-0000	ROUMBOS, JOHN P & GEORGIA TRUST & ROUMBOS, JOHN P AND GEORGIA TRS	SHOPPING CENTERS	93	10,278	10,572	6.42	0.06420	0.1713	3,067.89
1048564080000	1048-564-08-0000	S AMERICAN LLC	RETAIL SALES	21	1,835	3,472	6.42	0.06420	0.1713	847.38
1048564090000	1048-564-09-0000	DAMON, DAN & JACKIE FAMILY TRUST 8-1	RETAIL SALES	93	2,132	3,960	6.42	0.06420	0.1713	1,412.28
1048564100000	1048-564-10-0000	CHANG, CHIEN-KUO & YU-YUN CHEN SUR S & MA, WENDY CHANG FAMILY LIVING TRUST	RETAIL SALES	74	4,330	8,660	6.42	0.06420	0.1713	2,236.52
1048564110000	1048-564-11-0000	JJDR REAL ESTATE CORPORATION	RETAIL SALES	48	8,622	3,615	6.42	0.06420	0.1713	1,480.94
1048564120000	1048-564-12-0000	CARPENTER, RICHARD R TRUST	RETAIL SALES	214	8,914	8,653	6.42	0.06420	0.1713	3,428.42
1048564130000	1048-564-13-0000	CITY OF ONTARIO	VACANT	58	6,299	-	6.42	0.06420	0.1713	776.76
1048564140000	1048-564-14-0000	CITY OF ONTARIO	VACANT	97	9,312	-	6.42	0.06420	0.1713	1,220.57
1048565010000	1048-565-01-0000	CITY OF ONTARIO	PARKING LOT	291	23,388	-	6.42	0.06420	0.1713	3,369.73
1048565020000	1048-565-02-0000	CITY OF ONTARIO	MEDICAL/DENTAL/LABS	30	2,100	2,100	6.42	0.06420	0.1713	687.15
1048565030000	1048-565-03-0000	CITY OF ONTARIO	RETAIL SALES	219	11,782	33,804	6.42	0.06420	0.1713	7,953.01
1048565040000	1048-565-04-0000	HERRERA, RAYMUNDO III & CENTENO, RICHARD	RETAIL SALES	24	1,536	2,400	6.42	0.06420	0.1713	663.81
1048565050000	1048-565-05-0000	PHOEBE INTERNATIONAL LLC	RETAIL SALES	37	5,820	11,976	6.42	0.06420	0.1713	2,662.67
1048565060000	1048-565-06-0000	SALDANAS, ISIDRO REVOCABLE TR 8/29/1	RETAIL SALES	62	7,812	7,812	6.42	0.06420	0.1713	2,237.77
1048565070000	1048-565-07-0000	GINGOLD FAMILY TRUST 1-28-09	RETAIL SALES	31	4,032	3,696	6.42	0.06420	0.1713	1,091.0
1048565080000	1048-565-08-0000	GARDNER DENTAL PROPERTY LLC	MEDICAL/DENTAL/LABS	31	3,780	3,480	6.42	0.06420	0.1713	1,037.82
1048565090000	1048-565-09-0000	MOBAY INVESTMENT LLC	RETAIL SALES	31	4,000	5,560	6.42	0.06420	0.1713	1,408.25
1048565100000	1048-565-10-0000	CISNEROS, JOSE JESUS & CISNEROS, ALBERTO	RETAIL SALES	188	7,812	7,938	6.42	0.06420	0.1713	3,068.27
1048565110000	1048-565-11-0000	INDEPENDENT ORDER OF ODD FELLOWS	RETAIL SALES	95	9,216	36,864	6.42	0.06420	0.1713	7,516.37
1048565120000	1048-565-12-0000	KIM, BRUCE	MEDICAL/DENTAL/LABS	118	3,360	3,296	6.42	0.06420	0.1713	1,537.88
1048565130000	1048-565-13-0000	CITY OF ONTARIO	VACANT	107	5,136	-	6.42	0.06420	0.1713	1,016.67
1048565140000	1048-565-14-0000	CITY OF ONTARIO	VACANT	-	8,448	-	6.42	0.06420	0.1713	542.36
1048566010000	1048-566-01-0000	CITY OF ONTARIO	VACANT	148	4,800	-	6.42	0.06420	0.1713	1,258.32
1048566020000	1048-566-02-0000	CITY OF ONTARIO	RETAIL SALES	48	8,496	6,111	6.42	0.06420	0.1713	1,900.42
1048566030000	1048-566-03-0000	CITY OF ONTARIO	VACANT	48	8,496	-	6.42	0.06420	0.1713	853.6
1048566040000	1048-566-04-0000	POMONA FIRST FED SAVINGS/LOAN ASSOC	BANK	219	11,844	10,840	6.42	0.06420	0.1713	4,023.26
1048566050000	1048-566-05-0000	BETHLEHEM AJAM ONE INC	RETAIL SALES	136	17,262	35,524	6.42	0.06420	0.1713	8,066.6
1048566060000	1048-566-06-0000	TANG, LAN T	RETAIL SALES	52	6,552	5,800	6.42	0.06420	0.1713	1,748.02
1048566070000	1048-566-07-0000	OVERLAND DIRECT INC	RETAIL SALES	219	11,718	12,003	6.42	0.06420	0.1713	4,214.39
1048566080000	1048-566-08-0000	CITY OF ONTARIO	PARKING LOT	-	2,400	-	6.42	0.06420	0.1713	154.08
1048566090000	1048-566-09-0000	CITY OF ONTARIO	PARKING LOT	100	14,662	-	6.42	0.06420	0.1713	1,583.3
1048566100000	1048-566-10-0000	CITY OF ONTARIO	VACANT	225	8,496	-	6.42	0.06420	0.1713	1,989.94
1048566110000	1048-566-11-0000	CITY OF ONTARIO	VACANT	77	3,696	2,208	6.42	0.06420	0.1713	1,109.85
1049055010000	1049-055-01-0000	MCKENRICK, PATRICIA L TRUST 10/25/19	RETAIL SALES	192	9,064	9,064	6.42	0.06420	0.1713	3,367.21
1049055020000	1049-055-02-0000	TORRES, JOSE OSVALDO	RETAIL SALES	42	3,738	3,738	6.42	0.06420	0.1713	1,149.94
1049055030000	1049-055-03-0000	HATFIELD, DEBRA LEE FAM TRUST 10/26/	SHOPPING CENTERS	50	4,361	4,361	6.42	0.06420	0.1713	1,348.02
1049055040000	1049-055-04-0000	J & C DYNAMICS INC	SHOPPING CENTERS	47	4,183	4,183	6.42	0.06420	0.1713	1,286.84
1049055050000	1049-055-05-0000	TRAKHMAN, ALEXSANDR & KRUTCHENSKY, JEFFREY	AUTOMOTIVE USES	137	4,272	1,000	6.42	0.06420	0.1713	1,325.1
1049055060000	1049-055-06-0000	TRAKHMAN, ALEXSANDR & KRUTCHENSKY, JEFFREY	AUTOMOTIVE USES	137	4,301	-	6.42	0.06420	0.1713	1,155.66
1049055070000	1049-055-07-0000	J & C DYNAMICS INC	VACANT	47	4,183	-	6.42	0.06420	0.1713	570.29
1049055080000	1049-055-08-0000	HATFIELD, DEBRA LEE FAM TRUST 10/26/	VACANT	48	4,301	-	6.42	0.06420	0.1713	584.28
1049055090000	1049-055-09-0000	115 S PALM AVE BUILDING TRUST 11/29/	RETAIL SALES	233	12,816	12,905	6.42	0.06420	0.1713	4,529.27
1049056010000	1049-056-01-0000	CITY OF ONTARIO	VACANT	254	15,225	-	6.42	0.06420	0.1713	2,608.13
1049056020000	1049-056-02-0000	CITY OF ONTARIO	VACANT	48	4,872	-	6.42	0.06420	0.1713	620.94
1049056030000	1049-056-03-0000	CITY OF ONTARIO	VACANT	48	4,872	-	6.42	0.06420	0.1713	620.94
1049056040000	1049-056-04-0000	CITY OF ONTARIO	VACANT	153	5,040	-	6.42	0.06420	0.1713	1,305.83
1049056050000	1049-056-05-0000	CITY OF ONTARIO	SCHOOLS	250	15,225	15,000	6.42	0.06420	0.1713	5,151.95
1049056060000	1049-056-06-0000	CITY OF ONTARIO	VACANT	250	15,225	-	6.42	0.06420	0.1713	2,582.45
1049057010000	1049-057-01-0000	UNITED STATES OF AMERICA	VACANT	430	22,632	-	6.42	0.06420	0.1713	4,213.57
1049057020000	1049-057-02-0000	LANDAVERDE, XENIA E TRUST 2020	RETAIL SALES	56	4,428	4,428	6.42	0.06420	0.1713	1,402.31
1049057030000	1049-057-03-0000	FLORES, JOSE JAIMIE & FLORES, GRACIELA	RETAIL SALES	158	5,280	5,212	6.42	0.06420	0.1713	2,246.15
1049057040000	1049-057-04-0000	PUSCIZNA, DAVID & LUCE, DONALD BRUM TRUST 12-17-18	RETAIL SALES	31	3,520	6,680	6.42	0.06420	0.1713	1,569.29
1049057050000	1049-057-05-0000	THEE AGUILA INC	SHOPPING CENTERS	430	4,900	9,000	6.42	0.06420	0.1713	4,616.88
1049057060000	1049-057-06-0000	CITY OF ONTARIO	VACANT	156	5,600	-	6.42	0.06420	0.1713	1,361.04
1049057070000	1049-057-07-0000	CITY OF ONTARIO	VACANT	50	3,723	-	6.42	0.06420	0.1713	560.02
1049058010000	1049-058-01-0000	VEJ ONTARIO LP	COMMERCIAL	208	9,856	8,654	6.42	0.06420	0.1713	3,450.55
1049058020000	1049-058-02-0000	CITY OF ONTARIO	VACANT	68	5,077	-	6.42	0.06420	0.1713	762.5
1049058030000	1049-058-03-0000	HOUSING AUTHORITY/CO SAN BERNARDINO	COMMERCIAL	191	8,910	21,351	6.42	0.06420	0.1713	5,455.67
1049058040000	1049-058-04-0000	ROJAS, LUIS ALBERTO FAM TR 12/15/08 & ROJAS, LUIS A	OFFICE	214	9,000	4,048	6.42	0.06420	0.1713	2,645.1

Downtown Ontario Community Benefit District
Fiscal Year 2023/24
Assessment Roll

Assessor's Parcel Number (APN)	Assessor's Parcel Number Formatted (APN)	Owner Name	Land Use	Linear Frontage (Ft)	Lot Size (Sq Ft)	Building Area (Sq Ft)	Linear Frontage Assess Rate ($/Ft)	Lot Size Assess Rate ($/Sq Ft)	Building Assess Rate ($/Sq Ft)	FY 2023/24 Assessment ($)
1049058050000	1049-058-05-0000	CORNERSTONE CA LLC	MEDICAL/DENTAL/LABS	204	13,346	3,920	6.42	0.06420	0.1713	2,837.99
1049059070000	1049-059-07-0000	ONTARIO HOUSING AUTHORITY	RESID. SINGLE FAMILY	52	6,136	-	6.42	0.06420	0.1713	727.77
1049059080000	1049-059-08-0000	VEJ ONTARIO LP	SHOPPING CENTERS	74	8,140	2,910	6.42	0.06420	0.1713	1,496.15
1049059090000	1049-059-09-0000	VEJ ONTARIO LP	PARKING LOT	56	8,140	-	6.42	0.06420	0.1713	882.11
1049059140000	1049-059-14-0000	CITY OF ONTARIO	VACANT	405	39,403	-	6.42	0.06420	0.1713	5,129.77
1049059210000	1049-059-21-0000	VEJ ONTARIO LP	COMMERCIAL	269	29,645	22,935	6.42	0.06420	0.1713	7,558.95
1049061010000	1049-061-01-0000	SEC EUCLID & HOLT AVE PROPERTY LP	OFFICE	428	20,097	57,930	6.42	0.06420	0.1713	13,961.4
1049061020000	1049-061-02-0000	SEC EUCLID & HOLT AVE PROPERTY LP	OFFICE	427	20,196	-	6.42	0.06420	0.1713	4,037.92
1049061030000	1049-061-03-0000	SEC EUCLID & HOLT AVE PROPERTY LP	PARKING LOT	48	4,488	-	6.42	0.06420	0.1713	596.29
1049062010000	1049-062-01-0000	CITY OF ONTARIO	RECREATIONAL	395	34,087	15,000	6.42	0.06420	0.1713	7,293.79
1049062020000	1049-062-02-0000	CITY OF ONTARIO	RECREATIONAL	412	38,880	-	6.42	0.06420	0.1713	5,141.14
1049063010000	1049-063-01-0000	NA, SUSAN TR	AUTOMOTIVE USES	190	9,021	5,536	6.42	0.06420	0.1713	2,747.27
1049063020000	1049-063-02-0000	CITY OF ONTARIO	SHOPPING CENTERS	97	13,548	11,400	6.42	0.06420	0.1713	3,445.34
1049063030000	1049-063-03-0000	ROJAS, ALICIA FAMILY TRUST 12/15/08	RETAIL SALES	17	1,504	1,040	6.42	0.06420	0.1713	383.85
1049063040000	1049-063-04-0000	ROJAS, ALICIA FAMILY TRUST 12-15-08	RETAIL SALES	31	3,008	2,080	6.42	0.06420	0.1713	748.44
1049063050000	1049-063-05-0000	CARVALHO, JOAO R & CARVALHO, LISA C	RETAIL SALES	142	4,512	1,614	6.42	0.06420	0.1713	1,477.79
1049063060000	1049-063-06-0000	GREEN, ARCHIE L	AUTOMOTIVE USES	142	4,512	3,384	6.42	0.06420	0.1713	1,780.99
1049063070000	1049-063-07-0000	GREEN, ARCHIE L	COMMERCIAL	48	4,464	1,645	6.42	0.06420	0.1713	876.54
1049063080000	1049-063-08-0000	GREEN, ARCHIE L	VACANT	96	9,021	-	6.42	0.06420	0.1713	1,195.47
1049063090000	1049-063-09-0000	NA, CHRIS SUNG & NA, STEVE CHUNGHWAN	VACANT	143	4,559	-	6.42	0.06420	0.1713	1,210.75
1049063100000	1049-063-10-0000	HARMAN, JOHN D & HARMAN, PAULA R	SHOPPING CENTERS	47	4,559	4,000	6.42	0.06420	0.1713	1,279.63
1049064120000	1049-064-12-0000	CITY OF ONTARIO	RECREATIONAL	-	8,064	-	6.42	0.06420	0.1713	517.71
1049064130000	1049-064-13-0000	CITY OF ONTARIO	RECREATIONAL	133	12,768	6,400	6.42	0.06420	0.1713	2,769.89
1049064140000	1049-064-14-0000	CITY OF ONTARIO	PARKING LOT	620	48,242	6,232	6.42	0.06420	0.1713	8,145.08
Total				**27,356**	**2,031,904**	**1,019,692**				**$480,747.00**
Parcel Count										**204**

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Police Department Prepared By: Mary Salem Staff Member Presenting: Mike Lorenz, Chief of Police Reviewed By: Lizceth Zazueta Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 23

SUBJECT: **AN AMENDMENT TO EXTEND THE PROFESSIONAL AGREEMENT FOR JAIL AND TRANSPORTATION SERVICES WITH UNIVERSAL PROTECTION SERVICES LP, ALLIED UNIVERAL PROTECTION SERVICES**

RECOMMENDATION: That the City Council approve and authorize the City Manager or his designee to execute the third Amendment to the Professional Services Agreement (on file with Records Management) to increase the contracted dollar amount with Universal Protection Services LP, Allied Universal Protection Services of Atlanta, Georgia by $625,342, which would increase the total not-to-exceed to $2,331,738 and extend the term for one year.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Maintain the Current High Level of Public Safety
Pursue City's Goals and Objectives by Working with Other Governmental Agencies

FISCAL IMPACT: The recommended Amendment increases the authorized contract by $625,342 for a total not to exceed amount of $2,331,738. The Fiscal Year 2023-24 Adopted Budget includes appropriations of $625,342 for booking, jail and transportation services. The City will be billed for actual services provided during the one year extension period.

BACKGROUND & ANALYSIS: Booking, jail and transportation services are used to reduce the amount of time spent by sworn officers transporting prisoners to West Valley Detention Center. First implemented in 2006 as a result of a comprehensive Police Department staffing study, the outsourcing of transport services has reduced thousands of hours per year officers would spend providing these services. The original agreement was executed with G4S and assigned to Allied Universal in 2021 through a Consent to Assignment Agreement.

Universal Protection Services LP, Allied Universal Protection Services, has provided these services to the City of Ontario since 2006. Universal Protection Services LP, Allied Universal Protection Services has demonstrated the ability to provide quality and responsive services to meet the needs of the Police Department. Universal Protection Services LP, Allied Universal Protection Services meets the standards of the California Boards of Corrections and is accredited with the American Correctional Association. Universal Protection Services LP, Allied Universal Protection Services has been an outstanding vendor and have shown they can be counted on to ensure no shortage in services.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Community Life & Culture Prepared By: Lacey A Rightmer Staff Member Presenting: Helen McAlary, Executive Director Community Life and Culture Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 24

SUBJECT: **A GOODS AND SERVICES AGREEMENT FOR LIBRARY MATERIALS INCLUDING CATALOGING AND PROCESSING SERVICES AND ONLINE COLLECTION ANALYSIS TOOL**

RECOMMENDATION: That the City Council take the following actions:

A. Approve and authorize the City Manager or designee to execute a three-year agreement (on file in the Records Management Department) with Baker & Taylor, Inc. of Charlotte, North Carolina, with an annual amount of $380,000 and a total compensation not to exceed $1,900,000 for five years for the purchase of library materials including cataloging and processing services and subscription to an online library collection analysis tool; and
B. Authorize the extension of the Agreement for up to two additional one-year periods consistent with City Council approved budgets.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Encourage, Provide or Support Enhanced Recreational, Educational, Cultural and Healthy City Programs, Policies and Activities

FISCAL IMPACT: The Fiscal Year 2023-24 Adopted Budget includes appropriations in the General Fund for library materials such as books, audio recordings and DVDs, cataloging and processing services, and a subscription to an online library collection analysis tool for collection maintenance. The annual not-to-exceed amount for this Agreement is $380,000 and has a total compensation not-to-exceed amount of $1,900,000 over the period of five years. Expenditures in any year of the proposed Agreement will be based on the actual purchases and services rendered at the fixed discounted and contract service rates. Funding for all future years of the Agreement will be consistent with the respective years' adopted budgets.

BACKGROUND & ANALYSIS: The Library purchases approximately 32,000 books, DVDs, and audio recordings for community use each year. Staff recommends the continued consolidation of library material purchases through a primary vendor and augmented by a limited number of secondary vendors.

Large library material vendors order and warehouse materials from multiple publishers and can negotiate reduced costs because of their volume purchases. Those vendors then provide books at scheduled discounts below most publisher's retail prices. In addition, cataloging and processing services will be provided by Baker & Taylor, which includes but are not limited to cataloging to current library standards, applying labels, adding the library's property stamp, and providing polyester covers to protect books and other materials.

In April 2023, the City solicited proposals for the provision of library materials with services. Three proposals were received and only Baker & Taylor fully met the bid criteria and standards necessary to perform this work.

Vendor	Location
Baker & Taylor, Inc.	Charlotte, NC
Brodart Co.	Williamsport, PA
Midwest Tape	Holland, OH

Baker & Taylor, located in Charlotte, North Carolina, submitted a proposal that met all required specifications with a base processing cost per book of $4.25. Based on their proposal, credentials, pricing, products offered, and favorable references, Staff recommends awarding a Goods and Services Agreement to Baker & Taylor.

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **CONSENT CALENDAR**
Department: Economic Development Prepared By: Karla Tavera Staff Member Presenting: Jennifer McLain Hiramoto, Economic Development Director Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 25

SUBJECT: **AN AMENDMENT TO THE OPERATING COVENANT AND TAX SHARING AGREEMENTS WITH NIKE, CARDINAL HEALTH AND RGH ENTERPRISES, CONCRETE HOLDING, AND HOME DEPOT**

RECOMMENDATION: That the City Council take the following actions:

A. Adopt a Resolution approving Amendments to the Operating Covenant Agreement, (on file with the Records Management Department) by and between the City of Ontario and the following corporations: Nike Retail Services, Inc., Cardinal Health, 200, LLC. and RGH Enterprises, Inc., Concrete Holding Company of California, Inc., and Home Depot U.S.A., Inc. and
B. Authorize the City Manager or his designee to execute the Amendments to the Agreements.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Invest in the Growth and Evolution of the City's Economy
Operate in a Businesslike Manner

FISCAL IMPACT: There is no direct fiscal impact associated with this action.

BACKGROUND & ANALYSIS: The Bradley-Burns Uniform Local Sales and Use Tax Law authorizes counties and cities to impose local sales and use taxes in conformity with the Sales and Use Tax Law. The City of Ontario receives one percent (1%) of all taxable sales generated within the City under this law. Sales and Use Tax revenues are an important source of revenue for the City, which are used to provide essential City services, such as police, fire, infrastructure maintenance and community facilities.

On November 8, 2022, Ontario voters approved Measure Q, which increases the City's sale tax from the previous rate of 7.75% to 8.75%. This will generate additional revenue to be used for the services, projects and programs that will benefit Ontario residents. This sales tax increase went into effect on April 1, 2023.

This sales tax applies to all retail sales of goods and merchandise except those sales specifically exempted by law. This sales tax rate also applies to businesses with whom the City currently have Operating Covenant Agreements (OCA). The purpose of OCAs is to generate additional revenue for the City, and create jobs that will revitalize an underserved area of the City and result in community and public improvements that might not otherwise be available to the community for many years. Rather than increasing the amount of sales tax that is shared by the City, four businesses (Nike Retail Services, Inc., Home Depot U.S.A. Inc., Concrete Holding Company of California, Inc., and Cardinal Health, 200, LLC., and RGH Enterprises, Inc.) have agreed that the increased sales tax revenue created by the passage of Measure Q will not be included in the calculation of the City's covenant payments to these businesses.

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING AMENDMENTS TO THE OPERATING COVENANT AND TAX SHARING AGREEMENTS WITH NIKE RETAIL SERVICES, INC., CARDINAL HEALTH, 200, LLC. AND RGH ENTERPRISES, INC., CONCRETE HOLDING COMPANY OF CALIFORNIA, INC., AND HOME DEPOT U.S.A., INC.

WHEREAS, the City of Ontario ("City") has entered into Operative Covenant and Tax Sharing Agreements with numerous business, including, but not limited to, Nike, Cardinal Health and RGH, Concrete Holding, and Home Depot; and

WHEREAS, the purpose of the Operating Covenant and Tax Sharing Agreement is to encourage the creation of jobs as well as additional investment within the community in return for a share of sales tax revenue from the City; and

WHEREAS, on November 8, 2022, City residents approved Measure Q, which increases the City's sales tax from the current rate of 7.75% to .8.75%; and

WHEREAS, the Operative Covenant and Tax Sharing Agreements are silent on the treatment of the increased sales tax implemented by Measure Q; and

WHEREAS, Nike, Cardinal Health and RGH, Concrete Holding, and Home Depot have agreed to enter into amendments to their respective Operating Covenant and Tax Sharing Agreements in order to explicitly exclude the increased sales tax revenue implemented by Measure Q and keep the calculation of payments at pre-Measure Q levels.

NOW THEREFORE, BE IT RESOLVED, by the City Council of the City of Ontario as follows:

SECTION 1. Incorporation of Recitals. The foregoing recitals are true and correct, are incorporated and made an operative part of this Resolution.

SECTION 2. Approval of Amendment. The City Council hereby approves amendments to the Operating Covenant and Tax Sharing Agreements with Nike, Cardinal Health and RGH, Concrete Holding, and Home Depot, in the form presented to the City Council, and attached hereto as Exhibit A.

SECTION 3. Authority. Without the requirement of any further approval of the City Council, the City Manager or designee is authorized to do all of the following: (a) execute the amendments to the Operative Covenant and Tax Sharing Agreements with Nike, Cardinal Health and RGH, Concrete Holding, and Home Depot; (b) make non-substantive changes or modifications to the amendments deemed necessary by the City Manager; and (c) take any action and execute all documents and agreements necessary to implement this Resolution and the amendments, and to administer the City's obligations, responsibilities, and duties to be performed thereunder.

SECTION 4. CEQA. The City Council finds this Resolution is not subject to the California Environmental Quality Act (CEQA) in that the activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty, as in this case, that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

SECTION 5. Severability. If any provision of this Resolution or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications, and to this end the provisions of this Resolution are declared to be severable.

SECTION 6. Effective Date. This Resolution shall become effective immediately upon its adoption.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 6th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 6, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 6, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

EXHIBIT A

AMENDMENTS TO OPERATING
COVENANT AND TAX SHARING AGREEMENTS

FIRST AMENDMENT
TO
OPERATING COVENANT AND TAX SHARING AGREEMENT

between

THE CITY OF ONTARIO,
a California municipal corporation

and

NIKE RETAIL SERVICES, INC.
a Oregon corporation

1. PARTIES AND EFFECTIVE DATE

1.1 Parties to this First Amendment. This First Amendment to the Operating Covenant and Tax Sharing Agreement ("First Amendment") is entered into between the City of Ontario, a California municipal corporation ("City") and Nike Retail Services, Inc. ("Owner"). City and Owner are sometimes referred to herein individually as a "Party" and collectively as "Parties."

1.2 Effective Date. The Effective Date of this First Amendment is on the date last signed by either Party below.

2. RECITALS AND REPRESENTATIONS

2.1 The City and the Owner have entered into that certain Operating Covenant and Tax Sharing Agreement, dated September 15, 2020, for the purpose of establishing an arrangement whereby the Owner agreed to, among other things, develop and operate a facility and receive certain operating covenant payments (the "Original Agreement").

2.2 On November 8, 2022, Ontario residents approved Measure Q, which increases the City's sales tax from the current rate of 7.75% to 8.75%.

2.3. The Parties now desire to amend the Original Agreement in order to clarify the impact of the passage of Measure Q on the tax sharing provisions of the Original Agreement.

3. TERMS

3.1 Incorporation of Recitals. The recitals listed above are true and correct and are hereby incorporated herein by this reference.

3.2 Treatment of Measure Q Sales Tax Increase. Owner understands and agrees that the increased sales tax revenue created by the passage of Measure Q shall not be included in the calculation of the Covenant Payment as outlined in Section 3.2.1 of the Original Agreement. For the avoidance of doubt, the calculation of the Covenant Payment shall continue be calculated using the following calculation:

> "The consideration to be paid to the Owner in exchange for the Covenants and Owner's performance of its obligations set forth in this Covenant Agreement, and subject to satisfaction of all conditions precedent thereto, shall consist of City's payment to the Owner for each Computation Quarter during the Eligibility Period that the City receives Sales Tax Revenue, and amount equal to the sum of fifty percent (50%) of the Sales Tax Revenues attributable to annual taxable sales at the Facility received by the City ("Covenant Payment"). The City's obligations under this Section 3.2 are contingent on a Computation Quarter-to-Quarter basis and, for each Computation Quarter, City's obligations to make any payments hereunder are expressly contingent upon the Owner having, for the entirety of such Computation Quarter, completely fulfilled its mater obligations under this Covenant Agreement, including, without limitation, the Covenants. Should such condition precedent not be satisfied for each Computation

Quarter, then City shall have no obligation under this Section 3.2 to make any Covenant Payments to Owner in such Computation Quarter.

The definition of "Sales Tax Revenues" as defined in Section 1.3.16 of the Original Agreement is amended and the last sentence of this section is replaced with the following:

"Sales Tax Revenues shall not include: (i) Penalty Assessments; (ii) any Sales Tax levied by, collected for or allocated to the State of California, the County of San Bernardino, or a district or any entity (including an allocation to a statewide or countywide pool); (iii) any administrative fee charged by the CDTFA; (iv) any Sales Tax subject to any sharing, rebate, offset or other charge imposed pursuant to any applicable provision of federal, state or local (except City's) law, rule or regulation; (v) any Sales Tax attributable to any transaction not consummated within the Eligibility Period; (vi) the Transactions and Use Tax approved by the passage of Measure Q in 2022; or (vii) any Sales Tax (or other funds measured by Sales Tax) required by the State of California to be paid over to another public entity (including the State) or set aside and/or pledged to a specific use other than for deposit into or payment from the City's general fund."

3.3 Full Force. Except as amended by this First Amendment, all provisions of the Original Agreement, including without limitation the indemnity and insurance provisions, shall remain in full force and effect and shall govern the actions of the Parties under this First Amendment.

3.4 Electronic Transmission. A manually signed copy of this First Amendment which is transmitted by facsimile, email or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this First Amendment for all purposes. This First Amendment may be signed using an electronic signature.

3.5 Counterparts. This First Amendment may be signed in counterparts, each of which shall constitute an original.

[SIGNATURES ON FOLLOWING PAGE]

SIGNATURE PAGE FOR
FIRST AMENDMENT TO THE
OPERATING COVENANT AND TAX SHARING AGREEMENT
WITH NIKE RETAIL SERVICES, INC.

IN WITNESS WHEREOF, the Parties hereto execute this First Amendment on the Effective Date described in Section 1.2 above.

CITY OF ONTARIO

APPROVED BY*:*

_____
Scott Ochoa
City Manager

ATTEST*:*

_____
City Clerk

APPROVED AS TO FORM*:*

_____
Best Best & Krieger LLP
City Attorney

NIKE RETAIL SERVICES, INC.

_____
Signature

_____
Name

_____
Title

FIRST AMENDMENT
TO
OPERATING COVENANT AND TAX SHARING AGREEMENT

between

THE CITY OF ONTARIO,
a California municipal corporation

and

CARDINAL HEALTH, 200, LLC
A Delaware Limited Liability Company

AND

RGH ENTERPRISES, INC.
An Ohio Corporation

1. PARTIES AND EFFECTIVE DATE

1.1 Parties to this **First** Amendment. This **First** Amendment to the Operating Covenant and Tax Sharing Agreement **("First** Amendment") is entered into between the City of Ontario, a California municipal corporation ("City") and **Cardinal Health, 200, LLC and RGH Enterprises, Inc.** ("Owner"). City and Owner are sometimes referred to herein individually as a "Party" and collectively as "Parties."

1.2 Effective Date. The Effective Date of this First Amendment is on the date last signed by either Party below.

2. RECITALS AND REPRESENTATIONS

2.1 The City and the Owner have entered into that certain Operating Covenant and Tax Sharing Agreement, March, 20 2018, for the purpose of establishing an arrangement whereby the Owner agreed to, among other things, develop and operate a facility and receive certain operating covenant payments (the "Original Agreement").

2.2 On November 8, 2022, Ontario residents approved Measure Q, which increases the City's sales tax from the current rate of 7.75% to 8.75%.

2.3. The Parties now desire to amend the Original Agreement in order to clarify the impact of the passage of Measure Q on the tax sharing provisions of the Original Agreement.

3. TERMS

3.1 Incorporation of Recitals. The recitals listed above are true and correct and are hereby incorporated herein by this reference.

3.2 Treatment of Measure Q Sales Tax Increase. Owner understands and agrees that the increased sales tax revenue created by the passage of Measure Q shall not be included in the calculation of the Covenant Payment as outlined in Section 3.2.1 of the Original Agreement. For the avoidance of doubt, the calculation of the Covenant Payment shall continue be calculated using the following calculation:

> "The consideration to be paid to Owner and Lessee in exchange for the Owner's and Lessee's satisfaction of the Covenants set forth in this Covenant Agreement, and subject to satisfaction of all conditions precedent thereto, shall consist of City's payment to Owner and Lessee for each Computation Quarter during the Eligibility Period that the City receives Sales Tax Revenue, as follow:
>
> (a) For the period commencing April 1, 2018, and continuing until this Covenant Agreement is terminated, City shall pay to Owner an amount equal to fifty percent (50%) of the Sales Tax Revenues attributable to annual taxable sales paid quarterly by Owner, in accordance with Section 3.2.2 below.

(b) For the period commencing April 1, 2018 and continuing until this Covenant Agreement is terminated, City shall pay to Lessee an amount equal to fifty percent (50%) of Sales Tax Revenues received by City in excess of Base Sales Tax Amount attributable to the annual taxable sales paid quarterly by Lessee, in accordance with Section 3.2.3 below."

The definition of "Sales Tax Revenues" as defined in Section 1.3.19 of the Original Agreement is amended and the last sentence of this section is replaced with the following:

"Sales Tax Revenues shall not include: (i) Penalty Assessments; (ii) any Sales Tax levied by, collected for or allocated to the State of California, the County of San Bernardino, or a district or any entity (including an allocation to a statewide or countywide pool) other than City; (iii) any administrative fee charged by the CDTFA; (iv) any Sales Tax subject to any sharing, rebate, offset or other charge imposed pursuant to any applicable provision of federal, state or local (except City's) law, rule or regulation; (v) any Sales Tax attributable to any transaction not consummated within the Eligibility Period; (vi) the Transactions and Use Tax approved by the passage of Measure Q in 2022; or (vi) any Sales Tax (or other funds measured by Sales Tax) required by the State of California to be paid over to another public entity (including the State) or set aside and/or pledged to a specific use other than for deposit into or payment from the City's general fund."

Additionally, all references to the California State Board of Equalization ("BOE") in the Original Agreement shall mean and refer to the current state administrative body, the California Department of Tax and Fee Administration ("CDTFA").

3.3 Full Force. Except as amended by this First Amendment, all provisions of the Original Agreement, including without limitation the indemnity and insurance provisions, shall remain in full force and effect and shall govern the actions of the Parties under this First Amendment.

3.4 Electronic Transmission. A manually signed copy of this First Amendment which is transmitted by facsimile, email or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this First Amendment for all purposes. This First Amendment may be signed using an electronic signature.

3.5 Counterparts. This First Amendment may be signed in counterparts, each of which shall constitute an original.

[SIGNATURES ON FOLLOWING PAGE]

SIGNATURE PAGE FOR
FIRST AMENDMENT TO THE
OPERATING COVENANT AND TAX SHARING AGREEMENT
WITH CARDINAL HEALTH, 220, LLC AND RGH ENTERPRISES, INC.

IN WITNESS WHEREOF, the Parties hereto execute this First Amendment on the Effective Date described in Section 1.2 above.

CITY OF ONTARIO

APPROVED BY*:*

_____

Scott Ochoa
City Manager

ATTEST*:*

_____

City Clerk

APPROVED AS TO FORM*:*

_____

Best Best & Krieger LLP
City Attorney

Cardinal Health, 200, LLC and RGH Enterprises, Inc.

_____

Signature

_____

Name

_____

Title

FIRST AMENDMENT
TO
OPERATING COVENANT AND TAX SHARING AGREEMENT

between

THE CITY OF ONTARIO,
a California municipal corporation

and

CONCRETE HOLDING COMPANY OF CALIFORNIA, INC.

a Delaware corporation

1. PARTIES AND EFFECTIVE DATE

1.1 Parties to this First Amendment. This First Amendment to the Operating Covenant and Tax Sharing Agreement ("First Amendment") is entered into between the City of Ontario, a California municipal corporation ("City") and Concrete Holding Company of California, Inc. ("Owner"). City and Owner are sometimes referred to herein individually as a "Party" and collectively as "Parties."

1.2 Effective Date. The Effective Date of this First Amendment is on the date last signed by either Party below.

2. RECITALS AND REPRESENTATIONS

2.1 The City and the Owner have entered into that certain Operating Covenant and Tax Sharing Agreement, December 18, 2018, for the purpose of establishing an arrangement whereby the Owner agreed to, among other things, develop and operate a facility and receive certain operating covenant payments (the "Original Agreement").

2.2 On November 8, 2022, Ontario residents approved Measure Q, which increases the City's sales tax from the current rate of 7.75% to 8.75%.

2.3. The Parties now desire to amend the Original Agreement in order to clarify the impact of the passage of Measure Q on the tax sharing provisions of the Original Agreement.

3. TERMS

3.1 Incorporation of Recitals. The recitals listed above are true and correct and are hereby incorporated herein by this reference.

3.2 Treatment of Measure Q Sales Tax Increase. Owner understands and agrees that the increased sales tax revenue created by the passage of Measure Q shall not be included in the calculation of the Covenant Payment as outlined in Section 3.2.2 of the Original Agreement. For the avoidance of doubt, the calculation of the Covenant Payment shall continue be calculated using the following calculation:

> "The consideration to be paid to the Owner in exchange for the Covenants and Owner's performance of its obligations set forth in this Covenant Agreement, and subject to satisfaction of all conditions precedent thereto, shall consist of City's payment to the Owner for each Computation Quarter during the Eligibility Period that the City receives Sales Tax Revenue, an amount equal to (a) the sum of (1) fifty percent (50%) of the Sales Tax Revenues attributable to annual taxable sales for the calendar year which includes such Computation Quarter, as determined on a cumulative basis for such calendar year, plus (b) an amount equal to fifty percent (50%) of the Sales Tax Revenues attributable to Owner's self-accrual of use tax which is directly allocated to the City, including, without limitation, in connection with Owner's purchase of machinery and equipment from outside of California during such Computation Quarter. Any such payment due pursuant to this Section shall not be due unless Owner has completely fulfilled its material obligations under this Covenant Agreement, including, without

limitation, the Covenants. Should such condition precedent not be satisfied for each Computation Quarter, then City shall have no obligation under this Section 3.2 to make any Covenant Payments to Owner in such Computation Quarter."

The definition of "Sales Tax Revenues" as defined in Section 1.3.19 of the Original Agreement is amended and the last sentence of this section is replaced with the following:

"Sales Tax Revenues shall not include: (i) Penalty Assessments; (ii) any Sales Tax levied by, collected for or allocated to the State of California, the County of San Bernardino, or a district or any entity (including an allocation to a statewide or countywide pool) other than City; (iii) any administrative fee charged by the CDTFA; (iv) any Sales Tax subject to any sharing, rebate, offset or other charge imposed pursuant to any applicable provision of federal, state or local (except City's) law, rule or regulation; (v) any Sales Tax attributable to any transaction not consummated within the Eligibility Period; (vi) the Transactions and Use Tax approved by the passage of Measure Q in 2022; or (vi) any Sales Tax (or other funds measured by Sales Tax) required by the State of California to be paid over to another public entity (including the State) or set aside and/or pledged to a specific use other than for deposit into or payment from the City's general fund."

3.3 Full Force. Except as amended by this First Amendment, all provisions of the Original Agreement, including without limitation the indemnity and insurance provisions, shall remain in full force and effect and shall govern the actions of the Parties under this First Amendment.

3.4 Electronic Transmission. A manually signed copy of this First Amendment which is transmitted by facsimile, email or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this First Amendment for all purposes. This First Amendment may be signed using an electronic signature.

3.5 Counterparts. This First Amendment may be signed in counterparts, each of which shall constitute an original.

[SIGNATURES ON FOLLOWING PAGE]

SIGNATURE PAGE FOR
FIRST AMENDMENT TO THE
OPERATING COVENANT AND TAX SHARING AGREEMENT
WITH CONCRETE HOLDING COMPANY OF CALIFORNIA, INC.

IN WITNESS WHEREOF, the Parties hereto execute this First Amendment on the Effective Date described in Section 1.2 above.

CITY OF ONTARIO

APPROVED BY*:*

_____
Scott Ochoa
City Manager

ATTEST*:*

_____
City Clerk

APPROVED AS TO FORM*:*

_____
Best Best & Krieger LLP
City Attorney

CONCRETE HOLDING COMPANY OF CALIFORNIA, INC.

_____
Signature

_____
Name

_____
Title

FIRST AMENDMENT
TO
OPERATING COVENANT AGREEMENT

between

THE CITY OF ONTARIO,
a California municipal corporation

and

HOME DEPOT U.S.A., INC.
a Delaware corporation

1. PARTIES AND EFFECTIVE DATE

1.1 Parties to this First Amendment. This First Amendment to the Operating Covenant Agreement ("First Amendment") is entered into between the City of Ontario, a California municipal corporation ("City") and Home Depot U.S.A., Inc. ("Owner"). City and Owner are sometimes referred to herein individually as a "Party" and collectively as "Parties."

1.2 Effective Date. The Effective Date of this First Amendment is on the date last signed by either Party below.

2. RECITALS AND REPRESENTATIONS

2.1 The City and the Owner have entered into that certain Operating Covenant Agreement, dated June 23, 2021, for the purpose of establishing an arrangement whereby the Owner agreed to, among other things, lease and operate a facility and receive certain operating covenant payments (the "Original Agreement").

2.2 On November 8, 2022, Ontario residents approved Measure Q, which increases the City's sales tax from the current rate of 7.75% to 8.75%.

2.3. The Parties now desire to amend the Original Agreement in order to clarify the impact of the passage of Measure Q on the tax sharing provisions of the Original Agreement.

3. TERMS

3.1 Incorporation of Recitals. The recitals listed above are true and correct and are hereby incorporated herein by this reference.

3.2 Treatment of Measure Q Sales Tax Increase. Owner understands and agrees that the increased sales tax revenue created by the passage of Measure Q shall not be included in the calculation of the Covenant Payment as outlined in Section 3.2.1 of the Original Agreement. For the avoidance of doubt, the calculation of the Covenant Payment shall continue be calculated using the following calculation:

> "The consideration to be paid to the Owner in exchange for the Covenants and Owner's performance of its obligations set forth in this Covenant Agreement, and subject to satisfaction of all conditions precedent thereto, shall consist of City's payment to the Owner for each Computation Quarter during the Eligibility Period that the City receives Sales Tax Revenue, an amount equal to the sum of fifty percent (50%) of the Sales Tax Revenues attributable to annual taxable sales at the E-Commerce Distribution Facility received by the City ("Covenant Payment"). The City's obligations under this Section 3.2 are contingent on a Computation Quarter-to-Quarter basis and, for each Computation Quarter, City's obligations to make any payments hereunder are expressly contingent upon Owner having, for the entirety of such Computation Quarter, completely fulfilled its material obligations under this Covenant Agreement, including, without limitation, the Covenants. Should such condition precedent not be satisfied for each Computation

Quarter, then City shall have no obligation under this Section 3.2 to make any Covenant Payments to Owner in such Computation Quarter."

The definition of "Sales Tax Revenues" as defined in Section 1.3.18 of the Original Agreement is amended and the last sentence of this section is replaced with the following:

"Sales Tax Revenues shall not include: (i) Penalty Assessments; (ii) any Sales Tax levied by, collected for or allocated to the State of California, the County of San Bernardino, or a district or any entity (including an allocation to a statewide or countywide pool); (iii) any administrative fee charged by the CDTFA; (iv) any Sales Tax subject to any sharing, rebate, offset or other charge imposed pursuant to any applicable provision of federal, state or local (except City's) law, rule or regulation; (v) any Sales Tax attributable to any transaction not consummated within the Eligibility Period; (vi) the Transactions and Use Tax approved by the passage of Measure Q in 2022; or (vii) any Sales Tax (or other funds measured by Sales Tax) required by the State of California to be paid over to another public entity (including the State) or set aside and/or pledged to a specific use other than for deposit into or payment from the City's general fund."

3.3 Full Force. Except as amended by this First Amendment, all provisions of the Original Agreement, including without limitation the indemnity and insurance provisions, shall remain in full force and effect and shall govern the actions of the Parties under this First Amendment.

3.4 Electronic Transmission. A manually signed copy of this First Amendment which is transmitted by facsimile, email or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this First Amendment for all purposes. This First Amendment may be signed using an electronic signature.

3.5 Counterparts. This First Amendment may be signed in counterparts, each of which shall constitute an original.

[SIGNATURES ON FOLLOWING PAGE]

SIGNATURE PAGE FOR
FIRST AMENDMENT TO THE
OPERATING COVENANT AGREEMENT
WITH HOME DEPOT U.S.A, INC.

IN WITNESS WHEREOF, the Parties hereto execute this First Amendment on the Effective Date described in Section 1.2 above.

CITY OF ONTARIO

APPROVED BY*:*

_____
Scott Ochoa
City Manager

ATTEST*:*

_____
City Clerk

APPROVED AS TO FORM*:*

_____
Best Best & Krieger LLP
City Attorney

HOME DEPOT U.S.A, INC.

_____
Signature

_____
Name

_____
Title

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **PUBLIC HEARINGS**
Department: Financial Services Prepared By: Cruz Torres Staff Member Presenting: Armen Harkalyan, Executive Director of Finance Reviewed By: Cecilia House Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 26

SUBJECT: **A PUBLIC HEARING TO CONSIDER A RESOLUTION REGARDING THE FORMATION OF THE CITY OF ONTARIO COMMUNITY FACILITIES DISTRICT NO. 61 (MERRILL COMMERCE CENTER); AND INTRODUCTION OF AN ORDINANCE LEVYING SPECIAL TAXES**

RECOMMENDATION: That the City Council consider and:

A. Adopt a Resolution of Formation of Community Facilities District No. 61 (Merrill Commerce Center), authorizing the levy of special taxes within the community facilities district,
B. Adopt a Resolution calling a special election for City of Ontario Community Facilities District No. 61 (Merrill Commerce Center);
C. Adopt a Resolution declaring the results of the special election and directing the recording of a Notice of Special Tax Lien; and
D. Introduce and waive further reading of an ordinance levying special taxes within City of Ontario Community Facilities District No. 61 (Merrill Commerce Center)

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Operate in a Businesslike Manner
Focus Resources in Ontario's Commercial and Residential Neighborhoods
Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in Ontario Ranch

FISCAL IMPACT: The use of Mello-Roos financing in the Merrill Commerce Center Services development is projected to generate approximately $986,000 to fund Administrative Fees and Municipal Services. The use of Mello-Roos financing is critical in achieving the City Councils goal to "Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in Ontario Ranch." The use of Mello-Roos financing for the Merrill Commerce Center Services development will not generate funds for facilities; therefore, bonds will not be issued as part of this formation. The General Fund will be reimbursed approximately $940,000 for Municipal Services after the administrative expenses are deducted. City Council approval will be required in future years to process annual special tax levies.

BACKGROUND & ANALYSIS: The Mello-Roos Community Facilities Act of 1982 provides local government, with the consent from a majority of the property owners, the authority to establish community facilities districts for the purpose of levying special taxes to finance municipal services. Municipal services that may be funded by a community facilities district include police protection services, fire protection, and suppression services, ambulance and paramedic services, maintenance and lighting of parks, parkways, streets, roads, and open space, flood and storm drain protection services and maintenance and operation of any real property or tangible property with an estimated useful life of five or more years that is owned by the governmental entity.

On May 16, 2023, the City Council approved Resolution No. 2023-034, a Resolution of Intention to establish City of Ontario Community Facilities District No. 61 (Merrill Commerce Center) and authorize the levy of special taxes within the district. The Resolution of Intention set the public hearing date for the regularly scheduled City Council meeting on June 20, 2023, to consider formation matters.

Prologis LP, Research, has provided a written petition to the City requesting formation of a community facilities district for the Merrill Commerce Center Services in Ontario Ranch. The Merrill Commerce Center project addresses the development of approximately 385.61 gross acres located west of Carpenter Avenue, east of Grove Avenue, south of Eucalyptus Avenue, and north of Merrill Avenue. At build out, the project is expected to include 7,341,068 square feet of business park/industrial space.

Included, as part of the Resolution of Formation is the proposed Rate and Method of Apportionment of Special Tax for the District. The term and structure of the Rate and Method of Apportionment of Special Tax for the Merrill Commerce Center project are consistent with those of previously adopted Rates and Methods of Apportionment for Ontario Ranch community facilities districts. This ensures that the special tax rates levied on all residential property owners in community facilities districts in Ontario Ranch are developed in a consistent and equivalent manner. In addition, under the provisions of the Mello-Roos Act, to ensure that home buyers are making an informed decision, all residential builders in the Ontario Ranch districts will be required to disclose the maximum annual special tax amount to each homeowner before entering into a sales contract.

Attached are three Resolutions and an Ordinance. The first attached Resolution establishes the community facilities district, with the rate and method of apportionment of special taxes and authorizes the levy of special taxes within the district. The second attached Resolution calls for a special landowner election to be held on June 20, 2023. The third attached Resolution declares the results of the election, including a statement from the City Clerk as to the canvass of ballots, and directs the recording of the Notice of Special Tax Lien. The attached Ordinance authorizes the levying of special taxes.

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, OF FORMATION OF THE CITY OF ONTARIO COMMUNITY FACILITIES DISTRICT NO. 61 (MERRILL COMMERCE CENTER SERVICES), AUTHORIZING THE LEVY OF A SPECIAL TAX WITHIN THE COMMUNITY FACILITIES DISTRICT AND ESTABLISHING AN APPROPRIATIONS LIMIT FOR THE COMMUNITY FACILITIES DISTRICT.

WHEREAS, on May 16, 2023, the City Council (the "City Council") of the City of Ontario (the "City"), pursuant to the Mello-Roos Community Facilities Act of 1982 (the "Act"), adopted a resolution entitled "A Resolution of the City Council of the City of Ontario, California, of Intention to Establish a Community Facilities District Proposed to be Named City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services) and to Authorize the Levy of a Special Tax" (the "Resolution of Intention"), stating its intention to establish a community facilities district (the "Community Facilities District") proposed to be named City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services), to authorize the levy of a special tax (the "Special Tax") within the Community Facilities District to finance certain services and setting the date for a public hearing to be held on the establishment of the Community Facilities District; and

WHEREAS, pursuant to the Resolution of Intention, notice of said public hearing was published in the *Inland Valley Daily Bulletin*, a newspaper of general circulation published in the area of the Community Facilities District, in accordance with the Act; and

WHEREAS, on this date, the City Council opened, conducted and closed said public hearing; and

WHEREAS, pursuant to the Resolution of Intention, each officer of the City who is or will be responsible for providing one or more of the proposed types of services was directed to study, or cause to be studied, the proposed Community Facilities District and, at or before said public hearing, file a report with the City Council containing a brief description of the services by type that will in his or her opinion be required to adequately meet the needs of the Community Facilities District, and his or her estimate of the cost of providing such services, and such officers were also directed to estimate the fair and reasonable cost of the incidental expenses proposed to be paid; and

WHEREAS, said report was so filed with the City Council and made a part of the record of said public hearing; and

WHEREAS, at the hearing, the testimony of all persons for or against the establishment of the Community Facilities District, the extent of the Community Facilities District and the furnishing of the specified types of services was heard; and

WHEREAS, written protests against the establishment of the Community Facilities District, the furnishing of any specified type or types of services within the Community Facilities District or the levying of the Special Tax were not made or filed at or before said hearing by 50% or more of the registered voters, or six registered voters, whichever is

more, residing within the territory proposed to be included in the Community Facilities District, or the owners of one-half or more of the area of land in the territory proposed to be included in the Community Facilities District and not exempt from the Special Tax; and

WHEREAS, there has been filed with the City Clerk of the City a letter from the Registrar of Voters of the County of San Bernardino indicating that no persons were registered to vote within the territory of the proposed Community Facilities District as of May 10, 2023, which demonstrates that 12 or more persons have not been registered to vote within the territory of the proposed Community Facilities District for each of the 90 days preceding the close of said public hearing;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ontario as follows:

SECTION 1. The foregoing recitals are true and correct.

SECTION 2. The Community Facilities District is hereby established pursuant to the Act.

SECTION 3. The Community Facilities District is hereby named "City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services)."

SECTION 4. The services (the "Services") proposed to be financed by the Community Facilities District pursuant to the Act are described under the caption "Services" on Exhibit A hereto. The incidental expenses proposed to be incurred are described under the caption "Incidental Expenses" on Exhibit A hereto. No facilities are proposed to be financed by the Community Facilities District.

SECTION 5. The proposed Special Tax to be levied within the Community Facilities District has not been precluded by majority protest pursuant to Section 53324 of the Act.

SECTION 6. Except where funds are otherwise available, the Special Tax sufficient to pay for all Services, secured by recordation of a continuing lien against all nonexempt real property in the Community Facilities District, will be annually levied within the Community Facilities District. The rate and method of apportionment of the Special Tax (the "Rate and Method"), in sufficient detail to allow each landowner within the proposed Community Facilities District to estimate the maximum amount that he or she will have to pay, is described in Exhibit B attached hereto, which is by this reference incorporated herein. The obligation to pay the Special Tax may not be prepaid and permanently satisfied. The Special Tax will be collected in the same manner as ordinary *ad valorem* property taxes or in such other manner as the City Council shall determine, including direct billing of the affected property owners.

SECTION 7. The Special Tax may only finance the Services to the extent that they are in addition to those provided in the territory of the Community Facilities District before the Community Facilities District is created. The Services may not supplant services already available within that territory when the Community Facilities District is created.

SECTION 8. The name, address and telephone number of the office that will be responsible for preparing annually a current roll of Special Tax levy obligations by assessor's parcel number and that will be responsible for estimating further Special Tax levies pursuant to Section 53340.2 of the Act are as follows: Management Analyst, Financial Services, City of Ontario, 303 East B Street, Ontario, California 91764, (909) 395-2341.

SECTION 9. Upon recordation of a notice of special tax lien pursuant to Section 3114.5 of the California Streets and Highways Code, a continuing lien to secure each levy of the Special Tax shall attach to all nonexempt real property in the Community Facilities District and this lien shall continue in force and effect until the Special Tax obligation is prepaid and permanently satisfied and the lien canceled in accordance with law or until collection of the tax by the City Council ceases.

SECTION 10. The boundary map of the Community Facilities District has been recorded in San Bernardino County in Book 91 at Page 10 of Maps of Assessments and Community Facilities Districts in the San Bernardino County Recorder's Office (Document No. 2023-0120927).

SECTION 11. The annual appropriations limit, as defined by subdivision (h) of Section 8 of Article XIII B of the California Constitution, of the Community Facilities District is hereby established at $83,000,000.

SECTION 12. Pursuant to the provisions of the Act, the levy of the Special Tax and a proposition to establish the appropriations limit specified above shall be subject to the approval of the qualified electors of the Community Facilities District at a special election. The City Council hereby finds and determines that that no persons were registered to vote within the territory of the proposed Community Facilities District as of May 10, 2023, and that 12 or more persons have not been registered to vote within the territory of the Community Facilities District for each of the 90 days preceding the close of the public hearing held by the City Council on the establishment of the Community Facilities District. Accordingly, pursuant to Section 53326 of the Act, the vote shall be by the landowners of the Community Facilities District and each person who is the owner of land as of the close of said public hearings, or the authorized representative thereof, shall have one vote for each acre or portion of an acre that he or she owns within the Community Facilities District not exempt from the Special Tax. The voting procedure shall be by mailed or hand-delivered ballot.

SECTION 13. The City Council hereby finds and determines that all proceedings up to and including the adoption of this Resolution were valid and in conformity with the requirements of the Act. In accordance with Section 53325.1 of the Act, such finding shall be final and conclusive.

SECTION 14. All actions heretofore taken by the officers, employees and agents of the City with respect to the establishment of the Community Facilities District, or in connection with or related to any of the matters referred to herein, are hereby approved, confirmed and ratified.

SECTION 15. The officers, employees and agents of the City are hereby authorized and directed to take all actions and do all things that they, or any of them, may deem necessary or desirable to accomplish the purposes of this Resolution and not inconsistent with the provisions hereof.

SECTION 16. This Resolution shall take effect immediately upon its adoption.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

EXHIBIT A

SERVICES AND INCIDENTAL EXPENSES

Services

The types of services to be financed by the Community Facilities District are police protection services, fire protection and suppression services, ambulance and paramedic services, maintenance and lighting of parks, parkways, streets, roads and open space, flood and storm protection services, maintenance and operation of fiber optic telecommunication, wireless communication and public safety camera systems and maintenance and operation of any real property or other tangible property with an estimated useful life of five or more years that is owned by the City.

Incidental Expenses

The incidental expenses proposed to be incurred include the costs associated with the creation of the Community Facilities District, determination of the amount of taxes, collection of taxes, payment of taxes, or costs otherwise incurred in order to carry out the authorized purposes of the Community Facilities District.

EXHIBIT B

PROPOSED RATE AND METHOD OF APPORTIONMENT OF SPECIAL TAX

CITY OF ONTARIO
COMMUNITY FACILITIES DISTRICT NO. 61
(MERRILL COMMERCE CENTER SERVICES)

RATE AND METHOD OF APPORTIONMENT OF SPECIAL TAX

A Special Tax shall be levied on all Assessor's Parcels in the City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services) ("CFD No. 61") and collected each Fiscal Year commencing in Fiscal Year 2023-24, in an amount determined by the City Council of the City of Ontario through the application of the Rate and Method of Apportionment, as described below. All of the real property in CFD No. 61, unless exempted by law or by the provisions hereof, shall be taxed for the purposes, to the extent, and in the manner herein provided.

A. DEFINITIONS

The terms as may hereinafter be set forth have the following meanings:

"Act" means the Mello-Roos Community Facilities Act of 1982, as amended, being Chapter 2.5 of Part 1 of Division 2 of Title 5 of the California Government Code.

"Administrative Expenses" means the following actual or reasonably estimated costs directly related to the administration of CFD No. 61: the costs of computing the Special Taxes and preparing the annual Special Tax collection schedules (whether by the City or CFD No. 61 or both); the costs of collecting the Special Taxes (whether by the County or otherwise); the costs associated with preparing Special Tax disclosure statements and responding to public inquiries regarding the Special Taxes; the costs of the City or CFD No. 61 related to an appeal of the Special Tax; the City's administration fees and third party expenses; the costs of City staff time and reasonable overhead related to CFD No. 61; and amounts estimated or advanced by the City or CFD No. 61 for any other administrative purposes of CFD No. 61, including attorney's fees and other costs related to commencing and pursuing to completion any foreclosure of delinquent Special Taxes.

"Assessor's Parcel" means a lot or parcel shown on an Assessor's Parcel Map with an assigned Assessor's Parcel Number.

"Assessor's Parcel Map" means an official map of the Assessor of the County designating parcels by Assessor's Parcel Number.

"Assessor's Parcel Number" means, with respect to an Assessor's Parcel, that number assigned to such Assessor's Parcel by the County for purposes of identification.

"CFD Administrator" means an official of the City responsible for determining the Special Tax Requirement, providing for the levy and collection of the Special Tax, and performing the other duties provided for herein.

"CFD No. 61" means City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services).

"City" means the City of Ontario, California.

"City Council" means the City Council of the City, acting as the legislative body of CFD No. 61.

"County" means the County of San Bernardino.

"Fiscal Year" means the period starting July 1 and ending on the following June 30.

"Gated Community Attached Dwelling Unit" means a Unit within any residential building containing two or more dwelling units (including attached condominiums, townhouses, duplexes, triplexes, and apartments) within a gated community that, within such community, is primarily served by private interior streets.

"Land Use Class" means any of the classes listed in Table 1 below.

"Lower Income Household Welfare Exemption Property" means, for each Fiscal Year, an Assessor's Parcel within the boundaries of CFD No. 61 that is subject to a welfare exemption under subdivision (g) of Section 214 of the California Revenue and Taxation Code (or any successor statute), as indicated in the most recent County assessor's roll finalized prior to such Fiscal Year.

"Maximum Special Tax" means, with respect to an Assessor's Parcel of Taxable Property, the maximum Special Tax determined in accordance with Section C below that can be levied in any Fiscal Year on such Assessor's Parcel of Taxable Property.

"Multiple Family Dwelling Unit" means a Unit within any residential building containing two or more dwelling units, including attached condominiums, townhomes, duplexes, triplexes, and apartments, but excluding Gated Community Attached Dwelling Units.

"Non-Residential" means any buildings that are for commercial lodging use, commercial retail use, institutional use (e.g., churches, private schools), commercial restaurant use, office use, or industrial use.

"Non-Residential Property" means, for each Fiscal Year, an Assessor's Parcel for which a building permit for new construction was issued after January 1, 2021, and before May 1 of the prior Fiscal Year, for a Non-Residential use.

"Property Owner Association Property" means, for each Fiscal Year, property within the boundaries of CFD No. 61 that was owned by a property owner association, including any master or sub-association, as of January 1 of the prior Fiscal Year.

"Proportionately" means that the ratio of the actual Special Tax levy to the Maximum Special Tax is equal for all Assessor's Parcels of Taxable Property.

"Public Property" means, for each Fiscal Year, property within the boundaries of CFD No. 61 that is (a) owned by, irrevocably offered to, or dedicated to the federal government, the State, the County, the City, or any local government or other public agency or (b) encumbered by an easement for purposes of public or utility right-of-way that makes impractical its use for any purpose other than that set forth in such easement, provided that any property leased by a public agency to a private entity and subject to taxation under Section 53340.1 of the Act shall be taxed and classified according to its use.

"Rate and Method of Apportionment" means this Rate and Method of Apportionment of Special Tax.

"Residential Property" means, for each Fiscal Year, an Assessor's Parcel for which a building permit for new construction of one or more Units was issued after January 1, 2021, and before May 1 of the prior Fiscal Year.

"Services" means the services authorized to be financed, in whole or in part, by CFD No. 61, including: police protection services; fire protection and suppression services; ambulance and paramedic services; maintenance and lighting of parks, parkways, streets, roads, and open space; flood and storm protection services; and maintenance and operation of any real property or other tangible property with an estimated useful life of five or more years that is owned by the City.

"Single Family Detached Dwelling Unit" means any residential building containing only one Unit on one legal lot, including single family residences and single family detached residential condominium units.

"Special Tax" means the special tax authorized by the qualified electors of CFD No. 61 to be levied within the boundaries of CFD No. 61.

"Special Tax Requirement" means the amount necessary in any Fiscal Year to pay the cost of the Services, Administrative Expenses, and an amount equal to Special Tax delinquencies based on the historical delinquency rate for Special Taxes, as determined by the CFD Administrator.

"Square Footage" or **"Sq. Ft."** means, with respect to a building of Non-Residential Property, the gross floor area square footage reflected on the original construction building permit, or as set forth in other official records maintained by the City's Building Department or other appropriate means selected by CFD No. 61, for such building, plus any square footage subsequently added to a building of Non-Residential Property after issuance of a building permit for expansion or renovation of such building.

"State" means the State of California.

"Taxable Property" means, for each Fiscal Year, all Assessor's Parcels of Residential Property and Non-Residential Property within the boundaries of CFD No. 61 which are not exempt from the Special Tax pursuant to law or Section E below.

"Unit" means an individual single-family detached or attached home, townhome, condominium, apartment unit, or other residential dwelling unit, including each separate living area within a half-plex, duplex, triplex, fourplex, or other residential structure.

B. ASSIGNMENT TO LAND USE CATEGORIES

Each Fiscal Year, beginning with Fiscal Year 2023-24, all Taxable Property within CFD No. 61 shall be classified as Residential Property (Single Family Detached Dwelling Unit, Multiple Family Dwelling Unit, or Gated Community Attached Dwelling Unit) or Non-Residential Property and shall be subject to Special Taxes in accordance with the Rate and Method of Apportionment as determined pursuant to Sections C and D below.

C. MAXIMUM SPECIAL TAX

The Maximum Special Tax for each Assessor's Parcel classified as Taxable Property shall be determined by reference to Table 1 below.

TABLE 1
MAXIMUM SPECIAL TAX

Land Use Class	Maximum Special Tax Fiscal Year 2023-24
Residential Property:	
Single Family Detached Dwelling Unit	$1,501.46 per Unit
Multiple Family Dwelling Unit	$1,301.19 per Unit
Gated Community Attached Dwelling Unit	$1,091.19 per Unit
Non-Residential Property	$0.273800 per Sq. Ft.

On January 1 of each Fiscal Year, commencing January 1, 2024, the Maximum Special Tax to be applied in the next Fiscal Year shall be subject to an automatic increase at a rate equal to 4.0% of the amount in effect for the prior Fiscal Year.

In some instances an Assessor's Parcel of Taxable Property may contain more than one Land Use Class. The Maximum Special Tax levied on such Assessor's Parcel shall be the sum of the Maximum Special Tax for all Units of Residential Property and Square Footage of Non-Residential Property (based on the applicable building permits, final subdivision map, parcel map, condominium plan, or other recorded County map) located on that Assessor's Parcel.

D. METHOD OF APPORTIONMENT OF THE SPECIAL TAX

Each Fiscal Year, beginning with Fiscal Year 2023-24, the CFD Administrator shall determine the Special Tax Requirement. The Special Tax shall then be levied Proportionately on each Assessor's Parcel of Taxable Property up to 100% of the applicable Maximum Special Tax for such Assessor's Parcel, until the Special Tax Requirement is satisfied. However, the Special Tax levied in any Fiscal Year shall not increase by more than 4.0% of the amount of the Special Tax levied in the prior Fiscal Year.

E. EXEMPTIONS

Notwithstanding anything in this Rate and Method of Apportionment to the contrary, no Special Tax shall be levied on Public Property or Property Owner Association Property.

No Special Tax shall be levied on Lower Income Household Welfare Exemption Property; provided, however, that if, in any Fiscal Year, applicable law does not require that Lower Income Household Welfare Exemption Property be exempt from some portion, or all, of the Special Tax, such portion, or all, of the Special Tax shall be levied on such property in accordance with this Rate and Method of Apportionment based on the Land Use Class to which the Assessor's Parcel is assigned.

F. APPEALS

Any property owner may file a written appeal of the Special Tax with CFD No. 61 claiming that the amount or application of the Special Tax is not correct. The appeal must be filed not later than one calendar year after having paid the Special Tax that is disputed, and the appellant must be current in all payments of Special Taxes. In addition, during the term of the appeal process, all Special Taxes levied must be paid on or before the payment date established when the levy was made.

The appeal must specify the reasons why the appellant claims the Special Tax is in error. The CFD Administrator shall review the appeal, meet with the appellant if the CFD Administrator deems necessary, and advise the appellant of its determination.

If the property owner disagrees with the CFD Administrator's decision relative to the appeal, the owner may then file a written appeal with the City Council, whose subsequent decision shall be final and binding on all interested parties. If the decision of the CFD Administrator or subsequent decision by the City Council requires the Special Tax to be modified or changed in favor of the property owner, then the CFD Administrator shall determine if sufficient Special Tax revenue is available to make cash refund. If a cash refund cannot be made, then an adjustment shall be made to credit future Special Tax levy(ies).

This procedure shall be exclusive and its exhaustion by any property owner shall be a condition precedent to filing any legal action by such owner.

G. MANNER OF COLLECTION

The Special Taxes shall be collected in the same manner and at the same time as ordinary *ad valorem* property taxes; provided, however, that the Special Taxes may be collected in such other manner as the City Council shall determine, including direct billing of affected property owners.

H. TERM OF SPECIAL TAX

The Special Tax shall continue to be levied indefinitely on an annual basis on all Taxable Property in CFD No. 61.

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, CALLING A SPECIAL ELECTION FOR CITY OF ONTARIO COMMUNITY FACILITIES DISTRICT NO. 61 (MERRILL COMMERCE CENTER SERVICES)

WHEREAS, on this date, the City Council (the "City Council") of the City of Ontario (the "City"), pursuant to the Mello-Roos Community Facilities Act of 1982 (the "Act"), adopted a resolution entitled "A Resolution of the City Council of the City of Ontario, California, of Formation of the City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services), Authorizing the Levy of a Special Tax within the Community Facilities District and Establishing an Appropriations Limit for the Community Facilities District" (the "Resolution of Formation"), establishing City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services) (the "Community Facilities District"), authorizing the levy of a special tax (the "Special Tax") within the Community Facilities District and establishing an appropriations limit of $83,000,000 for the Community Facilities District; and

WHEREAS, pursuant to the provisions of the Resolution of Formation, the propositions to levy the Special Tax within the Community Facilities District and to establish an appropriations limit for the Community Facilities District are to be submitted to the qualified electors of the Community Facilities District as required by the Act; and

WHEREAS, the City Council desires to designate the City Clerk of the City (the "City Clerk") as the election official for the special election provided for herein; and

WHEREAS, there has been filed with the City Clerk a letter from the Registrar of Voters of the County of San Bernardino indicating that no persons were registered to vote within the territory of the proposed Community Facilities District as of May 10, 2023, and, which demonstrates that 12 or more persons have not been registered to vote within the territory of the Community Facilities District for each of the 90 days preceding the close of the public hearings on the establishment of the Community Facilities District; and

WHEREAS, there has been filed with the City Clerk consents and waivers of all of the landowners of record in the Community Facilities District waiving any time limit specified by Section 53326 of the Act and any requirement pertaining to the conduct of said special election, consenting to the holding of said special election on June 20, 2023 and waiving any impartial analysis, arguments or rebuttals, as set forth in Sections 53326 and 53327 of the Act; and

WHEREAS, the City Clerk has concurred in said waivers and has concurred in holding said special election on June 20, 2023.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ontario as follows:

SECTION 1. The foregoing recitals are true and correct.

SECTION 2. Pursuant to Sections 53326 and 53325.7 of the Act, the propositions to levy the Special Tax within the Community Facilities District and to establish such appropriations limit of the Community Facilities District shall be submitted to the qualified electors of the Community Facilities District at an election called therefor as provided below.

SECTION 3. The City Clerk is hereby designated as the official to conduct said election.

SECTION 4. As authorized by Section 53353.5 of the Act, the propositions to levy the Special Tax within the Community Facilities District and to establish such appropriations limit for the Community Facilities District shall be combined into one ballot proposition.

SECTION 5. The City Council hereby finds and determines that no persons were registered to vote within the territory of the proposed Community Facilities District as of May 10, 2023, and that 12 or more persons have not been registered to vote within the territory of the Community Facilities District for each of the 90 days preceding the close of the public hearings heretofore held by the City Council on the establishment of the Community Facilities District. Accordingly, pursuant to Section 53326 of the Act, the vote shall be by the landowners of the Community Facilities District and each person who is the owner of land as of the close of said public hearings, or the authorized representative thereof, shall have one vote for each acre or portion of an acre that he or she owns within the Community Facilities District not exempt from the Special Tax.

SECTION 6. The City Council hereby finds and determines that the qualified electors of the Community Facilities District have unanimously consented (a) to the waiver of any time limit specified by Section 53326 of the Act and any requirement pertaining to the conduct of said election, (b) to the holding of said election on June 20, 2023, and (c) to the waiver of any impartial analysis, arguments or rebuttals, as set forth in Sections 53326 and 53327 of the Act. The City Council hereby finds and determines that the City Clerk has concurred in said waivers and has concurred in holding said election on June 20, 2023.

SECTION 7. The City Council hereby calls a special election to submit to the qualified electors of the Community Facilities District the combined proposition to levy the Special Tax within the Community Facilities District and to establish an appropriations limit of the Community Facilities District in the amount of $83,000,000, which election shall be held at 303 East B Street, Ontario, California, on June 20, 2023, provided, that, in the event the June 20, 2023 City Council meeting is held via teleconference and/or videoconference only, the means by which the public may observe such public hearings and offer public comment would be as prescribed in the notice and agenda for such City Council meeting. The City Council has caused to be provided to the City Clerk, as the official to conduct said election, the Resolution of Formation, a certified map of sufficient scale and clarity to show the boundaries of the Community Facilities District, and a sufficient description to allow the City Clerk to determine the boundaries of the Community Facilities District.

The voted ballots shall be returned to the City Clerk not later than 7:30 p.m. on June 20, 2023; provided, however, that if all of the qualified electors have voted prior to such time, the election may be closed with the concurrence of the City Clerk.

SECTION 8. Pursuant to Section 53326 of the Act, the election shall be conducted by mail or hand-delivered ballot pursuant to Section 4000 *et. seq.* of the California Elections Code. Except as otherwise provided in the Act, the provisions of law regulating elections of the City, insofar as they may be applicable, will govern the election.

SECTION 9. The form of the ballot for said election is attached hereto as Exhibit A and by this reference incorporated herein, and such form of ballot is hereby approved. The City Clerk shall cause to be delivered to each of the qualified electors of the Community Facilities District a ballot in said form. Each ballot shall indicate the number of votes to be voted by the respective landowner to which it pertains.

Each ballot shall be accompanied by all supplies and written instructions necessary for the use and return of the ballot. The identification envelope for return of the ballot shall be enclosed with the ballot, shall have the return postage prepaid, and shall contain: (a) the name and address of the landowner, (b) a declaration, under penalty of perjury, stating that the voter is the owner of record or the authorized representative of the landowner entitled to vote and is the person whose name appears on the identification envelope, (c) the printed name, signature and address of the voter, (d) the date of signing and place of execution of the declaration described in clause (b) above, and (e) a notice that the envelope contains an official ballot and is to be opened only by the canvassing board.

Analysis and arguments with respect to the ballot proposition are hereby waived, as provided in Section 53327 of the Act.

SECTION 10. The City Clerk shall accept the ballots of the qualified electors in the office of the City Clerk at 303 East B Street, Ontario, California, to and including 7:30 p.m. on June 20, 2023, whether said ballots be personally delivered or received by mail. The City Clerk shall have available ballots which may be marked at said location on the election day by said qualified electors.

SECTION 11. The City Council hereby determines that the services financed by the Community Facilities District are necessary to meet increased demands placed upon local agencies as a result of development occurring in the Community Facilities District.

SECTION 12. All actions heretofore taken by the officers, employees and agents of the City with respect to the special election called for herein, or in connection with or related to any of the matters referred to herein, are hereby approved, confirmed and ratified.

SECTION 13. The officers, employees and agents of the City are hereby authorized and directed to take all actions and do all things that they, or any of them, may deem necessary or desirable to accomplish the purposes of this Resolution and not inconsistent with the provisions hereof.

SECTION 14. This Resolution shall take effect immediately upon its adoption.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

EXHIBIT A

OFFICIAL BALLOT

CITY OF ONTARIO
JUNE 20, 2023

SPECIAL ELECTION

This ballot is for a special, landowner election. The number of votes to be voted pursuant to this ballot is ____.

INSTRUCTIONS TO VOTERS:

To vote on the measure, mark a cross (+ or X) in the voting square after the word "YES" or after the word "NO". All distinguishing marks or erasures are forbidden and make the ballot void. If you wrongly mark, tear, or deface this ballot, return it to the City Clerk of the City of Ontario and obtain another.

CITY OF ONTARIO
COMMUNITY FACILITIES DISTRICT NO. 61
(MERRILL COMMERCE CENTER SERVICES)

MEASURE SUBMITTED TO VOTE OF VOTERS: Shall the City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services) (the "Community Facilities District") be authorized to levy a special tax in order to finance certain services and shall the annual appropriations limit of the Community Facilities District be established in the amount of $83,000,000, all as specified in the Resolution entitled "A Resolution of the City Council of the City of Ontario, California, of Formation of the City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services), Authorizing the Levy of a Special Tax within the Community Facilities District and Establishing an Appropriations Limit for the Community Facilities District," adopted by the City Council of the City of Ontario on June 20, 2023?	Yes: ☐ No: ☐

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, DECLARING RESULTS OF A SPECIAL ELECTION AND DIRECTING RECORDING OF NOTICE OF SPECIAL TAX LIEN.

WHEREAS, on June 20, 2023, the City Council (the "City Council") of the City of Ontario (the "City"), pursuant to the Mello-Roos Community Facilities Act of 1982 (the "Act"), adopted a resolution entitled "A Resolution of the City Council of the City of Ontario, California, Calling Special Election for City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services)" (the "Resolution Calling Election"), calling for a special election of the qualified electors within City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services) (the "Community Facilities District"); and

WHEREAS, pursuant to the terms of the Resolution Calling Election and the provisions of the Act, the special election was held on June 20, 2023; and

WHEREAS, the City Clerk of the City (the "City Clerk") has certified the canvass of the returns of the election and has filed a Canvass and Statement of Results of Election (the "Canvass"), a copy of which is attached hereto as Exhibit A;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Ontario as follows:

SECTION 1. The foregoing recitals are true and correct.

SECTION 2. The City Council has received, reviewed and hereby accepts the Canvass.

SECTION 3. The City Council hereby finds and declares that the ballot proposition submitted to the qualified electors of the Community Facilities District pursuant to the Resolution Calling Election has been passed and approved by such electors in accordance with Section 53328 and Section 53325.7 of the Act.

SECTION 4. The City Clerk is hereby directed to execute and cause to be recorded in the office of the County Recorder of the County of San Bernardino a notice of special tax lien in the form required by the Act, said recording to occur no later than fifteen days following adoption by the City Council of this Resolution.

SECTION 5. All actions heretofore taken by the officers, employees and agents of the City with respect to the special election, or in connection with or related to any of the matters referred to herein, are hereby approved, confirmed and ratified.

SECTION 6. The officers, employees and agents of the City are hereby authorized and directed to take all actions and do all things that they, or any of them, may deem necessary or desirable to accomplish the purposes of this Resolution and not inconsistent with the provisions hereof.

SECTION 7. This Resolution shall take effect immediately upon its adoption.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

EXHIBIT A

CITY OF ONTARIO
COMMUNITY FACILITIES DISTRICT NO. 61
(MERRILL COMMERCE CENTER SERVICES)

CANVASS AND STATEMENT OF RESULTS OF ELECTION

I hereby certify that on June 20, 2023, I canvassed the returns of the special election held on June 20, 2023, for the City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services), that the total number of ballots cast in said Community Facilities District and the total number of votes cast for and against the proposition are as follows and that the totals as shown for and against the proposition are true and correct:

	Qualified Landowner Votes	Votes Cast	YES	NO
City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services) Special Election, June 20, 2023	333	___	___	___

MEASURE SUBMITTED TO VOTE OF VOTERS: Shall the City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services) (the "Community Facilities District") be authorized to levy a special tax in order to finance certain services and shall the annual appropriations limit of the Community Facilities District be established in the amount of $83,000,000, all as specified in the Resolution entitled "A Resolution of the City Council of the City of Ontario, California, of Formation of the City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services), Authorizing the Levy of a Special Tax within the Community Facilities District and Establishing an Appropriations Limit for the Community Facilities District," adopted by the City Council of the City of Ontario on June 20, 2023?

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND this 20th day of June 2023.

By: _____
SHEILA MAUTZ, CITY CLERK

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, LEVYING A SPECIAL TAX WITHIN THE CITY OF ONTARIO COMMUNITY FACILITIES DISTRICT NO. 61 (MERRILL COMMERCE CENTER SERVICES).

WHEREAS, on May 16, 2023, the City Council (the "City Council") of the City of Ontario (the "City"), pursuant to the Mello-Roos Community Facilities Act of 1982 (the "Act"), adopted a resolution entitled "A Resolution of the City Council of the City of Ontario, California, of Intention to Establish a Community Facilities District Proposed to be Named City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services) and to Authorize the Levy of a Special Tax" stating its intention to establish City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services) (the "Community Facilities District"), to authorize the levy of a special tax (the "Special Tax") within the Community Facilities District and to finance certain services (the "Services"); and

WHEREAS, on June 20, 2023, the City Council held a noticed public hearing on the establishment of the Community Facilities District, as required by the Act; and

WHEREAS, subsequent to the close of said hearing, the City Council adopted resolutions entitled "A Resolution of the City Council of the City of Ontario, California, of Formation of the City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services), Authorizing the Levy of a Special Tax within the Community Facilities District and Establishing an Appropriations Limit for the Community Facilities District" (the "Resolution of Formation") and "A Resolution of the City Council of the City of Ontario, California, Calling Special Election for City of Ontario Community Facilities District No. 61 (Merrill Commerce Center Services)," which resolutions established the Community Facilities District, authorized the levy of the Special Tax within the Community Facilities District and called an election within the Community Facilities District on the proposition of levying the Special Tax within the Community Facilities District and establishing an appropriations limit of the Community Facilities District, respectively; and

WHEREAS, on June 20, 2023, an election was held in which the qualified electors of the Community Facilities District approved said proposition by more than the two-thirds vote required by the Act.

THE CITY COUNCIL OF THE CITY OF ONTARIO DOES ORDAIN AS FOLLOWS:

SECTION 1. The City Council hereby authorizes and levies the Special Tax within the Community Facilities District pursuant to Sections 53328 and 53340 of the Act, at the rate and in accordance with the method of apportionment set forth in Exhibit B to the Resolution of Formation (the "Rate and Method of Apportionment"). The Special Tax is hereby levied commencing in fiscal year 2023-24 and in each fiscal year thereafter until the last fiscal year in which such Special Tax is authorized to be levied pursuant to the Rate and Method of Apportionment.

SECTION 2. The City Council may, in accordance with subdivision (b) of Section 53340 of the Act, provide, by resolution, for the levy of the Special Tax in future tax years at the same rate or at a lower rate than the rate provided by this Ordinance. In no event shall the Special Tax be levied on any parcel within the Community Facilities District in excess of the maximum tax specified therefor in the Rate and Method of Apportionment.

SECTION 3. The Special Tax shall be levied on all of the parcels in the Community Facilities District, unless exempted by law or by the Rate and Method of Apportionment.

SECTION 4. The proceeds of the Special Tax shall only be used to pay, in whole or in part, the cost of providing the Services and incidental expenses pursuant to the Act.

SECTION 5. The Special Tax shall be collected in the same manner as ordinary *ad valorem* property taxes are collected and shall be subject to the same penalties and the same procedure, sale and lien priority in the case of delinquency as is provided for *ad valorem* taxes, unless another procedure is adopted by the City Council.

SECTION 6. If for any reason any portion of this Ordinance is found to be invalid, or if the Special Tax is found inapplicable to any particular parcel within the Community Facilities District, by a court of competent jurisdiction, the balance of this Ordinance and the application of the Special Tax to the remaining parcels within the Community Facilities District shall not be affected.

SECTION 7. The Mayor shall sign this Ordinance and the City Clerk shall certify as to the adoption and shall cause a summary thereof to be published at least once, in a newspaper of general circulation in the City of Ontario, California within fifteen (15) days of the adoption. The City Clerk shall post a certified copy of this ordinance, including the vote for and against the same, in the Office of the City Clerk, in accordance with Government Code Section 36933.

PASSED, APPROVED, AND ADOPTED this _____ day of _____ 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Ordinance No. _____ was duly introduced at a regular meeting of the City Council of the City of Ontario held _____ and adopted at the regular meeting held _____, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

I hereby certify that the foregoing is the original of Ordinance No. _____ duly passed and adopted by the Ontario City Council at their regular meeting held _____ and that Summaries of the Ordinance were published on _____ and _____, in the Inland Valley Daily Bulletin newspaper.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **PUBLIC HEARINGS**
Department: Development Administration Prepared By: Derrick E Womble Staff Member Presenting: Scott Murphy, Executive Director Community Development Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 27

SUBJECT: **A PUBLIC HEARING TO CONSIDER AN ORDINANCE MODIFYING THE PROCESSING AND ADMINISTRATION FEE FOR THE DEVELOPMENT IMPACT FEE (DIF) DEFERRAL PROGRAM**

RECOMMENDATION: That the City Council introduce and waive further reading of an Ordinance modifying the processing and administration fee for the Development Impact Fee (DIF) Deferral Program.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Invest in the Growth and Evolution of the City's Economy
Operate in a Businesslike Manner
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)

FISCAL IMPACT: The Development Impact Fee (DIF) Deferral Program requires a processing and administration fee of $7,500 for deferral agreements. A review of the cost to process and administer the individual deferral agreements between the City of Ontario and the participating developers has occurred and concluded that a reduction in the fee to $4,000 is appropriate. The reduced fee will continue to cover the City's costs for initiating and administering the deferral agreements. The DIF Deferral Program will continue to address the City Council' s long-standing direction that new development generates enough revenue to fund required City infrastructure without reliance on financial resources of the City's General Fund.

BACKGROUND & ANALYSIS: On February 18, 2020, the City Council adopted Ordinance No. 3156, establishing a permanent DIF Deferral Program city-wide for residential and non-residential development, allowing developers the option to defer certain DIF from building permit issuance to final inspection. Ordinance No. 3156 set a processing and administration fee of $7,500 (estimated fee).

With a number of deferral agreements having been completed, Staff has conducted a review of the actual time and cost associated with individual agreements and concluded that a reduction in the processing and administration fee to $4,000 is appropriate. The revised fee will continue to cover

the City's costs for administering the fee deferral agreements.

The proposed Ordinance shall not modify or change any other terms or provisions previously established by Ordinance No. 3156, which shall remain in full force and effect. Any subsequent changes to the processing and administration fee shall be modified as part of the Citywide Fee Schedule update, approved by resolution of the City Council.

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, MODIFYING THE PROCESSING AND ADMINISTRATION FEE FOR THE DEVELOPMENT IMPACT FEE ("DIF") DEFERRAL PROGRAM.

WHEREAS, on June 23, 2003, the City Council of the City of Ontario (the "City Council") adopted Resolution No. 2003-039 to establish policies for the implementation of the new and modified Development Impact Fees ("DIF"). Resolution No. 2003-039 requires the payment of DIF no more than five (5) days prior to the issuance of building permits; and

WHEREAS, on July 1, 2003, the City Council adopted Ordinance Nos. 2779 and 2780 to implement new and modified DIF in recognition of the need to finance adequate infrastructure and other public improvements and facilities made necessary by new development in the City of Ontario (the "City"); and

WHEREAS, on February 18, 2020, the City Council adopted Ordinance No. 3156, establishing a permanent DIF Deferral Program city-wide for residential and non-residential development, allowing developers the option to defer certain DIF; and

WHEREAS, Ordinance No. 3156 established an Administrative Processing Fee of seven thousand five hundred dollars ($7,500); and

WHEREAS, a review of the estimated costs to process and administer the individual agreements between the City and the participating developers has occurred and concluded a modification to the Administrative Processing Fee is necessary; and

WHEREAS, the City Council, as the City's governing body, has the authority to establish and modify policies and fees for the implementation of the City's DIF Deferral Program; and

WHEREAS, City of Ontario Development Code Division 2.03 (Public Hearings) prescribes the manner in which public notification shall be provided and hearing procedures to be followed, and all such notifications and procedures have been completed; and

WHEREAS, on June 20, 2023, the City Council of the City of Ontario conducted a hearing and concluded said hearing on that date; and

WHEREAS, all legal prerequisites to the adoption of this Ordinance have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND ORDAINED by the City Council of the City of Ontario, as follows:

SECTION 1: Section 7 of Ordinance No. 3156 is hereby amended to read as follows:

Processing and Administration Fee. A processing and administration fee is hereby authorized to be collected at the time the agreement is executed. The amount of the fee shall be specified in the City Fee Schedule, which may only be revised by a duly adopted resolution of the City Council. The fee is based upon the City's estimated costs to process and administer the individual agreements between the City and the participating developer and the costs of tracking and eventual collection of the deferred fees.

SECTION 2. The adoption of this Ordinance shall not modify or change any other terms or provisions previously established by Ordinance No. 3156, which shall remain in full force and effect.

SECTION 3. ***Effective Date.*** This Ordinance shall become effective 30 days following its adoption.

SECTION 4. ***Publication and Posting.*** The Mayor shall sign this Ordinance and the City Clerk shall certify as to the adoption and shall cause a summary thereof to be published at least once, in a newspaper of general circulation in the City of Ontario, California within 15 days following the adoption. The City Clerk shall post a certified copy of this ordinance, including the vote for and against the same, in the Office of the City Clerk, in accordance with Government Code Section 36933.

PASSED, APPROVED, AND ADOPTED this ____ day of _____ 20___.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Ordinance No. _____ was duly introduced at a regular meeting of the City Council of the City of Ontario held June 20, 2023 and adopted at the regular meeting held _____, 20___ by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

I hereby certify that the foregoing is the original of Ordinance No. _____ duly passed and adopted by the Ontario City Council at their regular meeting held _____ and that Summaries of the Ordinance were published on _____ and _____, in the Inland Valley Daily Bulletin newspaper.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **PUBLIC HEARINGS**
Department: Development Administration Prepared By: Derrick E Womble Staff Member Presenting: Scott Murphy, Executive Director Community Development Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 28

SUBJECT: **A PUBLIC HEARING TO CONSIDER THE ADOPTION OF AN ORDINANCE APPROVING A DEVELOPMENT AGREEMENT (FILE NO. PDA21-006) BETWEEN THE CITY OF ONTARIO AND EUCLID LAND VENTURE 2 LLC**

RECOMMENDATION: That the City Council introduce and waive further reading of an Ordinance approving a Development Agreement (File No. PDA21-006) between the City of Ontario and Euclid Land Venture 2 LLC, to establish the terms and conditions associated with Tentative Parcel Map No. 20517 (File No. PMTT22-005), an 80-acre property bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, within the Business Park and Industrial General land use district of the Ontario Ranch Business Park Specific Plan.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Invest in the Growth and Evolution of the City's Economy
Operate in a Businesslike Manner
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)
Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in Ontario Ranch

FISCAL IMPACT: The proposed Development Agreement (File No. PDA21-006) will not have a direct impact on the City's General Fund. The Development Agreement will provide funding from the formation of a Community Facilities District (CFD) for City services and facilities required to support the Ontario Ranch Business Park Specific Plan (Specific Plan) development, thereby mitigating the increased costs associated with such services. In addition, the City will receive public service funding fees plus development impact, compliance processing, licensing, and permitting fees. No General Fund revenue will be used to support the Ontario Ranch development.

BACKGROUND & ANALYSIS: The Ontario Ranch financial commitments required for construction of properties within a specific plan are substantial. Therefore, in order to adequately forecast these costs and gain assurance that the project may proceed under the existing policies, rules, and regulations, Euclid Land Venture 2 LLC (Owner), has requested that the City enter into negotiations to create a Development Agreement (Agreement).

The Agreement is proposed outside of the NMC Builders' Construction Agreement development area and was established in coordination between the City Attorney and the Owner's legal counsel. The provisions of the Agreement are consistent with the commitments to assure adequate public infrastructure improvements are constructed or funded by the Owner.

The Agreement proposes to include 80 acres of land within the Industrial and Business Park land use districts of the Specific Plan, as shown on the attached Exhibit A. The Agreement grants the Owner a vested right to develop Tentative Parcel Map 20517 (the Map), provided the Owner complies with the terms and conditions of the Specific Plan and related Environmental Impact Report (EIR).

The Map (see attached Exhibit B) is bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, and proposes to subdivide 80 acres of land into six (6) parcels, for the potential development of six (6) industrial buildings totaling 1,559,204 square feet for business park and industrial uses.

The term of the Agreement is for 10 years, with a 5-year option to renew. The main points of the Agreement address funding for all new City expenses created by the project, which includes: Development Impact Fees (DIF) for construction of public improvements (i.e. streets and bridges, sewer, water, storm drain and fiber); Public Service Funding to ensure adequate provisions of public services (police, fire and other public services); and the creation of a Community Facilities District (CFD) for the maintenance of public facilities. Additionally, the Owner shall pay in lieu-fees to the City for the future construction and completion of Ontario Ranch Regional Water and Storm Drain improvements.

In considering the Agreement at their meeting on May 23, 2023, the Planning Commission found the Agreement to be consistent with State law, The Ontario Plan, and the City's Development Agreement policies. As a result, the Planning Commission adopted Resolution No. PC23-037 with a 4 to 0 vote, recommending City Council approval of the Agreement.

ENVIRONMENTAL REVIEW: The environmental impacts of this project were previously reviewed in conjunction with the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002), for which a Final Subsequent Environmental Impact Report (State Clearinghouse No. 2019050018) was certified by the City Council on October 18, 2022. This application introduces no new significant environmental impacts. All previously adopted mitigation measures are a condition of Project approval and are incorporated herein by this reference.

Exhibit A— ONTARIO RANCH BUSINESS PARK SPECIFIC PLAN LAND USE MAP

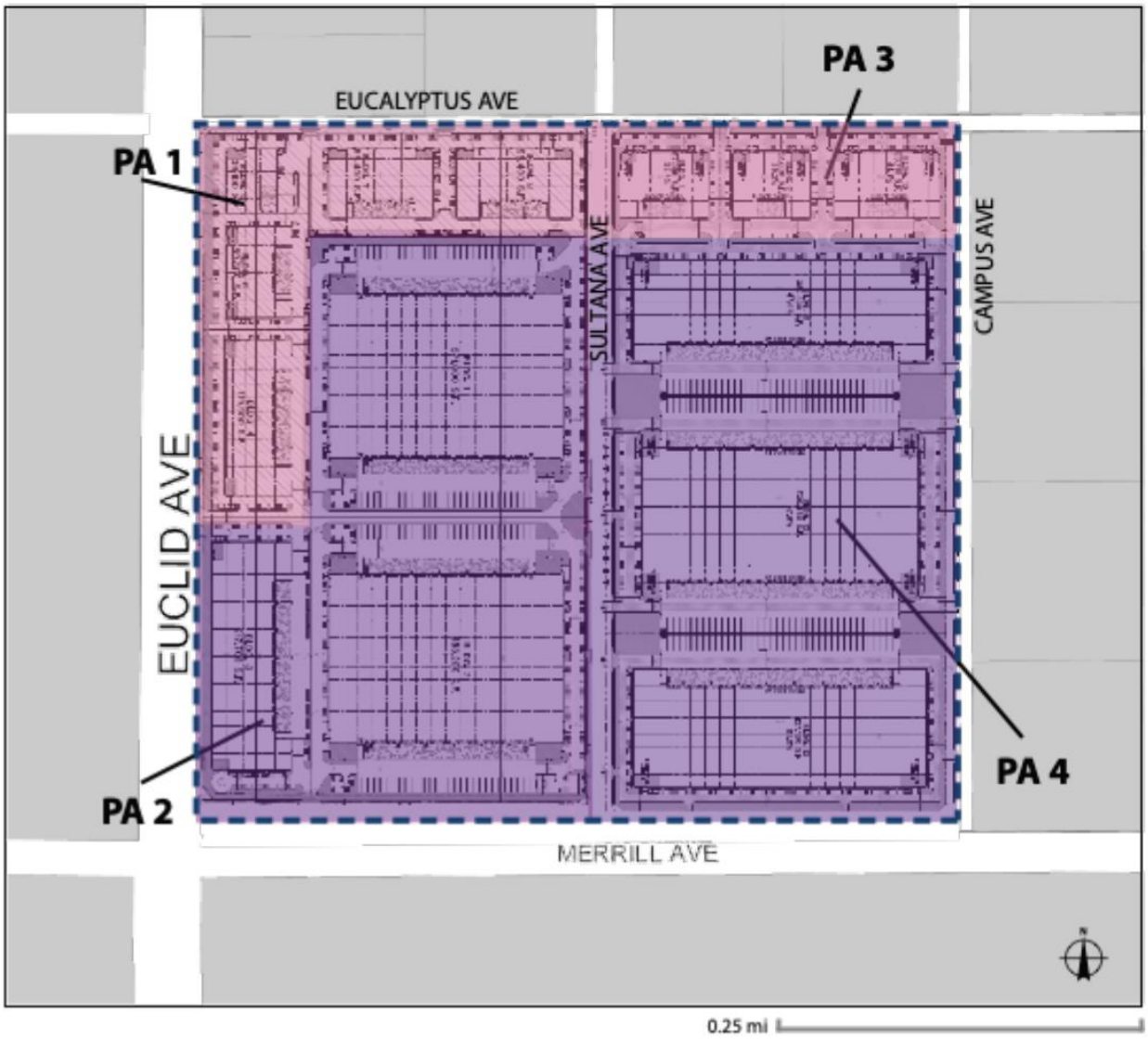
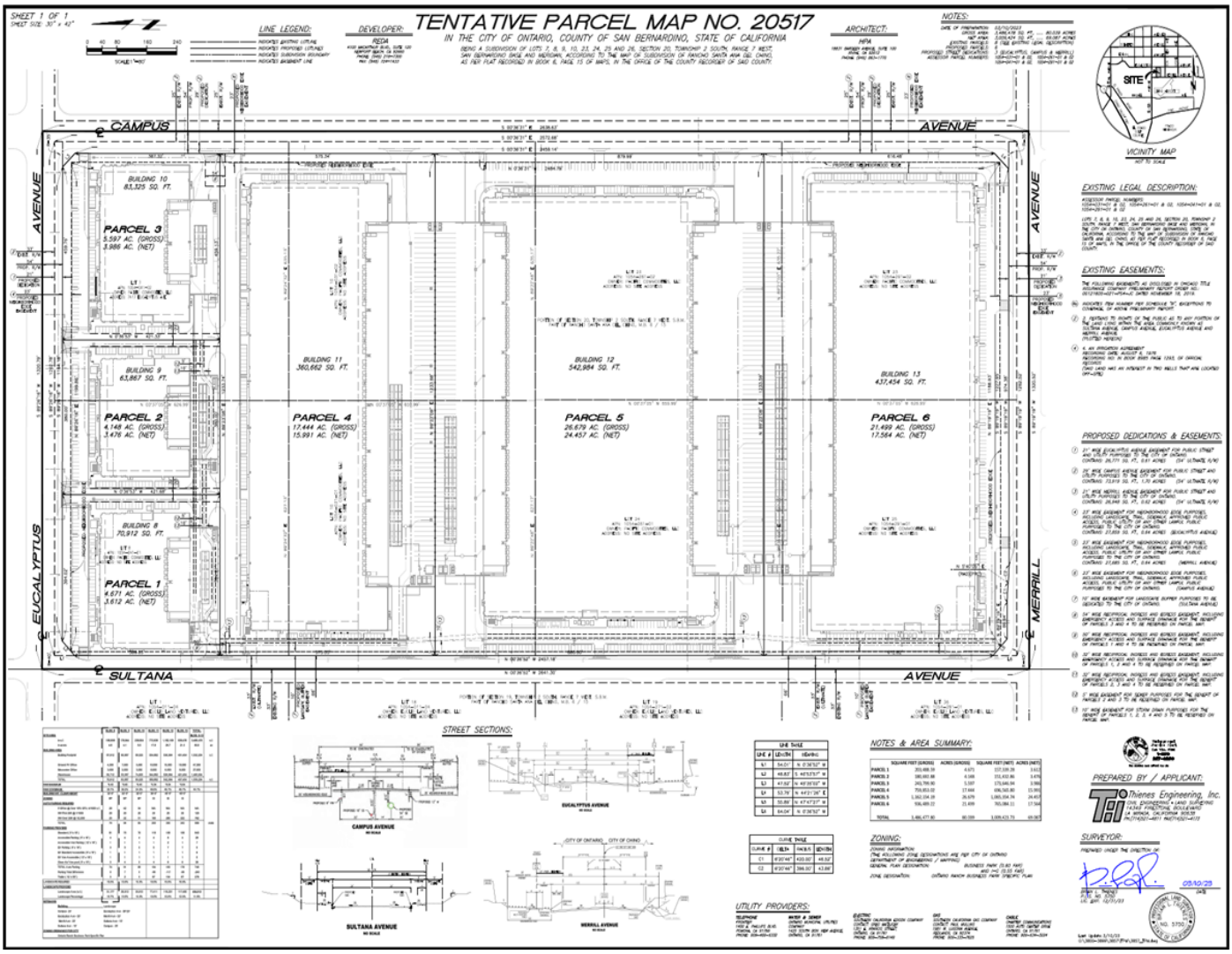


Exhibit B— TENTATIVE PARCEL MAP 20517



CITY OF ONTARIO PLANNING DEPARTMENT

PLANNING COMMISSION STAFF REPORT

May 23, 2023

303 East B Street, Ontario, California 91764 Phone: 909.395.2036 / Fax: 909.395.2420

FILE NO: PDA21-006

SUBJECT: A public hearing to consider a Development Agreement (File No. PDA21-006) between the City of Ontario and Euclid Land Venture 2 LLC, to establish the terms and conditions associated with Tentative Parcel Map No. 20517 (File No. PMTT22-005), an 80 acre property bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, located within the Business Park and Industrial General land use districts of the Ontario Ranch Business Park Specific Plan; (APNs: 1054-041-01, 1054-041-02, 1054-031-01, 1054-031-02, 1054-261-01, 1054-261-02, 1054-291-01, 1054-291-02); **submitted by Euclid Land Venture 2 LLC. City Council action is required.**

PROPERTY OWNER: Euclid Land Venture 2 LLC, a Delaware limited liability company

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RECOMMENDED ACTION: That the Planning Commission consider and recommend City Council adoption of an Ordinance approving the Development Agreement (File No. PDA21-006) between the City of Ontario and Euclid Land Venture 2 LLC, pursuant to the facts and reasons contained in the staff report and attached resolution.

PROJECT SETTING: The project site is comprised of 80 acres of land bordered by Eucalyptus Campus, Merrill, and Sultana Avenues, within the Industrial and Business Park land use districts of the Ontario Ranch Business Park Specific Plan and is depicted in Figure 1: Project Location.

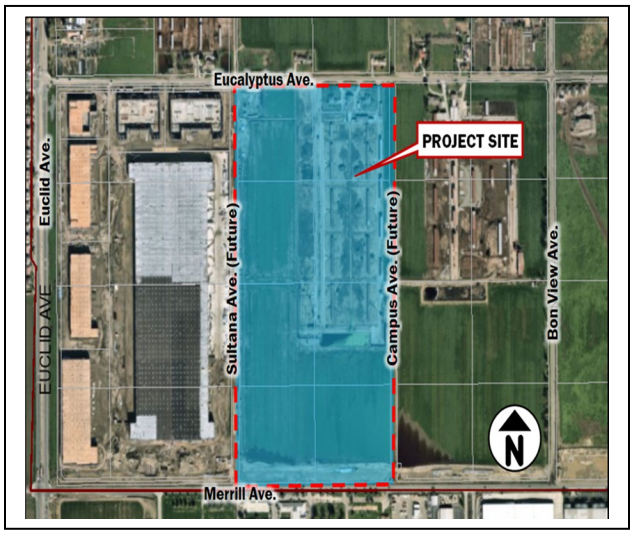


Figure 1: Project Location

PROJECT ANALYSIS:

(1) Background — The Ontario Ranch Business Park Specific Plan (File No. PSP18-002) ("Specific Plan") was approved, and the related Environmental Impact Report ("Certified EIR"; State Clearinghouse No. 2019050018) was certified by the City Council on September 15, 2020.

On October 4, 2022, the City Council approved Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002), which revised Specific Plan to include and assign land use

Case Planner:	Derrick Womble, Departmental Administrator
Planning Director Approval:	
Submittal Date:	07/01/2021

Hearing Body	*Date*	*Decision*	*Action*
DAB	N/A	N/A	N/A
PC	05/23/2023	Approval	Recommend
CC	06/20/2023		Final

designations to the Project site and adopted the related Subsequent Environmental Impact Report for the Certified EIR.

On February 17, 2022, the Applicant submitted the subject Tentative Parcel Map 20517 (File No. PMTT22-005) in conjunction with a Development Plan (File No. PDEV22-008) to facilitate the construction of Planning Areas 3 and 4 of the Specific Plan, consisting of three (3) business park buildings totaling 218,104 square feet and three (3) industrial buildings totaling 1,341,100 square feet respectively.

The Ontario Ranch financial commitments required for construction of properties within a specific plan are substantial. Therefore, in order to adequately forecast these costs and gain assurance that the project may proceed under the existing policies, rules, and regulations, Euclid Land Venture 2 LLC ("Owner"), has requested that the City enter into negotiations to create a Development Agreement ("Agreement").

In accordance with California Government Code Section 65865, which in part states that that "[a]ny city… may enter into a Development Agreement with any person having a legal or equitable interest in real property for the development of such property…" and California Government Code Section 65865.52, which in part states that "a Development Agreement shall specify the duration of the Agreement, the permitted uses of the property… and may include conditions, terms, restrictions…," the City of Ontario adopted Resolution No. 2002-100 setting forth the procedures and requirements for consideration of Development Agreements. Pursuant to these procedures and requirements, staff entered into negotiations with the Owner to create a Development Agreement for consideration by the Planning Commission and City Council.

The Agreement is proposed outside of the NMC Builders' Construction Agreement development area and was established in coordination between the City Attorney and the Owner's legal counsel. The provisions of the Agreement are consistent with the commitments to assure adequate public infrastructure improvements are constructed or funded by the Owner.

(2) Staff Analysis — The Agreement proposes to include 80 acres of land within the Industrial and Business Park land use districts of the Specific Plan, as shown on the attached Exhibit A. The Agreement grants the Owner a vested right to develop Tentative Parcel Map 20517 (the "Map"), provided the Owner complies with the terms and conditions of the Specific Plan and related EIR.

The Map (see attached Exhibit B) is bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, and proposes to subdivide 80 acres of land into six (6) parcels, for the potential development of six (6) industrial buildings totaling 1,559,204 square feet for business park and industrial uses.

The term of the Agreement is for 10 years, with a 5 year option to renew. The main points of the Agreement address funding for all new City expenses created by the project,

which includes: Development Impact Fees ("DIF") for construction of public improvements (i.e. streets and bridges, sewer, water, storm drain and fiber); Public Service Funding to ensure adequate provisions of public services (police, fire and other public services); and the creation of a Community Facilities District ("CFD") for the maintenance of public facilities. Additionally, Owner shall pay in lieu-fees to the City for the future construction and completion of Ontario Ranch Regional Water and Storm Drain improvements.

Staff finds that the Agreement is consistent with State law, The Ontario Plan, and the City's Development Agreement policies. As a result, staff is recommending approval of the application to the Planning Commission. If the Planning Commission finds the Agreement is acceptable, a recommendation of approval to the City Council would be appropriate.

PUBLIC NOTIFICATION: The subject Agreement was advertised as a public hearing in at least one newspaper of general circulation in the City of Ontario (the Inland Valley Daily Bulletin newspaper). In addition, notices were mailed to all owners of real property located within a minimum of 300 feet of the exterior boundaries of the property that is the subject of the hearing, as shown on the records of the County Assessor.

CORRESPONDENCE: As of the preparation of this Resolution, Planning Department staff has not received any written or verbal communications from the owners or occupants of properties surrounding the Project site or from the public in general, regarding the subject Agreement.

AGENCY/DEPARTMENT REVIEWS: Each City agency/department has been provided the opportunity to review and comment on the subject Agreement and recommend requirements to be imposed upon the Project. At the time of the Resolution preparation, infrastructure requirements were provided and are included within the subject Agreement to the attached Resolution as "Attachment A."

AIRPORT LAND USE COMPATIBILITY PLAN (ALUCP) COMPLIANCE: The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

On April 19, 2011, the City Council of the City of Ontario approved and adopted the ONT ALUCP, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the recommending body for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise

Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the Planning Commission, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the ONT ALUCP.

On August 2, 2022, the City Council of the City of Ontario approved and adopted a Development Code Amendment to establish the Chino Airport ("CNO") Overlay Zoning District ("OZD") and Reference I, Chino Airport Land Use Compatibility Plan ("CNO ALUCP"). The CNO OZD and CNO ALUCP established the Airport Influence Area for Chino Airport, solely within the City of Ontario, and limits future land uses and development within the Airport Influence Area, as they relate to safety, airspace protection, and overflight impacts of current and future airport activity. The CNO ALUCP is consistent with policies and criteria set forth within the Caltrans 2011 California Airport Land Use Planning Handbook. The proposed Project is located within the Airport Influence Area of Chino Airport and was evaluated and found to be consistent with the California Airport Land Use Planning Handbook and the CNO ALUCP. As the recommending body for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the CNO ALUCP compatibility factors, including Safety, Airspace Protection, Overflight. As a result, the Planning Commission, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the California Airport Land Use Planning Handbook and the Chino ALUCP.

COMPLIANCE WITH THE ONTARIO PLAN: The proposed Project is consistent with the principles, goals and policies contained within the Vision, Governance, Policy Plan (general plan), and City Council Priorities components of The Ontario Plan ("TOP"). More specifically, the goals and policies of TOP that are furthered by the proposed Project are as follows:

(1) City Council Goals.

- Invest in the Growth and Evolution of the City's Economy
- Operate in a Businesslike Manner
- Focus Resources in Ontario's Commercial and Residential Neighborhoods
- Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)
- Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in the New Model Colony

(2) Vision.

Distinctive Development:

- Commercial and Residential Development

➢ Development quality that is broadly recognized as distinctive and not exclusively tied to the general suburban character typical of much of Southern California.

(3) Governance.

Decision Making:

- Goal G1: Sustained decision-making that consistently moves Ontario towards its Vision by using The Ontario Plan as a framework for assessing choices.

➢ G 1-2. Long-term Benefit. We require decisions to demonstrate and document how they add value to the community and support the Ontario Vision.

(4) Policy Plan (General Plan)

Land Use Element:

- Goal LU-1 Balance: A community that has a spectrum of housing types and price ranges that match the jobs in the City and that make it possible for people to live and work in Ontario and maintain a quality of life.

➢ LU-1.1 Strategic Growth. We concentrate growth in strategic locations that help create place and identity, maximize available and planned infrastructure, foster the development of transit, and support the expansion of the active and multimodal transportation networks throughout the City.

➢ LU-1.6 Complete Community. We incorporate a variety of land uses and building types in our land use planning efforts that result in a complete community where residents at all stages of life, employers, workers, and visitors have a wide spectrum of choices of where they can live, work, shop and recreate within Ontario.

- Goal LU-2 Compatibility: Compatibility between a wide range of uses and a resultant urban patterns and forms.

➢ LU-2.6 Infrastructure Compatibility. We require infrastructure to be aesthetically pleasing and in context with the community character.

Community Economics Element:

- Goal CE-1 Complete Community: A complete community that provides for all incomes and stages of life.

- CE-2.1 Development Projects. We require new development and redevelopment to create unique, high-quality places that add value to the community.

- CE-2.2 Development Review. We require those proposing new development and redevelopment to demonstrate how their projects will create appropriately unique, functional, and sustainable places that will compete well with their competition within the region.

- CE-2.4 Protection of Investment. We require that new development and redevelopment protect existing investment by providing architecture and urban design of equal or greater quality.

- CE-2.5 Private Maintenance. We require adequate maintenance, upkeep, and investment in private property because proper maintenance on private property protects property values.

Safety Element:

- Goal S-1 Seismic & Geologic Hazards: Minimized risk of injury, loss of life, property damage, and economic and social disruption caused by earthquake-induced and other geologic hazards.

- S-1.1 Implementation of Regulations and Standards. We require that all new habitable structures be designed in accordance with the most recent California Building Code adopted by the City, including provisions regarding lateral forces and grading.

Community Design Element:

- Goal CD-1 Image & Identity: A dynamic, progressive city containing distinct and complete places that foster a positive sense of identity and belonging among residents, visitors, and businesses.

- CD-1.1 City Identity. We take actions that are consistent with the City being a leading urban center in Southern California while recognizing, enhancing, and preserving the character of our existing viable neighborhoods.

- CD-1.2 Growth Areas. We establish Place Types in urban, mixed use, and transit-oriented areas to foster the City's identity as a premier community and require new development within each Place Type to incorporate prescribed urban patterns, forms, and placemaking priorities.

- CD-1.3 Existing Neighborhoods. We require the existing character of viable residential and non-residential neighborhoods be preserved, protected, and enhanced.

- Goal CD-2 Design Quality: A high level of design quality resulting in neighborhoods, public spaces, parks, and streetscapes that are attractive, safe, functional, human-scale, and distinct.

➢ CD-2.1 Quality Building Design and Architecture. We encourage all development projects to convey visual interest and character through:

- Building volume, massing, and height to provide context-appropriate scale and proportion;
- A true architectural style which is carried out in plan, section, and elevation through all aspects of the building and site design and appropriate for its setting; and
- Exterior building materials that are articulated, high quality, durable, and appropriate for the architectural style.

➢ CD-2.2 Neighborhood Design. We create distinct residential neighborhoods that promote a sense of community and identity by emphasizing access, connectivity, livability, and social interaction through such elements as:

- A pattern of smaller, walkable blocks that promote activity, safety, and access to nearby amenities and services;
- Varied parcel sizes and lot configurations to accommodate a diversity of housing types;
- Traffic calming measures to slow traffic and promote walkability while maintaining acceptable traffic flows and emergency evacuation access;
- Floor plans that encourage views onto the street and de-emphasize the visual and physical dominance of garages (introducing the front porch as the "outdoor living room"), as appropriate; and
- Landscaped parkways, with sidewalks separated from the curb and designed to maximize safety, comfort, and aesthetics for all users.

➢ CD-2.7 Sustainability. We collaborate with the development community to design and build neighborhoods, streetscapes, sites, outdoor spaces, landscaping, and buildings to reduce energy demand through solar orientation, maximum use of natural daylight, passive solar and natural ventilation, building form, mechanical and structural systems, building materials, and construction techniques.

➢ CD-2.8 Safe Design. We incorporate defensible space design into new and existing developments to ensure the maximum safe travel and visibility on pathways, corridors, and open space and at building entrances and parking areas by avoiding physically and visually isolated spaces, maintaining visibility and accessibility, and using lighting.

➢ CD-2.9 Landscape Design. We encourage durable, sustainable, and drought-tolerant landscaping materials and designs that enhance the aesthetics of

structures, create and define public and private spaces, and provide shade and environmental benefits.

- CD-2.10 Parking Areas. We require all development, including single-family residential, to minimize the visual impact of surface, structured, and garage parking areas visible from the public realm in an aesthetically pleasing, safe and environmentally sensitive manner. Examples include:

  - Surface parking: Shade trees, pervious surfaces, urban run-off capture and infiltration, and pedestrian paths to guide users through the parking field;
  - Structured parking: facade articulation, screening, appropriate lighting, and landscaping; and
  - Garage parking: providing access to single-family residential garages through alley access, recessing garages from the frontage to emphasize front doors or active living spaces.

- CD-2.11 Entry Statements. We encourage the inclusion of amenities, signage, and landscaping at the entry to neighborhoods, commercial centers, mixed use areas, industrial developments, and public places that reinforce them as uniquely identifiable places.

- CD-2.12 Site and Building Signage. We encourage the use of sign programs that utilize complementary materials, colors, and themes. Project signage should be designed to effectively communicate and direct users to various aspects of the development and complement the character of the structures.

- CD-2.13 Entitlement Process. We work collaboratively with all stakeholders to ensure a high degree of certainty in the efficient review and timely processing of all development plans and permits.

- Goal CD-3 Urban, Mixed Use, and Transit-Oriented Place Types: Vibrant urban environments that are organized around intense buildings, pedestrian and transit areas, public plazas, and linkages between and within developments that are conveniently located, visually appealing and safe during all hours.

- CD-3.2 Comfortable, Human-Scale Public Realm. We require that public spaces, including streets, parks, and plazas on both public and private property be designed to maximize safety, comfort and aesthetics and connect to the citywide pedestrian, vehicular, and bicycle networks.

- CD-3.3 Complete and Connected Network. We require that pedestrian, vehicular, and bicycle circulation on both public and private property be coordinated to provide connections internally and externally to adjacent neighborhoods and properties (existing and planned) through a system of local roads and trails that promote walking and biking to nearby destinations (including existing and planned parks,

commercial areas, and transit stops) and are designed to maximize safety, comfort, and aesthetics.

- CD-3.4 Context-Aware and Appropriate Design. We require appropriate building and site design that complements existing development, respects the intent and identity of the Place Type, and provides appropriate transitions and connections between adjacent uses to ensure compatibility of scale, maintain an appropriate level of privacy for each use, and minimize potential conflicts.

- CD-3.5 Active Frontages. We create lively pedestrian streetscapes by requiring primary building, business, and residential entrances, outdoor dining, and storefronts be located on ground floors adjacent to sidewalks or public spaces and designed to maximize safety, comfort, aesthetics, and the intended functionality (as defined by the Place Type).

- CD-3.6 Managed Infrastructure. We collaborate with developers and property owners to facilitate development that realizes the envisioned character and functionality of the Place Type through the use of green and shared infrastructure within each Place Type.

- Goal CD-5 Protection of Investment: A sustained level of maintenance and improvement of properties, buildings, and infrastructure that protects the property values and encourages additional public and private investments.

- CD-5.1 Maintenance of Buildings and Property. We require all public and privately-owned buildings and property (including trails and easements) to be properly and consistently maintained.

- CD-5.2 Maintenance of Infrastructure. We require the continual maintenance of infrastructure.

HOUSING ELEMENT COMPLIANCE: The Project is consistent with the Housing Element of the Policy Plan (general plan) component of The Ontario Plan, as the Project site is not one of the properties in the Housing Element Sites contained in Tables B-1 and B-2 (Housing Element Sites Inventory) of the Housing Element Technical Report.

ENVIRONMENTAL REVIEW: The environmental impacts of this project were previously reviewed in conjunction with the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002), for which a Final Subsequent Environmental Impact Report (State Clearinghouse No. 2019050018) was certified by the City Council on October 18, 2022. This application introduces no new significant environmental impacts. All previously adopted mitigation measures are a condition of Project approval and are incorporated herein by this reference.

Exhibit A— ONTARIO RANCH BUSINESS PARK SPECIFIC PLAN LAND USE MAP

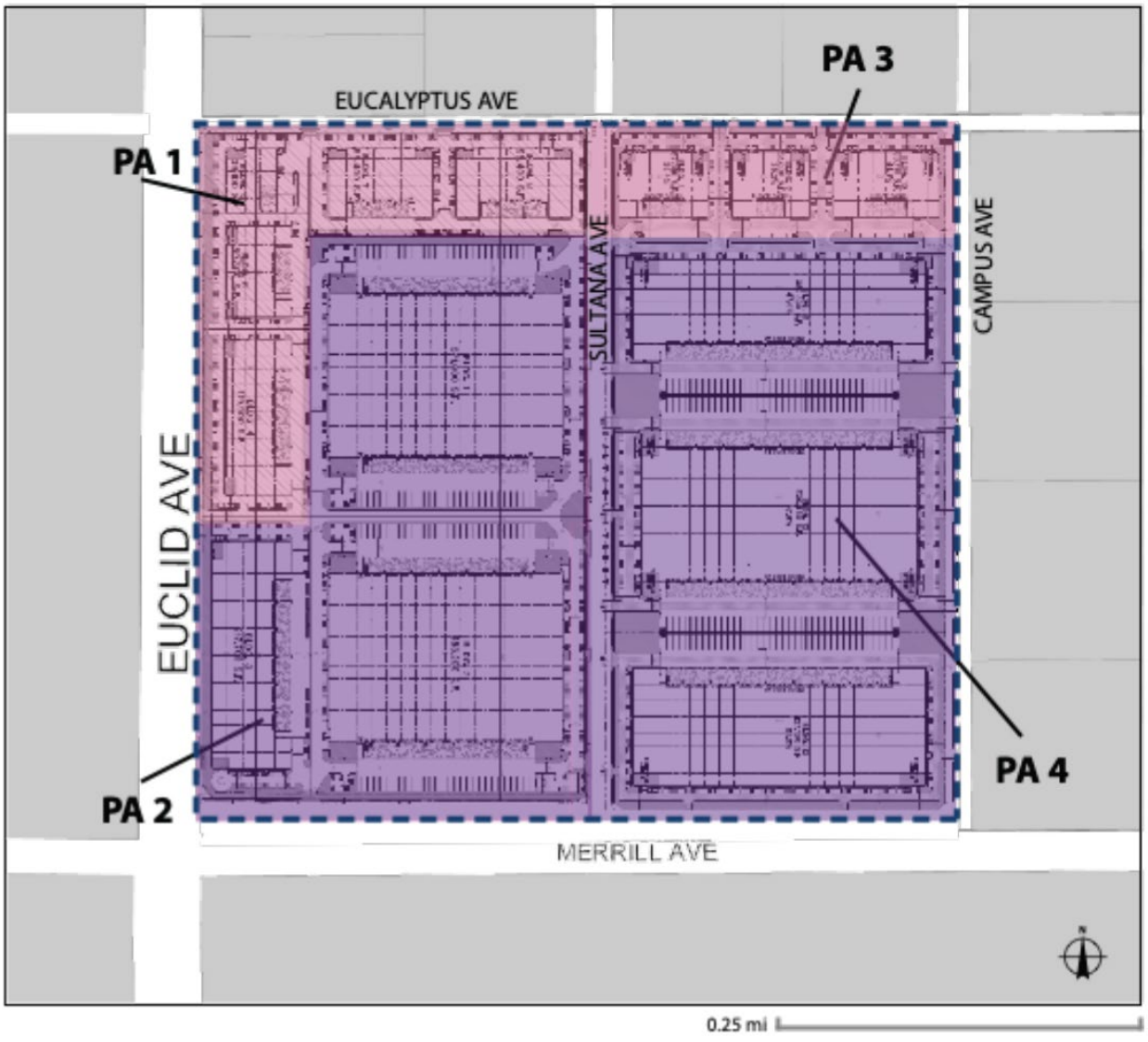
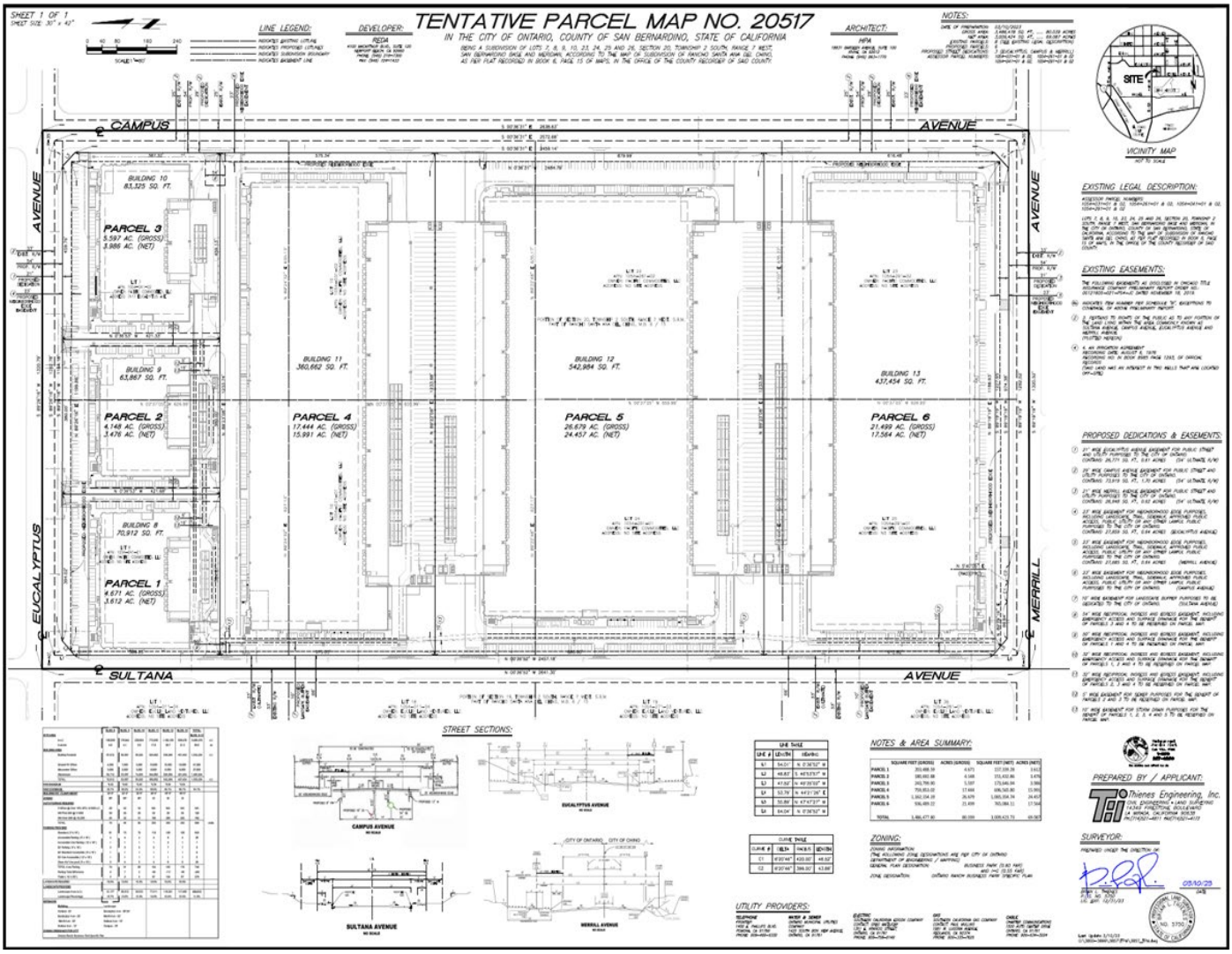


Exhibit B— TENTATIVE PARCEL MAP 20517



RESOLUTION NO. PC23-037

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ONTARIO, CALIFORNIA, RECOMMENDING THE CITY COUNCIL APPROVE FILE NO. PDA21-006, A DEVELOPMENT AGREEMENT BETWEEN THE CITY OF ONTARIO AND EUCLID LAND VENTURE 2 LLC, TO ESTABLISH THE TERMS AND CONDITIONS ASSOCIATED WITH TENTATIVE PARCEL MAP NO. 20517 (FILE NO. PMTT22-005), AN 80 ACRE PROPERTY BORDERED BY EUCALYPTUS, CAMPUS, MERRILL, AND SULTANA AVENUES, LOCATED WITHIN THE BUSINESS PARK AND INDUSTRIAL GENERAL LAND USE DISTRICTS OF THE ONTARIO RANCH BUSINESS PARK SPECIFIC PLAN; APNS: 1054-041-01, 1054-041-02, 1054-031-01, 1054-031-02, 1054-261-01, 1054-261-02, 1054-291-01, 1054-291-02

WHEREAS, Euclid Land Venture 2 LLC ("Applicant") has filed an Application for the approval of a Development Agreement, File No. PDA21-006, as described in the title of this Resolution (hereinafter referred to as "Application" or "Project"); and

WHEREAS, the Application applies to 80 acres of land generally bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, located within the Business Park and Industrial General land use districts of the Ontario Ranch Business Park Specific Plan; and

WHEREAS, the Applicant has submitted a Tentative Parcel Map 20517 (File No. PMTT22-005) to subdivide 80 acres of land into six (6) parcels, to facilitate the potential development of 1,559,204 square feet of business park and industrial uses; and

WHEREAS, the environmental impacts of this project were previously reviewed in conjunction with the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002), for which an Environmental Impact Report — State Clearinghouse No. 2019050018 — (hereinafter referred to as "Certified EIR") was adopted by the City Council on October 18, 2022, and this Application introduces no new significant environmental impacts; and

WHEREAS, Ontario Development Code Table 2.02-1 (Review Matrix) grants the Planning Commission the responsibility and authority to review and make recommendation to the City Council on the subject Application; and

WHEREAS, the Project has been reviewed for consistency with the Housing Element of the Policy Plan component of The Ontario Plan, as State Housing Element law (as prescribed in Government Code Sections 65580 through 65589.8) requires that development projects must be consistent with the Housing Element, if upon consideration

of all its aspects, it is found to further the purposes, principals, goals, and policies of the Housing Element; and

WHEREAS, the Project is located within the Airport Influence Area of Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and is subject to, and must be consistent with, the policies and criteria set forth in the Ontario International Airport Land Use Compatibility Plan (hereinafter referred to as "ALUCP"), which applies only to jurisdictions within San Bernardino County, and addresses the noise, safety, airspace protection, and overflight impacts of current and future airport activity; and

WHEREAS, City of Ontario Development Code Division 2.03 (Public Hearings) prescribes the manner in which public notification shall be provided and hearing procedures to be followed, and all such notifications and procedures have been completed; and

WHEREAS, on May 23, 2023, the Planning Commission of the City of Ontario conducted a hearing to consider the Project, and concluded said hearing on that date; and

WHEREAS, all legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND RESOLVED by the Planning Commission of the City of Ontario, as follows:

SECTION 1: ***Environmental Determination and Findings.*** As the recommending authority for the Project, the Planning Commission has reviewed and considered the information contained in the previous Certified Subsequent EIR (the “Certified EIR”) and supporting documentation. Based upon the facts and information contained in the previous Certified EIR and supporting documentation, the Planning Commission finds as follows:

(1) The environmental impacts of this project were previously reviewed in conjunction with the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002), for which a Certified EIR was adopted by the City Council on October 18, 2022; and

(2) The previous Certified EIR contains a complete and accurate reporting of the environmental impacts associated with the Project; and

(3) The previous Certified EIR was completed in compliance with CEQA and the Guidelines promulgated thereunder; and

(4) The previous Certified EIR reflects the independent judgment of the Planning Commission; and

(5) The proposed project will introduce no new significant environmental impacts beyond those previously analyzed in the previous Certified EIR, and all mitigation measures previously adopted with the Certified EIR, are incorporated herein by this reference.

SECTION 2: ***Subsequent or Supplemental Environmental Review Not Required.*** Based on the information presented to the Planning Commission, and the specific findings set forth in Section 1, above, the Planning Commission finds that the preparation of a subsequent or supplemental Certified EIR is not required for the Project, as the Project:

(1) Does not constitute substantial changes to the Certified EIR that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and

(2) Does not constitute substantial changes with respect to the circumstances under which the Certified EIR was prepared, that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects; and

(3) Does not contain new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the Certified EIR was certified/adopted, that shows any of the following:

(a) The project will have one or more significant effects not discussed in the Certified EIR; or

(b) Significant effects previously examined will be substantially more severe than shown in the Certified EIR; or

(c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the Project, but the City declined to adopt such measures; or

(d) Mitigation measures or alternatives considerably different from those analyzed in the Certified EIR would substantially reduce one or more significant effects on the environment, but which the City declined to adopt.

SECTION 3: ***Housing Element Compliance.*** Pursuant to the requirements of California Government Code Chapter 3, Article 10.6, commencing with Section 65580, as the recommending authority for the Project, the Planning Commission finds that based on the facts and information contained in the Application and supporting documentation, at the time of Project implementation, the project is consistent with the Housing Element of the Policy Plan (General Plan) component of The Ontario Plan, as the project site is not one of the properties in the Housing Element Sites Inventory contained in Tables B-1 and B-2 of the Housing Element Technical Report.

SECTION 4: ***Airport Land Use Compatibility Plan ("ALUCP") Compliance.*** The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

(1) On April 19, 2011, the City Council of the City of Ontario approved and adopted the Ontario International Airport Land use Compatibility Plan, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the recommending body for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the Planning Commission, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the ONT ALUCP; and

(2) On August 2, 2022, the City Council of the City of Ontario approved and adopted a Development Code Amendment to establish the Chino Airport ("CNO") Overlay Zoning District ("OZD") and Reference I, Chino Airport Land Use Compatibility Plan ("CNO ALUCP"). The CNO OZD and CNO ALUCP established the Airport Influence Area for Chino Airport, solely within the City of Ontario, and limits future land uses and development within the Airport Influence Area, as they relate to safety, airspace protection, and overflight impacts of current and future airport activity. The CNO ALUCP is consistent with policies and criteria set forth within the Caltrans 2011 California Airport Land Use Planning Handbook. The proposed Project is located within the Airport Influence Area of Chino Airport and was evaluated and found to be consistent with the California Airport Land Use Planning Handbook and the CNO ALUCP. As the

recommending body for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the CNO ALUCP compatibility factors, including Safety, Airspace Protection, Overflight. As a result, the Planning Commission, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the California Airport Land Use Planning Handbook and the Chino ALUCP.

SECTION 5: ***Concluding Facts and Reasons.*** Based upon the substantial evidence presented to the Planning Commission during the above-referenced hearing, and upon the specific findings set forth in Section 1 through 4, above, the Planning Commission hereby concludes as follows:

(1) The Development Agreement applies to approximately 80 acres of land bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, located within the Business Park and Industrial General land use districts of the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002); and

(2) The Development Agreement establishes parameters for the development of land within the Ontario Ranch Business Park Specific Plan. The Development Agreement also grants the Applicant, the right to develop, the ability to quantify the fees; and establish the terms and conditions that apply to those projects. These terms and conditions are consistent with The Ontario Plan Policy Plan (General Plan), design guidelines and development standards for the Ontario Ranch Business Park Specific Plan; and

(3) The Development Agreement grants the Owner a vested right to develop Tentative Parcel Map 20517 (File No. PMTT22-005) as long as the Owner complies with the terms and conditions of the Ontario Ranch Business Park Specific Plan and EIR. Tentative Parcel Map 20517 is bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, and proposes to subdivide 80 acres of land into six (6) parcels, to facilitate the potential development of 1,559,204 square feet of business park and industrial uses; and

(4) The Development Agreement has been prepared in conformance with the goals and policies of The Ontario Plan Policy Plan (General Plan); and

(5) The Development Agreement does not conflict with the Land Use Policies of The Ontario Plan Policy Plan (General Plan) and will provide for development, within the district, in a manner consistent with the Policy Plan and with related development; and

(6) This Development Agreement will promote the goals and objectives of the Land Use Element of the Policy Plan; and

(7) This Development Agreement will not be materially injurious or detrimental to the adjacent properties and will not have a significant impact on the environment or the surrounding properties. The environmental impacts of this project were previously reviewed in conjunction with the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002), for which a Final Subsequent Environmental Impact Report (State Clearinghouse No. 2019050018) was certified by City Council on October 18, 2022; and

(8) This Application introduces no new significant environmental impacts. All previously adopted mitigation measures are a condition of project approval and are incorporated herein by this reference.

SECTION 6: ***Planning Commission Action.*** Based upon the findings and conclusions set forth in Sections 1 through 5, above, the Planning Commission hereby RECOMMENDS THE CITY COUNCIL APPROVES the herein described Application, subject to each and every condition set forth in the Development Agreement (File No. PDA21-006) attached hereto as "Attachment A," and incorporated herein by this reference.

SECTION 7: ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 8: ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East "B" Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

SECTION 9: ***Certification to Adoption.*** The Secretary shall certify to the adoption of the Resolution.

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The Secretary Pro Tempore for the Planning Commission of the City of Ontario shall certify as to the adoption of this Resolution.

I hereby certify that the foregoing Resolution was duly and regularly introduced, passed and adopted by the Planning Commission of the City of Ontario at a regular meeting thereof held on the 23rd day of May 2023, and the foregoing is a full, true and correct copy of said Resolution, and has not been amended or repealed.

Richard Gage
Planning Commission Vice-Chairperson

ATTEST:

Rudy Zeledon
Community Development Assistant Director and Secretary to the Planning Commission

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, Gwen Berendsen, Secretary Pro Tempore of the Planning Commission of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. PC23-037, was duly passed and adopted by the Planning Commission of the City of Ontario at their regular meeting held on May 23, 2023, by the following roll call vote, to wit:

AYES: Anderson, Dean, Gage, Ricci

NOES: None

ABSENT: DeDiemar, Lampkin

ABSTAIN: None

Gwen Berendsen
Secretary Pro Tempore

ATTACHMENT A:

File No. PDA21-006

DEVELOPMENT AGREEMENT

By and Between

CITY OF ONTARIO
a California municipal corporation

and

EUCLID LAND VENTURE 2 LLC
a Delaware limited liability company

(Development Agreement to follow this page)

RECORDING REQUESTED BY AND
WHEN RECORDED RETURN TO:

CITY OF ONTARIO
CITY CLERK / RECORDS MANAGEMENT
303 EAST "B" STREET
ONTARIO, CA 91764-4196

Space above this line for Recorder's Use Only Exempt from Fees Per Gov. Code § 6103

File No. PDA21-006

DEVELOPMENT AGREEMENT

By and Between

CITY OF ONTARIO
a California municipal corporation

and

EUCLID LAND VENTURE 2, LLC
a Delaware limited liability company

_____, 2023

San Bernardino County, California

DEVELOPMENT AGREEMENT NO. PDA21-006

This Development Agreement (hereinafter "Agreement") is dated for reference purposes only as of the ____ day of _____, 2023 by and among the City of Ontario, a California municipal corporation (hereinafter "CITY"), and Euclid Land Venture 2, LLC, a Delaware limited liability company (hereinafter "OWNER"):

RECITALS

WHEREAS, CITY is authorized to enter into binding development agreements with persons having legal or equitable interests in real property for the development of such property, pursuant to Section 65864, et seq. of the Government Code and Section 4.01.015 of the Ontario Development Code; and

WHEREAS, OWNER has requested CITY to enter into a development agreement and proceedings have been taken in accordance with the rules and regulations of CITY; and

WHEREAS, by electing to enter into this Agreement, CITY shall bind future City Councils of CITY by the obligations specified herein and limit the future exercise of certain governmental and proprietary powers of CITY; and

WHEREAS, the terms and conditions of this Agreement have undergone extensive review by CITY and the City Council and have been found to be fair, just and reasonable; and

WHEREAS, the best interests of the citizens of the CITY and the public health, safety and welfare will be served by entering into this Agreement; and

WHEREAS, all of the procedures of the California Environmental Quality Act, Pub. Res. Code § 21000, et seq. ("CEQA") have been met with respect to the Project and the Agreement in that certain Ontario Ranch Business Park Specific Plan Amendment Subsequent Environmental Impact Report (State Clearinghouse No. 2019050018) (the "FEIR"); and

WHEREAS, on October 18, 2022, the City Council found and determined that the FEIR was prepared in accordance with the requirements of CEQA and adequately describes the impacts of the Project described in the FEIR, which included consideration of this Agreement; and

WHEREAS, this Agreement and the Project are consistent with the CITY's Comprehensive General Plan and the Ontario Ranch Business Park Specific Plan; and

WHEREAS, all actions taken and approvals given by CITY have been duly taken or approved in accordance with all applicable legal requirements for notice, public hearings, findings, votes, and other procedural matters; and

WHEREAS, development of the Project Site, as more particularly described and depicted in **Exhibits A** and **B**, respectively (the "Property") in accordance with this Agreement will provide substantial benefits to CITY and will further important policies and goals of CITY; and

WHEREAS, this Agreement will eliminate uncertainty in planning and provide for the orderly development of the Property, ensure progressive installation of necessary improvements, provide for public services appropriate to the development of the Project, and generally serve the purposes for which development agreements under Section 65864 et seq. of the Government Code are intended; and

WHEREAS, OWNER has incurred and will in the future incur substantial costs in order to assure development of the Property in accordance with this Agreement; and

WHEREAS, OWNER has incurred and will in the future incur substantial costs in excess of the generally applicable requirements in order to assure vesting of legal rights to develop the Property in accordance with this Agreement.

COVENANTS

NOW, THEREFORE, in consideration of the above recitals and of the mutual covenants hereinafter contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. DEFINITIONS AND EXHIBITS.

1.1 Definitions. The following terms when used in this Agreement shall be defined as follows:

1.1.1 "Agreement" means this Development Agreement.

1.1.2 "CITY" means the City of Ontario, California, a California municipal corporation.

1.1.3 "Development" means the improvement of the Property for the purposes of completing the structures, improvements and facilities comprising the Project including, but not limited to: grading; the construction of public infrastructure and public facilities related to the Project whether located within or outside the Property; the construction of buildings and structures; and the installation of landscaping. "Development" does not include the maintenance, repair, reconstruction or redevelopment of any building, structure, improvement or facility after the construction and completion thereof.

1.1.4 "Development Approvals" means all permits and other entitlements for use subject to approval or issuance by CITY in connection with development of the Property including, but not limited to:

(a) general plans and general plan amendments; and specific plans and specific plan amendments;

(b) tentative and final subdivision and parcel maps;

(c) development plan review.

1.1.5 "Development Exaction" means any requirement of CITY in connection with or pursuant to any Land Use Regulation or Development Approval for the dedication of land, the construction of improvements or public facilities, or the payment of fees in order to lessen, offset, mitigate or compensate for the impacts of development on the environment or other public interests.

1.1.6 "Development Impact Fee" means a monetary exaction, other than a tax or special assessment, whether characterized as a fee or a tax and whether established for a broad class of projects by legislation of general applicability or imposed on a specific project on an ad hoc basis, that is charged by a local agency to the applicant in connection with approval of a development project for the purpose of defraying all or a portion of the cost of public facilities related to the development project, and, for purposes of this Agreement only, includes fees collected under development agreements adopted pursuant to Article 2.5 of the Government Code (commencing with Section 65864) of Chapter 4. For purposes of this Agreement only, "Development Impact Fee" shall not include processing fees and charges imposed by CITY to cover the estimated actual costs to CITY of processing applications for Development Approvals or for monitoring compliance with any Development Approvals granted or issued, including, without limitation, fees for zoning variances; zoning changes; use permits; building inspections; building permits; filing and processing applications and petitions filed with the local agency formation commission or conducting preliminary proceedings or proceedings under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, Division 3 (commencing with Section 56000) of Title 5 of the Government Code; the processing of maps under the provisions of the Subdivision Map Act, Division 2 (commencing with Section 66410) of Title 7 of the Government Code; or planning services under the authority of Chapter 3 (commencing with Section 65100) of Division 1 of Title 7 of the Government Code, fees and charges as described in Sections 51287, 56383, 57004, 65104, 65456, 65863.7, 65909.5, 66013, 66014, and 66451.2 of the Government Code, Sections 17951, 19132.3, and 19852 of the Health and Safety Code, Section 41901 of the Public Resources Code, and Section 21671.5 of the Public Utilities Code, as such codes may be amended or superseded, including by amendment or replacement.

1.1.7 "Development Plan" means the Existing Development Approvals and the Existing Land Use Regulations applicable to development of the Property.

1.1.8 "Effective Date" means the date that the ordinance approving this Agreement goes into effect.

1.1.9 "Existing Development Approvals" means all Development Approvals approved or issued on or prior to the Effective Date. Existing Development Approvals includes the Approvals incorporated herein as Exhibit "C" and all other Approvals which are a matter of public record on the Effective Date.

1.1.10 "Existing Land Use Regulations" means all Land Use Regulations in effect on the date of the first reading of the ordinance adopting and approving this Agreement. Existing Land Use Regulations includes the Regulations incorporated herein as Exhibit "D" and all other Land Use Regulations that are in effect and a matter of public record on such date.

1.1.11 "General Plan" means The Ontario Plan adopted on August 16, 2022, as amended up to the date of the first reading of the ordinance adopting and approving this Agreement.

1.1.12 "Improvement" or "Improvements" means those public improvements required to support the development of the Project as described in the Parcel Map conditions for Parcel Map No. 20517 ("Parcel Map") as further described in Exhibit "E" and depicted in Exhibit “F”(together, the "Infrastructure Improvements Exhibit").

1.1.13 "Land Use Regulations" means all ordinances, resolutions, codes, rules, regulations and official policies of CITY governing the development and use of land, including, without limitation, the permitted use of land, the density or intensity of use, subdivision requirements, timing and phasing of development, the maximum height and size of buildings, the provisions for reservation or dedication of land for public purposes, and the design, improvement and construction standards and specifications applicable to the development of the Property. "Land Use Regulations" does not include any CITY ordinance, resolution, code, rule, regulation or official policy, governing:

(a) the conduct of businesses, professions, and occupations;

(b) taxes and assessments;

(c) the control and abatement of nuisances;

(d) the granting of encroachment permits and the conveyance of similar rights and interests that provide for the use of or the entry upon public property;

(e) the exercise of the power of eminent domain.

1.1.14 "Mortgagee" means a mortgagee of a mortgage, a beneficiary under a deed of trust or any other security-device lender, and their successors and assigns.

1.1.15 "OWNER" means the persons and entities listed as owner on page 1 of this Agreement and their permitted successors in interest to all or any part of the Property.

1.1.16 "Owner Affiliate" shall mean, (i) any entity that directly or indirectly controls, is controlled by, or is under common control with OWNER, or (ii) an entity at least a majority of whose economic interest is owned by OWNER. For purposes of this definition, the term “control” means the power to direct the management of such entity through voting rights, ownership or contractual obligations.

1.1.17 “Phase” means the development area described in the Infrastructure Improvements Exhibit to this Agreement.

1.1.18 “Phase 2 Water Participation Fee” means the fee paid to the CITY for the Project, to fund the Property’s respective share of the project costs of the design and construction of the Phase 2 Water Improvements by the CITY. The Phase 2 Water Participation Fee shall be the calculated amount of the Regional Water DIF for the Project based upon the number of square feet, acreage, and land use category for non-residential square footage of the Project.

1.1.19 "Project" means the development of the Property contemplated by the Development Plan, as such Plan may be further defined, enhanced or modified pursuant to the provisions of this Agreement.

1.1.20 "Property" means the real property described on Exhibit "A" and shown on Exhibit "B" to this Agreement.

1.1.21 "Reservations of Authority" means the rights and authority excepted from the assurances and rights provided to OWNER under this Agreement and reserved to CITY under Section 3.4 of this Agreement.

1.1.22 "Specific Plan" means that certain specific plan adopted by the City Council, and entitled, "Ontario Ranch Business Park Specific Plan”.

1.1.23 "Subsequent Development Approvals" means all discretionary Development Approvals required subsequent to the Effective Date in connection with development of the Property. Subsequent Development Approvals shall be deemed to be subject to the provisions of this Agreement, without any further action needed on the part of either the CITY or OWNER.

1.1.24 "Subsequent Land Use Regulations" means any discretionary Land Use Regulations adopted and effective after the Effective Date of this Agreement.

1.2 Exhibits. The following documents are attached to, and by this reference made a part of, this Agreement:

Exhibit "A" — Legal Description of the Property.

Exhibit "B" — Map showing Property and its location.

Exhibit "C" — Existing Development Approvals.

Exhibit "D" — Existing Land Use Regulations.

Exhibit "E" — Description of Required Infrastructure Improvements

Exhibit "F" — Depiction of Infrastructure Improvements Exhibits

Exhibit "G" – Form of Certificate of DIF Credit to be issued by CITY

2. GENERAL PROVISIONS.

2.1 Binding Effect of Agreement. The Property is hereby made subject to this Agreement. Development of the Property is hereby authorized and shall be carried out only in accordance with the terms of this Agreement.

2.2 Ownership of Property. OWNER represents and covenants that it is the owner of fee simple title or the lessee or an optionee of the Property or a portion(s) thereof. To the extent applicable, OWNER has obtained written consent from the current fee owner of the Property agreeing to the terms of this Agreement and the recordation thereof.

2.3 Term. The term of this Agreement shall commence on the Effective Date and shall continue for an initial term of ten (10) years thereafter unless this term is modified or extended pursuant to the provisions of this Agreement. Upon approval by the City Manager, without the need for City Council approval, the term of this Agreement may be extended for an additional five (5) years following expiration of the initial ten (10) year term, provided the following have occurred:

(a) OWNER provides at least 180 days written notice to CITY prior to expiration of the initial term; and

(b) OWNER is not then in uncured default of this Agreement.

2.4 Assignment.

2.4.1 Right to Assign. OWNER shall have the right to sell, transfer or assign the Property in whole or in part (provided that no such partial transfer shall violate the Subdivision Map Act, Government Code Section 66410, et seq.), to any person, partnership, limited liability company, joint venture, firm or corporation at any time during the term of this Agreement; provided, however, that any such sale, transfer or assignment shall include the assignment and assumption of the rights, duties and obligations arising under or from this Agreement with respect to the portion of the Property sold and be made in strict compliance with the following:

(a) Except as expressly provided for herein, no sale, transfer or assignment of any right or interest under this Agreement shall be made unless made together with the sale, transfer or assignment of all or a part of the Property.

(b) Concurrent with any such sale, transfer or assignment, or within fifteen (15) business days thereafter, OWNER shall notify CITY's City Manager, in writing, of such sale, transfer or assignment and shall provide CITY with: (1) an executed agreement, in a form reasonably acceptable to CITY, by the purchaser, transferee or assignee and providing therein that the purchaser, transferee or assignee expressly and unconditionally assumes all the duties and obligations of OWNER under this Agreement with respect to the portion of the Property so sold, transferred or assigned.

(c) Any sale, transfer or assignment not made in strict compliance with the foregoing conditions shall constitute a default by OWNER under this Agreement. Notwithstanding the failure of any purchaser, transferee or assignee to execute the agreement required by Paragraph (b) of this Subsection 2.4.1, the burdens of this Agreement shall be binding upon such purchaser, transferee or assignee, but the benefits of this Agreement shall not inure to such purchaser, transferee or assignee until and unless such agreement is executed. The City Manager shall have the authority to review, consider and either approve, conditionally approve, or deny any proposed sale, transfer or assignment that is not made in compliance with this section 2.4.

(d) Notwithstanding the foregoing, OWNER shall have the right to assign this Agreement to an Owner Affiliate subject to the notice requirements to CITY as described in Paragraph (b) of this Section 2.4.1, above.

2.4.2 Release of Transferring Owner. Notwithstanding any sale, transfer or assignment, a transferring OWNER shall continue to be obligated under this Agreement unless such transferring owner is given a release in writing by CITY, which release shall be provided by CITY upon the full satisfaction by such transferring owner of the following conditions:

(a) OWNER no longer has a legal or equitable interest in all or any part of the portion of the Property sold, transferred or assigned.

(b) OWNER is not then in default under this Agreement.

(c) OWNER has provided CITY with the notice and executed an agreement as required under Paragraph (b) of Subsection 2.4.1 above.

(d) The purchaser, transferee or assignee provides CITY with security equivalent to any security previously provided by OWNER (if any) to secure performance of its obligations hereunder which are to be performed upon portion of the Property sold, transferred or assigned.

2.4.3 Effect of Assignment and Release of Obligations. In the event of a sale, transfer or assignment pursuant to the provisions of Section 2.4.1 and notwithstanding the release provisions of Section 2.4.2 above:

(a) The assignee shall be liable for the performance of all obligations of OWNER with respect to transferred property, but shall have no obligations with respect to the portions of the Property, if any, not transferred (the "Retained Property").

(b) The owner of the Retained Property shall be liable for the performance of all obligations of OWNER with respect to Retained Property, but shall have no further obligations with respect to the transferred property.

(c) The assignee's exercise, use and enjoyment of the Property or portion thereof shall be subject to the terms of this Agreement to the same extent as if the assignee were the OWNER.

2.4.4 Subsequent Assignment. Any subsequent sale, transfer or assignment after an initial sale, transfer or assignment shall be made only in accordance with and subject to the terms and conditions of this Section 2.4.

2.4.5 Termination of Agreement With Respect to Individual Lots Upon Sale to Public and Completion of Construction. The provisions of Subsection 2.4.1 shall not apply to the sale or lease (for a period longer than one (1) year) of any parcel which has been finally subdivided and is individually (and not in "bulk") sold or leased to a member of the public or other ultimate user of the parcel. Notwithstanding any other provisions of this Agreement, this Agreement shall terminate with respect to any lot and such lot shall be released and no longer be subject to this Agreement without the execution or recordation of any further document upon satisfaction of both of the following conditions:

(a) The lot has been finally subdivided and individually (and not in "bulk") sold or leased (for a period longer than one (1) year) to a member of the public or other ultimate user; and,

(b) A certificate of occupancy has been issued for a building on the parcel, and the fees set forth under Section 4 of this Agreement have been paid.

2.4.6 Partial Assignment and Assumption. CITY and OWNER agree OWNER may partially assign its obligations and rights under this Agreement, and all amendments hereto, to a purchaser, transferee or assignee of a lot, which has been subdivided subject to provisions of a partial assignment and assumption agreement in a form approved by CITY. Any such complete and executed partial assignment and assumption of this Agreement shall be submitted to CITY for approval pursuant to Section 2.4.1 of this Agreement. Within thirty (30) days following such complete submittal, CITY shall review, and if the above conditions are satisfied, may approve the partial assignment and release and notify the purchasor, transferee or assignee in writing thereof. No such release approved pursuant to this Subsection 2.4.6 shall cause, or otherwise affect, a release of OWNER from the duties and obligations under this Agreement that are retained by OWNER and excluded from the transfer or assignment.

2.5 Amendment or Cancellation of Agreement. This Agreement may be amended or cancelled in whole or in part only in the manner provided for in Government Code Section 65868.1. Any amendment of this Agreement, which amendment has been requested by OWNER, shall be considered by the CITY only upon the payment of the applicable processing charge. This provision shall not limit any remedy of CITY or OWNER as provided by this Agreement. Either party or successor in interest, may propose an amendment to or cancellation, in whole or in part, of this Agreement. Any amendment or cancellation shall be by mutual consent of the parties or their successors in interest except as provided otherwise in this Agreement or in Government Code Section 65865.1. For purposes of this section, the term "successor in interest" shall mean any person having a legal or equitable interest in the whole of the Property, or any portion thereof as to which such person wishes to amend or cancel this Agreement. The procedure for proposing and adopting an amendment to, or cancellation of, in whole or in part, this Agreement shall be the same as the procedure for adopting and entering into this Agreement in the

first instance. Notwithstanding the foregoing sentence, if the CITY initiates the proposed amendment to, or cancellation of, in whole or in part, this Agreement, CITY shall first give notice to the OWNER of its intention to initiate such proceedings at least sixty (60) days in advance of the giving the public notice of intention to consider the amendment or cancellation.

2.6 Minor Modification. Upon the written application of OWNER, minor modifications and changes to the Development Plan including modifications to building design or footprint (not affecting minimum setbacks), parking layout and design, and landscape area design may be approved by the Director of the Planning Department without the need to amend this Development Agreement. Other changes in the Development Plan shall be processed pursuant to the City Zoning Ordinance. It is also contemplated by CITY and OWNER that OWNER may, from time to time, seek amendments to one or more of the Development Approvals. Any such amendments are contemplated by CITY and OWNER as being within the scope of this Agreement as long as they are consistent with the Land Use Regulations and shall, upon approval by CITY, continue to constitute the Development Approvals as referenced herein. The parties agree that any such modifications or amendments shall not constitute an amendment to this Agreement nor require an amendment to this Agreement.

2.7 Termination. This Agreement shall be deemed terminated and of no further effect upon the occurrence of any of the following events:

(a) Expiration of the stated term of this Agreement as set forth in Section 2.3.

(b) Entry of a final judgment setting aside, voiding or annulling the adoption of the ordinance approving this Agreement.

(c) The adoption of a referendum measure overriding or repealing the ordinance approving this Agreement.

(d) Completion of the Project in accordance with the terms of this Agreement including issuance of all required occupancy permits and acceptance by CITY or applicable public agency of all required dedications.

Termination of this Agreement shall not constitute termination of any other land use entitlements approved for the Property. Upon the termination of this Agreement, no party shall have any further right or obligation hereunder except with respect to any obligation to have been performed prior to such termination or with respect to any default in the performance of the provisions of this Agreement which has occurred prior to such termination or with respect to any obligations which are specifically set forth as surviving this Agreement. Upon such termination, any public facilities and service mitigation fees paid pursuant to Section 4.2 of this Agreement by OWNER to CITY on which construction has not yet begun shall be refunded to OWNER by CITY within ten (10) business days.

2.8 Notices.

(a) As used in this Agreement, "notice" includes, but is not limited to, the communication of notice, request, demand, approval, statement, report, acceptance, consent, waiver, appointment or other communication required or permitted hereunder.

(b) All notices shall be in writing and shall be considered given either: (i) when delivered in person, including, without limitation, by courier, to the recipient named below; or (ii) on the date of delivery shown on the return receipt, after deposit in the United States mail in a sealed envelope as either registered or certified mail with return receipt requested, and postage and postal charges prepaid, and addressed to the recipient named below. All notices shall be addressed as follows:

If to CITY:
Scott Ochoa, City Manager
City of Ontario
303 East "B" Street
Ontario, CA 91764

If to OWNER:
Jeff Johnston
Euclid Land Venture 2, LLC
c/o Real Estate Development Associates
4450 MacArthur Blvd., Suite 100
Newport Beach, CA 92660
jjohnston@redallc.com

With a copy to:
Ruben Duran, City Attorney
Best Best & Krieger, LLP
2855 E Guasti Road
Ontario, CA 91761

With a copy to:
Matt Fogt, Esq.
Allen Matkins Leck Gamble Mallory& Natsis, LLP
2010 Main Street, 8th Floor
Irvine, CA 92614

Either party may, by notice given at any time, require subsequent notices to be given to another person or entity, whether a party or an officer or representative of a party, or to a different address, or both. Notices given before actual receipt of notice of change shall not be invalidated by the change.

3. DEVELOPMENT OF THE PROPERTY.

3.1 Rights to Develop. Subject to the terms of this Agreement including the Reservations of Authority in Section 3.4, OWNER shall have a vested right to develop the Property in accordance with, and to the extent of, the Development Plan. The Project shall remain subject to all Subsequent Development Approvals required to complete the Project as contemplated by the Development Plan. Except as otherwise provided in this Agreement, the permitted uses of the Property, the density and intensity of use, the maximum height and size of proposed buildings, and provisions for reservation and dedication of land for public purposes shall be those set forth in the Development Plan.

3.2 Effect of Agreement on Land Use Regulations. Except as otherwise provided under the terms of this Agreement including the Reservations of Authority in Section 3.4,

the rules, regulations and official policies governing permitted uses of the Property, the density and intensity of use of the Property, the maximum height and size of proposed buildings, and the design, improvement and construction standards and specifications applicable to development of the Property shall be the Existing Land Use Regulations. In connection with any Subsequent Development Approval, CITY shall exercise discretion in accordance with the same manner as it exercises its discretion under its police powers, including the Reservations of Authority set forth herein; provided however, that such discretion shall not prevent development of the Property for the uses and to the density or intensity of development set forth in this Agreement.

3.3 Timing of Development. The parties acknowledge that OWNER cannot at this time predict when or the rate at which phases of the Property will be developed. Such decisions depend upon numerous factors which are not within the control of OWNER, such as market orientation and demand, interest rates, absorption, completion and other similar factors. Since the California Supreme Court held in Pardee Construction Co. v. City of Camarillo (1984) 37 Cal. 3d 465, that the failure of the parties therein to provide for the timing of development resulted in a later adopted initiative restricting the timing of development to prevail over such parties' agreement, it is the parties' intent to cure that deficiency by acknowledging and providing that OWNER shall have the right to develop the Property in such order and at such rate and at such times as OWNER deems appropriate within the exercise of its subjective business judgment.

3.3.1 Infrastructure Improvement Exhibit. Attached hereto as Exhibits “E” and "F" are a description and depiction, respectively, of the Improvements needed for the development of the Property. In the event of any discrepancy between Exhibit E and Exhibit F, Exhibit F shall control.

3.4 Reservations of Authority.

3.4.1 Limitations, Reservations and Exceptions. Notwithstanding any other provision of this Agreement, the CITY shall not be prevented from applying new rules, regulations and policies upon the OWNER, nor shall a development agreement prevent the CITY from denying or conditionally approving any subsequent development project application on the basis of such new rules, regulations and policies where the new rules, regulations and policies consist of the following:

(a) Processing fees by CITY to cover costs of processing applications for development approvals or for monitoring compliance with any development approvals;

(b) Procedural regulations relating to hearing bodies, petitions, applications, notices, findings, records and any other matter of procedure;

(c) Regulations, policies and rules governing engineering and construction standards and specifications applicable to public and private improvements, including all uniform codes adopted by the CITY and any local amendments to those codes adopted by the CITY; provided however that, OWNER shall have a vested right to develop the Property in accordance with, and to the extent of, the standards and specifications that

are expressly identified in the Specific Plan and the building codes in effect as of the Effective Date;

(d) Regulations that may conflict with this Agreement and the Development Plan but that are reasonably necessary to protect the occupants of the Project and/or of the immediate community from a condition perilous to their health or safety;

(e) Regulations that do not conflict with those rules, regulations and policies set forth in this Agreement or the Development Plan and which do not impose additional obligations, costs, and expenses on OWNER or the Project;

(f) Regulations that may conflict with this Agreement but to which the OWNER consents.

3.4.2 Subsequent Development Approvals. This Agreement shall not prevent CITY, in acting on Subsequent Development Approvals, from applying Subsequent Land Use Regulations that do not conflict with the Development Plan and/or the Existing Development Approvals, nor shall this Agreement prevent CITY from denying or conditionally approving any Subsequent Development Approval on the basis of the Existing Land Use Regulations or any Subsequent Land Use Regulation not in conflict with the Development Plan and/or the Existing Development Approvals.

3.4.3 Modification or Suspension by State or Federal Law. In the event that State or Federal laws or regulations, enacted after the Effective Date of this Agreement, prevent or preclude compliance with one or more of the provisions of this Agreement, such provisions of this Agreement shall be modified or suspended as may be necessary to comply with such State or Federal laws or regulations, provided, however, that this Agreement shall remain in full force and effect to the extent it is not inconsistent with such laws or regulations and to the extent such laws or regulations do not render such remaining provisions impractical to enforce. In the event OWNER alleges that such State or Federal laws or regulations preclude or prevent compliance with one or more provisions of this Agreement, and the CITY does not agree, the OWNER may, at its sole cost and expense, seek declaratory relief (or other similar non-monetary remedies); provided however, that nothing contained in this Section 3.4.3 shall impose on CITY any monetary liability for contesting such declaratory relief (or other similar non-monetary relief).

3.4.4 Intent. The parties acknowledge and agree that CITY is restricted in its authority to limit its police power by contract and that the foregoing limitations, reservations and exceptions are intended to reserve to CITY all of its police power which cannot be so limited. This Agreement shall be construed, contrary to its stated terms if necessary, to reserve to CITY all such power and authority which cannot be restricted by contract.

3.5 Public Works; Utilities. If OWNER is required by this Agreement or a condition of Project approval to construct any public works facilities which will be dedicated to CITY or any other public agency upon completion, and if required by applicable laws to do so,

OWNER shall perform such work in the same manner and subject to the same standards as would be applicable to CITY or such other public agency should it have undertaken such construction. As a condition of development approval, OWNER shall connect the Project to all utilities necessary to provide adequate water, recycled water, sewer, gas, electric, and other utility services necessary for the Project, as further described and depicted in the Infrastructure Improvements Exhibit. As a further condition of development approval, OWNER shall to the extent possible contract with the CITY for CITY-owned or operated utilities for this purpose, for such price and on such terms as may be available to similarly situated customers in the CITY. As a further condition of development approval, to the extent OWNER does not own the Property in fee simple, OWNER will provide to CITY the written consent from the current fee owner of the Property agreeing to the terms of this Agreement and the recordation thereof, pursuant to Section 2.2.

3.5.1 OWNER agrees that development of the Project shall require the construction of storm drain Improvements from the Property described in Exhibit E and depicted in Exhibit F. OWNER shall be responsible for payment of a fee in-lieu (the "Euclid Avenue Storm Drain In-Lieu Fee) of actual construction of the ultimate Euclid Avenue storm drain Improvements, south of Merrill Avenue, depicted in Exhibit F. OWNER shall pay the CITY, prior to the request for occupancy of any building on the Property, Two Million Eight Hundred Eighty Thousand Four Hundred Fifty Dollars ($2,880,450). Upon OWNER'S complete payment of the Euclid Avenue Storm Drain In-Lieu Fee, the CITY shall issue a Certificate of DIF Credit in the Regional Storm Drain category equal to the amount paid to the CITY. Such Regional Storm Drain DIF Certificate shall be issued by CITY within thirty (30) business days of the receipt of such required payment. OWNER and CITY agree that CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY, and OWNER agrees that OWNER shall not request and CITY shall not issue a final occupancy permit for any buildings prior to payment of the Euclid Avenue Storm Drain In-Lieu Fee and construction of the storm drain Improvements described in Exhibit E and depicted in Exhibit F. CITY and OWNER mutually acknowledge and agree, that upon OWNER's complete payment of the Euclid Avenue Storm Drain In-Lieu Fee, such obligation shall be deemed satisfied and CITY shall not hold up a request for final occupancy permit for any buildings on the Property, based on the actual construction and completion of the ultimate Euclid Avenue storm drain Improvements. CITY agrees that OWNER may request that CITY issue temporary certificates of occupancy on a building-by-building basis prior to completion of the storm drain improvements.

3.5.2 OWNER agrees that development of the Project shall require the construction of street Improvements as described in Exhibit E and depicted in Exhibit F. OWNER and CITY agree that CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY, and OWNER agrees that OWNER shall not request, and CITY shall not issue a final occupancy permit for any buildings on the Property prior to Substantial Completion of the street Improvements as described in Exhibit E and depicted in Exhibit F. For purposes of the foregoing, street Improvements shall be deemed

"Substantially Complete" even if the final lift of pavement has not been completed (i.e., OWNER may install the final lift after completion of all other construction). CITY agrees that OWNER may request that CITY issue temporary certificates of occupancy on a building-by-building basis prior to completion and subject to final acceptance by CITY of the street Improvements. OWNER agrees that the street improvements shall be completed and subject to final acceptance by CITY prior to the release of any security for the construction of the street improvements. OWNER and CITY agree that a portion of the street Improvements described in Exhibit E and depicted in Exhibit F may be constructed by others, or pursuant to a cooperative agreement with others. If such street Improvements are constructed by others, or in cooperation with others, and are completed and accepted by CITY prior to OWNER's request to CITY of the required grading, building or other required permits for OWNER to initiate construction of structures for the Property, then OWNER shall not be required to construct those street Improvements constructed and completed by others and accepted by CITY.

3.5.3 OWNER agrees that development of the Property shall require the construction of water utility Improvements as described in Exhibit E and depicted in Exhibit F consisting generally of the construction of the potable water Improvements to serve the Property as described in Exhibit E and depicted in Exhibit F. OWNER and CITY agree that CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY upon completion of sufficient water improvements to serve the Property from at least one point of connection. OWNER and CITY agree that OWNER may, in-lieu of utilizing recycled water during grading and construction, utilize water from existing agricultural wells on the Property subject to the terms of a separate Well Use Agreement between the CITY and OWNER. OWNER agrees that OWNER shall not request and CITY shall not issue a final occupancy permit for any buildings on the Property until the completion of the potable water improvements described in Exhibit E and depicted in Exhibit F. City agrees that OWNER may request that CITY issue temporary certificates of occupancy on a building-by-building basis prior to completion of the water improvements if there is available permanent water service from a minimum of two (2) points of connection and sufficient water is available for fire protection purposes for any buildings while under construction. OWNER and CITY agree that a portion of the water Improvements described in Exhibit E and depicted in Exhibit F may be constructed by others, or pursuant to a cooperative agreement with others. If such water Improvements are constructed by others, or in cooperation with others, and are completed and accepted by CITY prior to OWNER's request to CITY of the required grading, building or other required permits for OWNER to initiate construction of structures for the Property, then OWNER shall not be required to construct those water Improvements constructed and completed by others and accepted by CITY.

3.5.4 OWNER agrees that development of the Property shall require the construction of sewer Improvements as described in Exhibit E and depicted in Exhibit F. OWNER and CITY agree that CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY, and OWNER agrees that OWNER shall not request and CITY shall not issue a final occupancy permit for any buildings prior to completion of the sewer

improvements described in Exhibit E and depicted in Exhibit F. CITY agrees that OWNER may request that CITY issue temporary certificates of occupancy on a building-by-building basis prior to the completion of the sewer improvements described in Exhibit E and depicted in Exhibit F. OWNER and CITY agree that a portion of the sewer Improvements described in Exhibit E and depicted in Exhibit F may be constructed by others, or pursuant to a cooperative agreement with others. If such sewer Improvements are constructed by others, or in cooperation with others, and are completed and accepted by CITY prior to OWNER's request to CITY of the required grading, building or other required permits for OWNER to initiate construction of structures for the Property, then OWNER shall not be required to construct those sewer Improvements constructed and completed by others and accepted by CITY.

3.5.5 OWNER agrees that development of the Property shall require the construction of recycled water utility improvements to serve the Property, consisting generally of the construction of recycled water utility Improvements as described in Exhibit E and depicted in Exhibit F. OWNER and CITY agree that the CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY upon completion of sufficient water and recycled water improvements to serve the Property from at least one point of connection and OWNER agrees that OWNER shall not request and CITY shall not issue any occupancy permit for any buildings on the Property until the completion of the water improvements described in Exhibit E and depicted in Exhibit F. CITY agrees that OWNER may request a temporary occupancy permit for a building and, if OWNER requests that a temporary certificate of occupancy be issued for a building prior to the completion of the extension of permanent master planned recycled water utility Improvements to serve the Property that CITY may consider such request and may issue temporary certificates of occupancy on a building-by-building basis prior to completion of recycled water improvements if there is available permanent recycled water service connection and sufficient recycled water is available. OWNER and CITY agree that all, or a portion of, the permanent master planned recycled water utility Improvements described in Exhibit E and depicted in Exhibit F may be constructed by others. If such recycled water utility Improvements are constructed by others and completed and accepted by CITY prior to OWNER'S request to CITY of the required grading, building, or other required permits for OWNER to initiate construction of structures for the Property, then OWNER shall not be required to construct those permanent master planned recycled water utility Improvements.

3.5.6 OWNER agrees that development of the Property shall require the construction of fiber optic communications infrastructure, at OWNER's sole cost and expense, as described in the attached Exhibit E and depicted in Exhibit F consisting generally of the construction of fiber optic communications infrastructure to serve the Property. OWNER and CITY agree that CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY and OWNER agrees that OWNER shall not request and CITY shall not issue a final occupancy permit for any buildings prior to completion of the fiber optic communications infrastructure, as described in Exhibit E and depicted in Exhibit F. CITY agrees that OWNER may request that CITY issue temporary certificates

of occupancy on a building-by-building basis prior to the completion of the fiber optic communications infrastructure, as described in Exhibit E and depicted in Exhibit F.

3.6 Acquisition of Offsite Provision of Real Property Interests. In any instance where OWNER is required by any Development Approval or Land Use Regulation to construct any public improvement on land not owned by OWNER ("Offsite Improvements"), the CITY and OWNER shall cooperate in acquiring the necessary legal interest ("Offsite Property") as described below in Section 3.7. This Section 3.6 is not intended by the parties to impose upon the OWNER an enforceable duty to acquire land or construct any public improvements on land not owned by OWNER, except to the extent that the OWNER elects to proceed with the development of the Project, and then only in accordance with valid conditions imposed by the CITY upon the development of the Project under the Subdivision Map Act or other legal authority.

3.7 Real Property Interests.

3.7.1 CITY Acquisition of Offsite Property. In the event OWNER is required to construct any public improvements on land not owned by OWNER, Sections 3.7.1 and 3.7.2 shall control the acquisition of the Offsite Property. If the OWNER is unable to acquire such Offsite Property, and following the written request from the OWNER to CITY, CITY agrees to use reasonable and diligent good faith efforts to acquire the Offsite Property from the owner or owners of record by negotiation to the extent permitted by law and consistent with this Agreement. If CITY is unable to acquire the Offsite Property by negotiation within thirty (30) days after OWNER'S written request, CITY may, initiate proceedings utilizing its power of eminent domain to acquire the Offsite Property at a public hearing noticed and conducted in accordance with California Code of Civil Procedure Section 1245.235 for the purpose of considering the adoption of a resolution of necessity concerning the Offsite Property, subject to the conditions set forth in this Section 3.7.1 The CITY and OWNER acknowledge that the timelines set forth in this Section 3.7.1 represent the maximum time periods which CITY and OWNER reasonably believe will be necessary to complete the acquisition of any Offsite Property. CITY agrees to use reasonable good faith efforts to complete the actions described within lesser time periods, to the extent that it is reasonably able to do so, consistent with the legal constraints imposed upon CITY.

3.7.2 Owner's Option to Terminate Proceedings. CITY shall provide written notice to OWNER no later than fifteen (15) days prior to making an offer to the owner of the Offsite Property. At any time within that fifteen (15) day period, OWNER may, at its option, notify CITY that it wants CITY to cease all acquisition proceedings with respect to that Offsite Property, whereupon CITY shall cease such proceedings. CITY may provide written notice to OWNER no later than fifteen (15) days prior to the date of the hearing on CITY's intent to consider the adoption of a resolution of necessity as to any Offsite Property. At any time within that fifteen (15) day period, OWNER may, at its option, notify CITY that it wants CITY to cease condemnation proceedings, whereupon CITY shall cease such proceedings. If OWNER does not notify CITY to cease condemnation proceedings within said fifteen (15) day period, then the CITY may proceed to consider and act upon the Offsite Property resolution of necessity. If CITY adopts such resolution

of necessity, then CITY may institute condemnation proceedings and file a complaint in condemnation and seek an order of immediate possession with respect to the Offsite Property.

3.8 Regulation by Other Public Agencies. It is acknowledged by the parties that other public agencies not within the control of CITY possess authority to regulate aspects of the development of the Property separately from or jointly with CITY and this Agreement does not limit the authority of such other public agencies. CITY agrees to cooperate fully, at no cost to CITY, with OWNER in obtaining any required permits or compliance with the regulations of other public agencies provided such cooperation is not in conflict with any laws, regulations or policies of the CITY.

3.9 Tentative Parcel Maps. With respect to applications by OWNER for tentative parcel maps for portions of the Property, CITY agrees that OWNER may file and process tentative maps in accordance with Chapter 4.5 (commencing with Section 66498.1) of Division 2 of Title 7 of the California Government Code and the applicable provisions of CITY's subdivision ordinance, as the same may be amended from time to time. In accordance with the provisions of Section 66452.6 of the Government Code, each tentative subdivision map or tentative parcel map, heretofore or hereafter approved in connection with development of the Property, shall be deemed to have been granted an extension of time to and until the expiration, cancellation, or termination of this Agreement.

3.10 Specific Plan Charge. Pursuant to Government Code section 65456, the City Council may consider adopting a specific plan charge upon persons seeking CITY approvals that are required to be consistent with the Specific Plan. Any such charges shall, in the aggregate, defray, but not exceed, the estimated cost of preparation, adoption, and administration of the Specific Plan, including costs incurred pursuant to the California Environmental Quality Act (Pub. Resources Code, §§ 21000 et seq.). As nearly as can be estimated, the charges shall be a prorated amount in accordance with the applicant's relative benefit derived from the Specific Plan. If such charges are adopted, the CITY shall use such charges to reimburse the OWNER who originally paid the cost of preparing the Specific Plan, including costs incurred pursuant to the California Environmental Quality Act (Pub. Resources Code, §§ 21000 et seq.) to the extent the OWNER paid more than its relative benefit from the Specific Plan. Such charges, if adopted, shall be imposed on persons seeking CITY approvals that are required to be consistent with the Specific Plan, to the extent such person(s) has/have not entered into a reimbursement agreement with, and satisfactory to, the person(s) originally responsible for the cost of preparing the Specific Plan, including costs incurred pursuant to CEQA.

4. PUBLIC BENEFITS.

4.1 Intent. The parties acknowledge and agree that development of the Property will result in substantial public needs that will not be fully met by the Development Plan and further acknowledge and agree that this Agreement confers substantial private benefits on OWNER that should be balanced by commensurate public benefits. Accordingly, the parties intend to provide consideration to the public to balance the private benefits

conferred on OWNER by providing more fully for the satisfaction of the public needs resulting from the Project.

4.2 Development Impact Fees.

4.2.1 Amount of Development Impact Fee. Development Impact Fees (DIF) shall be paid by OWNER. The Development Impact Fee amounts to be paid by OWNER shall be the amounts that are in effect at the time such amounts are due. Nothing contained in this Agreement shall affect the ability of the CITY to impose new Development Impact Fees or amend the amounts of existing Development Impact Fees. Additionally, nothing contained in this Agreement shall affect the ability of other public agencies that are not controlled by CITY to impose and amend, from time to time, Development Impact Fees established or imposed by such other public agencies, even though such Development Impact Fees may be collected by CITY.

4.2.2 Time of Payment. The Development Impact Fees required pursuant to Section 4.2.1 shall be paid to CITY prior to the issuance of building permit for each applicable building (subject to the application/use of available fee deferrals or credits), except for the Species, Habitat Conservation, and Open Space Mitigation Development Impact Fee, which shall be paid by OWNER to CITY prior to the issuance of a grading permit.

4.3 Responsibility for Construction of Public Improvements.

4.3.1 Timely Construction of Public Infrastructure. The phasing of the area wide infrastructure construction within the vicinity of the Project shall be as approved by the CITY. OWNER shall be responsible for the timely construction and completion of all public infrastructure required for the Project as described and depicted in the Infrastructure Improvements Exhibit and any and all parcel map conditions. Unless otherwise specified in the Parcel Map conditions, and subject to the provisions of Section 3.5 and 3.6, all other required Improvements for the parcel map, shall be substantially completed and operational prior to, and as a condition precedent to, OWNER requesting and CITY's granting of a final occupancy permit for any buildings to be constructed on the Property within the applicable parcel map. All Infrastructure and Improvements shall be completed as required by the Subdivision Agreement/Parcel Map conditions for Parcel Map No. 20517.

4.3.3 Construction of Public Infrastructure by Third Parties. CITY and OWNER acknowledge that a portion of the Improvements described in Exhibit E and depicted in Exhibit F are necessary for the development of surrounding properties within the Ontario Ranch and the other property owners are also obligated to construct the Improvements or portions thereof. As such, CITY agrees that OWNER's obligation to construct the Improvements may be satisfied by third party owners pursuant to separate written agreements between OWNER and said third party undertaking the construction of the Improvements. Nothing in this Agreement shall be construed to prohibit the coordination of the construction of the Improvements between private parties, including the allocation of costs for the construction of the Improvements. Notwithstanding anything to the

contrary herein, any applicable DIF Credits may be transferred and assigned from one (1) party to another with respect to the construction of the Improvements and such transfer or assignment shall not require the conveyance of any real property.

4.3.4 Availability and Use of Recycled Water. OWNER agrees that recycled water shall be available and utilized by OWNER for all construction-related water uses including prior to, and during, any grading of the Property. OWNER and CITY agree that OWNER may, in-lieu of utilizing recycled water during grading and construction, utilize water from existing agricultural wells on the Property subject to the terms of a separate Well Use Agreement between the CITY and OWNER.

4.3.5 Construction of DIF Program Infrastructure. To the extent OWNER is required to construct and completes construction of public improvements that are included in CITY's Development Impact Fee Program, CITY agrees that CITY shall issue DIF Credit in accordance with the provisions of a separate Fee Credit Agreement between CITY and OWNER. Limitations on the use of DIF Credit issued to OWNER to offset OWNER's DIF payment obligations shall also be subject to the provisions of a separate Fee Credit Agreement. OWNER may be eligible to receive DIF Credit from OWNER's construction of DIF Program Infrastructure. Any such DIF Credit shall be subject to a Fee Credit Agreement between CITY and OWNER. CITY and OWNER agree that the Fee Credit Agreement between CITY and OWNER shall comply with CITY's adopted policies applicable to such agreements.

4.4 Public Services Funding Fee.

4.4.1 Requirement for Payment of Public Services Funding Fee. In order to ensure that the adequate provision of public services, including without limitation, police, fire and other public safety services, are available to each Project in a timely manner, OWNER shall pay to CITY a "Public Services Funding Fee." The Public Services Funding Fee shall apply to residential and non-residential uses as set forth below.

4.4.2 Public Services Funding Fee Amount. OWNER shall pay a Public Services Funding fee in a single installment payment in the amount of Seventy-Five Cents ($.75) per square foot of each non-residential building. The single installment for non-residential uses shall be due and payable on a building-by-building basis prior to the issuance of the building permit for a non-residential building. The amount of the Single Installment for non-residential uses shall automatically increase by percentage increase (but no decrease) in the Consumer Price Index (Riverside – San Bernardino – Ontario, CA), (December 2017=100) over the preceding year on January 1st of each year, beginning on January 1, 2024. OWNER may exercise the option to pay any single installment amounts for the remainder of the non-residential square footage within the Project on or before December 31st, before the Single Installment amount is automatically increased.

4.5 Water Availability.

4.5.1 Water Availability. The Property requires the completion of the Phase 2 Water Improvements (Phase 2A and 2B) for permanent water system capacity and supply. Until the Phase 2 Water Improvements are fully constructed and completed, OWNER acknowledges that the Project shall have sufficient water capacity and supply on an interim basis made available through the construction of the Potable Water Improvements (as described in Exhibit E), the Phase 2A Water Improvements, and the Interim Chino Avenue Loop depicted in Exhibit F. OWNER acknowledges and agrees that the CITY shall not issue final certificates of occupancy for the Project until the completion of the Potable Water Improvements (as described in Exhibit E), the Phase 2A Water Improvements and the Interim Chino Avenue Loop, as depicted in Exhibit F. OWNER further acknowledges and agrees the Property requires the Phase 2 Water Improvements as depicted in Exhibit F.

4.5.2 Phase 2 Water Construction Fee. Prior to CITY's issuance of a grading permit for any parcel of the Property (each, a "Grading Permit"), OWNER shall pay to CITY the applicable Phase 2 Water Construction Fee. The Phase 2 Water Construction Fee shall be calculated based on the following formula: (a) the regional water development impact fee, based on the square footage of developable property and the approved land use category for each Phase of the Project (the "Base Regional Water DIF"), PLUS (b) OWNER's pro rata share of the difference between the total projected cost of construction of the Phase 2 Water Improvements (the "Pro Rata Share") and the Base Regional Water DIF. To determine the Pro Rata Share, which may fluctuate over time, CITY shall, at the time OWNER applies for a Grading Permit, calculate the total projected cost of construction of the Phase 2 Water Improvements and subtract from that amount (y) all Phase 2 Water Construction Fees previously collected and (z) the aggregate Base Regional Water DIF to be paid by OWNER and all developers then at that time obligated to pay a Base Regional Water DIF specifically for use of the Phase 2 Water Improvements (together, the "Phase 2 Water Developers"). If the difference is zero or a number less than zero, then there is no Pro Rata Share and the Phase 2 Water Construction Fee shall equal the sum of all Base Regional Water DIF to be paid by all Phase 2 Water Developers. If the difference results in a positive number, the funding gap (the "Funding Gap") shall be divided by the total acreage of land to be developed by the Phase 2 Water Developers to obtain a Funding Gap "per acre" amount (the "Funding Gap Per Acre Amount"). Each Phase 2 Water Developer's respective total acreage to be developed shall then be multiplied by the Funding Gap Per Acre Amount to obtain each Phase 2 Water Developer's Pro Rata Share, which will then be added to each Phase 2 Water Developer's Base Regional Water DIF to obtain the Phase 2 Water Construction Fee due and payable at the time of issuance of the applicable Grading Permit.

4.5.3 DIF Credit for Phase 2 Water Construction Fees. Within thirty (30) days of OWNER's payment of each Phase 2 Water Construction Fee, CITY shall issue a certificate of DIF Credit which may be used to offset OWNER's DIF obligations in the Regional Water DIF Category. The form of the Certificate of DIF Credit shall be as described in Exhibit G, attached hereto and incorporated herein. OWNER acknowledges that any Regional Water DIF Credit issued to OWNER shall not be used to satisfy Phase 2 Water Construction Fees and may only be used to offset OWNER's DIF obligations in the Regional Water DIF Category.

4.5.4 Additional Contributions for Phase 2 Water Improvements. OWNER acknowledges and agrees that, as of the Effective Date of this Agreement, the CITY does not have sufficient funding to construct and complete the Phase 2 Water Improvements. OWNER agrees to provide the CITY with additional contributions for the Phase 2 Water Improvements prior to the issuance of a Grading Permit for any Phase within the Project, pursuant to the Pro Rata Share calculation as set forth in Section 4.5.2 above. OWNER acknowledges and agrees that the CITY has the right to conduct subsequent reviews of the available funding for the construction of, or continuation of the construction of, the Phase 2 Water Improvements. If at any time outside of OWNER's submission of a request for a Grading Permit the CITY determines that there is not sufficient funding for the construction of, or continuation of the construction of, the Phase 2 Water Improvements necessary to support current and anticipated future development within the Ontario Ranch area served by the Phase 2 Water Improvements, OWNER agrees to pay such subsequent additional contribution payment necessary from the OWNER (on a pro rata basis with other Phase 2 Water Developers then existing at the time) to the CITY to initiate construction of, or continue construction of, the Phase 2 Water Improvements. The CITY shall determine OWNER's additional contribution amount (above and beyond OWNER's Pro Rata Share) and such amount shall be due and payable to the CITY within thirty (30) days of written notice from the CITY to OWNER.

4.5.5 Future Reimbursement of Pro Rata Share of Phase 2 Water Construction Fees. OWNER agrees that the CITY will be responsible for the construction and completion of the Phase 2 Water Improvements, as depicted in Exhibit F. Subject to the successful completion of the Phase 2 Water Improvements, CITY and OWNER shall meet periodically and/or as needed from the date of completion of the Phase 2 Water Improvements, to jointly develop a plan and mutually enter into an agreement for the reimbursement of OWNER's Pro Rata Share of Phase 2 Water Construction Fees that may be reimbursed from future development in the 925 Zone as depicted in the City's Domestic Water Master Plan, following any reallocation of each Phase 2 Water Developer's Pro Rata Share, CITY's collection of additional Regional Water DIF in connection with construction of the Phase 2 Water Improvements, and after the completion of the Phase 2 Water Improvements. Such agreement shall be approved at the sole discretion of the Ontario City Council.

4.6 Compliance with Public Benefits Requirements.

4.6.1 Failure to Provide Public Benefits. In the event OWNER fails or refuses to comply with any condition referenced in Section 4.1 through 4.5, or challenges (whether administratively or through legal proceedings) the imposition of such conditions, OWNER shall be deemed in default of this Agreement, thereby entitling CITY to any and all remedies available to it, including, without limitation, the right of CITY to withhold OWNER's Project-related building permits, certificates of occupancy, or discretionary approvals, without liability. Nothing herein shall waive OWNER's right to assert a default (or failure to perform) by CITY has excused OWNER's performance under this Agreement.

5. FINANCING OF PUBLIC IMPROVEMENTS.

5.1 Financing Mechanism(s). OWNER agrees that, prior to the recordation of any Parcel Map, the property subject to such Parcel Map shall be included in a CFD to finance CITY services through annual special taxes that will initially be Twenty-Seven Cents ($.27) per square foot for non-residential buildings. These amounts shall be subject to an automatic increase at a rate not to exceed four (4%) percent per year. Depending on the fiscal year that the CFD is formed and the CFD tax is levied, the annual special taxes may be higher. CITY shall be the sole and exclusive lead agency in the formation of any CFD, assessment district or other public financing mechanism within the Property; provided however, that the proceeds of any such CFD, assessment district, or financing mechanism may be used, subject to restrictions that may be imposed by applicable law, for the purposes of acquiring, constructing or maintaining public facilities to be owned or operated by other public agencies, including, without limitation those facilities owned or operated by a school district. In addition to the rights of the CITY pursuant to section 5.1 hereof, CITY shall have the right, but not the obligation, to condition the formation of any CFD, assessment district or other public financing mechanism within the Property on the OWNER mitigating all Project-related impacts to the applicable school district(s) as required by such school district(s). Written evidence by such school district(s) may be required by the CITY as the condition to the formation of any CFD, assessment district or other public financing mechanism within the Property, or any steps preliminary thereto, including, without limitation, the adoption of any resolution of intention to form such CFD, assessment district or other public financing mechanism within the Property. It is not the intent of the parties hereto, by this provision, to prohibit or otherwise limit CITY's ability to take any and all necessary steps requisite to the formation of the CFD to finance CITY services through annual special taxes as set forth in this Section 5.1. Formation of any CFD, assessment district or other public financing mechanism within the Property, shall be subject to CITY's ability to make all findings required by applicable law and complying with all applicable legal procedures and requirements including, without limitation, CITY's public financing district policies as such policies may be amended from time to time. Notwithstanding the foregoing, it is acknowledged and agreed by the parties that nothing contained in this Agreement shall be construed as requiring CITY or the City Council to form any such district.

6. [OMITTED]

7. REVIEW FOR COMPLIANCE.

7.1 Periodic and Special Reviews.

7.1.1 Time for and Initiation of Periodic Review. The CITY shall review this Agreement every twelve (12) months from the Effective Date in order to ascertain the good faith compliance by the OWNER with the terms of this Agreement. The OWNER shall submit an Annual Monitoring Report to CITY, in a form acceptable to the City Manager, along with any applicable processing charge within ten (10) days after each anniversary date of the Effective Date of this Agreement. Within fifteen (15) days after the receipt of the Annual Monitoring Report, CITY shall review the Annual Monitoring

Report. Prior to the expiration of the fifteen (15) day review period, CITY shall either issue a notice of continuing compliance or a notice of non-compliance and a notice of CITY's intent to conduct a Special Review pursuant to Sections 7.1.2 through 7.1.6. Issuance of a notice of continuing compliance may be issued by the City Manager or his designee.

7.1.2 Initiation of Special Review. A special review may be called either by agreement between the parties or by initiation in one or more of the following ways:

(a) Recommendation of the Planning staff;

(b) Affirmative vote of at least four (4) members of the Planning Commission; or

(c) Affirmative vote of at least three (3) members of the City Council.

7.1.3 Notice of Special Review. The City Manager shall begin the special review proceeding by giving notice that the CITY intends to undertake a special review of this Agreement to the OWNER. Such notice shall be given at least ten (10) days in advance of the time at which the matter will be considered by the Planning Commission.

7.1.4 Public Hearing. The Planning Commission shall conduct a hearing at which the OWNER must demonstrate good faith compliance with the terms of this Agreement. The burden of proof on this issue is upon the OWNER.

7.1.5 Findings Upon Public Hearing. The Planning Commission shall determine upon the basis of substantial evidence whether or not the OWNER has, for the period under review, complied in good faith with the terms and conditions of this Agreement.

7.1.6 Procedure Upon Findings.

(a) If the Planning Commission finds and determines on the basis of substantial evidence that the OWNER has complied in good faith with the terms and conditions of this Agreement during the period under review, the review for that period is concluded.

(b) If the Planning Commission finds and determines on the basis of substantial evidence that the OWNER has not complied in good faith with the terms and conditions of this Agreement during the period under review, the Planning Commission may recommend to the City Council to modify or terminate this Agreement.

(c) The OWNER may appeal a determination pursuant to paragraph (b) to the City Council in accordance with the CITY's rule for consideration of appeals in zoning matters generally.

7.2 Proceedings Upon Modification or Termination. If, upon a finding under Section 7.1.6(b), the CITY determines to proceed with modification or termination of this Agreement, the CITY shall give notice to the property OWNER of its intention so to do. The notice shall contain:

(a) The time and place of the hearing;

(b) A statement as to whether or not the CITY proposes to terminate or to modify this Agreement; and

(c) Other information that the CITY considers necessary to inform the OWNER of the nature of the proceeding.

7.3 Hearing on Modification or Termination. At the time and place set for the hearing on modification or termination, the OWNER shall be given an opportunity to be heard. The OWNER shall be required to demonstrate good faith compliance with the terms and conditions of this Agreement. The burden of proof on this issue shall be on the OWNER. If the City Council finds, based upon substantial evidence in the administrative record, that the OWNER has not complied in good faith with the terms and conditions of the agreement, the City Council may terminate this Agreement or modify this Agreement and impose those conditions to the action it takes as it considers necessary to protect the interests of the CITY. The decision of the City Council shall be final, subject only to judicial review pursuant to Section 1094.5 of the Code of Civil Procedure.

7.4 Certificate of Agreement Compliance. If, at the conclusion of a Periodic or Special Review, OWNER is found to be in compliance with this Agreement, CITY shall, upon written request by OWNER, issue a Certificate of Agreement Compliance ("Certificate") to OWNER stating that after the most recent Periodic or Special Review and based upon the information known or made known to the Planning Director and City Council that (1) this Agreement remains in effect and (2) OWNER is not in default. The Certificate shall be in recordable form, shall contain information necessary to communicate constructive record notice of the finding of compliance, shall state whether the Certificate is issued after a Periodic or Special Review and shall state the anticipated date of commencement of the next Periodic Review. OWNER may record the Certificate with the County Recorder. Whether or not the Certificate is relied upon by assignees or other transferees or OWNER, CITY shall not be bound by a Certificate if a default existed at the time of the Periodic or Special Review, but was concealed from or otherwise not known to the Planning Director or City Council.

8. [OMITTED]

9. DEFAULT AND REMEDIES.

9.1 Remedies in General. It is acknowledged by the parties that CITY would not have entered into this Agreement if it were to be liable in damages under this Agreement, or with respect to this Agreement or the application thereof. In general, each of the parties hereto may pursue any remedy at law or equity available for the breach of any provision of this Agreement, except that (i) CITY shall not be liable in damages to OWNER, or to any successor in interest of OWNER, or to any other person, and OWNER covenants not to sue for damages or claim any damages and (ii) OWNER shall not be liable in damages to CITY, or to any other person, and CITY covenants not to sue for damages or claim any damages:

(a) For any breach of this Agreement or for any cause of action which arises out of this Agreement; or

(b) For the taking, impairment or restriction of any right or interest conveyed or provided under or pursuant to this Agreement; or

(c) Arising out of or connected with any dispute, controversy or issue regarding the application or interpretation or effect of the provisions of this Agreement.

9.2 Specific Performance. The parties acknowledge that money damages and remedies at law generally are inadequate and specific performance and other non-monetary relief are particularly appropriate remedies for the enforcement of this Agreement and should be available to all parties for the following reasons:

(a) Money damages are unavailable against CITY and OWNER as provided in Section 9.1 above.

(b) Due to the size, nature and scope of the Project, it may not be practical or possible to restore the Property to its natural condition once implementation of this Agreement has begun. After such implementation, OWNER may be foreclosed from other choices it may have had to utilize the Property or portions thereof. OWNER has invested significant time and resources and performed extensive planning and processing of the Project in agreeing to the terms of this Agreement and will be investing even more significant time and resources in implementing the Project in reliance upon the terms of this Agreement, and it is not possible to determine the sum of money which would adequately compensate OWNER for such efforts.

9.3 Release. Except for non-damage remedies, including the remedies of judicial review and of specific performance as provided for in Sections 7.3 and 9.2, respectively,, OWNER, for itself, its successors and assignees, hereby releases the CITY, its officers, agents and employees from any and all claims, demands, actions, or suits of any kind or nature arising out of any liability, known or unknown, present or future, including, but not limited to, any claim or liability, based or asserted, pursuant to Article I, Section 19 of the California Constitution, the Fifth Amendment of the United States Constitution, or any other law or ordinance which seeks to impose any other liability or damage, whatsoever, upon the CITY because it entered into this Agreement or because of the terms of this Agreement.

9.4 Termination or Modification of Agreement for Default of OWNER. Subject to the provisions contained in Sections 7.2 and 7.3 herein, CITY may terminate or modify this Agreement for any failure of OWNER to perform any material duty or obligation of OWNER under this Agreement, or to comply in good faith with the terms of this Agreement (hereinafter referred to as "default"); provided, however, CITY may terminate or modify this Agreement pursuant to this Section only after providing written notice to OWNER of default setting forth the nature of the default and the actions, if any, required by OWNER to cure such default and, where the default can be cured, OWNER has failed to take such

actions and cure such default within 60 days after the effective date of such notice or, in the event that such default cannot be cured within such 60 day period but can be cured within a longer time, has failed to commence the actions necessary to cure such default within such 60 day period and to diligently proceed to complete such actions and cure such default.

9.5 Termination of Agreement for Default of CITY. OWNER may terminate this Agreement only in the event of a default by CITY in the performance of a material term of this Agreement and only after providing written notice to CITY of default setting forth the nature of the default and the actions, if any, required by CITY to cure such default and, where the default can be cured, CITY has failed to take such actions and cure such default within 60 days after the effective date of such notice or, in the event that such default cannot be cured within such 60 day period but can be cured within a longer time, has failed to commence the actions necessary to cure such default within such 60 day period and to diligently proceed to complete such actions and cure such default.

10. THIRD PARTY LITIGATION.

10.1 General Plan Litigation. CITY has determined that this Agreement is consistent with the General Plan, as such General Plan exists as of the Effective Date ("General Plan"), and that the General Plan meets all requirements of law. OWNER has reviewed the General Plan and concurs with CITY's determination. CITY shall have no liability in damages under this Agreement for any failure of CITY to perform under this Agreement or the inability of OWNER to develop the Property as contemplated by the Development Plan or this Agreement as the result of a judicial determination that on the Effective Date, or at any time thereafter, the General Plan, or portions thereof, are invalid or inadequate or not in compliance with law.

10.2 Third Party Litigation Concerning Agreement. OWNER shall defend, at its expense, including attorneys' fees, indemnify, and hold harmless CITY, its agents, officers and employees from any claim, action or proceeding against CITY, its agents, officers, or employees to attack, set aside, void, or annul the approval of this Agreement or the approval of any permit granted pursuant to this Agreement. CITY shall promptly notify OWNER of any such claim, action or proceeding, and CITY shall cooperate in the defense. If CITY fails to promptly notify OWNER of any such claim, action or proceeding, or if CITY fails to cooperate in the defense, OWNER shall not thereafter be responsible to defend, indemnify, or hold harmless CITY. CITY may in its discretion participate in the defense of any such claim, action or proceeding.

10.3 Indemnity. In addition to the provisions of Section 10.2 above, OWNER shall indemnify and hold CITY, its officers, agents, employees and independent contractors free and harmless from any liability whatsoever, based or asserted upon any act or omission of OWNER, its officers, agents, employees, subcontractors and independent contractors, for property damage, bodily injury, or death (OWNER's employees included) or any other element of damage of any kind or nature, to the extent relating to or in any way connected with or arising from the activities contemplated hereunder, including, but not limited to, the study, design, engineering, construction, completion, failure and

conveyance of the public improvements, save and except claims for damages arising through the sole active negligence or sole willful misconduct of CITY. OWNER shall defend, at its expense, including attorneys' fees, CITY, its officers, agents, employees and independent contractors in any legal action based upon such alleged acts or omissions. CITY may in its discretion participate in the defense of any such legal action. OWNER's indemnity obligation shall terminate following CITY's legal acceptance of (i.e. taking of title to) the Improvements.

10.4 Environment Assurances. OWNER shall indemnify and hold CITY, its officers, agents, and employees free and harmless from any liability, to the extent based or asserted, upon any act or omission of OWNER, its officers, agents, employees, subcontractors, predecessors in interest, successors, assigns and independent contractors for any violation of any federal, state or local law, ordinance or regulation relating to industrial hygiene or to environmental conditions on, under or about the Property during OWNER'S period of ownership of the Property, including, but not limited to, soil and groundwater conditions caused by OWNER, and OWNER shall defend, at its expense, including attorneys' fees, CITY, its officers, agents and employees in any action based or asserted upon any such alleged act or omission. CITY may in its discretion participate in the defense of any such action.

10.5 Reservation of Rights. With respect to Sections 10.2, 10.3 and 10.4 herein, CITY reserves the right to either (1) approve the attorney(s) which OWNER selects, hires or otherwise engages to defend CITY hereunder, which approval shall not be unreasonably withheld, or (2) conduct its own defense, provided, however, that OWNER shall reimburse CITY forthwith for any and all reasonable expenses incurred for such defense, including attorneys' fees, upon billing and accounting therefor.

10.6 Survival. The provisions of this Sections 10.1 through 10.6, inclusive, shall survive the termination of this Agreement.

11. MORTGAGEE PROTECTION.

11.1 Mortgagee Protection. The parties hereto agree that this Agreement shall not prevent or limit OWNER, in any manner, at OWNER's sole discretion, from encumbering the Property or any portion thereof or any improvement thereon by any mortgage, deed of trust or other security device securing financing with respect to the Property. CITY acknowledges that the lenders providing such financing may require certain Agreement interpretations and modifications and agrees upon request, from time to time, to meet with OWNER and representatives of such lenders to negotiate in good faith any such request for interpretation or modification. CITY will not unreasonably withhold its consent to any such requested interpretation or modification provided such interpretation or modification is consistent with the intent and purposes of this Agreement. Any Mortgagee of the Property shall be entitled to the following rights and privileges:

(a) Neither entering into this Agreement nor a breach of this Agreement shall defeat, render invalid, diminish or impair the lien of any mortgage on the Property made in good faith and for value, unless otherwise required by law.

(b) The Mortgagee of any mortgage or deed of trust encumbering the Property, or any part thereof, which Mortgagee, has submitted a request in writing to the CITY in the manner specified herein for giving notices, shall be entitled to receive written notification from CITY of any default by OWNER in the performance of OWNER's obligations under this Agreement.

(c) If CITY timely receives a request from a Mortgagee requesting a copy of any notice of default given to OWNER under the terms of this Agreement, CITY shall provide a copy of that notice to the Mortgagee within ten (10) days of sending the notice of default to OWNER. The Mortgagee shall have the right, but not the obligation, to cure the default during the remaining cure period allowed such party under this Agreement.

(d) Any Mortgagee who comes into possession of the Property, or any part thereof, pursuant to foreclosure of the mortgage or deed of trust, or deed in lieu of such foreclosure, shall take the Property, or part thereof, subject to the terms of this Agreement. Notwithstanding any other provision of this Agreement to the contrary, no Mortgagee shall have an obligation or duty under this Agreement to perform any of OWNER's obligations or other affirmative covenants of OWNER hereunder, or to guarantee such performance; provided, however, that to the extent that any covenant to be performed by OWNER is a condition precedent to the performance of a covenant by CITY, the performance thereof shall continue to be a condition precedent to CITY's performance hereunder, and further provided that any sale, transfer or assignment by any Mortgagee in possession shall be subject to the provisions of Section 2.4 of this Agreement

(e) In the event of a default by OWNER, any Mortgagee shall have the right to remedy, or cause to be remedied, such default within sixty (60) days following the later to occur of (i) the date of Mortgagee's receipt of the notice referred to in Section 9.4 above, or (ii) the expiration of the period provided herein for OWNER to remedy or cure such default, and CITY shall accept such performance by or at the insistence of the Mortgagee as if the same had been timely made by OWNER; provided, however, that (i) if such default is not capable of being cured within the timeframes set forth in this Section and Mortgagee commences to cure the default within such timeframes, then Mortgagee shall have such additional time as is required to cure the default so long as Mortgagee diligently prosecutes the cure to completion and (ii) if possession of the Property (or portion thereof) is required to effectuate such cure or remedy, the Mortgagee shall be deemed to have timely cured or remedied if it commences the proceedings necessary to obtain possession thereof within sixty (60) days after receipt of the copy of the notice, diligently pursues such proceedings to completion, and, after obtaining possession, diligently completes such cure or remedy.

12. MISCELLANEOUS PROVISIONS.

12.1 Recordation of Agreement. This Agreement and any amendment or cancellation thereof shall be recorded with the San Bernardino County Recorder by the City Clerk within ten (10) days after the CITY executes this Agreement, as required by Section 65868.5 of the Government Code. If the parties to this Agreement or their successors in interest amend or cancel this Agreement as provided for herein and in Government Code

Section 65868, or if the CITY terminates or modifies the agreement as provided for herein and in Government Code Section 65865.1 for failure of the applicant to comply in good faith with the terms or conditions of this Agreement, the City Clerk shall have notice of such action recorded with the San Bernardino County Recorder.

12.2 Entire Agreement. This Agreement sets forth and contains the entire understanding and agreement of the parties, and there are no oral or written representations, understandings or ancillary covenants, undertakings or agreements which are not contained or expressly referred to herein. No testimony or evidence of any such representations, understandings or covenants shall be admissible in any proceeding of any kind or nature to interpret or determine the terms or conditions of this Agreement.

12.3 Severability. If any term, provision, covenant or condition of this Agreement shall be determined invalid, void or unenforceable, the remainder of this Agreement shall not be affected thereby to the extent such remaining provisions are not rendered impractical to perform taking into consideration the purposes of this Agreement. Notwithstanding the foregoing, the provision of the Public Benefits set forth in Section 4 of this Agreement, including the payment of the fees set forth therein, are essential elements of this Agreement and CITY would not have entered into this Agreement but for such provisions, and therefore in the event such provisions are determined to be invalid, void or unenforceable, this entire Agreement shall be null and void and of no force and effect whatsoever.

12.4 Interpretation and Governing Law. This Agreement and any dispute arising hereunder shall be governed and interpreted in accordance with the laws of the State of California. This Agreement shall be construed as a whole according to its fair language and common meaning to achieve the objectives and purposes of the parties hereto, and the rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be employed in interpreting this Agreement, all parties having been represented by counsel in the negotiation and preparation hereof.

12.5 Section Headings. All section headings and subheadings are inserted for convenience only and shall not affect any construction or interpretation of this Agreement.

12.6 Singular and Plural. As used herein, the singular of any word includes the plural.

12.7 Joint and Several Obligations. Pursuant to Section 2.4, if at any time during the term of this Agreement the Property is subsequently owned, in whole or in part, by more than one owner, all obligations of such owners under this Agreement shall be joint and several, and the default of any such owner shall be the default of all such owners. Notwithstanding the foregoing, no owner of a single lot which has been finally subdivided and sold to such owner as a member of the general public or otherwise as an ultimate user shall have any obligation under this Agreement except as provided under Section 4 hereof.

12.8 Time of Essence. Time is of the essence in the performance of the provisions of this Agreement as to which time is an element.

12.9 Waiver. Failure by a party to insist upon the strict performance of any of the provisions of this Agreement by the other party, or the failure by a party to exercise its rights upon the default of the other party, shall not constitute a waiver of such party's right to insist and demand strict compliance by the other party with the terms of this Agreement thereafter.

12.10 No Third-Party Beneficiaries. This Agreement is made and entered into for the sole protection and benefit of the parties and their successors and assigns. No other person shall have any right of action based upon any provision of this Agreement.

12.11 Force Majeure. Neither party shall be deemed to be in default where failure or delay in performance of any of its obligations under this Agreement is caused by floods, earthquakes, other Acts of God, fires, wars, riots or similar hostilities, strikes and other labor difficulties beyond the party's control, (including the party's employment force), government regulations, governmental orders related to statewide or national pandemics, any third party court actions challenging the Project (including but not limited to writs of mandate, restraining orders or injunctions), or other causes beyond the party's control. If any such events shall occur, the term of this Agreement and the time for performance by either party of any of its obligations hereunder may be extended by the written agreement of the parties for the period of time that such events prevented such performance, provided that the term of this Agreement shall not be extended under any circumstances for more than five (5) years.

12.12 Mutual Covenants. The covenants contained herein are mutual covenants and also constitute conditions to the concurrent or subsequent performance by the party benefited thereby of the covenants to be performed hereunder by such benefited party.

12.13 Successors in Interest. The burdens of this Agreement shall be binding upon, and the benefits of this Agreement shall inure to, all successors in interest to the parties to this Agreement. All provisions of this Agreement shall be enforceable as equitable servitudes and constitute covenants running with the land. Each covenant to do or refrain from doing some act hereunder with regard to development of the Property: (a) is for the benefit of and is a burden upon every portion of the Property; (b) runs with the Property and each portion thereof; and, (c) is binding upon each party and each successor in interest during ownership of the Property or any portion thereof.

12.14 Counterparts. This Agreement may be executed by the parties in counterparts, which counterparts shall be construed together and have the same effect as if all of the parties had executed the same instrument.

12.15 Jurisdiction and Venue. Any action at law or in equity arising under this Agreement or brought by a party hereto for the purpose of enforcing, construing or determining the validity of any provision of this Agreement shall be filed and tried in the Superior Court of the County of San Bernardino, State of California, and the parties hereto waive all provisions of law providing for the filing, removal or change of venue to any other court.

12.16 Project as a Private Undertaking. It is specifically understood and agreed by and between the parties hereto that the development of the Project is a private development, that neither party is acting as the agent of the other in any respect hereunder, and that each party is an independent contracting entity with respect to the terms, covenants and conditions contained in this Agreement. No partnership, joint venture or other association of any kind is formed by this Agreement. The only relationship between CITY and OWNER is that of a government entity regulating the development of private property and the owner of such property.

12.17 Further Actions and Instruments. Each of the parties shall cooperate with and provide reasonable assistance to the other to the extent contemplated hereunder in the performance of all obligations under this Agreement and the satisfaction of the conditions of this Agreement. Upon the request of either party at any time, the other party shall promptly execute, with acknowledgment or affidavit if reasonably required, and file or record such required instruments and writings and take any actions as may be reasonably necessary under the terms of this Agreement to carry out the intent and to fulfill the provisions of this Agreement or to evidence or consummate the transactions contemplated by this Agreement. The City Manager may delegate his powers and duties under this Agreement to an Assistant City Manager or other management level employee of the CITY.

12.18 Eminent Domain. No provision of this Agreement shall be construed to limit or restrict the exercise by CITY of its power of eminent domain.

12.19 Agent for Service of Process. In the event OWNER is not a resident of the State of California or it is an association, partnership or joint venture without a member, partner or joint venturer resident of the State of California, or it is a foreign corporation, then in any such event, OWNER shall file with the Planning Director, upon its execution of this Agreement, a designation of a natural person residing in the State of California, giving his or her name, residence and business addresses, as its agent for the purpose of service of process in any court action arising out of or based upon this Agreement, and the delivery to such agent of a copy of any process in any such action shall constitute valid service upon OWNER. If for any reason service of such process upon such agent is not feasible, then in such event OWNER may be personally served with such process out of this County and such service shall constitute valid service upon OWNER. OWNER is amenable to the process so served, submits to the jurisdiction of the Court so obtained and waives any and all objections and protests thereto.

12.20 Estoppel Certificate. Within thirty (30) business days following a written request by any of the parties, the other party shall execute and deliver to the requesting party a statement certifying that (i) either this Agreement is unmodified and in full force and effect or there have been specified (date and nature) modifications to the Agreement, but it remains in full force and effect as modified; and (ii) either there are no known current uncured defaults under this Agreement or that the responding party alleges that specified (date and nature) defaults exist. The statement shall also provide any other reasonable information requested. The failure to timely deliver this statement shall constitute a conclusive presumption that this Agreement is in full force and effect without modification

except as may be represented by the requesting party and that there are no uncured defaults in the performance of the requesting party, except as may be represented by the requesting party. OWNER shall pay to CITY all costs incurred by CITY in connection with the issuance of estoppel certificates requested by OWNER under this Section 12.20 prior to CITY's issuance of such certificates.

12.21 Authority to Execute. The person or persons executing this Agreement on behalf of OWNER warrants and represents that he or she/they have the authority to execute this Agreement on behalf of his or her/their corporation, partnership or business entity and warrants and represents that he or she/they has/have the authority to bind OWNER to the performance of its obligations hereunder.

12.22 Prevailing Wage. OWNER, for itself, its successors, and assigns, agrees, covenants, and warrants that the development of the Property, if any, shall comply with all applicable federal and state labor laws (including, without limitation, the requirement under California law to pay prevailing wages and hire apprentices), and all obligations as set forth herein.12.22.1 CITY makes no representations concerning prevailing wages in compliance with California Labor Code Section 1770 et seq.

12.22.2 OWNER acknowledges and agrees that it shall be independently responsible for reviewing the applicable laws and regulations with respect to the payment of prevailing wages and complying therewith. OWNER shall bear all risks of payment or non-payment of prevailing wages under California law and/or the implementation of Labor Code Section 1781, as the same may be amended from time to time, and/or any other similar law.

12.22.3 The foregoing indemnity shall survive termination of this Agreement and shall continue after completion of the construction and development of the Property by OWNER, its successors or assigns. OWNER shall be solely responsible for determining and effectuating compliance with such laws.

12.22.4 OWNER, ON BEHALF OF ITSELF, ITS SUCCESSORS, AND ASSIGNS, WAIVES AND RELEASES CITY FROM ANY RIGHT OF ACTION THAT MAY BE AVAILABLE TO OWNER PURSUANT TO LABOR CODE SECTION 1781 OR THE DAVIS BACON ACT. RELATIVE TO THE WAIVER AND RELEASE CONTAINED IN THIS SECTION 12.22, OWNER ACKNOWLEDGES THE PROTECTIONS OF CIVIL CODE SECTION 1542, WHICH READS AS FOLLOWS: A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.

INITIALS. BY INITIALING BELOW, OWNER KNOWINGLY AND VOLUNTARILY WAIVES THE PROVISIONS OF SECTION 1542 SOLELY WITH THE MATTERS WHICH ARE THE SUBJECT OF THE FOREGOING WAIVERS AND RELEASES:

_____

(Owner's Initials)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year set forth below.

[SIGNATURES CONTAINED ON FOLLOWING PAGE]

SIGNATURE PAGE
TO DEVELOPMENT AGREEMENT
FILE NO. PDA21-006

"OWNER"

EUCLID LAND VENTURE 2, LLC.
a Delaware limited liability company

by: RBV Euclid, LLC, a Delaware limited liability company, its managing member

by: REDA Bascom Ventures, LLC, a Delaware limited liability company, its managing member

by: Real Estate Development Associates, LLC, a California limited liability company, its administrative member

by: Waters Edge Property Group, LLC, a California limited liability company, its member

By: _____
Jason Krotts
Authorized Signatory

Date: _____

ATTEST:

_____
City Clerk, Ontario

APPROVED AS TO FORM:

BEST BEST & KRIEGER, LLP

_____
City Attorney

"CITY"
CITY OF ONTARIO

By:_____
Scott Ochoa
City Manager

Date: _____

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On this ___ day of _____, 2023 before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature:_____ (Seal)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On this ___ day of _____, 2023 before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature:_____ (Seal)

EXHIBIT "A"
TO DEVELOPMENT AGREEMENT

Legal Description of Property

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF ONTARIO, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

LOTS 7, 8, 9, 10, 23, 24, 25 AND 26 IN SECTION 20, TOWNSHIP 2 SOUTH, RANGE 7 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE MAP OF THE SUBDIVISION OF RANCHO SANTA ANA DEL CHINO, IN THE CITY OF ONTARIO, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, RECORDED IN BOOK 6, PAGE 15 OF MAPS OF RECORDS OF SAID COUNTY.

APNs: 1054-031-01, 1054-031-02, 1054-261-01, 1054-261-02, 1054-041-01, 1054-041-02, 1054-291-01, 1054-291-02

EXHIBIT "B"
TO DEVELOPMENT AGREEMENT

Map showing Property and its location

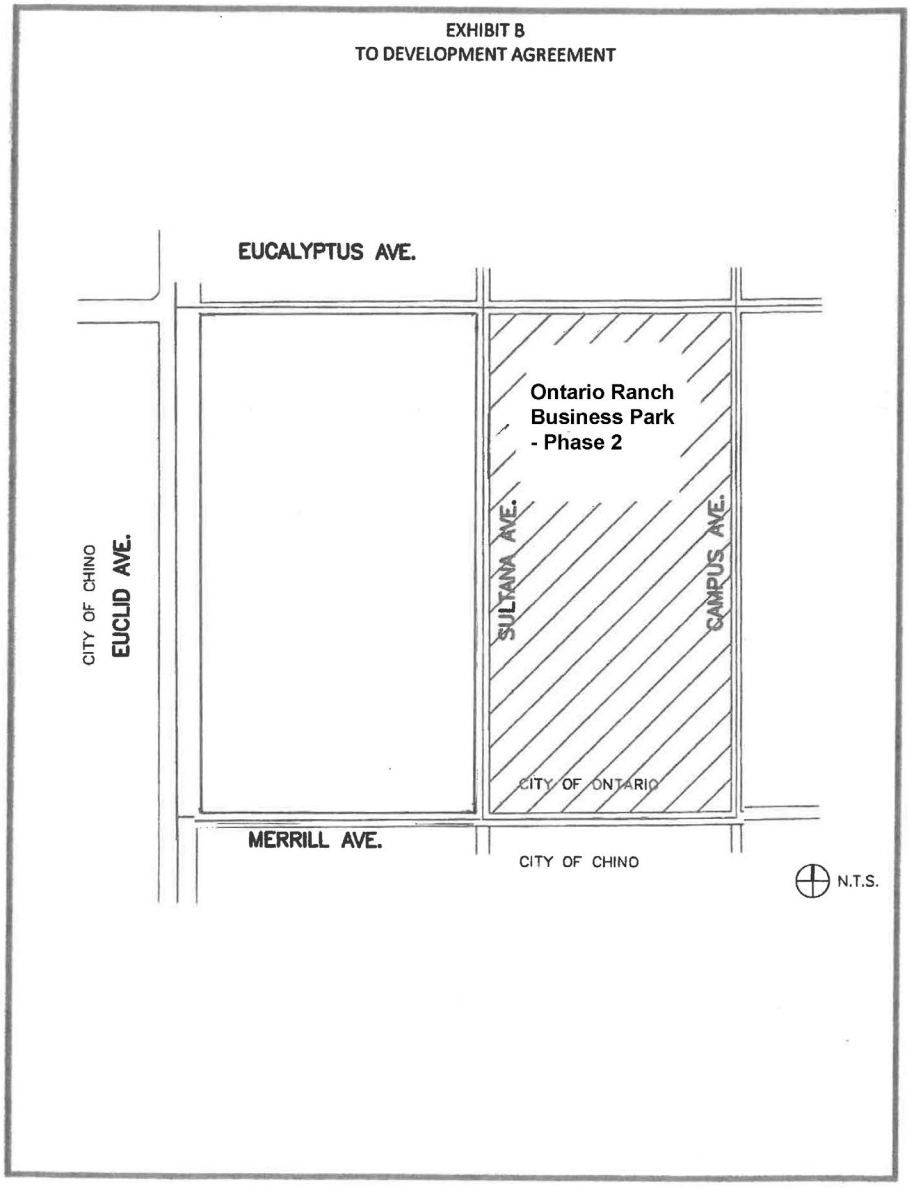


EXHIBIT "C"
TO DEVELOPMENT AGREEMENT

Existing Development Approvals

On July 28, 2020, the Planning Commission:

a) Approved Resolution No. PC20-048, recommending the City Council certify the Environmental Impact Report (SCH #2019050018) for the Ontario Ranch Business Park Specific Plan (File No. PSP18-002).

b) Approved Resolution No. PC20-049, recommending the City Council approve the General Plan Amendment (File No. PGPA18-008).

c) Approved Resolution No. PC20-050, recommending the City Council approve the Ontario Ranch Business Park Specific Plan (File No. PSP18-002).

On September 15, 2020, the City Council:

a) Adopted Resolution No. 2020-159, certifying the Environmental Impact Report (SCH #2019050018) for the Ontario Ranch Business Park Specific Plan (File No. PSP18-002).

b) Adopted Resolution No. 2020-160, approving the General Plan Amendment (File No. PGPA18-008).

On October 6, 2020, the City Council:

a) Adopted Ordinance No. 3168, approving the Ontario Ranch Business Park Specific Plan.

On August 30, 2022, the Planning Commission:

a) Approved Resolution No. PC22-053, recommending the City Council certify the project Subsequent Environmental Impact Report (SCH#2019050018) for the Ontario Ranch Business Park Specific Plan Amendment (PSPA21-002).

b) Approved Resolution No. PC22-054, recommending the City Council approve File No. PSPA21-002, an amendment to the Ontario Ranch Business Park Specific Plan.

EXHIBIT "C" Continued
TO DEVELOPMENT AGREEMENT

On October 18, 2022, the City Council:

a) Adopted Resolution No. 2022-143, certifying the Subsequent Environmental Impact Report (SCH#2019050018) for the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002).

b) Adopted Resolution No. 2022-144, approving File No. PSPA21-002, an amendment to the Ontario Ranch Business Park Specific Plan.

EXHIBIT "D"
TO DEVELOPMENT AGREEMENT

Existing Land Use Regulations

These documents are listed for reference only:

1. General Plan Amendment (File No. PGPA20-002)

2. Ontario Ranch Business Park Specific Plan (File No. PSP18-002), Ordinance No. 3168

3. Ontario Ranch Business Park Environmental Impact Report (SCH#2019050018)

4. Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002)

5. City of Ontario Municipal Code
    a. Six – Sanitation & Health
    b. Seven – Public Works
    c. Eight – Building Regulations
    d. Nine – Development Code
    e. Ten – Parks & Recreation

EXHIBIT "E"
TO THE DEVELOPMENT AGREEMENT

DESCRIPTION OF REQUIRED IMPROVEMENTS

OWNER shall design, construct, and complete the following Street, Sewer, Storm Drain, Potable Water, Recycled Water, and Fiber Optic improvements, prior to OWNER's request for any final certificate of occupancy permit for any building within the Property.

1. OWNER shall design, construct, and complete the following Improvements, Potable Water (WT), Storm Drain (SD), Streets (ST), Sewer (SW), Recycled Water (RW), and Fiber Optics (FO), as described, prior to OWNER's request for final occupancy of the first building:

    a. WT on Sultana Avenue between Eucalyptus Avenue and Merrill Avenue.

    b. WT on Campus Avenue between Eucalyptus Avenue and Merrill Avenue.

    c. WT on Eucalyptus Avenue between Sultana Avenue and Grove Avenue (Local Water DIF Project WT-011).

    d. WT on Eucalyptus Avenue between Grove Avenue and Carpenter Avenue (*Regional Water DIF Project, portion of Phase 2A Water*).

    e. WT on Merrill Avenue between Sultana Avenue and Carpenter Avenue (Local Water DIF Project WT-011).

    f. SW (Western Trunk Sewer) on Euclid Avenue between Kimball Avenue and Merrill Avenue (Regional Sewer DIF Project SW-002).

    g. SW (Western Trunk Sewer) on Merrill Avenue between Euclid Avenue and Campus Avenue (Regional Sewer DIF Project SW-002).

    h. SW on Sultana Avenue between Merrill Avenue and Eucalyptus Avenue.

    i. SW on Campus Avenue between Merrill Avenue and Eucalyptus Avenue.

    j. RW on Sultana Avenue between Eucalyptus Avenue and Merrill Avenue.

k. RW on Merrill Avenue between Sultana Avenue and Campus Avenue (Local Water DIF Project WT-016).

l. RW on Campus Avenue between Merrill Avenue and Eucalyptus Avenue.

m. SD onsite detention shall be designed, constructed, and completed by ONWER prior to issuance of the first building permit. However, OWNER is eligible to request from CITY a grading permit prior to completion of the SD onsite detention.

n. SD on Sultana Avenue between Eucalyptus Avenue and Merrill Avenue.

o. SD on Merrill Avenue between Euclid Avenue and Sultana Avenue.

p. SD on Merrill Avenue between Sultana Avenue and Campus Avenue.

q. SD on Campus Avenue between Eucalyptus Avenue and Merrill Avenue.

r. SD bleeder line or alternative interim connection at the discretion of the City Engineer, on Euclid Avenue south of Merrill Avenue. This shall connect to the SD on Merrill Avenue between Euclid Avenue and Campus Avenue.

s. Two (2) Debris Separation Baffle Boxes at the intersections of Euclid Avenue and Merrill Avenue.

t. Full half ST improvements on the south half and circulation land improvements on the north half of Eucalyptus Avenue, from Sultana Avenue to Campus Avenue.

u. Full half ST improvements on both sides of Merrill Avenue, between Euclid Avenue and Carpenter Avenue.

v. Full half ST improvements on the west side and circulation lane improvements on the east side of Campus Avenue, between Eucalyptus Avenue and Merrill Avenue.

w. Full half ST improvements on the east side and circulation lane improvements on the west side of Sultana Avenue, between Eucalyptus Avenue and Merrill Avenue.

x. Traffic Signals at Sultana Avenue and Eucalyptus Avenue, Sultana Avenue and Merrill Avenue, Campus Avenue and Eucalyptus Avenue, and Campus and Merrill Avenues.

y. Traffic Signal modifications at Euclid Avenue and Eucalyptus Avenue, and Euclid Avenue and Merrill Avenue.

z. FO on Eucalyptus Avenue between Sultana Avenue and Campus Avenue.

aa. FO on Merrill Avenue between Sultana Avenue and Campus Avenue.

bb. FO on Sultana Avenue between Eucalyptus Avenue and Merrill Avenue.

cc. FO on Campus Avenue between Eucalyptus Avenue and Merrill Avenue.

2. CITY shall design, construct, and complete the Phase 2 Water (WT) Improvements and Interim Chino Avenue Loop. The Phase 2 Water Improvements will be constructed by the CITY in phases, with the initial improvements, designated as Phase 2A Water Improvements, Interim Chino Avenue Loop, and Phase 2B Water Improvements as described below.

    a. Phase 2A Water Improvements shall consist of the following:

        i. WT on Grove Avenue between Eucalyptus Avenue and Chino Avenue (Regional Water DIF Project WT-010).

    b. Interim Chino Avenue Loop shall consist of the following:

        i. WT on Chino Avenue between Cucamonga Channel and Grove Avenue, which will provide the second point of connection from the 1010 Pressure Zone (Local Water DIF Project WT-009).

        ii. Pressure Reducing Station at Grove Avenue and Chino Avenue, which will provide the second point of connection from 1010 Pressure Zone (Future Local Water DIF Project WT-009).

OWNER shall pay one hundred percent (100%) of the costs to construct the Phase 2A Improvements and the Interim Chino Avenue Loop, within forty-five (45) days from the Effective Date of this Agreement, and such payment shall be the "Phase 2A Water Payment". The costs in the foregoing sentence shall equal the actual bid amount of the awarded contracts for the work, plus fifteen percent (15%). Upon OWNER's full and complete payment to CITY, the CITY shall issue a Certificate of DIF Credit in the Regional Water Category and/or the Local Adjacent Water Category, as appropriate. Each DIF Water Certificate shall be issued by CITY within thirty (30) days of the receipt of such required payment. CITY shall not issue any building permits until receipt of the full Phase 2A Water Payment.

c. Phase 2B Water Improvements shall consist of the following:

   i. WT on Francis Street between Grove Avenue and Bon View Avenue (Regional Water DIF Project WT-010).

   ii. WT on Bon View Avenue between Francis Street and the Bon View Reservoir Site (Regional Water DIF Project WT-010).

   iii. WT – Nine (9) Million Gallon reservoir at Bon View Reservoir Site (Regional Water DIF Project WT-014).

   iv. WT – Two (2) Groundwater Production Wells in vicinity of Bon View Reservoir Site (Regional Water DIF Project WT-007).

   v. WT on Grove Avenue between Chino Avenue and Francis Street (Regional Water DIF Project WT-010). The final design and alignment north of Riverside Drive is subject to change at the reasonable discretion of the CITY.

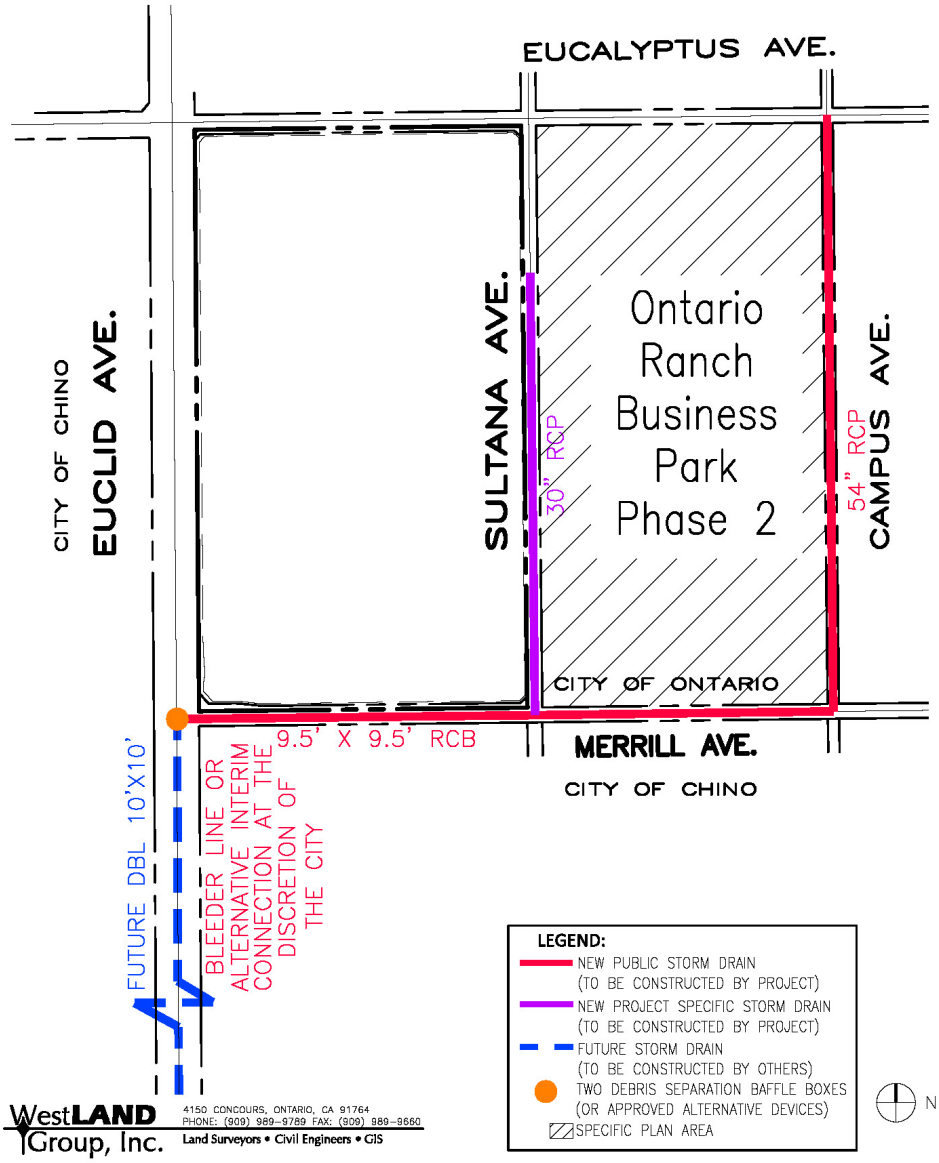
   The Phase 2B Water Improvements will be constructed by the CITY and funded by OWNER, pursuant to Section 4.5 of this Agreement. CITY and OWNER mutually agree and understand, that with completion of Phase 2A and the Interim Chino Avenue Loop, the project will be utilizing interim water supply and storage capacity from the 1010' Pressure Zone and OWNER will be required to participate in the funding of future Phase 2 Water Improvements to support the permanent water supply and storage needs of future development within Ontario Ranch.

EXHIBIT "F"
TO DEVELOPMENT AGREEMENT

Required Infrastructure Improvements

(**SEE ATTACHED EXHIBITS**)

EXHIBIT F-1
STORM DRAIN IMPROVEMENTS

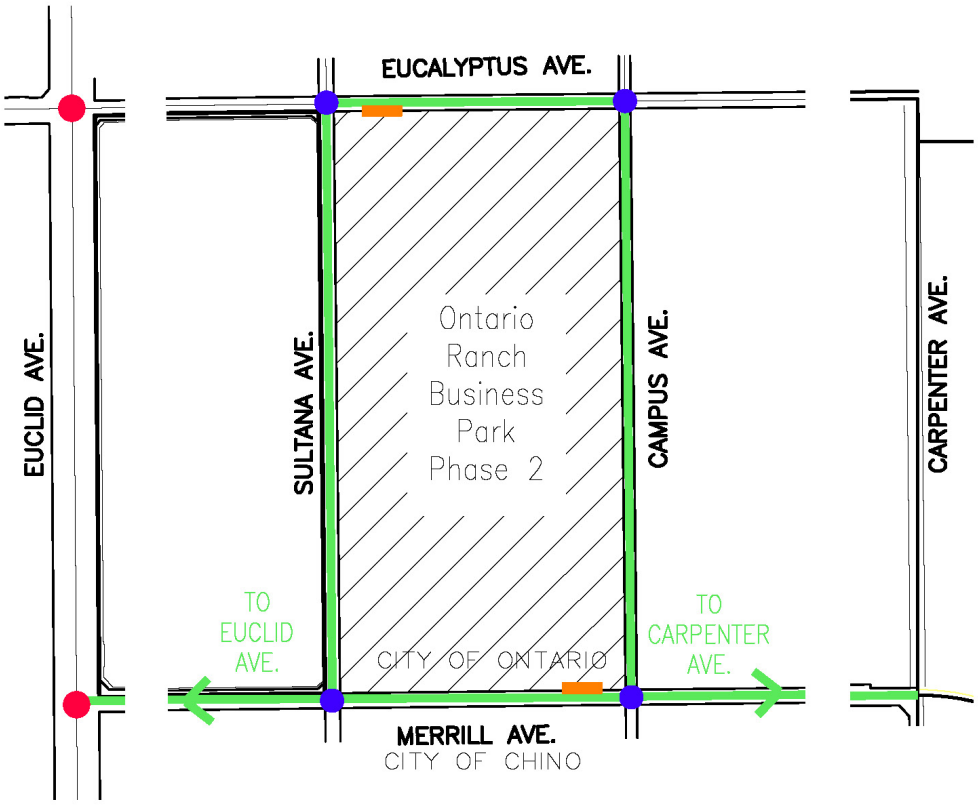


WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9660
Land Surveyors • Civil Engineers • GIS

Ontario Ranch Business Park Specific Plan • Development Agreement

DATE: 03/13/2023

EXHIBIT F-2
STREET IMPROVEMENTS



NOTES:
PCC PAVEMENT REQUIRED AT ALL SIGNALIZED INTERSECTIONS ALONG TRUCK ROUTES

LEGEND:
- LOCAL COLLECTOR
- NEW SIGNALIZED INTERSECTION
- EXISTING SIGNALIZED INTERSECTION TO BE MODIFIED
- BUS PAD
- SPECIFIC PLAN AREA

WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9660
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Ontario Ranch Business Park Specific Plan • Development Agreement

DATE: 04/18/2023

EXHIBIT F-3
POTABLE WATER UTILITY IMPROVEMENTS



LEGEND:

- EXISTING POTABLE WATER
- NEW POTABLE WATER – REGIONAL DIF (REQUIRED AND TO BE CONSTRUCTED BY PROJECT)
- NEW POTABLE WATER – LOCAL DIF (REQUIRED AND TO BE CONSTRUCTED BY PROJECT)
- NEW POTABLE WATER – NON DIF (REQUIRED AND TO BE CONSTRUCTED BY PROJECT)
- FUTURE POTABLE WATER – REGIONAL DIF (REQUIRED BY PROJECT FINANCED PER EXHIBIT E, CONSTRUCTED BY CITY)
- FUTURE POTABLE WATER – LOCAL DIF (REQUIRED BY PROJECT FINANCED PER EXHIBIT E, CONSTRUCTED BY CITY)
- POINT OF CONNECTION
- SPECIFIC PLAN AREA

N.T.S.

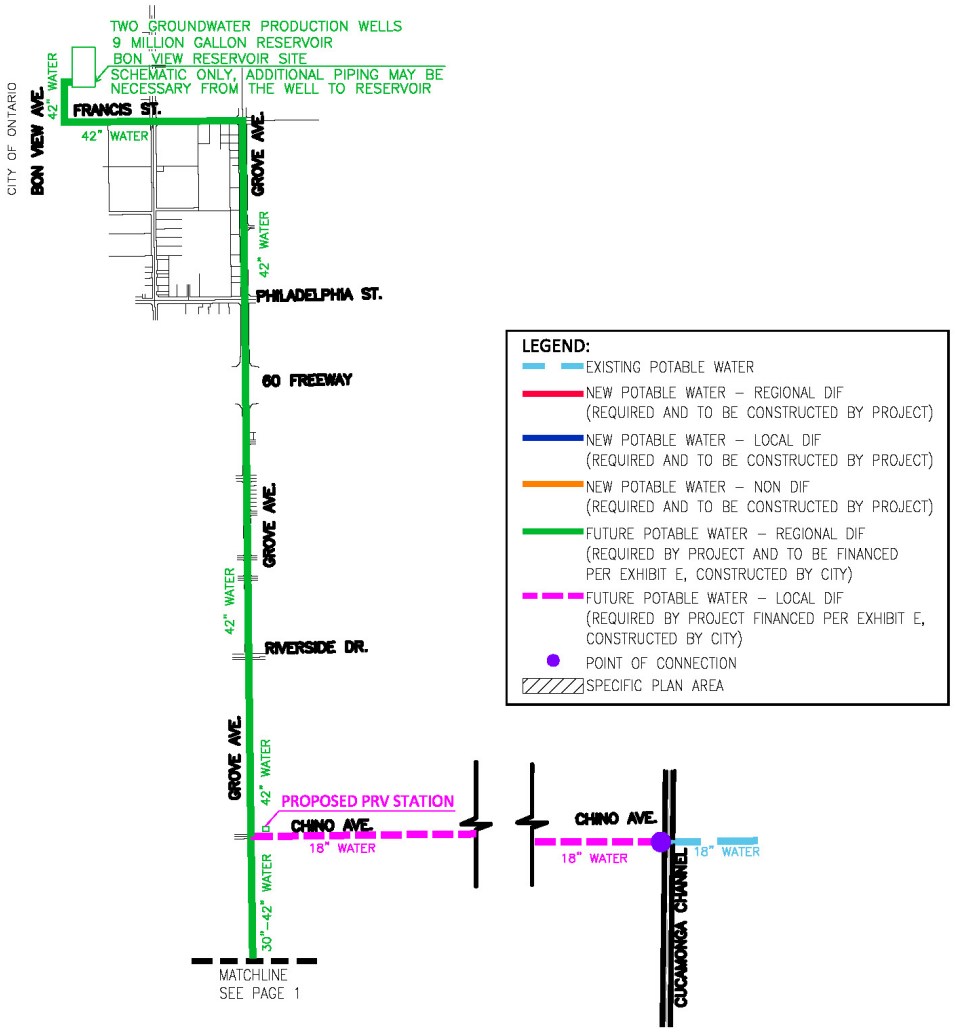
WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9550
Land Surveyors • Civil Engineers • GIS

Ontario Ranch Business Park Specific Plan • Development Agreement

SHEET 1 OF 2

DATE: 03/13/2023

EXHIBIT F-3
POTABLE WATER UTILITY IMPROVEMENTS



WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9550
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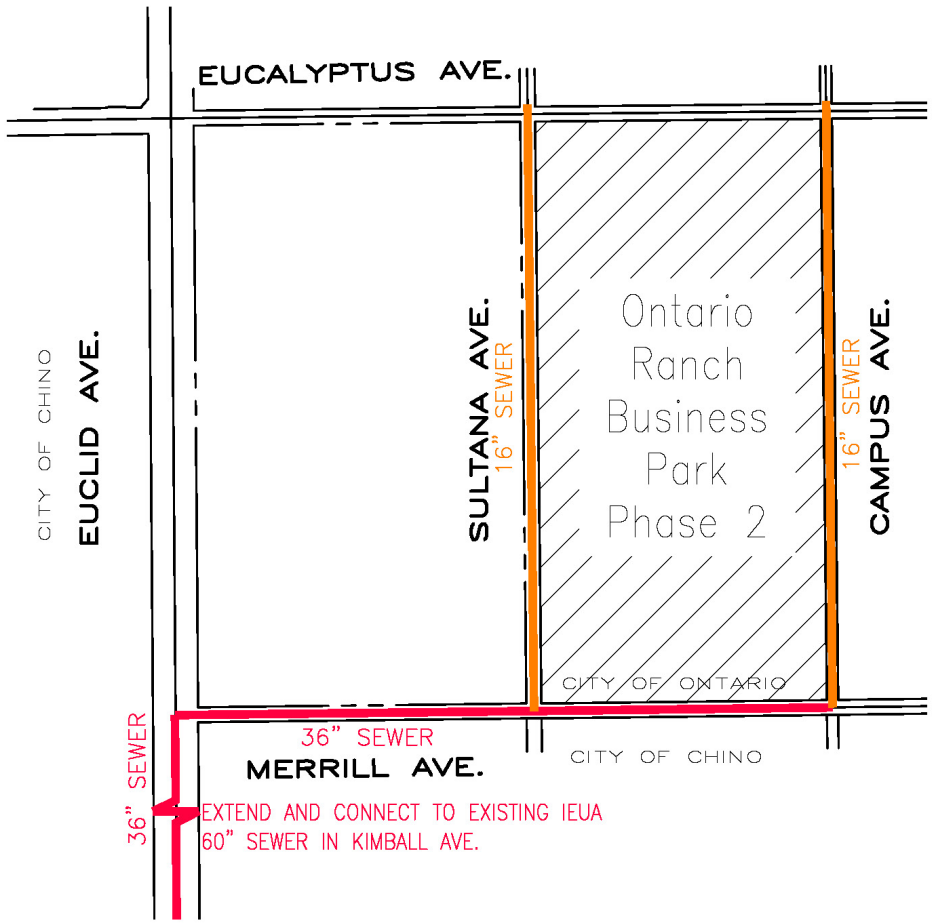
N.T.S.

Ontario Ranch Business Park Specific Plan • Development Agreement

SHEET 2 OF 2

DATE: 03/13/2023

EXHIBIT F-4
SEWER IMPROVEMENTS



LEGEND:

- NEW SEWER – REGIONAL DIF (REQUIRED AND TO BE CONSTRUCTED BY PROJECT)
- NEW SEWER – NON DIF (REQUIRED AND TO BE CONSTRUCTED BY PROJECT)
- SPECIFIC PLAN AREA

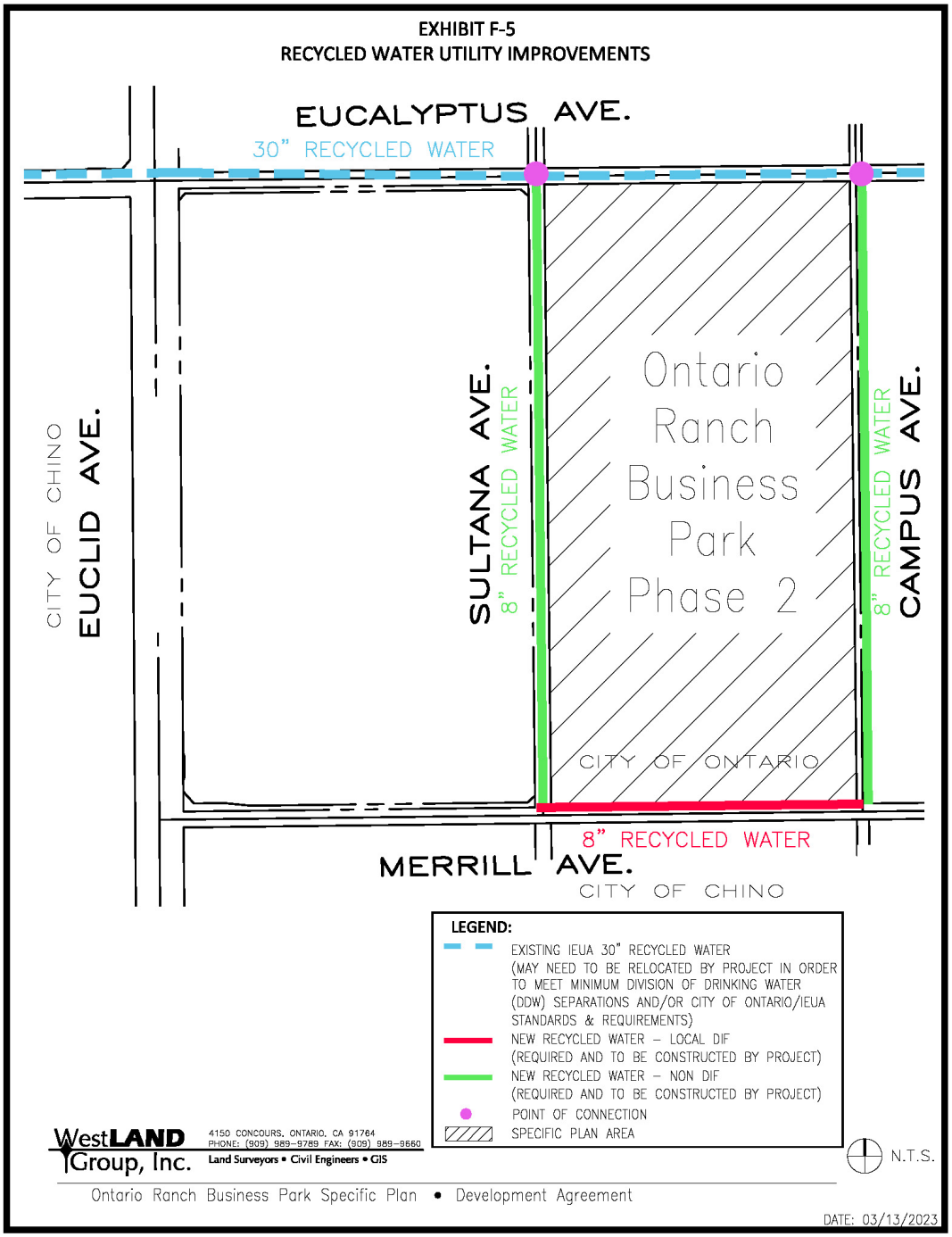
WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9660
Land Surveyors • Civil Engineers • GIS

N.T.S.

Ontario Ranch Business Park Specific Plan • Development Agreement

DATE: 03/13/2023

EXHIBIT F-5
RECYCLED WATER UTILITY IMPROVEMENTS

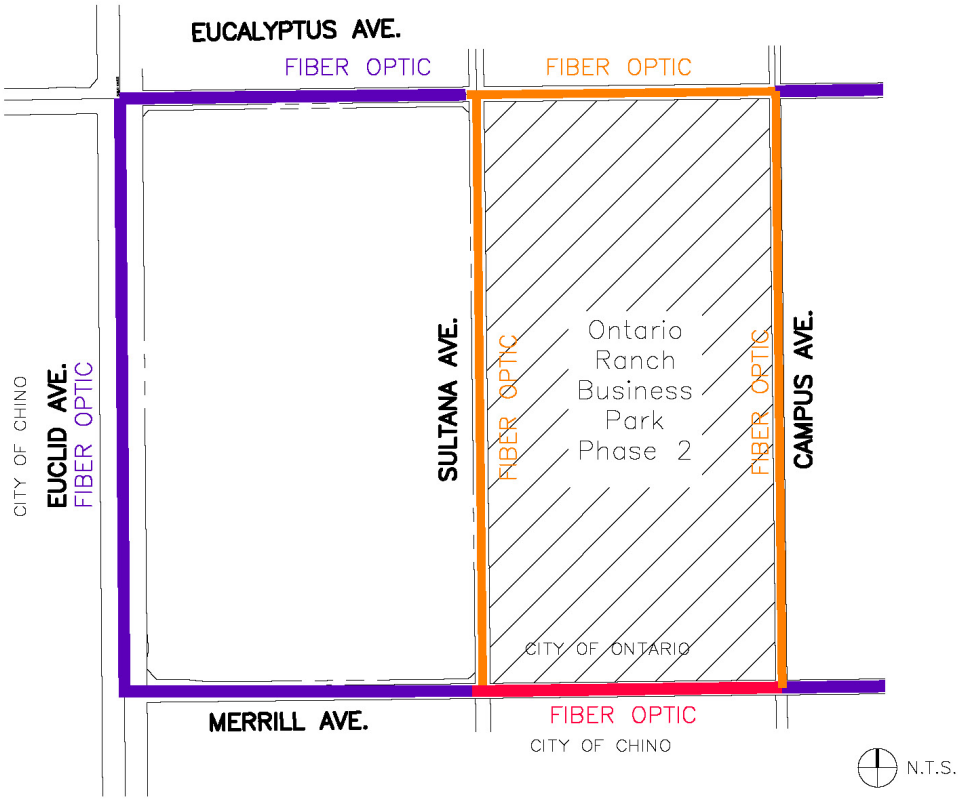


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4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9660
Land Surveyors • Civil Engineers • GIS

Ontario Ranch Business Park Specific Plan • Development Agreement

DATE: 03/13/2023

EXHIBIT F-6
FIBER OPTIC IMPROVEMENTS



LEGEND:

- NEW PRIMARY RING FIBER OPTIC (TO BE CONSTRUCTED BY PROJECT)
- NEW LATERAL FIBER OPTIC (TO BE CONSTRUCTED BY PROJECT)
- FUTURE FIBER OPTIC LINE (BY OTHERS)
- SPECIFIC PLAN AREA

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4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9550
Land Surveyors • Civil Engineers • GIS

Ontario Ranch Business Park Specific Plan • Development Agreement

DATE: 03/13/2023

Exhibit "G"
TO DEVELOPMENT AGREEMENT

FORM OF CERTIFICATE OF REGIONAL DIF CREDIT

Pursuant to Section 4.5.3 of this Agreement by and between the City of Ontario and _____, dated _____, 20__, the terms and definitions of which are hereby incorporated herein by this reference and hereinafter called the "Development Agreement', the City of Ontario hereby certifies that OWNER is entitled to the following amount and nature of DIF Credits in the Regional Water DIF Infrastructure Category:

Amount of Credit: $_____

_____
Scott Ochoa, City Manager

Dated:_____

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PDA21-006, A DEVELOPMENT AGREEMENT BETWEEN THE CITY OF ONTARIO AND EUCLID LAND VENTURE 2 LLC, TO ESTABLISH THE TERMS AND CONDITIONS ASSOCIATED WITH TENTATIVE PARCEL MAP NO. 20517 (FILE NO. PMTT22-005), AN 80 ACRE PROPERTY BORDERED BY EUCALYPTUS, CAMPUS, MERRILL, AND SULTANA AVENUES, LOCATED WITHIN THE BUSINESS PARK AND INDUSTRIAL GENERAL LAND USE DISTRICTS OF THE ONTARIO RANCH BUSINESS PARK SPECIFIC PLAN AND MAKING FINDINGS IN SUPPORT THEREOF—APNS: 1054-041-01, 1054-041-02, 1054-031-01, 1054-031-02, 1054-261-01, 1054-261-02, 1054-291-01, AND 1054-291-02.

WHEREAS, Euclid Land Venture 2 LLC ("Applicant") has filed an Application for the approval of a Development Agreement, File No. PDA21-006, as described in the title of this Resolution (hereinafter referred to as "Application" or "Project"); and

WHEREAS, the Application applies to 80 acres of land generally bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, located within the Business Park and Industrial General land use districts of the Ontario Ranch Business Park Specific Plan; and

WHEREAS, the Applicant has submitted a Tentative Parcel Map 20517 (File No. PMTT22-005) to subdivide 80 acres of land into six (6) parcels, to facilitate the potential development of 1,559,204 square feet of business park and industrial uses; and

WHEREAS, the environmental impacts of this project were previously reviewed in conjunction with the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002), for which an Environmental Impact Report — State Clearinghouse No. 2019050018 — (hereinafter referred to as "Certified EIR") was adopted by the City Council on October 18, 2022, and this Application introduces no new significant environmental impacts; and

WHEREAS, Ontario Development Code Table 2.02-1 (Review Matrix) grants the City Council the responsibility and authority to review and act on the subject Application; and

WHEREAS, the Project is located within the Airport Influence Area of Ontario International Airport ("ONT"), which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and is subject to, and must be consistent with, the policies and criteria set forth in the Ontario International Airport Land Use Compatibility Plan (ALUCP), which applies only to jurisdictions within San Bernardino County, and addresses the noise, safety, airspace protection, and overflight impacts of current and future airport activity; and

WHEREAS, City of Ontario Development Code Division 2.03 (Public Hearings) prescribes the manner in which public notification shall be provided and hearing procedures to be followed, and all such notifications and procedures have been completed; and

WHEREAS, the Project has been reviewed for consistency with the Housing Element of the Policy Plan component of The Ontario Plan, as State Housing Element law (as prescribed in Government Code Sections 65580 through 65589.8) requires that development projects must be consistent with the Housing Element, if upon consideration of all its aspects, it is found to further the purposes, principals, goals, and policies of the Housing Element; and

WHEREAS, on May 23, 2023, the Planning Commission of the City of Ontario conducted a hearing to consider the Project, and concluded said hearing on that date, voting to issue Resolution No. PC23-037 recommending the City Council approve the Application; and

WHEREAS, on June 20, 2023, the City Council of the City of Ontario conducted a hearing to consider the Project, and concluded said hearing on that date; and

WHEREAS, all legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND ORDAINED by the City Council of the City of Ontario, as follows:

SECTION 1. ***Environmental Determination and Findings.*** As the decision-making body for the Project, the City Council has reviewed and considered the information contained in the administrative record for the Project. Based upon the facts and information contained in the administrative record, including all written and oral evidence presented to the City Council, the City Council finds as follows:

(1) The environmental impacts of this project were previously reviewed in conjunction with the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002), for which a Certified EIR was adopted by the City Council on October 18, 2022; and

(2) The previous Certified EIR contains a complete and accurate reporting of the environmental impacts associated with the Project; and

(3) The previous Certified EIR was completed in compliance with CEQA and the Guidelines promulgated thereunder; and

(4) The previous Certified EIR reflects the independent judgment of the Planning Commission; and

(5) The proposed project will introduce no new significant environmental impacts beyond those previously analyzed in the previous Certified EIR, and all mitigation measures previously adopted with the Certified EIR, are incorporated herein by this reference.

SECTION 2. ***Subsequent or Supplemental Environmental Review Not Required.*** Based on the information presented to the City Council and the specific findings set forth in Section 1, above, the City Council finds that the preparation of a subsequent or supplemental Certified EIR is not required for the Project, as the Project:

(1) Does not constitute substantial changes to the Certified EIR that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and

(2) Does not constitute substantial changes with respect to the circumstances under which the Certified EIR was prepared, that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects; and

(3) Does not contain new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the Certified EIR was certified/adopted, that shows any of the following:

(a) The project will have one or more significant effects not discussed in the Certified EIR; or

(b) Significant effects previously examined will be substantially more severe than shown in the Certified EIR; or

(c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the Project, but the City declined to adopt such measures; or

(d) Mitigation measures or alternatives considerably different from those analyzed in the Certified EIR would substantially reduce one or more significant effects on the environment, but which the City declined to adopt.

SECTION 3. ***Housing Element Compliance.*** Pursuant to the requirements of California Government Code Chapter 3, Article 10.6, commencing with Section 65580, as the decision making body for the Project, the City Council finds that based on the facts and information contained in the Application and supporting documentation, at the time of Project implementation, the project is consistent with the Housing Element of the Policy Plan (General Plan) component of The Ontario Plan, as the project site is not one of the properties in the Housing Element Sites Inventory contained in Tables B-1 and B-2 of the Housing Element Technical Report.

SECTION 4. ***Airport Land Use Compatibility Plan ("ALUCP") Compliance.*** The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

(1) On April 19, 2011, the City Council of the City of Ontario approved and adopted the Ontario International Airport Land use Compatibility Plan, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the decision-making body for the Project, the City Council has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the City Council, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the ONT ALUCP; and

(2) On August 2, 2022, the City Council of the City of Ontario approved and adopted a Development Code Amendment to establish the Chino Airport ("CNO") Overlay Zoning District ("OZD") and Reference I, Chino Airport Land Use Compatibility Plan ("CNO ALUCP"). The CNO OZD and CNO ALUCP established the Airport Influence Area for Chino Airport, solely within the City of Ontario, and limits future land uses and development within the Airport Influence Area, as they relate to safety, airspace protection, and overflight impacts of current and future airport activity. The CNO ALUCP is consistent with policies and criteria set forth within the Caltrans 2011 California Airport Land Use Planning Handbook. The proposed Project is located within the Airport Influence Area of Chino Airport and was evaluated and found to be consistent with the California Airport Land Use Planning Handbook and the CNO ALUCP. As the decision-making body for the Project, the City Council has reviewed and considered the facts and information contained in the Application and supporting documentation against the CNO ALUCP compatibility factors, including Safety, Airspace Protection, Overflight. As a result, the City Council, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the California Airport Land Use Planning Handbook and the Chino ALUCP.

SECTION 5. ***Concluding Facts and Reasons.*** Based upon the substantial evidence presented to the City Council during the above-referenced hearing, and upon the specific findings set forth in Section 1 through 4, above, the City Council hereby concludes as follows:

(1) The Development Agreement applies to approximately 80 acres of land bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, located within the Business Park and Industrial General land use districts of the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002); and

(2) The Development Agreement establishes parameters for the development of land within the Ontario Ranch Business Park Specific Plan. The Development Agreement also grants the Applicant, the right to develop, the ability to quantify the fees;

and establish the terms and conditions that apply to those projects. These terms and conditions are consistent with The Ontario Plan Policy Plan (General Plan), design guidelines and development standards for the Ontario Ranch Business Park Specific Plan; and

(3) The Development Agreement grants the Owner a vested right to develop Tentative Parcel Map 20517 (File No. PMTT22-005) as long as the Owner complies with the terms and conditions of the Ontario Ranch Business Park Specific Plan and EIR. Tentative Parcel Map 20517 is bordered by Eucalyptus, Campus, Merrill, and Sultana Avenues, and proposes to subdivide 80 acres of land into six (6) parcels, to facilitate the potential development of 1,559,204 square feet of business park and industrial uses; and

(4) The Development Agreement has been prepared in conformance with the goals and policies of The Ontario Plan Policy Plan (General Plan); and

(5) The Development Agreement does not conflict with the Land Use Policies of The Ontario Plan Policy Plan (General Plan) and will provide for development, within the district, in a manner consistent with the Policy Plan and with related development; and

(6) This Development Agreement will promote the goals and objectives of the Land Use Element of the Policy Plan; and

(7) This Development Agreement will not be materially injurious or detrimental to the adjacent properties and will not have a significant impact on the environment or the surrounding properties. The environmental impacts of this project were previously reviewed in conjunction with the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002), for which a Final Subsequent Environmental Impact Report (State Clearinghouse No. 2019050018) was certified by City Council on October 18, 2022; and

(8) This Application introduces no new significant environmental impacts. All previously adopted mitigation measures are a condition of project approval and are incorporated herein by this reference.

SECTION 6. ***City Council Action.*** Based upon the findings and conclusions set forth in Sections 1 through 5, above, the City Council hereby APPROVES the herein described Development Agreement (File No. PDA21-006), attached hereto as "Attachment A," and incorporated herein by this reference.

SECTION 7. ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 8. ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East "B" Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

SECTION 9. ***Severability.*** If any section, sentence, clause or phrase of this Ordinance or the application thereof to any entity, person or circumstance is held for any reason to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect other provisions or applications of this Ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this Ordinance are severable. The People of the City of Ontario hereby declare that they would have adopted this Ordinance and each section, sentence, clause or phrase thereof, irrespective of the fact that any one or more section, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

SECTION 10. ***Effective Date.*** This Ordinance shall become effective 30 days following its adoption.

SECTION 11. ***Publication and Posting.*** The Mayor shall sign this Ordinance and the City Clerk shall certify as to the adoption and shall cause a summary thereof to be published at least once, in a newspaper of general circulation in the City of Ontario, California within 15 days following the adoption. The City Clerk shall post a certified copy of this ordinance, including the vote for and against the same, in the Office of the City Clerk, in accordance with Government Code Section 36933.

PASSED, APPROVED, AND ADOPTED this ____ day of _____ 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Ordinance No. _____ was duly introduced at a regular meeting of the City Council of the City of Ontario held June 20, 2023 and adopted at the regular meeting held _____, 20___ by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

I hereby certify that the foregoing is the original of Ordinance No. _____ duly passed and adopted by the Ontario City Council at their regular meeting held _____ and that Summaries of the Ordinance were published on _____ and _____, in the Inland Valley Daily Bulletin newspaper.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

ATTACHMENT A:

File No. PDA21-006

DEVELOPMENT AGREEMENT

By and Between

CITY OF ONTARIO
a California municipal corporation

and

EUCLID LAND VENTURE 2 LLC
a Delaware limited liability company

(Development Agreement to follow this page)

RECORDING REQUESTED BY AND
WHEN RECORDED RETURN TO:

CITY OF ONTARIO
CITY CLERK / RECORDS MANAGEMENT
303 EAST "B" STREET
ONTARIO, CA 91764-4196

Space above this line for Recorder's Use Only Exempt from Fees Per Gov. Code § 6103

File No. PDA21-006

DEVELOPMENT AGREEMENT

By and Between

CITY OF ONTARIO
a California municipal corporation

and

EUCLID LAND VENTURE 2, LLC
a Delaware limited liability company

_____, 2023

San Bernardino County, California

DEVELOPMENT AGREEMENT NO. PDA21-006

This Development Agreement (hereinafter "Agreement") is dated for reference purposes only as of the ____ day of _____, 2023 by and among the City of Ontario, a California municipal corporation (hereinafter "CITY"), and Euclid Land Venture 2, LLC, a Delaware limited liability company (hereinafter "OWNER"):

RECITALS

WHEREAS, CITY is authorized to enter into binding development agreements with persons having legal or equitable interests in real property for the development of such property, pursuant to Section 65864, et seq. of the Government Code and Section 4.01.015 of the Ontario Development Code; and

WHEREAS, OWNER has requested CITY to enter into a development agreement and proceedings have been taken in accordance with the rules and regulations of CITY; and

WHEREAS, by electing to enter into this Agreement, CITY shall bind future City Councils of CITY by the obligations specified herein and limit the future exercise of certain governmental and proprietary powers of CITY; and

WHEREAS, the terms and conditions of this Agreement have undergone extensive review by CITY and the City Council and have been found to be fair, just and reasonable; and

WHEREAS, the best interests of the citizens of the CITY and the public health, safety and welfare will be served by entering into this Agreement; and

WHEREAS, all of the procedures of the California Environmental Quality Act, Pub. Res. Code § 21000, et seq. ("CEQA") have been met with respect to the Project and the Agreement in that certain Ontario Ranch Business Park Specific Plan Amendment Subsequent Environmental Impact Report (State Clearinghouse No. 2019050018) (the "FEIR"); and

WHEREAS, on October 18, 2022, the City Council found and determined that the FEIR was prepared in accordance with the requirements of CEQA and adequately describes the impacts of the Project described in the FEIR, which included consideration of this Agreement; and

WHEREAS, this Agreement and the Project are consistent with the CITY's Comprehensive General Plan and the Ontario Ranch Business Park Specific Plan; and

WHEREAS, all actions taken and approvals given by CITY have been duly taken or approved in accordance with all applicable legal requirements for notice, public hearings, findings, votes, and other procedural matters; and

WHEREAS, development of the Project Site, as more particularly described and depicted in **Exhibits A** and **B**, respectively (the "Property") in accordance with this Agreement will provide substantial benefits to CITY and will further important policies and goals of CITY; and

WHEREAS, this Agreement will eliminate uncertainty in planning and provide for the orderly development of the Property, ensure progressive installation of necessary improvements, provide for public services appropriate to the development of the Project, and generally serve the purposes for which development agreements under Section 65864 et seq. of the Government Code are intended; and

WHEREAS, OWNER has incurred and will in the future incur substantial costs in order to assure development of the Property in accordance with this Agreement; and

WHEREAS, OWNER has incurred and will in the future incur substantial costs in excess of the generally applicable requirements in order to assure vesting of legal rights to develop the Property in accordance with this Agreement.

COVENANTS

NOW, THEREFORE, in consideration of the above recitals and of the mutual covenants hereinafter contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. DEFINITIONS AND EXHIBITS.

1.1 Definitions. The following terms when used in this Agreement shall be defined as follows:

1.1.1 "Agreement" means this Development Agreement.

1.1.2 "CITY" means the City of Ontario, California, a California municipal corporation.

1.1.3 "Development" means the improvement of the Property for the purposes of completing the structures, improvements and facilities comprising the Project including, but not limited to: grading; the construction of public infrastructure and public facilities related to the Project whether located within or outside the Property; the construction of buildings and structures; and the installation of landscaping. "Development" does not include the maintenance, repair, reconstruction or redevelopment of any building, structure, improvement or facility after the construction and completion thereof.

1.1.4 "Development Approvals" means all permits and other entitlements for use subject to approval or issuance by CITY in connection with development of the Property including, but not limited to:

(a) general plans and general plan amendments; and specific plans and specific plan amendments;

(b) tentative and final subdivision and parcel maps;

(c) development plan review.

1.1.5 "Development Exaction" means any requirement of CITY in connection with or pursuant to any Land Use Regulation or Development Approval for the dedication of land, the construction of improvements or public facilities, or the payment of fees in order to lessen, offset, mitigate or compensate for the impacts of development on the environment or other public interests.

1.1.6 "Development Impact Fee" means a monetary exaction, other than a tax or special assessment, whether characterized as a fee or a tax and whether established for a broad class of projects by legislation of general applicability or imposed on a specific project on an ad hoc basis, that is charged by a local agency to the applicant in connection with approval of a development project for the purpose of defraying all or a portion of the cost of public facilities related to the development project, and, for purposes of this Agreement only, includes fees collected under development agreements adopted pursuant to Article 2.5 of the Government Code (commencing with Section 65864) of Chapter 4. For purposes of this Agreement only, "Development Impact Fee" shall not include processing fees and charges imposed by CITY to cover the estimated actual costs to CITY of processing applications for Development Approvals or for monitoring compliance with any Development Approvals granted or issued, including, without limitation, fees for zoning variances; zoning changes; use permits; building inspections; building permits; filing and processing applications and petitions filed with the local agency formation commission or conducting preliminary proceedings or proceedings under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, Division 3 (commencing with Section 56000) of Title 5 of the Government Code; the processing of maps under the provisions of the Subdivision Map Act, Division 2 (commencing with Section 66410) of Title 7 of the Government Code; or planning services under the authority of Chapter 3 (commencing with Section 65100) of Division 1 of Title 7 of the Government Code, fees and charges as described in Sections 51287, 56383, 57004, 65104, 65456, 65863.7, 65909.5, 66013, 66014, and 66451.2 of the Government Code, Sections 17951, 19132.3, and 19852 of the Health and Safety Code, Section 41901 of the Public Resources Code, and Section 21671.5 of the Public Utilities Code, as such codes may be amended or superseded, including by amendment or replacement.

1.1.7 "Development Plan" means the Existing Development Approvals and the Existing Land Use Regulations applicable to development of the Property.

1.1.8 "Effective Date" means the date that the ordinance approving this Agreement goes into effect.

1.1.9 "Existing Development Approvals" means all Development Approvals approved or issued on or prior to the Effective Date. Existing Development Approvals includes the Approvals incorporated herein as Exhibit "C" and all other Approvals which are a matter of public record on the Effective Date.

1.1.10 "Existing Land Use Regulations" means all Land Use Regulations in effect on the date of the first reading of the ordinance adopting and approving this Agreement. Existing Land Use Regulations includes the Regulations incorporated herein as Exhibit "D" and all other Land Use Regulations that are in effect and a matter of public record on such date.

1.1.11 "General Plan" means The Ontario Plan adopted on August 16, 2022, as amended up to the date of the first reading of the ordinance adopting and approving this Agreement.

1.1.12 "Improvement" or "Improvements" means those public improvements required to support the development of the Project as described in the Parcel Map conditions for Parcel Map No. 20517 ("Parcel Map") as further described in Exhibit "E" and depicted in Exhibit “F”(together, the "Infrastructure Improvements Exhibit").

1.1.13 "Land Use Regulations" means all ordinances, resolutions, codes, rules, regulations and official policies of CITY governing the development and use of land, including, without limitation, the permitted use of land, the density or intensity of use, subdivision requirements, timing and phasing of development, the maximum height and size of buildings, the provisions for reservation or dedication of land for public purposes, and the design, improvement and construction standards and specifications applicable to the development of the Property. "Land Use Regulations" does not include any CITY ordinance, resolution, code, rule, regulation or official policy, governing:

(a) the conduct of businesses, professions, and occupations;

(b) taxes and assessments;

(c) the control and abatement of nuisances;

(d) the granting of encroachment permits and the conveyance of similar rights and interests that provide for the use of or the entry upon public property;

(e) the exercise of the power of eminent domain.

1.1.14 "Mortgagee" means a mortgagee of a mortgage, a beneficiary under a deed of trust or any other security-device lender, and their successors and assigns.

1.1.15 "OWNER" means the persons and entities listed as owner on page 1 of this Agreement and their permitted successors in interest to all or any part of the Property.

1.1.16 "Owner Affiliate" shall mean, (i) any entity that directly or indirectly controls, is controlled by, or is under common control with OWNER, or (ii) an entity at least a majority of whose economic interest is owned by OWNER. For purposes of this definition, the term “control” means the power to direct the management of such entity through voting rights, ownership or contractual obligations.

1.1.17 “Phase” means the development area described in the Infrastructure Improvements Exhibit to this Agreement.

1.1.18 “Phase 2 Water Participation Fee” means the fee paid to the CITY for the Project, to fund the Property’s respective share of the project costs of the design and construction of the Phase 2 Water Improvements by the CITY. The Phase 2 Water Participation Fee shall be the calculated amount of the Regional Water DIF for the Project based upon the number of square feet, acreage, and land use category for non-residential square footage of the Project.

1.1.19 "Project" means the development of the Property contemplated by the Development Plan, as such Plan may be further defined, enhanced or modified pursuant to the provisions of this Agreement.

1.1.20 "Property" means the real property described on Exhibit "A" and shown on Exhibit "B" to this Agreement.

1.1.21 "Reservations of Authority" means the rights and authority excepted from the assurances and rights provided to OWNER under this Agreement and reserved to CITY under Section 3.4 of this Agreement.

1.1.22 "Specific Plan" means that certain specific plan adopted by the City Council, and entitled, "Ontario Ranch Business Park Specific Plan”.

1.1.23 "Subsequent Development Approvals" means all discretionary Development Approvals required subsequent to the Effective Date in connection with development of the Property. Subsequent Development Approvals shall be deemed to be subject to the provisions of this Agreement, without any further action needed on the part of either the CITY or OWNER.

1.1.24 "Subsequent Land Use Regulations" means any discretionary Land Use Regulations adopted and effective after the Effective Date of this Agreement.

1.2 Exhibits. The following documents are attached to, and by this reference made a part of, this Agreement:

Exhibit "A" — Legal Description of the Property.

Exhibit "B" — Map showing Property and its location.

Exhibit "C" — Existing Development Approvals.

Exhibit "D" — Existing Land Use Regulations.

Exhibit "E" — Description of Required Infrastructure Improvements

Exhibit "F" — Depiction of Infrastructure Improvements Exhibits

Exhibit "G" – Form of Certificate of DIF Credit to be issued by CITY

2. GENERAL PROVISIONS.

2.1 Binding Effect of Agreement. The Property is hereby made subject to this Agreement. Development of the Property is hereby authorized and shall be carried out only in accordance with the terms of this Agreement.

2.2 Ownership of Property. OWNER represents and covenants that it is the owner of fee simple title or the lessee or an optionee of the Property or a portion(s) thereof. To the extent applicable, OWNER has obtained written consent from the current fee owner of the Property agreeing to the terms of this Agreement and the recordation thereof.

2.3 Term. The term of this Agreement shall commence on the Effective Date and shall continue for an initial term of ten (10) years thereafter unless this term is modified or extended pursuant to the provisions of this Agreement. Upon approval by the City Manager, without the need for City Council approval, the term of this Agreement may be extended for an additional five (5) years following expiration of the initial ten (10) year term, provided the following have occurred:

(a) OWNER provides at least 180 days written notice to CITY prior to expiration of the initial term; and

(b) OWNER is not then in uncured default of this Agreement.

2.4 Assignment.

2.4.1 Right to Assign. OWNER shall have the right to sell, transfer or assign the Property in whole or in part (provided that no such partial transfer shall violate the Subdivision Map Act, Government Code Section 66410, et seq.), to any person, partnership, limited liability company, joint venture, firm or corporation at any time during the term of this Agreement; provided, however, that any such sale, transfer or assignment shall include the assignment and assumption of the rights, duties and obligations arising under or from this Agreement with respect to the portion of the Property sold and be made in strict compliance with the following:

(a) Except as expressly provided for herein, no sale, transfer or assignment of any right or interest under this Agreement shall be made unless made together with the sale, transfer or assignment of all or a part of the Property.

(b) Concurrent with any such sale, transfer or assignment, or within fifteen (15) business days thereafter, OWNER shall notify CITY's City Manager, in writing, of such sale, transfer or assignment and shall provide CITY with: (1) an executed agreement, in a form reasonably acceptable to CITY, by the purchaser, transferee or assignee and providing therein that the purchaser, transferee or assignee expressly and unconditionally assumes all the duties and obligations of OWNER under this Agreement with respect to the portion of the Property so sold, transferred or assigned.

(c) Any sale, transfer or assignment not made in strict compliance with the foregoing conditions shall constitute a default by OWNER under this Agreement. Notwithstanding the failure of any purchaser, transferee or assignee to execute the agreement required by Paragraph (b) of this Subsection 2.4.1, the burdens of this Agreement shall be binding upon such purchaser, transferee or assignee, but the benefits of this Agreement shall not inure to such purchaser, transferee or assignee until and unless such agreement is executed. The City Manager shall have the authority to review, consider and either approve, conditionally approve, or deny any proposed sale, transfer or assignment that is not made in compliance with this section 2.4.

(d) Notwithstanding the foregoing, OWNER shall have the right to assign this Agreement to an Owner Affiliate subject to the notice requirements to CITY as described in Paragraph (b) of this Section 2.4.1, above.

2.4.2 Release of Transferring Owner. Notwithstanding any sale, transfer or assignment, a transferring OWNER shall continue to be obligated under this Agreement unless such transferring owner is given a release in writing by CITY, which release shall be provided by CITY upon the full satisfaction by such transferring owner of the following conditions:

(a) OWNER no longer has a legal or equitable interest in all or any part of the portion of the Property sold, transferred or assigned.

(b) OWNER is not then in default under this Agreement.

(c) OWNER has provided CITY with the notice and executed an agreement as required under Paragraph (b) of Subsection 2.4.1 above.

(d) The purchaser, transferee or assignee provides CITY with security equivalent to any security previously provided by OWNER (if any) to secure performance of its obligations hereunder which are to be performed upon portion of the Property sold, transferred or assigned.

2.4.3 Effect of Assignment and Release of Obligations. In the event of a sale, transfer or assignment pursuant to the provisions of Section 2.4.1 and notwithstanding the release provisions of Section 2.4.2 above:

(a) The assignee shall be liable for the performance of all obligations of OWNER with respect to transferred property, but shall have no obligations with respect to the portions of the Property, if any, not transferred (the "Retained Property").

(b) The owner of the Retained Property shall be liable for the performance of all obligations of OWNER with respect to Retained Property, but shall have no further obligations with respect to the transferred property.

(c) The assignee's exercise, use and enjoyment of the Property or portion thereof shall be subject to the terms of this Agreement to the same extent as if the assignee were the OWNER.

2.4.4 Subsequent Assignment. Any subsequent sale, transfer or assignment after an initial sale, transfer or assignment shall be made only in accordance with and subject to the terms and conditions of this Section 2.4.

2.4.5 Termination of Agreement With Respect to Individual Lots Upon Sale to Public and Completion of Construction. The provisions of Subsection 2.4.1 shall not apply to the sale or lease (for a period longer than one (1) year) of any parcel which has been finally subdivided and is individually (and not in "bulk") sold or leased to a member of the public or other ultimate user of the parcel. Notwithstanding any other provisions of this Agreement, this Agreement shall terminate with respect to any lot and such lot shall be released and no longer be subject to this Agreement without the execution or recordation of any further document upon satisfaction of both of the following conditions:

(a) The lot has been finally subdivided and individually (and not in "bulk") sold or leased (for a period longer than one (1) year) to a member of the public or other ultimate user; and,

(b) A certificate of occupancy has been issued for a building on the parcel, and the fees set forth under Section 4 of this Agreement have been paid.

2.4.6 Partial Assignment and Assumption. CITY and OWNER agree OWNER may partially assign its obligations and rights under this Agreement, and all amendments hereto, to a purchaser, transferee or assignee of a lot, which has been subdivided subject to provisions of a partial assignment and assumption agreement in a form approved by CITY. Any such complete and executed partial assignment and assumption of this Agreement shall be submitted to CITY for approval pursuant to Section 2.4.1 of this Agreement. Within thirty (30) days following such complete submittal, CITY shall review, and if the above conditions are satisfied, may approve the partial assignment and release and notify the purchasor, transferee or assignee in writing thereof. No such release approved pursuant to this Subsection 2.4.6 shall cause, or otherwise affect, a release of OWNER from the duties and obligations under this Agreement that are retained by OWNER and excluded from the transfer or assignment.

2.5 Amendment or Cancellation of Agreement. This Agreement may be amended or cancelled in whole or in part only in the manner provided for in Government Code Section 65868.1. Any amendment of this Agreement, which amendment has been requested by OWNER, shall be considered by the CITY only upon the payment of the applicable processing charge. This provision shall not limit any remedy of CITY or OWNER as provided by this Agreement. Either party or successor in interest, may propose an amendment to or cancellation, in whole or in part, of this Agreement. Any amendment or cancellation shall be by mutual consent of the parties or their successors in interest except as provided otherwise in this Agreement or in Government Code Section 65865.1. For purposes of this section, the term "successor in interest" shall mean any person having a legal or equitable interest in the whole of the Property, or any portion thereof as to which such person wishes to amend or cancel this Agreement. The procedure for proposing and adopting an amendment to, or cancellation of, in whole or in part, this Agreement shall be the same as the procedure for adopting and entering into this Agreement in the

first instance. Notwithstanding the foregoing sentence, if the CITY initiates the proposed amendment to, or cancellation of, in whole or in part, this Agreement, CITY shall first give notice to the OWNER of its intention to initiate such proceedings at least sixty (60) days in advance of the giving the public notice of intention to consider the amendment or cancellation.

2.6 Minor Modification. Upon the written application of OWNER, minor modifications and changes to the Development Plan including modifications to building design or footprint (not affecting minimum setbacks), parking layout and design, and landscape area design may be approved by the Director of the Planning Department without the need to amend this Development Agreement. Other changes in the Development Plan shall be processed pursuant to the City Zoning Ordinance. It is also contemplated by CITY and OWNER that OWNER may, from time to time, seek amendments to one or more of the Development Approvals. Any such amendments are contemplated by CITY and OWNER as being within the scope of this Agreement as long as they are consistent with the Land Use Regulations and shall, upon approval by CITY, continue to constitute the Development Approvals as referenced herein. The parties agree that any such modifications or amendments shall not constitute an amendment to this Agreement nor require an amendment to this Agreement.

2.7 Termination. This Agreement shall be deemed terminated and of no further effect upon the occurrence of any of the following events:

(a) Expiration of the stated term of this Agreement as set forth in Section 2.3.

(b) Entry of a final judgment setting aside, voiding or annulling the adoption of the ordinance approving this Agreement.

(c) The adoption of a referendum measure overriding or repealing the ordinance approving this Agreement.

(d) Completion of the Project in accordance with the terms of this Agreement including issuance of all required occupancy permits and acceptance by CITY or applicable public agency of all required dedications.

Termination of this Agreement shall not constitute termination of any other land use entitlements approved for the Property. Upon the termination of this Agreement, no party shall have any further right or obligation hereunder except with respect to any obligation to have been performed prior to such termination or with respect to any default in the performance of the provisions of this Agreement which has occurred prior to such termination or with respect to any obligations which are specifically set forth as surviving this Agreement. Upon such termination, any public facilities and service mitigation fees paid pursuant to Section 4.2 of this Agreement by OWNER to CITY on which construction has not yet begun shall be refunded to OWNER by CITY within ten (10) business days.

2.8 Notices.

(a) As used in this Agreement, "notice" includes, but is not limited to, the communication of notice, request, demand, approval, statement, report, acceptance, consent, waiver, appointment or other communication required or permitted hereunder.

(b) All notices shall be in writing and shall be considered given either: (i) when delivered in person, including, without limitation, by courier, to the recipient named below; or (ii) on the date of delivery shown on the return receipt, after deposit in the United States mail in a sealed envelope as either registered or certified mail with return receipt requested, and postage and postal charges prepaid, and addressed to the recipient named below. All notices shall be addressed as follows:

If to CITY:
Scott Ochoa, City Manager
City of Ontario
303 East "B" Street
Ontario, CA 91764

If to OWNER:
Jeff Johnston
Euclid Land Venture 2, LLC
c/o Real Estate Development Associates
4450 MacArthur Blvd., Suite 100
Newport Beach, CA 92660
jjohnston@redallc.com

With a copy to:
Ruben Duran, City Attorney
Best Best & Krieger, LLP
2855 E Guasti Road
Ontario, CA 91761

With a copy to:
Matt Fogt, Esq.
Allen Matkins Leck Gamble Mallory& Natsis, LLP
2010 Main Street, 8th Floor
Irvine, CA 92614

Either party may, by notice given at any time, require subsequent notices to be given to another person or entity, whether a party or an officer or representative of a party, or to a different address, or both. Notices given before actual receipt of notice of change shall not be invalidated by the change.

3. DEVELOPMENT OF THE PROPERTY.

3.1 Rights to Develop. Subject to the terms of this Agreement including the Reservations of Authority in Section 3.4, OWNER shall have a vested right to develop the Property in accordance with, and to the extent of, the Development Plan. The Project shall remain subject to all Subsequent Development Approvals required to complete the Project as contemplated by the Development Plan. Except as otherwise provided in this Agreement, the permitted uses of the Property, the density and intensity of use, the maximum height and size of proposed buildings, and provisions for reservation and dedication of land for public purposes shall be those set forth in the Development Plan.

3.2 Effect of Agreement on Land Use Regulations. Except as otherwise provided under the terms of this Agreement including the Reservations of Authority in Section 3.4,

the rules, regulations and official policies governing permitted uses of the Property, the density and intensity of use of the Property, the maximum height and size of proposed buildings, and the design, improvement and construction standards and specifications applicable to development of the Property shall be the Existing Land Use Regulations. In connection with any Subsequent Development Approval, CITY shall exercise discretion in accordance with the same manner as it exercises its discretion under its police powers, including the Reservations of Authority set forth herein; provided however, that such discretion shall not prevent development of the Property for the uses and to the density or intensity of development set forth in this Agreement.

3.3 Timing of Development. The parties acknowledge that OWNER cannot at this time predict when or the rate at which phases of the Property will be developed. Such decisions depend upon numerous factors which are not within the control of OWNER, such as market orientation and demand, interest rates, absorption, completion and other similar factors. Since the California Supreme Court held in Pardee Construction Co. v. City of Camarillo (1984) 37 Cal. 3d 465, that the failure of the parties therein to provide for the timing of development resulted in a later adopted initiative restricting the timing of development to prevail over such parties' agreement, it is the parties' intent to cure that deficiency by acknowledging and providing that OWNER shall have the right to develop the Property in such order and at such rate and at such times as OWNER deems appropriate within the exercise of its subjective business judgment.

3.3.1 Infrastructure Improvement Exhibit. Attached hereto as Exhibits “E” and "F" are a description and depiction, respectively, of the Improvements needed for the development of the Property. In the event of any discrepancy between Exhibit E and Exhibit F, Exhibit F shall control.

3.4 Reservations of Authority.

3.4.1 Limitations, Reservations and Exceptions. Notwithstanding any other provision of this Agreement, the CITY shall not be prevented from applying new rules, regulations and policies upon the OWNER, nor shall a development agreement prevent the CITY from denying or conditionally approving any subsequent development project application on the basis of such new rules, regulations and policies where the new rules, regulations and policies consist of the following:

(a) Processing fees by CITY to cover costs of processing applications for development approvals or for monitoring compliance with any development approvals;

(b) Procedural regulations relating to hearing bodies, petitions, applications, notices, findings, records and any other matter of procedure;

(c) Regulations, policies and rules governing engineering and construction standards and specifications applicable to public and private improvements, including all uniform codes adopted by the CITY and any local amendments to those codes adopted by the CITY; provided however that, OWNER shall have a vested right to develop the Property in accordance with, and to the extent of, the standards and specifications that

are expressly identified in the Specific Plan and the building codes in effect as of the Effective Date;

(d) Regulations that may conflict with this Agreement and the Development Plan but that are reasonably necessary to protect the occupants of the Project and/or of the immediate community from a condition perilous to their health or safety;

(e) Regulations that do not conflict with those rules, regulations and policies set forth in this Agreement or the Development Plan and which do not impose additional obligations, costs, and expenses on OWNER or the Project;

(f) Regulations that may conflict with this Agreement but to which the OWNER consents.

3.4.2 Subsequent Development Approvals. This Agreement shall not prevent CITY, in acting on Subsequent Development Approvals, from applying Subsequent Land Use Regulations that do not conflict with the Development Plan and/or the Existing Development Approvals, nor shall this Agreement prevent CITY from denying or conditionally approving any Subsequent Development Approval on the basis of the Existing Land Use Regulations or any Subsequent Land Use Regulation not in conflict with the Development Plan and/or the Existing Development Approvals.

3.4.3 Modification or Suspension by State or Federal Law. In the event that State or Federal laws or regulations, enacted after the Effective Date of this Agreement, prevent or preclude compliance with one or more of the provisions of this Agreement, such provisions of this Agreement shall be modified or suspended as may be necessary to comply with such State or Federal laws or regulations, provided, however, that this Agreement shall remain in full force and effect to the extent it is not inconsistent with such laws or regulations and to the extent such laws or regulations do not render such remaining provisions impractical to enforce. In the event OWNER alleges that such State or Federal laws or regulations preclude or prevent compliance with one or more provisions of this Agreement, and the CITY does not agree, the OWNER may, at its sole cost and expense, seek declaratory relief (or other similar non-monetary remedies); provided however, that nothing contained in this Section 3.4.3 shall impose on CITY any monetary liability for contesting such declaratory relief (or other similar non-monetary relief).

3.4.4 Intent. The parties acknowledge and agree that CITY is restricted in its authority to limit its police power by contract and that the foregoing limitations, reservations and exceptions are intended to reserve to CITY all of its police power which cannot be so limited. This Agreement shall be construed, contrary to its stated terms if necessary, to reserve to CITY all such power and authority which cannot be restricted by contract.

3.5 Public Works; Utilities. If OWNER is required by this Agreement or a condition of Project approval to construct any public works facilities which will be dedicated to CITY or any other public agency upon completion, and if required by applicable laws to do so,

OWNER shall perform such work in the same manner and subject to the same standards as would be applicable to CITY or such other public agency should it have undertaken such construction. As a condition of development approval, OWNER shall connect the Project to all utilities necessary to provide adequate water, recycled water, sewer, gas, electric, and other utility services necessary for the Project, as further described and depicted in the Infrastructure Improvements Exhibit. As a further condition of development approval, OWNER shall to the extent possible contract with the CITY for CITY-owned or operated utilities for this purpose, for such price and on such terms as may be available to similarly situated customers in the CITY. As a further condition of development approval, to the extent OWNER does not own the Property in fee simple, OWNER will provide to CITY the written consent from the current fee owner of the Property agreeing to the terms of this Agreement and the recordation thereof, pursuant to Section 2.2.

3.5.1 OWNER agrees that development of the Project shall require the construction of storm drain Improvements from the Property described in Exhibit E and depicted in Exhibit F. OWNER shall be responsible for payment of a fee in-lieu (the "Euclid Avenue Storm Drain In-Lieu Fee) of actual construction of the ultimate Euclid Avenue storm drain Improvements, south of Merrill Avenue, depicted in Exhibit F. OWNER shall pay the CITY, prior to the request for occupancy of any building on the Property, Two Million Eight Hundred Eighty Thousand Four Hundred Fifty Dollars ($2,880,450). Upon OWNER'S complete payment of the Euclid Avenue Storm Drain In-Lieu Fee, the CITY shall issue a Certificate of DIF Credit in the Regional Storm Drain category equal to the amount paid to the CITY. Such Regional Storm Drain DIF Certificate shall be issued by CITY within thirty (30) business days of the receipt of such required payment. OWNER and CITY agree that CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY, and OWNER agrees that OWNER shall not request and CITY shall not issue a final occupancy permit for any buildings prior to payment of the Euclid Avenue Storm Drain In-Lieu Fee and construction of the storm drain Improvements described in Exhibit E and depicted in Exhibit F. CITY and OWNER mutually acknowledge and agree, that upon OWNER's complete payment of the Euclid Avenue Storm Drain In-Lieu Fee, such obligation shall be deemed satisfied and CITY shall not hold up a request for final occupancy permit for any buildings on the Property, based on the actual construction and completion of the ultimate Euclid Avenue storm drain Improvements. CITY agrees that OWNER may request that CITY issue temporary certificates of occupancy on a building-by-building basis prior to completion of the storm drain improvements.

3.5.2 OWNER agrees that development of the Project shall require the construction of street Improvements as described in Exhibit E and depicted in Exhibit F. OWNER and CITY agree that CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY, and OWNER agrees that OWNER shall not request, and CITY shall not issue a final occupancy permit for any buildings on the Property prior to Substantial Completion of the street Improvements as described in Exhibit E and depicted in Exhibit F. For purposes of the foregoing, street Improvements shall be deemed

"Substantially Complete" even if the final lift of pavement has not been completed (i.e., OWNER may install the final lift after completion of all other construction). CITY agrees that OWNER may request that CITY issue temporary certificates of occupancy on a building-by-building basis prior to completion and subject to final acceptance by CITY of the street Improvements. OWNER agrees that the street improvements shall be completed and subject to final acceptance by CITY prior to the release of any security for the construction of the street improvements. OWNER and CITY agree that a portion of the street Improvements described in Exhibit E and depicted in Exhibit F may be constructed by others, or pursuant to a cooperative agreement with others. If such street Improvements are constructed by others, or in cooperation with others, and are completed and accepted by CITY prior to OWNER's request to CITY of the required grading, building or other required permits for OWNER to initiate construction of structures for the Property, then OWNER shall not be required to construct those street Improvements constructed and completed by others and accepted by CITY.

3.5.3 OWNER agrees that development of the Property shall require the construction of water utility Improvements as described in Exhibit E and depicted in Exhibit F consisting generally of the construction of the potable water Improvements to serve the Property as described in Exhibit E and depicted in Exhibit F. OWNER and CITY agree that CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY upon completion of sufficient water improvements to serve the Property from at least one point of connection. OWNER and CITY agree that OWNER may, in-lieu of utilizing recycled water during grading and construction, utilize water from existing agricultural wells on the Property subject to the terms of a separate Well Use Agreement between the CITY and OWNER. OWNER agrees that OWNER shall not request and CITY shall not issue a final occupancy permit for any buildings on the Property until the completion of the potable water improvements described in Exhibit E and depicted in Exhibit F. City agrees that OWNER may request that CITY issue temporary certificates of occupancy on a building-by-building basis prior to completion of the water improvements if there is available permanent water service from a minimum of two (2) points of connection and sufficient water is available for fire protection purposes for any buildings while under construction. OWNER and CITY agree that a portion of the water Improvements described in Exhibit E and depicted in Exhibit F may be constructed by others, or pursuant to a cooperative agreement with others. If such water Improvements are constructed by others, or in cooperation with others, and are completed and accepted by CITY prior to OWNER's request to CITY of the required grading, building or other required permits for OWNER to initiate construction of structures for the Property, then OWNER shall not be required to construct those water Improvements constructed and completed by others and accepted by CITY.

3.5.4 OWNER agrees that development of the Property shall require the construction of sewer Improvements as described in Exhibit E and depicted in Exhibit F. OWNER and CITY agree that CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY, and OWNER agrees that OWNER shall not request and CITY shall not issue a final occupancy permit for any buildings prior to completion of the sewer

improvements described in Exhibit E and depicted in Exhibit F. CITY agrees that OWNER may request that CITY issue temporary certificates of occupancy on a building-by-building basis prior to the completion of the sewer improvements described in Exhibit E and depicted in Exhibit F. OWNER and CITY agree that a portion of the sewer Improvements described in Exhibit E and depicted in Exhibit F may be constructed by others, or pursuant to a cooperative agreement with others. If such sewer Improvements are constructed by others, or in cooperation with others, and are completed and accepted by CITY prior to OWNER's request to CITY of the required grading, building or other required permits for OWNER to initiate construction of structures for the Property, then OWNER shall not be required to construct those sewer Improvements constructed and completed by others and accepted by CITY.

3.5.5 OWNER agrees that development of the Property shall require the construction of recycled water utility improvements to serve the Property, consisting generally of the construction of recycled water utility Improvements as described in Exhibit E and depicted in Exhibit F. OWNER and CITY agree that the CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY upon completion of sufficient water and recycled water improvements to serve the Property from at least one point of connection and OWNER agrees that OWNER shall not request and CITY shall not issue any occupancy permit for any buildings on the Property until the completion of the water improvements described in Exhibit E and depicted in Exhibit F. CITY agrees that OWNER may request a temporary occupancy permit for a building and, if OWNER requests that a temporary certificate of occupancy be issued for a building prior to the completion of the extension of permanent master planned recycled water utility Improvements to serve the Property that CITY may consider such request and may issue temporary certificates of occupancy on a building-by-building basis prior to completion of recycled water improvements if there is available permanent recycled water service connection and sufficient recycled water is available. OWNER and CITY agree that all, or a portion of, the permanent master planned recycled water utility Improvements described in Exhibit E and depicted in Exhibit F may be constructed by others. If such recycled water utility Improvements are constructed by others and completed and accepted by CITY prior to OWNER'S request to CITY of the required grading, building, or other required permits for OWNER to initiate construction of structures for the Property, then OWNER shall not be required to construct those permanent master planned recycled water utility Improvements.

3.5.6 OWNER agrees that development of the Property shall require the construction of fiber optic communications infrastructure, at OWNER's sole cost and expense, as described in the attached Exhibit E and depicted in Exhibit F consisting generally of the construction of fiber optic communications infrastructure to serve the Property. OWNER and CITY agree that CITY may issue grading, building and other required permits for OWNER to initiate construction of structures for the Property according to plans approved by CITY and OWNER agrees that OWNER shall not request and CITY shall not issue a final occupancy permit for any buildings prior to completion of the fiber optic communications infrastructure, as described in Exhibit E and depicted in Exhibit F. CITY agrees that OWNER may request that CITY issue temporary certificates

of occupancy on a building-by-building basis prior to the completion of the fiber optic communications infrastructure, as described in Exhibit E and depicted in Exhibit F.

3.6 Acquisition of Offsite Provision of Real Property Interests. In any instance where OWNER is required by any Development Approval or Land Use Regulation to construct any public improvement on land not owned by OWNER ("Offsite Improvements"), the CITY and OWNER shall cooperate in acquiring the necessary legal interest ("Offsite Property") as described below in Section 3.7. This Section 3.6 is not intended by the parties to impose upon the OWNER an enforceable duty to acquire land or construct any public improvements on land not owned by OWNER, except to the extent that the OWNER elects to proceed with the development of the Project, and then only in accordance with valid conditions imposed by the CITY upon the development of the Project under the Subdivision Map Act or other legal authority.

3.7 Real Property Interests.

3.7.1 CITY Acquisition of Offsite Property. In the event OWNER is required to construct any public improvements on land not owned by OWNER, Sections 3.7.1 and 3.7.2 shall control the acquisition of the Offsite Property. If the OWNER is unable to acquire such Offsite Property, and following the written request from the OWNER to CITY, CITY agrees to use reasonable and diligent good faith efforts to acquire the Offsite Property from the owner or owners of record by negotiation to the extent permitted by law and consistent with this Agreement. If CITY is unable to acquire the Offsite Property by negotiation within thirty (30) days after OWNER'S written request, CITY may, initiate proceedings utilizing its power of eminent domain to acquire the Offsite Property at a public hearing noticed and conducted in accordance with California Code of Civil Procedure Section 1245.235 for the purpose of considering the adoption of a resolution of necessity concerning the Offsite Property, subject to the conditions set forth in this Section 3.7.1 The CITY and OWNER acknowledge that the timelines set forth in this Section 3.7.1 represent the maximum time periods which CITY and OWNER reasonably believe will be necessary to complete the acquisition of any Offsite Property. CITY agrees to use reasonable good faith efforts to complete the actions described within lesser time periods, to the extent that it is reasonably able to do so, consistent with the legal constraints imposed upon CITY.

3.7.2 Owner's Option to Terminate Proceedings. CITY shall provide written notice to OWNER no later than fifteen (15) days prior to making an offer to the owner of the Offsite Property. At any time within that fifteen (15) day period, OWNER may, at its option, notify CITY that it wants CITY to cease all acquisition proceedings with respect to that Offsite Property, whereupon CITY shall cease such proceedings. CITY may provide written notice to OWNER no later than fifteen (15) days prior to the date of the hearing on CITY's intent to consider the adoption of a resolution of necessity as to any Offsite Property. At any time within that fifteen (15) day period, OWNER may, at its option, notify CITY that it wants CITY to cease condemnation proceedings, whereupon CITY shall cease such proceedings. If OWNER does not notify CITY to cease condemnation proceedings within said fifteen (15) day period, then the CITY may proceed to consider and act upon the Offsite Property resolution of necessity. If CITY adopts such resolution

of necessity, then CITY may institute condemnation proceedings and file a complaint in condemnation and seek an order of immediate possession with respect to the Offsite Property.

3.8 Regulation by Other Public Agencies. It is acknowledged by the parties that other public agencies not within the control of CITY possess authority to regulate aspects of the development of the Property separately from or jointly with CITY and this Agreement does not limit the authority of such other public agencies. CITY agrees to cooperate fully, at no cost to CITY, with OWNER in obtaining any required permits or compliance with the regulations of other public agencies provided such cooperation is not in conflict with any laws, regulations or policies of the CITY.

3.9 Tentative Parcel Maps. With respect to applications by OWNER for tentative parcel maps for portions of the Property, CITY agrees that OWNER may file and process tentative maps in accordance with Chapter 4.5 (commencing with Section 66498.1) of Division 2 of Title 7 of the California Government Code and the applicable provisions of CITY's subdivision ordinance, as the same may be amended from time to time. In accordance with the provisions of Section 66452.6 of the Government Code, each tentative subdivision map or tentative parcel map, heretofore or hereafter approved in connection with development of the Property, shall be deemed to have been granted an extension of time to and until the expiration, cancellation, or termination of this Agreement.

3.10 Specific Plan Charge. Pursuant to Government Code section 65456, the City Council may consider adopting a specific plan charge upon persons seeking CITY approvals that are required to be consistent with the Specific Plan. Any such charges shall, in the aggregate, defray, but not exceed, the estimated cost of preparation, adoption, and administration of the Specific Plan, including costs incurred pursuant to the California Environmental Quality Act (Pub. Resources Code, §§ 21000 et seq.). As nearly as can be estimated, the charges shall be a prorated amount in accordance with the applicant's relative benefit derived from the Specific Plan. If such charges are adopted, the CITY shall use such charges to reimburse the OWNER who originally paid the cost of preparing the Specific Plan, including costs incurred pursuant to the California Environmental Quality Act (Pub. Resources Code, §§ 21000 et seq.) to the extent the OWNER paid more than its relative benefit from the Specific Plan. Such charges, if adopted, shall be imposed on persons seeking CITY approvals that are required to be consistent with the Specific Plan, to the extent such person(s) has/have not entered into a reimbursement agreement with, and satisfactory to, the person(s) originally responsible for the cost of preparing the Specific Plan, including costs incurred pursuant to CEQA.

4. PUBLIC BENEFITS.

4.1 Intent. The parties acknowledge and agree that development of the Property will result in substantial public needs that will not be fully met by the Development Plan and further acknowledge and agree that this Agreement confers substantial private benefits on OWNER that should be balanced by commensurate public benefits. Accordingly, the parties intend to provide consideration to the public to balance the private benefits

conferred on OWNER by providing more fully for the satisfaction of the public needs resulting from the Project.

4.2 Development Impact Fees.

4.2.1 Amount of Development Impact Fee. Development Impact Fees (DIF) shall be paid by OWNER. The Development Impact Fee amounts to be paid by OWNER shall be the amounts that are in effect at the time such amounts are due. Nothing contained in this Agreement shall affect the ability of the CITY to impose new Development Impact Fees or amend the amounts of existing Development Impact Fees. Additionally, nothing contained in this Agreement shall affect the ability of other public agencies that are not controlled by CITY to impose and amend, from time to time, Development Impact Fees established or imposed by such other public agencies, even though such Development Impact Fees may be collected by CITY.

4.2.2 Time of Payment. The Development Impact Fees required pursuant to Section 4.2.1 shall be paid to CITY prior to the issuance of building permit for each applicable building (subject to the application/use of available fee deferrals or credits), except for the Species, Habitat Conservation, and Open Space Mitigation Development Impact Fee, which shall be paid by OWNER to CITY prior to the issuance of a grading permit.

4.3 Responsibility for Construction of Public Improvements.

4.3.1 Timely Construction of Public Infrastructure. The phasing of the area wide infrastructure construction within the vicinity of the Project shall be as approved by the CITY. OWNER shall be responsible for the timely construction and completion of all public infrastructure required for the Project as described and depicted in the Infrastructure Improvements Exhibit and any and all parcel map conditions. Unless otherwise specified in the Parcel Map conditions, and subject to the provisions of Section 3.5 and 3.6, all other required Improvements for the parcel map, shall be substantially completed and operational prior to, and as a condition precedent to, OWNER requesting and CITY's granting of a final occupancy permit for any buildings to be constructed on the Property within the applicable parcel map. All Infrastructure and Improvements shall be completed as required by the Subdivision Agreement/Parcel Map conditions for Parcel Map No. 20517.

4.3.3 Construction of Public Infrastructure by Third Parties. CITY and OWNER acknowledge that a portion of the Improvements described in Exhibit E and depicted in Exhibit F are necessary for the development of surrounding properties within the Ontario Ranch and the other property owners are also obligated to construct the Improvements or portions thereof. As such, CITY agrees that OWNER's obligation to construct the Improvements may be satisfied by third party owners pursuant to separate written agreements between OWNER and said third party undertaking the construction of the Improvements. Nothing in this Agreement shall be construed to prohibit the coordination of the construction of the Improvements between private parties, including the allocation of costs for the construction of the Improvements. Notwithstanding anything to the

contrary herein, any applicable DIF Credits may be transferred and assigned from one (1) party to another with respect to the construction of the Improvements and such transfer or assignment shall not require the conveyance of any real property.

4.3.4 Availability and Use of Recycled Water. OWNER agrees that recycled water shall be available and utilized by OWNER for all construction-related water uses including prior to, and during, any grading of the Property. OWNER and CITY agree that OWNER may, in-lieu of utilizing recycled water during grading and construction, utilize water from existing agricultural wells on the Property subject to the terms of a separate Well Use Agreement between the CITY and OWNER.

4.3.5 Construction of DIF Program Infrastructure. To the extent OWNER is required to construct and completes construction of public improvements that are included in CITY's Development Impact Fee Program, CITY agrees that CITY shall issue DIF Credit in accordance with the provisions of a separate Fee Credit Agreement between CITY and OWNER. Limitations on the use of DIF Credit issued to OWNER to offset OWNER's DIF payment obligations shall also be subject to the provisions of a separate Fee Credit Agreement. OWNER may be eligible to receive DIF Credit from OWNER's construction of DIF Program Infrastructure. Any such DIF Credit shall be subject to a Fee Credit Agreement between CITY and OWNER. CITY and OWNER agree that the Fee Credit Agreement between CITY and OWNER shall comply with CITY's adopted policies applicable to such agreements.

4.4 Public Services Funding Fee.

4.4.1 Requirement for Payment of Public Services Funding Fee. In order to ensure that the adequate provision of public services, including without limitation, police, fire and other public safety services, are available to each Project in a timely manner, OWNER shall pay to CITY a "Public Services Funding Fee." The Public Services Funding Fee shall apply to residential and non-residential uses as set forth below.

4.4.2 Public Services Funding Fee Amount. OWNER shall pay a Public Services Funding fee in a single installment payment in the amount of Seventy-Five Cents ($.75) per square foot of each non-residential building. The single installment for non-residential uses shall be due and payable on a building-by-building basis prior to the issuance of the building permit for a non-residential building. The amount of the Single Installment for non-residential uses shall automatically increase by percentage increase (but no decrease) in the Consumer Price Index (Riverside – San Bernardino – Ontario, CA), (December 2017=100) over the preceding year on January 1st of each year, beginning on January 1, 2024. OWNER may exercise the option to pay any single installment amounts for the remainder of the non-residential square footage within the Project on or before December 31st, before the Single Installment amount is automatically increased.

4.5 Water Availability.

4.5.1 Water Availability. The Property requires the completion of the Phase 2 Water Improvements (Phase 2A and 2B) for permanent water system capacity and supply. Until the Phase 2 Water Improvements are fully constructed and completed, OWNER acknowledges that the Project shall have sufficient water capacity and supply on an interim basis made available through the construction of the Potable Water Improvements (as described in Exhibit E), the Phase 2A Water Improvements, and the Interim Chino Avenue Loop depicted in Exhibit F. OWNER acknowledges and agrees that the CITY shall not issue final certificates of occupancy for the Project until the completion of the Potable Water Improvements (as described in Exhibit E), the Phase 2A Water Improvements and the Interim Chino Avenue Loop, as depicted in Exhibit F. OWNER further acknowledges and agrees the Property requires the Phase 2 Water Improvements as depicted in Exhibit F.

4.5.2 Phase 2 Water Construction Fee. Prior to CITY's issuance of a grading permit for any parcel of the Property (each, a "Grading Permit"), OWNER shall pay to CITY the applicable Phase 2 Water Construction Fee. The Phase 2 Water Construction Fee shall be calculated based on the following formula: (a) the regional water development impact fee, based on the square footage of developable property and the approved land use category for each Phase of the Project (the "Base Regional Water DIF"), PLUS (b) OWNER's pro rata share of the difference between the total projected cost of construction of the Phase 2 Water Improvements (the "Pro Rata Share") and the Base Regional Water DIF. To determine the Pro Rata Share, which may fluctuate over time, CITY shall, at the time OWNER applies for a Grading Permit, calculate the total projected cost of construction of the Phase 2 Water Improvements and subtract from that amount (y) all Phase 2 Water Construction Fees previously collected and (z) the aggregate Base Regional Water DIF to be paid by OWNER and all developers then at that time obligated to pay a Base Regional Water DIF specifically for use of the Phase 2 Water Improvements (together, the "Phase 2 Water Developers"). If the difference is zero or a number less than zero, then there is no Pro Rata Share and the Phase 2 Water Construction Fee shall equal the sum of all Base Regional Water DIF to be paid by all Phase 2 Water Developers. If the difference results in a positive number, the funding gap (the "Funding Gap") shall be divided by the total acreage of land to be developed by the Phase 2 Water Developers to obtain a Funding Gap "per acre" amount (the "Funding Gap Per Acre Amount"). Each Phase 2 Water Developer's respective total acreage to be developed shall then be multiplied by the Funding Gap Per Acre Amount to obtain each Phase 2 Water Developer's Pro Rata Share, which will then be added to each Phase 2 Water Developer's Base Regional Water DIF to obtain the Phase 2 Water Construction Fee due and payable at the time of issuance of the applicable Grading Permit.

4.5.3 DIF Credit for Phase 2 Water Construction Fees. Within thirty (30) days of OWNER's payment of each Phase 2 Water Construction Fee, CITY shall issue a certificate of DIF Credit which may be used to offset OWNER's DIF obligations in the Regional Water DIF Category. The form of the Certificate of DIF Credit shall be as described in Exhibit G, attached hereto and incorporated herein. OWNER acknowledges that any Regional Water DIF Credit issued to OWNER shall not be used to satisfy Phase 2 Water Construction Fees and may only be used to offset OWNER's DIF obligations in the Regional Water DIF Category.

4.5.4 Additional Contributions for Phase 2 Water Improvements. OWNER acknowledges and agrees that, as of the Effective Date of this Agreement, the CITY does not have sufficient funding to construct and complete the Phase 2 Water Improvements. OWNER agrees to provide the CITY with additional contributions for the Phase 2 Water Improvements prior to the issuance of a Grading Permit for any Phase within the Project, pursuant to the Pro Rata Share calculation as set forth in Section 4.5.2 above. OWNER acknowledges and agrees that the CITY has the right to conduct subsequent reviews of the available funding for the construction of, or continuation of the construction of, the Phase 2 Water Improvements. If at any time outside of OWNER's submission of a request for a Grading Permit the CITY determines that there is not sufficient funding for the construction of, or continuation of the construction of, the Phase 2 Water Improvements necessary to support current and anticipated future development within the Ontario Ranch area served by the Phase 2 Water Improvements, OWNER agrees to pay such subsequent additional contribution payment necessary from the OWNER (on a pro rata basis with other Phase 2 Water Developers then existing at the time) to the CITY to initiate construction of, or continue construction of, the Phase 2 Water Improvements. The CITY shall determine OWNER's additional contribution amount (above and beyond OWNER's Pro Rata Share) and such amount shall be due and payable to the CITY within thirty (30) days of written notice from the CITY to OWNER.

4.5.5 Future Reimbursement of Pro Rata Share of Phase 2 Water Construction Fees. OWNER agrees that the CITY will be responsible for the construction and completion of the Phase 2 Water Improvements, as depicted in Exhibit F. Subject to the successful completion of the Phase 2 Water Improvements, CITY and OWNER shall meet periodically and/or as needed from the date of completion of the Phase 2 Water Improvements, to jointly develop a plan and mutually enter into an agreement for the reimbursement of OWNER's Pro Rata Share of Phase 2 Water Construction Fees that may be reimbursed from future development in the 925 Zone as depicted in the City's Domestic Water Master Plan, following any reallocation of each Phase 2 Water Developer's Pro Rata Share, CITY's collection of additional Regional Water DIF in connection with construction of the Phase 2 Water Improvements, and after the completion of the Phase 2 Water Improvements. Such agreement shall be approved at the sole discretion of the Ontario City Council.

4.6 Compliance with Public Benefits Requirements.

4.6.1 Failure to Provide Public Benefits. In the event OWNER fails or refuses to comply with any condition referenced in Section 4.1 through 4.5, or challenges (whether administratively or through legal proceedings) the imposition of such conditions, OWNER shall be deemed in default of this Agreement, thereby entitling CITY to any and all remedies available to it, including, without limitation, the right of CITY to withhold OWNER's Project-related building permits, certificates of occupancy, or discretionary approvals, without liability. Nothing herein shall waive OWNER's right to assert a default (or failure to perform) by CITY has excused OWNER's performance under this Agreement.

5. FINANCING OF PUBLIC IMPROVEMENTS.

5.1 Financing Mechanism(s). OWNER agrees that, prior to the recordation of any Parcel Map, the property subject to such Parcel Map shall be included in a CFD to finance CITY services through annual special taxes that will initially be Twenty-Seven Cents ($.27) per square foot for non-residential buildings. These amounts shall be subject to an automatic increase at a rate not to exceed four (4%) percent per year. Depending on the fiscal year that the CFD is formed and the CFD tax is levied, the annual special taxes may be higher. CITY shall be the sole and exclusive lead agency in the formation of any CFD, assessment district or other public financing mechanism within the Property; provided however, that the proceeds of any such CFD, assessment district, or financing mechanism may be used, subject to restrictions that may be imposed by applicable law, for the purposes of acquiring, constructing or maintaining public facilities to be owned or operated by other public agencies, including, without limitation those facilities owned or operated by a school district. In addition to the rights of the CITY pursuant to section 5.1 hereof, CITY shall have the right, but not the obligation, to condition the formation of any CFD, assessment district or other public financing mechanism within the Property on the OWNER mitigating all Project-related impacts to the applicable school district(s) as required by such school district(s). Written evidence by such school district(s) may be required by the CITY as the condition to the formation of any CFD, assessment district or other public financing mechanism within the Property, or any steps preliminary thereto, including, without limitation, the adoption of any resolution of intention to form such CFD, assessment district or other public financing mechanism within the Property. It is not the intent of the parties hereto, by this provision, to prohibit or otherwise limit CITY's ability to take any and all necessary steps requisite to the formation of the CFD to finance CITY services through annual special taxes as set forth in this Section 5.1. Formation of any CFD, assessment district or other public financing mechanism within the Property, shall be subject to CITY's ability to make all findings required by applicable law and complying with all applicable legal procedures and requirements including, without limitation, CITY's public financing district policies as such policies may be amended from time to time. Notwithstanding the foregoing, it is acknowledged and agreed by the parties that nothing contained in this Agreement shall be construed as requiring CITY or the City Council to form any such district.

6. [OMITTED]

7. REVIEW FOR COMPLIANCE.

7.1 Periodic and Special Reviews.

7.1.1 Time for and Initiation of Periodic Review. The CITY shall review this Agreement every twelve (12) months from the Effective Date in order to ascertain the good faith compliance by the OWNER with the terms of this Agreement. The OWNER shall submit an Annual Monitoring Report to CITY, in a form acceptable to the City Manager, along with any applicable processing charge within ten (10) days after each anniversary date of the Effective Date of this Agreement. Within fifteen (15) days after the receipt of the Annual Monitoring Report, CITY shall review the Annual Monitoring

Report. Prior to the expiration of the fifteen (15) day review period, CITY shall either issue a notice of continuing compliance or a notice of non-compliance and a notice of CITY's intent to conduct a Special Review pursuant to Sections 7.1.2 through 7.1.6. Issuance of a notice of continuing compliance may be issued by the City Manager or his designee.

7.1.2 Initiation of Special Review. A special review may be called either by agreement between the parties or by initiation in one or more of the following ways:

(a) Recommendation of the Planning staff;

(b) Affirmative vote of at least four (4) members of the Planning Commission; or

(c) Affirmative vote of at least three (3) members of the City Council.

7.1.3 Notice of Special Review. The City Manager shall begin the special review proceeding by giving notice that the CITY intends to undertake a special review of this Agreement to the OWNER. Such notice shall be given at least ten (10) days in advance of the time at which the matter will be considered by the Planning Commission.

7.1.4 Public Hearing. The Planning Commission shall conduct a hearing at which the OWNER must demonstrate good faith compliance with the terms of this Agreement. The burden of proof on this issue is upon the OWNER.

7.1.5 Findings Upon Public Hearing. The Planning Commission shall determine upon the basis of substantial evidence whether or not the OWNER has, for the period under review, complied in good faith with the terms and conditions of this Agreement.

7.1.6 Procedure Upon Findings.

(a) If the Planning Commission finds and determines on the basis of substantial evidence that the OWNER has complied in good faith with the terms and conditions of this Agreement during the period under review, the review for that period is concluded.

(b) If the Planning Commission finds and determines on the basis of substantial evidence that the OWNER has not complied in good faith with the terms and conditions of this Agreement during the period under review, the Planning Commission may recommend to the City Council to modify or terminate this Agreement.

(c) The OWNER may appeal a determination pursuant to paragraph (b) to the City Council in accordance with the CITY's rule for consideration of appeals in zoning matters generally.

7.2 Proceedings Upon Modification or Termination. If, upon a finding under Section 7.1.6(b), the CITY determines to proceed with modification or termination of this Agreement, the CITY shall give notice to the property OWNER of its intention so to do. The notice shall contain:

(a) The time and place of the hearing;

(b) A statement as to whether or not the CITY proposes to terminate or to modify this Agreement; and

(c) Other information that the CITY considers necessary to inform the OWNER of the nature of the proceeding.

7.3 Hearing on Modification or Termination. At the time and place set for the hearing on modification or termination, the OWNER shall be given an opportunity to be heard. The OWNER shall be required to demonstrate good faith compliance with the terms and conditions of this Agreement. The burden of proof on this issue shall be on the OWNER. If the City Council finds, based upon substantial evidence in the administrative record, that the OWNER has not complied in good faith with the terms and conditions of the agreement, the City Council may terminate this Agreement or modify this Agreement and impose those conditions to the action it takes as it considers necessary to protect the interests of the CITY. The decision of the City Council shall be final, subject only to judicial review pursuant to Section 1094.5 of the Code of Civil Procedure.

7.4 Certificate of Agreement Compliance. If, at the conclusion of a Periodic or Special Review, OWNER is found to be in compliance with this Agreement, CITY shall, upon written request by OWNER, issue a Certificate of Agreement Compliance ("Certificate") to OWNER stating that after the most recent Periodic or Special Review and based upon the information known or made known to the Planning Director and City Council that (1) this Agreement remains in effect and (2) OWNER is not in default. The Certificate shall be in recordable form, shall contain information necessary to communicate constructive record notice of the finding of compliance, shall state whether the Certificate is issued after a Periodic or Special Review and shall state the anticipated date of commencement of the next Periodic Review. OWNER may record the Certificate with the County Recorder. Whether or not the Certificate is relied upon by assignees or other transferees or OWNER, CITY shall not be bound by a Certificate if a default existed at the time of the Periodic or Special Review, but was concealed from or otherwise not known to the Planning Director or City Council.

8. [OMITTED]

9. DEFAULT AND REMEDIES.

9.1 Remedies in General. It is acknowledged by the parties that CITY would not have entered into this Agreement if it were to be liable in damages under this Agreement, or with respect to this Agreement or the application thereof. In general, each of the parties hereto may pursue any remedy at law or equity available for the breach of any provision of this Agreement, except that (i) CITY shall not be liable in damages to OWNER, or to any successor in interest of OWNER, or to any other person, and OWNER covenants not to sue for damages or claim any damages and (ii) OWNER shall not be liable in damages to CITY, or to any other person, and CITY covenants not to sue for damages or claim any damages:

(a) For any breach of this Agreement or for any cause of action which arises out of this Agreement; or

(b) For the taking, impairment or restriction of any right or interest conveyed or provided under or pursuant to this Agreement; or

(c) Arising out of or connected with any dispute, controversy or issue regarding the application or interpretation or effect of the provisions of this Agreement.

9.2 Specific Performance. The parties acknowledge that money damages and remedies at law generally are inadequate and specific performance and other non-monetary relief are particularly appropriate remedies for the enforcement of this Agreement and should be available to all parties for the following reasons:

(a) Money damages are unavailable against CITY and OWNER as provided in Section 9.1 above.

(b) Due to the size, nature and scope of the Project, it may not be practical or possible to restore the Property to its natural condition once implementation of this Agreement has begun. After such implementation, OWNER may be foreclosed from other choices it may have had to utilize the Property or portions thereof. OWNER has invested significant time and resources and performed extensive planning and processing of the Project in agreeing to the terms of this Agreement and will be investing even more significant time and resources in implementing the Project in reliance upon the terms of this Agreement, and it is not possible to determine the sum of money which would adequately compensate OWNER for such efforts.

9.3 Release. Except for non-damage remedies, including the remedies of judicial review and of specific performance as provided for in Sections 7.3 and 9.2, respectively,, OWNER, for itself, its successors and assignees, hereby releases the CITY, its officers, agents and employees from any and all claims, demands, actions, or suits of any kind or nature arising out of any liability, known or unknown, present or future, including, but not limited to, any claim or liability, based or asserted, pursuant to Article I, Section 19 of the California Constitution, the Fifth Amendment of the United States Constitution, or any other law or ordinance which seeks to impose any other liability or damage, whatsoever, upon the CITY because it entered into this Agreement or because of the terms of this Agreement.

9.4 Termination or Modification of Agreement for Default of OWNER. Subject to the provisions contained in Sections 7.2 and 7.3 herein, CITY may terminate or modify this Agreement for any failure of OWNER to perform any material duty or obligation of OWNER under this Agreement, or to comply in good faith with the terms of this Agreement (hereinafter referred to as "default"); provided, however, CITY may terminate or modify this Agreement pursuant to this Section only after providing written notice to OWNER of default setting forth the nature of the default and the actions, if any, required by OWNER to cure such default and, where the default can be cured, OWNER has failed to take such

actions and cure such default within 60 days after the effective date of such notice or, in the event that such default cannot be cured within such 60 day period but can be cured within a longer time, has failed to commence the actions necessary to cure such default within such 60 day period and to diligently proceed to complete such actions and cure such default.

9.5 Termination of Agreement for Default of CITY. OWNER may terminate this Agreement only in the event of a default by CITY in the performance of a material term of this Agreement and only after providing written notice to CITY of default setting forth the nature of the default and the actions, if any, required by CITY to cure such default and, where the default can be cured, CITY has failed to take such actions and cure such default within 60 days after the effective date of such notice or, in the event that such default cannot be cured within such 60 day period but can be cured within a longer time, has failed to commence the actions necessary to cure such default within such 60 day period and to diligently proceed to complete such actions and cure such default.

10. THIRD PARTY LITIGATION.

10.1 General Plan Litigation. CITY has determined that this Agreement is consistent with the General Plan, as such General Plan exists as of the Effective Date ("General Plan"), and that the General Plan meets all requirements of law. OWNER has reviewed the General Plan and concurs with CITY's determination. CITY shall have no liability in damages under this Agreement for any failure of CITY to perform under this Agreement or the inability of OWNER to develop the Property as contemplated by the Development Plan or this Agreement as the result of a judicial determination that on the Effective Date, or at any time thereafter, the General Plan, or portions thereof, are invalid or inadequate or not in compliance with law.

10.2 Third Party Litigation Concerning Agreement. OWNER shall defend, at its expense, including attorneys' fees, indemnify, and hold harmless CITY, its agents, officers and employees from any claim, action or proceeding against CITY, its agents, officers, or employees to attack, set aside, void, or annul the approval of this Agreement or the approval of any permit granted pursuant to this Agreement. CITY shall promptly notify OWNER of any such claim, action or proceeding, and CITY shall cooperate in the defense. If CITY fails to promptly notify OWNER of any such claim, action or proceeding, or if CITY fails to cooperate in the defense, OWNER shall not thereafter be responsible to defend, indemnify, or hold harmless CITY. CITY may in its discretion participate in the defense of any such claim, action or proceeding.

10.3 Indemnity. In addition to the provisions of Section 10.2 above, OWNER shall indemnify and hold CITY, its officers, agents, employees and independent contractors free and harmless from any liability whatsoever, based or asserted upon any act or omission of OWNER, its officers, agents, employees, subcontractors and independent contractors, for property damage, bodily injury, or death (OWNER's employees included) or any other element of damage of any kind or nature, to the extent relating to or in any way connected with or arising from the activities contemplated hereunder, including, but not limited to, the study, design, engineering, construction, completion, failure and

conveyance of the public improvements, save and except claims for damages arising through the sole active negligence or sole willful misconduct of CITY. OWNER shall defend, at its expense, including attorneys' fees, CITY, its officers, agents, employees and independent contractors in any legal action based upon such alleged acts or omissions. CITY may in its discretion participate in the defense of any such legal action. OWNER's indemnity obligation shall terminate following CITY's legal acceptance of (i.e. taking of title to) the Improvements.

10.4 Environment Assurances. OWNER shall indemnify and hold CITY, its officers, agents, and employees free and harmless from any liability, to the extent based or asserted, upon any act or omission of OWNER, its officers, agents, employees, subcontractors, predecessors in interest, successors, assigns and independent contractors for any violation of any federal, state or local law, ordinance or regulation relating to industrial hygiene or to environmental conditions on, under or about the Property during OWNER'S period of ownership of the Property, including, but not limited to, soil and groundwater conditions caused by OWNER, and OWNER shall defend, at its expense, including attorneys' fees, CITY, its officers, agents and employees in any action based or asserted upon any such alleged act or omission. CITY may in its discretion participate in the defense of any such action.

10.5 Reservation of Rights. With respect to Sections 10.2, 10.3 and 10.4 herein, CITY reserves the right to either (1) approve the attorney(s) which OWNER selects, hires or otherwise engages to defend CITY hereunder, which approval shall not be unreasonably withheld, or (2) conduct its own defense, provided, however, that OWNER shall reimburse CITY forthwith for any and all reasonable expenses incurred for such defense, including attorneys' fees, upon billing and accounting therefor.

10.6 Survival. The provisions of this Sections 10.1 through 10.6, inclusive, shall survive the termination of this Agreement.

11. MORTGAGEE PROTECTION.

11.1 Mortgagee Protection. The parties hereto agree that this Agreement shall not prevent or limit OWNER, in any manner, at OWNER's sole discretion, from encumbering the Property or any portion thereof or any improvement thereon by any mortgage, deed of trust or other security device securing financing with respect to the Property. CITY acknowledges that the lenders providing such financing may require certain Agreement interpretations and modifications and agrees upon request, from time to time, to meet with OWNER and representatives of such lenders to negotiate in good faith any such request for interpretation or modification. CITY will not unreasonably withhold its consent to any such requested interpretation or modification provided such interpretation or modification is consistent with the intent and purposes of this Agreement. Any Mortgagee of the Property shall be entitled to the following rights and privileges:

(a) Neither entering into this Agreement nor a breach of this Agreement shall defeat, render invalid, diminish or impair the lien of any mortgage on the Property made in good faith and for value, unless otherwise required by law.

(b) The Mortgagee of any mortgage or deed of trust encumbering the Property, or any part thereof, which Mortgagee, has submitted a request in writing to the CITY in the manner specified herein for giving notices, shall be entitled to receive written notification from CITY of any default by OWNER in the performance of OWNER's obligations under this Agreement.

(c) If CITY timely receives a request from a Mortgagee requesting a copy of any notice of default given to OWNER under the terms of this Agreement, CITY shall provide a copy of that notice to the Mortgagee within ten (10) days of sending the notice of default to OWNER. The Mortgagee shall have the right, but not the obligation, to cure the default during the remaining cure period allowed such party under this Agreement.

(d) Any Mortgagee who comes into possession of the Property, or any part thereof, pursuant to foreclosure of the mortgage or deed of trust, or deed in lieu of such foreclosure, shall take the Property, or part thereof, subject to the terms of this Agreement. Notwithstanding any other provision of this Agreement to the contrary, no Mortgagee shall have an obligation or duty under this Agreement to perform any of OWNER's obligations or other affirmative covenants of OWNER hereunder, or to guarantee such performance; provided, however, that to the extent that any covenant to be performed by OWNER is a condition precedent to the performance of a covenant by CITY, the performance thereof shall continue to be a condition precedent to CITY's performance hereunder, and further provided that any sale, transfer or assignment by any Mortgagee in possession shall be subject to the provisions of Section 2.4 of this Agreement

(e) In the event of a default by OWNER, any Mortgagee shall have the right to remedy, or cause to be remedied, such default within sixty (60) days following the later to occur of (i) the date of Mortgagee's receipt of the notice referred to in Section 9.4 above, or (ii) the expiration of the period provided herein for OWNER to remedy or cure such default, and CITY shall accept such performance by or at the insistence of the Mortgagee as if the same had been timely made by OWNER; provided, however, that (i) if such default is not capable of being cured within the timeframes set forth in this Section and Mortgagee commences to cure the default within such timeframes, then Mortgagee shall have such additional time as is required to cure the default so long as Mortgagee diligently prosecutes the cure to completion and (ii) if possession of the Property (or portion thereof) is required to effectuate such cure or remedy, the Mortgagee shall be deemed to have timely cured or remedied if it commences the proceedings necessary to obtain possession thereof within sixty (60) days after receipt of the copy of the notice, diligently pursues such proceedings to completion, and, after obtaining possession, diligently completes such cure or remedy.

12. MISCELLANEOUS PROVISIONS.

12.1 Recordation of Agreement. This Agreement and any amendment or cancellation thereof shall be recorded with the San Bernardino County Recorder by the City Clerk within ten (10) days after the CITY executes this Agreement, as required by Section 65868.5 of the Government Code. If the parties to this Agreement or their successors in interest amend or cancel this Agreement as provided for herein and in Government Code

Section 65868, or if the CITY terminates or modifies the agreement as provided for herein and in Government Code Section 65865.1 for failure of the applicant to comply in good faith with the terms or conditions of this Agreement, the City Clerk shall have notice of such action recorded with the San Bernardino County Recorder.

12.2 Entire Agreement. This Agreement sets forth and contains the entire understanding and agreement of the parties, and there are no oral or written representations, understandings or ancillary covenants, undertakings or agreements which are not contained or expressly referred to herein. No testimony or evidence of any such representations, understandings or covenants shall be admissible in any proceeding of any kind or nature to interpret or determine the terms or conditions of this Agreement.

12.3 Severability. If any term, provision, covenant or condition of this Agreement shall be determined invalid, void or unenforceable, the remainder of this Agreement shall not be affected thereby to the extent such remaining provisions are not rendered impractical to perform taking into consideration the purposes of this Agreement. Notwithstanding the foregoing, the provision of the Public Benefits set forth in Section 4 of this Agreement, including the payment of the fees set forth therein, are essential elements of this Agreement and CITY would not have entered into this Agreement but for such provisions, and therefore in the event such provisions are determined to be invalid, void or unenforceable, this entire Agreement shall be null and void and of no force and effect whatsoever.

12.4 Interpretation and Governing Law. This Agreement and any dispute arising hereunder shall be governed and interpreted in accordance with the laws of the State of California. This Agreement shall be construed as a whole according to its fair language and common meaning to achieve the objectives and purposes of the parties hereto, and the rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be employed in interpreting this Agreement, all parties having been represented by counsel in the negotiation and preparation hereof.

12.5 Section Headings. All section headings and subheadings are inserted for convenience only and shall not affect any construction or interpretation of this Agreement.

12.6 Singular and Plural. As used herein, the singular of any word includes the plural.

12.7 Joint and Several Obligations. Pursuant to Section 2.4, if at any time during the term of this Agreement the Property is subsequently owned, in whole or in part, by more than one owner, all obligations of such owners under this Agreement shall be joint and several, and the default of any such owner shall be the default of all such owners. Notwithstanding the foregoing, no owner of a single lot which has been finally subdivided and sold to such owner as a member of the general public or otherwise as an ultimate user shall have any obligation under this Agreement except as provided under Section 4 hereof.

12.8 Time of Essence. Time is of the essence in the performance of the provisions of this Agreement as to which time is an element.

12.9 Waiver. Failure by a party to insist upon the strict performance of any of the provisions of this Agreement by the other party, or the failure by a party to exercise its rights upon the default of the other party, shall not constitute a waiver of such party's right to insist and demand strict compliance by the other party with the terms of this Agreement thereafter.

12.10 No Third-Party Beneficiaries. This Agreement is made and entered into for the sole protection and benefit of the parties and their successors and assigns. No other person shall have any right of action based upon any provision of this Agreement.

12.11 Force Majeure. Neither party shall be deemed to be in default where failure or delay in performance of any of its obligations under this Agreement is caused by floods, earthquakes, other Acts of God, fires, wars, riots or similar hostilities, strikes and other labor difficulties beyond the party's control, (including the party's employment force), government regulations, governmental orders related to statewide or national pandemics, any third party court actions challenging the Project (including but not limited to writs of mandate, restraining orders or injunctions), or other causes beyond the party's control. If any such events shall occur, the term of this Agreement and the time for performance by either party of any of its obligations hereunder may be extended by the written agreement of the parties for the period of time that such events prevented such performance, provided that the term of this Agreement shall not be extended under any circumstances for more than five (5) years.

12.12 Mutual Covenants. The covenants contained herein are mutual covenants and also constitute conditions to the concurrent or subsequent performance by the party benefited thereby of the covenants to be performed hereunder by such benefited party.

12.13 Successors in Interest. The burdens of this Agreement shall be binding upon, and the benefits of this Agreement shall inure to, all successors in interest to the parties to this Agreement. All provisions of this Agreement shall be enforceable as equitable servitudes and constitute covenants running with the land. Each covenant to do or refrain from doing some act hereunder with regard to development of the Property: (a) is for the benefit of and is a burden upon every portion of the Property; (b) runs with the Property and each portion thereof; and, (c) is binding upon each party and each successor in interest during ownership of the Property or any portion thereof.

12.14 Counterparts. This Agreement may be executed by the parties in counterparts, which counterparts shall be construed together and have the same effect as if all of the parties had executed the same instrument.

12.15 Jurisdiction and Venue. Any action at law or in equity arising under this Agreement or brought by a party hereto for the purpose of enforcing, construing or determining the validity of any provision of this Agreement shall be filed and tried in the Superior Court of the County of San Bernardino, State of California, and the parties hereto waive all provisions of law providing for the filing, removal or change of venue to any other court.

12.16 Project as a Private Undertaking. It is specifically understood and agreed by and between the parties hereto that the development of the Project is a private development, that neither party is acting as the agent of the other in any respect hereunder, and that each party is an independent contracting entity with respect to the terms, covenants and conditions contained in this Agreement. No partnership, joint venture or other association of any kind is formed by this Agreement. The only relationship between CITY and OWNER is that of a government entity regulating the development of private property and the owner of such property.

12.17 Further Actions and Instruments. Each of the parties shall cooperate with and provide reasonable assistance to the other to the extent contemplated hereunder in the performance of all obligations under this Agreement and the satisfaction of the conditions of this Agreement. Upon the request of either party at any time, the other party shall promptly execute, with acknowledgment or affidavit if reasonably required, and file or record such required instruments and writings and take any actions as may be reasonably necessary under the terms of this Agreement to carry out the intent and to fulfill the provisions of this Agreement or to evidence or consummate the transactions contemplated by this Agreement. The City Manager may delegate his powers and duties under this Agreement to an Assistant City Manager or other management level employee of the CITY.

12.18 Eminent Domain. No provision of this Agreement shall be construed to limit or restrict the exercise by CITY of its power of eminent domain.

12.19 Agent for Service of Process. In the event OWNER is not a resident of the State of California or it is an association, partnership or joint venture without a member, partner or joint venturer resident of the State of California, or it is a foreign corporation, then in any such event, OWNER shall file with the Planning Director, upon its execution of this Agreement, a designation of a natural person residing in the State of California, giving his or her name, residence and business addresses, as its agent for the purpose of service of process in any court action arising out of or based upon this Agreement, and the delivery to such agent of a copy of any process in any such action shall constitute valid service upon OWNER. If for any reason service of such process upon such agent is not feasible, then in such event OWNER may be personally served with such process out of this County and such service shall constitute valid service upon OWNER. OWNER is amenable to the process so served, submits to the jurisdiction of the Court so obtained and waives any and all objections and protests thereto.

12.20 Estoppel Certificate. Within thirty (30) business days following a written request by any of the parties, the other party shall execute and deliver to the requesting party a statement certifying that (i) either this Agreement is unmodified and in full force and effect or there have been specified (date and nature) modifications to the Agreement, but it remains in full force and effect as modified; and (ii) either there are no known current uncured defaults under this Agreement or that the responding party alleges that specified (date and nature) defaults exist. The statement shall also provide any other reasonable information requested. The failure to timely deliver this statement shall constitute a conclusive presumption that this Agreement is in full force and effect without modification

except as may be represented by the requesting party and that there are no uncured defaults in the performance of the requesting party, except as may be represented by the requesting party. OWNER shall pay to CITY all costs incurred by CITY in connection with the issuance of estoppel certificates requested by OWNER under this Section 12.20 prior to CITY's issuance of such certificates.

12.21 Authority to Execute. The person or persons executing this Agreement on behalf of OWNER warrants and represents that he or she/they have the authority to execute this Agreement on behalf of his or her/their corporation, partnership or business entity and warrants and represents that he or she/they has/have the authority to bind OWNER to the performance of its obligations hereunder.

12.22 Prevailing Wage. OWNER, for itself, its successors, and assigns, agrees, covenants, and warrants that the development of the Property, if any, shall comply with all applicable federal and state labor laws (including, without limitation, the requirement under California law to pay prevailing wages and hire apprentices), and all obligations as set forth herein.12.22.1 CITY makes no representations concerning prevailing wages in compliance with California Labor Code Section 1770 et seq.

12.22.2 OWNER acknowledges and agrees that it shall be independently responsible for reviewing the applicable laws and regulations with respect to the payment of prevailing wages and complying therewith. OWNER shall bear all risks of payment or non-payment of prevailing wages under California law and/or the implementation of Labor Code Section 1781, as the same may be amended from time to time, and/or any other similar law.

12.22.3 The foregoing indemnity shall survive termination of this Agreement and shall continue after completion of the construction and development of the Property by OWNER, its successors or assigns. OWNER shall be solely responsible for determining and effectuating compliance with such laws.

12.22.4 OWNER, ON BEHALF OF ITSELF, ITS SUCCESSORS, AND ASSIGNS, WAIVES AND RELEASES CITY FROM ANY RIGHT OF ACTION THAT MAY BE AVAILABLE TO OWNER PURSUANT TO LABOR CODE SECTION 1781 OR THE DAVIS BACON ACT. RELATIVE TO THE WAIVER AND RELEASE CONTAINED IN THIS SECTION 12.22, OWNER ACKNOWLEDGES THE PROTECTIONS OF CIVIL CODE SECTION 1542, WHICH READS AS FOLLOWS: A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.

INITIALS. BY INITIALING BELOW, OWNER KNOWINGLY AND VOLUNTARILY WAIVES THE PROVISIONS OF SECTION 1542 SOLELY WITH THE MATTERS WHICH ARE THE SUBJECT OF THE FOREGOING WAIVERS AND RELEASES:

_____

(Owner's Initials)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year set forth below.

[SIGNATURES CONTAINED ON FOLLOWING PAGE]

SIGNATURE PAGE
TO DEVELOPMENT AGREEMENT
FILE NO. PDA21-006

"OWNER"

EUCLID LAND VENTURE 2, LLC.
a Delaware limited liability company

by: RBV Euclid, LLC, a Delaware limited liability company, its managing member

by: REDA Bascom Ventures, LLC, a Delaware limited liability company, its managing member

by: Real Estate Development Associates, LLC, a California limited liability company, its administrative member

by: Waters Edge Property Group, LLC, a California limited liability company, its member

By: _____
Jason Krotts
Authorized Signatory

Date: _____

ATTEST:

_____
City Clerk, Ontario

APPROVED AS TO FORM:

BEST BEST & KRIEGER, LLP

_____
City Attorney

"CITY"
CITY OF ONTARIO

By:_____
Scott Ochoa
City Manager

Date: _____

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On this ___ day of _____, 2023 before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature:_____ (Seal)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On this ___ day of _____, 2023 before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature:_____ (Seal)

EXHIBIT "A"
TO DEVELOPMENT AGREEMENT

Legal Description of Property

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF ONTARIO, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

LOTS 7, 8, 9, 10, 23, 24, 25 AND 26 IN SECTION 20, TOWNSHIP 2 SOUTH, RANGE 7 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE MAP OF THE SUBDIVISION OF RANCHO SANTA ANA DEL CHINO, IN THE CITY OF ONTARIO, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, RECORDED IN BOOK 6, PAGE 15 OF MAPS OF RECORDS OF SAID COUNTY.

APNs: 1054-031-01, 1054-031-02, 1054-261-01, 1054-261-02, 1054-041-01, 1054-041-02, 1054-291-01, 1054-291-02

EXHIBIT "B"
TO DEVELOPMENT AGREEMENT

Map showing Property and its location

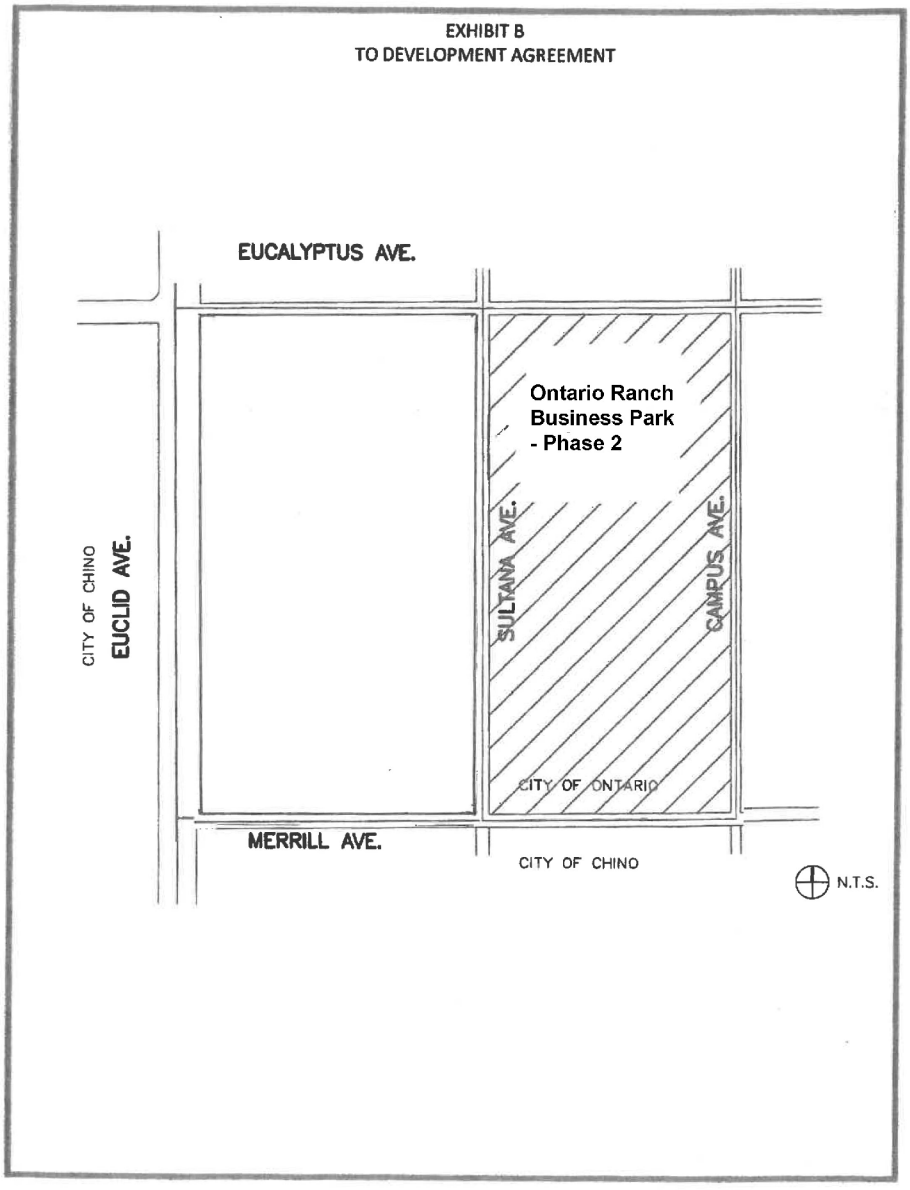


EXHIBIT "C"
TO DEVELOPMENT AGREEMENT

Existing Development Approvals

On July 28, 2020, the Planning Commission:

a) Approved Resolution No. PC20-048, recommending the City Council certify the Environmental Impact Report (SCH #2019050018) for the Ontario Ranch Business Park Specific Plan (File No. PSP18-002).

b) Approved Resolution No. PC20-049, recommending the City Council approve the General Plan Amendment (File No. PGPA18-008).

c) Approved Resolution No. PC20-050, recommending the City Council approve the Ontario Ranch Business Park Specific Plan (File No. PSP18-002).

On September 15, 2020, the City Council:

a) Adopted Resolution No. 2020-159, certifying the Environmental Impact Report (SCH #2019050018) for the Ontario Ranch Business Park Specific Plan (File No. PSP18-002).

b) Adopted Resolution No. 2020-160, approving the General Plan Amendment (File No. PGPA18-008).

On October 6, 2020, the City Council:

a) Adopted Ordinance No. 3168, approving the Ontario Ranch Business Park Specific Plan.

On August 30, 2022, the Planning Commission:

a) Approved Resolution No. PC22-053, recommending the City Council certify the project Subsequent Environmental Impact Report (SCH#2019050018) for the Ontario Ranch Business Park Specific Plan Amendment (PSPA21-002).

b) Approved Resolution No. PC22-054, recommending the City Council approve File No. PSPA21-002, an amendment to the Ontario Ranch Business Park Specific Plan.

EXHIBIT "C" Continued
TO DEVELOPMENT AGREEMENT

On October 18, 2022, the City Council:

a) Adopted Resolution No. 2022-143, certifying the Subsequent Environmental Impact Report (SCH#2019050018) for the Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002).

b) Adopted Resolution No. 2022-144, approving File No. PSPA21-002, an amendment to the Ontario Ranch Business Park Specific Plan.

EXHIBIT "D"
TO DEVELOPMENT AGREEMENT

Existing Land Use Regulations

These documents are listed for reference only:

1. General Plan Amendment (File No. PGPA20-002)

2. Ontario Ranch Business Park Specific Plan (File No. PSP18-002), Ordinance No. 3168

3. Ontario Ranch Business Park Environmental Impact Report (SCH#2019050018)

4. Ontario Ranch Business Park Specific Plan Amendment (File No. PSPA21-002)

5. City of Ontario Municipal Code
    a. Six – Sanitation & Health
    b. Seven – Public Works
    c. Eight – Building Regulations
    d. Nine – Development Code
    e. Ten – Parks & Recreation

EXHIBIT "E"
TO THE DEVELOPMENT AGREEMENT

DESCRIPTION OF REQUIRED IMPROVEMENTS

OWNER shall design, construct, and complete the following Street, Sewer, Storm Drain, Potable Water, Recycled Water, and Fiber Optic improvements, prior to OWNER's request for any final certificate of occupancy permit for any building within the Property.

1. OWNER shall design, construct, and complete the following Improvements, Potable Water (WT), Storm Drain (SD), Streets (ST), Sewer (SW), Recycled Water (RW), and Fiber Optics (FO), as described, prior to OWNER's request for final occupancy of the first building:

    a. WT on Sultana Avenue between Eucalyptus Avenue and Merrill Avenue.

    b. WT on Campus Avenue between Eucalyptus Avenue and Merrill Avenue.

    c. WT on Eucalyptus Avenue between Sultana Avenue and Grove Avenue (Local Water DIF Project WT-011).

    d. WT on Eucalyptus Avenue between Grove Avenue and Carpenter Avenue (*Regional Water DIF Project, portion of Phase 2A Water*).

    e. WT on Merrill Avenue between Sultana Avenue and Carpenter Avenue (Local Water DIF Project WT-011).

    f. SW (Western Trunk Sewer) on Euclid Avenue between Kimball Avenue and Merrill Avenue (Regional Sewer DIF Project SW-002).

    g. SW (Western Trunk Sewer) on Merrill Avenue between Euclid Avenue and Campus Avenue (Regional Sewer DIF Project SW-002).

    h. SW on Sultana Avenue between Merrill Avenue and Eucalyptus Avenue.

    i. SW on Campus Avenue between Merrill Avenue and Eucalyptus Avenue.

    j. RW on Sultana Avenue between Eucalyptus Avenue and Merrill Avenue.

k. RW on Merrill Avenue between Sultana Avenue and Campus Avenue (Local Water DIF Project WT-016).

l. RW on Campus Avenue between Merrill Avenue and Eucalyptus Avenue.

m. SD onsite detention shall be designed, constructed, and completed by ONWER prior to issuance of the first building permit. However, OWNER is eligible to request from CITY a grading permit prior to completion of the SD onsite detention.

n. SD on Sultana Avenue between Eucalyptus Avenue and Merrill Avenue.

o. SD on Merrill Avenue between Euclid Avenue and Sultana Avenue.

p. SD on Merrill Avenue between Sultana Avenue and Campus Avenue.

q. SD on Campus Avenue between Eucalyptus Avenue and Merrill Avenue.

r. SD bleeder line or alternative interim connection at the discretion of the City Engineer, on Euclid Avenue south of Merrill Avenue. This shall connect to the SD on Merrill Avenue between Euclid Avenue and Campus Avenue.

s. Two (2) Debris Separation Baffle Boxes at the intersections of Euclid Avenue and Merrill Avenue.

t. Full half ST improvements on the south half and circulation land improvements on the north half of Eucalyptus Avenue, from Sultana Avenue to Campus Avenue.

u. Full half ST improvements on both sides of Merrill Avenue, between Euclid Avenue and Carpenter Avenue.

v. Full half ST improvements on the west side and circulation lane improvements on the east side of Campus Avenue, between Eucalyptus Avenue and Merrill Avenue.

w. Full half ST improvements on the east side and circulation lane improvements on the west side of Sultana Avenue, between Eucalyptus Avenue and Merrill Avenue.

x. Traffic Signals at Sultana Avenue and Eucalyptus Avenue, Sultana Avenue and Merrill Avenue, Campus Avenue and Eucalyptus Avenue, and Campus and Merrill Avenues.

y. Traffic Signal modifications at Euclid Avenue and Eucalyptus Avenue, and Euclid Avenue and Merrill Avenue.

z. FO on Eucalyptus Avenue between Sultana Avenue and Campus Avenue.

aa. FO on Merrill Avenue between Sultana Avenue and Campus Avenue.

bb. FO on Sultana Avenue between Eucalyptus Avenue and Merrill Avenue.

cc. FO on Campus Avenue between Eucalyptus Avenue and Merrill Avenue.

2. CITY shall design, construct, and complete the Phase 2 Water (WT) Improvements and Interim Chino Avenue Loop. The Phase 2 Water Improvements will be constructed by the CITY in phases, with the initial improvements, designated as Phase 2A Water Improvements, Interim Chino Avenue Loop, and Phase 2B Water Improvements as described below.

    a. Phase 2A Water Improvements shall consist of the following:

        i. WT on Grove Avenue between Eucalyptus Avenue and Chino Avenue (Regional Water DIF Project WT-010).

    b. Interim Chino Avenue Loop shall consist of the following:

        i. WT on Chino Avenue between Cucamonga Channel and Grove Avenue, which will provide the second point of connection from the 1010 Pressure Zone (Local Water DIF Project WT-009).

        ii. Pressure Reducing Station at Grove Avenue and Chino Avenue, which will provide the second point of connection from 1010 Pressure Zone (Future Local Water DIF Project WT-009).

OWNER shall pay one hundred percent (100%) of the costs to construct the Phase 2A Improvements and the Interim Chino Avenue Loop, within forty-five (45) days from the Effective Date of this Agreement, and such payment shall be the "Phase 2A Water Payment". The costs in the foregoing sentence shall equal the actual bid amount of the awarded contracts for the work, plus fifteen percent (15%). Upon OWNER's full and complete payment to CITY, the CITY shall issue a Certificate of DIF Credit in the Regional Water Category and/or the Local Adjacent Water Category, as appropriate. Each DIF Water Certificate shall be issued by CITY within thirty (30) days of the receipt of such required payment. CITY shall not issue any building permits until receipt of the full Phase 2A Water Payment.

c. Phase 2B Water Improvements shall consist of the following:

   i. WT on Francis Street between Grove Avenue and Bon View Avenue (Regional Water DIF Project WT-010).

   ii. WT on Bon View Avenue between Francis Street and the Bon View Reservoir Site (Regional Water DIF Project WT-010).

   iii. WT – Nine (9) Million Gallon reservoir at Bon View Reservoir Site (Regional Water DIF Project WT-014).

   iv. WT – Two (2) Groundwater Production Wells in vicinity of Bon View Reservoir Site (Regional Water DIF Project WT-007).

   v. WT on Grove Avenue between Chino Avenue and Francis Street (Regional Water DIF Project WT-010). The final design and alignment north of Riverside Drive is subject to change at the reasonable discretion of the CITY.

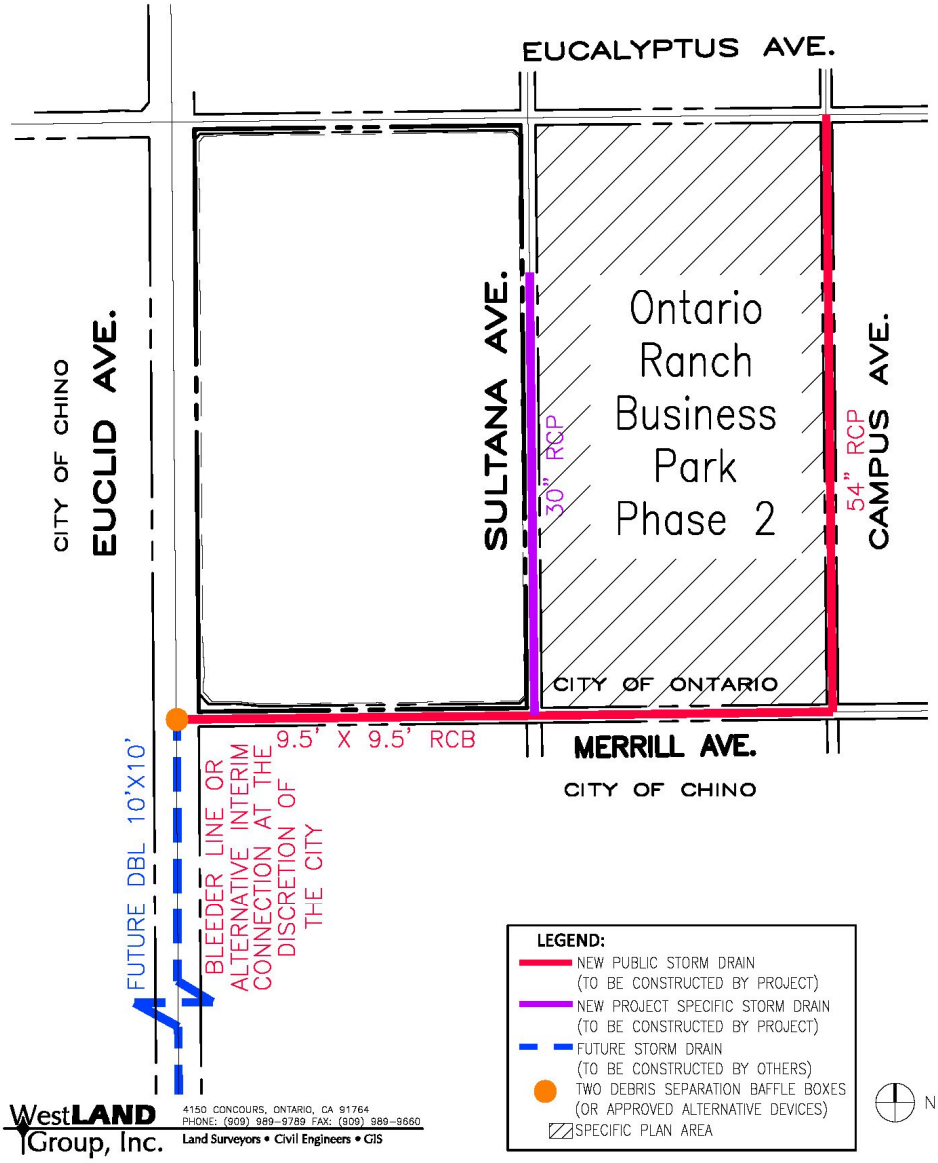
The Phase 2B Water Improvements will be constructed by the CITY and funded by OWNER, pursuant to Section 4.5 of this Agreement. CITY and OWNER mutually agree and understand, that with completion of Phase 2A and the Interim Chino Avenue Loop, the project will be utilizing interim water supply and storage capacity from the 1010' Pressure Zone and OWNER will be required to participate in the funding of future Phase 2 Water Improvements to support the permanent water supply and storage needs of future development within Ontario Ranch.

EXHIBIT "F"
TO DEVELOPMENT AGREEMENT

Required Infrastructure Improvements

(**SEE ATTACHED EXHIBITS**)

EXHIBIT F-1
STORM DRAIN IMPROVEMENTS

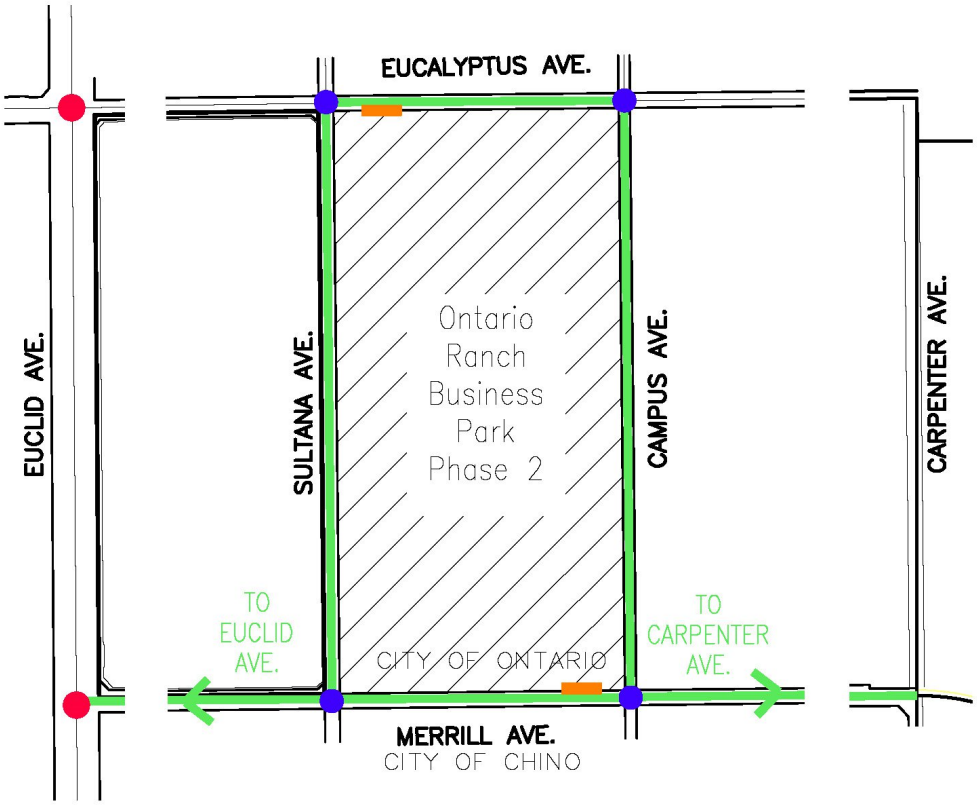


WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9660
Land Surveyors • Civil Engineers • GIS

Ontario Ranch Business Park Specific Plan • Development Agreement

DATE: 03/13/2023

EXHIBIT F-2
STREET IMPROVEMENTS



NOTES:
PCC PAVEMENT REQUIRED AT ALL SIGNALIZED INTERSECTIONS ALONG TRUCK ROUTES

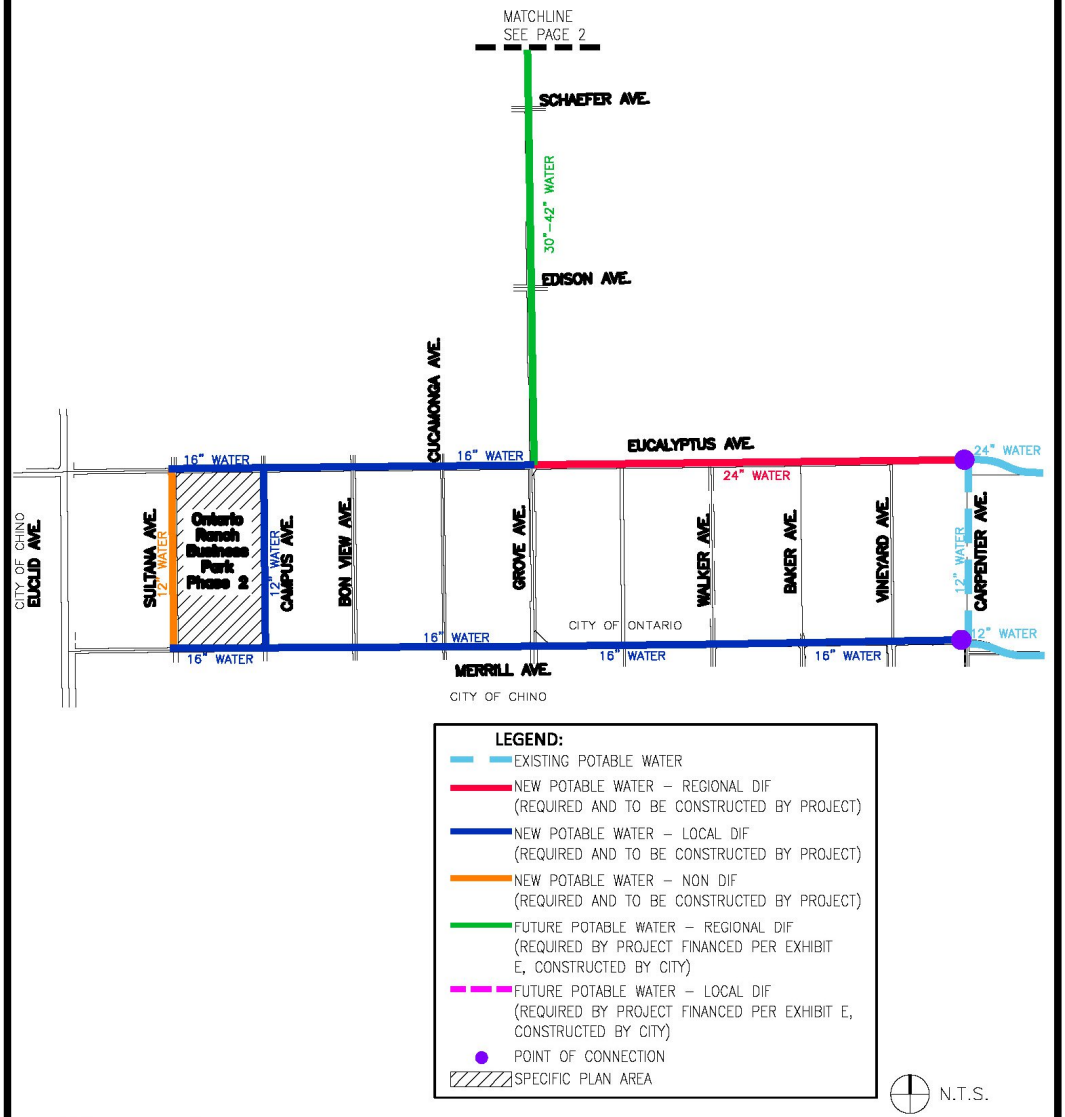
LEGEND:
- LOCAL COLLECTOR
- NEW SIGNALIZED INTERSECTION
- EXISTING SIGNALIZED INTERSECTION TO BE MODIFIED
- BUS PAD
- SPECIFIC PLAN AREA

WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9660
Land Surveyors • Civil Engineers • GIS

Ontario Ranch Business Park Specific Plan • Development Agreement

DATE: 04/18/2023

EXHIBIT F-3
POTABLE WATER UTILITY IMPROVEMENTS



WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9550
Land Surveyors • Civil Engineers • GIS

Ontario Ranch Business Park Specific Plan • Development Agreement

SHEET 1 OF 2

DATE: 03/13/2023

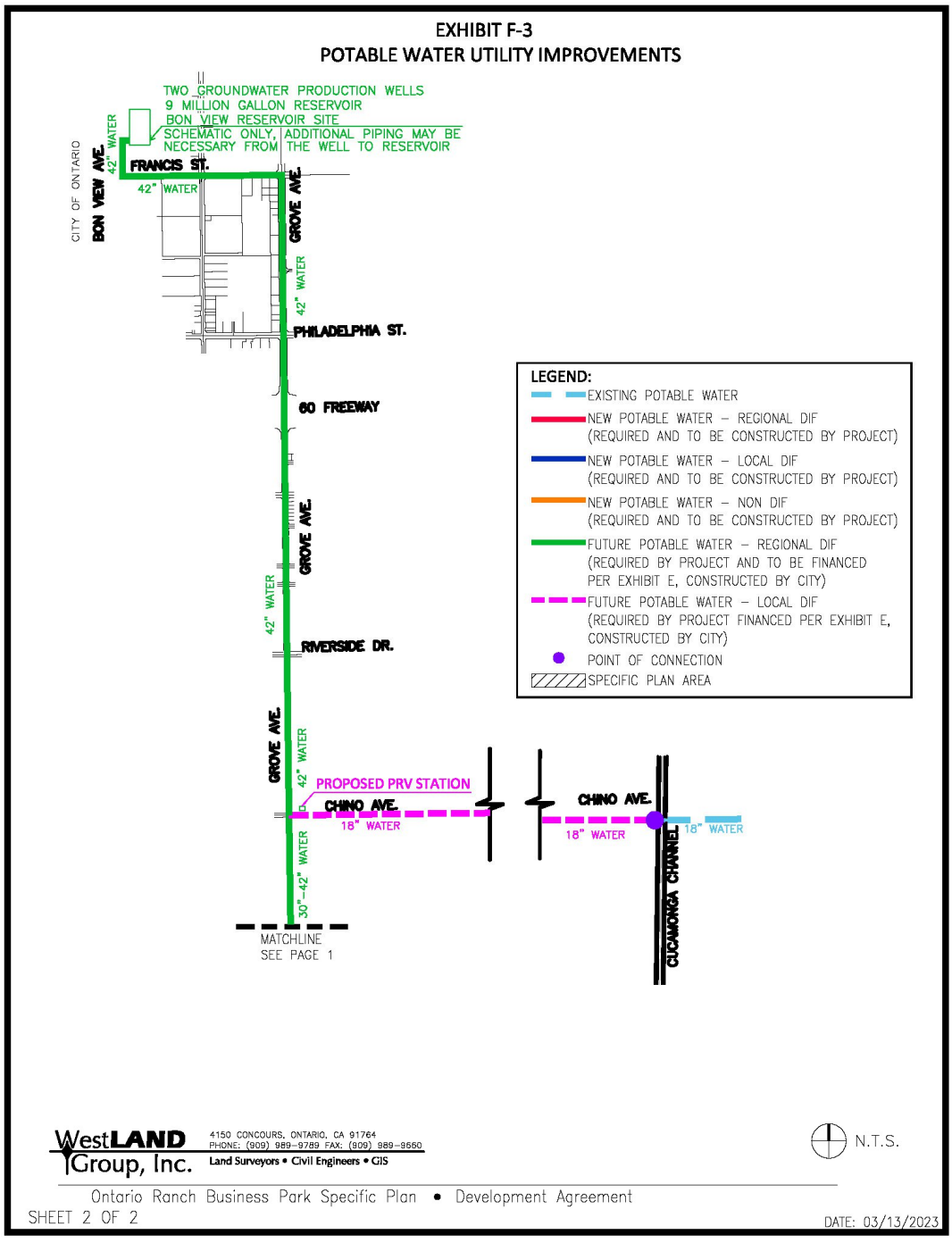
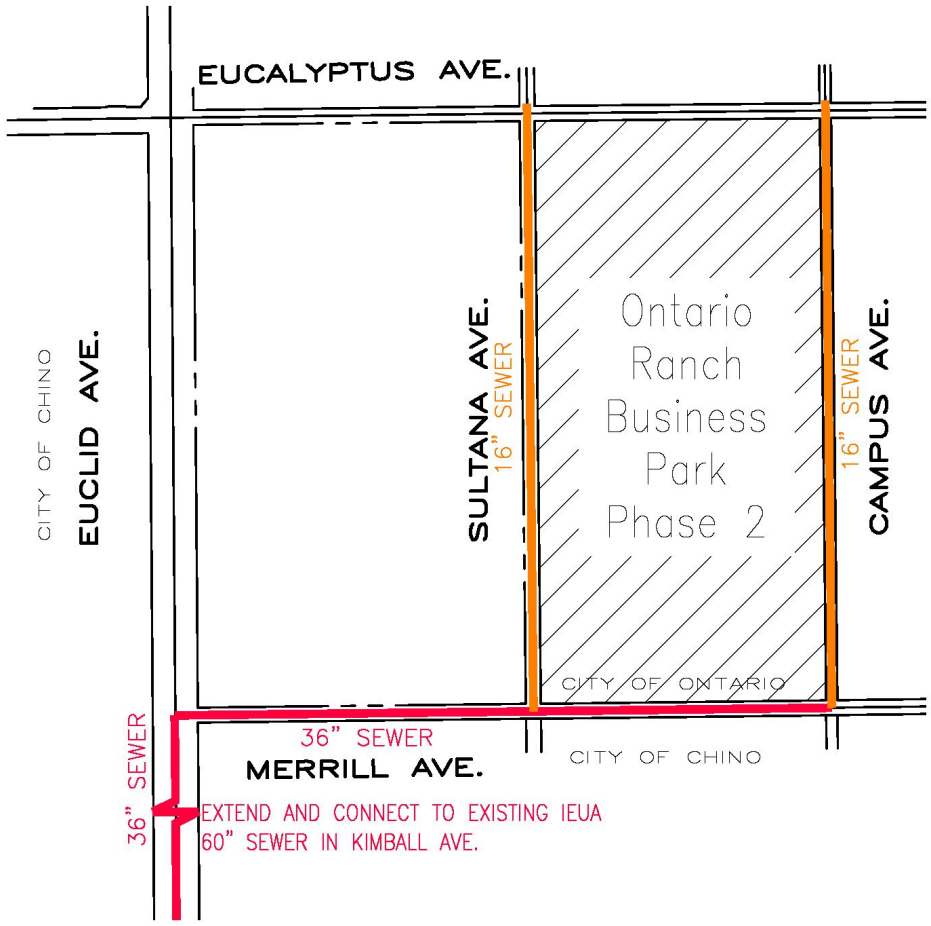

EXHIBIT F-3
POTABLE WATER UTILITY IMPROVEMENTS
TWO GROUNDWATER PRODUCTION WELLS
9 MILLION GALLON RESERVOIR
BON VIEW RESERVOIR SITE
SCHEMATIC ONLY, ADDITIONAL PIPING MAY BE NECESSARY FROM THE WELL TO RESERVOIR
CITY OF ONTARIO
BON VIEW AVE.
42" WATER
FRANCIS ST.
42" WATER
GROVE AVE.
42" WATER
PHILADELPHIA ST.
60 FREEWAY
GROVE AVE.
42" WATER
RIVERSIDE DR.
GROVE AVE.
42" WATER
PROPOSED PRV STATION
CHINO AVE.
18" WATER
30"-42" WATER
MATCHLINE
SEE PAGE 1
CHINO AVE.
18" WATER
18" WATER
CUCAMONGA CHANNEL
LEGEND:
EXISTING POTABLE WATER
NEW POTABLE WATER – REGIONAL DIF (REQUIRED AND TO BE CONSTRUCTED BY PROJECT)
NEW POTABLE WATER – LOCAL DIF (REQUIRED AND TO BE CONSTRUCTED BY PROJECT)
NEW POTABLE WATER – NON DIF (REQUIRED AND TO BE CONSTRUCTED BY PROJECT)
FUTURE POTABLE WATER – REGIONAL DIF (REQUIRED BY PROJECT AND TO BE FINANCED PER EXHIBIT E, CONSTRUCTED BY CITY)
FUTURE POTABLE WATER – LOCAL DIF (REQUIRED BY PROJECT FINANCED PER EXHIBIT E, CONSTRUCTED BY CITY)
POINT OF CONNECTION
SPECIFIC PLAN AREA
WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9550
Land Surveyors • Civil Engineers • GIS
N.T.S.
Ontario Ranch Business Park Specific Plan • Development Agreement
SHEET 2 OF 2
DATE: 03/13/2023

EXHIBIT F-4
SEWER IMPROVEMENTS



LEGEND:

- NEW SEWER – REGIONAL DIF (REQUIRED AND TO BE CONSTRUCTED BY PROJECT)
- NEW SEWER – NON DIF (REQUIRED AND TO BE CONSTRUCTED BY PROJECT)
- SPECIFIC PLAN AREA

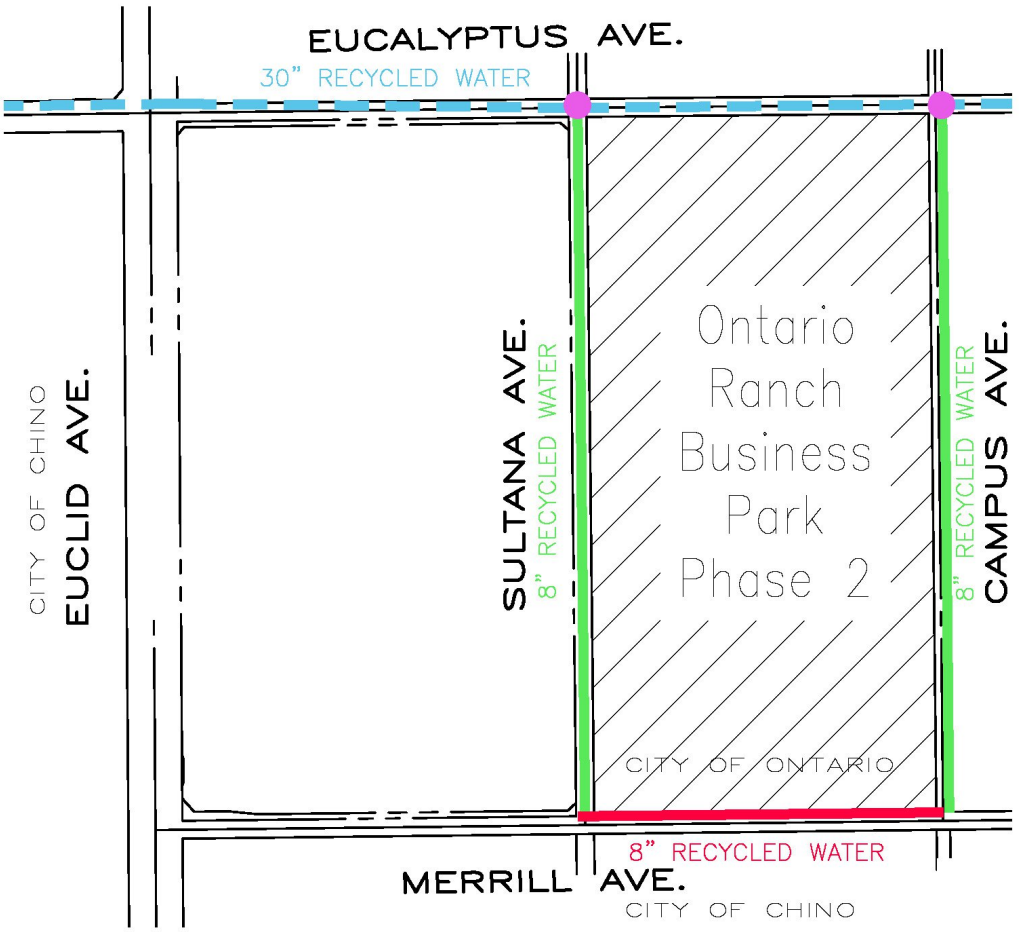
WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9660
Land Surveyors • Civil Engineers • GIS

N.T.S.

Ontario Ranch Business Park Specific Plan • Development Agreement

DATE: 03/13/2023

EXHIBIT F-5
RECYCLED WATER UTILITY IMPROVEMENTS

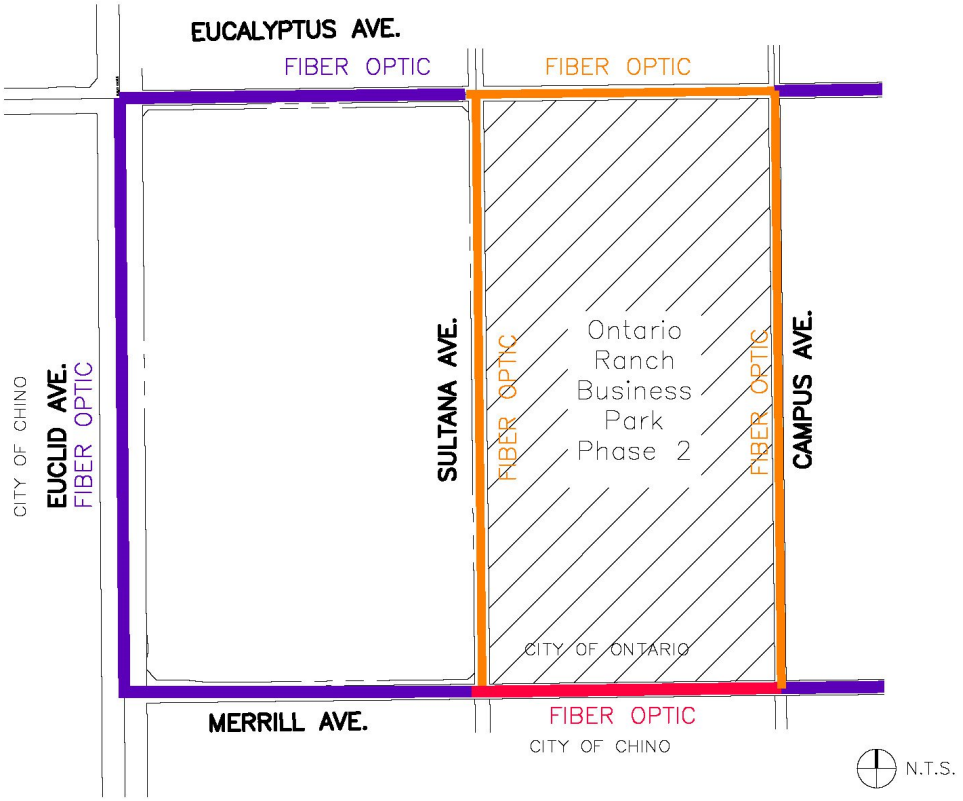


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Land Surveyors • Civil Engineers • GIS

Ontario Ranch Business Park Specific Plan • Development Agreement

DATE: 03/13/2023

EXHIBIT F-6
FIBER OPTIC IMPROVEMENTS



LEGEND:

- NEW PRIMARY RING FIBER OPTIC (TO BE CONSTRUCTED BY PROJECT)
- NEW LATERAL FIBER OPTIC (TO BE CONSTRUCTED BY PROJECT)
- FUTURE FIBER OPTIC LINE (BY OTHERS)
- SPECIFIC PLAN AREA

WestLAND Group, Inc.
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9550
Land Surveyors • Civil Engineers • GIS

Ontario Ranch Business Park Specific Plan • Development Agreement

DATE: 03/13/2023

Exhibit "G"
TO DEVELOPMENT AGREEMENT

FORM OF CERTIFICATE OF REGIONAL DIF CREDIT

Pursuant to Section 4.5.3 of this Agreement by and between the City of Ontario and _____, dated _____, 20__, the terms and definitions of which are hereby incorporated herein by this reference and hereinafter called the "Development Agreement', the City of Ontario hereby certifies that OWNER is entitled to the following amount and nature of DIF Credits in the Regional Water DIF Infrastructure Category:

Amount of Credit: $_____

_____
Scott Ochoa, City Manager

Dated:_____

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **PUBLIC HEARINGS**
Department: Development Administration Prepared By: Derrick E Womble Staff Member Presenting: Scott Murphy, Executive Director Community Development Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 29

SUBJECT: **A PUBLIC HEARING TO CONSIDER THE ADOPTION OF AN ORDINANCE APPROVING A DEVELOPMENT AGREEMENT (FILE NO. PDA22-005) BETWEEN THE CITY OF ONTARIO AND RB ONTARIO LLC**

RECOMMENDATION: That the City Council introduce and waive further reading of an Ordinance approving a Development Agreement (File No. PDA22-005) between the City of Ontario and RB Ontario LLC, to establish the terms and conditions associated with Tentative Tract Map 20536 (File No. PMTT22-021), a 23.2-acre property located approximately 875 feet south of the intersection of Riverside Drive and Archibald Avenue, within Planning Area 1 (Neighborhood 2) land use district of the Countryside Specific Plan.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Invest in the Growth and Evolution of the City's Economy
Operate in a Businesslike Manner
Focus Resources in Ontario's Commercial and Residential Neighborhoods
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)
Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in Ontario Ranch

FISCAL IMPACT: The proposed Development Agreement (File No. PDA22-005) will not have a direct impact on the City's General Fund. The Development Agreement will provide funding from the formation of a Community Facilities District (CFD) for City services and facilities required to support the Countryside Specific Plan development, thereby mitigating the increased costs associated with such services. In addition, the City will receive public service funding fees plus development impact, compliance processing, licensing, and permitting fees. No General Fund revenue will be used to support the Ontario Ranch development.

BACKGROUND & ANALYSIS: The Ontario Ranch financial commitments required for construction of properties within a specific plan are substantial. Therefore, in order to adequately forecast these costs and gain assurance that the project may proceed under the existing policies, rules, and regulations, RB Ontario LLC (Applicant), has requested that the City enter into negotiations to create

a Development Agreement (Agreement).

The Agreement proposes to include 23.2 acres of land within the Planning Area 1 (Neighborhood 2) land use district of the Specific Plan, as shown on the attached Exhibit A. The Agreement grants the Applicant a vested right to develop Tentative Tract Map 20536 (the Map), provided the Applicant complies with the terms and conditions of the Specific Plan and related EIR.

The Map (see attached Exhibit B) is located 875 feet south of the intersection of Riverside Drive and Archibald Avenue and proposes to subdivide 23.2 acres of land for condominium purposes, into 141 numbered lots and 27 lettered lots, to facilitate the development of 265 dwelling units, park land, private recreation area, private drives, and private alleys.

The term of the Agreement is for 10 years, with a 5-year option to extend. The main points of the Agreement address funding for all new City expenses created by the project, which includes: Development Impact Fees (DIF) for construction of public improvements (i.e. streets and bridges, sewer, water, storm drain and fiber); Public Service Funding to ensure adequate provisions of public services (police, fire and other public services); and the creation of a Community Facilities District (CFD) for the maintenance of public facilities.

It is important to note the Applicant is currently in negotiations with the current Owners to purchase the property. The Agreement shall be executed and recorded upon the acquisition of the property by the Applicant. In the event the Applicant is unable to acquire the property, the Agreement and Ordinance shall become null and void and of no further force and effect.

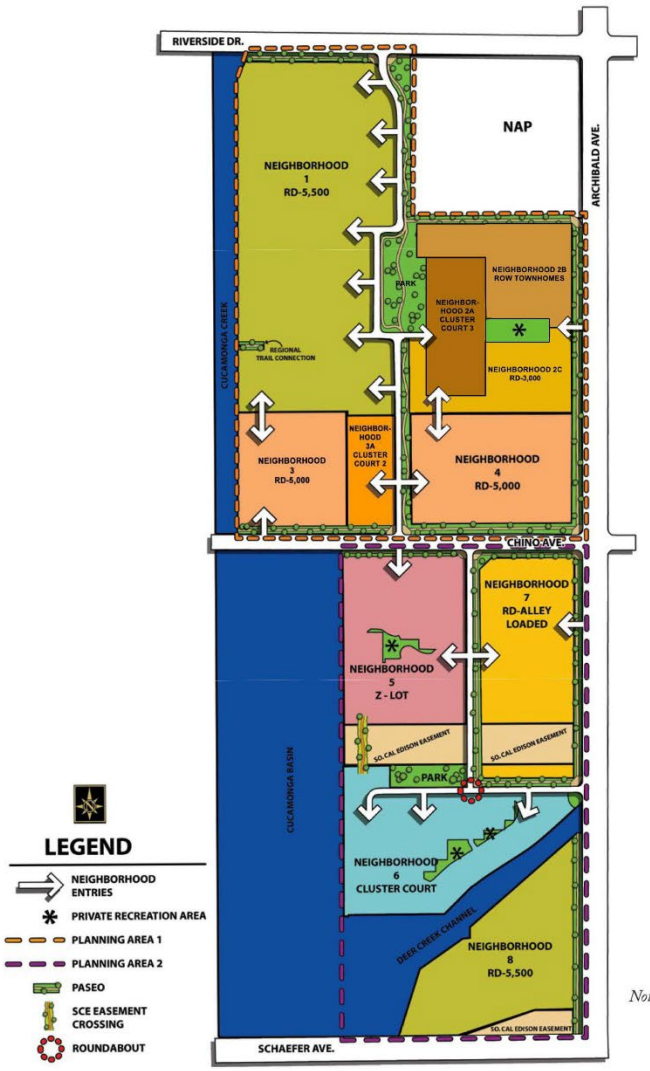
In considering the Agreement at their meeting on May 23, 2023, the Planning Commission found the Agreement to be consistent with State law, The Ontario Plan, and the City's Development Agreement policies. As a result, the Planning Commission adopted Resolution No. PC23-041 with a 4 to 0 vote, recommending City Council approval of the Agreement.

ENVIRONMENTAL REVIEW: An Addendum to the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001), which was certified by the City Council on April 18, 2006, was prepared to be consistent with The Ontario Plan 2050 and associated Supplemental Environmental Impact Report (SEIR) (State Clearinghouse No. 2021070364), which was certified by the City Council on August 16, 2022. This application introduces no new significant environmental impacts. All previously adopted mitigation measures are a condition of Project approval and are incorporated herein by this reference.

Exhibit A— COUNTRYSIDE SPECIFIC PLAN LAND USE MAP AMENDMENT
(File No. PSPA22-002)

Revised Graphic

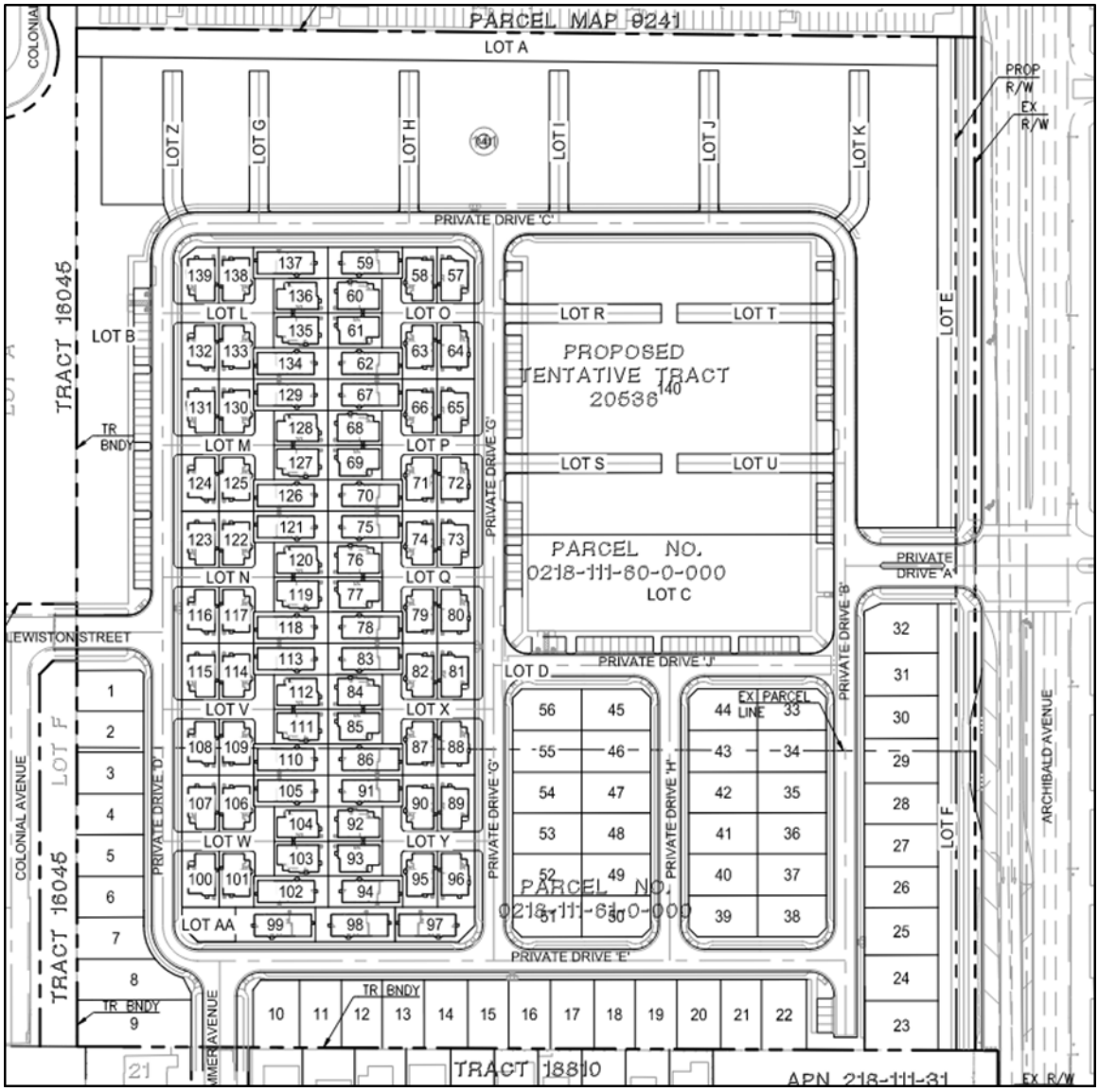
Countryside



Note: Roundabout location and dimensions to be determined as part of tentative tract map approval.

Exhibit 10
Land Use Plan Revised Graphic

Exhibit B— TENTATIVE TRACT MAP 20536



CITY OF ONTARIO PLANNING DEPARTMENT

PLANNING COMMISSION STAFF REPORT

May 23, 2023

303 East B Street, Ontario, California 91764 Phone: 909.395.2036 / Fax: 909.395.2420

FILE NO: PDA22-005

SUBJECT: A public hearing to consider a Development Agreement (File No. PDA22-005) between the City of Ontario and RB Ontario LLC, to establish the terms and conditions associated with Tentative Tract Map 20536 (File No. PMTT22-021), a 23.2 acre property located approximately 875 feet south of the intersection of Riverside Drive and Archibald Avenue, within Planning Area 1 (Neighborhood 2) land use district of the Countryside Specific Plan (File No. PSP04-001). APNs: 0218-111-60, 0218-111-61; **submitted by RB Ontario LLC. City Council action is required.**

PROPERTY OWNER: Robert B. Barth and Yang K. Barth, Trustees of the Barth Family Trust

---

RECOMMENDED ACTION: That the Planning Commission consider and recommend City Council adoption of an Ordinance approving the Development Agreement (File No. PDA22-0205) between the City of Ontario and RB Ontario LLC, pursuant to the facts and reasons contained in the staff report and attached Resolution.

PROJECT SETTING: The project site is comprised of 23.2 acres of land located approximately 875 south of the intersection of Riverside Drive and Archibald Avenue, within Planning Area 1 (Neighborhood 2) land use district of the Countryside Specific Plan, and is depicted in Figure 1: Project Location.

PROJECT ANALYSIS:

(1) Background — The Countryside Specific Plan, File No. PSP04-001 (the "Specific Plan") was approved, and the related Environmental Impact Report ("Certified EIR"; State Clearinghouse No. 2004071001) was certified by the City Council on April 18, 2006. The Specific Plan established the land use designations, development standards, and design guidelines on 178 gross acres of land, which included the potential development of 819 dwelling units and approximately 9.4 acres of paseos and parks throughout the Specific Plan Area.

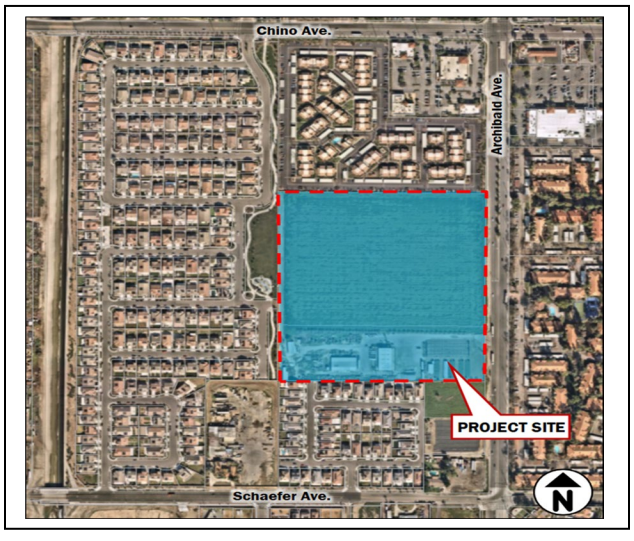


Figure 1: Project Location

Case Planner:	Derrick Womble, Departmental Administrator
Planning Director Approval:	
Submittal Date:	09/21/2022

Hearing Body	*Date*	*Decision*	*Action*
DAB	N/A	N/A	N/A
PC	05/23/2023	Approval	Recommend
CC	06/20/2023		Final

On August 16, 2022, the City Council certified The Ontario Plan 2050 Update Supplemental Environmental Impact Report ("SEIR") in conjunction with The Ontario Plan 2050 ("TOP 2050") (File No. PGPA20-002) General Plan update. Within the TOP 2050 and SEIR, the Project site land use was designated and analyzed as Low Medium Density Residential (5.1 to 11.0 du/ac) and Medium Density Residential (11.1 to 25.0 du/ac). The previous land use designation was Low Density Residential (2.1 to 5.0 du/ac).

The Applicant has submitted applications for a Specific Plan Amendment ("SPA") (File No. PSPA22-002) and Tentative Tract Map No. 20536 (File No. PMTT22-021) to facilitate the construction of 265 single-family and multiple-family dwellings on the Project site.

The Ontario Ranch financial commitments required for construction of properties within a specific plan are substantial. Therefore, in order to adequately forecast these costs and gain assurance that the project may proceed under the existing policies, rules, and regulations, RB Ontario LLC ("Applicant"), has requested that the City enter into negotiations to create a Development Agreement ("Agreement").

In accordance with California Government Code Section 65865, which in part states that that "[a]ny city… may enter into a Development Agreement with any person having a legal or equitable interest in real property for the development of such property…" and California Government Code Section 65865.52, which in part states that "a Development Agreement shall specify the duration of the Agreement, the permitted uses of the property… and may include conditions, terms, restrictions…," the City of Ontario adopted Resolution No. 2002-100 setting forth the procedures and requirements for consideration of Development Agreements. Pursuant to these procedures and requirements, staff entered into negotiations with the Applicant to create a Development Agreement for consideration by the Planning Commission and City Council.

The proposed Agreement is based on the model Development Agreement that was developed in coordination with the City Attorney and legal counsel for NMC Builders. This model Development Agreement is consistent with the provisions of the Construction Agreement. The terms of the agreement between NMC Builders' members requires that members of the LLC enter into Development Agreements that are consistent with the provisions of the Construction Agreement and are consistent with the commitments to assure adequate public infrastructure improvements are constructed by the Applicant.

(2) Staff Analysis — The Agreement proposes to include 23.2 acres of land within the Planning Area 1 (Neighborhood 2) land use districts of the Specific Plan, as shown on the attached Exhibit A. The Agreement grants the Applicant a vested right to develop Tentative Tract Map 20536 (the "Map"), provided the Applicant complies with the terms and conditions of the Specific Plan and related EIR.

The Map (see attached Exhibit B) is located 875 feet south of the intersection of Riverside Drive and Archibald Avenue, and proposes to subdivide 23.2 acres of land for

condominium purposes, into 141 numbered lots and 27 lettered lots, to facilitate the development of 265 dwelling units, park land, private recreation area, private drives, and private alleys.

The term of the Agreement is for 10 years, with a 5 year option to renew. The main points of the Agreement address funding for all new City expenses created by the project, which includes: Development Impact Fees ("DIF") for construction of public improvements (i.e. streets and bridges, sewer, water, storm drain and fiber); Public Service Funding to ensure adequate provisions of public services (police, fire and other public services); and the creation of a Community Facilities District ("CFD") for the maintenance of public facilities.

It is important to note the Applicant is currently in negotiations with the current Owners to purchase the property. The Agreement shall be executed and recorded upon the acquisition of the property by the Applicant. In the event the Applicant is unable to acquire the property, the Agreement shall become null and void and of no further force and effect.

Staff finds that the Agreement is consistent with State law, The Ontario Plan, and the City's Development Agreement policies. As a result, staff is recommending approval of the application to the Planning Commission. If the Planning Commission finds the Agreement is acceptable, a recommendation of approval to the City Council would be appropriate.

PUBLIC NOTIFICATION: The subject Agreement was advertised as a public hearing in at least one newspaper of general circulation in the City of Ontario (the Inland Valley Daily Bulletin newspaper). In addition, notices were mailed to all owners of real property located within a minimum of 300 feet of the exterior boundaries of the property that is the subject of the hearing, as shown on the records of the County Assessor.

CORRESPONDENCE: As of the preparation of this Resolution, Planning Department staff has not received any written or verbal communications from the owners or occupants of properties surrounding the Project site or from the public in general, regarding the subject Agreement.

AGENCY/DEPARTMENT REVIEWS: Each City agency/department has been provided the opportunity to review and comment on the subject Agreement and recommend requirements to be imposed upon the Project. At the time of the Resolution preparation, infrastructure requirements were provided and are included within the subject Agreement to the attached Resolution as "Attachment A."

AIRPORT LAND USE COMPATIBILITY PLAN (ALUCP) COMPLIANCE: The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

On April 19, 2011, the City Council of the City of Ontario approved and adopted the ONT ALUCP, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the recommending authority for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the Planning Commission, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the ONT ALUCP.

COMPLIANCE WITH THE ONTARIO PLAN: The proposed Project is consistent with the principles, goals and policies contained within the Vision, Governance, Policy Plan (general plan), and City Council Priorities components of The Ontario Plan ("TOP"). More specifically, the goals and policies of TOP that are furthered by the proposed Project are as follows:

(1) City Council Goals.

- Invest in the Growth and Evolution of the City's Economy
- Operate in a Businesslike Manner
- Focus Resources in Ontario's Commercial and Residential Neighborhoods
- Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)
- Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in the New Model Colony

(2) Vision.

Distinctive Development:

- Commercial and Residential Development

➢ Development quality that is broadly recognized as distinctive and not exclusively tied to the general suburban character typical of much of Southern California.

(3) Governance.

Decision Making:

- Goal G1: Sustained decision-making that consistently moves Ontario towards its Vision by using The Ontario Plan as a framework for assessing choices.

  - G 1-2. Long-term Benefit. We require decisions to demonstrate and document how they add value to the community and support the Ontario Vision.

(4) Policy Plan (General Plan)

Land Use Element:

- Goal LU-1 Balance: A community that has a spectrum of housing types and price ranges that match the jobs in the City and that make it possible for people to live and work in Ontario and maintain a quality of life.

  - LU-1.1 Strategic Growth. We concentrate growth in strategic locations that help create place and identity, maximize available and planned infrastructure, foster the development of transit, and support the expansion of the active and multimodal transportation networks throughout the City.

  - LU-1.6 Complete Community. We incorporate a variety of land uses and building types in our land use planning efforts that result in a complete community where residents at all stages of life, employers, workers, and visitors have a wide spectrum of choices of where they can live, work, shop and recreate within Ontario.

- Goal LU-2 Compatibility: Compatibility between a wide range of uses and a resultant urban patterns and forms.

  - LU-2.6 *Infrastructure Compatibility*. We require infrastructure to be aesthetically pleasing and in context with the community character.

Housing Element:

- Goal H-2 Housing Supply & Diversity: Diversity of types of quality housing that are affordable to a range of household income levels, accommodate changing demographics, and support and reinforce the economic sustainability of Ontario.

  - H-2.4 Ontario Ranch. We support a premier lifestyle community in the Ontario Ranch, distinguished by diverse housing, highest design quality, and cohesive and highly amenitized neighborhoods.

  - H-2.5 Housing Design. We require architectural excellence through adherence to City design guidelines, thoughtful site planning, environmentally sustainable practices, and other best practices.

Community Economics Element:

- Goal CE-1 Complete Community: A complete community that provides for all incomes and stages of life.

  - CE-1.6 Diversity of Housing. We collaborate with residents, housing providers, and the development community to provide housing opportunities for every stage of life; we plan for a variety of housing types and price points to encourage the development of housing supportive of our efforts to attract business in growing sectors of the community while being respectful of existing viable uses.

- Goal CE-2 Placemaking: A City of distinctive neighborhoods, districts, corridors, and centers where people choose to be.

  - CE-2.1 *Development Projects*. We require new development and redevelopment to create unique, high-quality places that add value to the community.

  - CE-2.2 *Development Review*. We require those proposing new development and redevelopment to demonstrate how their projects will create appropriately unique, functional, and sustainable places that will compete well with their competition within the region.

  - CE-2.4 *Protection of Investment*. We require that new development and redevelopment protect existing investment by providing architecture and urban design of equal or greater quality.

  - CE-2.5 *Private Maintenance*. We require adequate maintenance, upkeep, and investment in private property because proper maintenance on private property protects property values.

Safety Element:

- Goal S-1 Seismic & Geologic Hazards: Minimized risk of injury, loss of life, property damage, and economic and social disruption caused by earthquake-induced and other geologic hazards.

  - *S-1.1 Implementation of Regulations and Standards*. We require that all new habitable structures be designed in accordance with the most recent California Building Code adopted by the City, including provisions regarding lateral forces and grading.

Community Design Element:

- Goal CD-2 Design Quality: A high level of design quality resulting in neighborhoods, public spaces, parks, and streetscapes that are attractive, safe, functional, human-scale, and distinct.

➢ CD-2.1 Quality Building Design and Architecture. We encourage all development projects to convey visual interest and character through:

- Building volume, massing, and height to provide context-appropriate scale and proportion;
- A true architectural style which is carried out in plan, section, and elevation through all aspects of the building and site design and appropriate for its setting; and
- Exterior building materials that are articulated, high quality, durable, and appropriate for the architectural style.

➢ CD-2.2 Neighborhood Design. We create distinct residential neighborhoods that promote a sense of community and identity by emphasizing access, connectivity, livability, and social interaction through such elements as:

- A pattern of smaller, walkable blocks that promote activity, safety, and access to nearby amenities and services;
- Varied parcel sizes and lot configurations to accommodate a diversity of housing types;
- Traffic calming measures to slow traffic and promote walkability while maintaining acceptable traffic flows and emergency evacuation access;
- Floor plans that encourage views onto the street and de-emphasize the visual and physical dominance of garages (introducing the front porch as the "outdoor living room"), as appropriate; and
- Landscaped parkways, with sidewalks separated from the curb and designed to maximize safety, comfort, and aesthetics for all users.

➢ CD-2.7 *Sustainability*. We collaborate with the development community to design and build neighborhoods, streetscapes, sites, outdoor spaces, landscaping, and buildings to reduce energy demand through solar orientation, maximum use of natural daylight, passive solar and natural ventilation, building form, mechanical and structural systems, building materials, and construction techniques.

➢ CD-2.8 Safe Design. We incorporate defensible space design into new and existing developments to ensure the maximum safe travel and visibility on pathways, corridors, and open space and at building entrances and parking areas by avoiding physically and visually isolated spaces, maintaining visibility and accessibility, and using lighting.

➢ CD-2.9 *Landscape Design*. We encourage durable, sustainable, and drought-tolerant landscaping materials and designs that enhance the aesthetics of structures, create and define public and private spaces, and provide shade and environmental benefits.

➢ CD-2.10 *Parking Areas*. We require all development, including single-family residential, to minimize the visual impact of surface, structured, and garage parking areas visible from the public realm in an aesthetically pleasing, safe and environmentally sensitive manner. Examples include:

- Surface parking: Shade trees, pervious surfaces, urban run-off capture and infiltration, and pedestrian paths to guide users through the parking field;
- Garage parking: providing access to single-family residential garages through alley access, recessing garages from the frontage to emphasize front doors or active living spaces.

➢ CD-2.11 *Entry Statements*. We encourage the inclusion of amenities, signage, and landscaping at the entry to neighborhoods, commercial centers, mixed use areas, industrial developments, and public places that reinforce them as uniquely identifiable places.

➢ CD-2.12 *Site and Building Signage*. We encourage the use of sign programs that utilize complementary materials, colors, and themes. Project signage should be designed to effectively communicate and direct users to various aspects of the development and complement the character of the structures.

➢ CD-2.13 *Entitlement Process*. We work collaboratively with all stakeholders to ensure a high degree of certainty in the efficient review and timely processing of all development plans and permits.

- Goal CD-5 Protection of Investment: A sustained level of maintenance and improvement of properties, buildings, and infrastructure that protects the property values and encourages additional public and private investments.

➢ CD-5.1 *Maintenance of Buildings and Property*. We require all public and privately-owned buildings and property (including trails and easements) to be properly and consistently maintained.

➢ CD-5.2 *Maintenance of Infrastructure*. We require the continual maintenance of infrastructure.

HOUSING ELEMENT COMPLIANCE: Pursuant to the requirements of California Government Code Chapter 3, Article 10.6, commencing with Section 65580, as the recommending authority for the Project, the Planning Commission finds that based on the facts and information contained in the Application and supporting documentation, at the time of Project implementation, the Project is consistent with the Housing Element of the Policy Plan (General Plan) component of The Ontario Plan, as the Project site is not one of the properties in the Housing Element Sites contained in Tables B-1 and B-2 (Housing Element Sites Inventory) of the Housing Element Technical Report.

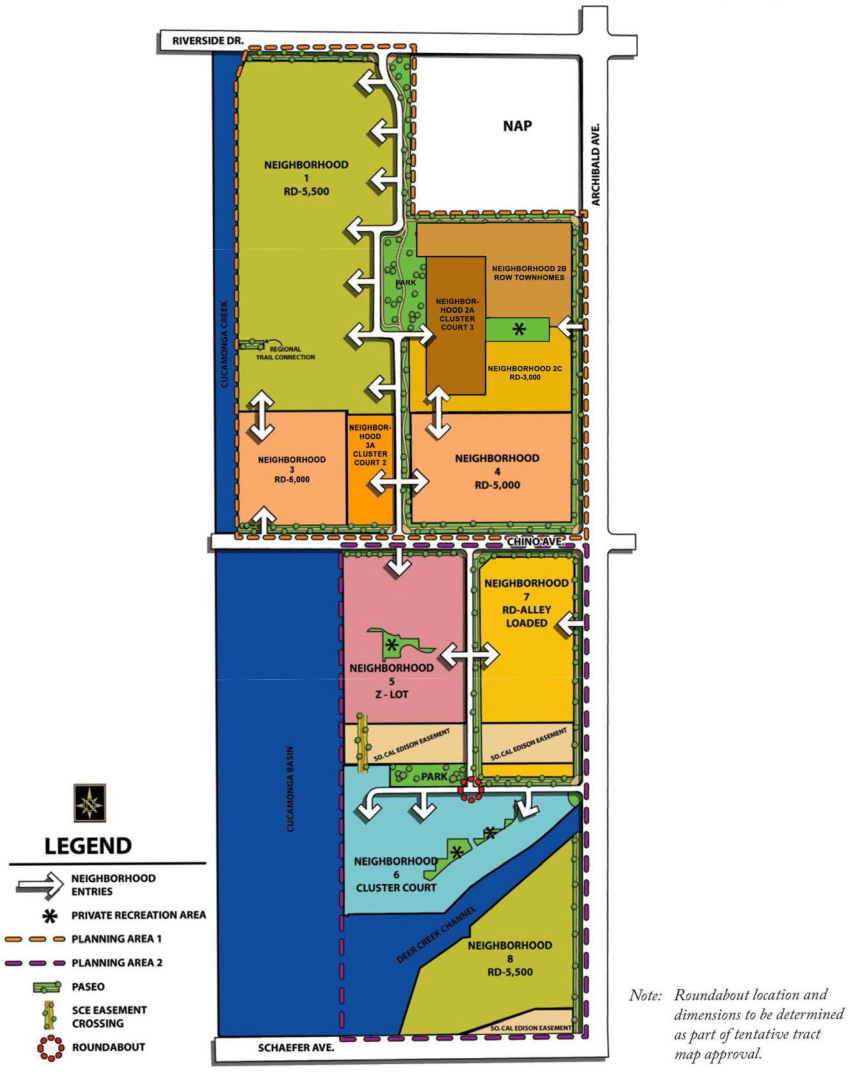
ENVIRONMENTAL REVIEW: An Addendum to the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001), which was certified by the City Council on April 18, 2006, was prepared to be consistent with The Ontario Plan 2050 and associated Supplemental Environmental Impact Report (SEIR) (State Clearinghouse No. 2021070364), which was certified by the City Council on August 16, 2022. This application introduces no new significant environmental impacts. All previously adopted mitigation measures are a condition of Project approval and are incorporated herein by this reference.

Exhibit A— COUNTRYSIDE SPECIFIC PLAN LAND USE MAP AMENDMENT (File No. PSPA22-002)

Section 3. LAND USE

Revised Graphic

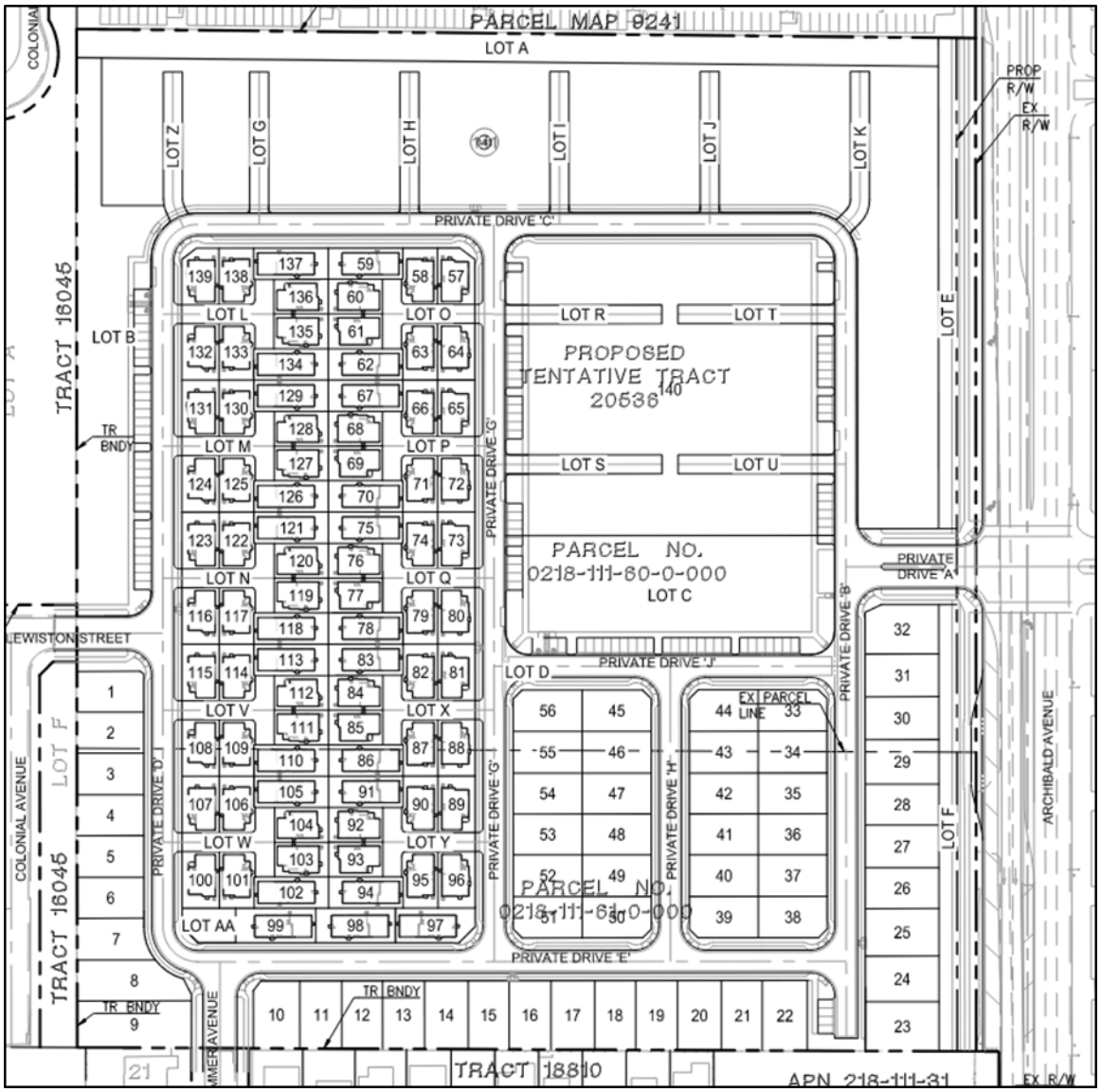
Countryside



Note: Roundabout location and dimensions to be determined as part of tentative tract map approval.

Exhibit 10
Land Use Plan Revised Graphic

Exhibit B— TENTATIVE TRACT MAP 20536



RESOLUTION NO. PC23-041

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ONTARIO, CALIFORNIA, RECOMMENDING THE CITY COUNCIL APPROVE FILE NO. PDA22-005, A DEVELOPMENT AGREEMENT BETWEEN THE CITY OF ONTARIO AND RB ONTARIO LLC, TO ESTABLISH THE TERMS AND CONDITIONS ASSOCIATED WITH TENTATIVE TRACT MAP NO. 20536 (FILE NO. PMTT22-021), A 23.2 ACRE PROPERTY LOCATED APPROXIMATELY 875 FEET SOUTH OF THE INTERSECTION OF RIVERSIDE DRIVE AND ARCHIBALD AVENUE, WITHIN PLANNING AREA 1 (NEIGHBORHOOD 2) LAND USE DISTRCT OF THE COUNTRYSIDE SPECIFIC PLAN (FILE NO. PSP04-001). APNS: 0218-111-60, 0218-111-61

WHEREAS, RB Ontario LLC ("Applicant") has filed an Application for the approval of a Development Agreement, File No. PDA22-005, as described in the title of this Resolution (hereinafter referred to as "Application" or "Project"); and

WHEREAS, the Application applies to 23.2 acres of land located approximately 875 south of the intersection of Riverside Drive and Archibald Avenue, within Planning Area 1 (Neighborhood 2) land use district of the Countryside Specific Plan; and

WHEREAS, the Applicant has submitted a Tentative Tract Map 20536 (File No. PMTT22-021) to subdivide 23.2 acres of land into 141 numbered lots and 27 lettered lots, to facilitate the potential development of 265 dwelling units, parkland, private recreation area, private drives, and private alleys; and

WHEREAS, an Addendum to the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001), which was certified by the City Council on April 18, 2006, was prepared to be consistent with The Ontario Plan 2050 and associated Supplemental Environmental Impact Report (SEIR) (State Clearinghouse No. 2021070364), which was certified by the City Council on August 16, 2022. This application introduces no new significant environmental; and

WHEREAS, Ontario Development Code Table 2.02-1 (Review Matrix) grants the Planning Commission the responsibility and authority to review and make recommendations to the City Council on the subject Application; and

WHEREAS, the Project has been reviewed for consistency with the Housing Element of the Policy Plan component of The Ontario Plan, as State Housing Element law (as prescribed in Government Code Sections 65580 through 65589.8) requires that development projects must be consistent with the Housing Element, if upon consideration of all its aspects, it is found to further the purposes, principals, goals, and policies of the Housing Element; and

WHEREAS, the Project is located within the Airport Influence Area of Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and is subject to, and must be consistent with, the policies and criteria set forth in the Ontario International Airport Land Use Compatibility Plan (hereinafter referred to as "ALUCP"), which applies only to jurisdictions within San Bernardino County, and addresses the noise, safety, airspace protection, and overflight impacts of current and future airport activity; and

WHEREAS, City of Ontario Development Code Division 2.03 (Public Hearings) prescribes the manner in which public notification shall be provided and hearing procedures to be followed, and all such notifications and procedures have been completed; and

WHEREAS, as the first action on the Project, on May 23, 2023, the Planning Commission issued a Resolution recommending the City Council adopt the EIR Addendum, finding that the proposed Project introduces no new significant environmental impacts and applying all previously adopted mitigation measures to the Project, which were incorporated by reference; and

WHEREAS, on May 23, 2023, the Planning Commission of the City of Ontario conducted a hearing to consider the Project, and concluded said hearing on that date; and

WHEREAS, all legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND RESOLVED by the Planning Commission of the City of Ontario, as follows:

SECTION 1: ***Environmental Determination and Findings.*** As the recommending authority for the Project, the Planning Commission has reviewed and considered the information contained in the Addendum, the initial study, and the administrative record for the Project, including all written and oral evidence provided during the comment period. Based upon the facts and information contained in the Addendum, the initial study, and the administrative record, including all written and oral evidence presented to the Planning Commission, the Planning Commission finds as follows:

(1) The environmental impacts of the Project were reviewed in conjunction with an Addendum to Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 200407100; certified by the Ontario City Council on April 16, 2006 in conjunction with File No. PSP04-001), was prepared to be consistent with The Ontario Plan 2050 and associated Supplemental Environmental Impact Report (SEIR) (State

Clearinghouse No. 2021070364), which was certified by the City Council on August 16, 2022; and

(2) The EIR Addendum and administrative record have been completed in compliance with CEQA, the State CEQA Guidelines, and the City of Ontario Local CEQA Guidelines; and

(3) The City's "Guidelines for the Implementation of the California Environmental Quality Act (CEQA)" provide for the use of a single environmental assessment in situations where the impacts of subsequent projects are adequately analyzed. This Application introduces no new significant environmental impacts; and

(4) All previously adopted mitigation measures shall be a condition of project approval, as they are applicable to the Project, and are incorporated herein by this reference; and

(5) The EIR Addendum contains a complete and accurate reporting of the environmental impacts associated with the Project, and reflects the independent judgment of the Planning Commission; and

(6) There is no substantial evidence in the administrative record supporting a fair argument that the project may result in significant environmental impacts.

SECTION 2: ***Subsequent or Supplemental Environmental Review Not Required.*** Based on the EIR Addendum, all related information presented to the Planning Commission, and the specific findings set forth in Section 1, above, the Planning Commission finds that the preparation of a subsequent or supplemental Certified EIR is not required for the Project, as the Project:

(1) Does not constitute substantial changes to the Certified EIR that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and

(2) Does not constitute substantial changes with respect to the circumstances under which the Certified EIR was prepared, that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects; and

(3) Does not contain new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the Certified EIR was certified/adopted, that shows any of the following:

(a) The Project will have one or more significant effects not discussed in the Certified EIR; or

(b) Significant effects previously examined will be substantially more severe than shown in the Certified EIR; or

(c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the Project, but the City declined to adopt such measures; or

(d) Mitigation measures or alternatives considerably different from those analyzed in the Certified EIR would substantially reduce one or more significant effects on the environment, but which the City declined to adopt.

SECTION 3: ***Housing Element Compliance.*** Pursuant to the requirements of California Government Code Chapter 3, Article 10.6, commencing with Section 65580, as the recommending authority for the Project, the Planning Commission finds that based upon the facts and information contained in the Application and supporting documentation, at the time of Project implementation, the project is consistent with the Housing Element of the Policy Plan (General Plan) component of The Ontario Plan, as the project site is not one of the properties in the Housing Element Sites Inventory contained in Tables B-1 and B-2 of the Housing Element Technical Report.

SECTION 4: ***Airport Land Use Compatibility Plan ("ALUCP") Compliance.*** The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

(1) On April 19, 2011, the City Council of the City of Ontario approved and adopted the Ontario International Airport Land use Compatibility Plan, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the recommending body for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the Planning Commission, therefore, finds and determines

that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the ONT ALUCP.

SECTION 5: ***Concluding Facts and Reasons.*** Based upon the substantial evidence presented to the Planning Commission during the above-referenced hearing, and upon the specific findings set forth in Sections 1 through 4 above, the Planning Commission hereby concludes as follows:

(1) The Development Agreement applies to approximately 23.2 acres of land located approximately 875 feet south of the intersection of Riverside Drive and Archibald Avenue, within Planning Area 1 (Neighborhood 2) land use district of the Countryside Specific Plan (File No. PSP04-001); and

(2) The Development Agreement establishes parameters for the development of land within the Countryside Specific Plan. The Development Agreement also grants the Applicant, the right to develop, the ability to quantify the fees; and establish the terms and conditions that apply to those projects. These terms and conditions are consistent with The Ontario Plan Policy Plan (General Plan), design guidelines and development standards for the Countryside Specific Plan; and

(3) The Development Agreement grants the Applicant a vested right to develop Tentative Parcel Map 20536 (File No. PMTT22-021) as long as the Applicant complies with the terms and conditions of the Countryside Specific Plan and EIR. Tentative Tract Map 20536 is located approximately 875 feet south of the intersection of Riverside Drive and Archibald Avenue, within Planning Area 1 (Neighborhood 2) land use district of the Countryside Specific Plan, and proposes to subdivide 23.2 acres of land into 141 numbered lots and 27 lettered lots, to facilitate the development of 265 dwelling units, parkland, private recreation area, private drives, and private alleys; and

(4) The Development Agreement has been prepared in conformance with the goals and policies of The Ontario Plan Policy Plan (General Plan); and

(5) The Development Agreement does not conflict with the Land Use Policies of The Ontario Plan Policy Plan (General Plan) and will provide for development, within the district, in a manner consistent with the Policy Plan and with related development; and

(6) This Development Agreement will promote the goals and objectives of the Land Use Element of the Policy Plan; and

(7) This Development Agreement will not be materially injurious or detrimental to the adjacent properties and will not have a significant impact on the environment or the surrounding properties. An Addendum to the Countryside Specific Plan Environmental

Impact Report (State Clearinghouse No. 2004071001), which was certified by the City Council on April 18, 2006, was prepared to be consistent with The Ontario Plan 2050 and associated Supplemental Environmental Impact Report (SEIR) (State Clearinghouse No. 2021070364), which was certified by the City Council on August 16, 2022; and

(8) This Application introduces no new significant environmental impacts. All previously adopted mitigation measures are a condition of project approval and are incorporated herein by this reference.

SECTION 6: ***Planning Commission Action.*** Based upon the findings and conclusions set forth in Sections 1 through 5, above, the Planning Commission hereby RECOMMENDS THE CITY COUNCIL APPROVE the herein described Application, subject to each and every condition set forth in the Development Agreement (File No. PDA22-005) attached hereto as "Attachment A," and incorporated herein by this reference.

SECTION 7: ***City Council Required Actions***. Approval of this Application is contingent upon City Council approving the following:

(a) Countryside Specific Plan Amendment (File No. PSPA22-002);
(b) EIR Addendum to the Countryside Specific Plan (File No. PSP04-001); and
(c) Applicant's acquisition of the property.

If the City Council does not approve the Specific Plan Amendment (File No. PSPA22-002), EIR Addendum to the Countryside Specific Plan (File No. PSP04-001), and/or the Applicant does not acquire the property, this Resolution should become null and void and of no further force and effect.

SECTION 8: ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 9: ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East "B" Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

SECTION 10: ***Certification to Adoption.*** The Secretary shall certify to the adoption of the Resolution.

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The Secretary Pro Tempore for the Planning Commission of the City of Ontario shall certify as to the adoption of this Resolution.

I hereby certify that the foregoing Resolution was duly and regularly introduced, passed and adopted by the Planning Commission of the City of Ontario at a regular meeting thereof held on the 23rd day of May 2023, and the foregoing is a full, true and correct copy of said Resolution, and has not been amended or repealed.

Richard Gage
Planning Commission Vice-Chairperson

ATTEST:

Rudy Zeledon
Community Development Assistant Director and Secretary to the Planning Commission

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, Gwen Berendsen, Secretary Pro Tempore of the Planning Commission of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. PC23-041, was duly passed and adopted by the Planning Commission of the City of Ontario at their regular meeting held on May 23, 2023, by the following roll call vote, to wit:

AYES: Anderson, Dean, Gage, Ricci

NOES: None

ABSENT: DeDiemar, Lampkin

ABSTAIN: None

Gwen Berendsen
Secretary Pro Tempore

ATTACHMENT A:

FILE NO. PDA22-005

DEVELOPMENT AGREEMENT

By and Between

City of Ontario
a California municipal corporation

and

RB Ontario LLC
a Delaware limited liability company

(Development Agreement to follow this page)

RECORDING REQUESTED BY AND
WHEN RECORDED MAIL TO:

CITY OF ONTARIO
CITY CLERK / RECORDS MANAGEMENT
303 EAST "B" STREET
ONTARIO, CA 91764-4196

Exempt from Fees Per Gov. Code § 6103

Space above this line for Recorder's Use Only

FILE NO. PDA22-005

DEVELOPMENT AGREEMENT

By and Between

City of Ontario
a California municipal corporation

and

RB Ontario LLC
a Delaware limited liability company

_____, 2023

San Bernardino County, California

DEVELOPMENT AGREEMENT NO. PDA22-005

This Development Agreement (hereinafter "Agreement") is entered into effective as of the ____ day of _____, 2023 by and among the City of Ontario, a California municipal corporation (hereinafter "CITY"), and RB Ontario LLC, a Delaware limited liability company (hereinafter "OWNER"):

RECITALS

WHEREAS, CITY is authorized to enter into binding development agreements with persons having legal or equitable interests in real property for the development of such property, pursuant to Section 65864, et seq. of the Government Code; and

WHEREAS, OWNER has requested CITY to enter into a development agreement and proceedings have been taken in accordance with the rules and regulations of CITY; and

WHEREAS, by electing to enter into this Agreement, CITY shall bind future City Councils of CITY by the obligations specified herein and limit the future exercise of certain governmental and proprietary powers of CITY; and

WHEREAS, the terms and conditions of this Agreement have undergone extensive review by CITY and the City Council and have been found to be fair, just and reasonable; and

WHEREAS, the best interests of the citizens of the CITY and the public health, safety and welfare will be served by entering into this Agreement; and

WHEREAS, all of the procedures of the California Environmental Quality Act have been met with respect to the Project and the Agreement in that Countryside Specific Plan (State Clearinghouse No. 2006051081 (the "FEIR"). The City Council found and determined that the FEIR was prepared in accordance with the requirements of the California Environmental Quality Act and adequately describes the impacts of the project described in the FEIR, which included consideration of this Agreement; and

WHEREAS, this Agreement and the Project are consistent with the CITY's Comprehensive General Plan and the Countryside Specific Plan; and

WHEREAS, all actions taken and approvals given by CITY have been duly taken or approved in accordance with all applicable legal requirements for notice, public hearings, findings, votes, and other procedural matters; and

WHEREAS, development of the Property in accordance with this Agreement will provide substantial benefits to CITY and will further important policies and goals of CITY; and

WHEREAS, this Agreement will eliminate uncertainty in planning and provide for the orderly development of the Property, ensure progressive installation of necessary

improvements, provide for public services appropriate to the development of the Project, and generally serve the purposes for which development agreements under Sections 65864 et seq. of the Government Code are intended; and

WHEREAS, OWNER has incurred and will in the future incur substantial costs in excess of the generally applicable requirements in order to assure vesting of legal rights to develop the Property in accordance with this Agreement; and

WHEREAS, the Property is located in an area of the City of Ontario that has been known as the "New Model Colony" area and the New Model Colony area has now been renamed as "Ontario Ranch."; and

WHEREAS, the property developer/owners are made aware of the South Archibald Trichloroethylene (TCE) Plume Disclosure Letter (Exhibit "G"). Property owner may wish to provide the attached Letter as part of the Real Estate Transfer Disclosure requirements under California Civil Code Section 1102 et seq. This may include notifications in the Covenants, Conditions and Restrictions (CC&Rs) or other documents related to property transfer and disclosures. Additional information on the plume is available from the Santa Ana Regional Water Quality Control Board at http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000004658.

COVENANTS

NOW, THEREFORE, in consideration of the above recitals and of the mutual covenants hereinafter contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. DEFINITIONS AND EXHIBITS.

1.1 Definitions. The following terms when used in this Agreement shall be defined as follows:

1.1.1 "Agreement" means this Development Agreement.

1.1.2 "CITY" means the City of Ontario, California, a California municipal corporation.

1.1.3 "Construction Agreement" means that certain Agreement for the Financing and Construction of Phases I and II Infrastructure Improvements to Serve an Easterly Portion of the New Model Colony, entered into between the CITY and NMC Builders as of the 4th day of October, 2005, and all amendments thereto and "Construction Agreement Amendment" means that First Amended and Restated Agreement for the Financing and Construction of Limited Infrastructure Improvements to Serve and Easterly Portion of the New Model Colony entered into between the CITY and NMC Builders as of the 21st day of August 2012.

1.1.4 “Development” means the improvement of the Property for the purposes of completing the structures, improvements and facilities comprising the Project including, but not limited to: grading; the construction of public infrastructure and public facilities related to the Project whether located within or outside the Property; the construction of buildings and structures; and the installation of landscaping. “Development” does not include the maintenance, repair, reconstruction or redevelopment of any building, structure, improvement or facility after the construction and completion thereof.

1.1.5 “Development Approvals” means all permits and other entitlements for use subject to approval or issuance by CITY in connection with development of the Property including, but not limited to:

(a) specific plans and specific plan amendments;

(b) tentative and final subdivision and parcel maps;

(c) development plan review;

(d) conditional use permits (including model home use permits), public use permits and plot plans;

(e) zoning;

(f) grading and building permits.

1.1.6 “Development Exaction” means any requirement of CITY in connection with or pursuant to any Land Use Regulation or Development Approval for the dedication of land, the construction of improvements or public facilities, or the payment of fees in order to lessen, offset, mitigate or compensate for the impacts of development on the environment or other public interests.

1.1.7 “Development Impact Fee” means a monetary exaction, other than a tax or special assessment, whether characterized as a fee or a tax and whether established for a broad class of projects by legislation of general applicability or imposed on a specific project on an ad hoc basis, that is charged by a local agency to the applicant in connection with approval of a development project for the purpose of defraying all or a portion of the cost of public facilities related to the development project, and, for purposes of this Agreement only, includes fees collected under development agreements adopted pursuant to Article 2.5 of the Government Code (commencing with Section 65864) of Chapter 4, For purposes of this Agreement only, "Development Impact Fee" shall not include processing fees and charges imposed by CITY to cover the estimated actual costs to CITY of processing applications for Development Approvals or for monitoring compliance with any Development Approvals granted or issued, including, without limitation, fees for zoning variances; zoning changes; use permits; building inspections; building permits; filing and processing applications and petitions filed with the local agency formation commission or conducting preliminary proceedings or proceedings under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000,

Division 3 (commencing with Section 56000) of Title 5 of the Government Code; the processing of maps under the provisions of the Subdivision Map Act, Division 2 (commencing with Section 66410) of Title 7 of the Government Code; or planning services under the authority of Chapter 3 (commencing with Section 65100) of Division 1 of Title 7 of the Government Code, fees and charges as described in Sections 51287, 56383, 57004, 65104, 65456, 65863.7, 65909.5, 66013, 66014, and 66451.2 of the Government Code, Sections 17951, 19132.3, and 19852 of the Health and Safety Code, Section 41901 of the Public Resources Code, and Section 21671.5 of the Public Utilities Code, as such codes may be amended or superceded, including by amendment or replacement.

1.1.8 "Development Plan" means the Existing Development Approvals and the Existing Land Use Regulations applicable to development of the Property.

1.1.9 "Effective Date" means the date that the ordinance approving this Agreement goes into effect.

1.1.10 "Existing Development Approvals" means all Development Approvals approved or issued prior to the Effective Date. Existing Development Approvals includes the Approvals incorporated herein as Exhibit "C" and all other Approvals which are a matter of public record on the Effective Date.

1.1.11 "Existing Land Use Regulations" means all Land Use Regulations in effect on the Effective Date. Existing Land Use Regulations includes the Regulations incorporated herein as Exhibit "D" and all other Land Use Regulations that are in effect and a matter of public record on the Effective Date.

1.1.12 "General Plan" means the General Plan adopted on August 16, 2022.

1.1.13 "Improvement" or "Improvements" means those public improvements required to support the development of the Project as described in the Tract Map conditions for Tract No. 20536 as further described in Exhibit "E" and depicted in Exhibit "F" (the "Infrastructure Improvements Exhibit").

1.1.14 "Land Use Regulations" means all ordinances, resolutions, codes, rules, regulations and official policies of CITY governing the development and use of land, including, without limitation, the permitted use of land, the density or intensity of use, subdivision requirements, timing and phasing of development, the maximum height and size of buildings, the provisions for reservation or dedication of land for public purposes, and the design, improvement and construction standards and specifications applicable to the development of the Property. "Land Use Regulations" does not include any CITY ordinance, resolution, code, rule, regulation or official policy, governing:

(a) the conduct of businesses, professions, and occupations;

(b) taxes and assessments;

(c) the control and abatement of nuisances;

(d) the granting of encroachment permits and the conveyance of similar rights and interests that provide for the use of or the entry upon public property;

(e) the exercise of the power of eminent domain.

1.1.15 “Mortgagee” means a mortgagee of a mortgage, a beneficiary under a deed of trust or any other security-device lender, and their successors and assigns.

1.1.16 “Net MDD” means net maximum daily water demand.

1.1.17 “NMC Builders” means the consortium of investors and developers responsible for the construction of infrastructure within the New Model Colony incorporated as NMC Builders, LLC.

1.1.17 “Model Units” means a maximum of ten (10) model units, private common recreation facilities and sales facilities constructed by OWNER prior to the construction of any Production units and not offered for sale and occupancy for a period of time after the issuance of permits for Production Units.

1.1.18 “OWNER” means the persons and entities listed as owner on page 1 of this Agreement and their permitted successors in interest to all or any part of the Property.

1.1.19 “Production Unit(s)” means all units constructed for sale and occupancy by OWNER and excludes the specified number of Model Units constructed by OWNER for promotion of sales.

1.1.20 “Project” means the development of the Property contemplated by the Development Plan, as such Plan may be further defined, enhanced or modified pursuant to the provisions of this Agreement.

1.1.21 “Property” means the real property described on Exhibit “A” and shown on Exhibit “B” to this Agreement.

1.1.22 “Reservations of Authority” means the rights and authority excepted from the assurances and rights provided to OWNER under this Agreement and reserved to CITY under Section 3.6 of this Agreement.

1.1.23 “Specific Plan” means that certain specific plan adopted by the City Council, and entitled, “Countryside Specific Plan.”

1.1.24 "Storm Water Treatment Capacity Availability” means a designated portion of the total Storm Water Treatment Capacity Availability made available through the completion of construction of a Phase of regional storm water treatment facilities by the NMC Builders LLC as described in the Construction Agreement Amendment. The amount, in acres, of Storm Water Treatment Capacity Availability required for the issuance of a grading permit shall be based upon the factors and assumptions listed in the Construction Agreement Amendment.

1.1.25 "Subsequent Development Approvals" means all Development Approvals required subsequent to the Effective Date in connection with development of the Property.

1.1.26 "Subsequent Land Use Regulations" means any Land Use Regulations adopted and effective after the Effective Date of this Agreement.

1.1.27 "Water Availability Equivalent (WAE)" means a designated portion of the total Net MDD made available through the construction of each Phase described in the Water Phasing Plan of the Construction Agreement. The number of Water Availability Equivalents (of portions thereof) required for the issuance of each building permit shall be based upon water demand factors and assumptions listed in the Construction Agreement and Construction Agreement Amendment as "Water Availability Equivalents by Land Use" for each land use category.

1.2 Exhibits. The following documents are attached to, and by this reference made a part of, this Agreement:

Exhibit "A" — Legal Description of the Property.

Exhibit "B" — Map showing Property and its location.

Exhibit "C" — Existing Development Approvals.

Exhibit "D" — Existing Land Use Regulations.

Exhibit "E" — Description of Required Infrastructure Improvements

Exhibit "F" — Depiction of Required Infrastructure Improvements Exhibit

Exhibit "G" - Form of Plume Disclosure Letter

2. GENERAL PROVISIONS.

2.1 Binding Effect of Agreement. The Property is hereby made subject to this Agreement. Development of the Property is hereby authorized and shall be carried out only in accordance with the terms of this Agreement.

2.2 Ownership of Property. OWNER represents and covenants that it is the owner of the fee simple title to the Property or a portion thereof, or has the right to acquire fee simple title to the Property or a portion thereof from the current owner(s) thereof. To the extent OWNER does not own fee simple title to the Property, OWNER shall obtain written consent from the current fee owner of the Property agreeing to the terms of this Agreement and the recordation thereof.

2.3 Term. The term of this Agreement shall commence on the Effective Date and shall continue for an initial term of ten (10) years thereafter unless this term is modified or extended pursuant to the provisions of this Agreement. The term of this

Agreement may be extended for an additional five (5) years following expiration of the initial ten (10) year term, provided the following have occurred:

(a) OWNER provides at least 180 days written notice to CITY prior to expiration of the initial term; and

(b) In non-mixed use and residential use only projects, the OWNER shall have obtained, as applicable, building permits for at least seventy percent (70%) of the actual number of residential units permitted under this Agreement; and

(c) OWNER is not then in uncured default of this Agreement.

2.4 Assignment.

2.4.1 Right to Assign. OWNER shall have the right to sell, transfer or assign the Property in whole or in part (provided that no such partial transfer shall violate the Subdivision Map Act, Government Code Section 66410, et seq.), to any person, partnership, limited liability company, joint venture, firm or corporation at any time during the term of this Agreement; provided, however, that any such sale, transfer or assignment shall include the assignment and assumption of the rights, duties and obligations arising under or from this Agreement and be made in strict compliance with the following:

(a) No sale, transfer or assignment of any right or interest under this Agreement shall be made unless made together with the sale, transfer or assignment of all or a part of the Property. OWNER may be required to provide disclosure that the Property is within the South Archibald Trichloroethylene (TCE) Plume. OWNER may wish to provide the attached Disclosure Letter (Exhibit G) as part of the Real Estate Transfer Disclosure requirements under California Civil Code Section 1102 et seq.

(b) Concurrent with any such sale, transfer or assignment, or within fifteen (15) business days thereafter, OWNER shall notify CITY's City Manager, in writing, of such sale, transfer or assignment and shall provide CITY with: (1) an executed agreement, in a form reasonably acceptable to CITY, by the purchaser, transferee or assignee and providing therein that the purchaser, transferee or assignee expressly and unconditionally assumes all the duties and obligations of OWNER under this Agreement with respect to the portion of the Property so sold, transferred or assigned; and (2) the payment of the applicable processing charge to cover the CITY's review and consideration of such sale, transfer or assignment.

(c) Any sale, transfer or assignment not made in strict compliance with the foregoing conditions shall constitute a default by OWNER under this Agreement. Notwithstanding the failure of any purchaser, transferee or assignee to execute the agreement required by Paragraph (b) of this Subsection 2.4.1, the burdens of this Agreement shall be binding upon such purchaser, transferee or assignee, but the benefits of this Agreement shall not inure to such purchaser, transferee or assignee until and unless such agreement is executed. The City Manager shall have the authority to review,

consider and either approve, conditionally approve, or deny any proposed sale, transfer or assignment that is not made in compliance with this section 2.4.

2.4.2 Release of Transferring Owner. Notwithstanding any sale, transfer or assignment, a transferring OWNER shall continue to be obligated under this Agreement unless such transferring owner is given a release in writing by CITY, which release shall be provided by CITY upon the full satisfaction by such transferring owner of the following conditions:

(a) OWNER no longer has a legal or equitable interest in all or any part of the portion of the Property sold, transferred or assigned.

(b) OWNER is not then in default under this Agreement.

(c) OWNER has provided CITY with the notice and executed agreement required under Paragraph (b) of Subsection 2.4.1 above.

(d) The purchaser, transferee or assignee provides CITY with security equivalent to any security previously provided by OWNER to secure performance of its obligations hereunder.

2.4.3 Effect of Assignment and Release of Obligations. In the event of a sale, transfer or assignment pursuant to the provisions of Section 2.4.2 above:

(a) The assignee shall be liable for the performance of all obligations of OWNER with respect to transferred property, but shall have no obligations with respect to the portions of the Property, if any, not transferred (the "Retained Property").

(b) The owner of the Retained Property shall be liable for the performance of all obligations of OWNER with respect to Retained Property, but shall have no further obligations with respect to the transferred property.

(c) The assignee's exercise, use and enjoyment of the Property or portion thereof shall be subject to the terms of this Agreement to the same extent as if the assignee were the OWNER.

2.4.4 Subsequent Assignment. Any subsequent sale, transfer or assignment after an initial sale, transfer or assignment shall be made only in accordance with and subject to the terms and conditions of this Section 2.4.

2.4.5 Termination of Agreement with Respect to Individual Lots Upon Sale to Public and Completion of Construction. The provisions of Subsection 2.4.1 shall not apply to the sale or lease (for a period longer than one year) of any lot which has been finally subdivided and is individually (and not in "bulk" meaning more than one) sold or leased to a member of the public or other ultimate user. Notwithstanding any other provisions of this Agreement, this Agreement shall terminate with respect to any lot and such lot shall be released and no longer be subject to this Agreement without the

execution or recordation of any further document upon satisfaction of both of the following conditions:

(a) The lot has been finally subdivided and individually (and not in "bulk") sold or leased (for a period longer than one year) to a member of the public or other ultimate user; and,

(b) A certificate of occupancy has been issued for a building on the lot, and the fees set forth under Section 4 of this Agreement have been paid.

2.5 Amendment or Cancellation of Agreement. This Agreement may be amended or cancelled in whole or in part only in the manner provided for in Government Code Section 65868.1. Any amendment of this Agreement, which amendment has been requested by OWNER, shall be considered by the CITY only upon the payment of the applicable processing charge. This provision shall not limit any remedy of CITY or OWNER as provided by this Agreement. Either Party or successor in interest, may propose an amendment to or cancellation, in whole or in part, of this Agreement. Any amendment or cancellation shall be by mutual consent of the parties or their successors in interest except as provided otherwise in this Agreement or in Government Code Section 65865.1. For purposes of this section, the term "successor in interest" shall mean any person having a legal or equitable interest in the whole of the Property, or any portion thereof as to which such person wishes to amend or cancel this Agreement. The procedure for proposing and adopting an amendment to, or cancellation of, in whole or in part, this Agreement shall be the same as the procedure for adopting and entering into this Agreement in the first instance. Notwithstanding the foregoing sentence, if the CITY initiates the proposed amendment to, or cancellation of, in whole or in part, this Agreement, CITY shall first give notice to the OWNER of its intention to initiate such proceedings at least sixty (60) days in advance of the giving the public notice of intention to consider the amendment or cancellation.

2.5.1 Amendment to Reflect Consistency With Future Amendments to the Construction Agreement. To the extent any future amendment to the Construction Agreement provides for modifications to rights or obligations that differ from or alter the same or similar rights or obligations contained in this Development Agreement, OWNER reserves the right to request an amendment to the Development Agreement to reflect any or all of such modifications.

2.6 Termination. This Agreement shall be deemed terminated and of no further effect upon the occurrence of any of the following events:

(a) Expiration of the stated term of this Agreement as set forth in Section 2.3.

(b) Entry of a final judgment setting aside, voiding or annulling the adoption of the ordinance approving this Agreement.

(c) The adoption of a referendum measure overriding or repealing the ordinance approving this Agreement.

(d) Completion of the Project in accordance with the terms of this Agreement including issuance of all required occupancy permits and acceptance by CITY or applicable public agency of all required dedications.

Termination of this Agreement shall not constitute termination of any other land use entitlements approved for the Property. Upon the termination of this Agreement, no party shall have any further right or obligation hereunder except with respect to any obligation to have been performed prior to such termination or with respect to any default in the performance of the provisions of this Agreement which has occurred prior to such termination or with respect to any obligations which are specifically set forth as surviving this Agreement. Upon such termination, any public facilities and services mitigation fees paid pursuant to Section 4.2 of this Agreement by OWNER to CITY for residential units on which construction has not yet begun shall be refunded to OWNER by CITY.

2.7 Notices.

(a) As used in this Agreement, "notice" includes, but is not limited to, the communication of notice, request, demand, approval, statement, report, acceptance, consent, waiver, appointment or other communication required or permitted hereunder.

(b) All notices shall be in writing and shall be considered given either: (i) when delivered in person, including, without limitation, by courier, to the recipient named below; or (ii) on the date of delivery shown on the return receipt, after deposit in the United States mail in a sealed envelope as either registered or certified mail with return receipt requested, and postage and postal charges prepaid, and addressed to the recipient named below. All notices shall be addressed as follows:

If to CITY:
Scott Ochoa, City Manager
City of Ontario
303 East "B" Street
Ontario, CA 91764

with a copy to:
Ruben Duran, City Attorney
Best Best & Krieger, LLP
2855 E Guasti Road
Ontario, CA 91761

If to OWNER:
RB Ontario LLC
Attn: Jeff Ragland
11766 Wilshire Blvd., Suite 820
Los Angeles, CA 90025

with a copy to:
Cox Castle
Attn: Kenneth Bley
2029 Century Park East, Suite 2100
Los Angeles, CA 90067
kbley@coxcastle.com

(c) Either party may, by notice given at any time, require subsequent notices to be given to another person or entity, whether a party or an officer or representative of a party, or to a different address, or both. Notices given before actual receipt of notice of change shall not be invalidated by the change.

3. DEVELOPMENT OF THE PROPERTY.

3.1 Rights to Develop. Subject to the terms of this Agreement including the Reservations of Authority, OWNER shall have a vested right to develop the Property in accordance with, and to the extent of, the Development Plan. The Project shall remain subject to all Subsequent Development Approvals required to complete the Project as contemplated by the Development Plan. Except as otherwise provided in this Agreement, the permitted uses of the Property, the density and intensity of use, the maximum height and size of proposed buildings, and provisions for reservation and dedication of land for public purposes shall be those set forth in the Development Plan.

3.2 Effect of Agreement on Land Use Regulations. Except as otherwise provided under the terms of this Agreement including the Reservations of Authority, the rules, regulations and official policies governing permitted uses of the Property, the density and intensity of use of the Property, the maximum height and size of proposed buildings, and the design, improvement and construction standards and specifications applicable to development of the Property shall be the Existing Land Use Regulations. In connection with any Subsequent Development Approval, CITY shall exercise discretion in accordance with the same manner as it exercises its discretion under its police powers, including the Reservations of Authority set forth herein; provided however, that such discretion shall not prevent development of the Property for the uses and to the density or intensity of development set forth in this Agreement.

3.3 Timing of Development. The parties acknowledge that OWNER cannot at this time predict when or the rate at which phases of the Property will be developed. Such decisions depend upon numerous factors which are not within the control of OWNER, such as market orientation and demand, interest rates, absorption, completion and other similar factors. Since the California Supreme Court held in Pardee Construction Co. v. City of Camarillo (1984) 37 Ca1. 3d 465, that the failure of the parties therein to provide for the timing of development resulted in a later adopted initiative restricting the timing of development to prevail over such parties' agreement, it is the parties' intent to cure that deficiency by acknowledging and providing that OWNER shall have the right to develop the Property in such order and at such rate and at such times as OWNER deems appropriate within the exercise of its subjective business judgment.

3.3.1 Infrastructure Improvement Exhibit. Attached hereto as Exhibits "E" and "F" are a description and depiction, respectively, of the improvements needed for the development of the Property. In the event of any discrepancy between Exhibit E and Exhibit F, Exhibit F shall control.

3.4 Requirement for Public Infrastructure Improvements. Development of the Property is contingent in part on the phasing of area-wide infrastructure improvements over which the OWNER has control. The issuance of building permits by CITY for Model Units and Production Units is, in general, contingent on OWNER's completion of needed infrastructure improvements and the availability of improvements and services to serve the Property.

3.4.1 Attached hereto as Exhibit "E" and Exhibit "F" are the description and depiction of the infrastructure improvements needed for the development of the Property ("the Infrastructure Improvement Exhibit").

3.4.2 Subject to the prior submittal by OWNER and approval by CITY of a plan to provide sufficient public infrastructure for the construction of a maximum number of ten (10) Model Units, private common recreation facilities and sales facilities. CITY may issue a maximum of ten (10) building permits for Model Units, private common recreation facilities and sales facilities. The plan to be submitted by OWNER for CITY approval shall describe the utilities and other infrastructure necessary to provide sufficient fire protection and other public health and safety requirements for the Model Units and other facilities.

3.5 Changes and Amendments. The parties acknowledge that refinement and further development of the Project will require Subsequent Development Approvals and may demonstrate that changes are appropriate and mutually desirable in the Existing Development Approvals. In the event OWNER finds that a change in the Existing Development Approvals is necessary or appropriate, OWNER shall apply for a Subsequent Development Approval to effectuate such change and CITY shall process and act on such application in accordance with the Existing Land Use Regulations, except as otherwise provided by this Agreement including the Reservations of Authority. If approved, any such change in the Existing Development Approvals shall be incorporated herein as an addendum to Exhibit "C", and may be further changed from time to time as provided in this Section. Unless otherwise required by law, as determined in CITY's reasonable discretion, a change to the Existing Development Approvals shall be deemed "minor" and not require an amendment to this Agreement provided such change does not:

(a) Alter the permitted uses of the Property as a whole; or,

(b) Increase the density or intensity of use of the Property as a whole; or,

(c) Increase the maximum height and size of permitted buildings; or,

(d) Delete a requirement for the reservation or dedication of land for public purposes within the Property as a whole; or,

(e) Constitute a project requiring a subsequent or supplemental environmental impact report pursuant to Section 21166 of the Public Resources Code.

3.6 Reservations of Authority.

3.6.1 Limitations, Reservations and Exceptions. Notwithstanding any other provision of this Agreement, the CITY shall not be prevented from applying new rules, regulations and policies upon the OWNER, nor shall a development agreement prevent the CITY from denying or conditionally approving any

subsequent development project application on the basis of such new rules, regulations and policies where the new rules, regulations and policies consist of the following:

(a) Processing fees by CITY to cover costs of processing applications for development approvals or for monitoring compliance with any development approvals;

(b) Procedural regulations relating to hearing bodies, petitions, applications, notices, findings, records and any other matter of procedure;

(c) Regulations, policies and rules governing engineering and construction standards and specifications applicable to public and private improvements, including all uniform codes adopted by the CITY and any local amendments to those codes adopted by the CITY; provided however that, OWNER shall have a vested right to develop the Property in accordance with, and to the extent of, the standards and specifications that are expressly identified in the Specific Plan;

(d) Regulations that may conflict with this Agreement and the Development Plan but that are reasonably necessary to protect the residents of the project and/or of the immediate community from a condition perilous to their health or safety;

(e) Regulations that do not conflict with those rules, regulations and policies set forth in this Agreement or the Development Plan;

(f) Regulations that may conflict but to which the OWNER consents.

3.6.2 Subsequent Development Approvals. This Agreement shall not prevent CITY, in acting on Subsequent Development Approvals, from applying Subsequent Land Use Regulations that do not conflict with the Development Plan, nor shall this Agreement prevent CITY from denying or conditionally approving any Subsequent Development Approval on the basis of the Existing Land Use Regulations or any Subsequent Land Use Regulation not in conflict with the Development Plan.

3.6.3 Modification or Suspension by State or Federal Law. In the event that State or Federal laws or regulations, enacted after the Effective Date of this Agreement, prevent or preclude compliance with one or more of the provisions of this Agreement, such provisions of this Agreement shall be modified or suspended as may be necessary to comply with such State or Federal laws or regulations, provided, however, that this Agreement shall remain in full force and effect to the extent it is not inconsistent with such laws or regulations and to the extent such

laws or regulations do not render such remaining provisions impractical to enforce. In the event OWNER alleges that such State or Federal laws or regulations preclude or prevent compliance with one or more provisions of this Agreement, and the CITY does not agree, the OWNER may, at its sole cost and expense, seek declaratory relief (or other similar non-monetary remedies); provided however, that nothing contained in this Section 3.6.3 shall impose on CITY any monetary liability for contesting such declaratory relief (or other similar non-monetary relief) and OWNER shall comply with Section 9 of this Agreement and cover any reasonable CITY costs and expenses involved with the declaratory relief.

3.6.4 Intent. The parties acknowledge and agree that CITY is restricted in its authority to limit its police power by contract and that the foregoing limitations, reservations and exceptions are intended to reserve to CITY all of its police power which cannot be so limited. This Agreement shall be construed, contrary to its stated terms if necessary, to reserve to CITY all such power and authority which cannot be restricted by contract.

3.7 Public Works; Utilities. If OWNER is required by this Agreement to construct any public works facilities which will be dedicated to CITY or any other public agency upon completion, and if required by applicable laws to do so, OWNER shall perform such work in the same manner and subject to the same requirements as would be applicable to CITY or such other public agency should it have undertaken such construction. As a condition of development approval, OWNER shall connect the Project to all utilities necessary to provide adequate water, recycled water, sewer, gas, electric, and other utility service to the Project. As a further condition of development approval, OWNER shall contract with the CITY for CITY-owned or operated utilities for this purpose, for such price and on such terms as may be available to similarly situated customers in the CITY.

3.7.1 OWNER agrees that development of the Project shall require the construction of storm drain improvements as described in Exhibit E and depicted in Exhibit F. OWNER agrees that no building permits shall be issued by CITY for Production Units prior to completion of the storm drain improvements, as described in Exhibit E and depicted in Exhibit F.

3.7.2 OWNER agrees that development of the Project shall require the construction of street improvements as described in Exhibit E and depicted in Exhibit F. OWNER agrees that no building permits shall be issued by CITY for Production Units prior to completion of the street improvements, as described in Exhibit E and depicted in Exhibit F.

3.7.3 OWNER agrees that development of the Property shall require the construction of water and recycled water improvements as described in Exhibit E and depicted in Exhibit F. OWNER agrees that no building permits shall be issued by CITY for Production Units prior to completion of the water and recycled water improvements as described in Exhibit E and depicted in Exhibit F. OWNER also agrees that recycled water shall be available and utilized by OWNER for all

construction-related water uses including prior to, and during, any grading of the Property.

3.7.4 OWNER agrees that development of the Property shall require the construction of sewer improvements, as described in the attached Exhibit E and depicted in Exhibit F. OWNER agrees that no building permits shall be issued by CITY for Production Units prior to completion of the sewer improvements, as described in Exhibit E and depicted in Exhibit F.

3.7.5 OWNER agrees that development of the Property shall require the extension of fiber optic communications improvements as described in the attached Exhibit E and depicted in Exhibit F. OWNER agrees that no building permits shall be issued by CITY for Production Units prior to completion of the fiber optic communication improvements, as described in Exhibit E and depicted in Exhibit F.

3.8 Acquisition of Offsite Provision of Real Property Interests. In any instance where OWNER is required by any Development Approval or Land Use Regulation and the Construction Agreement to construct any public improvement on land not owned by OWNER ("Offsite Improvements"), the CITY and OWNER shall cooperate in acquiring the necessary legal interest ("Offsite Property") in accordance with the procedures set forth in Section 2.4 of the Construction Agreement. This section 3.8 is not intended by the parties to impose upon the OWNER an enforceable duty to acquire land or construct any public improvements on land not owned by OWNER, except to the extent that the OWNER elects to proceed with the development of the Project, and then only in accordance with valid conditions imposed by the CITY upon the development of the Project under the Subdivision Map Act or other legal authority.

3.8.1 CITY Acquisition of Non-Construction Agreement Offsite Property. In the event OWNER is required to construct any public improvements on land not owned by OWNER, but such requirement is not based upon the Construction Agreement, Sections 3.8.1 and 3.8.2 shall control the acquisition of the necessary property interest(s) ("Non-Construction Agreement Offsite Property"). If the OWNER is unable to acquire such Non-Construction Agreement Offsite Property, and following the written request from the OWNER to CITY, CITY agrees to use reasonable and diligent good faith efforts to acquire the Non-Construction Agreement Offsite Property from the owner or owners of record by negotiation to the extent permitted by law and consistent with this Agreement. If CITY is unable to acquire the Non-Construction Agreement Offsite Property by negotiation within thirty (30) days after OWNER'S written request, CITY shall, initiate proceedings utilizing its power of eminent domain to acquire that Non-Construction Agreement Subject Property at a public hearing noticed and conducted in accordance with California Code of Civil Procedure Section 1245.235 for the purpose of considering the adoption of a resolution of necessity concerning the Non-Construction Agreement Offsite Property, subject to the conditions set forth in this Section 3.8. The CITY and OWNER acknowledge that the timelines set forth in this Section 3.8.1 represent the maximum time periods which CITY and OWNER reasonably

believe will be necessary to complete the acquisition of any Non-Construction Agreement Offsite Property. CITY agrees to use reasonable good faith efforts to complete the actions described within lesser time periods, to the extent that it is reasonably able to do so, consistent with the legal constraints imposed upon CITY.

3.8.2 Owner's Option to Terminate Proceedings. CITY shall provide written notice to OWNER no later than fifteen (15) days prior to making an offer to the owner of the Non-Construction Agreement Offsite Property. At any time within that fifteen (15) day period, OWNER may, at its option, notify CITY that it wants CITY to cease all acquisition proceedings with respect to that Non-Construction Agreement Offsite Property, whereupon CITY shall cease such proceedings. CITY shall provide written notice to OWNER no later than fifteen (15) days prior to the date of the hearing on CITY'S intent to consider the adoption of a resolution of necessity as to any Non-Construction Agreement Offsite Property. At any time within that fifteen (15) day period, OWNER may, at its option, notify CITY that it wants CITY to cease condemnation proceedings, whereupon CITY shall cease such proceedings. If OWNER does not notify CITY to cease condemnation proceedings within said fifteen (15) day period, then the CITY may proceed to consider and act upon the Non-Construction Agreement Offsite Property resolution of necessity. If CITY adopts such resolution of necessity, then CITY shall diligently institute condemnation proceedings and file a complaint in condemnation and seek an order of immediate possession with respect to the Non-Construction Agreement Offsite Property.

3.9 Regulation by Other Public Agencies. It is acknowledged by the parties that other public agencies not within the control of CITY possess authority to regulate aspects of the development of the Property separately from or jointly with CITY and this Agreement does not limit the authority of such other public agencies. CITY agrees to cooperate fully, at no cost to CITY, with OWNER in obtaining any required permits or compliance with the regulations of other public agencies provided such cooperation is not in conflict with any laws, regulations or policies of the CITY.

3.10 Tentative Tract Maps; Extension. With respect to applications by OWNER for tentative subdivision maps for portions of the Property, CITY agrees that OWNER may file and process tentative maps in accordance with Chapter 4.5 (commencing with Section 66498.1) of Division 2 of Title 7 of the California Government Code and the applicable provisions of CITY's subdivision ordinance, as the same may be amended from time to time. In accordance with the provisions of Section 66452.6 of the Government Code, each tentative subdivision map or tentative parcel map, heretofore or hereafter approved in connection with development of the Property, shall be deemed to have been granted an extension of time to and until the date that is five (5) years following the Effective Date of this Agreement.; The CITY's City Council may, in its discretion, extend any such map for an additional period of up to five (5) years beyond its original term, so long as the subdivider files a written request for an extension with the City prior to the expiration of the initial five (5) year term.

4. PUBLIC BENEFITS.

4.1 Intent. The parties acknowledge and agree that development of the Property will result in substantial public needs that will not be fully met by the Development Plan and further acknowledge and agree that this Agreement confers substantial private benefits on OWNER that should be balanced by commensurate public benefits. Accordingly, the parties intend to provide consideration to the public to balance the private benefits conferred on OWNER by providing more fully for the satisfaction of the public needs resulting from the Project.

4.2 Development Impact Fees.

4.2.1 Amount of Development Impact Fee. Development Impact Fees (DIF) shall be paid by OWNER. The Development Impact Fee amounts to be paid by OWNER shall be the amounts that are in effect at the time such amounts are due. Nothing contained in this Agreement shall affect the ability of the CITY to impose new Development Impact Fees or amend the amounts of existing Development Impact Fees. Additionally, nothing contained in this Agreement shall affect the ability of other public agencies that are not controlled by CITY to impose and amend, from time to time, Development Impact Fees established or imposed by such other public agencies, even though such Development Impact Fees may be collected by CITY.

4.2.2 Time of Payment. The Development Impact Fees required pursuant to Subsection 4.2.1 shall be paid to CITY prior to the issuance of building permit for each applicable residential or other unit, except for the Open Space and Habitat Acquisition Development Impact fee, which shall be paid by OWNER to CITY prior to the issuance of a grading permit. Deferral of the payment of Development Impact Fees may be granted pursuant to a separate agreement approved by City pursuant to City policy.

4.2.3 Parkland and Quimby Act Fees. Pursuant to the General Plan (Ontario Plan) Goal PR1, Policy PR1-5 (achievement of a park standard of 5 acres of parkland per 1,000 residents) OWNER shall provide improved parks, developed in accordance with the City's park standards in an amount equal to two (2) acres per 1,000 of projected population without credit, reimbursement, offset or consideration from City. Such areas shall either be dedicated to the City or transferred to a homeowners' association. If approved by the City Manager, OWNER may satisfy this requirement through the development of non-public recreation facilities such as private recreational clubhouses or pool facilities. Credit for such private recreational facilities areas shall be limited to a maximum of 50% of the foregoing park development requirement. If OWNER's Project does not provide dedicated and developed park acreage equal to two (2) acres per 1,000 projected population, OWNER shall pay a fee in-lieu equal to the per acre estimated costs of acquisition and development of parkland in the City's Development Impact Fee for the calculated park acreage deficiency, at the time the fee becomes due and payable to the City. Such in-lieu fee shall be due and

payable prior to the issuance of the first building permit for Production Units issued to OWNER. Any park dedication and/or improvements in excess of such two (2) acres per thousand standard, provided such park has been developed in accordance with the City's park standards and is open to the public generally, shall entitle OWNER to a credit toward its obligations under the Quimby Act (Gov. Code, § 64477) and the City's implementing ordinance and/or resolution (collectively "**Quimby Act Obligations**"), and to the extent OWNER's Quimby Act Obligations are satisfied, OWNER shall be entitled to have the City acquire such developed and publicly available parks as Non-Program Interests in accordance with Section 4.3.3 below.

4.3 Responsibility for Construction of Public Improvements.

4.3.1 Timely Construction of Public Infrastructure. The phasing of the areawide infrastructure construction within the New Model Colony will be as approved by the CITY. OWNER shall be responsible for the timely construction and completion of all public infrastructure required for the Project as shown on the attached Exhibit "F" and any and all tentative tract map conditions. Unless otherwise specified in the Subdivision Agreement/Tract Map conditions, all other required Improvements for each Tract Map, shall be completed and operational prior to, and as a condition precedent to, OWNER requesting and CITY's granting of the first building permit for Production Units for each such Tract Map. All Infrastructure and Improvements shall be completed as required by the Subdivision Agreement/Tract Map conditions for Tract Map No. 20536.

4.3.2 Construction of DIF Program Infrastructure (Construction Agreement). To the extent OWNER is required to construct and completes construction of public improvements that are included in CITY's Development Impact Fee Program and the Construction Agreement between CITY and NMC Builders LLC, CITY agrees that CITY shall issue DIF Credit in accordance with the provisions of the Construction Agreement and any amendments thereto. Use of DIF Credit issued to OWNER as a member of NMC Builders LLC to offset OWNER's DIF payment obligations shall also be subject to the provisions of the Construction Agreement and any amendments thereto.

4.3.3 Construction of DIF Program Infrastructure (Non-Construction Agreement). To the extent OWNER is required to construct and completes construction of public improvements that are included in CITY's Development Impact Fee Program and such public improvements are not included the Construction Agreement between CITY and NMC Builders LLC, CITY agrees that CITY shall issue DIF Credit in accordance with the provisions of a separate Fee Credit Agreement between CITY and OWNER. Limitation on the use of DIF Credit issued to OWNER to offset OWNER's DIF payment obligations shall also be subject to the provisions of a separate Fee Credit Agreement. CITY and OWNER agree that the Fee Credit Agreement between CITY and OWNER shall comply with CITY's adopted policies applicable to such agreements.

4.3.4 Construction of Public Infrastructure by Third Parties. CITY and OWNER acknowledge the Improvements described in Exhibit E and depicted in Exhibit F are required for the development of the Property, surrounding properties within the Ontario Ranch and the other property owners are also obligated to construct the Improvements or portions thereof. As such, CITY agrees that OWNER's obligation to construct the Improvements may be satisfied by third party owners pursuant to separate written agreements between OWNER and said third party undertaking the construction of the Improvements. Nothing in this Agreement shall be construed to prohibit the coordination of the construction of the Improvements between private parties, including the allocation of costs for the construction of the Improvements. Notwithstanding anything to the contrary herein, any applicable DIF Credits may be transferred and assigned from one (1) party to another with respect to the construction of the Improvements and such transfer or assignment shall not require the conveyance of any real property.

4.4 Affordable Housing Requirement.

4.4.1 Affordable Housing- Number of Units. OWNER shall provide a minimum number of affordable housing units, equivalent to 10% of the OWNER's total approved residential units within the Project, that are affordable to very low, low and moderate income households. Such requirement for affordable housing shall be met through one, or a combination of one or more, of the options provided in the following Sections 4.4.2.1 through 4.4.2.5. For the purposes of this Section, any term not defined in this Agreement shall be as defined by California Community Redevelopment Law (California Health and Safety Code Section 33000 et seq.).

4.4.2 Affordability Spread. Of the total number of residential dwelling units specified in Section 4.4.1, to be constructed or rehabilitated pursuant to Sections 4.4.2.1 or 4.4.2.2 respectively, thirty percent (30%) shall be available to very low income, thirty percent (30%) shall be available to low income and forty percent (40%) shall be available to moderate income households. "**Households**" shall be as defined by California Health and Safety Code Section 50053.

4.4.2.1 New Construction. If OWNER elects to fully or partially satisfy the affordable housing requirement by the construction of new residential units, it shall construct and restrict the affordability of residential dwelling units within its Project or, at OWNER's option and with the approval of the City, within another project elsewhere within the City. The affordable units constructed shall be intermingled with other units as part of the Project, and shall be built to the same construction, design and aesthetic standards, as well as number of rooms, as other units constructed as part of that OWNER's Project. In addition, the percentage ratio of affordable units offered for sale versus those offered for rent shall equal the percentage ratio of other units offered for sale versus for rent within OWNER's Project. Such construction shall be completed no later than the date that is five (5) years following the issuance of the first building permit for OWNER's Project; provided however

that to the extent OWNER has not constructed the required percentage of units, based on the number of building permits for non-restricted units, OWNER shall, prior to the issuance of such building permits, provide security (in the form and substance approved by the City Manager and City Attorney) to City in order to ensure the faithful completion of such required percentage of construction of affordable units. If OWNER elects the option of constructing new affordable units, a detailed Affordable Housing Agreement specifying terms for the allowable monthly housing costs or rents (as applicable) and maintenance and occupancy standards shall be prepared, executed and recorded against such units as a condition to the issuance of a building permit. The Affordable Housing Agreement shall hold a recorded priority position senior to any other non-statutory lien or encumbrance affecting the unit.

4.4.2.2 Rehabilitation. If OWNER elects to fully or partially satisfy the affordable housing requirement by the substantial rehabilitation of existing residential units in the City, it shall substantially rehabilitate and restrict the affordability of, the number of residential units specified in Section 4.4.1, provided that such units shall be provided elsewhere within the City. The rehabilitation work shall be substantial and of high quality and shall also address any deferred property maintenance issues on the property. "**Substantial rehabilitation**" shall mean rehabilitated multi-family rented dwelling units with three or more units and the value of the rehabilitation constitutes 25 percent of the after rehabilitation value of the dwelling, inclusive of land value pursuant to Health and Safety Code Section 33413(b)(2)(A)(iii-iv) as such section exists as of the Effective Date of this Agreement. If OWNER chooses the option of rehabilitation of existing housing units within the City, a detailed Affordable Housing Agreement specifying the terms for the allowable month housing costs or rents (as applicable) and maintenance and occupancy standards shall be prepared, executed and recorded against such units as a condition to the issuance of a building permit. Such rehabilitation shall be completed no later than the date that is five (5) years following the issuance of the first building permit for OWNER's Project; provided however that to the extent OWNER has not rehabilitated the required percentage of units, based on the number of building permits, OWNER shall, prior to the issuance of such building permits, provide security (in the form and substance approved by the City Manager and City Attorney) to the City in order to ensure the faithful completion of such required percentage of rehabilitation.

4.4.2.3 In-Lieu Fee. If OWNER has not fully complied with the requirements of Section 4.4.1 by providing the minimum number of affordable units through the construction of new affordable units or by the substantial rehabilitation of existing units, shall pay an "**Affordability In-Lieu Fee**". If OWNER has not provided any affordable residential units by construction or rehabilitation, the Affordability In-Lieu fee shall be equal to

Two Dollars Sixty-One Cents ($3.12) per square foot of residential development within OWNER's Project or, if pre-paid as set forth below, Two Dollars Twenty-Eight Cents ($2.74) per square foot of residential development within OWNER's Project. If OWNER has partially complied with the requirements of Section 4.4.1 by construction or rehabilitation of less than the minimum number of units, then the Affordability In-lieu Fee shall be recalculated and reduced in consideration of the number and type of affordable units provided. The Affordability In-Lieu Fee shall be paid by OWNER to City no later than prior to the issuance of each building permit within OWNER's Project based on the square footage of the residential unit for which such building permit is sought; provided however that OWNER may, at OWNER's election, pre-pay such Affordability In-Lieu Fee by paying such Affordability In-Lieu Fee within thirty (30) days following the earliest discretionary approval by the City for OWNER's Project, including, but not limited to, any general plan amendment, specific plan adoption, development agreement, tentative map approval, variance, conditional use permit, or resolution of intention to form any public financing mechanism. The Two Dollars, Thirty-Seven Cents ($3.12) and the Two Dollars Seven Cents ($2.74) per square foot amounts shall automatically be increased annually, commencing on July 1, 2023, and automatically each July 1 thereafter. Such adjustment shall be based on the percentage increase (but no decrease) in the Consumer Price Index (Riverside - San Bernardino - Ontario, CA), (December 2017=100) over the preceding year. The pre-paid Affordability In-Lieu Fee shall be calculated based on the maximum floor area ratio (FAR) permitted within the General Plan and any applicable FAR contained within the applicable specific plan, whichever is greater, and the Maximum Development Density. For purposes of this Agreement, "**Maximum Development Density**" shall be determined by multiplying the OWNER's Project's density for residential development potential as set forth in the General Plan or the applicable Specific Plan, whichever is less, by the net acreage of land within OWNER's Project. All "Affordability In-Lieu Fees" collected by the City shall be used to promote the construction of affordable housing within the City.

4.4.2.4 Affordability Covenants. Prior to the issuance of the first building permit for any affordable unit, the City and OWNER shall enter into an Affordable Housing Agreement Affordability shall be assured for a period of forty-five (45) years for for-sale units and fifty-five (55) years for rentals. For rental units, base rents shall be established by the City and rental adjustments required by the City shall be performed on an annual basis. In addition, the Affordable Housing Agreement shall impose maximum occupancy limits of 2 occupants per bedroom plus 1 additional occupant per dwelling unit, and a requirement for the owner or tenant to properly maintain each dwelling unit.

4.4.2.5 Transfer of Affordable Project. No transfer of title to any affordable

housing project shall occur without the prior written consent of the City. In the event OWNER transfers title to any affordable housing project required to be constructed pursuant to this Agreement to a non-profit entity, or other entity, that receives an exemption from ad valorem real property taxes, the City shall be required to assure payment of an annual in lieu fee to the City on July 1 of each year equal to one-tenth of one percent (0.1%) of the assessed value of such project. The City may permit OWNER to satisfy this obligation by recorded covenants against the property and enforceable against said entity by the City. Any such covenants shall be approved by the Planning Director and the City Attorney.

4.5 Schools Obligations.

4.5.1 Written Evidence of Compliance with Schools Obligations.
OWNER shall, either through joint or individual agreements between OWNER and the applicable school district(s), shall satisfy its new school obligations. The new school obligations for the Mountain View School District in the Ontario Ranch area have been projected to include the acquisition or dedication of school sites for, and construction of, up to eight (8) schools. Of these eight (8) schools, six (6) are to be elementary (K-5) grade schools and two (2) are to be middle grade schools. The new school obligations for the Chaffey Joint Union High School District in the Ontario Ranch area have been projected to include the dedication of a school site for, and construction of, an additional high school. The new school obligations for the applicable school district shall be met by a combination of the following: (1) designating and dedicating school site(s) within the Property as set forth in the General Plan, and/or (2) paying school impact fees, (3) entering into a joint mitigation agreement or individual mitigation agreements, or (4) any combination of the foregoing. Written evidence of approval by the applicable school district that OWNER has met their school obligations may be required by the City as the condition to the issuance by the City of any entitlements for OWNER's Project. In the event OWNER is unable to provide such written evidence from the applicable school district(s), the City shall have the right to decline to honor any DIF Credit, Certificates of MDD Availability, Certificates of Storm Water Treatment Capacity Availability, or any combination thereof, presented by such OWNER, without liability to the City. To the extent that a joint mitigation agreement is approved by the applicable school district(s), and OWNER is a participant in good standing in such mitigation agreement, OWNER shall be deemed to have mitigated its new school obligations under this Section 4.4.1.

4.6 Public Services Funding Fee.

4.6.1 Requirement for Payment of Public Services Funding Fee. In order to ensure that the adequate provision of public services, including without limitation, police, fire and other public safety services, are available to the residents of each Project in a timely manner, OWNER shall pay to CITY a "**Public Services Funding Fee**." The Public Services Funding Fee shall apply to residential and non-residential uses as set forth below.

4.6.2 Public Services Funding Fee Amount. OWNER shall pay a Public Services Funding fee in the total amount of Two Thousand Four Hundred Ninety dollars and Seventy Eight Cents ($2,490.78) per residential dwelling unit. The Public Services Funding Fee shall be paid in one (1) installment within one hundred eighty (180) calendar days after the effective date of the Development Agreement or in two (2) installments, at OWNER's option, as follows:

4.6.2.1 First Installment (Residential uses). The First Installment of the Public Services Funding Fee shall be One Thousand Two Hundred Forty Five dollars and Thirty Nine Cents ($1,245.39) per residential dwelling unit. The First Installment shall be based upon the "**Maximum Development Density**" of the OWNER Project, as defined in Section 3.7.2.3 of the First Amended and Restated Construction Agreement. The First Installment shall be due and payable 30 days following the effective date of the Development Agreement.

If the First installment amount is not paid for all residential dwelling units within the Project (based on the Maximum Development Density, or the number of units described on "B Maps" if approved) by January 1, 2024, the amount of the First Installment shall be increased. Such increase shall be based on the percentage increase (but no decrease) in the Consumer Price Index (Riverside - San Bernardino - Ontario, CA) (December 2017=100) over the preceding year. Additionally, the amount shall be further increased automatically by the percentage increase in the Consumer Price Index (Riverside - San Bernardino - Ontario, CA) (December 2017=100) on each January 1 thereafter.

4.6.2.2 Second Installment (Residential Uses). The Second Installment of the Public Services Funding Fee shall be One Thousand Two Hundred Forty Five dollars and Thirty Nine Cents ($1,245.39) per residential unit. The Second Installment shall be paid at the time of the issuance of each building permit for the Project. The amount of the Second Installment shall increase automatically by percentage increase (but no decrease) in the Consumer Price Index (Riverside - San Bernardino - Ontario, CA) (December 2017=100) over the preceding year on January 1st of each year, beginning on January 1, 2024. OWNER may exercise the option to pay the Second Installment amount for all residential units, a portion of the residential units, or for the remainder of the residential units within OWNER's Project on or before each December 31st, before the Second Installment amount is automatically increased.

4.6.2.3 Single Installment (Non-residential Uses). A single installment payment of the Public Services Funding Fee shall be required in the amount of Seventy Five Cents ($.75) per square foot of non-residential buildings. The single installment for non-residential uses shall be due and payable prior to the issuance of the building permit for a non-residential building. The amount of the Single Installment for non-residential uses shall automatically

increase by percentage increase (but no decrease) in the Consumer Price Index (Riverside - San Bernardino - Ontario, CA), (December 2017=100) over the preceding year on January 1st of each year, beginning on January 1, 2024. OWNER may exercise the option to pay any single installment amounts for the remainder of the non-residential square footage within the Project on or before December 31st, before the Single Installment amount is automatically increased.

4.7 Net MDD/Water Availability Equivalents.

4.7.1 Assigned Net MDD/Water Availability Equivalents. The City has agreed with NMC Builders LLC to reserve exclusively for Members of NMC Builders, including OWNER, Net MDD made available through the construction of water system improvements funded by NMC Builders LLC. NMC Builders has assigned to OWNER its allocable share of the Net MDD issued by City. The provisions of the Construction Agreement Amendment requires that the City shall not approve a final tract map or issue building permits or certificates of occupancy for the area of development within the New Model Colony served by the water system improvements funded by NMC Builders LLC, except to the bearer of an Assignment of Net MDD Water Availability.

4.7.2 Use of Assigned Net MDD Water Availability. OWNER shall provide evidence of sufficient Net MDD Water Availability Equivalents (or portions thereof) prior to and as a condition precedent to, the City's approval of any and all tract maps for the Property. The amount of Net MDD Water Availability Equivalents required for City's approval of a tract map shall be based upon water demand factors and assumptions listed in Exhibit C-2R of the Construction Agreement Amendment as "Water Demand Equivalents by Land Use" for each land use category.

4.7.3 Requirement for other Water System Improvements. A Certificate of Net MDD Availability is evidence only of available water capacity and does not satisfy any other conditions applicable to an OWNER's Project, including those relating to design and construction of master-planned potable water and recycled water transmission and distribution system for the respective pressure zone and other public infrastructure requirements.

4.7.4 Effectiveness of Agreement. Notwithstanding anything set forth in this Agreement, CITY and OWNER each acknowledge, confirm, and agree that (i) the CITY approval of this Agreement and (ii) the effectiveness of this Agreement, in each case, are conditioned upon OWNER's admission to NMC Builders as a "Member" (if not already a Member) thereof pursuant to the terms and conditions of the operating agreement of NMC Builders within thirty (30) days following the Effective Date of this Agreement. OWNER'S failure to maintain membership in NMC Builders LLC is and shall be a Default under this Agreement.

4.8 Storm Water Capacity Availability.

4.8.1 Requirement for Storm Water Treatment Capacity Availability. OWNER shall provide evidence of sufficient Storm Water Treatment Capacity Availability as reserved in a Certificate of Storm Water Treatment Capacity Availability the same manner and subject to the same limitations as provided for the assignment of Certificates of Net MDD Availability in Section 4.7 of this Agreement.

4.8.2 Use of Storm Water Treatment Capacity Availability. The amount of Storm Water Treatment Capacity Availability required for the issuance of a grading permit to OWNER shall be based upon the Net Residential Acreage of the area to be graded regardless of the corresponding use.

4.8.3 Requirement for other Storm Water Improvements. The Certificate of Storm Water Treatment Capacity Availability is evidence only of available storm water treatment capacity and does not satisfy any other conditions applicable to a particular development project, including those relating to on-site water treatment, water quality, connection to the storm water collection system, or other public infrastructure requirements.

4.9 Maintenance of Open Space. OWNER shall provide for the ongoing maintenance of all park, common areas and open space areas within the Project as more particularly set forth in the Specific Plan, through a homeowners' association as approved by the CITY. Covenants, conditions and restrictions establishing any homeowners' association shall be approved by the Planning Director and City Attorney.

4.10 Compliance with Public Benefits Requirements.

4.10.1 Failure to Provide Public Benefits. In the event OWNER fails or refuses to comply with any condition referenced in Section 4.1 through 4.10, or challenges (whether administratively or through legal proceedings) the imposition of such conditions, OWNER shall be deemed in default of this Agreement pursuant to Section 8.4 hereof, thereby entitling the City to any and all remedies available to it, including, without limitation, the right of the City to withhold OWNER's Project-related building permits, certificates of occupancy, or discretionary approvals, without liability.

5. FINANCING OF PUBLIC IMPROVEMENTS.

5.1 Financing Mechanism(s). In accordance with the Memorandum of Agreement between the CITY and NMC Builders, CITY will cooperate with OWNER in the formation of a CFD, or CFDs, to include all of the Project, to provide a financing mechanism to reimburse the OWNER for funds paid to NMC Builders LLC for OWNER's share of the costs of public infrastructure pursuant to the Construction Agreement and to acquire other public facilities constructed by OWNER subject to the provisions of the Memorandum of Agreement between CITY and NMC Builders LLC. Notwithstanding such reimbursements and acquisitions, OWNER shall remain entitled to DIF Credits as provided for in Article 3 of the Construction Agreement and/or as provided for in a separate Fee Credit Agreement between CITY and OWNER. OWNER agrees that, prior

to the recordation of any Tract Map for the Property, the Property shall be included in a CFD to finance City services through annual special taxes that will initially be $1,443.71 per Single Family Detached Dwelling Unit, $1,251.15 per Multiple-Family Dwelling Unit, $1,048.96 per Gated Apartment Community Dwelling Unit, and $0.27 per square foot for Non-Residential buildings. These amounts shall be subject to an automatic increase at a rate not to exceed four (4%) percent per year, unless otherwise modified by the CITY. CITY shall be the sole and exclusive lead agency in the formation of any CFD, assessment district or other public financing mechanism within the Property; provided however, that the proceeds of any such CFD, assessment district, or financing mechanism may be used, subject to restrictions that may be imposed by applicable law, for the purposes of acquiring, constructing or maintaining public facilities to be owned or operated by other public agencies, including, without limitation those facilities owned or operated by a school district. In addition to the rights of the CITY pursuant to section 5.2 hereof, CITY shall have the right, but not the obligation, to condition the formation of any CFD, assessment district or other public financing mechanism within the Property on the OWNER mitigating all Project-related impacts to the applicable school district(s) as required by such school district(s). Written evidence by such school district(s) may be required by the CITY as the condition to the formation of any CFD, assessment district or other public financing mechanism within the Property, or any steps preliminary thereto, including, without limitation, the adoption of any resolution of intention to form such CFD, assessment district or other public financing mechanism within the Property. It is not the intent of the parties hereto, by this provision, to prohibit or otherwise limit the City's ability to take any and all necessary steps requisite to the formation of the CFD to finance City services through annual special taxes as set forth in this Section 5.1. Formation of any CFD, assessment district or other public financing mechanism within the Property, shall be subject to CITY's ability to make all findings required by applicable law and complying with all applicable legal procedures and requirements including, without limitation, CITY's public financing district policies as such policies may be amended from time to time. Notwithstanding the foregoing, it is acknowledged and agreed by the parties that nothing contained in this Agreement shall be construed as requiring CITY or the City Council to form any such district or to issue and sell bonds.

6. REVIEW FOR COMPLIANCE.

6.1 Periodic and Special Reviews.

6.1.1 Time for and Initiation of Periodic Review. The CITY shall review this Agreement every twelve (12) months from the Effective Date in order to ascertain the good faith compliance by the OWNER with the terms of this Agreement. The OWNER shall submit an Annual Monitoring Report to CITY, in a form acceptable to the City Manager, along with any applicable processing charge within ten (10) days after each anniversary date of the Effective Date of this Agreement. Within fifteen (15) days after the receipt of the Annual Monitoring Report, CITY shall review the Annual Monitoring Report. Prior to the expiration of the fifteen (15) day review period, CITY shall either issue a notice of continuing compliance or a notice of non-compliance and a notice of CITY's intent to conduct a Special Review

pursuant to Sections 6.1.2 through 6.1.6. Issuance of a notice of continuing compliance may be issued by the City Manager or his designee.

6.1.2 Initiation of Special Review. A special review may be called either by agreement between the parties or by initiation in one or more of the following ways:

(1) Recommendation of the Planning staff;

(2) Affirmative vote of at least four (4) members of the Planning Commission; or

(3) Affirmative vote of at least three (3) members of the City Council.

6.1.3 Notice of Special Review. The City Manager shall begin the special review proceeding by giving notice that the CITY intends to undertake a special review of this Agreement to the OWNER. Such notice shall be given at least ten (10) days in advance of the time at which the matter will be considered by the Planning Commission.

6.1.4 Public Hearing. The Planning Commission shall conduct a hearing at which the OWNER must demonstrate good faith compliance with the terms of this Agreement. The burden of proof on this issue is upon the OWNER.

6.1.5 Findings Upon Public Hearing. The Planning Commission shall determine upon the basis of substantial evidence whether or not the OWNER has, for the period under review, complied in good faith with the terms and conditions of this Agreement.

6.1.6 Procedure Upon Findings.

(a) If the Planning Commission finds and determines on the basis of substantial evidence that the OWNER has complied in good faith with the terms and conditions of this Agreement during the period under review, the review for that period is concluded.

(b) If the Planning Commission finds and determines on the basis of substantial evidence that the OWNER has not complied in good faith with the terms and conditions of this Agreement during the period under review, the Planning Commission may recommend to the City Council to modify or terminate this Agreement.

(c) The OWNER may appeal a determination pursuant to paragraph (b) to the City Council in accordance with the CITY's rule for consideration of appeals in zoning matters generally.

6.2 Proceedings Upon Modification or Termination. If, upon a finding under Section 6.1.6(b), the CITY determines to proceed with modification or termination of this Agreement, the CITY shall give notice to the property OWNER of its intention so to do. The notice shall contain:

(a) The time and place of the hearing;

(b) A statement as to whether or not the CITY proposes to terminate or to modify this Agreement; and

(c) Other information that the CITY considers necessary to inform the OWNER of the nature of the proceeding.

6.3 Hearing on Modification or Termination. At the time and place set for the hearing on modification or termination, the OWNER shall be given an opportunity to be heard. The OWNER shall be required to demonstrate good faith compliance with the terms and conditions of this Agreement. The burden of proof on this issue shall be on the OWNER. If the City Council finds, based upon substantial evidence in the administrative record, that the OWNER has not complied in good faith with the terms and conditions of the agreement, the City Council may terminate or modify this Agreement and impose those conditions to the action it takes as it considers necessary to protect the interests of the CITY. The decision of the City Council shall be final, subject only to judicial review pursuant to Section 1094.5 of the Code of Civil Procedure.

6.4 Certificate of Agreement Compliance. If, at the conclusion of a Periodic or Special Review, OWNER is found to be in compliance with this Agreement, CITY shall, upon written request by OWNER, issue a Certificate of Agreement Compliance ("Certificate") to OWNER stating that after the most recent Periodic or Special Review and based upon the information known or made known to the Planning Director and City Council that (1) this Agreement remains in effect and (2) OWNER is not in default. The Certificate shall be in recordable form, shall contain information necessary to communicate constructive record notice of the finding of compliance, shall state whether the Certificate is issued after a Periodic or Special Review and shall state the anticipated date of commencement of the next Periodic Review. OWNER may record the Certificate with the County Recorder. Whether or not the Certificate is relied upon by assignees or other transferees or OWNER, CITY shall not be bound by a Certificate if a default existed at the time of the Periodic or Special Review, but was concealed from or otherwise not known to the Planning Director or City Council.

7. [RESERVED]

8. DEFAULT AND REMEDIES.

8.1 Remedies in General. It is acknowledged by the parties that CITY would not have entered into this Agreement if it were to be liable in damages under this Agreement, or with respect to this Agreement or the application thereof.

In general, each of the parties hereto may pursue any remedy at law or equity available for the breach of any provision of this Agreement, except that CITY shall not be liable in damages to OWNER, or to any successor in interest of OWNER, or to any other person, and OWNER covenants not to sue for damages or claim any damages:

(a) For any breach of this Agreement or for any cause of action which arises out of this Agreement; or

(b) For the taking, impairment or restriction of any right or interest conveyed or provided under or pursuant to this Agreement; or

(c) Arising out of or connected with any dispute, controversy or issue regarding the application or interpretation or effect of the provisions of this Agreement.

8.2 Specific Performance. The parties acknowledge that money damages and remedies at law generally are inadequate and specific performance and other non-monetary relief are particularly appropriate remedies for the enforcement of this Agreement and should be available to all parties for the following reasons:

(a) Money damages are unavailable against CITY as provided in Section 8.1 above.

(b) Due to the size, nature and scope of the project, it may not be practical or possible to restore the Property to its natural condition once implementation of this Agreement has begun. After such implementation, OWNER may be foreclosed from other choices it may have had to utilize the Property or portions thereof. OWNER has invested significant time and resources and performed extensive planning and processing of the Project in agreeing to the terms of this Agreement and will be investing even more significant time and resources in implementing the Project in reliance upon the terms of this Agreement, and it is not possible to determine the sum of money which would adequately compensate OWNER for such efforts.

8.3 Release. Except for nondamage remedies, including the remedy of specific performance and judicial review as provided for in Section 6.5, OWNER, for itself, its successors and assignees, hereby releases the CITY, its officers, agents and employees from any and all claims, demands, actions, or suits of any kind or nature arising out of any liability, known or unknown, present or future, including, but not limited to, any claim or liability, based or asserted, pursuant to Article I, Section 19 of the California Constitution, the Fifth Amendment of the United States Constitution, or any other law or ordinance which seeks to impose any other liability or damage, whatsoever, upon the CITY because it entered into this Agreement or because of the terms of this Agreement.

8.4 Termination or Modification of Agreement for Default of OWNER. Subject to the provisions contained in Subsections 6.2 and 6.3 herein, CITY may terminate or modify this Agreement for any failure of OWNER to perform any material duty or obligation of OWNER under this Agreement, or to comply in good faith with the terms of this Agreement (hereinafter referred to as "default"); provided, however, CITY may terminate

or modify this Agreement pursuant to this Section only after providing written notice to OWNER of default setting forth the nature of the default and the actions, if any, required by OWNER to cure such default and, where the default can be cured, OWNER has failed to take such actions and cure such default within 60 days after the effective date of such notice or, in the event that such default cannot be cured within such 60 day period but can be cured within a longer time, has failed to commence the actions necessary to cure such default within such 60 day period and to diligently proceed to complete such actions and cure such default.

8.5 Termination of Agreement for Default of CITY. OWNER may terminate this Agreement only in the event of a default by CITY in the performance of a material term of this Agreement and only after providing written notice to CITY of default setting forth the nature of the default and the actions, if any, required by CITY to cure such default and, where the default can be cured, CITY has failed to take such actions and cure such default within 60 days after the effective date of such notice or, in the event that such default cannot be cured within such 60 day period but can be cured within a longer time, has failed to commence the actions necessary to cure such default within such 60 day period and to diligently proceed to complete such actions and cure such default.

9. THIRD PARTY LITIGATION.

9.1 General Plan Litigation. CITY has determined that this Agreement is consistent with its Comprehensive General Plan, as such General Plan exists as of the Effective Date ("General Plan"), and that the General Plan meets all requirements of law. OWNER has reviewed the General Plan and concurs with CITY's determination. CITY shall have no liability in damages under this Agreement for any failure of CITY to perform under this Agreement or the inability of OWNER to develop the Property as contemplated by the Development Plan of this Agreement as the result of a judicial determination that on the Effective Date, or at any time thereafter, the General Plan, or portions thereof, are invalid or inadequate or not in compliance with law.

9.2 Third Party Litigation Concerning Agreement. OWNER shall defend, at its expense, including attorneys' fees, indemnify, and hold harmless CITY, its agents, officers and employees from any claim, action or proceeding against CITY, its agents, officers, or employees to attack, set aside, void, or annul the approval of this Agreement or the approval of any permit granted pursuant to this Agreement. CITY shall promptly notify OWNER of any such claim, action or proceeding, and CITY shall cooperate in the defense. If CITY fails to promptly notify OWNER of any such claim, action or proceeding, or if CITY fails to cooperate in the defense, OWNER shall not thereafter be responsible to defend, indemnify, or hold harmless CITY. CITY may in its discretion participate in the defense of any such claim, action or proceeding.

9.3 Indemnity. In addition to the provisions of 9.2 above, OWNER shall indemnify and hold CITY, its officers, agents, employees and independent contractors free and harmless from any liability whatsoever, based or asserted upon any act or omission of OWNER, its officers, agents, employees, subcontractors and independent contractors, for property damage, bodily injury, or death (OWNER's employees included)

or any other element of damage of any kind or nature, relating to or in any way connected with or arising from the activities contemplated hereunder, including, but not limited to, the study, design, engineering, construction, completion, failure and conveyance of the public improvements, save and except claims for damages arising through the sole active negligence or sole willful misconduct of CITY. OWNER shall defend, at its expense, including attorneys' fees, CITY, its officers, agents, employees and independent contractors in any legal action based upon such alleged acts or omissions. CITY may in its discretion participate in the defense of any such legal action.

9.4 Environment Assurances. OWNER shall indemnify and hold CITY, its officers, agents, and employees free and harmless from any liability, based or asserted, upon any act or omission of OWNER, its officers, agents, employees, subcontractors, predecessors in interest, successors, assigns and independent contractors for any violation of any federal, state or local law, ordinance or regulation relating to industrial hygiene or to environmental conditions on, under or about the Property, including, but not limited to, soil and groundwater conditions, and OWNER shall defend, at its expense, including attorneys' fees, CITY, its officers, agents and employees in any action based or asserted upon any such alleged act or omission. CITY may in its discretion participate in the defense of any such action.

9.5 Reservation of Rights. With respect to Sections 9.2, 9.3 and 9.4 herein, CITY reserves the right to either (1) approve the attorney(s) which OWNER selects, hires or otherwise engages to defend CITY hereunder, which approval shall not be unreasonably withheld, or (2) conduct its own defense, provided, however, that OWNER shall reimburse CITY forthwith for any and all reasonable expenses incurred for such defense, including attorneys' fees, upon billing and accounting therefor.

9.6 Survival. The provisions of this Sections 9.1 through 9.6, inclusive, shall survive the termination of this Agreement.

10. MORTGAGEE PROTECTION.

The parties hereto agree that this Agreement shall not prevent or limit OWNER, in any manner, at OWNER's sole discretion, from encumbering the Property or any portion thereof or any improvement thereon by any mortgage, deed of trust or other security device securing financing with respect to the Property. CITY acknowledges that the lenders providing such financing may require certain Agreement interpretations and modifications and agrees upon request, from time to time, to meet with OWNER and representatives of such lenders to negotiate in good faith any such request for interpretation or modification. CITY will not unreasonably withhold its consent to any such requested interpretation or modification provided such interpretation or modification is consistent with the intent and purposes of this Agreement. Any Mortgagee of the Property shall be entitled to the following rights and privileges:

(a) Neither entering into this Agreement nor a breach of this Agreement shall defeat, render invalid, diminish or impair the lien of any mortgage on the Property made in good faith and for value, unless otherwise required by law.

(b) The Mortgagee of any mortgage or deed of trust encumbering the Property, or any part thereof, which Mortgagee, has submitted a request in writing to the CITY in the manner specified herein for giving notices, shall be entitled to receive written notification from CITY of any default by OWNER in the performance of OWNER's obligations under this Agreement.

(c) If CITY timely receives a request from a Mortgagee requesting a copy of any notice of default given to OWNER under the terms of this Agreement, CITY shall provide a copy of that notice to the Mortgagee within ten (10) days of sending the notice of default to OWNER. The Mortgagee shall have the right, but not the obligation, to cure the default during the remaining cure period allowed such party under this Agreement.

(d) Any Mortgagee who comes into possession of the Property, or any part thereof, pursuant to foreclosure of the mortgage or deed of trust, or deed in lieu of such foreclosure, shall take the Property, or part thereof, subject to the terms of this Agreement. Notwithstanding any other provision of this Agreement to the contrary, no Mortgagee shall have an obligation or duty under this Agreement to perform any of OWNER's obligations or other affirmative covenants of OWNER hereunder, or to guarantee such performance; provided, however, that to the extent that any covenant to be performed by OWNER is a condition precedent to the performance of a covenant by CITY, the performance thereof shall continue to be a condition precedent to CITY's performance hereunder, and further provided that any sale, transfer or assignment by any Mortgagee in possession shall be subject to the provisions of Section 2.4 of this Agreement.

11. MISCELLANEOUS PROVISIONS.

11.1 Recordation of Agreement. This Agreement and any amendment or cancellation thereof shall be recorded with the San Bernardino County Recorder by the City Clerk within the ten (10) days after the CITY executes this Agreement, as required by Section 65868.5 of the Government Code. If the parties to this Agreement or their successors in interest amend or cancel this Agreement as provided for herein and in Government Code Section 65868, or if the CITY terminates or modifies the agreement as provided for herein and in Government Code Section 65865.1 for failure of the applicant to comply in good faith with the terms or conditions of this Agreement, the City Clerk shall have notice of such action recorded with the San Bernardino County Recorder.

11.2 Entire Agreement. This Agreement sets forth and contains the entire understanding and agreement of the parties, and there are no oral or written representations, understandings or ancillary covenants, undertakings or agreements which are not contained or expressly referred to herein. No testimony or evidence of any such representations, understandings or covenants shall be admissible in any proceeding of any kind or nature to interpret or determine the terms or conditions of this Agreement.

11.3 Severability. If any term, provision, covenant or condition of this Agreement shall be determined invalid, void or unenforceable, the remainder of this Agreement shall not be affected thereby to the extent such remaining provisions are not rendered impractical to perform taking into consideration the purposes of this Agreement.

Notwithstanding the foregoing, the provision of the Public Benefits set forth in Section 4 of this Agreement, including the payment of the fees set forth therein, are essential elements of this Agreement and CITY would not have entered into this Agreement but for such provisions, and therefore in the event such provisions are determined to be invalid, void or unenforceable, this entire Agreement shall be null and void and of no force and effect whatsoever.

11.4 Interpretation and Governing Law. This Agreement and any dispute arising hereunder shall be governed and interpreted in accordance with the laws of the State of California. This Agreement shall be construed as a whole according to its fair language and common meaning to achieve the objectives and purposes of the parties hereto, and the rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be employed in interpreting this Agreement, all parties having been represented by counsel in the negotiation and preparation hereof.

11.5 Section Headings. All section headings and subheadings are inserted for convenience only and shall not affect any construction or interpretation of this Agreement.

11.6 Singular and Plural. As used herein, the singular of any word includes the plural.

11.7 Joint and Several Obligations. Subject to section 2.4, if at any time during the term of this Agreement the Property is owned, in whole or in part, by more than one owner, all obligations of such owners under this Agreement shall be joint and several, and the default of any such owner shall be the default of all such owners. Notwithstanding the foregoing, no owner of a single lot which has been finally subdivided and sold to such owner as a member of the general public or otherwise as an ultimate user shall have any obligation under this Agreement except as provided under Section 4 hereof.

11.8 Time of Essence. Time is of the essence in the performance of the provisions of this Agreement as to which time is an element.

11.9 Waiver. Failure by a party to insist upon the strict performance of any of the provisions of this Agreement by the other party, or the failure by a party to exercise its rights upon the default of the other party, shall not constitute a waiver of such party's right to insist and demand strict compliance by the other party with the terms of this Agreement thereafter.

11.10 No Third Party Beneficiaries. This Agreement is made and entered into for the sole protection and benefit of the parties and their successors and assigns. No other person shall have any right of action based upon any provision of this Agreement.

11.11 Force Majeure. Neither party shall be deemed to be in default where failure or delay in performance of any of its obligations under this Agreement is caused by floods, earthquakes, other Acts of God, fires, wars, riots or similar hostilities, strikes and other labor difficulties beyond the party's control, (including the party's employment force), government regulations, court actions (such as restraining orders or injunctions), or other

causes beyond the party's control. If any such events shall occur, the term of this Agreement and the time for performance by either party of any of its obligations hereunder may be extended by the written agreement of the parties for the period of time that such events prevented such performance, provided that the term of this Agreement shall not be extended under any circumstances for more than five (5) years.

11.12 Mutual Covenants. The covenants contained herein are mutual covenants and also constitute conditions to the concurrent or subsequent performance by the party benefited thereby of the covenants to be performed hereunder by such benefited party.

11.13 Successors in Interest. The burdens of this Agreement shall be binding upon, and the benefits of this Agreement shall inure to, all successors in interest to the parties to this Agreement. All provisions of this Agreement shall be enforceable as equitable servitudes and constitute covenants running with the land. Each covenant to do or refrain from doing some act hereunder with regard to development of the Property: (a) is for the benefit of and is a burden upon every portion of the Property; (b) runs with the Property and each portion thereof; and, (c) is binding upon each party and each successor in interest during ownership of the Property or any portion thereof.

11.14 Counterparts. This Agreement may be executed by the parties in counterparts, which counterparts shall be construed together and have the same effect as if all of the parties had executed the same instrument.

11.15 Jurisdiction and Venue. Any action at law or in equity arising under this Agreement or brought by a party hereto for the purpose of enforcing, construing or determining the validity of any provision of this Agreement shall be filed and tried in the Superior Court of the County of San Bernardino, State of California, and the parties hereto waive all provisions of law providing for the filing, removal or change of venue to any other court.

11.16 Project as a Private Undertaking. It is specifically understood and agreed by and between the parties hereto that the development of the Project is a private development, that neither party is acting as the agent of the other in any respect hereunder, and that each party is an independent contracting entity with respect to the terms, covenants and conditions contained in this Agreement. No partnership, joint venture or other association of any kind is formed by this Agreement. The only relationship between CITY and OWNER is that of a government entity regulating the development of private property and the owner of such property.

11.17 Further Actions and Instruments. Each of the parties shall cooperate with and provide reasonable assistance to the other to the extent contemplated hereunder in the performance of all obligations under this Agreement and the satisfaction of the conditions of this Agreement. Upon the request of either party at any time, the other party shall promptly execute, with acknowledgment or affidavit if reasonably required, and file or record such required instruments and writings and take any actions as may be reasonably necessary under the terms of this Agreement to carry out the intent and to fulfill the provisions of this Agreement or to evidence or consummate the transactions

contemplated by this Agreement. The City Manager may delegate his powers and duties under this Agreement to an Assistant City Manager or other management level employee of the CITY.

11.18 Eminent Domain. No provision of this Agreement shall be construed to limit or restrict the exercise by CITY of its power of eminent domain.

11.19 Agent for Service of Process. In the event OWNER is not a resident of the State of California or it is an association, partnership or joint venture without a member, partner or joint venturer resident of the State of California, or it is a foreign corporation, then in any such event, OWNER shall file with the Planning Director, upon its execution of this Agreement, a designation of a natural person residing in the State of California, giving his or her name, residence and business addresses, as its agent for the purpose of service of process in any court action arising out of or based upon this Agreement, and the delivery to such agent of a copy of any process in any such action shall constitute valid service upon OWNER. If for any reason service of such process upon such agent is not feasible, then in such event OWNER may be personally served with such process out of this County and such service shall constitute valid service upon OWNER. OWNER is amenable to the process so served, submits to the jurisdiction of the Court so obtained and waives any and all objections and protests thereto. OWNER for itself, assigns and successors hereby waives the provisions of the Hague Convention (Convention on the Service Abroad of Judicial and Extra Judicial Documents in Civil or Commercial Matters, 20 U.S.T. 361, T.I.A.S. No. 6638).

11.20 Estoppel Certificate. Within thirty (30) business days following a written request by any of the parties, the other party shall execute and deliver to the requesting party a statement certifying that (i) either this Agreement is unmodified and in full force and effect or there have been specified (date and nature) modifications to the Agreement, but it remains in full force and effect as modified; and (ii) either there are no known current uncured defaults under this Agreement or that the responding party alleges that specified (date and nature) defaults exist. The statement shall also provide any other reasonable information requested. The failure to timely deliver this statement shall constitute a conclusive presumption that this Agreement is in full force and effect without modification except as may be represented by the requesting party and that there are no uncured defaults in the performance of the requesting party, except as may be represented by the requesting party. OWNER shall pay to CITY all costs incurred by CITY in connection with the issuance of estoppel certificates under this Section 11.20 prior to CITY's issuance of such certificates.

11.21 Authority to Execute. The person or persons executing this Agreement on behalf of OWNER warrants and represents that he or she/they have the authority to execute this Agreement on behalf of his or her/their corporation, partnership or business entity and warrants and represents that he or she/they has/have the authority to bind OWNER to the performance of its obligations hereunder.

11.22 Prevailing Wage. OWNER, for itself, its successors, and assigns, agrees, covenants, and warrants that the development of the Property, if any, shall

comply with all applicable federal and state labor laws (including, without limitation, the requirement under California law to pay prevailing wages and hire apprentices), and all obligations as set forth herein.

11.22.1 CITY makes no representations concerning prevailing wages in compliance with California Labor Code Section 1770 et seq.

11.22.2. OWNER acknowledges and agrees that it shall be independently responsible for reviewing the applicable laws and regulations with respect to the payment of prevailing wages and complying therewith. OWNER shall bear all risks of payment or non-payment of prevailing wages under California law and/or the implementation of Labor Code Section 1781, as the same may be amended from time to time, and/or any other similar law.

11.22.3 The foregoing indemnity shall survive termination of this Agreement and shall continue after completion of the construction and development of the Property by OWNER, its successors or assigns. OWNER shall be solely responsible for determining and effectuating compliance with such laws.

11.22.4 OWNER, ON BEHALF OF ITSELF, ITS SUCCESSORS, AND ASSIGNS, WAIVES AND RELEASES CITY FROM ANY RIGHT OF ACTION THAT MAY BE AVAILABLE TO OWNER PURSUANT TO LABOR CODE SECTION 1781 OR THE DAVIS BACON ACT. RELATIVE TO THE WAIVER AND RELEASE CONTAINED IN THIS SECTION 11.22, OWNER ACKNOWLEDGES THE PROTECTIONS OF CIVIL CODE SECTION 1542, WHICH READS AS FOLLOWS: A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.

INITIALS. BY INITIALING BELOW, OWNER KNOWINGLY AND VOLUNTARILY WAIVES THE PROVISIONS OF SECTION 1542 SOLELY WITH THE MATTERS WHICH ARE THE SUBJECT OF THE FOREGOING WAIVERS AND RELEASES:

_____

(Owner's Initials)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year set forth below.

[SIGNATURES CONTAINED ON FOLLOWING PAGE]

SIGNATURE PAGE
TO DEVELOPMENT AGREEMENT NO. PDA22-005

"OWNER"

RB ONTARIO LLC, a Delaware limited liability company

By: **THE LANDMARK COMPANY LLC**, a California limited liability company, its Manager

By:_____
Name: Jeff Ragland
Title: Manager
Date: _____

"CITY"

CITY OF ONTARIO

By:_____
Scott Ochoa
City Manager

Date: _____

ATTEST:

_____
City Clerk, Ontario

APPROVED AS TO FORM:
BEST BEST KRIEGER, LLP

_____
City Attorney

ACKNOWLEDGEMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
COUNTY OF_____)

On _____, 20_____, before me,_____,
Date *Insert Name and Title of the Officer*

personally appeared _____
Name(s) of Signer(s)
_____, who proved to me on the basis of satisfactory evidence to be the person whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature_____
Signature of Notary Public

Place Notary Seal Above

ACKNOWLEDGEMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
COUNTY OF_____)

On _____, 20_____, before me _____,
Date Insert Name and Title of the Officer

personally appeared _____
Name(s) of Signer(s)

_____,
who proved to me on the basis of satisfactory evidence to be the person whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature_____
Signature of Notary Public

Place Notary Seal Above

EXHIBIT "A"
TO DEVELOPMENT AGREEMENT

Legal Description of Property

PARCEL A: (APN: 0218-111-60-0-000)
PARCEL 1 OF PARCEL MAP NO. 9486, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 107 OF PARCEL MAPS, PAGES 98 AND 99, RECORDS OF SAID COUNTY.

PARCEL A1: AN EASEMENT FOR A WELLSITE TOGETHER WITH THE CONSTRUCTION AND MAINTENANCE OF WATER PIPE LINES ALONG WITH SUCH RIGHTS APPURTENANT TO THE REPAIR AND MAINTENANCE OF PUMPING PLANT EQUIPMENT TOGETHER WITH ALL NECESSARY RIGHTS OF INGRESS AND EGRESS. SAID EASEMENT LAYING WITHIN PARCEL 2, PARCEL MAP NO. 9486, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 107 OF PARCEL MAPS, PAGES 98 AND 99, RECORDS OF SAID COUNTY, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PARCEL NO. 1: COMMENCING AT THE SOUTHWEST CORNER OF SAID PARCEL 2; THENCE SOUTH 89 DEG. 45' 04" EAST ALONG THE SOUTH LINE OF SAID PARCEL 2, A DISTANCE OF 360.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 0 DEG. 14' 56" EAST A DISTANCE OF 40.00 FEET; THENCE SOUTH 89 DEG. 45' 04" EAST A DISTANCE OF 40.00 FEET; THENCE SOUTH 0 DEG. 14' 56" WEST, A DISTANCE OF 40.00 FEET TO A POINT ON THE SOUTH LINE PARCEL 2; THENCE NORTH 89 DEG. 45' 04" WEST 40.00 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL NO. 2: A 20 FOOT EASEMENT LYING 10 FEET EITHER SIDE OF THE FOLLOWING DESCRIBED CENTERLINE: COMMENCING AT THE SOUTHWEST CORNER OF SAID PARCEL 2; THENCE SOUTH 89 DEG. 45' 04" EAST ALONG THE SOUTH LINE OF SAID PARCEL 2, A DISTANCE OF 360.00 FEET; THENCE NORTH 0 DEG. 14' 56" EAST A DISTANCE OF 10.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 89 DEG. 45' 04" WEST PARALLEL WITH THE SOUTH LINE OF SAID PARCEL 2, A DISTANCE OF 330.00 FEET; THENCE NORTH 0 DEG. 02' 14" WEST A DISTANCE OF 305.00 FEET, MORE OR LESS, TO THE POINT OF TERMINUS ON THE NORTH LINE OF SAID PARCEL 2.

PARCEL B: (APN: 0218-111-61-0-000) PARCEL 2 OF PARCEL MAP NO. 9486, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 107 OF PARCEL MAPS, PAGES 98 AND 99, RECORDS OF SAID COUNTY.

EXHIBIT "B"
TO DEVELOPMENT AGREEMENT

Map showing Property and its location

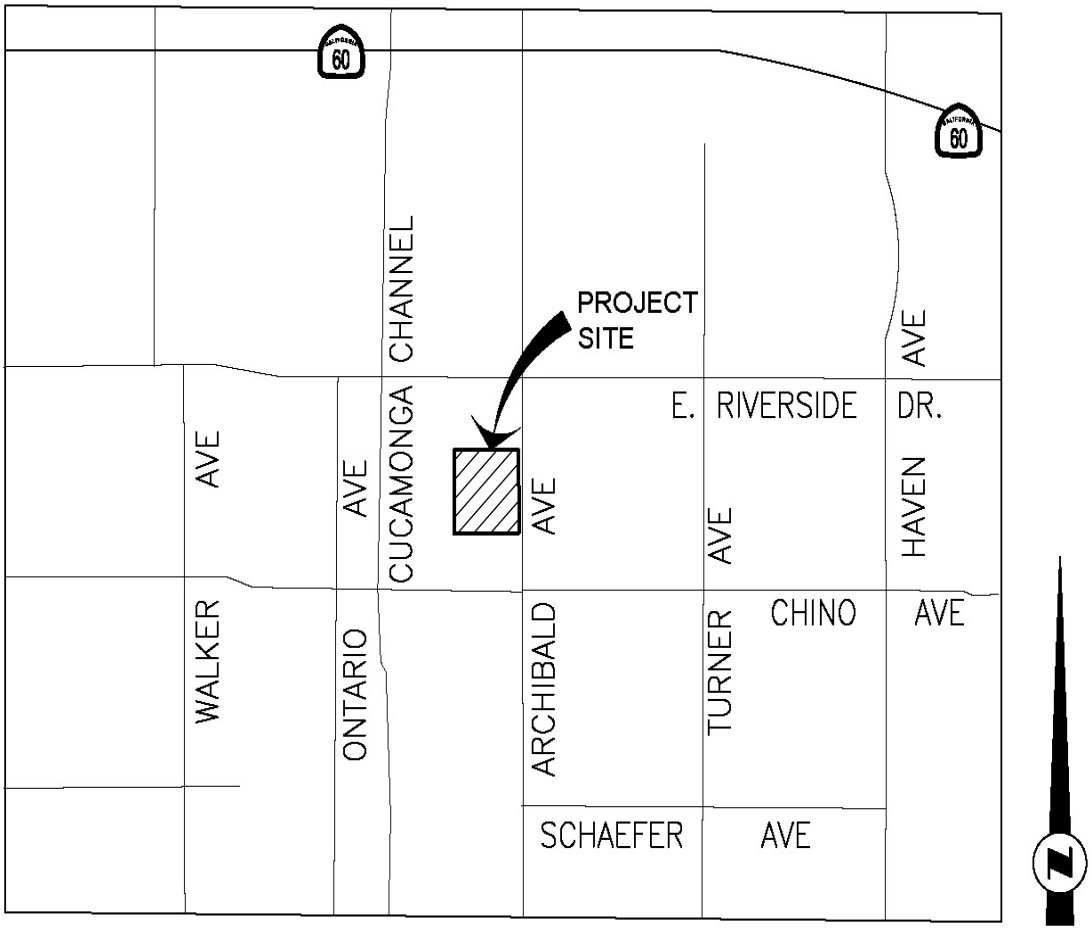


EXHIBIT "C"
TO DEVELOPMENT AGREEMENT

Existing Development Approvals

On March 28, 2006, the Planning Commission:

a) Issued Resolution No. PC06-020 recommending City Council adopt and certify the Countryside Specific Plan Environmental Impact Report (SCH #2004071001).

b) Issued Resolution No. PC06-021 recommending City Council approval of the Countryside Specific Plan (PSP04-001).

On April 18, 2006, the City Council:

a) Issued Resolution No. 2006-013 certifying the Countryside Specific Plan Environmental Impact Report.

On April 25, 2006, the Planning Commission:

a) Issued Resolution No. PC06-031, recommending the City Council approval of an amendment (File No. PSPA06-003) to the Countryside Specific Plan.

On May 2, 2006, the City Council:

a) Issued Ordinance No. 2828 approving the Countryside Specific Plan (PSP04-001).

On June 20, 2006 the City Council:

a) Issued Ordinance No. 2830 approving an amendment to the Countryside Specific Plan (File No. PSPA06-063).

EXHIBIT "D"
TO DEVELOPMENT AGREEMENT

Existing Land Use Regulations

These documents are listed for reference only:

1. Countryside Specific Plan (File No. PSP04-001), Ordinance No. 2828

2. Countryside Specific Plan Environmental Impact Report (SCH# 2004071001)

3. Countryside Specific Plan (File No. PSPA06-063), Ordinance No. 2830

4. Countryside Specific Plan Amendment (File No. PSPA19-001)

5. City of Ontario Municipal Code
    a. Six – Sanitation & Health
    b. Seven – Public Works
    c. Eight – Building Regulations
    d. Nine – Development Code
    e. Ten – Parks & Recreation

EXHIBIT "E"
TO DEVELOPMENT AGREEMENT

Description of Required Improvements

OWNER shall design, construct, and complete all improvements including but not limited to sewer, water, recycled water, storm drain, fiber, and street improvements necessary to serve the Property, prior to the request of any Production Units.

Fiber Optic (FO) Improvements

a) FO improvements along Archibald Avenue from the northerly tract boundary to the southerly tract boundary.

Street (ST) Improvements

a) Full half-width ST improvements along Archibald Avenue from the northernly tract boundary to the southerly tract boundary.
b) Traffic Signal improvements at the intersection of Private Drive “A” and Archibald Avenue.

EXHIBIT "F"
TO DEVELOPMENT AGREEMENT

Depiction of Required Infrastructure Improvements

(SEE ATTACHED)

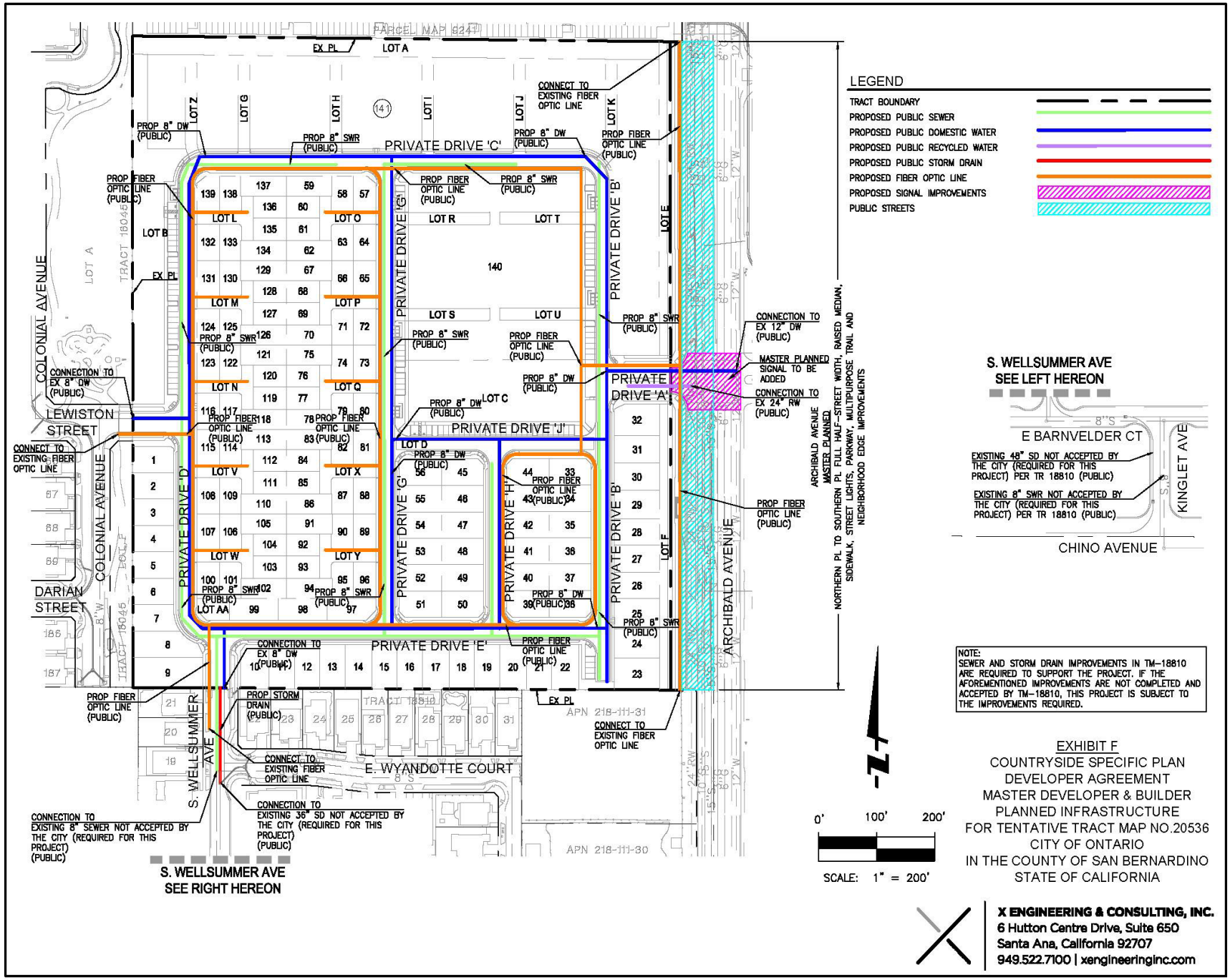


EXHIBIT F
COUNTRYSIDE SPECIFIC PLAN
DEVELOPER AGREEMENT
MASTER DEVELOPER & BUILDER
PLANNED INFRASTRUCTURE
FOR TENTATIVE TRACT MAP NO.20536
CITY OF ONTARIO
IN THE COUNTY OF SAN BERNARDINO
STATE OF CALIFORNIA

X ENGINEERING & CONSULTING, INC.
6 Hutton Centre Drive, Suite 650
Santa Ana, California 92707
949.522.7100 | xengineeringinc.com

EXHIBIT "G"
TO DEVELOPMENT AGREEMENT

Form of Plume Disclosure Letter

CITY OF ONTARIO

ONTARIO MUNICIPAL UTILITIES COMPANY

PAUL S. LEON
MAYOR

DEBRA DORST-PORADA
MAYOR PRO TEM

ALAN D. WAPNER
JIM W. BOWMAN
RUBEN VALENCIA
COUNCIL MEMBERS

AL C. BOLING
CITY MANAGER

SHEILA MAUTZ
CITY CLERK

JAMES R. MILHISER
TREASURER

SCOTT BURTON
UTILITIES GENERAL MANAGER

March 2017

DISCLOSURE NOTICE
SOUTH ARCHIBALD TRICHLOROETHYLENE PLUME

Dear Property Owner/Developer/Applicant:

The City of Ontario ("City") has approved or will be approving development in the Ontario Ranch area in the next few years, subject to the appropriate and required statutory process. This letter is intended to serve as notice to all potential property owners of the existence of a groundwater plume, known as the South Archibald Trichloroethylene (TCE) Plume which may exist in, under or near owner's property.

The groundwater plume is in an area in the central Chino Basin south of the Pomona Freeway, west of Turner Avenue, east of Grove Avenue, and north of Kimball Avenue. The plume primarily consists of TCE, a discontinued industrial solvent, and is subject to a clean-up under the oversight and direction of the Santa Ana Regional Water Quality Control Board ("Regional Board").

The Regional Board's approved clean-up procedure involves the removal and treatment of groundwater containing TCE via groundwater wells to reduce the plume concentrations and control its migration. In addition, the City is providing potable water supplies for domestic purposes to residences with private domestic wells affected by the plume. Finally, the Regional Board will continue to monitor all impacted areas and private domestic wells to ensure that residents' health and the environment are properly safeguarded. These remedial actions are documented in a Remedial Action Plan approved by the Regional Board in September 2016.

Further and current information may be found on the Regional Board's Geotracker website at https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000004658.

Property owners may wish to include this letter as a part of a Real Estate Transfer Disclosure under California Civil Code Section 1102 et seq.

1425 SOUTH BON VIEW · ONTARIO, CALIFORNIA 91761-4406 · (909) 395-2605 · FAX (909) 395-2601

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PDA22-005, A DEVELOPMENT AGREEMENT BETWEEN THE CITY OF ONTARIO AND RB ONTARIO LLC, TO ESTABLISH THE TERMS AND CONDITIONS ASSOCIATED WITH TENTATIVE TRACT MAP NO. 20536 (FILE NO. PMTT22-021), A 23.2 ACRE PROPERTY LOCATED APPROXIMATELY 875 FEET SOUTH OF THE INTERSECTION OF RIVERSIDE DRIVE AND ARCHIBALD AVENUE, WITHIN PLANNING AREA 1 (NEIGHBORHOOD 2) LAND USE DISTRICT OF THE COUNTRYSIDE SPECIFIC PLAN (FILE NO. PSP04-001); AND MAKING FINDINGS IN SUPPORT THEREOF - APNS: 0218-111-60 AND 0218-111-61.

WHEREAS, RB Ontario LLC ("Applicant") has filed an Application for the approval of a Development Agreement, File No. PDA22-005, as described in the title of this Resolution (hereinafter referred to as "Application" or "Project"); and

WHEREAS, the Application applies to 23.2 acres of land located approximately 875 south of the intersection of Riverside Drive and Archibald Avenue, within Planning Area 1 (Neighborhood 2) land use district of the Countryside Specific Plan; and

WHEREAS, the Applicant has submitted a Tentative Tract Map 20536 (File No. PMTT22-021) to subdivide 23.2 acres of land into 141 numbered lots and 27 lettered lots, to facilitate the potential development of 265 dwelling units, parkland, private recreation area, private drives, and private alleys; and

WHEREAS, an Addendum to the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001), which was certified by the City Council on April 18, 2006, was prepared to be consistent with The Ontario Plan 2050 and associated Supplemental Environmental Impact Report (SEIR) (State Clearinghouse No. 2021070364), which was certified by the City Council on August 16, 2022. This application introduces no new significant environmental; and

WHEREAS, Ontario Development Code Table 2.02-1 (Review Matrix) grants the Planning Commission the responsibility and authority to review and make recommendations to the City Council on the subject Application; and

WHEREAS, the Project has been reviewed for consistency with the Housing Element of the Policy Plan component of The Ontario Plan, as State Housing Element law (as prescribed in Government Code Sections 65580 through 65589.8) requires that development projects must be consistent with the Housing Element, if upon consideration of all its aspects, it is found to further the purposes, principals, goals, and policies of the Housing Element; and

WHEREAS, the Project is located within the Airport Influence Area of Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and is subject to, and must be consistent with, the policies and criteria set forth in the Ontario International Airport Land Use Compatibility Plan (hereinafter referred to as "ALUCP"), which applies only to jurisdictions within San Bernardino County, and addresses the noise, safety, airspace protection, and overflight impacts of current and future airport activity; and

WHEREAS, City of Ontario Development Code Division 2.03 (Public Hearings) prescribes the manner in which public notification shall be provided and hearing procedures to be followed, and all such notifications and procedures have been completed; and

WHEREAS, City of Ontario Development Code Division 2.03 (Public Hearings) prescribes the manner in which public notification shall be provided and hearing procedures to be followed, and all such notifications and procedures have been completed; and

WHEREAS, on May 23, 2023, the Planning Commission of the City of Ontario conducted a hearing to consider the Project, and concluded said hearing on that date, voting to issue Resolution No. PC23-041 recommending the City Council approve the Application; and

WHEREAS, on June 20, 2023, the City Council of the City of Ontario conducted a hearing to consider the Project, and concluded said hearing on that date; and

WHEREAS, all legal prerequisites to the adoption of this Ordinance have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND ORDAINED by the City Council of the City of Ontario, as follows:

SECTION 1. ***Environmental Determination and Findings.*** As the decision-making body for the Project, the City Council has reviewed and considered the information contained in the administrative record for the Project. Based upon the facts and information contained in the administrative record, including all written and oral evidence presented to the City Council, the City Council finds as follows:

(1) The environmental impacts of the Project were reviewed in conjunction with an Addendum to Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 200407100; certified by the Ontario City Council on April 16, 2006 in conjunction with File No. PSP04-001), was prepared to be consistent with The Ontario Plan 2050 and associated Supplemental Environmental Impact Report (SEIR) (State Clearinghouse No. 2021070364), which was certified by the City Council on August 16, 2022; and

(2) The EIR Addendum and administrative record have been completed in compliance with CEQA, the State CEQA Guidelines, and the City of Ontario Local CEQA Guidelines; and

(3) The City's "Guidelines for the Implementation of the California Environmental Quality Act (CEQA)" provide for the use of a single environmental assessment in situations where the impacts of subsequent projects are adequately analyzed. This Application introduces no new significant environmental impacts; and

(4) All previously adopted mitigation measures shall be a condition of project approval, as they are applicable to the Project, and are incorporated herein by this reference; and

(5) The EIR Addendum contains a complete and accurate reporting of the environmental impacts associated with the Project, and reflects the independent judgment of the Planning Commission; and

(6) There is no substantial evidence in the administrative record supporting a fair argument that the project may result in significant environmental impacts

SECTION 2. ***Subsequent or Supplemental Environmental Review Not Required.*** Based on the EIR Addendum, all related information presented to the City Council, and the specific findings set forth in Section 1, above, the City Council finds that the preparation of a subsequent or supplemental Certified EIR is not required for the Project, as the Project:

(1) Does not constitute substantial changes to the Certified EIR that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and

(2) Does not constitute substantial changes with respect to the circumstances under which the Certified EIR was prepared, that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects; and

(3) Does not contain new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the Certified EIR was certified/adopted, that shows any of the following:

(a) The Project will have one or more significant effects not discussed in the Certified EIR; or

(b) Significant effects previously examined will be substantially more severe than shown in the Certified EIR; or

(c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the Project, but the City declined to adopt such measures; or

(d) Mitigation measures or alternatives considerably different from those analyzed in the Certified EIR would substantially reduce one or more significant effects on the environment, but which the City declined to adopt.

SECTION 3. ***Housing Element Compliance.*** Pursuant to the requirements of California Government Code Chapter 3, Article 10.6, commencing with Section 65580, as the decision-making body for the Project, the City Council finds that based upon the facts and information contained in the Application and supporting documentation, at the time of Project implementation, the project is consistent with the Housing Element of the Policy Plan (General Plan) component of The Ontario Plan, as the project site is not one of the properties in the Housing Element Sites Inventory contained in Tables B-1 and B-2 of the Housing Element Technical Report.

SECTION 4. ***Airport Land Use Compatibility Plan ("ALUCP") Compliance.*** The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

(1) On April 19, 2011, the City Council of the City of Ontario approved and adopted the Ontario International Airport Land use Compatibility Plan, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the decision-making body for the Project, the City Council has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the City Council, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the ONT ALUCP; and

SECTION 5. ***Concluding Facts and Reasons.*** Based upon the substantial evidence presented to the City Council during the above-referenced hearing, and upon the specific findings set forth in Section 1 through 4, above, the City Council hereby concludes as follows:

(1) The Development Agreement applies to approximately 23.2 acres of land located approximately 875 feet south of the intersection of Riverside Drive and Archibald Avenue, within Planning Area 1 (Neighborhood 2) land use district of the Countryside Specific Plan (File No. PSP04-001); and

(2) The Development Agreement establishes parameters for the development of land within the Countryside Specific Plan. The Development Agreement also grants the Applicant, the right to develop, the ability to quantify the fees; and establish the terms and conditions that apply to those projects. These terms and conditions are consistent with The Ontario Plan Policy Plan (General Plan), design guidelines and development standards for the Countryside Specific Plan; and

(3) The Development Agreement grants the Applicant a vested right to develop Tentative Parcel Map 20536 (File No. PMTT22-021) as long as the Applicant complies with the terms and conditions of the Countryside Specific Plan and EIR. Tentative Tract Map 20536 is located approximately 875 feet south of the intersection of Riverside Drive and Archibald Avenue, within Planning Area 1 (Neighborhood 2) land use district of the Countryside Specific Plan, and proposes to subdivide 23.2 acres of land into 141 numbered lots and 27 lettered lots, to facilitate the development of 265 dwelling units, parkland, private recreation area, private drives, and private alleys; and

(4) The Development Agreement has been prepared in conformance with the goals and policies of The Ontario Plan Policy Plan (General Plan); and

(5) The Development Agreement does not conflict with the Land Use Policies of The Ontario Plan Policy Plan (General Plan) and will provide for development, within the district, in a manner consistent with the Policy Plan and with related development; and

(6) This Development Agreement will promote the goals and objectives of the Land Use Element of the Policy Plan; and

(7) This Development Agreement will not be materially injurious or detrimental to the adjacent properties and will not have a significant impact on the environment or the surrounding properties. An Addendum to the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001), which was certified by the City Council on April 18, 2006, was prepared to be consistent with The Ontario Plan 2050 and associated Supplemental Environmental Impact Report (SEIR) (State Clearinghouse No. 2021070364), which was certified by the City Council on August 16, 2022; and

(8) This Application introduces no new significant environmental impacts. All previously adopted mitigation measures are a condition of project approval and are incorporated herein by this reference.

SECTION 6. ***City Council Action.*** Based upon the findings and conclusions set forth in Sections 1 through 5, above, the City Council hereby APPROVES the herein described Development Agreement (File No. PDA22-005), attached hereto as "Attachment A," and incorporated herein by this reference. City Council's approval of the Development Agreement is contingent upon the approval of the following:

(a) Countryside Specific Plan Amendment (File No. PSPA22-002);
(b) EIR Addendum to the Countryside Specific Plan (File No. PSP04-001); and
(c) Applicant's acquisition of the Property.

If the City Council does not approve the Specific Plan Amendment (File No. PSPA22-002), EIR Addendum to the Countryside Specific Plan (File No. PSP04-001), and/or the Applicant does not acquire the Property, this Ordinance shall become null and void and of no further force and effect.

SECTION 7. **City Manager Administrative Authority**. The City Manager, with the approval of the City Attorney, shall be authorized to make any minor clarifying and conforming changes to the Development Agreement, including but not limited to modifying the owner's name upon its acquisition of the Property.

SECTION 8. ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 9. ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East "B" Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

SECTION 10. ***Severability.*** If any section, sentence, clause or phrase of this Ordinance or the application thereof to any entity, person or circumstance is held for any reason to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect other provisions or applications of this Ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this Ordinance are severable. The People of the City of Ontario hereby declare that they would have adopted this Ordinance and each section, sentence, clause or phrase thereof, irrespective of the fact that any one or more section, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

SECTION 11. ***Effective Date.*** This Ordinance shall become effective 30 days following its adoption.

SECTION 12. ***Publication and Posting.*** The Mayor shall sign this Ordinance and the City Clerk shall certify as to the adoption and shall cause a summary thereof to be published at least once, in a newspaper of general circulation in the City of Ontario, California within 15 days following the adoption. The City Clerk shall post a certified copy of this ordinance, including the vote for and against the same, in the Office of the City Clerk, in accordance with Government Code Section 36933.

PASSED, APPROVED, AND ADOPTED this ____ day of _____ 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Ordinance No. _____ was duly introduced at a regular meeting of the City Council of the City of Ontario held June 20, 2023 and adopted at the regular meeting held _____, 20___ by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

I hereby certify that the foregoing is the original of Ordinance No. _____ duly passed and adopted by the Ontario City Council at their regular meeting held _____ and that Summaries of the Ordinance were published on _____ and _____, in the Inland Valley Daily Bulletin newspaper.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

ATTACHMENT A:

FILE NO. PDA22-005

DEVELOPMENT AGREEMENT

By and Between

City of Ontario
a California municipal corporation

and

RB Ontario LLC
a Delaware limited liability company

(Development Agreement to follow this page)

RECORDING REQUESTED BY AND
WHEN RECORDED MAIL TO:

CITY OF ONTARIO
CITY CLERK / RECORDS MANAGEMENT
303 EAST "B" STREET
ONTARIO, CA 91764-4196

Exempt from Fees Per Gov. Code § 6103

Space above this line for Recorder's Use Only

FILE NO. PDA22-005

DEVELOPMENT AGREEMENT

By and Between

City of Ontario
a California municipal corporation

and

RB Ontario LLC
a Delaware limited liability company

_____, 2023

San Bernardino County, California

DEVELOPMENT AGREEMENT NO. PDA22-005

This Development Agreement (hereinafter "Agreement") is entered into effective as of the ____ day of _____, 2023 by and among the City of Ontario, a California municipal corporation (hereinafter "CITY"), and RB Ontario LLC, a Delaware limited liability company (hereinafter "OWNER"):

RECITALS

WHEREAS, CITY is authorized to enter into binding development agreements with persons having legal or equitable interests in real property for the development of such property, pursuant to Section 65864, et seq. of the Government Code; and

WHEREAS, OWNER has requested CITY to enter into a development agreement and proceedings have been taken in accordance with the rules and regulations of CITY; and

WHEREAS, by electing to enter into this Agreement, CITY shall bind future City Councils of CITY by the obligations specified herein and limit the future exercise of certain governmental and proprietary powers of CITY; and

WHEREAS, the terms and conditions of this Agreement have undergone extensive review by CITY and the City Council and have been found to be fair, just and reasonable; and

WHEREAS, the best interests of the citizens of the CITY and the public health, safety and welfare will be served by entering into this Agreement; and

WHEREAS, all of the procedures of the California Environmental Quality Act have been met with respect to the Project and the Agreement in that Countryside Specific Plan (State Clearinghouse No. 2006051081 (the "FEIR"). The City Council found and determined that the FEIR was prepared in accordance with the requirements of the California Environmental Quality Act and adequately describes the impacts of the project described in the FEIR, which included consideration of this Agreement; and

WHEREAS, this Agreement and the Project are consistent with the CITY's Comprehensive General Plan and the Countryside Specific Plan; and

WHEREAS, all actions taken and approvals given by CITY have been duly taken or approved in accordance with all applicable legal requirements for notice, public hearings, findings, votes, and other procedural matters; and

WHEREAS, development of the Property in accordance with this Agreement will provide substantial benefits to CITY and will further important policies and goals of CITY; and

WHEREAS, this Agreement will eliminate uncertainty in planning and provide for the orderly development of the Property, ensure progressive installation of necessary

improvements, provide for public services appropriate to the development of the Project, and generally serve the purposes for which development agreements under Sections 65864 et seq. of the Government Code are intended; and

WHEREAS, OWNER has incurred and will in the future incur substantial costs in excess of the generally applicable requirements in order to assure vesting of legal rights to develop the Property in accordance with this Agreement; and

WHEREAS, the Property is located in an area of the City of Ontario that has been known as the "New Model Colony" area and the New Model Colony area has now been renamed as "Ontario Ranch."; and

WHEREAS, the property developer/owners are made aware of the South Archibald Trichloroethylene (TCE) Plume Disclosure Letter (Exhibit "G"). Property owner may wish to provide the attached Letter as part of the Real Estate Transfer Disclosure requirements under California Civil Code Section 1102 et seq. This may include notifications in the Covenants, Conditions and Restrictions (CC&Rs) or other documents related to property transfer and disclosures. Additional information on the plume is available from the Santa Ana Regional Water Quality Control Board at http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000004658.

COVENANTS

NOW, THEREFORE, in consideration of the above recitals and of the mutual covenants hereinafter contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. DEFINITIONS AND EXHIBITS.

1.1 Definitions. The following terms when used in this Agreement shall be defined as follows:

1.1.1 "Agreement" means this Development Agreement.

1.1.2 "CITY" means the City of Ontario, California, a California municipal corporation.

1.1.3 "Construction Agreement" means that certain Agreement for the Financing and Construction of Phases I and II Infrastructure Improvements to Serve an Easterly Portion of the New Model Colony, entered into between the CITY and NMC Builders as of the 4th day of October, 2005, and all amendments thereto and "Construction Agreement Amendment" means that First Amended and Restated Agreement for the Financing and Construction of Limited Infrastructure Improvements to Serve and Easterly Portion of the New Model Colony entered into between the CITY and NMC Builders as of the 21st day of August 2012.

1.1.4 “Development” means the improvement of the Property for the purposes of completing the structures, improvements and facilities comprising the Project including, but not limited to: grading; the construction of public infrastructure and public facilities related to the Project whether located within or outside the Property; the construction of buildings and structures; and the installation of landscaping. “Development” does not include the maintenance, repair, reconstruction or redevelopment of any building, structure, improvement or facility after the construction and completion thereof.

1.1.5 “Development Approvals” means all permits and other entitlements for use subject to approval or issuance by CITY in connection with development of the Property including, but not limited to:

(a) specific plans and specific plan amendments;

(b) tentative and final subdivision and parcel maps;

(c) development plan review;

(d) conditional use permits (including model home use permits), public use permits and plot plans;

(e) zoning;

(f) grading and building permits.

1.1.6 “Development Exaction” means any requirement of CITY in connection with or pursuant to any Land Use Regulation or Development Approval for the dedication of land, the construction of improvements or public facilities, or the payment of fees in order to lessen, offset, mitigate or compensate for the impacts of development on the environment or other public interests.

1.1.7 “Development Impact Fee” means a monetary exaction, other than a tax or special assessment, whether characterized as a fee or a tax and whether established for a broad class of projects by legislation of general applicability or imposed on a specific project on an ad hoc basis, that is charged by a local agency to the applicant in connection with approval of a development project for the purpose of defraying all or a portion of the cost of public facilities related to the development project, and, for purposes of this Agreement only, includes fees collected under development agreements adopted pursuant to Article 2.5 of the Government Code (commencing with Section 65864) of Chapter 4, For purposes of this Agreement only, "Development Impact Fee" shall not include processing fees and charges imposed by CITY to cover the estimated actual costs to CITY of processing applications for Development Approvals or for monitoring compliance with any Development Approvals granted or issued, including, without limitation, fees for zoning variances; zoning changes; use permits; building inspections; building permits; filing and processing applications and petitions filed with the local agency formation commission or conducting preliminary proceedings or proceedings under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000,

Division 3 (commencing with Section 56000) of Title 5 of the Government Code; the processing of maps under the provisions of the Subdivision Map Act, Division 2 (commencing with Section 66410) of Title 7 of the Government Code; or planning services under the authority of Chapter 3 (commencing with Section 65100) of Division 1 of Title 7 of the Government Code, fees and charges as described in Sections 51287, 56383, 57004, 65104, 65456, 65863.7, 65909.5, 66013, 66014, and 66451.2 of the Government Code, Sections 17951, 19132.3, and 19852 of the Health and Safety Code, Section 41901 of the Public Resources Code, and Section 21671.5 of the Public Utilities Code, as such codes may be amended or superceded, including by amendment or replacement.

1.1.8 "Development Plan" means the Existing Development Approvals and the Existing Land Use Regulations applicable to development of the Property.

1.1.9 "Effective Date" means the date that the ordinance approving this Agreement goes into effect.

1.1.10 "Existing Development Approvals" means all Development Approvals approved or issued prior to the Effective Date. Existing Development Approvals includes the Approvals incorporated herein as Exhibit "C" and all other Approvals which are a matter of public record on the Effective Date.

1.1.11 "Existing Land Use Regulations" means all Land Use Regulations in effect on the Effective Date. Existing Land Use Regulations includes the Regulations incorporated herein as Exhibit "D" and all other Land Use Regulations that are in effect and a matter of public record on the Effective Date.

1.1.12 "General Plan" means the General Plan adopted on August 16, 2022.

1.1.13 "Improvement" or "Improvements" means those public improvements required to support the development of the Project as described in the Tract Map conditions for Tract No. 20536 as further described in Exhibit "E" and depicted in Exhibit "F" (the "Infrastructure Improvements Exhibit").

1.1.14 "Land Use Regulations" means all ordinances, resolutions, codes, rules, regulations and official policies of CITY governing the development and use of land, including, without limitation, the permitted use of land, the density or intensity of use, subdivision requirements, timing and phasing of development, the maximum height and size of buildings, the provisions for reservation or dedication of land for public purposes, and the design, improvement and construction standards and specifications applicable to the development of the Property. "Land Use Regulations" does not include any CITY ordinance, resolution, code, rule, regulation or official policy, governing:

(a) the conduct of businesses, professions, and occupations;

(b) taxes and assessments;

(c) the control and abatement of nuisances;

(d) the granting of encroachment permits and the conveyance of similar rights and interests that provide for the use of or the entry upon public property;

(e) the exercise of the power of eminent domain.

1.1.15 “Mortgagee” means a mortgagee of a mortgage, a beneficiary under a deed of trust or any other security-device lender, and their successors and assigns.

1.1.16 “Net MDD” means net maximum daily water demand.

1.1.17 “NMC Builders” means the consortium of investors and developers responsible for the construction of infrastructure within the New Model Colony incorporated as NMC Builders, LLC.

1.1.18 “Model Units” means a maximum of ten (10) model units, private common recreation facilities and sales facilities constructed by OWNER prior to the construction of any Production units and not offered for sale and occupancy for a period of time after the issuance of permits for Production Units.

1.1.19 “OWNER” means the persons and entities listed as owner on page 1 of this Agreement and their permitted successors in interest to all or any part of the Property.

1.1.20 “Phase 2 Water EDUs” means the number of equivalent dwelling units or non-residential square footage assigned to OWERN upon payment to CITY of the Phase 2 Water Participation Fee for the Project and evidenced by the issuance by CITY of a Certificate of Phase 2 Net MDD Availability in the form attached as Exhibit “G”. 1.1.21 “Phase 2 Water Improvements” means the future water infrastructure Improvements required for the issuance by CITY of the “Water Availability Equivalents” (WAE) for the Project.

1.1.21 “Phase 2 Water Participation Fee” means the fee paid to City upon City approval of the first Development Entitlement for the Project, to fund the Property’s respective share of the projected costs of the design and construction of the Phase 2 Water Improvements by City. The Phase 2 Water Participation Fee shall be the calculated amount of the Regional Water DIF for the Project based upon the number of units, and land use category for residential units or the number of square feet, and land use category for non-residential square footage of the Project.

1.1.22 “Production Unit(s)” means all units constructed for sale and occupancy by OWNER and excludes the specified number of Model Units constructed by OWNER for promotion of sales.

1.1. 23 “Project” means the development of the Property contemplated by the Development Plan, as such Plan may be further defined, enhanced or modified pursuant to the provisions of this Agreement.

1.1.24 “Property” means the real property described on Exhibit “A” and shown on Exhibit “B” to this Agreement.

1.1.25 “Reservations of Authority” means the rights and authority excepted from the assurances and rights provided to OWNER under this Agreement and reserved to CITY under Section 3.6 of this Agreement.

1.1.26 “Specific Plan” means that certain specific plan adopted by the City Council, and entitled, “Countryside Specific Plan.”

1.1.27 "Storm Water Treatment Capacity Availability” means a designated portion of the total Storm Water Treatment Capacity Availability made available through the completion of construction of a Phase of regional storm water treatment facilities by the NMC Builders LLC as described in the Construction Agreement Amendment. The amount, in acres, of Storm Water Treatment Capacity Availability required for the issuance of a grading permit shall be based upon the factors and assumptions listed in the Construction Agreement Amendment.

1.1.28 “Subsequent Development Approvals” means all Development Approvals required subsequent to the Effective Date in connection with development of the Property.

1.1.29 “Subsequent Land Use Regulations” means any Land Use Regulations adopted and effective after the Effective Date of this Agreement.

1.1.30 “Water Availability Equivalent (WAE)” means a designated portion of the total Net MDD made available through the construction of each Phase described in the Water Phasing Plan of the Construction Agreement. The number of Water Availability Equivalents (of portions thereof) required for the issuance of each building permit shall be based upon water demand factors and assumptions listed in the Construction Agreement and Construction Agreement Amendment as “Water Availability Equivalents by Land Use” for each land use category.

1.1.31 “Amendment to the Construction Agreement” means the amendment to the Construction Agreement modifying the boundaries of the property in Exhibit A of such Construction Agreement to include the Property covered by this Agreement and to provide for the additional funds required for CITY’s future construction of the “Phase 2 Water Improvements” described in a modification to Exhibit C-3 of the Construction Agreement.

1.2 Exhibits. The following documents are attached to, and by this reference made a part of, this Agreement:

Exhibit “A” — Legal Description of the Property.

Exhibit “B” — Map showing Property and its location.

Exhibit “C” — Existing Development Approvals.

Exhibit “D” — Existing Land Use Regulations.

Exhibit “E” — Description of Required Infrastructure Improvements

Exhibit “F” — Depiction of Required Infrastructure Improvements Exhibit

Exhibit “G” - Form of Certificate of Net MDD to be issued by CITY

Exhibit “H” – Form of Certificate of DIF Credit to be issued by CITY

Exhibit “I-1” – Ontario Ranch Water Supply Phasing Plan

Exhibit “I-2” - Water Demand Equivalents by Land Use

Exhibit “J” - Form of Plume Disclosure Letter

2. GENERAL PROVISIONS.

2.1 Binding Effect of Agreement. The Property is hereby made subject to this Agreement. Development of the Property is hereby authorized and shall be carried out only in accordance with the terms of this Agreement.

2.2 Ownership of Property. OWNER represents and covenants that it is the owner of the fee simple title to the Property or a portion thereof, or has the right to acquire fee simple title to the Property or a portion thereof from the current owner(s) thereof. To the extent OWNER does not own fee simple title to the Property, OWNER shall obtain written consent from the current fee owner of the Property agreeing to the terms of this Agreement and the recordation thereof.

2.3 Term. The term of this Agreement shall commence on the Effective Date and shall continue for an initial term of ten (10) years thereafter unless this term is modified or extended pursuant to the provisions of this Agreement. The term of this Agreement may be extended for an additional five (5) years following expiration of the initial ten (10) year term, provided the following have occurred:

(a) OWNER provides at least 180 days written notice to CITY prior to expiration of the initial term; and

(b) In non-mixed use and residential use only projects, the OWNER shall have obtained, as applicable, building permits for at least seventy percent (70%) of the actual number of residential units permitted under this Agreement; and

(c) OWNER is not then in uncured default of this Agreement.

2.4 Assignment.

2.4.1 Right to Assign. OWNER shall have the right to sell, transfer or assign the Property in whole or in part (provided that no such partial transfer shall violate the Subdivision Map Act, Government Code Section 66410, et seq.), to any person, partnership, limited liability company, joint venture, firm or corporation at any time during the term of this Agreement; provided, however, that any such sale, transfer or assignment

shall include the assignment and assumption of the rights, duties and obligations arising under or from this Agreement and be made in strict compliance with the following:

(a) No sale, transfer or assignment of any right or interest under this Agreement shall be made unless made together with the sale, transfer or assignment of all or a part of the Property. OWNER may be required to provide disclosure that the Property is within the South Archibald Trichloroethylene (TCE) Plume. OWNER may wish to provide the attached Disclosure Letter (Exhibit G) as part of the Real Estate Transfer Disclosure requirements under California Civil Code Section 1102 et seq.

(b) Concurrent with any such sale, transfer or assignment, or within fifteen (15) business days thereafter, OWNER shall notify CITY's City Manager, in writing, of such sale, transfer or assignment and shall provide CITY with: (1) an executed agreement, in a form reasonably acceptable to CITY, by the purchaser, transferee or assignee and providing therein that the purchaser, transferee or assignee expressly and unconditionally assumes all the duties and obligations of OWNER under this Agreement with respect to the portion of the Property so sold, transferred or assigned; and (2) the payment of the applicable processing charge to cover the CITY's review and consideration of such sale, transfer or assignment.

(c) Any sale, transfer or assignment not made in strict compliance with the foregoing conditions shall constitute a default by OWNER under this Agreement. Notwithstanding the failure of any purchaser, transferee or assignee to execute the agreement required by Paragraph (b) of this Subsection 2.4.1, the burdens of this Agreement shall be binding upon such purchaser, transferee or assignee, but the benefits of this Agreement shall not inure to such purchaser, transferee or assignee until and unless such agreement is executed. The City Manager shall have the authority to review, consider and either approve, conditionally approve, or deny any proposed sale, transfer or assignment that is not made in compliance with this section 2.4.

2.4.2 Release of Transferring Owner. Notwithstanding any sale, transfer or assignment, a transferring OWNER shall continue to be obligated under this Agreement unless such transferring owner is given a release in writing by CITY, which release shall be provided by CITY upon the full satisfaction by such transferring owner of the following conditions:

(a) OWNER no longer has a legal or equitable interest in all or any part of the portion of the Property sold, transferred or assigned.

(b) OWNER is not then in default under this Agreement.

(c) OWNER has provided CITY with the notice and executed agreement required under Paragraph (b) of Subsection 2.4.1 above.

(d) The purchaser, transferee or assignee provides CITY with security equivalent to any security previously provided by OWNER to secure performance of its obligations hereunder.

2.4.3 Effect of Assignment and Release of Obligations. In the event of a sale, transfer or assignment pursuant to the provisions of Section 2.4.2 above:

(a) The assignee shall be liable for the performance of all obligations of OWNER with respect to transferred property, but shall have no obligations with respect to the portions of the Property, if any, not transferred (the "Retained Property").

(b) The owner of the Retained Property shall be liable for the performance of all obligations of OWNER with respect to Retained Property, but shall have no further obligations with respect to the transferred property.

(c) The assignee's exercise, use and enjoyment of the Property or portion thereof shall be subject to the terms of this Agreement to the same extent as if the assignee were the OWNER.

2.4.4 Subsequent Assignment. Any subsequent sale, transfer or assignment after an initial sale, transfer or assignment shall be made only in accordance with and subject to the terms and conditions of this Section 2.4.

2.4.5 Termination of Agreement with Respect to Individual Lots Upon Sale to Public and Completion of Construction. The provisions of Subsection 2.4.1 shall not apply to the sale or lease (for a period longer than one year) of any lot which has been finally subdivided and is individually (and not in "bulk" meaning more than one) sold or leased to a member of the public or other ultimate user. Notwithstanding any other provisions of this Agreement, this Agreement shall terminate with respect to any lot and such lot shall be released and no longer be subject to this Agreement without the execution or recordation of any further document upon satisfaction of both of the following conditions:

(a) The lot has been finally subdivided and individually (and not in "bulk") sold or leased (for a period longer than one year) to a member of the public or other ultimate user; and,

(b) A certificate of occupancy has been issued for a building on the lot, and the fees set forth under Section 4 of this Agreement have been paid.

2.5 Amendment or Cancellation of Agreement. This Agreement may be amended or cancelled in whole or in part only in the manner provided for in Government Code Section 65868.1. Any amendment of this Agreement, which amendment has been requested by OWNER, shall be considered by the CITY only upon the payment of the applicable processing charge. This provision shall not limit any remedy of CITY or OWNER as provided by this Agreement. Either Party or successor in interest, may propose an amendment to or cancellation, in whole or in part, of this Agreement. Any amendment or cancellation shall be by mutual consent of the parties or their successors in interest except as provided otherwise in this Agreement or in Government Code Section 65865.1. For purposes of this section, the term "successor in interest" shall mean any person having a legal or equitable interest in the whole of the Property, or any portion

thereof as to which such person wishes to amend or cancel this Agreement. The procedure for proposing and adopting an amendment to, or cancellation of, in whole or in part, this Agreement shall be the same as the procedure for adopting and entering into this Agreement in the first instance. Notwithstanding the foregoing sentence, if the CITY initiates the proposed amendment to, or cancellation of, in whole or in part, this Agreement, CITY shall first give notice to the OWNER of its intention to initiate such proceedings at least sixty (60) days in advance of the giving the public notice of intention to consider the amendment or cancellation.

2.5.1 Amendment to Reflect Consistency With Future Amendments to the Construction Agreement. To the extent any future amendment to the Construction Agreement provides for modifications to rights or obligations that differ from or alter the same or similar rights or obligations contained in this Development Agreement, OWNER reserves the right to request an amendment to the Development Agreement to reflect any or all of such modifications.

2.6 Termination. This Agreement shall be deemed terminated and of no further effect upon the occurrence of any of the following events:

(a) Expiration of the stated term of this Agreement as set forth in Section 2.3.

(b) Entry of a final judgment setting aside, voiding or annulling the adoption of the ordinance approving this Agreement.

(c) The adoption of a referendum measure overriding or repealing the ordinance approving this Agreement.

(d) Completion of the Project in accordance with the terms of this Agreement including issuance of all required occupancy permits and acceptance by CITY or applicable public agency of all required dedications.

Termination of this Agreement shall not constitute termination of any other land use entitlements approved for the Property. Upon the termination of this Agreement, no party shall have any further right or obligation hereunder except with respect to any obligation to have been performed prior to such termination or with respect to any default in the performance of the provisions of this Agreement which has occurred prior to such termination or with respect to any obligations which are specifically set forth as surviving this Agreement. Upon such termination, any public facilities and services mitigation fees paid pursuant to Section 4.2 of this Agreement by OWNER to CITY for residential units on which construction has not yet begun shall be refunded to OWNER by CITY.

2.7 Notices.

(a) As used in this Agreement, “notice” includes, but is not limited to, the communication of notice, request, demand, approval, statement, report, acceptance, consent, waiver, appointment or other communication required or permitted hereunder.

(b) All notices shall be in writing and shall be considered given either: (i) when delivered in person, including, without limitation, by courier, to the recipient named below; or (ii) on the date of delivery shown on the return receipt, after deposit in the United States mail in a sealed envelope as either registered or certified mail with return receipt requested, and postage and postal charges prepaid, and addressed to the recipient named below. All notices shall be addressed as follows:

If to CITY:
Scott Ochoa, City Manager
City of Ontario
303 East "B" Street
Ontario, CA 91764

with a copy to:
Ruben Duran, City Attorney
Best Best & Krieger, LLP
2855 E Guasti Road
Ontario, CA 91761

If to OWNER:
RB Ontario LLC
Attn: Jeff Ragland
11766 Wilshire Blvd., Suite 820
Los Angeles, CA 90025

with a copy to:
Cox Castle
Attn: Kenneth Bley
2029 Century Park East, Suite 2100
Los Angeles, CA 90067
kbley@coxcastle.com

(c) Either party may, by notice given at any time, require subsequent notices to be given to another person or entity, whether a party or an officer or representative of a party, or to a different address, or both. Notices given before actual receipt of notice of change shall not be invalidated by the change.

3. DEVELOPMENT OF THE PROPERTY.

3.1 Rights to Develop. Subject to the terms of this Agreement including the Reservations of Authority, OWNER shall have a vested right to develop the Property in accordance with, and to the extent of, the Development Plan. The Project shall remain subject to all Subsequent Development Approvals required to complete the Project as contemplated by the Development Plan. Except as otherwise provided in this Agreement, the permitted uses of the Property, the density and intensity of use, the maximum height and size of proposed buildings, and provisions for reservation and dedication of land for public purposes shall be those set forth in the Development Plan.

3.2 Effect of Agreement on Land Use Regulations. Except as otherwise provided under the terms of this Agreement including the Reservations of Authority, the rules, regulations and official policies governing permitted uses of the Property, the density and intensity of use of the Property, the maximum height and size of proposed buildings, and the design, improvement and construction standards and specifications applicable to development of the Property shall be the Existing Land Use Regulations. In connection with any Subsequent Development Approval, CITY shall exercise discretion in accordance with the same manner as it exercises its discretion under its police powers, including the Reservations of Authority set forth herein; provided however, that such

discretion shall not prevent development of the Property for the uses and to the density or intensity of development set forth in this Agreement.

3.3 Timing of Development. The parties acknowledge that OWNER cannot at this time predict when or the rate at which phases of the Property will be developed. Such decisions depend upon numerous factors which are not within the control of OWNER, such as market orientation and demand, interest rates, absorption, completion and other similar factors. Since the California Supreme Court held in Pardee Construction Co. v. City of Camarillo (1984) 37 Ca1. 3d 465, that the failure of the parties therein to provide for the timing of development resulted in a later adopted initiative restricting the timing of development to prevail over such parties' agreement, it is the parties' intent to cure that deficiency by acknowledging and providing that OWNER shall have the right to develop the Property in such order and at such rate and at such times as OWNER deems appropriate within the exercise of its subjective business judgment.

3.3.1 Infrastructure Improvement Exhibit. Attached hereto as Exhibits "E" and "F" are a description and depiction, respectively, of the improvements needed for the development of the Property. In the event of any discrepancy between Exhibit E and Exhibit F, Exhibit F shall control.

3.4 Requirement for Public Infrastructure Improvements. Development of the Property is contingent in part on the phasing of area-wide infrastructure improvements over which the OWNER has control. The issuance of building permits by CITY for Model Units and Production Units is, in general, contingent on OWNER's completion of needed infrastructure improvements and the availability of improvements and services to serve the Property.

3.4.1 Attached hereto as Exhibit "E" and Exhibit "F" are the description and depiction of the infrastructure improvements needed for the development of the Property ("the Infrastructure Improvement Exhibit").

3.4.2 Subject to the prior submittal by OWNER and approval by CITY of a plan to provide sufficient public infrastructure for the construction of a maximum number of ten (10) Model Units, private common recreation facilities and sales facilities. CITY may issue a maximum of ten (10) building permits for Model Units, private common recreation facilities and sales facilities. The plan to be submitted by OWNER for CITY approval shall describe the utilities and other infrastructure necessary to provide sufficient fire protection and other public health and safety requirements for the Model Units and other facilities.

3.5 Changes and Amendments. The parties acknowledge that refinement and further development of the Project will require Subsequent Development Approvals and may demonstrate that changes are appropriate and mutually desirable in the Existing Development Approvals. In the event OWNER finds that a change in the Existing Development Approvals is necessary or appropriate, OWNER shall apply for a Subsequent Development Approval to effectuate such change and CITY shall process and act on such application in accordance with the Existing Land Use Regulations, except

as otherwise provided by this Agreement including the Reservations of Authority. If approved, any such change in the Existing Development Approvals shall be incorporated herein as an addendum to Exhibit "C", and may be further changed from time to time as provided in this Section. Unless otherwise required by law, as determined in CITY's reasonable discretion, a change to the Existing Development Approvals shall be deemed "minor" and not require an amendment to this Agreement provided such change does not:

(a) Alter the permitted uses of the Property as a whole; or,

(b) Increase the density or intensity of use of the Property as a whole; or,

(c) Increase the maximum height and size of permitted buildings; or,

(d) Delete a requirement for the reservation or dedication of land for public purposes within the Property as a whole; or,

(e) Constitute a project requiring a subsequent or supplemental environmental impact report pursuant to Section 21166 of the Public Resources Code.

3.6 Reservations of Authority.

3.6.1 Limitations, Reservations and Exceptions. Notwithstanding any other provision of this Agreement, the CITY shall not be prevented from applying new rules, regulations and policies upon the OWNER, nor shall a development agreement prevent the CITY from denying or conditionally approving any subsequent development project application on the basis of such new rules, regulations and policies where the new rules, regulations and policies consist of the following:

(a) Processing fees by CITY to cover costs of processing applications for development approvals or for monitoring compliance with any development approvals;

(b) Procedural regulations relating to hearing bodies, petitions, applications, notices, findings, records and any other matter of procedure;

(c) Regulations, policies and rules governing engineering and construction standards and specifications applicable to public and private improvements, including all uniform codes adopted by the CITY and any local amendments to those codes adopted by the CITY; provided however that, OWNER shall have a vested right to develop the Property in accordance with, and to the extent of, the standards and specifications that are expressly identified in the Specific Plan;

(d) Regulations that may conflict with this Agreement and the Development Plan but that are reasonably necessary to protect the residents of the project and/or of the immediate community from a condition perilous to their health or safety;

(e) Regulations that do not conflict with those rules, regulations and policies set forth in this Agreement or the Development Plan;

(f) Regulations that may conflict but to which the OWNER consents.

3.6.2 Subsequent Development Approvals. This Agreement shall not prevent CITY, in acting on Subsequent Development Approvals, from applying Subsequent Land Use Regulations that do not conflict with the Development Plan, nor shall this Agreement prevent CITY from denying or conditionally approving any Subsequent Development Approval on the basis of the Existing Land Use Regulations or any Subsequent Land Use Regulation not in conflict with the Development Plan.

3.6.3 Modification or Suspension by State or Federal Law. In the event that State or Federal laws or regulations, enacted after the Effective Date of this Agreement, prevent or preclude compliance with one or more of the provisions of this Agreement, such provisions of this Agreement shall be modified or suspended as may be necessary to comply with such State or Federal laws or regulations, provided, however, that this Agreement shall remain in full force and effect to the extent it is not inconsistent with such laws or regulations and to the extent such laws or regulations do not render such remaining provisions impractical to enforce. In the event OWNER alleges that such State or Federal laws or regulations preclude or prevent compliance with one or more provisions of this Agreement, and the CITY does not agree, the OWNER may, at its sole cost and expense, seek declaratory relief (or other similar non-monetary remedies); provided however, that nothing contained in this Section 3.6.3 shall impose on CITY any monetary liability for contesting such declaratory relief (or other similar non-monetary relief) and OWNER shall comply with Section 9 of this Agreement and cover any reasonable CITY costs and expenses involved with the declaratory relief.

3.6.4 Intent. The parties acknowledge and agree that CITY is restricted in its authority to limit its police power by contract and that the foregoing limitations, reservations and exceptions are intended to reserve to CITY all of its police power which cannot be so limited. This Agreement shall be construed, contrary to its stated terms if necessary, to reserve to CITY all such power and authority which cannot be restricted by contract.

3.7 Public Works; Utilities. If OWNER is required by this Agreement to construct any public works facilities which will be dedicated to CITY or any other public agency upon completion, and if required by applicable laws to do so, OWNER shall perform such work in the same manner and subject to the same requirements as would

be applicable to CITY or such other public agency should it have undertaken such construction. As a condition of development approval, OWNER shall connect the Project to all utilities necessary to provide adequate water, recycled water, sewer, gas, electric, and other utility service to the Project. As a further condition of development approval, OWNER shall contract with the CITY for CITY-owned or operated utilities for this purpose, for such price and on such terms as may be available to similarly situated customers in the CITY.

3.7.1 OWNER agrees that development of the Project shall require the construction of storm drain improvements as described in Exhibit E and depicted in Exhibit F. OWNER agrees that no building permits shall be issued by CITY for Production Units prior to completion of the storm drain improvements, as described in Exhibit E and depicted in Exhibit F.

3.7.2 OWNER agrees that development of the Project shall require the construction of street improvements as described in Exhibit E and depicted in Exhibit F. OWNER agrees that no building permits shall be issued by CITY for Production Units prior to completion of the street improvements, as described in Exhibit E and depicted in Exhibit F.

3.7.3 OWNER agrees that development of the Property shall require the construction of water and recycled water improvements as described in Exhibit E and depicted in Exhibit F. OWNER agrees that no building permits shall be issued by CITY for Production Units prior to completion of the water and recycled water improvements as described in Exhibit E and depicted in Exhibit F. OWNER also agrees that recycled water shall be available and utilized by OWNER for all construction-related water uses including prior to, and during, any grading of the Property.

3.7.4 OWNER agrees that development of the Property shall require the construction of sewer improvements, as described in the attached Exhibit E and depicted in Exhibit F. OWNER agrees that no building permits shall be issued by CITY for Production Units prior to completion of the sewer improvements, as described in Exhibit E and depicted in Exhibit F.

3.7.5 OWNER agrees that development of the Property shall require the extension of fiber optic communications improvements as described in the attached Exhibit E and depicted in Exhibit F. OWNER agrees that no building permits shall be issued by CITY for Production Units prior to completion of the fiber optic communication improvements, as described in Exhibit E and depicted in Exhibit F.

3.8 Acquisition of Offsite Provision of Real Property Interests. In any instance where OWNER is required by any Development Approval or Land Use Regulation and the Construction Agreement to construct any public improvement on land not owned by OWNER ("Offsite Improvements"), the CITY and OWNER shall cooperate in acquiring the necessary legal interest ("Offsite Property") in accordance with the procedures set

forth in Section 2.4 of the Construction Agreement. This section 3.8 is not intended by the parties to impose upon the OWNER an enforceable duty to acquire land or construct any public improvements on land not owned by OWNER, except to the extent that the OWNER elects to proceed with the development of the Project, and then only in accordance with valid conditions imposed by the CITY upon the development of the Project under the Subdivision Map Act or other legal authority.

3.8.1 CITY Acquisition of Non-Construction Agreement Offsite Property. In the event OWNER is required to construct any public improvements on land not owned by OWNER, but such requirement is not based upon the Construction Agreement, Sections 3.8.1 and 3.8.2 shall control the acquisition of the necessary property interest(s) ("Non-Construction Agreement Offsite Property"). If the OWNER is unable to acquire such Non-Construction Agreement Offsite Property, and following the written request from the OWNER to CITY, CITY agrees to use reasonable and diligent good faith efforts to acquire the Non-Construction Agreement Offsite Property from the owner or owners of record by negotiation to the extent permitted by law and consistent with this Agreement. If CITY is unable to acquire the Non-Construction Agreement Offsite Property by negotiation within thirty (30) days after OWNER'S written request, CITY shall, initiate proceedings utilizing its power of eminent domain to acquire that Non-Construction Agreement Subject Property at a public hearing noticed and conducted in accordance with California Code of Civil Procedure Section 1245.235 for the purpose of considering the adoption of a resolution of necessity concerning the Non-Construction Agreement Offsite Property, subject to the conditions set forth in this Section 3.8. The CITY and OWNER acknowledge that the timelines set forth in this Section 3.8.1 represent the maximum time periods which CITY and OWNER reasonably believe will be necessary to complete the acquisition of any Non-Construction Agreement Offsite Property. CITY agrees to use reasonable good faith efforts to complete the actions described within lesser time periods, to the extent that it is reasonably able to do so, consistent with the legal constraints imposed upon CITY.

3.8.2 Owner's Option to Terminate Proceedings. CITY shall provide written notice to OWNER no later than fifteen (15) days prior to making an offer to the owner of the Non-Construction Agreement Offsite Property. At any time within that fifteen (15) day period, OWNER may, at its option, notify CITY that it wants CITY to cease all acquisition proceedings with respect to that Non-Construction Agreement Offsite Property, whereupon CITY shall cease such proceedings. CITY shall provide written notice to OWNER no later than fifteen (15) days prior to the date of the hearing on CITY'S intent to consider the adoption of a resolution of necessity as to any Non-Construction Agreement Offsite Property. At any time within that fifteen (15) day period, OWNER may, at its option, notify CITY that it wants CITY to cease condemnation proceedings, whereupon CITY shall cease such proceedings. If OWNER does not notify CITY to cease condemnation proceedings within said fifteen (15) day period, then the CITY may proceed to consider and act upon the Non-Construction Agreement Offsite Property resolution of necessity. If CITY adopts such resolution of necessity, then CITY shall diligently

institute condemnation proceedings and file a complaint in condemnation and seek an order of immediate possession with respect to the Non-Construction Agreement Offsite Property.

3.9 Regulation by Other Public Agencies. It is acknowledged by the parties that other public agencies not within the control of CITY possess authority to regulate aspects of the development of the Property separately from or jointly with CITY and this Agreement does not limit the authority of such other public agencies. CITY agrees to cooperate fully, at no cost to CITY, with OWNER in obtaining any required permits or compliance with the regulations of other public agencies provided such cooperation is not in conflict with any laws, regulations or policies of the CITY.

3.10 Tentative Tract Maps; Extension. With respect to applications by OWNER for tentative subdivision maps for portions of the Property, CITY agrees that OWNER may file and process tentative maps in accordance with Chapter 4.5 (commencing with Section 66498.1) of Division 2 of Title 7 of the California Government Code and the applicable provisions of CITY's subdivision ordinance, as the same may be amended from time to time. In accordance with the provisions of Section 66452.6 of the Government Code, each tentative subdivision map or tentative parcel map, heretofore or hereafter approved in connection with development of the Property, shall be deemed to have been granted an extension of time to and until the date that is five (5) years following the Effective Date of this Agreement.; The CITY's City Council may, in its discretion, extend any such map for an additional period of up to five (5) years beyond its original term, so long as the subdivider files a written request for an extension with the City prior to the expiration of the initial five (5) year term.

4. PUBLIC BENEFITS.

4.1 Intent. The parties acknowledge and agree that development of the Property will result in substantial public needs that will not be fully met by the Development Plan and further acknowledge and agree that this Agreement confers substantial private benefits on OWNER that should be balanced by commensurate public benefits. Accordingly, the parties intend to provide consideration to the public to balance the private benefits conferred on OWNER by providing more fully for the satisfaction of the public needs resulting from the Project.

4.2 Development Impact Fees.

4.2.1 Amount of Development Impact Fee. Development Impact Fees (DIF) shall be paid by OWNER. The Development Impact Fee amounts to be paid by OWNER shall be the amounts that are in effect at the time such amounts are due. Nothing contained in this Agreement shall affect the ability of the CITY to impose new Development Impact Fees or amend the amounts of existing Development Impact Fees. Additionally, nothing contained in this Agreement shall affect the ability of other public agencies that are not controlled by CITY to impose and amend, from time to time, Development Impact Fees established or imposed by such other

public agencies, even though such Development Impact Fees may be collected by CITY.

4.2.2 Time of Payment. The Development Impact Fees required pursuant to Subsection 4.2.1 shall be paid to CITY prior to the issuance of building permit for each applicable residential or other unit, except for the Open Space and Habitat Acquisition Development Impact fee, which shall be paid by OWNER to CITY prior to the issuance of a grading permit. Deferral of the payment of Development Impact Fees may be granted pursuant to a separate agreement approved by City pursuant to City policy.

4.2.3 Parkland and Quimby Act Fees. Pursuant to the General Plan (Ontario Plan) Goal PR1, Policy PR1-5 (achievement of a park standard of 5 acres of parkland per 1,000 residents) OWNER shall provide improved parks, developed in accordance with the City's park standards in an amount equal to two (2) acres per 1,000 of projected population without credit, reimbursement, offset or consideration from City. Such areas shall either be dedicated to the City or transferred to a homeowners' association. If approved by the City Manager, OWNER may satisfy this requirement through the development of non-public recreation facilities such as private recreational clubhouses or pool facilities. Credit for such private recreational facilities areas shall be limited to a maximum of 50% of the foregoing park development requirement. If OWNER's Project does not provide dedicated and developed park acreage equal to two (2) acres per 1,000 projected population, OWNER shall pay a fee in-lieu equal to the per acre estimated costs of acquisition and development of parkland in the City's Development Impact Fee for the calculated park acreage deficiency, at the time the fee becomes due and payable to the City. Such in-lieu fee shall be due and payable prior to the issuance of the first building permit for Production Units issued to OWNER. Any park dedication and/or improvements in excess of such two (2) acres per thousand standard, provided such park has been developed in accordance with the City's park standards and is open to the public generally, shall entitle OWNER to a credit toward its obligations under the Quimby Act (Gov. Code, § 64477) and the City's implementing ordinance and/or resolution (collectively "**Quimby Act Obligations**"), and to the extent OWNER's Quimby Act Obligations are satisfied, OWNER shall be entitled to have the City acquire such developed and publicly available parks as Non-Program Interests in accordance with Section 4.3.3 below.

4.3 Responsibility for Construction of Public Improvements.

4.3.1 Timely Construction of Public Infrastructure. The phasing of the areawide infrastructure construction within the New Model Colony will be as approved by the CITY. OWNER shall be responsible for the timely construction and completion of all public infrastructure required for the Project as shown on the attached Exhibit "F" and any and all tentative tract map conditions. Unless otherwise specified in the Subdivision Agreement/Tract Map conditions, all other required Improvements for each Tract Map, shall be completed and operational

prior to, and as a condition precedent to, OWNER requesting and CITY's granting of the first building permit for Production Units for each such Tract Map. All Infrastructure and Improvements shall be completed as required by the Subdivision Agreement/Tract Map conditions for Tract Map No. 20536.

4.3.2 Construction of DIF Program Infrastructure (Construction Agreement). To the extent OWNER is required to construct and completes construction of public improvements that are included in CITY's Development Impact Fee Program and the Construction Agreement between CITY and NMC Builders LLC, CITY agrees that CITY shall issue DIF Credit in accordance with the provisions of the Construction Agreement and any amendments thereto. Use of DIF Credit issued to OWNER as a member of NMC Builders LLC to offset OWNER's DIF payment obligations shall also be subject to the provisions of the Construction Agreement and any amendments thereto.

4.3.3 Construction of DIF Program Infrastructure (Non-Construction Agreement). To the extent OWNER is required to construct and completes construction of public improvements that are included in CITY's Development Impact Fee Program and such public improvements are not included the Construction Agreement between CITY and NMC Builders LLC, CITY agrees that CITY shall issue DIF Credit in accordance with the provisions of a separate Fee Credit Agreement between CITY and OWNER. Limitation on the use of DIF Credit issued to OWNER to offset OWNER's DIF payment obligations shall also be subject to the provisions of a separate Fee Credit Agreement. CITY and OWNER agree that the Fee Credit Agreement between CITY and OWNER shall comply with CITY's adopted policies applicable to such agreements.

4.3.4 Construction of Public Infrastructure by Third Parties. CITY and OWNER acknowledge the Improvements described in Exhibit E and depicted in Exhibit F are required for the development of the Property, surrounding properties within the Ontario Ranch and the other property owners are also obligated to construct the Improvements or portions thereof. As such, CITY agrees that OWNER's obligation to construct the Improvements may be satisfied by third party owners pursuant to separate written agreements between OWNER and said third party undertaking the construction of the Improvements. Nothing in this Agreement shall be construed to prohibit the coordination of the construction of the Improvements between private parties, including the allocation of costs for the construction of the Improvements. Notwithstanding anything to the contrary herein, any applicable DIF Credits may be transferred and assigned from one (1) party to another with respect to the construction of the Improvements and such transfer or assignment shall not require the conveyance of any real property.

4.4 Affordable Housing Requirement.

4.4.1 Affordable Housing- Number of Units. OWNER shall provide a minimum number of affordable housing units, equivalent to 10% of the OWNER's total approved residential units within the Project, that are affordable to very low, low

and moderate income households. Such requirement for affordable housing shall be met through one, or a combination of one or more, of the options provided in the following Sections 4.4.2.1 through 4.4.2.5. For the purposes of this Section, any term not defined in this Agreement shall be as defined by California Community Redevelopment Law (California Health and Safety Code Section 33000 et seq.).

4.4.2 Affordability Spread. Of the total number of residential dwelling units specified in Section 4.4.1, to be constructed or rehabilitated pursuant to Sections 4.4.2.1 or 4.4.2.2 respectively, thirty percent (30%) shall be available to very low income, thirty percent (30%) shall be available to low income and forty percent (40%) shall be available to moderate income households. "**Households**" shall be as defined by California Health and Safety Code Section 50053.

4.4.2.1 New Construction. If OWNER elects to fully or partially satisfy the affordable housing requirement by the construction of new residential units, it shall construct and restrict the affordability of residential dwelling units within its Project or, at OWNER's option and with the approval of the City, within another project elsewhere within the City. The affordable units constructed shall be intermingled with other units as part of the Project, and shall be built to the same construction, design and aesthetic standards, as well as number of rooms, as other units constructed as part of that OWNER's Project. In addition, the percentage ratio of affordable units offered for sale versus those offered for rent shall equal the percentage ratio of other units offered for sale versus for rent within OWNER's Project. Such construction shall be completed no later than the date that is five (5) years following the issuance of the first building permit for OWNER's Project; provided however that to the extent OWNER has not constructed the required percentage of units, based on the number of building permits for non-restricted units, OWNER shall, prior to the issuance of such building permits, provide security (in the form and substance approved by the City Manager and City Attorney) to City in order to ensure the faithful completion of such required percentage of construction of affordable units. If OWNER elects the option of constructing new affordable units, a detailed Affordable Housing Agreement specifying terms for the allowable monthly housing costs or rents (as applicable) and maintenance and occupancy standards shall be prepared, executed and recorded against such units as a condition to the issuance of a building permit. The Affordable Housing Agreement shall hold a recorded priority position senior to any other non-statutory lien or encumbrance affecting the unit.

4.4.2.2 Rehabilitation. If OWNER elects to fully or partially satisfy the affordable housing requirement by the substantial rehabilitation of existing residential units in the City, it shall substantially rehabilitate and restrict the affordability of, the number of residential units specified in Section 4.4.1, provided that such units shall be provided elsewhere within the City. The rehabilitation work shall be substantial and of high quality and shall also

address any deferred property maintenance issues on the property. "**Substantial rehabilitation**" shall mean rehabilitated multi-family rented dwelling units with three or more units and the value of the rehabilitation constitutes 25 percent of the after rehabilitation value of the dwelling, inclusive of land value pursuant to Health and Safety Code Section 33413(b)(2)(A)(iii-iv) as such section exists as of the Effective Date of this Agreement. If OWNER chooses the option of rehabilitation of existing housing units within the City, a detailed Affordable Housing Agreement specifying the terms for the allowable month housing costs or rents (as applicable) and maintenance and occupancy standards shall be prepared, executed and recorded against such units as a condition to the issuance of a building permit. Such rehabilitation shall be completed no later than the date that is five (5) years following the issuance of the first building permit for OWNER's Project; provided however that to the extent OWNER has not rehabilitated the required percentage of units, based on the number of building permits, OWNER shall, prior to the issuance of such building permits, provide security (in the form and substance approved by the City Manager and City Attorney) to the City in order to ensure the faithful completion of such required percentage of rehabilitation.

4.4.2.3 In-Lieu Fee. If OWNER has not fully complied with the requirements of Section 4.4.1 by providing the minimum number of affordable units through the construction of new affordable units or by the substantial rehabilitation of existing units, shall pay an "**Affordability In-Lieu Fee**". If OWNER has not provided any affordable residential units by construction or rehabilitation, the Affordability In-Lieu fee shall be equal to Three Dollars Twelve Cents ($3.12) per square foot of residential development within OWNER's Project or, if pre-paid as set forth below, Two Dollars Seventy Four Cents ($2.74) per square foot of residential development within OWNER's Project. If OWNER has partially complied with the requirements of Section 4.4.1 by construction or rehabilitation of less than the minimum number of units, then the Affordability In-lieu Fee shall be recalculated and reduced in consideration of the number and type of affordable units provided. The Affordability In-Lieu Fee shall be paid by OWNER to City no later than prior to the issuance of each building permit within OWNER's Project based on the square footage of the residential unit for which such building permit is sought; provided however that OWNER may, at OWNER's election, pre-pay such Affordability In-Lieu Fee by paying such Affordability In-Lieu Fee within thirty (30) days following the earliest discretionary approval by the City for OWNER's Project, including, but not limited to, any general plan amendment, specific plan adoption, development agreement, tentative map approval, variance, conditional use permit, or resolution of intention to form any public financing mechanism. The Three Dollars Twelve Cents ($3.12) and the Two Dollars Seventy Four Cents ($2.74) per square foot amounts shall automatically be increased annually, commencing on July 1, 2023, and automatically each July 1 thereafter. Such

adjustment shall be based on the percentage increase (but no decrease) in the Consumer Price Index (Riverside - San Bernardino - Ontario, CA), (December 2017=100) over the preceding year. The pre-paid Affordability In-Lieu Fee shall be calculated based on the maximum floor area ratio (FAR) permitted within the General Plan and any applicable FAR contained within the applicable specific plan, whichever is greater, and the Maximum Development Density. For purposes of this Agreement, "**Maximum Development Density**" shall be determined by multiplying the OWNER's Project's density for residential development potential as set forth in the General Plan or the applicable Specific Plan, whichever is less, by the net acreage of land within OWNER's Project. All "Affordability In-Lieu Fees" collected by the City shall be used to promote the construction of affordable housing within the City.

4.4.2.4 Affordability Covenants. Prior to the issuance of the first building permit for any affordable unit, the City and OWNER shall enter into an Affordable Housing Agreement Affordability shall be assured for a period of forty-five (45) years for for-sale units and fifty-five (55) years for rentals. For rental units, base rents shall be established by the City and rental adjustments required by the City shall be performed on an annual basis. In addition, the Affordable Housing Agreement shall impose maximum occupancy limits of 2 occupants per bedroom plus 1 additional occupant per dwelling unit, and a requirement for the owner or tenant to properly maintain each dwelling unit.

4.4.2.5 Transfer of Affordable Project. No transfer of title to any affordable housing project shall occur without the prior written consent of the City. In the event OWNER transfers title to any affordable housing project required to be constructed pursuant to this Agreement to a non-profit entity, or other entity, that receives an exemption from ad valorem real property taxes, the City shall be required to assure payment of an annual in lieu fee to the City on July 1 of each year equal to one-tenth of one percent (0.1%) of the assessed value of such project. The City may permit OWNER to satisfy this obligation by recorded covenants against the property and enforceable against said entity by the City. Any such covenants shall be approved by the Planning Director and the City Attorney.

4.5 Schools Obligations.

4.5.1 Written Evidence of Compliance with Schools Obligations.
OWNER shall, either through joint or individual agreements between OWNER and the applicable school district(s), shall satisfy its new school obligations. The new school obligations for the Mountain View School District in the Ontario Ranch area have been projected to include the acquisition or dedication of school sites for, and construction of, up to eight (8) schools. Of these eight (8) schools, six (6) are to be elementary (K-5) grade schools and two (2) are to be middle grade schools. The new school obligations for the Chaffey Joint Union High School

District in the Ontario Ranch area have been projected to include the dedication of a school site for, and construction of, an additional high school. The new school obligations for the applicable school district shall be met by a combination of the following: (1) designating and dedicating school site(s) within the Property as set forth in the General Plan, and/or (2) paying school impact fees, (3) entering into a joint mitigation agreement or individual mitigation agreements, or (4) any combination of the foregoing. Written evidence of approval by the applicable school district that OWNER has met their school obligations may be required by the City as the condition to the issuance by the City of any entitlements for OWNER's Project. In the event OWNER is unable to provide such written evidence from the applicable school district(s), the City shall have the right to decline to honor any DIF Credit, Certificates of MDD Availability, Certificates of Storm Water Treatment Capacity Availability, or any combination thereof, presented by such OWNER, without liability to the City. To the extent that a joint mitigation agreement is approved by the applicable school district(s), and OWNER is a participant in good standing in such mitigation agreement, OWNER shall be deemed to have mitigated its new school obligations under this Section 4.4.1.

4.6 Public Services Funding Fee.

4.6.1 Requirement for Payment of Public Services Funding Fee. In order to ensure that the adequate provision of public services, including without limitation, police, fire and other public safety services, are available to the residents of each Project in a timely manner, OWNER shall pay to CITY a "**Public Services Funding Fee**." The Public Services Funding Fee shall apply to residential and non-residential uses as set forth below.

4.6.2 Public Services Funding Fee Amount. OWNER shall pay a Public Services Funding fee in the total amount of Two Thousand Four Hundred Ninety dollars and Seventy Eight Cents ($2,490.78) per residential dwelling unit. The Public Services Funding Fee shall be paid in one (1) installment within one hundred eighty (180) calendar days after the effective date of the Development Agreement or in two (2) installments, at OWNER's option, as follows:

4.6.2.1 First Installment (Residential uses). The First Installment of the Public Services Funding Fee shall be One Thousand Two Hundred Forty Five dollars and Thirty Nine Cents ($1,245.39) per residential dwelling unit. The First Installment shall be based upon the "**Maximum Development Density**" of the OWNER Project, as defined in Section 3.7.2.3 of the First Amended and Restated Construction Agreement. The First Installment shall be due and payable 30 days following the effective date of the Development Agreement.

If the First installment amount is not paid for all residential dwelling units within the Project (based on the Maximum Development Density, or the number of units described on "B Maps" if approved) by January 1, 2024, the amount of the First Installment shall be increased. Such increase shall be

based on the percentage increase (but no decrease) in the Consumer Price Index (Riverside - San Bernardino - Ontario, CA) (December 2017=100) over the preceding year. Additionally, the amount shall be further increased automatically by the percentage increase in the Consumer Price Index (Riverside - San Bernardino - Ontario, CA) (December 2017=100) on each January 1 thereafter.

4.6.2.2 Second Installment (Residential Uses). The Second Installment of the Public Services Funding Fee shall be One Thousand Two Hundred Forty Five dollars and Thirty Nine Cents ($1,245.39) per residential unit. The Second Installment shall be paid at the time of the issuance of each building permit for the Project. The amount of the Second Installment shall increase automatically by percentage increase (but no decrease) in the Consumer Price Index (Riverside - San Bernardino - Ontario, CA) (December 2017=100) over the preceding year on January 1st of each year, beginning on January 1, 2024. OWNER may exercise the option to pay the Second Installment amount for all residential units, a portion of the residential units, or for the remainder of the residential units within OWNER's Project on or before each December 31st, before the Second Installment amount is automatically increased.

4.6.2.3 Single Installment (Non-residential Uses). A single installment payment of the Public Services Funding Fee shall be required in the amount of Seventy Five Cents ($.75) per square foot of non-residential buildings. The single installment for non-residential uses shall be due and payable prior to the issuance of the building permit for a non-residential building. The amount of the Single Installment for non-residential uses shall automatically increase by percentage increase (but no decrease) in the Consumer Price Index (Riverside - San Bernardino - Ontario, CA), (December 2017=100) over the preceding year on January 1st of each year, beginning on January 1, 2024. OWNER may exercise the option to pay any single installment amounts for the remainder of the non-residential square footage within the Project on or before December 31st, before the Single Installment amount is automatically increased.

4.7 Net MDD/Water Availability Equivalents.

4.7.1 Effectiveness of Agreement. Notwithstanding anything else set forth in this Agreement, CITY and OWNER each acknowledge, confirm, and agree, that (i) the City approval of this Agreement and (ii) the effectiveness of this Agreement, in each case, is conditioned upon OWNER's admission to NMC Builders as a "Member" thereof pursuant to the terms and conditions of the operating agreement of NMC Builders. OWNER and CITY agree that OWNER shall become a Member of NMC Builders within 30 days of the effective date of this Agreement.

4.7.1 Assigned Net MDD/Water Availability Equivalents. The City has agreed with NMC Builders LLC to reserve exclusively for Members of NMC Builders,

including OWNER, Net MDD made available through the construction of water system improvements funded by NMC Builders LLC. NMC Builders has assigned to OWNER its allocable share of the Net MDD issued by City. The provisions of the Construction Agreement Amendment requires that the City shall not approval a final tract map or issue building permits or certificates of occupancy for the area of development within the New Model Colony served by the water system improvements funded by NMC Builders LLC, except to the bearer of an Assignment of Net MDD Water Availability.

4.7.2 Requirement of NMC Builders, LLC Membership as a Phase 2 Water Member. OWNER and CITY agree that OWNER's' payment to CITY required by Section 4.7.3 below represents OWNER's contribution to the funding required for the future construction of the Phase 2 Water Improvements and the availability of additional Net MDD Water Availability required for the development of the Property described in Exhibit A of this Agreement.

4.7.3 CITY issuance of Water Availability Equivalents. Within 30 days after the effectiveness of this Development Agreement OWNER shall pay or have paid to City the applicable Phase 2 Water Participation Fee. The Phase 2 Water Participation Fee shall be the calculated based on the amount of the Regional Water DIF for the applicable land use category and the square footage of the applicable buildings. The calculated amount of the Phase 2 Water Participation Fee shall be paid to City within 30 days after the effective date of this Agreement or, at OWNER's option, the Phase 2 Water Participation Fee may be paid to City in two (2) installments. The first installment shall be fifty percent (50%) of the total Phase 2 Water Participation Fee and such first installment shall be due and payable to City within 30 days after the effective date of this Development Agreement. The second installment shall be the remaining amount of the Phase 2 Water Participation Fee and such second installment shall be due and payable to City within one (1) year after the payment of the first installment, or prior to, and as a condition precedent to, the recording of any final Parcel Map for the Project, whichever occurs first. Upon OWNER's complete payment to CITY of the Phase 2 Water Participation Fee CITY shall issue a Certificate of Water Availability Equivalents in the form attached hereto as Exhibit G. Such Water Availability Equivalents Certificate shall be issued by CITY within thirty (30) days of the receipt of such required payment. CITY and OWNER agree that the amount of Water Availability Equivalents issued to OWNER shall be based on the maximum projected need for Water Availability Equivalents required for the Property based upon water demand factors and assumptions listed in Exhibit C-2R of the Phase 2 Water Amendment to the Construction Agreement "Water Demand Equivalents by Land Use" for each land use category. Additionally, within five (5) business days of CITY's receipt of OWNER's payment as required under this Section 4.5.2, CITY shall issue a certificate of DIF Credit against OWNER's DIF obligations in the Regional Water DIF Category.

4.7.2 Use of Assigned Net MDD Water Availability. OWNER shall provide evidence of sufficient Net MDD Water Availability Equivalents (or portions thereof)

prior to and as a condition precedent to, the City's approval of any and all tract maps for the Property. The amount of Net MDD Water Availability Equivalents required for City's approval of a tract map shall be based upon water demand factors and assumptions listed in Exhibit C-2R of the Construction Agreement Amendment as "Water Demand Equivalents by Land Use" for each land use category.

4.7.3 Requirement for other Water System Improvements. A Certificate of Net MDD Availability is evidence only of available water capacity and does not satisfy any other conditions applicable to an OWNER's Project, including those relating to design and construction of master-planned potable water and recycled water transmission and distribution system for the respective pressure zone and other public infrastructure requirements.

4.8 Storm Water Capacity Availability.

4.8.1 Requirement for Storm Water Treatment Capacity Availability. OWNER shall provide evidence of sufficient Storm Water Treatment Capacity Availability as reserved in a Certificate of Storm Water Treatment Capacity Availability the same manner and subject to the same limitations as provided for the assignment of Certificates of Net MDD Availability in Section 4.7 of this Agreement.

4.8.2 Use of Storm Water Treatment Capacity Availability. The amount of Storm Water Treatment Capacity Availability required for the issuance of a grading permit to OWNER shall be based upon the Net Residential Acreage of the area to be graded regardless of the corresponding use.

4.8.3 Requirement for other Storm Water Improvements. The Certificate of Storm Water Treatment Capacity Availability is evidence only of available storm water treatment capacity and does not satisfy any other conditions applicable to a particular development project, including those relating to on-site water treatment, water quality, connection to the storm water collection system, or other public infrastructure requirements.

4.9 Maintenance of Open Space. OWNER shall provide for the ongoing maintenance of all park, common areas and open space areas within the Project as more particularly set forth in the Specific Plan, through a homeowners' association as approved by the CITY. Covenants, conditions and restrictions establishing any homeowners' association shall be approved by the Planning Director and City Attorney.

4.10 Compliance with Public Benefits Requirements.

4.10.1 Failure to Provide Public Benefits. In the event OWNER fails or refuses to comply with any condition referenced in Section 4.1 through 4.10, or challenges (whether administratively or through legal proceedings) the imposition of such conditions, OWNER shall be deemed in default of this Agreement pursuant to Section 8.4 hereof, thereby entitling the City to any and all remedies available to

it, including, without limitation, the right of the City to withhold OWNER's Project-related building permits, certificates of occupancy, or discretionary approvals, without liability.

5. FINANCING OF PUBLIC IMPROVEMENTS.

5.1 Financing Mechanism(s). In accordance with the Memorandum of Agreement between the CITY and NMC Builders, CITY will cooperate with OWNER in the formation of a CFD, or CFDs, to include all of the Project, to provide a financing mechanism to reimburse the OWNER for funds paid to NMC Builders LLC for OWNER's share of the costs of public infrastructure pursuant to the Construction Agreement and to acquire other public facilities constructed by OWNER subject to the provisions of the Memorandum of Agreement between CITY and NMC Builders LLC. Notwithstanding such reimbursements and acquisitions, OWNER shall remain entitled to DIF Credits as provided for in Article 3 of the Construction Agreement and/or as provided for in a separate Fee Credit Agreement between CITY and OWNER. OWNER agrees that, prior to the recordation of any Tract Map for the Property, the Property shall be included in a CFD to finance City services through annual special taxes that will initially be $1,443.71 per Single Family Detached Dwelling Unit, $1,251.15 per Multiple-Family Dwelling Unit, $1,048.96 per Gated Apartment Community Dwelling Unit, and $0.27 per square foot for Non-Residential buildings. These amounts shall be subject to an automatic increase at a rate not to exceed four (4%) percent per year, unless otherwise modified by the CITY. CITY shall be the sole and exclusive lead agency in the formation of any CFD, assessment district or other public financing mechanism within the Property; provided however, that the proceeds of any such CFD, assessment district, or financing mechanism may be used, subject to restrictions that may be imposed by applicable law, for the purposes of acquiring, constructing or maintaining public facilities to be owned or operated by other public agencies, including, without limitation those facilities owned or operated by a school district. In addition to the rights of the CITY pursuant to section 5.2 hereof, CITY shall have the right, but not the obligation, to condition the formation of any CFD, assessment district or other public financing mechanism within the Property on the OWNER mitigating all Project-related impacts to the applicable school district(s) as required by such school district(s). Written evidence by such school district(s) may be required by the CITY as the condition to the formation of any CFD, assessment district or other public financing mechanism within the Property, or any steps preliminary thereto, including, without limitation, the adoption of any resolution of intention to form such CFD, assessment district or other public financing mechanism within the Property. It is not the intent of the parties hereto, by this provision, to prohibit or otherwise limit the City's ability to take any and all necessary steps requisite to the formation of the CFD to finance City services through annual special taxes as set forth in this Section 5.1. Formation of any CFD, assessment district or other public financing mechanism within the Property, shall be subject to CITY's ability to make all findings required by applicable law and complying with all applicable legal procedures and requirements including, without limitation, CITY's public financing district policies as such policies may be amended from time to time. Notwithstanding the foregoing, it is acknowledged and agreed by the parties that nothing

contained in this Agreement shall be construed as requiring CITY or the City Council to form any such district or to issue and sell bonds.

6. REVIEW FOR COMPLIANCE.

6.1 Periodic and Special Reviews.

6.1.1 Time for and Initiation of Periodic Review. The CITY shall review this Agreement every twelve (12) months from the Effective Date in order to ascertain the good faith compliance by the OWNER with the terms of this Agreement. The OWNER shall submit an Annual Monitoring Report to CITY, in a form acceptable to the City Manager, along with any applicable processing charge within ten (10) days after each anniversary date of the Effective Date of this Agreement. Within fifteen (15) days after the receipt of the Annual Monitoring Report, CITY shall review the Annual Monitoring Report. Prior to the expiration of the fifteen (15) day review period, CITY shall either issue a notice of continuing compliance or a notice of non-compliance and a notice of CITY's intent to conduct a Special Review pursuant to Sections 6.1.2 through 6.1.6. Issuance of a notice of continuing compliance may be issued by the City Manager or his designee.

6.1.2 Initiation of Special Review. A special review may be called either by agreement between the parties or by initiation in one or more of the following ways:

(1) Recommendation of the Planning staff;

(2) Affirmative vote of at least four (4) members of the Planning Commission; or

(3) Affirmative vote of at least three (3) members of the City Council.

6.1.3 Notice of Special Review. The City Manager shall begin the special review proceeding by giving notice that the CITY intends to undertake a special review of this Agreement to the OWNER. Such notice shall be given at least ten (10) days in advance of the time at which the matter will be considered by the Planning Commission.

6.1.4 Public Hearing. The Planning Commission shall conduct a hearing at which the OWNER must demonstrate good faith compliance with the terms of this Agreement. The burden of proof on this issue is upon the OWNER.

6.1.5 Findings Upon Public Hearing. The Planning Commission shall determine upon the basis of substantial evidence whether or not the OWNER has, for the period under review, complied in good faith with the terms and conditions of this Agreement.

6.1.6 Procedure Upon Findings.

(a) If the Planning Commission finds and determines on the basis of substantial evidence that the OWNER has complied in good faith with the terms and conditions of this Agreement during the period under review, the review for that period is concluded.

(b) If the Planning Commission finds and determines on the basis of substantial evidence that the OWNER has not complied in good faith with the terms and conditions of this Agreement during the period under review, the Planning Commission may recommend to the City Council to modify or terminate this Agreement.

(c) The OWNER may appeal a determination pursuant to paragraph (b) to the City Council in accordance with the CITY's rule for consideration of appeals in zoning matters generally.

6.2 Proceedings Upon Modification or Termination. If, upon a finding under Section 6.1.6(b), the CITY determines to proceed with modification or termination of this Agreement, the CITY shall give notice to the property OWNER of its intention so to do. The notice shall contain:

(a) The time and place of the hearing;

(b) A statement as to whether or not the CITY proposes to terminate or to modify this Agreement; and

(c) Other information that the CITY considers necessary to inform the OWNER of the nature of the proceeding.

6.3 Hearing on Modification or Termination. At the time and place set for the hearing on modification or termination, the OWNER shall be given an opportunity to be heard. The OWNER shall be required to demonstrate good faith compliance with the terms and conditions of this Agreement. The burden of proof on this issue shall be on the OWNER. If the City Council finds, based upon substantial evidence in the administrative record, that the OWNER has not complied in good faith with the terms and conditions of the agreement, the City Council may terminate or modify this Agreement and impose those conditions to the action it takes as it considers necessary to protect the interests of the CITY. The decision of the City Council shall be final, subject only to judicial review pursuant to Section 1094.5 of the Code of Civil Procedure.

6.4 Certificate of Agreement Compliance. If, at the conclusion of a Periodic or Special Review, OWNER is found to be in compliance with this Agreement, CITY shall, upon written request by OWNER, issue a Certificate of Agreement Compliance ("Certificate") to OWNER stating that after the most recent Periodic or Special Review and based upon the information known or made known to the Planning Director and City Council that (1) this Agreement remains in effect and (2) OWNER is not in default. The

Certificate shall be in recordable form, shall contain information necessary to communicate constructive record notice of the finding of compliance, shall state whether the Certificate is issued after a Periodic or Special Review and shall state the anticipated date of commencement of the next Periodic Review. OWNER may record the Certificate with the County Recorder. Whether or not the Certificate is relied upon by assignees or other transferees or OWNER, CITY shall not be bound by a Certificate if a default existed at the time of the Periodic or Special Review, but was concealed from or otherwise not known to the Planning Director or City Council.

7. [RESERVED]

8. DEFAULT AND REMEDIES.

8.1 Remedies in General. It is acknowledged by the parties that CITY would not have entered into this Agreement if it were to be liable in damages under this Agreement, or with respect to this Agreement or the application thereof.

In general, each of the parties hereto may pursue any remedy at law or equity available for the breach of any provision of this Agreement, except that CITY shall not be liable in damages to OWNER, or to any successor in interest of OWNER, or to any other person, and OWNER covenants not to sue for damages or claim any damages:

(a) For any breach of this Agreement or for any cause of action which arises out of this Agreement; or

(b) For the taking, impairment or restriction of any right or interest conveyed or provided under or pursuant to this Agreement; or

(c) Arising out of or connected with any dispute, controversy or issue regarding the application or interpretation or effect of the provisions of this Agreement.

8.2 Specific Performance. The parties acknowledge that money damages and remedies at law generally are inadequate and specific performance and other non-monetary relief are particularly appropriate remedies for the enforcement of this Agreement and should be available to all parties for the following reasons:

(a) Money damages are unavailable against CITY as provided in Section 8.1 above.

(b) Due to the size, nature and scope of the project, it may not be practical or possible to restore the Property to its natural condition once implementation of this Agreement has begun. After such implementation, OWNER may be foreclosed from other choices it may have had to utilize the Property or portions thereof. OWNER has invested significant time and resources and performed extensive planning and processing of the Project in agreeing to the terms of this Agreement and will be investing even more significant time and resources in implementing the Project in reliance upon the terms of

this Agreement, and it is not possible to determine the sum of money which would adequately compensate OWNER for such efforts.

8.3 Release. Except for nondamage remedies, including the remedy of specific performance and judicial review as provided for in Section 6.5, OWNER, for itself, its successors and assignees, hereby releases the CITY, its officers, agents and employees from any and all claims, demands, actions, or suits of any kind or nature arising out of any liability, known or unknown, present or future, including, but not limited to, any claim or liability, based or asserted, pursuant to Article I, Section 19 of the California Constitution, the Fifth Amendment of the United States Constitution, or any other law or ordinance which seeks to impose any other liability or damage, whatsoever, upon the CITY because it entered into this Agreement or because of the terms of this Agreement.

8.4 Termination or Modification of Agreement for Default of OWNER. Subject to the provisions contained in Subsections 6.2 and 6.3 herein, CITY may terminate or modify this Agreement for any failure of OWNER to perform any material duty or obligation of OWNER under this Agreement, or to comply in good faith with the terms of this Agreement (hereinafter referred to as "default"); provided, however, CITY may terminate or modify this Agreement pursuant to this Section only after providing written notice to OWNER of default setting forth the nature of the default and the actions, if any, required by OWNER to cure such default and, where the default can be cured, OWNER has failed to take such actions and cure such default within 60 days after the effective date of such notice or, in the event that such default cannot be cured within such 60 day period but can be cured within a longer time, has failed to commence the actions necessary to cure such default within such 60 day period and to diligently proceed to complete such actions and cure such default.

8.5 Termination of Agreement for Default of CITY. OWNER may terminate this Agreement only in the event of a default by CITY in the performance of a material term of this Agreement and only after providing written notice to CITY of default setting forth the nature of the default and the actions, if any, required by CITY to cure such default and, where the default can be cured, CITY has failed to take such actions and cure such default within 60 days after the effective date of such notice or, in the event that such default cannot be cured within such 60 day period but can be cured within a longer time, has failed to commence the actions necessary to cure such default within such 60 day period and to diligently proceed to complete such actions and cure such default.

9. THIRD PARTY LITIGATION.

9.1 General Plan Litigation. CITY has determined that this Agreement is consistent with its Comprehensive General Plan, as such General Plan exists as of the Effective Date ("General Plan"), and that the General Plan meets all requirements of law. OWNER has reviewed the General Plan and concurs with CITY's determination. CITY shall have no liability in damages under this Agreement for any failure of CITY to perform under this Agreement or the inability of OWNER to develop the Property as contemplated by the Development Plan of this Agreement as the result of a judicial determination that

on the Effective Date, or at any time thereafter, the General Plan, or portions thereof, are invalid or inadequate or not in compliance with law.

9.2 Third Party Litigation Concerning Agreement. OWNER shall defend, at its expense, including attorneys' fees, indemnify, and hold harmless CITY, its agents, officers and employees from any claim, action or proceeding against CITY, its agents, officers, or employees to attack, set aside, void, or annul the approval of this Agreement or the approval of any permit granted pursuant to this Agreement. CITY shall promptly notify OWNER of any such claim, action or proceeding, and CITY shall cooperate in the defense. If CITY fails to promptly notify OWNER of any such claim, action or proceeding, or if CITY fails to cooperate in the defense, OWNER shall not thereafter be responsible to defend, indemnify, or hold harmless CITY. CITY may in its discretion participate in the defense of any such claim, action or proceeding.

9.3 Indemnity. In addition to the provisions of 9.2 above, OWNER shall indemnify and hold CITY, its officers, agents, employees and independent contractors free and harmless from any liability whatsoever, based or asserted upon any act or omission of OWNER, its officers, agents, employees, subcontractors and independent contractors, for property damage, bodily injury, or death (OWNER's employees included) or any other element of damage of any kind or nature, relating to or in any way connected with or arising from the activities contemplated hereunder, including, but not limited to, the study, design, engineering, construction, completion, failure and conveyance of the public improvements, save and except claims for damages arising through the sole active negligence or sole willful misconduct of CITY. OWNER shall defend, at its expense, including attorneys' fees, CITY, its officers, agents, employees and independent contractors in any legal action based upon such alleged acts or omissions. CITY may in its discretion participate in the defense of any such legal action.

9.4 Environment Assurances. OWNER shall indemnify and hold CITY, its officers, agents, and employees free and harmless from any liability, based or asserted, upon any act or omission of OWNER, its officers, agents, employees, subcontractors, predecessors in interest, successors, assigns and independent contractors for any violation of any federal, state or local law, ordinance or regulation relating to industrial hygiene or to environmental conditions on, under or about the Property, including, but not limited to, soil and groundwater conditions, and OWNER shall defend, at its expense, including attorneys' fees, CITY, its officers, agents and employees in any action based or asserted upon any such alleged act or omission. CITY may in its discretion participate in the defense of any such action.

9.5 Reservation of Rights. With respect to Sections 9.2, 9.3 and 9.4 herein, CITY reserves the right to either (1) approve the attorney(s) which OWNER selects, hires or otherwise engages to defend CITY hereunder, which approval shall not be unreasonably withheld, or (2) conduct its own defense, provided, however, that OWNER shall reimburse CITY forthwith for any and all reasonable expenses incurred for such defense, including attorneys' fees, upon billing and accounting therefor.

9.6 Survival. The provisions of this Sections 9.1 through 9.6, inclusive, shall survive the termination of this Agreement.

10. MORTGAGEE PROTECTION.

The parties hereto agree that this Agreement shall not prevent or limit OWNER, in any manner, at OWNER's sole discretion, from encumbering the Property or any portion thereof or any improvement thereon by any mortgage, deed of trust or other security device securing financing with respect to the Property. CITY acknowledges that the lenders providing such financing may require certain Agreement interpretations and modifications and agrees upon request, from time to time, to meet with OWNER and representatives of such lenders to negotiate in good faith any such request for interpretation or modification. CITY will not unreasonably withhold its consent to any such requested interpretation or modification provided such interpretation or modification is consistent with the intent and purposes of this Agreement. Any Mortgagee of the Property shall be entitled to the following rights and privileges:

(a) Neither entering into this Agreement nor a breach of this Agreement shall defeat, render invalid, diminish or impair the lien of any mortgage on the Property made in good faith and for value, unless otherwise required by law.

(b) The Mortgagee of any mortgage or deed of trust encumbering the Property, or any part thereof, which Mortgagee, has submitted a request in writing to the CITY in the manner specified herein for giving notices, shall be entitled to receive written notification from CITY of any default by OWNER in the performance of OWNER's obligations under this Agreement.

(c) If CITY timely receives a request from a Mortgagee requesting a copy of any notice of default given to OWNER under the terms of this Agreement, CITY shall provide a copy of that notice to the Mortgagee within ten (10) days of sending the notice of default to OWNER. The Mortgagee shall have the right, but not the obligation, to cure the default during the remaining cure period allowed such party under this Agreement.

(d) Any Mortgagee who comes into possession of the Property, or any part thereof, pursuant to foreclosure of the mortgage or deed of trust, or deed in lieu of such foreclosure, shall take the Property, or part thereof, subject to the terms of this Agreement. Notwithstanding any other provision of this Agreement to the contrary, no Mortgagee shall have an obligation or duty under this Agreement to perform any of OWNER's obligations or other affirmative covenants of OWNER hereunder, or to guarantee such performance; provided, however, that to the extent that any covenant to be performed by OWNER is a condition precedent to the performance of a covenant by CITY, the performance thereof shall continue to be a condition precedent to CITY's performance hereunder, and further provided that any sale, transfer or assignment by any Mortgagee in possession shall be subject to the provisions of Section 2.4 of this Agreement.

11. MISCELLANEOUS PROVISIONS.

11.1 Recordation of Agreement. This Agreement and any amendment or cancellation thereof shall be recorded with the San Bernardino County Recorder by the City Clerk within the ten (10) days after the CITY executes this Agreement, as required by Section 65868.5 of the Government Code. If the parties to this Agreement or their successors in interest amend or cancel this Agreement as provided for herein and in Government Code Section 65868, or if the CITY terminates or modifies the agreement as provided for herein and in Government Code Section 65865.1 for failure of the applicant to comply in good faith with the terms or conditions of this Agreement, the City Clerk shall have notice of such action recorded with the San Bernardino County Recorder.

11.2 Entire Agreement. This Agreement sets forth and contains the entire understanding and agreement of the parties, and there are no oral or written representations, understandings or ancillary covenants, undertakings or agreements which are not contained or expressly referred to herein. No testimony or evidence of any such representations, understandings or covenants shall be admissible in any proceeding of any kind or nature to interpret or determine the terms or conditions of this Agreement.

11.3 Severability. If any term, provision, covenant or condition of this Agreement shall be determined invalid, void or unenforceable, the remainder of this Agreement shall not be affected thereby to the extent such remaining provisions are not rendered impractical to perform taking into consideration the purposes of this Agreement. Notwithstanding the foregoing, the provision of the Public Benefits set forth in Section 4 of this Agreement, including the payment of the fees set forth therein, are essential elements of this Agreement and CITY would not have entered into this Agreement but for such provisions, and therefore in the event such provisions are determined to be invalid, void or unenforceable, this entire Agreement shall be null and void and of no force and effect whatsoever.

11.4 Interpretation and Governing Law. This Agreement and any dispute arising hereunder shall be governed and interpreted in accordance with the laws of the State of California. This Agreement shall be construed as a whole according to its fair language and common meaning to achieve the objectives and purposes of the parties hereto, and the rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be employed in interpreting this Agreement, all parties having been represented by counsel in the negotiation and preparation hereof.

11.5 Section Headings. All section headings and subheadings are inserted for convenience only and shall not affect any construction or interpretation of this Agreement.

11.6 Singular and Plural. As used herein, the singular of any word includes the plural.

11.7 Joint and Several Obligations. Subject to section 2.4, if at any time during the term of this Agreement the Property is owned, in whole or in part, by more than one owner, all obligations of such owners under this Agreement shall be joint and several, and the default of any such owner shall be the default of all such owners. Notwithstanding the foregoing, no owner of a single lot which has been finally subdivided and sold to such

owner as a member of the general public or otherwise as an ultimate user shall have any obligation under this Agreement except as provided under Section 4 hereof.

11.8 Time of Essence. Time is of the essence in the performance of the provisions of this Agreement as to which time is an element.

11.9 Waiver. Failure by a party to insist upon the strict performance of any of the provisions of this Agreement by the other party, or the failure by a party to exercise its rights upon the default of the other party, shall not constitute a waiver of such party's right to insist and demand strict compliance by the other party with the terms of this Agreement thereafter.

11.10 No Third Party Beneficiaries. This Agreement is made and entered into for the sole protection and benefit of the parties and their successors and assigns. No other person shall have any right of action based upon any provision of this Agreement.

11.11 Force Majeure. Neither party shall be deemed to be in default where failure or delay in performance of any of its obligations under this Agreement is caused by floods, earthquakes, other Acts of God, fires, wars, riots or similar hostilities, strikes and other labor difficulties beyond the party's control, (including the party's employment force), government regulations, court actions (such as restraining orders or injunctions), or other causes beyond the party's control. If any such events shall occur, the term of this Agreement and the time for performance by either party of any of its obligations hereunder may be extended by the written agreement of the parties for the period of time that such events prevented such performance, provided that the term of this Agreement shall not be extended under any circumstances for more than five (5) years.

11.12 Mutual Covenants. The covenants contained herein are mutual covenants and also constitute conditions to the concurrent or subsequent performance by the party benefited thereby of the covenants to be performed hereunder by such benefited party.

11.13 Successors in Interest. The burdens of this Agreement shall be binding upon, and the benefits of this Agreement shall inure to, all successors in interest to the parties to this Agreement. All provisions of this Agreement shall be enforceable as equitable servitudes and constitute covenants running with the land. Each covenant to do or refrain from doing some act hereunder with regard to development of the Property: (a) is for the benefit of and is a burden upon every portion of the Property; (b) runs with the Property and each portion thereof; and, (c) is binding upon each party and each successor in interest during ownership of the Property or any portion thereof.

11.14 Counterparts. This Agreement may be executed by the parties in counterparts, which counterparts shall be construed together and have the same effect as if all of the parties had executed the same instrument.

11.15 Jurisdiction and Venue. Any action at law or in equity arising under this Agreement or brought by a party hereto for the purpose of enforcing, construing or determining the validity of any provision of this Agreement shall be filed and tried in the

Superior Court of the County of San Bernardino, State of California, and the parties hereto waive all provisions of law providing for the filing, removal or change of venue to any other court.

11.16 Project as a Private Undertaking. It is specifically understood and agreed by and between the parties hereto that the development of the Project is a private development, that neither party is acting as the agent of the other in any respect hereunder, and that each party is an independent contracting entity with respect to the terms, covenants and conditions contained in this Agreement. No partnership, joint venture or other association of any kind is formed by this Agreement. The only relationship between CITY and OWNER is that of a government entity regulating the development of private property and the owner of such property.

11.17 Further Actions and Instruments. Each of the parties shall cooperate with and provide reasonable assistance to the other to the extent contemplated hereunder in the performance of all obligations under this Agreement and the satisfaction of the conditions of this Agreement. Upon the request of either party at any time, the other party shall promptly execute, with acknowledgment or affidavit if reasonably required, and file or record such required instruments and writings and take any actions as may be reasonably necessary under the terms of this Agreement to carry out the intent and to fulfill the provisions of this Agreement or to evidence or consummate the transactions contemplated by this Agreement. The City Manager may delegate his powers and duties under this Agreement to an Assistant City Manager or other management level employee of the CITY.

11.18 Eminent Domain. No provision of this Agreement shall be construed to limit or restrict the exercise by CITY of its power of eminent domain.

11.19 Agent for Service of Process. In the event OWNER is not a resident of the State of California or it is an association, partnership or joint venture without a member, partner or joint venturer resident of the State of California, or it is a foreign corporation, then in any such event, OWNER shall file with the Planning Director, upon its execution of this Agreement, a designation of a natural person residing in the State of California, giving his or her name, residence and business addresses, as its agent for the purpose of service of process in any court action arising out of or based upon this Agreement, and the delivery to such agent of a copy of any process in any such action shall constitute valid service upon OWNER. If for any reason service of such process upon such agent is not feasible, then in such event OWNER may be personally served with such process out of this County and such service shall constitute valid service upon OWNER. OWNER is amenable to the process so served, submits to the jurisdiction of the Court so obtained and waives any and all objections and protests thereto. OWNER for itself, assigns and successors hereby waives the provisions of the Hague Convention (Convention on the Service Abroad of Judicial and Extra Judicial Documents in Civil or Commercial Matters, 20 U.S.T. 361, T.I.A.S. No. 6638).

11.20 Estoppel Certificate. Within thirty (30) business days following a written request by any of the parties, the other party shall execute and deliver to the requesting

party a statement certifying that (i) either this Agreement is unmodified and in full force and effect or there have been specified (date and nature) modifications to the Agreement, but it remains in full force and effect as modified; and (ii) either there are no known current uncured defaults under this Agreement or that the responding party alleges that specified (date and nature) defaults exist. The statement shall also provide any other reasonable information requested. The failure to timely deliver this statement shall constitute a conclusive presumption that this Agreement is in full force and effect without modification except as may be represented by the requesting party and that there are no uncured defaults in the performance of the requesting party, except as may be represented by the requesting party. OWNER shall pay to CITY all costs incurred by CITY in connection with the issuance of estoppel certificates under this Section 11.20 prior to CITY's issuance of such certificates.

11.21 Authority to Execute. The person or persons executing this Agreement on behalf of OWNER warrants and represents that he or she/they have the authority to execute this Agreement on behalf of his or her/their corporation, partnership or business entity and warrants and represents that he or she/they has/have the authority to bind OWNER to the performance of its obligations hereunder.

11.22 Prevailing Wage. OWNER, for itself, its successors, and assigns, agrees, covenants, and warrants that the development of the Property, if any, shall comply with all applicable federal and state labor laws (including, without limitation, the requirement under California law to pay prevailing wages and hire apprentices), and all obligations as set forth herein.

11.22.1 CITY makes no representations concerning prevailing wages in compliance with California Labor Code Section 1770 et seq.

11.22.2. OWNER acknowledges and agrees that it shall be independently responsible for reviewing the applicable laws and regulations with respect to the payment of prevailing wages and complying therewith. OWNER shall bear all risks of payment or non-payment of prevailing wages under California law and/or the implementation of Labor Code Section 1781, as the same may be amended from time to time, and/or any other similar law.

11.22.3 The foregoing indemnity shall survive termination of this Agreement and shall continue after completion of the construction and development of the Property by OWNER, its successors or assigns. OWNER shall be solely responsible for determining and effectuating compliance with such laws.

11.22.4 OWNER, ON BEHALF OF ITSELF, ITS SUCCESSORS, AND ASSIGNS, WAIVES AND RELEASES CITY FROM ANY RIGHT OF ACTION THAT MAY BE AVAILABLE TO OWNER PURSUANT TO LABOR CODE SECTION 1781 OR THE DAVIS BACON ACT. RELATIVE TO THE WAIVER AND RELEASE CONTAINED IN THIS SECTION 11.22, OWNER ACKNOWLEDGES THE PROTECTIONS OF CIVIL CODE SECTION 1542, WHICH READS AS FOLLOWS: A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT

KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.

INITIALS. BY INITIALING BELOW, OWNER KNOWINGLY AND VOLUNTARILY WAIVES THE PROVISIONS OF SECTION 1542 SOLELY WITH THE MATTERS WHICH ARE THE SUBJECT OF THE FOREGOING WAIVERS AND RELEASES:

_____

(Owner's Initials)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year set forth below.

[SIGNATURES CONTAINED ON FOLLOWING PAGE]

SIGNATURE PAGE
TO DEVELOPMENT AGREEMENT NO. PDA22-005

"OWNER"

RB ONTARIO LLC, a Delaware limited liability company

By: **THE LANDMARK COMPANY LLC**, a California limited liability company, its Manager

By:_____
Name: Jeff Ragland
Title: Manager
Date: _____

"CITY"

CITY OF ONTARIO

By:_____
Scott Ochoa
City Manager

Date: _____

ATTEST:

_____
City Clerk, Ontario

APPROVED AS TO FORM:
BEST BEST KRIEGER, LLP

_____
City Attorney

ACKNOWLEDGEMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
COUNTY OF_____)

On _____, 20_____, before me,_____,
Date *Insert Name and Title of the Officer*

personally appeared _____
Name(s) of Signer(s)
_____, who proved to me on the basis of satisfactory evidence to be the person whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature_____
Signature of Notary Public

Place Notary Seal Above

ACKNOWLEDGEMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
COUNTY OF_____)

On _____, 20_____, before me _____,
Date Insert Name and Title of the Officer

personally appeared _____
Name(s) of Signer(s)

_____,
who proved to me on the basis of satisfactory evidence to be the person whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature_____
Signature of Notary Public

Place Notary Seal Above

EXHIBIT "A"
TO DEVELOPMENT AGREEMENT

Legal Description of Property

PARCEL A: (APN: 0218-111-60-0-000)
PARCEL 1 OF PARCEL MAP NO. 9486, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 107 OF PARCEL MAPS, PAGES 98 AND 99, RECORDS OF SAID COUNTY.

PARCEL A1: AN EASEMENT FOR A WELLSITE TOGETHER WITH THE CONSTRUCTION AND MAINTENANCE OF WATER PIPE LINES ALONG WITH SUCH RIGHTS APPURTENANT TO THE REPAIR AND MAINTENANCE OF PUMPING PLANT EQUIPMENT TOGETHER WITH ALL NECESSARY RIGHTS OF INGRESS AND EGRESS. SAID EASEMENT LAYING WITHIN PARCEL 2, PARCEL MAP NO. 9486, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 107 OF PARCEL MAPS, PAGES 98 AND 99, RECORDS OF SAID COUNTY, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PARCEL NO. 1: COMMENCING AT THE SOUTHWEST CORNER OF SAID PARCEL 2; THENCE SOUTH 89 DEG. 45' 04" EAST ALONG THE SOUTH LINE OF SAID PARCEL 2, A DISTANCE OF 360.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 0 DEG. 14' 56" EAST A DISTANCE OF 40.00 FEET; THENCE SOUTH 89 DEG. 45' 04" EAST A DISTANCE OF 40.00 FEET; THENCE SOUTH 0 DEG. 14' 56" WEST, A DISTANCE OF 40.00 FEET TO A POINT ON THE SOUTH LINE PARCEL 2; THENCE NORTH 89 DEG. 45' 04" WEST 40.00 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL NO. 2: A 20 FOOT EASEMENT LYING 10 FEET EITHER SIDE OF THE FOLLOWING DESCRIBED CENTERLINE: COMMENCING AT THE SOUTHWEST CORNER OF SAID PARCEL 2; THENCE SOUTH 89 DEG. 45' 04" EAST ALONG THE SOUTH LINE OF SAID PARCEL 2, A DISTANCE OF 360.00 FEET; THENCE NORTH 0 DEG. 14' 56" EAST A DISTANCE OF 10.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 89 DEG. 45' 04" WEST PARALLEL WITH THE SOUTH LINE OF SAID PARCEL 2, A DISTANCE OF 330.00 FEET; THENCE NORTH 0 DEG. 02' 14" WEST A DISTANCE OF 305.00 FEET, MORE OR LESS, TO THE POINT OF TERMINUS ON THE NORTH LINE OF SAID PARCEL 2.

PARCEL B: (APN: 0218-111-61-0-000) PARCEL 2 OF PARCEL MAP NO. 9486, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER PLAT RECORDED IN BOOK 107 OF PARCEL MAPS, PAGES 98 AND 99, RECORDS OF SAID COUNTY.

EXHIBIT "B"
TO DEVELOPMENT AGREEMENT

Map showing Property and its location

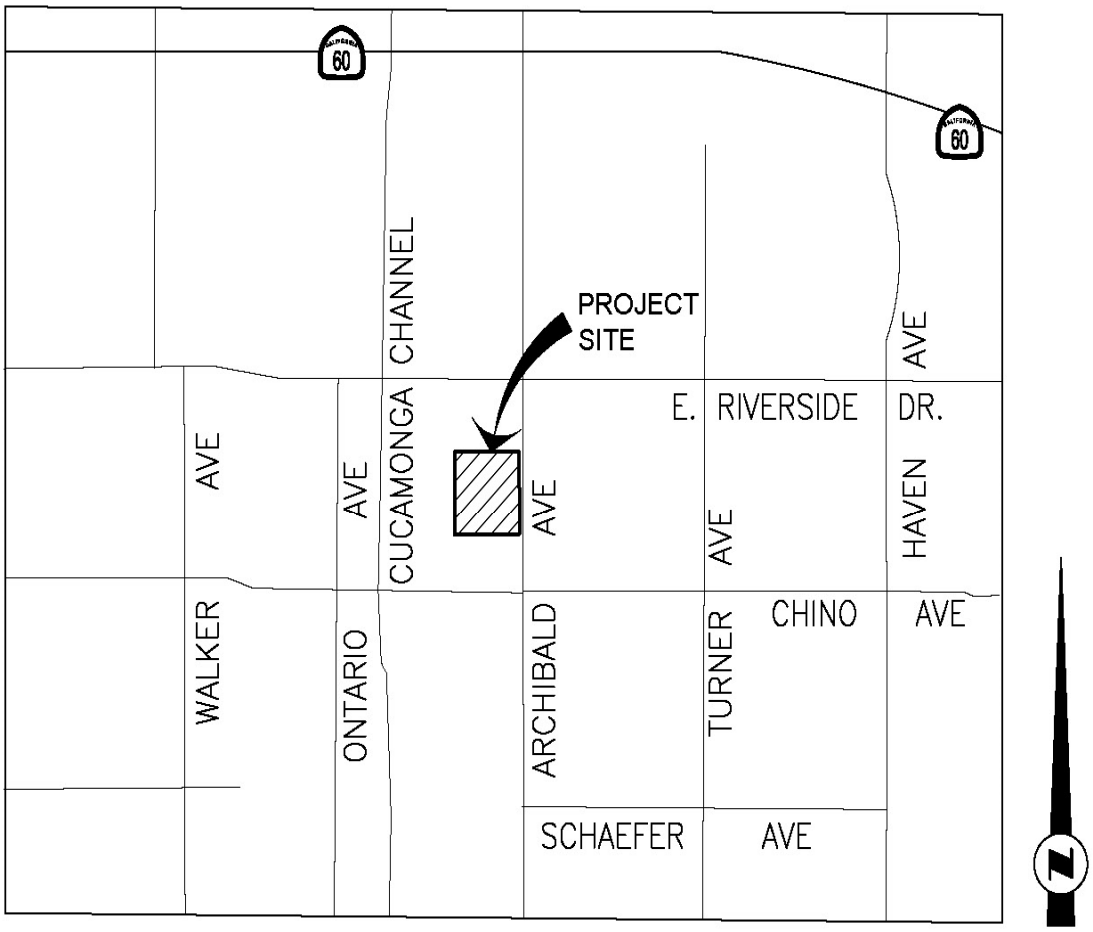


EXHIBIT "C"
TO DEVELOPMENT AGREEMENT

Existing Development Approvals

On March 28, 2006, the Planning Commission:

a) Issued Resolution No. PC06-020 recommending City Council adopt and certify the Countryside Specific Plan Environmental Impact Report (SCH #2004071001).

b) Issued Resolution No. PC06-021 recommending City Council approval of the Countryside Specific Plan (PSP04-001).

On April 18, 2006, the City Council:

a) Issued Resolution No. 2006-013 certifying the Countryside Specific Plan Environmental Impact Report.

On April 25, 2006, the Planning Commission:

a) Issued Resolution No. PC06-031, recommending the City Council approval of an amendment (File No. PSPA06-003) to the Countryside Specific Plan.

On May 2, 2006, the City Council:

a) Issued Ordinance No. 2828 approving the Countryside Specific Plan (PSP04-001).

On June 20, 2006 the City Council:

a) Issued Ordinance No. 2830 approving an amendment to the Countryside Specific Plan (File No. PSPA06-063).

EXHIBIT "D"
TO DEVELOPMENT AGREEMENT

Existing Land Use Regulations

These documents are listed for reference only:

1. Countryside Specific Plan (File No. PSP04-001), Ordinance No. 2828

2. Countryside Specific Plan Environmental Impact Report (SCH# 2004071001)

3. Countryside Specific Plan (File No. PSPA06-063), Ordinance No. 2830

4. Countryside Specific Plan Amendment (File No. PSPA19-001)

5. City of Ontario Municipal Code
    a. Six – Sanitation & Health
    b. Seven – Public Works
    c. Eight – Building Regulations
    d. Nine – Development Code
    e. Ten – Parks & Recreation

EXHIBIT "E"
TO DEVELOPMENT AGREEMENT

Description of Required Improvements

OWNER shall design, construct, and complete all improvements including but not limited to sewer, water, recycled water, storm drain, fiber, and street improvements necessary to serve the Property, prior to the request of any Production Units.

Fiber Optic (FO) Improvements

a) FO improvements along Archibald Avenue from the northerly tract boundary to the southerly tract boundary.

Street (ST) Improvements

a) Full half-width ST improvements along Archibald Avenue from the northernly tract boundary to the southerly tract boundary.
b) Traffic Signal improvements at the intersection of Private Drive “A” and Archibald Avenue.

EXHIBIT "F"
TO DEVELOPMENT AGREEMENT

Depiction of Required Infrastructure Improvements

(SEE ATTACHED)

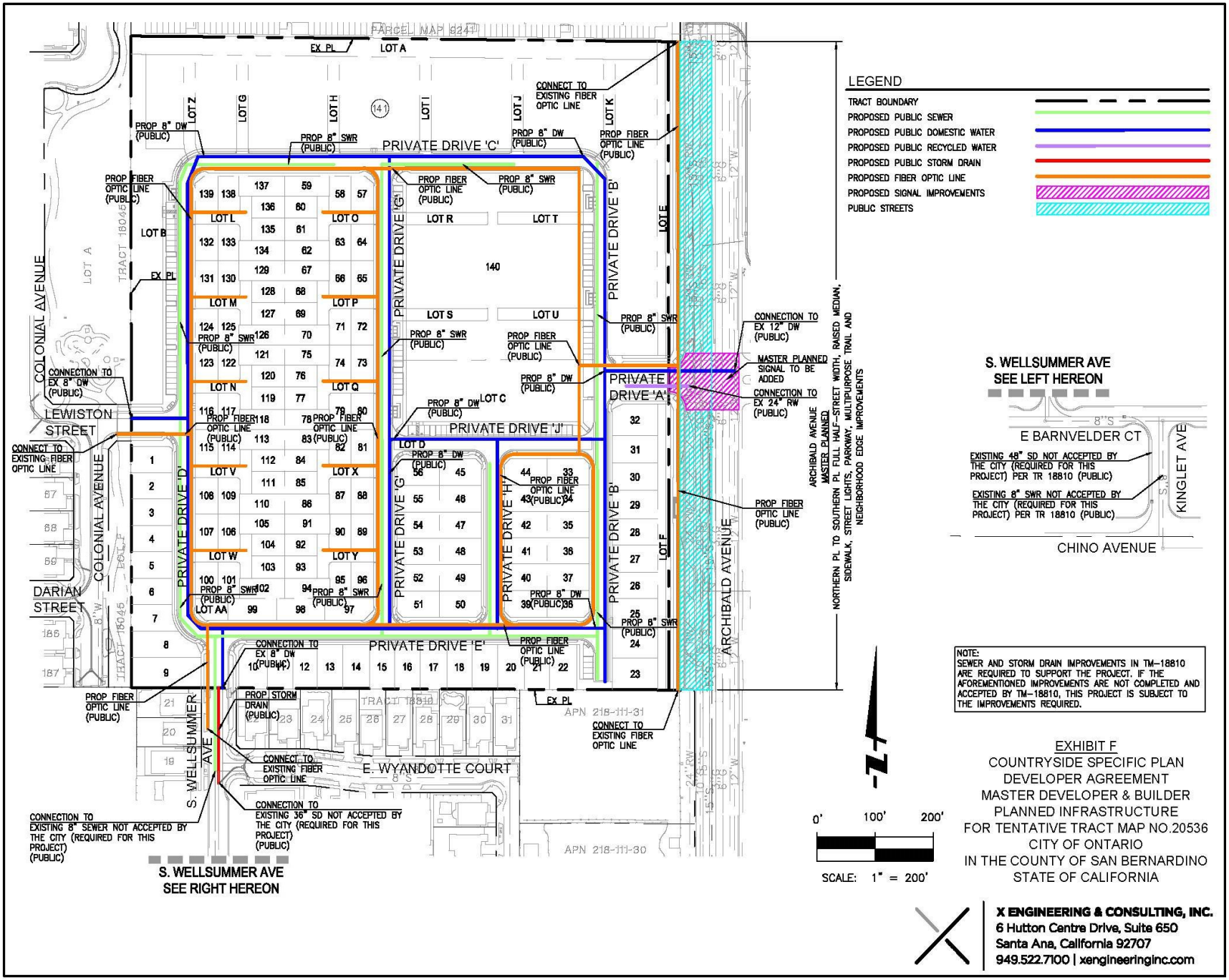


EXHIBIT F
COUNTRYSIDE SPECIFIC PLAN
DEVELOPER AGREEMENT
MASTER DEVELOPER & BUILDER
PLANNED INFRASTRUCTURE
FOR TENTATIVE TRACT MAP NO.20536
CITY OF ONTARIO
IN THE COUNTY OF SAN BERNARDINO
STATE OF CALIFORNIA

X ENGINEERING & CONSULTING, INC.
6 Hutton Centre Drive, Suite 650
Santa Ana, California 92707
949.522.7100 | xengineeringinc.com

EXHIBIT "G"
TO DEVELOPMENT AGREEMENT

FORM OF CERTIFICATE OF NET MDD AVAILABILITY

Pursuant to Section ___ of this Agreement between the City of Ontario, a California municipal corporation, and _____, a _____ company, hereinafter called "OWNER", the terms and definitions of which are hereby incorporated herein by this reference and hereinafter called "Agreement", the City of Ontario hereby certifies based on CITY receipt of payment of OWNER's share of the funding for the Phase 2 Water Improvements, that OWNER is entitled to the following Net MDD Water Availability.

Amount of Net MDD _____ gpm

_____
Scott Ochoa, City Manager

Dated:_____

Exhibit "H"

FORM OF CERTIFICATE OF REGIONAL DIF CREDIT

Pursuant to Section 4.5.2 of this Agreement by and between the City of Ontario and _____, dated _____, 201_, the terms and definitions of which are hereby incorporated herein by this reference and hereinafter called the "Development Agreement', the City of Ontario hereby certifies that OWNER is entitled to the following amount and nature of DIF Credits in the Regional Water DIF Infrastructure Category:

Amount of Credit: $_____

_____
Scott Ochoa, City Manager

Dated: _____

Exhibit "I-1"

ONTARIO RANCH
WATER SUPPLY PHASING PLAN

Phase 2	Water Availability Equivalency	Estimated Net MDD Available[1]
Phase 2 A		
Supply & Storage		
1. 1 - Additional Ground Water Well and Collection lines - Design and Construction	8,250 gpm[2]	**7,750 gpm**[2]
Pipelines (Transmission & Distribution)[2]		
2. 925 Zone Transmission lines – Design and Construction		
3. Temporary Pressure Reducing Station[3] – Design and Construction		
Phase 2B		
Supply & Storage		
4. 1 – Additional Ground Water Well and Collection lines – Design and Construction	10,500 gpm[2]	**9,860 gpm[2]**
5. 1 – 6 million gallon Reservoir – 925 Zone – Design and Construction		

(1) Upon Completion of the construction of all of the improvements described for each Phase a Certificate of Net MDD Availability shall be issued to Developer for the corresponding amount of Net MDD. Net MDD means the maximum daily demand on the potable water supply, net of the water requirements for public schools and parks. The Water Availability Equivalency includes the estimated requirements for public schools and parks. The amount of Net MDD specified is the cumulative amount for which building permits may be issued upon funding of the corresponding and all preceding Phases of improvements.

(2) The ability of a particular development to utilize Net MDD assigned to it by the Developer will require the completion of design and construction of Master-planned potable and recycled water transmission and distribution pipelines for the respective pressure zone. Other factors may include its location, the particular land use and Water Availability Equivalents assigned to it as specified in Exhibit C-2.

(3) Pressure reducing stations are a component of the pipeline transmission and distribution system.

EXHIBIT "I-2"

Available Water Supply - See Exhibit C-1R for Net MDD Available

Table A - Water Demand Equivalents By Land Use

The Ontario Plan	Potable Water			Recycled Water	
Land Use	Water Demand Factor (ADD)		Water Demand Equivalents (WDE)[2]	Recycled Water Demand Factor[1] (ADD)	Recycled Water Demand Of Total Water Demand
	(gpd/du)	(gpd/ac)	(gpm/unit)	(gpd/ac)	(%)
Detached Dwellings (less than 5 units per acre)	544		0.57	900	28%
Detached or Attached Dwellings (between 5 and 11 units per acre)	464		0.48	1,000	21%
Attached Dwellings (between 11 and 25 units per acre)	323		0.34	1,500	18%
High Density Dwellings (25+ units per acre)	152		0.16	1,500	27%
Commercial Lodging	150		0.16	1,700	50%
Retail/Services Uses		2,200	2.29	2,300	51%
Office Uses		3,400	3.54	2,300	40%
Business Park Uses		2,200	2.29	2,200	50%
Industrial Uses		2,000	2.08	2,200	52%
Institutional Use		2,200	2.29	1,600	42%
Parks		1,000	1.04	1,400	58%
Schools		3,500	3.65	1,600	31%

[1]Recycled Water Demands include irrigation for right-of-way (medians and parkways), neighborhood edge, pocket parks, and common areas.

[2] The WDE is based on the Maximum Day Demand (MDD) with a peaking factor of 1.5 in the NMC for all land use categories.

Table B - Example Water Supply Calculation

Land Use	Acres[1] (gross)	Residential Units	WDE Factor (gpm)	Potable MDD (gpm)	Recycled Water ADD (gpm)
Development					
Detached Dwellings (less than 5 units per acre)	1,284	5,061	0.57	2,868	803
Detached or Attached Dwellings (between 5 and 11 units per acre)	369	2,530	0.48	1,223	256
Attached Dwellings (between 11 and 25 units per acre)	194	3,410	0.34	1,147	202
Retail/Services Uses (per acre)[2]	104		2.29	239	166
TOTAL	**1,950**	**11,001**		**5,477**	**1,428**

Three (3) Wells Are required to Support this example, assuming each well produces 2,000 gpm and connection to the Recycled Water System maximizing Recycled Water Use.

[1] Residential Acres are estimated based on the weighted average derived from the average number of units per land use category.

[2] Commercial acreage is calculated from a total square footage of 1,361,000 SF with an average Floor to Area Ratio (FAR) of 0.30 for commercial services in The Ontario Plan.

EXHIBIT "J"
TO DEVELOPMENT AGREEMENT

Form of Plume Disclosure Letter

CITY OF ONTARIO

ONTARIO MUNICIPAL UTILITIES COMPANY

PAUL S. LEON
MAYOR

DEBRA DORST-PORADA
MAYOR PRO TEM

ALAN D. WAPNER
JIM W. BOWMAN
RUBEN VALENCIA
COUNCIL MEMBERS

AL C. BOLING
CITY MANAGER

SHEILA MAUTZ
CITY CLERK

JAMES R. MILHISER
TREASURER

SCOTT BURTON
UTILITIES GENERAL MANAGER

March 2017

DISCLOSURE NOTICE
SOUTH ARCHIBALD TRICHLOROETHYLENE PLUME

Dear Property Owner/Developer/Applicant:

The City of Ontario ("City") has approved or will be approving development in the Ontario Ranch area in the next few years, subject to the appropriate and required statutory process. This letter is intended to serve as notice to all potential property owners of the existence of a groundwater plume, known as the South Archibald Trichloroethylene (TCE) Plume which may exist in, under or near owner's property.

The groundwater plume is in an area in the central Chino Basin south of the Pomona Freeway, west of Turner Avenue, east of Grove Avenue, and north of Kimball Avenue. The plume primarily consists of TCE, a discontinued industrial solvent, and is subject to a clean-up under the oversight and direction of the Santa Ana Regional Water Quality Control Board ("Regional Board").

The Regional Board's approved clean-up procedure involves the removal and treatment of groundwater containing TCE via groundwater wells to reduce the plume concentrations and control its migration. In addition, the City is providing potable water supplies for domestic purposes to residences with private domestic wells affected by the plume. Finally, the Regional Board will continue to monitor all impacted areas and private domestic wells to ensure that residents' health and the environment are properly safeguarded. These remedial actions are documented in a Remedial Action Plan approved by the Regional Board in September 2016.

Further and current information may be found on the Regional Board's Geotracker website at https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000004658.

Property owners may wish to include this letter as a part of a Real Estate Transfer Disclosure under California Civil Code Section 1102 et seq.

1425 SOUTH BON VIEW · ONTARIO, CALIFORNIA 91761-4406 · (909) 395-2605 · FAX (909) 395-2601

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **PUBLIC HEARINGS**
Department: Planning Prepared By: Lorena Mejia Staff Member Presenting: Scott Murphy, Executive Director Community Development Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 30

SUBJECT: **A PUBLIC HEARING TO CONSIDER AN AMENDMENT (FILE NO. PSPA22-001) TO THE RICH HAVEN SPECIFIC PLAN TO BRING THE SPECIFIC PLAN INTO COMPLIANCE WITH THE ONTARIO PLAN POLICY PLAN (GENERAL PLAN) LAND USE PLAN, GENERALLY BORDERED BY RIVERSIDE DRIVE, COLONY HIGH SCHOOL AND THE SCE SUBSTATION TO THE NORTH, HAMNER AVENUE/MILL CREEK AVENUE TO THE EAST, OLD EDISON AVENUE TO THE SOUTH, AND HAVEN AVENUE TO THE WEST**

RECOMMENDATION: That the City Council consider and adopt:

A. A Resolution adopting the Final Environmental Impact Report (State Clearinghouse No. 2022100425) for the Rich Haven Specific Plan Amendment, a Mitigation Monitoring and Reporting Program, and a Statement of Overriding Considerations; and
B. A Resolution approving File No. PSPA22-001, an Amendment to the Rich Haven Specific Plan to bring the Specific Plan into compliance with The Ontario Plan Policy Plan (General Plan) land use plan that include: [1] the reduction of Low-Medium Density Residential land use acreage from 102.1 acres to 24.5 acres; [2] increase the Medium Density Residential land use acreage from 96.7 acres to 113.4 acres; [3] increase the Light Industrial land use acreage from 49.4 acres to 116.5 acres; [4] a reduction to the Mixed-Use Overlay land use acreage from 29.4 acres to 20.5 acres; [5] a reduction to the Regional Commercial land use acreage from 74 acres to 58.4 acres; [6] increase the Mixed-Use Standalone Residential Overlay land use acreage from 141.9 acres to 144.1 acres; [7] increase the Open Space – Non-Recreation land use acreage from 38.2 acres to 55 acres; and [8] various changes to the Specific Plan land use map (Planning Areas), development standards, exhibits, and text modification, to reflect the proposed land uses.

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Invest in the Growth and Evolution of the City's Economy
Operate in a Businesslike Manner
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)

Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in Ontario Ranch

FISCAL IMPACT: There is not a direct fiscal impact associated with the adoption of the Rich-Haven Specific Plan Amendment. Any potential long-term fiscal impacts and anticipated expenditures to the City would be offset by development impact fees and property tax revenues from the future development. Additionally, future development projects approved on the subject properties will be conditioned to form/join a services Community Facilities District to offset increased costs associated with police, fire, and other public services.

BACKGROUND & ANALYSIS: On December 4, 2007, the City Council approved the Rich Haven Specific Plan (File No. PSP05-004) and certified the related Environmental Impact Report (SCH# 2006-051081). The Specific Plan established the land use designations, development standards, and design guidelines for approximately 512 acres of land, which included the potential development of 4,256 residential units and 889,200 square feet of commercial/office land uses.

On February 20, 2018, the City Council approved an Amendment to the Rich Haven Specific Plan (File No. PSPA16-005) and an Addendum to The Ontario Plan (TOP) for the annexation of 72.3 acres of land located at the southeast corner of Haven Avenue and Ontario Ranch Road, into the Mixed-Use District of the Rich-Haven Specific Plan. The amendment included updates to the development standards, exhibits, and text changes to reflect the proposed annexation and overall compliance with the Policy Plan component of TOP.

On May 18, 2021, the City Council approved an Addendum to The Ontario Plan Final Environmental Impact Report (SCH# 2008101140) in conjunction with a General Plan Amendment (File No. PGPA19-005) and an amendment to the Rich Haven Specific Plan (File No. PSPA19-006). The General Plan Amendment changed the land use designation on 181.77 acres of land to 23.41 acres of Low Density Residential (2.1 – 5 du/ac), 24.16 acres of Low-Medium Density Residential (5.1 – 11 du/ac), 57.83 acres of Medium Density Residential (11.1 – 25 du/ac), 20.46 acres of Mixed Use, 48.61 acres of Industrial, and 7.3 acres of Open Space – Non Recreation designated property. The Rich Haven Specific Plan Amendment included map and text revisions to be consistent with the General Plan Amendment. The approvals allowed for the reduction of mixed-use acreage within the specific plan and the transfer of residential units from the mixed-use planning areas to residential planning areas that resulted in increased densities and the establishment of an industrial land use within the specific plan. The new industrial land use was established immediately south of the SCE Mira Loma Substation to create a land use buffer between the substation and future commercial development.

On August 16, 2022, the City Council certified The Ontario Plan 2050 Update Supplemental Environmental Impact Report (SEIR) in conjunction with The Ontario Plan 2050 (TOP 2050) (File No. PGPA20-002) General Plan update. The TOP 2050 and SEIR included the following land use changes within the Rich Haven Specific Plan boundary:

- Changing 8.1 acres of land from Low-Medium Density Residential (5.1 – 11 du/ac) to Medium Density Residential (11.1 to 25.0 du/ac);
- Changing 23.4 acres of land from Low-Medium Density Residential (5.1 – 11 du/ac) to Industrial;

- Changing 21.4 acres of land from Medium Density Residential (11.1 to 25.0 du/ac) to Industrial;
- Changing 22.3 acres of land from Mixed-Use to Industrial;
- Changing 25.1 acres of land from Mixed-Use to General Commercial; and
- Changing 20.4 acres of land from Mixed-Use to Medium Density Residential (11.1 to 25.0 du/ac).

On March 31, 2022, Richland Developers and Brookcal Ontario submitted an Amendment to the Rich Haven Specific Plan to bring the Specific Plan into compliance with TOP Policy Plan (General Plan) land uses.

AMENDMENT: The proposed Rich Haven Specific Plan Amendment ("SPA") includes the following:

1) TOP Policy Plan Land Use Map Consistency. To achieve consistency with TOP 2050 Official Land Use Plan (Figure LU-01), the SPA proposes to amend the land uses within Areas 1 and 2 as shown in Exhibit A: Rich Haven Specific Plan Land Use Plan (Existing/Proposed).

- Area 1 – The existing 61.5 acres of Low Medium Density Residential (5.1 – 12 du/ac) will be changed to 16.7 acres of Medium Density Residential (11.1- 25 du/ac) and 44.8 acres of Light Industrial. The new industrial land use designation was established by TOP to create a land use buffer between the SCE Mira Loma Substation and existing/future residential development.
- Area 2 – The existing 17.3 acres of Mixed-Use Stand-Alone Residential Overlay and 5 acres of Mixed-Use Overlay will be changed to 22.3 acres of Light Industrial. The new industrial land use designation was established by TOP to create a land use buffer between the SCE Mira Loma Substation and existing residential development.

2) Restructuring the Planning Areas. The SPA includes the restructuring of planning areas that would reduce the number of subareas to align with the proposed land uses changes as shown in Exhibit A: Rich Haven Specific Plan Land Use Plan (Existing/Proposed).

3) Revisions to Light Industrial Development Standards. The proposed Planning Areas 2C, 3C and 5A are located adjacent to Residential Planning areas. To minimize impacts from future industrial development to the adjacent residential land uses, the SPA includes additional industrial design standards and setback requirements that are summarized below.

- Setbacks – The SPA includes minimum industrial building and landscape setback requirements for interior property lines common with residential land uses. A minimum 100-foot building setback is required from a residential property line that includes a 40-foot landscape setback to allow for the installation of a double row of trees. Also, a 10-foot landscape setback is required between the building and drive-aisle. The multiple landscape setbacks will allow for the planting of multiple rows of trees between the residential properties and any proposed industrial building. The objective is to create an urban forest within the required landscaped setback areas and plant large evergreen trees to provide the maximum amount of screening year-round.

- Design Standards – The SPA includes separate industrial design standards that include: 1) orienting truck courts away from residential areas to minimize noise impacts; 2) enhanced second story elevations facing residential properties; and 3) limit activity and evening hours of operation on drive aisles adjacent to residential land uses.

4) Residential Unit Transfers. The SPA proposes to reduce the existing residential acreage by 77.8 acres. To maintain the total number of existing residential dwelling units (7,194) allocated within the Rich Haven Specific Plan, the Amendment will reassign units to different Planning Areas. The highlighted Areas 1, 2, 3 and 4 within Exhibit A (Rich Haven Specific Plan Land Use Plan (Existing/Proposed) show the location of the existing and proposed land use changes affected by the proposed unit transfers.

5) Document Changes. The SPA includes updates to the light industrial development standards and land use matrix, updates to the existing residential and mixed-use development standards and land use matrix, updates to various exhibits reflecting the restructuring of planning areas, along with text/map changes to reflect the proposed land use designation changes. All changes and additions to the Specific Plan (exhibits, tables, and development standards) are contained within the revised Specific Plan document and are highlighted in red.

ENVIRONMENTAL IMPACT REPORT: Rich Haven Specific Plan (2022 Amendment) Environmental Impact Report — An EIR (State Clearinghouse No. 2022100425) was prepared for this Project in accordance with CEQA requirements. Through the analysis contained in the detailed Initial Study prepared for the project, distribution of the Notice of Preparation and scoping meeting discussion, the following areas of potential impact were identified and addressed:

- Air Quality;
- Biological Resources;
- Cultural Resources/Tribal Cultural Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise;
- Transportation; and
- Utilities and Service Systems.

The Rich Haven Specific Plan (2022 Amendment) EIR evaluates each of these areas and in certain instance, identifies mitigation measures and/or revisions to the plan to lessen the level of impact. With the implementation of the various mitigation measures, many of the potential adverse impacts can be reduced to a level of less than significant. Of the 12 topical areas considered by the EIR, all but two of the impact areas were mitigated to a level of less than significant. The two remaining impact areas, even with the mitigation measures, could not be reduced to a level of less than significant, resulting in some impacts remaining potentially significant and unavoidable. These areas include:

(1) Air Quality.

Impact AQ-1. The proposed Project would not be consistent with the applicable air quality plan. The proposed Project would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the Air Quality Management Plan (AQMP). Implementation of the Project construction-source emissions would exceed applicable South Coast Air Quality Management District (SCAQMD) regional thresholds for emissions of Volatile Organic Compounds (VOCs), Nitrogen Oxides (NOx) and Carbon Monoxide (CO). Implementation of the Project operational-source emissions would exceed the applicable SCAQMD regional thresholds for VOCs, NOx, CO, particulate matter less than 10 microns (PM10), and particulate matter less than 2.5 microns (PM2.5). Although, Mitigation Measures 4.3.1 through 4.3.18 would incrementally reduce Project operational source emissions, the Project operational-source emissions would remain significant.

Impact AQ-2. Even with application of mitigation, Project operational-source VOC, NOx, CO, PM10, and PM2.5 emissions would exceed applicable SCAQMD regional thresholds. The Basin encompassing the Project site is designated as non-attainment for ozone, PM10, and PM2.5 (VOC and NOx are both ozone precursors; NOx is a precursor to PM10, and PM2.5). Project operational-source VOC, NOx, PM10, and PM2.5 emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and PM10, and PM2.5) for which the Project region is non-attainment. These are cumulatively significant and unavoidable air quality impacts.

(2) Greenhouse Gases.

Impact GHG-1. Implementation of the proposed Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Project construction and operations would result in direct and indirect emissions of CO2, CH4, and N2O. Direct Project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation. As shown in Table 4.4-5 (Annual Project GHG Emissions) of the Draft EIR, construction and operation of the Project would generate a total of approximately 129,314.95 MTCO2e/year, which would exceed the SCAQMD significance threshold of 3,000 MTCO2e/year.

The majority of the GHG emissions (approximately 72 percent unmitigated) are associated with non-construction related mobile sources. Responsibility and authority for regulation of vehicular-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can affect or mandate substantial reductions in vehicular-source GHG emissions, much less reductions that would achieve no net increase condition or achieve the SCAQMD 3,000 MTCO2e/year threshold. In effect, all Project traffic would need to be eliminated or be “zero GHG emissions sources” in order to achieve the SCAQMD threshold.

However, there are no feasible means to, or alternatives to eliminate, all Project traffic or to ensure that Project traffic would result in zero GHG emissions sources. In terms of its practical application,

this would constitute a “no build” condition. Based on the preceding, even with the application of mitigation, the Project would generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. Therefore, even with the implementation of mitigation measures 4.3.2 through 4.3.18, this Project impact is conservatively considered significant and unavoidable.

The City of Ontario circulated the Draft EIR on February 24, 2023, through April 10, 2023, for public review. At the end of the public review period 6 comments were received. A list of commenters is provided within section 1.3.1 of the Final Environmental Impact Report (FEIR) on page 1-1). Areas of concern included air quality and environmental impacts associated with industrial development. The comments and responses to each of the comments are presented within Section 3.0 of the Refer to the Final Environmental Impact Report, FEIR Response to Comments (see FEIR page 3-1).

While these impacts will be significant and unavoidable, Staff believes that the benefits of the Project outweigh the potential unavoidable, adverse impacts of the plan, as further described below:

- The Project will incorporate transitions and/or buffers between commercial/mixed-use and industrial areas and adjacent residential areas;
- The Project will contribute to the regional jobs to housing balance by providing employment opportunities while minimizing development impacts on surrounding neighborhoods;
- The Project will create a high-quality industrial park development that attracts an array of businesses and provides employment opportunities within proximity to area residents; and
- The Project will provide infrastructure improvements that will provide utilities and safe and efficient access/circulation routes for the distribution/transportation of goods;

As a result, Staff recommends that the City Council adopt a Statement of Overriding Considerations for those impacts that could not be fully mitigated to a level of less than significant. Furthermore, to ensure that the mitigation measures are implemented, a Mitigation Monitoring and Reporting Program has been prepared for the Project pursuant to CEQA Guidelines Section 15097, which specifies responsible agencies/departments, monitoring frequency, timing and method of verification and possible sanctions for non-compliance with mitigation measures.

PLANNING COMMISSION REVIEW: On May 23, 2023, the Planning Commission conducted a duly noticed public hearing on the subject applications and voted unanimously (4-0) to recommend that the City Council adopt the Final Environmental Impact Report (State Clearinghouse No. 2022100425) for the Rich Haven Specific Plan Amendment, a Mitigation Monitoring and Reporting Program, and a Statement of Overriding Considerations and approve the Specific Plan Amendment.

EXHIBIT A: RICH-HAVEN SPECIFIC PLAN LAND USE PLAN (EXISTING/PROPOSED)



Proposed Rich Haven Specific Plan—Land Use Plan



CITY OF ONTARIO PLANNING DEPARTMENT

PLANNING COMMISSION AGENDA REPORT

May 23, 2023

303 East B Street, Ontario, California 91764 Phone: 909.395.2036 / Fax: 909.395.2420

FILE NO: PSPA22-001

SUBJECT: A public hearing to consider an Amendment (File No. PSPA22-001) to the Rich Haven Specific Plan to bring the Specific Plan into compliance with The Ontario Plan Policy Plan (General Plan) land use plan that include: [1] The reduction of Low-Medium Density Residential land use acreage from 102.1 acres to 24.5 acres; [2] Increase the Medium Density Residential land use acreage from 96.7 acres to 113.4 acres; [3] Increase the Light Industrial land use acreage from 49.4 acres to 116.5 acres; [4] A reduction to the Mixed-Use Overlay land use acreage from 29.4 acres to 20.5 acres; [5] A reduction to the Regional Commercial land use acreage from 74 acres to 58.4 acres; [6] Increase the Mixed-Use Standalone Residential Overlay land use acreage from 141.9 acres to 144.1 acres; [7] Increase the Open Space – Non-Recreation land use acreage from 38.2 acres to 55 acres; and [8] Various changes to the Specific Plan land use map (Planning Areas), development standards, exhibits, and text modification, to reflect the proposed land uses. The Rich Haven Specific Plan is generally bounded by Riverside Drive, Colony High School and the SCE Mira Loma Substation to the north, Hamner Avenue/Mill Creek Avenue to the east, Old Edison Avenue to the south, and Haven Avenue to the west. (APNs: 218-161-14, 218-016-06, 218-016-10, 218-016-11, 218-016-19, 218-016-15, 218-016-07, 218-016-18, 218-203-08, 218-016-14, 218-016-12, 218-016-13, 218-203-07, 218-203-04, 218-203-03, 218-203-05, 218-203-06, 218-211-39, 218-211-01, 218-211-21, 218-211-36, 218-211-37 and 218-211-15) **submitted by Richland Developers, Inc and Brookcal Ontario, LLC. City Council action is required.**

PROPERTY OWNERS: Brookcal Ontario, LLC, Legacy Land Partners, LLC, Haven Ontario NMC 2, LLC and Richland Developers, Inc.

RECOMMENDED ACTION: That the Planning Commission consider the following:

(1) A Resolution recommending the City Council adopt the Final Environmental Impact Report (State Clearinghouse No. 2022100425) for the Rich Haven Specific Plan Amendment, including the adoption of a Mitigation Monitoring and Reporting Program and a Statement of Overriding Considerations; and

(2) A Resolution recommending the City Council approve File No. PSPA22-001, for the Rich Haven Specific Plan pursuant to the facts and reasons contained in the staff report and attached Resolution as "Attachment A".

Case Planner:	Lorena Mejia
Planning Director Approval:	
Submittal Date:	3/31/2022

Hearing Body	*Date*	*Decision*	*Action*
PC	5/23/2023	Approval	Recommend
CC			Final

PROJECT SETTING: The Rich-Haven Specific Plan is comprised of 584.9 gross acres of land and is generally bounded by Riverside Drive, Colony High School and the SCE Mira Loma Substation to the north, Hamner Avenue/Mill Creek Avenue to the east, Old Edison Avenue to the south, and Haven Avenue to the west as depicted in Figure 1: Project Location. The majority of the specific plan is presently vacant and was primarily used for agricultural purposes, including the raising of livestock and dairy operations that have recently ceased operations in the last 2 to 5 years. The areas to the northwest of Ontario Ranch Road are under construction with residential subdivisions, and several properties to the south along Ontario Ranch Road have been entitled for residential and commercial land uses. The area immediately south of the SCE Mira Loma Substation is currently under construction with an industrial building. Additionally, Southern California Edison (SCE) easements containing power transmission lines cross the site in an east to west direction directly south of the Chino Avenue alignment, transmission lines also run north/south along the east side of Mill Creek Avenue, and northeast to southwest diagonally across the site near the intersection of Mill Creek Avenue and Ontario Ranch Road.



Figure 1: Project Location

The land uses surrounding the Rich Haven Specific Plan boundary, are as follows:

- The properties to the north are developed with the Creekside residential community, Colony High School, and the SCE Mira Loma Substation.

- A portion of the properties to the south are located within the Esperanza Specific Plan and are vacant dairy and agriculture uses. The remaining properties to the south are developed with dairy and agriculture uses and are presently not part of any specific plan.

- The properties to the east include Colony High School, the Edenglen residential community, the SCE Mira Loma Substation, and commercial and industrial uses located within the City of Eastvale.

- The properties to the west are located within portions of the West Haven Specific Plan and the Avenue Specific Plan and are developed with new residential subdivisions and commercial uses.

The existing surrounding land uses, zoning, and Policy Plan (general plan) and specific plan land use designations are summarized in the "Surrounding Zoning & Land Uses" table located in the Technical Appendix of this report.

PROJECT ANALYSIS:

(1) Background — On December 4, 2007, the City Council approved the Rich-Haven Specific Plan (File No. PSP05-004) and certified the related Environmental Impact Report (SCH# 2006-051081). The Specific Plan established the land use designations, development standards, and design guidelines for approximately 512 acres of land, which included the potential development of 4,256 residential units and 889,200 square feet of commercial/office land uses.

On February 20, 2018, the City Council approved an Amendment to the Rich-Haven Specific Plan (File No. PSPA16-005) and an Addendum to the TOP for the annexation of 72.3 acres of land located at the southeast corner of Haven Avenue and Ontario Ranch Road, into the Mixed-Use District of the Rich-Haven Specific Plan. The amendment included updates to the development standards, exhibits, and text changes to reflect the proposed annexation and overall compliance with the Policy Plan component of The Ontario Plan ("Policy Plan").

On May 18, 2021, the City Council approved an Addendum to The Ontario Plan Final Environmental Impact Report (SCH# 2008101140) in conjunction with a General Plan Amendment (File No. PGPA19-005) and an amendment to the Rich Haven Specific Plan (File No. PSPA19-006). The General Plan Amendment changed the land use designation on 181.77 acres of land to 23.41 acres of Low Density Residential (2.1 – 5 du/ac), 24.16 acres of Low-Medium Density Residential (5.1 – 11 du/ac), 57.83 acres of Medium Density Residential (11.1 – 25 du/ac), 20.46 acres of Mixed Use, 48.61 acres of Industrial, and 7.3 acres of Open Space – Non Recreation designated property. The Rich Haven Specific Plan amendment included map and text revisions to be consistent with the General Plan Amendment. The approvals allowed for the reduction of mixed-use acreage within the specific plan and the transfer of residential units from the mixed-use planning areas to residential planning areas that resulted in increased densities and the establishment of an industrial land use within the specific plan. The new industrial land use was established immediately south of the SCE Mira Loma Substation to create a land use buffer between the substation and future commercial development.

On August 16, 2022, the City Council certified The Ontario Plan 2050 Update Supplemental Environmental Impact Report ("SEIR") in conjunction with The Ontario Plan 2050 ("TOP 2050") (File No. PGPA20-002) General Plan update. The TOP 2050 and SEIR, included the following land use changes within the Rich Haven Specific Plan boundary (see Figure 2: TOP Official Land Use Plan Comparison (TOP 2010/TOP 2050):

- Changing 8.1 acres of land from Low-Medium Density Residential (5.1 – 11 du/ac) to (MDR) Medium Density Residential (11.1 to 25.0);
- Changing 23.4 acres of land from Low-Medium Density Residential (5.1 – 11 du/ac) to Industrial;
- Changing 21.4 acres of land from (MDR) Medium Density Residential (11.1 to 25.0) to Industrial;
- Changing 22.3 acres of land from Mixed-Use to Industrial;
- Changing 25.1 acres of land from Mixed-Use to General Commercial; and
- Changing 20.4 acres of land from Mixed-Use to Medium Density Residential (11.1 to 25.0).

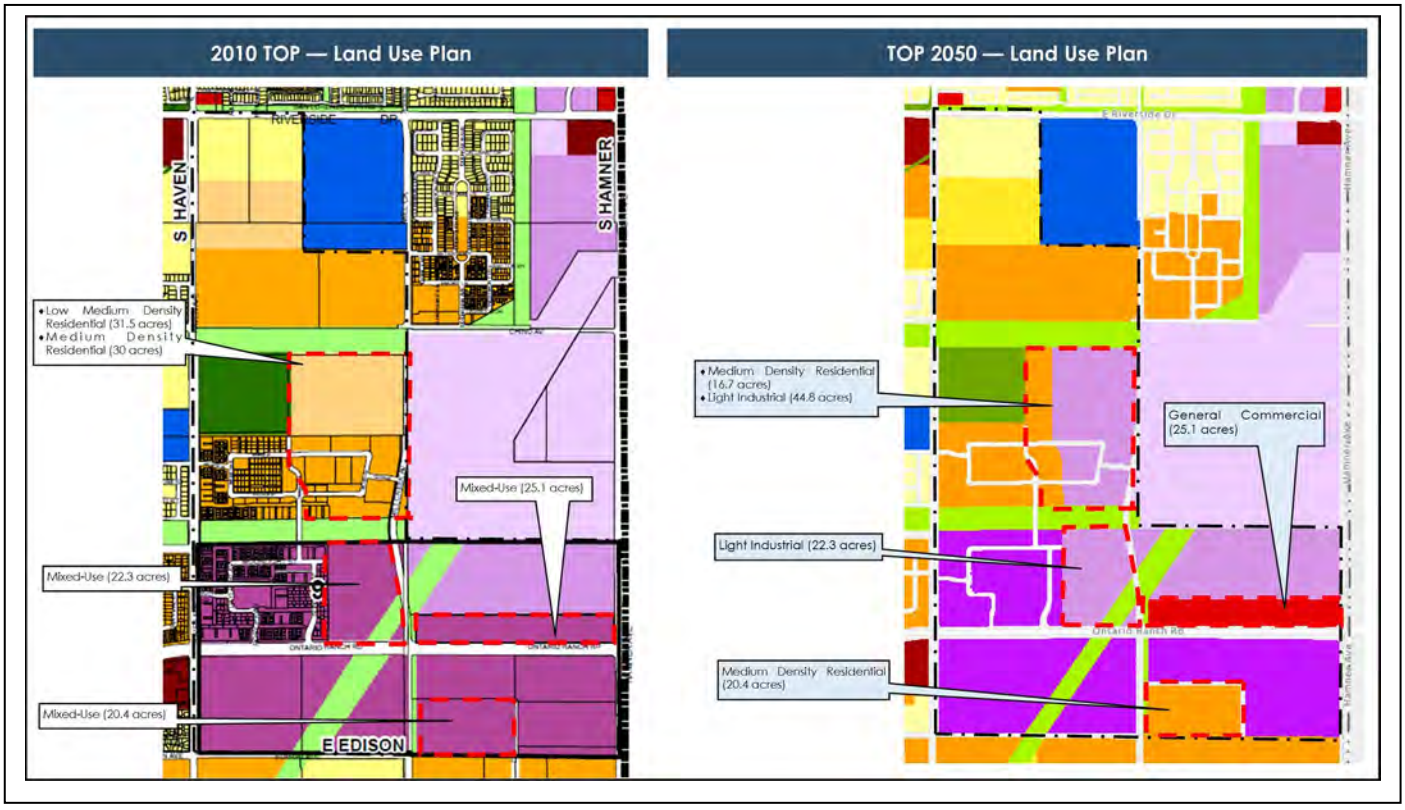


Figure 2: TOP Official Land Use Plan Comparison (TOP 2010/TOP 2050)

On March 31, 2022, Richland Developers and Brookcal Ontario submitted an Amendment to the Rich Haven Specific Plan to bring the Specific Plan into compliance with TOP Policy Plan (General Plan) land uses.

(2) Amendment to the Rich Haven Specific Plan — The proposed Rich Haven Specific Plan Amendment (SPA) includes the following:

(a) **TOP Policy Plan Land Use Map Consistency.** To achieve consistency with the TOP 2050 Official Land Use Plan (Figure LU-01), the SPA proposes to amend the land uses within Areas 1 and 2 as shown in Figure 3: Rich Haven Specific Plan Land Use Plan (Existing/Proposed).

- Area 1 – The existing 61.5 acres of Low Medium Density Residential (5.1 – 12 du/ac) will be changed to 16.7 acres of Medium Density Residential (11.1- 25 du/ac) and 44.8 acres of Light Industrial. The new industrial land use designation was established by TOP to create a land use buffer between the SCE Mira Loma Substation and existing/future residential development.

- Area 2 – The existing 17.3 acres of Mixed-Use Stand-Alone Residential Overlay and 5 acres of Mixed-Use Overlay will be changed to 22.3 acres of Light Industrial. The new industrial land use designation was established by TOP to create a land use buffer between the SCE Mira Loma Substation and existing residential development.

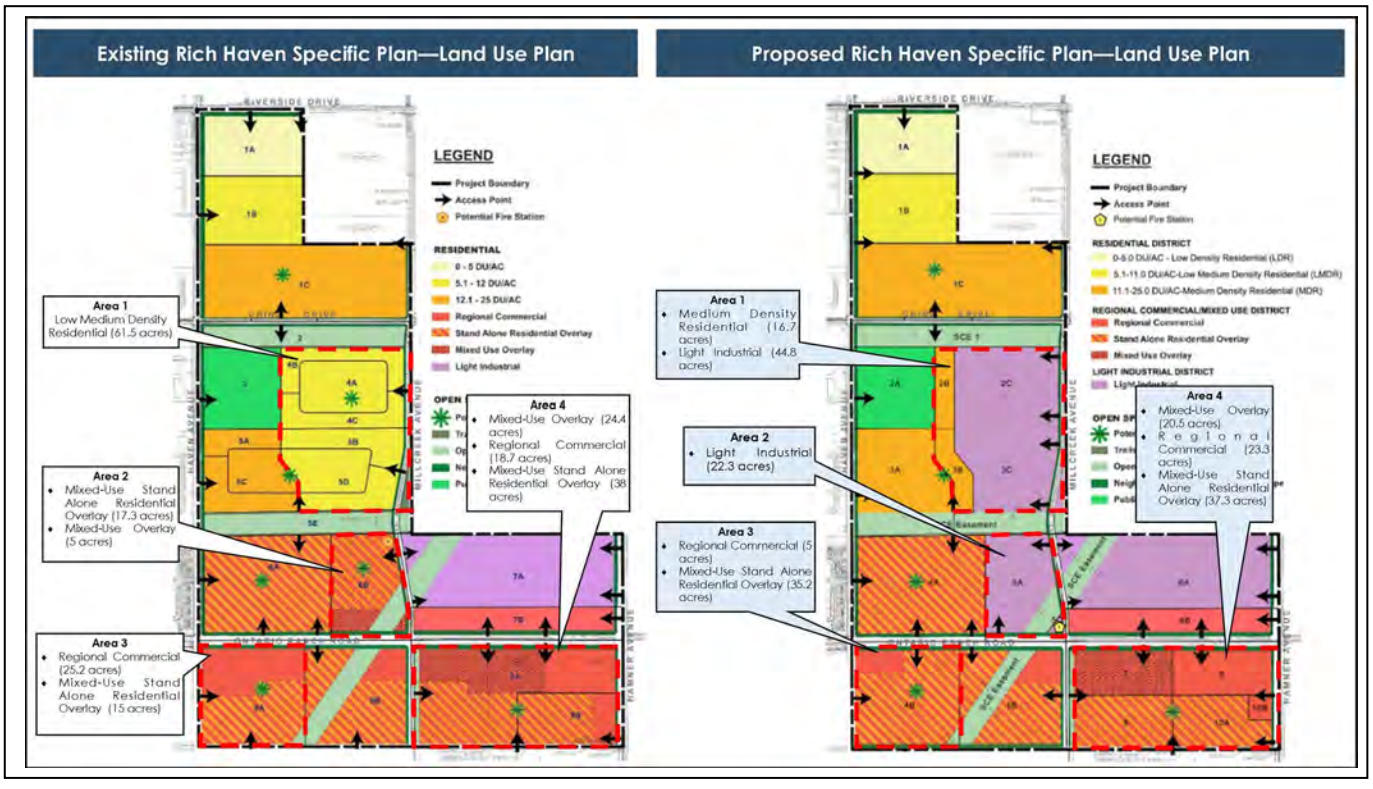


Figure 3: Rich Haven Specific Plan Land Use Plan (Existing/Proposed)

(b) **Restructuring the Planning Areas.** The SPA includes the restructuring of planning areas that would reduce the number of subareas to align with the proposed land uses changes as shown in Figure 3: Rich Haven Specific Plan Land Use Plan (Existing/Proposed), below.

(c) **Revisions to Light Industrial Development Standards.** The proposed Planning Areas 2C, 3C and 5A are located adjacent to Residential Planning areas. To minimize impacts from future industrial development to the adjacent residential land uses the SPA included additional industrial design standards and setback requirements that are summarized below.

- Setbacks – The SPA included minimum industrial building and landscape setback requirements for interior property lines common with residential land uses that are depicted in Figure 4: Industrial/Residential Edge Condition. A minimum 100-foot building setback is required from a residential property line that includes a 40-foot landscape setback to allow for the installation of a double row of trees. Also, a 10-foot landscape setback is required between the building and drive-aisle. The multiple landscape setbacks will allow for the planting of multiple rows of trees between the residential properties and any proposed industrial building. The objective is to create an urban forest within the required landscaped setback areas and plant large evergreen trees to provide the maximum amount of screening year-round.

- Design Standards – The SPA includes separate industrial design standards that include: 1)Orienting truck courts away from residential areas to minimize noise impacts; 2) Enhanced second story elevations facing residential; and 3) Limit activity and evening hours of operation on drive aisles adjacent to residential land uses.

(d) **Residential Unit Transfers.** The SPA proposes to reduce the existing residential acreage by 77.8 acres. To maintain the total number of existing 7,194 residential dwelling units allocated within the Rich Haven Specific Plan the amendment will reassign units to different Planning Areas. The highlighted Areas 1, 2, 3 and 4 within Figure 3 (Rich Haven Specific Plan Land Use Plan (Existing/Proposed)) shows the location of the existing and proposed land use changes affected by the proposed unit transfers.

(e) **Document Changes.** The SPA includes updates to the light industrial development standards and land use matrix, updates to the existing residential and mixed-use development standards and land use matrix, updates to various exhibits reflecting the restructuring of planning areas, along with text/map changes to reflect the proposed land use designation changes. All changes and additions to the Specific Plan (exhibits, tables, and development standards) are contained within the revised Specific Plan document, and are highlighted in red.

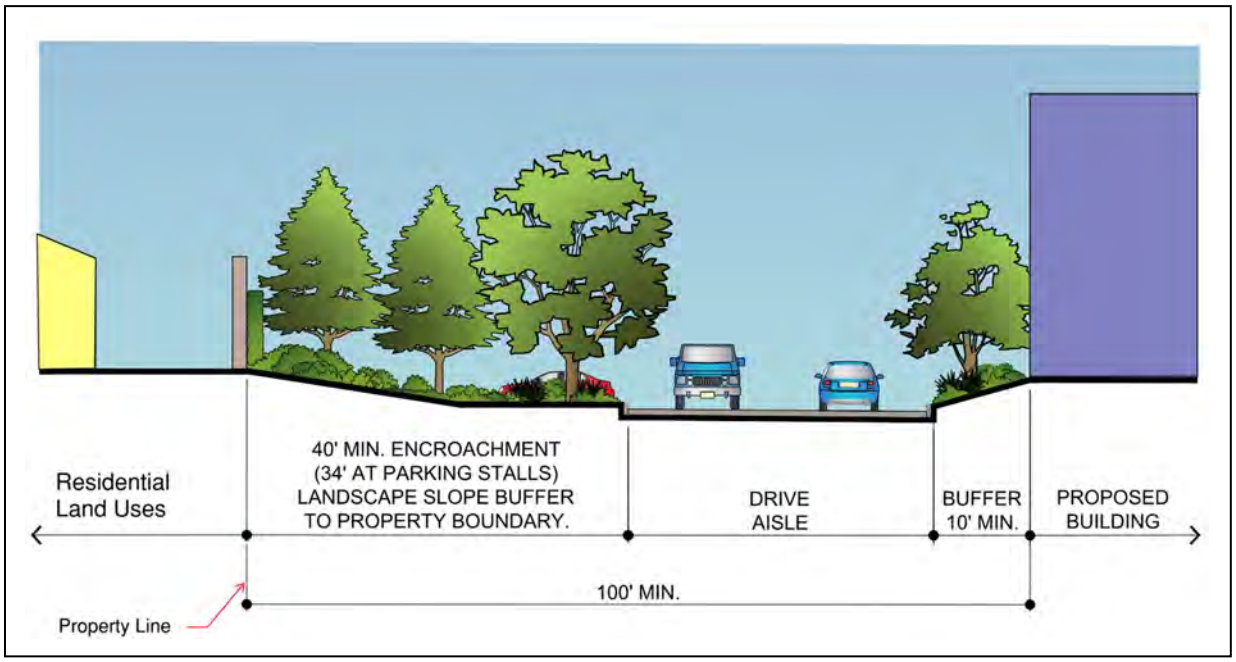


Figure 4: Industrial/Residential Edge Condition

PUBLIC NOTIFICATION: The subject application was advertised as a public hearing in at least one newspaper of general circulation in the City of Ontario (the Inland Valley Daily Bulletin newspaper). In addition, the Project site was posted with one or more large public notification signs and notices were mailed to all owners of real property located within a minimum of 600 feet of the exterior boundaries of the property that is the subject of the hearing, as shown on the records of the County Assessor.

CORRESPONDENCE: As of the preparation of this Agenda Report, Planning Department staff has not received any written or verbal communications from the owners or occupants of properties surrounding the Project site or from the public in general, regarding the subject application.

AGENCY/DEPARTMENT REVIEWS: Each City agency/department has been provided the opportunity to review and comment on the subject application and recommend conditions of approval to be imposed upon the application. At the time of the Resolution preparation, recommended conditions of approval were provided and are appended to the attached Resolutions as "Attachment A."

AIRPORT LAND USE COMPATIBILITY PLAN (ALUCP) COMPLIANCE: The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

On April 19, 2011, the City Council of the City of Ontario approved and adopted the ONT ALUCP, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the recommending authority for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the Planning Commission, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the ONT ALUCP.

COMPLIANCE WITH THE ONTARIO PLAN: The proposed Project is consistent with the principles, goals and policies contained within the Vision, Governance, Policy Plan (general plan), and City Council Priorities components of The Ontario Plan ("TOP"). More specifically, the goals and policies of TOP that are furthered by the proposed Project are as follows:

(1) City Council Goals.

- Invest in the Growth and Evolution of the City's Economy
- Maintain the Current High Level of Public Safety
- Operate in a Businesslike Manner
- Pursue City's Goals and Objectives by Working with Other Governmental Agencies
- Focus Resources in Ontario's Commercial and Residential Neighborhoods
- Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)
- Encourage, Provide or Support Enhanced Recreational, Educational, Cultural and Healthy City Programs, Policies and Activities
- Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in the New Model Colony

(2) Vision.

Distinctive Development:

- Commercial and Residential Development

➢ Development quality that is broadly recognized as distinctive and not exclusively tied to the general suburban character typical of much of Southern California.

(3) Governance.

Decision Making:

- Goal G1: Sustained decision-making that consistently moves Ontario towards its Vision by using The Ontario Plan as a framework for assessing choices.

➢ G 1-2. Long-term Benefit. We require decisions to demonstrate and document how they add value to the community and support the Ontario Vision.

(4) Policy Plan (General Plan)

Land Use Element:

- Goal LU-1 Balance: A community that has a spectrum of housing types and price ranges that match the jobs in the City and that make it possible for people to live and work in Ontario and maintain a quality of life.

➢ LU-1.1 Strategic Growth. We concentrate growth in strategic locations that help create place and identity, maximize available and planned infrastructure, foster the development of transit, and support the expansion of the active and multimodal transportation networks throughout the City.

➢ LU-1.6 Complete Community. We incorporate a variety of land uses and building types in our land use planning efforts that result in a complete community where residents at all stages of life, employers, workers, and visitors have a wide spectrum of choices of where they can live, work, shop and recreate within Ontario.

- Goal LU-2 Compatibility: Compatibility between a wide range of uses and a resultant urban patterns and forms.

➢ LU-2.6 Infrastructure Compatibility. We require infrastructure to be aesthetically pleasing and in context with the community character.

Housing Element:

- Goal H-2 Housing Supply & Diversity: Diversity of types of quality housing that are affordable to a range of household income levels, accommodate changing demographics, and support and reinforce the economic sustainability of Ontario.

- H-2.4 Ontario Ranch. We support a premier lifestyle community in the Ontario Ranch, distinguished by diverse housing, highest design quality, and cohesive and highly amenitized neighborhoods.

- H-2.5 Housing Design. We require architectural excellence through adherence to City design guidelines, thoughtful site planning, environmentally sustainable practices, and other best practices.

- Goal H-5 Special Needs: A full range of housing types and community services that meet the special housing needs for all individuals and families in Ontario, regardless of income level, age, or other status.

- H-5.2 Family Housing. We support the development of larger rental apartments that are appropriate for families with children, including, as feasible, the provision of services, recreation, and other amenities.

Community Economics Element:

- Goal CE-1 Complete Community: A complete community that provides for all incomes and stages of life.

- CE-1.6 Diversity of Housing. We collaborate with residents, housing providers, and the development community to provide housing opportunities for every stage of life; we plan for a variety of housing types and price points to encourage the development of housing supportive of our efforts to attract business in growing sectors of the community while being respectful of existing viable uses.

- Goal CE-2 Placemaking: A City of distinctive neighborhoods, districts, corridors, and centers where people choose to be.

- CE-2.1 Development Projects. We require new development and redevelopment to create unique, high-quality places that add value to the community.

- CE-2.2 Development Review. We require those proposing new development and redevelopment to demonstrate how their projects will create appropriately unique, functional, and sustainable places that will compete well with their competition within the region.

- CE-2.4 Protection of Investment. We require that new development and redevelopment protect existing investment by providing architecture and urban design of equal or greater quality.

- CE-2.5 Private Maintenance. We require adequate maintenance, upkeep, and investment in private property because proper maintenance on private property protects property values.

Safety Element:

- Goal S-1 Seismic & Geologic Hazards: Minimized risk of injury, loss of life, property damage, and economic and social disruption caused by earthquake-induced and other geologic hazards.

  - S-1.1 Implementation of Regulations and Standards. We require that all new habitable structures be designed in accordance with the most recent California Building Code adopted by the City, including provisions regarding lateral forces and grading.

Community Design Element:

- Goal CD-1 Image & Identity: A dynamic, progressive city containing distinct and complete places that foster a positive sense of identity and belonging among residents, visitors, and businesses.

  - CD-1.1 City Identity. We take actions that are consistent with the City being a leading urban center in Southern California while recognizing, enhancing, and preserving the character of our existing viable neighborhoods.

  - CD-1.2 Growth Areas. We establish Place Types in urban, mixed use, and transit-oriented areas to foster the City's identity as a premier community and require new development within each Place Type to incorporate prescribed urban patterns, forms, and placemaking priorities.

  - CD-1.3 Existing Neighborhoods. We require the existing character of viable residential and non-residential neighborhoods be preserved, protected, and enhanced.

- Goal CD-2 Design Quality: A high level of design quality resulting in neighborhoods, public spaces, parks, and streetscapes that are attractive, safe, functional, human-scale, and distinct.

  - CD-2.1 Quality Building Design and Architecture. We encourage all development projects to convey visual interest and character through:

    - Building volume, massing, and height to provide context-appropriate scale and proportion;
    - A true architectural style which is carried out in plan, section, and elevation through all aspects of the building and site design and appropriate for its setting; and
    - Exterior building materials that are articulated, high quality, durable, and appropriate for the architectural style.

  - CD-2.2 Neighborhood Design. We create distinct residential neighborhoods that promote a sense of community and identity by emphasizing access, connectivity, livability, and social interaction through such elements as:

- A pattern of smaller, walkable blocks that promote activity, safety, and access to nearby amenities and services;
- Varied parcel sizes and lot configurations to accommodate a diversity of housing types;
- Traffic calming measures to slow traffic and promote walkability while maintaining acceptable traffic flows and emergency evacuation access;
- Floor plans that encourage views onto the street and de-emphasize the visual and physical dominance of garages (introducing the front porch as the "outdoor living room"), as appropriate; and
- Landscaped parkways, with sidewalks separated from the curb and designed to maximize safety, comfort, and aesthetics for all users.

➢ CD-2.7 Sustainability. We collaborate with the development community to design and build neighborhoods, streetscapes, sites, outdoor spaces, landscaping, and buildings to reduce energy demand through solar orientation, maximum use of natural daylight, passive solar and natural ventilation, building form, mechanical and structural systems, building materials, and construction techniques.

➢ CD-2.8 Safe Design. We incorporate defensible space design into new and existing developments to ensure the maximum safe travel and visibility on pathways, corridors, and open space and at building entrances and parking areas by avoiding physically and visually isolated spaces, maintaining visibility and accessibility, and using lighting.

➢ CD-2.9 Landscape Design. We encourage durable, sustainable, and drought-tolerant landscaping materials and designs that enhance the aesthetics of structures, create and define public and private spaces, and provide shade and environmental benefits.

➢ CD-2.10 Parking Areas. We require all development, including single-family residential, to minimize the visual impact of surface, structured, and garage parking areas visible from the public realm in an aesthetically pleasing, safe and environmentally sensitive manner. Examples include:

- Surface parking: Shade trees, pervious surfaces, urban run-off capture and infiltration, and pedestrian paths to guide users through the parking field;
- Structured parking: facade articulation, screening, appropriate lighting, and landscaping; and
- Garage parking: providing access to single-family residential garages through alley access, recessing garages from the frontage to emphasize front doors or active living spaces.

➢ CD-2.11 Entry Statements. We encourage the inclusion of amenities, signage, and landscaping at the entry to neighborhoods, commercial centers, mixed use areas, industrial developments, and public places that reinforce them as uniquely identifiable places.

- CD-2.12 Site and Building Signage. We encourage the use of sign programs that utilize complementary materials, colors, and themes. Project signage should be designed to effectively communicate and direct users to various aspects of the development and complement the character of the structures.

- CD-2.13 Entitlement Process. We work collaboratively with all stakeholders to ensure a high degree of certainty in the efficient review and timely processing of all development plans and permits.

- Goal CD-3 Urban, Mixed Use, and Transit-Oriented Place Types: Vibrant urban environments that are organized around intense buildings, pedestrian and transit areas, public plazas, and linkages between and within developments that are conveniently located, visually appealing and safe during all hours.

- CD-3.2 Comfortable, Human-Scale Public Realm. We require that public spaces, including streets, parks, and plazas on both public and private property be designed to maximize safety, comfort and aesthetics and connect to the citywide pedestrian, vehicular, and bicycle networks.

- CD-3.3 Complete and Connected Network. We require that pedestrian, vehicular, and bicycle circulation on both public and private property be coordinated to provide connections internally and externally to adjacent neighborhoods and properties (existing and planned) through a system of local roads and trails that promote walking and biking to nearby destinations (including existing and planned parks, commercial areas, and transit stops) and are designed to maximize safety, comfort, and aesthetics.

- CD-3.4 Context-Aware and Appropriate Design. We require appropriate building and site design that complements existing development, respects the intent and identity of the Place Type, and provides appropriate transitions and connections between adjacent uses to ensure compatibility of scale, maintain an appropriate level of privacy for each use, and minimize potential conflicts.

- CD-3.5 Active Frontages. We create lively pedestrian streetscapes by requiring primary building, business, and residential entrances, outdoor dining, and storefronts be located on ground floors adjacent to sidewalks or public spaces and designed to maximize safety, comfort, aesthetics, and the intended functionality (as defined by the Place Type).

- CD-3.6 Managed Infrastructure. We collaborate with developers and property owners to facilitate development that realizes the envisioned character and functionality of the Place Type through the use of green and shared infrastructure within each Place Type.

- Goal CD-5 Protection of Investment: A sustained level of maintenance and improvement of properties, buildings, and infrastructure that protects the property values and encourages additional public and private investments.

  - CD-5.1 Maintenance of Buildings and Property. We require all public and privately-owned buildings and property (including trails and easements) to be properly and consistently maintained.

  - CD-5.2 Maintenance of Infrastructure. We require the continual maintenance of infrastructure.

HOUSING ELEMENT COMPLIANCE: The Project is consistent with the Housing Element of the Policy Plan (general plan) component of The Ontario Plan, as the Project site is not one of the properties in the Housing Element Sites contained in Tables B-1 and B-2 (Housing Element Sites Inventory) of the Housing Element Technical Report.

ENVIRONMENTAL REVIEW: The Specific Plan is located in the City of Ontario in what was formerly the approximate 8,200-acre City of Ontario Sphere of Influence (SOI) area. On January 7, 1998, the City of Ontario adopted the New Model Colony ("NMC") General Plan Amendment, setting forth a comprehensive strategy for the future development of the SOI. The NMC is generally bordered by Riverside Drive to the north, Milliken Avenue to the east, Euclid Avenue to the west and Merrill Avenue to the south.

(1) The Ontario Plan Environmental Impact Report — On August 16, 2022, the City Council certified The Ontario Plan 2050 Update Supplemental Environmental Impact Report ("SEIR") (State Clearinghouse No. 2021070364), in conjunction with The Ontario Plan 2050 ("TOP 2050") (File No. PGPA20-002) General Plan update. The Ontario Plan (2050 Update) Supplemental EIR identified many areas that might have a potentially significant impact on the environment. These areas included: Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire. Through the EIR process these potential impacts were analyzed, revisions were incorporated into the plan and/or mitigation measures were identified that reduced the potential environmental impacts to a level that was less than significant. Of the 20 areas analyzed by the SEIR, all but four of the impact areas were mitigated to a level of less than significant. The four remaining impact areas, even with the mitigation measures, could not be reduced to less than significant and the impacts would remain significant, unavoidable, and adverse after mitigation measures are applied. These areas include:

- Air Quality — Buildout of The Ontario Plan will cumulatively contribute to the nonattainment designations of the South Coast Air Basin ("SoCAB"), create short-term emissions from construction activities that exceed South Coast Air Quality Management District's (AQMD) regional significance thresholds and cumulatively

contribute to the nonattainment designations, generate long-term emissions that would exceed SCAQMD's regional significance thresholds and cumulatively contribute to the SoCAB nonattainment designations, and could expose sensitive receptors to substantial concentrations of toxic air contaminants ("TAC");

- Cultural Resources — Although protective regulations are in place and preservation policies are included in The Ontario Plan, implementation of the proposed Land Use Plan has the potential to impact Tier III historic resources. Major modification or demolition of Tier III resources may be appropriate under certain circumstances;

- Noise — Buildout of the Proposed Land Use Plan will result in impacts related to the proximity of construction activities to sensitive users, construction vibration impacts from individual development projects, and from excessive airport-related noise related impacts from traffic on local roadways and construction activities in the City. These activities will substantially increase noise levels and affect noise–sensitive uses; and

- Transportation — Total vehicle miles traveled ("VMT") would increase under the Proposed Land Use Plan due to increased residential development. Future development projects will need to consider transportation demand management ("TDM") measures consistent with the Mobility Element.

(2) Rich Haven Specific Plan (2022 Amendment) Environmental Impact Report — A EIR (State Clearinghouse No. 2022100425) was prepared for this Project, in accordance with CEQA requirements. Through the Notice of Preparation and scoping meeting discussion, the following areas of potential impact were identified and addressed:

- Air Quality;
- Biological Resources;
- Cultural Resources/Tribal Cultural Resources
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise;
- Transportation;
- Utilities and Service Systems

The Rich Haven Specific Plan (2022 Amendment) EIR evaluates each of these areas and identifies mitigation measures and/or revisions to the plan to lessen the level of impact. With the implementation of the various mitigation measures, many of the potential adverse impacts can be reduced to a level of less than significant. Of the 12 areas considered by the EIR, all but two of the impact areas were mitigated to a level of less

than significant. The two remaining impact areas, even with the mitigation measures, could not be reduced to less than significant, resulting in some impacts remaining potentially significant and unavoidable. These areas include:

(a) Air Quality.

Impact AQ-1. The proposed Project would not be consistent with the applicable air quality plan. The proposed Project would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP. Implementation of the Project construction-source emissions would exceed applicable SCAQMD regional thresholds for emissions of VOCs, NOx and CO. Implementation of the Project operational-source emissions would exceed the applicable SCAQMD regional thresholds for VOCs, NOx, CO, PM10, and PM2.5. Although, Mitigation Measures 4.3.1 through 4.3.18 would incrementally reduce Project operational source emissions, the Project operational-source emissions would remain significant and contribute to, new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP. Therefore, the Project would be inconsistent with the AQMP, resulting in a significant and unavoidable impact despite the implementation of mitigation.

Impact AQ-2. Implementation of the proposed Project would result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal [national] or state ambient air quality standard. The Basin encompassing the Project site is designated as non-attainment for ozone, PM10, and PM2.5. Project construction-source NOx emissions regional threshold exceedances; and operational-source VOC, NOx, PM10, and PM2.5 emissions regional threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and PM10/PM2.5) for which the Project region is non-attainment. Although Mitigation Measures 4.3.1 through 4.3.6 are applied the Project construction-source and operational-source emissions would still exceed criteria pollutant thresholds established by the SCAQMD. Therefore, the Project would result in a significant and unavoidable impact despite the implementation of mitigation.

(b) Greenhouse Gases.

Impact GHG-1. Implementation of the proposed Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Project construction and operations would result in direct and indirect emissions of CO2, CH4, and N2O. Direct Project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation. As shown in Table 4.4-5 (Annual Project GHG Emissions) of the Draft EIR, construction and operation of the Project would generate a total of approximately 129,314.95 MTCO2e/year, which would exceed the SCAQMD significance threshold of 3,000 MTCO2e/year.

The majority of the GHG emissions (approximately 72 percent unmitigated) are associated with non-construction related mobile sources. Responsibility and authority for regulation of vehicular-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can affect or mandate substantial reductions in vehicular-source GHG emissions, much less reductions that would achieve no net increase condition or achieve the SCAQMD 3,000 MTCO2e/year threshold. In effect, all Project traffic would need to be eliminated or be "zero GHG emissions sources" in order to achieve the SCAQMD threshold.

However, there are no feasible means to, or alternatives to eliminate all Project traffic, or to ensure that Project traffic would result in zero GHG emissions sources. In terms of its practical application, this would constitute a "no build" condition. Based on the preceding, even with the application of mitigation, the Project would generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. Therefore, even with the implementation of mitigation measures 4.3.2 through 4.3.18, this Project impact is conservatively considered significant and unavoidable.

The City of Ontario circulated the Draft EIR on February 24, 2023, through April 10, 2023, for public review. At the end of the public review period 6 comments were received. Areas of concern include air quality and environmental impacts associated with industrial development. Refer to the Final Environmental Impact Report, Response to Comments.

While these impacts will be significant and unavoidable, the Staff believes that the benefits of the Project outweigh the potential unavoidable, adverse impacts of the plan, as further described below:

- The Project will incorporate transitions and/or buffers between commercial/mixed-use and industrial areas and adjacent residential areas;

- The Project will contribute to the regional jobs to housing balance by providing employment opportunities while minimizing development impacts on surrounding neighborhoods;

- The Project will create a high-quality industrial park development that attracts an array of businesses and provides employment opportunities within proximity to area residents; and

- The Project will infrastructure improvements that will provide utilities, safe and efficient access/circulation routes for the distribution/transportation of goods;

As a result, Staff recommends that the Planning Commission forward a recommendation to the City Council to adopt a Statement of Overriding Considerations for those impacts that could not be fully mitigated to a level of less than significant.

Furthermore, to ensure that the mitigation measures are implemented, a Mitigation Monitoring and Reporting Program has been prepared for the Project pursuant to CEQA Guidelines Section 15097, which specifies responsible agencies/departments, monitoring frequency, timing and method of verification and possible sanctions for non-compliance with mitigation measures. The environmental documentation for this project is available for public review at the Planning Department public counter.

TECHNICAL APPENDIX:

Surrounding Zoning and Land Use:

	Existing Land Use	***Policy Plan Designation***	***Zoning Designation***	***Specific Plan Land Use***
Site	SCE Easements, agricultural and dairy farms, vacant land, and residential subdivisions	Open Space – Non-Recreation, Open Space Recreation, Low Density Residential (2.1 – 5 du/ac), Low Medium Density Residential (5.1 – 11 du/ac), Medium Density Residential (11.1 – 25 du/ac), Industrial, General Commercial and Mixed Use – Rich Haven	Rich-Haven Specific Plan	See Rich Haven Specific Plan Land Use Plan
North	Open Space (Creekside Flood Control), Colony High School and SCE Mira Loma Substation	Open Space – Non-Recreation, Public School and Business Park	Creekside Specific Plan, Civic and Specific Plan Agricultural Overlay Zoning District	Recreational Open Space
South	Previous agricultural and dairy farms	Medium Density Residential (11.1 – 25 du/ac)	Esperanza Specific Plan and Specific Plan Agricultural Overlay Zoning District	Residential (PA1 and PA3)
East	Colony High School, Edenglen Residential Subdivision, SCE Mira Loma Substation and City of Eastvale	Medium Density Residential (11.1 – 25 du/ac), Business Park and Public School	Edenglen Specific Plan, Civic and Specific Plan Agricultural Overlay Zoning District	Residential (PA3, and PA8)
West	West Haven and The Avenue residential subdivisions, agricultural and dairy farms	Low Density Residential (2.1 – 5 du/ac), Low Medium Density Residential (5.1 – 11 du/ac), Medium Density Residential (11.1 – 25 du/ac), Neighborhood Commercial and Public School	West Haven Specific Plan and The Avenue Specific Plan	West Haven Specific Plan (PA1, 2, 3, 4, 5 and 8) and The Avenue Specific Plan (Retail/Commercial, Low Density Residential and Medium Density Residential)

Exhibit A: PROPOSED RICH-HAVEN SPECIFIC PLAN LAND USE PLAN



Exhibit B: RICH-HAVEN SPECIFIC PLAN AMENDMENT LAND USE SUMMARY

Planning Area [3,4,5]	Land Use	Gross Acreage	Dwelling Units [1] Maximum	Residential Density [2]	Commercial/ Office Maximum Square Footage	Light Industrial Maximum Square Footage
1A	Low Density Residential	25.5	128	5.0	-	-
1B	Low Medium Density Residential	24.5	270	11.0	-	-
1C	Medium Density Residential	60.6	1,055	17.4	-	-
SCE 1	Edison Parcel	20.0	-	-	-	-
2A	Public Park	27.0	-	-	-	-
2B	Medium Density Residential	8.1	190	23.5	-	-
2C	Light Industrial	23.4	-	-	-	560,617
3A	Medium Density Residential Open Space-Non Recreation	36.1 8.3	560	15.5	-	-
3B	Medium Density Residential	8.6	190	22.1	-	-
3C	Light Industrial Open Space-Non Recreation	21.4 8.5	-	-	-	512,701
4A	Stand Alone Residential Overlay	45.0	1,099	24.4	-	-
4B	Regional Commercial Stand Alone Residential Overlay Open Space-Non Recreation	5.0 35.2 0.4	1,150	32.7	166,182	-
5A	Light Industrial Open Space-Non Recreation	21.3 3.7	-	-	-	502,805
5B	Regional Commercial Stand Alone Residential Overlay Open Space-Non Recreation	5.0 26.6 7.5	1,150	43.2	83,820	-
5C	Light Industrial	1.0	-	-	-	7,500
6A	Light Industrial Open Space-Non Recreation	49.4 6.6	-	-	-	1,183,525
6B	Regional Commercial	25.1	-	-	300,000	-
7	Mixed Use Overlay	20.5	552	26.9	162,500	-
8	Regional Commercial	20.5	-	-	162,500	-
9	Stand Alone Residential Overlay	20.4	300	14.7	-	-
10A	Stand Alone Residential Overlay	16.9	550	32.5	-	-
10B	Regional Commercial	2.8	-	-	50,000	-
Total		**584.9**	**7,194**	**-**	**925,002**	**2,767,148**

RESOLUTION NO. PC23-042

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ONTARIO RECOMMENDING THE CITY COUNCIL CERTIFY THE PROJECT ENVIRONMENTAL IMPACT REPORT (STATE CLEARINGHOUSE NO. 2022100425) AND ADOPT FINDINGS OF OVERRIDING CONSIDERATIONS AND A MITIGATION MONITORING AND REPORTING PROGRAM FOR FILE NO. PSPA22-001, THE RICH HAVEN SPECIFIC PLAN AMENDMENT, LOCATED WITHIN ONTARIO RANCH AND GENERALLY BOUNDED BY RIVERSIDE DRIVE, COLONY HIGH SCHOOL AND THE SCE MIRA LOMA SUBSTATION TO THE NORTH, HAMNER AVENUE/MILL CREEK AVENUE TO THE EAST, OLD EDISON AVENUE TO THE SOUTH, AND HAVEN AVENUE TO THE WEST AND MAKE FINDINGS IN SUPPORT THEREOF—APNS: 218-161-14, 218-016-06, 218-016-10, 218-016-11, 218-016-19, 218-016-15, 218-016-07, 218-016-18, 218-203-08, 218-016-14, 218-016-12, 218-016-13, 218-203-07, 218-203-04, 218-203-03, 218-203-05, 218-203-06, 218-211-39, 218-211-01, 218-211-21, 218-211-36, 218-211-37 and 218-211-15.

WHEREAS, RICHLAND DEVELOPERS, INC AND BROOKCAL ONTARIO, LLC (hereinafter referred to as "Applicant") has filed an Application for the approval of a Specific Plan Amendment, File No. PSPA22-001, for which an Environmental Impact Report (“EIR”) has been prepared, as described in the title of this Resolution (hereinafter referred to as "Application" or "Project"); and

WHEREAS, the Project EIR, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program for File No. PSPA22-001, the Rich Haven Specific Plan Amendment, have been prepared in accordance with the California Environmental Quality Act (“CEQA”), the State CEQA Guidelines, and the City of Ontario Guidelines for implementation of CEQA; and

WHEREAS, the EIR has been prepared to address the environmental effects of a Specific Plan Amendment (Rich Haven) to bring the Specific Plan into compliance with The Ontario Plan Policy Plan (General Plan) land use plan for 584.9 acres of land within Ontario Ranch, generally bounded by Riverside Drive, Colony High School and the SCE Mira Loma Substation to the north, Hamner Avenue/Mill Creek Avenue to the east, Old Edison Avenue to the south, and Haven Avenue to the west.

WHEREAS, the EIR consists of the Draft EIR and the comments and responses to comments made on the Draft EIR; and

WHEREAS, the EIR for File No. PSPA22-001 was circulated for a 45-day public review period and a notice of its availability was published in a local newspaper and posted in the Office of the Clerk of the Board of Supervisors of San Bernardino County; and

WHEREAS, a public notification was posted on the Project site for minimum of 20 days prior to the Planning Commission public hearing. The signs shall be removed within fourteen days of the Project's final approval by City Council; and

WHEREAS, copies of the EIR were distributed to the Planning Commission, City departments, and federal, state, regional, local, and other agencies, and individuals; and

WHEREAS, on May 23, 2023, the Planning Commission of the City of Ontario conducted a duly noticed public hearing on the EIR at which time all persons wishing to testify were heard and the EIR was fully studied; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND RESOLVED by the Planning Commission of the City of Ontario, as follows:

SECTION 1: ***Environmental Determination and Findings.*** As the recommending authority for the Project, the Planning Commission has reviewed and considered the information contained in the Environmental Impact Report (EIR) and supporting documentation. Based upon the facts and information contained in the EIR (SCH# 2022100425) and supporting documentation, the Planning Commission recommends that the City Council make the following findings:

(1) The EIR contains a complete and accurate reporting of the environmental impacts associated with the Project; and

(2) The EIR was completed in compliance with CEQA and the Guidelines promulgated thereunder; and

(3) The EIR reflects the independent judgment of the City Council; and

SECTION 2: ***Planning Commission Action.*** Based upon the substantial evidence presented to the Planning Commission during the above-referenced hearing and upon the specific findings set forth in Section 1 above, the Planning Commission recommends that the City Council make the following findings:

(1) The Project EIR analyzed the environmental impacts-associated with the implementation of the Rich Haven Specific Plan, and finds that, if the Specific Plan is adopted and development occurs as proposed by this plan, and with implementation of proposed mitigation measures, the following impacts will still be significant and unavoidable:

(a) Air Quality – Impacts related to a net increase in criteria pollutants would remain significant and unavoidable with the implementation of recommended mitigation measures; and

(b) Greenhouse Gas Emissions – Project-specific impacts and cumulative impacts would remain significant and unavoidable.

SECTION 3: ***Recommendation.*** Based upon the findings and conclusions set forth in Sections 1 and 2 above, the Planning Commission hereby recommends that the City Council certify the Project EIR, adopt a Statement of Overriding Considerations, and that the associated Mitigation Monitoring Program also be approved by the City Council.

SECTION 4: ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 5: ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East “B” Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

SECTION 6: ***Certification to Adoption.*** The Secretary shall certify to the adoption of the Resolution.

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The Secretary Pro Tempore for the Planning Commission of the City of Ontario shall certify as to the adoption of this Resolution.

I hereby certify that the foregoing Resolution was duly and regularly introduced, passed and adopted by the Planning Commission of the City of Ontario at a regular meeting thereof held on the 23rd day of May 2023, and the foregoing is a full, true and correct copy of said Resolution, and has not been amended or repealed.

Richard Gage
Planning Commission Vice-Chairperson

ATTEST:

Rudy Zeledon
Community Development Assistant Director
and Secretary to the Planning Commission

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, Gwen Berendsen, Secretary Pro Tempore of the Planning Commission of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. PC23-042, was duly passed and adopted by the Planning Commission of the City of Ontario at their regular meeting held on May 23, 2023, by the following roll call vote, to wit:

AYES: Anderson, Dean, Gage, Ricci

NOES: None

ABSENT: DeDiemar, Lampkin

ABSTAIN: None

Gwen Berendsen
Secretary Pro Tempore

ATTACHMENT A:

Draft Environmental Impact Report and Appendices

(Draft Environmental Impact Report and Appendices to follow this page)

The EIR and Appendices
are included in the
City Council Resolution

RESOLUTION NO. PC23-043

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ONTARIO, CALIFORNIA, RECOMMENDING THE CITY COUNCIL APPROVE FILE NO. PSPA22-001, AN AMENDMENT TO THE RICH-HAVEN SPECIFIC PLAN TO BRING THE SPECIFIC PLAN INTO COMPLIANCE WITH THE ONTARIO PLAN POLICY PLAN (GENERAL PLAN) LAND USE PLAN THAT INCLUDE: [1] THE REDUCTION OF LOW-MEDIUM DENSITY RESIDENTIAL LAND USE ACREAGE FROM 102.1 ACRES TO 24.5 ACRES; [2] INCREASE THE MEDIUM DENSITY RESIDENTIAL LAND USE ACREAGE FROM 96.7 ACRES TO 113.4 ACRES; [3] INCREASE THE LIGHT INDUSTRIAL LAND USE ACREAGE FROM 49.4 ACRES TO 116.5 ACRES; [4] A REDUCTION TO THE MIXED-USE OVERLAY LAND USE ACREAGE FROM 29.4 ACRES TO 20.5 ACRES; [5] A REDUCTION TO THE REGIONAL COMMERCIAL LAND USE ACREAGE FROM 74 ACRES TO 58.4 ACRES; [6] INCREASE THE MIXED-USE STANDALONE RESIDENTIAL OVERLAY LAND USE ACREAGE FROM 141.9 ACRES TO 144.1 ACRES; [7] INCREASE THE OPEN SPACE – NON-RECREATION LAND USE ACREAGE FROM 38.2 ACRES TO 55 ACRES; AND [8] VARIOUS CHANGES TO THE SPECIFIC PLAN LAND USE MAP (PLANNING AREAS), DEVELOPMENT STANDARDS, EXHIBITS, AND TEXT MODIFICATION, TO REFLECT THE PROPOSED LAND USES, GENERALLY LOCATED BY RIVERSIDE DRIVE, COLONY HIGH SCHOOL AND THE SCE SUBSTATION TO THE NORTH, HAMNER AVENUE/MILL CREEK AVENUE TO THE EAST, OLD EDISON AVENUE TO THE SOUTH, AND HAVEN AVENUE TO THE WEST, AND MAKING FINDINGS IN SUPPORT THEREOF—APNS: 218-161-14, 218-016-06, 218-016-10, 218-016-11, 218-016-19, 218-016-15, 218-016-07, 218-016-18, 218-203-08, 218-016-14, 218-016-12, 218-016-13, 218-203-07, 218-203-04, 218-203-03, 218-203-05, 218-203-06, 218-211-39, 218-211-01, 218-211-21, 218-211-36, 218-211-37 AND 218-211-15.

WHEREAS, RICHLAND DEVELOPERS, INC AND BROOKCAL ONTARIO, LLC ("Applicant") has filed an Application for the approval of a Specific Plan Amendment (SPA), File No. PSPA22-001, as described in the title of this Resolution (hereinafter referred to as "Application" or "Project")

WHEREAS, the Application applies to nine properties totaling 584.9 gross acres of land located within the Rich-Haven Specific Plan, which is generally bounded by Riverside Drive, Colony High School and the SCE substation to the north, Hamner Avenue/Mill Creek Avenue to the east, Old Edison Road to the south, and Haven Avenue to the west. The Rich-Haven Specific Plan is presently improved with a combination of SCE Easements, vacant agricultural and dairy farms, and residential subdivisions; and

WHEREAS, the properties to the north of the Rich-Haven Specific Plan are within the Creekside Specific Plan, Civic and Specific Plan Agricultural Overlay Zoning District, and are developed with a flood control channel, Colony High School, and the SCE Mira Loma Substation. The properties to the east are within the Edenglen Specific Plan, Civic and the Specific Plan Agricultural Overlay Zoning District, and are developed with Colony High School, a Residential Subdivision, the SCE Mira Loma Substation and industrial warehouse and commercial uses within the City of Eastvale. The properties to the south are within the Esperanza Specific Plan and the Specific Plan Agricultural Overlay Zoning District and are developed with agricultural and dairy farms. The properties to the west are within the West Haven Specific Plan and the Avenue Specific Plan and are developed with residential subdivisions and commercial land uses; and

WHEREAS, to achieve consistency with the TOP 2050 Official Land Use Plan (Figure LU-01), the SPA proposes to amend the following land uses:

(1) Change 61.5 acres of Low Medium Density Residential (5.1 – 12 du/ac) to 16.7 acres of Medium Density Residential (11.1- 25 du/ac) and 44.8 acres of Light Industrial; and

(2) Change 17.3 acres of Mixed-Use Stand-Alone Residential Overlay and 5 acres of Mixed-Use Overlay to 22.3 acres of Light Industrial; and

WHEREAS, the new industrial land use designation was established by TOP to create a land use buffer between the SCE Mira Loma Substation and existing/future residential development; and

WHEREAS, the SPA includes the restructuring of planning areas that would reduce the number of subareas to align with the proposed land uses; and

WHEREAS, the proposed Planning Areas 2C, 3C and 5A are located adjacent to Residential Planning areas. To minimize impacts from future industrial development to the adjacent residential land uses the SPA included additional industrial design standards and setback requirements; and

WHEREAS, the SPA included minimum industrial building and landscape setback requirements for interior property lines common with residential land uses. A minimum 100-foot building setback is required from a residential property line that includes a 40-foot landscape setback to allow for the installation of a double row of trees. Also, a 10-foot landscape setback is required between the building and drive-aisle. The landscape setbacks will allow for the planting of multiple rows of trees between the residential properties and any proposed industrial building. The objective is to create an urban forest within the required landscaped setback areas and plant large evergreen trees to provide the maximum amount of screening year-round; and

WHEREAS, the SPA includes separate industrial design standards that include orienting truck courts away from residential areas to minimize noise impacts; enhanced second story elevations facing residential; and limiting vehicular activity and evening hours of operation on drive aisles adjacent to residential land uses; and

WHEREAS, the SPA proposes to reduce the existing residential acreage by 77.8 acres. To maintain the total number of existing 7,194 residential dwelling units allocated within the Rich Haven Specific Plan the amendment will reassign units to different Planning Areas; and

WHEREAS, the SPA includes updates to the light industrial development standards and land use matrix, updates to the existing residential and mixed-use development standards and land use matrix, updates to various exhibits reflecting the restructuring of planning areas, along with text/map changes to reflect the proposed land use designation changes. All changes and additions to the Specific Plan (exhibits, tables, and development standards) are contained within the revised Specific Plan document, and are highlighted in red; and

WHEREAS, the Rich Haven Specific Plan has been prepared in conformance with the goals and policies of the City of Ontario Policy Plan (General Plan). Section 9 of the Specific Plan, “General Plan Consistency”, describes the manner in which the Rich Haven Specific Plan complies with the Policy Plan goals and policies applicable to the Rich Haven Specific Plan; and

WHEREAS, an Environmental Impact Report (“EIR”) (State Clearinghouse No. 2022100425), including the adoption of a Mitigation Monitoring and Reporting Program and a Statement of Overriding Consideration have been prepared in accord with the California Environmental Quality (CEQA), the State CEQA Guidelines and the City of Ontario Guidelines to address the environmental effects of the Specific Plan Amendment; and

WHEREAS, Ontario Development Code Table 2.02-1 (Review Matrix) grants the Planning Commission the responsibility and authority to review and make recommendation to the City Council on the subject Application; and

WHEREAS, the Project has been reviewed for consistency with the Housing Element of the Policy Plan component of The Ontario Plan, as State Housing Element law (as prescribed in Government Code Sections 65580 through 65589.8) requires that development projects must be consistent with the Housing Element, if upon consideration of all its aspects, it is found to further the purposes, principals, goals, and policies of the Housing Element; and

WHEREAS, the Project is located within the Airport Influence Area of Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and is subject to, and must be consistent with, the policies and criteria set forth in the Ontario International Airport Land Use Compatibility Plan (hereinafter referred to as "ALUCP"), which applies only to jurisdictions within San Bernardino County, and addresses the noise, safety, airspace protection, and overflight impacts of current and future airport activity; and

WHEREAS, City of Ontario Development Code Division 2.03 (Public Hearings) prescribes the manner in which public notification shall be provided and hearing procedures to be followed, and all such notifications and procedures have been completed; and

WHEREAS, on May 23, 2023, the Planning Commission of the City of Ontario conducted a hearing to consider the Project, and concluded said hearing on that date; and

WHEREAS, all legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND RESOLVED by the Planning Commission of the City of Ontario, as follows:

SECTION 1: ***Environmental Determination and Findings.*** As the recommending authority for the Project, the Planning Commission has reviewed and considered the information contained in the Environmental Impact Report ("EIR") and supporting documentation. Based upon the facts and information contained in the EIR (SCH# 2022100425) and supporting documentation, the Planning Commission recommends that the City Council make the following findings:

(1) The EIR contains a complete and accurate reporting of the environmental impacts associated with the Project; and

(2) The EIR was completed in compliance with CEQA and the Guidelines promulgated thereunder; and

(3) The EIR reflects the independent judgment of the City Council; and

SECTION 2: ***Planning Commission Action.*** Based upon the substantial evidence presented to the Planning Commission during the above-referenced hearing and upon the specific findings set forth in Section 1 above, the Planning Commission recommends that the City Council make the following findings:

(1) The Project EIR analyzed the environmental impacts associated with the implementation of the Rich Haven Specific Plan Amendment, and finds that, if the Specific Plan Amendment is adopted and development occurs as proposed by this plan, and with implementation of proposed mitigation measures, the following impacts will still be significant and unavoidable:

(a) Air Quality – Impacts related to a net increase in criteria pollutants would remain significant and unavoidable with the implementation of recommended mitigation measures; and

(b) Greenhouse Gas Emissions – Project-specific impacts and cumulative impacts would remain significant and unavoidable.

SECTION 3: ***Housing Element Compliance.*** Pursuant to the requirements of California Government Code Chapter 3, Article 10.6, commencing with Section 65580, as the recommending authority for the Project, the Planning Commission finds that based on the facts and information contained in the Application and supporting documentation, at the time of Project implementation, the Project is consistent with the Housing Element of the Policy Plan (General Plan) component of The Ontario Plan, as the project site is not one of the properties in the Housing Element Sites Inventory contained in Tables B-1 and B-2 of the Housing Element Technical Report.

SECTION 4: ***Airport Land Use Compatibility Plan ("ALUCP") Compliance.*** The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

(1) On April 19, 2011, the City Council of the City of Ontario approved and adopted the Ontario International Airport Land use Compatibility Plan, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the recommending authority for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the PLANNING COMMISSION, therefore,

finds and determines that the Project, is consistent with the policies and criteria set forth within the ONT ALUCP; and

SECTION 5: ***Concluding Facts and Reasons.*** Based upon the substantial evidence presented to the Planning Commission during the above-referenced hearing, and upon the specific findings set forth in Section 1 through 4, above, the Planning Commission hereby concludes as follows:

(1) ***The proposed Specific Plan, or amendment thereto, is consistent with the goals, policies, plans and exhibits of the Vision, Policy Plan (General Plan), and City Council Priorities components of The Ontario Plan.*** The proposed Rich-Haven Specific Plan amendment will provide land use consistency with The Ontario Plan Policy Plan (General Plan). The proposed amendments will accommodate the construction of future residential, industrial, and commercial developments and eliminate sensitive land uses within the southeast portion of the Rich-Haven Specific Plan which is consistent with goals, policies, plans and City Council priorities of The Ontario Plan.

(2) ***The proposed Specific Plan, or amendment thereto, would not be detrimental to the public interest, health, safety, convenience, or general welfare of the City.*** The proposed Rich-Haven Specific Plan amendment will provide land use consistency with The Ontario Plan Policy Plan (General Plan). The proposed Specific Plan Amendment will not be detrimental to the public interest, health, safety, convenience, or general welfare of the City. The land use changes will provide a combination of residential, mixed-use, commercial, and light industrial uses within the Rich-Haven Specific Plan, which is consistent with the type and intensity of development specified in The Ontario Plan.

(3) ***In the case of an application affecting specific property(ies), the proposed Specific Plan, or amendment thereto, will not adversely affect the harmonious relationship with adjacent properties and land uses.*** The proposed amendments will accommodate the construction of future residential, industrial, and commercial developments. The amendment will also eliminate residential sensitive land uses within the southeast portion of the Rich-Haven Specific Plan and establish a light industrial land use buffer between residential land uses and the existing SCE Mira Loma Substation in order to establish a harmonious relationship between the existing surrounding land uses and planned uses within the southeast quadrant of the specific plan.

(4) ***In the case of an application affecting specific property(ies), the subject site is physically suitable, including, but not limited to, parcel size, shape, access, and availability of utilities, for the request and anticipated development.*** The subject site is physically suitable to accommodate future residential, commercial, mixed use and light industrial land uses. The Rich-Haven Specific Plan amendment

includes development standards to facilitate the proposed land uses, which will be developed with adequate lot sizes, access, and utilities to serve the project site.

SECTION 6: ***Planning Commission Action.*** Based upon the findings and conclusions set forth in Sections 1 through 5, above, the Planning Commission hereby RECOMMENDS THE CITY COUNCIL APPROVE the herein described Application, subject to each and every condition set forth in the Department reports attached hereto as "Attachment A," and incorporated herein by this reference.

SECTION 7: ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 8: ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East "B" Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

SECTION 9: ***Certification to Adoption.*** The Secretary shall certify to the adoption of the Resolution.

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The Secretary Pro Tempore for the Planning Commission of the City of Ontario shall certify as to the adoption of this Resolution.

I hereby certify that the foregoing Resolution was duly and regularly introduced, passed and adopted by the Planning Commission of the City of Ontario at a regular meeting thereof held on the 23rd day of May 2023, and the foregoing is a full, true and correct copy of said Resolution, and has not been amended or repealed.

Richard Gage
Planning Commission Vice-Chairperson

ATTEST:

Rudy Zeledon
Community Development Assistant Director and Secretary to the Planning Commission

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, Gwen Berendsen, Secretary Pro Tempore of the Planning Commission of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. PC23-043, was duly passed and adopted by the Planning Commission of the City of Ontario at their regular meeting held on May 23, 2023, by the following roll call vote, to wit:

AYES: Anderson, Dean, Gage, Ricci

NOES: None

ABSENT: DeDiemar, Lampkin

ABSTAIN: None

Gwen Berendsen
Secretary Pro Tempore

ATTACHMENT A:

File No. PSPA22-001
Rich Haven Specific Plan Document

(Rich Haven Specific Plan follows this page)

The Rich Haven Specific Plan is attached to the City Council Resolution

RESOLUTION NO.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, ADOPTING ENVIRONMENTAL FINDINGS PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT AND CERTIFYING THE RICH-HAVEN SPECIFIC PLAN, 2022 AMENDMENT (FILE NO. PSPA22-001) FINAL ENVIRONMENTAL IMPACT REPORT (STATE CLEARINGHOUSE NO. 2022100425), AND ADOPTING FINDINGS OF OVERRIDING CONSIDERATIONS AND A MITIGATION MONITORING AND REPORTING PROGRAM, AND APPROVING THE PROJECT.

WHEREAS, RICHLAND DEVELOPERS, INC AND BROOKCAL ONTARIO, LLC ("Applicant") has filed an Application for the approval of a Specific Plan Amendment (SPA), File No. PSPA22-001 to develop the ("Project") with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses on an 584.9 gross acres in the southern portion of the City of Ontario; and

WHEREAS, the Application applies to 584.9 gross acres of land located within the Rich-Haven Specific Plan, which is generally bounded by Riverside Drive, Colony High School and the SCE substation to the north, Hamner Avenue/Mill Creek Avenue to the east, Old Edison Road to the south, and Haven Avenue to the west. The Rich-Haven Specific Plan is presently improved with a combination of SCE Easements, vacant agricultural and dairy farms, and residential subdivisions; and

WHEREAS, the properties to the north of the Rich-Haven Specific Plan are within the Creekside Specific Plan, Civic and Specific Plan Agricultural Overlay Zoning District, and are developed with a flood control channel, Colony High School, and the SCE Mira Loma Substation. The properties to the east are within the Edenglen Specific Plan, Civic and the Specific Plan Agricultural Overlay Zoning District, and are developed with Colony High School, a Residential Subdivision, the SCE Mira Loma Substation and industrial warehouse and commercial uses within the City of Eastvale. The properties to the south are within the Esperanza Specific Plan and the Specific Plan Agricultural Overlay Zoning District and are developed with agricultural and dairy farms. The properties to the west are within the West Haven Specific Plan and the Avenue Specific Plan and are developed with residential subdivisions and commercial land uses; and

WHEREAS, the City prepared The Ontario Plan Final Environmental Impact Report ("TOP EIR") (State Clearinghouse No. 2008101140) in association with the 2009 General Plan Update ("GPA") and certified the TOP EIR on January 26, 2010; and

WHERAS, the City certified the Program Supplemental Environmental Impact Report ("Supplemental EIR", State Clearinghouse No. 2021070364) for The Ontario Plan 2050 Technical Update, in association of the General Plan Update, File No. PGPA20-002, and certified the Supplemental EIR on August 16, 2022; and

WHEREAS, the TOP EIR is a Program EIR from which later specific plan EIRs, such as the EIR for this Project, are tiered; and

WHEREAS, the City of Ontario is the lead agency on the Project, and the City Council is the approving authority for the proposed approval to construct and otherwise undertake the Project; and

WHEREAS, in accordance with State CEQA Guidelines section 15063, the City evaluated the Project by preparing an Initial Study, to evaluate whether an Environmental Impact Report ("EIR") was required; and

WHEREAS, based on the Initial Study, the City determined that an EIR should be prepared because the Project may have a significant effect on the environment in the following areas: Air Quality; Biological Resources; Cultural/Tribal Resources; Energy; Geology and Soils; Greenhouse Gas Emissions; Hazards/Hazardous Materials; Hydrology/Water Quality; Land Use and Planning; Noise; Transportation; and Utilities and Service Systems; and

WHEREAS, based on the Initial Study, the City further determined that impacts to Aesthetics; Agriculture and Forest Resources; Mineral Resources; Population and Housing; Public Services; Recreation and Wildfire would be less than significant and thus need not be analyzed further in the EIR; and

WHEREAS, in accordance with State CEQA Guidelines section 15082, the City originally issued a Notice of Preparation ("NOP") for the Rich-Haven Specific Plan, 2022 Amendment for which the public review period extended from October 17, 2022, through November 15, 2022. The NOP was published in the Inland Valley Daily Bulletin, a newspaper of general circulation in the Project area; and

WHEREAS, the City received seven comment letters from multiple agencies on the NOP; and

WHEREAS, pursuant to Public Resources Code (PRC) §21083.9 and State California Environmental Quality Act (CEQA) Guidelines §15082(c) and 15083, a public scoping meeting was held on October 27, 2022, where comments were received; and

WHEREAS, a Draft Environmental Impact Report ("Draft EIR") was prepared, incorporating comments received in response to the NOP; and

WHEREAS, the Draft EIR determined that mitigation measures were required to mitigate impacts to a less than significant level for biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, tribal cultural resources; and

WHEREAS, the Draft EIR further concluded that despite the incorporation of all feasible mitigation measures, the proposed Project would nonetheless result in significant and unavoidable impacts relating to air quality and greenhouse gas emissions; and

WHEREAS, in accordance with State CEQA Guidelines section 15085, a Notice of Completion was prepared and filed with the Office of Planning and Research on February 23, 2023; and

WHEREAS, after completing the Draft EIR (State Clearinghouse No. 2022100425), the City released the document for public review for a 45-day public comment period, beginning February 24, 2023 and concluding April 10, 2023. A Notice of Availability ("NOA") was circulated along with the Draft EIR and was published in the Inland Valley Daily Bulletin and posted in the Office of the Clerk of the Board of Supervisors of San Bernardino County. At that time, the City also provided a Notice of Availability to all organizations and individuals who had previously requested such notice; and

WHEREAS, copies of the Draft EIR were distributed to the Planning Commission, City departments, and federal, state, regional, local, and other agencies, and individuals; and

WHEREAS, during the 45-day comment period on the Draft EIR, the City consulted with and requested comments from all responsible and trustee agencies, other regulatory agencies and others pursuant to State CEQA Guidelines §15086; and

WHEREAS, the City received six written comment letters on the Draft EIR, all of which the City responded to in the Final EIR; and

WHEREAS, pursuant to PRC §21092.5, the City provided copies of its responses to commenting public agencies at least ten days prior to the City's consideration of the Final EIR on June 20, 2023; and

WHEREAS, on May 23, 2022, the Planning Commission of the City of Ontario conducted a duly noticed special public hearing on the Draft EIR at which time all persons wishing to testify were heard and the EIR was fully studied and concluded said hearing on that date. After considering all public testimony, the Planning Commission issued Resolution No. PC23-042, recommending City Council certification of the Project EIR; and

WHEREAS, six written public comments were received prior to the Planning Commission hearing and several people spoke on the project at said hearing; and

WHEREAS, June 8, 2023, the City released the Final EIR, which consists of the Draft EIR, all technical appendices prepared in support of the Draft EIR, all written comment letters received on the Draft EIR, and written responses to all written comment letters received on the Draft EIR; and

WHEREAS, the "EIR" consists of the Final EIR and its attachments and appendices, as well as the Draft EIR and its attachments and appendices (as modified by the Final EIR); and

WHEREAS, the City provided a Notice of Public Hearing and/or Intent to Certify a Environmental Impact Report to all organizations and individuals who had previously requested such notice, and published the Notice of Public Hearing, in the Inland Valley Daily Bulletin, a newspaper of general circulation in the Project area; and

WHEREAS, all potential significant adverse environmental impacts were sufficiently analyzed in the Final EIR; and

WHEREAS, as contained herein, the City has endeavored in good faith to set forth the basis for its decision on the Project; and

WHEREAS, all the requirements of CEQA, the State CEQA Guidelines, and the City's Local Guidelines have been satisfied by the City in the EIR, which is sufficiently detailed so that all of the potentially significant environmental effects of the Project have been adequately evaluated; and

WHEREAS, the EIR prepared in connection with the Project sufficiently analyzes both the feasible mitigation measures necessary to avoid or substantially lessen the Project's potential environmental impacts and a range of feasible alternatives capable of eliminating or reducing these effects in accordance with CEQA, the State CEQA Guidelines and the City's Local Guidelines; and

WHEREAS, all of the findings and conclusions made by the City Council pursuant to this Resolution are based upon all oral and written evidence presented to it as a whole and are not based solely on the information provided in this Resolution; and

WHEREAS, environmental impacts identified in the EIR which the City finds are less than significant and do not require mitigation are described in Section IV, B hereof; and

WHEREAS, environmental impacts identified in the EIR as potentially significant but which the City finds can be mitigated to a level of less than significant, through the imposition of feasible mitigation measures identified in the EIR and set forth herein and in the Mitigation Monitoring and Reporting Plan, attached hereto as Exhibit A, are described in Section IV, C hereof; and

WHEREAS, environmental impacts identified in the EIR as potentially significant and which the City finds cannot be fully mitigated to a level of less than significant, despite the imposition of all feasible mitigation measures identified in the Final EIR and set forth herein, are described in Section IV, D hereof; and

WHEREAS, the cumulative impacts of the Project identified in the EIR and set forth herein, are described in Section IV, E hereof; and

WHEREAS, alternatives to the Project that might eliminate or reduce significant environmental impacts are described in Section IV, F hereof; and

WHEREAS, the existence of any growth-inducing impacts and significant and irreversible environmental changes resulting from the proposed Project identified in the EIR and set forth herein, are described in Section IV, G hereof; and

WHEREAS, because some environmental impacts identified in the EIR as potentially significant cannot be fully mitigated to a level of less than significant, despite

the imposition of all feasible mitigation measures identified in the EIR and set forth herein, the City Council has balanced the economic, legal, social, technological, and other benefits of the Project against its significant and unavoidable impacts, and has determined that the benefits of the Project outweigh the unavoidable adverse impacts, and therefore, render those impacts "acceptable." The City Council has documented its determination regarding significant and unavoidable impacts in the Statement of Overriding Considerations in Section V hereof; and

WHEREAS, prior to taking action, the City Council has heard, been presented with, reviewed and considered all of the information and data in the administrative record, including the EIR, and all oral and written evidence presented to it during all meetings and hearings on the Project; and

WHEREAS, the EIR reflects the independent judgment of the City Council and is deemed adequate for purposes of making decisions on the merits of the Project; and

WHEREAS, no comments made in the public hearings conducted by the City, or any additional information submitted to the City, have produced substantial new information requiring recirculation or additional environmental review under State CEQA Guidelines section 15088.5; and

WHEREAS, on June 20, 2023, the City Council of the City of Ontario conducted a hearing on the Project and concluded said hearing on that date; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND RESOLVED by the City Council of the City of Ontario, as follows:

SECTION I. RECITALS

The recitals above are true and correct and are incorporated into this Resolution by reference as findings of fact.

SECTION II. SUMMARY OF FINDINGS

The City Council hereby finds that it has been presented with the EIR, which it has reviewed and considered, and further finds that the EIR is an accurate and objective statement that has been completed in full compliance with CEQA and the State CEQA Guidelines. The City Council finds that the EIR reflects the independent judgment and analysis of the City. The City Council declares that no evidence of new significant impacts or any new information of "substantial importance" as defined by State CEQA Guidelines §15088.5, has been received by the City after circulation of the Draft EIR that would require recirculation. Therefore, the City Council hereby certifies the EIR based on the entirety of the record of proceedings.

SECTION III. PROCEDURAL COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT

A. RECORD OF PROCEEDINGS

For purposes of CEQA and these Findings, the Record of Proceedings for the proposed Project consists of the following documents and other evidence, at a minimum:

- The NOP, NOA, and all other public notices issued by the City in conjunction with the proposed Project.
- The Draft EIR and Final EIR for the proposed Project.
- All written comments submitted by agencies or members of the public during the public review comment period on the Draft EIR.
- All responses to written comments submitted by agencies or members of the public during the public review comment period on the Draft EIR.
- All written and verbal public testimony presented during noticed public hearings for the proposed Project.
- The Mitigation Monitoring and Reporting Program.
- The reports and technical memoranda included or referenced in the Final EIR.
- All documents, studies, EIRs, or other materials incorporated by reference in the Draft EIR and Final EIR.
- The Resolutions adopted by the City in connection with the proposed Project, and all documents incorporated by reference therein, including comments received after the close of the comment period and responses thereto.
- Matters of common knowledge to the City, including but not limited to federal, state, and local laws and regulations.
- Any documents expressly cited in these Findings.
- Any other relevant materials required to be in the record of proceedings by PRC §21167.6(e).

B. CUSTODIAN AND LOCATION OF RECORDS

The documents and other materials that constitute the administrative record for the City's actions related to the proposed Project are at the City of Ontario - Planning Department, 303 East "B" Street, Ontario, CA. The City Planning Department is the custodian of the administrative record for the Project. Copies of these documents, which constitute the record of proceedings, are and at all relevant times have been and will be available upon request at the offices of the Planning Department. This information is provided in compliance with PRC §21081.6(a)(2) and CEQA Guidelines §15091 (e).

C. PROJECT PURPOSE AND OBJECTIVES

The broad vision of the 2022 Specific Plan Amendment is to create a community with a mixture of uses, connected through a series of trails, which provides opportunities for people to live, work and play. Supporting 2022 Specific Plan Amendment objectives are listed below.

General

- Implement TOP 2050 Policy Plan Land Use Plan.
- Support TOP 2050 vision for urbanization of the Ontario Ranch area of the City.
- Implement a Specific Plan development supporting office/commercial and light industrial uses providing a broad range of long-term employment opportunities.
- Implement Specific Plan developments providing a broad range of additional construction employment opportunities.
- Establish new development that would further the City's near-term and long-range fiscal goals.
- Improve the regional jobs/housing balance.

Specific Plan Uses

Livable Neighborhood Development

- Incorporate Traditional Neighborhood Design guiding principles during the design phase to provide for opportunities to achieve the Project's vision statement, including:
  - Connections. To provide a series of sidewalks and trails connecting community parks, civic uses, employment areas, mixed-use and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
  - Traditional Street Network. To design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, as well as creating a visually favorable and comfortable environment for pedestrians and bicyclists.
  - Main Street Environment. To design commercial/retail areas to a human scale with storefronts oriented to the street providing a "Main Street" atmosphere for strolling and shopping, all within walking distance from most homes.
  - Public Spaces. To create plazas, parks, and community gathering places placed within centralized areas providing synergy between adjacent land uses.
  - Identifiable Neighborhoods. To design neighborhoods around a discernable center, which may include a small park, square, school, or mixed-use center, within a five-minute walking distance.
  - Mix of Housing. To provide neighborhoods with a range of household types: a variety of single-family detached homes, attached units for young families, and live/work units for small at-home businesses.
- Design a mixed-use environment to ensure compatible uses that are cohesive and integrate a diversity of residential neighborhoods, with a range of commercial uses, and supporting open spaces.

- Utilize transportation, utility, and greenways/open space networks to establish clear edges and boundaries.
- Accommodate residential, commercial, open space, public, and other uses in accordance with the generalized distribution of uses depicted within the City's TOP Land Use Plan.
- Implement elements that will ensure walkability throughout the Project Area to discourage automobile dependency and encourage walking, biking, and other forms of transportation. This is achieved through the incorporation of subarea greenways and pedestrian connections and through sensitive site design of mixed-use development.
- Implement technological advances within residential communities, including internet access, to allow residents to shop and work from home and to decrease reliance on automobiles.
- Provide opportunity for at least one major public plaza/square as a centerpiece of community activities, including events and celebrations, outdoor performances, community meetings, picnics, farmers markets, and similar functions.
- Establish a clearly defined "edge" for the City's TOP area, where appropriate, that avoids the use of walls and creation of a "walled" enclave.
- Incorporate electrical transmission corridors and similar elements to form "edges" for residential neighborhoods and centers and/or accommodate public greenways/trails/corridors.

Residential District Objectives

- Create a livable community with neighborhoods designed at a human scale and oriented for pedestrian access to mixed-use, educational, and recreational uses.
- Provide for a range and diversity of housing products (detached single-family, detached and attached condominiums, and townhomes) that respond to a variety of homeownership needs and desires.
- Design residential projects to complement the character of adjacent neighborhoods.
- Encourage interaction among residents through the provision of an organized, simple, and "neo-traditional" system of streets, pathways, and entries to allow residents to walk or bike to parks, recreation, and public facilities (including schools).
- Promote outdoor activity and casual social contact among residents and neighbors by designing neighborhoods around a central park where they can gather.
- Provide a focal point of activity within each residential planning area that may include a park, school, common area, or public meeting facility.
- Encourage architectural styles and traditional design elements that reflect the historic and eclectic mixture of architecture, reflective of the greater Ontario area.
- Increase densities adjacent to commercial centers.
- Establish clear, defined "edges" and "entries" that contribute to neighborhood identity.

- Avoid the use of walls to separate residential areas from arterials and other high traffic volume streets by expanded landscape setbacks, frontage roads, and other appropriate techniques.
- Include clustered multi-family housing within the Residential District, in order to create a diverse range of housing products and opportunities, while still in keeping with the overall low-density residential designation.
- Locate higher-density residential uses that provide population to support adjacent regional commercial centers.
- Provide sufficient on-site recreational amenities within higher density developments.
- Include community-oriented uses such as public meeting rooms, plazas and courtyards, and similar uses.
- Establish visual and physical links among the individual multi-family developments to create a cohesive and continuous corridor.
- Design building elevations to promote visual interest.
- Provide linkages between community service facilities, multi-family corridors, and residential neighborhoods.

Regional Commercial/Mixed-Use District Objectives

- Accommodate a diversity of large-scale retail, community and neighborhood shopping, office, medical research, entertainment, hotel/motel, dining, housing, cultural, public, and similar uses that will serve the Project area and neighboring Planning Areas.
- Function with a high level of activity and/or employment.
- Accommodate development of multi-family housing, mixed-use buildings that incorporate housing and retail/office, and live/work facilities.
- Accommodate single-use buildings and mixed-use structures containing a variety of uses from residential over retail or office-to-office over retail.
- Encourage traditional, mixed-use design of commercial buildings, by requiring a lower maximum floor area ration (FAR) for single-use buildings, and a higher maximum FAR for mixed-use buildings.
- Develop plaza areas and other amenities to provide places of social interaction.
- Include one or more public “squares” to serve as gathering places.
- Incorporate modulated building volumes, mass, height, and articulated facades to create individual spaces.
- Site a portion of the buildings on peripheral streets to provide connectivity to adjacent uses.
- Orient buildings towards the local streets whenever possible to create an urban edge and sense of arrival and place.
- Include sidewalks of sufficient width to accommodate pedestrian activity and outdoor restaurants, newsstands, and other uses.
- Create visual interest through the opening of streets and sidewalks/plazas towards building elevations.
- Incorporate landscaping to enhance the environment.

- Visually integrate parking structures to continue the intended design character of the district.
- Incorporate multi-family housing to create a cohesive and continuous corridor.
- Ensure an appropriate mix of uses (residential and commercial) that are compatible.
- Encourage pedestrian access and ease of use within the mixed-use area by designing pedestrian and bike paths.
- Create a “Main Street” environment with buildings designed to a human scale where pedestrian activity is not overwhelmed by automobile traffic.
- Utilize urban design to create a “Gateway” or portal to the Ontario Ranch.

Industrial District Objectives

- Incorporate transitions and/or buffers between commercial/mixed-use and industrial areas and adjacent residential areas.
- Contribute to the regional jobs to housing balance by providing employment opportunities while minimizing development impacts on surrounding neighborhoods.
- Create a high-quality industrial park development that attracts an array of businesses and provides employment opportunities within proximity to area residents.
- Provide safe and efficient access/circulation routes for the distribution/transportation of goods.

Circulation Objectives

- Provide a circulation system designed to promote pedestrian activity through a network of off-street pedestrian walkways linking each neighborhood to parks, mixed-use commercial, and residential uses.
- Design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, creating a visually attractive, enhanced, and comfortable environment for pedestrians and bicyclists.
- Design streets to incorporate landscaped parkways and pedestrian walkways separated from the street to enhance safety and enjoyment of residents and visitors.
- Provide opportunities for transit connections and alternative modes of transportation.

Recreation/Trails Objectives

- Provide new recreational opportunities for residents through the development of a series of public and private parks.
- Provide a series of pedestrian trails connecting community parks, civic uses, mixed-use, and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.

- Incorporate off-street multi-use trails within the Southern California Edison easements.
- Incorporate a system of on- and off-street bicycle pathways with access from the residences to mixed-use areas.
- Use landscaping and streetscape materials that are low maintenance in recreation and trail areas.
- Provide a system of on-street bikeways integrated throughout the Project to provide access to schools, parks, and commercial uses.
- Provide new recreational opportunities for residents through the development of a series of parks ranging in size.

Community Facilities Objectives

- Incorporate existing major utilities into the overall fabric of the community.
- Provide opportunities for incorporation of community facilities (e.g., schools, fire station) as identified by affected agencies.

SECTION IV. CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS

CEQA (Pub. Resources Code, §21000 et seq.) requires that public agencies shall not approve or carry out a project for which an environmental impact report (EIR) has been certified that identifies one or more significant adverse environmental effects of a project unless the public agency makes one or more written Findings for each of those significant effects, accompanied by a brief explanation of the rationale for each Finding (State CEQA Guidelines [Cal. Code Regs., tit. 14, §15000 et seq.], §15091). This document presents the CEQA Findings of Fact made by the City of Ontario, in its capacity as the CEQA lead agency, regarding the Rich-Haven Specific Plan, 2022 Amendment (Project), evaluated in the Draft Environmental Impact Report ("Draft EIR") and Final Environmental Impact Report (Final EIR) for the Project.

The City Council hereby adopts the "CEQA Findings of Fact" which were prepared in accordance with State CEQA Guidelines §15091, and which are as follows:

A. INTRODUCTION

PRC §21002 states that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]" Section 21002 further states that the procedures required by CEQA "are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects."

Pursuant to §21081 of the PRC, a public agency may only approve or carry out a project for which an EIR has been completed that identifies any significant environmental effects if the agency makes one or more of the following written finding(s) for each of those significant effects accompanied by a brief explanation of the rationale for each finding:

1. Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.

2. Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.

3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

As indicated above, §21002 requires an agency to "avoid or substantially lessen" significant adverse environmental impacts. Thus, mitigation measures that "substantially lessen" significant environmental impacts, even if not completely avoided, satisfy §21002's mandate. (*Laurel Hills Homeowners Assn. v. City Council* (1978) 83 Cal.App.3d 515, 521 ["CEQA does not mandate the choice of the environmentally best feasible project if through the imposition of feasible mitigation measures alone the appropriate public agency has reduced environmental damage from a project to an acceptable level"]; *Las Virgenes Homeowners Fed., Inc. v. County of Los Angeles* (1986) 177 Cal. App. 3d 300, 309 ["[t]here is no requirement that adverse impacts of a project be avoided completely or reduced to a level of insignificance . . . if such would render the project unfeasible"].)

While CEQA requires that lead agencies adopt feasible mitigation measures or alternatives to substantially lessen or avoid significant environmental impacts, an agency need not adopt infeasible mitigation measures or alternatives. (Pub. Resources Code, §21002.1(c) [if "economic, social, or other conditions make it infeasible to mitigate one or more significant effects on the environment of a project, the project may nonetheless be carried out or approved at the discretion of a public agency"]; see also State CEQA Guidelines, §15126.6(a) [an "EIR is not required to consider alternatives which are infeasible"].) CEQA defines "feasible" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Pub. Resources Code, §21061.1.). The State CEQA Guidelines add "legal" considerations as another indicia of feasibility. (State CEQA Guidelines, §15364.) Project objectives also inform the determination of "feasibility." (*Jones v. U.C. Regents* (2010) 183 Cal. App. 4th 818, 828-829.). "'[F]easibility' under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors." (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 401, 417; see also *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715.) "Broader considerations of policy thus come into play when the decision-making body is considering actual feasibility[.]" (*Cal. Native Plant Soc'y v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1000 ("Native Plant"); see also Pub. Resources Code, §21081(a)(3) ["economic, legal, social, technological, or other considerations" may justify rejecting mitigation and alternatives as infeasible] (emphasis added).)

Environmental impacts that are less than significant do not require the imposition of mitigation measures. (*Leonoff v. Monterey County Board of Supervisors* (1990) 222 Cal.App.3d 1337, 1347)

The California Supreme Court has stated, "[t]he wisdom of approving . . . any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as we interpret and apply it simply requires that those decisions be informed, and therefore balanced." (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 576). In addition, perfection in a project or a project's environmental alternatives is not required; rather, the requirement is that sufficient information be produced "to permit a reasonable choice of alternatives so far as environmental aspects are concerned." Outside agencies (including courts) are not to "impose unreasonable extremes or to interject [themselves] within the area of discretion as to the choice of the action to be taken." (*Residents Ad Hoc Stadium Com. v. Board of Trustees* (1979) 89 Cal.App.3d 274, 287)

B. FINDINGS REGARDING ENVIRONMENTAL IMPACTS NOT REQUIRING MITIGATION

The City Council hereby finds that the following potential environmental impacts of the Project are less than significant and therefore do not require the imposition of Mitigation Measures, as identified in the Initial Study and the Draft EIR.

1. AESTHETICS

a. *Scenic Vistas*

Threshold: Would the project have a substantial adverse effect on a scenic vista?

Finding: Less than significant (Initial Study, pp. 3-6 - 3-7)

Explanation: There are no scenic vistas within the Project site, nor would the Project otherwise adversely affect a designated scenic vista. Views of the San Gabriel Mountains, located to the north of the City, are the dominant scenic resource in the area. Therefore, the Project would not have a substantial adverse effect on a scenic vista, and impacts would be less than significant.

b. *Scenic Resources*

Threshold: Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Finding: Less than significant (Initial Study, p. 3-8)

Explanation: The City of Ontario is served by three freeways, including Interstate 10 (I-10), Interstate 15 (I-15), and State Route 60 (SR-60). The segments of these freeways located within the City are not designated as scenic highways by the California Department of

Transportation. There are no scenic resources, including, but not limited to trees, rocks, outcroppings, and historic buildings within a state scenic highway located within the Project site. Nor does the Project propose or require facilities or operations that would otherwise substantially damage such resources.

c. *Visual Character*

Threshold: Would the Project, in non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Finding: Less than significant. (Initial Study, pp. 3-6 - 3-7)

Explanation: The Project is located in an urbanized area and would be subject to those provisions of TOP 2050 General Plan and City of Ontario Development Code governing scenic quality. TOP 2050 General Plan Community Development Element establishes multiple policies that protect scenic resources and promote high quality, visually compatible development. For example, TOP General Plan 2050 Community Design Element Policy CD-1.5 requires that "all major north-south streets be designed and redeveloped to feature views of the San Gabriel Mountains, which are part of the City's visual identity and a key to geographic orientation. Such views should be free of visual clutter, including billboards and may be enhanced by framing with trees"; Policy CD-2.1 encourages "all development projects to convey visual interest and character . . ."; Policy CD-2.15 supports "excellence in design and construction quality through collaboration with trade and professional organizations that provide expertise, resources and programs for developers, builders and the public" (TOP 2050 Policy Plan, p. 91).

TOP 2050 General Plan policies governing scenic quality, including those noted above, ensure protection of scenic resources and promote visually compatible and appealing development. These policies are implemented through the City of Ontario Development Code (Development Code Chapter 6.0 Development and Subdivision Regulations, et al.). The City would assure that the Project as implemented would conform to applicable provisions of the Project including the Project Development Regulations and Design Guidelines. The Project Development Regulations and Design Guidelines would, at a minimum, be required to conform to provisions of TOP 2050 General Plan and Development Code.

Conformance with the Project would minimize the potential for the Project to adversely affect scenic resources or result in development that would conflict with applicable zoning and other regulations governing scenic quality.

d. ***Light and Glare***

Threshold: Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Finding: Less than significant. (Initial Study, pp. 3-8 - 3-9)

Explanation: The Project would create new sources of lighting, including ground, building-mounted, wall-mounted, and pole-mounted lighting fixtures. The Project would also provide illuminated exterior signs. The City would assure that the Project, as implemented, contains Development Regulations and Design Guidelines that would, at a minimum, conform to City regulations addressing lighting and light overspill (see: Development Code, Division 6.01 – District Standards and Guidelines, Lighting). All subsequent development within the Project area would be required to conform with the Project Regulations and Design Guidelines addressing light, glare and overspill. Conformance with the Project would minimize the potential for the Project to result in adverse light and glare impacts.

2. AGRICULTURE AND FORESTRY RESOURCES

a. ***Farmland Conversion***

Threshold: Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Finding: Less than significant. (Initial Study, pp. 3-10 - 3-12)

Explanation: The California Department of Conservation (CDC) Farmland Mapping and Monitoring (FMMP) System designates properties within the Project site as: “Prime Farmland,” “Grazing Land,” and “Other Land.” The City of Ontario does not prohibit the transition of agricultural land to urban uses. While existing agricultural uses are allowed to persist and are accommodated as transitional uses under the City’s Agricultural Overlay District, the City Land Use Plan does not formally designate or allocate any areas of the City as “Agricultural” land uses.

The City of Ontario has acknowledged the planned transition of existing agricultural uses to urbanized uses pursuant to TOP 2050 Land Use Plan (Land Use Plan). As discussed in TOP 2050 DSEIR,

"because former agriculture areas within Ontario are now already designated for nonagricultural uses and the current TOP is the baseline for this SEIR, the Proposed Project [TOP 2050] would not conflict with agricultural uses and would not result in conversion of farmland to nonagricultural use."

b. ***Williamson Contract***

Threshold: Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Finding: Less than significant. (Initial Study, pp. 3-13 - 3-14)

Explanation: The Project site is Zoned "Specific Plan." The Project does not propose or require uses or activities that would otherwise result in potentially adverse effects at agriculturally-zoned properties. Based on the preceding, Project impacts to or affecting agricultural-zoned properties would be less-than-significant. One property within the Project site (APN 0218-161-13) is currently under a Williamson Act Contract (Contract No. 71-235). Buildout of the Project site would require the cancellation or nonrenewal of Contract No. 71-235.

c. ***Forestland Zoning***

Threshold: Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC §12220(g)), timberland (as defined by PRC §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g)?

Finding: No impact. (Initial Study, p. 3-14)

Explanation: There is currently no land in the City of Ontario that qualifies as forest land or timberland. Neither TOP 2050 General Plan nor the City's Development Code provide such designations. As such, the Project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland, or result in the loss or conversion of forest land.

d. ***Loss of Forest Land***

Threshold: Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

Finding: No impact. (Initial Study, p. 3-14)

Explanation: As stated above, there is currently no land in the City of Ontario that qualifies as forest land or timberland. Neither TOP 2050 General Plan nor the City's Development Code provide such designations. As such, the Project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland, or result in the loss or conversion of forest land. Therefore, the Project would have no impact regarding loss of forest land.

e. ***Agricultural Zoning***

Threshold: Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Finding: No impact. (Initial Study, p. 3-14)

Explanation: The Project does not involve other changes to the environment that could result in the conversion of farmland or forest land to other uses beyond those identified under the preceding discussions.

3. AIR QUALITY

a. ***Other Adverse Emissions***

Threshold: Would the proposed project expose sensitive receptors to substantial pollutant concentrations?

Finding: Less than significant. (Draft EIR, pp. 4.3-41 - 4.3-49)

Explanation: Sensitive receptors nearest the Project site would not be subject to emissions exceeding SCAQMD LSTs. Nor would the Project create or result in localized CO hot spots as the Project would not produce the volume of traffic required to generate a CO hot spot. The Project would also not generate or result in localized concentrations of TACs that would create or result in potentially significant health risks.

For the Residential Exposure Scenario, the Project HRA substantiates that DPM emissions generated by Project operations would result in less-than-significant health risks at the maximally impacted residential land use (MEIR). More specifically, at the MEIR, the maximum carcinogenic risk is estimated at 4.77 in one million, which does not exceed the SCAQMD cancer risk threshold of 10 in one million. At this same location, the non-cancer risks were estimated at 0.03, which would not exceed the applicable SCAQMD threshold of 1.0. As such, Project operations would not cause or result in potentially significant cancer risks or noncarcinogenic risks at the MEIR. All other potentially affected residential receptors are located at greater distances from the Project site than the MEIR and would be exposed to fewer emissions and therefore less risk than would occur at the evaluated MEIR. The cancer and noncarcinogenic risks at these more distant residential receptors would also be less-than-significant.

For the Worker Exposure Scenario, the Project HRA substantiates that DPM emissions generated by Project operations would have a less-than-significant health risk at the maximally impacted worker location. More specifically, for the maximally exposed individual worker (MEIW), the maximum cancer risk is estimated at 0.94 in one

million, which would not exceed the SCAQMD cancer risk threshold of 10 in one million. At this same location, the non-cancer risks were estimated at 0.06, which would not exceed the applicable SCAQMD threshold of 1.0. As such, Project operations would not cause or result in potentially significant cancer risks or noncarcinogenic risks at the MEIW. All other potentially affected worker receptors are located at greater distances from the Project site than the MEIW and would be exposed to fewer emissions and therefore less risk than would occur at the evaluated MEIW. The cancer and noncarcinogenic risks at these more distant worker receptors would also be less-than-significant.

For the School Child Exposure Scenario, the Project HRA substantiates that DPM emissions generated by Project operations would have a less-than-significant health risk at the maximally impacted worker location. More specifically, for the maximally exposed individual school child (MEISC), the maximum cancer risk is estimated at 0.37 in one million, which would not exceed the SCAQMD cancer risk threshold of 10 in one million. At this same location, the non-cancer risks were estimated at 0.01, which would not exceed the applicable SCAQMD threshold of 1.0. As such, Project operations would not cause or result in potentially significant cancer risks or noncarcinogenic risks at the MEISC. All other potentially affected school receptors are located at greater distances from the Project site than the MEISC and would be exposed to fewer emissions and therefore less risk than would occur at the evaluated MEISC. The cancer and noncarcinogenic risks at these more distant school child receptors would also be less-than-significant.

In terms of construction, at the MEIR, the Project HRA substantiates that DPM emissions generated by Project operations would result in less-than-significant health risks at the maximally impacted residential land use (MEIR). More specifically, at the MEIR, the maximum carcinogenic risk is estimated at 1.21 in one million, which does not exceed the SCAQMD cancer risk threshold of 10 in one million. At this same location, the non-cancer risks were estimated at <0.01, which would not exceed the applicable SCAQMD threshold of 1.0.

b. ***Other Adverse Emissions***

Threshold: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Finding: Less than significant. (Initial Study, pp. 3-16 - 3-17)

Explanation: Temporary, short-term odor releases are potentially associated with Project construction activities. Potential sources of odors associated with construction activities would include, but not be limited to the

following: asphalt/paving materials, glues, paint, and other architectural coatings. Construction-source odor impacts are minimized through compliance with established regulations (Code of Federal Regulations [CFR], Subpart H-Materials Handling, Storage Use and Disposal, et al.) addressing construction materials storage, use, and disposal. In pertinent part the isolation/containment devices or mechanisms specified under these regulations prevent significant release of odors. The Project would be required to comply with these regulations.

Uses typically considered to be sources of odors or other emissions that could adversely affect a substantial number of people include agricultural operations, cement plants, wastewater treatment plants, and the like. The Project proposes none of these. Rather, the Project would implement contemporary residential, commercial, light industrial, parks, and open space uses.

Refuse generated by the Project uses could be a source of localized odors. Project refuse is required to be collected, contained, and disposed of as stipulated in the City of Ontario Municipal Code (see: Municipal Code, Chapter 3: Integrated Solid Waste Management). Per the Municipal Code, refuse is to be disposed of in covered receptacles and routinely removed, thereby limiting the escape of odors to the open air. Any odors generated would be temporary and transient, with little or no potential to adversely affect a substantial number of people.

Further, all Project construction activities, uses and occupancies would be required to conform to SCAQMD Rule 402. Rule 402 provides in pertinent part that there shall be no "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

4. BIOLOGICAL RESOURCES

a. *Riparian Habitat*

Threshold: Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Finding: Less than significant. (Draft EIR, p. 4.10-18).

Explanation: The site does not contain any lakes, rivers, creeks, streambeds, wetlands, vernal pools, or temporary rain pools. No other wetlands,

riparian habitat or other sensitive communities exist within the Project site. Nor does the Project propose uses or activities that would substantially or adversely affect any other off-site wetlands or riparian areas.

b. ***Wetlands***

Threshold: Would the Project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Finding: Less than significant. (Draft EIR, p. 4.10-18).

Explanation: The site does not contain any lakes, rivers, creeks, streambeds, wetlands, vernal pools, or temporary rain pools. No other wetlands, riparian habitat or other sensitive communities exist within the Project site. Nor does the Project propose uses or activities that would substantially or adversely affect any other off-site wetlands or riparian areas.

c. ***Local Policies and Ordinances***

Threshold: Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

Finding: Less than significant. (Draft EIR, p. 4.10-18)

Explanation: No regional wildlife movement corridors have been identified in the City, most of which is ill suited for the purposes of wildlife movement (TOP SEIR, p. 5.4-33). No wildlife habitat linkages or movement corridors have been identified at the Project site (Project Biological Report, p. 30). Nor does the Project propose facilities or activities that would substantively and adversely affect any off-site designated wildlife habitat linkage or movement corridor. Impacts to potential nesting birds are addressed by Mitigation Measure 4.10.1, presented previously.

d. ***Local Policies and Ordinances***

Threshold: Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Finding: Less than significant. (Draft EIR, pp. 4.10-18 – 4.10-19)

Explanation: The Project site has been significantly impacted due to years of disking, dumping, disturbance and agriculture. As a result of these historic disturbances and on-going urbanization of the site per the 2021 Specific Plan, the Project site does not contain or support high value habitats or protected species.

There are no protected trees within the Project site. The Project does not propose or require uses or operations that would adversely affect any off-site protected trees. There are no parkway trees within the Project site. The Project does not propose or require uses or operations that would adversely affect any off-site parkway trees. As part of the City's standard development review process, the City would ensure that the final Specific Plan Landscape Plan and all development proposals within the Project conform to the Parkway Tree Regulations. There are no Natural Community Conservation Plans, or Regional, or State Habitat Conservation Plans regulating the Project or that would be adversely affected by the Project.

e. ***Habitat Conservation Plans***

Threshold: Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Finding: Less than significant. (Draft EIR, pp. 4.10-18 – 4.10-19)

Explanation: The Project site has been significantly impacted due to years of disking, dumping, disturbance and agriculture. As a result of these historic disturbances and on-going urbanization of the site per the 2021 Specific Plan, the Project site does not contain or support high value habitats or protected species.

There are no protected trees within the Project site. The Project does not propose or require uses or operations that would adversely affect any off-site protected trees. There are no parkway trees within the Project site. The Project does not propose or require uses or operations that would adversely affect any off-site parkway trees. As part of the City's standard development review process, the City would ensure that the final Specific Plan Landscape Plan and all development proposals within the Project conform to the Parkway Tree Regulations. There are no Natural Community Conservation Plans, or Regional, or State Habitat Conservation Plans regulating the Project or that would be adversely affected by the Project.

5. CULTURAL RESOURCES

a. ***Historical Resources***

Threshold: Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines, §15064.5?

Finding: Less than significant. (Draft EIR, pp. 4.11-12 – 4.11-14)

Explanation: During the records search conducted for the Cultural Resources Assessment, five (5) potential historical resources were identified within the Project site. Potential resources included three (3) historical period residences and two (2) historical period transmission lines. These potential resources were evaluated for listing as "historically significant" as provided for at Section 5024.1 of the Cal. Public Res. Code. Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register (Cal. Code Regs. tit. 14(3), § 15064.5(a)(3)).

Potential historical resources in the Project site were evaluated to determine if they are considered historical resources. None of the potential resources identified within the records search qualify as significant historical resources when evaluated against the criteria.

b. *Human Remains*

Threshold: Would the Project disturb any human remains, including those interred outside of formal cemeteries?

Finding: Less than significant. (Initial Study, pp. 3-20 - 3-21)

Explanation: There are no known formal cemeteries or informal burial sites within the Project site or in off-site areas that would likely be affected by Project construction activities. The likelihood of encountering human remains in the course of Project development is therefore considered minimal. Further, as required under California Health and Safety Code Section 7050.5 (b) should human remains be encountered in the course of Project development, "there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined . . . that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code."

Additionally, California Health and Safety Code Section 7050.5 (c) provides that "[i]f the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission." All Project activities would be required to comply with

provisions of the California Health and Safety Code and Public Resources Code as summarized above, minimizing or avoiding the potential to disturb human remains. Therefore, the potential for the Project to disturb any human remains, including those interred outside of formal cemeteries would be less-than-significant.

6. ENERGY

a. *Wasteful Use of Energy*

Threshold: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Finding: Less than significant. (Draft EIR, pp. 4.5-9 through 4.5-15)

Explanation: Project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy, and potential Project impacts in these regards would be less-than-significant. Further, energy demands of the Project can be accommodated within the context of available resources and energy delivery systems. The Project would therefore not cause or result in the need for additional energy-producing or energy transmission facilities and would not create or otherwise result in a potentially significant impact affecting energy resources or energy delivery systems.

Construction equipment use of fuel would not be atypical for the type of construction proposed, as there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(2) *Idling*, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by local building officials, and/or in response to citizen complaints.

Diesel fuel would be supplied by regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved using bulk purchases, transport and use of construction materials. The 2021 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements.

The Project operations would not result in excessive and wasteful vehicle trips and VMT, nor excessive and wasteful vehicle energy consumption compared to other similar land uses.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT.

Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building Standards Code and County requirements, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations.

The Project proposes conventional land uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other land use projects of similar scale and configuration. The Project's compliance with applicable Title 24 standards would ensure that Project energy demands would not be inefficient, wasteful, or otherwise unnecessary.

b. ***Energy Efficiency Plans***

Threshold: Would the Project conflict with or obstruct a State of local plan for renewable energy or energy efficiency?

Finding: Less than significant. (Draft EIR, pp. 4.5-16 through 4.5-18)

Explanation: The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Additionally, regulatory measures, standards, and policies directed at reducing air pollutant emissions and GHG emissions would also act to promote energy conservation and reduce Project energy consumption.

7. GEOLOGY AND SOILS

a. ***Fault Rupture***

Threshold: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Finding: Less than significant. (Initial Study, p. 3-24)

Explanation: There are no active faults known with the Project site. The Project site is outside any Fault Rapture Hazard Zone (formerly Alquist-Priolo Zone). The Project does not propose actions or facilities that would otherwise exacerbate known or probable adverse earthquake fault conditions.

b. *Seismic Ground Shaking*

Threshold: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

ii) Strong seismic ground shaking

Finding: Less than significant. (Draft EIR, p. 4.9-9)

Explanation: The Project Geotechnical Report substantiates there are no active faults known within the Project site. The Project site is outside any Fault Rapture Hazard Zone (formerly Alquist-Priolo Zone). The Geotechnical Report determined that the risk of surface fault rupture is considered low. The Project does not propose actions or facilities that would otherwise exacerbate known or probable adverse earthquake fault conditions.

c. *Landslides*

Threshold: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

iv) Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Finding: Less than significant. (Initial Study, p. 3-25)

Explanation: The Project site topography evidences little internal difference, with a moderate northeast to southwest downward trending slope, averaging between +2.0 % to -2.3% (Google Earth Imagery 2022). The Project site is not considered internally susceptible to land sliding. Any slopes manufactured in the course of Project development would be subject to review and approval by the City Building Department to ensure their stability. Adjacent properties also present little topographic relief. Impacts would be less than significant.

d. *Soil Erosion*

Threshold: Would the Project result in substantial soil erosion or the loss of topsoil?

Finding: Less than significant. (Initial Study, pp. 3-25 – 3-26)

Explanation: Project construction activities would temporarily expose underlying soils, thereby increasing their susceptibility to erosion. Potential

erosion impacts incurred during construction activities are mitigated below the level of significance through the Project's mandated compliance with a City-approved Storm Water Pollution Prevention Plan (SWPPP), as well as compliance with SCAQMD Rules that prohibit grading activities and site disturbance during high wind events. At Project completion, potential soil erosion impacts in the area will be resolved, as pavement, roads, buildings, and landscaping are established, overcovering previously exposed soils.

The Project does not propose altering existing topography in a manner that would result in substantial soil erosion or the loss of topsoil. All Project development plans would be subject to review and approval by the City. As part of this review, the City would ensure that permanent slopes and slope protection would conform to City requirements, thereby minimizing the potential for soil erosion over the life of the Project. City review and approval of development plans would also ensure that stormwater management systems are incorporated that would minimize potential erosion from stormwater runoff, both on-site and off-site.

e. ***Expansive Soils***

Threshold: Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Finding: Less than significant. (Draft EIR, p. 4.9-10)

Explanation: The Project Geotechnical Report substantiates that onsite soils have a very low expansion potential. "Based on the results of previous laboratory testing by others and our recent laboratory testing, site soils are anticipated to have a 'Very Low' expansion potential [EI of 20 or less per ASTM D4829]" (Project Geotechnical Report, p. 10).

f. ***Septic Tanks***

Threshold: Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Finding: Less than significant. (Initial Study, p. 3-27)

Explanation: ***Construction and Operations***

The Project uses would be served by municipal sewer services. No septic tanks or other alternative wastewater disposal systems are proposed by the Project. No impact would occur.

g. ***Paleontological Resources***

Threshold: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Finding: Less than significant. (Draft EIR, pp. 4.9-11 – 4.9-12)

Explanation: The geologic unit underlying the Project site are mapped as young Eolian sand and dune deposits from the Holocene period. Eolian units are considered to be of some preservation value, but any material found is unlikely to be fossil material due to the relatively modern associated dates of the deposits. The Western Science Center does not have any localities within the Project site or within a one-mile radius. The Cultural Resources Assessment determined that significant impacts in this regard would be unlikely.

As presented in the Project Geotechnical Report: . . . "the subject site is underlain by Holocene- to Pleistocene- age eolian (wind-blown) sedimentary deposits. The materials below the eolian deposits are young alluvial fan deposits…soils generally consisted of medium dense to dense sands with varying amounts of silt interbedded with thinner layers of stiff to very stiff fine-grained soils (i.e., silts and clays) to the maximum explored depth of approximately 50 feet below existing grade…Due to previous/current land use as farming, localized areas are underlain by near surface fill materials, topsoil, manure, etc." (Project Geotechnical Report, p. 6).

These soil types are common within the City and Southern California, and do not comprise unique geological features as described above. The Project does not propose uses or activities that would indirectly contribute to or result in potentially adverse impacts to a unique geological feature.

8. HAZARDS AND HAZARDOUS MATERIALS

a. *Hazardous Materials*

Threshold: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Finding: Less than significant. (Draft EIR, pp. 4.7-26 – 4.7-27)

Explanation: Colony High School is located approximately 0.2 miles north of nearest light industrial uses proposed by the Project. The Project does not propose or require uses or facilities that would generate or use hazardous or acutely hazardous materials. The Project HRA substantiates that DPM emissions generated by the Project would not result in potentially significant impacts at vicinity schools. As a matter of course, the Lead Agency consults with potentially affected school districts throughout the EIR process for development proposals.

b. ***Hazardous Materials***

Threshold: Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Finding: Less than significant. (Initial Study, pp. 3-30 – 3-31)

Explanation: The subject site is not included on the hazardous materials sites list compiled pursuant to Government Code Section 65962.5. Additionally, the Project would be required to comply with applicable federal, state, and local regulations, ensuring that hazards/hazardous materials impacts are maintained at levels that would be less-than-significant.

c. ***Airport Noise***

Threshold: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Finding: Less than significant. (Initial Study, p. 3-31)

Explanation: The Project site is located within the area subject to provisions of the ONT Airport Land Use Compatibility Plan (ALUCP, July 2018). The ALUCP defines the ONT Airport Influence Area (AIA) as an area in which current and future airport-related noise, overflight, safety, and airspace protection factors may significantly affect land uses or necessitate restriction on those uses. The Project site is located outside the ONT safety zones (see: TOP 2050 DSEIR Figure 5.9-2, Airport Safety Zones). All Project development would be required to comply with ALUCP requirements, thereby precluding or minimizing potential airport/aircraft-related hazards. The Project does not propose or require uses that would contribute to potential airport/aircraft-related hazards. Therefore, the Project would not result in a safety hazard or excessive noise for people residing or working in the Project area and impacts would be less than significant.

d. ***Emergency Plans***

Threshold: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Finding: Less than significant. (Initial Study, p. 3-32)

Explanation: The Project does not propose or require permanent alteration of vehicle circulation routes and would not interfere with any identified emergency response or emergency evacuation plan. Consistent with

City policies, coordination with the local fire and police departments during pre-construction review of Project plans would ensure that potential interference with emergency response plans and evacuation plans are avoided.

e. *Wildland Fires*

Threshold: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Finding: No Impact. (Initial Study, pp. 3-32 - 33)

Explanation: The Project site is located in an urbanizing area, and no wildlands are located in the vicinity of the Project site. Fire protection services are provided to the City and the Project site by the Ontario Fire Department. Pre-construction coordination with Fire Department staff and adherence to local fire regulations during construction and operation of the Project would be required. The City and Fire Department would require that fire prevention/fire suppression measures are incorporated in the Project designs and that water delivery systems serving the Project site provide adequate fire flow. Creation and maintenance of firebreaks and fire-defensible spaces adjacent to building and roadways as required by the City and Fire Department would further reduce the potential for exposure to wildland fires and the spread of wildland fires. The City would also enforce weed abatement measures, minimizing potential fire fuel loads. Additionally, development of the Project site would act to reduce fire hazards by eliminating existing fire fuel loads such as manure, hay, and weeds; while improving area fire protection infrastructure systems.

9. HYDROLOGY AND WATER QUALITY

a. *Water Quality Standards*

Threshold: Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Finding: Less than significant. (Draft EIR, p. 4.8-22 - 4.8-26)

Explanation: All individual development proposals within the Project site would be required to comply with all requirements of the City's MS4 Permit, as well as the Trash Mandate adopted by the SARWQCB. All storm water discharges from individual development proposals within the Project site would be required to comply with applicable provisions of the County's National Pollutant Discharge Elimination System (NPDES) permit. Consistent with SARWQCB and City requirements, waste materials will not be discharged to drainage areas,

streambeds, or streams. Nor will spoil sites be located in areas that could result in spoil materials being washed into a water body.

Additionally, all development proposals within the Project site would be required to comply with Standard City Conditions of Approval including implementation of development-specific WQMPs, thereby avoiding/minimizing potential water quality impacts.

The City, as one element of its established development review processes would ensure NPDES Permit compliance concurrent with application(s) for development permits within the Project site.

Implementation of the WQMPs and compliance with applicable NPDES and SARWQCB requirements will reduce potential operational-source water quality impacts to levels that would be less-than-significant.

b. ***Groundwater Supplies***

Threshold: Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

Finding: Less than significant. (Initial Study, pp. 3-35)

Explanation: Direct additions or withdrawals of groundwater are not proposed by the Project. Further, construction proposed by the Project will not involve substructures or other intrusions at depths that would significantly impair or alter the direction or rate of flow of groundwater. Water is provided throughout the City by the City of Ontario Utilities Department. Groundwater which may be consumed by the Project and the City of Ontario, as a whole, would be recharged pursuant to the Department's policies and programs. The Project site is not a designated groundwater recharge area. The Project does not propose or require facilities or operations that would otherwise adversely affect designated recharge areas.

c. ***Erosion or Siltation***

Threshold: Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

(i) result in substantial erosion or siltation on- or off-site

Finding: Less than significant. (Initial Study, pp. 3-36)

Explanation: Project construction activities would temporarily expose underlying soils, thereby increasing their susceptibility to erosion. Potential erosion impacts incurred during construction activities are mitigated

below the level of significance through the Project's mandated compliance with a City-approved Storm Water Pollution Prevention Plan (SWPPP), as well as compliance with SCAQMD Rules that prohibit grading activities and site disturbance during high wind events. At Project completion, potential soil erosion impacts in the area will be resolved, as pavement, roads, buildings, and landscaping are established, overcovering previously-exposed soils.

The Project does not propose altering existing topography in a manner that would result in substantial soil erosion or the loss of topsoil. All Project development plans would be subject to review and approval by the City. As part of this review, the City would ensure that permanent slopes and slope protection would conform to City requirements, thereby minimizing the potential for soil erosion over the life of the Project. City review and approval of development plans would also ensure that stormwater management systems are incorporated that would minimize potential erosion from stormwater runoff, both on-site and off-site.

d. ***Flooding and Runoff***

Threshold: Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

iv) Impede or redirect flood flows?

Finding: Less than significant. (Draft EIR, p. 4.8-31)

Explanation: As shown at Policy Plan Figure S-2, *Flood Hazards*, the Project site is located within a 500-year flood plain and is within the San Antonio Creek Dam Failure Inundation Area. The Project site does not, however, lie within a designated 100-year floodplain or other areas known to be subject to moving or high-velocity floodwaters. The Project does not propose or require facilities or operations that would otherwise impede or redirect flood flows.

e. ***Flood Hazard***

Threshold: Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Finding: Less than significant. (Draft EIR, p. 4.8-31)

Explanation: The Project site is not located within an area subject to tsunami, or seiche events. There is no potential for the Project to be adversely affected in these regards.

The Project site does, however, lie within a 500-year floodplain and is within the San Antonio Creek Dam Failure Inundation Area. There

is, therefore, the potential for the Project generally to be subject to inundation under 500-year flood conditions or in the event of the San Antonio Creek Dam failure. Either of these are relatively low probability events. Catastrophic failure of the San Antonio Dam when it is at or near capacity could spread water two to four feet deep over the western and central parts of the City. However, the City has never experienced such an event.

TOP 2050 SEIR concluded that the probability of catastrophic failure of the San Antonio Dam is very low. Furthermore, the City of Ontario Fire Department maintains a list of emergency procedures to be followed in the event of a dam failure (TOP 2050 SEIR, p. 5.10-26). Because the likelihood of catastrophic failure of the San Antonio Dam is very low and the City is prepared in the event of such failure, impacts related to potential release of pollutants under dam failure conditions are considered less-than-significant.

Potential for release of pollutants under 500-year flood conditions or in the event of dam failure is minimized through the location, orientation, and construction of Project facilities consistent with City Building Code requirements and implementation of the Project stormwater management system improvements described in this Section. Additionally, the Project commercial and light industrial uses would be required to develop and implement Hazardous Materials Release Response Plans and Inventory (Business Plans) that specifically address storage and use of hazardous materials so as to minimize their potential release, containment of hazardous materials and related pollutants that may be released under emergency conditions, and measures to reduce potential effects of hazardous materials and related pollutants if released.

f. ***Water Quality Control Plan***

Threshold: Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Finding: Less than significant. (Draft EIR, pp. 4.8-32 – 4.8-33)

Explanation: The Project would implement water quality control measures consistent with City and SARWQCB requirements. The City of Ontario draws all of its groundwater supply from the Chino Basin. Since 1978, the basin has been managed via ongoing court adjudication in the 1978 judgment Chino Basin Municipal Water District vs. City of Chino et al. The Project does not propose or require direct withdrawal of groundwater. Neither would the Project adversely affect designated groundwater recharge areas or groundwater recharge facilities. To the extent practical, individual

development proposals within the Project site would implement LID measures facilitating infiltration of treated stormwaters to the groundwater table.

10. LAND USE AND PLANNING

a. *Established Communities*

Threshold: Would the Project physically divide an established community?

Finding: Less than significant. (Initial Study, p. 3-37)

Explanation: The developed Project would establish a pattern of cohesive and complementary land uses. The Project configuration and orientation of land uses, combined with integral development standards and design guidelines, act to preclude division or disruption of an established community, whether that community be internal or external to the Project site. Physical arrangement of surrounding areas would not be modified or otherwise affected by the Project.

b. *Conflict*

Threshold: Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Finding: Less than significant. (Draft EIR, pp. 4.1-10 - 4.1-24)

Explanation: Land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental effects are established under the City of Ontario Policy Plan and the SCAG. Project consistency with applicable provisions of the City of Ontario Policy Plan and SCAG Connect SoCal 2020 are presented in Draft EIR Section 4.1, *Land Use and Planning*.

The Project would establish Land Uses, Development Regulations, and Design Guidelines directing the ultimate buildout of the Project site. Land uses and development reflected within the proposed 2022 Specific Plan Amendment can be feasibly implemented consistent with applicable provisions of the City General Plan and the City Development Code. Prior to issuance of development permits, the City would review the final development plans for individual projects within the 2022 Specific Plan Amendment area to ensure consistency with the 2022 Specific Plan Amendment document as approved by the City, and where applicable, City Development Code requirements. Further, the Project would be consistent with applicable land use and planning provisions of the Policy Plan.

11. MINERAL RESOURCES

a. *Regional and Statewide Mineral Resources*

Threshold: Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

Finding: Less than significant. (Initial Study, pp. 3-38 – 3-39)

Explanation: Mineral resources in the City are limited to construction aggregates such as sand and gravel. There are currently no permitted mining operations located within the City (TOP 2050 DSEIR, p. 5.12-2). TOP 2050 DSEIR at Figure 5.12-1, *Areas of Mineral Resource Significance,* indicates that the Project site is classified pursuant to the California Geological Survey as Mineral Resource Zone 3 (MRZ-3). The Project does not propose or require facilities or operations that would affect the availability of locally important or regionally important mineral resources.

b. *Locally-Important Mineral Resource*

Threshold: Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plans?

Finding: Less than significant. (Initial Study, pp. 3-38 – 3-39)

Explanation: Mineral resources in the City are limited to construction aggregates such as sand and gravel. There are currently no permitted mining operations located within the City (TOP 2050 DSEIR, p. 5.12-2). TOP 2050 DSEIR at Figure 5.12-1, *Areas of Mineral Resource Significance,* indicates that the Project site is classified pursuant to the California Geological Survey as Mineral Resource Zone 3 (MRZ-3). The Project does not propose or require facilities or operations that would affect the availability of locally important or regionally important mineral resources.

12. NOISE

a. *Vibration*

Threshold: Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

Finding: Less than significant. (Draft EIR, pp. 4.6-30 – 4.6-31)

Explanation: Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that groundborne vibration from Project construction activities would cause only intermittent, localized intrusion.

Groundborne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration. The highest construction vibration levels are expected to range from 0.003 to 0.068 in/sec PPV and will satisfy the maximum acceptable vibration threshold of 0.3 PPV (in/sec). Moreover, the impacts at the closest sensitive receivers are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

b. ***Airport Noise***

Threshold: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

Finding: Less than significant. (Draft EIR, p. 4.6-32)

Explanation: The Project site is located approximately 2.4 miles southerly of the Ontario International Airport (ONT) and is located within the ONT Airport Influence Area.

The Ontario International Airport Land Use Compatibility Plan (ONT ALUCP) was amended July 2018 to promote compatibility between airport and surrounding land uses. Since the Project site is located within the ONT Airport Influence Area, the Project is subject to the Noise Criteria established at Table 2-3 of the ONT ALUCP.

The Project site is located outside the 60-65 dBA CNEL airport noise impact zone. According to Table 2-3 of the ONT ALUCP, residential, commercial, light industrial and community facilities land uses located outside the 60-65 dBA CNEL, are considered normally compatible land use. For normally compatible land use, either the activities associated with the land use are inherently noisy or standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL).

13. POPULATION AND HOUSING

a. ***Population Growth***

Threshold: Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Finding: Less than significant. (Initial Study, p. 3-41)

Explanation: The Project proposes new and reconfigured residential uses that would directly contribute to population growth. Additionally, the Project light industrial and commercial uses would create additional employment opportunities that could indirectly contribute to population growth. Development proposed by the Project responds globally to existing and anticipated market demands of the City and region, and employment generated by the Project would be a byproduct of this anticipated growth. The Project represents a component of development and growth anticipated by the City, as reflected by the site's TOP 2050 General Plan Land Use designations.

b. ***Displacement of Housing***

Threshold: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Finding: Less than significant impact. (Initial Study, p. 3-42)

Explanation: The Project would maintain net residential development within the Specific Plan Area when compared to land uses and development entitled under the 2021 Specific Plan. That is, under both the 2021 Specific Plan and the proposed 2022 SPA, 7,194 dwelling units (all residential types) would be entitled. Locations and configurations of entitled residential uses would however be amended under the 2022 SPA. These amendments would not eliminate housing, diminish the potential for new housing, or displace persons from existing housing.

14. PUBLIC SERVICES

a. ***Fire Protection***

Threshold: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire Protection?

Finding: Less than significant. (Initial Study, pp. 3-43 – 3-44)

Explanation: Fire suppression and emergency response services for the Project would be provided by the Ontario Fire Department (OFD). TOP 2050 SEIR recognizes the potential for development pursuant to The Ontario Plan, including development of the area encompassing the Project site to result in increased demands for fire protection services (TOP 2050 DSEIR, p. 5.15-3). TOP 2050 SEIR also recognizes that

evaluation of potential environmental impacts resulting from the construction or expansion of new or modified fire protection facilities would be speculative until such time the location(s) of such facilities are determined. The Project provides for potential location of a new fire station at the northwest corner of Ontario Ranch Road (E – W) at Mill Creek Avenue (N – S). Ultimate need for and location of this fire station would be subject to review and approval by the City and Fire Department. Environmental review of this facility would be conducted when and as required by the City.

Additionally, the Project would pay General City (GC) Development Impact Fees, a portion of which is available to offset incremental fire protection service demands generated by the Project. The Project Applicant would pay incumbent Development Impact Fees at issuance of building permit(s).

To the satisfaction of the OFD, the Project would comply with City and OFD fire prevention and suppression requirements, including building/site design requirements, substantiated fire flow adequacy, and provisions for emergency access, thereby reducing potential increased demands for fire protection services.

b. ***Police Protection***

Threshold: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

ii) Police Protection?

Finding: Less than significant. (Initial Study, pp. 3-44 – 3-45)

Explanation: The Project does not propose or require construction or modification of police protection facilities. The Project site is not designated or proposed as the location for new or modified police protection facilities. Incremental police protection service demands generated by the Project are offset through Project payment of City of Ontario General City (GC) Development Impact Fees. A portion of the City's GC Development Impact Fees are allocated for police protection services. The Project Applicant would pay incumbent Development Impact Fees at issuance of building permit(s).

Additionally, the Project site plan concept and proposed building designs would be reviewed by the Ontario Police Department (OPD) to ensure incorporation of appropriate safety and security elements. Such design features would include secure building designs,

defensible spaces, and area and facility security lighting. These design features would act to reduce Project demands for police protection services.

c. *Schools*

Threshold: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

iii) Schools?

Finding: Less than significant. (Initial Study, pp. 3-45 – 3-46)

Explanation: Occupancy of the Project residential uses would directly contribute to demands on school services. Indirectly, the Project may contribute to area demands for school services if Project employees and their school age children would relocate to school districts serving the City.

The Project does not propose or require construction or modification of school facilities. The Project site is not designated or proposed as the location for new or modified school facilities.

Project incremental impacts to school services would be offset through mandated payment of school impact fees. The Project Applicant would pay incumbent school impact fees at issuance of building permit(s). Payment of school impact fees would reduce the Project's potential impacts to school services to levels that would be less-than-significant.

d. *Parks*

Threshold: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

iii) Parks?

Finding: Less than significant. (Initial Study, pp. 3-46 – 3-47)

Explanation: The Project includes parks and open space non-recreation areas that would complement and support development of the Specific Plan Area generally. Potential environmental effects of construction

of these facilities are reflected in the scope on analysis of environmental impacts of the Project in total.

e. *Other Public Facilities*

Threshold: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

iii) Other Public Facilities?

Finding: Less than significant. (Initial Study, p. 3-47)

Explanation: Development of the Project would require established public agency oversight including, but not limited to, various plan check and permitting actions by the City. Impacts of the Project would fall within routine tasks of these agencies/departments and are paid for via plan check and inspection fees. Impacts of the Project would not be of such magnitude that new or physically altered facilities would be required. There are no known or probable other public facilities that would be substantially affected by the Project.

15. RECREATION

a. *Increased Use*

Threshold: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Finding: Less than significant. (Initial Study, p. 3-48)

Explanation: The Project includes parks and open space non-recreation areas that would complement and support development of the Specific Plan Area generally. Potential environmental effects of construction of these facilities are reflected in the scope on analysis of environmental impacts of the Project in total. Of themselves, environmental impacts of parks and open space non-recreation areas that would be constructed as part of the Project are considered less-than-significant. New residential development within the City is required to pay GC Development Impact Fees, a portion of which would be allocated for parks facilities, acting to offset incremental demands on neighborhood and regional parks or other recreational facilities. The Applicant would pay all requisite GC Development Impact Fees.

b. ***Construction and Expansion***

Threshold: Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Finding: Less than significant. (Initial Study, p. 3-48)

Explanation: The Project includes parks and open space non-recreation areas that would complement and support development of the Specific Plan Area generally. Potential environmental effects of construction of these facilities are reflected in the scope on analysis of environmental impacts of the Project in total. Of themselves, environmental impacts of parks and open space non-recreation areas that would be constructed as part of the Project are considered less-than-significant. New residential development within the City is required to pay GC Development Impact Fees, a portion of which would be allocated for parks facilities, acting to offset incremental demands on neighborhood and regional parks or other recreational facilities. The Applicant would pay all requisite GC Development Impact Fees.

16. TRANSPORTATION AND TRAFFIC

a. ***Plans, Policies, and Ordinances***

Threshold: Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Finding: Less than significant. (Draft EIR, pp. 4.2-10 - 4.2-20)

Explanation: City of Ontario programs, plans, and policies addressing the circulation system are established under TOP 2050. The Project would be consistent with applicable provisions of TOP 2050 as summarized in Draft EIR Table 4.2-6. Additionally, the Project is consistent with the goals of the 2020-2045 SCAG Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal 2020) as summarized in Draft EIR Table 4.2-7.

Prior to the issuance of Building Permits, the City would review the final Project designs to ensure consistency with City Policy Plan circulation system programs, plans and policies. Consistency with applicable City ordinance requirements is required as a matter of law.

The Project does not propose facilities or activities that would otherwise potentially conflict with City circulation system programs, plans, policies and ordinances.

b. ***Design Hazards and Emergency Access***

Threshold: Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); Would the Project result in inadequate emergency access?

Finding: Less than significant. (Draft EIR, pp. 4.2-21 - 4.2-22)

Explanation: All Project circulation improvements, the final design of the Project site plan, to include locations and design of proposed driveways, shall be reviewed and approved by the City Traffic Engineer. In addition, representatives of the City's Police and Fire Departments will review the Project's plans in regard to emergency access. Traffic signing and striping would be implemented in conjunction with detailed Project construction plans. Sight distance at each Project access point would be reviewed with respect to Caltrans and City of Ontario sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

It is also recognized that temporary and short-term traffic detours and traffic disruption could result during Project construction activities. Management and control of construction traffic would be addressed through the preparation and submittal of a construction area traffic management plan, to be reviewed and approved by City prior to or concurrent with Project building plan review(s).

The Project would generate passenger car trips and truck trips typical of the proposed uses. As part of established site and Building Permit review processes, the City would require implementation of on-site truck and passenger car travel paths, signing, and traffic controls to ensure that conflicts between trucks and passenger cars are minimized or avoided. Trucks accessing the Project site would use designated truck routes, thereby avoiding or minimizing off-site passenger car/truck traffic conflicts. Land uses proximate to the Project site are planned for or are being developed with urban uses similar to those proposed by the Project. These uses would generate urban traffic types similar to traffic generated by the Project and would generate traffic that would be incompatible with the Project traffic types.

17. UTILITIES AND SERVICE SYSTEMS

a. ***Expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities***

Threshold: Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater

drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Finding: Less than significant. (Draft EIR, pp. 4.12-12 - 4.12-23)

Explanation: Utilities and service systems distribution and conveyance lines serving the Project would be constructed pursuant to approved City Infrastructure Master Plans and would be located within existing improved streets or otherwise disturbed properties, thereby limiting or avoiding potential impacts. Construction and operation of all Project utilities and service systems distribution and conveyance lines would conform with all City and purveyor standards and requirements, further limiting potential environmental effects.

This EIR evaluates likely maximum impacts associated with all Project actions and operations, including but not limited to construction and operation of utilities and service systems distribution and conveyance lines. Construction and operation of the Project utilities and service systems distribution and conveyance lines described in this Section would not result in conditions or environmental impacts not already considered and addressed elsewhere in this EIR.

Each individual development project within the Specific Plan area would be required to pay applicable utilities/service system connection and service fees, which act to offset the Project incremental demands on utilities and service systems. Utilities and service systems improvements would be implemented so as to provide adequate service/capacity for each increment of development. The City would verify service/capacity adequacies prior to issuance of Certificate(s) of Occupancy for the affected increment of development.

b. *Water Supplies*

Threshold: Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Finding: Less than significant. (Draft EIR, pp. 4.12-23 - 4.12-24)

Explanation: Water service to the Project would be provided by OMUC. OMUC's 2020 Urban Water Management Plan (2020 UWMP) includes detailed information about City water demand, supply and reliability for the next 25 years. The 2020 UWMP substantiates that sufficient

water supplies are available to meet City water demands under normal, single dry, and multiple dry years for the period 2020 – 2045.

Consistent with SB 610 requirements, a WSA was prepared and approved for the site's current (2021 Specific Plan) entitlements. The City of Ontario, Ontario Municipal Utilities Company (OMUC) has determined that based on the types and scopes of land uses reflected in the 2022 Specific Plan Amendment, and water demands of each of the 2022 Specific Plan Amendment land uses, water demands of the 2022 Specific Plan Amendment uses would be reduced when compared to water demands evaluated in the currently approved WSA.

c. *Wastewater Capacity*

Threshold: Would the Project result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Finding: Less than significant. (Draft EIR, pp. 4.12-24 - 4.12-25)

Explanation: Wastewater treatment services for the Project would be provided by IEUA. Sufficient residual treatment capacity exists at IEUA Regional Water Reclamation Plant No. 5 (IEUA Plant No. 5) to serve the Project's projected wastewater treatment demand in addition to IEUA current wastewater treatment demands. The Project would not generate wastewater that would require treatment processes or protocols not currently provided by IEUA.

d. *Solid Waste*

Threshold: Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Finding: Less than significant. (Draft EIR, pp. 4.12-25 - 4.12-30)

Explanation: The City of Ontario Integrated Waste Department provides refuse collection services to the residents and businesses in the City of Ontario. The predominance of collected City refuse is transported for disposal at the Badlands Sanitary Landfill and/or El Sobrante Landfill. Receiving landfill statistical information is provided at Draft EIR Table 4.12-1. Solid waste would be generated by Project construction/demolition activities as well as Project operations. The Project is consistent with TOP 2050. TOP 2050 SEIR concluded that buildout of the City would not result in potentially significant solid waste management impacts.

The Project would be required to comply with the above solid waste management statutes and regulations. The City and CalRecycle would oversee and monitor compliance with applicable solid waste management statutes and regulations. Impacts to solid waste services and facilities from new development are addressed through the payment of development impact fees as outlined in the City of Ontario Development Impact Fee Calculation and Nexus Fee Schedules.

Solid waste management is guided by the California Integrated Waste Management Act of 1989 (AB 939), which emphasizes resource conservation through reduction, recycling, and reuse of solid waste. To reduce waste disposal, AB 939 requires every California city and county to divert 50 percent of its waste from landfills. Residential, commercial and governmental waste recycling programs in support of the SRRE have been implemented by the City. The City is currently meeting or exceeding all AB 939 solid waste diversion targets. The Project would be required to comply with AB 939 as implemented by the City.

18. WILDFIRE

a. *Response Plans, Pollutant Concentrations, Infrastructure Risks, and Runoff Risks*

Threshold: Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Finding: Less than significant. (Initial Study, p. 3-55)

Explanation: CAL FIRE maintains California Fire Hazard Severity Zone Maps, including maps for State responsibility areas, as well as local responsibility areas. As shown on the State responsibility map for southwestern San Bernardino County, the City of Ontario is located within a local responsibility area. According to the local responsibility map, Ontario is located in a non-very high fire hazard severity zone (Non-VHFHSZ).

As such, the Project is not located within or near a state responsibility area, or within an area classified as a very high fire hazard severity zone. All development would be required to comply with City building and Fire Codes. All building plans within the City are reviewed by the Ontario Fire Department to ensure their compliance with the City's fire code.

b. ***Response Plans, Pollutant Concentrations, Infrastructure Risks, and Runoff Risks***

Threshold: Would the project, due to slope, prevailing winds, and other factors, exacerbate wildlife risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Finding: Less than significant. (Initial Study, p. 3-55)

Explanation: CAL FIRE maintains California Fire Hazard Severity Zone Maps, including maps for State responsibility areas, as well as local responsibility areas. As shown on the State responsibility map for southwestern San Bernardino County, the City of Ontario is located within a local responsibility area. According to the local responsibility map, Ontario is located in a non-very high fire hazard severity zone (Non-VHFHSZ).

As such, the Project is not located within or near a state responsibility area, or within an area classified as a very high fire hazard severity zone. All development would be required to comply with City building and Fire Codes. All building plans within the City are reviewed by the Ontario Fire Department to ensure their compliance with the City's fire code.

c. ***Response Plans, Pollutant Concentrations, Infrastructure Risks, and Runoff Risks***

Threshold: Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Finding: Less than significant. (Initial Study, p. 3-55)

Explanation: CAL FIRE maintains California Fire Hazard Severity Zone Maps, including maps for State responsibility areas, as well as local responsibility areas. As shown on the State responsibility map for southwestern San Bernardino County, the City of Ontario is located within a local responsibility area. According to the local responsibility map, Ontario is located in a non-very high fire hazard severity zone (Non-VHFHSZ).

As such, the Project is not located within or near a state responsibility area, or within an area classified as a very high fire hazard severity zone. All development would be required to comply with City building and Fire Codes. All building plans within the City are reviewed by the Ontario Fire Department to ensure their compliance with the City's fire code.

d. ***Response Plans, Pollutant Concentrations, Infrastructure Risks, and Runoff Risks***

Threshold: Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Finding: Less than significant. (Initial Study, p. 3-55)

Explanation: CAL FIRE maintains California Fire Hazard Severity Zone Maps, including maps for State responsibility areas, as well as local responsibility areas. As shown on the State responsibility map for southwestern San Bernardino County, the City of Ontario is located within a local responsibility area. According to the local responsibility map, Ontario is located in a non-very high fire hazard severity zone (Non-VHFHSZ).

As such, the Project is not located within or near a state responsibility area, or within an area classified as a very high fire hazard severity zone. All development would be required to comply with City building and Fire Codes. All building plans within the City are reviewed by the Ontario Fire Department to ensure their compliance with the City's fire code.

C. FINDINGS REGARDING SIGNIFICANT ENVIRONMENTAL IMPACTS THAT CAN BE REDUCED TO A LESS THAN SIGNIFICANT LEVEL

The City Council hereby finds that mitigation measures have been identified in the EIR that will avoid or substantially lessen the following potentially significant environmental impacts to a less than significant level. The potentially significant impacts, and the Mitigation Measures that will reduce them to a less than significant level, are as follows:

1. BIOLOGICAL RESOURCES

a. ***Sensitive Species***

Threshold: Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Finding: Less than significant with mitigation. (Draft EIR, pp. 4.10-15 - 4.10-17)

Explanation: Although no nesting birds were observed on-site, raptors (birds of prey), migratory birds, and other avian species are protected by the federal Migratory Bird Treaty Act (MBTA). Mitigation Measure 4.10.1 has been incorporated to ensure avoidance of any potential impacts, in accordance with MBTA requirements.

Additionally, although on-site activities have reduced the suitability of habitat to support special-status species known to occur in the general vicinity, the following special status-species may be affected by the Project:

- California horned lark;
- Loggerhead shrike;
- San Diego black-tailed jackrabbit; and
- Burrowing owl.

Although the California horned lark, Loggerhead shrike, and San Diego black-tailed jackrabbit are listed as state Species of Special Concern (SSC) in California, they are not federally, or state listed as threatened or endangered. These species and their habitats are considered widespread and relatively common throughout coastal southern California. Due to the presence of suitable habitat throughout southern California and the widespread and common nature of these species, impacts of the Project on these species would not be considered significant. Potential nesting California horned larks and Loggerhead shrikes would be protected by Mitigation Measure 4.10.1.

Mitigation Measures:

4.10.1 Avoidance of Nesting Migratory Birds: If possible, all vegetation removal activities shall be scheduled from August 1 to February 1, which is outside the general avian nesting season. This would ensure that no active nests would be disturbed, and that removal could proceed rapidly. If vegetation is to be cleared during the nesting season, all suitable habitat will be thoroughly surveyed within 72 hours prior to clearing for the presence of nesting birds by a qualified biologist (Project Biologist). The Project Biologist shall be approved by the City and retained by the Applicant. The survey results shall be submitted by the Project Applicant to the City Planning Department. If any active nests are detected, the area shall be flagged and mapped on the construction plans along with a minimum 300-foot buffer, with the final buffer distance to be determined by the Project Biologist. The buffer area shall be avoided until, as determined by the Project Biologist, the nesting cycle is complete, or it is concluded that the nest has failed. In addition, the Project Biologist shall be present on the site to monitor the vegetation removal to ensure that any nests, which were not detected during the initial survey, are not disturbed.

4.10.2 Avoidance of Nesting Burrowing Owls: No more than 72 hours prior to any site disturbances, focused surveys for the burrowing owl shall

be conducted. If absence of this species is confirmed, Project work can proceed. If, however, burrowing owl is located on site, the appropriate resource agencies (CDFW and USFWS) shall be contacted. The Project Applicant shall consult with the wildlife agencies regarding the most appropriate methods and timing for removal of owls. As necessary, owls will be actively evicted following agency approved protocols (i.e., placing a one-way door at the burrow entrance to ensure that owls cannot access the burrow once they leave). Any such active eviction shall occur outside of the breeding/nesting season. That is, active eviction shall be accomplished between September 1 and February 15. If more than 30 days has elapsed between owl eviction and completion of clearing and grubbing activities, a subsequent survey for the burrowing owl shall be conducted to ensure that owls have not re-populated the site. Any reoccupation by owls will require subsequent protocol active eviction.

With the implementation of Mitigation Measures 4.10.1 and 4.10.2, the Project's potential impacts to species identified as a candidate, sensitive, or special-status species are considered less-than-significant.

2. CULTURAL/TRIBAL CULTURAL RESOURCES

a. *Archaeological and Tribal Resources*

Threshold: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC §5020.1(k), or

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC §5024.1. In applying the criteria set forth in subdivision (c) of PRC §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Finding: Less than significant with mitigation. (Draft EIR, pp. 4.11-14 - 4.11-19)

Explanation: Although no archeological resources were identified as part of the Project Cultural Resources Assessment, ground-disturbing activities

have the potential to reveal buried resources not observed during the field survey.

Potential impacts to Tribal Cultural Resources (TCRs) are presumed to be potentially significant. Based on previous similar environmental analyses conducted in the City, the following measures are recommended for incorporation. These measures establish monitoring protocols, and provisions for avoidance, protection, or curation of TCRs.

Implementation of Mitigation Measures 4.11.1 through 4.11.3 ensures proper protocol is undertaken and a treatment plan is developed, should archaeological resources be discovered during ground-disturbing activities and that TCRs would be avoided, or would be appropriately collected, documented, and curated.

Mitigation Measures:

4.11.1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities:

A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

4.11.2 Unanticipated Discovery of Human Remains and Associated Funerary Objects:

A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.

C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).

D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination

(along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).)

E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.

F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

4.11.3 Procedures for Burials and Funerary Remains:

A. As the Most Likely Descendant ("MLD"), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains.

B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.

C. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials.

D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed.

E. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects.

F. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

G. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

With the implementation of Mitigation Measures 4.11.1 and 4.11.3, the Project's potential impacts to archeological resources are considered less-than-significant.

3. GEOLOGY AND SOILS

a. *Liquefaction and Unstable Soils*

Threshold: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

iii) Seismic-related ground failure, including liquefaction?

Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Finding: Less than significant with mitigation. (Draft EIR, pp. 4.9-9 - 4.9-10)

Explanation: The Project Geotechnical Report substantiates that the potential at the site for landslides, lateral spreading, and/or liquefaction is low.

However, existing near-surface soils include fill materials, topsoil, manure, etc. These loose and compressible soils are not suitable for development. As such, the Report presents recommendations for site improvements to preclude impacts in this regard. These recommendations include site preparation, earthwork, remedial grading depths, and foundation recommendations. Compliance with the recommendations presented in the Project Geotechnical Report are required by Mitigation Measure 4.9.1.

Mitigation Measure:

4.9.1 All proposed development within the Specific Plan Area shall, at a minimum, comply with recommendations and standards identified in the Preliminary Geotechnical Report at Section 4.0, Recommendations. If further recommendations are developed as part of future site- and design-specific geotechnical investigations they shall prevail.

With the implementation of Mitigation Measure 4.9.1, the Project's potential impacts would be considered less-than-significant.

4. GREENHOUSE GAS EMISSIONS

a. *Liquefaction*

Threshold: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of greenhouse gases?

Finding: Less than significant with mitigation. (Draft EIR, pp. 4.4-46 - 4.4-49)

Explanation: The primary purpose of the City's Community Climate Action Plan (CAP) is to design a feasible strategy to reduce GHG emissions generated by community activities that is consistent with statewide Scoping Plan GHG reduction efforts. The City has identified a series of reduction measures to be implemented by the City. These reduction measures include programs that improve building energy efficiency, increase use of public and active transit and decrease VMT, increase use of alternative-fueled vehicles, increase use of renewable energy, reduce water consumption, and reduce waste.

The 2022 CCAP Update builds on and updates the 2014 CAP and furthers the City efforts to reduce GHG emissions and improve community resilience to hazardous conditions associated with climate change. The 2022 CCAP Update includes updated emissions inventories; updated emissions forecasts; identifies GHG emissions reduction targets to achieve the GHG reduction goals of

the City of Ontario consistent with Senate Bill 32, Executive Order S-03-05, and substantial progress toward the State's carbon neutrality goals of Executive Order B-55-18; and measures, that when quantified, achieve the GHG reduction targets for the City. Under the 2022 CCAP Update, mixed use developments that garner at least 100 Screening Table points would be consistent with the GHG emissions reduction targets in the City's 2022 CCAP Update.

Means to achieve the required 2022 CCAP Update 100 Screening Table points are dependent on Project final site plan and building plan designs, approved by the City. These designs have not yet been finalized at this concept stage of Project development. There is therefore the potential for the Project to *not* achieve the requisite 2022 CCAP Update 100 Screening Table points, and therefore conflict with City of Ontario 2022 CCAP Update plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases. This is a potentially significant impact. To assure compliance with the City of Ontario 2022 CCAP Update, and plans, policies, and regulations contained (or incorporated by extension) therein, the following mitigation measure is required. Implementation of the design features and operational measures outlined at Tables 4.4-6, 4.4-7 would ensure that the Project is consistent with and supports the 2022 CAP Update. Project development proposals shall implement Screening Table Measures identified at Tables 4.4-6, 4.4-7 or equivalent measures acceptable to the City. The City shall verify that Screening Table Measures achieving a minimum of 100 points are incorporated in development plans prior to the issuance of building permit(s) and/or site plans (as applicable). Multiple development proposals may, at the discretion of the City, be allowed to collectively demonstrate achievement of at least 100 points per the Screening Tables. The City shall verify implementation of the selected Screening Table Measures prior to the issuance of Certificate(s) of Occupancy. At the discretion of the City, measures that provide GHG reductions equivalent to GHG emissions reductions achieved via the Screening Table Measures may be implemented.

Mitigation Measure:

4.4.1 Development proposals within the Specific Plan Area shall implement Screening Table Measures to achieve a minimum of 100 points per the City's 2022 CCAP Update Screening Tables. The City shall verify minimum 100-point attainment prior to issuance of site plans and building permits.

With the implementation of Mitigation Measure 4.4.1, the Project's potential to conflict with an applicable plan, policy or regulation

adopted for the purpose of reducing the emission of greenhouse gases would be considered less-than-significant.

5. HAZARDS AND HAZARDOUS MATERIALS

a. *Hazardous Materials*

Threshold: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Finding: Less than significant with mitigation. (Draft EIR, pp. 4.7-21 - 4.7-26)

Explanation: ***Existing On-Site Hazards***

Hazardous or potentially hazardous conditions affecting the subject site have been previously and extensively analyzed as part of the 2007 Rich-Haven Specific Plan EIR (2007 EIR). In summary, the 2007 EIR concluded that development of the site could result in potentially significant hazards/hazards materials impacts due to structure demolition, potential presence of methane gas, presence of organic materials, and general hazards or hazardous conditions associated with current and historic agricultural and dairy farming uses. As noted previously in this Section, hazardous/hazardous conditions affecting the Project site are materially the same as those identified in the 2007 EIR. Mitigation Measures that would reduce the above-noted hazards/hazardous materials impacts to levels that would be less-than-significant were identified in the 2007 EIR. For ease of reference, the 2007 EIR Mitigation Measures (HM-1 through HM-6) are excerpted below.

Subsequent to Certification of the 2007 EIR, Methane Gas investigation and remediation of the former Scritsmier Hog Ranch (13571 Haven Avenue) per Mitigation Measure HM-3 has been successfully accomplished and accepted by the City. Mitigation Measure HM-3 has been implemented and is no longer required.

Additionally, per Mitigation Measure HM-6, the required Phase I ESA for the “Hillardis Property” (APNs 218-161-04, 218-161-05, 218-161-10, 218-161-11) has been completed. The Hillardis Property Phase I ESA recommends that a Phase II Environmental Assessment be conducted for that site to address the following items:

- Agricultural/orchard usage of the southern portion of the Property,

- Methane Gas Testing for the northern portion of the Property,
- Soils in the areas of unregulated dumping, and
- Soils in the area of the leaking air compressors in the garage [in the northern portion of the property].

The requirement to conduct a Phase II Assessment and comply with its provisions is added as mitigation to this EIR (see Mitigation Measure 4.7.4).

Based on the previous analyses conducted for the Project site, as updated by the site's current condition, the City's incumbent Methane Gas Investigation Protocol, and recommendations of the Hillardis Property Phase I ESA, the following Mitigation Measures 4.7.1 through 4.7.4 are incorporated in this EIR.

Construction and Operation

The Project would not result in or cause exposure(s) to hazards or potentially hazardous conditions. That is, uses proposed by the Project are not considered hazardous. Nor does the Project propose or require facilities or operations involving inherent substantial hazards.

During the normal course of construction and operation activities, there would be limited transport of potentially hazardous materials (e.g., gasoline, diesel fuel, paints, solvents, fertilizer, etc.) to and from the Project site. However, the Project would be required to comply with all City and County Hazardous Materials Management Plans and regulations addressing transport, use, storage and disposal of these materials. Further, any occupancies that would store or use hazardous materials would be required to comply with California Hazardous Materials Business Plan (HMBP) requirements. Therefore, this would be considered less than significant and not require mitigation.

Mitigation Measures:

HM-1 Prior to the issuance of permits by the City of Ontario for any structural demolition activities on the project site, the project developer will be required to submit documentation to the City of Ontario Building Department that asbestos and lead-based paint issues are not applicable to their property or that appropriate remediation actions will be undertaken to correct any lead-based paint or asbestos issues, in conformance with the regulations of the South Coast Air Quality Management District and the State of California, Division of Occupational Health and Safety.

HM-1 Subsequent to grading activities, testing for the presence of methane in the soil shall be performed. This testing shall conform to applicable City of Ontario standards. If methane is detected, mitigation would include the installation of under-slab methane vents, methane barrier, and sealing utilities in locations where they enter a structure and penetrate the methane barrier.

HM-3 Post-grading methane gas investigation should take place near the former Scritsmier Hog Ranch (13571 Haven Avenue) where subsurface methane levels exceed 5,000 ppm. A passive vent system and gas membrane beneath the floor slab should be installed, along with utility trench dams and conduit seals.

HM-4 Careful clearing, grubbing, segregation, and stockpiling or proper disposal of the near surface organic-rich soils at the site prior to the initiation of mass grading activities should occur.

HM-5 Identification and segregation/stockpiling or proper disposal of deeper soils which contain elevated levels of organic material should be conducted.

HM-6 Prior to approval of a discretionary permit or approval for development of proposed residential uses on the Hillardis Property, such as a parcel map or tentative tract map, a Phase I Environmental Site Assessment (ESA) shall be conducted and the results of that ESA implemented. The Phase I ESA shall be provided to the City of Ontario and shall be included in any CEQA analysis prepared in connection with the consideration of a discretionary approval for development of the eastern half of the project site.

4.7.1 Prior to the issuance of permits for any structural demolition activities on the Project site, the Project developer(s) shall submit documentation to the City of Ontario Building Department that asbestos and lead-based paint issues are not applicable to their property or that appropriate remediation actions have been undertaken to correct any lead-based paint or asbestos issues. Any required remediation shall conform with the regulations of the South Coast Air Quality Management District and the State of California, Division of Occupational Health and Safety.

4.7.2 Testing for methane gas shall be conducted subsequent to mass grading of any site within the Specific Plan Area. Methane gas testing shall conform to requirements of “City of Ontario Building Department Methane Gas Assessment for Projects in the New Model Colony.” Project designs shall conform to the Assessment’s Methane Design Guidelines or other requirements stipulated by the City of Ontario Building Department.

4.7.3 Site grubbing, clearing, and stockpiling and disposal of soils shall conform to City grading permit requirements. Such requirements may include, but would not be limited to, identification and segregation/stockpiling or proper disposal of soils that contain elevated levels of organic material.

4.7.4 Prior to approval of tract maps or approval for development of any uses on the Hillardis Property (APNs 218-161-04, 218-161-05, 218-161-10, 218-161-11), the Applicant or successor interest shall complete a Phase II Environmental Site Assessment (ESA) for that property. Prior to issuance of the first development permit for the site, the Applicant or successor interest shall comply with requirements of the Phase II ESA, and shall provide documentation to the City of Ontario to that effect.

With implementation of the above measures, the potential for the Project to create or result in a significant hazard due to existing on-site conditions would be reduced to levels that would be less-than-significant.

6. HYDROLOGY AND WATER QUALITY

a. ***Flooding and Runoff***

Threshold: Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

ii) Substantially increase the rate or amount of surface run-off in a manner which would result in flooding on- or off-site?

iii) Create or contribute run-off water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted run-off?

Finding: Less than significant with mitigation incorporated. (Draft EIR, pp. 4.8-26 - 4.8-31)

Explanation: The Project Hydrology Report concludes that under post-development conditions, peak stormwater flow rates from Specific Plan Planning Areas 1A, 1B, 1C, 2C, 3C, 5A, 6A, 6B could exceed capacities of the receiving MPD Haven and Mill Creek storm drains. The Project could therefore create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. This is a potentially significant impact. Stormwater flow discharges from the affected Planning Areas need to be reduced to ensure adequate storm water conveyance and flood protection along the mainlines upstream of the County Line Channel.

In combination, implementation of Mitigation Measures 4.8.1 through 4.8.3, and mandated compliance with City Conditions of Approval and regulatory requirements act to preclude potentially adverse drainage and stormwater runoff impacts.

Mitigation Measures:

4.8.1 General: In conjunction with all development proposals within the Specific Plan Area, peak flow mitigation measures for each development shall be implemented such that discharges to receiving MPD storm drain mainlines do not exceed the maximum allowable flow rates identified at Project Hydrology Report, Appendix A, Exhibit 3. Ultimate design, location, and configuration of peak flow mitigation measures are site-and use-specific. Design, location, and configuration of peak flow mitigation measures shall be approved by the City as part of site plan review and approval processes.

4.8.2 Haven Storm Drain Mitigation: Measures (e.g., detention basins or similar) to control peak flows to the Haven Storm Drain shall be implemented to address increased stormwater discharges resulting from development of Planning Areas 1A, 1B, 1C, 2C, and 3C. Please refer to Figure 4.8-5. Locations for these measures shall be reviewed and approved by the City prior to final site plan approval(s) for development within Planning Areas 1A, 1B, 1C, 2C, and 3C.

4.8.3 Mill Creek Storm Drain Mitigation: Peak flow mitigation measures shall be implemented for stormwater discharges resulting from development of Planning Areas 2C, 3C, 5A, 6A, and 6B. Please refer to Figure 4.8-5. Locations for these measures shall be reviewed and approved by the City prior to final site plan approval(s) for development within Planning Areas 2C, 3C, 5A, 6A, and 6B.

With implementation of the above measures, the potential for the Project to: substantially alter the existing drainage pattern of the site or area in a manner that would substantially increase the rate or amount of runoff that would result in flooding on- or offsite; or substantially alter the existing drainage pattern of the site or area in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff is determined to be less-than-significant.

7. NOISE

a. *Noise Standards*

Threshold: Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the

Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Finding: Less than significant with mitigation incorporated. (Draft EIR, pp. 4.6-18 - 4.6-30)

Explanation: ***Construction***

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that, when combined, can reach high levels. As indicated at Draft EIR Table 4.6-4, peak received construction-source noise levels would range from 52.5 to 63.8 dBA Leq. These levels would not exceed the applicable threshold of 80 dBA Leq. Construction-source noise levels that comply with applicable standards do not comprise a substantial permanent increase in ambient noise levels, or a substantial temporary or periodic increase in ambient noise levels.

Vehicular

As indicated in Draft EIR Section 4.6, Noise, Project traffic would not result in increased noise levels that would exceed the thresholds. As such, off-site land uses adjacent to the study area roadway segments would experience less-than-significant noise level increases due to the Project-related traffic. However, on-site residential uses proposed along Haven Avenue, Mill Creek Avenue, Hamner Avenue, Riverside Drive, Chino Avenue and Ontario Ranch Road may be subject to noise levels above 65 dBA. Therefore, on-site residential land uses located along these roadways would require additional noise attenuation to ensure that noise levels comply with the City's exterior and interior noise standards of 65 dBA CNEL and 45 dBA CNEL.

Operational

As shown at Draft EIR Table 4.6-10, Project operational/area-source noise levels would not exceed the City of Ontario 65 dBA Leq daytime or 45 dBA Leq nighttime exterior noise standards. As such, the potential for Project operational noise to result in exposure of persons to, or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies is considered less-than-significant.

As indicated at Draft EIR Tables 4.6-11 and 4.6-12, Project contributions to the ambient noise environment would not exceed the threshold conditions. On this basis, the potential for Project

operational noise to result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project is considered less-than-significant.

Conclusion

Implementation of Mitigation Measures 4.6.1 and 4.6.2 act to further reduce already less-than-significant construction noise levels.

Mitigation Measure 4.6.3 requires the preparation of project-specific acoustical analysis for residential uses upon submittal of final site design plans to reduce potentially significant vehicular-source impacts.

Implementation of Mitigation Measures 4.6.3 through 4.6.7 would act to further reduce already less-than-significant operational noise levels.

Mitigation Measures:

4.6.1 Prior to Grading Permit issuance, the Applicant shall demonstrate that the Project complies with the following:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers, to the satisfaction of the Noise Control Officer;
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers to the satisfaction of the City Planner; and
- During construction and to the satisfaction of the City Planner, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors during construction activities.

4.6.2 Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of 10 p.m. and 7 a.m. is prohibited. The City Planner may approve additional hours when it can be found that such additional hours will not generate additional disturbance, or that mitigation measures will ensure compatibility with nearby residential areas.

4.6.3 Prior to the construction of residential development along Riverside Drive, Haven Avenue, Mill Creek Avenue, Edison Avenue, and Milliken Avenue, an acoustical noise analysis shall be prepared prior to the submittal of final tentative tract maps to ensure that exterior and interior noise levels are met. The acoustical analysis shall demonstrate that the buildings have been designed to limit interior noise levels to 45 dBA CNEL and exterior noise (backyards and habitable balconies and patios) to less than 65 dBA CNEL. Individual

developments shall, to the extent feasible, implement site-planning techniques.

4.6.4 Prior to final development plan approval, on a project-by-project basis and to the discretion of the Ontario Planning Department, subsequent noise studies shall be prepared, which demonstrates the site placement of stationary noise sources would not exceed criteria established in the City of Ontario Municipal Code. The analysis shall verify that loading dock facilities, rooftop equipment, trash compactors and other stationary noise sources are adequately shielded and/or located at an adequate distance from residential areas in order to comply with the City's noise standards.

4.6.5 Prior to Building Permit issuance and to the satisfaction of the Ontario Planning Department, the Project Applicants, on a project-by-project basis, shall demonstrate compliance with the following with respect to mechanical equipment:

- Mechanical equipment shall include specifications of quiet equipment;
- Mechanical equipment shall be properly selected and installed, and shall include sound attenuation packages;
- To the extent possible, mechanical equipment shall be oriented away from the nearest noise sensitive receptors; and
- The need for sound attenuation measures, and design of, such measures shall be determined as part of the final engineering design on a project-by-project basis.

4.6.6 Where a commercial zone abuts a residential zone or residential use, the following or similar language shall be included in lease/sale agreements for all non-residential buildings: All deliveries of goods and supplies; trash pick-up, including the use of parking lot trash sweepers; and the operation of machinery or mechanical equipment which emits noise levels in excess of 65 dBA, as measured from the closest property line to the equipment, shall only be allowed between the hours of 7 a.m. and 10 p.m., unless otherwise specified in an approved conditional use permit or other discretionary approval.

4.6.7 Prior to final development plan approval, on a project-by-project basis, a subsequent noise analysis shall be prepared, to the satisfaction of the Ontario Planning Department, which demonstrates that all feasible sound attenuation has been incorporated into the parking areas (i.e., landscaping and brushed driving surfaces), such that noise from parking areas has been minimized to the greatest extent practicable.

D. FINDINGS REGARDING SIGNIFICANT AND UNAVOIDABLE IMPACTS THAT CANNOT BE MITIGATED TO A LESS THAN SIGNIFICANT LEVEL

The City Council hereby finds that, despite the incorporation of Mitigation Measures identified in the EIR and in these Findings, the following environmental impacts cannot be fully mitigated to a less than significant level and a Statement of Overriding Considerations is therefore included herein:

1. AIR QUALITY

a. *Air Quality Plans and Air Quality Standards*

Threshold: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Finding: Significant and unavoidable. (Draft EIR, pp. 4.3-24 - 4.3-27)

Explanation: Even after implementation of mitigation measures, Project construction-source emissions would exceed regional significance thresholds for NO_X and CO emissions. As such, Project construction-source emissions would be significant and unavoidable. Project operational-source emissions would exceed regional significance thresholds for VOC, NOx, CO, PM_{10} and $PM_{2.5}$ emissions. Mitigation Measures 4.3.1 through 4.3.18 would incrementally reduce Project operational-source emissions. However, such reductions cannot be meaningfully quantified in CalEEMod. As such, no emissions reduction credit that may be assigned to these measures has been taken in the analysis.

Mitigation Measures: No feasible mitigation.

b. *Cumulatively Considerable Pollutant Emissions*

Threshold: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable state or federal ambient air quality standard?

Finding: Significant and unavoidable. (Draft EIR, pp. 4.3-27 - 4.3-40)

Explanation: As indicated in Draft EIR Table 4.3-5, even after implementation of Mitigation Measures 4.3.1 through 4.3.6, Project construction emissions would exceed applicable SCAQMD thresholds for NOx and CO. Additionally, the proposed Project will exceed the applicable SCAQMD thresholds for VOC, NOx, and CO for Phase 1, and VOC, NOx, CO, PM_{10}, and $PM_{2.5}$ at Project Buildout.

Mitigation Measures 4.3.7 through 4.3.18 shall be implemented as means of reducing operational-source emissions to the extent feasible. In CalEEMod, there is no way to meaningfully quantify potential emissions reductions that would result from application of the proposed mitigation. Therefore, no emissions reduction credit for mitigation has been taken.

It is noted here that Project operational-source NOX, CO, PM_{10}, and $PM_{2.5}$ emissions exceedances are largely the product of traffic (mobile sources) accessing the Project site. Neither the Project Applicant nor the City have regulatory authority to control tailpipe emissions from these mobile sources. No feasible mitigation measures beyond the measures identified herein exist that would reduce operational-source NOx and CO emissions to levels that would be less-than-significant.

With regard to VOC emissions, it is recognized that approximately 50 percent of operational-source VOC emissions would be generated by on-site sources, including natural gas usage, consumer products, landscape equipment, gasoline dispensing, and onsite equipment usage associated with the industrial portion of the Project. Approximately 60% of onsite VOC emissions are generated through the use of consumer products by future residents and building users. As such, the Project Applicant cannot meaningfully control the use of consumer products through mitigation.

Mitigation Measures:

4.3.1 Fugitive dust control measures surpassing SCAQMD Rule 403 minimum requirements shall be implemented. Such measures may include: use of nontoxic soil stabilizers, applying water every four hours to active soil disturbing activities and tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.

4.3.2 Construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or higher exhaust emission limits shall be utilized.

4.3.3 Construction equipment shall be properly serviced and maintained to the manufacturer's standards.

4.3.4 Non-essential idling of construction equipment shall be limited to no more than five consecutive minutes.

4.3.5 Super-Compliant VOC paints for coating of architectural surfaces shall be used whenever possible.

4.3.6 Construction contractors shall use off-road diesel construction equipment that complies with EPA/CARB Tier 4 Interim or better emissions standards during all construction phases.

4.3.7 Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable CARB anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five (5) minutes once the vehicle is stopped, the transmission is

set to “neutral” or “park,” and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, the City shall conduct a site inspection to ensure that the signs are in place.

4.3.8 Industrial building occupants/tenants shall be provided documentation on funding opportunities, such as the Carl Moyer Program, that provide incentives for using cleaner-than-required engines and equipment.

4.3.9 Non-residential building plans and site designs shall include natural light, passive heating, and passive cooling measures. Typical measures would include efficient window designs, use of overhangs, and skylights.

4.3.10 Building and site plans for non-residential uses shall provide electrical service accessible to landscaped areas.

4.3.11 The following or similar language shall be included in lease/sale agreements for all non-residential buildings: “Building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements.”

4.3.12 The following or similar language shall be included in lease/sale agreements for all industrial buildings: “Tenants shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment, through requirements in the lease agreements. Electric-powered service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically or natural gas fueled provided such yard trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles.”

4.3.13 The following or similar language shall be included in lease/sale agreements for all industrial buildings: “Tenants that do not already operate 2010 and newer trucks shall apply in good faith for funding to replace/retrofit their trucks. Funding mechanisms include Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible.” Note: This measure shall not apply to trucks that are not owned or otherwise controlled by the facility owner or facility tenant.

4.3.14 The following or similar language shall be included in lease/sale agreements for all industrial buildings: Tenants who employ 250 or

more employees on a full- or part-time basis shall comply with SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Tenants with less than 250 employees or tenants with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to Rule 2202 with annual reporting of actions and results to the City. The tenant-implemented program would include, but not be limited to the following:

- Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees.
- Create and maintain a "commuter club" to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work.
- Inform employees of public transit and commuting services available to them (e.g., social media, signage).
- Provide on-site transit pass sales and discounted transit passes.
- Guarantee a ride home.
- Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted.

4.3.15 Loading docks shall be designed to be compatible with SmartWay trucks.

4.3.16 Non-residential use site plans shall include signs or other directional indicators delineating required site access and on-site circulation plan.

4.3.17 The following or similar language shall be included in lease/sale agreements for all non-residential buildings: Tenants shall install (a) sign(s) on their respective property(ies) with telephone, email, and regular mail contact information for a designated tenant representative who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the City for perceived Code violations. The representative shall keep records of any complaints received and actions taken to communicate with the complainant and resolve the complaint. The representative shall endeavor to resolve complaints within 24 hours.

4.3.18 Industrial building designs and site plans shall incorporate electrical supply lines and panels sized to support anticipated future requirements for heavy truck charging facilities. Such designs and

plans shall be based on reasonable predictions derived from the most recent available truck manufacturer's data.

Despite implementation of the above measures, the project's impacts would remain significant and unavoidable.

2. GREENHOUSE GAS EMISSIONS

a. *Emissions Generation*

Threshold: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Finding: Significant and unavoidable. (Draft EIR, pp. 4.4-40 - 4.4-45)

Explanation: Project construction and operations would result in direct and indirect emissions of CO_2, CH_4, and N_2O. Other GHGs that may be generated are not of sufficient quantity to affect the analysis presented here. Direct Project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation. Construction and operation of the Project would generate a total of approximately 129,314.95 MTCO2e/year, which would exceed the SCAQMD significance threshold of 3,000 MTCO2e/year.

Mitigation Measures:

No feasible mitigation. The majority of the GHG emissions (approximately 72 percent unmitigated) are associated with non-construction related mobile sources. Neither the Applicant nor the Lead Agency can affect or mandate substantial reductions in vehicular-source GHG emissions, much less reductions that would achieve no net increase condition or achieve the SCAQMD 3,000 MTCO2e/year threshold. In effect, all Project traffic would need to be eliminated or be "zero GHG emissions sources" in order to achieve the SCAQMD threshold.

Development proposals within the Specific Plan Area would be required to attain a minimum of 100 Screening Table Points, thereby complying comply with GHG emissions control and reduction strategies implemented through the City 2022 CCAP Update. Additionally, Mitigation Measures 4.3.2 through 4.3.18 identified above and at Draft EIR Section 4.3, *Air Quality* would incrementally reduce Project-source air pollutant emissions and in so-doing would also act to generally reduce GHG emissions. However, there are no feasible means to, or alternatives to eliminate all Project traffic, or to ensure that Project traffic would result in zero GHG emissions sources. In terms of its practical application, this would constitute a "no build" condition. Based on the preceding, even with the application of mitigation, the Project would generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment.

Despite implementation of the above measures, the project's impacts would remain significant and unavoidable.

E. CUMULATIVE IMPACTS

Regarding the Project's potential to result in cumulative impacts, the City hereby finds as follows:

1. AIR QUALITY

The cumulative impact area for air quality considerations is generally defined by the encompassing Air Basin and boundaries of the jurisdictional air quality management agency. In this case, the South Coast Air Basin (Basin) and the South Coast Air Quality Management District (SCAQMD), respectively. Project emissions within the context of SCAQMD's regional emissions thresholds provide an indicator of potential cumulative impacts within the jurisdictional Air Basin. Due to the defining geographic and meteorological characteristics of the Air Basin, criteria pollutant emissions that could cumulatively impact air quality would be, for practical purposes, restricted to the Air Basin. Accordingly, the geographic area encompassed by the Air Basin is the appropriate limit for this cumulative air quality analysis.

Construction-Source Air Quality Impacts: Even with application of mitigation, Project construction-source NOx and CO emissions would exceed applicable SCAQMD regional thresholds and would therefore be significant and unavoidable. Per SCAQMD criteria, significant Project-level impacts are also cumulatively considerable. The Basin encompassing the Project site is designated as non-attainment for ozone, PM_{10}, and $PM_{2.5}$ (VOC and NOx are both ozone precursors; NOx is a precursor to PM_{10}/$PM_{2.5}$). Project construction-source NOx emissions threshold exceedances would result in a cumulatively considerable net increase in the criteria pollutant ozone for which the Project region is non-attainment. This is a cumulatively significant and unavoidable air quality impact. Other related projects within the cumulative impact area would be required to minimize construction-source air pollutant emissions consistent with SCAQMD programs and strategies, thereby minimizing potential cumulative impacts. Mitigation would be implemented, if applicable.

Operational-Source Air Quality Impacts: Even with application of mitigation, Project operational-source VOC, NOx, CO, PM_{10}, and $PM_{2.5}$ emissions would exceed applicable SCAQMD regional thresholds. The Basin encompassing the Project site is designated as non-attainment for ozone, PM_{10}, and $PM_{2.5}$ (VOC and NOx are both ozone precursors; NOx is a precursor to PM_{10}/$PM_{2.5}$). Project operational-source VOC, NOx, PM_{10}, and $PM_{2.5}$ emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and PM_{10}/$PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant and unavoidable air quality impacts.

Other related projects within the cumulative impact area would be required to minimize operational-source air pollutant emissions consistent with SCAQMD programs and strategies, thereby minimizing potential cumulative impacts. Mitigation would be implemented, if applicable.

AQMP Consistency Impacts: Project construction-source and operational-source regional threshold emissions exceedances noted above are inconsistent with AQMP Consistency Criterion No. 1. On this basis, the Project would conflict with the AQMP. This is a cumulatively significant air quality impact.

CO Hotspot Impacts: The potential for the Project to cause or result in potential CO hotspot impacts would be less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable. The potential for Project CO emissions to result in or cause cumulatively significant CO hotspot impacts is therefore considered less-than-significant. Other related projects within the cumulative impact area would be required to minimize potential CO hotspot impacts consistent with SCAQMD programs and strategies, thereby minimizing potential cumulative impacts. Mitigation would be implemented, if applicable.

Health Risk Impacts: Potential carcinogenic and non-carcinogenic health risk impacts resulting from Project construction and operations would be less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable. The potential for Project air pollutant emissions to result in or cause cumulatively significant health risk impacts is therefore considered less-than-significant. Other related projects within the cumulative impact area would be required to minimize potential health risk impacts consistent with SCAQMD programs and strategies, thereby minimizing potential cumulative impacts. Mitigation would be implemented, if applicable. (Draft EIR, pp. 5-16 – 5-18)

2. BIOLOGICAL RESOURCES

The cumulative impact areas for biological resources are generally defined by available habitat, species' range(s), physical constraints, and other limiting factors as discussed within the Project Biological Report.

Special-Status Plant Species: There are no historic site records for any special status plant species onsite. Based on a review of CNDDB, the CNPS Inventory of Rare and Endangered Vascular Plants of California, and field surveys, a few special-status species were identified for additional analysis, although none are expected to occur onsite. No special-status plants were observed on the Project site during the 2022 site surveys.

Special-Status Wildlife Species: The Project could result in potentially significant impacts to the burrowing owl. The EIR incorporates mitigation measures that would reduce potential impacts to the burrowing owl to levels that would be less-than-significant.

Nesting Birds: Project implementation could affect nesting birds that may be present at the time of Project construction activities. This is a potentially significant impact. The EIR incorporates mitigation measures that would reduce potential impacts to nesting birds to levels that would be less-than-significant.

Jurisdictional Areas, Riparian Habitat, Wetlands, or Other Sensitive Natural Community:

The site does not contain any lakes, rivers, creeks, streambeds, wetlands, vernal pools, or temporary rain pools. No other wetlands, riparian habitat or other sensitive communities exist within the Project site. Nor does the Project propose uses or activities that would substantially or adversely affect any other off-site wetlands or riparian areas. The potential for the Project to have a substantial adverse effect on any jurisdictional areas, riparian habitat, federally protected wetlands, or other sensitive natural community is considered less-than-significant.

Wildlife Movement Corridors: The Project site is bounded by traveled roadways and developed or developing properties. The Project site does not represent a connecting link between significant habitat for wildlife areas. Based on its location within an urban context, the potential for the site to function as a significant wildlife movement corridor is considered low. Project impacts to wildlife movement corridors would be less-than-significant.

Local Policies or Ordinances Protecting Biological Resources; Habitat Conservation Plans: The Project site is not subject to any local policies or ordinances protecting biological resources. The Project would not conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No significant impacts in this regard would occur.

Based on the preceding discussion, the Project's potential contribution to cumulative impacts regarding biological resources is not considerable, and the cumulative effects of the Project are determined to be less-than-significant. (Draft EIR, pp. 5-26 – 5-28)

3. CULTURAL RESOURCES

The cumulative impact area for prehistoric, archaeological, and historic resources includes the City of Ontario and surrounding areas of San Bernardino County. As discussed at EIR Section 4.11, there are no known or probable significant historical resources within the Project site, or that would otherwise be adversely affected by the Project. On this basis, the potential for the Project to cause a substantial adverse change in the significance of historic resources as defined at CCR §15064.5 is considered less-than-significant.

The Project's other potential impacts to cultural resources/tribal cultural resources would be less-than-significant as mitigated.

Other related projects within the cumulative impact area would be required to minimize cultural resources/tribal cultural resources impacts consistent with City and State regulatory requirements, thereby minimizing potential cumulative cultural resources/tribal cultural resources impacts. Mitigation would be implemented, if applicable.

Based on the preceding, the Project's potential contributions to cumulative impacts regarding cultural resources/tribal cultural resources would not be considerable, and these cumulative effects would be less-than-significant. (Draft EIR, p. 5-28)

4. ENERGY

The geographic scope of cumulative energy impacts is limited to the energy provider service area(s). The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. These plans and policies address development-level and cumulative impacts to energy resources. Project consistency with state and local plans for renewable energy and energy efficiency demonstrates that the Project energy impacts would not be cumulatively considerable, and the Project cumulative energy impacts would be less-than-significant.

As with the Project, other developments within the energy provider service areas would be required to demonstrate compliance with state and local plans for renewable energy and energy efficiency. Therefore, the Project's potential contribution to cumulative impacts regarding energy is not considerable, and the cumulative effects of the Project are determined to be less-than-significant. (Draft EIR, p. 5-20)

5. GEOLOGY AND SOILS

The Project site and all Southern California lie within a seismically active area, generally subject to earthquake hazards, and in this sense, Southern California is considered the cumulative impact area for geology and soils considerations. As discussed at EIR Section 4.9, Geology and Soils, Project impacts related to geology and soils would be less-than-significant as mitigated. The Project would not exacerbate any existing adverse geologic/soils conditions.

Other related projects within the cumulative impact area would be required to minimize geology/soils impacts consistent with City and CBC regulatory requirements, thereby minimizing potential cumulative geology/soils impacts. Mitigation would be implemented, if applicable. Based on the preceding, the Project's potential contribution to cumulative impacts regarding geology and soils is not considerable, and the cumulative effects of the Project are determined to be less-than-significant. (Draft EIR, p. 5-26)

6. GREENHOUSE GAS EMISSIONS

CEQA emphasizes that the effects of greenhouse gas emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis (CEQA Guidelines Section 15130(f)). The Project Greenhouse Gas (GHG) Analysis is by nature a cumulative analysis. Because GHG emissions and climate change are global issues, any approved project regardless of its location has the potential to contribute to a cumulative global accumulation of GHG emissions. The geographic context of the cumulative contributions to GHGs and climate change is worldwide. Practically however, lead agencies and responsible agencies are only able to regulate GHG emissions within their respective jurisdictions. Accordingly, the cumulative impact area for GHG/Global Climate Change considerations is the City of Ontario and the encompassing SCAQMD jurisdictional area.

Even after application of mitigation, Project GHG emissions would exceed the SCAQMD GHG emissions screening level threshold of 3,000 MTCO2e/year. On this basis, the Project could directly or indirectly generate GHG emissions that may have a significant impact on the environment. On this basis, the Project's potential to contribute considerably (either individually or cumulatively) to global climate change impacts through GHG emissions is therefore considered significant and unavoidable.

As also discussed in the EIR, the Project is consistent with TOP 2050, and GHG emissions modeling reflected in TOP 2050 – 2022 Community Climate Action Plan Update (2022 CCAP Update). The 2022 CCAP Update provides guidance on how to analyze GHG emissions and determine significance during the CEQA review of proposed development projects within the City. The 2022 CCAP Update addresses GHG emissions reductions and is consistent with the requirements of AB 32, SB 32, and international efforts to reduce GHG emissions. The 2022 CCAP Update, requirements of AB 32, SB

32, and international efforts to reduce GHG emissions encompass and comprise the range and scope of "applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases." As substantiated in the EIR, with application of mitigation, the Project is determined to be consistent with the 2022 CCAP Update and by extension is also consistent with and supports other noted plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases. The potential for the Project to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases is therefore considered less-than-significant.

Other related projects within the cumulative impact area would be required to minimize potential GHG emissions impacts consistent applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions, thereby minimizing potential cumulative GHG emissions impacts. Mitigation would be implemented, if applicable. (Draft EIR, pp. 5-18 – 5-20)

7. HAZARDS AND HAZARDOUS MATERIALS

The cumulative impact area when considering potential hazards and hazardous materials issues includes the area to be developed within the Project site, as well as off-site locations that might be affected by or contribute to hazards or hazardous conditions resulting from the Project and its operations. The cumulative hazards and hazardous materials impact analysis evaluates the effects of Project construction and operations and reflects long-term buildout conditions within the cumulative impact area.

The Project does not propose uses or activities that would require substantial handling or use of hazardous materials, hazardous substances, or hazardous waste that could result in potential adverse effects. The EIR mitigation measures require remediation of any pre-existing hazardous conditions to levels that would be less-than-significant. The mitigation measures also ensure that subsequent development and operation of Project land uses would not create or result in potentially significant hazardous conditions. As mitigated, Project impacts related to hazards and hazardous materials would be less-than-significant.

Other related projects within the cumulative impact area would be required to comply with hazards/hazardous material regulatory requirements. Mitigation would be incorporated, if necessary. (Draft EIR, pp. 5-23 – 5-24)

8. HYDROLOGY AND WATER QUALITY

The cumulative impact area for hydrology/water quality impact considerations is generally defined as the area encompassed by the jurisdictional Regional Water Quality Control Board (RWQCB), in this case the Santa Ana Regional Water Quality Control Board (SARWQCB). Local oversight is also provided by the City of Ontario and San Bernardino County.

Development of the Project site would incrementally increase impervious surfaces within the cumulative impact area, with related potential increases in the rate and quantity of local storm water discharges. The Project's potential hydrology/water quality impacts

would be less-than-significant as mitigated. In this regard, the Project would implement storm water management components, and structural and non-structural Best Management Practices, which collectively act to ensure that post-development storm water discharge rates are adequately conveyed within available system capacities.

The Project drainage concept would maintain the site's primary drainage patterns and would implement drainage systems and detention areas to accept developed storm water discharges. The Project would implement all necessary drainage and storm water management systems and would be required to comply with all storm water system design, construction, and operational requirements mandated under the City Municipal Code. The Project drainage and storm water management systems would also be required to comply within regulations established by other jurisdictional agencies including SARWQCB, San Bernardino County, and California Department of Water Resources. Additionally, consistent with established building code regulations, approved site-specific drainage studies reflecting precise pad locations, proposed drainage structures, detention facilities, etc., would be required prior to the issuance of building permits within the Project site.

Storm water management systems implemented by the Project, mandated compliance with City, SARWQCB, County, and State storm water management requirements and policies, collectively ensure that adequate storm water conveyance and treatment facilities would be provided to support development and operations of the Project.

Other related projects within the cumulative impact area would be required to comply with stormwater management and water quality regulatory requirements. Mitigation would be incorporated, if necessary. Thus, contribution to cumulative hydrology/water quality impacts is not considerable, and the cumulative effects of the Project are determined to be less-than-significant. (Draft EIR, pp. 5-24 – 5-25)

9. LAND USE AND PLANNING

The cumulative impact area when considering potential cumulative land use and planning issues includes areas that are currently under City jurisdiction, and subject to provisions of TOP 2050 Policy Plan (General Plan), City of Ontario Zoning Ordinance, and/or other City Special Planning Documents (e.g., Specific Plans). The analysis presented here also considers the Project in the context of the land use/planning guidance included in the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal 2020).

The 2022 Specific Plan Amendment Project land uses are consistent with the site's TOP 2050 Policy Plan Land Use Plan. The Project does not propose or require amendment of TOP 2050 Policy Plan Land Use Plan. Further, as substantiated at EIR Section 4.1, Land Use and Planning, land uses and development concepts proposed by the Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The existing Zoning designation of the Project site is "Specific Plan" as established by the current (2021) Rich-Haven Specific Plan. The Specific Plan zoning designation is maintained under the Project, though land use designations and configuration of Specific

Plan land uses would be amended per the proposed 2022 Rich-Haven Specific Plan Amendment. The 2022 Rich-Haven Specific Plan Amendment (2022 Specific Plan Amendment) is presented in its entirety at EIR Appendix B. If adopted by the City, the 2022 Specific Plan Amendment would comprise the zoning for the subject site and would regulate all development within the site. Where the 2022 Specific Plan Amendment is silent, regulations and requirements of the City Development Code would prevail.

The proposed 2022 Specific Plan Amendment would establish land use plans, development standards, and design guidelines directing the ultimate buildout of the Project site. Land uses and development concepts reflected within the proposed 2022 Specific Plan Amendment can be feasibly implemented consistent with applicable provisions of TOP 2050 Policy Plan Land Use Element and City Development Code. Prior to issuance of building permits, the City would review the final development plans for individual developments within the Project site to ensure consistency with the 2022 Specific Plan Amendment land use plans, development standards, design guidelines; and where applicable, City Development Code requirements.

Other related projects within the cumulative impact area would be required to comply with requirements of necessary land use and planning discretionary actions and permits. Mitigation would be incorporated, if necessary.

Based on the preceding discussion, the Project's potential contribution to cumulative land use and planning impacts is not considerable, and the cumulative effects of the Project are less-than-significant. (Draft EIR, pp. 5-12 – 5-14)

10. NOISE

The cumulative impact area for noise/vibration considerations is generally defined as surrounding properties that could receive Project-generated noise/vibration (either construction or operational) and would also include roadway corridors affected by Project-related traffic and associated vehicular noise/vibration.

Construction-Source Noise/Vibration: Project construction-source noise and vibration levels received at area land uses would be less-than-significant and on this basis are not cumulatively considerable.

Other related projects within the cumulative impact area would be required to mitigate construction-source noise and vibration impacts that could affect sensitive receptors, thereby minimizing potential cumulative construction-source noise impacts.

Project construction-source vibration levels received at area land uses would be less-than-significant. There are no known or probable related projects that would interact with the Project's less-than-significant construction-source vibration impacts and thereby result in cumulatively significant impacts.

Operational Noise/Vibration - Area Sources: The Project's area-source operational noise levels would be less-than-significant. EIR mitigation measures would reduce potential vehicular-source noise impacts at the Project residential uses to levels that would be less-than-significant.

Further, Project operational-source noise in combination with ambient noise would not result in cumulatively significant noise impacts. In this latter regard, the peak mitigated Project operational-source noise levels when added to ambient conditions would not exceed the maximum acceptable day/night ambient condition.

Other related projects within the cumulative impact area would be required to mitigate operational area-source noise impacts that could affect sensitive receptors, thereby minimizing potential cumulative operational-source noise impacts.

Operational Noise - Mobile Sources: Cumulative effects of mobile-source noise are demonstrated by comparing noise levels under Existing Conditions (2022) without the Project, to noise levels with the completed Project under Horizon Year Conditions (2050). Cumulative mobile-source noise increases within the Study Area are summarized in Draft EIR Table 5.1-2.

As indicated at Table 5.1-2, along all Study Area roadway segments projected to experience cumulatively significant vehicular-source noise impacts, the Project contributions would be less than the 1.5 dBA threshold at sensitive land uses, and less than the 3.0 dBA CNEL threshold at non-sensitive land uses. On this basis, Project contributions to cumulative vehicular-source noise would not be cumulatively considerable and Project impacts would not be cumulatively significant.

As indicated at Table 5.1-1, ambient noise levels along all Study Area roadway segments already exceed 65 dBA CNEL. Along these roadway segments, cumulative noise increases of 1.5 dBA CNEL or more, if received at sensitive land uses, would exceed applicable thresholds and would be considered cumulatively significant. Along roadway segments where ambient conditions exceed 70 dBA CNEL, cumulative noise increases of 3.0 dBA CNEL or more, if received at non-sensitive land uses, would exceed applicable thresholds and would be considered cumulatively significant. (Draft EIR, p. 5-20 - 5-23)

11. TRANSPORTATION

The Project Vehicle Miles Traveled (VMT) Assessment cumulative impact area coincides with relevant Transportation Analysis Model Traffic Analysis Zones (TAZs). evaluation of the Project VMT impacts is guided by Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) (Governor's Office of Planning and Research, OPR) December 2018. The Technical Advisory notes that ". . . metrics such as VMT per capita or VMT per employee, i.e., metrics framed in terms of efficiency (as recommended below for use on residential and office projects), cannot be summed because they employ a denominator. A project that falls below an efficiency-based threshold that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact" (Technical Advisory, p. 6). As substantiated herein, the Project-level VMT impacts are less-than-significant per the City VMT Guidelines efficiency-based threshold. Per the Technical Advisory guidance, the Project cumulative VMT impacts would also be less-than-significant.

To ensure appropriate design and implementation of all Project circulation improvements, the final design of the Project site plan, to include locations and design of proposed driveways, shall be reviewed and approved by the City Traffic Engineer. In addition, representatives of the City's Police and Fire Departments will review the Project's plans

regarding emergency access. Efficient and safe operations of the Project would be provided by on-site and localized circulation and intersection improvements to be developed as the Project individual site and building designs are finalized. The City would ensure that all on-site and localized circulation and intersection improvements would be designed and constructed consistent with applicable provisions of the 2022 Specific Plan Amendment and pursuant to City site plan and Building Permit review processes and requirements.

Traffic signing and striping would be implemented in conjunction with detailed Project construction plans. Sight distance at each project access point would be reviewed with respect to standard Caltrans and City of Ontario sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

It is also recognized that temporary and short-term traffic detours and traffic disruption could result during Project construction activities. These interim and transient impacts are considered potentially significant for the duration of Project construction activities. Management and control of construction traffic would be addressed through the preparation and submittal of a construction area traffic management plan, to be reviewed and approved by City prior to or concurrent with Project building plan review(s). The Project Construction Area Traffic Management Plan (Plan), also summarized within the EIR Project Description, would identify traffic controls for any street closures, detours, or other potential disruptions to traffic circulation during Project construction. The Plan would also be required to identify construction vehicle access routes, and hours of construction traffic.

The Project would generate passenger car trips and truck trips typical of the proposed uses. As part of established site and Building Permit review processes, the City would require implementation of on-site truck and passenger car travel paths, signing, and traffic controls to ensure that conflicts between trucks and passenger cars are minimized or avoided. Trucks accessing the Project site would use designated truck routes, thereby avoiding or minimizing off-site passenger car/truck traffic conflicts. Land uses proximate to the Project site are planned for, or are developed with, urban uses similar to those proposed by the Project. These uses would generate urban traffic types similar to traffic generated by the Project and would not generate traffic that would be incompatible with the Project traffic types.

Other related projects within the cumulative impact area would similarly be required to demonstrate compliance with applicable circulation system programs, plans, ordinances, and policies, thereby minimizing potential cumulative impacts.

Based on the preceding, the Project's contribution to cumulative impacts related to increased circulation system hazards, incompatible uses, or inadequate emergency access are not considerable, and the cumulative effects of the Project are less-than-significant. (Draft EIR, pp. 5-14 – 5-16)

12. UTILITIES AND SERVICE SYSTEMS

The cumulative impact area when considering potential cumulative utilities and service systems impacts comprises affected purveyor service areas including service sources/supplies, and service conveyance/distribution/treatment facilities.

The Project would implement all necessary on-site infrastructure improvements and would also construct area-serving off-site master plan infrastructure improvements. Utilities and service systems distribution and conveyance lines implemented by the Project would be constructed, operated, and maintained pursuant to purveyor requirements and consistent with applicable infrastructure master plans. Infrastructure improvements would be located within existing improved streets or otherwise disturbed properties, thereby limiting or avoiding potential environmental impacts. The Draft EIR evaluates likely maximum impacts associated with all Project actions and operations, including but not limited to construction and operation of utilities and service systems distribution and conveyance lines. Construction and operation of the Project utilities and service systems distribution and conveyance lines would not result in conditions or environmental impacts not already considered and addressed elsewhere in this EIR

The EIR discussion of potential utilities and services impacts also substantiates the following:

- Water supplies would be available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.
- There exists sufficient wastewater treatment capacity to serve the Project's projected demand in addition to the provider's existing commitments;
- Landfills serving the Project have sufficient permitted capacity to accommodate the Project's solid waste disposal needs; and
- The Project would comply with federal, state, and local statutes and regulations related to solid waste.

Other related projects within the cumulative impact area would be required to minimize utilities and services impacts consistent with City, State, and service purveyor requirements, thereby minimizing potential cumulative utilities and services impacts. Mitigation would be implemented, if applicable. Based on the preceding, Project contributions to cumulative impacts regarding utilities and service systems would not be considerable, and the cumulative effects of the Project would be less-than-significant. (Draft EIR, pp. 5-28 - 5-30).

13. OTHER IMPACTS DETERMINED TO BE NOT CUMULATIVELY SIGNFICANT

For certain other areas of consideration, Project impacts are substantiated to be less-than-significant (please refer to the Initial Study, EIR Appendix A). Project contributions to these impacts would not be cumulatively considerable and the Project impacts would not be cumulatively significant. These topics include:

AESTHETICS. Potential to:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to trees, rocks, outcroppings, and historic buildings within a state scenic highway.
- In a non-urbanized area, substantially degrade the existing visual character or

quality of public views of the site and its surroundings.

- Create a new source of substantial light or glare, which would adversely affect the day or nighttime views in the area.

AGRICULTURE AND FOREST RESOURCES. Potential to:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

AIR QUALITY. Potential to:

- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

CULTURAL RESOURCES. Potential to:

- Disturb any human remains, including those interred outside of formal cemeteries.

GEOLOGY AND SOILS. Potential to:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a known earthquake fault.
- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

HAZARDS AND HAZARDOUS MATERIALS. Potential to:

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for the people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

HYDROLOGY AND WATER QUALITY. Potential to:

- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.

LAND USE AND PLANNING. Potential to:

- Physically divide an established community.

MINERAL RESOURCES. Potential to:

- Result in the loss of availability of a known mineral resource that would be of value to the region and to the residents of the state.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

POPULATION AND HOUSING. Potential to:

- Induce substantial population growth in the area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension of roads or other infrastructure).
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

PUBLIC SERVICES. Potential to:

Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities the construction of which could cause significant environmental impacts for any of the public services:

- Fire Protection
- Police Protection
- Schools
- Parks
- Other public facilities

RECREATION. Potential to:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

WILDFIRE. Potential to:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.
- Exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

F. ALTERNATIVES TO THE PROPOSED PROJECT

The City Council hereby declares that it has considered and rejected as infeasible the alternatives identified in the EIR and described below. Section 15126.6 of the State CEQA Guidelines requires an EIR to describe a range of reasonable alternatives to the Project, or to the location of the Project, which could feasibly achieve most of its basic objectives, but would avoid or substantially lessen any of the significant effects identified in the EIR analysis. An EIR is not required to consider every conceivable alternative to a proposed project. Rather, an EIR must consider a reasonable range of alternatives that are potentially feasible; an EIR is not required to consider alternatives that are infeasible. In addition, an EIR should evaluate the comparative merits of the alternatives. Therefore, this section sets forth the potential alternatives to the Project analyzed in the EIR and evaluates them in light of the objectives of the Project, as required by CEQA.

Key provisions of the State CEQA Guidelines relating to the alternatives' analysis (§15126.6 et seq.) are summarized below:

- "The discussion of alternatives shall focus on alternatives to the Project or its location which are capable of avoiding or substantially lessening any significant effects of the Project, even if these alternatives would impede to some degree the attainment of the Project objectives or would be more costly." (§15126.6[b]).
- "The specific alternative of 'no project' shall also be evaluated along with its impact." (§15126.6[e][1])
- "The no project analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." (§15126.6[e][2])
- "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project." (§15126.6[f])
- "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries…, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)" (§15126.6[f][1])
- "Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." (§15126.6[f][2][A])
- "An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative." (§15126.6[f][3])

1. RATIONALE FOR SELECTING POTENTIALLY FEASIBLE ALTERNATIVES

The alternatives must include a no-project alternative and a range of reasonable alternatives to the Project if those reasonable alternatives would attain most of the Project objectives while substantially lessening the potentially significant Project impacts. The range of alternatives discussed in an EIR is governed by a "rule of reason," which the State *CEQA Guidelines* Section 15126.6(f) defines as:

> . . . set[ting] forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or

> substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making.

Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in the State *CEQA Guidelines* Section 15126.6(f)([1]) are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the Project proponent could reasonably acquire, control, or otherwise have access to an alternative site. An EIR need not consider an alternative whose effects could not be reasonably identified, and whose implementation is remote or speculative.

The Project alternatives are evaluated to determine the extent to which they attain the basic Project objectives, while significantly lessening any significant effects of the Project.

2. ALTERNATIVES CONSIDERED AND REJECTED DURING THE SCOPING/PROJECT PLANNING PROCESS

Section 15126.6(c) of the State CEQA Guidelines specifies that an EIR should (1) identify alternatives that were considered by the lead agency but were eliminated from detailed consideration because they were determined to be infeasible during the scoping process; and (2) briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives; (ii) infeasibility; and/or (iii) inability to avoid significant environmental impacts.

The following is a discussion of the alternatives considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in the EIR.

a. *Alternative Sites*

As stated at CEQA Guidelines §15126.6 (f)(1)(2)(A), the "key question and first step in [the] analysis [of alternative locations] is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." CEQA Guidelines §15126.6 (f) (1) also provides that when considering the feasibility of potential alternative sites, the factors that may be taken into account include: "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). None of these factors establishes a fixed limit on the scope of reasonable alternatives."

As discussed below, relocation of the Project would not avoid or substantially lessen the Project's significant environmental impacts. Further, there are no feasible alternative sites under control or likely control of the Applicant that would allow for relocation of the Project in a manner that could substantially reduce the Project's significant environmental impacts.

Significant Air Quality Impacts Not Substantially Reduced at Alternative Site

- Relocation to an Alternative Site would not likely achieve any measurable reduction in the Project's regional construction-source and operational-source air quality impacts and contributions to nonattainment conditions. AQMP inconsistencies tied to the Project significant air quality impacts similarly would not be reduced by relocation of the Project. Relocation of the Project anywhere within the South Coast Air Basin would not alter or diminish the significance of these impacts.

Significant GHG Emissions Impacts Not Substantially Reduced at Alternative Site

- GHG emissions impacts are, by definition, cumulative and global in their effects. Relocation of the Project would not alter or diminish the significance of its GHG emissions impacts.

Based on the preceding considerations, analysis of an Alternative Site as means of reducing the Project's significant environmental impacts was not further considered (Draft EIR, pp. 5-41 – 5-42)

b. *"No Threshold Exceedance" Alternative for Significant Air Quality Impacts*

Operational-Source Emissions

In order to reduce Project operational-source air quality emissions to levels that would preclude exceedance of all SCAQMD thresholds, the Project scope would need to be reduced by approximately 92.4 percent (this may achieve the most restrictive threshold [VOC] and all subordinate thresholds). At such a reduction in scope, the Project Objectives would not be realized in any meaningful sense. As such, potential alternatives with the specific goal of avoiding all significant operational-source air quality impacts resulting from the Project were rejected from consideration and are not further evaluated in this discussion.

Project operational-source emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants for which the Project region is non-attainment. For the same reasons noted above, there are no feasible means or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, this impact and all operational-source air quality impacts would be diminished under the EIR Reduced Intensity Alternative.

Construction-Source Emissions

In order to reduce Project construction-source air quality emissions to levels that would preclude exceedance of all SCAQMD thresholds would require use of construction equipment or construction technologies that are not currently available or that would be available in the near-term. In this regard, use of alternative fuel construction equipment,

including electric-powered equipment, is not feasible at this time as such equipment is not commercially available, and is not expected to be in the near-term. Alternatively, the duration of Project construction activities would need to be protracted by an estimated additional 67 percent of the current Project construction schedule. This may achieve the most restrictive construction-source emissions threshold [NOx], but in so doing would only prolong the duration of air quality emissions, the duration of construction-source equipment noise, and the duration of general disturbances associated with construction activities. The Lead Agency has determined that the benefits of the Project's current construction schedule outweigh the potential benefit in a temporary decrease in air quality emissions that may be achieved through a protracted Project construction schedule. Moreover, accepted air quality modeling parameters do not provide for such an assumed extended construction period. For these reasons, there are no feasible means or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. (Draft EIR, pp. 5-42 – 5-43)

c. *"No Threshold Exceedance" Alternative for GHG Emissions Impacts*

As discussed at EIR Section 4.4, Greenhouse Gas Emissions, quantified Project-source GHG emissions would exceed 3,000 MTCO2e/year; and the Project cannot feasibly achieve the SCAQMD screening-level threshold of 3,000 MTCO2e/year. The SCAQMD 3,000 MTCO2e/year screening-level threshold is the most conservative metric available and is employed in this analysis in of GHG emissions significance. On this basis, Project GHG emissions have the potential to either directly or indirectly result in a significant impact on the environment.

The majority (approximately 72 percent) of the Project GHG emissions would be generated by Project vehicular sources. Responsibility and authority for regulation of vehicular-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can affect or mandate substantial reductions in vehicular-source GHG emissions, much less reductions that would achieve no net increase condition or achieve the SCAQMD screening-level 3,000 MTCO2e/year threshold. In effect, all Project traffic would need to be eliminated or be "zero GHG emissions sources" in order to achieve the SCAQMD threshold. There are no feasible means to or alternatives to eliminate all Project traffic, or to ensure that Project traffic would comprise zero GHG emissions sources. In terms of its practical application, this would constitute a "no build" condition.

The Project would however implement all feasible measures to reduce GHG emissions as outlined under the City of Ontario 2022 Community Climate Action Plan Update (2022 CCAP Update). Under the 2022 CCAP Update, mixed use developments that garner at least 100 Screening Table points would be consistent with the GHG emissions reduction targets in the City's 2022 CCAP Update. As substantiated at EIR Section 4.4, Greenhouse Gas Emissions, the Project would attain more than 100 Screening Table points. The Project is therefore determined to be consistent with the 2022 CCAP Update. (Draft EIR, p. 5-44)

3. ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

Based on the Project objectives listed above, the following three alternatives have been determined to represent a reasonable range of alternatives which have the potential to

feasibly attain most of the basic objectives of the Project, but which may avoid or substantially lessen any of the significant effects of the Project. These alternatives are analyzed in detail in the following sections.

- **Alternative 1: No Project Alternative: No Build**
- **Alternative 2: No Project Alternative: Development per Existing Specific Plan Land Uses**
- **Alternative 3: Reduced Intensity Alternative**

a. ***Alternative 1: No Project Alternative: No Build***

Description: The No Project Alternative: No Build scenario assumes the site remains in its current undeveloped condition. If this scenario were maintained, its comparative environmental impacts would replicate the existing conditions discussions for each of the environmental topics evaluated in this EIR; and comparative impacts of the Project would be as presented under each of the EIR environmental topics. A No Build condition would achieve none of the basic Project Objectives. (Draft EIR, p. 5-39)

Impacts: **Air Quality**

Under this Alternative existing air quality conditions would be maintained (see: EIR Section 4.3, Air Quality, 4.3.3, Setting). This Alternative would realize no new development and would generate no additional air pollutant emissions. This Alternative would result in reduced air quality impacts when compared to the Project. No air quality impact mitigation would be implemented under this Alternative.

Biological Resources

Under this Alternative, existing biological resources conditions would be maintained. This Alternative would realize no new development and would have no incremental effects on biological resources. This Alternative would result in reduced biological resources impacts when compared to the Project. Biological resources impacts under this Alternative would be less-than-significant.

Cultural Resources

Under this Alternative, existing cultural resources/tribal cultural resources conditions would be maintained. This Alternative would realize no new development and would result in no new or additional cultural resources/tribal cultural resources impacts. This Alternative would result in reduced cultural resources/tribal cultural resources impacts when compared to the Project. No cultural resources/tribal cultural resources impact mitigation would be implemented under this Alternative.

Energy

Under this Alternative, existing energy conditions would be maintained. This Alternative would realize no new development and would not result in

increased energy demands. This Alternative would result in reduced energy impacts when compared to the Project. As with the Project, energy impacts would be less-than-significant.

Geology and Soils

Under this Alternative, existing geology and soils conditions would be maintained. This Alternative would realize no new development and would result in no new or additional geology and soils impacts. This Alternative would result in reduced geology and soils impacts when compared to the Project. As with the Project, geology and soils impacts would be less-than-significant.

Greenhouse Gas Emissions

Under this Alternative, existing GHG emissions conditions would be maintained. This Alternative would realize no new development and would generate no additional GHG emissions. This Alternative would result in reduced GHG emissions impacts when compared to the Project. No GHG impact mitigation would be implemented under this Alternative.

Hazards and Hazardous Materials

Under this Alternative, existing hazards/hazardous materials conditions would be maintained. This Alternative would realize no new development and would generate no additional hazards/hazardous materials impacts. Existing adverse hazards/hazardous conditions affecting the subject site and surrounding areas would persist. This Alternative may therefore result in increased hazards/hazardous conditions impacts when compared to the Project. That is, under the Project, adverse hazards/hazardous conditions affecting the site would be comprehensively remediated as part of the Project development - such remediation would not occur under this Alternative. No hazards/hazardous materials impact mitigation would be implemented under this Alternative.

Hydrology and Water Quality

Under this Alternative, existing hydrology/water quality conditions would be maintained. This Alternative would realize no new development and would generate no additional hydrology and water quality impacts. Existing adverse hydrology/water quality conditions affecting the subject site (e.g., lack of storm sewers, lack of storm water quality treatment systems, degraded water quality due to dairy farming operations) would persist. This Alternative may therefore result in increased hydrology and water quality impacts when compared to the Project. That is, under the Project, adverse hydrology and water quality conditions affecting the site and surrounding areas would be comprehensively addressed through implementation of the Project stormwater management systems. These stormwater management system improvements would not be implemented under this Alternative. No

hydrology/water quality impact mitigation would be implemented under this Alternative.

Land Use and Planning

Under this Alternative, existing land use/planning conditions would be maintained. This Alternative would realize no new development and would require no land use or planning discretionary actions or permits. In this respect, land uses and planning impacts would be decreased when compared to the Project. However, this Alternative would not support the City's long-range vision for the subject site, under which the site would be developed with Specific Plan Residential, Office/Commercial, Light Industrial, and Community Facilities Land Uses. Comparative Land Use and Planning impacts under this Alternative would be reduced when compared to the Project. Under both the Project and this Alternative, Land Use and Planning impacts would be less-than-significant.

Noise

Under this Alternative, existing noise/vibration conditions would be maintained. This Alternative would realize no new development and would generate no additional noise or vibration. This Alternative would result in reduced noise and vibration levels when compared to the Project. No noise or vibration impact mitigation would be required or would be implemented under this Alternative.

Transportation

VMT Impacts

This Alternative would maintain existing VMT conditions. This Alternative would result in decreased total VMT when compared to the Project. Because the intensity and scope of uses is diminished under this Alternative, the Service Population would also be decreased. On this basis, this Alternative may not substantially alter the VMT/SP ratio otherwise resulting from the Project. Under the Project and this Alternative, VMT impacts would be less-than-significant.

Other Transportation Topics

No new traffic would be generated, and no new or additional impacts related to other transportation topics would result under this Alternative. As with the Project, airport land use compatibility, traffic hazards, and emergency access impacts would be less-than-significant.

Utilities and Service Systems

Under this Alternative, existing utilities and service systems conditions would be maintained. This Alternative would realize no new development and would result in no new or additional utilities and service systems impacts. This Alternative would result in reduced utilities and service

systems impacts when compared to the Project. No utilities and service systems impact mitigation would be implemented under this Alternative.

Ability to Reduce Impacts

This Alternative would potentially result in increased impacts to hazards and hazardous materials when compared to the impacts under the Project. This alternative will have similar or reduced impacts compared to the proposed Project related to air quality, biological resources, cultural/tribal resources, energy, geology and soils, GHG emissions, hydrology and water quality, land use and planning, noise, transportation, and utilities and service systems.

Ability to Achieve Project Objectives

This Alternative would realize none of the stated Project Objectives.

Finding: The City Council rejects Alternative 1: No Project/No Build Alternative, on the following grounds, each of which individually provides sufficient justification for rejection of this alternative: (1) the alternative fails to meet any of the Project objectives and would not provide any of the Project benefits that would occur with the implementation of the proposed Project; and (2) the alternative would result in increased impacts relating to hazards and hazardous materials.

b. *Alternative 2: No Project Alternative: Development per Existing Specific Plan Land Uses*

Description: The No Project Alternative: Development per Existing Specific Plan Land Uses (Existing Specific Plan Land Uses) scenario represents foreseeable development of the subject site pursuant to the site's current Policy Plan Land Use designations. Draft EIR Table 5.2-1 compares the composition and scope of uses under the Project with development that could result under the Existing Specific Plan Land Uses scenario. (Draft EIR, pp. 5-39 – 5-40)

Impacts: **Air Quality**

Under this Alternative, similar construction activities and use of construction equipment would be similar to that occurring under the Project. The maximum daily area of disturbance would be the same under both scenarios. Construction-source emissions impacts under the Project and this Alternative would be comparable and would be individually and cumulatively significant and unavoidable.

When compared to the Project, this Alternative would likely result in comparable total development within the Specific Plan Area, though the types and configuration of uses would be amended under the Project. Operational-source emissions under this Alternative would be comparable to the Project operational-source emissions and would be individually and cumulatively significant and unavoidable.

Construction-source and operational-source emissions threshold exceedances under this Alternative would impede air quality attainment strategies and goals outlined in the AQMP. On this basis, this Alternative would be inconsistent with the AQMP. This is a significant and unavoidable impact. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable.

All other air quality impacts under this Alternative would be less-than-significant, or less-than-significant as mitigated.

Biological Resources

Development realized under this Alternative would result in disturbance of the subject site similar to that occurring under the Project. Potential impacts to biological resources would also likely be similar to those of the Project. As with the Project, potential biological resources impacts would be less-than-significant as mitigated.

Cultural Resources

Site disturbance and potential impacts to cultural resources would be similar to those of the Project. This Alternative would incorporate mitigation that would reduce potential impacts to cultural resources/tribal cultural resources to levels that would be less-than-significant. Cultural resources/tribal cultural resources impacts of this Alternative and the Project would be comparable and would be less-than-significant as mitigated.

Energy

As with the Project, this Alternative would be provided energy from existing sources. It is assumed that this Alternative would comply with applicable energy conservation and energy efficiency regulations and policies; and that this Alternative would not implement facilities or operations that would result in wasteful, inefficient or unnecessary consumption. When compared to the Project, energy consumption would likely be comparable under this Alternative. As with the Project, energy impacts would be less-than-significant.

Geology and Soils

It is assumed that this Alternative would not propose or require facilities or operations that would result in adverse geology/soils conditions or exacerbate any existing adverse geology/soils conditions. As with the Project, this Alternative would be subject to requirements of the CBC, City of Ontario Building Code, site- and development-specific geotechnical studies, and any necessary mitigation measures. Geology and soils impacts under this Alternative would be similar to the Project and would be less-than-significant.

Greenhouse Gas Emissions

When compared to the Project, this Alternative would likely result in comparable total development within the Specific Plan Area, though the types and configuration of uses would be amended under the Project. GHG emissions under this Alternative would be comparable to the Project GHG emissions and would exceed the SCAQMD screening level threshold of 3,000 MTCO2e/year. On this basis, GHG emissions under this Alternative would result in a significant and unavoidable environmental impact.

This Alternative would implement GHG emissions mitigation per the 2022 CCAP Update. Compliance with the 2022 CCAP Update ensures that this Alternative would not conflict with any applicable plan or strategy for controlling or reducing GHG emissions. Impacts of this Alternative in this regard would be less-than-significant.

Hazards and Hazardous Materials

As with the Project, existing hazards or potentially hazardous conditions affecting the subject site would be remediated and related impacts reduced to levels that would be less-than-significant. This Alternative use would not result in hazards and hazardous materials impacts different than those resulting from the Project. This Alternative would not implement uses or programs that would exacerbate any existing adverse hazards/hazardous materials conditions. As with the Project, potential hazards/hazardous materials impacts would be less-than-significant.

Hydrology and Water Quality

This Alternative would implement all necessary storm drain infrastructure improvements. The area subject to development with impervious surfaces under this Alternative and the Project would be comparable. This Alternative and Project would therefore result in comparable rates and quantities of post-development storm water runoff. This Alternative would be required to implement on-site storm water management systems, reducing impacts to storm drain capacities to levels that would be less-than-significant. This Alternative would be required to comply with applicable SWPPP and WQMP provisions, thereby reducing potential water quality impacts to levels that would be less-than-significant. Stormwater management systems implemented under this Alternative would act to improve existing hydrology and water quality conditions. Potential hydrology and water quality impacts of this Alternative and the Project would be comparable and would be less-than-significant as mitigated.

Land Use and Planning

This scenario assumes development of the subject site consistent with the site's Existing (2021) Rich-Haven Specific Plan Land Use designations. This Alternative would not require amendment of the existing Rich-Haven Specific Plan, as proposed by the Project. It is noted here that the proposed 2022 Rich-Haven Specific Plan Amendment is consistent with TOP 2050

Policy Plan Land Use Plan, whereas the 2021 Rich-Haven Specific Plan is not. That is, for the 2021 Specific Plan to be maintained, it would require amendment of TOP 2050 Policy Plan Land Use Plan; in this respect, implications of Policy Plan (General Plan) amendments are generally broader in scope and more fundamental when compared to an amendment of an existing Specific Plan. No Project Alternative would likely result in Land Use and Planning impacts equal to or greater than impacts of the Project.

Noise

Under this Alternative, areas affected by construction activities and the types and operations of construction equipment employed would be substantially the same as would occur under the Project. Maximum received construction-source noise/vibration levels would be unchanged and would be less-than-significant.

This Alternative would not generate or result in operational area-source noise/vibration substantially different than would result from uses proposed by the Project. Under this Alternative and the Project, operational area-source noise/vibration impacts would be comparable and would be less-than-significant.

As with the Project, certain of the residential uses under this Alternative could be exposed to potentially significant vehicular-source noise levels. Mitigation would be included to reduce this impact to levels that would be less-than-significant.

As with the Project, this Alternative would not expose people residing or working in the area to excessive aircraft or airport-source noise levels.

Transportation

VMT Impacts

When compared to the Project, this Alternative would likely result in comparable total development within the Specific Plan Area, though the types and configuration of uses would be amended under the Project. The Specific Plan Service Population would also likely be comparable. On this basis, this Alternative would not substantially alter the VMT/SP ratio otherwise resulting from the Project. Under the Project and this Alternative, VMT impacts would be less-than-significant.

Other Transportation Topics

As with the Project, required Study Area traffic improvements would be constructed or proportionally funded under this Alternative. As with the Project, airport land use compatibility impacts would be less-than-significant. It is assumed that like the Project, development of the subject site under the Reduced Intensity Alternative would incorporate those site adjacent and on-site circulation system improvements necessary to avoid

or mitigate development-specific traffic impacts. As a matter of law, this Alternative would be required to comply with City ordinances addressing the Study Area circulation system. As with the Project, transportation systems improvements would be designed and implemented consistent with City and Manual on Uniform Traffic Control Devices (MUTCD) requirements. Under this Alternative, as with the Project, "other" transportation impacts would be less-than-significant.

Utilities and Service Systems

This Alternative would result in development intensities comparable to the Project. It is assumed that this Alternative would implement all necessary on-site and off-site utilities and service infrastructure system improvements. Utilities and service system impacts of this Alternative and the Project would be comparable and would be less-than-significant.

Ability to Reduce Impacts

This Alternative would potentially result in increased impacts to air quality, GHG emissions, and land use and planning when compared to the impacts under the Project. This alternative will have similar impacts compared to the proposed Project related to biological resources, cultural/tribal resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, transportation, and utilities and service systems.

Ability to Achieve Project Objectives

This Alternative would likely realize the stated Project Objectives regarding design and implementation of Specific Plan Land Uses. To these ends, this Alternative would provide a mix of residential, commercial-office, light industrial and community facilities uses similar to the Project. However, uses would be configured and oriented in a manner differing from the Project.

This Alternative would however fail to achieve or would impede attainment the following Project Objectives:

- Implement TOP 2050 Policy Plan Land Use Plan; Support TOP 2050 vision for urbanization of the Ontario Ranch area of the City. This Alternative proposes land uses that are inconsistent with TOP 2050 Policy Plan Land Use Plan and would require amendment of TOP Policy Plan Land Use Plan. This alternative would therefore conflict with, rather than support, implementation of TOP 2050 Policy Plan.

Finding: The City Council rejects Alternative 2: No Project Alternative: Development per Existing Specific Plan Land Uses on the following grounds, each of which individually provides sufficient justification for rejection of this alternative: (1) This Alternative would provide no reduction in significant environmental impacts when compared to the Project; (2) this Alternative may increase the severity of, or create additional impacts not otherwise occurring under the Project; and (3) due to its comparative reduction in

scope, the Alternative would likely impede or substantially restrict attainment of the Project Objectives.

c. *Alternative 3: Reduced Intensity Alternative*

Description: The Reduced Intensity Alternative focuses on a development scenario that would reduce the significant operational-source air quality impacts otherwise occurring under the Project.

Of the total operational-source emissions generated by the Project, approximately 77 percent (by weight) would be generated by Project mobile sources (traffic). An effective way to reduce the Project operational-source emissions would therefore be an Alternative that would reduce the total amount of traffic generated by the Project. Based on the reduction in total traffic, the Reduced Intensity Alternative would also reduce the scope and/or intensity of significant air quality impacts, and GHG emissions impacts that would otherwise result from implementation of the Project.

For purposes of the EIR Alternatives Analysis, the Reduced Intensity Alternative would implement the Project uses at an approximately 25 percent reduction in overall development intensity. The mix of land uses proposed by the Project would be proportionally maintained under the Reduced Intensity Alternative. (Draft EIR, pp. 5-40 – 5-41)

Impacts: **Air Quality**

Construction activities and use of construction equipment would be similar to the Project. The maximum daily area of disturbance would be the same under both scenarios. Construction-source emissions impacts under the Project and this Alternative would be comparable and would be individually and cumulatively significant and unavoidable.

The 25 percent reduction in development intensity under the Reduced Intensity Alternative would translate roughly to a 25 percent reduction in operational-source air pollutant emissions when compared to the Project.

When compared to the Project, operational-source emissions would be incrementally reduced for all pollutants under the Reduced Intensity Alternative. As with the Project, operational-source VOC, NOx, CO, and PM_{10} emissions under the Reduced Intensity Alternative would exceed applicable SCAQMD regional thresholds. As with the Project, the Reduced Intensity Alternative's VOC, NOx, and PM_{10} and regional threshold exceedances would contribute to existing Basin ozone and $PM_{10}/PM_{2.5}$ nonattainment conditions.

Construction-source and operational-source emissions threshold exceedances under this Alternative would impede air quality attainment strategies and goals outlined in the AQMP. On this basis, this Alternative would be inconsistent with the AQMP. This is a significant and unavoidable impact. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable.

All other air quality impacts under this Alternative would be diminished when compared to the project and would be less-than-significant, or less-than-significant as mitigated.

Biological Resources

The reduction in overall site development realized under the Reduced Intensity Alternative could result in a portion of the site remaining, for the time being, in an undeveloped condition. Realistically, however, potential impacts to biological resources would likely be similar to those of the Project, given the extent of construction activities and subsequent occupancies that would result from the site's development. Biological resources impacts under this Alternative would be similar to the Project and would be less-than-significant as mitigated.

Cultural Resources

Site disturbance and potential impacts to cultural resources would be similar to those of the Project. This Alternative would incorporate mitigation that would reduce potential impacts to cultural resources/tribal cultural resources to levels that would be less-than-significant. Cultural resources/tribal cultural resources impacts of this Alternative and the Project would be comparable and would be less-than-significant as mitigated.

Energy

The reduction in development scope under the Reduced Intensity Project Alternative would tend to reduce total energy demands and total energy consumption. As with the Project, the Reduced Intensity Alternative uses would be required to implement energy-efficient facilities, and to otherwise demonstrate effective energy use. Under the Reduced Intensity Alternative, proposed development would also be required to substantiate compliance with state or local plan for renewable energy or energy efficiency. Impacts would be similar to the Project.

Geology and Soils

The Reduced Intensity Alternative would implement the Project uses at a reduced scale within the same site developed under the Project. It is assumed that the Reduced Intensity Alternative would not propose or require facilities or operations that would result in adverse geology/soils conditions, or exacerbate any existing adverse geology/soils conditions. As with the Project, the Reduced Intensity Alternative would be subject to requirements of the CBC, City of Ontario Building Code, site- and development-specific geotechnical studies, and any necessary mitigation measures. Geology and soils impacts under this Alternative would be similar to the Project and would be less-than-significant.

Greenhouse Gas Emissions

When compared to the Project, the Reduced Intensity Alternative would result in diminished GHG emissions due to the reduced scope of facilities, reductions in building/facility energy demands, and reduced trip generation. Assuming a reduction in GHG emissions comparable to the 25 percent reduction in scope under this Alternative, GHG emissions would total approximately 0.75 x of the Project GHG emissions, or 0.75 x 129,314.95 MTCO2e/yr. = 96,986.21 MTCO2e/yr.

As with the Project, the GHG emissions generated by the Reduced Intensity Alternative would exceed the SCAQMD screening level threshold of 3,000 MTCO2e/yr. On this basis, GHG emissions generated by the Reduced Intensity Alternative would represent a significant and unavoidable environmental impact.

This Alternative would implement GHG emissions mitigation per the 2022 CCAP Update. Compliance with the 2022 CCAP Update ensures that this Alternative would not conflict with any applicable plan or strategy for controlling or reducing GHG emissions. Impacts of this Alternative in this regard would be less-than-significant.

Hazards and Hazardous Materials

As with the Project, existing hazards or potentially hazardous conditions affecting the subject site would be remediated and related impacts reduced to levels that would be less-than-significant. The Reduced Intensity Alternative land uses would be similar to the Project and would not result in hazards and hazardous materials impacts different than those resulting from the Project. The Reduced Intensity Alternative would not implement uses or programs that would exacerbate any existing adverse hazards/hazardous materials conditions. Potential hazards/hazardous materials impacts of the Reduced Intensity Alternative and the Project would be comparable and would be less-than-significant.

Hydrology and Water Quality

The Reduced Intensity Alternative would implement all necessary storm drain infrastructure improvements. When compared to the Project, the area subject to development with impervious surfaces under the Reduced Intensity Alternative may be reduced. The Reduced Intensity Alternative may therefore result in reduced rates and quantities of post-development storm water runoff. The Reduced Intensity Alternative would be required to implement on-site storm water management systems, reducing impacts to storm drain capacities to levels that would be less-than-significant. The Reduced Intensity Alternative would be required to comply with applicable SWPPP and WQMP provisions, thereby reducing potential water quality impacts to levels that would be less-than-significant. Stormwater management systems implemented under the Reduced Intensity Alternative would act to improve existing hydrology and water quality

conditions. Hydrology and water quality impacts of the Reduced Intensity Alternative and the Project would be comparable and would be less-than-significant as mitigated.

Land Use and Planning

The Reduced Intensity Alternative would require amendment of Policy Plan Land Use designations similar to the Project. Other discretionary actions, consultations, and permitting required under the Reduced Intensity Alternative and the Project would be the same. Under either the Project or the Reduced Intensity Alternative, land use and planning impacts would be less-than-significant.

Noise

Under the Reduced Intensity Alternative, the types of construction activities and equipment employed would likely be similar to those associated with construction of the Project. Maximum received construction-source noise/vibration levels would be unchanged. As with the Project, construction-source noise/vibration levels received at area land uses would be less-than-significant.

The Reduced Intensity Alternative would not generate or result in operational area-source noise/vibration substantially different than would result from the Project. Under the Reduced Intensity Alternative and the Project, operational area-source noise/vibration impacts would be less-than-significant.

As with the Project, certain of the residential uses under this Alternative could be exposed to potentially significant vehicular-source noise levels. Mitigation would be included to reduce this impact to levels that would be less-than-significant.

As with the Project, this Alternative would not expose people residing or working in the area to excessive aircraft or airport-source noise levels.

Transportation and Traffic

VMT Impacts

The Reduced Intensity Alternative would reduce Project development intensity, associated trip generation, and VMT by an estimated 25 percent. The reduction in Service Population would also likely be comparable.

The Reduced Intensity Alternative would result in reduced total VMT when compared to the Project. Because the intensity and scope of uses would be decreased under the Reduced Intensity Alternative, the Service Population would also likely be decreased. The Reduced Intensity Alternative would therefore not substantially alter the VMT/SP ratio otherwise resulting from the Project.

Other Transportation Topics

Based on the 25 percent reduction in trip generation, the extent of Study Area traffic improvements required under this Alternative would likely be reduced when compared to the Project. Because the Reduced Intensity Alternative would generate less traffic than the Project, fair share fee responsibilities, (which are based on proportional traffic contributions), would be reduced when compared to the Project. Required DIF payments (which are based on development building areas) would also be reduced. It is assumed that, like the Project, development of the subject site under the Reduced Intensity Alternative would incorporate those site adjacent and on-site circulation system improvements necessary to avoid or mitigate development-specific traffic impacts.

As a matter of law, this Alternative would be required to comply with City ordinances addressing the Study Area circulation system. As with the Project, transportation systems improvements would be designed and implemented consistent with City and Manual on MUTCD requirements. Under this Alternative, as with the Project, "other" transportation impacts would be less-than-significant.

Utilities and Service Systems

The Reduced Intensity Alternative would result in development of similar land uses but at a lower intensity than the Project. It is assumed that the Reduced Intensity Alternative would implement all necessary on-site and off-site utilities and service infrastructure system improvements. Utilities and service systems impacts of this Alternative and the Project would be comparable and would be less-than-significant.

Ability to Reduce Impacts

The Reduced Intensity Alternative would reduce, but not eliminate, the Project's significant and unavoidable impacts regarding air quality and GHG emissions. More specifically:

- The magnitude of operational-source air quality impacts (VOC, NOx, CO, PM_{10}) would be diminished but would remain significant and unavoidable. $PM_{2.5}$ emissions impacts would be reduced below significance thresholds.
- Total GHG emissions would be reduced. However, GHG emissions would still exceed the SCAQMD 3,000 $MTCO_2e$ screening threshold. Impacts in this regard would remain significant and unavoidable.

Ability to Achieve Project Objectives

The Reduced Intensity Alternative would implement the proposed 2022 Specific Plan Amendment Land Uses and development concepts at an approximately 25 percent reduction in overall development intensity. Due to its comparative reduction in scope, the Reduced Intensity Alternative would

likely impede or substantially restrict attainment of the following Project Objectives.

- *Implement a Specific Plan development supporting office/commercial and light industrial uses providing a broad range of employment opportunities.* The comparative 25 percent reduction in development intensity under the Reduced Intensity Alternative would diminish the number and diversity of potential employment opportunities otherwise provided by the Project. The noted reduction in scope would also restrict potential synergy between uses at this location and other vicinity uses.
- *Implement Specific Plan developments providing a broad range of additional construction employment opportunities.* The comparative 25 percent reduction in development intensity under the Reduced Intensity Alternative would diminish the number and diversity of potential construction employment opportunities otherwise provided by the Project. The noted reduction in scope would also restrict potential synergy between uses at this location and other vicinity uses.
- *Support TOP 2050 vision for urbanization of the Ontario Ranch area of the City.* The comparative 25 percent reduction in development intensity under the Reduced Intensity Alternative would limit development potential of prime urban properties within the City. In this respect, the subject site is designated and anticipated for development types and intensities such as are proposed by the Project; is bounded by similar compatible urban development; and is served by all necessary services and utilities. The Reduced Intensity Alternative would fail to take advantage of these site attributes. Further, this Alternative would conflict with or impede TOP Policy Plan vision for urbanization of the Ontario Ranch area of the City. Potential contrary effects would include:
    - A reduction in residential, commercial-office, light industrial, and community facilities development opportunities otherwise available under the Project.
    - A reduction in the range and variety of residential, commercial-office, light industrial developers and tenants that would be attracted to the City.
    - Diminished potential for development of the site with uses and at an intensity the City considers to be the highest and best use for the subject property.
    - Diminished fiscal benefits available to the City of Ontario.
    - Diminished job creation. Related diminished potential for improvement of the regional jobs/housing balance condition.
    - Diminished residential opportunities. This Alternative would reduce residential product types and the total quantity of available housing within the City. To these ends, this Alternative would conflict with

residential goals, strategies, and opportunities outlines in TOP 2020 Housing Element. By reducing the potential for residential development there is also the potential for this Alternative to conflict with SB 330, Skinner. Housing Crisis Act of 2019.

Finding: The City Council rejects Alternative 3: Reduced Intensity Alternative, on the following grounds, each of which individually provides sufficient justification for rejection of this alternative: (1) based on the reduction in overall development scope, the Reduced Intensity Alternative would broadly restrict attainment of all Project Objectives; (2) the Alternative would reduce, but not eliminate, the Project's significant and unavoidable impacts regarding air quality and GHG emissions; and (3) the Alternative is infeasible, as qualitatively, development of the subject site under the Reduced Intensity Alternative fails to optimize use of a significant vacant property, and is not considered by the Lead Agency to represent the highest and best use of the subject site. (DEIR p. 5-79).

This Alternative would provide no reduction in significant environmental impacts when compared to the Project; (2) this Alternative may increase the severity of, or create additional impacts not otherwise occurring under the Project; and (3) due to its comparative reduction in scope, the Alternative would likely impede or substantially restrict attainment of the Project Objectives.

4. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires a lead agency to identify the "environmentally superior alternative" and, in cases where the "No Project" Alternative is environmentally superior to the proposed Project, the environmentally superior development alternative must be identified. The Reduced Intensity Alternative has been identified as the "environmentally superior" alternative.

Reduced Intensity Alternative

The Reduced-Intensity Alternative has been identified as the environmentally superior alternative because it would result in potential incremental reduction in certain significant environmental impacts otherwise occurring under the Project, but would not eliminate these impacts. The Reduced Intensity Alternative would allow for limited attainment of the Project Objectives.

Countering its potential environmental benefits, the Reduced Intensity Alternative would broadly and substantially diminish attainment of the Project Objectives, with related diminishment of socio-economic benefits to the City and region. CEQA indicates that socioeconomic effects (while not lone determinants) are important considerations for decision-makers in evaluating and considering EIR Alternatives. With respect to socioeconomics, the Project and the Reduced Intensity Alternative would each have beneficial effects for the area. Either of these scenarios would contribute to area employment and the City's overall tax base. However, as noted previously, because the scope and variety of land uses would be reduced by approximately 25 percent under the

Reduced Intensity Alternative, the resulting effective realization of the Project Objectives, to include economic benefits to the City and region, would likely be similarly diminished.

Additionally, at an approximate 25 percent reduction in the Project's development scope, the Reduced Intensity Alternative would not recognize the site's value as one of the remaining undeveloped properties within the City; or take advantage of the site's available acreage and consequently would not result in development of the subject site in a manner considered to be its highest and best use

CEQA does not require the lead agency (the City of Ontario) to choose the environmentally superior alternative. Instead, CEQA requires the City to consider environmentally superior alternatives, weigh those considerations against the environmental impacts of the proposed Project, and make findings that the benefits of those considerations outweigh the harm. "Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts" (State CEQA Guidelines §15126.6[c]).

G. ADDITIONAL CEQA CONSIDERATIONS

1. SIGNIFICANT IRREVERSIBLE CHANGES DUE TO THE PROPOSED PROJECT

The *CEQA Guidelines* § § 15126, subd. (c), 15126.2, subd. (c), 15127, require that for certain types or categories of projects, an EIR must address significant irreversible environmental changes that would occur should the Project be implemented. As presented at CEQA Guidelines §15127, the topic of Significant Irreversible Environmental Changes need be addressed in EIRs prepared in connection with any of the following activities:

> (a) The adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency;
>
> (b) The adoption by a local agency formation commission of a resolution making determinations; or
>
> (c) A project which will be subject to the requirements for preparing of an environmental impact statement pursuant to the requirements of the National Environmental Policy Act of 1969, 42 U.S.C. 4321-4347.

The Project qualifies under Guidelines §15127 (a) in that an amendment to the current (2021) Rich-Haven Specific Plan is required in order to implement the Project. As such, this EIR analysis addresses significant irreversible environmental changes which could be involved in the proposed action should it be implemented [Guidelines, Sections 15126(e) and 15127]. An impact would fall into this category if:

A project would involve a large commitment of nonrenewable resources;

- The primary and secondary impacts of a project would generally commit future generations to similar uses;

- A project involves uses in which irreversible damage could result from any potential environmental incidents associated with the project; or
- The proposed consumption of resources is not justified (e.g., the project results in wasteful use of energy).

With regard to the above considerations, various natural resources, in the form of construction materials and energy resources, would be used in the construction of the Project, but their use is not expected to result in shortfalls in the availability of these resources. Development of the site with the Project uses will commit the property to such uses for the foreseeable future, and thereby limit the site's prospective alternative uses. Notwithstanding, given the following, commitment of the site to uses proposed by the Project is considered appropriate.

- The Project site is currently zoned for Specific Plan development. The Project proposes Specific Plan development.
- The Project and the Project development intensities are consistent with development intensities envisioned under TOP 2050 Policy Plan Land Use designations.
- Urbanization of the subject site as proposed under the Project is a compatible infill continuation of urbanizing surrounding properties.

The Project presents no significant possibility of irreversible environmental damage "from any potential environmental incidents associated with the project." That is, the Project does not propose facilities or uses that would result in potentially significant environmental incidents. Moreover, all feasible mitigation is incorporated in the Project to reduce its potential environmental effects. As discussed herein, the Project would not result in or cause unwarranted or wasteful use of resources, including energy. (Draft EIR, pp. 5-84 - 5-86)

2. GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

Section 15126.2(e) of the State CEQA Guidelines requires the EIR to address the growth-inducing impact of the Project. DEIR Section 5.0 evaluates the potential for the proposed Project to affect economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. In accordance with State CEQA Guidelines Section 15126.2(e), a Project would be considered to have a growth-inducing effect if it would:

- Directly or indirectly foster economic or population growth, or the construction of additional housing in the surrounding environment;
- Remove obstacles to population growth (e.g., construction of an infrastructure expansion to allow for more construction in service areas);
- Tax existing community service facilities, requiring the construction of new facilities that could cause significant environmental effects; or

- Encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

In addition, CEQA Guidelines state that growth inducement must not be assumed.

The Project could induce growth through the construction of housing, commercial-office uses, light industrial uses, job creation, and economic stimulus. The Project land uses, and associated development are consistent with and anticipated under TOP 2050. Growth inducement resulting from the Project would not exceed projections developed under TOP 2050. Any Project-induced growth would not result in environmental impacts not already considered and addressed in TOP 2050 SEIR.

The Project would not otherwise encourage and facilitate known or probable activities that could significantly affect the environment, either individually or cumulatively. To the satisfaction of the City, as-yet unknown activities or developments that may derive from the Project would be independently required to evaluate and address their potential environmental impacts.

SECTION V. STATEMENT OF OVERRIDING CONSIDERATIONS

CEQA requires decision makers to balance the benefits of the proposed Project against its unavoidable environmental risks when determining whether to approve the project. If the benefits of the project outweigh the unavoidable adverse effects, those effects may be considered "acceptable" (State CEQA Guidelines §15093[a]). CEQA requires the agency to support, in writing, the specific reasons for considering a project acceptable when significant impacts are infeasible to mitigate. Such reasons must be based on substantial evidence in the FEIR or elsewhere in the administrative record (State CEQA Guidelines §15093 [b]). The agency's statement is referred to as a Statement of Overriding Considerations.

The following provides a description of the project's significant and unavoidable adverse impact and the justification for adopting a statement of overriding considerations.

A. SIGNIFICANT AND UNAVOIDABLE IMPACTS

The City identifies the following significant unavoidable adverse impacts of the Project, which would continue to be applicable upon implementation of the proposed project:

Air Quality

- Would the Project conflict with or obstruct implementation of the applicable air quality plan?
- Would the proposed project, result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Greenhouse Gas Emissions

- Would the Project generate GHG emissions, either directly or indirectly, that could have a significant impact on the environment?

B. PROJECT BENEFITS IN SUPPORT OF THE STATEMENT OF OVERRIDING CONSIDERATIONS

The following section describes the benefits of the proposed Project that outweigh the project's unavoidable adverse effects and provides specific reasons for considering the Project acceptable even though the FEIR has indicated that there will be three significant and unavoidable project impacts even with the mitigation measures implemented. Accordingly, this Statement of Overriding Considerations regarding potentially significant adverse environmental impacts resulting from the proposed Project, as set forth below, has been prepared. Pursuant to CEQA Guidelines §15093(c), the Statement of Overriding Considerations will be included in the record of the Project approval and will also be noted in the Notice of Determination. Each of the benefits identified below provides a separate and independent basis for overriding the significant environmental effects of the proposed Project.

Having reduced the potential effects of the proposed Project through all feasible mitigation measures as described previously herein, and balancing the benefits of the proposed Project against its potential unavoidable adverse impacts, the City finds that the following legal requirements and benefits of the proposed Project individually and collectively outweigh the potentially significant unavoidable adverse impacts for the following reasons:

1. Implements the Objectives Established for the Proposed Project

The primary goal of the Project is the development of the subject site with a productive mix of Specific Plan residential, commercial, light industrial and community facilities. Attainment of the Project Objectives collectively outweigh the Project's significant and unavoidable impacts by directly and indirectly contributing to benefits of the Project.

2. Provides Employment Opportunities

The Project high-quality commercial, retail, and industrial uses would increase business and employment opportunities for City and area residents acting to further City economic prosperity.

3. Provides Substantial Infrastructure Improvements

The Project will be responsible for the construction of area-wide infrastructure construction within the Ontario Ranch area, including roadway, water, and sewer and storm drains as set forth in the Draft EIR and Rich-Haven Specific Plan 2022 Amendment. The Project would construct improvements and infrastructure consistent with the 2050 TOP and the City's various master plans for roadways and sewers, among others.

4. Consistency with the Regional Goals in the RTP/SCS

SCAG's 2020-2045 RTP/SCS was adopted September 3, 2020. The RTP/SCS identifies that land use strategies that focus on new housing and job growth in areas served by high quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The overarching strategy in the 2020-2045 RTP/SCS is to provide for a plan that allows the southern California region to grow in more compact communities in existing urban areas; provide neighborhoods with efficient and plentiful public transit and

abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands.

The proposed Project would create an economic engine to drive future growth in Ontario Ranch, spur infrastructure improvements in the area, and would allow for the development of urban uses on currently underutilized land. The implementation of the proposed Project would facilitate the construction of roads and other major infrastructure investments that will ensure that mobility accessibility for people and goods would be maximized. The Specific Plan would expand Ontario's industrial uses in proximity to local airports and regional networks, and the vehicular and pedestrian improvements called for in the Specific Plan would be implemented and maintained to meet the needs of employees and visitors. Additionally, all modes of public and commercial transit throughout the Project area would be required to follow safety standards set by state, regional, and local regulations. The proposed Specific Plan would preserve and ensure access to the local public transportation near the Project site. The proposed project would improve and maintain local and area-serving transportation systems to maximize efficiency and productivity. Moreover, the proposed Project would incorporate energy efficiency and sustainability strategies.

5. Consistency with the City's Community Climate Action Plan

The Project will implement GHG emissions reduction measures specified in the Draft EIR and will comply with the City's adopted CAP, which strives to achieve GHG reductions City-wide that comply with the State's reduction requirements. The primary purpose of the City's Community CAP is to design a feasible strategy to reduce GHG emissions generated by community activities that is consistent with statewide Scoping Plan GHG reduction efforts. The GHG emissions reduction target established under the CAP is 30 percent under year 2020 business-as-usual (BAU) levels. To meet this goal and to supplement statewide initiatives, the City has identified a series of reduction measures to be implemented by the City before 2020. These reduction measures include programs that improve building energy efficiency, increase use of public and active transit and decrease VMT, increase use of alternative-fueled vehicles, increase use of renewable energy, reduce water consumption, and reduce waste.

Implementation of the design features and operational measures outlined at Draft EIR Tables 4.4-6, 4.4-7 would ensure that the Project is consistent with and supports the 2022 CAP Update. Project development proposals shall implement Screening Table Measures identified at Tables 4.4-6, 4.4-7 or equivalent measures acceptable to the City. The City shall verify that Screening Table Measures achieving a minimum of 100 points are incorporated in development plans prior to the issuance of building permit(s) and/or site plans (as applicable). Multiple development proposals may, at the discretion of the City, be allowed to collectively demonstrate achievement of at least 100 points per the Screening Tables.

C. CONCLUSION

The City Council of Ontario has balanced the Project's benefits against the significant unavoidable impacts. The City Council finds that the proposed Project's benefits, which aim to meet the goals and policies of the City of Ontario General Plan (TOP) 2050,

outweigh the Project's significant unavoidable impacts, and these impacts, therefore, are considered acceptable in the light of the Project's benefits. The City Council finds that each of the benefits described above is an overriding consideration, independent of the other benefits, that warrants approval of the Project notwithstanding the Project's significant unavoidable impact.

SECTION VI. MITIGATION MONITORING AND REPORTING PLAN

Pursuant to PRC §21081.6, the City Council hereby adopts the Mitigation Monitoring and Reporting Plan attached to this Resolution as Exhibit A. Implementation of the Mitigation Measures contained in the Mitigation Monitoring and Reporting Program is hereby made a condition of approval of the Project. In the event of any inconsistencies between the mitigation measures as set forth herein and the Mitigation Monitoring and Reporting Plan, the Mitigation Monitoring and Reporting Plan shall control.

SECTION VII. PROJECT APPROVAL

Based upon the entire record before it, including the EIR, Findings of Fact, Statement of Overriding Considerations, and all written and oral evidence presented, City Council hereby approves the proposed Project.

SECTION VIII. STAFF DIRECTION

A Notice of Determination shall be filed with the County of San Bernardino within five (5) working days of final Project approval.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. ____ was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023, by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. ____ duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

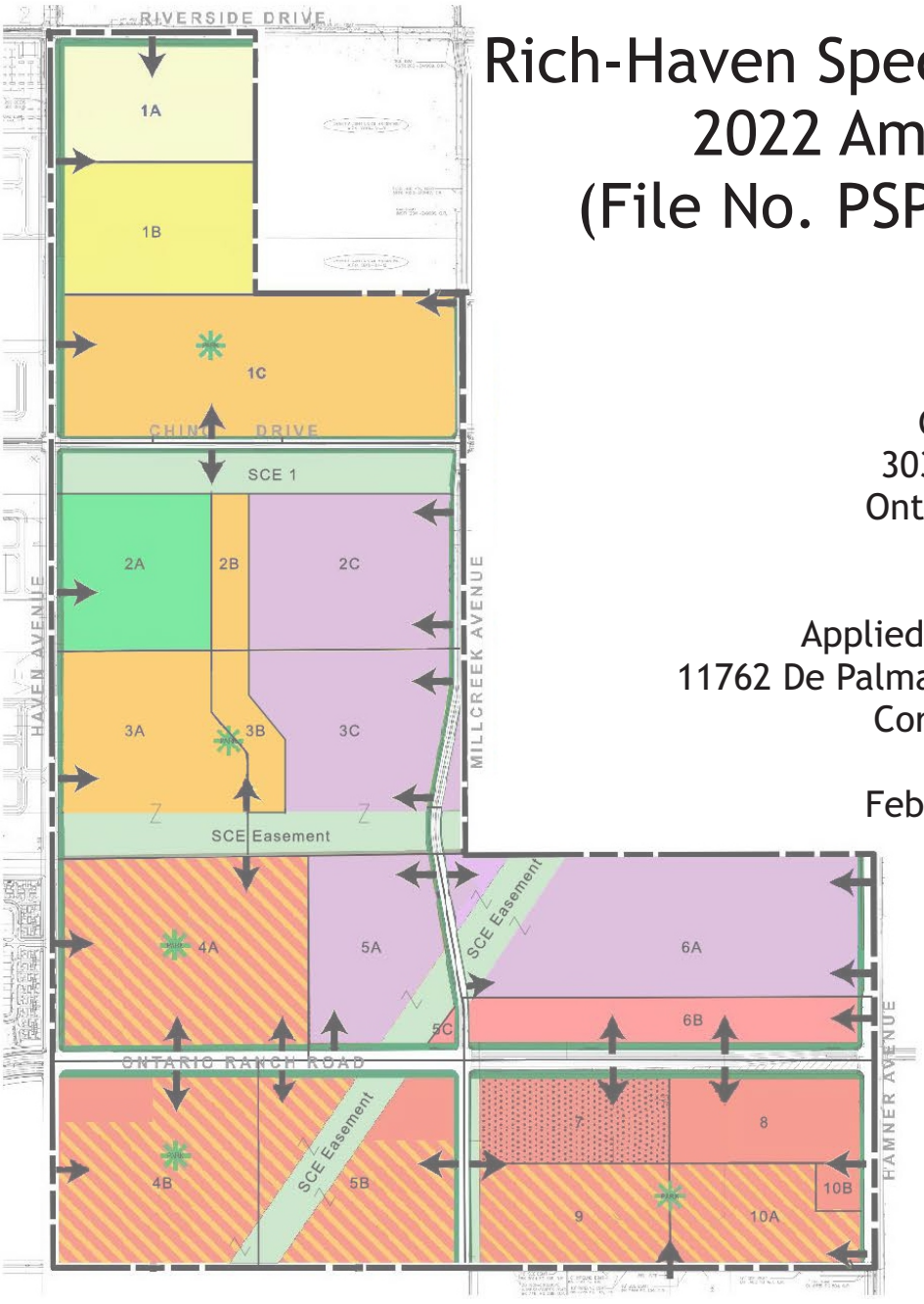
(SEAL)

EXHIBIT A

Final Environmental Impact Report, Response to Comments and Mitigation Monitoring and Reporting Plan

(To follow this page)

Draft Environmental Impact Report
for the
Rich-Haven Specific Plan 2022 Amendment (File No. PSPA22-001)



Prepared for:
City of Ontario
303 East B Street
Ontario, CA 91764

Prepared by:
Applied Planning, Inc.
11762 De Palma Road, 1C-310
Corona, CA 92883

February 23, 2023

appliedplanning inc

DRAFT ENVIRONMENTAL IMPACT REPORT

for the

Rich-Haven Specific Plan, 2022 Amendment

Prepared for:

City of Ontario
303 East "B" Street
Ontario, CA 91764

Prepared by:

Applied Planning, Inc.
11762 De Palma Road, 1-C 310
Corona, CA 92883

February 23, 2023

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1.0 EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

1.1 BACKGROUND AND PROJECT OVERVIEW

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. Location of the 2021 Specific Plan is presented at Figure 1.1-1. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated in this EIR coincide with the location and boundaries in the 2021 Specific Plan.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in this EIR proposes a new amendment of the RHSP as described herein.

Pursuant to the requirements of the California Environmental Quality Act (CEQA), this Draft Environmental Impact Report (DEIR or EIR) evaluates and discloses the potential environmental impacts resulting from construction and operation of the proposed Rich-Haven Specific Plan, 2022 Amendment (Project).



NOT TO SCALE

Source: Google Earth; Applied Planning, Inc.

Figure 1.1-1
Specific Plan Location

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This EIR evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.[1]

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.
3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment. A summary of the land uses and development by Planning Area is provided at Table 1.1-1.

[1] Potential environmental impacts of the Rich Haven Specific Plan were initially evaluated in *Rich Haven Specific Plan Environmental Impact Report*, July 3, 2007 (SCH No. 2006051081). Subsequent Rich Haven Specific Plan Amendments: 2015, 2016, 2018, 2021 have been evaluated as Addendums to Certified EIRs. While the City could have continued tiering off previous environmental documents in evaluation of the Project's potential environmental impacts, in order to provide a contemporary and comprehensive analysis of the Project's impacts, a new Project-level EIR has been developed.

Table 1.1-1
2022 Specific Plan Amendment Land Use Summary, by Planning Area

Planning Area	Land Use	Acres (Gross)	Dwelling Units (Maximum)	Residential Density (Gross)	Comm./ Office (sf) (Maximum)	Light Industrial (sf) (Maximum)
1A	Low Density Residential	25.5	128	5.0	-	-
1B	Low Medium Density Residential	24.5	270	11.0	-	-
1C	Medium Density Residential	60.6	1,055	17.4	-	-
SCE 1	Edison Parcel	20.0	-	-	-	-
2A	Public Park	27.0	-	-	-	-
2B	Medium Density Residential	8.1	190	23.5	-	-
2C	Light Industrial	23.4	-	-	-	560,617
3A	Medium Density Residential Open Space-Non-Recreation	36.1 8.3	560	15.5	-	-
3B	Medium Density Residential	8.6	190	22.1	-	-
3C	Light Industrial Open Space-Non-Recreation	21.4 8.5	-	-	-	512,701
4A	Stand Alone Residential Overlay	45.0	1,099	24.4	-	-
4B	Regional Commercial Stand Alone Residential Overlay Open Space-Non-Recreation	5.0 35.2 0.4	1,150	32.7	166,182	-
5A	Light Industrial Open Space-Non-Recreation	21.3 3.7	-	-	-	510,305
5B	Regional Commercial Stand Alone Residential Overlay Open Space-Non-Recreation	5.0 26.6 7.5	1,150	43.2	76,320	-
5C	Regional Commercial	1.0	-	-	7,500	-
6A	Light Industrial Open Space-Non-Recreation	49.4 6.6	-	-	-	1,183,525
6B	Regional Commercial	25.1	-	-	300,000	-
7	Mixed Use Overlay	20.5	552	26.9	162,500	-
8	Regional Commercial	20.5	-	-	162,500	-
9	Stand Alone Residential Overlay	20.4	300	14.7	-	-
10A	Stand Alone Residential Overlay	16.9	550	32.5	-	-
10B	Regional Commercial	2.8	-	-	50,000	-
Total		**584.9**	**7,194**	**-**	**925,002**	**2,767,148**

Source: 2022 Rich Haven Specific Plan Amendment

A condensed summary of land uses by Development Type is provided at Table 1.1-2.

Table 1.1-2
2022 Specific Plan Amendment Land Use Summary, by Development Type

Land Use Development Type	Code	Acres (Gross)	Dwelling Units (Maximum)	Light Industrial (sf) (Maximum)	Comm./ Office (sf) (Maximum)
Low Density Residential	LDR	25.5	128	-	-
Low-Medium Density Residential	LMDR	24.5	270	-	-
Medium Density Residential	MDR	113.4	1,995	-	-
Light Industrial	LI	115.5	-	2,767,148	-
Mixed Use	MU	20.5	552	-	162,500
Mixed Use w/ Standalone Residential Overlay	MU/Res	144.1	4,249	-	-
Regional Commercial	Regional Comm.	59.4	-	-	762,502
Open Space - Non-Recreation	OS-NR	55.0	-	-	-
Park	Park	27.0	-	-	-
Total		**584.9**	**7,194**	**2,767,148**	**925,002**

Source: 2022 Rich Haven Specific Plan Amendment

This EIR Section provides an overview of the Project and its Objectives, and summarizes the potential environmental impacts of the proposal. Table 1.12-1, *Impacts and Mitigation Summary*, presented at the conclusion of this Section, lists these impacts and presents mitigation measures recommended to eliminate or reduce effects of those impacts determined to be potentially significant. For a full description of the Project, its impacts, recommended mitigation measures, and considered Alternatives to the Project, please refer to EIR Sections 3.0, 4.0, and 5.0, respectively.

1.2 PROJECT ELEMENTS

Primary elements comprising the Project are summarized below. Please refer also to the expanded characterization of Project facilities and operations presented at EIR Section 3.0, *Project Description*.

1.2.1 Site Preparation

Vacant/undeveloped portions of the Project area would be cleared of all surface features, grubbed, rough-graded, and fine-graded in preparation of building construction. Any debris generated during site preparation activities would be disposed of and/or recycled consistent with the City's Source Reduction and Recycling Element (SRRE). Existing grades within the Project site would be modified to establish suitable building pads and to facilitate site drainage. Based on preliminary development concepts, project grading will

balance on site – that is, grading activities would not require substantial import or export of soil.

1.2.2 Development Concept

All development within the Project site would be required to conform to provisions of the 2022 Specific Plan Amendment. In instances where the 2022 Specific Plan Amendment is silent, development proposals within the Specific Plan Area would be required to conform to applicable provisions of the City Development Code. The following discussions reflect preliminary 2022 Specific Plan Amendment information available to date.

1.2.3 Access and Circulation

Access to, and within, the Specific Plan Area is summarized below. Please also refer to 2022 Specific Plan Amendment Section 4.1, *Circulation Plan*. All final Project access plans would be subject to review and approval by the City.

1.2.3.1 Roadways

Regional access to the City and the Specific Plan Area is provided by State Route 60 (E – W) and Interstate 15 (N – S). State Route 60 (SR-60) interchanges with Interstate 15 (I-15) approximately 1.5 miles northeast of the Specific Plan Area. Local access to the Specific Plan Area is provided by existing vicinity roadways. These roadways include Riverside Drive to the north, Haven Avenue to the west, Mill Creek Avenue (partial) to the east, Hamner Avenue to the east, and Ontario Ranch Road which traverses the southern portion of the Specific Plan Area.

Ultimate designs of roadway alignments, roadway configurations, and site access would be required to conform to applicable provisions of the 2022 Specific Plan Amendment and City Conditions of Approval; and would be subject to City review and approval.

Roadways within and abutting the Project site would be constructed to their respective ultimate cross-sections pursuant to the 2022 Specific Plan Amendment design standards and City requirements.[2]

1.2.3.2 Bicycle and Pedestrian Access

The Project would construct bicycle and pedestrian access improvements consistent with the City Multipurpose Trails and Bikeway Corridor Plan.

Within the Project site, streets would be constructed with sidewalks, providing pedestrian access and inter-connectivity between various residential and mixed-use areas. Trail access would be provided to the various park facilities. As part of the City's Master Plan of Trails, the SCE Corridor Trail within the Project site would be extended within the linear park areas located within the existing SCE easements. Access to the SCE Corridor Trail would be provided at key points throughout the Project. On-street curb adjacent 5-foot bike lanes would be provided on both sides of the proposed modified/enhanced Chino Avenue section.

1.2.3.3 Bus Service

Bus service is available to the City via Omnitrans and the Riverside Transit Authority (RTA). No bus routes currently provide proximate service (within one-quarter mile) of the 2021 Specific Plan Area. Transit service providers periodically review and update schedules and routes to address ridership, budget, and community demands. The Applicant and City would coordinate Project final designs with Omnitrans and RTA to evaluate the potential for provision of bus services and bus amenities serving the 2021 Specific Plan Area. Omnitrans bus routes and schedules can be accessed at: https://omnitrans.org. RTA bus routes and schedules can be accessed at: https://www.riversidetransit.com/index.php/riding-the-bus/maps-schedules.

[2] The Specific Plan Amendment proposes modified design standards for Chino Avenue within the Project site, to include enhanced roadway sections with raised landscapes and roundabouts. These modified design standards would be subject to City review and approval as one component of the Specific Plan Amendment.

1.2.4 Parking

The Project would be required to adhere to parking requirements established under the 2022 Specific Plan Amendment and the City of Ontario Development Code. Parking assignments and design of parking areas within the site would be subject to City review and approval.

1.2.5 Landscape/Streetscape

The 2022 Specific Plan Amendment Landscape Concept is presented in detail at 2022 Specific Plan Amendment Section 7, *Landscape Plan*. All landscaping/streetscaping implemented under the Project would be required to comply with applicable provisions of the 2022 Specific Plan Amendment and the City Municipal Code. The implemented landscape/streetscape concept would act to enhance perception of the site as developed under the Project, and to screen views of the site interior from off-site vantages. Landscape and streetscape elements would provide shade and visual interest, define entry/access points, and accentuate site and architectural features.

1.2.6 Lighting

All Project lighting would be required to conform to provisions of the 2022 Specific Plan Amendment (lighting standards and guidelines for the various land uses are provided through the 2022 Specific Plan Amendment document). Lighting and lighting plans for individual developments within the Specific Plan Area would be subject to review and approval by the City.

1.2.7 Signs

All Project signs would be required to conform to provisions of the 2022 Specific Plan Amendment (sign standards and guidelines for the various land uses are provided throughout the 2022 Specific Plan Amendment document). Signs and sign plans for individual developments within the Specific Plan Area would be subject to review and approval by the City.

1.2.8 Infrastructure/Utilities

Infrastructure and utilities that would serve the Project site are summarized below.

1.2.8.1 Water Service

Potable (Domestic) Water

Potable water would be provided by the Ontario Municipal Utilities Company (OMUC).[3] The Project lies within the OMUC 925 and 1010 Pressure Zones. Serving the Project site and surrounding areas is an 18-inch (1010 Pressure Zone) water main, extending from Riverside Avenue to Chino Avenue. There is also a 16-inch (1010 PZ) water main located in Mill Creek Avenue, extending from Riverside Avenue to Chino Avenue.

Within the Project site, water service would be provided by a system of 8-inch to 12-inch water mains constructed within the backbone roadway system. Connecting 8-inch service lines would be provided to individual developments.

The on-site public water system sizing would be required to comply with provisions of a City-approved hydraulic analysis to be conducted at the project-level design stage. All water mains and wells internal to site would be constructed by the merchant builder(s). In-tract water system design will be provided at the time of subdivision. Final designs of water conveyance systems serving the Project would be required to conform to City and OMUC requirements. Please refer also to 2022 Specific Plan Amendment Section 4.2.1, *Domestic Water*.

Recycled Water

The Project site is located in the OMUC 930/1050 Pressure Zones for recycled water. Serving the Project site and surrounding areas is a 16-inch (930 PZ) recycled water main extending from the upper limits of the 930 PZ to Ontario Ranch Road.

[3] Additionally, as discussed in the Specific Plan Amendment, "the Chino Basin Water Master Water Quality Map identifies the Rich-Haven [Project] area within an optimum water quality zone and requires that the owner/developer dedicate a total of two wells within the Specific Plan area to the City of Ontario for production of potable water." Well dedications within the Project site would be provided if/as required by the City/OMUC.

The Project would construct all necessary recycled water system improvements consistent with City Condition of Approval. All Master Plan recycled water improvements implemented to serve the Project would be required to conform to the incumbent City Recycled Water Master Plan. Please refer also to 2022 Specific Plan Amendment Section 4.2.2, *Recycled Water*, *Regional Recycled Water Plan*.

The Project would be required to comply with applicable provisions of City Municipal Code Chapter 8c: *Recycled Water Use.*[4] Within the Project area, recycled water would be used for all approved applications, including but not limited to irrigation of parks, schools, street landscaping, recreational trails, HOA-maintained common areas and landscaping. An engineering report approved by the City and the California Department of Public Health is required prior to the use of recycled water.

Within the Project area, the backbone recycled water system would comprise 8-inch to 12-inch lines and would be located in the backbone street system. In-tract recycled water system design would be provided at the time of subdivision. It is noted here that ***no*** [emphasis added] recycled water can be used on single-family single lot ownership properties. Per the 2022 Specific Plan Amendment, a clear physical separation between potable and recycled water systems is required, such separations may comprise walls, fences, sidewalks, or mow strips. Please refer also to 2022 Specific Plan Amendment Section 4.2.2, *Recycled Water*, *Local Backbone Recycled Water Plan*.

1.2.8.2 Sewer Services

Sewer service would be provided by the City of Ontario. Master Plan sewer system improvements serving the Project and surrounding areas would be constructed consistent with the City's Sewer Master Plan. All Master Plan sewer improvements implemented to serve the Project would be required to conform to the incumbent City Sewer System Master Plan. Please refer also to 2022 Specific Plan Amendment Section 4.3, *Sewer Master Plan*.

[4] See also: https://codelibrary.amlegal.com/codes/ontarioca/latest/ontario_ca/0-0-0-44580#JD_6-8.714

1.2.8.3 Stormwater Management System

Storm Drains

Multiple City Master Plan of Drainage storm drain facilities would serve the Project site. All Master Plan storm water management system improvements implemented to serve the Project would be required to conform to the incumbent City Master Plan of Drainage. Under post-development conditions, existing southerly trending on-site drainage patterns would be maintained. Development within the Project site would be required to control drainage volumes and runoff rates such that capacities of receiving Master Plan of Drainage storm drains would not be exceeded.

Within the Project site, individual developments would implement required stormwater management systems. On-site storm stormwater management system designs would be provided concurrent with development plan submittals. Final designs of stormwater management systems serving the Project would be required to conform to City requirements. Please refer also to 2022 Specific Plan Amendment Section 4.4, *Drainage Master Plan*, *Regional Backbone Drainage Plan*.

Water Quality Management Plan

On a regional level, stormwater quality management would be available via the regional Mill Creek Wetlands system. Within the Project site, complementary on-site stormwater management systems would be implemented that would detain and treat stormwater discharges. Stormwater discharges from the Project would be required to comply with requirements and performance standards established under the incumbent San Bernardino County National Pollutant Discharge Elimination System (NPDES) Stormwater Program MS4 Permit and Water Quality Management Plan (WQMP). To these ends, developments within the Project site would implement Low Impact Development (LID) Site Design Best Management Practices (BMPs) to reduce pollutant transport and increase on-site stormwater infiltration. Additionally, all Priority Land Use (PLU) areas within the Project site would be required to comply with the statewide Trash Provisions adopted by the State Water Resources Control Board (SWRCB) and trash requirements in the most current San Bernardino County Area-Wide MS4 Permit.

Non-structural and structural Source Control BMPs would be documented in the Project WQMPs. Final WQMPs, as approved by the City, would ensure that the Project stormwater management systems have been designed to convey and treat stormwater discharges and limit the post-development peak flows consistent with available storm drain capacities. Please refer also to 2022 Specific Plan Amendment Section 4.4, *Drainage Master Plan*, *Stormwater Quality Measures*.

1.2.8.4 Solid Waste Management

The City of Ontario provides solid waste collection services for the City and will service the Project.

1.2.8.5 Electricity

Southern California Edison (SCE) would provide electricity to the site from existing vicinity facilities. SCE facilities located within and adjacent to the Project site consist of 115kV, 66kV, 12kV, towers/power lines and attached communication lines. Facilities less than 34.5kV will be located underground if they are located adjacent to any streets proposed to be improved in conjunction with site improvements.

1.2.8.6 Natural Gas

The Gas Company will provide natural gas to the site. All proposed connections and modifications to Gas Company facilities would conform to Gas Company and City requirements.

1.2.8.7 Fiber Optics System

A backbone fiber optics system (conduits, tracer wire, and fiber) would be constructed within the Project backbone street system. Backbone fiber optic components (conduits, hand holes, tracer wire, and fiber) would be placed underground within a duct and structure system to be installed in a joint trench. In-tract fiber and conduit would be installed per the City's in-tract fiber optic design guidelines (see: https://www.ontarioca.gov/sites/default/files/Ontario-Files/Information-Technology/2014-12-16_in-tract_designguidelines.pdf).

1.2.8.8 Communications Services

Communications services, including wired and wireless telephone and internet services, are available through numerous private providers and would be provided on an as-needed basis. To the extent practical and consistent with City Conditions of Approval, existing and proposed wires, conductors, conduits, raceways, and similar communications improvements within the Project area would be installed underground. Any necessary surface-mounted equipment, e.g., terminal boxes, transformers, meters, service cabinets, etc., would be screened and would conform to City building setback requirements.

1.2.8.9 Utilities

The Project would also be provided natural gas, electrical, telecommunications services. Service providers available to the Project are listed below:

- Natural gas (Southwest Gas Corporation);
- Electricity (SCE); and
- Telecommunications (various private services, including AT&T, Time Warner Communications, and Frontier Communications).

All modification of, and connection to, existing services would be accomplished consistent with City and purveyor requirements. It is noted that to allow for, and facilitate Project construction activities, provision of temporary utilities services improvements would be required. The scope of such temporary improvements is considered to be consistent with, and reflected within the total scope of development proposed by the Project. Similarly, impacts resulting from the provision of temporary services would not be substantively different from, or greater than, impacts resulting from development of the Project in total.

1.2.8.10 Public Services

Fire protection and emergency medical services for the Project would be provided by the Ontario Fire Department. Police protection services for the Project would be provided by the Ontario Police Department. The City also provides or facilitates provision of a range

of other services that would be generally available to the Project patrons and employees. These services include, but are not limited to: educational, library, and arts and entertainment services.

1.2.8.11 Energy Efficiency/Sustainability

Energy-saving and sustainable design features and operational programs would be incorporated in all facilities developed pursuant to the Project. The Project would be required to comply with incumbent energy efficiency and performance standards established under the incumbent CALGreen Code and City of Ontario 2022 Community Climate Action Plan Update (2022 CCAP Update).

1.2.8.12 Construction Area Traffic Management Plan

Temporary and short-term traffic detours and traffic disruptions could result during construction activities including implementation of access and circulation improvements noted above. Accordingly, the Applicant would be responsible for the preparation and submittal of a Construction Area Traffic Management Plan (Plan). Typical elements and information incorporated in the Plan would include, but not be limited to:

- **Name of on-site construction superintendent and contact phone number.**

- **Identification of Construction Contract Responsibilities** - For example, for excavation and grading activities, describe the approximate depth of excavation, and quantity of soil import/export (if any).
- **Identification and Description of Truck Routes** - to include the number of trucks and their staging location(s) (if any).

- **Identification and Description of Material Storage Locations (if any).**

- **Location and Description of Construction Trailer (if any).**

- **Identification and Description of Traffic Controls** - Traffic controls shall be provided per the Manual of Uniform Traffic Control Devices (MUTCD) if the

occupation or closure of any traffic lanes, parking lanes, parkways or any other public right-of-way is required. If the right-of-way occupation requires configurations or controls not identified in the MUTCD, a separate traffic control plan must be submitted to the City for review and approval. All right-of-way encroachments would require permitting through the City.

- **Identification and Description of Parking** - Estimate the number of workers and identify parking areas for their vehicles.

- **Identification and Description of Maintenance Measures** - Identify and describe measures taken to ensure that the work site and public right-of-way would be maintained (including dust control).

The Plan would be reviewed and approved by the City prior to the issuance of the first building permit and encroachment permit, as applicable. The Plan and its requirements would also be required to be provided to all contractors as one component of building plan/contract document packages.

1.3 PROJECT OBJECTIVES

The broad vision of the 2022 Specific Plan Amendment is to create a community with a mixture of uses, connected through a series of trails, which provides opportunities for people to live, work and play. Supporting 2022 Specific Plan Amendment objectives are listed in detail at Section 3, *Project Description*.

1.4 DISCRETIONARY APPROVALS AND PERMITS

Discretionary actions, permits, and related consultation(s) necessary to approve and implement the Project include, but are not limited to, the following.

1.4.1 Lead Agency Discretionary Actions and Permits

CEQA Guidelines Section 15124 states in pertinent part that if "a public agency must make more than one decision on a project, all its decisions subject to CEQA should be listed…" Requested decisions, or discretionary actions, necessary to realize the Project would include the following:

- EIR Certification;
- Approval of the 2022 Specific Plan Amendment;
- Approval of Tentative Parcel Maps;
- Approval of Development Agreements; and
- Approval of Development Plans.

1.4.2 Other Agency Consultation and Permits

Anticipated consultation and permits necessary to realize the Project would or may include the following:

- Permitting by/through the Regional Water Quality Control Board (RWQCB) pursuant to requirements of the City's National Pollutant Discharge Elimination System (NPDES) Permit.

- Permitting by/through the South Coast Air Quality Management District (SCAQMD) for certain equipment or land uses that may be implemented pursuant to the Project.

- Permitting (i.e., utility construction and connection permits) from affected utility purveyors, notably the City of Ontario, IEUA, and SCE.

Other ministerial permits necessary to realize all on- and off-site improvements related to the development of the Project.

1.5 INITIAL STUDY

The City of Ontario, through the Initial Study process, has determined that the Project has the potential to cause or result in significant environmental impacts, and warranted further analysis, public review, and disclosure through the preparation of an EIR. The Initial Study (IS) and associated EIR Notice of Preparation (NOP), dated October 2022, were forwarded to the California Office of Planning and Research, State Clearinghouse (SCH), and circulated for public review and comment. The State Clearinghouse established the public comment period for the NOP/IS as October 20, 2022 through November 19, 2022. The assigned State Clearinghouse reference for the Project is SCH No. 2022100425. The Initial Study, NOP, and NOP Responses are presented at DEIR Appendix A.

1.6 IMPACTS NOT FOUND TO BE POTENTIALLY SIGNIFICANT

The following discussions identify and list those environmental issues that have been determined pursuant to the IS/NOP and associated public review processes to pose no potentially significant impacts, or where compliance with standard mitigation or conditions of approval would reduce certain potentially significant impacts to levels that are less-than-significant. The specific issues listed are not substantively discussed within the body of this EIR. Please refer also to related discussions and analyses presented within the Initial Study, EIR Appendix A.

Aesthetics

There are no scenic vistas within the Project site, nor would the Project otherwise adversely affect a designated scenic vista. The Project would implement contemporary uses that would be required to conform to City design guidelines and development standards. All Project lighting would also be required to conform to City requirements. The Project would therefore have less-than-significant impacts for the following aesthetic considerations:

- Substantial adverse effects on a scenic vista;

- Substantial damage to scenic resources, including, but not limited to, trees, rocks, outcroppings, and historic buildings within a state scenic highway;

- Substantial degradation of the existing visual character or quality of the site and its surroundings; and

- Creation of a new source of substantial light or glare, which would adversely affect the day or nighttime views in the area.

Agriculture and Forest Resources

The Project is consistent with TOP 2050 and with land uses and development anticipated under TOP 2050 SEIR. Further, the Project would implement provisions of the Project and requirements of the City Development Code that support buffering of, and separation between, agricultural and urban uses. The Project site is not designated as forestland or timberland. The Project does not propose or require uses that would affect off-site agriculture or forest resources. As such, the Project will have less-than-significant or no impacts under the following considerations:

- Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;

- Conflict with existing zoning for agricultural use, or a Williamson Act contract;

- Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production;

- Result in the loss of forest land or conversion of forest land to non-forest use; or

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use, or conversion of forest land to non-forest use.

Air Quality

The Project does not propose facilities or on-going operations that would create objectionable odors affecting a substantial number of people. On this basis, the Project would have a less-than-significant impact in regard to the following consideration:

- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Cultural Resources

There are no known formal cemeteries or informal burial sites within the Project site. The likelihood of encountering human remains in the course of Project development is therefore considered minimal.

As required by California Health and Safety Code Section 7050.5, should human remains be found, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are found to be prehistoric, the coroner would coordinate with the California Native American Heritage Commission as required by state law. As such, the Project will have a less-than-significant impact for the following cultural resources consideration:

- Disturbance of any human remains, including those interred outside of formal cemeteries.

Geology and Soils

No active fault zones are located within the City; nor are any active faults known with the Project site. The Project site is outside any Fault Rapture Hazard Zone (formerly

Alquist-Priolo Zone). The Project does not propose actions or facilities that would otherwise exacerbate known or probable adverse earthquake fault conditions.

The Project site topography evidences little internal difference, with a moderate northeast to southwest downward trending slope, averaging between +2.0 % to -2.3% (Google Earth Imagery 2022). The Project site is not considered internally susceptible to land sliding. Any slopes manufactured in the course of Project development would be subject to review and approval by the City Building Department to ensure their stability. Adjacent properties also present little topographic relief.

Project construction activities would temporarily expose underlying soils, thereby increasing their susceptibility to erosion. Potential erosion impacts incurred during construction activities are mitigated below the level of significance through the Project's mandated compliance with a Storm Water Pollution Prevention Plan (SWPPP), as well as compliance with SCAQMD Rules that prohibit grading activities and site disturbance during high wind events. At Project completion, potential soil erosion impacts in the area will be resolved, as pavement, roads, buildings, and landscaping are established, overcovering previously-exposed soils.

The Project does not propose altering existing topography in a manner that would result in substantial soil erosion or the loss of topsoil. All Project development plans would be subject to review and approval by the City. As part of this review, the City would ensure that permanent slopes and slope protection would conform to City requirements, thereby minimizing the potential for soil erosion over the life of the Project. City review and approval of development plans would also ensure that stormwater management systems are incorporated that would minimize potential erosion from stormwater runoff, both on-site and off-site.

The Project uses would be served by municipal sewer services. No septic tanks or other alternative wastewater disposal systems are proposed by the Project.

Based on the preceding, the Project would result in less-than-significant impacts for the following geology and soils considerations:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving landslides;

- Result in substantial soil erosion or the loss of topsoil; or

- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Hazards and Hazardous Materials

The subject site is not included on the hazardous materials sites list compiled pursuant to Government Code Section 65962.5. Additionally, the Project would be required to comply with applicable federal, state, and local regulations.

The Project site is located within the area subject to provisions of the ONT Airport Land Use Compatibility Plan (ALUCP, July 2018). The ALUCP defines the ONT Airport Influence Area (AIA) as an area in which current and future airport-related noise, overflight, safety, and airspace protection factors may significantly affect land uses or necessitate restriction on those uses. The Project site is located outside the ONT safety zones (see: TOP 2050 DSEIR Figure 5.9-2, Airport Safety Zones). All Project development would be required to comply with ALUCP requirements, thereby precluding or minimizing potential airport/aircraft-related hazards. The Project does not propose or require uses that would contribute to potential airport/aircraft-related hazards.

The Project does not propose or require permanent alteration of vehicle circulation routes, and would not interfere with any identified emergency response or emergency evacuation plan. Consistent with City policies, coordination with the local fire and police departments during pre-construction review of Project plans would ensure that potential interference with emergency response plans and evacuation plans are avoided.

The Project site is located in an urbanizing area, and no wildlands are located in the vicinity of the Project site. Fire protection services are provided to the City and the Project site by the Ontario Fire Department. Pre-construction coordination with Fire Department staff and adherence to local fire regulations during construction and operation of the Project would be required. The City and Fire Department would require that fire prevention/fire suppression measures are incorporated in the Project designs and that water delivery systems serving the Project site provide adequate fire flow. Creation and maintenance of firebreaks and fire-defensible spaces adjacent to building and roadways as required by the City and Fire Department would further reduce the potential for exposure to wildland fires and the spread of wildland fires. The City would also enforce weed abatement measures, minimizing potential fire fuel loads. Additionally, development of the Project site would act to reduce fire hazards by eliminating existing fire fuel loads such as manure, hay, and weeds; while improving area fire protection infrastructure systems.

Based on the preceding, the Project would have less-than-significant impacts under the following considerations:

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for the people residing or working in the project area;

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Hydrology and Water Quality

Direct additions or withdrawals of groundwater are not proposed by the Project. Further, construction proposed by the Project will not involve substructures or other intrusions at depths that would significantly impair or alter the direction or rate of flow of groundwater. Water is provided throughout the City by the City of Ontario Utilities Department. Groundwater which may be consumed by the Project and the City of Ontario, as a whole, would be recharged pursuant to the Department's policies and programs. The Project site is not a designated groundwater recharge area. The Project does not propose or require facilities or operations that would otherwise adversely affect designated recharge areas.

Project construction activities would temporarily expose underlying soils, thereby increasing their susceptibility to erosion. Potential erosion impacts incurred during construction activities are mitigated below the level of significance through the Project's mandated compliance with a Storm Water Pollution Prevention Plan (SWPPP), as well as compliance with SCAQMD Rules that prohibit grading activities and site disturbance during high wind events. At Project completion, potential soil erosion impacts in the area will be resolved, as pavement, roads, buildings, and landscaping are established, overcovering previously-exposed soils.

The Project does not propose altering existing topography in a manner that would result in substantial soil erosion or the loss of topsoil. All Project development plans would be subject to review and approval by the City. As part of this review, the City would ensure that permanent slopes and slope protection would conform to City requirements, thereby minimizing the potential for soil erosion over the life of the Project. City review and approval of development plans would also ensure that stormwater management

systems are incorporated that would minimize potential erosion from stormwater runoff, both on-site and off-site.

Based on the preceding discussion, the Project would result in less-than-significant impacts for the following hydrology and water quality considerations:

- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin; or

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.

Land Use

The developed Project would establish a pattern of cohesive and complementary land uses. The Project configuration and orientation of land uses, combined with integral development standards and design guidelines, act to preclude division or disruption of an established community, whether that community be internal or external to the Project site. Physical arrangement of surrounding areas would not be modified or otherwise affected by the Project.

Based on the preceding, the Project would have a less-than-significant impact for the following land use consideration:

- Physically divide an established community.

Mineral Resources

Mineral resources in the City are limited to construction aggregates such as sand and gravel. There are currently no permitted mining operations located within the City. The Project does not propose or require facilities or operations that would affect the availability of locally important or regionally important mineral resources. As such, the

Project would result in less-than-significant impacts for the following mineral resources considerations:

- Loss of availability of a known mineral resource that would be of value to the region and to the residents of the state; and

- Loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Population and Housing

The Project proposes new and reconfigured residential uses that would directly contribute to population growth. Additionally, the Project light industrial and commercial uses would create additional employment opportunities that could indirectly contribute to population growth. Development proposed by the Project responds globally to existing and anticipated market demands of the City and region, and employment generated by the Project would be a byproduct of this anticipated growth. The Project represents a component of development and growth anticipated by the City, as reflected by the site's TOP 2050 General Plan Land Use designations.

The Project would maintain net residential development within the Specific Plan Area when compared to land uses and development entitled under the 2021 Specific Plan. Amendments proposed under the Project would not eliminate housing, diminish the potential for new housing, or displace persons from existing housing.

On the basis of the preceding discussion, the Project would have less-than-significant impacts for the following population and housing considerations:

- Induce substantial population growth in the area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension of roads or other infrastructure);

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

Public Services

Fire suppression and emergency response services for the Project would be provided by the Ontario Fire Department (OFD). The Project provides for potential location of a new fire station at the northwest corner of Ontario Ranch Road (E – W) at Mill Creek Avenue (N – S). Ultimate need for and location of this fire station would be subject to review and approval by the City and Fire Department. Environmental review of this facility would be conducted when and as required by the City. Additionally, the Project would pay General City (GC) Development Impact Fees, a portion of which is available to offset incremental fire protection service demands generated by the Project. The Project Applicant would pay incumbent Development Impact Fees at issuance of building permit(s). To the satisfaction of the OFD, the Project would comply with City and OFD fire prevention and suppression requirements, including building/site design requirements, substantiated fire flow adequacy, and provisions for emergency access, thereby reducing potential increased demands for fire protection services.

The Project does not propose or require construction or modification of police protection facilities. The Project site is not designated or proposed as the location for new or modified police protection facilities. Incremental police protection service demands generated by the Project are offset through Project payment of City of Ontario General City (GC) Development Impact Fees. A portion of the City's GC Development Impact Fees are allocated for police protection services. The Project Applicant would pay incumbent Development Impact Fees at issuance of building permit(s). Additionally, the Project site plan concept and proposed building designs would be reviewed by the Ontario Police Department (OPD) to ensure incorporation of appropriate safety and security elements.

Occupancy of the Project residential uses would directly contribute to demands on school services. The Project does not propose or require construction or modification of school facilities. The Project site is not designated or proposed as the location for new or

modified school facilities. Project incremental impacts to school services would be offset through mandated payment of school impact fees. The Project Applicant would pay incumbent school impact fees at issuance of building permit(s).

The Project includes parks and open space non-recreation areas that would complement and support development of the Specific Plan Area generally. Potential environmental effects of construction of these facilities are reflected in the scope on analysis of environmental impacts of the Project in total.

Development of the Project would require established public agency oversight including, but not limited to, various plan check and permitting actions by the City. Impacts of the Project would fall within routine tasks of these agencies/departments and are paid for via plan check and inspection fees. Impacts of the Project would not be of such magnitude that new or physically altered facilities would be required. There are no known or probable other public facilities that would be substantially affected by the Project.

Based on the preceding, the Project would have less-than-significant impacts for the following public services considerations:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities.

Recreation

The Project includes parks and open space non-recreation areas that would complement and support development of the Specific Plan Area generally. Potential environmental effects of construction of these facilities are reflected in the scope on analysis of environmental impacts of the Project in total. Of themselves, environmental impacts of parks and open space non-recreation areas that would be constructed as part of the

Project are considered less-than-significant. New residential development within the City is required to pay GC Development Impact Fees, a portion of which would be allocated for parks facilities, acting to offset incremental demands on neighborhood and regional parks or other recreational facilities. The Applicant would pay all requisite GC Development Impact Fees.

Based on the preceding, the Project would have less-than-significant impacts for the following recreation considerations:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facility would occur or be accelerated; and

- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

Wildfire

CAL FIRE maintains California Fire Hazard Severity Zone Maps, including maps for State responsibility areas, as well as local responsibility areas. As shown on the State responsibility map for southwestern San Bernardino County, the City of Ontario is located within a local responsibility area. According to the local responsibility map, Ontario is located in a non-very high fire hazard severity zone (Non-VHFHSZ).

As such, the Project is not located within or near a state responsibility area, or within an area classified as a very high fire hazard severity zone. All development would be required to comply with City building and Fire Codes. All building plans within the City are reviewed by the Ontario Fire Department to ensure their compliance with the City's fire code.

Based on the preceding, the Project would have less-than-significant impacts for the following wildfire considerations:

- Substantially impair an adopted emergency response plan or emergency evacuation plan;

- Exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;

- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; and

- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

1.7 AREAS OF CONCERN OR CONTROVERSY

Section 15123 of the *CEQA Guidelines* requires that the EIR summary identify areas of potential concern or controversy known to the lead agency, including issues raised by other agencies and the public. Issues of concern were identified by the Lead Agency, through responses to the Project Initial Study/Notice of Preparation (NOP), and other communications addressing the Project and the Project EIR.

Responses received pursuant to distribution of the NOP and the Public Scoping Meeting are presented at EIR Appendix A. Table 1.7-1 presents a list of NOP respondents, and a corresponding summary of NOP comments, indicated by *italicized text.* Responses to comments, together with correlating EIR references, are indicated in subsequent statements. Unless otherwise noted, all NOP respondent comments are addressed within the body of the EIR.

Table 1.7-1
List of NOP/AB 52 Respondents and Summary of Comments

Respondent	Summary of Comments
State Agencies	
State of California Office of Planning and Research, State Clearinghouse (SCH)	*SCH provided receipt and record of distribution of the NOP/IS and established the NOP review and comment period of October 20, 2022 through November 19, 2022.* EIR Appendix A includes a copy of the Project IS/NOP and NOP Responses.
State of California Native American Heritage Commission (NAHC)	*NAHC provides procedural guidance in evaluating and determining potential impacts to cultural resources and Tribal Cultural Resources (TCRs).* The EIR evaluates potential impacts to cultural resources consistent with NAHC guidelines and requirements. Please refer to EIR Section 4.11, *Cultural Resources/Tribal Cultural Resources,* and EIR Appendix L, *Cultural Resources Investigation*.
State of California Department of Conservation (DOC)	*The Department of Conservation (DOC) provides comments regarding the potential for the Project to: result in agricultural land conversion, adversely impact agricultural operations, result in cumulative adverse impacts to agricultural lands, adversely impact agricultural preserve(s), or affect Williamson Act contract properties.* The Project's potential impacts to farmland and agricultural resources, including the DOC's above-noted topics of concern, are addressed in the Initial Study (IS) (see: EIR Appendix A, Initial Study, Section 3.7, *Initial Study Checklist and Substantiation*, II. *Agriculture and Forest Resources*). As substantiated in the IS, all potential Project impacts related to Agriculture and Forest Resources would be less-than-significant, and therefore are not further discussed in the EIR. More specifically, the Project is consistent with The Ontario Plan 2050 (TOP 2050), and would not result in impacts not previously considered and addressed in TOP 2050 Supplemental EIR (TOP 2050 SEIR, SCH No. 2021070364). As discussed in TOP 2050 SEIR, "because former agriculture areas within Ontario are now already designated for nonagricultural uses and the current TOP is the baseline for this SEIR, the Proposed Project [TOP 2050] would not conflict with agricultural uses and would not result in conversion of farmland to nonagricultural use" (TOP 2050 SEIR, p. 5.2-14). Further, the Project would implement provisions of the Project and requirements of the City Development Code that support buffering of, and separation between, agricultural and urban uses. These requirements support the City's planned orderly transition of existing agricultural uses to urban uses. These requirements include, but are not limited to:

Table 1.7-1
List of NOP/AB 52 Respondents and Summary of Comments

Respondent	Summary of Comments
	• Project setback and screening standards that act to buffer and separate potentially incompatible uses. • City of Ontario Development Code requirements including a minimum 100-foot separation between "a new residential, commercial or industrial development or structure used for public assembly and an existing animal feed trough, corral/pen or an existing dairy/feed lot including manure stockpiles and related wastewater detention basins" (Development Code Chapter 6 Development and Subdivision Regulations, p. 6.01-63).
Regional Agencies	
Southern California Association of Governments (SCAG)	*SCAG requests that the Draft EIR include an analysis of the Project's consistency with regional plans; specifically, with SCAG's 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal 2020). SCAG also requests that a copy of the Project EIR be emailed to SCAG at mailto:IGR@scag.ca.gov.* Consistency with SCAG's RTP/SCS (Connect SoCal 2020) Goals is provided at EIR Section 4.1, *Land Use and Planning*, Table 4.1-2. SCAG has been provided a copy of the EIR.
South Coast Air Quality Management District (SCAQMD)	*SCAQMD provides direction and guidance in evaluation of the Project's potential air quality, health risk, and greenhouse gas impacts.* All Project air quality, health risk, and GHG impact analyses have been completed consistent with SCAQMD protocols. Project air quality and health risk impacts are addressed at EIR Section 4.3, *Air Quality*; GHG emissions impacts are addressed at EIR Section 4.4, *Greenhouse Gas Emissions*. Detailed analyses and quantified emissions modeling are provided at EIR Appendix D, *Air Quality Impact Analyses*, and EIR Appendix E, *Greenhouse Gas Analysis*. As requested by SCAQMD, all appendices and technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all emission calculation spreadsheets, and air quality modeling and health risk assessment input and output files have been provided to SCAQMD.
County Agencies	
Riverside County Airport Land Use Commission (ALUC)	*ALUC notes the Project may be influenced by the Ontario Airport (ONT), and suggests the City contact ONT in this regard. ALUC notes further that the Project lies outside ALUC jurisdiction.* ALUC's determination that the Project is located outside their jurisdiction is noted. Potential impacts related to public airports and public use airports are discussed in the EIR Initial Study (IS) (see: EIR Appendix A, Initial Study, Section

Table 1.7-1
List of NOP/AB 52 Respondents and Summary of Comments

Respondent	Summary of Comments
	3.7, *Initial Study Checklist and Substantiation*, II. *Hazards and Hazardous Materials*). As substantiated in the IS, all potential Project impacts related to public airports and public use airports would be less-than-significant, and therefore are not further discussed in the EIR. ONT provided no comment on the IS.
Public Utilities	
Southern California Edison (SCE)	*SCE notes that the Project could interfere with easement rights, and/or facilities held by SCE within or adjacent to the subdivision boundaries.* The Project concept does not propose or require uses or operations that would adversely affect SCE easements or SCE facilities. As the Project is further defined, the Applicant and City will coordinate with SCE to ensure that all site and facilities designs comply with SCE requirements. As requested by SCE, the Applicant will provide scaled plans (1 inch = 50 ft. maximum, hard copies or emailed in pdf format) including: grading, drainage, landscape and street improvement plans. SCE facilities and the easements shall be plotted on the above-referenced maps/plans. The Applicant shall (as necessary) state proposed method(s) to eliminate any potential interference to/with SCE easements and facilities.

1.8 EIR TOPICAL ISSUES

Based on the Initial Study analysis, and comments received pursuant to circulation of the NOP, the EIR analyses have been focused on the following topics:

- Air Quality;
- Biological Resources;
- Cultural Resources/Tribal Cultural Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards/Hazardous Materials;
- Hydrology/Water Quality;
- Land Use and Planning;
- Noise;
- Transportation; and
- Utilities and Service Systems.

Additionally, EIR Section 5.0, *Other CEQA Considerations*, presents discussions of other mandatory CEQA topics, including:

- Cumulative Impact Analysis;
- Alternatives Analysis;
- Growth-Inducing Impacts of the Proposed Action;
- Significant Environmental Effects; and
- Significant and Irreversible Environmental Changes.

1.9 SUMMARY OF SIGNIFICANT PROJECT IMPACTS

Implementation of the Project, as proposed, would result in certain impacts which are determined to be significant and unavoidable. These impacts are discussed in detail in the body of the EIR text under their associated topical headings, and are summarized at Table 1.9-1.

Table 1.9-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
Air Quality	**Construction-Source Air Pollutant Emissions** Even with application of mitigation, Project construction-source NOx and CO emissions would exceed applicable SCAQMD regional thresholds and per AQMD criteria would be significant. Per SCAQMD criteria, significant Project-level impacts are also cumulatively considerable. Project operational-source NOx emissions threshold exceedances would result in a cumulatively considerable net increase in the criteria pollutant ozone, for which the Project region is non-attainment. This is a cumulatively significant and unavoidable air quality impact. **Operational-Source Air Pollutant Emissions** Even with application of mitigation, Project operational-source VOC, NOx, CO, PM_{10}, and $PM_{2.5}$ emissions would exceed applicable SCAQMD regional thresholds. The Basin encompassing the Project site is designated as non-attainment for ozone, PM_{10}, and $PM_{2.5}$ (VOC and NOx are both ozone precursors; NOx is a precursor to PM_{10}, and $PM_{2.5}$). Project operational-source VOC, NOx, PM_{10}, and $PM_{2.5}$ emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and PM_{10}, and $PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant and unavoidable air quality impacts. **AQMP Consistency** Project construction-source and operational-source regional threshold emissions exceedances noted above are inconsistent with AQMP Consistency Criterion No. 1. On this basis, the Project would conflict with the AQMP. This is a cumulatively significant air quality impact.

Table 1.9-1
Summary of Significant and Unavoidable Impacts

Environmental Topic	Comments
GHG Emissions	Even after application of mitigation, Project GHG emissions would exceed the SCAQMD GHG emissions screening level threshold of 3,000 $MTCO_2e$/year. On this basis, the Project could directly or indirectly generate GHG emissions that may have a significant impact on the environment. On this basis, the Project's potential to contribute considerably (either individually or cumulatively) to global climate change impacts through GHG emissions is therefore considered significant and unavoidable.

All other potential environmental effects of the Project are determined to be less-than-significant as substantiated within this EIR and accompanying Initial Study, or are reduced below levels of significance with application of mitigation measures identified herein. A summary of all Project impacts and proposed mitigation measures is presented at EIR Section 1.11, *Summary of Impacts and Mitigation Measures*.

1.10 ALTERNATIVES TO THE PROJECT

Consistent with provisions of the *CEQA Guidelines*, the EIR Alternatives Analysis (EIR Section 5.2) presents and evaluates alternatives to the Project that would lessen its significant environmental effects while allowing for attainment of the basic Project Objectives. The rationale underlying the selection of alternatives is presented together with a summary description of each alternative. Merits of the alternatives compared with the Project are described and evaluated. Alternatives to the Project considered in detail within this analysis include:

- No Project Alternatives (No Build, and Development per Existing Specific Plan Land Uses); and
- Reduced Intensity Alternative.

Alternatives considered and rejected include:

- Alternative Sites;
- "No Threshold Exceedance" Alternative for Significant Air Quality Impacts; and
- "No Threshold Exceedance" Alternative for Significant GHG Emissions Impacts.

The above-listed Alternatives to the Project are summarized below, and are described in greater detail at Section 5.2.2, *Description of Alternatives*. Please refer also to the detailed discussions of Alternatives to the Project presented at EIR Section 5.2, *Alternatives Analysis.*

1.10.1 No Project Alternatives

1.10.1.1 Overview

The *CEQA Guidelines* specifically require that an EIR include evaluation of a No Project Alternative. The No Project Alternative should make a reasoned assessment as to future disposition of the subject site should the Project under consideration not be developed. In this latter regard, the *CEQA Guidelines* state in pertinent part:

> "If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment." (*CEQA Guidelines*, Section 15126.6 (e)(3)(B)).

Within this analysis, two No Project scenarios are considered – "No Build" and "Development per Existing Specific Plan Land Uses."

No Project Alternative: No Build

The No Project Alternative: No Build scenario assumes the site remains in its current undeveloped condition. If a No Build scenario were maintained, its comparative environmental impacts would replicate the existing conditions discussions for each of the environmental topics evaluated in this EIR; and comparative impacts of the Project would be as presented under each of the EIR environmental topics.

No Project Alternative: Development per Existing Specific Plan Land Uses

The No Project Alternative: Development per Existing Specific Plan Land Uses (Existing Specific Plan Land Uses) scenario represents foreseeable development of the subject site pursuant to the site's current Policy Plan Land Use designations. Table 1.10-1 compares the composition and scope of uses under the Project with development that could result under the Existing Specific Plan Land Uses scenario.

Table 1.10-1
Site Development Comparison
No Project Alternative and Project Land Uses

	No Project Alternative Existing (2021) Rich-Haven Specific Plan Land Uses			
	Gross Acres	**Max. Dwelling Units**	**Max. Commercial/ Office SF**	**Max. Light Industrial SF**
	584.9	7,194	990,902	1,183,525
	Project 2022 Rich-Haven Specific Plan Amendment Land Uses			
	Gross Acres	**Max. Dwelling Units**	**Max. Commercial/Office SF**	**Max. Light Industrial SF**
	584.9	7,194	925,002	2,767,148
Delta	**--**	**---**	**(65,900 SF)**	**+ 1,583,623 SF**

Sources: 2021 Rich-Haven Specific Plan; 2022 Rich-Haven Specific Plan Amendment

1.10.2 Reduced Intensity Alternative

The Reduced Intensity Alternative focuses on a development scenario that would reduce the significant operational-source air quality impacts otherwise occurring under the Project.

Of the total operational-source emissions generated by the Project, approximately 77 percent (by weight) would be generated by Project mobile sources (traffic). An effective way to reduce the Project operational-source emissions would therefore be an

Alternative that would reduce the total amount of traffic generated by the Project. Based on the reduction in total traffic, the Reduced Intensity Alternative would also reduce the scope and/or intensity of significant air quality impacts, and GHG emissions impacts that would otherwise result from implementation of the Project.

For purposes of the EIR Alternatives Analysis, the Reduced Intensity Alternative would implement the Project uses at an approximately 25 percent reduction in overall development intensity. The mix of land uses proposed by the Project would be proportionally maintained under the Reduced Intensity Alternative. Development under the Project and the Reduced Intensity Alternative is compared at Table 1.10-2.

Table 1.10-2
Site Development Comparison
Project and Reduced Intensity Alternative

	Project			
	Gross Acres	**Max. Dwelling Units**	**Max. Commercial/Office SF**	**Max. Light Industrial SF**
	584.9	7,194	925,002	2,767,148
	Reduced Intensity Alternative			
	Gross Acres	**Max. Dwelling Units**	**Max. Commercial/Office SF**	**Max. Light Industrial SF**
	584.9	5,396	693,752	2,075,361
Delta	**---**	**(1798 DU)**	**(231,250 SF)**	**(691,787 SF)**

Sources: 2022 Rich-Haven Specific Plan Amendment; Reduced Intensity Alternative-Applied Planning, Inc.

1.10.3 Alternatives Considered and Rejected

Alternative Sites Considered and Rejected

As stated at *CEQA Guidelines* §15126.6 (f)(1)(2)(A), the "key question and first step in [the] analysis [of alternative locations] is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." *CEQA Guidelines* §15126.6 (f) (1) also provides that when considering the feasibility of potential alternative sites, the factors that may be taken into account include: "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or

regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). None of these factors establishes a fixed limit on the scope of reasonable alternatives."

As discussed below, relocation of the Project would not avoid or substantially lessen the Project's significant environmental impacts. Further, there are no feasible alternative sites under control or likely control of the Applicant that would allow for relocation of the Project in a manner that could substantially reduce the Project's significant environmental impacts.

Significant Air Quality Impacts Not Substantially Reduced at Alternative Site

- Relocation to an Alternative Site would not likely achieve any measurable reduction in the Project's regional construction-source and operational-source air quality impacts and contributions to nonattainment conditions. AQMP inconsistencies tied to the Project significant air quality impacts similarly would not be reduced by relocation of the Project. Relocation of the Project anywhere within the South Coast Air Basin would not alter or diminish the significance of these impacts.

Significant GHG Emissions Impacts Not Substantially Reduced at Alternative Site

- GHG emissions impacts are, by definition, cumulative and global in their effects. Relocation of the Project would not alter or diminish the significance of its GHG emissions impacts.

Based on the preceding considerations, analysis of an Alternative Site as means of reducing the Project's significant environmental impacts was not further considered.

"No Threshold Exceedance" Alternative for Significant Air Quality Impacts Considered and Rejected

Operational-Source Emissions

In order to reduce Project operational-source air quality emissions to levels that would preclude exceedance of all SCAQMD thresholds, the Project scope would need to be reduced by approximately 92.4 percent (this may achieve the most restrictive threshold [VOC] and all subordinate thresholds). At such a reduction in scope, the Project Objectives would not be realized in any meaningful sense. As such, potential alternatives with the specific goal of avoiding all significant operational-source air quality impacts resulting from the Project were rejected from consideration, and are not further evaluated in this discussion.

Project operational-source emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants for which the Project region is non-attainment. For the same reasons noted above, there are no feasible means or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, this impact and all operational-source air quality impacts would be diminished under the EIR Reduced Intensity Alternative.

Construction-Source Emissions

In order to reduce Project construction-source air quality emissions to levels that would preclude exceedance of all SCAQMD thresholds would require use of construction equipment or construction technologies that are not currently available or that would be available in the near-term. In this regard, use of alternative fuel construction equipment, including electric-powered equipment, is not feasible at this time as such equipment is not commercially available, and is not expected to be in the near-term. Alternatively, the duration of Project construction activities would need to be protracted by an estimated additional 67 percent of the current Project construction schedule. This may achieve the most restrictive construction-source emissions threshold [NOx], but in so doing would only prolong the duration of air quality emissions, the duration of construction-source equipment noise, and the duration of general disturbances associated with construction

activities. The Lead Agency has determined that the benefits of the Project's current construction schedule outweigh the potential benefit in a temporary decrease in air quality emissions that may be achieved through a protracted Project construction schedule. Moreover, accepted air quality modeling parameters do not provide for such an assumed extended construction period. For these reasons, there are no feasible means or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant.

"No Threshold Exceedance" Alternative for GHG Emissions Impacts Considered and Rejected

As discussed at EIR Section 4.4, *Greenhouse Gas Emissions*, quantified Project-source GHG emissions would exceed 3,000 $MTCO_2e$/year; and the Project cannot feasibly achieve the SCAQMD screening-level threshold of 3,000 $MTCO_2e$/year. The SCAQMD 3,000 $MTCO_2e$/year screening-level threshold is the most conservative metric available and is employed in this analysis in of GHG emissions significance. On this basis, Project GHG emissions have the potential to either directly or indirectly result in a significant impact on the environment.

The majority (approximately 72 percent) of the Project GHG emissions would be generated by Project vehicular sources. Responsibility and authority for regulation of vehicular-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can effect or mandate substantial reductions in vehicular-source GHG emissions, much less reductions that would achieve no net increase condition or achieve the SCAQMD screening-level 3,000 MTCO2e/year threshold. In effect, all Project traffic would need to be eliminated or be "zero GHG emissions sources" in order to achieve the SCAQMD threshold. There are no feasible means to or alternatives to eliminate all Project traffic, or to ensure that Project traffic would comprise zero GHG emissions sources. In terms of its practical application, this would constitute a "no build" condition.

The Project would however implement all feasible measures to reduce GHG emissions as outlined under the City of Ontario 2022 Community Climate Action Plan Update (2022

CCAP Update). Under the 2022 CCAP Update, mixed use developments that garner at least 100 Screening Table points would be consistent with the GHG emissions reduction targets in the City's 2022 CCAP Update. As substantiated at EIR Section 4.4, *Greenhouse Gas Emissions*, the Project would attain more than 100 Screening Table points. The Project is therefore determined to be consistent with the 2022 CCAP Update.

1.10.4 Environmentally Superior Alternative

No Project Alternative: No Build Eliminated from Consideration

The No Project Alternative**:** No Build scenario would achieve none of the Project Objectives, and under certain topics, may increase the severity of, or create additional impacts not otherwise occurring under the Project. This Alternative is therefore eliminated from consideration as the "Environmentally Superior Alternative."

No Project Alternative: Existing Specific Plan Land Uses Eliminated from Consideration

The No Project Alternative: Existing Specific Plan Land Uses scenario would provide no significant reduction in environmental impacts when compared to the Project, and may increase the severity of, or create additional impacts not otherwise occurring under the Project. It is specifically noted that Land Use designations under this Alternative are inconsistent with TOP 2050, and this Alternative would require amendment of TOP 2050 Land Use Plan. This Alternative is therefore eliminated from consideration as the "Environmentally Superior Alternative."

Reduced Intensity Alternative Considerations

The Reduced Intensity Alternative scenario would incrementally reduce certain of the Project's environmental impacts. Significant and unavoidable environmental impacts under the Project would persist under the Reduced Intensity Alternative, though the degree of these impacts would be diminished. Relative merits of the Reduced Intensity Alternative are summarized below:

Reduced Intensity Alternative Would Reduce but Would not Eliminate Significant Impacts

The Reduced Intensity Alternative would reduce, but not eliminate, the Project's significant impacts regarding air quality and GHG emissions. More specifically:

- The magnitude of operational-source air quality impacts (VOC, NO_x, CO, PM_{10}) would be diminished but would remain significant and unavoidable. $PM_{2.5}$ emissions impacts would be reduced below significance thresholds.

- Total GHG emissions would be reduced. However, GHG emissions would still exceed the SCAQMD 3,000 $MTCO_2e$ screening threshold. Impacts in this regard would remain significant and unavoidable.

Reduced Intensity Alternative Would Marginalize Attainment of Project Objectives

Based on the reduction in overall development scope, the Reduced Intensity Alternative would broadly restrict attainment of all Project Objectives. Where quantifiable (e.g., additional sales tax revenues, job creation, incremental property tax revenues), this reduction in attainment of Objectives would be approximately 25 percent less than would be otherwise realized under the Project. Qualitatively, development of the subject site under the Reduced Intensity Alternative fails to optimize use of a significant vacant property, and is not considered by the Lead Agency to represent the highest and best use of the subject site.

Summary and Conclusions

Reduced Intensity Alternative Identified as the Environmentally Superior Alternative

In conclusion, the Reduced Intensity Alternative would result in potential incremental reduction in certain significant environmental impacts otherwise occurring under the Project, but would not eliminate these impacts. The Reduced Intensity Alternative would allow for limited attainment of the Project Objectives. On this basis, the Reduced Intensity Alternative is identified as the environmentally superior alternative.

Other Considerations

Countering its potential environmental benefits, the Reduced Intensity Alternative would broadly and substantially diminish attainment of the Project Objectives, with related diminishment of socio-economic benefits to the City and region. CEQA indicates that socioeconomic effects (while not lone determinants) are important considerations for decision-makers in evaluating and considering EIR Alternatives. With respect to socioeconomics, the Project and the Reduced Intensity Alternative would each have beneficial effects for the area. Either of these scenarios would contribute to area employment and the City's overall tax base. However, as noted previously, because the scope and variety of land uses would be reduced by approximately 25 percent under the Reduced Intensity Alternative, the resulting effective realization of the Project Objectives, to include economic benefits to the City and region, would likely be similarly diminished.

Additionally, at an approximate 25 percent reduction in the Project's development scope, the Reduced Intensity Alternative would not recognize the site's value as one of the remaining undeveloped properties within the City; or take advantage of the site's available acreage and consequently would not result in development of the subject site in a manner considered to be its highest and best use.

1.11 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 1.11-1 summarizes potential impacts resulting from implementation and operations of the Project. The impacts identified at Table 1.11-1 correspond with environmental topics and impacts discussed at EIR Section 4.0, *Environmental Impact Analysis*. Table 1.11-1 also lists measures proposed to mitigate potentially significant environmental impacts of the Project, and indicates the level of significance after application of proposed mitigation.

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Table 1.11-1
Summary of Impacts and Mitigation

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit.*

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
4.1 Land Use and Planning			
Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
4.2 Transportation			
Conflict or be inconsistent with *CEQA Guidelines* Section 15064.3, subdivision (b).	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Result in inadequate emergency access.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
4.3 Air Quality			
Conflict with or obstruct implementation of the applicable air quality plan.	Potentially Significant.	No feasible mitigation.	Significant and Unavoidable.

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Table 1.11-1
Summary of Impacts and Mitigation

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit.*

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	**Construction Emissions** Potentially Significant.	*4.3.1 Fugitive dust control measures surpassing SCAQMD Rule 403 minimum requirements shall be implemented. Such measures may include: use of nontoxic soil stabilizers, applying water every four hours to active soil disturbing activities and tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.* *4.3.2 Construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or higher exhaust emission limits shall be utilized.* *4.3.3 Construction equipment shall be properly serviced and maintained to the manufacturer's standards.* *4.3.4 Non-essential idling of construction equipment shall be limited to no more than five consecutive minutes.* *4.3.5 Super-Compliant VOC paints for coating of architectural surfaces shall be used whenever possible.* *4.3.6 Construction contractors shall use off-road diesel construction equipment that complies with EPA/CARB Tier 4 Interim or better emissions standards during all construction phases.*	Significant and Unavoidable (NOx and CO emissions regional threshold exceedances only).

Table 1.11-1
Summary of Impacts and Mitigation

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit.*

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
	Operational Emissions Potentially Significant.	*4.3.7 Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable CARB anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five (5) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, the City shall conduct a site inspection to ensure that the signs are in place.* *4.3.8 Industrial building occupants/tenants shall be provided documentation on funding opportunities, such as the Carl Moyer Program, that provide incentives for using cleaner-than-required engines and equipment.* *4.3.9 Non-residential building plans and site designs shall include natural light, passive heating, and passive cooling measures. Typical measures would include efficient window designs, awnings, overhangs, and skylights.* *4.3.10 Building and site plans for non-residential uses shall provide electrical service accessible to landscaped areas.*	Significant and Unavoidable.

Table 1.11-1
Summary of Impacts and Mitigation

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit.*

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.3.11 The following or similar language shall be included in lease/sale agreements for all non-residential buildings: "Building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements." *4.3.12 The following or similar language shall be included in lease/sale agreements for all industrial buildings: "Tenants shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment, through requirements in the lease agreements. Electric-powered service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically or natural gas fueled provided such yard trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles."* *4.3.13 The following or similar language shall be included in lease/sale agreements for all industrial buildings: "Tenants that do not already operate 2010 and newer trucks shall apply in good faith for funding to replace/retrofit their trucks. Funding mechanisms include Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the*	

Table 1.11-1
Summary of Impacts and Mitigation

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit.*

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible." Note: This measure shall not apply to trucks that are not owned or otherwise controlled by the facility owner or facility tenant. *4.3.14 The following or similar language shall be included in lease/sale agreements for all industrial buildings: "Tenants who employ 250 or more employees on a full- or part-time basis shall comply with SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Tenants with less than 250 employees or tenants with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to Rule 2202 with annual reporting of actions and results to the City. The tenant-implemented program would include, but not be limited to the following:* • *Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees.*	

Table 1.11-1
Summary of Impacts and Mitigation

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit.*

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		• *Create and maintain a "commuter club" to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work.* • *Inform employees of public transit and commuting services available to them (e.g., social media, signage).* • *Provide on-site transit pass sales and discounted transit passes.* • *Guarantee a ride home.* • *Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted.* *4.3.15 Loading docks shall be designed to be compatible with SmartWay trucks.* *4.3.16 Non-residential use site plans shall include signs or other directional indicators delineating required site access and on-site circulation plan.* *4.3.17 The following or similar language shall be included in lease/sale agreements for all non-residential buildings: Tenants shall install (a) sign(s) on their respective property(ies) with telephone, email, and regular mail contact information for a designated tenant representative (representative) who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the City for perceived Code violations. The representative shall keep records of any*	

Table 1.11-1
Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		complaints received and actions taken to communicate with the complainant and resolve the complaint. The representative shall endeavor to resolve complaints within 24 hours. *4.3.18 Industrial building designs and site plans shall incorporate electrical supply lines and panels sized to support anticipated future requirements for heavy truck charging facilities. Such designs and plans shall be based on reasonable predictions derived from the most recent available truck manufacturer's data.*	
	LST Emissions Less-Than-Significant.	No mitigation is necessary.	Not applicable.
	CO Hotspot Emissions Less-Than-Significant.	No mitigation is necessary.	Not applicable.
	Cumulative Impacts Significant and Unavoidable.	Project construction-source NOx emissions regional threshold exceedances; and operational-source VOC, NOx, PM_{10}, and $PM_{2.5}$ emissions regional threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and PM_{10}/$PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant air quality impacts.	Significant and Unavoidable.
Expose sensitive receptors to substantial pollutant concentrations.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.

Table 1.11-1
Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
4.4 Greenhouse Gas Emissions			
Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Potentially Significant.	No feasible mitigation.	Significant and Unavoidable.
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Potentially Significant.	*4.4.1 Development proposals within the Specific Plan Area shall implement Screening Table Measures to achieve a minimum of 100 points per the City's 2022 CCAP Update Screening Tables. The City shall verify minimum 100-point attainment prior to issuance of site plans and building permits.*	Less-Than-Significant.
4.5 Energy			
Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
4.6 Noise			
Construction activities and associated noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or	Less-Than-Significant. *The mitigation measures act to further reduce already less-than-*	*4.6.1 Prior to Grading Permit issuance, the Applicant shall demonstrate that the Project complies with the following:*	Less-Than-Significant.

Table 1.11-1
Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
noise ordinance, or applicable standards of other agencies.	*significant construction noise levels.*	• *All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers, to the satisfaction of the Noise Control Officer;* • *During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers to the satisfaction of the City Planner; and* • *During construction and to the satisfaction of the City Planner, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors during construction activities.* *4.6.2 Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of 10 p.m. and 7 a.m. is prohibited. The City Planner may approve additional hours when it can be found that such additional hours will not generate additional disturbance, or that mitigation measures will ensure compatibility with nearby residential areas.*	
Vehicular source noise would result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Potentially Significant. (on-site residential uses only)	*4.6.3 Prior to the construction of residential development along Riverside Drive, Haven Avenue, Mill Creek Avenue, Edison Avenue, and Milliken Avenue, an acoustical noise analysis shall be prepared prior to the submittal of final tentative tract maps to ensure that exterior and interior noise levels are met. The acoustical analysis shall demonstrate that the buildings have been designed to*	Less-Than-Significant.

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Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		limit interior noise levels to 45 dBA CNEL and exterior noise (backyards and habitable balconies and patios) to less than 65 dBA CNEL. Individual developments shall, to the extent feasible, implement site-planning techniques.	
Project operational noise would result in exposure of persons to, or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Project operational noise would result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Less-Than-Significant. *The mitigation measures act to further reduce already less-than-significant construction noise levels.*	*4.6.4 Prior to final development plan approval, on a project-by-project basis and to the discretion of the Ontario Planning Department, subsequent noise studies shall be prepared, which demonstrates the site placement of stationary noise sources would not exceed criteria established in the City of Ontario Municipal Code. The analysis shall verify that loading dock facilities, rooftop equipment, trash compactors and other stationary noise sources are adequately shielded and/or located at an adequate distance from residential areas in order to comply with the City's noise standards.* *4.6.5 Prior to Building Permit issuance and to the satisfaction of the Ontario Planning Department, the Project Applicants, on a project-by-project basis, shall demonstrate compliance with the following with respect to mechanical equipment:*	Less-Than-Significant.

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Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		• *Mechanical equipment shall include specifications of quiet equipment;* • *Mechanical equipment shall be properly selected and installed, and shall include sound attenuation packages;* • *To the extent possible, mechanical equipment shall be oriented away from the nearest noise sensitive receptors; and* • *The need for sound attenuation measures, and design of, such measures shall be determined as part of the final engineering design on a project-by-project basis.* *4.6.6 Where a commercial zone abuts a residential zone or residential use, the following or similar language shall be included in lease/sale agreements for all non-residential buildings: All deliveries of goods and supplies; trash pick-up, including the use of parking lot trash sweepers; and the operation of machinery or mechanical equipment which emits noise levels in excess of 65 dBA, as measured from the closest property line to the equipment, shall only be allowed between the hours of 7 a.m. and 10 p.m., unless otherwise specified in an approved conditional use permit or other discretionary approval.* *4.6.7 Prior to final development plan approval, on a project-by-project basis, a subsequent noise analysis shall be prepared, to the satisfaction of the Ontario Planning Department, which demonstrates that all feasible sound*	

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Summary of Impacts and Mitigation

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		attenuation has been incorporated into the parking areas (i.e., landscaping and brushed driving surfaces), such that noise from parking areas has been minimized to the greatest extent practicable.	
Generation of excessive groundborne vibration or groundborne noise.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
4.7 Hazards/Hazardous Materials			
Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.	Potentially Significant.	*4.7.1 Prior to the issuance of permits for any structural demolition activities on the Project site, the Project developer(s) shall submit documentation to the City of Ontario Building Department that asbestos and lead-based paint issues are not applicable to their property or that appropriate remediation actions have been undertaken to correct any lead-based paint or asbestos issues. Any required remediation shall conform with the regulations of the South Coast Air Quality Management District and the State of California, Division of Occupational Health and Safety.*	Less-Than-Significant.

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Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.7.2 Testing for methane gas shall be conducted subsequent to mass grading of any site within the Specific Plan Area. Methane gas testing shall conform to requirements of "City of Ontario Building Department Methane Gas Assessment for Projects in the New Model Colony."[1] Project designs shall conform to the Assessment's Methane Design Guidelines or other requirements stipulated by the City of Ontario Building Department. *4.7.3 Site grubbing, clearing, and stockpiling and disposal of soils shall conform to City grading permit requirements. Such requirements may include, but would not be limited to, identification and segregation/stockpiling or proper disposal of soils that contain elevated levels of organic material.* *4.7.4 Prior to approval of tract maps or approval for development of any uses on the Hillardis Property (APNs 218-161-04, 218-161-05, 218-161-10, 218-161-11), the Applicant or successor interest shall complete a Phase II Environmental Site Assessment (ESA) for that property. Prior to issuance of the first development permit for the site, the Applicant or successor interest shall comply with*	

[1] See:https://www.ontarioca.gov/sites/default/files/Ontario-Files/Building/general/methane_assessment.pdf.

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Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		requirements of the Phase II ESA, and shall provide documentation to the City of Ontario to that effect.	
Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
4.8 Hydrology and Water Quality			
Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Substantially alter the existing drainage pattern of the site or area in a manner that would substantially increase the rate or amount of runoff that would result in flooding on- or offsite; Substantially alter the existing drainage pattern of the site or area in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially Significant.	*4.8.1 General: In conjunction with all development proposals within the Specific Plan Area, peak flow mitigation measures for each development shall be implemented such that discharges to receiving MPD storm drain mainlines do not exceed the maximum allowable flow rates identified at Project Hydrology Report, Appendix A, Exhibit 3. Ultimate design, location, and configuration of peak flow mitigation measures are site-and use-specific. Design, location, and configuration of peak flow mitigation measures shall be approved by the City as part of site plan review and approval processes.* *4.8.2 Haven Storm Drain Mitigation: Measures (e.g., detention basins or similar) to control peak flows to the*	Less-Than-Significant.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		Haven Storm Drain shall be implemented to address increased stormwater discharges resulting from development of Planning Areas 1A, 1B, 1C, 2C, and 3C. Please refer to Figure 4.8-5. Locations for these measures shall be reviewed and approved by the City prior to final site plan approval(s) for development within Planning Areas 1A, 1B, 1C, 2C, and 3C. *4.8.3 Mill Creek Storm Drain Mitigation: Peak flow mitigation measures shall be implemented for stormwater discharges resulting from development of Planning Areas 2C, 3C, 5A, 6A, and 6B. Please refer to Figure 4.8-5. Locations for these measures shall be reviewed and approved by the City prior to final site plan approval(s) for development within Planning Areas 2C, 3C, 5A, 6A, and 6B.*	
Impede or redirect flood flows.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Under a flood, tsunami, or seiche event, release pollutants due to project inundation.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
4.9 Geology and Soils			
Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving strong seismic ground shaking.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction; or be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	Potentially Significant.	*4.9.1 All proposed development within the Specific Plan Area shall, at a minimum, comply with recommendations and standards identified in the Preliminary Geotechnical Report at Section 4.0, Recommendations. If further recommendations are developed as part of future site- and design-specific geotechnical investigations they shall prevail.*	Less-Than-Significant.
Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), thereby creating substantial direct or indirect risks to life or property.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Less-Than-Significant. [impacts to paleontological resources]	No mitigation is necessary.	Not applicable.
4.10 Biological Resources			
Substantially affect, either directly or through habitat modifications, any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS).	Potentially Significant.	*4.10.1 Avoidance of Nesting Migratory Birds: If possible, all vegetation removal activities shall be scheduled from August 1 to February 1, which is outside the general avian nesting season. This would ensure that no active nests would be disturbed and that removal could proceed rapidly. If vegetation is to be cleared during the nesting season, all suitable habitat will be thoroughly surveyed within 72 hours prior to clearing for the presence of nesting birds by a qualified biologist (Project Biologist). The Project Biologist shall be approved by the City and retained by the Applicant. The survey results shall be submitted by the Project Applicant to the City Planning Department. If any active nests are detected, the area shall be flagged and mapped on the construction plans along with a minimum 300-foot buffer, with the final buffer distance to be determined by the Project Biologist. The buffer area shall be avoided until, as determined by the Project Biologist, the nesting cycle is complete or it is concluded that the nest has failed. In addition, the Project Biologist shall be present on the site to monitor the vegetation removal to ensure that any nests, which were not detected during the initial survey, are not disturbed.*	Less-Than-Significant.

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Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		4.10.2 Avoidance of Nesting Burrowing Owls: No more than 72 hours prior to any site disturbances, focused surveys for the burrowing owl shall be conducted. If absence of this species is confirmed, Project work can proceed. If, however, burrowing owl is located on site, the appropriate resource agencies (CDFW and USFWS) shall be contacted. The Project Applicant shall consult with the wildlife agencies regarding the most appropriate methods and timing for removal of owls. As necessary, owls will be actively evicted following agency approved protocols (i.e., placing a one-way door at the burrow entrance to ensure that owls cannot access the burrow once they leave). Any such active eviction shall occur outside of the breeding/nesting season. That is, active eviction shall be accomplished between September 1 and February 15. If more than 30 days has elapsed between owl eviction and completion of clearing and grubbing activities, a subsequent survey for the burrowing owl shall be conducted to ensure that owls have not re-populated the site. Any reoccupation by owls will require subsequent protocol active eviction.	
Have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or California plans, policies or regulations or by the California Department of Fish and Wildlife	Less-Than-Significant.	No mitigation is necessary.	Not applicable.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
(CDFW) or the United States Fish and Wildlife Service (USFWS).			
Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
4.11 Cultural/Tribal Resources			

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5.	Potentially Significant.	*4.11.1 Prior to the issuance of (a) grading permit(s) for development proposal(s) within the Specific Plan Area, the Applicant or successor(s) in interest shall provide a letter to the City of Ontario Building Department, or designee, from a qualified professional archeologist meeting the Secretary of Interior's Professional Qualifications for Archaeology as defined at 36 CFR Part 61, Appendix A stating that the archeologist has been retained to provide on-call services in the event archeological resources are discovered. The archeologist shall be present at the pre-grading conference to establish procedures for archeological resource surveillance. In the event a previously unrecorded archaeological deposit is encountered during construction, all activity within 50 feet of the area of discovery shall cease and the City shall be immediately notified. The archeologist shall be contacted to flag the area in the field and determine if the archaeological deposits meet the CEQA definition of historical (State CEQA Guidelines 15064.5(a)), unique archaeological resource (Public Resources Code 21083.2(g)), or Tribal Cultural Resource (Public Resources Code 21074 (a)). If the find is considered a "resource" the archaeologist shall pursue either protection in place or recovery, salvage and treatment of the deposits. A qualified archaeologist and a Native American Monitor of Gabrieleño Ancestry shall*	Less-Than-Significant.

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Summary of Impacts and Mitigation

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		evaluate all archaeological resources unearthed by Project construction activities. If the resources are Native American in origin, they shall have the opportunity to consult with the City and/or Project developer on appropriate treatment and curation of these resources. If unique archaeological resources, or Tribal Cultural Resources cannot be preserved in place or left in an undisturbed state, recovery, salvage and treatment shall be required at the Applicant or successor(s) in interest's expense. Recovery, salvage and treatment protocols shall be developed in accordance with applicable provisions of Public Resource Code Section 21083.2 and State CEQA Guidelines 15064.5 and 15126.4. All recovered and salvaged resources shall be prepared to the point of identification and permanent preservation by the archaeologist. Resources shall be identified and curated into an established accredited professional repository. The archaeologist shall have a repository agreement in hand prior to initiating recovery of the resource. Excavation as a treatment option shall be restricted to those parts of the unique archaeological resource, or Tribal Cultural Resource that would be damaged or destroyed by the Project.	
Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code section 21074.	Potentially Significant.	*4.11.2 Project developer(s) shall retain a Native American Monitor of Gabrieleño Ancestry (Native American Monitor) that was consulted on this Project pursuant to Assembly Bill A52 - SB18 to conduct a Native American Indian Sensitivity Training for construction personnel prior to commencement of any excavation activities. The*	Less-Than-Significant.

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		training session shall include a handout and focus on how to identify Native American resources encountered during earthmoving activities and the procedures followed if resources are discovered, the duties of the Native American Monitor of Gabrieleño Ancestry and the general steps the Monitor would follow in conducting a salvage investigation. *4.11.3 Project developer(s) shall retain a Native American Monitor of Gabrieleño Ancestry that was consulted on this Project pursuant to Assembly Bill A52 - SB18 to be on-site during all Project-related, ground-disturbing construction activities Such activities include: pavement removal, auguring, boring, grading, excavation, potholing, trenching, and/or grubbing of previously undisturbed native soils to a maximum depth of 30 feet below ground surface. A copy of the executed consultant contract shall be submitted to the City of Ontario Planning Department prior to the issuance of any grading permit (any ground-disturbing activity). At their discretion, a Native American Monitor of Gabrieleño Ancestry can be present during the removal of dairy manure to native soil, but not at developer expense.* *4.11.4 A qualified archaeologist and a Native American Monitor of Gabrieleño Ancestry that was consulted on this Project pursuant to Assembly Bill A52 - SB18 shall*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		evaluate all archaeological resources unearthed by Project construction activities. If the resources are Native American in origin, the Tribe shall coordinate with the developer regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. If archeological features are discovered, the archeologist shall report such findings to the Ontario Planning Director. If the archeological resources are found to be significant, the archeologist shall determine the appropriate actions, in cooperation with the City that shall be taken for exploration and/or salvage in compliance with CEQA Guidelines Section 15064.5(f). *4.11.5 Prior to the start of ground disturbing activities, developer(s) shall arrange a designated site location within the footprint of the Project for the respectful reburial of Tribal human remains and/or ceremonial objects. All human skeletal material discoveries shall be reported immediately to the County Coroner. The Native American Monitor shall immediately divert work a minimum of 50 feet from the discovery site and place an exclusion zone around the burial.* *4.11.6 If encountering human skeletal materials, the Native American Monitor shall notify the construction manager who shall contact the San Bernardino County Coroner. All construction activity shall be diverted while the San*	

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		Bernardino County Coroner determines if the remains are Native American. The discovery shall be confidential and secure to prevent further disturbance. If Native American, the San Bernardino County Coroner shall notify the Native American Heritage Commission (NAHC) as mandated by state law who will then appoint a Most Likely Descendant. In the case where discovered human remains cannot be documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard shall be posted outside working hours. The Tribe shall make every effort to recommend diverting the Project and keep the remains in situ and protected. If the Project cannot be diverted, it may be determined that burials will be removed. If data recovery is approved by the Tribe, documentation shall be taken which includes, at a minimum, detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or means necessary to ensure complete recovery of all material. If the discovery of human remains includes four (4) or more burials, the location is considered a cemetery and a separate treatment plan shall be created. The Project developer shall consult with the Tribe regarding avoidance of all cemetery	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		sites. Once complete, a final report of all activities shall be submitted to the NAHC. *4.11.7 There shall be no Scientific study or the utilization of any invasive diagnostics on any Native American human remains.* *4.11.8 If the San Bernardino County Coroner determines the remains represent a historic non-Native American burial, the burial shall be treated in the same manner of respect with agreement of the San Bernardino County Coroner. Reburial will be in an appropriate setting. If the San Bernardino County Coroner determines the remains to be modern, the San Bernardino County Coroner shall take custody of the remains.* *4.11.9 As directed by the Project Archaeologist in consultation with the Native American Monitor, each occurrence of human remains and associated funerary objects shall be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony shall be removed to a secure container on site if possible. These items shall be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the Project site, but at a location agreed upon between the Tribe and developer(s) and*	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
		protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.	
4.12 Utilities & Service Systems			
Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.
Generate solid waste in excess of State or local standards, or in excess of the	Less-Than-Significant.	No mitigation is necessary.	Not applicable.

Table 1.11-1
Summary of Impacts and Mitigation

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit.*

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation/Remarks
capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.			
Comply with federal, state, and local statutes and regulations related to solid waste.	Less-Than-Significant.	No mitigation is necessary.	Not applicable.

2.0 INTRODUCTION

2.0 INTRODUCTION

2.1 OVERVIEW

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated in this EIR coincide with the location and boundaries in the 2021 Specific Plan.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in this EIR proposes a new amendment of the RHSP as described herein.

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.
3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment. The Project is further described at Draft EIR Section 3.0, *Project Description*.

2.2 EIR PURPOSE AND AUTHORIZATION

An EIR is an informational document intended to apprise decision-makers and the general public of potentially significant environmental impacts of a project. An EIR also proposes mitigation to preclude or minimize significant impacts, and describes reasonable alternatives to the Project that may also reduce or avoid significant impacts. Having the authority to take action on the Project, the City of Ontario will consider the information in this EIR in their evaluation of the proposal. Findings and conclusions of the EIR do not control the City's discretion to approve, deny, or modify the Project, but instead are presented as information to aid the decision-making process.

This EIR has been prepared by the City of Ontario pursuant to *Guidelines for the Implementation of the California Environmental Quality Act (Guidelines)*, (§§ 15000–15387, California Code of Regulations). The proposed Rich-Haven Specific Plan, 2022 Amendment is a "project," as defined at § 15378 of the *Guidelines*. The *Guidelines* stipulate that an EIR must be prepared for any project that may have a significant impact on the environment. The City has determined that the Project may have one or more significant impacts on the environment and, therefore, the preparation of an EIR is required.

2.3 LEAD AND RESPONSIBLE AGENCIES

CEQA defines a "lead agency" as the public agency which has the principal responsibility for carrying out or approving a Project which may have a significant effect upon the environment. Other agencies, e.g., the California Department of Transportation (Caltrans), the South Coast Air Quality Management District (SCAQMD) or the Regional Water Quality Control Board (RWQCB), which also have some authority or responsibility to issue permits for Project implementation, are designated as "responsible agencies." Both the lead agency and responsible agencies must consider the information contained in the EIR prior to acting upon or approving the Project. The City of Ontario is the Lead Agency for the Project. Contact information for the Lead Agency is presented below.

Lead Agency: City of Ontario
Planning Department
303 East "B" Street
Ontario, CA 91764
Attention: Lorena Mejia, Senior Planner

2.4 PROJECT APPLICANT

Contact information for the Project Applicant is presented below.

Applicant: BrookCal Ontario LLC/Richland Developers, Inc.
3161 Michelson Drive, Suite 425
Irvine, CA 92612

2.5 EIR PROCESS

When a public agency determines that there is substantial evidence that a Project may have a significant effect on the environment, the agency must prepare an EIR before a decision is made to approve or deny the Project. The purpose of the EIR is to disclose a project's potential environmental impacts and recommend measures to reduce or avoid significant impacts. The basic content of an EIR includes: a description of the project under consideration and its objectives; a description of the existing environmental

conditions; a discussion of the potentially significant environmental effects of the project; recommended measures for reducing these effects; and identification and evaluation of feasible alternatives to the project which may also reduce potentially significant impacts of the proposal.

Typically, EIRs comprise two documents: a Draft EIR, distributed by the lead agency for review and comment by the general public and any interested governmental agencies; and a Final EIR, which consists of responses to comments received on, together with any necessary modifications to, the Draft EIR. After the Draft EIR has been circulated for review and the Final EIR has been prepared, the EIR must be certified by the lead agency as having complied with CEQA and considered by the agency's decision-making body before any action can be taken on a project. When a public agency receives a complete project application or decides to undertake a project of its own, it first determines if the project is subject to environmental review under CEQA and, if it is, the agency then typically prepares an Initial Study (IS) to determine if the project under consideration has the potential to cause significant adverse environmental effects. The IS serves as a tool to help the agency determine if an EIR is required, and if so, the focal issues to be examined in the EIR. The lead agency may skip the Initial Study process if it is evident that a project could result in significant environmental effects and that an EIR will be required.

The EIR process is initiated by the distribution of a Notice of Preparation (NOP). Together with the Initial Study (if prepared), the NOP is sent to agencies and interested individuals as notice of commencement of the EIR process, and to solicit their suggestions for appropriate EIR issues and topical analyses. The completed Draft EIR is then circulated to responsible agencies, other affected or interested agencies, and interested members of the public for review and comment. The review period for a Draft EIR is typically 45 days. To provide for appropriate consideration and inclusion in the Final EIR, all comments and concerns regarding the Draft EIR should be received by the lead agency during this 45-day period.

Responses to comments received on the Draft EIR are prepared by the lead agency and included in the Final EIR. The Final EIR may also contain additional information about the project's potential impacts and minor corrections or modifications to the Draft EIR. The Final EIR must be certified by the lead agency's decision-making body before, or in conjunction with, any action to approve a project. Customarily, EIR certification coincides with City Planning Commission and/or City Council public hearing(s).

CEQA requires that the EIR address only significant adverse impacts. The *CEQA Guidelines* suggest thresholds or standards which define the significance of various types of impacts. The *CEQA Guidelines* also state that the significance of impacts should be considered in relation to their severity and probability of occurrence. However, ultimately, the determination of the significance of impacts is at the discretion of the lead agency. The identification of significant impacts in the EIR does not prevent an agency from approving a project. A project may be approved if the lead agency determines that impacts cannot be feasibly mitigated below a level of significance and if the agency determines that there are important overriding considerations, such as social and economic benefits, which are sufficient to justify approval of the considered project.

2.6 EIR CONTENT AND FORMAT

This Draft EIR is organized into Chapters or Sections, each addressing a separate aspect of the required content of an EIR as described in the *Guidelines*. A summary of the Project's impacts and recommended mitigation measures is provided at Section 1.0. An introduction and general overview of the environmental process and the format of this EIR are presented in this Section 2.0. Section 3.0 contains a complete description of the Project, including its location, objectives, and physical and operational characteristics. The complete and detailed environmental impact analysis is presented at Section 4.0. The topical issues mandated by CEQA dealing with cumulative impacts, alternatives, long-term implications of the Project, and energy conservation are found at Section 5.0. Section 6.0 lists and defines the acronyms and abbreviations contained in this document. Section 7.0 lists the information sources and persons consulted during the environmental analysis process, and presents a list of the persons who prepared the

Draft EIR. The Initial Study and responses to the NOP, with supporting technical studies, are appended to the body of the EIR document.

Section 4.0, *Environmental Impact Analysis*, is the focal component of the Draft EIR. The environmental impact analysis has been organized into a series of sections, each addressing an environmental topic or area of concern identified through the Initial Study process (e.g., Land Use and Planning, Transportation, Air Quality, Noise, etc.). To assist the reader in understanding the organization and basis of the analysis, the sections covering each individual environmental topic typically include the following subsections:

- **Reader's Abstract:** An introductory reader's abstract, summarizing content and findings, is provided at the beginning of each topical section.

- **Introduction:** The introduction summarizes the content of the section and references other important studies and reports, such as technical studies appended to the EIR.

- **Setting/Existing Conditions:** This subsection describes baseline environmental conditions which may be subject to change as a result of implementation of the Project. Separate descriptions of existing environmental conditions are provided for each environmental topic.

- **Existing Policies and Regulations:** Various relevant policies, regulations, and programs related to the environmental topic are briefly described. Often, these existing policies and regulations serve to reduce or avoid potential environmental impacts.

- **Standards (Thresholds) of Significance:** Before potential impacts are evaluated, the standards which will serve as the basis for judging significance are presented.

- **Potential Impacts and Mitigation Measures:** This subsection states and explains potential impacts caused by the Project. Based on the standards of significance,

impacts are categorized as either potentially significant or less-than-significant. If the impacts are considered to be potentially significant, mitigation measures are proposed to reduce the impacts. At the conclusion of each discussion for a potentially significant impact, a determination is made as to whether the impact can be reduced to a less-than-significant level with the application of proposed mitigation measures. Impacts that cannot be reduced to levels that are less-than-significant are identified as "significant and unavoidable."

The summary presented at Section 1.0 provides a comprehensive overview of the Project's impacts. For a more detailed description of Project impacts, it is recommended that the reader review the Project Description (Section 3.0), and then read the sections on the topics of interest in the environmental impact analysis (Section 4.0).

2.7 INTENDED USE OF THIS EIR

This EIR addresses the potential environmental effects of the implementation and operation of the proposed Rich-Haven Specific Plan, 2022 Amendment Project. The City of Ontario (City) is the Lead Agency for the purposes of CEQA because it has the principal responsibility and authority for deciding whether or not to approve the Project, and how it will be implemented. As the Lead Agency, the City is also responsible for preparing environmental documentation for the Project in compliance with CEQA.

The Lead Agency will employ this EIR in its evaluation of potential environmental impacts resulting from, or associated with, approval and implementation of the Project, to include potential effects of the Project's component elements. This EIR will also be used by various Responsible Agencies, e.g., Air Quality Management District(s), California Department of Transportation, Regional Water Quality Control Board(s), *et al*.; as well as utilities and service providers when such entities issue permits necessary to carry out the project. For example, if this EIR and/or its Mitigation Measures require encroachment permits from Caltrans, this EIR will serve as the environmental assessment for such improvements. (Please refer to California Code of Regulations, sections 15050 and 15162.)

This EIR in all instances evaluates likely maximum impact/maximum exposure scenarios. In this regard, this EIR evaluates likely maximum impacts that would result from buildout of the Specific Plan in total; and in instances where localized impacts could diverge from the maximum buildout impacts, those localized impacts have been evaluated and addressed. For example, the EIR at Section 4.3, *Air Quality* addresses the Project's maximum construction-source and operational-source air quality impacts that could affect regional air quality; and also addresses maximum localized air quality impacts that could affect area sensitive receptors. Similarly, the EIR at Section 4.6, *Noise* considers noise impacts that could result from the Project uses generally, and also addresses maximum localized noise impacts that could affect area sensitive receptors.

The Specific Plan document, presented at EIR Appendix B, establishes standards and requirements at sufficient detail to allow the Lead Agency to determine whether subsequent individual development proposals would conform to the Specific Plan as described and evaluated in this EIR. As part of the Lead Agency's standard development review process, individual development proposals within the Specific Plan area would be reviewed for that proposal's consistency with the approved Specific Plan. Proposals that are determined to be consistent with the approved Specific Plan presumptively would not result in impacts substantially different than or greater than the impacts considered and addressed in this EIR. At the discretion and direction of the City, proposals that differ substantially from the standards and requirements of the approved Specific Plan or that would require or result in substantive modifications to the Specific Plan as summarized and evaluated in this EIR may merit additional environmental evaluation.

2.8 DOCUMENTS INCORPORATED BY REFERENCE

CEQA *Guidelines* Section 15150 permits and encourages an environmental document to incorporate, by reference, other documents that provide relevant information. The documents summarized below are incorporated by reference, and the pertinent material is summarized throughout this EIR, where that information is relevant to the analysis of potential impacts of the Project. All documents incorporated by reference are available for review at, or can be obtained through, the City of Ontario Planning Department.

2.8.1 The Ontario Plan 2050 (TOP 2050) Policy Plan and TOP 2050 Supplemental Environmental Impact Report

TOP 2050 Policy Plan (Policy Plan) serves as the City's General Plan which is mandated by state law. The Policy Plan establishes Goals and Policies and provides guidance for future development of the City. The Policy Plan, which was updated and adopted in 2022, incorporates and relies upon its Implementation Plan to provide the guidance necessary for successful implementation of Policy Plan Goals and Policies. Ontario's Policy Plan comprises nine elements: Land Use, Housing, Mobility, Safety (including Noise), Environmental Resources (including Conservation), Parks and Recreation (including Open Space), Community Economics, Community Design, and Social Resources. The topic of Environmental Justice is integral to the Policy Plan. TOP SEIR (SCH No. 2021070364) evaluates and addresses potential environmental impacts that would result from implementation of the Policy Plan. The Policy Plan and Policy Plan SEIR documents contain background information employed in this EIR. These documents are available through the City of Ontario Planning Department, or can be accessed at: http://www.ontarioplan.org/policy-plan/.

2.8.2 Previous Rich-Haven Specific Plan Environmental Documentation

The 2007 Rich-Haven Specific Plan and its subsequent amendments through 2021 have been previously evaluated consistent with applicable CEQA analysis and documentation requirements. The City has certified the 2007 Rich-Haven Specific Plan and adopted subsequent CEQA documentation as required by law. The 2007 Rich-Haven Specific Plan EIR (SCH No. 2006051081), subsequent CEQA documents evaluating previous amendments to the 2007 Rich-Haven Specific Plan, and all related supporting technical analyses are incorporated by reference. These documents are available through the City of Ontario Planning Department.

2.8.3 City of Ontario Development Code

The City of Ontario Development Code (Development Code) codifies and complements the City General Plan. The Development Code, in effect, provides the mechanism to implement and enforce the goals, objectives, policies and programs articulated in the General Plan. The City's Development Code was adopted by the Ontario City Council

on July 7, 1998 and continues to be periodically updated to reflect current Federal/State laws. The Development Code is available through the City of Ontario Planning Department, or can be accessed at: https://www.ontarioca.gov/Planning/Applications.

2.8.4 Project Technical Studies/EIR Appendices

Following are summary descriptions of documents and supporting technical studies which are appended to the main body of the Draft EIR. Working titles of these documents generically refer to the Project and its physical attributes, and may not necessarily reflect the currently assigned "Rich-Haven Specific Plan, 2022 Amendment" development title.

2.8.4.1 Initial Study, NOP, and NOP Responses - EIR Appendix A

The EIR Initial Study (IS), Notice of Preparation (NOP) and responses received pursuant to distribution of the IS/NOP are presented at EIR Appendix A. Based on the Initial Study and responses to the NOP, this EIR addresses the following environmental topics:

- Air Quality;
- Biological Resources;
- Cultural Resources/Tribal Cultural Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards/Hazardous Materials;
- Hydrology/Water Quality;
- Land Use and Planning;
- Noise;
- Transportation; and
- Utilities and Service Systems.

2.8.4.2 Rich-Haven Specific Plan, 2022 Amendment - EIR Appendix B

The *Rich-Haven Specific Plan, 2022 Amendment* (2022 Specific Plan Amendment) is presented in its entirety at EIR Appendix B. If adopted by the City, the Specific Plan would become the effective zoning for the subject site, and would regulate all development within the site.

The proposed Specific Plan would establish land use plans, development standards, and design guidelines directing the ultimate buildout of the Project site. Land uses and development concepts reflected within the proposed Specific Plan can be feasibly implemented consistent with applicable provisions of TOP 2050 Policy Plan and City Development Code.

2.8.4.3 Traffic Analysis/VMT Assessment - EIR Appendix C

Project Level of Service (LOS) and Vehicle Miles Traveled (VMT) analyses are presented in: *Rich Haven Specific Plan, Traffic Analysis* (Urban Crossroads, Inc.) December 16, 2022 and *Rich-Haven Specific Plan Amendment, Vehicle Miles Traveled (VMT) Analysis* (Urban Crossroads, Inc.) October 3, 2022.

2.8.4.4 Air Quality Impact Analyses - EIR Appendix D

Air quality impact analyses prepared for the Project include: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022; and *Rich-Haven Specific Plan, 2022 Amendment, Mobile Source Health Risk Assessment, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

2.8.4.5 Greenhouse Gas Analysis - EIR Appendix E

Detailed analysis of the Project's potential Greenhouse Gas impacts are presented in: *Rich-Haven Specific Plan, 2022 Amendment, Greenhouse Gas Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

2.8.4.6 Energy Assessment - EIR Appendix F

Project energy consumption is quantified in: *Rich-Haven Specific Plan, 2022 Amendment, Energy Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

2.8.4.7 Noise Impact Analysis - EIR Appendix G

Potential noise impacts of the Project, including construction-source and operational-source noise impacts are assessed in: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

2.8.4.8 Environmental Site Assessment - EIR Appendix H

An assessment of potential hazards associated with a portion of the site's historic uses, and the potential for hazardous materials to currently exist within or proximate to the Project site is provided in: *Phase I Environmental Site Assessment 1601 E. Riverside Drive, Ontario, California 91761* (Hillman Consulting) July 28, 2016.

2.8.4.9 Hydrology Study - EIR Appendix I

Hydrology issues potentially affecting the Project are assessed in: *Rich-Haven Specific Plan, Hydrology Report* (X Engineering & Consulting, Inc.) September 2022.

2.8.4.10 Geotechnical Report - EIR Appendix J

Geotechnical issues potentially affecting the Project are assessed in: *Consolidated Geotechnical Report to Support the Environmental Impact Report for the Rich-Haven Specific Plan, City of Ontario, California* (LGC Geotechnical, Inc.) September 20, 2022.

2.8.4.11 Biological Resources Assessment - EIR Appendix K

Biological resources potentially affected by the Project are assessed in: *Biological Report for the Rich Haven 2022 Specific Plan Amendment Project Site (*Harmsworth Associates) July 2022.

2.8.4.12 Cultural Resources Investigation - EIR Appendix L

A cultural resources investigation was also prepared for the Project: *Cultural Resources Assessment, Rich-Haven Specific Plan Areas of Change Project, City of Ontario, San Bernardino County, California* (BCR Consulting, Inc.) August 18, 2022.

2.8.4.13 Water Supply Assessment - EIR Appendix M

Consistent with SB 610 requirements, a WSA was prepared and approved for the site's current (2021 Specific Plan) entitlements. See: *Water Supply Assessment and Written Verification of Sufficient Water Supply, Rich-Haven Specific Plan Amendment No. 3* (Albert A. Webb Associates) March 18, 2021 (2021 WSA).

The City of Ontario, Ontario Municipal Utilities Company (OMUC) has determined that water demands of the 2022 Specific Plan Amendment uses would be reduced when compared to water demands evaluated in the currently approved WSA. OMUC has made the following determination regarding necessity to prepare a new WSA for the currently proposed 2022 Specific Plan Amendment Project . . . "the Water Code allows for an existing WSA to be applied to a new proposed project if there is no substantial increase in water demand. Since there was a WSA completed for the entire Rich Haven SP last year [2021], the Mill Creek Business Center Project [the proposed 2022 Specific Plan Amendment] would be allowed to refer to it in the CEQA documentation" (email communication from OMUC, January 31, 2022). As requested, the previous 2021 WSA has been appended to this EIR. No further WSA analysis is required.

3.0 PROJECT DESCRIPTION

3.0 PROJECT DESCRIPTION

3.1 BACKGROUND AND PROJECT OVERVIEW

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. Location of the 2021 Specific Plan is presented at Figure 3.1-1. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated in this EIR coincide with the location and boundaries in the 2021 Specific Plan.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in this EIR proposes a new amendment of the RHSP as described herein.



NOT TO SCALE

Source: Google Earth; Applied Planning, Inc.

Figure 3.1-1
Specific Plan Location

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This EIR evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.[1]

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.
3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment. A summary of land uses and development by Planning Area is provided at Table 3.1-1.

[1] Potential environmental impacts of the Rich Haven Specific Plan were initially evaluated in *Rich Haven Specific Plan Environmental Impact Report*, July 3, 2007 (SCH No. 2006051081). Subsequent Rich Haven Specific Plan Amendments: 2015, 2016, 2018, 2021 have been evaluated as Addendums to Certified EIRs. While the City could have continued tiering off previous environmental documents in evaluation of the Project's potential environmental impacts, in order to provide a contemporary and comprehensive analysis of the Project's impacts, a new Project-level EIR has been developed.

Table 3.1-1
2022 Specific Plan Amendment Land Use Summary, by Planning Area

Planning Area	Land Use	Acres (Gross)	Dwelling Units (Maximum)	Residential Density (Gross)	Comm./ Office (sf) (Maximum)	Light Industrial (sf) (Maximum)
1A	Low Density Residential	25.5	128	5.0	-	-
1B	Low Medium Density Residential	24.5	270	11.0	-	-
1C	Medium Density Residential	60.6	1,055	17.4	-	-
SCE 1	Edison Parcel	20.0	-	-	-	-
2A	Public Park	27.0	-	-	-	-
2B	Medium Density Residential	8.1	190	23.5	-	-
2C	Light Industrial	23.4	-	-	-	560,617
3A	Medium Density Residential Open Space-Non Recreation	36.1 8.3	560	15.5	-	-
3B	Medium Density Residential	8.6	190	22.1	-	-
3C	Light Industrial Open Space-Non Recreation	21.4 8.5	-	-	-	512,701
4A	Stand Alone Residential Overlay	45.0	1,099	24.4	-	-
4B	Regional Commercial Stand Alone Residential Overlay Open Space-Non Recreation	5.0 35.2 0.4	1,150	32.7	166,182	-
5A	Light Industrial Open Space-Non Recreation	21.3 3.7	-	-	-	510,305
5B	Regional Commercial Stand Alone Residential Overlay Open Space-Non Recreation	5.0 26.6 7.5	1,150	43.2	76,320	-
5C	Regional Commercial	1.0	-	-	7,500	-
6A	Light Industrial Open Space-Non Recreation	49.4 6.6	-	-	-	1,183,525
6B	Regional Commercial	25.1	-	-	300,000	-
7	Mixed Use Overlay	20.5	552	26.9	162,500	-
8	Regional Commercial	20.5	-	-	162,500	-
9	Stand Alone Residential Overlay	20.4	300	14.7	-	-
10A	Stand Alone Residential Overlay	16.9	550	32.5	-	-
10B	Regional Commercial	2.8	-	-	50,000	-
Total		**584.9**	**7,194**	**-**	**925,002**	**2,767,148**

Source: 2022 Rich Haven Specific Plan Amendment

A condensed summary of land uses by Development Type is provided at Table 3.1-2.

Table 3.1-2
2022 Specific Plan Amendment Land Use Summary, by Development Type

Land Use Development Type	Code	Acres (Gross)	Dwelling Units (Maximum)	Light Industrial (sf) (Maximum)	Comm./ Office (sf) (Maximum)
Low Density Residential	LDR	25.5	128	-	-
Low-Medium Density Residential	LMDR	24.5	270	-	-
Medium Density Residential	MDR	113.4	1,995	-	-
Light Industrial	LI	115.5	-	2,767,148	-
Mixed Use	MU	20.5	552	-	162,500
Mixed Use w/ Standalone Residential Overlay	MU/Res	144.1	4,249	-	-
Regional Commercial	Regional Comm.	59.4	-	-	762,502
Open Space - Non-Recreation	OS-NR	55.0	-	-	-
Park	Park	27.0	-	-	-
Total		**584.9**	**7,194**	**2,767,148**	**925,002**

Source: 2022 Rich Haven Specific Plan Amendment

The discussions presented in this EIR reflect information in the preliminary 2022 Specific Plan Amendment, and reflect the range and types of uses envisioned under this Project.

3.2 EXISTING CONDITIONS

3.2.1 THE ONTARIO PLAN (TOP) 2050

3.2.1.1 TOP Overview and Project Consistency with TOP 2050

The Project would be required to conform with applicable provisions of The Ontario Plan (TOP). TOP 2050 provides long-range guidance for the City of Ontario addressing development and conservation. TOP consists of a six-part component framework: 1) Vision, 2) Governance Manual, 3) Policy Plan (General Plan), 4) City Council Priorities, 5) Implementation, and 6) Tracking and Feedback. TOP 2050[2] represents the City's vision for the next 30 years.

The Project has been planned and designed to be consistent with TOP 2050. Within this analysis, unless otherwise noted, TOP 2050 and TOP 2050 SEIR are the basis for the Project's potential environmental impacts.

[2] TOP 2050 Draft SEIR, and TOP 2050 Final SEIR can be accessed at: https://www.ontarioplan.org/top2050/.

3.2.2 EXISTING LAND USES

Existing land uses within, and adjacent to, the Project site are illustrated at Figure 3.2-1 and described below. Representative photos of existing Project site conditions are presented at Figures 3.2-2 through 3.2-5.

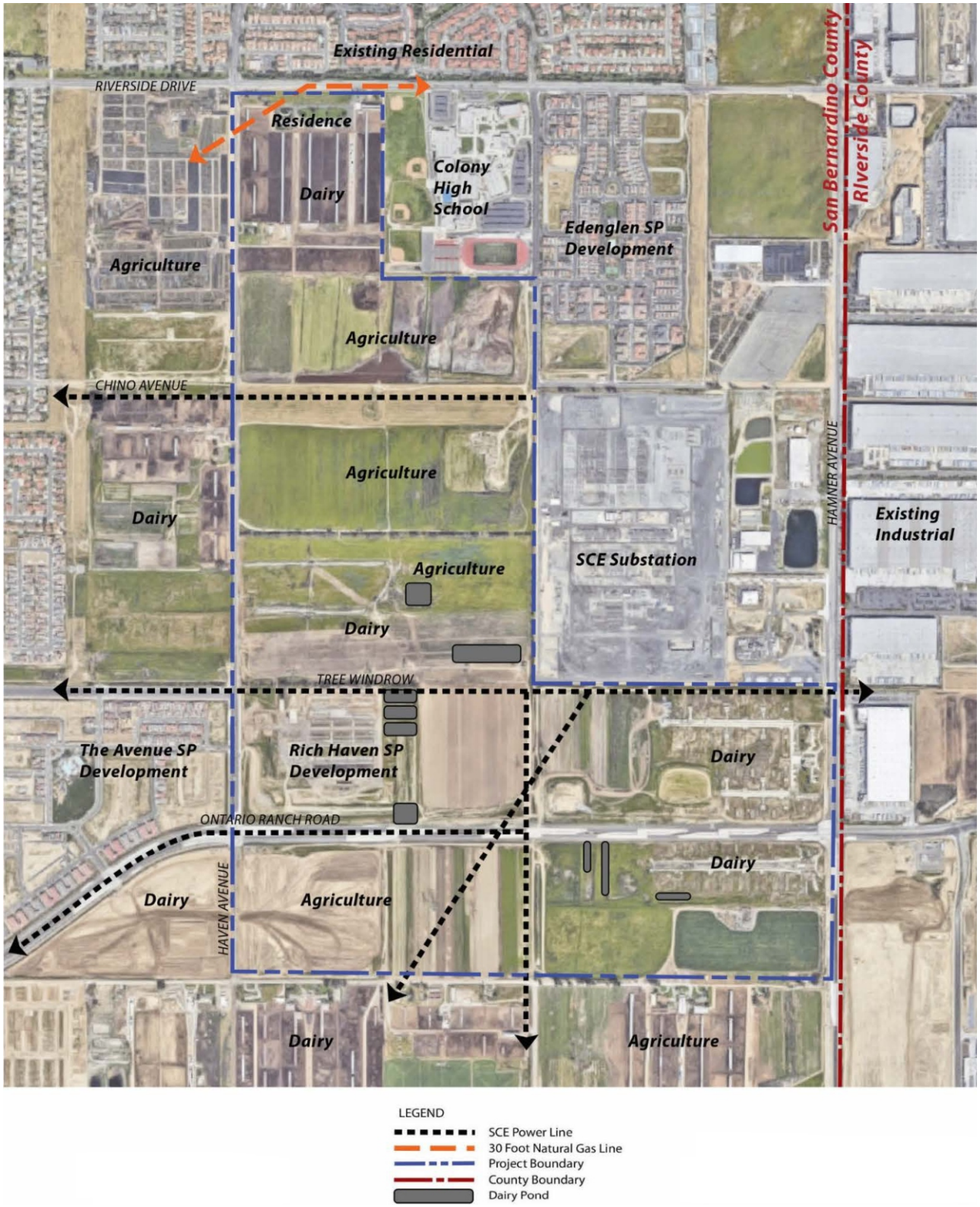
3.2.2.1 Project Site

Existing land uses within the Specific Plan Area include developed portions of the currently entitled 2021 Specific Plan, and entitled areas that are undeveloped. As of the date of this EIR, approximately 468 residential units of the total 7,194 dwelling units entitled under the 2021 Specific Plan have been constructed and are occupied. Existing residential development within the Specific Plan Area is located generally northeast of the intersection of Haven Avenue and Ontario Ranch Road.

The remainder of the 2021 Specific Plan entitlements have yet to be developed. Existing land uses in these areas include a dairy farm in the northern portion of the Specific Plan Area, the former hog ranch in the west portion of the Specific Plan Area, and various vacant/disturbed properties throughout the remaining portions of the site. Additionally, within the southern portion of the Specific Plan Area, Southern California Edison (SCE) transmission line easements exist along a generally east – west/northeast – southwest alignment within the Specific Plan Area.

3.2.2.2 Vicinity Land Uses

Land uses adjacent to northern portions of the Specific Plan Area include residential development, agricultural uses, and Colony High School. Adjacent to the central Specific Plan Area are an SCE Substation occupying approximately 160 acres to the east, and agricultural/dairy and residential development to the west. The southern portion of the Specific Plan Area is bounded by residential and commercial development to the west across Haven Avenue, and vacant disturbed properties, residences, and dairy farm uses to the south across "Old" Edison Avenue [alignment]. To the east, across Hamner Avenue, are City of Eastvale properties that are developed or are being developed with commercial and light industrial uses.



Source: Rich-Haven Specific Plan Amendment; Applied Planning, Inc.

Figure 3.2-1
Existing Land Uses



Photograph 1: From Haven Avenue looking west, February 2022.



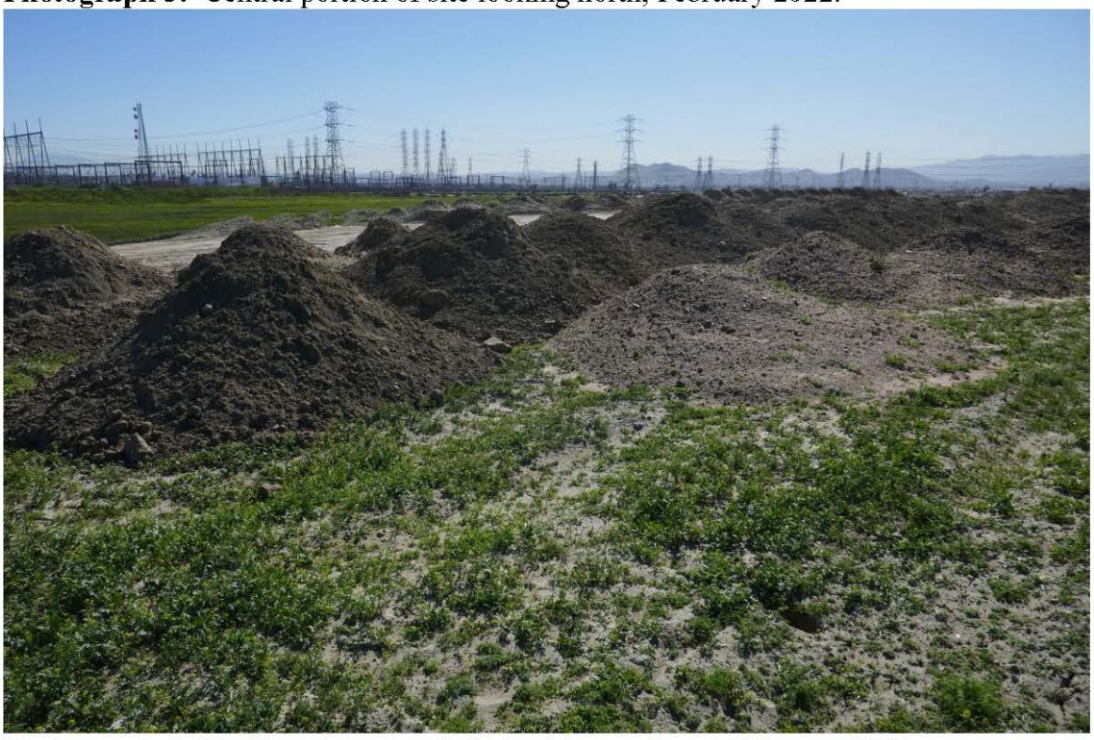
Photograph 2: From eastern boundary directly opposite Haven Avenue, looking east, February 2022.

Source: Harmsworth Associates, Inc.

Figure 3.2-2
Site Photos (1)



Photograph 3: Central portion of site looking north, February 2022.



Photograph 4: Northwest corner of site looking southeast, February 2022.

Source: Harmsworth Associates, Inc.

Figure 3.2-3
Site Photos (2)



Photograph 5: Central western boundary of site looking southeast, February 2022.



Photograph 6: Eastern boundary of site looking north, February 2022.

Source: Harmsworth Associates, Inc.

Figure 3.2-4
Site Photos (3)



Photograph 7: Southeastern corner of site looking northwest, February 2022.



Photograph 8: Southwestern corner of site looking northeast, February 2022.

Source: Harmsworth Associates, Inc.

Figure 3.2-5
Site Photos (4)

3.2.3 EXISTING and PROPOSED LAND USE DESIGNATIONS

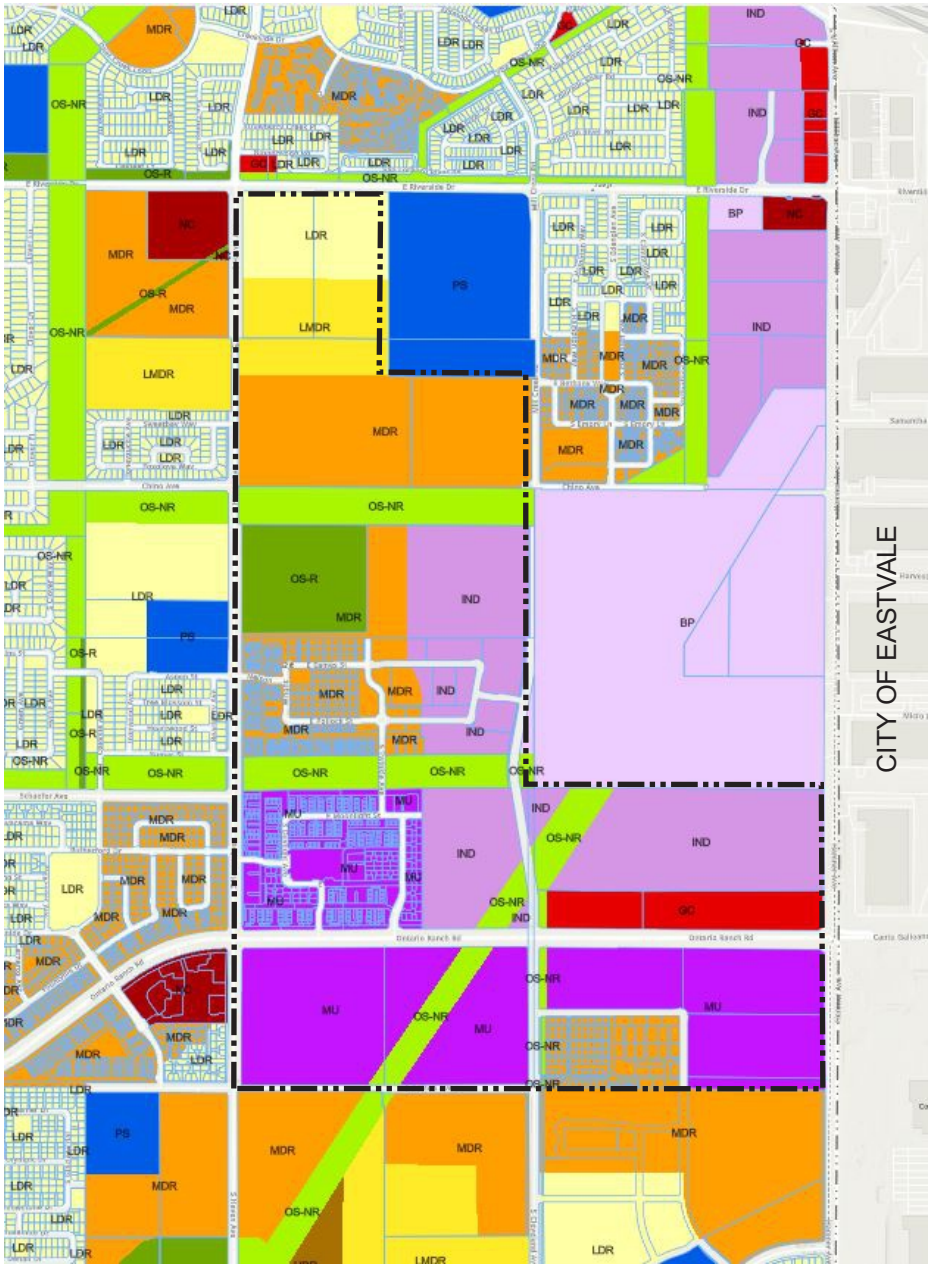
3.2.3.1 Project Site

Policy Plan Land Uses

TOP 2050 Policy Plan Land Use designations for the Project site and surrounding areas are presented at Figure 3.3-1. Policy Plan Land Uses proposed by the Project are consistent with TOP 2050 Policy Plan Land Use designations for the Project site.

Zoning Designations

Existing Zoning of the Project site is established by the 2021 Specific Plan. Zoning of the Project site would be modified by the 2022 Specific Plan Amendment described herein. The 2021 Specific Plan and 2022 Specific Plan Amendment are compared at Figure 3.3-2.



Source: TOP 2050

Figure 3.3-1
TOP 2050 Policy Plan Land Use Designations



2021 SPECIFIC PLAN



2022 SPECIFIC PLAN AMENDMENT

N

NOT TO SCALE

Source: Rich-Haven Specific Plan; Rich-Haven Specific Plan Amendment

Figure 3.3-2
2021 Specific Plan vs. 2022 Specific Plan Amendment

3.2.3.2 Vicinity Properties

Policy Plan Land Use and Zoning designations of surrounding properties are summarized below. The Project would not affect Land Use and Zoning designations of surrounding properties. Unless noted otherwise, existing and proposed land use designations of vicinity properties are consistent under current and known or anticipated future conditions.

North (across Riverside Drive)

- Policy Plan Land Use Designations: Open Space – Non-Recreation (abutting Riverside Drive), General Commercial, Low Density Residential
- Zoning: Specific Plan (*Creekside Specific Plan*), CT (abutting Riverside Drive), Low Density Residential

South (across East Edison Avenue)

- Policy Plan Land Use Designations: Medium Density Residential, Open Space – Non-Recreation, Low Density Residential.
- Zoning: Specific Plan (*Esperanza Specific Plan*), Specific Plan w/Agricultural Overlay

East

- Across Hamner Avenue:
    - City of Eastvale General Plan: Light Industrial, Commercial Retail
    - City of Eastvale Zoning: Industrial Park, Specific Plan (*Goodman Commerce Center Specific Plan*)
- Across Mill Creek Avenue:
    - Policy Plan Land Use Designations: Medium Density Residential, Low Density Residential, Business Park
    - Zoning: Specific Plan (*Edenglen Specific Plan*), Specific Plan w/Agricultural Overlay (Developed as SCE Substation)
- Abutting to Northeast:
    - Policy Plan Land Use Designation: Public School
    - Zoning: Civic

West (across Haven Avenue)

- Policy Plan Land Use Designations: Office Commercial, Low Density Residential, Low Medium Density Residential, Medium Density Residential Public School, Open Space – Non-Recreation
- Zoning: Specific Plan (*West Haven Specific Plan*)

3.3 PROJECT OPERATIONS/OCCUPANCY SUMMARY

For the purposes of this analysis, it is assumed that all Project development will be complete and fully operational by 2025, the Project Opening Year. Operational attributes of the Project land uses are presented below. Please refer also to the 2022 Specific Plan Amendment for details regarding the proposed Land Use Plan, Design Guidelines, and Development Standards.

3.3.1 Light Industrial Land Use

The Project light industrial land uses would accommodate a mix of high-cube fulfillment warehouse uses, refrigerated warehouse uses, and business park uses.

- All uses are assumed to be open and operational 7 days per week, 24 hours per day.
- Unless otherwise noted herein, all operations would occur internal to main buildings.
- On-site operations would include on-site cargo handling. The most common type of cargo handling equipment is the yard truck designed for moving cargo containers. Yard trucks are also known as yard goats, utility tractors (UTRs), hustlers, yard hostlers, and yard tractors. Any yard trucks based at the Project site would be non-diesel (e.g., gasoline and/or electric-powered).

3.3.2 Commercial Land Use

The Project commercial land uses are assumed to accommodate a variety of commercial/retail development.

- All uses are assumed to be open and operational 7 days per week, 24 hours per day.
- Unless otherwise noted herein, all operations would occur internal to main buildings.

3.3.3 Residential Land Uses

- Residential land uses are assumed to be developed at quantities and densities reflected in the 2022 Specific Plan Amendment.

3.3.4 Open Space/Park Land Uses

- All open space/park land uses are assumed to be developed only with site/surface improvements supporting outdoor recreational activities.

3.4 DEVELOPMENT CONCEPT

Development implemented under the Project would be required to conform to provisions of the 2022 Specific Plan Amendment. In instances where the 2022 Specific Plan Amendment is silent, development proposals within the Specific Plan Area would be required to conform to applicable provisions of the City Development Code. The following discussions reflect preliminary 2022 Specific Plan Amendment information available to date.

3.4.1 DEVELOPMENT PHASES

The Project land uses would be constructed contingent on the availability of supporting infrastructure (e.g., water, sewer, storm drains, roadways/access) and as market conditions warrant. Generally, the anticipated sequence of development is as follows:

Phase 1: Light industrial/commercial uses; and
Phase 2: Residential products and community amenities, including parks/open space uses.

3.4.2 SITE DESIGN/ARCHITECTURAL CONCEPTS

All Project development proposals would be required to conform to requirements and implement guidance articulated at 2022 Specific Plan Amendment Section 5, *Development Regulations*; and Section 6, *Design Guidelines*. All final Project site plans and building designs would be subject to City review and approval, to include consistency analysis with applicable provisions of the 2022 Specific Plan Amendment.

3.4.3 ACCESS AND CIRCULATION

Access to and within the Specific Plan Area is summarized below. Please also refer to 2022 Specific Plan Amendment Section 4.1, *Circulation Plan*.

3.4.3.1 Roadways

Regional access to the City and the Specific Plan Area is provided by State Route 60 (E – W) and Interstate 15 (N – S). State Route 60 (SR-60) interchanges with Interstate 15 (I-15) approximately 1.5 miles northeast of the Specific Plan Area. Local access to the Specific Plan Area is provided by existing vicinity roadways. These roadways include Riverside Drive to the north, Haven Avenue to the west, Mill Creek Avenue (partial) to the east, Hamner Avenue to the east, and Ontario Ranch Road which traverses the southern portion of the Specific Plan Area.

Ultimate designs of roadway alignments, roadway configurations, and site access would be required to conform to applicable provisions of the 2022 Specific Plan Amendment and City Conditions of Approval; and would be subject to City review and approval.

Roadways within and abutting the Project site would be constructed to their respective ultimate cross-sections pursuant to the 2022 Specific Plan Amendment design standards and City requirements.[3]

[3] The Specific Plan Amendment proposes modified design standards for Chino Avenue within the Project site, to include enhanced roadway sections with raised landscapes and roundabouts. These modified design standards would be subject to City review and approval as one component of the Specific Plan Amendment.

3.4.3.2 Bicycle and Pedestrian Access

The Project would construct bicycle and pedestrian access improvements consistent with the City Multipurpose Trails and Bikeway Corridor Plan.

Within the Project site, streets would be constructed with sidewalks, providing pedestrian access and inter-connectivity between various residential and mixed-use areas. Trail access would be provided to the various park facilities. As part of the City's Master Plan of Trails, the SCE Corridor Trail within the Project site would be extended within the linear park areas located within the existing SCE easements. Access to the SCE Corridor Trail would be provided at key points throughout the Project. On-street curb adjacent 5-foot bike lanes would be provided on both sides of the proposed modified/enhanced Chino Avenue section.

3.4.3.3 Bus Service

Bus service is available to the City via Omnitrans and the Riverside Transit Authority (RTA). No bus routes currently provide proximate service (within one-quarter mile) of the 2021 Specific Plan Area. Transit service providers periodically review and update schedules and routes to address ridership, budget, and community demands. The Applicant and City would coordinate Project final designs with Omnitrans and RTA to evaluate the potential for provision of bus services and bus amenities serving the 2021 Specific Plan Area. Omnitrans bus routes and schedules can be accessed at: https://omnitrans.org. RTA bus routes and schedules can be accessed at: https://www.riversidetransit.com/index.php/riding-the-bus/maps-schedules.

3.4.4 PARKING

The Project would be required to adhere to parking requirements established under the 2022 Specific Plan Amendment and the City of Ontario Development Code. Parking assignments and design of parking areas within the site would be subject to City review and approval.

3.4.5 LANDSCAPE/STREETSCAPE

The 2022 Specific Plan Amendment Landscape Concept is presented in detail at 2022 Specific Plan Amendment Section 7, *Landscape Plan*. All landscaping/streetscaping

implemented under the Project would be required to comply with applicable provisions of the 2022 Specific Plan Amendment and the City Municipal Code. The implemented landscape/streetscape concept would act to enhance perception of the site as developed under the Project, and to screen views of the site interior from off-site vantages. Landscape and streetscape elements would provide shade and visual interest, define entry/access points, and accentuate site and architectural features.

3.4.6 INFRASTRUCTURE/UTILITIES

3.4.6.1 Water Service

Potable (Domestic) Water

Potable water would be provided by the Ontario Municipal Utilities Company (OMUC).[4] The Project lies within the OMUC 925 and 1010 Pressure Zones. Serving the Project site and surrounding areas is an 18-inch (1010 Pressure Zone) water main, extending from Riverside Avenue to Chino Avenue. There is also a 16-inch (1010 PZ) water main located in Mill Creek Avenue, extending from Riverside Avenue to Chino Avenue.

Within the Project site, water service would be provided by a system of 8-inch to 12-inch water mains constructed within the backbone roadway system. Connecting 8-inch service lines would be provided to individual developments.

The on-site public water system sizing would be required to comply with provisions of a City-approved hydraulic analysis to be conducted at the project-level design stage. All water mains and wells internal to site would be constructed by the merchant builder(s). In-tract water system design will be provided at the time of subdivision. Final designs of water conveyance systems serving the Project would be required to conform to City and OMUC requirements. Please refer also to 2022 Specific Plan Amendment Section 4.2.1, *Domestic Water*.

[4] Additionally, as discussed in the Specific Plan Amendment, "the Chino Basin Water Master Water Quality Map identifies the Rich-Haven [Project] area within an optimum water quality zone and requires that the owner/developer dedicate a total of two wells within the Specific Plan area to the City of Ontario for production of potable water." Well dedications within the Project site would be provided if/as required by the City/OMUC.

Recycled Water

The Project site is located in the OMUC 930/1050 Pressure Zones for recycled water. Serving the Project site and surrounding areas is a 16-inch (930 PZ) recycled water main extending from the upper limits of the 930 PZ to Ontario Ranch Road.

The Project would construct all necessary recycled water system improvements consistent with City Condition of Approval. All Master Plan recycled water improvements implemented to serve the Project would be required to conform to the incumbent City Recycled Water Master Plan. Please refer also to 2022 Specific Plan Amendment Section 4.2.2, *Recycled Water*, *Regional Recycled Water Plan*.

The Project would be required to comply with applicable provisions of City Municipal Code Chapter 8c: *Recycled Water Use.*[5] Within the Project area, recycled water would be used for all approved applications, including but not limited to irrigation of parks, schools, street landscaping, recreational trails, HOA-maintained common areas and landscaping. An engineering report approved by the City and the California Department of Public Health is required prior to the use of recycled water.

Within the Project area, the backbone recycled water system would comprise 8-inch to 12-inch lines and would be located in the backbone street system. In-tract recycled water system design would be provided at the time of subdivision. It is noted here that ***no*** [emphasis added] recycled water can be used on single-family single lot ownership properties. Per the 2022 Specific Plan Amendment, a clear physical separation between potable and recycled water systems is required, such separations may comprise walls, fences, sidewalks, or mow strips. Please refer also to 2022 Specific Plan Amendment Section 4.2.2, *Recycled Water*, *Local Backbone Recycled Water Plan*.

3.4.6.2 Sewer Services

Sewer service would be provided by the City of Ontario. Master Plan sewer system improvements serving the Project and surrounding areas would be constructed

[5] See also: https://codelibrary.amlegal.com/codes/ontarioca/latest/ontario_ca/0-0-0-44580#JD_6-8.714

consistent with the City's Sewer Master Plan. All Master Plan sewer improvements implemented to serve the Project would be required to conform to the incumbent City Sewer System Master Plan. Please refer also to 2022 Specific Plan Amendment Section 4.3, *Sewer Master Plan*.

3.4.6.3 Stormwater Management System

Storm Drains

Multiple City Master Plan of Drainage storm drain facilities would serve the Project site. All Master Plan storm water management system improvements implemented to serve the Project would be required to conform to the incumbent City Master Plan of Drainage. Under post-development conditions, existing southerly trending on-site drainage patterns would be maintained.

Within the Project site, individual developments would implement required stormwater management systems. On-site storm stormwater management system designs would be provided concurrent with development plan submittals. Final designs of stormwater management systems serving the Project would be required to conform to City requirements. Please refer also to 2022 Specific Plan Amendment Section 4.4, *Drainage Master Plan, Regional Backbone Drainage Plan*.

Water Quality Management Plan

On a regional level, stormwater quality management would be available via the regional Mill Creek Wetlands system. Within the Project site, complementary on-site stormwater management systems would be implemented that would detain and treat stormwater discharges. Stormwater discharges from the Project would be required to comply with requirements and performance standards established under the incumbent San Bernardino County National Pollutant Discharge Elimination System (NPDES) Stormwater Program MS4 Permit and Water Quality Management Plan (WQMP). To these ends, developments within the Project site would implement Low Impact Development (LID) Site Design Best Management Practices (BMPs) to reduce pollutant transport and increase on-site stormwater infiltration. Additionally, all Priority Land Use

(PLU) areas within the Project site would be required to comply with the statewide Trash Provisions adopted by the State Water Resources Control Board (SWRCB) and trash requirements in the most current San Bernardino County Area-Wide MS4 Permit.

Non-structural and structural Source Control BMPs would be documented in the Project WQMPs. Final WQMPs, as approved by the City, would ensure that the Project stormwater management systems have been designed to convey and treat stormwater discharges and limit the post-development peak flows consistent with available storm drain capacities. Please refer also to 2022 Specific Plan Amendment Section 4.4, *Drainage Master Plan*, *Stormwater Quality Measures*.

3.4.6.4 Solid Waste Management

The City of Ontario provides solid waste collection services for the City and will service the Project.

3.4.6.5 Electricity

Southern California Edison (SCE) would provide electricity to the site from existing vicinity facilities. SCE facilities located within and adjacent to the Project site consist of 115kV, 66kV, 12kV, towers/power lines and attached communication lines. Facilities less than 34.5kV will be located underground if they are located adjacent to any streets proposed to be improved in conjunction with site improvements.

3.4.6.6 Natural Gas

The Gas Company will provide natural gas to the site. All proposed connections and modifications to Gas Company facilities would conform to Gas Company and City requirements.

3.4.6.7 Fiber Optics System

A backbone fiber optics system (conduits, tracer wire, and fiber) would be constructed within the Project backbone street system. Backbone fiber optic components (conduits, hand holes, tracer wire, and fiber) would be placed underground within a duct and structure system to be installed in a joint trench. In-tract fiber and conduit would be

installed per the City's in-tract fiber optic design guidelines (see: https://www.ontarioca.gov/sites/default/files/Ontario-Files/Information-Technology/2014-12-16_in-tract_designguidelines.pdf).

3.4.6.8 Communications Services

Communications services, including wired and wireless telephone and internet services, are available through numerous private providers and would be provided on an as-needed basis. To the extent practical and consistent with City Conditions of Approval, existing and proposed wires, conductors, conduits, raceways, and similar communications improvements within the Project area would be installed underground. Any necessary surface-mounted equipment, e.g., terminal boxes, transformers, meters, service cabinets, etc., would be screened and would conform to City building setback requirements.

3.4.7 ENERGY EFFICIENCY/SUSTAINABILITY

Energy-saving and sustainable design features and operational programs would be incorporated in all facilities developed pursuant to the Project. The Project would be required to comply with incumbent energy efficiency and performance standards established under the incumbent CALGreen Code and City of Ontario Climate Action Plan (CAP).

3.4.8 CONSTRUCTION AREA TRAFFIC MANAGEMENT PLAN

Temporary and short-term traffic detours and traffic disruptions could result during construction activities including implementation of access and circulation improvements noted above. Accordingly, the Applicant would be responsible for the preparation and submittal of a Construction Area Traffic Management Plan (Plan). Typical elements and information incorporated in the Plan would include, but not be limited to:

- **Name of on-site construction superintendent and contact phone number.**

- **Identification of Construction Contract Responsibilities** - For example, for excavation and grading activities, describe the approximate depth of excavation, and quantity of soil import/export (if any).

- **Identification and Description of Truck Routes** - to include the number of trucks and their staging location(s) (if any).

- **Identification and Description of Material Storage Locations (if any).**

- **Location and Description of Construction Trailer (if any).**

- **Identification and Description of Traffic Controls** - Traffic controls shall be provided per the Manual of Uniform Traffic Control Devices (MUTCD) if the occupation or closure of any traffic lanes, parking lanes, parkways or any other public right-of-way is required. If the right-of-way occupation requires configurations or controls not identified in the MUTCD, a separate traffic control plan must be submitted to the City for review and approval. All right-of-way encroachments would require permitting through the City.

- **Identification and Description of Parking** - Estimate the number of workers and identify parking areas for their vehicles.

- **Identification and Description of Maintenance Measures** - Identify and describe measures taken to ensure that the work site and public right-of-way would be maintained (including dust control).

The Plan would be reviewed and approved by the City prior to the issuance of the first building permit and encroachment permit, as applicable. The Plan and its requirements would also be required to be provided to all contractors as one component of building plan/contract document packages.

3.4.9 OPENING YEAR

For the purposes of this analysis, the Project Opening Year is defined as 2025, by which time all proposed uses are assumed to be complete, occupied, and operational.

3.5 PROJECT OBJECTIVES

The broad vision of the 2022 Specific Plan Amendment is to create a community with a mixture of uses, connected through a series of trails, which provides opportunities for people to live, work and play. Supporting 2022 Specific Plan Amendment objectives are listed below.

General

- Implement TOP 2050 Policy Plan Land Use Plan.
- Support TOP 2050 vision for urbanization of the Ontario Ranch area of the City.
- Implement a Specific Plan development supporting office/commercial and light industrial uses providing a broad range of long-term employment opportunities.
- Implement Specific Plan developments providing a broad range of additional construction employment opportunities.
- Establish new development that would further the City's near-term and long-range fiscal goals.
- Improve the regional jobs/housing balance.

Specific Plan Uses

Livable Neighborhood Development

- Incorporate Traditional Neighborhood Design guiding principles during the design phase to provide for opportunities to achieve the Project's vision statement, including:
    - Connections. To provide a series of sidewalks and trails connecting community parks, civic uses, employment areas, mixed-use and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
    - Traditional Street Network. To design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, as well as

creating a visually favorable and comfortable environment for pedestrians and bicyclists.

  - Main Street Environment. To design commercial/retail areas to a human scale with storefronts oriented to the street providing a "Main Street" atmosphere for strolling and shopping, all within walking distance from most homes.
  - Public Spaces. To create plazas, parks, and community gathering places placed within centralized areas providing synergy between adjacent land uses.
  - Identifiable Neighborhoods. To design neighborhoods around a discernable center, which may include a small park, square, school, or mixed-use center, within a five-minute walking distance.
  - Mix of Housing. To provide neighborhoods with a range of household types: a variety of single-family detached homes, attached units for young families, and live/work units for small at-home businesses.

- Design a mixed-use environment to ensure compatible uses that are cohesive and integrate a diversity of residential neighborhoods, with a range of commercial uses, and supporting open spaces.
- Utilize transportation, utility, and greenways/open space networks to establish clear edges and boundaries.
- Accommodate residential, commercial, open space, public, and other uses in accordance with the generalized distribution of uses depicted within the City's TOP Land Use Plan.
- Implement elements that will ensure walkability throughout the Project Area to discourage automobile dependency and encourage walking, biking, and other forms of transportation. This is achieved through the incorporation of subarea greenways and pedestrian connections and through sensitive site design of mixed-use development.
- Implement technological advances within residential communities, including internet access, to allow residents to shop and work from home and to decrease reliance on automobiles.
- Provide opportunity for at least one major public plaza/square as a centerpiece of community activities, including events and celebrations, outdoor performances, community meetings, picnics, farmers markets, and similar functions.

- Establish a clearly defined "edge" for the City's TOP area, where appropriate, that avoids the use of walls and creation of a "walled" enclave.
- Incorporate electrical transmission corridors and similar elements to form "edges" for residential neighborhoods and centers and/or accommodate public greenways/trails/corridors.

Residential District Objectives

- Create a livable community with neighborhoods designed at a human scale and oriented for pedestrian access to mixed-use, educational, and recreational uses.
- Provide for a range and diversity of housing products (detached single-family, detached and attached condominiums, and townhomes) that respond to a variety of homeownership needs and desires.
- Design residential projects to complement the character of adjacent neighborhoods.
- Encourage interaction among residents through the provision of an organized, simple, and "neo-traditional" system of streets, pathways, and entries to allow residents to walk or bike to parks, recreation, and public facilities (including schools).
- Promote outdoor activity and casual social contact among residents and neighbors by designing neighborhoods around a central park where they can gather.
- Provide a focal point of activity within each residential planning area that may include a park, school, common area, or public meeting facility.
- Encourage architectural styles and traditional design elements that reflect the historic and eclectic mixture of architecture, reflective of the greater Ontario area.
- Increase densities adjacent to commercial centers.
- Establish clear, defined "edges" and "entries" that contribute to neighborhood identity.
- Avoid the use of walls to separate residential areas from arterials and other high traffic volume streets by expanded landscape setbacks, frontage roads, and other appropriate techniques.

- Include clustered multi-family housing within the Residential District, in order to create a diverse range of housing products and opportunities, while still in keeping with the overall low-density residential designation.
- Locate higher-density residential uses that provide population to support adjacent regional commercial centers.
- Provide sufficient on-site recreational amenities within higher density developments.
- Include community-oriented uses such as public meeting rooms, plazas and courtyards, and similar uses.
- Establish visual and physical links among the individual multi-family developments to create a cohesive and continuous corridor.
- Design building elevations to promote visual interest.
- Provide linkages between community service facilities, multi-family corridors, and residential neighborhoods.

Regional Commercial/Mixed-Use District Objectives

- Accommodate a diversity of large-scale retail, community and neighborhood shopping, office, medical research, entertainment, hotel/motel, dining, housing, cultural, public, and similar uses that will serve the Project area and neighboring Planning Areas.
- Function with a high level of activity and/or employment.
- Accommodate development of multi-family housing, mixed-use buildings that incorporate housing and retail/office, and live/work facilities.
- Accommodate single-use buildings and mixed-use structures containing a variety of uses from residential over retail or office-to-office over retail.
- Encourage traditional, mixed-use design of commercial buildings, by requiring a lower maximum floor area ration (FAR) for single-use buildings, and a higher maximum FAR for mixed-use buildings.
- Develop plaza areas and other amenities to provide places of social interaction.
- Include one or more public "squares" to serve as gathering places.
- Incorporate modulated building volumes, mass, height, and articulated facades to create individual spaces.

- Site a portion of the buildings on peripheral streets to provide connectivity to adjacent uses.
- Orient buildings towards the local streets whenever possible to create an urban edge and sense of arrival and place.
- Include sidewalks of sufficient width to accommodate pedestrian activity and outdoor restaurants, newsstands, and other uses.
- Create visual interest through the opening of streets and sidewalks/plazas towards building elevations.
- Incorporate landscaping to enhance the environment.
- Visually integrate parking structures to continue the intended design character of the district.
- Incorporate multi-family housing to create a cohesive and continuous corridor.
- Ensure an appropriate mix of uses (residential and commercial) that are compatible.
- Encourage pedestrian access and ease of use within the mixed-use area by designing pedestrian and bike paths.
- Create a "Main Street" environment with buildings designed to a human scale where pedestrian activity is not overwhelmed by automobile traffic.
- Utilize urban design to create a "Gateway" or portal to the Ontario Ranch.

Industrial District Objectives

- Incorporate transitions and/or buffers between commercial/mixed-use and industrial areas and adjacent residential areas.
- Contribute to the regional jobs to housing balance by providing employment opportunities while minimizing development impacts on surrounding neighborhoods.
- Create a high-quality industrial park development that attracts an array of businesses and provides employment opportunities within proximity to area residents.
- Provide safe and efficient access/circulation routes for the distribution/transportation of goods.

Circulation Objectives

- Provide a circulation system designed to promote pedestrian activity through a network of off-street pedestrian walkways linking each neighborhood to parks, mixed-use commercial, and residential uses.
- Design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, creating a visually attractive, enhanced, and comfortable environment for pedestrians and bicyclists.
- Design streets to incorporate landscaped parkways and pedestrian walkways separated from the street to enhance safety and enjoyment of residents and visitors.
- Provide opportunities for transit connections and alternative modes of transportation.

Recreation/Trails Objectives

- Provide new recreational opportunities for residents through the development of a series of public and private parks.
- Provide a series of pedestrian trails connecting community parks, civic uses, mixed-use, and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
- Incorporate off-street multi-use trails within the Southern California Edison easements.
- Incorporate a system of on- and off-street bicycle pathways with access from the residences to mixed-use areas.
- Use landscaping and streetscape materials that are low maintenance in recreation and trail areas.
- Provide a system of on-street bikeways integrated throughout the Project to provide access to schools, parks, and commercial uses.
- Provide new recreational opportunities for residents through the development of a series of parks ranging in size.

Community Facilities Objectives

- Incorporate existing major utilities into the overall fabric of the community.
- Provide opportunities for incorporation of community facilities (e.g., schools, fire station) as identified by affected agencies.

3.6 DISCRETIONARY APPROVALS AND PERMITS

Discretionary actions, permits, and related consultation(s) necessary to approve and implement the Project include, but are not limited to, the following.

3.6.1 LEAD AGENCY DISCRETIONARY ACTIONS AND PERMITS

- EIR Certification;
- Approval of the 2022 Specific Plan Amendment;
- Approval of Tentative Parcel/Tract Maps;
- Approval of Development Agreements; and
- Approval of Development Plans.

3.6.2 OTHER CONSULTATION AND PERMITS

Anticipated consultation and permits necessary to realize the Project would or may include the following:

- Permitting by/through the Regional Water Quality Control Board (RWQCB) pursuant to requirements of the City's National Pollutant Discharge Elimination System (NPDES) Permit.
- Permitting by/through the South Coast Air Quality Management District (SCAQMD) for certain equipment or land uses that may be implemented pursuant to the Project.
- Permitting (i.e., utility construction and connection permits) from affected utility purveyors, notably the City of Ontario, IEUA, and SCE.

Other ministerial permits necessary to realize all on- and off-site improvements related to the development of the Project.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

4.0 ENVIRONMENTAL IMPACT ANALYSIS

This chapter of the EIR analyzes and describes the potential environmental impacts associated with the adoption and implementation of the Rich-Haven Specific Plan, 2022 Amendment (Project). The environmental impact analysis has been organized into a series of sections, each addressing a separate environmental topic. Environmental topics addressed in this EIR are presented in the following sections:

Section	Topic
4.1	Land Use and Planning
4.2	Transportation
4.3	Air Quality
4.4	Greenhouse Gas Emissions
4.5	Energy
4.6	Noise
4.7	Hazards and Hazardous Materials
4.8	Hydrology and Water Quality
4.9	Geology and Soils
4.10	Biological Resources
4.11	Cultural Resources/Tribal Cultural Resources
4.12	Utilities & Service Systems

Within each of the above topical Sections, the discussion is typically divided into subsections which: summarize the findings of the section; present the framework for the discussion by listing the sources of information used in the section; describe the "setting" or existing environmental conditions; identify regulations and policies, which through their observance typically resolve many potential environmental concerns; identify thresholds of significance applicable to potential environmental effects of the

Project; describe the significance of Project-related environmental effects in the context of applicable significance thresholds; and for impacts which are potentially significant or significant, recommend mitigation measures to eliminate or reduce these impacts. In this latter regard, it is recognized that the intent of the California Environmental Quality Act (CEQA) is to focus on significant, or potentially significant adverse effects of the Project, and therefore, mitigation is proposed only for potential impacts of this magnitude.

As noted above, before potential impacts are evaluated, the standards or thresholds which will serve as the basis for judging the relative significance of impacts are presented. Often thresholds serve as a general guide or gauge for determining an impact's potential relative significance, rather than defining its absolute effects. Subsequent to identification of relevant significance thresholds, potential Project-related effects and impacts are identified and explained. If an impact is considered to be potentially significant, mitigation measures are proposed to avoid the impact, or reduce its effects to the extent feasible. In determining the potential significance of impacts, the adequacy of existing policies and regulations in addressing each impact is taken into consideration. At the conclusion of each discussion for a potentially significant impact, a determination is made as to whether the impact can be reduced to a less-than-significant level with the application of mitigation measures.

In the environmental analysis, the following terms are used to describe the potential effects of the Project:

- **Less-Than-Significant Impacts**: Minor changes or effects on the environment caused by the Project which do not meet or exceed the criteria, standards, or thresholds established to gauge significance are considered to be less-than-significant impacts. Less-than-significant impacts do not require mitigation. In some cases, these impacts may appear to be potentially significant. However, existing public policies, regulations, and procedures adequately address these potential effects, thereby reducing them to a less-than-significant level, without the need for additional mitigation.

- **Potentially Significant Impacts**: Potentially significant impacts are defined as a substantial, or potentially substantial, adverse change in the environment. The CEQA Guidelines and various responsible agencies provide guidance for determining the significance of impacts. However, the determination of impact significance is ultimately based on the judgment of the lead agency. Similarly, the establishment of any criteria to be used in evaluating the significance of impacts is the responsibility of the lead agency. Wherever possible, mitigation is proposed in the EIR to avoid or reduce the magnitude of potentially significant impacts.

- **Significant Impacts**: Impacts identified in the EIR which cannot be mitigated below thresholds of significance through the application of feasible mitigation measures are categorized as "significant."

- **Cumulative Impacts**: A discussion of cumulative impacts is provided in Section 5.0 of this environmental analysis. Cumulative impacts refer to the impacts of the Project as they are combined or interact with anticipated impacts of other vicinity projects and physical effects of projected ambient regional growth.

4.1 LAND USE AND PLANNING

4.1 LAND USE AND PLANNING

Abstract

This Section assesses potential impacts that may result from land use and planning decisions necessary to implement the Project. Potential land use impacts that may occur due to the type of development proposed, its location or scale are discussed. Specifically, the discussion in this Section seeks to determine whether the Project would:

- *Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.*

As supported by the analysis presented in this Section, potential land use and planning impacts of the Project would be less-than-significant.

4.1.1 INTRODUCTION

This Section focuses on the Project's consistency with applicable land use plans, policies and regulations; and also evaluates the Project's compatibility with existing and proposed development in the vicinity. Discussions and analysis within this Section are based on and supported by the following documents and source information:

- TOP 2050 Policy Plan (General Plan) – Land Use Element, and TOP 2050 Supplemental Environmental Impact Report (TOP 2050 SEIR). These documents are available through the City of Ontario, or are accessible at: http://www.ontarioplan.org/;

- *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal 2020) available through the Southern California Association of Governments (SCAG) or can be accessed at: https://scag.ca.gov/read-plan-adopted-final-connect-socal-2020;

- The City of Ontario Development Code, available through the City of Ontario, or accessible at: https://www.ontarioca.gov/planning/applications; and

- The proposed Rich-Haven Specific Plan, 2022 Amendment document included at EIR Appendix B.

4.1.2 SETTING

4.1.2.1 Project Overview

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. Please refer to EIR Section 3.0, *Project Description*, Figure 3.1-1, *Project Location*. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated in this EIR coincide with the location and boundaries in the 2021 Specific Plan.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in this EIR proposes a new amendment of the RHSP.

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This EIR evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.
3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment.

4.1.2.2 Existing Land Uses

Existing land uses are indicated at Figure 4.1-1, and are discussed below. Please refer also to EIR Section 3.0, *Project Description*, 3.2 *Existing Conditions*.

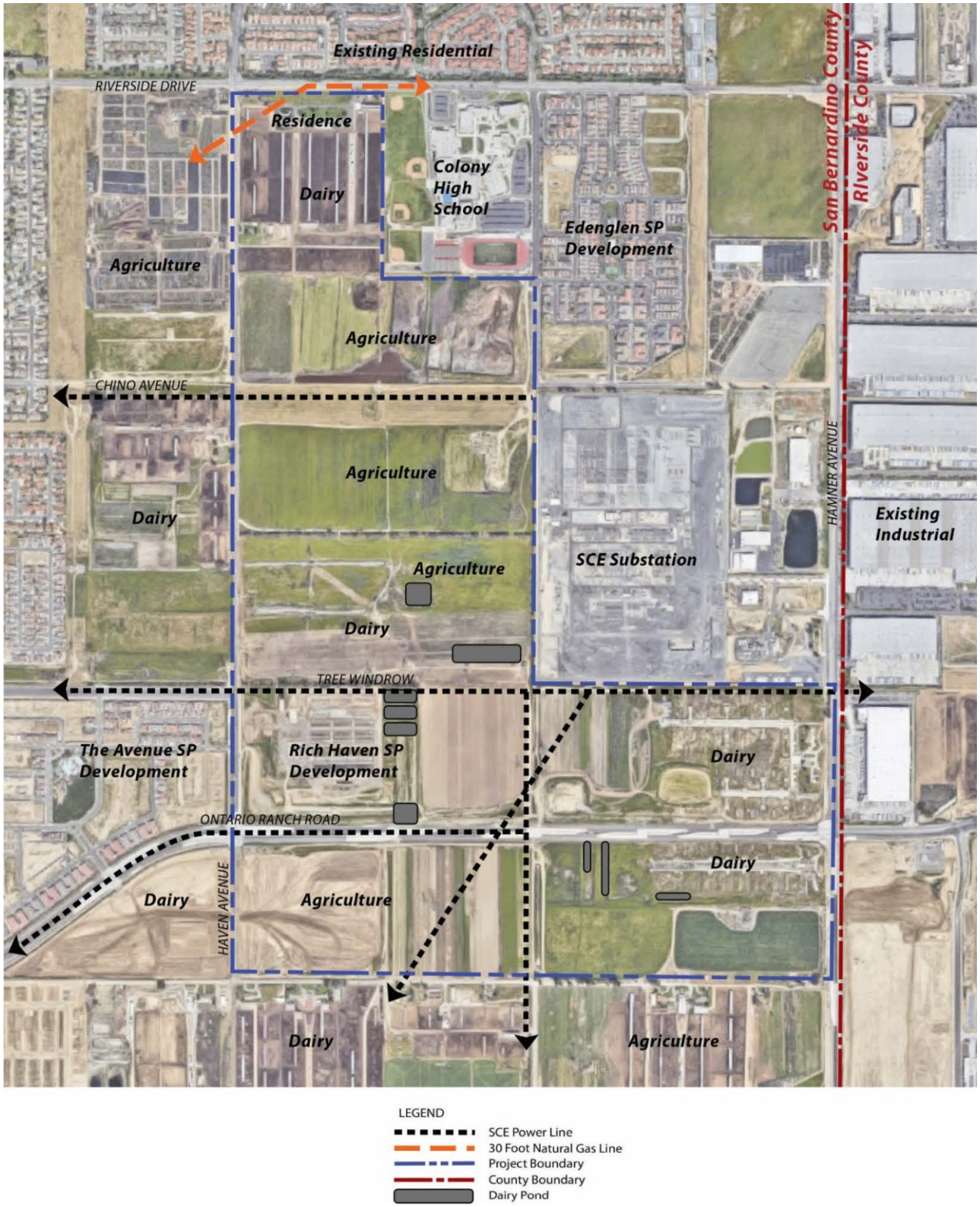
Project Site

Existing land uses within the Specific Plan Area include developed portions of the currently entitled 2021 Specific Plan, and entitled areas that are undeveloped. To date, approximately 468 residential units of the total 7,194 dwelling units entitled under the 2021 Specific Plan have been constructed and are occupied. Existing residential development within the Specific Plan Area is located generally northeast of the intersection of Haven Avenue and Ontario Ranch Road.

The remainder of the 2021 Specific Plan entitlements have yet to be developed. Existing land uses in these areas include a dairy farm in the northern portion of the Specific Plan area, and vacant/disturbed properties throughout the remaining portions of the site. Additionally, within the southern portion of the Specific Plan Area, Southern California Edison (SCE) transmission line easements exist along a generally east – west/northeast – southwest alignments within the Specific Plan Area.

Vicinity Land Uses

Land uses adjacent to northern portions of the Specific Plan Area include residential development, agricultural uses, and Colony High School. Adjacent to the central Specific Plan Area are an SCE Substation occupying approximately 160 acres to the east, and agricultural/dairy and residential development to the west. The southern portion of the Specific Plan Area is bounded by residential and commercial development to the west across Haven Avenue, and vacant disturbed properties to the south across Edison Avenue (alignment). To the east, across Hamner Avenue, are City of Eastvale properties that are developed or are being developed with commercial and light industrial uses.



Source: Rich-Haven Specific Plan Amendment; Applied Planning, Inc.

Figure 4.1-1
Existing Land Uses

4.1.2 EXISTING and PROPOSED LAND USE DESIGNATIONS

4.1.2.1 Project Site

Policy Plan Land Uses

TOP 2050 Policy Plan Land Use designations for the Project site and surrounding areas are presented at Figure 4.1-2. Policy Plan Land Uses proposed by the Project are consistent with TOP 2050 Policy Plan Land Use designations for the Project site. The Project does not propose or require amendment of TOP 2050 Policy Plan, *Land Use Element.*

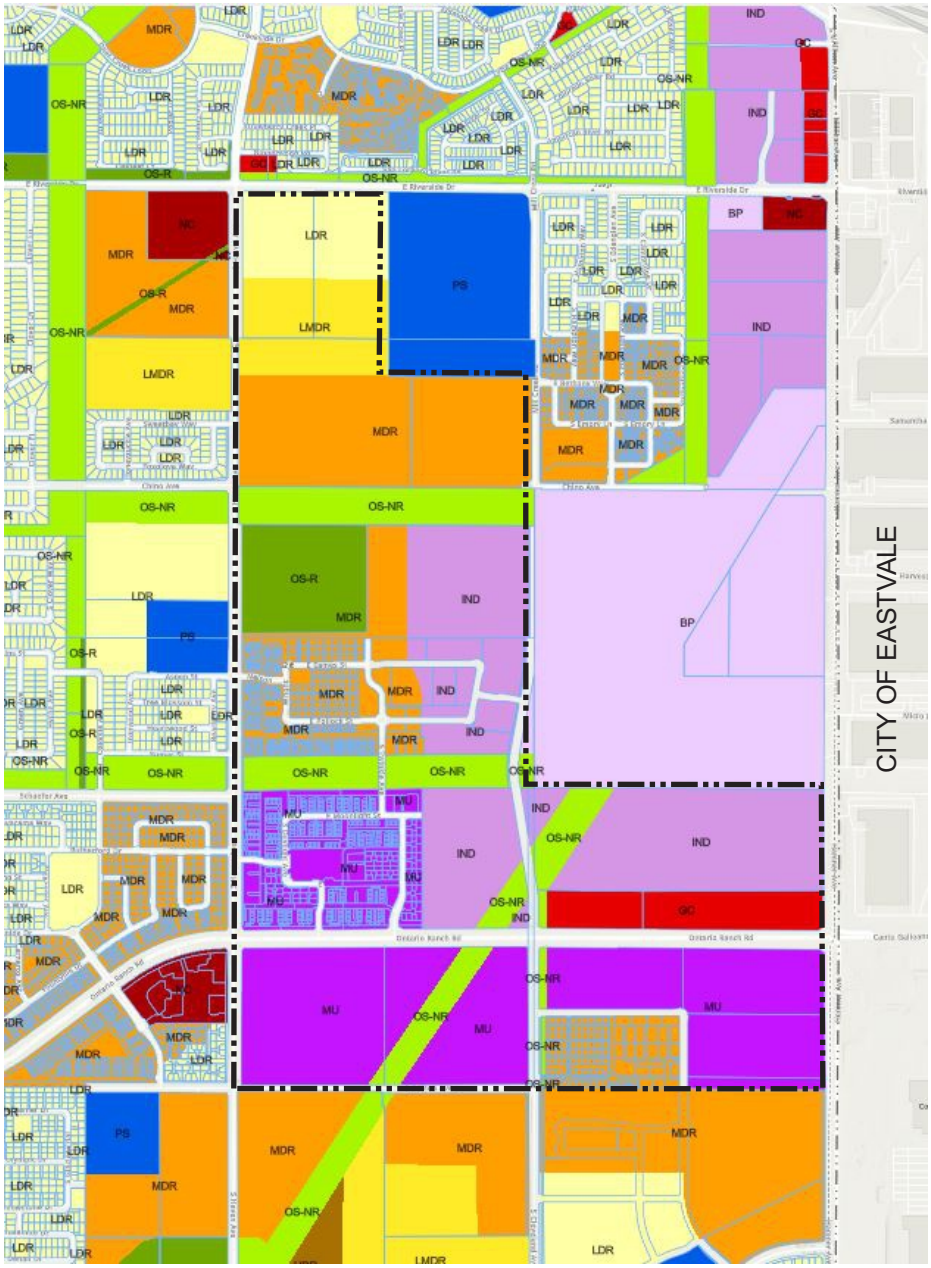
Zoning Designations

Existing Zoning of the Project site is established by the 2021 Specific Plan. Zoning of the Project site would be modified by the 2022 Specific Plan Amendment described herein. The 2021 Specific Plan and 2022 Specific Plan Amendment are compared at Figure 4.1-3.

4.1.3 LAND USE PLANS, GOALS, POLICIES, AND REGULATIONS

4.1.3.1 Regional Planning

Southern California Association of Governments (SCAG) is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization (MPO) for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law.



Source: TOP 2050

Figure 4.1-2
TOP 2050 Policy Plan Land Use Designations



2021 SPECIFIC PLAN



2022 SPECIFIC PLAN AMENDMENT

N

NOT TO SCALE

Source: Rich-Haven Specific Plan; Rich-Haven Specific Plan Amendment

Figure 4.1-3
2021 Specific Plan vs. 2022 Specific Plan Amendment

In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the region's MPO, SCAG cooperates with the Southern California Air Quality Management District (SCAQMD), the California Department of Transportation (Caltrans), and other agencies in preparing regional planning documents.

In September 2020, SCAG adopted the *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal 2020). Connect SoCal 2020 establishes general principles and themes that collectively work to shape the Southern California region. Connect SoCal 2020 is a long-range plan that balances future mobility and housing needs with economic, environmental, and public health goals.

4.1.3.2 Local Planning

TOP 2050 Policy Plan [General Plan] Land Use Goals, Objectives, Policies, and Implementation Plan promote a pattern of orderly and compatible land uses within the City. In support of the Policy Plan, the City Development Code regulates site and use-specific development within the City. In the case of the Project, proposed land uses and development actions are also subject to requirements of the proposed *Rich-Haven Specific Plan, 2022 Amendment* document. In many instances, Project compliance with applicable provisions of the City of Ontario Policy Plan, Development Code, and proposed *Rich-Haven Specific Plan, 2022 Amendment* (2022 Specific Plan Amendment, Project) would avoid potential land use and planning impacts, or would reduce those potential impacts to levels that would be less-than-significant.

4.1.4 STANDARDS OF SIGNIFICANCE

Appendix G of the California Environmental Quality Act Guidelines (*CEQA Guidelines*), as applied by the City of Ontario, indicates that a Project will normally have a significant effect related to land use if it would:

- Physically divide an established community;

- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.1.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

The following discussions focus on those areas where it has been determined that the Project may result in potentially significant land use and planning impacts, based on the previous discussions included within this Section and analysis presented within the EIR Initial Study (EIR Appendix A). As discussed within the Initial Study, the Project would not physically divide an established community. This potential impact is therefore not substantively discussed further within this Section. Please refer also to Initial Study Checklist Item XI. *Land Use and Planning*.

Potential Impact LU-1: *Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.*

Impact Analysis: Land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental effects are established under the City of Ontario Policy Plan and the SCAG. Project consistency with applicable provisions of the City of Ontario Policy Plan and SCAG Connect SoCal 2020 are presented below.

City of Ontario Policy Plan

Consistency of the Project with applicable Policy Plan Land Use Element Goals and Policies that directly or indirectly address avoidance or mitigation of environmental effects is presented at Table 4.1-1.

Table 4.1-1
Policy Plan - Land Use Element Goals and Policies Consistency Analysis

Goals/Policies		Remarks
LU-1 Balance		
Goal LU-1 A community that has a spectrum of housing types and price ranges that match the jobs in the City and that make it possible for people to live and work in Ontario and maintain a quality of life.		
Policies		**Remarks**
LU-1.1	**Strategic Growth.** We concentrate growth in strategic locations that help create place and identity, maximize available and planned infrastructure, foster the development of transit, and support the expansion of the active and multimodal transportation networks throughout the City.	**Policy LU-1.1 acts to avoid or reduce environmental impacts by minimizing requirements to construct new infrastructure, and by promoting use of transit, thereby generally reducing vehicle miles traveled (VMT) within the region. This Policy reduces resources consumption, transportation system impacts, air pollutant emissions impacts, and GHG emissions impacts.** ***Consistent:*** The proposed Project includes a mixture of Residential, Commercial, Light Industrial, and Community Facilities Land Uses. Development intensities and land use configurations realized under the 2022 Specific Plan Amendment promote the highest and best use of the subject site. Location of the Project takes advantage of existing access provided by the City's roadway network and existing utilities infrastructure. The Project would also implement infrastructure improvements the City considers necessary to support the Project (please refer to EIR Section 3.0, *Project Description*, 3.4.3 *Access and Circulation, 3.4.6 Infrastructure/Utilities*). The City would also collect Project Development Impact Fees (DIF) and Fair Share fees that would be assigned to infrastructure improvements necessary to ensure long-term adequacy of potentially affected infrastructure systems. Further, the Project would utilize and upgrade, as needed, other utility infrastructure systems. Development Regulations and Design Guidelines implemented pursuant to the 2022 Specific Plan Amendment would establish a Project identity differentiated from, but compatible with, adjacent land uses. On this basis, the Project is consistent with Policy LU-1.1.

Table 4.1-1
Policy Plan - Land Use Element Goals and Policies Consistency Analysis

Goals/Policies		Remarks
LU-1.2	**Sustainable Community Strategy.** We integrate state, regional and local Sustainable Community/ Smart Growth principles into the development and entitlement process.	**Policy LU-1.2 promotes conservation and sustainability, with correlating reductions in: energy consumption and resources consumption generally, VMT, transportation impacts, air pollutant emissions impacts, and GHG emissions impacts.** ***Consistent:*** The Project would be implemented and operated consistent with TOP 2050, 2022 Community Climate Action Plan Update (2022 CCAP Update). Compliance with the 2022 CCAP Update ensures that the Project implements contemporary energy efficient designs and that operations reflect sustainable best management practices. The Project collocates Residential, Commercial, Light Industrial, and Community Facilities Land Uses, promoting efficient use of available urban areas within the City. As substantiated in this EIR, Project VMT impacts, and Project Energy impacts would be less-than-significant. Mitigation is incorporated acting to reduce Project-source criteria pollutant emissions and GHG emissions impacts to the extent feasible. In this latter regard, certain of the Mitigation Measures identified at EIR Section 4.3, *Air Quality* would incrementally reduce Project-source air pollutant emissions and in so-doing would also act to generally reduce GHG emissions. The Project also supports sustainability and growth attributes reflected in Goals of the *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal 2020). Please refer to Table 4.1.2. Based on the preceding, the Project is consistent with Policy LU-1.2.
LU-1.3	**Adequate Capacity.** We require adequate infrastructure and services for all development.	**Policy LU-1.3 reduces utilities/infrastructure and public services impacts.** ***Consistent:*** The Project Applicant would construct, or would otherwise ensure to the satisfaction of the Lead Agency, those infrastructure improvements and service enhancements necessary to meet the demands of the Project. As substantiated in this EIR, infrastructure and service demands of the Project can be satisfied without adverse impacts to existing or anticipated customers within affected service areas. Please refer also to EIR Section 4.12, *Utilities and Service Systems*. On this basis, the Project is consistent with Policy LU-1.3.

Table 4.1-1
Policy Plan - Land Use Element Goals and Policies Consistency Analysis

Goals/Policies		Remarks
LU-1.4	**Multimodal Mobility.** We require development and urban design, where appropriate, that reduces reliance on the automobile and capitalizes on active transportation, transit, electric vehicles, and multimodal transportation opportunities.	**Policy LU-1.4 reduces VMT, transportation system impacts; and vehicular-source air pollutant emissions impact, GHG emissions impacts, and noise impacts.** ***Consistent:*** Access is provided to the Project site by local and regional transportation facilities. Intensified development of the Project site in combination with existing and proposed proximate urban development would focus the transit ridership base, thereby supporting existing and future transit opportunities. The Project incorporates bicycle and pedestrian amenities that facilitate non-motorized transportation modes. Based on the preceding, the Project is consistent with Policy LU-1.4.
LU-1.5	**Jobs-Housing Balance.** We coordinate land use, infrastructure, and transportation planning and analysis with regional, county and other local agencies to further regional and sub-regional goals for jobs-housing balance.	**Policy LU-1.5 reduces VMT, transportation system impacts; and vehicular-source air pollutant emissions impact, GHG emissions impacts, and noise impacts.** ***Consistent:*** Via the EIR process, the City has coordinated Project land uses, infrastructure, and transportation planning and analysis with potentially affected regional, county, and local agencies. Employment opportunities created by the Project would improve the City's jobs/housing balance. Project land uses and supporting improvements would not interfere with or obstruct regional and/or sub-regional goals addressing jobs-housing balance. On this basis, the Project is consistent with Policy LU-1.5.
LU-1.6	**Complete Community.** We incorporate a variety of land uses and building types in our land use planning efforts that result in a complete community where residents at all stages of life, employers, workers and visitors have a wide spectrum of choices of where they can live, work, shop and recreate within Ontario.	**Policy LU-1.6 indirectly minimizes potentially adverse environmental impacts by promoting diverse compatible land uses, contributing to a sustainable community.** ***Consistent:*** The Project proposes Residential, Commercial, Light Industrial, and Community Facilities Land Uses that would expand and diversify available housing and employment opportunities. Please refer also to the *Rich-Haven Specific Plan, 2022 Amendment* (EIR Appendix B). On this basis, the Project is consistent with Policy LU-1.6.
LU-1.7	**Revenues and Costs.** We require future amendments to our Land Use Plan to be accompanied by analyses of fiscal impacts.	**Policy LU-1.7 Minimizes potentially adverse environmental impacts by ensuring fiscally responsible development, acting to minimize the potential for development proposals to cause or contribute to blight conditions.** ***Consistent:*** The Project does not propose or require amendment of TOP 2050 Land Uses Plan. As such, a fiscal impact analysis is not required.

Table 4.1-1
Policy Plan - Land Use Element Goals and Policies Consistency Analysis

Goals/Policies		Remarks
LU-2 Compatibility		
Goal LU-2 Compatibility between a wide range of uses and resultant urban patterns and forms.		
Policies		**Remarks**
LU-2.1	**Land Use Decisions.** We minimize adverse impacts on adjacent properties when considering land use and zoning requests.	**Policy LU-2.1 minimizes potential land use conflicts that could result in potentially adverse environmental impacts.** ***Consistent:*** The 2022 Specific Plan Amendment configuration and orientation of land uses combined with integral Development Regulations and Design Guidelines act to preclude or minimize potential adverse impacts affecting adjacent properties. The Project is therefore consistent with Policy LU-2.1.
LU-2.2	**Buffers**. We require new uses to provide mitigation or buffers between existing uses where potential adverse impacts could occur. Additional mitigation is required when new uses could negatively impact environmental justice areas.	***Consistent:*** Please refer to Remarks at Policy LU-2.1.
LU-2.3	**Hazardous Uses.** We regulate the development of industrial and similar uses that use, store, produce or transport toxic substances, air emissions, other pollutants or hazardous materials.	**Policy LU-2.3 reduces hazards/hazardous materials impacts and hazardous air pollutant emissions impacts.** ***Consistent:*** The Project does not propose or require uses whose primary function is to store, produce, or transport toxic substances or other hazardous materials. Routine use of hazardous or potentially hazardous materials within the 2022 Specific Plan Amendment area would be subject to extensive local, regional, and federal regulatory requirements, and would not result in or cause potentially significant environmental impacts. Mitigation incorporated in this EIR reduces impacts associated with pre-existing hazards/hazardous materials conditions to levels that would be-less-than-significant. Additionally, development of the Project would eliminate existing hazardous or potentially hazardous conditions affecting portions of Project site that have previously been used for agricultural or dairy uses. Please refer also to EIR Section 4.7, *Hazards/Hazardous Materials*. Based on the preceding, the Project is consistent with Policy LU-2.3.

Table 4.1-1
Policy Plan - Land Use Element Goals and Policies Consistency Analysis

Goals/Policies		Remarks
LU-2.4	**Regulation of Nuisances.** We regulate the location, concentration and operation of potential nuisances.	**Policy LU-2.4 reduces nuisance environmental impacts. While not considered significant of themselves, nuisance impacts could contribute to already adverse environmental conditions, or could cumulatively result in adverse environmental conditions.** ***Consistent:*** The Project does not propose or require uses or development that would be characterized as "nuisances." Rather, the implemented Project would establish a compatible and beneficial development within currently underutilized 2022 Specific Plan Amendment properties. The 2022 Specific Plan Amendment Development Regulations and Design Guidelines and the City Development Code articulate measures and policies that would minimize potential nuisance effects of development. The Project would be required to comply with these measures and policies. On this basis, the Project is consistent with Policy LU-2.4.
LU-2.5	**Regulation of Uses**. We regulate the location, concentration and operations of uses that have impacts on surrounding land uses.	**Policy LU-2.5 minimizes potential land use conflicts that could result in potentially adverse environmental impacts.** ***Consistent:*** As substantiated in this EIR, the Project would not adversely affect surrounding land uses. To this end, all development and operations within the Project site would be required to conform to Development Regulations and Design Guidelines established under the 2022 Specific Plan Amendment. The Project would further be required to conform to all City Development Code requirements. In combination, provisions of the 2022 Specific Plan Amendment and City Development Code act to ensure that the Project would not adversely impact surrounding land uses. On this basis, the Project is consistent with Policy LU-2.5.
LU-2.6	**Infrastructure Compatibility**. We require infrastructure to be aesthetically pleasing and in context with the community character.	**Policy LU-2.6 minimizes potential aesthetic/visual impacts.** ***Consistent:*** The 2022 Specific Plan Amendment would locate utility connections, utility cabinets, etc. in areas not visible from public vantages where feasible. In instances where utility connections or utility cabinets must be placed in areas visible to the public, the 2022 Specific Plan Amendment Design Guidelines provide for screening and/or landscaping to minimize views of utility equipment. On this basis, the Project is consistent with Policy LU-2.6.
LU-2.7	**Inter-jurisdictional Coordination.** We maintain an ongoing liaison with ONT, Caltrans, Public Utilities Commission, the railroads, and other agencies to help minimize impacts and improve the operations and aesthetics of their facilities.	**Policy LU-2.7 minimizes potential infrastructure systems impacts.** ***Consistent:*** The Project does not propose or require elements or actions that would obstruct or otherwise interfere with the City's Inter-jurisdictional Coordination efforts. On this basis, the Project is consistent with Policy LU-2.7.

Table 4.1-1
Policy Plan - Land Use Element Goals and Policies Consistency Analysis

Goals/Policies		Remarks
LU-2.8	**Transitional Areas.** We require development in transitional areas to protect the quality of life of current residents.	**Policy LU-2.8 minimizes potential land use conflicts that could result in potentially adverse environmental impacts.** ***Consistent:*** The Project site does not lie within a Policy Plan Transitional Area. As substantiated in this EIR, the Project incorporates elements and operational programs that would act to minimize or avoid the Project's potentially significant environmental impacts and thereby protect the quality of life or current residents. On this basis, the Project is consistent with Policy LU-2.8.
LU-2.9	**Methane Gas Sites.** We require sensitive land uses and new uses on former dairy farms or other methane-producing sites be designed to minimize health risks.	**Policy LU-2.9 minimizes potential methane hazards impacts.** ***Consistent:*** This EIR incorporates mitigation that would reduce potential hazards/hazardous material impacts, including methane hazards impacts, to levels that would be less-than-significant. Please refer to EIR Section 4.7, *Hazards/Hazardous Materials*. On this basis, the Project is consistent with Policy LU-2.9.
LU-2.10	**Sensitive Uses.** We monitor and share information with the community about stationary and non-stationary emission sources. We encourage siting and design of facilities to minimize health and safety risks on existing and proposed sensitive uses, especially in environmental justice areas.	**Policy LU-2.10 minimizes potential air pollutant health hazards impacts.** ***Consistent:*** As substantiated in this EIR, the Project would not result in or cause air pollutant health hazards impacts. The Project would not result in any adverse impacts at sensitive uses. Please refer also to EIR Sections 4.3, *Air Quality*; 4.4, *GHG Emissions*; 4.6, *Noise*; and 4.7, *Hazards/Hazardous Materials*. On this basis, the Project is consistent with Policy LU-2.10.
LU-2.11	**Context-Aware Transitions and Connections**. We require new development projects and land-planning efforts to provide context-aware and appropriate transitions and connections between existing and planned neighborhoods, blocks, sites, and buildings.	**Policy LU-2.11 encourages compatible and cohesive development.** ***Consistent:*** The 2022 Specific Plan Amendment Land Use Plan, Development Regulations, and Design Guidelines promote development compatibility through adjacency of similar land uses, and transitional elements between differing land uses, e.g., collocation of residential uses with defining transitional elements such as roads, trails, linear open space, screen walls, or landscaping between residential uses and more intense commercial and industrial uses. Please refer also to the 2022 Specific Plan Amendment presented at EIR Appendix B. On this basis, the Project is consistent with Policy LU-2.11.
Goal LU-3 Staff, regulations and processes that support and allow flexible response to conditions and circumstances in order to achieve the Vision.		

Table 4.1-1
Policy Plan - Land Use Element Goals and Policies Consistency Analysis

Goals/Policies		Remarks
LU-3.1	**Development Standards**. We maintain clear development standards which allow flexibility to achieve our Vision and provide objective standards that ensure predictability and deliver the intended physical outcomes.	**Policy LU-3.1 minimizes the potential for development proposals to result in unacceptable designs, or development that would otherwise result in land use incompatibilities that would impede attainment of the City's Vision.** ***Consistent:*** The 2022 Specific Plan Amendment incorporates Development Regulations and Design Guidelines allowing for flexible development of the Project site within the context of the Policy Plan Community Design Element. In this respect, development pursuant to the 2022 Specific Plan Amendment would establish contemporary, quality Residential, Commercial, Light Industrial, and Community Facilities Land Uses on a currently underutilized site. On this basis, the Project is consistent with Policy LU-3.1.
LU-3.2	**Design Incentives.** We offer design incentives to help projects achieve the Vision.	**Policy LU-3.2 encourages quality development and minimizes the potential for development proposals to result in unacceptable designs, or development that would otherwise result in land use incompatibilities that would impede attainment of the City's Vision.** ***Consistent:*** The Project does not propose elements or aspects that would obstruct or interfere with Design Incentives programs established by the City. The 2022 Specific Plan Amendment Land Use Plan, Development Regulations, and Design Guidelines support the Policy Plan Vision. Please refer also to Remarks at Policy LU-3.1.
LU-3.3	**Land Use Flexibility.** We consider uses not typically permitted within a land use category if doing so improves livability, reduces vehicular trips, creates community gathering places and activity nodes, and helps create identity.	**Policy LU-3.3 promotes sustainable and compatible development that reduces or precludes potentially adverse environmental effects.** ***Consistent:*** Land uses and development concepts proposed by the Project are consistent with the Policy Plan Land Use Plan, but would require amendment of the current (2021) Rich-Haven Specific Plan. The proposed Rich-Haven Specific Plan, 2022 Amendment would modify the 2021 Rich-Haven Specific Plan to allow for implementation of the Project uses. The proposed 2022 Specific Plan Amendment provides for flexible and compatible development of the subject site. More specifically, the 2022 Specific Plan Amendment would implement compatible Residential Commercial, and Industrial uses on currently under-utilized properties. Development intensities and land use configurations proposed under the 2022 Specific Plan Amendment promote the highest and best use of the subject site. The 2022 Specific Plan Amendment Land Use Concept collocates Residential, Commercial, Light Industrial, and Community Facilities Land Uses in an urban/urbanizing area, thereby reducing home – work and work – home commutes, acting generally to reduce vehicle VMT locally and within the region. Corollary reductions in vehicle energy consumption and vehicular-source air pollutant and GHG emissions are anticipated.

Table 4.1-1
Policy Plan - Land Use Element Goals and Policies Consistency Analysis

Goals/Policies		Remarks
		The 2022 Specific Plan Amendment Land Use Plan, Development Regulations, and Design Guidelines would establish a Project identity differentiated from, but compatible with, adjacent land uses. Please refer also to Remarks at Policies LU-1.1 and LU-1.2. Based on the preceding, the Project is consistent with Policy LU-3.3.
LU-4 Phased Growth		
Goal LU-4 Development that provides short-term value only when the opportunity to achieve our Vision can be preserved.		
Policies		**Remarks**
LU-4.1	**Commitment to Vision.** We are committed to achieving our Vision but realize that it may take time and several interim steps to get there.	**Policy LU-4.1 reduces environmental effects through continued commitment to the City's Vision, which in part includes promotion of environmentally superior and sustainable development.** ***Consistent:*** The Project would support The Ontario Plan Vision for community-wide prosperity that adds value and yields benefits. Please refer to Remarks at Policies LU-3.1, LU-3.2. Based on the preceding, the Project is consistent with Policy LU-4.1.
LU-4.2	**Interim Development.** We allow development in urban, mixed use, and transit- oriented Place Types that is not immediately reflective of our ultimate Vision for the Place Type, provided it can be modified or replaced when circumstances are right to support development aligned with the Place Type Vision. We will not allow development that impedes, precludes, or compromises our ability to achieve our Vision.	**Policy LU-4.2 indirectly reduces environmental effects through rejection of development proposals that impede, preclude, or compromise attainment of the City's Vision.** ***Consistent:*** The Project does not propose interim development. Please refer to Remarks at Policies LU-3.1, LU-3.2, LU-4.1.
LU-4.3	**Infrastructure Timing.** We require that the necessary infrastructure and services be in place prior to or concurrently with development.	**Policy LU-4.3 reduces infrastructure and services impacts.** ***Consistent:*** Pursuant to provisions of 2022 Specific Plan Amendment, mitigation measures identified in this EIR, and City Conditions of Approval, the Project would provide and/or otherwise ensure to the satisfaction of the City, that infrastructure and services are timely available to meet Project demands. On this basis, the Project is consistent with Policy LU-4-3.

Table 4.1-1
Policy Plan - Land Use Element Goals and Policies Consistency Analysis

Goals/Policies		Remarks
LU-4.4	**Shared Infrastructure.** We encourage and facilitate the use of shared infrastructure (including shared or managed parking) in urban, mixed use, and transit-oriented Place Types.	**Policy LU-4.4 reduces infrastructure and services impacts.** The 2022 Specific Plan Amendment infrastructure plans provide for efficient shared connections to existing and proposed utilities systems. All infrastructure systems implemented by the project would be required to conform to City and purveyor standards and requirements. On this basis, the Project is consistent with Policy LU-4-4.
LU-5 Airport Planning		
Goal LU-5 Integrated airport systems and facilities that minimize negative impacts to the community and maximize economic benefits.		
Policies		**Remarks**
LU-5.1	**Coordination with Airport Authorities.** We collaborate with FAA, Caltrans Division of Aeronautics, airport owners, neighboring jurisdictions, and other shareholders in the preparation, update and maintenance of airport-related plans.	**Policy LU-5.1 reduces adverse impacts associated with airfield/airport operations.** ***Consistent:*** The Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to expose developments or populations to airport/aircraft-related hazards would be less-than-significant. The Project does not propose facilities or uses that would interfere with or obstruct City collaboration or coordination with agencies or shareholders participating in or responsible for the preparation, update and maintenance of airport-related plans. On this basis, the Project is consistent with Policy LU-5.1.
LU-5.2	**Airport Planning Consistency.** We coordinate with airport authorities to ensure The Ontario Plan is consistent with state law, federal regulations, and/or adopted master plans and land use compatibility plans for ONT and Chino Airport.	***Consistent:*** Please refer to remarks at Policy LU-5.1.
LU-5.3	**Airport Impacts.** We work with agencies to maximize resources to mitigate the impacts and hazards related to airport operations – their homes.	***Consistent:*** Please refer to remarks at Policy LU-5.1.

Table 4.1-1
Policy Plan - Land Use Element Goals and Policies Consistency Analysis

Goals/Policies		Remarks
LU-5.4	**ONT Growth Forecast.** We support and promote an ONT that accommodates 30 million annual passengers and 1.6 million tons of cargo per year, as long as the impacts associated with that level of operations are planned for and mitigated.	***Consistent:*** Please refer to remarks at Policy LU-5.1.
LU-5.5	**Airport Compatibility Planning for ONT.** We create and maintain the Airport Land Use Compatibility Plan for ONT.	***Consistent:*** Please refer to remarks at Policy LU-5.1.
LU-5.6	**Alternative Process.** We fulfill our responsibilities and comply with state law with regard to the Alternative Process for proper airport land use compatibility planning.	***Consistent:*** Please refer to remarks at Policy LU-5.1.
LU-5.7	**ALUCP Consistency with Land Use Regulations.** We comply with state law that requires general plans, specific plans and all new development be consistent with the policies and criteria set forth within an Airport Land Use Compatibility Plan for any public-use airport.	***Consistent:*** Please refer to Remarks at Policy LU-5.1.
LU-5.8	**Chino Airport.** We will support the creation and implementation of the Airport Land Use Compatibility Plan for Chino Airport.	***Consistent:*** Please refer to Remarks at Policy LU-5.1.

Sources: Goal/Policy statements from: TOP 2050 Policy Plan, Land Use Element; Remarks-Applied Planning, Inc.

City of Ontario Development Code/Zoning

Zoning for the subject site would be established by the 2022 Specific Plan Amendment. The 2022 Specific Plan Amendment is consistent with the Policy Plan Land Use Element.

All development within the Project site would be subject to plans, requirements, standards, and guidelines established under the 2022 Specific Plan Amendment. In instances where the 2022 Specific Plan Amendment is silent, development within the

Project site would be subject to requirements of the City Development Code. The Project does not propose or require amendment(s) to the City Development Code.

2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal 2020)

The Project is also evaluated in the context of Connect SoCal 2020. Project consistency with Connect SoCal 2020 goals is presented at Table 4.1-2.

Table 4.1-2
Project Consistency with Connect SoCal 2020

Connect SoCal 2020 Goal	Remarks
Goal #1: Encourage regional economic prosperity and global competitiveness	***Consistent:*** The Project is consistent with and supports TOP 2050 and TOP 2050 Community Economics Element. TOP 2050 Community Economics Element establishes goals and policies that promote economic growth and fiscal responsibility. In combination, TOP 2050 Community Economics Element goals and policies act to attract new and expanding businesses to Ontario thereby increasing the City's share of growing sectors of the regional and global economy. The Project commercial, retail, and industrial uses provide business and employment opportunities acting to further City economic prosperity. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #1. On this basis, the Project is consistent with Connect SoCal 2020 Goal #1.
Goal #2: Improve mobility, accessibility, reliability, and travel safety for people and goods	***Consistent:*** The Project is consistent with and supports TOP 2050 and TOP 2050 Mobility Element. TOP 2050 Mobility Element identifies the system of roadways all users of streets, roads, and highways, including motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods and users of public transportation. Per TOP 2050 Mobility Element, transportation system designs within the City are required to: • Comply with federal, state, and local design and safety standards; • Meet the needs of multiple transportation modes and users; • Provide capacity envisioned in the City of Ontario Master Plan of Streets and Highways; • Be compatible with the streetscape and surrounding land uses: and • Promote the efficient flow of all modes of transportation through the implementation of intelligent transportation systems and travel demand management strategies. As applicable, the Project Applicant would coordinate design and construction of Project transportation system improvements with the City, Caltrans, SBCTA, and others to identify, fund, and implement needed improvements. The Applicant would also comply with City of Ontario requirements addressing transportation corridors enhancements. Streets implemented by the Project would comply with applicable City requirements addressing walkability, bicycling opportunities, and transit integration. As applicable, the Applicant would also coordinate with potentially affected agencies and municipalities to plan and implement goods movement strategies and plans, as well as improvements that support and

Table 4.1-2
Project Consistency with Connect SoCal 2020

Connect SoCal 2020 Goal	Remarks
	the efficient movement of goods, while avoiding or minimizing potentially adverse environmental impacts. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #2. On this basis, the Project is consistent with Connect SoCal 2020 Goal #2.
Goal #3: Enhance the preservation, security, and resilience of the regional transportation system	***Consistent***: The Project is consistent with and supports TOP 2050. The City takes a proactive leadership role identifying and facilitating strategies addressing regional transportation challenges. As applicable, the Project Applicant would coordinate with the City, ONT, railroads, Caltrans, SBCTA, and other transportation agencies with regard to preservation, security, and resilience of the regional transportation system. The Project Applicant would also coordinate with potentially affected agencies and municipalities to plan and implement goods movement strategies and plans, and improvements that support and the efficient movement of goods, while avoiding or minimizing potentially adverse environmental impacts. Additionally, the Project Applicant would coordinate with the City and transit agencies to implement transit service and thereby reduce vehicle miles traveled. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #3. On this basis, the Project is consistent with Connect SoCal 2020 Goal #3.
Goal #4: Increase person and goods movement and travel choices within the transportation system	***Consistent:*** The Project is consistent with and supports TOP 2050. The final Project designs would be required comply with TOP 2050 Policies addressing implementation of multimodal transportation systems meeting the needs of all users of streets, roads, and highways, including motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods and users of public transportation. The Project Applicant would also coordinate with the City and transit agencies to implement transit service and thereby reduce vehicle miles traveled. Additionally, the Project Applicant would coordinate with potentially affected agencies and municipalities to plan and implement goods movement strategies and plans, and improvements that support and the efficient movement of goods, while avoiding or minimizing potentially adverse environmental impacts. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #4. On this basis, the Project is consistent with Connect SoCal 2020 Goal #4.
Goal #5: Reduce greenhouse gas emissions and improve air quality	***Consistent:*** The Project is consistent with and supports TOP 2050 and the 2022 Community Climate Action Plan Update (2022 CAP Update) implemented under TOP 2050. As substantiated at EIR Section 4.4, *Greenhouse Gas Emissions*, Project GHG emissions would be reduced to the extent feasible. In this regard, certain of the Mitigation Measures identified at EIR Section 4.3, *Air Quality* would incrementally reduce Project-source air pollutant emissions and in so-doing would also act to generally reduce GHG emissions. The Project collocates Residential, Commercial, Light Industrial, and Community Facilities Land Uses with proximate access to the local and regional roadway system. In this manner, the Project minimizes VMT and resulting vehicular-source air pollutant emissions. The Project would result in certain regionally significant and unavoidable air quality impacts. The Project would implement measures that would reduce these impacts to the extent feasible. The Project would not result in any locally significant air quality impacts, or air quality conditions that would result in adverse health effects. (see: EIR Section 4.3, *Air Quality*). The Project does not propose or require improvements or operations that would conflict with or

Table 4.1-2
Project Consistency with Connect SoCal 2020

Connect SoCal 2020 Goal	Remarks
	obstruct attainment of Connect SoCal 2020 Goal #5. On this basis, the Project is consistent with Connect SoCal 2020 Goal #5.
Goal #6: Support healthy and equitable communities	***Consistent:*** The Project is consistent with and supports TOP 2050 and TOP 2050 *Social Resources Element*. TOP 2050, *Social Resources Element*, identifies quality and accessible health care, education, community services, and cultural activities as critical components to achieving Ontario's Vision. The Project collocates a range of housing products and employment-generating commercial and industrial uses, thereby furthering City goals to provide a range of housing types and employment opportunities. In this regard, the Project acts to improve the balance between jobs and housing in the San Bernardino County subregion while reducing vehicle miles traveled and associated air quality impacts and air quality related health impacts. As substantiated in this EIR, the Project would not result in any adverse health impacts. All Project uses would be required to provide equitable access for all persons. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #6. On this basis, the Project is consistent with Connect SoCal 2020 Goal #6.
Goal #7: Adapt to a changing climate and support an integrated regional development	***Consistent:*** The Project is consistent with and supports TOP 2050 and the 2022 CAP Update implemented under TOP 2050. As substantiated at EIR Section 4.4, *Greenhouse Gas Emissions*, Project GHG emissions would be reduced to the extent feasible. In this regard, certain of the Mitigation Measures identified at EIR Section 4.3, *Air Quality* would incrementally reduce Project-source air pollutant emissions and in so-doing would also act to generally reduce GHG emissions. Collocated housing, commercial uses, and industrial development proposed by the Project support integrated development within the City and region. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #7. On this basis, the Project is consistent with Connect SoCal 2020 Goal #7.
Goal #8: Leverage new transportation technologies and data-driven solutions that result in more efficient travel	***Consistent:*** The Project is consistent with and supports TOP 2050 and TOP 2050 Mobility Element. The Mobility Element identifies the system of roadways all users of streets, roads, and highways, including motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods and users of public transportation. The Project supports efficient travel through collocation of complementary uses proximate to local and regional roadway systems. The Project final designs would include pedestrian and bicycle access and associated amenities consistent with City requirements. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #8. On this basis, the Project is consistent with Connect SoCal 2020 Goal #8.
Goal #9: Encourage development of diverse housing types in areas that are supported by multiple transportation options	***Consistent:*** The Project is consistent with and supports TOP 2050 and TOP 2050 housing policies. The Project provides a range of housing products available to all persons. The Project site is currently served by improved roadways, and the Project would construct new and improved roadways adequate to serve traffic within the Project site, and ensure that Project traffic does not contribute to or case adverse traffic conditions. The Project final designs would include pedestrian and bicycle access and associated amenities consistent with City requirements. The Project does not propose or require improvements or

Table 4.1-2
Project Consistency with Connect SoCal 2020

Connect SoCal 2020 Goal	Remarks
	operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #9. On this basis, the Project is consistent with Connect SoCal 2020 Goal #9.
Goal #10: Promote conservation of natural and agricultural lands and restoration of habitats	***Consistent:*** The Project is consistent with and supports TOP 2050 to protect high value habitat and farming resource activities that are compatible with adjacent development. As substantiated at EIR Section 4.10, *Biological Resources* there are no valuable or protected natural agricultural lands or habitat within the Project site. This EIR further substantiates that the Project would not result in potentially adverse biological resources impacts. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #10. On this basis, the Project is consistent with Connect SoCal 2020 Goal #10.

Sources: Connect SoCal 2020; TOP 2050 SEIR; Remarks by Applied Planning, Inc.

Summary

As outlined above, the Project would establish Land Uses, Development Regulations, and Design Guidelines directing the ultimate buildout of the Project site. Land uses and development reflected within the proposed 2022 Specific Plan Amendment can be feasibly implemented consistent with applicable provisions of the City General Plan and the City Development Code. Prior to issuance of development permits, the City would review the final development plans for individual projects within the 2022 Specific Plan Amendment area to ensure consistency with the 2022 Specific Plan Amendment document as approved by the City, and where applicable, City Development Code requirements. Further, the Project would be consistent with applicable land use and planning provisions of the Policy Plan.

The Project is also considered to be consistent with, and would support land use and planning goals articulated in Connect SoCal. Project consistency with applicable Connect SoCal Land Use and Planning Goals addressing avoidance and mitigation of environmental impacts is summarized at Table 4.1-2.

On the basis of the preceding, the potential for the Project to cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect is less-than-significant.

Level of Significance: Less-Than-Significant.

4.2 TRANSPORTATION

4.2 TRANSPORTATION

Abstract

This discussion of potential transportation impacts is organized under the following headings:

- *Vehicle Miles Traveled Analysis; and*
- *Other Transportation Topics.*

A summary of the analysis and findings under these topical headings is presented below.

Vehicle Miles Traveled (VMT) Analysis

As required under CEQA Guidelines *Section 15064.3, potential vehicle miles traveled (VMT) impacts of the Project are evaluated in this Section.*[1] CEQA Guidelines *Section 15064.3 (statute effective July 1, 2020) requires analysis of the Project's potential vehicle miles traveled (VMT) impacts. Detailed analysis of the Project's potential VMT impacts is presented in* Rich-Haven Specific Plan Amendment, Vehicle Miles Traveled (VMT) Analysis *(Urban Crossroads, Inc.) October 3, 2022 (Project VMT Analysis). Findings and conclusions of the Project VMT Analysis are summarized in this Section and the Project VMT Analysis in total is presented at EIR Appendix C. The analysis presented here substantiates that Project VMT impacts would be less-than-significant. As further substantiated within this analysis, less-than-significant VMT impacts at the Project level would not be cumulatively considerable or cumulatively significant. Additionally, localized roadway improvements constructed by the Project would not cause or result in potentially significant VMT impacts.*

[1] *CEQA Guidelines* Section 15064.3, effective January 1, 2019, "describes specific considerations for evaluating a project's transportation impacts" and provides that, except for roadway capacity projects, "a project's effect on automobile delay (or LOS) shall not constitute a significant environmental impact." (*CEQA Guidelines*, § 15064.3, subd. (a).)

The City further recognizes that vehicle delay (Level of Service, LOS) deficiencies are no longer environmental impacts under CEQA. The Project's potential LOS deficiencies are therefore not further evaluated in this EIR.

For reference purposes, and in support of City circulation system planning, potential LOS deficiencies resulting from the Project have also been evaluated. Recommended improvements addressing LOS deficiencies have been developed. Potential LOS deficiencies and recommended improvements are presented in detail in: Rich Haven Specific Plan, Traffic Analysis *(Urban Crossroads, Inc.) December 16, 2022 (Project Traffic Analysis). The Project Traffic Analysis is provided at EIR Appendix C.*

Other Transportation Topics

Other transportation topics evaluated in this Section include the following:

- *Potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;*
- *Potential to substantially increase hazards to a geometric design feature; and*
- *Potential to result in inadequate emergency access.*

The analysis presented here substantiates that Project impacts under the preceding "other transportation topics" would be less-than-significant.

4.2.1 VMT ASSESSMENT

4.2.1.1 Background

Transportation impact analyses prepared by the City have historically been based on level of service (LOS) and similar vehicle delay/congestion metrics. The LOS analytic model provides a reasonable assessment of vehicle congestion and driving conditions that may result from a given development project. LOS analyses do not however evaluate the range and magnitude of other environmental effects attributable to development traffic, including fuel consumption, criteria air pollutant emissions, and greenhouse gas emissions. These latter issues have however been historically addressed, and are

currently addressed within this EIR's *Air Quality*, *Greenhouse Gas Emissions*, and *Energy* Sections. In response to these latter concerns and to comprehensively evaluate environmental impacts of development traffic, the *CEQA Guidelines* (amended December 2019) include new Section 15064.3 addressing transportation impacts. In summary, *CEQA Guidelines* Section 15064.3 establishes Vehicle Miles Traveled (VMT) as the appropriate metric for evaluation of project transportation impacts.

The Project VMT Analysis presented here evaluates the potential for the Project to conflict with or be inconsistent with *CEQA Guidelines* Section 15064.3, subdivision (b). For ease of reference, *CEQA Guidelines* Section 15064.3, subdivision (b) is presented below.

> **§ 15064.3**. Determining the Significance of Transportation Impacts.
>
> **(b)** Criteria for Analyzing Transportation Impacts.
>
> - Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.
> - Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

- Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

- Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

4.2.1.2 Methodology

As provided for at *CEQA Guidelines* Section 15064.3 (b) (4) (above), "[a] lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure."

Within this analysis, evaluation of the Project VMT impacts is guided by *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory) (Governor's Office of Planning and Research, OPR) December 2018. The Technical Advisory fulfills the state (SB 743) mandate that "OPR [is] to establish specific 'criteria for determining the significance of transportation impacts of projects' (Technical Advisory, p. 7).

Consistent with provisions of *CEQA Guidelines* Section 15064.3 (b) (4) and the Technical Advisory, the City of Ontario (City) has adopted and implemented their own VMT methodologies and thresholds[2] – referred to herein as the City VMT Guidelines. The Project VMT analysis presented here conforms to the City VMT Guidelines. Further detail regarding the Project VMT Analysis is provided below.

VMT Modeling

The City VMT Guidelines identify the San Bernardino Traffic Analysis Model (SBTAM) as the appropriate tool for conducting VMT analysis for land use projects in the City. The City has adopted an updated version of SBTAM referred to as The Ontario Plan (TOP) Model. TOP Model reflects contemporary City roadway network and socio-economic data that is consistent with the recently adopted TOP 2050. TOP Model reflects City-wide VMT conditions under Base Year (2019) and General Plan Buildout (2050) scenarios. Beyond the City limits, TOP Model assumes datasets consistent with the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS).

City VMT Metric and VMT Impact Significance Threshold

The City VMT Guidelines employ a VMT per Service Population (VMT/SP) metric to quantify VMT impacts. For the Project, the Service Population (SP) comprises the Specific Plan resident population and persons employed by various commercial and industrial uses. The City VMT Guidelines establish the following VMT impact significance threshold for project-level VMT analyses:

- A significant impact would occur if the project VMT/SP exceeds the City-wide average VMT/SP under General Plan Buildout conditions.

As calculated using TOP General Plan Buildout (2050) Model, Citywide average VMT/SP under General Plan Buildout (2050) conditions is 30.70 VMT/SP. Please refer to Table 4.2-1.

[2] City of Ontario Resolution No. 2020-071, adopted June 2020.

Table 4.2-1
TOP 2050 General Plan Buildout
VMT/SP

Service Population	706,494
VMT	21,689,573
VMT/SP	30.70

Source: *Rich-Haven Specific Plan Amendment, Vehicle Miles Traveled (VMT) Analysis* (Urban Crossroads, Inc.) October 3, 2022.

The Baseline (2019) City Average VMT/SP (Automobile VMT and Total VMT) was calculated by linearly interpolating SBTAM data for the years 2012 and 2040. Table 4.2-2 provides a summary of the City Average Automobile VMT/SP and Total VMT/SP for 2012, 2019, and 2040.

Table 4.2-2
City Average VMT/SP Estimates: 2012, 2019, 2040

	2012 VMT/SP	2019 VMT/SP	2040 VMT/SP
Automobiles	37.5	37.6	37.9
Total	42.1	42.3	42.8

Source: *Rich-Haven Specific Plan Amendment, Vehicle Miles Traveled (VMT) Analysis* (Urban Crossroads, Inc.) October 3, 2022.

Project VMT/SP Calculation

Project VMT has been estimated by converting the Project land use information (dwelling units and building square footages) to an SBTAM-compatible socio-economic dataset (SED) comprising households, resident population, and employment. The Project SED was then input into a separate traffic analysis zone (TAZ) to isolate the Project's VMT. Table 4.2-3 summarizes the Project SED inputs.

Table 4.2-3
Project SED Inputs

Households	7,194
Resident Population	25,179
Employment	5,005

Source: *Rich-Haven Specific Plan Amendment, Vehicle Miles Traveled (VMT) Analysis* (Urban Crossroads, Inc.) October 3, 2022.

Project VMT was then calculated employing the "Origin/Destination" (OD) method. The OD method sums all weekday VMT generated by Project-related trips with at least one trip end in the VMT Analysis Study Area (Study Area). The OD method Project VMT/SP is then the quotient of total Project VMT divided by the total Project SP.

Table 4.2-4 summarizes Project VMT/SP under Baseline (2022) conditions, and General Plan Buildout (2050) conditions. The Project Service Population has been apportioned into Resident Population and Employment components. For clarity and disclosure purposes, the portion of Project VMT generated by heavy duty trucks has been disaggregated from the total Project VMT. Project VMT/SP is then compared to the City VMT/SP significance threshold. As indicated at Table 4.2-4, Project VMT/SP as calculated employing the OD method would not exceed City VMT/SP impact significance threshold. On this basis, the potential for the Project to result in a significant VMT impact would be less-than-significant.

Table 4.2-4
Project VMT/SP Summary-OD Method

	Baseline (2022)	**General Plan Buildout (2050)**
Resident Population	25,179	25,179
Employment	5,005	5,005
Total Service Population	**30,184**	**30,184**
Total OD VMT	**679,212**	**777,191***
Total VMT Trucks	33,586	33,586
Project VMT/SP	**22.50**	**25.75**
City VMT/SP Significance Threshold	30.70	30.70
Project VMT/SP Percent Below Threshold	-26.71%	-16.12%
Threshold Exceeded?	No	No

Source: *Rich-Haven Specific Plan Amendment, Vehicle Miles Traveled (VMT) Analysis* (Urban Crossroads, Inc.) October 3, 2022.
Notes:* Although the Project's population and employment does not change from baseline to buildout, the roadway network, modal shifts, and surrounding land uses does change within the model from baseline to buildout and may cause some VMT efficiencies and inefficiencies. In this case, inefficiencies result in the VMT increasing.

Boundary VMT Method

City VMT Guidelines also acknowledge that VMT analyses should evaluate project VMT impacts employing the "boundary" method. The boundary method sums all weekday

VMT on the roadway network within a designated boundary (e.g., municipal boundary or other designated geographic area).

The boundary method estimates VMT by multiplying vehicle trips on each roadway segment within the boundary by that segment's length. The product is referred to here as "boundary VMT." This approach considers all trips, including those trips that do not begin or end in the designated boundary.

Employing the boundary method, the Project VMT analysis evaluated buildout VMT within the City boundaries, under "No Project" and "With Project" conditions. Because the Project is located near the southeastern edge of the City, the Project VMT analysis also evaluated buildout VMT within an approximate 10-mile radius of the Project. This additional assessment captures all trips likely generated by, or attracted to, the Project.

Table 4.2-5 presents boundary VMT (City boundary VMT and 10-mile radius boundary VMT) for No Project and With Project scenarios under General Plan Buildout (2050) conditions. As indicated, total boundary VMT would be increased under the With Project scenario. However, the VMT/SP ratio is maintained or is reduced under With Project conditions.

Table 4.2-5
General Plan Buildout Boundary VMT

	City Boundary VMT		**10-Mile Boundary VMT**	
Scenario	**No Project**	**With Project**	**No Project**	**With Project**
Service Population	719,661	721,445	2,276,901	2,278,685
Boundary VMT	9,670,427	9,687,140	35,863,716	35,892,228
Change in Total VMT	**+16,713 VMT (+0.1728%)**		**+28,512 VMT (+0.0795%)**	
VMT/SP	13.44	13.43	15.75	15.75
Change in VMT/SP	**-0.01**		**0.00**	

Source: *Rich-Haven Specific Plan Amendment, Vehicle Miles Traveled (VMT) Analysis* (Urban Crossroads, Inc.) October 3, 2022.

Cumulative VMT Impacts

The Technical Advisory notes that ". . . metrics such as VMT per capita or VMT per employee, i.e., metrics framed in terms of efficiency (as recommended below for use on

residential and office projects), cannot be summed because they employ a denominator. A project that falls below an efficiency-based threshold that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact" (Technical Advisory, p. 6). As substantiated herein, the Project-level VMT impacts are less-than-significant per the City VMT Guidelines efficiency-based threshold. (VMT/SP). Per the Technical Advisory guidance, the Project cumulative VMT impacts would also be less-than-significant.

Induced VMT Assessment

Use of VMT as an environmental impact metric for transportation projects is discretionary under Section 15064.3 (b) (2) of the *CEQA Guidelines*:

> *(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.*

The Technical Advisory states that building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel. OPR identifies addition of through lanes on existing or new highways, including general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges as project types that would likely lead to a measurable and substantial increase in induced vehicle travel. Further, the Technical Advisory acknowledges that addition of capacity on local or collector streets, provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis (Technical Advisory, pp. 20, 21).

It is recognized that the 2022 SPA is not a "transportation project" as defined at *CEQA Guidelines* Section 15064.3 (b) (2). However, the 2022 SPA will provide or fund local and area transportation improvements. The Project is consistent with TOP 2050. The Project would construct site-adjacent local streets, collectors, and arterials, including sidewalk and bicycle lanes that are consistent with TOP 2050 Mobility Element. Construction of these local facilities in a manner that is consistent with TOP 2050 Mobility Element would not significantly alter regional or inter-regional travel. Growth resulting from, or facilitated by, Project infrastructure improvements is anticipated under TOP 2050, and environmental impacts attributable to such growth including, but not limited to, VMT effects is considered and addressed in TOP 2050 SEIR.

While roadway improvements associated with the Project may facilitate vehicular travel within the City and surrounding areas, total VMT and environmental impacts of such travel would not result in VMT and VMT-related impacts not already considered and addressed in TOP 2050 SEIR.

Other Considerations

Alternative transportation modes and facilities (e.g., bus service, bicycle routes, pedestrian paths) are generally available within the Study Area and could potentially reduce the Project VMT. However, the VMT-reducing potentials of alternative travel modes were not considered in the Project VMT Analysis. Project VMT estimates considered in this analysis therefore represent the likely maximum Project VMT impact conditions.

4.2.2 OTHER TRANSPORTATION TOPICS

Potential Impact TR-1: *Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities***.**

City of Ontario programs, plans, and policies addressing the circulation system are established under TOP 2050. Project consistency with applicable provisions of TOP 2050 is summarized at Table 4.2-6. As provided for under CEQA, the analysis presented here

considers program, plan, and policy inconsistencies that could result in potentially significant environmental impacts. As a matter of law, the Project would be required to comply with City ordinances addressing the Study Area circulation system.

Table 4.2-6
TOP 2050 Consistency Analysis

MOBILITY ELEMENT		
M-1 Roadway System		
Goal M1 A system of roadways that meets the mobility needs of a dynamic and prosperous Ontario.		
Policies		**Remarks**
M-1.1	**Roadway Design and Maintenance.** We require our roadways to: • Comply with federal, state and local design and safety standards. • Meet the needs of multiple transportation modes and users. • Handle the capacity envisioned in City of Ontario Master Plan of Streets and Highways. • Be maintained in accordance with best practices. • Be compatible with the streetscape and surrounding land uses. • Promote the efficient flow of all modes of traffic through the implementation of intelligent transportation systems and travel demand strategies.	**Consistent.** Project roadway designs and all proposed improvements would conform with the City's Master Plan of Streets and Highways, City design standards and applicable federal/state design and safety standards. City design review processes would ensure compliance with all applicable standards. Streetscape design concepts implemented pursuant to the 2022 Specific Plan Amendment establish compatible continuation of existing perimeter streetscapes. All public roadways would be maintained in accordance with City requirements to include implementation of City Best Management Practices and City Right-of-Way Management Plan. On this basis, the Project is considered consistent with Policy M-1.1.
M-1.2	**Mitigation of Impacts.** We require development to mitigate its traffic impacts.	**Consistent.** The Project would not result in potentially significant VMT impacts. Recommended improvements addressing potential LOS deficiencies are identified in the Project Traffic Analysis (EIR Appendix C); these improvements would be implemented consistent with City Conditions of Approval. On this basis, the Project is considered consistent with Policy M-1.2.
M-1.3	**Agency Coordination on Roadway Improvements.** We work with Caltrans, SBCTA and others to identify, fund and implement needed improvements to roadways when necessary. We work with neighboring jurisdictions to promote regional connectivity, access, and meet operational level of service standards at the City limits.	**Consistent.** Please refer to remarks at Policies M-1.1, M-1.2.

Table 4.2-6
TOP 2050 Consistency Analysis

MOBILITY ELEMENT		
M-1.4	**Complete Streets.** We work to provide a complete, balanced, context-aware, multimodal transportation network that meets the needs of all users of streets, roads, and highways, including motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation. We prioritize implementation of complete streets improvements in environmental justice areas to facilitate opportunities for residents to use active transportation systems.	**Consistent.** The Project would construct site-adjacent local streets, collectors, and arterials, including sidewalk and bicycle lanes that are consistent with TOP 2050 Mobility Element. On this basis, the Project is considered consistent with Policy M-1.4.
M-1.5	**Level of Service.** Maintain a peak hour Level of Service (LOS) E or better at all intersections. Maintain Level of Service D or better on arterial streets in the City. Develop and maintain a list of locations where LOS E or LOS F are considered acceptable and would be exempt from this level of service policy. Considerations for LOS exemption include being restricted by environmental constraints, lacking available right-of-way, deterring an increase in VMT, or degrading other modes of travel (such as bicycle or pedestrian infrastructure).	**Consistent.** The City recognizes that vehicle delay (Level of Service, LOS) deficiencies are no longer environmental impacts under CEQA. For reference purposes, and in support of City circulation system planning, potential LOS deficiencies resulting from the Project have been evaluated. Recommended improvements addressing LOS deficiencies have been developed. Potential LOS deficiencies and recommended improvements are presented in detail in the Project Traffic Analysis, provided at EIR Appendix C. On this basis, the Project is considered consistent with Policy M-1.5.
M-1.6	**Reduce Vehicle Miles Traveled.** We will strive to reduce VMT through a combination of land use, transportation projects, travel demand management strategies, and other trip reduction measures in coordination with development projects and public capital improvement projects.	**Consistent.** While roadway improvements associated with the Project may facilitate vehicular travel within the City and surrounding areas, total VMT and environmental impacts of such travel would not result in VMT and VMT-related impacts not already considered and addressed in TOP 2050 SEIR. On this basis, the Project is considered consistent with Policy M-1.6.
M2 Active Transportation		
Goal M-2 A system of trails and corridors that facilitate and encourage active modes of transportation.		
Policies		**Remarks**
M-2.1	**Active Transportation.** We maintain our Active Transportation Master Plan to create a comprehensive system of on- and off-street bikeways and pedestrian	**Consistent.** Bikeways and pedestrian facilities would be implemented consistent with the City's Active Transportation Master Plan and provisions of the 2022 Specific Plan Amendment.

Table 4.2-6
TOP 2050 Consistency Analysis

MOBILITY ELEMENT		
	facilities that are safe, comfortable, and accessible and connect residential areas, businesses, schools, parks, and other key destination points.	On this basis, the Project is considered consistent with Policy M-2.1.
M-2.2	**Bicycle System.** We provide off-street multipurpose trails and Class II bikeways as our preferred paths of travel and use the Class III for connectivity in constrained circumstances. When truck routes and bicycle facilities share a right-of-way, we prefer Class I or Class IV bicycle facilities. We require new development to include bicycle facilities, such as bicycle parking and secure storage areas.	**Consistent.** Bikeways would be implemented consistent with the City's Active Transportation Master Plan and provisions of the 2022 Specific Plan Amendment. On this basis, the Project is considered consistent with Policy M-2.2.
M-2.3	**Pedestrian Walkways.** We require streets to include sidewalks and visible crosswalks at major intersections where necessary to promote safe and comfortable mobility between residential areas, businesses, schools, parks, recreation areas, and other key destination points.	**Consistent.** Pedestrian paths would be provided within the Project site and along the Project perimeter consistent with City standards and provisions of the 2022 Specific Plan Amendment. On this basis, the Project is considered consistent with Policy M-2.3.
M.2-4	**Network Opportunities.** We use public rights-of-way and easements such as, utility easements, levees, drainage corridors, road rights-of-way, medians, and other potential options to maintain and expand our bicycle and pedestrian network. In urban, mixed-use, and transit-oriented Place Types, we encourage the use of underutilized public and private spaces to expand our public realm and improve pedestrian and bicycle connectivity.	**Consistent.** Bikeways and pedestrian facilities would be implemented consistent with the City's Active Transportation Master Plan and provisions of the 2022 Specific Plan Amendment. On this basis, the Project is considered consistent with Policy M-2.4.
M-3 Public Transit		
Goal M-3 A public transit system that is a viable alternative to automobile travel and meets basic transportation needs of the transit dependent.		
Policies		**Remarks**
M-3.1	**Transit Partners.** We maintain a proactive working partnership with transit providers to ensure that adequate public transit service is available, cost-efficient, and convenient, particularly for residents in environmental justice areas.	**Consistent.** The Project would not interfere with or otherwise obstruct the City's cooperative partnership with transit providers. On this basis, the Project is considered consistent with Policy M-3.1.

Table 4.2-6
TOP 2050 Consistency Analysis

MOBILITY ELEMENT		
M-3.2	**Alternative Transit Facilities at New Development.** We require new development adjacent to an existing or planned transit stop to contribute to the creation of transit facilities, such as bus shelters, transit bays and turnouts, and bicycle facilities, such as secure storage areas.	**Consistent.** The Project would support and would not conflict with City efforts to contribute to the creation of transit facilities. To these ends the Applicant would coordinate Project development with the City and transit agencies to implement transit service and supporting amenities. Additionally, the Specific Plan design establishes residential densities that would support Bus Rapid Transit (BRT) along Haven Avenue (see: EIR Appendix B, Rich-Haven Specific Plan Amendment, Figure 3-1, *Land Use Plan*). On this basis, the Project is considered consistent with Policy M-3.2.
M-3.3	**Transit-Oriented Development.** We may provide additional development-related incentives to those inherent in the Land Use Plan for projects that promote transit use and reduce vehicle miles traveled.	**Consistent.** The Project would not interfere with or otherwise obstruct the City's incentive programs and policies. On this basis, the Project is considered consistent with Policy M-3.3.
M-3.4	**Bus Rapid Transit (BRT) Corridors.** We work with regional transit agencies to implement BRT service and reduce vehicle miles traveled by targeting destinations and corridors with the highest number of potential riders.	**Consistent.** The Project would not interfere with or otherwise obstruct the City's cooperative efforts with regional transit agencies. On this basis, the Project is considered consistent with Policy M-3.4.
M-3.5	**Light Rail.** We support extension of the Metro Rail Gold Line to Ontario, and will work to secure station locations at the proposed multimodal transit center.	**Consistent.** The 2022 Specific Plan Amendment area is not located near the potential Metro Rail Gold Line extension to the City; nor the proposed multimodal transit center. The Project would not impact, nor be impacted by, rail operations. On this basis, the Project is considered consistent with Policy M-3.5.
M-3.6	**Metrolink Expansion.** We advocate expansion of Metrolink service to include the Downtown and the multimodal transit center.	**Consistent.** The Project site is not located near the Metrolink rail line; nor the proposed multimodal transit center. The Project would not impact, nor be impacted by, Metrolink expansion. On this basis, the Project is considered consistent with Policy M-3.6.
M-3.7	**High Speed Rail.** We encourage the development of high-speed rail systems that would enhance regional mobility in Southern California and serve the City of Ontario.	**Consistent.** No railways exist within or near the Specific Plan area. The Project would not interfere with or otherwise obstruct the development of high-speed rail systems.

Table 4.2-6
TOP 2050 Consistency Analysis

MOBILITY ELEMENT		
		On this basis, the Project is considered consistent with Policy M-3.7.
M-3.8	**Feeder Systems.** We work with regional transit agencies to secure convenient feeder service from the Metrolink station and the proposed multimodal transit center to employment centers in Ontario.	**Consistent.** The site is located in an area already served by public transit. The Project would implement feeder transit facilities as required by the City through its coordination with transit agencies serving the area. On this basis, the Project is considered consistent with Policy M-3.8.
M-3.9	**Ontario Airport Metro Center Circulator.** We will explore development of a convenient mobility system, including but not limited to shuttle service, people mover, and shared car system, for the Ontario Airport Metro Center.	**Consistent.** The Specific Plan area is not located in or near the Ontario Airport Metro Center. The Project would not interfere with or otherwise obstruct the City's development of a mobility system in this area. On this basis, the Project is considered consistent with Policy M-3.9.
M-3.10	**Multimodal Transportation Center.** We intend to ensure the development of a multimodal transportation center near ONT airport to serve as a transit hub with amenities for transit riders, pedestrians, and bicyclists transitioning to local buses, BRT, the Gold Line, high-speed rail, the proposed Ontario Airport Metro Center Circulator, and other future transit modes. We support locations for the multimodal transportation center that are north of ONT airport, between Vineyard Avenue and Interstate 15.	**Consistent.** The Specific Plan area is not located in/near the area intended for development of the Multimodal Transportation Center. The Project would not interfere with or otherwise obstruct the implementation of this transit hub. On this basis, the Project is considered consistent with Policy M-3.10.
M-3.11	**Transit and Community Facilities.** We require the future development of community-wide serving facilities to be sited in transit-ready areas that can be served and made accessible by public transit. Conversely, we plan (and coordinate with other transit agencies to plan) future transit routes to serve existing community facilities.	**Consistent.** The site is located in an area already served by public transit. The Project Applicant would also coordinate with the City and transit agencies to implement transit service and thereby reduce vehicle miles traveled. On this basis, the Project is considered consistent with Policy M-3.11.
M-4 Goods Movement		
Goal M-4 An efficient flow of goods through the City that maximizes economic benefits and minimizes negative impacts.		
Policies		**Remarks**
M-4.1	**Truck Routes.** We designate and maintain a network of City truck routes that provide	**Consistent.** Trucks accessing the Project site would utilize the City's designated truck routes. Vehicular-

Table 4.2-6
TOP 2050 Consistency Analysis

MOBILITY ELEMENT		
	for the safe and efficient transport of goods while minimizing negative impacts on local circulation and noise-sensitive land uses, as shown on Exhibit M-04, Truck Routes. We will minimize conflicts on truck routes through the design and implementation of buffers between travel lanes and pedestrian and bicycle facilities on designated truck routes.	source noise and air quality impacts are evaluated within this EIR, and mitigation is proposed for those impacts determined to be potentially significant, thereby minimizing negative impacts on local circulation and noise-sensitive land uses. On this basis, the Project is considered consistent with Policy M-4.1.
M-4.2	**Regional Participation.** We work with regional and subregional transportation agencies and adjacent cities to plan and implement goods movement strategies, including regional truck routes, plans and projects that improve mobility, support the efficient movement of goods, and minimize negative environmental impacts.	**Consistent.** The Project land uses take advantage of proximate available regional transportation systems acting to facilitate mobility, goods movement, and goods delivery on a local, sub-regional and regional basis. The Project would not interfere with or otherwise obstruct City efforts and actions to coordinate regional and sub-regional plans and strategies facilitating mobility, goods movement, and goods delivery. On this basis, the Project is considered consistent with Policy M-4.2.
M-4.3	**Railroad Grade Separations.** We eliminate at-grade rail crossings identified on Exhibit M-01, Roadway Classifications.	**Consistent.** No at-grade rail crossings are located within or adjacent to the Project site. The Project would not interfere with or otherwise obstruct the City's elimination actions in this regard. On this basis, the Project is considered consistent with Policy M-4.3.
M-4.4	**Environmental Considerations.** We support both local and regional efforts to reduce/eliminate the negative environmental impacts of goods movement through the planning and implementation of truck routing and the development of a plan to evaluate the future needs of clean fueling/recharging and electrified truck parking.	**Consistent.** The 2022 Specific Plan Amendment Design Guidelines and Development Standards globally act to minimize potential environmental impacts of goods movement associated with the Project. Please refer also to remarks at Policies M-4.1, M-4.2.
M-4.5	**Air Cargo.** We support and promote a ONT airport that accommodates 1.6 million tons of cargo per year, as long as the impacts associated with that level of operations are planned for and mitigated.	**Consistent.** The 2022 Specific Plan Amendment area is not located within an identified Safety Zone of the ONT airport. The Project would not impact, nor be impacted by, ONT airport cargo operations. On this basis, the Project is considered consistent with Policy M-4.5.

Table 4.2-6
TOP 2050 Consistency Analysis

MOBILITY ELEMENT		
M-5 Regional Transportation		
Goal M-5 A proactive leadership role in helping identify and facilitate implementation of strategies that address regional transportation challenges.		
Policies		**Remarks**
M-5.1	**Regional Leadership.** We maintain a leadership role to help identify and implement potential solutions to long-term regional transportation problems.	**Consistent.** The Project would not interfere with or otherwise obstruct the City's leadership efforts and actions. On this basis, the Project is considered consistent with Policy M-5.1.
M-5.2	**Land Use Compatibility with Regional Transportation Facilities.** We work with ONT, railroads, Caltrans, SBCTA, and other transportation agencies to minimize impacts.	**Consistent.** The Project would not interfere with or otherwise obstruct the City's cooperative efforts with regional transportation agencies. On this basis, the Project is considered consistent with Policy M-5.2.

Sources: Goal and Policy statements from TOP 2050; remarks by Applied Planning, Inc.

Prior to the issuance of Building Permits, the City would review the final Project designs to ensure consistency with City Policy Plan circulation system programs, plans and policies. Consistency with applicable City ordinance requirements is required as a matter of law.

The Project does not propose facilities or activities that would otherwise potentially conflict with City circulation system programs, plans, policies and ordinances.

2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal 2020) Consistency

SCAG adopted the *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal 2020) in September 2020. Connect SoCal 2020 is a long-range plan that balances future mobility and housing needs with economic, environmental, and public health goals. Table 4.2-7 summarizes Project consistency with the Connect SoCal 2020.

Table 4.2-7
Project Consistency with Connect SoCal 2020

Connect SoCal 2020 Goal	Project Consistency
Goal #1: Encourage regional economic prosperity and global competitiveness	***Consistent:*** The Project is consistent with and supports TOP 2050 and TOP 2050 Community Economics Element. TOP 2050 Community Economics Element establishes goals and policies that promote economic growth and fiscal responsibility. In combination, TOP 2050 Community Economics Element goals and policies act to attract new and expanding businesses to Ontario thereby increasing the City's share of growing sectors of the regional and global economy. The Project commercial, retail, and industrial uses provide business and employment opportunities acting to further City economic prosperity. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #1. On this basis, the Project is consistent with Connect SoCal 2020 Goal #1.
Goal #2: Improve mobility, accessibility, reliability, and travel safety for people and goods	***Consistent:*** The Project is consistent with and supports TOP 2050 and TOP 2050 Mobility Element. TOP 2050 Mobility Element identifies the system of roadways all users of streets, roads, and highways, including motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods and users of public transportation. Per TOP 2050 Mobility Element, transportation system designs within the City are required to: • Comply with federal, state, and local design and safety standards; • Meet the needs of multiple transportation modes and users; • Provide capacity envisioned in the City of Ontario Master Plan of Streets and Highways; • Be compatible with the streetscape and surrounding land uses: and • Promote the efficient flow of all modes of transportation through the implementation of intelligent transportation systems and travel demand management strategies. As applicable, the Project Applicant would coordinate design and construction of Project transportation system improvements with the City, Caltrans, SBCTA, and others to identify, fund, and implement needed improvements. The Applicant would also comply with City of Ontario requirements addressing transportation corridors enhancements. Streets implemented by the Project would comply with applicable City addressing walkability, bicycling opportunities, and transit integration. As applicable, the Applicant would also coordinate with potentially affected agencies and municipalities to plan and implement goods movement strategies and plans, as well as improvements that support and the efficient movement of goods, while avoiding or minimizing potentially adverse environmental impacts. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #2. On this basis, the Project is consistent with Connect SoCal 2020 Goal #2.
Goal #3: Enhance the preservation, security, and resilience of the regional transportation system	***Consistent***: The Project is consistent with and supports TOP 2050 Goal M-5. Under TOP 2050 Goal M-5, the City takes a proactive leadership role identifying and facilitating strategies addressing regional transportation challenges. As applicable, the Project Applicant would coordinate with the City, ONT, railroads, Caltrans, SBCTA, and other transportation agencies with regard to preservation, security, and resilience of the regional transportation system. The Project Applicant would also coordinate with potentially affected agencies and municipalities to plan and

Table 4.2-7
Project Consistency with Connect SoCal 2020

Connect SoCal 2020 Goal	Project Consistency
	implement goods movement strategies and plans, and improvements that support and the efficient movement of goods, while avoiding or minimizing potentially adverse environmental impacts. Additionally, the Project Applicant would coordinate with the City and transit agencies to implement transit service and thereby reduce vehicle miles traveled. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of SoCal Goal #3. On this basis, the Project is consistent with Connect SoCal 2020 Goal #3.
Goal #4: Increase person and goods movement and travel choices within the transportation system	***Consistent:*** The Project is consistent with and supports TOP 2050. The final Project designs would be required to comply with TOP 2050 Policies addressing implementation of multimodal transportation systems meeting the needs of all users of streets, roads, and highways, including motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods and users of public transportation. The Project Applicant would also coordinate with the City and transit agencies to implement transit service and thereby reduce vehicle miles traveled. Additionally, the Project Applicant would coordinate with potentially affected agencies and municipalities to plan and implement goods movement strategies and plans, and improvements that support and the efficient movement of goods, while avoiding or minimizing potentially adverse environmental impacts. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #4. On this basis, the Project is consistent with Connect SoCal 2020 Goal #4.
Goal #5: Reduce greenhouse gas emissions and improve air quality	***Consistent:*** The Project is consistent with and supports TOP 2050 and the 2022 Community Climate Action Plan Update (2022 CCAP Update) implemented under TOP 2050. As substantiated at EIR Section 4.4, *Greenhouse Gas Emissions*, Project GHG emissions would be reduced to the extent feasible. In this regard, certain of the Mitigation Measures identified at EIR Section 4.3, *Air Quality* would incrementally reduce Project-source air pollutant emissions and in so-doing would also act to generally reduce GHG emissions. The Project collocates residential, commercial and industrial uses with proximate access to the local and regional roadway system. In this manner, the Project minimizes VMT and resulting vehicular-source air pollutant emissions. It is recognized that the Project would result in certain regionally significant and unavoidable air quality impacts. The Project would implement measures that would reduce these impacts to the extent feasible (please refer to EIR Mitigation Measures 4.3.1 through 4.3.18). The Project would not result in any locally significant air quality impacts, or air quality conditions that would result in adverse health effects. (see: EIR Section 4.3, *Air Quality*). The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #5. On this basis, the Project is consistent with Connect SoCal 2020 Goal #5.
Goal #6: Support healthy and equitable communities	***Consistent:*** The Project is consistent with and supports TOP 2050 and TOP 2050 *Social Resources Element*. TOP 2050, *Social Resources Element*, identifies quality and accessible health care, education, community services, and cultural activities as critical components to achieving Ontario's Vision. The Project collocates a range of

Table 4.2-7
Project Consistency with Connect SoCal 2020

Connect SoCal 2020 Goal	Project Consistency
	housing products and employment-generating commercial and industrial uses, thereby furthering City goals to provide a range of housing types and employment opportunities. In this regard, the Project acts to improve the balance between jobs and housing in the San Bernardino County subregion while reducing vehicle miles traveled and associated air quality impacts and air quality related health impacts. As substantiated in this EIR, the Project would not result in any adverse health impacts. All Project uses would be required to provide equitable access for all persons. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #6. On this basis, the Project is consistent with Connect SoCal 2020 Goal #6.
Goal #7: Adapt to a changing climate and support an integrated regional development	***Consistent:*** The Project is consistent with and supports TOP 2050 and the 2022 CCAP Update implemented under TOP 2050. As substantiated at EIR Section 4.4, *Greenhouse Gas Emissions*, Project GHG emissions would be reduced to the extent feasible. In this regard, certain of the Mitigation Measures identified at EIR Section 4.3, *Air Quality* would incrementally reduce Project-source air pollutant emissions and in so-doing would also act to generally reduce GHG emissions. Collocated housing, commercial uses, and industrial development proposed by the Project support integrated development within the City and region. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #7. On this basis, the Project is consistent with Connect SoCal 2020 Goal #7.
Goal #8: Leverage new transportation technologies and data-driven solutions that result in more efficient travel	***Consistent:*** The Project is consistent with and supports TOP 2050 and TOP 2050 Mobility Element. The Mobility Element identifies the system of roadways all users of streets, roads, and highways, including motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods and users of public transportation. The Project supports efficient travel through collocation of complementary uses proximate to local and regional roadway systems. The Project final designs would include pedestrian and bicycle access and associated amenities consistent with City requirements. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #8. On this basis, the Project is consistent with Connect SoCal 2020 Goal #8.
Goal #9: Encourage development of diverse housing types in areas that are supported by multiple transportation options	***Consistent:*** The Project is consistent with and supports TOP 2050 and TOP 2050 housing policies. The Project provides a range of housing products available to all persons. The Project site is currently served by improved roadways, and the Project would construct new and improved roadways adequate to serve traffic within the Project site, and ensure that Project traffic does not contribute to or case adverse traffic conditions. The Project final designs would include pedestrian and bicycle access and associated amenities consistent with City requirements. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #9. On this basis, the Project is consistent with Connect SoCal 2020 Goal #9.
Goal #10: Promote conservation of natural	***Consistent:*** The Project is consistent with and supports TOP 2050. TOP 2050 Goal ER-5 is to protect high value habitat and farming resource activities that are

Table 4.2-7
Project Consistency with Connect SoCal 2020

Connect SoCal 2020 Goal	Project Consistency
and agricultural lands and restoration of habitats	compatible with adjacent development. As substantiated at EIR Section 4.10, *Biological Resources* there are no valuable or protected natural agricultural lands or habitat within the Project site. This EIR further substantiates that the Project would not result in potentially adverse biological resources impacts. The Project does not propose or require improvements or operations that would conflict with or obstruct attainment of Connect SoCal 2020 Goal #10. On this basis, the Project is consistent with Connect SoCal 2020 Goal #10.

Sources: Connect SoCal 2020; TOP 2050 SEIR; remarks by Applied Planning, Inc.

Level of Significance: Less-Than-Significant.

Potential Impact TR-2: *Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) or result in inadequate emergency access.*

Impact Analysis: As part of the City's established design review processes, design and implementation of all Project circulation improvements, as well as final design(s) of the Project site plan(s), to include locations and design of proposed driveways, would be required to be reviewed and approved by the City Traffic Engineer. In addition, as part of the City's established design review processes, representatives of the City's Police and Fire Departments would review the Project's plans in regard to emergency access. Efficient and safe operations of the Project would be provided by on-site and localized circulation and intersection improvements to be developed as the Project individual site and building designs are finalized. The City would ensure that all on-site and localized circulation and intersection improvements would be designed and constructed consistent with applicable provisions of the 2022 Specific Plan Amendment and pursuant to City site plan and Building Permit review processes and requirements.

Traffic signing and striping would be implemented in conjunction with detailed Project construction plans. Sight distance at each project access point would be reviewed with

respect to standard Caltrans and City of Ontario sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

It is also recognized that temporary and short-term traffic detours and traffic disruption could result during Project construction activities. Management and control of construction traffic would be addressed through the preparation and submittal of a construction area traffic management plan, to be reviewed and approved by City prior to or concurrent with Project building plan review(s). The Project Construction Area Traffic Management Plan (Plan), incorporated in the EIR Project Description, would be required to identify traffic controls for any street closures, detours, or other potential disruptions to traffic circulation during Project construction. The Plan would also be required to identify construction vehicle access routes, and hours of construction traffic.

The Project would generate passenger car trips and truck trips typical of the proposed uses. As part of established site and Building Permit review processes, the City would require implementation of on-site truck and passenger car travel paths, signing, and traffic controls to ensure that conflicts between trucks and passenger cars are minimized or avoided. Trucks accessing the Project site would use designated truck routes, thereby avoiding or minimizing off-site passenger car/truck traffic conflicts. Land uses proximate to the Project site are planned for, or are developed with urban uses similar to those proposed by the Project. These uses would generate urban traffic types similar to traffic generated by the Project and would not generate traffic that would be incompatible with the Project traffic types.

As supported by the preceding discussions, the potential for the Project to substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or result in inadequate emergency access is considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.3 AIR QUALITY

4.3 AIR QUALITY

Abstract

This Section identifies and addresses potential air quality impacts that may result from construction and implementation of the Project. More specifically, the air quality analysis presented here evaluates the potential for the Project to result in the following impacts:

- *Conflict with or obstruct implementation of the applicable air quality plan.*
- *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.*
- *Expose sensitive receptors to substantial pollutant concentrations.*

As discussed within this Section, even with the implementation of mitigation, the Project will result in certain significant and unavoidable air quality impacts. Specifically, Project construction-source emissions would exceed applicable South Coast Air Quality Management District (SCAQMD) thresholds for NOx and CO. Project operational-source emissions would exceed applicable SCAQMD thresholds for VOC, NOx, CO, PM_{10} and $PM_{2.5}$. All other Project air quality impacts would be less-than-significant or less-than-significant as mitigated.

4.3.1 INTRODUCTION

This Section presents existing air quality conditions and identifies potential air quality impacts resulting from construction and operations of the Project. Local and regional climate, meteorology and air quality are discussed, as well as existing federal, state and regional air quality regulations. The information presented in this Section is

summarized from: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022 (Project AQIA); and *Rich-Haven Specific Plan, 2022 Amendment, Mobile Source Heath Risk Assessment, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022 (Project HRA). The Project AQIA and Project HRA, including all supporting modeling data, are presented at EIR Appendix D.

4.3.2 AIR QUALITY FUNDAMENTALS

Air pollution comprises many substances generated from a variety of sources, both man-made and natural. Industrialization occurring in the twentieth century, and especially activities relying on the burning of fossil fuels, creates air pollution. Most air pollutant contaminants are wasted energy in the form of unburned fuels or by-products of the combustion process. Motor vehicles are by far the most significant source of air pollutants in urban areas, emitting photochemically reactive hydrocarbons (unburned fuel), carbon monoxide, and oxides of nitrogen. These primary pollutants chemically react in the atmosphere with sunlight and the passage of time to form secondary pollutants such as ozone.

Air pollutants are generally classified as either primary or secondary pollutants. Primary pollutants are generated daily and emitted directly from the source, whereas secondary pollutants are created over time and occur within the atmosphere as chemical and photochemical reactions take place. Examples of primary pollutants include carbon monoxide (CO), oxides of nitrogen (NO_2 and NO), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), and various hydrocarbons or reactive organic gases (ROG). Examples of secondary pollutants include ozone (O_3), which is a product of the reaction between NO_X and ROG in the presence of sunlight. Other secondary pollutants include photochemical aerosols.

To aid in the review of discussions presented subsequently in this Section, recurring terms, abbreviations, and acronyms are defined as follows: PPM - Parts per Million; $\mu g/m^3$ - Micrograms Per Cubic Meter; PM_{10} - Particulate Matter Less Than 10 Microns In Diameter; $PM_{2.5}$ - Particulate Matter Less Than 2.5 Microns In Diameter.

4.3.2.1 Criteria Air Pollutants

Criteria air pollutants are those air contaminants for which air quality standards currently exist. Currently, state and federal air quality standards exist for ozone, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), suspended particulate matter (PM_{10} and $PM_{2.5}$), and lead. California has also set standards for visibility, sulfates, hydrogen sulfide, and vinyl chloride. Evaluated criteria air contaminants, or their precursors, typically also include reactive organic gases (ROG), oxides of nitrogen (NO_X), sulfur oxides (SO_x), and respirable particulate matter (PM_{10}, $PM_{2.5}$). Pollutant characteristics, mechanisms of pollutant origination and potential health effects of air pollutants are described below.

Carbon Monoxide

Properties and Sources

Carbon monoxide (CO) is a colorless, odorless, toxic gas formed by incomplete combustion of fossil fuels. CO levels tend to be highest during the winter mornings, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest CO concentrations are generally found near congested transportation corridors and intersections. Other sources include aircraft, off-road vehicles, stationary equipment (e.g., fuel-fired furnaces, gas water heaters, fireplaces, gas stoves, gas dryers, charcoal grills), and landscape maintenance equipment such as lawnmowers and leaf blowers.

Human Health Effects

A consistent association between increased ambient CO levels and higher-than-average rates of hospital admissions for heart diseases (such as congestive heart failure) has been observed. Carbon monoxide can cause decreased exercise capacity, and adversely affects conditions with an increased demand for oxygen supply (fetal development, chronic hypoxemia, anemia, and diseases involving the heart and blood vessels). Exposure to CO can cause impairment of time interval estimation and visual function.

Ozone

Properties and Sources

Ozone (O_3) is a highly reactive and unstable gas that is formed when volatile organic compounds (VOC) and oxides of nitrogen (NO_X), which are both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of the pollutant.

Human Health Effects

Short-term exposure to ozone can cause a decline in pulmonary function in healthy individuals including breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue and immunological changes. Additionally, an increase in the frequency of asthma attacks, cough, chest discomfort and headache can result.

A correlation has been reported between elevated ambient ozone levels and increases in daily hospital admission rates and mortality because of long-term ozone exposure. A risk to public health implied by altered connective tissue metabolism and host defense in animals has also been reported.

Oxides of Nitrogen

Properties and Sources

Oxides of nitrogen (NO_X) are integral to the process of photochemical smog production. During combustion, oxygen reacts with nitrogen to produce NO_X. Two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). Natural causal sources or originators of NO_X include lightning, soils, wildfires, stratospheric intrusion, and the oceans. Natural sources accounted for approximately seven percent of 1990 emissions of NO_X for the United States (EPA 1997). Atmospheric deposition of NO_X occurs when atmospheric or airborne nitrogen is transferred to water, vegetation, soil, or other

materials. Acid deposition involves the deposition of nitrogen and/or sulfur acidic compounds that can harm natural resources and materials. The major source of NO_X in the Basin is on-road vehicles. Stationary commercial and service source fuel combustion are other contributors.

Human Health Effects

Exposure to NO_X may alter sensory responses or impair pulmonary function and may increase incidence of acute respiratory disease including infections and respiratory symptoms in children. Difficulty breathing in healthy individuals, as well as bronchitic groups, may also occur. NO_X is also a precursor to ozone and $PM_{10}/PM_{2.5}$. As noted above, health effects of ground-level ozone include: aggravated asthma; reduced lung capacity; increased respiratory illness susceptibility; increased respiratory and cardiovascular hospitalizations; and premature deaths.

Sulfur Dioxide

Properties and Sources

Sulfur dioxide (SO_2) is a colorless, pungent gas. At levels greater than 0.5 ppm, SO_2 has a strong odor. Sulfuric acid is formed from sulfur dioxide, which is an aerosol particle component that affects acid deposition. Anthropogenic, or human-caused, sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. SO_2 is a precursor to sulfates and PM_{10}.

Human Health Effects

Health effects of SO_2 include higher frequencies of acute respiratory symptoms (including airway constriction in some asthmatics and reduction in breathing capacity leading to severe difficulties) and diminished ventilatory function in children. Extreme exposure can cause lung edema (fluid accumulation), lung tissue damage, and damage to lining of the respiratory tract.

Particulate Matter

Properties and Sources

Particulate matter is a generic term that defines a broad group of chemically and physically different particles (either liquid droplets or solids) that can exist over a wide range of sizes. Examples of atmospheric particles include those produced from combustion (diesel soot or fly ash), light (urban haze), sea spray (salt particles), and soil-like particles from re-suspended dust. Fugitive dust is defined as any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly because of human activities (Rule 403, Fugitive Dust, MDAQMD).

Within air quality analyses, particulate matter is categorized by diameter: PM_{10} and $PM_{2.5}$. PM_{10} refers to particulate matter that is 10 microns or less in diameter (1 micron is one millionth of a meter, or one micrometer [μm]). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter. The size of particles can determine the residence time of the material in the atmosphere. $PM_{2.5}$ has a longer atmospheric lifetime than PM_{10} and, therefore, can be transported over longer distances.

Particulate matter originates from a variety of stationary and mobile sources. Stationary sources that generate particulate matter include: fuel combustion for electric utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal and recycling. Mobile or transportation-related sources that generate particulate matter include highway vehicles, non-road vehicles and fugitive dust from paved and unpaved roads.

Human Health Effects

A consistent correlation between elevated ambient PM_{10} levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed.[1]

Diesel Particulate Matter (DPM), a subcategory of particulate matter, is a mixture of many exhaust particles and gases that is produced when an engine burns diesel fuel. Many compounds found in diesel exhaust are carcinogenic, including sixteen compounds that are classified as possibly carcinogenic by the International Agency for Research on Cancer. DPM includes the particle-phase constituents in diesel exhaust. Some short-term (acute) effects of diesel exhaust include eye, nose, throat and lung irritation, as well as coughs, headaches, light-headedness and nausea. Diesel exhaust is a major source of ambient particulate matter pollution, and numerous studies have linked elevated particle levels in the air to increased hospital admission, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. DPM in the Basin poses the greatest cancer risk of all identified toxic air pollutants.

Additionally, Valley Fever may also be transmitted through PM_{10} and $PM_{2.5}$ emissions. The Mayo Clinic provides the following overview of Valley Fever.

> Valley fever is a fungal infection caused by coccidioides (kok-sid-e-OY-deze) organisms. It can cause signs and symptoms such as a fever, cough and tiredness.
>
> Two coccidioides fungi species cause valley fever. These fungi are commonly found in soil in specific regions. The fungi's spores can be stirred into the air by anything that disrupts the soil, such as farming, construction and wind. People can then breathe the fungi into their lungs.

[1] www.aqmd.gov/docs/default-source/planning/air-quality-guidance/appendix-c.pdf

> The fungi can cause valley fever, also known as acute coccidioidomycosis (kok-sid-e-oy-doh-my-KOH-sis). Mild cases of valley fever usually resolve on their own. In more-severe cases, doctors treat the infection with antifungal medications.[2]

Reactive Organic Gases

Properties and Sources

Reactive Organic Gases (ROGs) (also termed Volatile Organic Compounds [VOCs]) are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. There is no state or national ambient air quality standard for ROGs because they are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of ozone. ROGs are also transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility. The major sources of ROGs in the Basin are on-road motor vehicles and solvent evaporation. ROGs are also an ozone and PM_{10}/$PM_{2.5}$ precursor.

Human Health Effects

As described previously, health effects of ground-level ozone include: aggravated asthma; reduced lung capacity; increased respiratory illness susceptibility; increased respiratory and cardiovascular hospitalizations; and premature deaths.

Benzene is a reactive organic compound and a known carcinogen. Typical sources of benzene emissions include: gasoline service stations (fuel evaporation), motor vehicle exhaust, tobacco smoke, and oil and coal incineration. Benzene is also sometimes employed as a solvent for paints, inks, oils, waxes, plastic, and rubber. It is used in the extraction of oils from seeds and nuts. It is also used in the manufacture of detergents,

[2] "Valley Fever - Symptoms and Causes." Mayo *Clinic*, 4 Aug. 2020, www.mayoclinic.org/diseases-conditions/valley-fever/symptoms-causes/syc-20378761. Accessed 19 Apr. 2022.

explosives, dyestuffs, and pharmaceuticals. Short-term (acute) exposure to high doses from inhalation of benzene may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, unconsciousness can occur. Long-term (chronic) occupational exposure to high doses by inhalation has caused blood disorders, including aplastic anemia and lower levels of red blood cells.

4.3.3 SETTING

4.3.3.1 Local and Regional Climate

The Project site is located in the South Coast Air Basin (Basin), a 6,745-square-mile subregion of the SCAQMD, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards.

The Basin is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the San Diego Air Basin to the south.

The regional climate has a substantial influence on air quality in the Basin. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the Basin vary from the low to middle 60s degrees Fahrenheit (°F). Due to a decreased marine influence, the eastern portion of the Basin shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the Basin, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the Basin have recorded maximum temperatures above 100°F.

Although the climate of the Basin can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of Basin climate. Humidity restricts visibility in the Basin, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the Basin is 71 percent (%) along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the Basin's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the Basin with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the Basin. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year, there are approximately 10 hours of possible sunshine, and on the longest day of the year, there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the Basin is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind

flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the Basin is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the Basin, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire Basin. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as nitrogen oxides (NOX) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

4.3.3.2 Existing Air Quality

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare.

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, PM_{10}, and $PM_{2.5}$ are not to be exceeded. All others are not to be equaled or exceeded. Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted by CARB. The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area. Please refer also to the Project AQIA, Table 2-2, *Ambient Air Quality Standards*.

Regional Air Quality

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: CO, Pb, O_3, particulate matter (PM_{10} and $PM_{2.5}$), NO_2, and SO_2 which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district. On January 5, 2021, CARB posted the 2020 amendments to the state and national area designations. See Table 4.3-1 for attainment designations for the Basin.

Table 4.3-1
Criteria Pollutant Attainment Status Designations

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Attainment	Unclassifiable/Attainment
Pb	Attainment	Unclassifiable/Attainment

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

Local Air Quality

The Project site is located within the Southwest San Bernardino Valley area (Source Receptor Areas [SRA] 33). The CA-60 Near Road monitoring station is located 2.52 miles northwest of the Project site and is the nearest long-term air quality monitoring site for NO_2 and $PM_{2.5}$. The SCAQMD I-10 Near Road monitoring station is located 4.24 miles northeast of the Project site and is the next nearest monitoring site within SRA 33. The I-10 Near Road monitoring station provides data for CO. Relative to the Project site, the nearest long-term air quality monitoring site for O_3 and PM_{10} is the SCAQMD Northwest San Bernardino Valley (SRA 32) monitoring station located 7.17 miles northwest of the Project site. It should be noted that the Northwest San Bernardino Valley monitoring station was utilized in lieu of the CA-60 Near Road and I-10 Near Road monitoring stations only in instances where data was not available.

The most recent three (3) years of data available are shown on Table 4.3-2 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project site. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2018 through 2020 was obtained from the SCAQMD Air Quality Data Tables. Additionally, data for SO_2 has been omitted as attainment is regularly met in the Basin and few monitoring stations measure SO_2 concentrations.

Table 4.3-2
Project Area Air Quality Monitoring Summary

Pollutant	Standard	Year		
		2018	2019	2020
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.133	0.131	0.158
Maximum Federal 8-Hour Concentration (ppm)		0.111	0.107	0.123
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	25	31	82
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	52	52	114
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	1.6	1.5	1.5
Maximum Federal 8-Hour Concentration	> 20 ppm	1.3	1.1	1.2
NO_2				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.079	0.087	0.101
Annual Federal Standard Design Value		0.030	0.029	0.029
PM_{10}				
Maximum Federal 24-Hour Concentration ($\mu g/m^3$)	> 150 $\mu g/m^3$	73	125	63
Annual Federal Arithmetic Mean ($\mu g/m^3$)		32.3	28.1	30.5
Number of Days Exceeding Federal 24-Hour Standard	> 150 $\mu g/m^3$	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 $\mu g/m^3$	14	7	12
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration ($\mu g/m^3$)	> 35 $\mu g/m^3$	47.90	41.30	53.10
Annual Federal Arithmetic Mean ($\mu g/m^3$)	> 12 $\mu g/m^3$	14.31	12.70	14.36
Number of Days Exceeding Federal 24-Hour Standard	> 35 $\mu g/m^3$	5	5	4

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

4.3.4 REGULATORY BACKGROUND

4.3.4.1 Federal Regulations

The U.S. Environmental Protection Agency (EPA) is responsible for setting and enforcing the NAAQS for O_3, CO, NO_x, SO_2, PM_{10}, and lead. The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the California Air Resource Board (CARB).

The Federal Clean Air Act (CAA) was first enacted in 1955, and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the NAAQS, and specifies NAAQS compliance dates. The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local areas not meeting these Standards. SIPs must include pollution control measures demonstrating how Standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for the criteria pollutants: O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and lead. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$.

Mobile-source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_x. NO_x is a collective term that includes all forms of nitrogen oxides (NO, NO_2, NO_3) which are emitted as byproducts of the combustion process.

4.3.4.2 California

California Air Resources Board (CARB)

CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. The California CAA mandates achievement of the maximum degree of emissions reductions

possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However, at this time, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS.

Local air quality management districts, such as the SCAQMD, regulate air emissions from commercial and light industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare air quality management plans (AQMPs) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District-permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a five percent or more annual reduction in emissions or 15 percent or more in a period of three years for ROGs, NO_x, CO and PM_{10}. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than five percent per year under certain circumstances.

Title 24 Building Energy Efficiency Standards

California Code of Regulations (CCR) Title 24 Part 6: *Building Energy Efficiency Standards for Residential and Nonresidential Buildings* was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The Title 24 standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The analysis presented herein reflects compliance with the current (2019) Title 24 Standards. The 2019 California Energy Code can be accessed at: https://codes.iccsafe.org/content/CACEC2019JAN20E/cover.

Title 24 California Green Building Standards Code

CCR, Title 24, Part 11: *California Green Building Standards Code* (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2011. CALGreen is updated on a regular basis. The most recent (2019) update to the CALGreen standards became effective January 1, 2020. Local jurisdictions are permitted to adopt more stringent requirements. The California Green Building Standards Code can be accessed at: https://codes.iccsafe.org/content/CAGBC2019JUL21S/cover. The Project would be required to comply with incumbent CALGreen standards, or more stringent requirements as may be implemented by the City. Representative 2019 CALGreen standards applicable to the Project are listed below. CALGreen Section citations are parenthesized.

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).

- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.408.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combined flow rate of all

showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).

- Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).

- Outdoor potable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is projected to consume more than 1,000 gallons per day (5.303.1.1 and 5.303.1.2).
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

4.3.4.3 Regional

Air Quality Management Plans

The Project site is located within the Basin, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743-square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what used to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the Basin. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the SCAQMD released the 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, and to explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the RTP/SCS, a planning document that supports the integration of land use and transportation to help the region meet the federal Clean Air Act requirements. Project consistency with the current SCAQMD AQMP is provided subsequently within this Section.

4.3.5 STANDARDS OF SIGNIFICANCE

As identified within the *CEQA Guidelines*, air quality impacts would be considered potentially significant if the Project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard, including releasing emissions which exceed quantitative thresholds for ozone precursors;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

4.3.5.1 SCAQMD Thresholds

To determine if a given project would cause a significant effect on air quality, the impact of the project must be determined by examining the types and levels of emissions generated and their impacts on factors that affect air quality. To accomplish this determination of significance, the SCAQMD has established air pollution thresholds against which a given project can be evaluated to assist lead agencies in determining if the impacts of a project are significant. If the project's air pollutant emissions exceed applicable SCAQMD thresholds, then the impact should be considered significant. While the final determination of significance thresholds is within the purview of the lead agency, the SCAQMD recommends that its regional and local air quality thresholds for regulated pollutants (summarized below) be employed by lead agencies in determining whether criteria air pollutant emissions impacts generated by construction or operations of a given project are significant.

Regional Thresholds

SCAQMD regional thresholds are summarized in Table 4.3-3. The *SCAQMD's CEQA Air Quality Significance Thresholds* (April 2019) indicate that any projects in the Basin with daily regional emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

Table 4.3-3
Maximum Daily Emissions Regional Thresholds

Pollutant	Construction Threshold	Operational Threshold
NO_x	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM_{10}	150 lbs./day	150 lbs./day
$PM_{2.5}$	55 lbs./day	55 lbs./day
SO_x	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day
Pb	3 lbs./day	3 lbs./day

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

Carbon Monoxide Concentrations (CO "hot spots") Thresholds

CO "hot spots" are areas of carbon monoxide concentrations exceeding national or state air quality standards. CO hotspots typically occur because of excessive vehicular idling, often associated with traffic backups at underperforming intersections or congested roadway links. A project's localized CO emissions impacts would be significant if they exceed the following California standards for localized CO concentrations:

- 1-hour CO standard of 20.0 parts per million (ppm);
- 8-hour CO standard of 9.0 ppm.

Localized Significance Thresholds (LSTs)

LSTs represent the maximum localized emissions concentrations that would not cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard (NAAQS or CAAQS) at the nearest residence or sensitive receptor. LSTs apply to carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less

than 10 microns (PM_{10}), and particulate matter less than 2.5 microns ($PM_{2.5}$). The SCAQMD states that the Lead Agency may, at the Agency's discretion, employ LSTs as another indicator of significance in air quality impact analyses.

Health Risk Assessment (HRA) Thresholds

Carcinogenic Risks

Pursuant to SCAQMD thresholds, impacts of Toxic Air Contaminants (TACs) are considered potentially significant if a Health Risk Assessment (HRA) shows an increased cancer risk of greater than 10 incidents per million population.

Noncarcinogenic Risks

Noncarcinogenic risks are numerically expressed as a Hazard Index (HI), with a threshold HI of 1.0. Pursuant to SCAQMD thresholds, noncarcinogenic Hazard Indices calculated to be greater than 1.0 are considered potentially significant.

4.3.6 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.3.6.1 Introduction

The following discussions focus on areas where it has been determined that the Project may result in potentially significant air quality impacts, pursuant to comments received through the NOP process, and based on the analysis presented within this Section and included within the Initial Study (EIR Appendix A). Please refer also to Initial Study Checklist Item III., *Air Quality*.

Of the CEQA threshold considerations identified above at Section 4.3.5, and as substantiated in the Initial Study, the Project's potential impacts under the following topic are determined to have a less-than-significant impact and are not further substantively discussed here:

- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

All other CEQA topics concerning the Project's potential impacts to air quality are discussed below.

4.3.6.2 Impact Statements

Following is an analysis of potential air quality impacts that are expected to occur as a result of the Project. Potential emissions are considered for Project construction and operation. For each topical discussion, potential impacts are evaluated under applicable criteria established above at Section 4.3.5, *Standards of Significance.*

Potential Impact AQ-1: *Conflict with or obstruct implementation of the applicable air quality plan.*

Impact Analysis: Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the *1993 CEQA Handbook*. These indicators are discussed below:

CONSISTENCY CRITERION NO. 1

To be considered consistent with Criterion No. 1, the proposed Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts

As discussed subsequently in this Section at Impact Statement AQ-2, even after implementation of mitigation measures, Project construction-source emissions would

exceed regional significance thresholds for NO_X and CO emissions.[3] As such, Project construction-source emissions would be significant and unavoidable. Project construction-source emissions could therefore cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP. Project construction-source emissions would therefore conflict with Consistency Criterion No. 1.

Operational Impacts

As discussed subsequently in this Section at Impact Statement AQ-2, even after implementation of mitigation, Project operational-source emissions would exceed regional significance thresholds for VOC, NOx, CO, PM_{10} and $PM_{2.5}$ emissions. Mitigation Measures 4.3.1 through 4.3.18 would incrementally reduce Project operational-source emissions. However, such reductions cannot be meaningfully quantified in CalEEMod. As such, no emissions reduction credit that may be assigned to these measures has been taken in the analysis. Project operational-source emissions could therefore cause, or contribute to, new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP. Project operational-source emissions would therefore conflict with Consistency Criterion No. 1.[4]

CONSISTENCY CRITERION NO. 2

To be considered consistent with Criterion No. 2, the Project would not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the Basin are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality

[3] Project construction-source emissions would not exceed applicable Localized Significance Thresholds (LSTs). Impacts in this regard would be less-than-significant.

[4] Project operational-source emissions would not exceed applicable Localized Significance Thresholds (LSTs). Impacts in this regard would be less-than-significant.

forecasts for the AQMP. Development consistent with the growth projections in the City of Ontario General Plan is considered to be consistent with the AQMP.

Construction Impacts

The Project is consistent with TOP 2050, and therefore would not result in growth exceeding SCAG projections, or emissions attributable to growth projections modeled by SCAG. Moreover, peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. On this basis, Project construction-source emissions would not conflict with Criterion No. 2.

Operational Impacts

Uses proposed by the Project are allowed under the site's current General Plan (Policy Plan) Land Use designations. No General Plan Amendment (GPA) is required in conjunction with the Project. The Project would not result in growth or development not anticipated under the AQMP. Project operational-source emissions are reflected in the AQMP assumptions and would not result in AQMP inconsistencies.

Development of the City pursuant to TOP 2050 Policy Plan is reflected in Southern California Association of Governments (SCAG) planning efforts and policies presented in The 2016 – 2040 Regional Transportation Plan/Sustainable Communities Strategy (SCAG) April 2016 (2016 – 2040 RTP/SCS) and subsequent 2020 – 2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal). The Project is consistent with TOP 2050 Policy Plan and by extension is reflected in SCAG planning efforts and policies.

The *Final 2008 Regional Comprehensive Plan* (SCAG) 2008 (2008 RCP) defines a vision for the SCAG region to be implemented under a strategic plan addressing the regions interrelated housing, traffic, water and air quality issues. The 2008 RCP does not mandate planning actions. SCAG does, however, request that local governments

consider the 2008 RCP recommendations in developing or amending local plans, codes, design guidelines, and other related actions. SCAG promotes use of the 2008 RCP as an advisory policy document for voluntary use by local agencies. The Project does not propose or require actions that would somehow conflict with 2008 RCP advisory policies.

On this basis, Project operational-source emissions would not conflict with Criterion No. 2.

AQMP CONSISTENCY CONCLUSION

As presented above, the Project is consistent with AQMP Consistency Criteria No. 2, and in this respect would not conflict with the AQMP. However, Project construction-source emissions would exceed applicable SCAQMD regional thresholds for emissions of VOCs, NOx and CO. Operational-source emissions would exceed the applicable SCAQMD regional thresholds for VOCs, NOx, CO, PM_{10}, and $PM_{2.5}$. As such, the Project would be inconsistent with AQMP Consistency Criteria No. 1.

Based on the preceding discussion, the Project would be inconsistent with AQMP Consistency Criterion No. 1 and would therefore conflict with the AQMP. On this basis, the Project's potential to conflict with or obstruct implementation of the applicable air quality plan is considered significant and unavoidable.

Level of Significance: Significant and Unavoidable.

Potential Impact AQ-2: *Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal [national] or state ambient air quality standard.*

Impact Analysis: The following discussions present air quality emissions that can be expected during the construction and operations of the Project.

CONSTRUCTION EMISSIONS

Construction activities associated with the Project will result in emissions of VOCs, NOx, SOx, CO, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

Phase 1

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Phase 2

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Construction is expected to commence in January 2023 and will end in December 2026. The assumed construction schedule represents a "worst-case" analysis scenario. Should construction occur any time after the respective dates indicated, emissions would be reduced. This is due to decreased emission factors for construction activities and construction equipment in future years, and increasing stringency of emission regulations. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines*.

Using the construction equipment and schedule assumptions contained in the Air Quality Analysis, Table 4.3-4 presents the emissions associated with construction of the Project.

Table 4.3-4
Maximum Daily Construction Emissions

Year	Emissions (lbs./day)					
	VOC	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Summer						
2023 (Phase 1)	15.10	147.00	122.00	0.25	26.60	15.60
2024 (Phase 1)	286.00	105.00	484.00	0.24	68.80	18.50
2024 (Phase 2)	13.80	130.00	111.00	0.21	24.90	14.60
2025 (Phase 2)	12.60	101.00	195.00	0.21	28.20	7.73
2026 (Phase 2)	199.00	73.20	248.00	0.17	34.70	9.84
Winter						
2023 (Phase 1)	24.40	147.00	323.00	0.25	57.00	15.60
2024 (Phase 1)	285.00	109.00	387.00	0.24	68.80	18.50
2024 (Phase 2)	12.20	116.00	99.60	0.21	14.90	8.26
2025 (Phase 2)	12.00	101.00	158.00	0.21	28.20	7.73
2026 (Phase 2)	198.00	74.50	207.00	0.17	34.70	9.84
Maximum Daily Emissions	**299.80**	**235.00**	**595.00**	**0.45**	**93.70**	**33.10**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**NO**	**NO**

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

As shown, Project construction emissions would exceed applicable thresholds for VOC, NOx, and CO.

Level of Significance: Potentially Significant.

Mitigation Measures:

4.3.1 Fugitive dust control measures surpassing SCAQMD Rule 403 minimum requirements shall be implemented. Such measures may include: use of nontoxic soil stabilizers, applying water every four hours to active soil disturbing activities and tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.

4.3.2 Construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or higher exhaust emission limits shall be utilized.

4.3.3 Construction equipment shall be properly serviced and maintained to the manufacturer's standards.

4.3.4 Non-essential idling of construction equipment shall be limited to no more than five consecutive minutes.

4.3.5 Super-Compliant VOC paints for coating of architectural surfaces shall be used whenever possible.

4.3.6 Construction contractors shall use off-road diesel construction equipment that complies with EPA/CARB Tier 4 Interim or better emissions standards during all construction phases.

Table 4.3-5 presents the emissions associated with construction of the Project after mitigation.

Table 4.3-5
Maximum Daily Construction Emissions – With Mitigation

Year	Emissions (lbs./day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer						
2023 (Phase 1)	3.03	70.40	120.00	0.25	19.40	8.96
2024 (Phase 1)	70.10	97.70	491.00	0.24	66.60	16.50
2024 (Phase 2)	2.85	63.20	115.00	0.21	18.50	8.69
2025 (Phase 2)	10.20	63.00	201.00	0.21	27.20	6.79
2026 (Phase 2)	49.30	73.10	256.00	0.17	33.10	8.45
Winter						
2023 (Phase 1)	21.70	74.50	329.00	0.25	55.60	13.60
2024 (Phase 1)	68.60	102.00	394.00	0.24	66.60	16.50
2024 (Phase 2)	2.83	63.30	114.00	0.21	10.10	3.91
2025 (Phase 2)	9.69	63.10	164.00	0.21	27.20	6.79
2026 (Phase 2)	48.60	74.40	215.00	0.17	33.10	8.45

Table 4.3-5
Maximum Daily Construction Emissions – With Mitigation

Year	Emissions (lbs./day)					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	**72.95**	**165.30**	**606.00**	**0.45**	**85.10**	**25.19**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**YES**	**YES**	**NO**	**NO**	**NO**

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

As shown above, even after implementation of Mitigation Measures 4.3.1 through 4.3.6, Project construction-source emissions would exceed criteria pollutant thresholds established by the SCAQMD for emissions of NOx and CO.

Level of Significant After Mitigation: Significant and Unavoidable (NOx and CO emissions regional threshold exceedances only).

OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of VOCs, NOx, SOx, CO, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Equipment Source Emissions
- TRU Source Emissions
- Gasoline Dispensing Emissions

Using the operational assumptions contained in the Air Quality Analysis, Tables 4.3-6 and 4.3-7 present the emissions associated with operations of the Phase 1 (2024) and Project Buildout (2027).

Table 4.3-6
Summary of Peak Operational Emissions – Phase 1 (2024)

Source	Emissions (lbs./day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer						
Mobile Source	242.00	295.00	1,792.00	4.59	141.00	29.10
Area Source	236.00	61.40	387.00	0.39	4.95	5.04
Energy Source	2.27	39.90	24.30	0.25	3.14	3.14
TRU Source	12.61	13.81	1.50	0.00	0.59	0.54
On-Site Equipment	1.17	3.75	164.45	0.00	0.29	0.27
Gasoline Dispensing	53.58	0	0	0	0	0
Total Maximum Daily Emissions	**547.63**	**413.87**	**2,369.25**	**5.23**	**149.97**	**38.09**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**NO**	**NO**
Winter						
Mobile Source	224.00	314.00	1,545.00	4.36	141.00	29.10
Area Source	193.00	58.00	24.70	0.37	4.69	4.69
Energy Source	2.27	39.90	24.30	0.25	3.14	3.14
TRU Source	12.61	13.81	1.50	0.00	0.59	0.54
On-Site Equipment	1.17	3.75	164.45	0.00	0.29	0.27
Gasoline Dispensing	53.58	0	0	0	0	0
Total Maximum Daily Emissions	**486.63**	**429.47**	**1,759.95**	**4.98**	**149.71**	**37.74**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**NO**	**NO**

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

Table 4.3-7
Summary of Peak Operational Emissions – Project Buildout (2027)

Source	Emissions (lbs./day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer						
Mobile Source	455.00	432.00	3,250.00	8.48	287.00	57.00
Area Source	350.00	99.80	581.00	0.63	8.01	8.13
Energy Source	3.45	60.50	35.70	0.38	4.77	4.77
TRU Source	12.61	13.81	1.50	0.00	0.59	0.54
On-Site Equipment	1.17	3.75	164.45	0.00	0.29	0.27
Gasoline Dispensing	107.16	0	0	0	0	0
Total Maximum Daily Emissions	**929.39**	**609.87**	**4,032.65**	**9.49**	**300.66**	**70.71**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**YES**	**YES**

Table 4.3-7
Summary of Peak Operational Emissions – Project Buildout (2027)

Source	Emissions (lbs./day)					
	VOC	**NOx**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Winter						
Mobile Source	424.00	460.00	2,800.00	8.00	287.00	57.10
Area Source	289.30	94.70	40.30	0.60	7.66	7.66
Energy Source	3.45	60.50	35.70	0.38	4.77	4.77
TRU Source	12.61	13.81	1.50	0.00	0.59	0.54
On-Site Equipment	1.17	3.75	164.45	0.00	0.29	0.27
Gasoline Dispensing	107.16	0	0	0	0	0
Total Maximum Daily Emissions	**837.69**	**632.77**	**3,041.95**	**8.98**	**300.31**	**70.34**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**YES**	**YES**

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

As shown above, the proposed Project will exceed the applicable SCAQMD thresholds for VOC, NOx, and CO for Phase 1, and VOC, NOx, CO, PM_{10}, and $PM_{2.5}$ at Project Buildout.

Mitigation Measures 4.3.7 through 4.3.18 shall be implemented as means of reducing operational-source emissions to the extent feasible. In California Emissions Estimator Model (CalEEMod), there is no way to meaningfully quantify potential emissions reductions that would result from application of the proposed mitigation. Therefore, no emissions reduction credit for mitigation has been taken.

It is noted here that Project operational-source NOX, CO, PM_{10}, and $PM_{2.5}$ emissions exceedances are largely the product of traffic (mobile sources) accessing the Project site. Neither the Project Applicant nor the City have regulatory authority to control tailpipe emissions from these mobile sources. No feasible mitigation measures beyond the measures identified herein exist that would reduce operational-source NOx and CO emissions to levels that would be less-than-significant.

With regard to VOC emissions, it is recognized that approximately 50 percent of operational-source VOC emissions would be generated by on-site sources, including

natural gas usage, consumer products, landscape equipment, gasoline dispensing, and onsite equipment usage associated with the industrial portion of the Project. Approximately 60% of onsite VOC emissions are generated through the use of consumer products by future residents and building users. As such, the Project Applicant cannot meaningfully control the use of consumer products through mitigation.

Mitigation Measures:

4.3.7 Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable CARB anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five (5) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, the City shall conduct a site inspection to ensure that the signs are in place.

4.3.8 Industrial building occupants/tenants shall be provided documentation on funding opportunities, such as the Carl Moyer Program, that provide incentives for using cleaner-than-required engines and equipment.

4.3.9 Non-residential building plans and site designs shall include natural light, passive heating, and passive cooling measures. Typical measures would include efficient window designs, use of overhangs, and skylights.

4.3.10 Building and site plans for non-residential uses shall provide electrical service accessible to landscaped areas.

4.3.11 The following or similar language shall be included in lease/sale agreements for all non-residential buildings: "Building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements."

4.3.12 The following or similar language shall be included in lease/sale agreements for all industrial buildings: "Tenants shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment, through requirements in the lease agreements. Electric-powered service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically or natural gas fueled provided such yard trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles."

4.3.13 The following or similar language shall be included in lease/sale agreements for all industrial buildings: "Tenants that do not already operate 2010 and newer trucks shall apply in good faith for funding to replace/retrofit their trucks. Funding mechanisms include Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible." Note: This measure shall not apply to trucks that are not owned or otherwise controlled by the facility owner or facility tenant.

4.3.14 The following or similar language shall be included in lease/sale agreements for all industrial buildings: Tenants who employ 250 or more employees on a full- or part-time basis shall comply with SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Tenants with less than 250 employees or tenants with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to

Rule 2202 with annual reporting of actions and results to the City. The tenant-implemented program would include, but not be limited to the following:

- *Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees.*
- *Create and maintain a "commuter club" to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work.*
- *Inform employees of public transit and commuting services available to them (e.g., social media, signage).*
- *Provide on-site transit pass sales and discounted transit passes.*
- *Guarantee a ride home.*
- *Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted.*

4.3.15 Loading docks shall be designed to be compatible with SmartWay trucks.

4.3.16 Non-residential use site plans shall include signs or other directional indicators delineating required site access and on-site circulation plan.

4.3.17 The following or similar language shall be included in lease/sale agreements for all non-residential buildings: Tenants shall install (a) sign(s) on their respective property(ies) with telephone, email, and regular mail contact information for a designated tenant representative who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the City for perceived Code violations. The representative shall keep records of any complaints received and actions taken to communicate with the complainant and resolve the complaint. The representative shall endeavor to resolve complaints within 24 hours.

4.3.18 Industrial building designs and site plans shall incorporate electrical supply lines and panels sized to support anticipated future requirements for heavy truck charging facilities. Such designs and plans shall be based on reasonable predictions derived from the most recent available truck manufacturer's data.

Level of Significance After Mitigation: Significant and Unavoidable.

LST EMISSIONS

Tables 4.3-8 and 4.3-9 show the localized emissions associated with Project construction and operations, respectively.

Table 4.3-8
LST Summary – Peak Construction

Peak Construction	CO		NO_2	PM_{10}	$PM_{2.5}$
	Averaging Time				
	1-Hour	8-Hour	1-Hour	24-Hours	24-Hours
Peak Day Localized Emissions	0.03	0.01	1.23E-02	0.41	0.16
Background Concentration	1.6	1.3	0.101	-	-
Total Concentration	**1.63**	**1.31**	**0.11**	**0.41**	**0.16**
SCAQMD Localized Significance Threshold	20	9	0.18	10.4	10.4
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.
Note: PM_{10} and $PM_{2.5}$ concentrations are expressed in $\mu g/m^3$. All others are expressed in ppm

Table 4.3-9
LST Summary – Operations

Peak Construction	CO		NO_2	PM_{10}	$PM_{2.5}$
	Averaging Time				
	1-Hour	8-Hour	1-Hour	24-Hours	24-Hours
Peak Day Localized Emissions	1.19E-01	9.06E-02	1.31E-02	1.98	0.81
Background Concentration	1.6	1.3	0.101	-	-
Total Concentration	**1.72**	**1.39**	**0.11**	**1.98**	**0.81**
SCAQMD Localized Significance Threshold	20	9	0.18	2.5	2.5
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.
Note: PM_{10} and $PM_{2.5}$ concentrations are expressed in $\mu g/m^3$. All others are expressed in ppm

As shown above, localized emissions associated with construction and operations of the Project would not exceed the applicable SCAQMD LSTs for emissions of any criterial pollutant.

Level of Significance: Less-Than-Significant.

CO HOTSPOT EMISSIONS

To establish baseline CO concentrations within the Southern California region, a CO hot spot analysis was conducted in 2003 for four busy intersections in Los Angeles during the peak morning and afternoon traffic periods (2003 Hot Spot Analysis). Table 4.3-10 presents the results of the 2003 Hot Spot Analysis. As indicated, the 2003 Hot Spot Analysis did not predict any violation of CO standards.

Table 4.3-10
2003 Los Angeles Study-Hot Spot Analysis Results

Intersection Location	Carbon Monoxide Concentrations (parts /million, ppm)				
	Morning 1-Hour	Afternoon 1-Hour	CA 1-Hour Std.	8-Hour	CA 8-Hour Std.
Wilshire-Veteran	4.6	3.5	20.0	3.7	9.0
Sunset-Highland	4.0	4.5		3.5	
La Cienega-Century	3.7	3.1		5.2	
Long Beach-Imperial	3.0	3.1		8.4*	

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the Basin were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared. In contrast, an adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

The ambient 1-hr and 8-hr CO concentration within the Project study area is estimated to be 1.5 ppm and 1.2 ppm, respectively (data from I-10 Near Road station for 2020). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy.

intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections.

The 2003 AQMP estimated that the 1-hour concentration for the Wilshire Boulevard and Veteran Avenue intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm). The highest trips on a segment of road that the Project would generate is 73,850 vehicles per day on the I-15 Southbound (SB) Ramps and Galleano Ranch Road.

Traffic volumes generating the CO concentrations for the "hot spot" analysis is shown on Table 4.3-11. The busiest intersection evaluated for traffic volumes was at La Cienega Boulevard and Century Boulevard, which has a traffic volume of approximately 8,674 vph. As shown on Table 4.3-12, the highest trips on a segment of road for the proposed Project is 7,935 vph on Hamner Avenue and Ontario Ranch Road. As such, Project-related traffic volumes are less than the traffic volumes identified in the 2003 AQMP.

Table 4.3-11
2003 Los Angeles Study Hot Spot Analysis-Peak Hour Traffic Volumes

Intersection	Peak Hour Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire-Veteran	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset-Highland	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega-Century	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach-Imperial	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.
Notes: vph-vehicles per hour.

Table 4.3-12
Opening Year Cumulative (2027) With Project Traffic Volumes

Intersection	Peak Traffic Volumes (vph)				
	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Hamner Ave. & Ontario Ranch Rd.	1,499/1,383	921/1,306	2,304/2,769	2,524/2,477	7,249/7,935
I-15 SB Ramps & Cantu Galleano Rd.	0/0	1,916/2,046	2,237/2,875	1,481/1,452	5,635/6,373
Haven Ave. & Ontario Ranch Rd.	730/457	1,412/1,654	1,494/2,065	1,998/2,052	5,634/6,227
Haven Ave. & SR-60 WB Ramps	2,654/1,610	1,346/2,462	0/0	909/885	4,910/4,956

Source: *Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

Based on the preceding discission, the Project considered here would not produce the volume of traffic required to generate a CO hot spot in the context of the 2003 Hot Spot Analysis. Therefore, CO hot spots are not considered to be an environmental concern for the Project. On this basis, the potential for the Project traffic to generate CO hot spots and thereby expose sensitive receptors to substantial pollutant concentrations is considered less-than-significant.

Level of Significance: Less-Than-Significant.

CUMULATIVE IMPACTS

As previously presented, the CAAQS designate the Basin as nonattainment for O_3, PM_{10}, and $PM_{2.5}$, while the NAAQS designates the Basin as nonattainment for O_3 and $PM_{2.5}$.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution*. In this report, the SCAQMD clearly states (Page D-3):

> …the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative

> (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.
>
> Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

Per the above White Paper guidance, less-than-significant air quality impacts at the Project-level are not cumulatively significant. Conversely, significant air quality impacts at the Project-level are also cumulatively significant.

The Basin encompassing the Project site is designated as non-attainment for ozone, PM_{10}, and $PM_{2.5}$ (VOC and NOx are both ozone precursors; NOx is a precursor to PM_{10}/$PM_{2.5}$). Project construction-source NOx emissions regional threshold exceedances; and operational-source VOC, NOx, PM_{10}, and $PM_{2.5}$ emissions regional threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and PM_{10}/$PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant air quality impacts.

Level of Significance: Significant and Unavoidable.

Potential Impact AQ-3: *Expose sensitive receptors to substantial pollutant concentrations.*

Impact Analysis: Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools,

playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors.

Sensitive receptors in the Project study area are illustrated at Figure 4.3-1 and are described below:

R1: Location R1 represents the Colony High School Football Stadium, approximately 76 feet north of the Project site. R1 is placed in the bleachers just north of Planning Area (PA) 1.

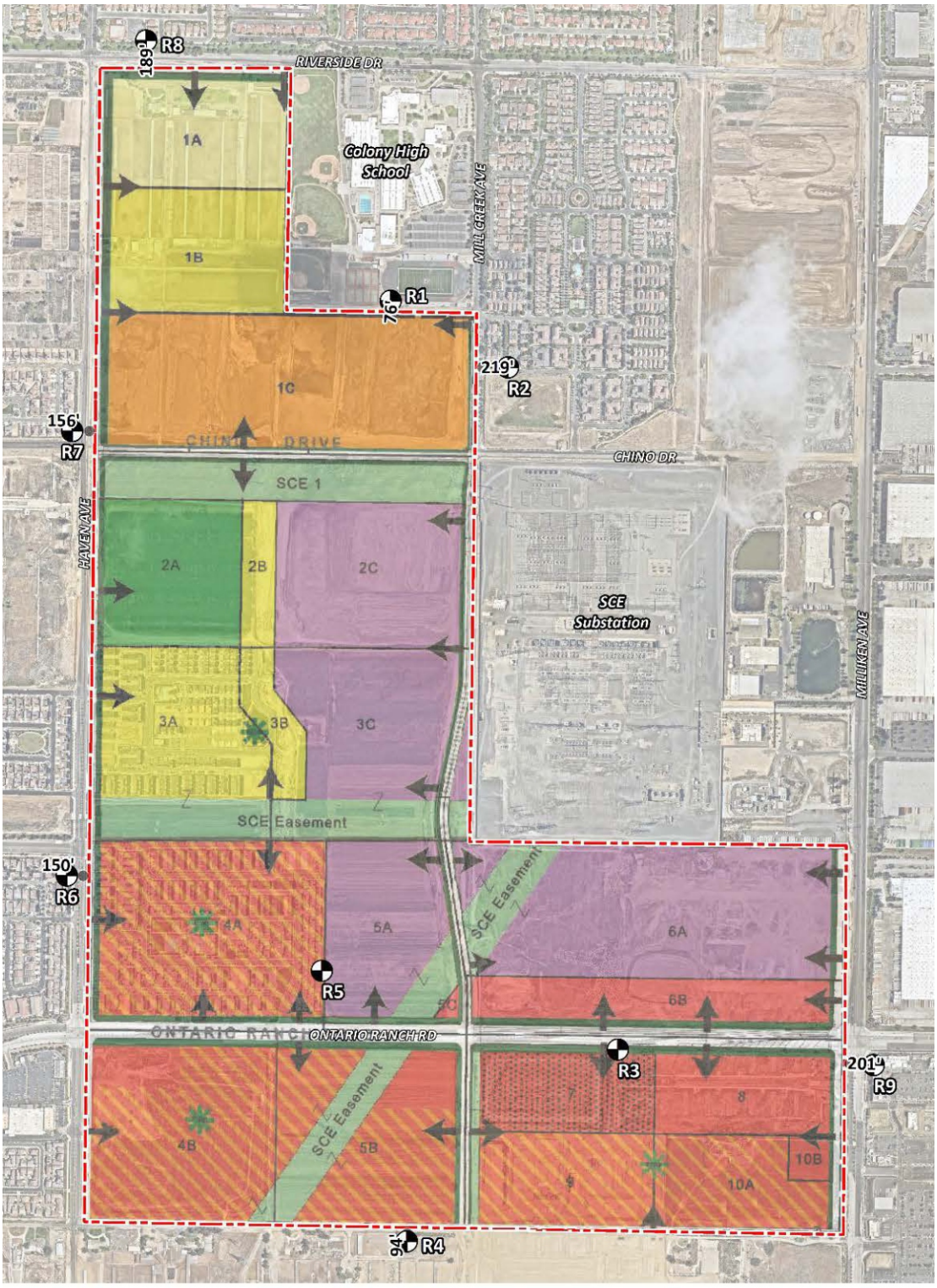
R2: Location R2 represents the existing residence at 3271 S. Quincy Way, approximately 219 feet east of the Project site. R2 is placed in the private outdoor living areas facing the Project site.

R3: Location R3 represents an on-site receiver location within the planned PA 7 residential mixed use overlay area. R3 is placed approximately 460 feet south of the light industrial use within PA 6A.

R4: Location R4 represents the existing residence at 10823 Edison Avenue, approximately 94 feet south of the Project site. Since there are no private outdoor living areas (backyard) facing the Project site, R4 is placed at the building's façade.

R5: Location R5 represents the existing on-site residence at 3959 S. Sunrise Avenue within the standalone residential overlay (PA 4). R5 is placed in the private outdoor living areas facing the light industrial use within PA 5A.

R6: Location R6 represents the existing residence at 3455 Pine Ridge Loop, approximately 150 feet west of the Project site. R6 is placed in the private outdoor living areas facing the Project site.



Source: Urban Crossroads, Inc.

Figure 4.3-1
Sensitive Receptor Locations

R7: Location R7 represents the existing residence at 3379 S. Myrtle Drive, approximately 156 feet west of the Project site. R7 is placed in the private outdoor living areas facing the Project site.

R8: Location R8 represents the existing residence at 2943 S. Alder Creek Drive, approximately 189 feet north of the Project site. R8 is placed in the private outdoor living areas facing the Project site.

R9: Location R9 represents the existing worker receptor located approximately 201 feet east of the Project site. R9 is placed in the building façade facing the Project site, where a worker could potentially remain during a typical workday.

Results of the LST analysis indicate that the Project would not exceed the SCAQMD localized significance thresholds during construction. Therefore, the identified sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Results of the LST analysis indicate that the Project would not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore, vicinity sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

Based on the preceding, the potential for the Project construction and operations to expose sensitive receptors to substantial pollutant concentrations is considered less-than-significant.

Toxic Air Contaminants Health Risk Analysis

Potential Toxic Air Contaminants (TAC) health risks resulting from the Project are presented in detail in *Rich-Haven Specific Plan, 2022 Amendment, Mobile Source Heath Risk Assessment, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022 (Project HRA, EIR Appendix D). The Project HRA was prepared in accordance with methodologies and

protocols presented in *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (South Coast Air Quality Management District) 2003. Of primary concern for the Project would be Diesel Particulate Matter (DPM) emissions generated by construction equipment and heavy trucks accessing the Project site. The Project HRA and its conclusions are summarized below.

Localized Diesel Particulate Matter (DPM) Emissions Impacts

Construction equipment employed in development of the Project, and truck traffic associated with Project operations would generate Diesel Particulate Matter (DPM) emissions. In 1998, the California Air Resources Board (ARB) identified DPM as a Toxic Air Contaminant (TAC). In California, DPM has been identified as a carcinogen. Potential effects of Project-source DPM emissions are summarized below. The Project is not a source of other TACs.

Carcinogenic Risks

SCAQMD cancer risk assessment methodologies and protocols were employed in the Project HRA. The SCAQMD *CEQA Air Quality Handbook* (1993) states that emissions of TACs are considered significant if a Health Risk Assessment shows an increased carcinogenic risk of greater than 10 incidents per million population. Per the stated SCAQMD *Handbook* cancer risk threshold, for the purposes of this analysis, an increase in cancer risk of 10 incidents per million population is considered potentially significant. Also relevant to the Project HRA, specific guidance in determining health risks from diesel emissions is provided in *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (SCAQMD) 2003.

Noncarcinogenic Risks

Evaluation of potential noncarcinogenic effects of chronic TAC exposures was also conducted. Noncarcinogenic adverse health effects are evaluated by comparing a compound's annual concentration with its toxicity factor or Reference Exposure Level (REL).

The REL for diesel particulates was obtained from the California Office of Environmental Health Hazard Assessment (OEHHA). The REL for DPM established by OEHHA is 5 µg/m3 (OEHHA Chemical Toxicity Database, https://oehha.ca.gov/chemicals).

The SCAQMD has established non-carcinogenic risk parameters for use in HRAs. Non-carcinogenic risks are quantified by calculating a Hazard Index, expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). An REL is a concentration at or below which health effects are not likely to occur. A Hazard Index less of than one (1.0) means that adverse health effects are not expected. Within this analysis, non-carcinogenic exposures not exceeding the SCAQMD Hazard Index of 1.0 are considered less-than-significant.

Construction-source and operational-source DPM cancer risks are evaluated in detail at Project HRA, pp. 11 – 28. Results and conclusions of the Project HRA are summarized below.

Risk Exposure: Quantification Results

The Project HRA evaluates potential DPM exposure cancer risks at maximally exposed receptor locations. Receptor locations referenced in following discussions are illustrated at previous Figure 4.3-1.

Construction-Source DPM Emissions Impacts

As substantiated in the Project HRA, Project construction-source DPM emissions cancer risk impacts at the maximally exposed individual receptor (MEIR, Receptor R5) would be 1.21 in one million, which is less than the SCAQMD threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable SCAQMD threshold of 1.0 (Project HRA, p. 25). As such, Project construction-source DPM emissions would not cause a significant human health or cancer risk at the MEIR.

Operational-Source DPM Emissions Impacts

Residential Exposure

As substantiated in the Project HRA, Project construction-source DPM emissions cancer risk impacts at the maximally exposed individual receptor (MEIR, Receptor R5) would be 4.77 in one million, which is less than the SCAQMD threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.03, which would not exceed the applicable SCAQMD threshold of 1.0 (Project HRA, p. 25). As such, Project construction-source DPM emissions would not cause a significant human health or cancer risk at the MEIR.

Worker Exposure

As substantiated in the Project HRA, Project operational-source DPM emissions cancer risk impacts at the Maximum Exposed Individual Worker (MEIW, Receptor R9) would be 0.94 in one million, which is less than the SCAQMD threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.06, which would not exceed the applicable SCAQMD threshold of 1.0 (Project HRA, p. 26). As such, the Project operational-source DPM emissions will not cause a significant human health or cancer risk at the MEIW.

School Child Exposure

The nearest school is Colony High School, which is located adjacent to the Project site to the north. At the Maximum Exposed Individual School Child location (MEISC), the maximum incremental cancer risk impact attributable to the Project would be 0.37 in one million, which is less than the significance threshold of 10 in one million. At this same location, non-cancer risks attributable to the Project would be 0.01, which would not exceed the applicable significance threshold of 1.0. As such, the Project would not cause a significant human health or cancer risk to nearby school children.

Combined Construction-Source and Operational-Source DPM Emissions Impacts

The land use with the greatest potential exposure to Project construction-source and operational-source DPM emissions is Receptor R5. At the MEIR, the maximum incremental cancer risk attributable to Project construction-source and operational-source DPM emissions is estimated at 5.98 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.03, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk as a result of combined Project construction and operational activities (Project HRA, p. 26).

Friant Ranch Case Considerations

In December 2018, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, the California Supreme Court held that an Environmental Impact Report's (EIR) air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided.

Most local agencies, including the City of Ontario, lack the data to do their own assessment of potential health impacts from criteria air pollutant emissions, as would be required to establish customized, locally-specific thresholds of significance based on potential health impacts from an individual development project. The use of national or "generic" data to fill the gap of missing local data would not yield accurate results because such data does not capture local air patterns, local background conditions, or local population characteristics, all of which play a role in how a population experiences air pollution. Because it is impracticable to accurately isolate the exact cause of a human disease (for example, the role a particular air pollutant plays compared to the role of other allergens and genetics in causing asthma), existing scientific tools cannot accurately estimate health impacts of the Project's air emissions without undue speculation. Instead, readers are directed to the Project's air quality impact analysis above, which provides extensive information concerning the quantifiable and non-quantifiable health risks related to the Project's construction and long-term operation.

Notwithstanding, the Project AQIA does evaluate the Project's localized impact to air quality for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ by comparing the proposed Project's on-site emissions to the SCAQMD's applicable LST thresholds. The LST analysis presented herein substantiates that the Project would not result in emissions exceeding SCAQMD's LSTs. Therefore, the Project would not be expected to exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$.

Based on the preceding, the potential for the Project to expose sensitive receptors to substantial pollutant concentrations is considered less-than-significant.

SUMMARY

Project construction-source and operational source emissions would not exceed applicable LSTs. Project-source DPM emissions would not result in any potentially significant impacts at Study Area receptors. Project-source CO emissions would not result in CO hot spots within the Study Area. The Project would not otherwise be a source of potentially significant pollutant emissions concentrations. Based on the preceding, the potential for the Project to expose sensitive receptors to substantial pollutant concentrations is considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.4 GREENHOUSE GAS EMISSIONS

4.4 GREENHOUSE GAS EMISSIONS

Abstract

This Section identifies and addresses potential global climate change (GCC) and greenhouse gas (GHG) emissions impacts that may result from construction and operation of the Project. More specifically, the analysis evaluates the potential for the Project to cause or result in the following impacts:

- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or*

- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The Lead Agency has determined that each of the CEQA GHG emissions impacts threshold conditions noted above establish a separate and independent basis upon which to substantiate the significance of the Project's potential GHG emissions impacts.

With regard to the first threshold condition, for the purposes of evaluating environmental impacts of development-related GHG emissions, the SCAQMD GHG emissions screening threshold of 3,000 $MTCO_2e$ per year has been employed.[1]

[1] The City understands that the 3,000 $MTCO_2e$ per year threshold for residential/commercial uses was proposed by SCAQMD a decade ago and was adopted as an interim policy; however, no permanent, superseding policy or threshold has since been adopted. The 3,000 $MTCO_2e$ per year threshold was developed and recommended by SCAQMD, an expert agency, based on substantial evidence as provided in the Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold (2008) document and subsequent Working Group meetings (latest of which occurred in 2010). Please refer to the Project GHGA at Section 4.1, *Thresholds of Significance* for a detailed substantiation of and basis for use of the 3,000 $MTCO_2e$/yr threshold.

Even with application of mitigation, Project GHG emissions would exceed 3,000 $MTCO_2e$ per year. On this basis, the Project would generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment. This is a significant and unavoidable impact.

With regard to the second threshold condition, the Project is substantiated herein to be consistent with TOP 2050, and GHG emissions modeling reflected in TOP 2050 – 2022 Community Climate Action Plan Update (2022 CCAP Update). The 2022 CCAP Update provides guidance on how to analyze GHG emissions and determine significance during the CEQA review of proposed development projects within the City. The 2022 CCAP Update addresses GHG emissions reductions and is consistent with the requirements of AB 32, SB 32, and international efforts to reduce GHG emissions. The 2022 CCAP Update, requirements of AB 32, SB 32/207 Scoping Plan, and international efforts to reduce GHG emissions encompass and comprise the range and scope of "applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases." As substantiated herein, with application of mitigation, the Project is determined to be consistent with the 2022 CCAP Update and by extension is also consistent with and supports other noted plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases. The potential for the Project to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases is therefore considered less-than-significant.

4.4.1 INTRODUCTION

This Section presents existing greenhouse gas (GHG) conditions and identifies potential GHG impacts resulting from construction and operations of the Project. The information presented in this Section is summarized from: *Rich-Haven Specific Plan, 2022 Amendment, Greenhouse Gas Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022 (Project GHGA). The Project GHGA and all supporting modeling data are presented at EIR Appendix E.

4.4.2 GREENHOUSE GASES/GLOBAL CLIMATE CHANGE OVERVIEW

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. GCC is currently one of the most controversial environmental issues in the United States, and much debate exists within the scientific community about whether or not GCC is occurring naturally or as a result of human activity. Some data suggests that GCC has occurred in the past over the course of thousands or millions of years. These historical changes to the earth's climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual development proposal, such as the Project considered herein, cannot generate enough greenhouse gas emissions to effect a discernible change in the global climate. However, the Project may contribute to GCC through its increment of greenhouse gases (GHG) in combination with the cumulative increase in GHG from all other sources, which when taken together constitute potential influences on GCC. This Section summarizes the potential for the Project to have a significant effect upon the environment as a result of its potential contribution to GCC.

4.4.2.1 Global Climate Change

GCC refers to the change in average meteorological conditions with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2 (Carbon Dioxide), N_2O (Nitrous Oxide), CH_4 (Methane), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are important due to their residence time (duration) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow

solar radiation into the atmosphere, but prevent heat from escaping, thus warming the atmosphere. GCC can occur naturally, as it has in the past with the previous ice ages.

4.4.2.2 Greenhouse Gases

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect, the average temperature would be approximately 61° Fahrenheit (F) cooler than it is currently. The accumulation of these gases in the atmosphere is considered to be the cause for the observed increase in the Earth's temperature.

GHGs have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is used as the reference gas for GWP, and thus has a GWP of 1. GWP and atmospheric lifetimes of select GHGs are summarized in Table 4.4-1.

Table 4.4-1
GWP and Atmospheric Lifetime of Select GHGs

GHG	Atmospheric Lifetime (years)	GWP (100-year time horizon)	
		2nd Assessment Report	5th Assessment Report
CO_2	*	1	1
CH_4	12.4	21	28
N_2O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF_6	3,200	23,900	23,500

Source: *Rich-Haven Specific Plan, 2022 Amendment, Greenhouse Gas Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.
Notes: * Per IPCC's 5th Assessment Report, Appendix 8.A, no single lifetime can be given.

Table 4.4-2 lists common GHGs, their general characteristics, sources, and health effects.

Table 4.4-2
GHGs, Characteristics, Sources, and Health Effects

GHG	Description	Sources	Health Effects
Water	Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. Climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop would continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it would eventually condense into clouds, which are more able to reflect incoming solar radiation (thus	The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.	There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

Table 4.4-2
GHGs, Characteristics, Sources, and Health Effects

GHG	Description	Sources	Health Effects
	allowing less energy to reach the earth's surface and heat it up).		
CO_2	CO_2 is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources.	CO_2 is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO_2 is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.	Outdoor levels of CO_2 are not high enough to result in negative health effects. According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO_2 can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO_2 in the earth's atmosphere are estimated to be approximately 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15-minute period.
CH_4	CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.	CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropocentric sources include fossil-fuel combustion and biomass burning.	CH_4 is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to elevated levels of CH_4 can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.

Table 4.4-2
GHGs, Characteristics, Sources, and Health Effects

GHG	Description	Sources	Health Effects
N_2O	N_2O, also known as laughing gas, is a colorless GHG. Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).	N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction.	N_2O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage).
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs would remain in the atmosphere for over 100 years.	In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.
HFCs	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured	HFCs are manmade for applications such as automobile air conditioners and refrigerants.	No health effects are known to result from exposure to HFCs.

Table 4.4-2
GHGs, Characteristics, Sources, and Health Effects

GHG	Description	Sources	Health Effects
	atmospheric abundances are (in order), Fluoroform (HFC-23), 1,1,1,2-tetrafluoroethane (HFC-134a), and 1,1-difluoroethane (HFC-152a). Prior to 1990, the only significant emissions were of HFC-23. HCF-134a emissions are increasing due to its use as a refrigerant.		
PFCs	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have exceptionally long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The EPA estimates that concentrations of CF_4 in the atmosphere are over 70 parts per trillion (ppt).	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.	No health effects are known to result from exposure to PFCs.
SF_6	SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated. The EPA indicates that concentrations in the 1990s were about 4 ppt.	SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.
Nitrogen Trifluoride (NF_3)	NF_3 is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF_3 has a 100-year GWP of 17,200.	NF_3 is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display (LCD) panels, types of solar panels, and chemical lasers.	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis.

Source: *Rich-Haven Specific Plan, 2022 Amendment, Greenhouse Gas Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

4.4.2.3 Existing Greenhouse Gases Emissions Inventories

Global

Worldwide anthropogenic GHG emissions are tracked by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing

nations (referred to as Non-Annex I). This GHG emission data for Annex I nations is available through 2016. Global GHG emissions are summarized in Table 4.4-3, and are representative of currently available inventory data.

United States

As identified in Table 4.4-3, the United States, as a single country, was the number two producer of GHG emissions in 2017. The primary GHG emitted by human activities in the United States was CO_2, representing approximately 81.6 percent of total GHG emissions. Carbon dioxide from fossil fuel combustion is the largest source of GHG emissions in the United States.

Table 4.4-3
Global GHG Emissions by Major GHG Source Countries

Source Countries	GHG Emissions (Gg CO_2e)
China	11,911,710
United States	6,456,718
European Union (28-member countries)	4,323,163
India	3,079,810
Russian Federation	2,155,470
Japan	1,289,630
Total	**29,216,501**

Source: *Rich-Haven Specific Plan, 2022 Amendment, Greenhouse Gas Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.
Note: Gg = Gigagrams; 1 Gigagram = 1,000 Metric Tons.

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the United States (U.S.) emissions inventory total. The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2021 GHG inventory data (the latest year for which data are available) for the 2000-2019 GHG emissions period, California emitted an average 418.2 million metric tons of CO_2e per year ($MMTCO_2e$/year) or 418,200 Gg CO_2e (6.26% of the total United States GHG emissions).

City of Ontario

The City of Ontario GHG emissions inventory for existing land uses is summarized at Table 4.4-4.

Table 4.4-4
City of Ontario GHG Emissions
Existing Land Uses

Sector	Existing $MTCO_2e$/year	Percent of Total
Residential Energy	155,030	9%
Nonresidential Energy	395,780	23%
Transportation	934,590	55%
Solid Waste	83,400	5%
Water and Wastewater	20,250	1%
Agriculture	48,540	3%
Off-Road Equipment	65,480	4%
Land Use and Sequestration	660	<1%
Total	**1,703,730**	**100%**

Source: TOP 2050 SEIR.

Project Site

With the exception of limited areas of existing residential development, the Project site comprises vacant disturbed property, and is not a substantive source of GHG emissions.

4.4.2.4 Effects of Climate Change in California

Public Health

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind

conditions. The Climate Scenarios Report indicates that large wildfires could become more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there may be years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

Agriculture

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of its water supply. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O_3 pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including: precipitation, winds, temperature, terrain, and vegetation, future risks would likely not be uniform throughout the state. For example, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Increased sea level elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12 to 14 inches.

4.4.3 GCC REGULATORY SETTING

The current GHG regulatory setting is extensive and evolving. The GHG regulatory setting is discussed in detail at Project GHGA Section 3, *Regulatory Setting*. Current aspects of the GHG regulatory setting of relevance to the Project are summarized below.

4.4.3.1 State of California

Overview

The State of California legislature has enacted a series of bills and associated actions, described below, that collectively act to reduce GHG emissions. Certain state legislation, such as Assembly Bill (AB 32) *California Global Warming Solutions Act of 2006*, was specifically enacted to address GHG emissions. Other state legislation, such as Title 24 and Title 20 energy standards, originally adopted for other purposes (energy and water conservation), also facilitate GHG emissions reductions. Additionally, California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, Executive Orders set the tone for the state and guide the actions of state agencies.

AB 32. The California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. GHGs, as defined under AB 32, include carbon dioxide, methane, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The California Air Resources Board (CARB, ARB) is the state agency charged with monitoring and regulating sources of GHGs.

The ARB approved the 1990 GHG emissions level of 427 $MMTCO_2e$ on December 6, 2007 (ARB 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a "business as usual" (BAU) scenario were estimated to be 596 $MMTCO_2e$, which do not account for reductions from AB 32 regulations (ARB 2008). At that level, a 28.4 percent reduction was required to achieve the 427 million $MMTCO_2e$ 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 million $MMTCO_2e$. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels (ARB 2010).

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared by ARB for 2000 through 2012 (ARB 2014a). The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 million $MMTCO_2e$ (AB 32 2020 target)
- 2000: 463 million $MMTCO_2e$ (an average 8 percent reduction needed to achieve 1990 base)
- 2010: 450 million $MMTCO_2e$ (an average 5 percent reduction needed to achieve 1990 base)

ARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, ARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4 percent and the latest reduction from 2020 BAU is 21.7 percent.

- 2020: 545 million $MMTCO_2e$ BAU (an average 21.7 percent reduction from BAU needed to achieve 1990 base)

ARB Scoping Plan. The California Air Resources Board (ARB) Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 and thereby comply with AB 32 GHG emissions reductions targets. The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The ARB approved the First Update to the Scoping Plan (Update) on May 22, 2014. The Update identifies progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and strategies. The Update does not set new targets for the State, but rather describes a path that would achieve the state's 2050 goal to achieve GHG emissions levels that are 80 percent below 1990 baseline levels.

Forecasting the amount of emissions that would occur in 2020 if no actions are taken was necessary to assess the amount of reductions California must achieve to return to the 1990 emissions level by 2020 as required by AB 32. The no-action scenario is known as "business-as-usual" or BAU. The ARB originally defined the BAU scenario as emissions in the absence of any GHG emission reduction measures discussed in the Scoping Plan.

As part of CEQA compliance for the Scoping Plan, ARB prepared a Supplemental Functional Equivalent Document (FED) in 2011. The FED included an updated 2020 BAU emissions inventory projection based on current economic forecasts (i.e., as influenced by the economic downturn) and emission reduction measures already in place, replacing its prior 2020 BAU emissions inventory. ARB staff derived the updated emissions estimates

by projecting emissions growth, by sector, from the State's average emissions from 2006–2008. The new BAU estimate includes emission reductions for the million-solar-roofs program, the AB 1493 (Pavley I) motor vehicle GHG emission standards, and the Low Carbon Fuels Standard. In addition, ARB factored into the 2020 BAU inventory emissions reductions associated with 33 percent Renewable Energy Portfolio Standard (RPS) for electricity generation. The updated BAU estimate of 507 $MMTCO_2e$ by 2020 requires a reduction of 80 $MMTCO_2e$, or a 16 percent reduction below the estimated BAU levels to return to 1990 levels (i.e., 427 $MMTCO_2e$) by 2020.

To establish a BAU reduction scenario that is consistent with the original definition in the Scoping Plan and with threshold definitions used in thresholds adopted by lead agencies for CEQA purposes and many climate action plans, the updated inventory without regulations was also included in the Supplemental FED. The ARB 2020 BAU projection for GHG emissions in California was originally estimated to be 596 $MMTCO_2e$. The updated ARB 2020 BAU projection in the Supplemental FED is 545 $MMTCO_2e$. Considering the updated BAU estimate of 545 $MMTCO_2e$ by 2020, ARB estimates a 21.7 percent reduction below the estimated statewide BAU levels is necessary to return to 1990 emission levels (i.e., 427 $MMTCO_2e$) by 2020, instead of the approximate 28.4 percent BAU reduction previously reported under the original Climate Change Scoping Plan (2008).

2017 Climate Change Scoping Plan Update. In November 2017, ARB released the final 2017 Scoping Plan Update, which identifies the State's post-2020 reduction strategy. The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by Senate Bill 32 (SB 32). Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce methane emissions from agricultural and other wastes.

The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementing SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Scoping Plan also recognizes local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB advocates local government attainment of a community-wide goal of 6 $MMTCO_2e$ or less per capita by 2030, and 2 $MMTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the extent feasible. Alternatively, a lead agency may employ performance-based metric using a climate action plan or other plan to reduce GHG emissions.

According to research conducted by the Lawrence Berkeley National Laboratory and supported by ARB, under its existing and proposed GHG reduction policies, California is on track to meet the 2020 reduction targets established under AB 32 and could achieve the 2030 goals promulgated under SB 32.

Senate Bill 32. On September 8, 2016, Governor Jerry Brown signed the Senate Bill (SB) 32 and its companion bill, Assembly Bill (AB) 197. SB 32 requires the State to reduce statewide greenhouse gas emissions to 40 percent below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15.

Cap-and-Trade Program. The Scoping Plan identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to ARB, a cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020 and ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

ARB adopted a California Cap-and-Trade Program consistent with authority established under AB 32. See 17 California Code of Regulations (CCR) §§ 95800 to 96023. The Cap-

and-Trade Program is designed to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25,000 $MTCO_2e$ per year must comply with the Cap-and-Trade Program. Triggering of the 25,000 $MTCO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, ARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each $MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30 percent of the prior year's compliance obligation by November of each year. For example, in November 2014, a covered entity was required to submit compliance instruments to cover 30 percent of its 2013 GHG emissions.

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by ARB in the 2014 First Update to the Climate Change Scoping Plan (ARB First Update):

> The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative (ARB First Update, p. 86).

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. In this manner, the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate:

> The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the "capped sectors." Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation

> provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures (ARB First Update, p. 88).

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with a CEQA projects' electricity usage are covered by the Cap-and-Trade Program.

The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. While the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, they did not have a compliance obligation (i.e., they were not fully regulated) until 2015. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are "supplied" (i.e., delivered into commerce). Accordingly, as with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all, if not all, of GHG emissions from CEQA projects associated with vehicle-miles traveled (VMT) are covered by the Cap-and-Trade Program (ARB 2015).

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. "Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the Program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in

the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve sufficient GHG emissions reductions by 2020 to achieve the emission target contained in AB 32. "Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions.

SB 375 - Sustainable Communities and Climate Protection Act of 2008. Passing the Senate on August 30, 2008, Senate Bill (SB) 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

AB 1493 Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required ARB to develop and adopt regulations that reduce GHGs

emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Cars program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

SB 350 - Clean Energy and Pollution Reduction Act of 2015. In October 2015, the legislature approved and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid,

and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly-owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electricity transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

Executive Order S-3-05. Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order S-01-07 – Low Carbon Fuel Standard. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least

10 percent by 2020. In particular, the Executive Order established a Low Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The Low Carbon Fuel Standard was challenged in the U.S. District Court in Fresno in 2011. The court's ruling issued on December 29, 2011, included a preliminary injunction against ARB's implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012, pending final ruling on appeal, allowing ARB to continue to implement and enforce the regulation. The Ninth Circuit Court's decision, filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that Low Carbon Fuel Standards adopted by ARB were not in conflict with federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled ARB failed to comply with CEQA and the Administrative Procedure Act (APA) when adopting regulations for Low Carbon Fuel Standards. In a partially published opinion, the Court of Appeal reversed the trial court's judgment and directed issuance of a writ of mandate setting aside Resolution 09-31 and two executive orders of ARB approving Low Carbon Fuel Standards (LCFS) regulations promulgated to reduce GHG emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while ARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, ARB was required to bring a new LCFS regulation to its Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity (low-CI) fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and

streamline program operations, and enhance enforcement. The second public hearing was held on September 24 and September 25, 2015, where the LCFS Regulation was adopted. The Final Rulemaking Package adopting the regulation was filed with Office of Administrative Law (OAL) on October 2, 2015. OAL had until November 16, 2015 to make a determination (ARB 2015d).

Executive Order S-13-08. Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." As provided for under the Order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted. The Strategy is ". . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-30-15. On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO_2 equivalent ($MMCO_2e$). The Order also requires the state's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable for local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

Title 20 Appliance Efficiency Standards. California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.

Title 24 Energy Efficiency Standards and California Green Building Standards. California Code of Regulations Title 24 Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. For nonresidential buildings, the 2016 Title 24 standards reduce energy consumption by 5 percent when compared to the 2013 Title 24 standards.

California Code of Regulations, Title 24, Part 11: California Green Building Standards Code (CALGreen). CALGreen is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards, to be effective on January 1, 2023.

The State Building Code (including provisions of CALGreen) establishes minimum standards that buildings must meet in order to be certified for occupancy. These standards are typically enforced by the local building official. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. The Project would be required to comply with State Building Code

standards (including provisions of CALGreen) in effect at the time of building permit application(s).

Anticipated CALGreen requirements applicable to the Project include, but are not limited to, those listed below. CALGreen Section citations are presented parenthetically.

- EV Charging (new one- and two-family dwellings and townhouses with attached private garages). For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device (4.106.4.1).
- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future

load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3).

- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed
    - 1.28 gallons per flush (5.303.3.1)
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed
    - 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
    - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen

faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).

- Outdoor potable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

Additionally, under California's 2022 Title 24, Part 6 Building Energy Efficiency Standards, solar photovoltaic systems are required for newly constructed low-rise residential buildings and shall be sized sufficient to offset the electricity use of the proposed building as if it was a mixed-fuel building.

Model Water Efficient Landscape Ordinance. The Model Water Efficient Landscape Ordinance (Model Ordinance) established under the Water Conservation Act, requires local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance. New development projects that include landscape areas of 500 square feet or more are subject to the Model Ordinance.

Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected upon compliance with the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed Department of Water Resources (DWR) to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015 to be effective December 15, 2015. New development projects that include landscape areas of 500 square feet or more are subject to the Ordinance requirements, including:

- More efficient irrigation systems;
- Incentives for graywater usage;
- Improvements in on-site stormwater capture;
- Limiting landscaping that can be planted with high water use plants; and
- Reporting requirements for local agencies.

ARB Refrigerant Management Program. ARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, California Code of Regulations.

The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

Tractor-Trailer GHG Regulation. Tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers, or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and

owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

Phase I and 2 Heavy-Duty Vehicle GHG Standards. ARB has adopted a new regulation for greenhouse gas (GHG) emissions from heavy-duty trucks and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the U.S. EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation.

ARB staff has worked jointly with the U.S. Environmental Protection Agency (U.S. EPA) and the National Highway Traffic Safety Administration (NHTSA) on the next phase of federal greenhouse gas (GHG) emission standards for medium- and heavy-duty vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later model year heavy-duty vehicles, including trailers.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)." Section 21097 was also added to the

Public Resources Code. It provided CEQA protection until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA.

On April 13, 2009, the Office of Planning and Research submitted to the Secretary for Natural Resources its recommended amendments to the *CEQA Guidelines* addressing GHG emissions. On July 3, 2009, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code section 21083.05. Following a 55-day public comment period and two public hearings, the Natural Resources Agency proposed revisions to the text of the proposed amendments. The Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing *CEQA Guidelines* to reference climate change.

A new section, *CEQA Guidelines* Section 15064.4, was added to assist agencies in determining the significance of GHG emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. However, little guidance is offered on the crucial next step in this assessment process—how to determine whether the project's estimated GHG emissions are significant or cumulatively considerable.

Also amended were Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts, respectively. GHG mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze GHG emissions in an EIR when a project's incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic GHG analysis and later project-specific tiering, as well as the preparation of GHG Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to Section 15183.5(b).

In addition, the amendments revised Appendix F of the *CEQA Guidelines*, which focuses on Energy Conservation. The sample environmental checklist in Appendix G was amended to include GHG questions.

4.4.3.2 Regional

The Project is within the South Coast Air Basin (Basin), which is under the jurisdiction of the SCAQMD. SCAQMD is the agency responsible for air quality planning and regulation in the Basin. Within the context of this EIR, SCAQMD acts as an expert commenting agency for impacts to air quality.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by lead agencies within the Basin. The Working Group identified several different options that are contained in the SCAQMD Draft Guidance Document – *Interim CEQA GHG Significance Threshold*. However, no thresholds for CEQA land use development projects were adopted. The Working Group has not convened since November 2009, nor has the Working Group provided subsequent additional guidance regarding appropriate GHG emissions thresholds for Basin development projects (other than projects for which SCAQMD is the Lead Agency).

4.4.3.3 City of Ontario

The City of Ontario initially adopted its Climate Action Plan on December 16, 2014 (2014 CAP). The 2014 CAP provided guidance on the City of Ontario's GHG Inventory reduction goals, policies, guidelines, and implementation programs. The CAP also established guidance and protocols addressing analysis of GHG emissions impacts and determination of GHG emissions impact significance.

As part of the 2014 CAP, the City of Ontario published a guidance document titled "Greenhouse Gas Emissions, CEQA Thresholds and Screening Tables" (December 2014). Under this guidance, "Mixed-Use Projects [such as the proposed RHSP - 2022 SPA considered herein] that garner at least 100 points will be consistent with the reduction quantities in the City's CAP and are considered less than significant for GHG emissions (*Greenhouse Gas Reduction Measures Screening Threshold Tables Directions*, p. 1).

The Ontario Plan (TOP) 2050 includes an update to the 2014 CAP, referred to herein as the 2022 Community Climate Action Plan Update (2022 CCAP Update). The 2022 CCAP Update furthers the City efforts to reduce GHG emissions and improve community resilience to hazardous conditions associated with climate change. The 2022 CCAP Update includes updated emissions inventories; updated emissions forecasts; identifies GHG emissions reduction targets to achieve the GHG reduction goals of the City of Ontario consistent with Senate Bill 32, Executive Order S-03-05, and substantial progress toward the State's carbon neutrality goals of Executive Order B-55-18; and measures, that when quantified, achieve the GHG reduction targets for the City. As noted in the TOP 2050 SEIR, the measures included in the 2022 CCAP Update are not substantially different than that of the 2014 CCAP and therefore there is no change in the environmental impacts associated with the CCAP.

4.4.4 SOURCES OF PROJECT GHG EMISSIONS

4.4.4.1 Construction-Source GHG Emissions

Project construction activities would generate emissions of CO_2 and CH_4. Project construction would result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Project construction-source emissions are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total greenhouse gas emissions for the construction activities, dividing it by a 30-year project life, then adding that number to the annual operational GHG emissions. Accordingly, Project construction-source GHG emissions were amortized over a 30-year period and added to the annual operational-source GHG emissions of the Project. Please refer also to the Project GHGA Section 5.3, *Construction Emissions* for detailed information regarding Project construction GHG emissions sources.

4.4.4.2 Operational-Source GHG Emissions

Project operations would result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Cargo Handling Equipment Emissions
- Transportation Refrigeration Units (TRU) Emissions

- Water Supply, Treatment, and Distribution
- Solid Waste Management

Area Source Emissions

Landscape and site maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project.

Energy Source Emissions

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions.

Mobile Source Emissions

GHG emissions will also result from mobile sources associated with the Project. Trip characteristics available from the Project VMT Analysis were utilized in this analysis.

On-Site Cargo Handling Equipment Emissions

It is common for warehouse buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For the Project, on-site modeled cargo handling equipment operational equipment includes up to one (1) 200 horsepower (hp), compressed natural gas or gasoline-powered tractors/loaders/backhoes operating at 4 hours per day, 365 days per year.

TRU Emissions

To account for the possibility of refrigerated uses, a portion of the trucks accessing the Project are assumed to comprise Transportation Refrigeration Units. The TRU emissions calculations are based on the 2017 Off-road Emissions model, version 1.0.1 (Orion), developed by the CARB.

Water Supply, Treatment and Distribution Emissions

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required depends on the volume of water as well as the sources of the water.

Solid Waste Management Emissions

The Project land uses would result in the generation and disposal of solid waste. A large percentage of solid waste generated by the Project would be diverted and recycled consistent with requirements of AB 39. The remainder of the waste not diverted would be disposed of at area landfills. GHG emissions would be generated by collection and transport of GHG emissions. GHG emissions would also result from anaerobic breakdown of landfilled materials.

Please refer also to the Project GHGA Section 5.3, *Construction Emissions* for detailed information regarding Project operations GHG emissions sources.

4.4.5 PROJECT GHG EMISSIONS IMPACTS

4.4.5.1 California Emissions Estimator Model (CalEEMod) Employed to Estimate GHG Emissions

In May 2022, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2022.1. The purpose of this Model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. The latest version of CalEEMod has been employed in this analysis. Detailed Model Outputs are appended to the Project GHGA.

4.4.5.2 Standards of Significance

The criteria used to determine the significance of potential Project-related GHG impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 CCR of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to GHG if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The City has determined that each of the CEQA threshold considerations presented herein establish a separate and independent basis upon which to substantiate the significance of the Project's potential GHG emissions impact.

Potential Impact GHG-1: *Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.*

Impact Analysis: An individual project cannot generate enough GHG emissions to influence global climate change. A project participates in this potential impact by its incremental contribution combined with the cumulative increase of all other sources of GHGs, which when taken together may have a significant impact on global climate change.

Project construction and operations would result in direct and indirect emissions of CO_2, CH_4, and N_2O. Other GHGs that may be generated are not of sufficient quantity to affect the analysis presented here. Direct Project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation. Project-related GHG emissions were quantified employing CalEEMod. With regard to the first threshold condition, for the purposes of evaluating environmental

impacts of development-related GHG emissions, the SCAQMD GHG emissions screening threshold of 3,000 $MTCO_2e$ per year has been employed.[2]

Table 4.4-5
Annual Project GHG Emissions

Emission Source	Emissions (metric tons per year)				
	CO_2	CH_4	N_2O	Refrigerants	Total CO_2E
Annual construction-related emissions amortized over 30 years	851.17	0.04	0.04	0.96	865.37
Mobile Source	90,393.00	5.73	6.30	121.40	92,535.00
Area Source	1,553.00	0.03	0.05	0	1,567.00
Energy Source	25,030.00	2.30	0.17	0	25,138.00
Water Supply, Treatment, and Distribution	1,514.00	33.47	0.81	0	2,591.00
Solid Waste Management	1,015.00	101.30	0	0	3,548.00
Refrigerants	0	0	0	117.00	117.00
TRU Source					2479.91
On-Site Equipment Source					473.67
	129,314.95				

Source: *Rich-Haven Specific Plan, 2022 Amendment, Greenhouse Gas Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.
Note: Totals obtained from CalEEMod™ and may not total 100% due to rounding.

As shown, construction and operation of the Project would generate a total of approximately 129,314.95 $MTCO_2e$/year, which would exceed the SCAQMD significance threshold of 3,000 $MTCO_2e$/year; therefore, Project-related GHG emissions are considered potentially significant.

Level of Significance: Potentially Significant.

Mitigation Measures: No feasible mitigation. The majority of the GHG emissions (approximately 72 percent unmitigated) are associated with non-construction related mobile sources. Responsibility and authority for regulation of vehicular-source emissions

[2] The City understands that the 3,000 $MTCO_2e$ per year threshold for residential/commercial uses was proposed by SCAQMD a decade ago and was adopted as an interim policy; however, no permanent, superseding policy or threshold has since been adopted. The 3,000 $MTCO_2e$ per year threshold was developed and recommended by SCAQMD, an expert agency, based on substantial evidence as provided in the Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold (2008) document and subsequent Working Group meetings (latest of which occurred in 2010).

resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can effect or mandate substantial reductions in vehicular-source GHG emissions, much less reductions that would achieve no net increase condition or achieve the SCAQMD 3,000 $MTCO_2e$/year threshold. In effect, all Project traffic would need to be eliminated or be "zero GHG emissions sources" in order to achieve the SCAQMD threshold.

Development proposals within the Specific Plan Area would be required to attain a minimum of 100 Screening Table Points, thereby complying comply with GHG emissions control and reduction strategies implemented through the City 2022 CCAP Update. Additionally, certain of the Mitigation Measures identified at EIR Section 4.3, *Air Quality* would incrementally reduce Project-source air pollutant emissions and in so-doing would also act to generally reduce GHG emissions. These measures are repeated below.

4.3.2 Construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or higher exhaust emission limits shall be utilized.

4.3.3 Construction equipment shall be properly serviced and maintained to the manufacturer's standards.

4.3.4 Non-essential idling of construction equipment shall be limited to no more than five consecutive minutes.

4.3.5 Super-Compliant VOC paints for coating of architectural surfaces shall be used whenever possible.

4.3.6 Construction contractors shall use off-road diesel construction equipment that complies with EPA/CARB Tier 4 Interim or better emissions standards during all construction phases.

4.3.7 Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable CARB anti-idling

regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five (5) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, the City shall conduct a site inspection to ensure that the signs are in place.

4.3.8 Industrial building occupants/tenants shall be provided documentation on funding opportunities, such as the Carl Moyer Program, that provide incentives for using cleaner-than-required engines and equipment.

4.3.9 Non-residential building plans and site designs shall include natural light, passive heating, and passive cooling measures. Typical measures would include efficient window designs, use of overhangs, and skylights.

4.3.10 Building and site plans for non-residential uses shall provide electrical service accessible to landscaped areas.

4.3.11 The following or similar language shall be included in lease/sale agreements for all non-residential buildings: "Building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements."

4.3.12 The following or similar language shall be included in lease/sale agreements for all industrial buildings: "Tenants shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment, through requirements in the lease agreements. Electric-powered service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically or natural gas fueled provided such yard

trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles."

4.3.13 *The following or similar language shall be included in lease/sale agreements for all industrial buildings: "Tenants that do not already operate 2010 and newer trucks shall apply in good faith for funding to replace/retrofit their trucks. Funding mechanisms include Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible." Note: This measure shall not apply to trucks that are not owned or otherwise controlled by the facility owner or facility tenant.*

4.3.14 *The following or similar language shall be included in lease/sale agreements for all industrial buildings: Tenants who employ 250 or more employees on a full- or part-time basis shall comply with SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Tenants with less than 250 employees or tenants with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to Rule 2202 with annual reporting of actions and results to the City. The tenant-implemented program would include, but not be limited to the following:*

- *Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees.*
- *Create and maintain a "commuter club" to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work.*
- *Inform employees of public transit and commuting services available to them (e.g., social media, signage).*
- *Provide on-site transit pass sales and discounted transit passes.*
- *Guarantee a ride home.*

- *Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted.*

4.3.15 Loading docks shall be designed to be compatible with SmartWay trucks.

4.3.16 Non-residential use site plans shall include signs or other directional indicators delineating required site access and on-site circulation plan.

4.3.17 The following or similar language shall be included in lease/sale agreements for all non-residential buildings: Tenants shall install (a) sign(s) on their respective property(ies) with telephone, email, and regular mail contact information for a designated tenant representative who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the City for perceived Code violations. The representative shall keep records of any complaints received and actions taken to communicate with the complainant and resolve the complaint. The representative shall endeavor to resolve complaints within 24 hours.

4.3.18 Industrial building designs and site plans shall incorporate electrical supply lines and panels sized to support anticipated future requirements for heavy truck charging facilities. Such designs and plans shall be based on reasonable predictions derived from the most recent available truck manufacturer's data.

However, there are no feasible means to, or alternatives to eliminate all Project traffic, or to ensure that Project traffic would result in zero GHG emissions sources. In terms of its practical application, this would constitute a "no build" condition. Based on the preceding, even with the application of mitigation, the Project would generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. This is a significant and unavoidable impact.

Level of Significance after Mitigation: Significant and Unavoidable.

Potential Impact GHG-2: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Impact Analysis: For the Project, the City of Ontario 2022 CCAP Update (and by extension, requirements of AB 32, SB 32/2017 Scoping Plan, and international efforts to reduce GHG emissions) comprise "applicable plans, policies or regulations adopted for the purpose of reducing the emissions of greenhouse gases."[3]

Background and Establishment of CAP Screening Table Thresholds/Mitigation

As part of the City of Ontario 2014 CAP, the City published a guidance document titled "Greenhouse Gas Emissions, CEQA Thresholds and Screening Tables" (December 2014). Under this guidance, "Mixed-Use Projects [such as the proposed RHSP - 2022 SPA considered herein] that garner at least 100 points will be consistent with the reduction quantities in the City's CAP and are considered less than significant for GHG emissions" (*Greenhouse Gas Reduction Measures Screening Threshold Tables Directions*, p. 1).

The 2022 CCAP Update builds on and updates the 2014 CAP and furthers the City efforts to reduce GHG emissions and improve community resilience to hazardous conditions associated with climate change. The 2022 CCAP Update includes updated emissions inventories; updated emissions forecasts; identifies GHG emissions reduction targets to achieve the GHG reduction goals of the City of Ontario consistent with Senate Bill 32, Executive Order S-03-05, and substantial progress toward the State's carbon neutrality goals of Executive Order B-55-18; and measures, that when quantified, achieve the GHG reduction targets for the City. Under the 2022 CCAP Update, mixed use developments

[3] Subsequent to preparation of the EIR Initial Study, CARB approved the final proposed 2022 Scoping Plan in December 2022. The proposed 2022 Scoping Plan includes the need for an accelerated target of a 48% reduction of greenhouse gas emissions below 1990 levels by the end of this decade. By 2045, this economy-wide shift away from fossil fuels seeks to:

- Reduce fossil fuel consumption (liquid petroleum) to less than one-tenth of what we use today – a 94% reduction in demand.
- Cut greenhouse gas emissions by 85% below 1990 levels.
- Reduce smog-forming air pollution by 71%.
- Create 4 million new jobs.
- Save Californians $200 billion in health costs due to pollution in 2045.

that garner at least 100 Screening Table points would be consistent with the GHG emissions reduction targets in the City's 2022 CCAP Update.

Means to achieve the required 2022 CCAP Update 100 Screening Table points are dependent on Project final site plan and building plan designs, approved by the City. These designs have not yet been finalized at this concept stage of Project development. There is therefore the potential for the Project to *not* achieve the requisite 2022 CCAP Update 100 Screening Table points, and therefore conflict with City of Ontario 2022 CCAP Update plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases. This is a potentially significant impact.

Level of Significance: Potentially Significant.

Mitigation Measure: To assure compliance with the City of Ontario 2022 CCAP Update, and plans, policies, and regulations contained (or incorporated by extension) therein, the following Mitigation Measure is required:

4.4.1 *Development proposals within the Specific Plan Area shall implement Screening Table Measures to achieve a minimum of 100 points per the City's 2022 CCAP Update Screening Tables. The City shall verify minimum 100-point attainment prior to issuance of site plans and building permits.*

For informational purposes, a representative example of how the Project could achieve a minimum of 100 Screening Table Points through implementation of 2022 CCAP Update Screening Table Measures pursuant to Mitigation Measure 4.4.1 is provided at Table 4.4-6 for the residential portions of the Project, and at Table 4.4-7 for the commercial and light industrial portions of the Project.

Table 4.4-6
Representative CAP Screening Table Measures (Residential Uses)

Feature	Description	2022 CCAP Update Assigned Point Values	Project Point Values
Reduction Measure PS E1: Residential Energy Efficiency			
Building Envelope			
Insulation	Enhanced Insulation (rigid wall insulation R-13; roof/attic: R-38)	15	15
Windows	Enhanced Window Insulation (0.32 U-Factor, 0.25 SHGC)	7	7
Cool Roof	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	12	12
Heating/Cooling Distribution System	Modest duct insulation (R-6)	7	7
	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	12	12
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	9	9
Water Heaters	Very High Efficiency Water Heater (0.92 energy factor)	18	18
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	12	12
Reduction Measure PS W1: Residential Water Conservation			
Potable Water			
Showers	Water Efficient Showerheads (2.0 gpm)	3	3
Toilets	Water Efficient Toilets (1.5 gpm)	3	3
Faucets	Water Efficient Faucets	3	3
	Total Points Earned by Residential Project:		**101**

Source: *Rich-Haven Specific Plan, 2022 Amendment, Greenhouse Gas Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

Table 4.4-7
Representative CAP Screening Table Measures (Commercial & Industrial Uses)

Feature	Description	2022 CCAP Update Assigned Point Values	Project Point Values
Reduction Measure PS E3: Commercial/Industrial Energy Efficiency			
Building Envelope			
Insulation	Enhanced Insulation (rigid wall insulation R-13; roof/attic: R-38)	18	18
Windows	Enhanced Window Insulation (0.32 U-Factor, 0.25 SHGC)	8	8
Cool Roof	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	14	14

Table 4.4-7
Representative CAP Screening Table Measures (Commercial & Industrial Uses)

Feature	Description	2022 CCAP Update Assigned Point Values	Project Point Values
Heating/Cooling Distribution System	Modest duct insulation (R-6)	8	8
	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	14	14
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	12	12
Water Heaters	Very High Efficiency Water Heater (0.92 energy factor)	19	19
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	14	14
Total Points Earned by Commercial/Industrial Project:			**107**

Source: *Rich-Haven Specific Plan, 2022 Amendment, Greenhouse Gas Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022.

Implementation of the design features and operational measures outlined at Tables 4.4-6, 4.4-7 would ensure that the Project is consistent with and supports the 2022 CAP Update. Project development proposals shall implement Screening Table Measures identified at Tables 4.4-6, 4.4-7 or equivalent measures acceptable to the City. The City shall verify that Screening Table Measures achieving a minimum of 100 points are incorporated in development plans prior to the issuance of building permit(s) and/or site plans (as applicable). Multiple development proposals may, at the discretion of the City, be allowed to collectively demonstrate achievement of at least 100 points per the Screening Tables. The City shall verify implementation of the selected Screening Table Measures prior to the issuance of Certificate(s) of Occupancy. At the discretion of the City, measures that provide GHG reductions equivalent to GHG emissions reductions achieved via the Screening Table Measures may be implemented.

Level of Significance After Mitigation: Less-Than-Significant.

4.5 ENERGY

4.5 ENERGY

Abstract

This Section identifies and addresses potential energy impacts that may result from construction and operation of the Project. More specifically, the energy impact analysis evaluates the potential for the Project to cause or result in the following:

- *A potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or*

- *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.*

As supported by the analysis presented in this Section, potential energy impacts of the Project would be less-than-significant. The following discussions are based on information presented in Rich-Haven Specific Plan, 2022 Amendment, Energy Analysis, City of Ontario *(Urban Crossroads, Inc.) November 8, 2022. The Energy Analysis is presented as Appendix F to this EIR.*

4.5.1 BACKGROUND AND INTRODUCTION

In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted AB 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs; license thermal power plants of 50 megawatts or larger; develop energy technologies and renewable energy resources; plan for and direct responses to energy emergencies; and, perhaps most importantly, to promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards.

AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the potential for wasteful, inefficient, and/or unnecessary consumption of energy caused by or resulting from a project. Appendix F to the *CEQA Guidelines* (Guidelines) assists EIR preparers in this regard. *CEQA Guidelines* (Guidelines) Appendix F, *Energy Conservation* establishes parameters and context for determining whether a project would result in the inefficient, wasteful, and unnecessary consumption of energy.

Guidelines Section 15126.2 *Consideration and Discussion of Significant Environmental Impacts,* as amended December 28, 2018, recognizes the need to consider Guidelines Appendix F, *Energy Conservation* when analyzing project impacts (for EIRs). Guidelines Section 15126.2 (b), excerpted below, provides the following guidance:

> **Energy Impacts.** If analysis of the project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources, the EIR shall mitigate that energy use. This analysis should include the project's energy use for all project phases and components, including transportation-related energy, during construction and operation. In addition to building code compliance, other relevant considerations may include, among others, the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project. (Guidance on information that may be included in such an analysis is presented in Appendix F.) This analysis is subject to the rule of reason and shall focus on energy use that is caused by the project. This analysis may be included in related analyses of air quality, greenhouse gas emissions, transportation or utilities in the discretion of the lead agency.

In summary, the Project would provide for, and promote, energy efficiencies consistent with applicable state or federal standards and regulations. The Project would also conform to City of Ontario energy efficiency and energy conservation measures.

Moreover, energy consumed by the Project would be comparable to, or less than, energy consumed by other development proposals of similar scale and intensity. On this basis, the Project would not result in the inefficient, wasteful or unnecessary consumption of energy. Further, the Project would not cause or result in the need for additional energy-producing facilities or energy delivery systems. The Project would therefore not result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources. Nor would the Project result in significant environmental effects due to conflict with, or obstruction of, a state or local plan for renewable energy or energy efficiency.

4.5.2 EXISTING CONDITIONS

Existing conditions providing general context for the Project energy demands are presented below. The following discussions are summarized from**:** *Final 2020 Integrated Energy Policy Report* [IEPR] *Update* (CEC) March 2021. See also: https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2020-integrated-energy-policy-report-update.

Electricity

Electricity would be provided to the Project by Southern California Edison (SCE). The Project site is vacant and undeveloped and does not contain uses or facilities that consume or produce electricity.

SCE is an investor-owned utility providing electric power to an estimated 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles.[1] SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers. The California Public

[1] https://www.sce.com/about-us/who-we-are

Utilities Commission (CPUC) regulates investor-owned electric utilities operating in California, including SCE.

SCE is the electrical utility provider for the City. SCE also provides information on energy efficiency, rotating outages, emergency preparedness, electrical safety tips, and tree planting guidelines to ensure non-interference with electrical utility lines.

Natural Gas

Natural gas would be provided to the Project by Southern California Gas (SoCal Gas). The Project site is vacant and undeveloped and does not contain uses or facilities that consume or produce natural gas.

SoCal Gas is the nation's largest natural gas distribution utility, serving approximately 21.8 million consumers through 5.9 million meters in more than 500 communities. The SoCal Gas service territory encompasses approximately 24,000 square miles throughout Central and Southern California, from Visalia to the Mexican border.[2] Natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The California Public Utilities Commission (CPUC) regulates investor-owned natural gas utilities operating in California, including SoCal Gas.

Transportation Energy

California is home to approximately 35.8 million registered vehicles, which consume an estimated 17.4 billion gallons of fuel each year (Project Energy Analysis, p. 16). The state's history has been, in part, a history of the automobile and the associated impacts on personal mobility, land-use planning, and air quality. In recognition of these challenges, California has enacted a suite of policies and goals to shift the transportation sector toward

[2] https://www.socalgas.com/about-us/company-profile

cleaner, sustainable fuels and more efficient technology vehicles. IEPR data indicates very stable consumption rates for jet fuel and diesel through 2030. Gasoline consumption is forecasted to decline through 2030.

4.5.3 REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. On the state level, the CPUC and the CEC are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

4.5.3.1 Federal Regulations

Intermodal Surface Transportation Efficiency Act Of 1991 (ISTEA)

ISTEA promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

The Transportation Equity Act for the 21st Century (TEA-21)

TEA-21 was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the

transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

4.5.3.2 State Regulations

Integrated Energy Policy Report (IEPR)

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301[a]). The CEC prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the IEPR.

The 2021 IEPR was adopted February 22, 2022, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2021 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. Additionally, the 2021 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs.

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and

increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The 2019 Title 24 standards are applicable to building permit applications submitted on or after January 1, 2020. The 2019 Title 24 standards require solar PV systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting standards for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards would use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar PV systems, homes built under the 2019 standards would use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings would use approximately 30% less energy due to lighting upgrades compared to the prior code.

AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks). Although aimed at reducing GHG

emissions specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

California's Renewables Portfolio Standard (RPS)

First established in 2002 under Senate Bill (SB) 1078, California's Renewables Portfolio Standards (RPS) required retail sellers of electric services to increase procurement from eligible renewable resources to 20% of total retail sales by 2017. The program was accelerated in 2015 with SB 350 which mandated a 50% RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. In 2018, SB 100 was signed into law, which increases the RPS to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045.

Clean Energy and Pollution Reduction Act of 2015 (SB 350)

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS discussed above, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the CPUC, the CEC, and local publicly owned utilities.
- Reorganize the California Independent System Operator (ISO) to develop more regional electricity transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

City Of Ontario, 2022 Community Climate Action Plan (CCAP) Update

Energy efficiency performance standards are provided in the City of Ontario, 2022 CCAP Update. As presented in Table 3-1 and 3-2 of the Energy Analysis, the Project is consistent with all applicable performance standards.

4.5.4 STANDARDS OF SIGNIFICANCE

Appendix G of the California Environmental Quality Act (*CEQA*) Guidelines indicate a Project will have a potentially significant effect related to energy if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.5.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.5.5.1 Impact Statements

Potential Impact EN-1: *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.*

Impact Analysis:

PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY/CONSERVATION MEASURES

The Project in total would be required to comply with incumbent performance standards established under the Building Energy Efficiency Standards contained in the California Code of Regulations (CCR), Title 24, Part 6 (Title 24, Energy Efficiency Standards). Also, developers and owners/tenants have vested financial incentives to avoid imprudent energy

consumption practices. In this regard, there is growing recognition among developers and owners/tenants that efficient and sustainable construction and operational practices yield both environmental and economic benefits. On this basis, and as further supported by the following discussions, the Project would not result in or cause wasteful, inefficient, and unnecessary consumption of energy.

CONSTRUCTION ENERGY CONSUMPTION ESTIMATES AND ENERGY EFFICIENCY/ CONSERVATION MEASURES

Construction Fuel/Power Consumption Estimates

Energy consumption in support of, or related to, Project construction would include electricity consumption by various equipment and tools; diesel fuel consumed by construction equipment and construction vendor trips; and gasoline consumed by construction worker commutes. As presented in the Project Energy Analysis:

- Over the approximately 4-year construction period, Project construction activities would consume approximately 11,310,591 kWH of electricity (Project Energy Analysis, p. 28).

- Over the approximately 4-year construction period, Project construction equipment operations would consume approximately 792,643 gallons of diesel fuel (Project Energy Analysis, p. 29).

- Over the approximately 4-year construction period, Project construction worker commutes would consume and estimated 1,455,871 gallons of fuel (Project Energy Analysis, p. 32).

- Over the approximately 4-year construction period, Project construction vendor trips would consume approximately 325,768 gallons of fuel (Project Energy Analysis, p. 36).

Diesel fuel and fuel for construction activities would be provided by existing area vendors. Construction electricity demands would be provided via connection to existing SCE services.

Project construction activities would comprise temporary, single-event demands for diesel fuel and electricity and would not require on-going or permanent commitment of fuel for these purposes.

Construction Energy Efficiency/Conservation Measures

Equipment and vehicles used during Project construction would conform to CARB regulations and California emissions standards, and would demonstrate related fuel efficiencies. There are no unusual Project characteristics or construction processes that would require the use of vehicles or equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to incumbent power/fuel efficiency standards. Project construction activities would therefore not result in inefficient, wasteful, or unnecessary consumption of power or fuel.

Additionally, certain incidental construction-source energy efficiencies would likely accrue through implementation of California regulations. More specifically, California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) *Idling*, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Indirect construction energy efficiencies and energy conservation would be achieved through the use of recycled/recyclable materials and related procedures, and energy efficiencies realized from bulk purchase, transport and use of construction materials. Use of recycled and recyclable materials and use of materials in bulk also reduces energy demands associated with preparation and transport of construction materials as transport and disposal of construction waste and solid waste in general, with corollary reduced

demands on area landfill capacities and energy consumed by waste transport and landfill operations.

Construction Waste Management Plan

A Project Construction Waste Management Plan would be required consistent with Section 5.408.1.1 of the CALGreen Code. Consistent with Section 5.408, *Construction Waste Reduction, Disposal, and Recycling* of the California Green Building Standards Code (CALGreen Code), as adopted by the City of Ontario. The Project would be required to recycle or salvage for reuse a minimum of 50 percent of the non-hazardous construction and demolition waste.

OPERATIONAL ENERGY CONSUMPTION AND ENERGY EFFICIENCY/CONSERVATION MEASURES

Operational Energy Consumption

Energy consumption in support of, or related to, Project operations would include transportation energy demands (energy consumed by vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities). As presented in the Project Energy Analysis:

- Vehicles accessing the Project site activities would consume approximately 9,921,947 gallons of fuel annually (Project Energy Analysis, p. 40).

- Project building and site operations would consume approximately 233,744,273 kBtu natural gas annually (Project Energy Analysis, p. 41).

- Project building and site operations would consume approximately 80,413,660 kWh electricity annually (Project Energy Analysis, p. 41).

Operational Energy Efficiency/Conservation Measures

Facilities Energy Demand Efficiencies

The Project would be required to meet or surpass standards established under incumbent California Code Title 24, Part 6 (the California Energy Code) and California Green Building Standards Code (CALGreen; CCR, Title 24, Part 11) as implemented by the City, to include building "solar zones" accommodating on-site photovoltaic energy sources.[3]

Enhanced Vehicle Fuel Efficiencies

Under future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation. Average fuel economies of vehicles accessing the Project site can also be expected to improve over time in response to fuel economy and emissions standards imposed on newer vehicles entering the transportation system.

Project Design and Access

The Project proposes typical urban land uses within an urbanizing context proximate to, and readily accessible from, regional and local roadways. In these regards, the Project setting proximate to transportation corridors generally facilitates access to the Project.

SUMMARY

Construction Summary

Construction equipment use of fuel would not be atypical for the type of construction proposed, as there are no aspects of the Project's proposed construction process that are

[3] Per the 2019 California Energy Code, the Project building roof designs would be required to provide "solar zones" reserved for the future installation of a solar electric or solar thermal system. Energy Code Section 110.10 B states that: "The solar zone shall be located on the roof or overhang of the building or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project, and shall have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy."

unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(2) *Idling*, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by local building officials, and/or in response to citizen complaints.

Diesel fuel would be supplied by regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved using bulk purchases, transport and use of construction materials. The 2021 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements.

As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Operational Summary

The Project operations would not result in excessive and wasteful vehicle trips and VMT, nor excessive and wasteful vehicle energy consumption compared to other similar land uses.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT.

Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In

compliance with the California Green Building Standards Code and County requirements, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations.

As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Demand Summary

The Project proposes conventional land uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other land use projects of similar scale and configuration. The Project's compliance with applicable Title 24 standards would ensure that Project energy demands would not be inefficient, wasteful, or otherwise unnecessary.

Conclusion

As supported by the preceding analyses, Project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy, and potential Project impacts in these regards would be less-than-significant. Further, energy demands of the Project can be accommodated within the context of available resources and energy delivery systems. The Project would therefore not cause or result in the need for additional energy-producing or energy transmission facilities and would not create or otherwise result in a potentially significant impact affecting energy resources or energy delivery systems. On this basis, the potential for the Project to result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact EN-2: *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.*

Impact Analysis: The Project's consistency with the applicable federal, state, and local plans is discussed below.

Consistency with ISTEA

Transportation and access to the Project site is provided by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct, intermodal transportation plans or projects that may be realized pursuant to the ISTEA, as SCAG has no plans for intermodal facilities on or through the Project site.

Consistency with TEA-21

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The location of the Project site facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.

Consistency with IEPR

Electricity would be provided to the Project by SCE. SCE's Clean Power and Electrification Pathway (CPEP) white paper builds on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation of the goals presented in the 2021 IEPR.

Additionally, the Project will comply with the applicable Title 24 standards which would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary. As such, development of the proposed Project would support the goals presented in the 2021 IEPR.

Consistency with State of California Energy Plan

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The location of the Project site facilitates access and takes

advantage of existing infrastructure systems. The Project therefore supports urban design and planning processes identified under the State of California Energy Plan. As such, the Project is consistent with and would not otherwise interfere with, nor obstruct, implementation of the State of California Energy Plan.

Consistency with California Code Title 24, Part 6, Energy Efficiency Standards

The 2022 version of Title 24 was adopted by the California Energy Commission (CEC) and will become effective on January 1, 2023. It should be noted that the analysis herein assumes compliance with the 2022 Title 24 Standards. The Project would not interfere with implementation of Title 24.

Consistency with AB 1493

AB 1493 is not applicable to the Project as it is a statewide measure establishing vehicle emissions standards. No feature of the Project would interfere with implementation of the requirements under AB 1493.

Consistency with RPS

California's Renewable Portfolio Standard is not applicable to the Project as it is a statewide measure that establishes a renewable energy mix. No feature of the Project would interfere with implementation of the requirements under RPS.

Consistency with SB 350

The proposed Project would use energy from SCE. SCE has committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. No feature of the Project would interfere with implementation of SB 350. Additionally, the Project would be designed and constructed to implement the energy efficiency measures for new industrial developments and would include several measures designed to reduce energy consumption.

Summary

As demonstrated above, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Additionally, regulatory measures, standards, and policies directed at reducing air pollutant emissions and GHG emissions would also act to promote energy conservation and reduce Project energy consumption. Please refer to related discussions presented at EIR Sections 4.3, *Air Quality* and 4.4, *Greenhouse Gas Emissions*. Based on the preceding, the potential for the Project to conflict with or obstruct a state or local plan for renewable energy or energy efficiency is considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.6 NOISE

4.6 NOISE

Abstract

This Section assesses whether the Project would substantially increase ambient noise levels, or expose land uses to noise, groundborne noise, or groundborne vibration levels exceeding established standards. Potential impacts considered within this Section include:

- *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project exceeding standards established in the local general plan or noise ordinance, or applicable standards of other agencies; and*

- *Generation of excessive groundborne vibration or groundborne noise.*

- *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.*

As substantiated herein, all potential noise impacts of the Project would be less-than-significant or can be mitigated to levels that are less-than-significant.

4.6.1 INTRODUCTION

This Section presents the noise setting, methodology, standards of significance, and potential noise impacts associated with the Project. Where impacts are determined to be potentially significant, mitigation measures are proposed to avoid or reduce the severity of impacts. The information presented herein has been summarized from the *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022 (Project Noise Impact Analysis). The Project Noise Impact Analysis in its entirety is presented at EIR Appendix G.

4.6.2 SETTING

Following are discussions of noise fundamentals applicable to the Project, together with assessments of existing ambient noise levels and noise sources in the Project vicinity.

4.6.2.1 Fundamentals of Noise

Noise levels are measured on a logarithmic scale in decibels which are then weighted and added over a 24-hour period to reflect not only the magnitude of the sound, but also its duration, frequency, and time of occurrence. In this manner, various acoustical scales and units of measurement have been developed, including equivalent sound levels (Leq), day-night average sound levels (Ldn) and community noise equivalent levels (CNEL).

"A-weighted" decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against the very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. The decibel scale has a value of 0.0 dBA at the threshold of hearing and 120 dBA at the threshold of pain. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. Thus, a 1.0 decibel increase is just audible, whereas a 10-decibel increase means the sound is perceived as being twice as loud as before. Examples of the decibel level of various noise sources are provided in the following Figure 4.6-1.

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Urban Crossroads, Inc.

Figure 4.6-1
Typical Noise Levels

Noise Rating Schemes

Equivalent sound levels are not measured directly, but rather are calculated from sound pressure levels typically measured in dBA. The equivalent sound level (Leq) is the constant level that, over a given period, transmits the same amount of acoustic energy as the actual time-varying sound. Equivalent sound levels are the basis for both the Ldn and CNEL scales.

Day-night average sound levels (Ldn) are a measure of the cumulative noise exposure of the community. The Ldn value results from a summation of hourly Leqs over a 24-hour period with an increased weighting factor applied to the nighttime period between 10:00 p.m. and 7:00 a.m. This noise rating scheme account for subjectively more annoying noise events that may occur during normal sleep hours.

Community noise equivalent levels (CNEL) also carry a weighting penalty for noise that occurs during nighttime hours. In addition, CNEL levels include a penalty for noise events that occur during the evening hours between 10:00 p.m. and 7:00 a.m. Because of the weighting factors applied, CNEL values at a given location will always be larger than Ldn values, which in turn will exceed Leq values. However, CNEL values are typically within one decibel of the Ldn value.

Sound Propagation

For a "line source" of noise, such as a heavily traveled roadway, the noise level drops off by a nominal value of 3.0 decibels for each doubling of distance between the noise source and the noise receptor. The nominal value of 3.0 dBA with doubling applies to sound propagation from a line source: (1) over the top of a barrier greater than 3 meters in height; or (2) where there is a clear unobstructed view of the highway, the ground is hard, no intervening structures exist and the line-of-sight between the noise source and receptor averages more than three meters above the ground.

Notwithstanding, environmental factors such as wind conditions, temperature gradients, characteristics of the ground (hard or soft) and the air (relative humidity), and the presence of vegetation combine to typically increase the attenuation achieved outside

laboratory conditions to approximately 4.5 decibels per doubling of distance. The increase in noise attenuation in exterior environments is particularly true: (1) for freeways with an elevated or depressed profile or exhibiting expanses of intervening buildings or topography; (2) where the view of a roadway is interrupted by isolated buildings, clumps of bushes, scattered trees; (3) when the intervening ground is soft or covered with vegetation; or (4) where the source or receptor is located more than three meters above the ground.

In an area which is relatively flat and free of barriers, the sound level resulting from a single "point source" of noise drops by six decibels for each doubling of distance or 20 decibels for each factor of ten in distance. This applies to fixed noise sources and mobile noise sources which are temporarily stationary, such as an idling truck or other heavy-duty equipment operating within a confined area (such as industrial processes or construction).

Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA. Noise barriers are most effective when placed close to the noise source or receptor. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the view of the noise source.

4.6.2.2 Factors Affecting Motor Vehicle Noise

According to the Highway Traffic Noise Analysis and Abatement Policy and Guidance, provided by the Federal Highway Administration (FHWA), the level of traffic noise depends on three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the vehicle mix within the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks. Assuming speed and vehicle mix do not change, a doubling of traffic volumes can be expected to result in a 3.0 dBA increase in noise levels. The vehicle mix on a given roadway may also influence community noise levels. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise

levels will increase. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires on the roadway.

To account for the ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft-site, and hard-site conditions. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. A drop-off rate of 4.5 dBA per doubling of distance is typically observed over soft ground with landscaping, as compared with a 3.0 dBA drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. The Project Noise Study indicates that, generally, soft site conditions better reflect predicted noise levels within the Study Area. Related, California Department of Transportation (Caltrans) research has shown that the use of soft site conditions is more appropriate for the application of the FHWA traffic noise prediction model used in this analysis.

4.6.2.3 Community Responses to Noise

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another 25 percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Despite this variability in behavior on an individual level, populations generally can be expected to exhibit the following responses to changes in noise levels. An increase or decrease of 1.0 dBA cannot be perceived except in carefully controlled laboratory experiments. A 3.0 dBA increase may be perceptible outside of the laboratory. An increase of 5.0 dBA is often necessary before any noticeable change in community response (i.e., complaints) would be expected.

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon individual susceptibility to noise and

personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise-producing activities;
- Noise receptor's perception that they are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity; and
- Receptor's belief that the noise source can be controlled.

Recent studies have shown that changes in long-term noise levels are noticeable and are responded to by people. For example, about ten percent of the people exposed to traffic noise of 60 Ldn will report being highly annoyed with the noise, and each increase of one Ldn is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 Ldn or aircraft noise exceeds 55 Ldn, people begin complaining. Group or legal actions to stop the noise should be expected to begin at traffic noise levels near 70 Ldn and aircraft noise levels near 65 Ldn.

4.6.2.4 Land Use Compatibility with Noise

Some land uses are less tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial activities. As ambient noise levels affect the perceived amenity or liveability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process.

4.6.2.5 Sensitive Receptors

Land uses classified as noise-sensitive by the State of California include: schools, hospitals, rest homes, long-term care centers, and mental care facilities. Some jurisdictions also consider day care centers, single-family dwellings, mobile home parks, churches, libraries, and recreation areas to be noise-sensitive. Moderately noise-sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories, out-

patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs.

Land uses which are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

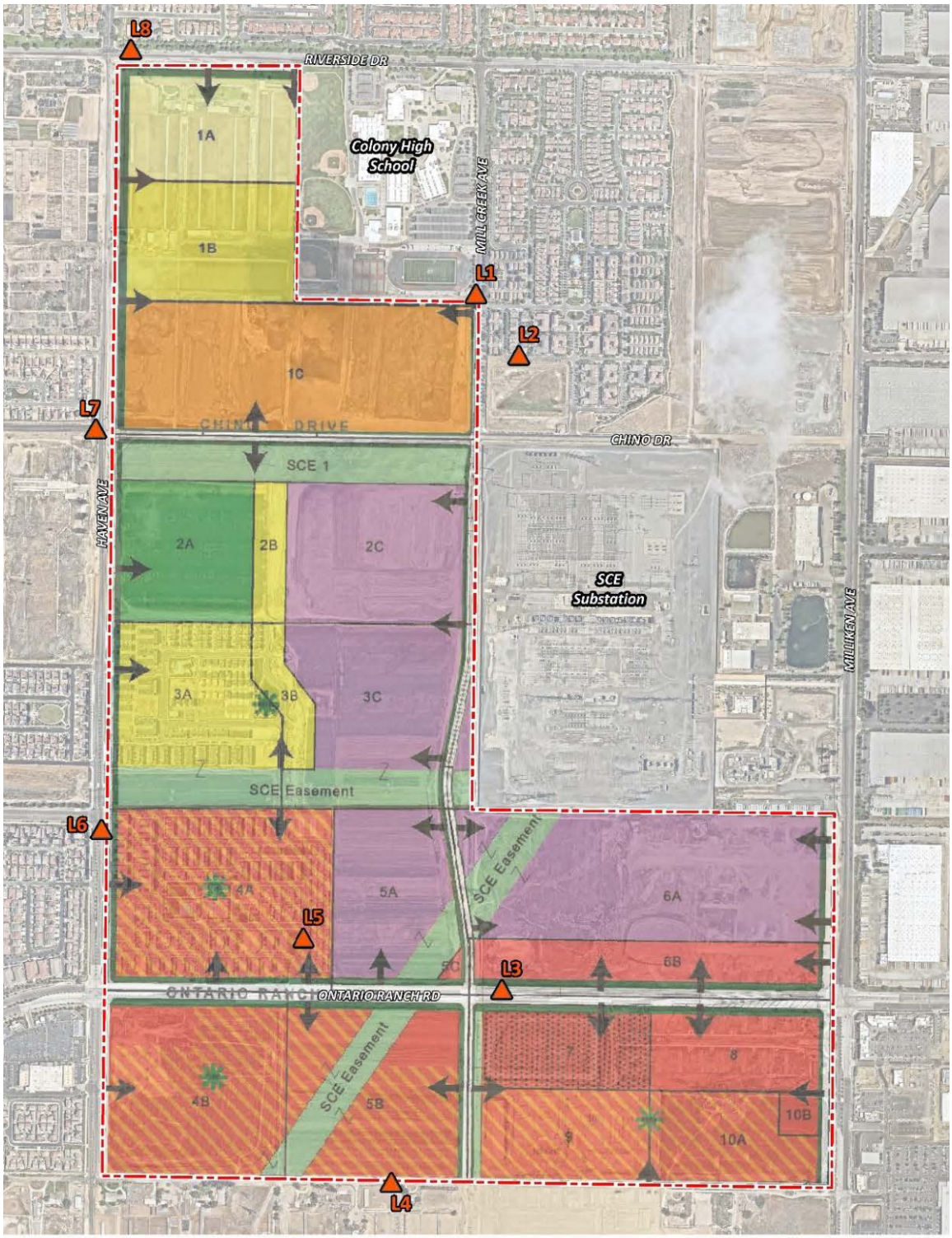
4.6.2.6 Ambient Noise Conditions

To assess existing noise levels in the Project vicinity, eight long-term 24-hour measurements were taken at locations throughout the Study Area. These locations are illustrated at Figure 4.6-2 and are representative of sites that may be affected by Project-generated noise. Ambient noise measurements in the Project Study Area are summarized at Table 4.6-1.

Table 4.6-1
24-Hour Ambient Noise Level Measurements

Location	Description	Energy Average Noise Level (dBA L_{eq})	
		Daytime	Nighttime
L1	Located near the northwest corner of the Project Site near the Colony High School Football Field.	56.0	55.6
L2	Located east of the Project Site just south of the existing residence at 3271 S. Quincy Way.	48.9	48.4
L3	Located within the Rich Haven Specific Plan north of Ontario Ranch Road.	69.1	64.0
L4	Located south of the Project Site near the existing residence at 10823 Edison Avenue.	56.3	52.1
L5	Located within the Rich Haven Specific Plan near the existing residence at 3965 S. Sunrise Avenue.	63.1	55.1
L6	Located west of the Project Site near the existing residence at 3860 S. Oasis Paseo.	68.8	62.4
L7	Located west of the Project Site near the existing residence at 3393 Clover Place.	65.4	60.2
L8	Located north of the Project Site near the existing residence at 2943 S. Alder Creek Drive.	68.5	64.3

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.



Source: Urban Crossroads, Inc.

Figure 4.6-2
Noise Monitoring Locations

4.6.3 EXISTING POLICIES AND REGULATIONS

To limit population exposure to physically and/or psychologically damaging, as well as intrusive, noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains fairly constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

4.6.3.1 State of California

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards and provides noise/land use compatibility guidance. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared according to guidelines adopted by the Governor's Office of Planning and Research. The purpose of the Noise Element is to "limit the exposure of the community to excessive noise levels." In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

4.6.3.2 City of Ontario

Noise Element

The City of Ontario General Plan (Policy Plan) identifies several policies to minimize the impacts of excessive noise levels throughout the community. Policy Plan Section S4, *Noise Hazards*, establishes a goal of maintaining an environment where noise does not adversely affect the public's health, safety, and welfare. To satisfy this goal, the Policy Plan identifies seven policies related to: noise mitigation; coordination with transportation authorities; noise mitigation; truck traffic; roadway design; airport noise compatibility and rail noise mitigation. The noise criteria identified at Table 5-13-3 of The

Ontario Plan 2050 Final Supplemental Environmental Impact Report provides guidelines to evaluate land use compatibility within various noise environments. Table 5-13-3 is provided at Exhibit 3-A of the Project Noise Impact Analysis.

Noise Standards

The potential noise impacts originating from stationary-source (operational) noise are evaluated against standards established under a City's Municipal Code. The City of Ontario requires that noise from new stationary sources in the City comply with the City's Noise Ordinance, which limits the acceptable noise at the property line of the impacted property, to reduce nuisances to sensitive land uses. Compliance with the City's Noise Ordinance would result in noise levels that are acceptable to the City and would result in less-than-significant noise impacts from stationary sources.

Municipal Code Section 5-29.04(a) identifies the allowable daytime and nighttime ambient exterior noise standards for each land use type. The maximum acceptable Project-related operational noise levels received at off-site land uses in the City of Ontario are identified at Table 4.6-2.

Table 4.6-2
Operational Noise Standards

Noise Zone	Land Use	Exterior Noise Levels (dBA Leq)	
		Daytime (7 a.m.-10 p.m.)	Nighttime (10 p.m.-7 a.m.)
I	Single-Family Residential	65	45
II	Multi-Family Residential	65	50
III	Commercial	65	60
IV	Residential Mixed-Use	70	70
V	Manufacturing and Industrial	70	70

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

Construction Noise Standards

The City of Ontario Municipal Code has set restrictions to control noise impacts associated with construction. Section 5-29.09 of the Municipal Code states: *No person, while engaged in construction, remodeling, digging, grading, demolition or any other related building activity, shall operate any tool, equipment or machine in a manner that produces loud*

noise that disturbs a person of normal sensitivity who works or resides in the vicinity, or a Police or Code Enforcement Officer, on any weekday except between the hours of 7 a.m. and 6 p.m. or between the hours of 9 a.m. to 6 p.m. on Saturday or Sunday. While the City establishes limits to the hours during which construction activity may take place, it does not identify specific noise level limits for construction noise levels at potentially affected receiver locations.

Construction noise would be considered significant if construction activities occurring outside of the hours specified (7 a.m. and 6 p.m. weekdays and 9 a.m. to 6 p.m. weekends, excluding federal holidays) or if construction activities substantially elevate the ambient noise environment at noise-sensitive uses for a substantial period. It is assumed that Project construction activities would comply with the City's hour of activity restrictions, thereby precluding construction activities during noise-sensitive time periods. However, neither the City of Ontario General Plan Noise Element or Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a substantial temporary or permanent increase in ambient noise levels. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts. The FTA considers a daytime exterior construction noise level of 80 dBA Leq as a reasonable threshold for noise sensitive land use.

Construction Vibration Standards

To analyze vibration impacts originating from the construction and operations of a project, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Ontario does not identify specific vibration level limits. Therefore, for analysis purposes, the Caltrans *Transportation and Construction Vibration Guidance Manual* standards are used to assess potential temporary construction-related impacts at adjacent building locations. For uses adjacent to the Project site, a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec) is appropriate.

Airport Land Use Compatibility

The Project site is located approximately 2.4 miles south of the Ontario International Airport (ONT). The Project site is located within the ONT Airport Influence Area, according to Policy Map 2-1 of the *Ontario International Airport Land Use Compatibility Plan* (ONT ALUCP). As such, the Project site is subject to the Noise Criteria established at Table 2-3 in the ONT ALUCP. The Project site is located within the ONT Airport Influence Area but outside the 60-65 dBA CNEL airport noise impact zone.

4.6.4 STANDARDS OF SIGNIFICANCE

Based on the noise criteria presented above, and direction provided within the *CEQA Guidelines* as implemented by the City of Ontario, Project noise impacts would be considered potentially significant if the Project is determined to result in or cause the following conditions:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project exceeding standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

- Generation of excessive groundborne vibration or groundborne noise levels.

- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Noise Impact Thresholds

Noise impact thresholds applicable to the Project are summarized at Table 4.6-3. Please refer also to the discussion of thresholds presented at Project Noise Impact Analysis Section 4, *Significance Criteria.*

Table 4.6-3
Noise Impact Thresholds

Analysis	Receiving Land Use	Baseline Condition(s)	Significance Threshold Criteria	
			Daytime	Nighttime
Off-Site Traffic	Noise-Sensitive	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
		If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non Noise-Sensitive	if ambient is > 75 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational	Residential	Exterior Noise Level Limit	55 dBA L_{eq}	45 dBA L_{eq}
	Noise-Sensitive	If ambient is < 60 dBA Leq	≥ 5 dBA L_{eq} Project increase	
		If ambient is 60 - 65 dBA Leq	≥ 3 dBA L_{eq} Project increase	
		If ambient is > 65 dBA Leq	≥ 1.5 dBA L_{eq} Project increase	
Construction	Noise-Sensitive	Noise Level Threshold	80 dBA L_{eq}	70 dBA L_{eq}
		Vibration Level Threshold	0.3 PPV (in/sec)	n/a

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

4.6.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.6.5.1 Introduction

The following discussions focus on areas where it has been determined that the Project may result in potentially significant noise/vibration impacts, based on the analysis presented within this Section and included within the EIR Initial Study (EIR Appendix A, Initial Study Checklist Item XIII. *Noise*).

4.6.5.2 Impact Statements

Following is an analysis of potential noise impacts that are expected to occur as a result of the Project. Noise levels will change both on-site and off-site if the Project is approved and implemented. The discussion of potential noise impacts is organized to reflect categories or types of noise sources, including:

- Construction-Source Noise;
- Vehicular-Source Noise;

- Operational/Area-Source Noise; and
- Vibration.

For each topical discussion, potential impacts are evaluated under applicable criteria established above at Section 4.6.4, *Standards of Significance*.

To assess the potential for long-term operational noise and short-term construction noise and vibration impacts, eight receiver locations were identified for focused analysis, as shown at Figure 4.6-3 and described below.

R1: Location R1 represents the Colony High School Football Stadium, approximately 76 feet north of the Project site. Receiver R1 is placed in the bleachers just north of Planning Area (PA) 1. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the existing noise sensitive residence at 3271 S. Quincy Way, approximately 219 feet east of the Project site. Receiver R2 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents an on-site receiver location within the planned PA7 residential mixed use overlay area. Receiver R3 is placed approximately 460 feet south of the light industrial use within PA 6A. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

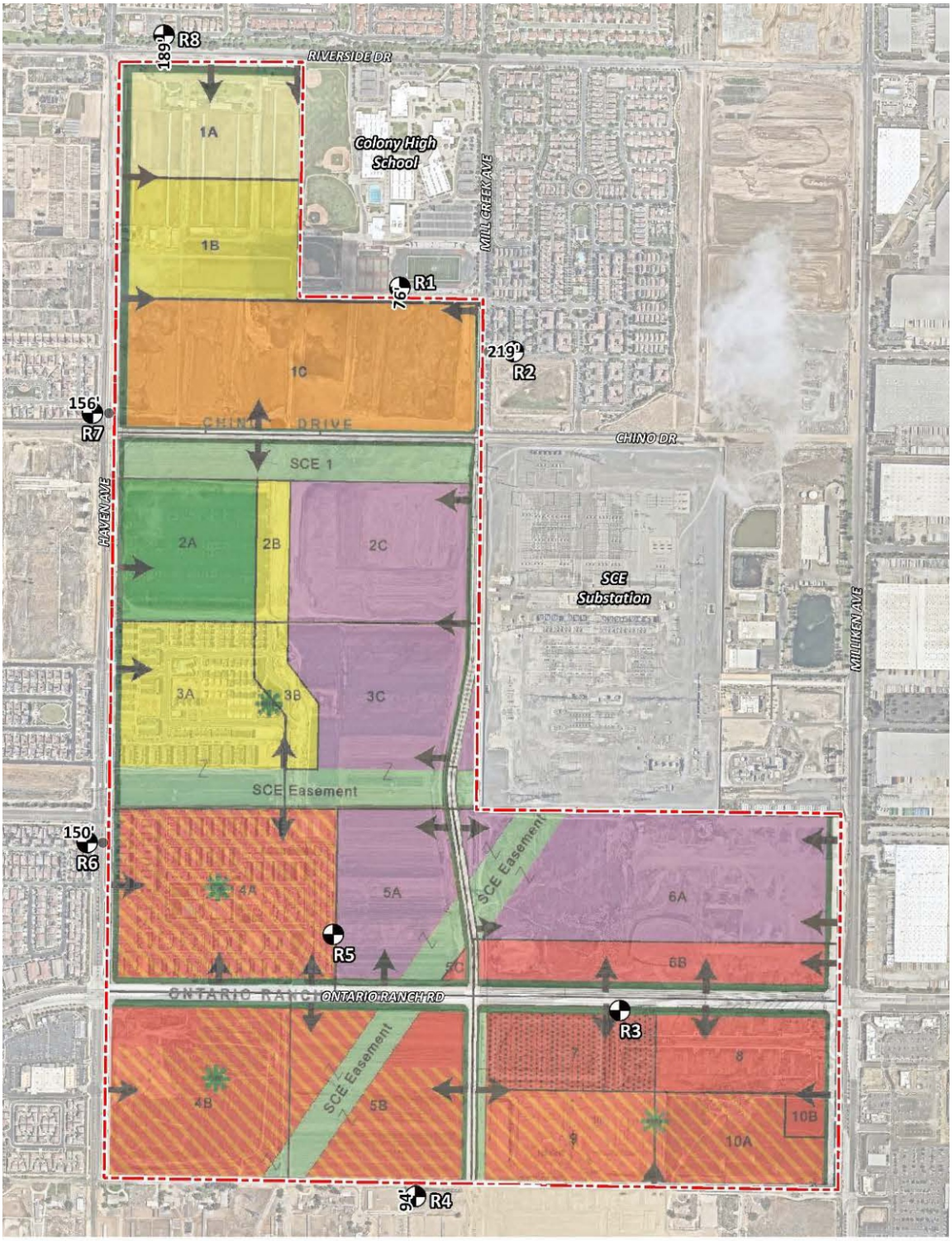
R4: Location R4 represents the existing noise sensitive residence at 10823 Edison Avenue, approximately 94 feet south of the Project site. Since there are no private outdoor living areas (backyard) facing the Project site, receiver R4 is placed at the building's façade. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

R5: Location R5 represents the existing on-site noise sensitive residence at 3959 S. Sunrise Avenue within the standalone residential overlay (PA4). Receiver R5 is placed in the private outdoor living areas facing the light industrial use within PA5A. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

R6: Location R6 represents the existing noise sensitive residence at 3455 Pine Ridge Loop, approximately 150 feet west of the Project site. Receiver R6 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L6, to describe the existing ambient noise environment.

R7: Location R7 represents the existing noise sensitive residence at 3379 S. Myrtle Drive, approximately 156 feet west of the Project site. Receiver R7 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L7, to describe the existing ambient noise environment.

R8: Location R8 represents the existing noise sensitive residence at 2943 S. Alder Creek Drive, approximately 189 feet north of the Project site. Receiver R8 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L8, to describe the existing ambient noise environment.



Source: Urban Crossroads, Inc.

Figure 4.6-3
Receiver Locations

CONSTRUCTION-SOURCE NOISE

Potential Impact NOI-1: *Construction activities and associated noise would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

Impact Analysis: Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that, when combined, can reach high levels. Construction is expected to occur in the following stages:

- Site Preparation;
- Grading;
- Building Construction;
- Architectural Coating; and
- Paving.

The construction-source noise analysis was prepared using reference noise level measurements to describe the typical construction activity noise levels for each stage of Project construction. Please refer to Noise Impact Analysis Table 11-1, *Construction Reference Noise Levels* for a listing of reference noise levels employed in the evaluation of construction-source noise.

Noise levels generated by heavy construction equipment can range from approximately 70 dBA to more than 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver, and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

Based on the construction equipment reference noise levels and distance to the Project site, peak noise levels at the receiver locations have been developed, and are summarized at Table 4.6-4.

Table 4.6-4
Construction Equipment Noise Level Summary

Receiver Location	Construction Noise Levels (dBA Leq)		
	Highest Construction Noise Levels	Threshold	Threshold Exceeded ?
R1	56.0	80	No
R2	53.3	80	No
R3	63.7	80	No
R4	55.8	80	No
R5	63.8	80	No
R6	55.1	80	No
R7	54.8	80	No
R8	52.5	80	No

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

As indicated at Table 4.6-4, peak received construction-source noise levels would range from 52.5 to 63.8 dBA Leq. These levels would not exceed the applicable threshold of 80 dBA Leq. Construction-source noise levels that comply with applicable standards do not comprise a substantial permanent increase in ambient noise levels, or a substantial temporary or periodic increase in ambient noise levels.

Level of Significance: Less-Than-Significant. The following measures act to further reduce already less-than-significant construction noise levels.

4.6.1 Prior to Grading Permit issuance, the Applicant shall demonstrate that the Project complies with the following:

- *All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers, to the satisfaction of the Noise Control Officer;*

- *During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers to the satisfaction of the City Planner; and*
- *During construction and to the satisfaction of the City Planner, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors during construction activities.*

4.6.2 *Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of 10 p.m. and 7 a.m. is prohibited. The City Planner may approve additional hours when it can be found that such additional hours will not generate additional disturbance, or that mitigation measures will ensure compatibility with nearby residential areas.*

VEHICULAR-SOURCE NOISE

Potential Impact NOI-2: *Vehicular source noise would result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

Impact Analysis: To assess the off-site transportation CNEL noise level impacts, noise contours were developed based on the Project traffic analyses. Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- Existing 2022 Traffic Conditions
- Existing Plus Project 2022 Traffic Conditions
- Opening Year Cumulative (OYC) 2027 Without Project
- Opening Year Cumulative (OYC) 2027 With Project
- Horizon Year (HY) 2050 Without Project
- Horizon Year (HY) 2050 With Project

Project Noise Impact Analysis Tables 7-1 through 7-6 present the noise contours developed for the above scenarios for all Study Area roadways. Based on these noise contours, the following Tables 4.6-5 through 4.6-7 present a comparison of noise conditions along Study Area roadways without and with development realized pursuant to the Project under the above-described scenarios.

Table 4.6-5
Existing Conditions With Project
Traffic Noise Level Increases

Roadway	Roadway Segment	Receiving Land Use Noise Sensitivity	CNEL at Receiving Land Use (dBA)			Incremental Noise Level Increase	
			No Project	With Project	Project Addition	Limit	Threshold Exceeded?
Archibald Avenue	n/o Ontario Ranch Road	Sensitive	79.3	79.5	0.2	1.5	No
Haven Avenue	n/o Riverside Drive	Sensitive	78.6	79.3	0.7	1.5	No
Haven Avenue	s/o Riverside Drive	Sensitive	76.2	77.5	1.3	1.5	No
Haven Avenue	n/o Ontario Ranch Road	Sensitive	77.4	78.7	1.3	1.5	No
Mill Creek Avenue	s/o Chino Avenue	Sensitive	69.7	71.1	1.4	1.5	No
Milliken Avenue	n/o Riverside Drive	Non-Sensitive	78.9	79.8	0.9	3.0	No
Milliken Avenue	s/o Riverside Drive	Non-Sensitive	78.6	79.4	0.8	3.0	No
Hamner Avenue	s/o Chino Avenue	Non-Sensitive	78.6	79.4	0.8	3.0	No
Hamner Avenue	s/o Ontario Ranch Road	Non-Sensitive	80.1	80.4	0.3	3.0	No
Riverside Drive	w/o Haven Avenue	Sensitive	77.2	77.3	0.1	1.5	No
Riverside Drive	w/o Milliken Avenue	Sensitive	74.9	75.5	0.6	1.5	No
Chino Avenue	e/o Archibald Avenue	Sensitive	71.1	71.4	0.3	1.5	No
Ontario Ranch Road	w/o Archibald Avenue	Sensitive	79.1	79.9	0.8	1.5	No
Ontario Ranch Road	e/o Archibald Avenue	Sensitive	79.9	81.0	1.1	1.5	No
Ontario Ranch Road	w/o Haven Avenue	Sensitive	80.4	81.5	1.1	1.5	No

Table 4.6-5
Existing Conditions With Project
Traffic Noise Level Increases

Roadway	Roadway Segment	Receiving Land Use Noise Sensitivity	CNEL at Receiving Land Use (dBA)			Incremental Noise Level Increase	
			No Project	With Project	Project Addition	Limit	Threshold Exceeded?
Ontario Ranch Road	e/o Haven Avenue	Sensitive	81.5	82.6	1.1	1.5	No
Ontario Ranch Road	w/o Hamner Avenue	Non-Sensitive	81.3	83.1	1.8	3.0	No
Ontario Ranch Road	e/o Hamner Avenue	Non-Sensitive	82.2	83.5	1.3	3.0	No

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

Table 4.6-6
OYC With Project
Traffic Noise Level Increases

Roadway	Roadway Segment	Receiving Land Use Noise Sensitivity	CNEL at Receiving Land Use (dBA)			Incremental Noise Level Increase	
			No Project	With Project	Project Addition	Limit	Threshold Exceeded?
Archibald Avenue	n/o Ontario Ranch Road	Sensitive	80.1	80.3	0.2	1.5	No
Haven Avenue	n/o Riverside Drive	Sensitive	80.2	80.7	0.5	1.5	No
Haven Avenue	s/o Riverside Drive	Sensitive	79.3	79.9	0.6	1.5	No
Haven Avenue	n/o Ontario Ranch Road	Sensitive	78.7	79.8	1.1	1.5	No
Mill Creek Avenue	s/o Chino Avenue	Sensitive	70.1	71.4	1.3	1.5	No
Milliken Avenue	n/o Riverside Drive	Non-Sensitive	79.4	80.3	0.9	3.0	No
Milliken Avenue	s/o Riverside Drive	Non-Sensitive	79.2	80.0	0.8	3.0	No
Hamner Avenue	s/o Chino Avenue	Non-Sensitive	79.1	79.9	0.8	3.0	No
Hamner Avenue	s/o Ontario Ranch Road	Non-Sensitive	80.7	80.9	0.2	3.0	No
Riverside Drive	w/o Haven Avenue	Sensitive	78.0	78.1	0.1	1.5	No
Riverside Drive	w/o Milliken Avenue	Sensitive	76.5	76.9	0.4	1.5	No

Table 4.6-6
OYC With Project
Traffic Noise Level Increases

Roadway	Roadway Segment	Receiving Land Use Noise Sensitivity	CNEL at Receiving Land Use (dBA)			Incremental Noise Level Increase	
			No Project	With Project	Project Addition	Limit	Threshold Exceeded?
Chino Avenue	e/o Archibald Avenue	Sensitive	73.5	73.7	0.2	1.5	No
Ontario Ranch Road	w/o Archibald Avenue	Sensitive	80.1	80.7	0.6	1.5	No
Ontario Ranch Road	e/o Archibald Avenue	Sensitive	80.8	81.7	0.9	1.5	No
Ontario Ranch Road	w/o Haven Avenue	Sensitive	81.2	82.2	1.0	1.5	No
Ontario Ranch Road	e/o Haven Avenue	Sensitive	82.1	83.1	1.0	1.5	No
Ontario Ranch Road	w/o Hamner Avenue	Non-Sensitive	83.0	84.3	1.3	3.0	No
Ontario Ranch Road	e/o Hamner Avenue	Non-Sensitive	83.7	84.6	0.9	3.0	No

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

Table 4.6-7
HY (2050) With Project
Traffic Noise Level Increases

Roadway	Roadway Segment	Receiving Land Use Noise Sensitivity	CNEL at Receiving Land Use (dBA)			Incremental Noise Level Increase	
			No Project	With Project	Project Addition	Limit	Threshold Exceeded?
Archibald Avenue	n/o Ontario Ranch Road	Sensitive	81.7	81.8	0.1	1.5	No
Haven Avenue	n/o Riverside Drive	Sensitive	81.2	81.6	0.4	1.5	No
Haven Avenue	s/o Riverside Drive	Sensitive	80.6	81.1	0.5	1.5	No
Haven Avenue	n/o Ontario Ranch Road	Sensitive	79.9	80.7	0.8	1.5	No
Mill Creek Avenue	s/o Chino Avenue	Sensitive	73.8	74.4	0.6	1.5	No
Milliken Avenue	n/o Riverside Drive	Non-Sensitive	83.2	83.6	0.4	3.0	No
Milliken Avenue	s/o Riverside Drive	Non-Sensitive	82.1	82.5	0.4	3.0	No

Table 4.6-7
HY (2050) With Project
Traffic Noise Level Increases

Roadway	Roadway Segment	Receiving Land Use Noise Sensitivity	CNEL at Receiving Land Use (dBA)			Incremental Noise Level Increase	
			No Project	With Project	Project Addition	Limit	Threshold Exceeded?
Hamner Avenue	s/o Chino Avenue	Non-Sensitive	82.2	82.6	0.4	3.0	No
Hamner Avenue	s/o Ontario Ranch Road	Non-Sensitive	80.9	81.1	0.2	3.0	No
Riverside Drive	w/o Haven Avenue	Sensitive	80.4	80.4	0.0	1.5	No
Riverside Drive	w/o Milliken Avenue	Sensitive	80.8	80.9	0.1	1.5	No
Chino Avenue	e/o Archibald Avenue	Sensitive	74.1	74.3	0.2	1.5	No
Ontario Ranch Road	w/o Archibald Avenue	Sensitive	80.5	81.0	0.5	1.5	No
Ontario Ranch Road	e/o Archibald Avenue	Sensitive	80.7	81.7	1.0	1.5	No
Ontario Ranch Road	w/o Haven Avenue	Sensitive	84.9	85.4	0.5	1.5	No
Ontario Ranch Road	e/o Haven Avenue	Sensitive	84.0	84.6	0.6	1.5	No
Ontario Ranch Road	w/o Hamner Avenue	Non-Sensitive	84.3	85.3	1.0	3.0	No
Ontario Ranch Road	e/o Hamner Avenue	Non-Sensitive	84.8	85.5	0.7	3.0	No

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

As shown above, Project traffic would not result in increased noise levels that would exceed the thresholds presented at Table 4.6-3. As such, off-site land uses adjacent to the study area roadway segments would experience less-than-significant noise level increases due to the Project-related traffic.

However, on-site residential uses proposed along Haven Avenue, Mill Creek Avenue, Hamner Avenue, Riverside Drive, Chino Avenue and Ontario Ranch Road may be subject to noise levels above 65 dBA. Therefore, on-site residential land uses located along these roadways would require additional noise attenuation to ensure that noise levels comply with the City's exterior and interior noise standards of 65 dBA CNEL and 45 dBA

CNEL. To this end, Mitigation Measure 4.6.3 requires the preparation of project-specific acoustical analysis for residential uses upon submittal of final site design plans.

Level of Significance Before Mitigation: Potentially Significant (on-site residential uses only).

Mitigation Measure:

4.6.3 Prior to the construction of residential development along Riverside Drive, Haven Avenue, Mill Creek Avenue, Edison Avenue, and Milliken Avenue, an acoustical noise analysis shall be prepared prior to the submittal of final tentative tract maps to ensure that exterior and interior noise levels are met. The acoustical analysis shall demonstrate that the buildings have been designed to limit interior noise levels to 45 dBA CNEL and exterior noise (backyards and habitable balconies and patios) to less than 65 dBA CNEL. Individual developments shall, to the extent feasible, implement site-planning techniques.

Level of Significance With Mitigation: Less-Than-Significant.

OPERATIONAL/AREA-SOURCE NOISE

Potential Impact NOI-3: *Project operational noise would result in exposure of persons to, or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

Impact Analysis: To estimate the Project operational/area-source noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. Please refer to Noise Impact Analysis Table 10-5 for a listing of reference noise levels employed in the evaluation of operational/area-source noise.

It is important to note that the following projected noise levels assume the worst-case noise environment with the idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods, roof-top air conditioning units, and parking lot

vehicle movements all operating simultaneously. These noise levels will likely vary throughout the day.

Using the reference noise levels, it is possible to estimate the operational source noise levels generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Please refer also to Noise Impact Analysis Appendix 10.1 for detailed calculations of the Project operational/area-source noise levels.

Daytime and nighttime operational/area-source noise levels that can be expected to be generated by the various Project noise sources, and received at area receptors are presented at Tables 4.6-8, 4.6-9 below.

Table 4.6-8
Daytime Project Operational/Area-Source Noise Levels

Noise Source	Operational Noise Levels by Receiver Location (dBA Leq)							
	R1	R2	R3	R4	R5	R6	R7	R8
Loading Dock Activity	44.6	44.4	40.6	41.7	39.3	38.6	34.1	32.3
Roof-Top Air Conditioning Units	29.2	30.0	42.0	32.6	36.1	30.3	28.7	21.9
Trash Enclosure Activity	24.1	24.5	37.5	27.2	20.4	21.3	17.8	16.0
Parking Lot Vehicle Movements	27.3	29.2	36.8	29.2	37.4	26.7	25.9	19.8
Truck Movements	27.2	28.6	27.8	30.1	30.4	23.3	20.9	17.6
Park Activities	24.6	22.6	26.1	23.5	28.5	28.8	31.5	20.5
Total (All Noise Sources)	**44.9**	**44.8**	**45.8**	**42.8**	**42.9**	**39.6**	**35.9**	**33.1**

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

Table 4.6-9
Nighttime Project Operational/Area-Source Noise Levels

Noise Source	Operational Noise Levels by Receiver Location (dBA Leq)							
	R1	R2	R3	R4	R5	R6	R7	R8
Loading Dock Activity	44.6	44.4	40.6	41.7	39.3	38.6	34.1	32.3
Roof-Top Air Conditioning Units	26.8	27.5	39.6	30.2	33.7	27.9	26.3	19.5
Trash Enclosure Activity	20.1	20.5	33.5	23.2	16.4	17.3	13.9	12.1
Parking Lot Vehicle Movements	27.3	29.2	36.8	29.2	37.4	26.7	25.9	19.8

Table 4.6-9
Nighttime Project Operational/Area-Source Noise Levels

Noise Source	Operational Noise Levels by Receiver Location (dBA Leq)							
	R1	R2	R3	R4	R5	R6	R7	R8
Truck Movements	27.2	28.6	27.8	30.1	30.4	23.3	20.9	17.6
Park Activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total (All Noise Sources)	**44.8**	**44.7**	**44.5**	**42.5**	**42.4**	**39.3**	**35.5**	**32.9**

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

To demonstrate compliance with local noise regulations, the Project operational/area-source noise levels received at area receptors were evaluated against City of Ontario exterior noise level thresholds. Please refer to Table 4.6-10.

Table 4.6-10
Operational/Area-Source Noise Level Compliance

Receiver Location	Project Operational Noise Levels (dBA Leq)		Noise Level Standards (dBA Leq)		Noise Level Standards Exceeded?	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	44.9	44.8	65.0	45.0	No	No
R2	44.8	44.7	65.0	45.0	No	No
R3	45.8	44.5	65.0	45.0	No	No
R4	42.8	42.5	65.0	45.0	No	No
R5	42.9	42.4	65.0	45.0	No	No
R6	39.6	39.3	65.0	45.0	No	No
R7	35.9	35.5	65.0	45.0	No	No
R8	33.1	32.9	65.0	45.0	No	No

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

As shown at Table 4.6-10, Project operational/area-source noise levels would not exceed the City of Ontario 65 dBA Leq daytime or 45 dBA Leq nighttime exterior noise standards.

As such, the potential for Project operational noise to result in exposure of persons to, or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact NOI-4: *Project operational noise would result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.*

Impact Analysis: To describe the Project operational noise level contributions, the Project operational noise levels were combined with the existing ambient noise levels measurements for the off-site receiver locations potentially impacted by Project operational noise sources. Tables 4.6-11 and 4.6-12 present the daytime and nighttime operational noise level increases associated with the Project.

Table 4.6-11
Daytime Noise Level Contributions

Location	Total Project Operational Noise Level	Measurement Location	Reference Ambient Noise Levels	Combined Project and Ambient	Project Increase	Threshold	Threshold Exceeded?
R1	44.9	L1	56.0	56.3	0.3	5.0	No
R2	44.8	L2	48.9	50.3	1.4	5.0	No
R3	45.8	L3	69.1	69.1	0.0	1.5	No
R4	42.8	L4	56.3	56.5	0.2	5.0	No
R5	42.9	L5	63.1	63.1	0.0	5.0	No
R6	39.6	L6	68.8	68.8	0.0	1.5	No
R7	35.9	L7	65.4	65.4	0.0	1.5	No
R8	33.1	L8	68.5	68.5	0.0	1.5	No

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

Table 4.6-12
Nighttime Noise Level Contributions

Location	Total Project Operational Noise Level	Measurement Location	Reference Ambient Noise Levels	Combined Project and Ambient	Project Increase	Threshold	Threshold Exceeded?
R1	44.9	L1	55.6	56.0	0.4	5.0	No
R2	44.8	L2	48.4	50.0	1.6	5.0	No
R3	45.8	L3	64.0	64.1	0.1	5.0	No
R4	42.8	L4	52.1	52.6	0.5	5.0	No
R5	42.9	L5	55.1	55.4	0.3	5.0	No
R6	39.6	L6	62.4	62.4	0.0	5.0	No
R7	35.9	L7	60.2	60.2	0.0	5.0	No
R8	33.1	L8	64.3	64.3	0.0	5.0	No

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

As indicated at Tables 4.6-11 and 4.6-12, Project contributions to the ambient noise environment would not exceed the threshold conditions presented at previous Table 4.6-3. On this basis, the potential for Project operational noise to result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project is considered less-than-significant.

Level of Significance: Less-Than-Significant. The following measures act to further reduce already less-than-significant operational noise levels.

4.6.4 *Prior to final development plan approval, on a project-by-project basis and to the discretion of the Ontario Planning Department, subsequent noise studies shall be prepared, which demonstrates the site placement of stationary noise sources would not exceed criteria established in the City of Ontario Municipal Code. The analysis shall verify that loading dock facilities, rooftop equipment, trash compactors and other stationary noise sources are adequately shielded and/or located at an adequate distance from residential areas in order to comply with the City's noise standards.*

4.6.5 *Prior to Building Permit issuance and to the satisfaction of the Ontario Planning Department, the Project Applicants, on a project-by-project basis, shall demonstrate compliance with the following with respect to mechanical equipment:*

- *Mechanical equipment shall include specifications of quiet equipment;*
- *Mechanical equipment shall be properly selected and installed, and shall include sound attenuation packages;*
- *To the extent possible, mechanical equipment shall be oriented away from the nearest noise sensitive receptors; and*
- *The need for sound attenuation measures, and design of, such measures shall be determined as part of the final engineering design on a project-by-project basis.*

4.6.6 *Where a commercial zone abuts a residential zone or residential use, the following or similar language shall be included in lease/sale agreements for all non-residential buildings: All deliveries of goods and supplies; trash pick-up, including the use of parking lot trash sweepers; and the operation of machinery or mechanical equipment which emits noise levels in excess of 65 dBA, as measured from the closest property line to the equipment, shall only be allowed between the hours of 7 a.m. and 10 p.m., unless otherwise specified in an approved conditional use permit or other discretionary approval.*

4.6.7 *Prior to final development plan approval, on a project-by-project basis, a subsequent noise analysis shall be prepared, to the satisfaction of the Ontario Planning Department, which demonstrates that all feasible sound attenuation has been incorporated into the parking areas (i.e., landscaping and brushed driving surfaces), such that noise from parking areas has been minimized to the greatest extent practicable.*

VIBRATION

Potential Impact NOI-5: *The Project would result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise.*

Impact Analysis:

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that groundborne vibration from Project construction activities would cause only intermittent, localized intrusion.

Groundborne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration. Table 4.6-13 presents the expected Project-related vibration levels at the nearby receiver locations.

Table 4.6-13
Construction Vibration Levels

Receiver	Distance to Const. Activity	Received Peak Particle Velocity (PPV) Levels (in/sec)					Thresholds PPV (in/sec)	Threshold Exceeded?
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Peak Vibration		
R1	76′	0.001	0.007	0.014	0.017	0.017	0.3	No
R2	219′	0.000	0.001	0.003	0.003	0.003	0.3	No
R3	30′	0.002	0.027	0.058	0.068	0.068	0.3	No
R4	94′	0.000	0.005	0.010	0.012	0.012	0.3	No
R5	30′	0.002	0.027	0.058	0.068	0.068	0.3	No
R6	150′	0.000	0.002	0.005	0.006	0.006	0.3	No
R7	156′	0.000	0.002	0.005	0.006	0.006	0.3	No
R8	189′	0.000	0.002	0.004	0.004	0.004	0.3	No

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

As shown above, the highest construction vibration levels are expected to range from 0.003 to 0.068 in/sec PPV, and will satisfy the maximum acceptable vibration threshold of 0.3 PPV (in/sec). Moreover, the impacts at the closest sensitive receivers are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter. On this basis, the potential for the Project to result in exposure persons to, or generation of, excessive groundborne vibration or groundborne noise is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact NOI-6: *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public*

airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Impact Analysis: The Project site is located approximately 2.4 miles southerly of the Ontario International Airport (ONT) and is located within the ONT Airport Influence Area.

The Ontario International Airport Land Use Compatibility Plan (ONT ALUCP) was amended July 2018 to promote compatibility between airport and surrounding land uses. Since the Project site is located within the ONT Airport Influence Area, the Project is subject to the Noise Criteria established at Table 2-3 of the ONT ALUCP.

The Project site is located outside the 60-65 dBA CNEL airport noise impact zone. According to Table 2-3 of the ONT ALUCP, residential, commercial, light industrial and community facilities land uses located outside the 60-65 dBA CNEL, are considered normally compatible land use. For normally compatible land use, either the activities associated with the land use are inherently noisy or standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL).

Based on the preceding, the Project would not expose people residing or working in the Project area to excessive noise levels.

Level of Significance: Less-Than-Significant.

4.7 HAZARDS/HAZARDOUS MATERIALS

4.7 HAZARDS/HAZARDOUS MATERIALS

Abstract

This Section identifies and addresses potential hazards and hazardous materials impacts that may result from the implementation and operations of the Project. More specifically, the hazards and hazardous materials analysis presented here examines whether the Project would:

- *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;*

- *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment; or*

- *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

As supported by the analysis presented in this Section, with the application of mitigation, and the Project's mandated compliance with existing rules and regulations, potential hazards and hazardous materials impacts of the Project are less-than-significant.

4.7.1 INTRODUCTION

The analysis presented in this Section addresses the potential impacts of hazards and/or hazardous materials associated with the construction and operation of the proposed Project. The analysis considers potential hazards/hazardous conditions affecting the Project site; and also considers potential hazards resulting from the Project, including

potential effects at off-site land uses. As discussed at 2007 EIR Section 5.5, *Hazards*, comprehensive Phase I Environmental Site Assessments (ESA) and Methane Gas Investigations were conducted for properties within the Specific Plan boundaries. The 2007 EIR Phase I Environmental Assessments and Methane Gas Investigations include:

- Phase I Environmental Site Assessment, Approximate 77-Acre Property, Rich Haven Specific Plan Mixed Use District, RBF Consulting, October 3, 2005.
- Phase I Environmental Site Assessment, Approximate 106-Acre Property, Rich Haven Specific Plan Mixed Use District, RBF Consulting, October 3, 2005.
- Phase I Environmental Site Assessment, Visser Property, GeoKinetics, February 1, 2003.
- Phase I Environmental Site Assessment, Randall Property, GeoKinetics, January 17, 2005.
- Phase I Environmental Site Assessment, Di Tommaso Property, GeoKinetics, February 18, 2004.
- Preliminary Subsurface Methane Gas Investigation, Randall Property, GeoKinetics, January 31, 2005.
- Subsurface Methane Gas Investigation, Scritsmier Property, GeoKinetics, January 26, 2004.
- Subsurface Methane Gas Investigation, Visser Property, GeoKinetics, February 1, 2003.
- Subsurface Methane Gas Investigation, Di Tommaso Property, GeoKinetics, February 18, 2004.
- Subsurface Methane Gas Investigation, Van Der Eyk Property, GeoKinetics, November 25, 2002.
- Letter from the California Department of Toxic Substances Control, June 12, 2006.

The above studies are available for review through the City of Ontario Planning Department. Information from the above studies is summarized in this Section and the 2007 EIR Section 5.5, *Hazards* is presented at EIR Appendix H, *Hazards and Hazardous Materials.*

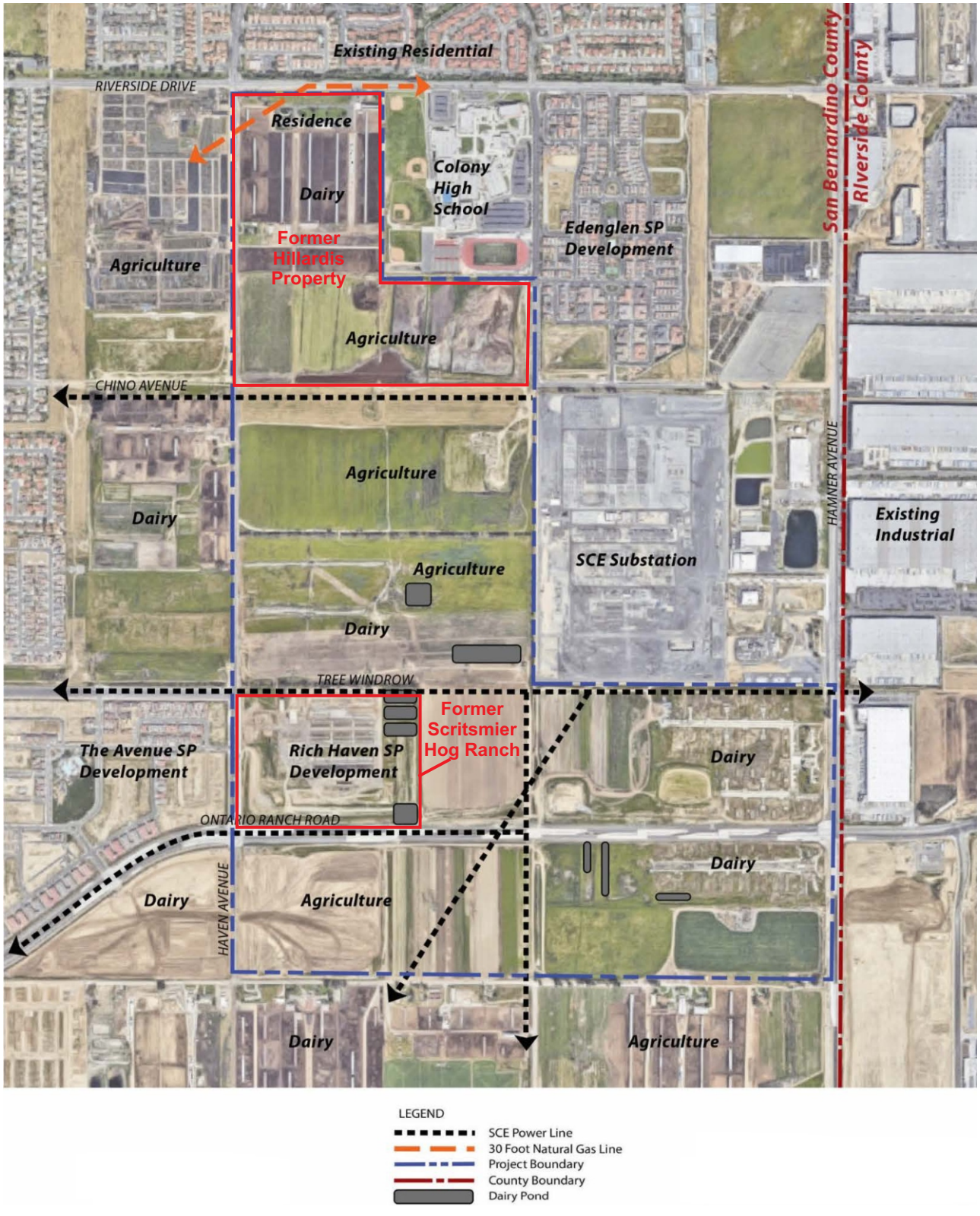
4.7.2 SETTING

The physical setting of the Project provided here serves as context for potential hazards associated with, or resulting from, the Project.

4.7.2.1 Project Site Land Use

Existing land uses within the Specific Plan Area include developed portions of the currently entitled 2021 Specific Plan, and entitled areas that are undeveloped. As of the date of this EIR, approximately 468 residential units of the total 7,194 dwelling units entitled under the 2021 Specific Plan have been constructed and are occupied. Existing residential development within the Specific Plan Area is located generally northeast of the intersection of Haven Avenue and Ontario Ranch Road. Within developed or developing portions of the Specific Plan Area, the City has verified that all hazards/hazardous materials mitigation required under the 2007 EIR has been completed including, but not limited to, Methane Gas remediation as required by the City of Ontario Building Department Methane Assessment for Projects in the New Model Colony (City Methane Assessment Protocol). Developed areas and areas under development are illustrated at Figure 4.7-1.

The remainder of the 2021 Specific Plan Area is yet to be developed. Existing land uses in these areas include a dairy farm in the northern portion of the Specific Plan area (the "Hillardis Property" identified at Figure 4.7-1) and various vacant/disturbed properties through the remaining portions of the site. Additionally, within the southern portion of the Specific Plan Area, Southern California Edison (SCE) transmission line easements exist along a generally east – west/northeast – southwest alignment within the Specific Plan Area.



Source: Rich-Haven Specific Plan Amendment; Applied Planning, Inc.

Figure 4.7-1
Mapped Properties

4.7.2.2 Project Site History

Based on historical research conducted as part of the 2007 EIR Phase I ESAs and Methane Gas Investigations, the Project site has historically comprised vacant land, agricultural uses, dairy farms, residences, wells, unimproved roads, and power transmission lines. Contemporary site investigations conducted as part of this EIR,[1] historic and recent aerial photos, information provided by the Applicant, and review of TOP 2050 and TOP 2050 EIR confirm historical use of the site as described in the 2007 EIR Phase I ESAs and Methane Gas Investigations.

4.7.2.3 Vicinity Land Uses

Land uses adjacent to northern portions of the Specific Plan Area include residential development, agricultural uses, and Colony High School. Adjacent to the central Specific Plan Area are an SCE Substation occupying approximately 160 acres to the east, and agricultural/dairy and residential development to the west. The southern portion of the Specific Plan Area is bounded by residential and commercial development to the west across Haven Avenue, and vacant disturbed properties, residences, and dairy farm uses to the south across "Old" Edison Avenue [alignment]. To the east, across Hamner Avenue, are City of Eastvale properties that are developed or are being developed with commercial and light industrial uses.

4.7.3 EXISTING HAZARDS/HAZARDOUS CONDITIONS

Other than on-going development of the Project site per the currently approved Specific Plan entitlements, site conditions have not changed substantially since preparation of the 2007 EIR. Contemporary site investigations conducted as part of this EIR, historic and recent aerial photos, information provided by the Applicant, and review of TOP 2050 and TOP 2050 EIR confirm that hazards and hazardous conditions affecting the Project site have not changed substantially since preparation of the 2007 EIR. Conclusions regarding potential hazards/hazardous conditions affecting the Specific

[1] See: Project Biological Resources Assessment, July 2022 [EIR Appendix K] p. 1 et. al; Project Cultural Resources Assessment, August 2022 [EIR Appendix L] p. 11 et. al; Project Geotechnical Investigation, September 2022 [EIR Appendix J]. p. 3, et. al.

Plan Area site as summarized in the 2007 EIR Phase I ESAs are excerpted in pertinent part below.

- Due to past use of the project site as a dairy farm and hog farm, the potential exists for elevated soil organic levels and the associated generation of subsurface methane gas.
- The potential for asbestos-containing materials and lead-based paint on the project site exists because of some structures built before 1978.
- Based on the past and present agricultural usage of portions of the site, the potential exists for the presence of organic pesticides within the onsite soils. Soil samples should be collected and analyzed for organic pesticides in order to screen for their presence.
- Several homes present on the project site reportedly use onsite sewage disposal systems.
- The residences and other structures onsite may contain lead-based paint and asbestos-containing materials.
- Water supply wells were identified onsite, and it is necessary to verify that they have been properly abandoned.
- A 500-gallon diesel fuel aboveground storage tank (AST) is onsite, and should be deactivated and properly disposed of in conjunction with the site development activities.
- A debris pile with improperly disposed of waste oil was observed onsite.
- A concrete wastewater collection sump and associated underground water distribution piping, as well as an abandoned manufactured home are onsite.
- A Southern California Edison transmission line exists onsite with triple high-tension lines, which may impose some restrictions on development.

Based on the findings of the Phase I ESAs described previously, several methane studies were conducted for the properties that were used as dairies. Out of the 96 gas probes that were installed as a part of the methane studies, only 3 revealed elevated methane concentrations. These methane studies contained the following recommendations:

- Careful clearing, grubbing, segregation, and stockpiling or disposal of the near surface organic-rich soils at the site prior to the initiation of mass grading activities should occur.
- Identification and segregation/stockpiling or disposal of deeper soils which contain elevated levels of organic material should be conducted.
- Soils with organic contents in excess of 0.4 percent should not be placed as "deep" fill. Ideally, soils with significant levels of organic material should be placed in open areas within approximately two feet of the finished ground surface.
- Soils with organic contents in excess of 2 percent should typically not be placed as structural fill - even at shallow depths. The project geotechnical engineer should provide more specific recommendations in this regard.

No additional investigation of the project site was recommended.
[2007 EIR Section 5.5, *Hazards*, pp. 5.5-4 – 5.5-6].

4.7.4 HAZARDS/HAZARDOUS MATERIALS POLICIES AND REGULATIONS

A number of federal, state, and local laws have been enacted to regulate and manage hazardous materials. Implementation of these laws and the associated management of hazardous materials are regulated independently of the CEQA process, through programs administered by various agencies at the federal, state, and local levels. An overview of regulatory agencies and certain key hazardous materials laws and regulations applicable to the Project, and to which the Project must conform, is provided below.

4.7.4.1 Federal

Hazardous materials are extensively regulated at the federal level. Regulatory agencies include: United States Environmental Protection Agency (USEPA), United States Occupational Safety and Health Administration (USOSHA), United States Department of Transportation (USDOT). Applicable Federal Regulations are contained primarily in Titles 10, 29, 40, and 49 of the Code of Federal Regulations (CFR). In particular, Title 49 of the CFR governs the manufacture of packaging and transport containers; packing and repacking; labeling and the marking of hazardous material transport. Some of the major federal laws and issue areas include the following statutes and implementing regulations:

- Resources Conservation and Recovery Act (RCRA) - hazardous waste management;
- Hazardous and Solid Waste Amendments Act (HSWA) - hazardous waste management;
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - cleanup of contamination;
- Superfund Amendments and Reauthorization Act (SARA) - cleanup of contamination; and
- Emergency Planning and Community Right-to-Know (SARA Title III) - business inventories and emergency response planning.

The USEPA is the primary federal agency responsible for the implementation and enforcement of hazardous materials regulations. In most cases, enforcement of environmental laws and regulations established at the federal level is delegated to state and local environmental regulatory agencies.

In addition, with respect to emergency planning, the Federal Emergency Management Agency (FEMA) is responsible for ensuring the establishment and development of policies and programs for emergency management at the federal, state, and local levels.

This includes the development of a national capability to mitigate against, prepare for, respond to, and recover from a full range of emergencies.

Hazardous Waste Handling

The USEPA has authorized the California Department of Toxic Substance Control (DTSC) to enforce hazardous waste laws and regulations in California. Requirements place "cradle-to-grave" responsibility for hazardous waste disposal on the shoulders of hazardous waste generators. Waste generators must ensure that their wastes are disposed of properly, and legal requirements dictate the disposal requirements for many waste streams (e.g., a ban on many types of hazardous wastes from landfills).

Hazardous Materials Transport

The USDOT Office of Hazardous Materials Safety has developed regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation, as outlined in Title 49 of the CFR. The U.S. Postal Service has developed additional regulations for the transport of hazardous materials by mail. USDOT regulations specify packaging requirements for different types of materials. USEPA has also promulgated regulations for the transport of hazardous wastes. These more stringent requirements include tracking shipments with manifests to ensure that wastes are delivered to their intended destinations.

4.7.4.2 State

The primary state agencies with jurisdiction over hazardous chemical materials management are the DTSC and the State Water Quality Control Board (SWQCB). Other state agencies involved in hazardous materials management are the Department of Industrial Relations, California OSHA (Cal OSHA) implementation, Office of Emergency Services (OES - California Accidental Release Prevention Implementation), Air Resources Board (ARB), California Department of Transportation (Caltrans), State Office of Environmental Health Hazard Assessment (OEHHA - Proposition 65 implementation) and CalRecycle (formerly the California Integrated Waste Management Board, CIWMB). The enforcement agencies for hazardous materials

transportation regulations are the California Highway Patrol (CHP) and Caltrans. Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations.

Relevant hazardous materials management laws in California include, but are not limited to, the following statutes and implementation regulations:

- Hazardous Materials Management Act - business plan reporting;
- Hazardous Waste Control Act - hazardous waste management;
- Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) - release of and exposure to carcinogenic chemicals;
- Hazardous Substance Act - cleanup of contamination; and
- Hazardous Materials Storage and Emergency Response.

California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA) has broad jurisdiction over hazardous materials management in the state. Within CalEPA, the DTSC has primary regulatory responsibility for hazardous waste management and cleanup. Enforcement of regulations has been delegated to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law.

Along with the DTSC, the SWQCB is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. SWQCB regulations are contained in Title 27 of the California Code of Regulations (CCR). Additional state regulations applicable to hazardous materials are contained in Title 22 of the CCR. Title 26 of the CCR is a compilation of those sections or titles of the CCR that are applicable to hazardous materials.

Department of Toxic Substances Control

The Resource Conservation and Recovery Act (RCRA) of 1976 is the principal federal law that regulates the generation, management, and transportation of hazardous materials and other wastes. The DTSC regulates hazardous waste in California primarily under the authority of the federal RCRA, and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. In addition, DTSC reviews and monitors legislation to ensure that the position reflects the DTSC's goals. From these laws, DTSC's major program areas develop regulations and consistent program policies and procedures. The regulations spell out what hazardous waste handlers must do to comply with the laws.

California law provides the general framework for regulation of hazardous wastes by the Hazardous Waste Control Law (HWCL) passed in 1972. DTSC is the State's lead agency in implementing the HWCL. The HWCL provides for state regulation of existing hazardous waste facilities, which include "any structure, other appurtenances, and improvements on the land, used for treatment, transfer, storage, resource recovery, disposal, or recycling of hazardous wastes," and requires permits for, and inspections of, facilities involved in generation and/or treatment, storage and disposal of hazardous wastes.

California Accidental Release Prevention Program (CalARP)

The CalARP program (CCR Title 19, Division 2, Chapter 4.7) covers certain businesses that store or handle more than a certain volume of specific regulated substances at their facilities. The list of regulated substances is found in Article 8, Section 2770.5 of the CalARP program regulations. The businesses that use a regulated substance above the noted threshold quantity must implement an accidental release prevention program, and some may be required to complete a Risk Management Plan (RMP). An RMP is a detailed engineering analysis of the potential accident factors present at a business and the mitigation measures that can be implemented to reduce this accident potential. The purpose of an RMP is to decrease the risk of an off-site release of a regulated substance that might harm the surrounding environment and community. An RMP includes the

following components: safety information, hazard review, operating procedures, training, maintenance, compliance audits, and incident investigation. The RMP must consider the proximity to sensitive populations located in schools, residential areas, general acute care hospitals, long-term health care facilities, and child day-care facilities, and must also consider external events such as seismic activity.

Hazardous Materials Transportation

In California, the CHP has the primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies. Specifically, Section 31303 of the California Vehicle Code requires that when hazardous materials are transported on state or interstate highways, the highway(s) that offer the shortest overall transit time possible shall be used. Transportation of hazardous materials along any city or state roadways is subject to all hazardous materials transportation regulations established by the CHP and Caltrans. Transporters of hazardous materials and waste are responsible for complying with all applicable packaging, labeling, and shipping regulations.

Investigation and Cleanup of Contaminated Sites

The oversight of hazardous materials release sites often involves several different agencies that may have overlapping authority and jurisdiction. The DTSC and SWQCB are the two (2) primary state agencies responsible for issues pertaining to hazardous materials release sites. Air quality issues related to remediation and construction at contaminated sites are also subject to federal and state laws and regulations that are administered at the local level.

Investigation and remediation activities that would involve potential disturbance or release of hazardous materials must comply with applicable federal, state, and local hazardous materials laws and regulations. The DTSC has developed standards for the investigation of sites where hazardous materials contamination has been identified or could exist based on current or past uses. The standards identify approaches to determine if a release of hazardous wastes/substances exists at a site and delineate the

general extent of contamination; estimate the potential threat to public health and/or the environment from the release and provide an indicator of relative risk; determine if an expedited response action is required to reduce an existing or potential threat; and complete preliminary project scoping activities to determine data gaps and identify possible remedial action strategies to form the basis for development of a site strategy.

4.7.4.3 Regional

Southern California Association of Governments (SCAG)

SCAG is the regional agency for coordination between various local agencies within the six-county region covering Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial counties. The region covers more than 38,000 square miles and is home to more than 18 million people. SCAG is the designated Regional Transportation Planning Agency, and is responsible for preparing plans and developing goals, policies, and programs to ensure regional cooperation. One such program is the Southern California Compass Blueprint Growth Vision. SCAG works with local governments and other entities in the region to implement the program's four (4) principles: Mobility, Livability, Prosperity, and Sustainability. SCAG is also responsible for preparing the Regional Comprehensive Plan and Guide (RCPG), an advisory plan to achieve a sustainable balance between environmental, economic, and social interests throughout the SCAG region.

South Coast Air Quality Management District (SCAQMD)

The SCAQMD establishes Rules that regulate or control various air pollutant emissions and emissions sources within the South Coast Air Basin (Basin). The SCAQMD coordinates its actions with local, state, and federal government agencies, the business community, and private citizens to achieve and maintain healthy air quality for San Bernardino County, including the City of Ontario.

4.7.4.4 Local

San Bernardino County Fire Department, Hazardous Materials Division

Under the California Unified Hazardous Waste and Hazardous Material Management Regulatory Program, (Chapter 6.11, Division 20, Section 25404 of the Health and Safety Code), hazards/hazardous materials management is addressed locally through the Certified Unified Program Agency (CUPA). The primary CUPA for the City of Ontario is the San Bernardino County Fire Department.

As a CUPA, San Bernardino County Fire Department manages the following six hazardous material and hazardous waste programs:

- Hazardous Materials Release Response Plans and Inventory (Business Plan);
- California Accidental Release Program (CalARP);
- Underground Storage Tanks (UST);
- Aboveground Petroleum Storage Act (APSA)/Spill Prevention, Control, and Countermeasure Plan (SPCC Plan);
- Hazardous Waste Generation and On-site Treatment; and
- Hazardous Materials Management Plans and Inventory Statements under Uniform Fire Code Article 80.

Chino Basin Watermaster

Eleven existing wells have been identified within the Project site. In compliance with the Chino Basin Water Master's Well Procedure for Developers, a well use/destruction plan and schedule for all existing private/agricultural wells shall be submitted to the City of Ontario for approval prior to the issuance of permits for any construction activity. If a private well is actively used for water supply, the Developer shall submit a plan to abandon such well and connect users to the City's water system (residential to the domestic water system and agricultural to the recycled water system) when available. Wells shall be destroyed/abandoned per the California Water Resource Guidelines and require permitting from the County Health Department. A copy of such

permit shall be provided to the Engineering and Public Works Agency prior to issuance of grading and/or building permits.

City of Ontario

The Ontario Plan includes Goals and Policies which act to reduce potential hazards within the City. Additionally, the City of Ontario has published Methane Design Guidelines for projects located within the New Model Colony. These guidelines are applicable to any building development on farm properties (including dairy farms) and is independent of the planned building use (i.e., residential or commercial/industrial).

In summary, a Methane Site Assessment is required for any parcels used as animal farms or composting/fertilizer farms, and the survey must be completed within "all lots in potential methane areas." The Methane Site Assessment must be completed within 30 days after building footprints have been put in place.

The City further presents Design Guidelines to be implemented within affected properties. Building permits will be issued when the test report is approved by the City Building Department, and any required mitigation measures are shown on building plans.

4.7.4.5 Waste Handling Procedures

As presented above, the identification, characterization, handling, transportation and disposal of wastes are primarily regulated under 40 CFR, part 261.24 (Federal) and Title 22 of the California Code of Regulations (State) and other applicable DOT, CA DTSC, and OSHA laws and regulations. The following discussions detail how these regulations are applied to the specific hazardous materials most likely to be encountered as part of the demolition and site preparation phase of the Project.

Manifesting and Transportation

Waste must be hauled under proper shipping manifests as follows:

1) Non-hazardous : A uniform non-hazardous manifest ;
2) Cal-haz/Non-RCRA (State system): A uniform hazardous manifest, identifying the waste as non-RCRA, using an appropriate EPA number;
3) RCRA-hazardous (Federal system): A uniform hazardous manifest, identifying the waste as RCRA, using an appropriate EPA number.

The transporter must have the required and appropriate hauling permits and licenses in order to be able to haul the waste.

Disposal

Landfills are classified based on the type of waste accepted; hazardous waste must be disposed of at a Class I landfill, "designated waste"[2] at a Class II, non-hazardous solid waste at a Class III, and inert waste is disposed of at an unclassified disposal site. All designated landfills must have the proper local, State and Federal operating permits. Waste, as classified, is disposed of as follows:

1) Non-hazardous: At a non-hazardous Class III landfill or at a Treatment and Recycling facility.
2) Cal-haz/Non-RCRA: At a hazardous Class I landfill or at an out of State non-hazardous landfill.
3) RCRA-hazardous: At a hazardous Class I landfill.

While non-hazardous waste from the Project site could be transported to a number of Class III landfills, non-hazardous waste generated at the site and vicinity is currently

[2] "Designated waste" is defined as hazardous waste that has been granted a variance from hazardous waste management requirements; or non-hazardous waste that could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of waters of the State.

sent to the West Valley Materials Recovery Facility (MRF) in Fontana for processing, recycling, or landfilling. Most refuse is transported from the MRF to the El Sobrante Landfill, located in the City of Corona. Any hazardous waste encountered as part of site preparation activities will be disposed of at a Class I landfill. There are currently three (3) Class I landfills located in California. These sites are located in Imperial, Kings, and Kern Counties. The precise location will be determined by the contractor in charge of demolition and site preparation.

Pesticides

There are State and Federal thresholds dictating the characterization of pesticide contaminated soils. Specifically, the United States Environmental Protection Agency (U.S. EPA) and California EPA monitor a number of pesticides that were once widely used, but are currently banned or heavily regulated in the United States due to concerns regarding their environmental impact and/or human health risks. Risk-based soil screening levels have been calculated and published by the U.S. EPA, as well as the California EPA Office of Environmental Health Hazard Assessment (OEHHA) for guidance purposes. Both agencies have developed screening levels for both residential and industrial/commercial settings, as seen in Table 4.7-1.

Table 4.7-1
Pesticide Screening Level Thresholds (µg/kg)

Agency	Pesticide			
	DDT	**DDE**	**DDD**	**Dieldrin**
U.S. EPA				
Residential	1700	1400	2000	30
Commercial/Industrial	7000	5100	7200	100
Cal EPA				
Residential	1600	1600	2300	35
Commercial/Industrial	6300	6300	9000	130

Source: GeoKinetics, August 1, 2013.

Based on testing results, contaminated soils may be treated on-site (by blending/diluting with clean soil) or disposed of off-site, as follows:

1) Non-hazardous: The soil must pass the State and Federal regulatory thresholds. In that case, the soil may be disposed of as non-hazardous at a Class III landfill or, as discussed above, a treatment or recycling facility.

2) Cal-haz/Non-RCRA: In this case, the soil fails the State regulatory thresholds but passes the Federal requirements. Therefore, the soil may be disposed of as non-RCRA at a Class I hazardous landfill or at an out-of-state non-hazardous landfill.

3) RCRA-hazardous: In this case, the soil fails both the State and Federal regulatory thresholds. Therefore, the soil will have to be disposed of as Federal, RCRA-hazardous at a Class I landfill.

Asbestos Containing Materials (ACMs)

Prior to demolition of structures, testing for ACMs is performed by a licensed contractor and any ACMs are disposed of based on the testing results. In California, if asbestos is friable and contains more than 1% asbestos, it is considered hazardous. ACMs are disposed of as follows:

1) Non-friable: This ACM waste may be disposed of at a Class III local landfill subject to their acceptance criteria.
2) Friable: This ACM waste may be disposed of at a Class I hazardous landfill or at an out-of-state landfill, depending on the level of contamination.

Depending on whether or not the ACMs are friable or non-friable, they will need to be handled, contained, and wrapped accordingly based on the applicable State regulations and the landfill requirements for transportation and disposal purposes.

Lead-Based Paint (LBP)

Prior to demolition, testing for LBP is performed by a licensed contractor and any LBP is disposed of based on the testing results. LBP waste is disposed of as follows:

1) Non-hazardous: If the lead content is less than 50 ppm (presumes it passes the State Soluble Threshold Limit Concentrations (STLC) and the Federal Toxicity Characteristic Leaching Procedure (TCLP) levels of 5.0 mg/l), the waste can be disposed of at a Class III non-hazardous landfill.
2) Cal-haz/Non-RCRA: If the waste contains 1,000 ppm lead and it fails the State STLC of 5 mg/l, it is considered cal-hazardous and may be disposed of at an out-of-state landfill as non-RCRA waste.
3) RCRA-hazardous: If the waste fails the Federal TCLP of 5 mg/l, it will then have to be disposed of at a hazardous Class I landfill.

4.7.5 STANDARDS OF SIGNIFICANCE

Pursuant to the *CEQA Guidelines* as adopted and implemented by the City of Ontario, and for purposes of this EIR, implementation of the Project may result in or cause potentially significant hazards/hazardous materials impacts if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment;

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for the people residing or working in the project area;

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.7.6 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.7.6.1 Introduction

The following discussions focus on areas where it has been determined that the Project may result in potentially significant hazards and hazardous materials impacts, pursuant to comments received through the NOP process, and based on the analysis presented within this Section and included within the Initial Study. As substantiated in the Initial Study (EIR Appendix A) under the following topics, the Project was determined to have less-than-significant impacts. On this basis, the following topics are not further discussed here:

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for the people residing or working in the project area;

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

All other CEQA topics concerning the Project's potential hazards and hazardous materials impacts are discussed below. Please refer also to Initial Study Checklist Item IX. *Hazards and Hazardous Materials.*

4.7.6.2 Impact Statements

Potential Impact HAZ-1: *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.*

Impact Analysis:

Existing On-site Hazards

Hazardous or potentially hazardous conditions affecting the subject site have been previously and extensively analyzed as part of the 2007 Rich-Haven Specific Plan EIR (2007 EIR). In summary, the 2007 EIR concluded that development of the site could result in potentially significant hazards/hazards materials impacts due to structure demolition, potential presence of methane gas, presence of organic materials, and general hazards or hazardous conditions associated with current and historic

agricultural and dairy farming uses. As noted previously in this Section, hazardous/hazardous conditions affecting the Project site are materially the same as those identified in the 2007 EIR.

Level of Significance: Potentially Significant.

Mitigation Measures:

Mitigation Measures that would reduce the above-noted hazards/hazardous materials impacts to levels that would be less-than-significant were identified in the 2007 EIR. For ease of reference, the 2007 EIR Mitigation Measures are excerpted below.

> **HM-1** Prior to the issuance of permits by the City of Ontario for any structural demolition activities on the project site, the project developer will be required to submit documentation to the City of Ontario Building Department that asbestos and lead-based paint issues are not applicable to their property or that appropriate remediation actions will be undertaken to correct any lead-based paint or asbestos issues, in conformance with the regulations of the South Coast Air Quality Management District and the State of California, Division of Occupational Health and Safety.
>
> **HM-2** Subsequent to grading activities, testing for the presence of methane in the soil shall be performed. This testing shall conform to applicable City of Ontario standards. If methane is detected, mitigation would include the installation of under-slab methane vents, methane barrier, and sealing utilities in locations where they enter a structure and penetrate the methane barrier.
>
> **HM-3** Post-grading methane gas investigation should take place near the former Scritsmier Hog Ranch (13571 Haven Avenue) where subsurface methane levels exceed 5,000 ppm. A passive vent system and gas

membrane beneath the floor slab should be installed, along with utility trench dams and conduit seals.

HM-4 Careful clearing, grubbing, segregation, and stockpiling or proper disposal of the near surface organic-rich soils at the site prior to the initiation of mass grading activities should occur.

HM-5 Identification and segregation/stockpiling or proper disposal of deeper soils which contain elevated levels of organic material should be conducted.

HM-6 Prior to approval of a discretionary permit or approval for development of proposed residential uses on the Hillardis Property, such as a parcel map or tentative tract map, a Phase I Environmental Site Assessment (ESA) shall be conducted and the results of that ESA implemented. The Phase I ESA shall be provided to the City of Ontario and shall be included in any CEQA analysis prepared in connection with the consideration of a discretionary approval for development of the eastern half of the project site.
[2007 EIR, pp. 5.5-12, 5.5-13]

Subsequent to Certification of the 2007 EIR, Methane Gas investigation and remediation of the former Scritsmier Hog Ranch (13571 Haven Avenue) per Mitigation Measure HM-3 has been successfully accomplished and accepted by the City. Development of this site is on-going (see Figure 4.7-1). Mitigation Measure HM-3 has been implemented and is no longer required.

Additionally, per Mitigation Measure HM-6, the required Phase I ESA for the "Hillardis Property" (APNs 218-161-04, 218-161-05, 218-161-10, 218-161-11) has been completed

and is provided at Appendix H of this EIR.[3] The Hillardis Property Phase I ESA recommends that a Phase II Environmental Assessment be conducted for that site to address the following items:

- Agricultural/orchard usage of the southern portion of the Property,
- Methane Gas Testing for the northern portion of the Property,
- Soils in the areas of unregulated dumping, and
- Soils in the area of the leaking air compressors in the garage [in the northern portion of the property].

  [Hillardis property Phase I ESA, p. 7]

The requirement to conduct a Phase II Assessment and comply with its provisions is added as mitigation to this EIR (see Mitigation Measure 4.7.4).

Based on the previous analyses conducted for the Project site, as updated by the site's current condition, the City's incumbent Methane Gas Investigation Protocol, and recommendations of the Hillardis Property Phase I ESA, the following Mitigation Measures are incorporated in this EIR:

4.7.1 *Prior to the issuance of permits for any structural demolition activities on the Project site, the Project developer(s) shall submit documentation to the City of Ontario Building Department that asbestos and lead-based paint issues are not applicable to their property or that appropriate remediation actions have been undertaken to correct any lead-based paint or asbestos issues. Any required remediation shall conform with the regulations of the South Coast Air Quality Management District and the State of California, Division of Occupational Health and Safety.*

4.7.2 *Testing for methane gas shall be conducted subsequent to mass grading of any site within the Specific Plan Area. Methane gas testing shall conform to requirements of "City of*

[3] See: *Phase I Environmental Site Assessment 1601 E. Riverside Drive, Ontario, California 91761* (Hillman Consulting) July 28, 2016.

Ontario Building Department Methane Gas Assessment for Projects in the New Model Colony."[4] *Project designs shall conform to the Assessment's Methane Design Guidelines or other requirements stipulated by the City of Ontario Building Department.*

4.7.3 Site grubbing, clearing, and stockpiling and disposal of soils shall conform to City grading permit requirements. Such requirements may include, but would not be limited to, identification and segregation/stockpiling or proper disposal of soils that contain elevated levels of organic material.

4.7.4 Prior to approval of tract maps or approval for development of any uses on the Hillardis Property (APNs 218-161-04, 218-161-05, 218-161-10, 218-161-11), the Applicant or successor interest shall complete a Phase II Environmental Site Assessment (ESA) for that property. Prior to issuance of the first development permit for the site, the Applicant or successor interest shall comply with requirements of the Phase II ESA, and shall provide documentation to the City of Ontario to that effect.

With implementation of the above measures, the potential for the Project to create or result in a significant hazard due to existing on-site conditions would be reduced to levels that would be less-than-significant.

Level of Significance After Mitigation: Less-Than-Significant.

Project Construction and Operations

The Project would not result in or cause exposure(s) to hazards or potentially hazardous conditions. That is, uses proposed by the Project are not considered hazardous. Nor does the Project propose or require facilities or operations involving inherent substantial hazards.

During the normal course of construction and operation activities, there would be limited transport of potentially hazardous materials (e.g., gasoline, diesel fuel, paints,

[4] See:https://www.ontarioca.gov/sites/default/files/Ontario-Files/Building/general/methane_assessment.pdf.

solvents, fertilizer, etc.) to and from the Project site. However, the Project would be required to comply with all City and County Hazardous Materials Management Plans and regulations addressing transport, use, storage and disposal of these materials. The Project does not propose or require uses or activities that would result in atypical transportation, use, storage, or disposal of hazardous or potentially hazardous materials not addressed under current regulations and policies.

Further, any occupancies that would store or use hazardous materials would be required to comply with California Hazardous Materials Business Plan (HMBP) requirements (California Health & Safety Code, Division 20, Chapter 6.95) The HMBP contains detailed information on the storage of hazardous materials at regulated facilities. The purpose of the HMBP is to prevent or minimize damage to public health, safety, and the environment, from a release or threatened release of a hazardous material. The HMBP also provides emergency response personnel with adequate information to help them better prepare and respond to chemical-related incidents at regulated facilities.

The Project does not propose or require uses that would handle hazardous or acutely hazardous materials, substances, or waste. Heavy duty truck traffic accessing the Project would generate diesel particulate matter (DPM). DPM is a known carcinogen. The Project Health Risk Assessment (HRA, EIR Appendix D) substantiates that the DPM emissions generated by Project construction and operations would not result in potentially significant hazardous impacts.

Level of Significance: Less-Than-Significant.

Potential Impact HAZ-2: *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

Impact Analysis: Colony High School is located approximately 0.2 miles north of nearest light industrial uses proposed by the Project. The Project does not propose or require uses or facilities that would generate or use hazardous or acutely hazardous

materials. The Project HRA substantiates that DPM emissions generated by the Project would not result in potentially significant impacts at vicinity schools. As a matter of course, the Lead Agency consults with potentially affected school districts throughout the EIR process for development proposals.

On this basis, the potential for the Project to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Level of Significance: Less-Than-Significant.

4.8 HYDROLOGY/WATER QUALITY

4.8 HYDROLOGY/WATER QUALITY

Abstract

This Section addresses potential impacts of the Project related to hydrology and water quality. The analysis presented focuses on the potential for the Project to:

- *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;*
- *Substantially alter the existing drainage pattern of the site or area in a manner that would:*
    - *substantially increase the rate or amount of runoff that would result in flooding on- or offsite;*
    - *create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or*
    - *impede or redirect flood flows.*
- *Under a flood, tsunami, or seiche event, release pollutants due to project inundation; or*
- *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.*

As substantiated by the analysis in this Section, potential hydrology/water quality impacts would be less-than-significant.

4.8.1 INTRODUCTION

This Section evaluates potential impacts of the Project on hydrology and water quality. Information contained and referenced in this Section was obtained from: *Rich-Haven Specific Plan, Hydrology Report* (X Engineering & Consulting, Inc.) September 2022 (EIR Appendix I).

Additional background information and context are provided by *Rich-Haven Specific Plan, 2022 Amendment* (EIR Appendix B); *City of Ontario Policy Plan, A Component of the Ontario Plan 2050* (Placeworks) August 2022; The Ontario Plan 2050 Final Supplemental EIR, SCH No. 2021070364 (Placeworks) August 2022; City of Ontario Development Code; *Hydrology and Water Quality*, and *Fact Sheet Region 8* (Santa Ana Regional Water Quality Control Board)[1] and Project Application Materials.

4.8.2 EXISTING CONDITIONS

Please refer to EIR Section 3.0, *Project Description*, for a general discussion of the Project's regional and vicinity setting. The hydrologic setting described below establishes the baseline against which the Project's potential hydrology/water quality impacts were evaluated. The Ontario Plan 2050 Final SEIR (TOP 2050 SEIR) at Section 5.10, and *Hydrology and Water Quality*, and *Fact Sheet Region 8* (Santa Ana Regional Water Quality Control Board) describe area hydrologic and water quality characteristics, as summarized and paraphrased in the following discussions.

4.8.2.1 Regional

Drainage

The Santa Ana River Watershed encompasses approximately 2,800 square miles, and includes portions of San Bernardino, Orange, and Riverside Counties. The Santa Ana River is the main surface drainage course in the region, and the largest river in the Chino

[1] Santa Ana Regional Water Quality Control Board. (n.d.). Fact Sheet Region 8. https://www.waterboards.ca.gov/water_issues/programs/swamp/docs/factsheets/rb8_cw101.pdf

Basin. The River originates in the San Bernardino Mountains, travels southwest, and discharges to the Pacific Ocean near the Huntington Beach/Newport Beach city boundary. Water flow in the river is regulated by the Prado Dam, the Seven Oaks Dam, and other flood-control facilities along the river and its tributaries. The City of Ontario is nearest to Reach 3 of the Santa Ana River.

Surface Water

The City of Ontario lies within the Chino Watershed, which consists of most of the Upper Santa Ana River Valley and portions of the San Gabriel Mountains and Puente Hills and Chino Hills. The Santa Ana River forms the southern boundary of the Watershed. The primary direction of drainage flow is from the San Gabriel Mountains southward to the Santa Ana River, then continues southwest in the River.

Within the City, streams in the Watershed include the West Cucamonga, Deer Creek, Day Creek, and Etiwanda Creek Channels, and the Cucamonga Creek Flood Control Channel. West Cucamonga Channel and Deer Creek Channel discharge into the Cucamonga Creek Flood Control Channel, which discharges into the Santa Ana River. Within the City, some stormwater runoff is diverted for recharge in flood retention and spreading basins, including the Eighth Street, Ely, Turner, Chris, Cucamonga, and Wineville Basins.

The USEPA denotes four surface water bodies within the Chino Watershed on its list of Water Quality Limited Segments under Section 303(d) of the Clean Water Act (USEPA 2007). One of these water bodies passes through the City of Ontario—Valley Reach of Cucamonga Creek is included on the Section 303(d) list for coliform bacteria from an unknown nonpoint source.

Groundwater

The Chino Basin is one of the largest groundwater basins in southern California, covering approximately 235 square miles of the Upper Santa Ana River Valley. The basin is bounded by the Rialto-Colton Fault on the northeast, the Jurupa Mountains and La Sierra Hills to the southeast, the Central Avenue Fault to the southwest, and the San Jose Fault

and Red Hill Fault to the northwest. Groundwater is produced from the basin by cities, other water supply entities, and by agricultural users overlying the basin. Before 1978, the basin was in overdraft. Since 1978, the basin has been managed via ongoing court adjudication in the 1978 judgment Chino Basin Municipal Water District vs. City of Chino et al.

The City of Ontario draws all of its groundwater supply from the Chino Basin. Groundwater flows through the Chino Basin in a north/south alignment, and groundwater quality is better in the northern portion of the basin, where significant recharge occurs. Salinity, measured as total dissolved solids (TDS), and nitrate concentrations increase in the southern portion of Chino Basin. TDS and nitrate generally originate from nonpoint sources such as land application of wastes and fertilizer from previous and current agricultural activities. In addition, there are several point sources of contamination in the basin that affect groundwater quality in localized areas. The primary water quality concerns for the City's groundwater wells are nitrate and perchlorate levels. Other contaminants of concern are volatile organic compounds (VOC) and TDS.

Flood Hazards

While significant hydrologic improvements have been made within the City, including channelization of many of the City's watercourses, flooding associated with peak 100-year and 500-year floods and dam inundation remains a potential hazard.

Types of Floods

Flash floods are short but have high peak volumes and velocities. The local mountains are very steep and consist of rock types fairly impervious to water. Little precipitation infiltrates the ground. Instead, rainwater flows across the surface as runoff, collecting in major drainages that pass through the City. When a major storm event moves in, water collects rapidly and runs off quickly. Because of the steep terrain and scarcity of vegetation in the mountains, flood flows often carry large amounts of mud, sand, and

rock. Sheet flow occurs when the capacity of the existing channels, either natural or man-made, are exceeded and water flows over and into the adjacent areas.

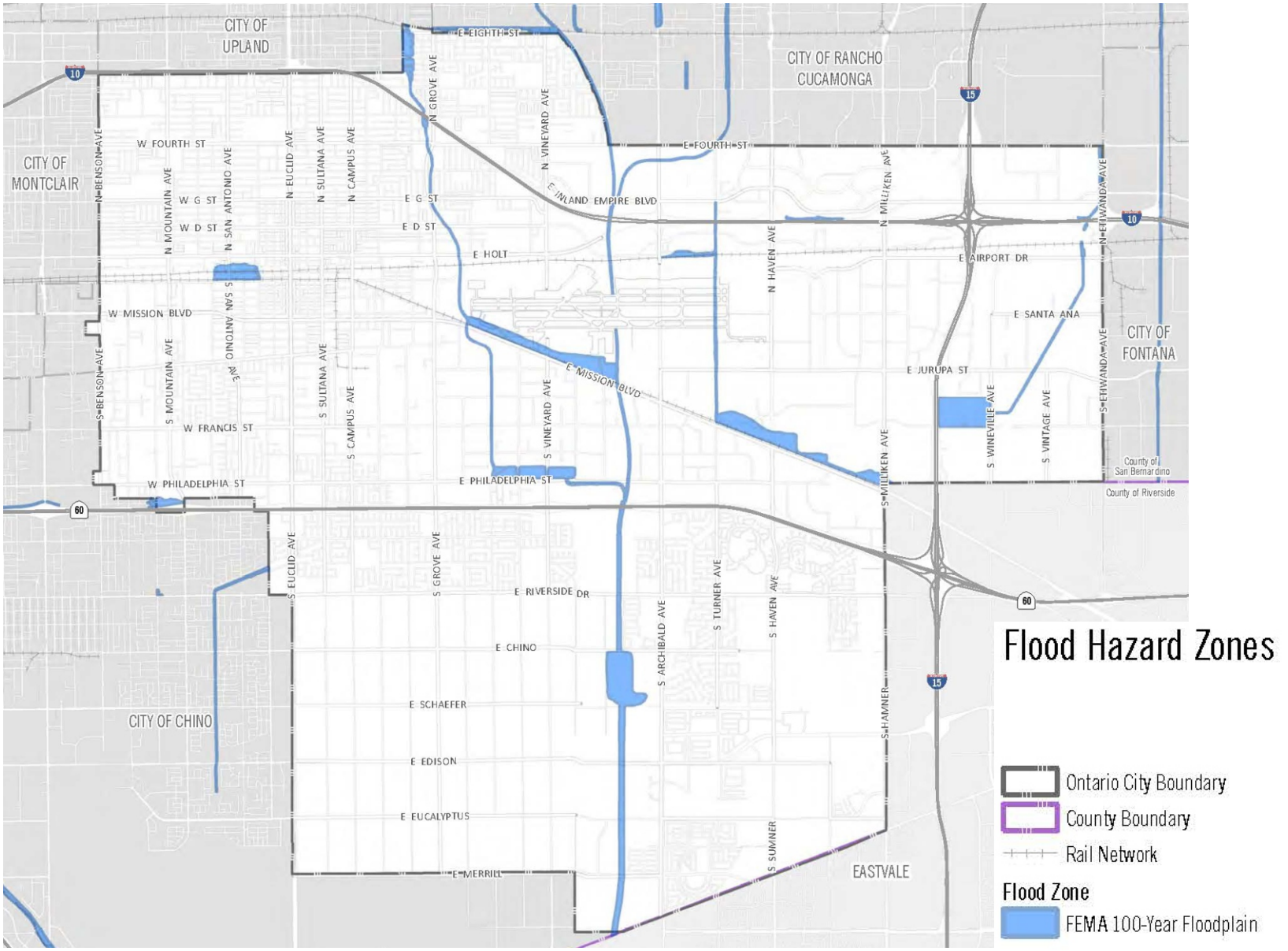
Recent Historical Floods

In the winter of 1969, flood flows were greater than the estimated 100-year flood, and exceeded the capacity of levees, storm drains, and flood-control channels. About 1,000 people were reportedly evacuated from the Cucamonga area. In Ontario, most of the floodwaters were contained in improved channels and basins; however, overbank flow from Deer and Etiwanda Creeks flooded portions of the City.

In 1998, the area received more than double its average annual rainfall, and this, combined with a lack of storm drains in south Ontario, resulted in significant flooding of the dairy preserve. The flooding caused significant property damage, the deaths of about 16,000 dairy cows, with losses to farmers in the millions of dollars. The winter storms of 2004/2005 dropped record rainfall on southern California. Ontario experienced localized flooding and sedimentation, mainly due to inadequacies in the local storm drain system, but the damage was considerably less than the 1998 losses.

Designated Flood Zones

The 100-year flood in Ontario is generally confined to the major watercourses, channels, and basins that traverse the City. Please refer to Figure 4.8-1. The majority of the City watercourses are channelized to prevent flood hazards. However, in the event of a peak 100-year or 500-year storm event, flood waters can flow over their banks and inundate adjacent areas. Large portions of the City would be affected by shallow and/or infrequent flooding, primarily by sheet flow as storm drains and channels become overwhelmed. This flooding is also exacerbated by graded embankments along the rail lines and east/west roadway embankments within the City that cause ponding. The Project site is located outside of the 100-year floodplain, but within the 500-year floodplain.



Source: The Ontario Plan 2050 Final Supplemental EIR

Figure 4.8-1
Flood Hazard Zones

4.8.2.2 City of Ontario

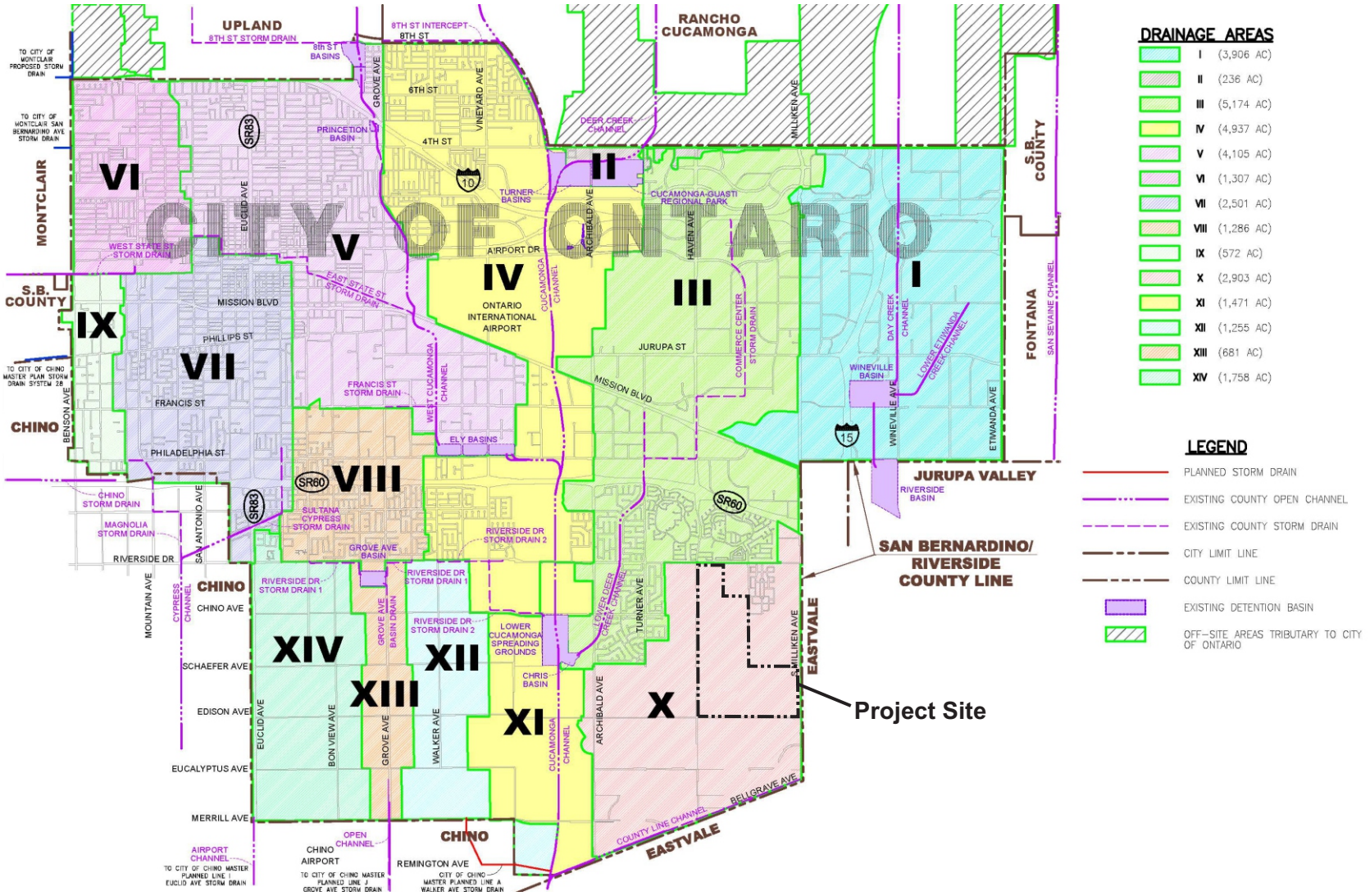
City of Ontario Master Plan of Drainage (MPD)

Under the City of Ontario Master Plan of Drainage (MPD), the City is divided into 4 Study Areas, "Original Model Colony West" (OMC-West,), OMC-East, "New Model Colony West" (NMC-West), and NMC-East. Each of the MPD Study Areas is subdivided into Drainage Areas (denoted by Roman Numerals I – XIV). For example, the OMC-East Study Area is subdivided into Drainage Areas III (part), Drainage Area X and Drainage Area XI (part). The MPD Study Area and Drainage Area boundaries generally coincide with physical attributes or political boundaries that define drainage areas within the City.

Location of the Project site within the MPD is presented at Figure 4.8-2. The Project site lies within the MPD NMC-East Study Area, Drainage Area X. Drainage Area X is tributary to the County Line Channel. The County Line Channel is owned and maintained by the San Bernardino County Flood Control District (SBCFCD) and runs along the southerly edge of the Ontario Ranch portion of the City.

4.8.2.3 Project Hydrology Report Area (Rich-Haven Watershed)

The Project Hydrology Report evaluates hydrologic changes that would result from the Project and related implications for the serving MPD stormwater management system. The Project Hydrology Report Area (the "Rich-Haven Watershed") includes the Project site and comprises approximately 4.5 square miles (2,880 acres) within the northeast portion of Drainage Area X. The Watershed captures northeast-to-southwest trending stormwater inflows to the Project site, as well as stormwater discharges from the Project site to the south/southwest.



Source: City of Ontario Master Plan of Drainage

Figure 4.8-2
Project Site Within the MPD

4.8.3 Serving MPD Stormwater Management System

Under the MPD, stormwater discharges from the Rich-Haven Watershed would be conveyed by three main planned backbone storm drain lines: 1) Haven Avenue Storm Drain, 2) Mill Creek Avenue Storm Drain, and 3) Milliken Avenue Storm Drain. These storm drains exist or are planned along north – south alignments, connect ultimately to the County Line Channel. Alignments of these planned backbone storm drain lines are illustrated at Figure 4.8-3. Description of each backbone storm drain line and its current status are summarized at Table 4.8-1. Consistent with City requirements, the Project would construct serving MDoP facilities, or would participate financially in their construction. Issuance of Certificates of Occupancy within the Project site would be contingent on City verification of the adequacy of serving infrastructure including, but not limited to, adequacy of the serving MPD facilities.

Table 4.8-1
Serving MPD Storm Drains

Storm Drain Line	Location	Status
Haven Avenue Storm Drain Haven Avenue Storm Drain (hereafter, Haven SD) is a network of storm drain lines 48" to 84" in size, with a mainline (HAVN-X-1) that runs north from Bellegrave Avenue to Riverside Drive along Haven Avenue and branches to storm drain line (HAVN-X-2, -X-3, and -X-4) and several unnamed laterals that extend from planned/future development within the Rich-Haven Watershed.		
HAVN-X-1	Runs north from Bellegrave Avenue to Riverside Drive along Haven Avenue	Partially Constructed
HAVN-X-2	Branches westerly off HAVN-X-1 in Ontario Ranch Road	Constructed
HAVN-X-3 (Twinkle Storm Drain)	Branches from HAVN-X-1	Partially Constructed
HAVN-X-4	Branches easterly off HAVN-X-1 in Chino Avenue	Not Constructed
Mill Creek Avenue Storm Drain Mill Creek Avenue Storm Drain (hereafter, Mill Creek SD) is a network of storm drain pipes ranging in size from 48" to a 10' x 8' box, with a mainline (MLCR-X-1) that runs north from Bellegrave Avenue to Chino Avenue along Mill Creek Avenue, and extends to the east in Chino Avenue. MLCR-X-1 branches to MLCR-X-4, -5, and -6 and minor laterals that extend from planned/future development within the Rich-Haven Watershed along Mill Creek Avenue.		
MLCR-X-1	Runs north from Bellegrave Avenue to Chino Avenue along Mill Creek Avenue and turns east along Chino Avenue	Partially Constructed
MLCR-X-4	Branches easterly off MLCR-X-1 in Ontario Ranch Road	Constructed
MLCR-X-5	Branches westerly off MCLR-X-1 in Ontario Ranch Road	Constructed
MLCR-X-6	Branches easterly off MLCR-X-1 in SCE access road	Not Constructed

Table 4.8-1 Serving MPD Storm Drains		
Storm Drain Line	**Location**	**Status**
Milliken Avenue Storm Drain Milliken Avenue Storm Drain (hereafter, Milliken Avenue SD) is a main line storm drain that varies in size from 36" to 54" that drains south from Ontario Ranch Road to Bellegrave Avenue along Hamner Avenue (also known as Milliken Avenue). Storm drain laterals extend from planned development within a minor portion of the southeastern area of the Rich-Haven Watershed.		
MLKN-X-1	Runs north from Bellegrave Avenue to Riverside Drive along Milliken/Hamner Avenue	Partially Constructed

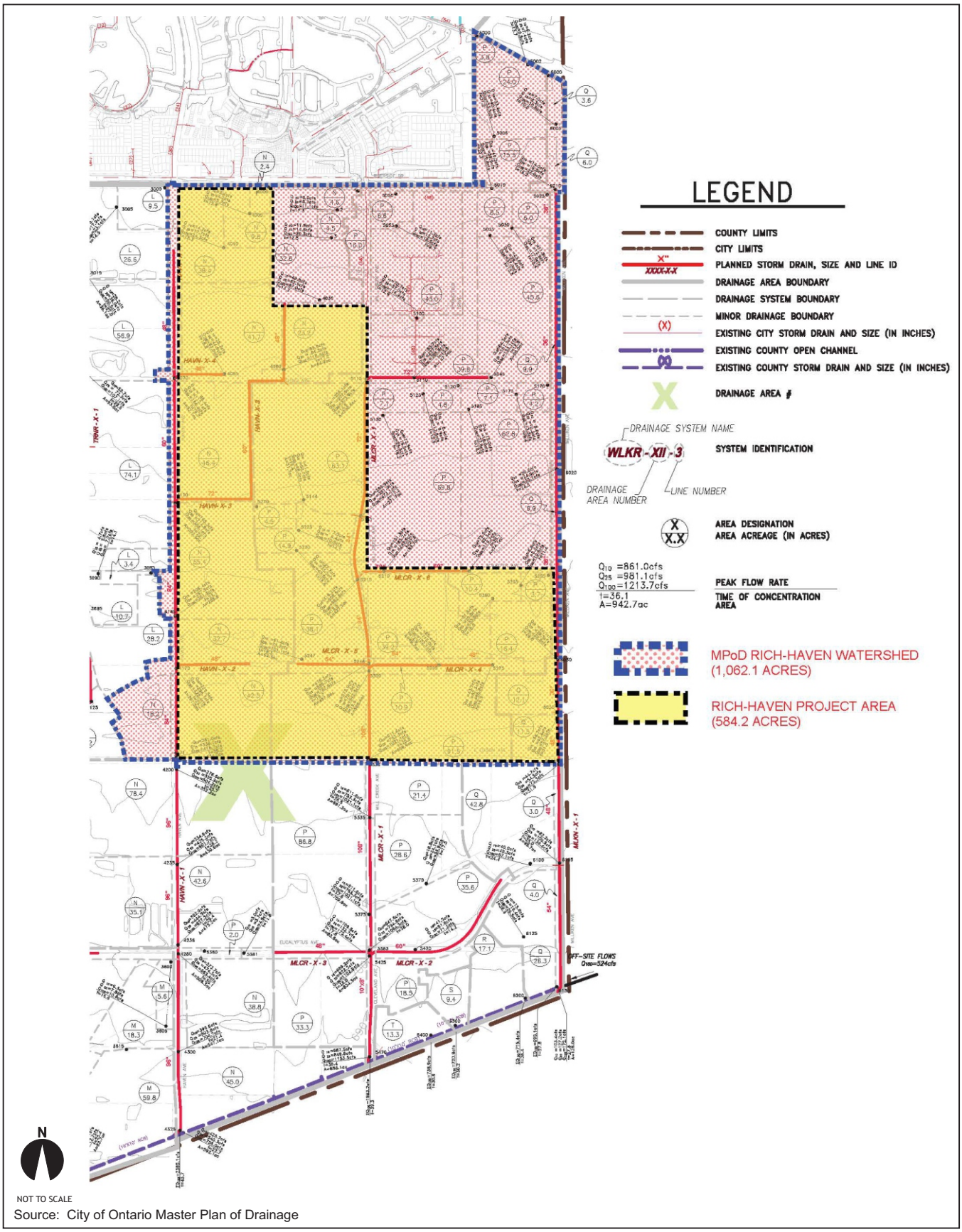
Source: *Rich-Haven Specific Plan, Hydrology Report* (**X** Engineering & Consulting, Inc.) September 2022.

4.8.2.5 Project Stormwater Management System Improvements

The Project backbone storm drain system is illustrated at Figure 4.8-4. Ultimate sizing and alignment of storm drains within the Project site would be subject to review and approval by the City. See also: 2022 Specific Plan Amendment, Section 4, *Infrastructure and Services*. As concluded in the Project Hydrology Report, the Project would also be required to construct on-site stormwater detention facilities to ensure that capacities of receiving MPD storm drains are not exceeded. Please refer to Section 4.8.5, *Potential Impacts and Mitigation Measures.*

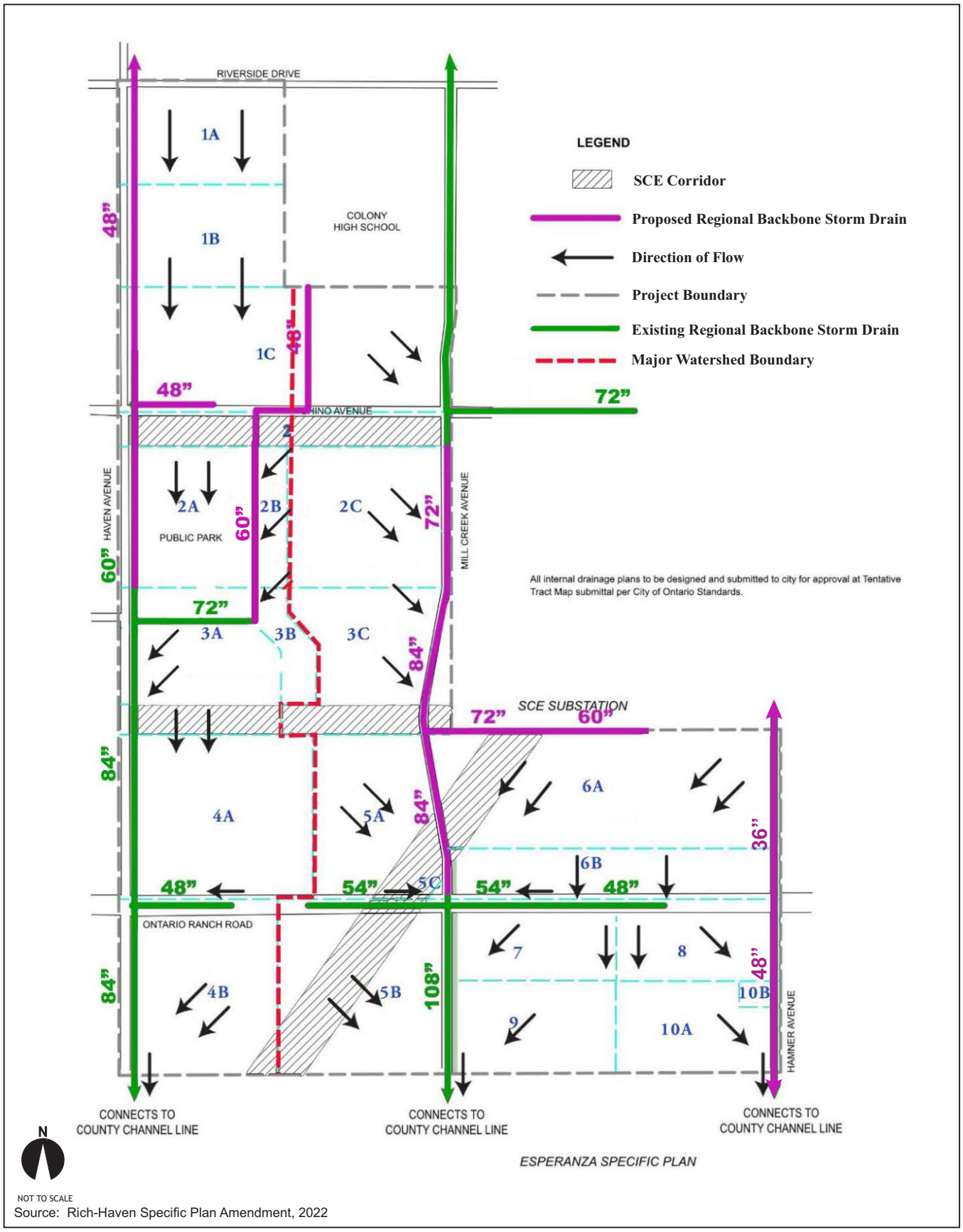
4.8.3 HYDROLOGY/WATER QUALITY POLICIES AND REGULATIONS

Applicable federal, state, and local policies and regulations that act to reduce potential hydrologic impacts and/or act to protect and preserve water quality are summarized below.



Source: City of Ontario Master Plan of Drainage

Figure 4.8-3
Planned Backbone Storm Drains



Source: Rich-Haven Specific Plan Amendment, 2022

Figure 4.8-4
Project Backbone Storm Drain System

4.8.3.1 Federal Water Pollution Control Act, Federal Clean Water Act (CWA)

The principal law governing pollution of the nation's surface waters is the Federal Water Pollution Control Act, or Clean Water Act (CWA), which was substantially revised by amendments in 1972 that created the bulk of the current statutory scheme. The CWA requires states to adopt water quality standards. To achieve its objectives, the CWA is based on the concept that all discharges into the nation's waters are unlawful, unless specifically authorized by a permit. The CWA states that discharge of pollutants into waters of the United States from any point source is unlawful unless the discharge complies with the National Pollution Discharge Elimination System (NPDES) permit.

The NPDES is a national program under Section 402 of the CWA. The CWA establishes the framework for regulating municipal and industrial (point sources) storm water discharges under the NPDES program. In California, the NPDES program is administered through the nine Regional Water Quality Control Boards, including the Santa Ana Regional Water Quality Control Board (SARWQCB).

Locally, the SARWQCB determines the City of Ontario's compliance with the water quality requirements of the CWA. The Board has adopted a Water Quality Control Plan for the Santa Ana Region (Basin Plan), which is discussed in greater detail subsequently within this Section.

Non-point pollution sources are also regulated by the SARWQCB through the General Construction Activity Storm Water NPDES permits, which are issued for storm water discharges. Construction activities subject to this general permit include clearing, grading, and disturbances to the ground such as stockpiling or excavation that result in soil disturbances. Storm water pollution prevention plans (SWPPPs) are required as part of the construction NPDES permitting process. SWPPPs typically include both structural and non-structural Best Management Practices (BMPs) to reduce water quality impacts.

4.8.3.2 State of California and San Bernardino County

At the federal level, the Clean Water Act allows the Environmental Protection Agency (EPA) to delegate its NPDES system permitting authority to states with an approved regulatory program. The Clean Water Act authorizes discharge of pollutants into waters of the State by issuance of NPDES permits. An NPDES permit has been issued by the California Regional Water Quality Control Board to San Bernardino County and local agencies. The City of Ontario is one of many cities included as a "co-permittee" in the NPDES permit issued to the County. The regulated entities must obtain coverage under an NPDES storm water permit and implement construction storm water pollution prevention plans (SWPPPs), and operational Water Quality Management Plans (WQMPs), both using best management practices (BMPs) that effectively reduce or prevent the discharge of pollutants into receiving waters.

The NPDES permit imposes various requirements of the discharger. Provided the discharger complies with such requirements, the discharger is considered compliant with the CWA and the Permit. Most requirements imposed by the Permit comprise BMPs, which are construction and operational discharge control practices and mechanisms deemed to comply with the CWA requirements.

Storm Water Pollution Prevention Plan (SWPPP) Required

In September 2009, the State Water Resources Control Board (SWRCB) issued an NPDES General Permit for the discharge of storm water associated with Construction Activities. Federal regulations promulgated by USEPA (40 CFR Parts, 9, 122, 123, and 124) expanded the NPDES storm water program to include storm water discharges from municipal separate storm sewer systems (MS4s) and construction sites that were smaller than those previously included in the program. The SWRCB issued a NPDES General Permit for the discharge of storm water associated with construction activities. The existing state NPDES Permit (Order No. 2009-0009-DWQ, General Permit No. CAS000002, Permit) addresses storm water discharges associated with construction activities. The Permit applies to all of California, which is inclusive of the City of Ontario and the Project site.

Requirements of this Permit include a mandate that all construction projects that disturb one acre or more of land area, shall obtain coverage under the statewide General Construction permit, obtain a Waste Discharger Identification Number and develop and implement a SWPPP. Under NPDES General Permit Section XIV, the SWPPP shall address these objectives: all pollutant sources shall be identified; BMPs shall be implemented to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction; and a maintenance schedule for BMPs installed during construction shall be implemented. BMPs shall be described for control of discharges from waste handling and disposal areas and methods of on-site storage and disposal of construction materials and construction waste.

An effective combination of erosion and sediment control on all disturbed areas during the rainy season must be implemented. The SWPPP shall describe the erosion control practices. The SWPPP shall describe the BMPs to reduce pollutants in storm water discharges after Project construction. The beneficial uses of the receiving waters are protected through implementation of these BMPs.

Water Quality Management Plan (WQMP) Required

Consistent with provisions of the County's Urban Runoff (NPDES) Permit, the Project is also required to develop and implement a post-construction Water Quality Management Plan (WQMP) addressing potential operational storm water pollutant discharges over the life of the Project.

The WQMP requirements are articulated in the County's Urban Runoff (NPDES) Permit, and include such Low Impact Development (LID) measures as retention/infiltration basins, infiltration trenches/swales, pervious pavement, vegetated swales, drywells, underground storage, biotreatment and biofiltration, roof runoff controls, recessed grading in all landscaped areas, education programs, and maintenance practices. The NPDES permitting program also includes measures to reduce the release of pollutants such as sediment, construction materials, or accidental spillage of polluting materials

during construction. Consistent with provisions of the County's NPDES Permit, the City of Ontario requires implementation of development-specific SWPPPs and incorporation of BMPs that reduce storm water and urban runoff pollutant discharges to the waters of Southern California.

SWPPP Components

Typical SWPPP elements include:

- Introduction and Purpose
- Compliance Requirements and Certifications
- Facility Information/Pollution Prevention Team Members
- Site Map
- List of Significant Materials
- Potential Storm Water Pollutants and Sources
- Best Management Practices
- Summary of Pollutants, Sources, and BMPs
- Annual Comprehensive Site Evaluation
- Definitions
- State Notice of Intent Form and Instructions

SWPPP BMPs incorporated in the Project would likely include, but not be limited to:

Construction BMPs

- Silt Fences
- Check Dams
- Gravel Bag Berms and Checkdams in concentrated flow lines
- Street Sweeping and Vacuuming
- Storm Drain Inlet Protection
- Wind Erosion Control
- Stabilized Construction Entrance/Exit
- Entrance/Outlet Tire Wash

- Scheduling construction work around inclement weather
- Preservation of Existing Vegetation (wherever possible)
- Application of Soil Binders and Hydromulches, before forecasted storms
- Construction of Earth Berms and Dikes

Contingent on final designs of proposed uses within the Project site, the range of WQMP incorporated BMPs would likely include, but not be limited to:

Non-Structural BMPs

- Tenant Education
- Activity Restrictions
- Common Area Landscape Management
- Catch Basin Inspection
- Common Area Litter Control
- Private Street/Lot Sweeping
- Housekeeping of Loading Docks
- Employee Training
- BMP Maintenance

Structural BMPs

- Infiltration and Biofiltration Basins, Trenches, Swales
- Pervious Pavement
- Underground retention/infiltration storage facilities
- Control of Impervious Runoff
- Common Area Efficient Irrigation
- Common Area Runoff-Minimizing Landscape
- Wash Water Controls for Food Preparation Areas
- Covered Trash Container Areas
- Self-contained Areas for Washing/Steam Cleaning/Repair/Material Processing
- Outdoor Storage
- Energy Dissipators

- Catch Basin Stenciling
- Inlet Trash Racks

The Project would implement and comply with State of California and San Bernardino County water quality protection policies and mandates.

4.8.3.3 Porter-Cologne Water Quality Act

Section 303 of the federal Clean Water Act and the State Porter-Cologne Water Quality Act establish water quality objectives for ground and surface waters in the State. Protection and maintenance of surface water quality is the combined responsibility of the Regional Water Quality Control Board (RWQCB), water supply and wastewater management agencies, and City and County governments.

The RWQCB has purview over point and non-point sources of pollution. Point source water pollutants consist of controlled wastewater releases commonly generated by activities that use water to collect pollutants and transport them from the processing facility. When such wastewater discharges are proposed, the applicant must obtain a set of Waste Discharge Requirements from the RWQCB that control water pollution to a non-significant level from such point sources.

Non-point sources of water pollution consist of surface runoff from a site or area during or following a storm where the source of pollution cannot be traced to a specific location. Typical non-point water pollution sources consist of agricultural fields with sediment and fertilizers, construction sites with sediment and debris, and roads with oil, tire particles, and debris common to roads.

4.8.3.4 Santa Ana Regional Water Quality Control Board

Water Quality Control Plan (Basin Plan) for the Santa Ana Region

The Basin Plan describes existing water quality of conditions and establishes water quality goals and policies. The Basin Plan is also the basis for the Regional Board's

regulatory programs. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality which must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the Regional Board and others that are necessary to achieve and maintain target water quality standards.

The primary goal of the Santa Ana Basin Plan is to protect the public health and welfare, while maintaining or enhancing water quality potential beneficial uses of the water. The Basin Plan reflects amendments approved by the State Water Resources Control Board, the California Office of Administrative Law, and/or the U.S. Environmental Protection Agency through 2005. The Basin Plan in its entirety can be reviewed at: http://www.waterboards.ca.gov/rwqcb8/water_issues/programs/basin_plan/index.shtml. The Project would be required to implement and comply with SARWQCB water quality protection policies and mandates.

4.8.3.5 City of Ontario

General Plan Goals and Policies

TOP Policy Plan, Environmental Resources Element and Safety Element establish Goals and Policies addressing hydrologic and water quality issues and concerns. Goals and policies implemented by the City support avoidance of flood hazards, protection against potential flooding impacts, establishment and maintenance of safe and efficient storm water management systems, and protection and maintenance of water quality.

City Municipal Code

The City of Ontario Flood Damage Prevention Program (FDPP) is codified at Ontario Municipal Code, Title 8, Chapter 13. The FDPP applies to all areas of special flood hazards, areas of flood-related erosion hazards and areas of mudflow hazards within the City. The FDPP includes standards for construction, for utilities, subdivisions,

manufactured homes, and floodways. Construction standards include requirements for anchoring, floodproofing, and minimum elevations of floors.

4.8.4 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, hydrology/water quality impacts would be considered potentially significant if the Project would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:

    - result in substantial erosion or siltation on- or off-site;

    - substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

    - create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

    - impede or redirect flood flows.

- Result in release of pollutants due to project inundation.

- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.8.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.8.5.1 Introduction

The following discussions focus on topical areas and issues where it has been determined, pursuant to the EIR Initial Study/NOP processes, that the Project may result in or cause potentially significant hydrology/water quality impacts. Of the CEQA threshold considerations identified above at Section 4.8.4, and as substantiated in the Initial Study (EIR Appendix A), the Project's potential impacts under the following topics are determined to be less-than-significant, and are not further substantively discussed here:

- Potential to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

- Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.[2]

All other CEQA topics concerning the Project's potential impacts to hydrology/water quality are discussed below. Please also refer to Initial Study Checklist Item X., *Hydrology and Water Quality*.

[2] Please refer also to related discussions presented at EIR Section 4.9, *Geology and Soils*.

4.8.5.2 Impact Statements

Potential Impact HYD-1: *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.*

Impact Analysis:

Project SWPPPs and Compliance with Regulatory Requirements Address Construction-Source Water Quality Impacts

During site preparation activities prior to construction, existing groundcover will be removed from the site, exposing the Project area to increased wind and water erosion potentials. Further, construction site runoff may carry increased loads of sediment, heavy metals and petroleum hydrocarbons (from machinery) which could degrade water quality. In accordance with NPDES requirements, the Project Development Contractors (Contractors) would be required to prepare a construction activities erosion control plan to alleviate potential sedimentation and storm water discharge contamination impacts of the Project.

Contractors shall also be responsible for compliance with the General Construction NPDES permit from the SARWQCB by filing a Notice of Intent to Commence Construction Activities. Under the General Construction Permit, discharge of materials other than storm water is prohibited. Contractors shall prepare, retain at the construction site, and implement Storm Water Pollution Prevention Plans (SWPPPs) that identify the sources of sediments and other pollutants that affect the quality of storm water discharge, and implement practices to reduce sediment and other pollutants to storm water discharge. The SWPPPs also identify both construction and post-construction BMPs to reduce sediments and other pollutants. BMPs mandated by the requisite NPDES permit typically include installation of filter fabric fences, sandbars and checkdams.

Construction BMPs for developments within the Project site would likely include, but not be limited to:

- Silt Fences;
- Check Dams;
- Gravel Bag Berms;
- Street Sweeping and Vacuuming;
- Sandbag Barriers;
- Storm Drain Inlet Protection;
- Wind Erosion Control;
- Stabilized Construction Entrance/Exit; and
- Entrance/Outlet Tire Wash.

Implementation of the SWPPPs and compliance with applicable NPDES and SARWQCB requirements will reduce potential construction-source water quality impacts to levels that would be less-than-significant.

Project WQMPs and Compliance with Regulatory Requirements Address Operational-Source Water Quality Impacts

Over the life of the Project uses, contaminants such as oil, fuel and grease that are spilled or left behind by vehicular traffic, collect and concentrate on paved surfaces. During storm events, these contaminants are washed into the storm drain system and may potentially degrade receiving water quality. Storm water runoff from paved surfaces within the developed Project site could carry a variety of urban wastes, including greases and oils and small amounts of metals which are common by-products of vehicular travel. In addition, storm runoff will likely contain residual amounts of fertilizers and plant additives washed off from landscaped areas within the Project site.

Recognizing the potential hazards of such urban runoff, the EPA has issued regulations which required municipalities to participate in the NPDES. As part of this program, San Bernardino County has received an NPDES permit for urban runoff. Compliance with

the provisions specified in the NPDES permit ensures proper management and disposal of urban runoff from the Project.

Contractors shall be responsible for obtaining a General Permit for storm water discharge from the SARWQCB, in accordance with the Notice of Intent instructions. Under the General Permit, discharge of materials other than storm water is prohibited. In support of the above requirements, contractors shall also develop and implement a development-specific Water Quality Management Plans (WQMPs) addressing all post-construction pollutant discharges. To the extent feasible, individual development proposals implemented within the Project site would employ permeable materials and landscaped areas to enhance on-site capture and absorption of stormflows. The Project would also provide for elimination/reduction of pollutant discharges, including capture and treatment of dry weather and first flush runoff in a manner consistent with City and SARWQCB policies and requirements. BMPs to be implemented under the WQMPs would likely include, but not be limited to the following:

Source Control/Non-Structural BMPs

- Education of Property Owners;
- Spill Contingency Plan;
- Employee Training/Education Program;
- Street Sweeping of Private Streets and Parking Lots;
- Common Areas Catch Basin Inspection;
- Landscape Planning;
- Hillside Landscaping;
- Roof Runoff Controls;
- Efficient Irrigation;
- Protection of Slopes and Channels;
- Storm Drain Signage;
- Inlet Trash Racks;
- Energy Dissipaters;
- Trash Storage Areas and Litter Control;

- Maintenance Bays and Docks Drainage Controls; and
- Outdoor Material Storage Area Drainage Controls.

Site Design/Structural BMPs

- Infiltration and Biofiltration Basins;
- Maximize Permeable Areas;
- Minimize Street, Sidewalk, and Parking Lot Aisle Widths;
- Minimize Impervious Hardscape Features;
- Maintain Natural Drainage Patterns;
- Incorporate Drought-Tolerant Landscaping;
- Perforated Pipes and Gravel Filtration Areas;
- On-site Vegetated Swales;
- Convey Runoff to Landscaping/Permeable Areas Prior to Discharge to Storm Drains;
- Drain Sidewalks and Walkways to Adjacent Landscape Areas; and
- Integration of Landscaping and Drainage Designs.

All individual development proposals within the Project site would be required to comply with all requirements of the City's MS4 Permit, as well as the Trash Mandate adopted by the SARWQCB. All storm water discharges from individual development proposals within the Project site would be required to comply with applicable provisions of the County's National Pollutant Discharge Elimination System (NPDES) permit. Consistent with SARWQCB and City requirements, waste materials will not be discharged to drainage areas, streambeds, or streams. Nor will spoil sites be located in areas that could result in spoil materials being washed into a water body.

Additionally, all development proposals within the Project site would be required to comply with Standard City Conditions of Approval including implementation of development-specific WQMPs, thereby avoiding/minimizing potential water quality impacts.

The City, as one element of its established development review processes would ensure NPDES Permit compliance concurrent with application(s) for development permits within the Project site.[3]

Implementation of the WQMPs and compliance with applicable NPDES and SARWQCB requirements will reduce potential operational-source water quality impacts to levels that would be less-than-significant.

As supported by the preceding discussions, the potential for the Project to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality is determined to be less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact HYD-2: *Substantially alter the existing drainage pattern of the site or area in a manner that would substantially increase the rate or amount of runoff that would result in flooding on- or offsite; Substantially alter the existing drainage pattern of the site or area in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.*

Impact Analysis: The Project overall drainage concept maintains the site's predominant north – south/northeast – southwest trending drainage pattern. Within the Project site, new development types proposed under the 2022 SPA would redefine hydrologic patterns when compared to assumptions of the 2012 City of Ontario's Master Plan of Drainage (MPoD).

[3] See: *City of Ontario – Engineering Department, National Pollutant Discharge Elimination System (NPDES) Requirements for New Development,* https://www.ontarioca.gov/sites/default/files/npdes_requirements_for_new_development_-_redevelopment.pdf

In this latter regard, the Project Hydrology Report concludes that under post-development conditions, peak stormwater flow rates from Specific Plan Planning Areas 1A, 1B, 1C, 2C, 3C, 5A, 6A, 6B could exceed capacities of the receiving MPD Haven and Mill Creek storm drains.[4] The Project could therefore create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. This is a potentially significant impact. Stormwater flow discharges from the affected Planning Areas need to be reduced to ensure adequate storm water conveyance and flood protection along the mainlines upstream of the County Line Channel (Hydrology Report, p. 17).

Level of Significance: Potentially Significant.

Mitigation Measures: The Project Hydrology Report identifies mitigation to reduce potentially increased runoff resulting from Project development – represented here as Mitigation Measures 4.8.1 through 4.8.3. The Project Hydrology Report also notes that Planning Area and development-specific studies may be performed to demonstrate that no adverse impact to the storm drain system would result from proposed development. In these cases, the City may determine that no or alternative mitigation would be required.

4.8.1 *General: In conjunction with all development proposals within the Specific Plan Area, peak flow mitigation measures for each development shall be implemented such that discharges to receiving MPD storm drain mainlines do not exceed the maximum allowable flow rates identified at Project Hydrology Report, Appendix A, Exhibit 3. Ultimate design, location, and configuration of peak flow mitigation measures are site-and use-specific. Design, location, and configuration of peak flow mitigation measures shall be approved by the City as part of site plan review and approval processes.*

[4] Detailed analysis of developed stormflows and adequacy of serving MPD facilities is presented at Project Hydrology Report, pp. 14 – 19. Maximum allowable flow rates for serving MPD storm drain mainlines are identified at Project Hydrology Report, Appendix A, Exhibit 3.

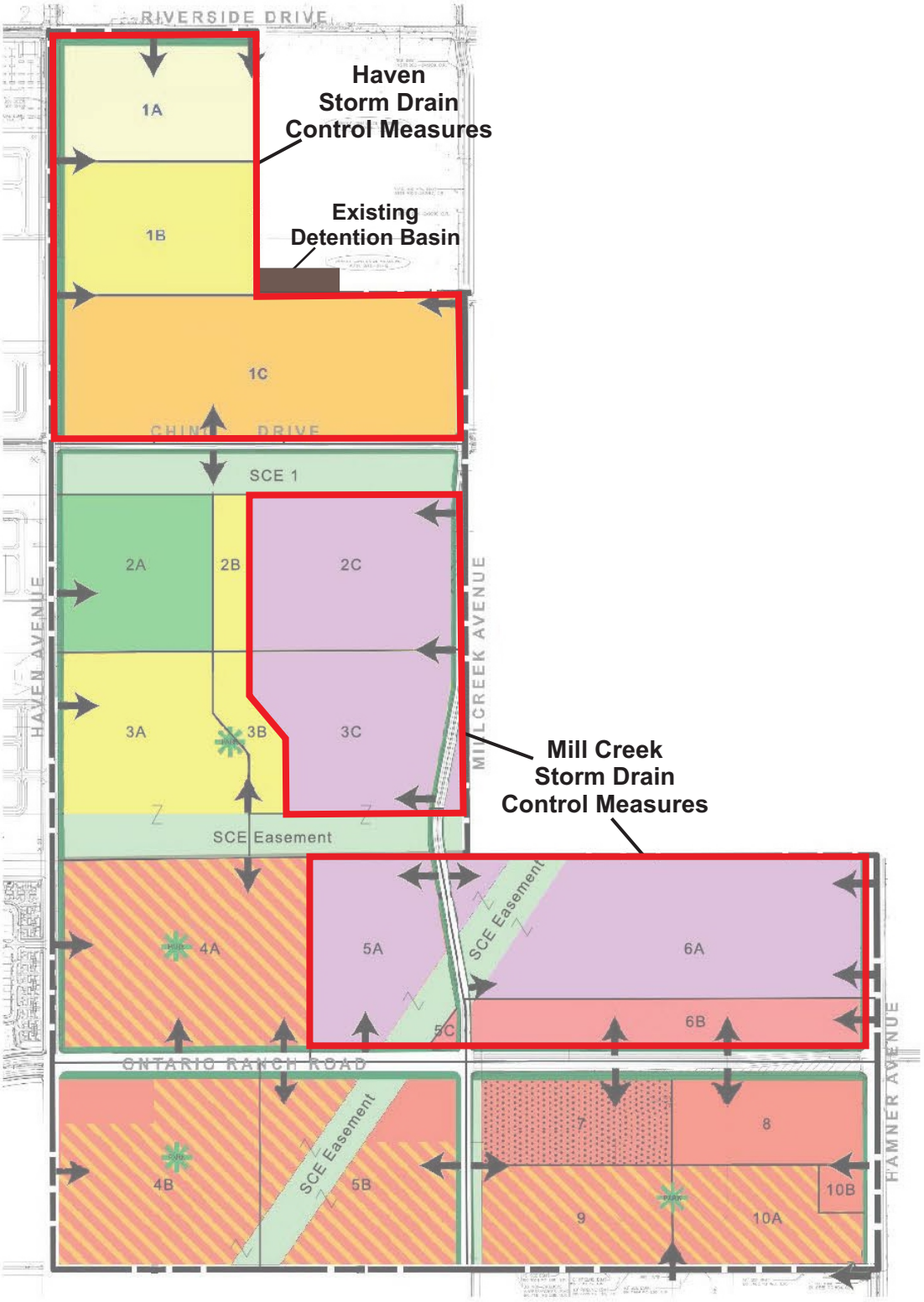
4.8.2 Haven Storm Drain Mitigation: Measures (e.g., detention basins or similar) to control peak flows to the Haven Storm Drain shall be implemented to address increased stormwater discharges resulting from development of Planning Areas 1A, 1B, 1C, 2C, and 3C. Please refer to Figure 4.8-5. Locations for these measures shall be reviewed and approved by the City prior to final site plan approval(s) for development within Planning Areas 1A, 1B, 1C, 2C, and 3C.

4.8.3 Mill Creek Storm Drain Mitigation: Peak flow mitigation measures shall be implemented for stormwater discharges resulting from development of Planning Areas 2C, 3C, 5A, 6A, and 6B. Please refer to Figure 4.8-5. Locations for these measures shall be reviewed and approved by the City prior to final site plan approval(s) for development within Planning Areas 2C, 3C, 5A, 6A, and 6B.

Other Programs and Requirements Acting to Minimize Stormwater Impacts

Within the Project site, individual development proposals would be required incorporate all necessary drainage and stormwater management systems, and comply with all stormwater system design, construction, and operational requirements mandated through the City's established development review processes. In these regards, the individual development proposals within the Specific Plan Area would be required to comply with City Standard Conditions of Approval addressing hydrology and water quality concerns. These Conditions of Approval include:

- Standard Condition (SC) 3.66: A hydrology study and drainage analysis, prepared in accordance with the San Bernardino County Hydrology Manual and the City of Ontario's Standards and Guidelines, and signed by a Civil Engineer registered in the State of California, shall be submitted to the Engineering Department prior to Grading Plan approval. Additional drainage facilities may be required as a result of the findings of the study.



NOT TO SCALE

Source: Rich-Haven Specific Plan Amendment, 2022; Applied Planning, Inc.

Figure 4.8-5
Storm Drain Control Measures

- SC 3.68: Prior to Grading Plan approval and the issuance of a grading permit, an Erosion and Sediment Control Plan shall be submitted to, and approved by, the Engineering Department. The Erosion and Sediment Control Plan shall identify the Best Management Practices (BMPs) that will be implemented by the Project during construction in order to reduce the discharge of sediment and other pollutants into the City's storm drain system.

- SC 3.69: Prior to Grading Plan approval and the issuance of a grading permit, a completed Water Quality Management Plan (WQMP) shall be submitted to, and approved by, the Engineering Department. The WQMP shall be submitted using the San Bernardino County Stormwater Program's model template and shall identify all Post Construction, Site Design, Source Control, and Treatment Control Best Management Practices (BMPs), that will be incorporated into the Project, in order to minimize any potential adverse impacts to receiving waters. [5]

As discussed previously in this Section, the Project would not result in substantial additional sources of polluted runoff or otherwise adversely affect water quality.

In combination, implementation of Mitigation Measures 4.8.1 through 4.8.3, and mandated compliance with City Conditions of Approval and regulatory requirements act to preclude potentially adverse drainage and stormwater runoff impacts.

Based on the preceding, with application of mitigation, the potential for the Project to: substantially alter the existing drainage pattern of the site or area in a manner that would substantially increase the rate or amount of runoff that would result in flooding on- or offsite; or substantially alter the existing drainage pattern of the site or area in a manner that would create or contribute runoff water which would exceed the capacity of existing

[5] City of Ontario. "Standard Conditions of Approval for New Development, Applicable to 'Ontario Ranch'" pp. 13, 14. *City of Ontario, California*. http://www.ontarioca.gov/sites/default/files/Ontario-Files/Planning/Documents/20170418-standard_conditions_for_new_development.pdf

or planned stormwater drainage systems or provide substantial additional sources of polluted runoff is determined to be less-than-significant.

Level of Significance after Mitigation: Less-Than-Significant.

Potential Impact HYD-3: *Impede or redirect flood flows.*

Impact Analysis: As shown at Policy Plan Figure S-2, *Flood Hazards*, the Project site is located within a 500-year flood plain and is within the San Antonio Creek Dam Failure Inundation Area. The Project site does not, however, lie within a designated 100-year floodplain or other areas known to be subject to moving or high-velocity floodwaters. The Project does not propose or require facilities or operations that would otherwise impede or redirect flood flows. On this basis, the potential for the Project to impede or redirect flood flows is determined to be less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact HYD-4: *Under a flood, tsunami, or seiche event, release pollutants due to project inundation.*

Impact Analysis: The Project site is not located within an area subject to tsunami, or seiche events. There is no potential for the Project to be adversely affected in these regards.

The Project site does, however, lie within a 500-year floodplain and is within the San Antonio Creek Dam Failure Inundation Area. There is, therefore, the potential for the Project generally to be subject to inundation under 500-year flood conditions or in the event of the San Antonio Creek Dam failure. Either of these are relatively low probability events. Catastrophic failure of the San Antonio Dam when it is at or near capacity could spread water two to four feet deep over the western and central parts of the City. However, the City has never experienced such an event.

TOP 2050 SEIR concluded that the probability of catastrophic failure of the San Antonio Dam is very low. Furthermore, the City of Ontario Fire Department maintains a list of emergency procedures to be followed in the event of a dam failure (TOP 2050 SEIR, p. 5.10-26). Because the likelihood of catastrophic failure of the San Antonio Dam is very low and the City is prepared in the event of such failure, impacts related to potential release of pollutants under dam failure conditions are considered less-than-significant.

Potential for release of pollutants under 500-year flood conditions or in the event of dam failure is minimized through the location, orientation, and construction of Project facilities consistent with City Building Code requirements and implementation of the Project stormwater management system improvements described in this Section. Additionally, the Project commercial and light industrial uses would be required to develop and implement Hazardous Materials Release Response Plans and Inventory (Business Plans) that specifically address storage and use of hazardous materials so as to minimize their potential release, containment of hazardous materials and related pollutants that may be released under emergency conditions, and measures to reduce potential effects of hazardous materials and related pollutants if released.

Based on the preceding, the potential for release of pollutants due to project inundation under a flood, tsunami, or seiche event is determined to be less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact HYD-5: *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.*

Impact Analysis: As discussed within this Section, the Project would implement water quality control measures consistent with City and SARWQCB requirements. The Project would there not result in potentially adverse water quality impacts and would not conflict with or obstruct implementation of a water quality control plan, in this instance, the Water Quality Control Plan for the Santa Ana Region.

The City of Ontario draws all of its groundwater supply from the Chino Basin. Since 1978, the basin has been managed via ongoing court adjudication in the 1978 judgment Chino Basin Municipal Water District vs. City of Chino et al. The Project does not propose or require direct withdrawal of groundwater. Neither would the Project adversely affect designated groundwater recharge areas or groundwater recharge facilities. To the extent practical, individual development proposals within the Project site would implement LID measures facilitating infiltration of treated stormwaters to the groundwater table.

It is also noted that eleven existing wells have been identified within the Project site. In compliance with the Chino Basin Water Master's Well Procedure for Developers, a well use/destruction plan and schedule for all existing private/agricultural wells shall be submitted to the City of Ontario for approval prior to the issuance of permits for any construction activity. If a private well is actively used for water supply, the Developer shall submit a plan to abandon such well and connect users to the City's water system (residential to the domestic water system and agricultural to the recycled water system) when available. Wells shall be destroyed/abandoned per the California Water Resource Guidelines and require permitting from the County Health Department. A copy of such permit shall be provided to the Engineering and Public Works Agency prior to issuance of grading and/or building permits.

Based on the preceding, the potential for the Project to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan is determined to be less-than-significant.

Level of Significance: Less-Than-Significant.

4.9 GEOLOGY AND SOILS

4.9 GEOLOGY AND SOILS

Abstract

This Section addresses the potential for the Project to result in substantial geology or soils-related impacts. More specifically, this analysis presented here focuses on whether the Project would:

- *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving strong seismic ground shaking;*

- *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction;*

- *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;*

- *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;*

- *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; or*

- *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

As supported by the analysis presented in this Section, potential geology and soils impacts of the Project are determined to be less-than-significant with incorporation of proposed mitigation.

4.9.1 INTRODUCTION

This Section examines geologic characteristics and surface and subsurface soil conditions and evaluates potential related geology/soils impacts that would directly or indirectly result from the Project.

Geologic, soils, and geotechnical conditions affecting the subject site and Project are described and evaluated in: *Consolidated Geotechnical Report to Support the Environmental Impact Report for the Rich-Haven Specific Plan, City of Ontario, California* (LGC Geotechnical, Inc.) September 20, 2022. In summary, the Preliminary Project Geotechnical Report concludes that the subject site is suitable for development of the Project, provided that recommendations of the Report are implemented during Project design and construction. The Project Geotechnical Report is provided at EIR Appendix J.

It is also noted that the Project is required to conform to future final site- and design-specific geotechnical investigations that will be prepared for each increment of construction.

4.9.2 SETTING

Following are summary discussions of the Project's geologic setting, prevalent site soils, geotechnical considerations, and seismic design considerations.

4.9.2.1 Regional Geology

The Project site is located south of the San Gabriel Mountains within the broad alluvial plain of the Santa Ana River Basin within the Peninsular Ranges Geomorphic Province. Specifically, the Specific Plan area is located within the northern portion of the Perris Block, a geologic zone consisting of granitics overlain by sedimentary deposits that are bounded by active faults including the northwest-trending Whittier-Elsinore Fault Zone at the southwest and the northwest-trending San Jacinto Fault Zone at the northeast. The roughly rectangular Perris Block is transected by the southwest-trending Santa Ana River that passes several miles south of the site.

Regional geologic mapping and local topographic expressions do not indicate the presence of large-scale landslides within or adjacent to the Specific Plan area.

4.9.2.2 Existing Site Conditions

Site Geology

The Project site is underlain by Holocene to Pleistoceneage eolian (wind-blown) sedimentary deposits. The materials below the eolian deposits are young alluvial fan deposits. Soils generally consist of medium dense to dense sands with varying amounts of silt interbedded with thinner layers of stiff to very stiff fine-grained soils (i.e., silts and clays) to the maximum explored depth of approximately 50 feet below existing grade. Due to previous and current land uses, localized areas are underlain by near surface fill materials, topsoil, manure, etc.

Groundwater

Groundwater was not encountered to the maximum explored depth of approximately 50 feet below existing grade. Groundwater levels recorded in the area by California Department of Water Resources are at depths greater than 120 feet below the ground surface.

Localized perched groundwater was found at a depth of approximately 40 feet below existing grade in the southeastern portion of the site. In general, groundwater levels fluctuate with the seasons and local zones of perched groundwater may be present within the near-surface deposits due to local seepage or during rainy seasons. Groundwater conditions below the site may be variable, depending on numerous factors including seasonal rainfall, local irrigation and groundwater pumping, among others.

Field Infiltration Testing

Estimation of infiltration rates was performed in general accordance with guidelines set forth by the County of San Bernardino. The observed infiltration rates are considered representative of the site soils in the area of the proposed infiltration basins/systems.

Observed infiltration rates have been normalized to correct the three-dimensional flow that occurs within the field test to one-dimensional flow out of the bottom of the boring.

Eleven infiltration tests were conducted within the limits of the site, at depth of approximately 15 to 20 feet below existing grade. Infiltration rates ranged from approximately 0.6 inch/hr. to 7.0 inch/hr. for an average of approximately 2.6 inch/hr. These rates do not include a factor of safety. Infiltration tests are performed using relatively clean water free of particulates, silt, etc.

Faulting and Seismic Hazards

A fault is considered "active" if evidence of surface rupture in Holocene time (the last approximately 11,000 years) is present. Secondary effects of seismic shaking resulting from large earthquakes on the major faults in the Southern California region, which may affect the site, include ground lurching and shallow ground rupture, soil liquefaction, and dynamic settlement. These secondary effects of seismic shaking are a possibility throughout the Southern California region and are dependent on the distance between the site and causative fault and the onsite geology. The closest major active faults that could produce these secondary effects include the Chino-Central, San Jose, Elsinore, Sierra Madre and San Andreas Faults, among others.

The Specific Plan area is not located within a State of California Earthquake Fault Zone (i.e., Alquist-Priolo Earthquake Fault Act Zone) and no active faults are known to cross the site. The possibility of damage due to ground rupture is considered low since no active faults are known to cross the site.

Liquefaction and Dynamic Settlement

Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater; 2) low density noncohesive (granular) soils; and 3) high-intensity ground motion. Loose, saturated, near-surface, cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils, and cohesive soils exhibit low to negligible liquefaction

potential. In general, cohesive soils are not considered susceptible to liquefaction. Effects of liquefaction on level ground include settlement, sand boils, and bearing capacity failures below structures. Furthermore, dynamic settlement of dry sands can occur above the groundwater table as the sand particles tend to settle and densify as a result of a seismic event.

According to the City of Ontario General Plan, the Project site is located in an area of "low to moderate" liquefaction susceptibility based only on soil type (sediments being less than 10,000 years old and unconsolidated). Additionally, site soils are generally not susceptible to liquefaction due to a lack of groundwater in the upper 50 feet and liquefaction potential is considered low to very low.

Lateral Spreading

Lateral spreading is a type of liquefaction induced ground failure associated with the lateral displacement of surficial blocks of sediment resulting from liquefaction in a subsurface layer. Once liquefaction transforms the subsurface layer into a fluid mass, gravity plus the earthquake inertial forces may cause the mass to move downslope towards a free face (such as a river channel or an embankment). Lateral spreading may cause large horizontal displacements and such movement typically damages pipelines, utilities, bridges, and structures. Due to the depth to groundwater, low potential for liquefaction and lack of nearby "free face" conditions, the potential for lateral spreading at the site is considered very low.

Expansion Potential

The CBC provides methodologies and guidelines for identification of expansive soils and establishes design standards which act to avoid potentially adverse effects of expansive soils on facilities. Section 1802.3 of the 2010 California Building Code directs expansive soil tendency be graded by its Expansion Index. A soil's Expansion Index is defined by its potential to swell when wet or saturated. The CBC mandates that "special [foundation] design consideration" be employed if the Expansion Index is 20, or greater.

Based on testing performed as part of the Geotechnical Report, site soils are anticipated to have a very low expansion potential (EI of 20 or less). Final expansion potential of site soils should be determined at the completion of grading. Results of expansion testing at finish grades will be utilized to confirm final foundation design recommendations.

4.9.3 SEISMIC DESIGN CONSIDERATIONS

The Project site and Southern California generally are subject to strong ground motions due to earthquakes with resulting damage to structures. However, it is not generally considered reasonable or feasible to design a structure that is entirely resistant to earthquake damage. Therefore, significant damage to structures may be unavoidable during large earthquakes. Proposed structures should, however, be designed to resist structural collapse and thereby provide reasonable protection from serious injury, catastrophic property damage and loss of life.

The California Building Code (CBC) provides earthquake design criteria and seismic design coefficients (CBC Seismic Design Parameters) that would be applicable to all development within the Project site.

The CBC Seismic Design Parameters are based on area soils profiles and proximity of known faults. Within the context of the CBC Seismic Design Parameters, seismic design(s) for the Project structures need to consider on-site soil conditions, occupancy, and the configuration of the structure including the structural system and height. Please refer to Project Geotechnical Report Section 2.6, *Seismic Design Criteria*.

4.9.4 GEOLOGY/SOILS/SEISMIC POLICIES AND REGULATIONS

Following are summary descriptions of geology/soils/seismic policies and regulations applicable to the Project. In many instances, compliance with existing policies and regulations eliminates, or substantially reduces, potential environmental effects.

4.9.4.1 City of Ontario Policy Plan (Policy Plan)

The Policy Plan, Safety Element Section S1, *Seismic and Geologic Hazards* establishes City-wide Goals and Policies that act to minimize potential structural damage and injury or loss of life due to earthquakes, other seismic, or adverse geologic/soils/slopes conditions.

4.9.4.2 City of Ontario Geotechnical/Seismic Design Review Processes

The City Planning, Building and Safety, and Engineering Departments implement General Plan Goals and Policies addressing geology, soils, and seismic conditions through established development permit review processes. To these ends, City staff ensures that site and development-specific geotechnical investigations are completed where appropriate, and that requirements and recommendations of these investigations are incorporated in construction plans, are followed through during construction processes, and are functionally complete before buildings are occupied and/or infrastructure systems or other improvements are accepted. In all instances, the City ensures that, at a minimum, applicable provisions of the CBC are incorporated throughout development design and implementation.

4.9.5 STANDARDS OF SIGNIFICANCE

Appendix G of the California Environmental Quality Act (CEQA) Guidelines indicates a Project will have a potentially significant geology and soils impact if it would:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides;

- Result in substantial soil erosion or the loss of topsoil;

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;

- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;

- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.9.6 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.9.6.1 Introduction

The following discussions focus on topical areas and issues where it has been determined pursuant to the EIR Initial Study/NOP processes, that the Project may result in or cause potentially significant geology or soils impacts. As substantiated in the Initial Study (EIR Appendix A), under the following topics, the Project was determined to have no impact or impacts would be less-than-significant. On this basis, the following topics are not further discussed here:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a known earthquake fault;

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving landslides;

- Result in substantial soil erosion or the loss of topsoil; or

- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

All other CEQA topics concerning the Project's potential geology and soils impacts are discussed below. Please refer also to Initial Study Checklist Item VII. *Geology and Soils*.

4.9.6.2 Impact Statements

Potential Impact GEO-1: *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving strong seismic ground shaking.*

Impact Analysis: The Project Geotechnical Report substantiates there are no active faults known within the Project site. The Project site is outside any Fault Rapture Hazard Zone (formerly Alquist-Priolo Zone). The Geotechnical Report determined that the risk of surface fault rupture is considered low. The Project does not propose actions or facilities that would otherwise exacerbate known or probable adverse earthquake fault conditions. Based on the preceding, the potential for the Project to directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving strong seismic ground shaking is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact GEO-2: *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction; or be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.*

Impact Analysis: The Project Geotechnical Report substantiates that the potential at the site for landslides, lateral spreading, and/or liquefaction is low. However, existing near-surface soils include fill materials, topsoil, manure, etc. These loose and compressible soils are not suitable for development. As such, the Report presents recommendations for site improvements to preclude impacts in this regard. These recommendations include site preparation, earthwork, remedial grading depths, and foundation recommendations.

Compliance with the recommendations presented in the Project Geotechnical Report are required by Mitigation Measure 4.9.1, below.

Level of Significance: Potentially Significant.

Mitigation Measure:

4.9.1 *All proposed development within the Specific Plan Area shall, at a minimum, comply with recommendations and standards identified in the Preliminary Geotechnical Report at Section 4.0,* Recommendations. *If further recommendations are developed as part of future site- and design-specific geotechnical investigations they shall prevail.*

Level of Significance After Mitigation: Less-Than-Significant. The Project Geotechnical Report concluded that the Project site is acceptable for the proposed development, contingent on compliance with recommendations and performance standards identified in the Report.

Potential Impact GEO-3: *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), thereby creating substantial direct or indirect risks to life or property.*

Impact Analysis: The Project Geotechnical Report substantiates that onsite soils have a very low expansion potential. "Based on the results of previous laboratory testing by others and our recent laboratory testing, site soils are anticipated to have a 'Very Low' expansion potential [EI of 20 or less per ASTM D4829]" (Project Geotechnical Report, p. 10). As such, the potential for the Project to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), thereby creating substantial direct or indirect risks to life or property is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact GEO-4: *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

Impact Analysis:

Paleontological Resources

The geologic unit underlying the Project site are mapped as young Eolian sand and dune deposits from the Holocene period. Eolian units are considered to be of some preservation value, but any material found is unlikely to be fossil material due to the relatively modern associated dates of the deposits. The Western Science Center does not have any localities within the Project site or within a one-mile radius. The Cultural Resources Assessment determined that significant impacts in this regard would be unlikely.[1]

Level of Significance [impacts to paleontological resources]**:** Less-Than-Significant.

Geological Features

With regard to unique geological features, the City has not established criteria for determining what comprises a unique geological feature. Other relevant agency criteria however indicates that a geological feature could be generally considered unique if it:

- Is the best example of its kind locally or regionally;
- Embodies the distinctive characteristics of a geologic principle that is exclusive locally or regionally;
- Provides a key piece of geologic information important in geology or geologic history;
- Is a "type locality" of a geological feature;
- Is a geologic formation that is exclusive locally or regionally;
- Contains a mineral that is not known to occur elsewhere in the County; or

[1] *Cultural Resources Assessment, Rich-Haven Specific Plan Areas of Change Project, City of Ontario, San Bernardino County, California* (BCR Consulting LLC) August 18, 2022; Appendix E, *Paleontological Resources Overview.*

- Is used repeatedly as a teaching tool.[2]

As presented in the Project Geotechnical Report: . . . "the subject site is underlain by Holocene- to Pleistocene- age eolian (wind-blown) sedimentary deposits. The materials below the eolian deposits are young alluvial fan deposits…soils generally consisted of medium dense to dense sands with varying amounts of silt interbedded with thinner layers of stiff to very stiff fine-grained soils (i.e., silts and clays) to the maximum explored depth of approximately 50 feet below existing grade…Due to previous/current land use as farming, localized areas are underlain by near surface fill materials, topsoil, manure, etc." (Project Geotechnical Report, p. 6).

These soil types are common within the City and Southern California, and do not comprise unique geological features as described above. The Project does not propose uses or activities that would indirectly contribute to or result in potentially adverse impacts to a unique geological feature.

Based on the preceding, the potential for the Project to directly or indirectly destroy a unique geological feature is considered less-than-significant.

Level of Significance [impacts to geological features]: Less-Than-Significant.

2 *County of San Diego Guidelines for Determining Significance Unique Geology* (County of San Diego, Department of Planning and Land Use Department of Public Works) June 30, 2007, p. 1.

4.10 BIOLOGICAL RESOURCES

4.10 BIOLOGICAL RESOURCES

Abstract

This Section identifies and addresses potential impacts to biological resources resulting from the Project. More specifically, the analysis presented here examines whether the Project would:

- *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;*

- *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;*

- *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;*

- *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites;*

- *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;*

- *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

As supported by the analysis presented in this Section, with application of proposed mitigation measures, the Project's potential impacts to biological resources are determined to be less-than-significant.

4.10.1 INTRODUCTION

Following are discussions of existing biological resources characteristic of the Project area, with focused consideration on species of special interest known to occur, or that could potentially occur on the Project site. Potential impacts to biological resources are identified, and mitigation of potentially significant impacts is proposed. Information presented in this Section is summarized and excerpted from: *Biological Report for the Rich Haven 2022 Specific Plan Amendment Project Site (*Harmsworth Associates) July 2022. The Project Biological Report is included in its entirety at EIR Appendix K.

4.10.2 SETTING

4.10.2.1 Overview

The Project site has a history of agricultural use, and has been extensively altered, with the entire area having been cleared, leveled, or otherwise reshaped at some point, which is evident from conditions on the site, and from comparing satellite imagery of the Project site over the last several decades. No discernible natural hills, rock formations, or natural drainages or water courses remain at the site. Disking occurs regularly on portions not currently in active agricultural use. Earth movement and stockpiling of soils occur in portions of the site.

4.10.2.2 Biologic Setting

The following discussions provide the existing biologic setting for the Project site.

Soils

Historically, the soils in the area are from the Delhi association and are nearly level to strongly sloping, somewhat excessively drained, very deep soils on alluvial fans in coarse-textured, wind-re-formed granitic material.

The Project site has a history of agricultural use, and site soils have been extensively altered and amended over time. Current soils are significantly altered compared with historic conditions. Soils mapping of the Project site is presented at Figure 4.10-1. The following soils are mapped as occurring within the Project area:

Delhi fine sand (Db)

This nearly level to strongly sloping soil is on alluvial fans that have been reworked by wind action. Typically, the upper 40 inches consist of pale-brown sand and fine sand - single grained, loose when dry. This soil is used for grapes, pasture plants, alfalfa and some citrus.

Hanford coarse sandy loam, 2 to 8 percent slopes (HcC)

This soil consists of well-drained and somewhat excessively drained soil on alluvial fans, and is derived from granitic materials. The upper 18 inches consist of grayish-brown and very dark grayish brown coarse sandy loam. This soil is used for irrigated citrus, truck crops, grapes, dryland grain, pasture and non-farm purposes.

Hilmar loamy fine sand (Hr)

Hilmar loamy fine sand consists of moderately well-drained, nearly level to gently sloping soils that formed in alluvium from granitic sources. They occur on alluvial fans. Surface soils are sandy loam; light grayish-brown when dry, dark grayish brown when moist. Vegetation is mostly annual forbs and grasses. Soils may be used for dryland crops and pasture.



Source: Harmsworth Associates

Figure 4.10-1
Project Site Soils Map

Tujunga loamy sand, 0 to 5 percent slopes (TuB)

This gently to moderately sloping soil occurs on alluvial fans and on flood plains. This soil is developed in alluvium predominantly from granitic materials. The upper 36 inches consist of light-gray, gray when moist, loamy sand. This soil is used for dryland grain, pasture, range and, if protected from flooding, for irrigated truck crops.

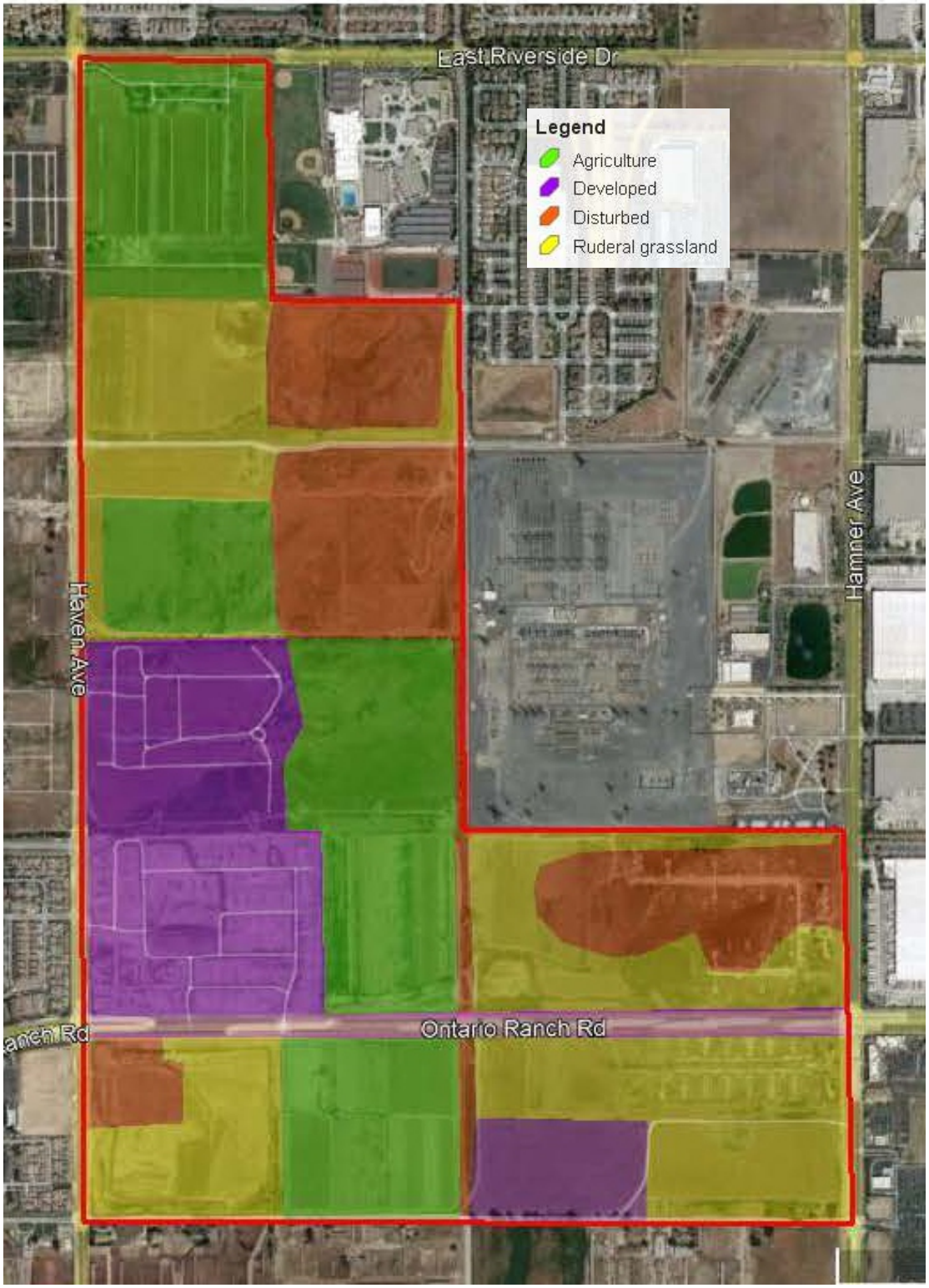
Vegetation

The Project site has been significantly impacted due to years of disking, dumping, disturbance and agriculture. Currently, the site contains one vegetation community and three additional land types: Ruderal grassland, agriculture, disturbed, and developed. Project site vegetation is mapped at Figure 4.10-2.

Vegetation types within the site were mapped according to A Manual of California Vegetation (Sawyer et al. 2009) to the extent possible. Since this system focuses on native vegetation communities, many disturbed and man-made land covers do not fit cleanly into the system. The best fit possible was made to map and classify the onsite vegetation. The equivalent vegetation community under the old Holland classification system is also noted. Dirt roads and disturbed areas were mapped as the vegetation community which they occur.

Ruderal grassland

Ruderal is a low to medium growing herbaceous vegetation type dominated by annual grasses and forbs of Mediterranean origin. It is a type of non-native grassland community, mapped under the semi-natural herbaceous stands by Sawyer et al. Ruderal communities occurred in areas that were recently and frequently disturbed. Holland classified this habitat type as non-native grasslands.



N

NOT TO SCALE

Source: Harmsworth Associates

Figure 4.10-2
Project Site Vegetation Map

Within the Project site, the ruderal grassland is associated with areas of recent disking, old agriculture and frequent disturbances. The dominant species varied across this area, but the most abundant species were Menzies' fiddleneck (*Amsinckia menziesii*), wall barley (*Hordeum murinum*), common red sage (*Kochia scoparia*) and London rocket (*Sisymbrium irio*). Other species present included redstem filaree (*Erodium cicutarium*), cheeseweed (*Malva parviflora*), stinknet (*Oncosiphon piluliferum*) and summer mustard (*Hirschfeldia incana*).

Native species Spencer primrose (*Camissoniopsis micrantha*), bush sunflower (*Encelia californica*), and California buckwheat (*Eriogonum fasciculatum*) occurred at a few locations.

Within the areas mapped as ruderal grassland were a few Goodding's black willow (*Salix gooddingii*), Spanish false fleabane (*Pulicaria paludosa*), southern cattail (*Typha domingensis*), and fragrant flatsedge (*Cyperus odoratus*) that occurred in the old ponds and wet areas associated with former agriculture practices. A total of 179.7 acres of Ruderal grassland occurred on the Project site.

Agriculture

Agricultural areas can include irrigated row crops, exotic trees, fields not in current use, recently disked fields and glass-houses, in addition to sheds, temporary dwellings and other structures.

On the Project site, agriculture included dairy areas (with associated buildings and structures) and irrigated fields (that were very strongly dominated by wall barley). There were some old ponds and wet areas associated with agriculture practices. Within this area, there were also dirt piles, disturbed areas devoid of vegetation, and access roads. A total of 171.5 acres of Agriculture occurred onsite.

Disturbed

Disturbed areas include recently and frequently disked or graded areas lacking vegetation. On the Project site, the disturbed areas consisted of former agriculture areas and open areas that are devoid of vegetation. Within this area, there were also dirt

moving operations, stock-piling of soil and recently graded areas. A total of 110.1 acres of disturbed areas occurred onsite.

Developed

A significant portion of the site has been developed and was in active use by the residents. The developed areas are a mixture of residential structures, associated parks, and roads. Also included is an area in the southern portion of the site that is under active development for new homes. A total of 129.2 acres of developed areas occurred onsite.

Plant Species

Plant species at the Project site consisted of species associated with open and disturbed habitats. A total of 68 vascular plant species, representing 31 families, were detected at the Project site during the current surveys. Twenty-five species were native and the remaining 43 species were exotic or planted. The best represented family was Asteraceae (12 species). Please refer to Appendix B of the Project Biological Report for a full list of all plant species.

Wildlife Species

Wildlife at the Project site consisted of common species and species associated with open, disturbed habitats. The most abundant species detected during the site visits[1] were birds such as European starling (*Sturnus vulgaris*), white-crowned sparrow (*Zonotrichia leucophrys*), mourning dove (*Zenaida macroura*) and house finch (*Carpodacus mexicanus*). A total of 39 wildlife species were detected during the site visits, including three reptile, 32 bird, and four mammalian species. Please refer to Appendix D of the Project Biological Report for a full list of all wildlife species.

Migratory Corridors and Linkages

Habitat linkages provide connections between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities

[1] Vegetation mapping, habitat assessments and general botanical surveys were conducted on 21 February, 1 March, 28 and 30 May and 7 June 2022. Field surveys for wildlife and habitat assessment for special status wildlife species were conducted on 11 February, 10 and 24 March, 18 and 26 May, 2 and 26 June 2022. (Project Biological Resources Report, p. 7).

for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area.

No wildlife corridors or linkages are known at the Project site. The site is open but much of the vicinity is already developed and it is unlikely that the site is of any significance to wildlife movement.

Jurisdictional Areas

The site does not contain any lakes, rivers, creeks, streambeds, wetlands, vernal pools, temporary rain pools or riparian areas. There are no areas onsite that are subject to the jurisdiction to the U.S. Army Corps of Engineers, the California Department of Fish and Wildlife or Regional Water Quality Control Board.

Some wet areas, shallow temporary ponds, and earthen detention basins did occur within the old and existing agricultural areas. These were all man-made and associated with agricultural activities. They were not associated with any natural drainages, creeks or wetlands and are not subject to the jurisdiction to the U.S. Army Corps of Engineers, the California Department of Fish and Wildlife or Regional Water Quality Control Board.

A formal jurisdictional delineation conducted in 2006 found no areas of the site subject to the jurisdiction to the U.S. Army Corps of Engineers, the California Department of Fish and Wildlife or Regional Water Quality Control Board (Project Biological Report, p. 17).

Special-Status Biological Resources

Special-Status Plants

There are no historic site records for any special status plant species onsite. Based on a review of CNDDB, the CNPS Inventory of Rare and Endangered Vascular Plants of California, and field surveys, a few special-status species were identified for additional analysis, although none are expected to occur onsite. Please refer also to Table 1 of the Biological Report.

No special-status plants were observed on the Project site during the 2022 site surveys. Due to the extensive historical and ongoing human use of the site, and the alteration of land features (rocky outcrops, hillsides, creeks, drainages etc.) that would typically provide refuge for rare plants and threatened plants amidst human activity, it is exceedingly unlikely that any special-status plants could occur on the Project site. Furthermore, the lack of any native-dominated plant cover, which would be the typical habitat for any potentially rare species in this area, suggests this is unlikely (Project Biological Report, p. 12).

Special-Status Wildlife

Three special-status wildlife species; California horned lark (*Eremophila alpestris actia*), loggerhead shrike (*Lanius ludovicianus*) and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*); were observed on the Project site during the 2022 site surveys. Based on a review of CNDDB, published literature, and field surveys and assessments, a number of special-status wildlife species were identified as potentially occurring onsite, including some species with historic records from the Project vicinity. All special-status wildlife species with some potential to occur onsite are addressed in Table 3 of the Project Biological Report. The three special-status species detected and two additional special status species; Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*) and burrowing owl (*Athene cunicularia*) are discussed further below.

California horned lark (*Eremophila alpestris actia*)

California horned larks occur in open areas with little or no ground cover, such as grassland or ruderal vegetation and disturbed areas within scrub habitats. A few California horned larks were observed foraging along dirt roads onsite several times in Spring 2022. No horned larks were detected during subsequent site visits, indicating that the larks were non-breeding wintering or migrating individuals. No nesting onsite was detected (Project Biological Report, p. 18).

Loggerhead shrike (*Lanius ludovicianus*)

Loggerhead shrikes occur in grassland, scrub and other open habitats with perching structures. Nests are placed in trees and shrubs. Two loggerhead shrikes were observed foraging onsite during the February site visit. No loggerhead shrikes were detected

during subsequent site visits, indicating that the shrikes were non-breeding wintering or migrating individuals. No nesting onsite is expected (Project Biological Report, p. 18).

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)
San Diego black-tailed jackrabbit occurs along the coastal side of the southern California mountain ranges. It primarily occurs in open grasslands, agricultural fields and sparse coastal scrub. Nests under bushes or shrubs that have shallow depressions. Two San Diego black-tailed jackrabbit were observed foraging onsite during the February site visit (Project Biological Report, p. 18).

Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*)
The federally endangered Delhi Sands Flower-Loving Fly is restricted to the Delhi Sands formation, on ancient inland sand dunes. The Project site is located within the Ontario Recovery Unit of the Recovery Plan for Delhi Sands Flower-Loving Fly. Historically, much of the Project site supported Delhi fine sand, which is the soil type required for Delhi Sands Flower-Loving Fly occurrence.

However, the site has a history of agricultural use, and site soils have been extensively altered and amended over time. Current soils are significantly altered compared with historic conditions; and degraded from the perspective of supporting Delhi Sands Flower-Loving Fly.

Delhi Sands Flower-Loving Fly lay eggs in fine sand, where the larva develop over a 1 – 2 year period. Soil disturbances from agricultural and other activities likely kill the larva, which precludes the fly from these areas.

Delhi Sands Flower-Loving Fly require habitat with vegetation cover from absent (windblown sand) to sparse (less than 50% vegetation cover). Suitable vegetation includes telegraph weed (*Heterotheca grandiflora*), California buckwheat (*Eriogonum fasciculatum*), California croton (*Croton californicus*), annual bur-sage (*Ambrosia acanthicarpa*) and other native or non-native species. All of these plant species are either absent from the site or present in very low numbers and site vegetation is typically dense from non-native plant species (in most areas close to 100% vegetation cover).

Delhi Sands Flower-Loving Fly are unlikely to occur onsite for the following reasons:

- Soils are significantly altered and degraded;
- Soil disturbances from agricultural and other activities likely kill any fly larva;
- Suitable native vegetation species are absent from the site; and,
- Site vegetation is generally too dense to support flies.

[Project Biological Report, p. 19]

Burrowing owls (*Athene cunicularia*)

Burrowing owls occur in shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a yearlong resident. They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. As a critical habitat feature, they require the use of rodent or other burrows for roosting and nesting cover. They can also use pipes, culverts, and nest boxes.

No burrowing owls or their sign were detected during the surveys and there was no evidence that any burrowing owls occur onsite. No onsite burrows showed any evidence of owl occupancy. Burrowing owls are presumed absent from the site.

Focused surveys for burrowing owl were conducted over the northern portions of the site in 2022 (VCS Environmental). No burrowing owls or their sign were detected during the surveys and there was no evidence that any burrowing owls occur onsite (Project Biological Report, p. 19).

4.10.3 EXISTING POLICIES AND REGULATIONS

Federal Endangered Species Act/California Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (ESA) in 1973 to protect those species that are endangered or threatened with extinction. The State of California enacted a similar law, the California Endangered Species Act (CESA) in 1984. The State and Federal Endangered Species Acts are intended to operate in conjunction with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The United States Fish and Wildlife Service (USFWS) is responsible for implementation of ESA, while the CDFW implements CESA. During Project review, each agency is given the opportunity to comment on the potential for the Project to affect listed plants and animals.

State of California, Fish and Game Code Section 1600 *et seq.*

The CDFW has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code over fish and wildlife resources of the state. Under Section 1602, a private party must notify the CDFW if a project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, except when the department has been notified pursuant to Section 1601." If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the initiating party, they may enter into an agreement with the CDFW identifying the approved activities and associated mitigation measures.

4.10.3.1 Other Statutes, Codes, and Policies

In addition to ESA and CESA listings, plant and wildlife species receive consideration during the CEQA review processes, as discussed below.

Species of Special Concern

Species of Special Concern are generally defined as those California species whose numbers, reproductive success, or habitat may be threatened. Potential impacts to Species of Special Concern receive consideration under CEQA review.

CNPS-Listed Plants

The California Native Plant Society (CNPS) maintains a list of plant species native to California with minimal populations, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review.

Raptors and Migratory Birds

Raptors (birds of prey), migratory birds, and other avian species are protected by state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Potential impacts to raptors and migratory birds receive consideration under CEQA review.

4.10.4 STANDARDS OF SIGNIFICANCE

CEQA has identified the following significance thresholds relative to biological resources. If the Project would result in any one of the following, its impacts to biological resources would be considered significant.

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS);

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance; or

- Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.10.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.10.5.1 Introduction

All CEQA topics concerning the Project's potential impacts to biological resources are discussed below. Please refer also to Draft EIR Appendix A, Initial Study Checklist Item IV., *Biological Resources*.

4.10.5.2 Impact Statements

Potential Impact BIO-1: *Substantially affect, either directly or through habitat modifications, any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS).*

Impact Analysis: Although no nesting birds were observed on-site, raptors (birds of prey), migratory birds, and other avian species are protected by the federal Migratory Bird Treaty Act (MBTA). Mitigation Measure 4.10.1 has been incorporated to ensure avoidance of any potential impacts, in accordance with MBTA requirements.

Additionally, although on-site activities have reduced the suitability of habitat to support special-status species known to occur in the general vicinity, the following special status-species may be affected by the Project:

- California horned lark;
- Loggerhead shrike;
- San Diego black-tailed jackrabbit; and
- Burrowing owl.

Although the California horned lark, Loggerhead shrike, and San Diego black-tailed jackrabbit are listed as state Species of Special Concern (SSC) in California, they are not federally or state listed as threatened or endangered. These species and their habitats are considered widespread and relatively common throughout coastal southern California. Due to the presence of suitable habitat throughout southern California and the widespread and common nature of these species, impacts of the Project on these species would not be considered significant. Potential nesting California horned larks and Loggerhead shrikes would be protected by Mitigation Measure 4.10.1.

Level of Significance before Mitigation: Potentially Significant.

Mitigation Measures:

4.10.1 *Avoidance of Nesting Migratory Birds: If possible, all vegetation removal activities shall be scheduled from August 1 to February 1, which is outside the general avian nesting season. This would ensure that no active nests would be disturbed and that removal could proceed rapidly. If vegetation is to be cleared during the nesting season, all suitable habitat will be thoroughly surveyed within 72 hours prior to clearing for the presence of nesting birds by a qualified biologist (Project Biologist). The Project Biologist shall be approved by*

the City and retained by the Applicant. The survey results shall be submitted by the Project Applicant to the City Planning Department. If any active nests are detected, the area shall be flagged and mapped on the construction plans along with a minimum 300-foot buffer, with the final buffer distance to be determined by the Project Biologist. The buffer area shall be avoided until, as determined by the Project Biologist, the nesting cycle is complete or it is concluded that the nest has failed. In addition, the Project Biologist shall be present on the site to monitor the vegetation removal to ensure that any nests, which were not detected during the initial survey, are not disturbed.

4.10.2 *Avoidance of Nesting Burrowing Owls: No more than 72 hours prior to any site disturbances, focused surveys for the burrowing owl shall be conducted. If absence of this species is confirmed, Project work can proceed. If, however, burrowing owl is located on site, the appropriate resource agencies (CDFW and USFWS) shall be contacted. The Project Applicant shall consult with the wildlife agencies regarding the most appropriate methods and timing for removal of owls. As necessary, owls will be actively evicted following agency approved protocols (i.e., placing a one-way door at the burrow entrance to ensure that owls cannot access the burrow once they leave). Any such active eviction shall occur outside of the breeding/nesting season. That is, active eviction shall be accomplished between September 1 and February 15. If more than 30 days has elapsed between owl eviction and completion of clearing and grubbing activities, a subsequent survey for the burrowing owl shall be conducted to ensure that owls have not re-populated the site. Any reoccupation by owls will require subsequent protocol active eviction.*

Level of Significance after Mitigation: With the implementation of Mitigation Measures 4.10.1 and 4.10.2, the Project's potential impacts to species identified as a candidate, sensitive, or special-status species are considered less-than-significant.

Potential Impact BIO-2: *Have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or California plans, policies or regulations or by the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS); Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

Impact Analysis: The site does not contain any lakes, rivers, creeks, streambeds, wetlands, vernal pools, or temporary rain pools. No other wetlands, riparian habitat or other sensitive communities exist within the Project site. Nor does the Project propose uses or activities that would substantially or adversely affect any other off-site wetlands or riparian areas.

Level of Significance before Mitigation: Less-Than-Significant.

Potential Impact BIO-3: *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.*

Impact Analysis: No regional wildlife movement corridors have been identified in the City, most of which is ill suited for the purposes of wildlife movement (TOP SEIR, p. 5.4-33). No wildlife habitat linkages or movement corridors have been identified at the Project site (Project Biological Report, p. 30). Nor does the Project propose facilities or activities that would substantively and adversely affect any off-site designated wildlife habitat linkage or movement corridor. Impacts to potential nesting birds are addressed by Mitigation Measure 4.10.1, presented previously.

Based on the preceding, impacts to wildlife corridors, habitat linkages, or wildlife nursery sites that would occur as a result of the Project are determined to be less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact BIO-4: *Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance; Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

Impact Analysis: TOP 2050 supports protection of high value habitat areas (TOP 2050 Goal ER-5). The Project site has been significantly impacted due to years of disking, dumping, disturbance and agriculture. As a result of these historic disturbances and on-

going urbanization of the site per the 2021 Specific Plan, the Project site does not contain or support high value habitats or protected species. See also: Project Biological Report, pp. 12 – 19. The Project does not propose or require uses or operations that would adversely affect any off-site high value habitat areas.

City of Ontario Municipal Code Division 6.05—Landscaping establishes standards that would preserve existing protected trees where possible. City of Ontario Chapter 2: Parkway Trees (Parkway Tree Regulations) regulates the maintenance and removal of parkway trees, and establishes varieties, minimum size, methods, and locations for or relating to the preservation and planting of parkway trees.

There are no protected trees within the Project site. The Project does not propose or require uses or operations that would adversely affect any off-site protected trees. There are no parkway trees within the Project site. The Project does not propose or require uses or operations that would adversely affect any off-site parkway trees. As part of the City's standard development review process, the City would ensure that the final Specific Plan Landscape Plan and all development proposals within the Project conform to the Parkway Tree Regulations. There are no Natural Community Conservation Plans, or Regional, or State Habitat Conservation Plans regulating the Project or that would be adversely affected by the Project.

Based on the preceding, the potential for the Project to conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance; Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan is considered less-than-significant.

Level of Significance: Less-Than-Significant.

4.11 CULTURAL RESOURCES/ TRIBAL CULTURAL RESOURCES

4.11 CULTURAL RESOURCES/ TRIBAL CULTURAL RESOURCES

Abstract

This Section examines the potential for implementation of the Project to impact cultural resources in the Project area. Specifically, this analysis seeks to determine whether the Project would result in any of the following:

- *Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.*

- *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.*

Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or*

- *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

Information contained within this Section is based on Cultural Resources Assessment, Rich-Haven Specific Plan Areas of Change Project, City of Ontario, San Bernardino County, California *(BCR Consulting, Inc.) August 18, 2022 (Project Cultural Resources Assessment).*

The Project Cultural Resources Assessment is presented at EIR Appendix L. As supported by the analysis presented in this Section, as mitigated, the Project's potential to impact cultural resources is determined to be less-than-significant.

4.11.1 INTRODUCTION

Cultural resources can be of scientific, aesthetic, educational, archaeological, architectural, or historical significance to the community. The following discussion identifies and classifies the significance of prehistoric and/or historic cultural resources which may exist on the subject site, and assesses the Project's potential to impact such resources.

4.11.2 BACKGROUND

Prehistoric Context

The Project site is located within the traditional boundaries of the Gabrielino. The Gabrielino probably first encountered Europeans when Spanish explorers reached California's southern coast during the 15th and 16th centuries. The first documented encounter, however, occurred in 1769 when Gaspar de Portola's expedition crossed Gabrielino territory. Other brief encounters took place over the years. The Gabrielino name has been attributed by association with the Spanish mission of San Gabriel, and refers to a subset of people sharing speech and customs with other Cupan speakers (such as the Juaneño/Luiseño/Ajachemem) from the greater Takic branch of the Uto-Aztecan language family. Gabrielino villages occupied the watersheds of various rivers (locally including the Santa Ana) and intermittent streams. Chiefs were usually descended through the male line and often administered several villages. Gabrielino society was somewhat stratified and is thought to have contained three hierarchically ordered social classes which dictated ownership rights and social status and obligations. Plants utilized for food were heavily relied upon and included acorn-producing oaks, as well as seed-producing grasses and sage. Animal protein was commonly derived from rabbits and deer in inland regions, while coastal populations supplemented their diets with fish, shellfish, and marine mammals. Dog, coyote, bear, tree squirrel, pigeon, dove,

mud hen, eagle, buzzard, raven, lizards, frogs, and turtles were specifically not utilized as a food source.

History

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Period. The first European to pass through the area is thought to be a Spaniard called Father Francisco Garces. Having become familiar with the area, Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena. Garces was followed by Alta California Governor Pedro Fages, who briefly explored the region in 1772. Searching for San Diego Presidio deserters, Fages had traveled through Riverside to San Bernardino, crossed over the mountains into the Mojave Desert, and then journeyed westward to the San Joaquin Valley.

Mexican Period. In 1821, Mexico overthrew Spanish rule and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings, and released their neophytes.

American Period. The American Period, 1848–Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through

foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought, further diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that continue to this day.

Ontario. Ontario, California was founded as a township in September 1882 by George and William B. Chaffey, named after their home of Ontario, Canada. The brothers purchased 6,218 acres of land with water rights and set aside 640 acres for the community of Ontario. Half of the initial 640 acres was deeded to the Chaffey Agricultural College as an endowment. On December 10, 1891, Ontario was incorporated as a city under the California Constitution with a City Council-City Manager form of government. In 1903, Ontario was proclaimed a "Model Irrigation Colony" by an Act of Congress. Ontario had many modern innovations, many of which still show their value today. An impressive two-hundred feet wide and eight miles long, Euclid Avenue (on the National Register) was the stately back-bone of the colony. Provisions for an electric railway, water rights for each landowner, a local educational institution, electric lights, one of the first long distance telephone lines, and public access to water and transportation set a new standard for rural communities and irrigation practices and ensured the success of the Model Colony. Water originating from the nearby San Gabriel Mountains was readily available. In addition to accessible water, climate conditions in Ontario were similar to those in the Mediterranean with dry, hot summers and cool, moist winters as regular occurrences. Ontario first developed as an agricultural community, largely, but not exclusively, devoted to the citrus industry. In addition to oranges, the production of peaches, walnuts, lemons, olives and grapes were also important to the growth of Ontario and neighboring cities.

In 1923, airplane enthusiasts Waldo Waterman and Archie Mitchell established Latimer Field. From that point on, Ontario became an aviation town. Urban growth pushed the fliers east until they took up their permanent residence located at the Ontario World Airport. During WWII, this airport was a busy training facility for pilots. After WWII, construction boomed in Ontario as the City's growth more than doubled by the end of the '50s. In 1954, four new schools were built, with land for three more being purchased.

That same year, the Interstate 10 opened for public use, diminishing or altering commercial traffic through Ontario. The downtown area found competition in neighborhood shopping centers that featured large parking lots and national brand chain stores. As the citrus industry declined, large tracts of orange groves gave way to new housing for settlers to the region. Following the ’60s and ’70s, the City’s population had grown from 46,617 to 87,300 residents as Ontario expanded its boundaries eastward to encompass Guasti and the large tracts of vineyards beyond it. Ontario has become a diversified community with approximately 173,000 residents in 2015. Although the City boundaries have been extended from 0.38 square miles in 1891 to almost 50 square miles today, Ontario’s Historic Downtown still retains the original subdivision pattern established by the Chaffey brothers.

Local Dairies. Dairies within the Chino Valley followed three distinct phases: Free grazing of cattle (1900-1930), mechanization of milking (1931-1949), and scientific, large capacity dairies (Post-1950). The first phase from 1900 to 1930, was marked by the free grazing of cattle with dairies that were situated around the perimeter of population centers to service those areas. The second phase of dairies was spurred by the growing population and saw the transition from free grazing to dry-lot dairying that utilized mechanization in the milking process. Due to a combination of labor shortage caused by World War II and subsequent population increase throughout the ’50s and ’60s, dairies were forced to move onto smaller plots of land and utilize machinery. Technological advancements allowed for feeding and breeding techniques that produced larger herds which could be handled more efficiently by mechanization. The dairy industry in the Chino Valley had its peak in production during the ’80s, but as residential needs collided with agricultural land uses developers began to buy up the dairy properties and convert the land to residential subdivisions and other commercial and industrial uses.

4.11.3 EXISTING POLICIES AND REGULATIONS

4.11.3.1 Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of their undertakings on historic properties. Historic properties are cultural resources (e.g., archeological sites, historic built environment features, or Native American sites) that are listed, or determined to be eligible for listing, on the National Register of Historic Places. The implementing regulations of this mandate, found in the Code of Federal Regulations (36 CFR 800), outline an involved consultation process known as the Section 106 process. The Section 106 process requires a project lead federal agency to consult with the State Historic Preservation Officer.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act, passed in 1978, serves to protect and preserve the traditional religious rights of American Indians, Eskimos, Aleuts, and Native Hawaiians. Before the Act was passed, certain federal laws interfered with the traditional religious practices of many American Indians.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act establishes a federal policy of respect for, and protection of, Native American religious practices. It also has provisions for allowing limited access to Native American religious sites. The Act provides for the repatriation of certain items from the federal government and certain museums to the native groups to which they once belonged. The Act defines "cultural items," "sacred objects," and "objects of cultural patrimony" and establishes a means for determining ownership of these items. However, the provisions for repatriation only apply to items found on federal lands.

Executive Order 13007 and Executive Order 13084

Executive Order 13007 requires federal agencies with land management responsibilities to allow access to and use of Indian sacred sites on public lands, and to avoid adversely affecting these sites. Executive Order 13084 reaffirms the government-to-government relationship between the federal government and recognized Indian tribes, and requires federal agencies to establish procedures for consultation with tribes. These executive orders only apply to projects that include federal undertakings.

4.11.3.2 State

CEQA and the California Register of Historical Resources

Historical resources are recognized as part of the environment under the California Environmental Quality Act (CEQA). The California Register of Historical Resources (California Register) is the authoritative guide for the State's historical resources, and properties included in the California Register are considered significant for the purposes of CEQA. The California Register includes resources listed, or formally determined eligible for listing, on the National Register of Historic Places, and some California State Landmarks and Points of Historical Interest. Properties of local significance designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory, may be eligible for listing in the California Register and are presumed to be significant resources for the purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC § 5024.1, 14 CCR § 4850).

An archaeological site may be considered a historical resource if it is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (PRC § 5020.1(j)), or if it meets the criteria for listing on the California Register (14 CCR § 4850).

The *CEQA Guidelines* direct lead agencies to evaluate an archaeological site to determine if it meets the criteria for listing in the California Register. If it does, potential adverse impacts must be considered. If an archaeological site is not a historical resource, but

meets the definition of a "unique archaeological resource" as defined in PRC §21583.2, then it should be treated in accordance with the provisions of that section.

Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired (PRC § 5020.1(q)). While demolition and destruction would constitute significant impacts, it is sometimes more difficult to assess when change, alteration, or relocation results in a substantial adverse change. The *CEQA Guidelines* provide that a project that alters those physical characteristics of historical resources that convey its significance (i.e., its character-defining features) can be considered to materially impair the resource's significance.

California Native American Graves Protection and Repatriation Act (2001)

The California Health and Safety Code, Division 7, Part 2, Chapter 5 (Sections 8010-8030) contains broad provisions for the protection of Native American cultural resources. The California Native American Graves Protection and Repatriation Act establishes policy to ensure that California Native American human remains and cultural items are treated with respect and dignity. The Act also provides the mechanism for disclosure and return of these items held by publicly-funded agencies and museums in California. Additionally, the Act outlines the mechanism by which California Native American tribes not recognized by the federal government may file claims for human remains and cultural items held in agencies or museums.

California Public Resources Code

The California Public Resources Code contains several sections applicable to the preservation of cultural resources and human remains. These sections detail procedures to be followed whenever Native American remains are found, and delineate the unauthorized disturbance or removal of archaeological, historical, paleontological resources, or human remains as an act punishable by law (Sections 5020, 5097.5, 5097.9-5097.996, 7050.5, 7051). As matter of law, the Project would comply with applicable provisions of the California Public Resources Code addressing preservation and protection of cultural resources and human remains.

California Code of Regulations

Under Title 14, Division 3, Section 4308, no person shall remove, injure, disfigure, deface, or destroy any object of archeological or historical interest or value.

Assembly Bill 52 (AB 52) Tribal Cultural Resources

Enacted as of July 1, 2015, AB 52 established a new category of resources under CEQA called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation. The Bill was built on the concept that California Native American tribes have the expertise "with regard to tribal history and practices" to identify significant cultural resources. To this end, AB 52 requires early consultation in the CEQA process to ensure that local and Tribal governments, public agencies, and project proponents have information available, early in the CEQA environmental review process, for the purpose of identifying and addressing potential adverse impacts to tribal cultural resources.

AB 52 requires that the lead agency contact (in writing) all culturally affiliated tribes that could be affected by a project, within 14 days of deeming a development application complete. The notice commences a 30-day period for the tribe to request consultation. Upon receipt of a request consultation, the lead agency has an additional 30 days to begin the consultation process. AB 52 states that the consultation concludes when either "1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal resource, or 2) a party, acting on good faith and after a reasonable effort, concludes that mutual agreement cannot be reached." AB 52 notes that the consultation can be ongoing throughout the CEQA process.

4.11.4 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, Project-related impacts to cultural resources would be considered potentially significant if they cause or result in any of the following:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5;

- Disturb any human remains, including those interred outside of formal cemeteries; or

- Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074.

For the purposes of CEQA, an "important archaeological, historical, or paleontological resource" is defined as follows.

A) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.

B) A resource included in a local register of historical resources, or identified as significant in an historical resource survey, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

C) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources, including the following:

1) A resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

2) A resource is associated with the lives of persons important in our past.

3) A resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values, or has yielded, or may be likely to yield, information important in prehistory or history.

City of Ontario Designation Criteria is as follows:

a. It exemplifies or reflects special elements of the City's history;

b. It is identified with persons or events significant in local, state, or national history;

c. It is representative of the work of a notable builder, designer, architect, or artist;

d. It embodies distinguishing architectural characteristics of a style, type, period, or method of construction;

e. It is a noteworthy example of the use of indigenous materials or craftsmanship;

f. It embodies elements that represent a significant structural, engineering, or architectural achievement or innovation;

g. It has a unique location, a singular physical characteristic, or is an established and familiar visual feature of a neighborhood, community or the City; or

h. It is one of the few remaining examples in the City, region, state, or nation possessing distinguishing characteristics of an architectural or historical type or specimen.

4.11.5 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.11.5.1 Introduction

The following analysis is focused on areas where it has been determined that the Project may result in potentially significant impacts, based on the analysis included within the Initial Study. In this regard, as substantiated in the Initial Study, the Project's potential to disturb any human remains, including those interred outside of formal cemeteries was previously determined to be less-than-significant. Please refer to EIR Appendix A, Initial Study Checklist Items V., *Cultural Resources* and XVIII., *Tribal Cultural Resources*. All other potential cultural resources impacts of the Project are discussed below.

4.11.5.2 Impact Statements

Potential Impact CUL-1: *Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.*

Impact Analysis: During the records search conducted for the Cultural Resources Assessment, five (5) potential historical resources were identified within the Project site. Potential resources included three (3) historical period residences and two (2) historical period transmission lines. These potential resources were evaluated for listing as "historically significant" as provided for at Section 5024.1 of the Cal. Public Res. Code. Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register (Cal. Code Regs. tit. 14(3), § 15064.5(a)(3)). The eligibility criteria for the California Register are similar to those of the National Register of Historic Places (National Register), and a resource that meets one or more of the eligibility criteria of the National Register will be eligible for the California Register. The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under CEQA. Criteria for Designation:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
2. Associated with the lives of persons important to local, California or national history.
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). Fifty years is normally considered sufficient time for a potential historical resource, and in order that the evaluation remain valid for a minimum of five years after the date of this report, all resources older than 45 years (i.e., resources from the "historic-period") will be evaluated for California Register listing eligibility, or CEQA significance. The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

In the context of the above criteria, Table 4.11-1 presents the findings of the research and field surveys conducted as part of the Cultural Resources Assessment for each potential resource.

Table 4.11-1
Potential On-Site Cultural Resources

	Description	Findings
P-36-12621	Historical Period Residence	This residence was evaluated for inclusion on the California Register of Historical Resources, or as a City Historical Landmark. The residence fails to meet the eligibility criteria for any listing.

Table 4.11-1
Potential On-Site Cultural Resources

P-36-12622	Historical Period Residence	Field survey confirmed that this residence was previously demolished, and the site now contains modern condominiums. No further assessment necessary.
P-36-12623	Historical Period Residence	This residence was evaluated for inclusion on the California Register of Historical Resources, or as a City Historical Landmark. The residence fails to meet the eligibility criteria for any listing.
P-36-25440	Historical Period Transmission Line	Field survey and additional research determined that the portion of this line that crosses the Project site is not historic in age. No further assessment necessary.
P-36-26051	Historical Period Transmission Line	This transmission line was evaluated for inclusion on the California Register of Historical Resources, or as a City Historical Landmark. The transmission line fails to meet the eligibility criteria for any listing.

Source: *Cultural Resources Assessment, Rich-Haven Specific Plan Areas of Change Project, City of Ontario, San Bernardino County, California* (BCR Consulting, Inc.) August 18, 2022.

As shown above, none of the potential resources identified within the records search qualify as significant historical resources when evaluated against the criteria presented at Section 4.11.4, presented previously. As such, the Cultural Resources Assessment determined that the Project would have a less-than-significant impact on historical resources.

Level of Significance: Less-Than-Significant.

Potential Impact CUL-2: *Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5.*

Impact Analysis: Although no archeological resources were identified as part of the Project Cultural Resources Assessment, ground-disturbing activities have the potential to reveal buried resources not observed during the field survey. Cultural materials that may be encountered during ground-disturbing activities could include:

- Historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;

- Historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- Prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- Groundstone artifacts, including mortars, pestles, and grinding slabs;
- Dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks;
- Human remains.

[Project Cultural Resources Assessment, p. iii]

Mitigation Measure 4.11.1 would ensure proper protocol is undertaken and a treatment plan is developed, should resources be discovered during ground-disturbing activities.

Level of Significance: Potentially Significant.

Mitigation Measure:

4.11.1 *Prior to the issuance of (a) grading permit(s) for development proposal(s) within the Specific Plan Area, the Applicant or successor(s) in interest shall provide a letter to the City of Ontario Building Department, or designee, from a qualified professional archeologist meeting the Secretary of Interior's Professional Qualifications for Archaeology as defined at 36 CFR Part 61, Appendix A stating that the archeologist has been retained to provide on-call services in the event archeological resources are discovered. The archeologist shall be present at the pre-grading conference to establish procedures for archeological resource surveillance. In the event a previously unrecorded archaeological deposit is encountered during construction, all activity within 50 feet of the area of discovery shall cease and the City shall be immediately notified. The archeologist shall be contacted to flag the area in the field and determine if the archaeological deposits meet the CEQA definition of historical (State CEQA Guidelines 15064.5(a)), unique archaeological resource (Public Resources Code 21083.2(g)), or Tribal Cultural Resource (Public Resources Code 21074 (a)). If the find is considered a "resource" the archaeologist shall pursue either protection in place or recovery, salvage*

and treatment of the deposits. A qualified archaeologist and a Native American Monitor of Gabrieleño Ancestry shall evaluate all archaeological resources unearthed by Project construction activities. If the resources are Native American in origin, they shall have the opportunity to consult with the City and/or Project developer on appropriate treatment and curation of these resources. If unique archaeological resources, or Tribal Cultural Resources cannot be preserved in place or left in an undisturbed state, recovery, salvage and treatment shall be required at the Applicant or successor(s) in interest's expense. Recovery, salvage and treatment protocols shall be developed in accordance with applicable provisions of Public Resource Code Section 21083.2 and State CEQA Guidelines 15064.5 and 15126.4. All recovered and salvaged resources shall be prepared to the point of identification and permanent preservation by the archaeologist. Resources shall be identified and curated into an established accredited professional repository. The archaeologist shall have a repository agreement in hand prior to initiating recovery of the resource. Excavation as a treatment option shall be restricted to those parts of the unique archaeological resource, or Tribal Cultural Resource that would be damaged or destroyed by the Project.

Level of Significance After Mitigation: Less-Than-Significant.

Potential Impact CUL-3: *Cause a substantial adverse change in the significance of a tribal cultural resource as defined at Public Resources Code section 21074.*

Impact Analysis: The City has contacted tribes on its most current AB 52 Consultation list. A request to initiate formal consultation regarding the Project site was subsequently received from the Gabrieleño Band of Mission Indians – Kizh Nation. Pending formal response from the Gabrieleño Band of Mission Indians – Kizh Nation potential impacts to Tribal Cultural Resources (TCRs) are presumed to be potentially significant. Based on previous similar environmental analyses conducted in the City, the following measures are recommended for incorporation. These measures establish monitoring protocols, and provisions for avoidance, protection, or curation of TCRs.

Level of Significance: Potentially Significant.

Mitigation Measures:

The following measures shall apply to all individual development proposals within the Specific Plan Area:

4.11.2 Project developer(s) shall retain a Native American Monitor of Gabrieleño Ancestry (Native American Monitor) that was consulted on this Project pursuant to Assembly Bill A52 - SB18 to conduct a Native American Indian Sensitivity Training for construction personnel prior to commencement of any excavation activities. The training session shall include a handout and focus on how to identify Native American resources encountered during earthmoving activities and the procedures followed if resources are discovered, the duties of the Native American Monitor of Gabrieleño Ancestry and the general steps the Monitor would follow in conducting a salvage investigation.

4.11.3 Project developer(s) shall retain a Native American Monitor of Gabrieleño Ancestry that was consulted on this Project pursuant to Assembly Bill A52 - SB18 to be on-site during all Project-related, ground-disturbing construction activities Such activities include: pavement removal, auguring, boring, grading, excavation, potholing, trenching, and/or grubbing of previously undisturbed native soils to a maximum depth of 30 feet below ground surface. A copy of the executed consultant contract shall be submitted to the City of Ontario Planning Department prior to the issuance of any grading permit (any ground-disturbing activity). At their discretion, a Native American Monitor of Gabrieleño Ancestry can be present during the removal of dairy manure to native soil, but not at developer expense.

4.11.4 A qualified archaeologist and a Native American Monitor of Gabrieleño Ancestry that was consulted on this Project pursuant to Assembly Bill A52 - SB18 shall evaluate all archaeological resources unearthed by Project construction activities. If the resources are Native American in origin, the Tribe shall coordinate with the developer regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. If archeological features are discovered, the archeologist shall report such findings to the Ontario Planning Director. If the archeological resources are found to be significant, the archeologist shall determine the

appropriate actions, in cooperation with the City that shall be taken for exploration and/or salvage in compliance with CEQA Guidelines Section 15064.5(f).

4.11.5 Prior to the start of ground disturbing activities, developer(s) shall arrange a designated site location within the footprint of the Project for the respectful reburial of Tribal human remains and/or ceremonial objects. All human skeletal material discoveries shall be reported immediately to the County Coroner. The Native American Monitor shall immediately divert work a minimum of 50 feet from the discovery site and place an exclusion zone around the burial.

4.11.6 If encountering human skeletal materials, the Native American Monitor shall notify the construction manager who shall contact the San Bernardino County Coroner. All construction activity shall be diverted while the San Bernardino County Coroner determines if the remains are Native American. The discovery shall be confidential and secure to prevent further disturbance. If Native American, the San Bernardino County Coroner shall notify the Native American Heritage Commission (NAHC) as mandated by state law who will then appoint a Most Likely Descendant. In the case where discovered human remains cannot be documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard shall be posted outside working hours. The Tribe shall make every effort to recommend diverting the Project and keep the remains in situ and protected. If the Project cannot be diverted, it may be determined that burials will be removed. If data recovery is approved by the Tribe, documentation shall be taken which includes, at a minimum, detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or means necessary to ensure complete recovery of all material. If the discovery of human remains includes four (4) or more burials, the location is considered a cemetery and a separate treatment plan shall be created. The Project developer shall consult with the Tribe regarding avoidance of all cemetery sites. Once complete, a final report of all activities shall be submitted to the NAHC.

4.11.7 There shall be no Scientific study or the utilization of any invasive diagnostics on any Native American human remains.

4.11.8 If the San Bernardino County Coroner determines the remains represent a historic non-Native American burial, the burial shall be treated in the same manner of respect with agreement of the San Bernardino County Coroner. Reburial will be in an appropriate setting. If the San Bernardino County Coroner determines the remains to be modern, the San Bernardino County Coroner shall take custody of the remains.

4.11.9 As directed by the Project Archaeologist in consultation with the Native American Monitor, each occurrence of human remains and associated funerary objects shall be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony shall be removed to a secure container on site if possible. These items shall be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the Project site, but at a location agreed upon between the Tribe and developer(s) and protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

Level of Significance After Mitigation: Less-Than-Significant. Implementation of Mitigation Measures 4.11.2 through 4.11.9 ensures that TCRs would be avoided, or would be appropriately collected, documented, and curated. On this basis, with application of mitigation, the potential for the Project to cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code section 21074 would be less-than-significant.

4.12 UTILITIES & SERVICE SYSTEMS

4.12 UTILITIES & SERVICE SYSTEMS

Abstract

This Section of the EIR addresses the Project's potential impacts to utilities and service systems. Specifically, the utilities and service systems analysis examines whether the Project would:

- *Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;*

- *Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;*

- *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;*

- *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or*

- *Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.*

This EIR evaluates likely maximum impacts associated with all Project actions and operations including, but not limited to, construction and operation of utilities and service systems distribution and conveyance lines. Construction and operation of the Project utilities and service

systems distribution and conveyance lines described in this Section would not result in conditions or environmental impacts not already considered and addressed elsewhere in this EIR. Mitigation proposed in this EIR under other environmental topics would also address potential impacts associated with construction and operation of utilities and service systems. Other impacts associated with, or resulting from, construction of Project infrastructure improvements would be less-than-significant.

4.12.1 INTRODUCTION

For each of the utilities and service systems discussed, existing conditions are described, any improvements required to accommodate the Project are identified, and any resulting or associated impacts and required mitigation are discussed. The analysis is based on physical and operational attributes presented at EIR Section 3.0, *Project Description*; information presented in The Ontario Plan (TOP) 2050 Policy Plan and related environmental analyses; information provided by or available through the City of Ontario and County of San Bernardino; information presented in *Water Supply Assessment and Written Verification of Sufficient Water Supply, Rich-Haven Specific Plan Amendment No. 3* (Albert A. Webb Associates) March 18, 2021 (2021 WSA); and provisions of the *2022 Rich-Haven Specific Plan Amendment* (2022 Specific Plan Amendment).

TOP 2050 Policy Plan Policy LU-4.3 *Infrastructure Timing* requires that necessary infrastructure and services be in place prior to or concurrent with new development. The 2022 Specific Plan Amendment at Section 9.1 *General Plan Consistency* requires and substantiates consistency with TOP Policy Plan LU-4.3.

4.12.2 EXISTING CONDITIONS

4.12.2.1 Water Supply and Water Service

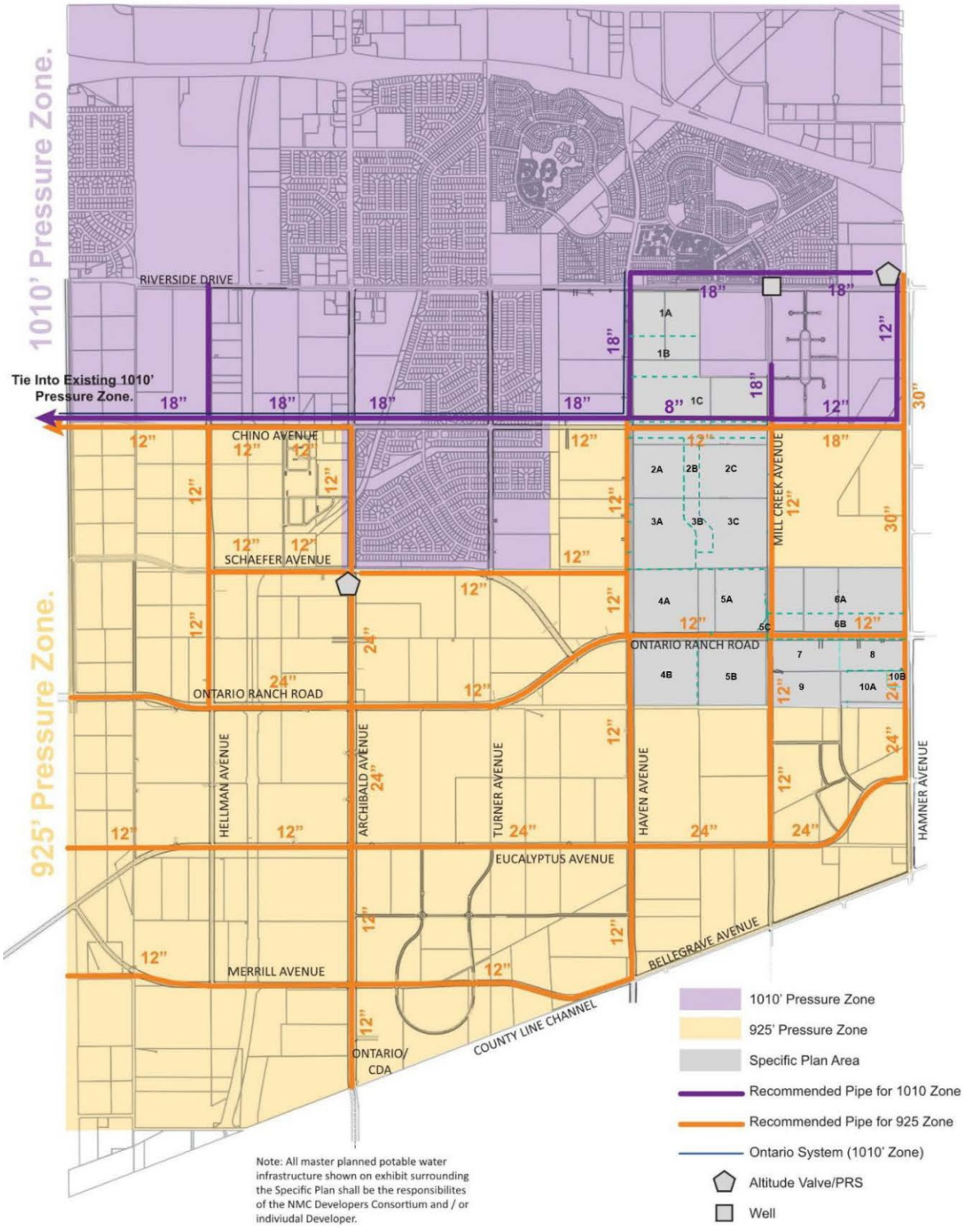
On a City-wide basis, the Ontario Municipal Utilities Company (OMUC) provides water service to residents, businesses, and other users in the City of Ontario. OMUC would provide domestic water service to the Project area as part of its masterplan for service for Pressure Zones 1010, 925.

Water distribution system improvements for the City and context of the Project within the Pressure Zones 1010, 925 is presented at Figure 4.12-1. The City water master plan improvements have been designed to meet water service demands of the City under TOP 2050 Buildout Conditions (Buildout Conditions), including water service demands of the Project. Please refer also to related discussions presented in this Section under the discussion of potential water supply impacts. Water supply to the City of Ontario is derived from a combination of local and imported water, obtained primarily from four sources:

- Ontario wells and treatment in the Chino Groundwater Basin (Basin). The Basin is the primary source of water for the City, which currently receives approximately 70 to 80 percent of its water supply from this source;
- Chino Desalter Authority (CDA) wells and treatment in the Chino Groundwater Basin;
- Treated State Water Project from the Water Facilities Authority (WFA); and
- Recycled water from the Inland Empire Utilities Agency (IEUA), a member agency of the Metropolitan Water District of Southern California (MWD).

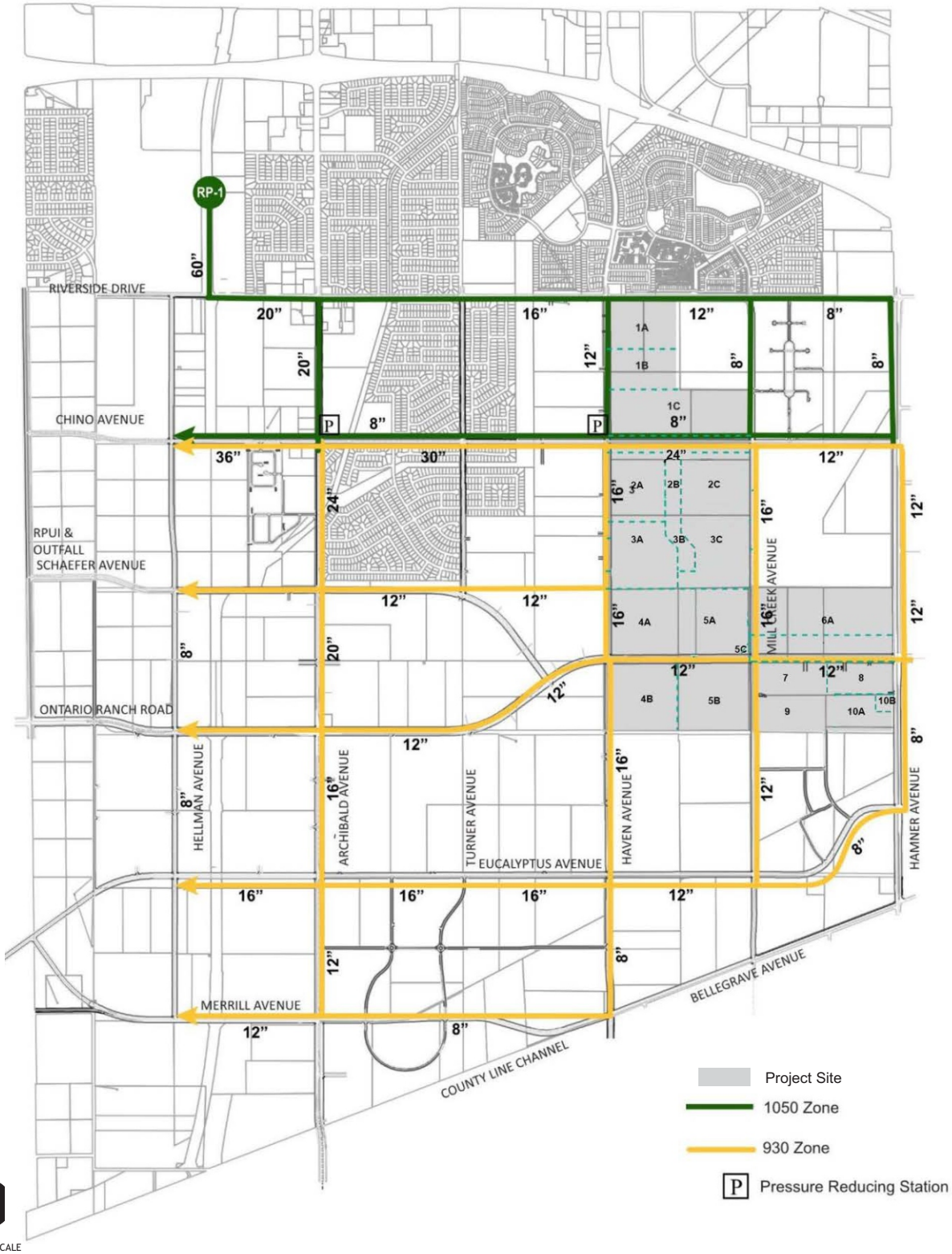
The City of Ontario 2020 Urban Water Management Plan (2020 UWMP) substantiates water supply adequacy to support the City under Buildout Conditions, including development proposed by the Project. The 2020 UWMP can be accessed at: https://www.ontarioca.gov/sites/default/files/Ontario-Files/Municipal-Utilities-Company/Final%20Draft%20Ontario%202020%20Ontario%20UWMP.pdf

Context of the Project within the City Master Planned Recycled Water System is presented at Figure 4.12-2. Recycled water supplied to the Project would be provided by OMUC. OMUC recycled water supplies are produced by IEUA from IEUA's four wastewater reclamation plants.



Source: Rich-Haven Specific Plan Amendment, 2022

Figure 4.12-1
Project Location Within
Pressure Zones 1010, 925



Source: Rich-Haven Specific Plan Amendment, 2022

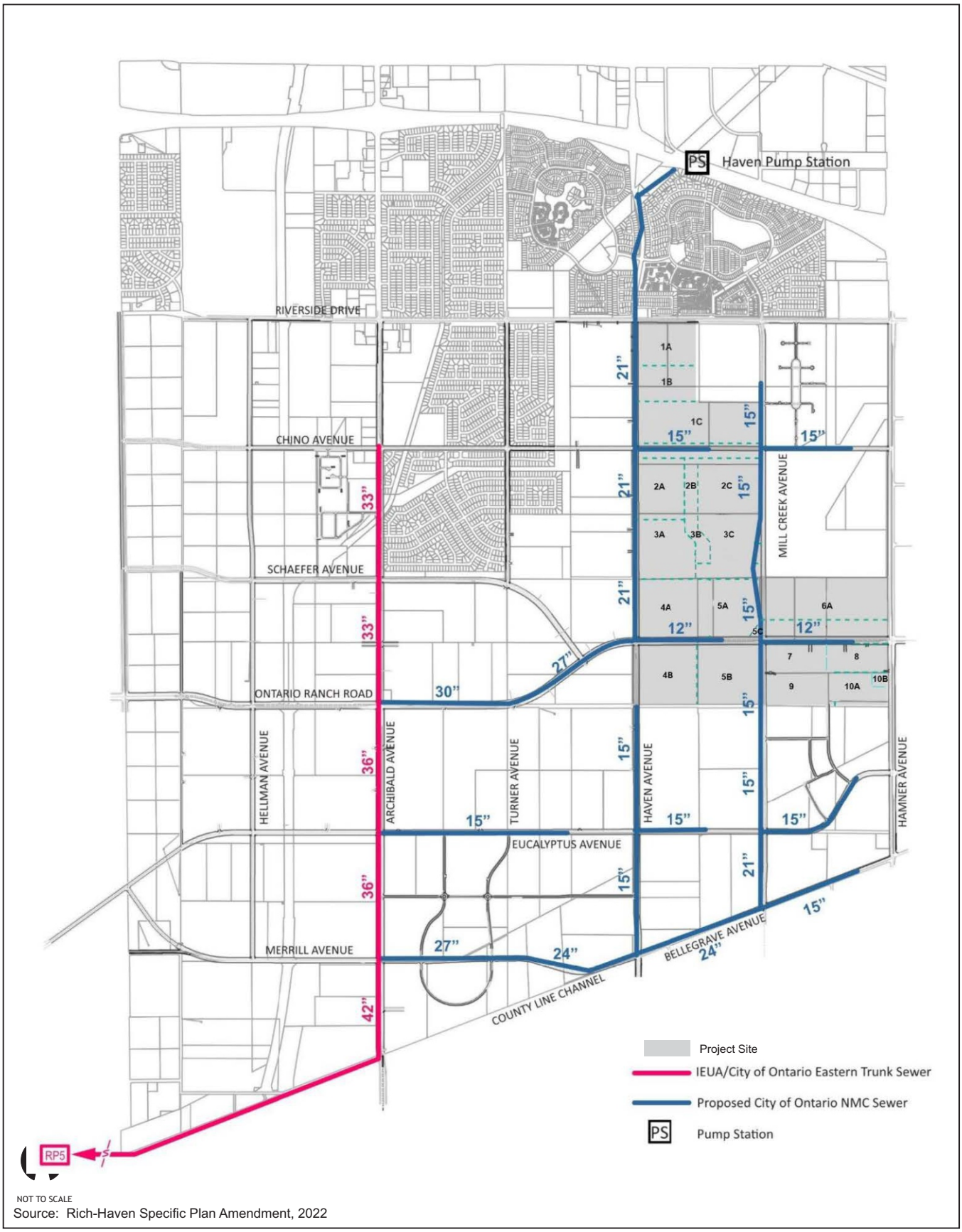
Figure 4.12-2
Project Location Within
Master Planned Recycled Water System

4.12.2.2 Wastewater Collection and Wastewater Treatment

Context of the Project within the City Master Planned Sewer System is presented at Figure 4.12-3. Developed areas of the City served by the municipal sewer system convey wastewater via regional trunk sewers to regional treatment plants operated by IEUA. Wastewater collection system improvements for the City and context of the Project within the system are reflected in the City of Ontario Ultimate Sewer System. The City sewer master plan improvements have been designed to meet wastewater conveyance demands of the City under City Buildout Conditions, including wastewater conveyance demands of the Project.

Wastewater generated within the City is treated at IEUA's Regional Water Recycling Plants No. 1 and 5. Regional Water Recycling Plant No. 1 has a capacity of 44 million gallons per day (mgd). Current average influent wastewater flows at Regional Water Recycling Plant No. 1 are approximately 28 mgd.[1] Regional Water Recycling Plant No. 5 has a capacity of 16.3 mgd, with daily average influent flows of 9 mgd.[2] IEUA treats wastewater at both plants to meet discharge requirements and Title 22 water quality standards for reuse as recycled water.

[1] Inland Empire Utilities Agency. "Regional Water Recycling Plant No. 1." *Inland Empire Utilities Agency | Water Smart - Thinking in Terms of Tomorrow*. www.ieua.org/facilities/rp-1/. Accessed 01 Nov. 2022.
[2] ---. "Regional Water Recycling Plant No. 5." *Inland Empire Utilities Agency | Water Smart - Thinking in Terms of Tomorrow*. www.ieua.org/facilities/rp-5/. Accessed 01 Nov. 2022.



NOT TO SCALE

Source: Rich-Haven Specific Plan Amendment, 2022

Figure 4.12-3
Project Location Within
Master Planned Sewer System

IEUA also operates the Non-Reclaimable Wastewater (NRW) System. Description of the NRW System is presented below.

> The NRW System conveys high strength wastewater and exports it to treatment facilities in Los Angeles and Orange counties for eventual discharge to the Pacific Ocean. Wastewater discharged to the NRW System consists mainly of industrial and groundwater treatment brines. Discharging to the NRW System instead of the Agency's treatment plants keeps salt out of the recycled water, ensuring that the Agency meets the Total Dissolved Solids (TDS) and total nitrogen limits listed in the National Pollutant Discharge Elimination System (NPDES) permits. This enables us to fully utilize recycled water, ensuring a reliable water supply for the region.
>
> The NRW System consists of three trunk lines: NRWS and Etiwanda Wastewater Line (EWL) on the Agency's north service area convey the wastewater to the County Sanitation Districts of Los Angeles County's sewer system; and the Inland Empire Brine Line (also known as the Santa Ana Regional Interceptor – SARI) in the Agency's south service area conveys the wastewater from the Santa Ana Watershed to the Orange County Sanitation District's sewer system.
>
> The highest and best use of the Brine Line is the removal of salts from the Watershed to keep them from degrading water quality within the Watershed, thereby allowing better use of groundwater resources and expanding the ability to reclaim water. The long-term goal of achieving salt balance within the region depends on the ability to remove salts from the watershed via the Brine Line. Further use of desalters depends on an economical means of salt disposal and ultimately will depend on an economically viable regional IE Brine Line.[3]

[3] ---. "Non-Reclaimable Wastewater System." Inland Empire Utilities Agency | Water Smart - Thinking in Terms of Tomorrow. www.ieua.org/water-sources/pretreatment-source-control/non-reclaimable-waste-system/. Accessed 01 Nov. 2022.

4.12.2.3 Storm Water Management

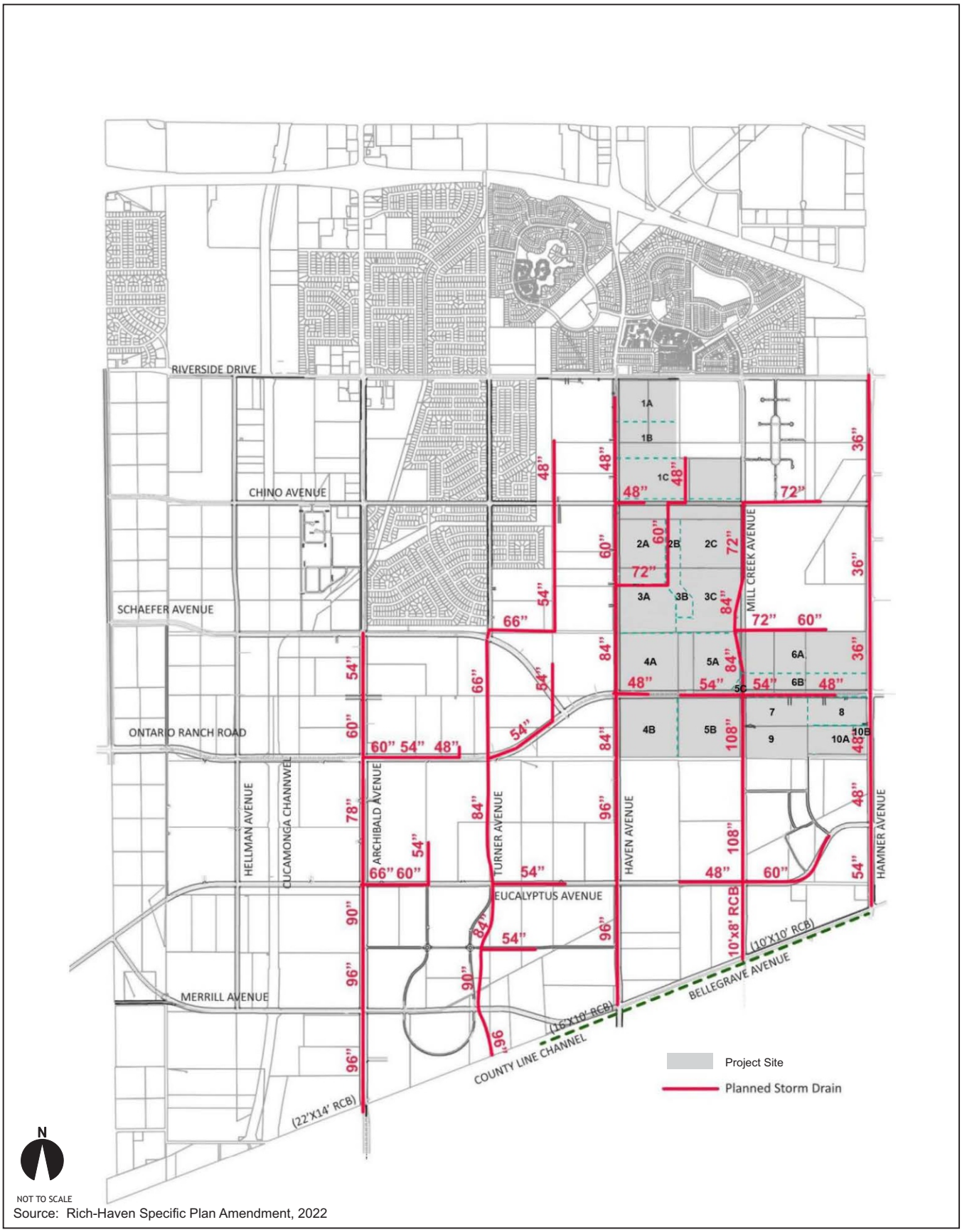
Context of the Project within the City Master Plan of Drainage (MPoD) is presented at Figure 4.12-4. The City stormwater management system master plan improvements have been designed to serve stormwater management demands of the City under Buildout Conditions. The Project would be required to construct on-site stormwater management systems to ensure that capacities of receiving MPoD storm drains are not exceeded. Please refer also to EIR Section 4.8, *Hydrology/Water Quality*, and Mitigation Measures 4.8.1 through 4.8.3.

4.12.2.4 Solid Waste Management

As discussed in TOP 2050 SEIR, household and business refuse, green waste, and recycling from Ontario are sent to the West Valley Materials Recovery Facility [MRF] in Fontana for processing, recycling, or landfilling. The MRF is operated by West Valley Recycling and Transfer, and is under the administration of the San Bernardino County Department of Public Health (TOP 2050 SEIR, p. 5.19-51). Permitted throughput of the MRF is 7,500 tons/day.[4]

An estimated 98 percent of the solid waste collected in the City is taken to either Badlands Sanitary Landfill or El Sobrante Landfill. El Sobrante Landfill in Corona is owned and operated by USA Waste of California, a subsidiary of Waste Management, Inc. The Badlands Sanitary Landfill in Moreno Valley is owned and operated by the Riverside County Department of Waste Resource (TOP 2050 SEIR, p. 5.19-51). Receiving landfill information is presented at Table 4.12-1.

[4] CalRecycle. "SWIS Facility Detail." *Home*, 2019, www2.calrecycle.ca.gov/SWFacilities/Directory/36-AA-0341/Detail/. Accessed 2 Nov. 2022.



Source: Rich-Haven Specific Plan Amendment, 2022

Figure 4.12-4
Project Location Within
Master Planned Drainage System

Table 4.12-1
Receiving Landfills Information

	Badlands Sanitary Landfill	El Sobrante Landfill
Total waste received in 2019 (tons)	885,708	3,387,857
Total waste received from Ontario in 2019 (tons)	47,574	218,454
Percentage of total waste from Ontario	5.4%	6.4%
Maximum permitted throughput (tons/day)	4,800	16,054
Average daily disposal rate in 2020 (tons/day)	2,813	10,995
Excess daily capacity (tons/day)	1,987	5,059
Remaining capacity (cubic yards)	15,748,799	143,977,170
Estimated closing date	2022*	2051
Totals	**9,655**	**12,168**

Sources: CalRecycle 2022, TOP 2050 SEIR.
Notes: *Although the estimated closure date for this landfill on the CalRecycle website is 2022, the Regional Water Quality Control Board (RWQCB) just issued new Waste Disposal Requirements for this landfill which increases its maximum disposal tonnage to 5,000 tons/day, expands the landfill capacity, and extends the closure date to 2073.

4.12.2.5 Dry Utilities (electric power, natural gas, telecommunications, fiber optic)

Electric power, natural gas, telecommunications, and fiber optic services are generally available to the Project site and surrounding areas. Utility purveyors currently providing services the Project area include:

- Southern California Edison (SCE) – Electric power;
- SoCalGas – Natural gas;
- Telecommunications – various private providers; and
- Fiber optic system – City of Ontario.

4.12.3 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, public services impacts resulting from implementation of the Project could be considered potentially significant if they caused or resulted in any of the following:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;

- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;

- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and

- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

4.12.4 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.12.4.1 Introduction

The following discussions focus on areas where it has been determined that the Project may result in potentially significant utilities and service systems impacts, pursuant to comments received through the NOP process, and based on the analysis presented within this Section and included within the EIR Initial Study. All CEQA checklist considerations addressing utilities and service systems were determined to have potentially significant impacts warranting further analysis, and are discussed below. Please also refer to Initial Study Checklist Item XIX. *Utilities and Service Systems*.

4.12.4.2 Impact Statements

Potential Impact UTIL-1: *Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.*

Impact Analysis:

OVERVIEW

It is noted here that potential impacts resulting from construction and operation of City Master Plan infrastructure systems have been previously considered and addressed in *Initial Study and Mitigated Negative Declaration City of Ontario Infrastructure Master Plans* (City of Ontario) July 2012 (Infrastructure Master Plans MND). The Infrastructure Master Plans MND concluded that construction and operation of Master Plan infrastructure improvements would not result in significant impacts not already considered and addressed in correlating analyses in TOP 2010 EIR. TOP 2050 SEIR concluded that buildout of the City under TOP would not result in impacts not previously addressed in TOP 2010 EIR. Similarly, Master Plan infrastructure improvements constructed in support of the Project would not result in significant impacts not already considered and addressed in correlating analyses presented within the Infrastructure Master Plans MND; and by extension would not result in significant infrastructure systems impacts not already considered and addressed in correlating analyses presented within TOP 2050 SEIR.

Additionally, consistent with SB 610 requirements, a WSA was prepared and approved for the site's current (2021 Specific Plan) entitlements. The City of Ontario, Ontario Municipal Utilities Company (OMUC) has determined that based on the types and scopes of land uses reflected in the 2022 Specific Plan Amendment, and water demands of each of the 2022 Specific Plan Amendment land uses, water demands of the 2022 Specific Plan Amendment uses would be reduced when compared to water demands evaluated in the currently approved WSA. OMUC has determined that "[s]ince there was a WSA completed for the entire Rich Haven SP last year [2021], the Mill Creek Business Center Project [the proposed 2022 Specific Plan Amendment] would be allowed to refer to it in the CEQA documentation" (email communication from OMUC, January 31, 2022). No further WSA analysis is required. Please refer also to the discussion presented subsequently in this Section at Potential Impact UTIL-2.

WATER SERVICE PLAN, SEWER SERVICE PLAN, DRY UTILITIES PLAN

The Project infrastructure plans and improvements are summarized and illustrated in the following discussions. Detailed description of the Project infrastructure plans and improvements are presented at 2022 Specific Plan Amendment, Section 4, *Infrastructure and Services*. The 2022 Specific Plan Amendment is presented in its entirety at EIR Appendix B.

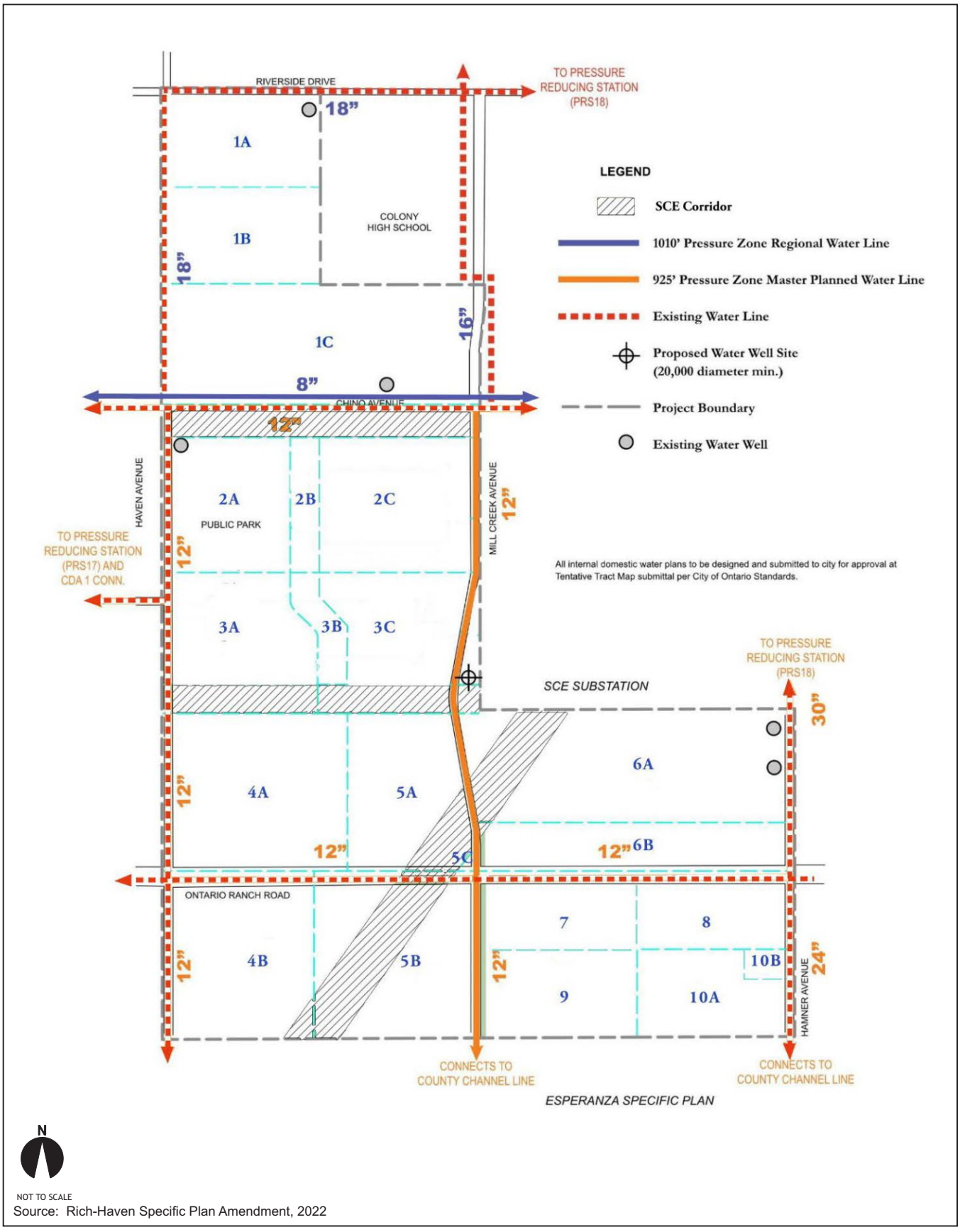
The Project would construct utilities distribution/conveyance systems necessary to serve the Project. Concept water service plans, sewer service plans, and dry utilities plans (electric power, natural gas, telecommunications, fiber optic) are summarized below and are described in detail in the 2022 Specific Plan Amendment.

Water Service

Potable Water Plan

The Project Potable Water Plan Concept is presented at Figure 4.12-5. Potable water services to the Project would be provided by the City of Ontario (Ontario Municipal Utilities Company, OMUC). Per the 2022 Specific Plan Amendment, "Rich-Haven's Water Master Plan shall conform to the City of Ontario's Water Master Plan and will include both domestic (potable) and recycled water infrastructure. Water service will be provided by the City of Ontario as identified within the Water Master Plan" (2022 Specific Plan Amendment, p. 4-14). The Project would be required to implement or contribute financially to the construction of area-serving potable water system improvements.

Impacts associated with construction of potable water system improvements would be no greater than or different than impacts of Project construction generally as addressed elsewhere in this EIR. Completion of serving potable water system improvements is required prior to issuance of Certificate(s) of Occupancy.



Source: Rich-Haven Specific Plan Amendment, 2022

Figure 4.12-5
Potable Water Concept

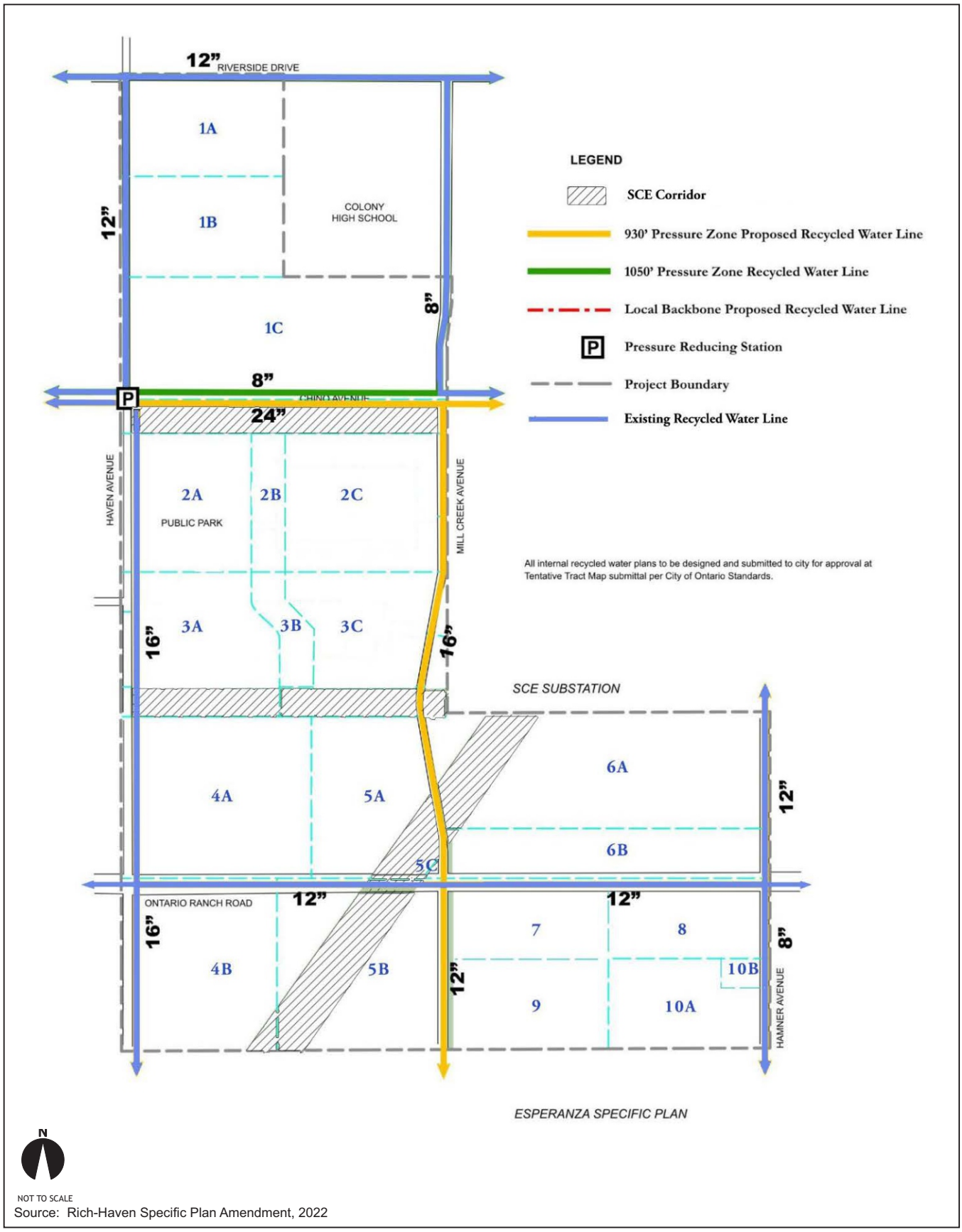
Additionally, the Chino Basin Water Master Water Quality Map identifies the Project area within an optimum water quality zone and requires that the owner/developer dedicate a total of two wells within the Project area to the City of Ontario for production of potable water. The owner/developer of has identified a suitable potential well location site within the greenbelt in the area east of Mill Creek Avenue. This area shall be reserved for future location of well facilities as may be required by the City of Ontario. A second well location site within the Specific Plan area shall be located within Planning Areas 1 or 8 as approved by the City.

Recycled Water Plan

The Project Recycled Water Plan Concept is presented at Figure 4.12-6. Recycled water supplied to the Project would be provided by OMUC. OMUC recycled water supplies are produced by IEUA from IEUA's four wastewater reclamation plants. The Project would be required to implement or contribute financially to the construction of area-serving recycled water system improvements. Impacts associated with construction of recycled water system improvements would be no greater than or different than impacts of Project construction generally as addressed elsewhere in this EIR. Completion of serving recycled water system improvements is required prior to issuance of Certificate(s) of Occupancy.

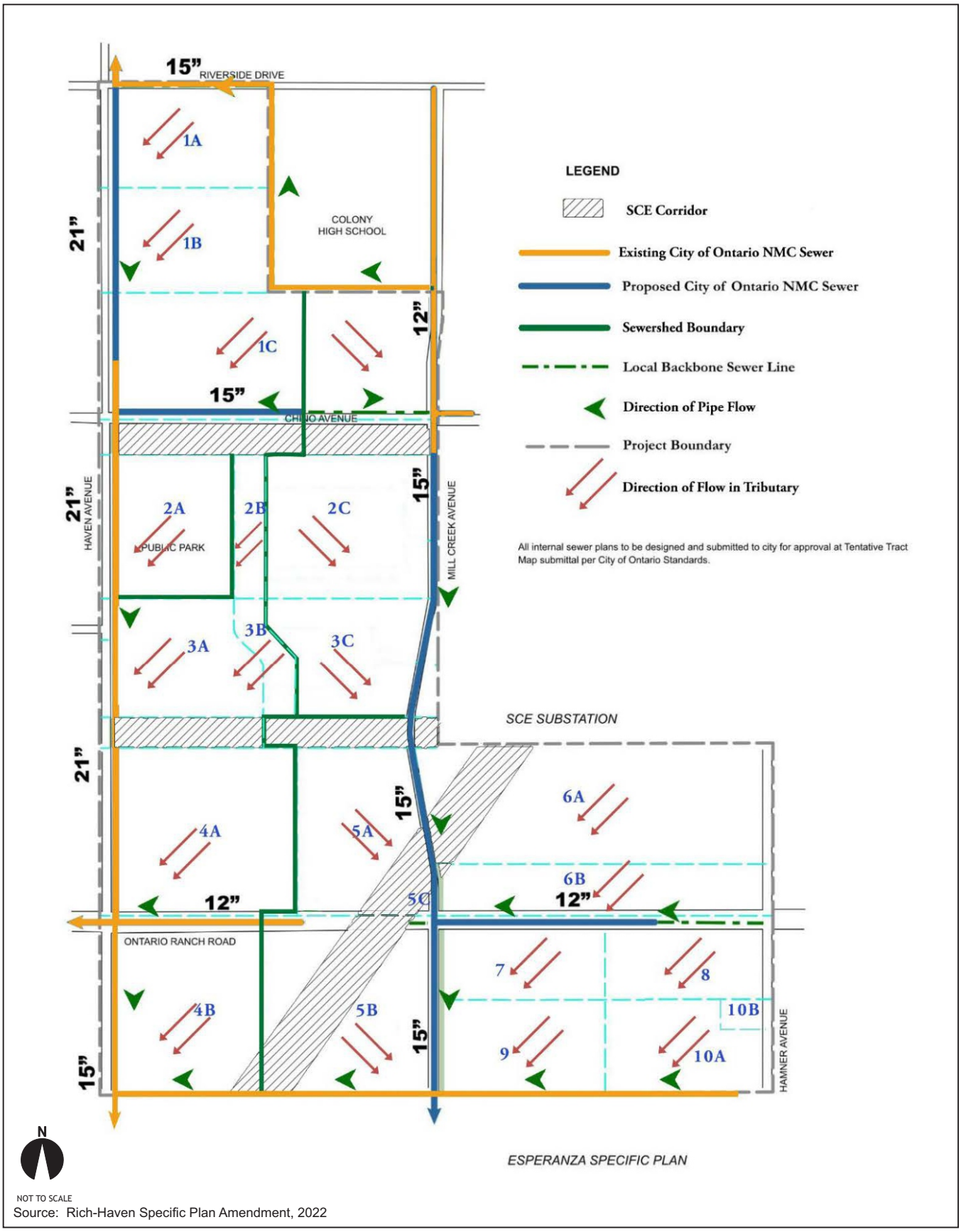
Sanitary Sewer Plan

The Project Sanitary Sewer Plan Concept is presented at Figure 4.12-7. Sanitary sewer service to the Project site and surrounding area is provided by OMUC. OMUC conveys wastewater to IEUA for transmission to area-serving treatment facilities. The Project would be required to implement or contribute financially to the construction of area-serving sanitary sewer system improvements. Impacts associated with construction of sanitary sewer system improvements would be no greater than or different than impacts of Project construction generally as addressed elsewhere in this EIR. Completion of serving recycled water system improvements is required prior to issuance of Certificate(s) of Occupancy.



Source: Rich-Haven Specific Plan Amendment, 2022

Figure 4.12-6
Recycled Water Concept



NOT TO SCALE

Source: Rich-Haven Specific Plan Amendment, 2022

Figure 4.12-7
Sanitary Sewer Plan Concept

The Project would contribute flows to the adjacent master plan sewer system. A sewer study of the Project area would be submitted as part of the City's Development Review process in conjunction with development proposals within the 2022 Specific Plan Amendment Area.

Dry Utilities/Fiber Optics Plan

Electric power, natural gas, telecommunications, and fiber optic services are generally available to the Project site and surrounding areas of Ontario Ranch. The analysis presented here evaluates the likely maximum impacts attributable to implementation and operation of the Project Dry Utilities/Fiber Optics Plan. Utility purveyor currently available to service the Project area include:

- Southern California Edison (SCE) – Electric power;
- SoCalGas – Natural gas;
- Telecommunications – various private providers; and
- Fiber optic system – City of Ontario.

The Project does not propose dry utilities generation, storage, or supply facilities, the construction or relocation of which could cause potentially significant environmental effects.

Dry utility lines (e.g., natural gas lines, electric lines) would be installed within joint trenches within existing and proposed easements and rights-of-ways. Dry utilities would be installed underground in accordance with applicable purveyor standards and specifications and to the satisfaction of the City Engineer. The locations and configurations of utilities connections, transformers, switches, pull boxes, and manholes would be determined in conjunction with final Project designs and engineering.

Fiber optic lines would be installed on- and off-site in accordance with the City of Ontario's Master Plan standards. Backbone fiber optics components (conduits, hand holes, tracer wire, and fiber) will be placed underground within a duct and structure system to be installed in a joint trench within adjacent streets. Within the Specific Plan

Area, in-tract fiber and conduit will be installed per the City's in-tract fiber optic design guidelines (see: https://www.ontarioca.gov/sites/default/files/Ontario-Files/Information-Technology/2014-12-16_in-tract_designguidelines.pdf).

Wastewater Treatment

It is anticipated that wastewater generated by the Project would be conveyed to IEUA Regional Water Reclamation Plant No. 5 (IEUA Plant No. 5). Water Reclamation Plant No. 5 has a capacity of 16.3 mgd, with daily average influent flows of 9 mgd.[5] IEUA treats wastewater meet discharge requirements and Title 22 water quality standards for reuse as recycled water.

Estimated maximum Project wastewater demands have been evaluated by conservatively assuming that Project water demands and wastewater treatment demands would be equal. The Water Supply Assessment prepared and approved for the site's current (2021 Specific Plan) entitlements indicated that the maximum total water demand of the 2021 Specific Plan project (domestic water demand + recycled water demand) would total approximately 2,771 Acre Feet per Year (AFY) or 2.472 million gallons per day (mgpd).[6] The City of Ontario, Ontario Municipal Utilities Company (OMUC) has determined that water demands of the 2022 Specific Plan Amendment uses would be reduced when compared to water demands evaluated in the currently approved (2021) WSA (see EIR Appendix M, WSA).

Assuming that all water consumed by the Project would be discharged as wastewater, the total wastewater treatment demand of the Project is estimated at 2.472 mgpd. As indicated above, available treatment capacity at IEUA Plant No. 5 is approximately 7+ mgd (16.7 mgd capacity – 9 mgd average demand). The Project maximum 2.472 mgd wastewater treatment demand could be accommodated within IEUA Plant No. 5 available wastewater treatment capacity. Further, the Project proposes conventional

[5] ---. "Regional Water Recycling Plant No. 5." *Inland Empire Utilities Agency | Water Smart - Thinking in Terms of Tomorrow*. www.ieua.org/facilities/rp-5/. Accessed 02 Nov. 2022.

[6] *Water Supply Assessment and Written Verification of Sufficient Water Supply, Rich-Haven Specific Plan Amendment No. 3* (PSAP19-006) (Webb Associates) March 18, 2021, p.2-8, Table 2-6 *Summary Project Water Demand.*

residential, commercial, light industrial and community facilities uses, and would not generate wastewater that would require treatment processes or protocols not currently provided by IEUA.

Each individual development project within the Specific Plan area would be required to pay applicable sewer connection and service fees, which act to fund City improvement plans, operations, and maintenance.

Storm Water Management

The analysis presented at EIR Section 4.8, *Hydrology/Water Quality* evaluates the likely maximum hydrology/water quality impacts attributable to implementation and operation of the Project.

The Project would implement stormwater management improvements consistent with the City MPoD. On-site stormwater management systems would be developed concurrent with planning of individual development proposals within the Project site. Per Mitigation Measures 4.8.1 through 4.8.3, the Project would be required to construct on-site stormwater management systems to ensure that capacities of receiving MPoD storm drains are not exceeded. All proposed on-site stormwater management systems would be subject to review and approval by the City. Please refer also to EIR Section 3.0, *Project Description, Stormwater Management Plan*.

IMPACTS SUMMARY

Utilities and service systems distribution and conveyance lines serving the Project would be constructed pursuant to approved City Infrastructure Master Plans, and would be located within existing improved streets or otherwise disturbed properties, thereby limiting or avoiding potential impacts. Construction and operation of all Project utilities and service systems distribution and conveyance lines would conform with all City and purveyor standards and requirements, further limiting potential environmental effects.

This EIR evaluates likely maximum impacts associated with all Project actions and operations, including but not limited to construction and operation of utilities and service systems distribution and conveyance lines. Construction and operation of the Project utilities and service systems distribution and conveyance lines described in this Section would not result in conditions or environmental impacts not already considered and addressed elsewhere in this EIR.

Utilities distribution/conveyance systems lines proposed by the Project would conform to alignments presented in the City Master Plan Utilities/Service Systems Concepts. The Project utilities distribution/conveyance systems lines would provide capacities consistent with OMUC/City requirements. It is noted here that potential impacts resulting from construction and operation of City Master Plan infrastructure systems have been previously considered and addressed in *Initial Study and Mitigated Negative Declaration City of Ontario Infrastructure Master Plans* (City of Ontario) July 2012 (Infrastructure Master Plans MND). The Infrastructure Master Plans MND concluded that construction and operation of Master Plan infrastructure improvements would not result in significant impacts not already considered and addressed in correlating analyses in TOP 2010 EIR. TOP 2050 SEIR concluded that buildout of the City under TOP would not result in impacts not previously addressed in TOP 2010 EIR. Similarly, Master Plan infrastructure improvements constructed in support of the Project would not result in significant impacts not already considered and addressed in correlating analyses presented within the Infrastructure Master Plans MND; and by extension would not result in significant infrastructure systems impacts not already considered and addressed in correlating analyses presented within TOP 2050 SEIR.

Each individual development project within the Specific Plan area would be required to pay applicable utilities/service system connection and service fees, which act to offset the Project incremental demands on utilities and service systems. That is, connection and service fees paid by the Project developers would fund on-going utilities and service systems improvement plans, operations, and maintenance. Utilities and service systems improvements would be implemented so as to provide adequate service/capacity for each increment of development. The City would verify

service/capacity adequacies prior to issuance of Certificate(s) of Occupancy for the affected increment of development.

Ultimately, the City in consultation with affected utilities purveyors and service providers would determine when and in what manner utilities and service systems facilities would be constructed and/or upgraded to meet increasing demands of areawide development, including the incremental demands of the Project.

Based on the preceding, the potential for the Project to require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects is considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact UTIL-2: *Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.*

Impact Analysis: Water service to the Project would be provided by OMUC. OMUC's 2020 Urban Water Management Plan (2020 UWMP) was prepared in response to Water Code Sections 10610 through 10656 of the Urban Water Management Planning Act, and includes detailed information about City water demand, supply and reliability for the next 25 years. The 2020 UWMP substantiates that sufficient water supplies are available to meet City water demands under normal, single dry, and multiple dry years for the period 2020 – 2045 (2020 UWMP, Section 7.2.3 Water Service Reliability – *Supply and Demand Comparison)*.

Consistent with SB 610 requirements, a WSA was prepared and approved for the site's current (2021 Specific Plan) entitlements. The City of Ontario, Ontario Municipal Utilities Company (OMUC) has determined that based on the types and scopes of land uses reflected in the 2022 Specific Plan Amendment, and water demands of each of the

2022 Specific Plan Amendment land uses, water demands of the 2022 Specific Plan Amendment uses would be reduced when compared to water demands evaluated in the currently approved WSA. OMUC has made the following determination regarding necessity to prepare a new WSA for the currently proposed 2022 Specific Plan Amendment Project . . . "the Water Code allows for an existing WSA to be applied to a new proposed project if there is no substantial increase in water demand. Since there was a WSA completed for the entire Rich Haven SP last year [2021], the Mill Creek Business Center Project [the proposed 2022 Specific Plan Amendment] would be allowed to refer to it in the CEQA documentation" (email communication from OMUC, January 31, 2022). As requested, the previous 2021 WSA has been appended to this EIR (please refer to EIR Appendix M). No further WSA analysis is required.

Based on the preceding analysis, sufficient supplies to meet the anticipated demand for the Project exist. No new or expanded entitlements would be needed to serve the Project. Impacts in this regard are considered less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact UTIL-3: *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.*

Impact Analysis: As discussed previously in this Section, wastewater treatment services for the Project would be provided by IEUA. Sufficient residual treatment capacity exists at IEUA Regional Water Reclamation Plant No. 5 (IEUA Plant No. 5) to serve the Project's projected wastewater treatment demand in addition to IEUA current wastewater treatment demands. The Project proposes conventional warehouse and business park uses, and would not generate wastewater that would require treatment processes or protocols not currently provided by IEUA.

Each individual development proposal within the IEUA service area (including development proposals within the Project site) is required to pay applicable sewer connection and service fees, which act to fund wastewater treatment system

improvement plans, operations, and maintenance – thereby offsetting incremental wastewater treatment demands of new development.

Based on the preceding, the potential for the Project to result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments is less-than-significant.

Level of Significance: Less-Than-Significant.

Potential Impact UTIL-4: *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.*

Impact Analysis: The City of Ontario Integrated Waste Department provides refuse collection services to the residents and businesses in the City of Ontario. The predominance of collected City refuse is transported for disposal at the Badlands Sanitary Landfill and/or El Sobrante Landfill. Receiving landfill statistical information is provided at previous Table 4.12-1. Solid waste would be generated by Project construction/demolition activities as well as Project operations. The Project is consistent with TOP 2050. TOP 2050 SEIR concluded that buildout of the City would not result in potentially significant solid waste management impacts (TOP 2050 SEIR, p. 1-66 et. al).

Additionally, the Project would be required to comply with the following, acting to minimize Project solid waste management demands, and ensure compliance with State or local solid waste management standards.

City of Ontario Construction & Demolition Recycling Plan (CDRP)

Pursuant to Ontario Municipal Ordinance (OMC) Sec. 6-3.602 Construction & Demolition Recycling Plan and the 2016 California Green Building Standards Code (CALGreen), all building and demolition permit applicants are required to prepare and submit a Construction & Demolition Recycling Plan (CDRP) and a Construction &

Demolition Recycling Plan (CDRP) Summary Report. OMC Sec. 6-3.602 and CALGreen require all construction and qualifying renovation and demolition projects to divert at least 65% of all generated waste materials. The Modified Project would be subject to (OMC) Sec. 6- 3.602 and CALGreen construction waste diversion mandates. The City oversees compliance with OMC Sec. 6-3.602 and CALGreen construction waste diversion mandates.

AB 939 - California Integrated Waste Management Act of 1989

Solid waste management is guided by the California Integrated Waste Management Act of 1989 (AB 939), which emphasizes resource conservation through reduction, recycling, and reuse of solid waste. AB 939 requires that localities conduct a Solid Waste Generation Study (SWGS) and develop a Source Reduction Recycling Element (SRRE), providing for a minimum 50 percent reduction in waste sent to landfills. Diversion rates are calculated and tracked by the California Integrated Waste Management Board (Board). Alternatively, the Board can determine that a jurisdiction's "good faith efforts" to implement comprehensive diversion programs have satisfied the requirement even if diversion levels are below 50 percent.

To reduce waste disposal, AB 939 requires every California city and county to divert 50 percent of its waste from landfills. Residential, commercial and governmental waste recycling programs in support of the SRRE have been implemented by the City.

The City is currently meeting or exceeding all AB 939 solid waste diversion targets. The Project would be required to comply with AB 939 as implemented by the City.

AB 341 - Commercial Recycling

Assembly Bill 341 mandates recycling for businesses producing four or more cubic yards of solid waste per week, and multifamily dwellings of five units or more. Under the law, business must separate recyclables from trash and then either subscribe to City of Ontario recycling services, self-haul their recyclables, or contract with a permitted private recycler. The Project would be subject to Assembly Bill 341 mandates.

AB 1826 - Commercial Organics Recycling

Under Assembly Bill 1826, businesses are required to arrange for organic recycling services. The Project would be subject to Assembly Bill 1826 mandates. The California Department of Resources Recycling and Recovery (CalRecycle) oversees both the mandatory commercial recycling program and the mandatory commercial organics recycling program. The City of Ontario supports both bills through public outreach, monitoring of recycling efforts, providing notification to non-compliant businesses, and periodic State reporting.

The Project would be required to comply with the above solid waste management statutes and regulations. The City and CalRecycle would oversee and monitor compliance with applicable solid waste management statutes and regulations.

SB 1383 - Organic Waste Management Requirements

SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. The City is currently developing programs and strategies to address the requirements of SB 1383, the Project would be required to ultimately abide by those requirements.

Impacts to solid waste services and facilities from new development are addressed through the payment of development impact fees as outlined in the City of Ontario Development Impact Fee Calculation and Nexus Fee Schedules. With the payment of required development impact fees and compliance with existing solid waste regulations, the Project would not result in any new or substantially increased solid waste impacts not previously identified in TOP 2050 SEIR.

Based on the preceding, the Project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair

the attainment of solid waste reduction goals would be less-than-significant. Additionally, the Project would comply with applicable solid waste management and reduction statutes and regulations. On this basis, the Project would result in less-than-significant solid waste management impacts.

Level of Significance: Less-Than-Significant.

Potential Impact UTIL-5: *Comply with federal, state, and local statutes and regulations related to solid waste.*

Impact Analysis: Solid waste management statutes and regulations applicable to the Project are summarized below.

City of Ontario Construction & Demolition Recycling Plan (CDRP)

Pursuant to Ontario Municipal Ordinance (OMC) Sec. 6-3.602 *Construction & Demolition Recycling Plan* and the 2016 California Green Building Standards Code (CALGreen), all building and demolition permit applicants are required to prepare and submit a Construction & Demolition Recycling Plan (CDRP) and a Construction & Demolition Recycling Plan (CDRP) Summary Report. OMC Sec. 6-3.602 and CALGreen require all construction and qualifying renovation and demolition projects to divert at least 65% of all generated waste materials. The Project would be subject to (OMC) Sec. 6-3.602 and CALGreen construction waste diversion mandates. The City oversees compliance with OMC Sec. 6-3.602 and CALGreen construction waste diversion mandates.

AB 939 - California Integrated Waste Management Act of 1989

Solid waste management is guided by the California Integrated Waste Management Act of 1989 (AB 939), which emphasizes resource conservation through reduction, recycling, and reuse of solid waste. AB 939 requires that localities conduct a Solid Waste Generation Study (SWGS) and develop a Source Reduction Recycling Element (SRRE), providing for a minimum 50 percent reduction in waste sent to landfills. Diversion rates are calculated and tracked by the California Integrated Waste Management Board (Board). Alternatively, the Board can determine that a jurisdiction's "good faith efforts"

to implement comprehensive diversion programs have satisfied the requirement even if diversion levels are below 50 percent.

To reduce waste disposal, AB 939 requires every California city and county to divert 50 percent of its waste from landfills. Residential, commercial and governmental waste recycling programs in support of the SRRE have been implemented by the City.

As noted above, the City is currently meeting or exceeding all AB 939 solid waste diversion targets. The Project would be required to comply with AB 939 as implemented by the City.

AB 341 - Commercial Recycling

Assembly Bill 341 mandates recycling for businesses producing four or more cubic yards of solid waste per week, and multifamily dwellings of five units or more. Under the law, business must separate recyclables from trash and then either subscribe to City of Ontario recycling services, self-haul their recyclables, or contract with a permitted private recycler. The Project would be subject to Assembly Bill 341 mandates.

AB 1826 - Commercial Organics Recycling

Under Assembly Bill 1826, businesses are required to arrange for organic recycling services. The Project would be subject to Assembly Bill 1826 mandates.

The California Department of Resources Recycling and Recovery (CalRecycle) oversees both the mandatory commercial recycling program and the mandatory commercial organics recycling program. The City of Ontario supports both bills through public outreach, monitoring of recycling efforts, providing notification to non-compliant businesses, and periodic State reporting.

The Project would be required to comply with the above solid waste management statutes and regulations. The City and CalRecycle would oversee and monitor compliance with applicable solid waste management statutes and regulations.

Based on the preceding, the potential for the Project to conflict with federal, state, and local statutes and regulations related to solid waste is less-than-significant.

Level of Significance: Less-Than-Significant.

5.0 OTHER CEQA CONSIDERATIONS

5.0 OTHER CEQA CONSIDERATIONS

This Section of the EIR addresses other environmental considerations and topics mandated under the California Environmental Quality Act (CEQA). These topics include Cumulative Impacts, Alternatives to the Project, Growth Inducement, Significant Environmental Effects of the Project, and Significant and Irreversible Environmental Changes.

5.1 CUMULATIVE IMPACT ANALYSIS

The *CEQA Guidelines* (*Guidelines*) require that an EIR identify any significant cumulative impacts associated with a project [*Guidelines*, Section 15130 (a)]. When potential cumulative impacts are not deemed significant, the document should explain the basis for that conclusion. Cumulative impacts are "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." [*CEQA Guidelines*, Section 15355]. A legally adequate cumulative impact analysis comprises an analysis of a project viewed over time and in the context of other related past, present, and foreseeable probable future projects, whose impacts might compound or interrelate with those of the Project considered here.

CEQA notes that the discussion of cumulative impacts should be guided by standards of practicality and reasonableness [*Guidelines*, Section 15130 (b)]. Only those projects whose impacts might compound or interrelate with those of the Project under consideration require evaluation. CEQA does not require as much detail in the analysis of cumulative environmental impacts as must be provided for the Project alone.

The *Guidelines* identify two basic methods for satisfying the cumulative impacts analysis requirement: the list-of-projects methodology, and the summary-of-projections methodology. Because each environmental resource is affected by its surroundings in different manners, either of the two methodologies, or a combination of both, may be applied to the analysis of cumulative impacts to each resource. For example, because the approval process and construction phase of development typically takes at least one to two years, the list-of-projects method is likely to provide a more accurate projection of growth in the near term. This method may overstate potential cumulative impacts because the considered list-of-projects may include proposals that will never be developed. Similarly, because development proposals are rarely publicly known until within five (5) years of the expected development, the summary-of-projections method provides a more accurate projection of growth over the long term. This method may not accurately predict growth in any given year but aggregates various growth trends over the long term.

Consistent with direction provided in the *CEQA Guidelines,* related projects considered in these cumulative analyses are "only those projects whose impacts might compound or interrelate with those of the Project under consideration require evaluation." For each topical discussion, the cumulative impact area is identified. Related Projects considered in this analysis are listed at Table 5.1-1. Locations of Related Projects are presented at Figure 5.1-1. The City has determined that the listed Related Projects comprise the range and scope of potential development that could be implemented or operational within the context of the Project considered here.

Table 5.1-1
Related Projects

Map Designation	Project Name	Land Use	Scope
City of Ontario			
O1	Ontario Ranch Business Park	Business Park	227.951 TSF
		High-Cube Fulfillment Center Warehouse	913.053 TSF
		High-Cube Cold Storage Warehouse	179.135 TSF
		Warehouse	320.551 TSF
O2	Subarea 29 & Amendment	Single Family Detached	716 DU

Table 5.1-1
Related Projects

Map Designation	Project Name	Land Use	Scope
	(75% complete)	Shopping Center	87.000 TSF
O3	Ontario Ranch Commerce Center	High-Cube Fulfillment Warehouse	1,447.123 TSF
		Business Park	457.904 TSF
O4	South Ontario Logistics Center	Business Park	1,075.235 TSF
		High-Cube Fulfillment Warehouse	2,819.282 TSF
		High-Cube Cold Storage Warehouse	563.857 TSF
		Warehousing	954.218 TSF
O5	Parkside Specific Plan	Single Family Detached	804 DU
		Multifamily Housing (Low-Rise)	2,046 DU
		Park	58.860 AC
O6	Merrill Commerce Center	High-Cube Fulfillment Warehouse	7014.000 TSF
		Business Park	1441.000 TSF
O7	Parente Home Ranch SP	Single Family Detached	270 DU
		Condo/Townhouse	1,872 DU
		General Office	462.281 TSF
		Shopping Center	194.278 TSF
O8	Countryside	Single Family Detached	819 DU
	Armstrong Ranch	Single Family Detached	994 DU
O9	The Avenue (50% Complete)	Single Family Detached	2,020 DU
		Multi-Family Attached (Apartments)	586 DU
		Shopping Center	250.000 TSF
O10	Grand Park (80% Complete)	Single Family Detached	484 DU
		Multi-Family Attached (Apartments)	843 DU
O11	West Haven	Single Family Detached	149 DU
		Multifamily Housing	654 DU
		Elementary School	650 STU
		Shopping Center	87.000 TSF
O12	Haven Gateway	General Light Industrial	42.160 TSF
		High-Cube Warehouse	168.640 TSF
O13	PDEV10-008 - Dry Food Storage	Mini-Warehouse	17.000 TSF
O14	Esperanza (50% Complete)	Single Family Detached	914 DU
		Multi-Family Attached (Apartments)	496 DU
O15	Edenglen (50% Complete)	Single Family Detached	310 DU
		Multi-Family Attached (Condo)	274 DU
		Shopping Center	217.520 TSF
		Business Park	550.000 TSF
O17	Tuscana Village	Single Family Detached	176 DU
		Shopping Center	26.000 TSF
City of Chino			

Table 5.1-1
Related Projects

Map Designation	Project Name	Land Use	Scope
C1	Falloncrest at the Preserve	Shopping Center	15 TSF
		Multifamily Housing (Low-Rise)	698 DU
		Multifamily Housing (Mid-Rise)	440 DU
		Public Parks	21.60 AC
		General Office	77.597 TSF
		Shopping Center	77.597 TSF
C2	The Preserve Town Center (Blocks 6 and 7)	Multifamily Housing	549 DU
		Office	16.300 TSF
		Shopping Center	36.800 TSF
		Pharmacy with Drive-Thru	12.900 TSF
		Supermarket	45.000 TSF
		Fast-Food Restaurant with Drive-Thru	6.500 TSF
		Fast Casual Restaurant	13.750 TSF
		Quality Restaurant	13.750 TSF
C3	Pines Community	Single Family Detached	552 DU
		Public Park	3.0 AC
		Self Storage & RV Storage	120.000 TSF
		Sports Park	41.8 AC
C4	Ag. Buffer, Bungalow, Lic. Product, Liberty Deluxe, Lyon 2 & 3	Single Family Detached	474 DU
C5	Farmer Boys	Fast-food w/ Drive-Thru	3.218 TSF
		Shopping Center	2.300 TSF
C6	Euclid & Bickmore Warehouse	Warehousing	205.820 TSF
		General Light Industrial	51.030 TSF
		Business Park	110.620 TSF
C7	Kimball Business Park	Gas Station w/ Market	16 VFP
		Fast-Food with Drive-Thru	2.500 TSF
C8	Chaffey College Expansion	Junior/Community College	93.50 AC
	College Park Commercial	Shopping Center	7.50 AC
C9	The Campus at College Park	Church	27.000 TSF
		General Office	16.969 TSF
		Shopping Center	17.785 TSF
		High-Turnover (Sit Down) Restaurant	15.876 TSF
C10	Altitude Business Centre	Warehousing	715.000 TSF
		Light Industrial	255.000 TSF
		Business Park	233.000 TSF
		Self-Storage	110.000 TSF
C11	Majestic Gateway	Specialty Retail	25.000 TSF
		Pharmacy/Drugstore with Drive-Thru	13.000 TSF

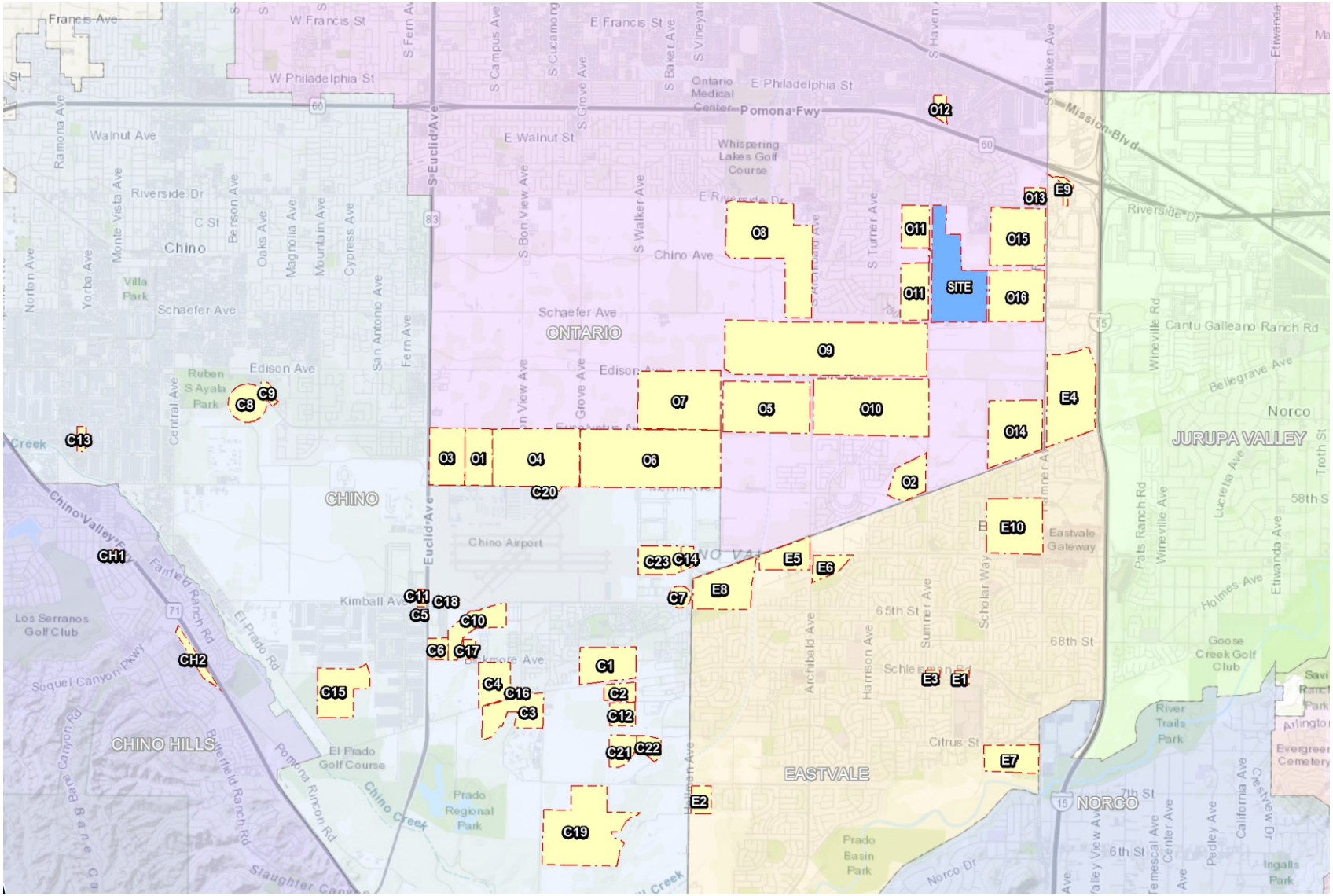
Table 5.1-1
Related Projects

Map Designation	Project Name	Land Use	Scope
		Fast-Food with Drive-Thru	8.600 TSF
C12	The Preserve Civic Center	Elementary School	1,200 STU
		Library	10.00 AC
		Community Center	10.00 AC
		Park	8.00 AC
C13	Fairfield Inn & Suites (PL 17-0060 & PL 17-0061)	Hotel	111 RM
C14	Watson Industrial Park (90% complete)	High-Cube Warehouse	388.990 TSF
C15	Majestic Chino Heritage	High-Cube Fulfillment Warehouse	1982.700 TSF
		High-Cube Cold Storage Warehouse	100.000 TSF
C16	Church	Church	47.979 TSF
		Daycare	190 STU
C17	Appesetche Residential	Single Family Detached	60 DU
		Condo/Townhouse	160 DU
C18	Archibald's (PL 17-0037)	Fast-Food with Drive-Thru	3.147 TSF
C19	Rancho Miramonte	Single Family Detached	691 DU
		Condo/Townhouse	132 DU
		Neighborhood Retail	21.780 TSF
		Church	400 SEAT
C20	Eagle's Nest (storage for 33 aircraft)	Aviation Storage	8.3 AC
C21	Lewis Block 3	Single Family Detached	114 DU
C22	Lewis Block 11	Single Family Detached	220 DU
		Multifamily (Low-Rise) Residential	85 DU
		Recreational Community Center	16.000 TSF
C23	Chino Flight	High-Cube Cold Storage Warehouse	138.804 TSF
		High-Cube Fulfillment Center Warehouse	786.558 TSF
City of Eastvale			
E1	Magnolia Ranch	Single Family Detached	39 DU
		Multifamily Housing	90 DU
E2	TR29997	Single Family Detached	122 DU
E3	Sumner Place	Multifamily Housing	216 DU
		Shopping Center	2.500 TSF
		Fast-Food Without Drive-Thru	2.500 TSF
E4	Eastvale Commerce Center (75% complete)	Shopping Center	162.500 TSF
E5	PP23219 (PM35865) (50% complete)	General Light Industrial	738.430 TSF

Table 5.1-1
Related Projects

Map Designation	Project Name	Land Use	Scope
E6	Eastvale Shopping Center	Free-Standing Discount Superstore	192.000 TSF
		Specialty Retail	9.200 TSF
		Fast-Food Without Drive-Thru	7.200 TSF
		Coffee/Donut Shop w/ Drive Thru	2.000 TSF
		Fast-Food with Drive-Thru	3.500 TSF
		Gas Station w/ convenience store and car wash	16 VFP
E8	SP00358 - The Ranch at Eastvale (75% complete)	Shopping Center	267.200 TSF
		General Light Industrial	801.500 TSF
		Business Park	280.275 TSF
E9	15-1508 - Industrial Warehouse	Warehousing	155.000 TSF
E10	Leal Master Plan	Lifestyle Center (Commercial)	1,300.000 TSF
		General Commercial	225.000 TSF
		Office	920.000 TSF
		Hotel	450 RM
		High Density Residential	500-660 DU
City of Chino Hills			
CH1	Country Club Villas	Condo/Townhouse	46 DU
CH2	Heritage Professional Center	Hospital	55.000 TSF
		Medical Office Building	86.952 TSF
		Hotel	120 RM
		Shopping Center	38.848 TSF
		Restaurant	7.200 TSF

Source: *Rich Haven Specific Plan, Traffic Analysis* (Urban Crossroads, Inc.) December 16, 2022.
Notes: AC - Acres; DU - Dwelling Units; TSF - Thousand Square Feet; VFP - Vehicle Fueling Position; RM - Rooms; STU - Students



NOT TO SCALE

Source: Urban Crossroads, Inc.

applied planning inc

Figure 5.1-1
Related Projects

5.1.1 Discussion of Cumulative Impacts

Section 15139(a) of the *Guidelines* notes that "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined at *Guidelines* Section 15065(c). Where a lead agency is examining a project with an incremental effect that is not 'cumulatively considerable,' a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable." Potential cumulative impacts for each of the EIR Sections are presented here.

For certain other areas of consideration, Project impacts are substantiated to be less-than-significant or less-than-significant as mitigated (please refer to the Initial Study, EIR Appendix A). These topics include:

AESTHETICS. Potential to:

- Have a substantial adverse effect on a scenic vista.

- Substantially damage scenic resources, including, but not limited to trees, rocks, outcroppings, and historic buildings within a state scenic highway.

- In a non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings.

- Create a new source of substantial light or glare, which would adversely affect the day or nighttime views in the area.

AGRICULTURE AND FOREST RESOURCES. Potential to:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

- Conflict with existing zoning for agricultural use, or a Williamson Act contract.

- Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.

- Result in the loss of forest land or conversion of forest land to non-forest use.

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

AIR QUALITY. Potential to:

- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

CULTURAL RESOURCES. Potential to:

- Disturb any human remains, including those interred outside of formal cemeteries.

GEOLOGY AND SOILS. Potential to:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a known earthquake fault.

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving landslides.

- Result in substantial soil erosion or the loss of topsoil.

- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

HAZARDS AND HAZARDOUS MATERIALS. Potential to:

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for the people residing or working in the project area.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

HYDROLOGY AND WATER QUALITY. Potential to:

- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.

LAND USE AND PLANNING. Potential to:

- Physically divide an established community.

MINERAL RESOURCES. Potential to:

- Result in the loss of availability of a known mineral resource that would be of value to the region and to the residents of the state.

- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

POPULATION AND HOUSING. Potential to:

- Induce substantial population growth in the area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension of roads or other infrastructure).

- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

PUBLIC SERVICES. Potential to:

Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities the construction of which could cause significant environmental impacts for any of the public services:

- Fire Protection
- Police Protection
- Schools
- Parks
- Other public facilities

RECREATION. Potential to:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facility would occur or be accelerated.

- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

WILDFIRE. Potential to:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.

- Exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

5.1.1.1 Land Use and Planning - Cumulative Impacts

The cumulative impact area when considering potential cumulative land use and planning issues includes areas that are currently under City jurisdiction, and subject to provisions of TOP 2050 Policy Plan (General Plan), City of Ontario Zoning Ordinance, and/or other City Special Planning Documents (e.g., Specific Plans). The analysis

presented here also considers the Project in the context of the land use/planning guidance included in the *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal 2020).

TOP 2050 Policy Plan Considerations

The 2022 Specific Plan Amendment Project land uses are consistent with the site's TOP 2050 Policy Plan Land Use Plan. The Project does not propose or require amendment of TOP 2050 Policy Plan Land Use Plan. Further, as substantiated at EIR Section 4.1, *Land Use and Planning*, land uses and development concepts proposed by the Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Zoning Considerations

The existing Zoning designation of the Project site is "Specific Plan" as established by the current (2021) Rich-Haven Specific Plan. The Specific Plan zoning designation is maintained under the Project, though land use designations and configuration of Specific Plan land uses would be amended per the proposed 2022 Rich-Haven Specific Plan Amendment. The *2022 Rich-Haven Specific Plan Amendment* (2022 Specific Plan Amendment) is presented in its entirety at EIR Appendix B. If adopted by the City, the 2022 Specific Plan Amendment would comprise the zoning for the subject site, and would regulate all development within the site. Where the 2022 Specific Plan Amendment is silent, regulations and requirements of the City Development Code would prevail.

The proposed 2022 Specific Plan Amendment would establish land use plans, development standards, and design guidelines directing the ultimate buildout of the Project site. Land uses and development concepts reflected within the proposed 2022 Specific Plan Amendment can be feasibly implemented consistent with applicable provisions of TOP 2050 Policy Plan Land Use Element and City Development Code. Prior to issuance of building permits, the City would review the final development plans for individual developments within the Project site to ensure consistency with the 2022

Specific Plan Amendment land use plans, development standards, design guidelines; and where applicable, City Development Code requirements.

Other related projects within the cumulative impact area would be required to comply with requirements of necessary land use and planning discretionary actions and permits. Mitigation would be incorporated if necessary.

Based on the preceding discussion, the Project's potential contribution to cumulative land use and planning impacts is not considerable, and the cumulative effects of the Project are less-than-significant.

5.1.1.2 Transportation - Cumulative Impacts

The Project Vehicle Miles Traveled (VMT) Assessment cumulative impact area coincides with relevant Transportation Analysis Model Traffic Analysis Zones (TAZs).

Cumulative VMT Impacts

Within this analysis, evaluation of the Project VMT impacts is guided by *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory) (Governor's Office of Planning and Research, OPR) December 2018. The Technical Advisory fulfills the state (SB 743) mandate that "OPR [is] to establish specific 'criteria for determining the significance of transportation impacts of projects' (Technical Advisory, p. 7).

The Technical Advisory notes that ". . . metrics such as VMT per capita or VMT per employee, i.e., metrics framed in terms of efficiency (as recommended below for use on residential and office projects), cannot be summed because they employ a denominator. A project that falls below an efficiency-based threshold that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact" (Technical Advisory, p. 6). As substantiated herein, the Project-level VMT impacts are less-than-significant per the City VMT Guidelines efficiency-based threshold. Per the Technical Advisory guidance, the Project cumulative VMT impacts would also be less-than-significant.

Other Transportation Topics

To ensure appropriate design and implementation of all Project circulation improvements, the final design of the Project site plan, to include locations and design of proposed driveways, shall be reviewed and approved by the City Traffic Engineer. In addition, representatives of the City's Police and Fire Departments will review the Project's plans regarding emergency access. Efficient and safe operations of the Project would be provided by on-site and localized circulation and intersection improvements to be developed as the Project individual site and building designs are finalized. The City would ensure that all on-site and localized circulation and intersection improvements would be designed and constructed consistent with applicable provisions of the 2022 Specific Plan Amendment and pursuant to City site plan and Building Permit review processes and requirements.

Traffic signing and striping would be implemented in conjunction with detailed Project construction plans. Sight distance at each project access point would be reviewed with respect to standard Caltrans and City of Ontario sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

It is also recognized that temporary and short-term traffic detours and traffic disruption could result during Project construction activities. These interim and transient impacts are considered potentially significant for the duration of Project construction activities. Management and control of construction traffic would be addressed through the preparation and submittal of a construction area traffic management plan, to be reviewed and approved by City prior to or concurrent with Project building plan review(s). The Project Construction Area Traffic Management Plan (Plan), also summarized within the EIR Project Description, would identify traffic controls for any street closures, detours, or other potential disruptions to traffic circulation during Project construction. The Plan would also be required to identify construction vehicle access routes, and hours of construction traffic.

The Project would generate passenger car trips and truck trips typical of the proposed uses. As part of established site and Building Permit review processes, the City would

require implementation of on-site truck and passenger car travel paths, signing, and traffic controls to ensure that conflicts between trucks and passenger cars are minimized or avoided. Trucks accessing the Project site would use designated truck routes, thereby avoiding or minimizing off-site passenger car/truck traffic conflicts. Land uses proximate to the Project site are planned for, or are developed with, urban uses similar to those proposed by the Project. These uses would generate urban traffic types similar to traffic generated by the Project and would not generate traffic that would be incompatible with the Project traffic types.

Other related projects within the cumulative impact area would similarly be required to demonstrate compliance with applicable circulation system programs, plans, ordinances, and policies, thereby minimizing potential cumulative impacts.

Based on the preceding, the Project's contribution to cumulative impacts related to increased circulation system hazards, incompatible uses, or inadequate emergency access are not considerable, and the cumulative effects of the Project are less-than-significant.

5.1.1.3 Air Quality - Cumulative Impacts

The cumulative impact area for air quality considerations is generally defined by the encompassing Air Basin and boundaries of the jurisdictional air quality management agency. In this case, the South Coast Air Basin (Basin) and the South Coast Air Quality Management District (SCAQMD), respectively. Project emissions within the context of SCAQMD's regional emissions thresholds provide an indicator of potential cumulative impacts within the jurisdictional Air Basin. Due to the defining geographic and meteorological characteristics of the Air Basin, criteria pollutant emissions that could cumulatively impact air quality would be, for practical purposes, restricted to the Air Basin. Accordingly, the geographic area encompassed by the Air Basin is the appropriate limit for this cumulative air quality analysis.

Construction-Source Air Quality Impacts

As discussed at EIR Section 4.3, *Air Quality*, even with application of mitigation, Project construction-source NO_x and CO emissions would exceed applicable SCAQMD regional

thresholds and would therefore be significant and unavoidable. Per SCAQMD criteria, significant Project-level impacts are also cumulatively considerable. The Basin encompassing the Project site is designated as non-attainment for ozone, PM_{10}, and $PM_{2.5}$ (VOC and NO_x are both ozone precursors; NO_x is a precursor to PM_{10}/$PM_{2.5}$). Project construction-source NO_x emissions threshold exceedances would result in a cumulatively considerable net increase in the criteria pollutant ozone for which the Project region is non-attainment. This is a cumulatively significant and unavoidable air quality impact.

Other related projects within the cumulative impact area would be required to minimize construction-source air pollutant emissions consistent with SCAQMD programs and strategies, thereby minimizing potential cumulative impacts. Mitigation would be implemented, if applicable.

Operational-Source Air Quality Impacts

Even with application of mitigation, Project operational-source VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$ emissions would exceed applicable SCAQMD regional thresholds. The Basin encompassing the Project site is designated as non-attainment for ozone, PM_{10}, and $PM_{2.5}$ (VOC and NO_x are both ozone precursors; NO_x is a precursor to PM_{10}/$PM_{2.5}$). Project operational-source VOC, NO_x, PM_{10}, and $PM_{2.5}$ emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and PM_{10}/$PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant and unavoidable air quality impacts.

Other related projects within the cumulative impact area would be required to minimize operational-source air pollutant emissions consistent with SCAQMD programs and strategies, thereby minimizing potential cumulative impacts. Mitigation would be implemented, if applicable.

AQMP Consistency Impacts

Project construction-source and operational-source regional threshold emissions exceedances noted above are inconsistent with AQMP Consistency Criterion No. 1. On

this basis, the Project would conflict with the AQMP. This is a cumulatively significant air quality impact.

CO Hotspot Impacts

The potential for the Project to cause or result in potential CO hotspot impacts would be less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable. The potential for Project CO emissions to result in or cause cumulatively significant CO hotspot impacts is therefore considered less-than-significant.

Other related projects within the cumulative impact area would be required to minimize potential CO hotspot impacts consistent with SCAQMD programs and strategies, thereby minimizing potential cumulative impacts. Mitigation would be implemented, if applicable.

Health Risk Impacts

Potential carcinogenic and non-carcinogenic health risk impacts resulting from Project construction and operations would be less-than-significant. Per SCAQMD criteria, less-than-significant impacts at the Project level are not cumulatively considerable. The potential for Project air pollutant emissions to result in or cause cumulatively significant health risk impacts is therefore considered less-than-significant.

Other related projects within the cumulative impact area would be required to minimize potential health risk impacts consistent with SCAQMD programs and strategies, thereby minimizing potential cumulative impacts. Mitigation would be implemented, if applicable.

5.1.1.4 GHG Emissions/Global Climate Change - Cumulative Impacts

CEQA emphasizes that the effects of greenhouse gas emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis (*CEQA Guidelines* Section 15130(f)). The Project Greenhouse Gas (GHG) Analysis is by nature a cumulative analysis. Because GHG emissions and climate change are global

issues, any approved project regardless of its location has the potential to contribute to a cumulative global accumulation of GHG emissions. The geographic context of the cumulative contributions to GHGs and climate change is worldwide. Practically however, lead agencies and responsible agencies are only able to regulate GHG emissions within their respective jurisdictions. Accordingly, for the purposes of this analysis, the cumulative impact area for GHG/Global Climate Change considerations is the City of Ontario and the encompassing SCAQMD jurisdictional area.

As discussed at EIR Section 4.4, *Greenhouse Gas Emissions*, even after application of mitigation, Project GHG emissions would exceed the SCAQMD GHG emissions screening level threshold of 3,000 $MTCO_2e$/year. On this basis, the Project could directly or indirectly generate GHG emissions that may have a significant impact on the environment. On this basis, the Project's potential to contribute considerably (either individually or cumulatively) to global climate change impacts through GHG emissions is therefore considered significant and unavoidable.

As also discussed in the EIR, the Project is consistent with TOP 2050, and GHG emissions modeling reflected in TOP 2050 – *2022 Community Climate Action Plan U*pdate (2022 CCAP Update). The 2022 CCAP Update provides guidance on how to analyze GHG emissions and determine significance during the CEQA review of proposed development projects within the City. The 2022 CCAP Update addresses GHG emissions reductions and is consistent with the requirements of AB 32, SB 32, and international efforts to reduce GHG emissions. The 2022 CCAP Update, requirements of AB 32, SB 32, and international efforts to reduce GHG emissions encompass and comprise the range and scope of "applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases." As substantiated in the EIR, with application of mitigation, the Project is determined to be consistent with the 2022 CCAP Update and by extension is also consistent with and supports other noted plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases. The potential for the Project to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases is therefore considered less-than-significant.

Other related projects within the cumulative impact area would be required to minimize potential GHG emissions impacts consistent applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions, thereby minimizing potential cumulative GHG emissions impacts. Mitigation would be implemented, if applicable.

5.1.1.5 Energy - Cumulative Impacts

The geographic scope of cumulative energy impacts is limited to the energy provider service area(s). The analysis at EIR Section 4.5, *Energy*, substantiates that the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. These plans and policies address development-level and cumulative impacts to energy resources. Project consistency with state and local plans for renewable energy and energy efficiency demonstrates that Project energy impacts would not be cumulatively considerable, and the Project cumulative energy impacts would be less-than-significant.

As with the Project, other related projects within the energy provider service areas would be required to demonstrate compliance with state and local plans for renewable energy and energy efficiency.

Based on the preceding, the Project's potential contribution to cumulative impacts regarding energy is not considerable, and the cumulative effects of the Project are determined to be less-than-significant.

5.1.1.6 Noise/Vibration - Cumulative Impacts

The cumulative impact area for noise/vibration considerations is generally defined as surrounding properties that could receive Project-generated noise/vibration (either construction or operational), and would also include roadway corridors affected by Project-related traffic and associated vehicular noise/vibration. Potential noise/vibration impacts of the Project are discussed at EIR Section 4.6, *Noise*.

Construction-Source Noise/Vibration

Project construction-source noise and vibration levels received at area land uses would be less-than-significant and on this basis are not cumulatively considerable.

Other related projects within the cumulative impact area would be required to mitigate construction-source noise and vibration impacts that could affect sensitive receptors, thereby minimizing potential cumulative construction-source noise impacts.

Operational Noise/Vibration - Area Sources

The Project's area-source operational noise levels would be less-than-significant. EIR mitigation measures would reduce potential vehicular-source noise impacts at the Project residential uses to levels that would be less-than-significant.

Further, Project operational-source noise in combination with ambient noise would not result in cumulatively significant noise impacts. In this latter regard, the peak mitigated Project operational-source noise levels when added to ambient conditions would not exceed the maximum acceptable day/night ambient condition.

Other related projects within the cumulative impact area would be required to mitigate operational area-source noise impacts that could affect sensitive receptors, thereby minimizing potential cumulative operational-source noise impacts.

Operational Noise - Mobile Sources

Cumulative effects of mobile-source noise are demonstrated by comparing noise levels under Existing Conditions (2022) without the Project, to noise levels with the completed Project under Horizon Year Conditions (2050). Cumulative mobile-source noise increases within the Study Area are summarized at Table 5.1-2. The modeled noise levels are based on cumulative traffic volumes presented in the Project Traffic Analysis. The Project Traffic Analysis cumulative traffic volumes include all traffic generated by the Related Projects listed at Table 5.1-1 as well as traffic that would result from regional ambient growth. from The Project Traffic Analysis is presented at EIR Appendix C. Applicable

noise thresholds for each roadway segment, reflecting ambient conditions and presence/absence of sensitive receptors is also identified.

Table 5.1-2
Cumulative Mobile-Source Noise Increases

Roadway	Segment	CNEL at Affected Property Line					Receiving Land Use Noise Sensitivity	Threshold
		Existing	2050 w/o Project	2050 w/ Project	Max. Cumulative Increase	Max. Project Increment		
Archibald Avenue	n/o Ontario Ranch Road	79.3	81.7	81.8	2.5	0.1	Sensitive	1.5
Haven Avenue	***n/o Riverside Drive***	***78.6***	***81.2***	***81.6***	***3.0***	0.4	Sensitive	1.5
Haven Avenue	***s/o Riverside Drive***	***76.2***	***80.6***	***81.1***	***4.9***	0.5	Sensitive	1.5
Haven Avenue	***n/o Ontario Ranch Road***	***77.4***	***79.9***	***80.7***	***3.3***	0.8	Sensitive	1.5
Mill Creek Avenue	***s/o Chino Avenue***	***69.7***	***73.8***	***74.4***	***4.7***	0.6	Sensitive	1.5
Milliken Avenue	***n/o Riverside Drive***	***78.9***	***83.2***	***83.6***	***4.7***	0.4	Non-Sensitive	3.0
Milliken Avenue	***s/o Riverside Drive***	***78.6***	***82.1***	***82.5***	***3.9***	0.4	Non-Sensitive	3.0
Hamner Avenue	***s/o Chino Avenue***	***78.6***	***82.2***	***82.6***	***4.0***	0.4	Non-Sensitive	3.0
Hamner Avenue	s/o Ontario Ranch Road	80.1	80.9	81.1	2.0	0.2	Non-Sensitive	3.0
Riverside Drive	***w/o Haven Avenue***	***77.2***	***80.4***	***80.4***	***3.2***	0.0	Sensitive	1.5
Riverside Drive	***w/o Milliken Avenue***	***74.9***	***80.8***	***80.9***	***6.0***	0.1	Sensitive	1.5
Chino Avenue	***e/o Archibald Avenue***	***71.1***	***74.1***	***74.3***	***3.2***	0.2	Sensitive	1.5
Ontario Ranch Road	w/o Archibald Avenue	79.1	80.5	81.0	1.9	0.5	Sensitive	1.5
Ontario Ranch Road	e/o Archibald Avenue	79.9	80.7	81.7	1.8	1.0	Sensitive	1.5
Ontario Ranch Road	***w/o Haven Avenue***	***80.4***	***84.9***	***85.4***	***5.0***	0.5	Sensitive	1.5
Ontario Ranch Road	***e/o Haven Avenue***	***81.5***	***84.0***	***84.6***	***3.1***	0.6	Sensitive	1.5
Ontario Ranch Road	***w/o Hamner Avenue***	***81.3***	***84.3***	***85.3***	***4.0***	1.0	Non-Sensitive	3.0
Ontario Ranch Road	***e/o Hamner Avenue***	***82.2***	***84.8***	***85.5***	***3.3***	0.7	Non-Sensitive	3.0

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

For ease of reference, vehicular-source noise thresholds established in the Project Noise Impact Analysis (EIR Appendix G) and presented at EIR Section 4.6, *Noise* are restated below at Table 5.1-3.

Table 5.1-3
Vehicular-Source Noise Thresholds

Receiving Land Use	Baseline Condition(s)	Significance Threshold Criteria	
		Daytime	Nighttime
Noise-Sensitive	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
	If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
	If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
Non Noise-Sensitive	if ambient is > 75 dBA CNEL	≥ 3 dBA CNEL Project increase	

Source: *Rich-Haven Specific Plan 2022 Amendment, Noise and Vibration Analysis* (Urban Crossroads, Inc.) October 27, 2022.

As indicated at Table 5.1-1, ambient noise levels along all Study Area roadway segments already exceed 65 dBA CNEL. Along these roadway segments, cumulative noise increases of 1.5 dBA CNEL or more, if received at sensitive land uses, would exceed applicable thresholds and would be considered cumulatively significant. Along roadway segments where ambient conditions exceed 70 dBA CNEL, cumulative noise increases of 3.0 dBA CNEL or more, if received at non-sensitive land uses, would exceed applicable thresholds and would be considered cumulatively significant.

Employing the above criteria, Study Area roadway segments affected by cumulatively significant vehicular-source noise impacts are indicated by ***bold italicized text***. As indicated at Table 5.1-1, along all Study Area roadway segments projected to experience cumulatively significant vehicular-source noise impacts, the Project contributions would be less than the 1.5 dBA threshold at sensitive land uses, and less than the 3.0 dBA CNEL threshold at non-sensitive land uses. On this basis, Project contributions to cumulative vehicular-source noise would not be cumulatively considerable and Project impacts would not be cumulatively significant.

5.1.1.7 Hazards/Hazardous Materials - Cumulative Impacts

The cumulative impact area when considering potential hazards and hazardous materials issues includes the area to be developed within the Project site, as well as off-site locations that might be affected by or contribute to hazards or hazardous conditions resulting from the Project and its operations. The cumulative hazards and hazardous

materials impact analysis evaluates the effects of Project construction and operations, and reflects long-term buildout conditions within the cumulative impact area.

As discussed at EIR Section 4.7, *Hazards/Hazardous Materials*, the Project does not propose uses or activities that would require substantial handling or use of hazardous materials, hazardous substances, or hazardous waste that could result in potential adverse effects. The EIR mitigation measures require remediation of any pre-existing hazardous conditions to levels that would be less-than-significant. The mitigation measures also ensure that subsequent development and operation of Project land uses would not create or result in potentially significant hazardous conditions. As mitigated, Project impacts related to hazards and hazardous materials would be less-than-significant.

Other related projects within the cumulative impact area would be required to comply with hazards/hazardous material regulatory requirements. Mitigation would be incorporated, if necessary.

Based on compliance with established policies and regulations, and implementation of the EIR mitigation measures, the Project's potential contribution to hazards/hazardous materials cumulative impacts is not considerable, and the cumulative effects of the Project are less-than-significant.

5.1.1.8 Hydrology/Water Quality - Cumulative Impacts

The cumulative impact area for hydrology/water quality impact considerations is generally defined as the area encompassed by the jurisdictional Regional Water Quality Control Board (RWQCB), in this case the Santa Ana Regional Water Quality Control Board (SARWQCB). Local oversight is also provided by the City of Ontario and San Bernardino County.

Development of the Project site would incrementally increase impervious surfaces within the cumulative impact area, with related potential increases in the rate and quantity of local storm water discharges. As discussed at EIR Section 4.8, *Hydrology and Water Quality*, the Project's potential hydrology/water quality impacts would be less-than-significant as

mitigated. In this regard, the Project would implement storm water management components, and structural and non-structural Best Management Practices, which collectively act to ensure that post-development storm water discharge rates are adequately conveyed within available system capacities.

The Project drainage concept would maintain the site's primary drainage patterns, and would implement drainage systems and detention areas to accept developed storm water discharges. The Project would implement all necessary drainage and storm water management systems, and would be required to comply with all storm water system design, construction, and operational requirements mandated under the City Municipal Code. The Project drainage and storm water management systems would also be required to comply within regulations established by other jurisdictional agencies including SARWQCB, San Bernardino County, and California Department of Water Resources. Additionally, consistent with established building code regulations, approved site-specific drainage studies reflecting precise pad locations, proposed drainage structures, detention facilities, etc., would be required prior to the issuance of building permits within the Project site.

Storm water management systems implemented by the Project, mandated compliance with City, SARWQCB, County, and State storm water management requirements and policies, collectively ensure that adequate storm water conveyance and treatment facilities would be provided to support development and operations of the Project.

Other related projects within the cumulative impact area would be required to comply stormwater management and water quality regulatory requirements. Mitigation would be incorporated, if necessary.

Based on the preceding, contribution to cumulative hydrology/water quality impacts is not considerable, and the cumulative effects of the Project are determined to be less-than-significant.

5.1.1.9 Geology and Soils - Cumulative Impacts

The Project site and all Southern California lie within a seismically active area, generally subject to earthquake hazards, and in this sense, Southern California is considered the cumulative impact area for geology and soils considerations. As discussed at EIR Section 4.9, *Geology and Soils*, Project impacts related to geology and soils would be less-than-significant as mitigated. The Project would not exacerbate any existing adverse geologic/soils conditions.

Other related projects within the cumulative impact area would be required to minimize geology/soils impacts consistent with City and CBC regulatory requirements, thereby minimizing potential cumulative geology/soils impacts. Mitigation would be implemented, if applicable.

Based on the preceding, the Project's potential contribution to cumulative impacts regarding geology and soils is not considerable, and the cumulative effects of the Project are determined to be less-than-significant.

5.1.1.10 Biological Resources - Cumulative Impacts

The cumulative impact areas for biological resources are generally defined by available habitat, species' range(s), physical constraints, and other limiting factors as discussed within the Project Biological Report, EIR Appendix K. Biological resources occurring, or potentially occurring within the Project site, and associated impacts and mitigation are summarized below.

Special-Status Plant Species

There are no historic site records for any special status plant species onsite. Based on a review of CNDDB, the CNPS Inventory of Rare and Endangered Vascular Plants of California, and field surveys, a few special-status species were identified for additional analysis, although none are expected to occur onsite. No special-status plants were observed on the Project site during the 2022 site surveys.

Special-Status Wildlife Species

The Project could result in potentially significant impacts to the burrowing owl. The EIR incorporates mitigation measures that would reduce potential impacts to the burrowing owl to levels that would be less-than-significant.

Nesting Birds

Project implementation could affect nesting birds that may be present at the time of Project construction activities. This is a potentially significant impact. The EIR incorporates mitigation measures that would reduce potential impacts to nesting birds to levels that would be less-than-significant.

Jurisdictional Areas, Riparian Habitat, Wetlands, or Other Sensitive Natural Community

The site does not contain any lakes, rivers, creeks, streambeds, wetlands, vernal pools, or temporary rain pools. No other wetlands, riparian habitat or other sensitive communities exist within the Project site. Nor does the Project propose uses or activities that would substantially or adversely affect any other off-site wetlands or riparian areas. The potential for the Project to have a substantial adverse effect on any jurisdictional areas, riparian habitat, federally protected wetlands, or other sensitive natural community is considered less-than-significant.

Wildlife Movement Corridors

The Project site is bounded by traveled roadways and developed or developing properties. The Project site does not represent a connecting link between significant habitat for wildlife areas. Based on its location within an urban context, the potential for the site to function as a significant wildlife movement corridor is considered low. Project impacts to wildlife movement corridors would be less-than-significant.

Local Policies or Ordinances Protecting Biological Resources; Habitat Conservation Plans

The Project site is not subject to any local policies or ordinances protecting biological resources. The Project would not conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local,

regional, or state habitat conservation plan. No significant impacts in this regard would occur.

Based on the preceding discussion, the Project's potential contribution to cumulative impacts regarding biological resources is not considerable, and the cumulative effects of the Project are determined to be less-than-significant.

5.1.1.11 Cultural Resources/Tribal Cultural Resources - Cumulative Impacts

The cumulative impact area for prehistoric, archaeological, and historic resources includes the City of Ontario and surrounding areas of San Bernardino County. As discussed at EIR Section 4.11, there are no known or probable significant historical resources within the Project site, or that would otherwise be adversely affected by the Project. On this basis, the potential for the Project to cause a substantial adverse change in the significance of historic resources as defined at CCR §15064.5 is considered less-than-significant.

The Project's other potential impacts to cultural resources/tribal cultural resources would be less-than-significant as mitigated.

Other related projects within the cumulative impact area would be required to minimize cultural resources/tribal cultural resources impacts consistent with City and State regulatory requirements, thereby minimizing potential cumulative cultural resources/tribal cultural resources impacts. Mitigation would be implemented, if applicable.

Based on the preceding, the Project's potential contributions to cumulative impacts regarding cultural resources/tribal cultural resources would not be considerable, and these cumulative effects would be less-than-significant.

5.1.1.12 Utilities and Service Systems - Cumulative Impacts

The cumulative impact area when considering potential cumulative utilities and service systems impacts comprises affected purveyor service areas including service sources/supplies, and service conveyance/distribution/treatment facilities.

As discussed at EIR Section 4.12, *Utilities & Service Systems,* the Project would implement all necessary on-site infrastructure improvements and would also construct area-serving off-site master plan infrastructure improvements. Utilities and service systems distribution and conveyance lines implemented by the Project would be constructed, operated, and maintained pursuant to purveyor requirements and consistent with applicable infrastructure master plans. Infrastructure improvements would be located within existing improved streets or otherwise disturbed properties, thereby limiting or avoiding potential environmental impacts.

This EIR evaluates likely maximum impacts associated with all Project actions and operations, including but not limited to construction and operation of utilities and service systems distribution and conveyance lines. Construction and operation of the Project utilities and service systems distribution and conveyance lines would not result in conditions or environmental impacts not already considered and addressed elsewhere in this EIR.

The EIR discussion of potential utilities and services impacts also substantiates the following:

- Water supplies would be available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. Details in these regards are presented in the Project Water Supply Assessment (WSA), EIR Appendix M.

- There exists sufficient wastewater treatment capacity to serve the Project's projected demand in addition to the provider's existing commitments;

- Landfills serving the Project have sufficient permitted capacity to accommodate the Project's solid waste disposal needs; and

- The Project would comply with federal, state, and local statutes and regulations related to solid waste.

Other related projects within the cumulative impact area would be required to minimize utilities and services impacts consistent with City, State, and service purveyor requirements, thereby minimizing potential cumulative utilities and services impacts. Mitigation would be implemented, if applicable.

Based on the preceding, Project contributions to cumulative impacts regarding utilities and service systems would not be considerable, and the cumulative effects of the Project would be less-than-significant.

5.2 ALTERNATIVES ANALYSIS

CEQA Guidelines Section 15126.6 provides that an EIR must describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain the basic Project Objectives, but would avoid or substantially lessen any of the significant environmental effects of the proposal. As further presented in the *CEQA Guidelines*, an EIR need not consider every conceivable alternative, but rather, the discussion of alternatives and their relative merits and impacts should be provided in a manner that fosters informed decision-making and public participation. To this end, the *CEQA Guidelines* indicate that the range of alternatives selected for examination in an EIR should be governed by "rule of reason," and requires the EIR to set forth only those alternatives necessary to permit an informed decision.

Consistent with provisions of the *CEQA Guidelines*, the following analysis presents a reasonable range of alternatives to the Project that would potentially lessen its environmental effects while allowing for attainment of the basic Project Objectives. Supporting reasoning behind the selection of alternatives is presented together with a summary description of each alternative. Merits of the selected alternatives compared with the Project are described and evaluated.

The alternatives analysis concludes with identification of the environmentally superior alternative. If the environmentally superior alternative is the No Project Alternative, the *CEQA Guidelines* require that one of the remaining considered Alternatives be identified as the environmentally superior selection.

5.2.1 Alternatives Overview

Descriptions of, and the rationale underlying, the alternatives considered in this EIR are presented below. As provided for under CEQA, the ultimate rationale underlying the development and selection of alternatives to the Project is the reduction or avoidance of otherwise resulting significant environmental impacts, while allowing for attainment of the basic Project Objectives. Alternatives considered in detail include:

- No Project Alternative: No Build;
- No Project Alternative: Development per Existing Specific Plan Land Uses; and
- Reduced Intensity Alternative.

As provided for at *CEQA Guidelines* 15126.6(c), alternatives that were considered by the lead agency but were rejected as infeasible are also identified. These include:

- Alternative Sites;
- "No Threshold Exceedance" Alternative for Significant Air Quality Impacts; and
- "No Threshold Exceedance" Alternative for Significant GHG Impacts.

The above-listed Alternatives are described in greater detail at Section 5.2.2, *Description of Alternatives* and 5.2.3, *Alternatives Considered and Rejected*. To provide context for the subsequent consideration of Alternatives, significant Project impacts are summarized below, and the Project Objectives are restated.

5.2.1.1 Summary of Significant and Unavoidable Impacts

Significant Air Quality Impacts

EIR Section 4.3, *Air Quality*, details the Project's potential air quality impacts. As discussed in that Section, even after compliance with applicable regulations and requirements, and application of mitigation measures, the Project would result in the following significant and unavoidable air quality impacts:

- Even with application of mitigation, Project construction-source NO_x and CO emissions would exceed applicable SCAQMD regional thresholds and would therefore be significant and unavoidable. Per SCAQMD criteria, significant Project-level impacts are also cumulatively considerable. The Basin encompassing the Project site is designated as non-attainment for ozone, PM_{10}, and $PM_{2.5}$ (VOC and NO_x are both ozone precursors; NO_x is a precursor to $PM_{10}/PM_{2.5}$). Project construction-source NO_x emissions threshold exceedances would result in a cumulatively considerable net increase in the criteria pollutant ozone for which the Project region is non-attainment. This is a cumulatively significant and unavoidable air quality impact.

- Even with application of mitigation, Project operational-source VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$ emissions would exceed applicable SCAQMD regional thresholds. The Basin encompassing the Project site is designated as non-attainment for ozone, PM_{10}, and $PM_{2.5}$ (VOC and NO_x are both ozone precursors; NO_x is a precursor to $PM_{10}/PM_{2.5}$). Project operational-source VOC, NO_x, PM_{10}, and $PM_{2.5}$ emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and $PM_{10}/PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant and unavoidable air quality impacts.

- Project construction-source and operational-source regional threshold emissions exceedances noted above are inconsistent with AQMP Consistency Criterion No. 1. On this basis, the Project would conflict with the AQMP. This is a cumulatively significant air quality impact.

Significant GHG Emissions Impacts

As discussed at EIR Section 4.4, *Greenhouse Gas Emissions*, even after application of mitigation, Project GHG emissions would exceed the SCAQMD GHG emissions screening level threshold of 3,000 $MTCO_2e$/year. On this basis, the Project could directly or indirectly generate GHG emissions that may have a significant impact on the environment. On this basis, the Project's potential to contribute considerably (either

individually or cumulatively) to global climate change impacts through GHG emissions is therefore considered significant and unavoidable.

5.2.1.2 Project Objectives

The primary goal of the Project is the development of the subject site with a productive mix of Specific Plan residential, commercial, light industrial and community facilities. Complementary Project Objectives include the following:

General

- Implement TOP 2050 Policy Plan Land Use Plan.
- Support TOP 2050 vision for urbanization of the Ontario Ranch area of the City.
- Implement a Specific Plan development supporting office/commercial and light industrial uses providing a broad range of long-term employment opportunities.
- Implement Specific Plan developments providing a broad range of additional construction employment opportunities.
- Establish new development that would further the City's near-term and long-range fiscal goals.
- Improve the regional jobs/housing balance.

Specific Plan Uses

Livable Neighborhood Development

- Incorporate Traditional Neighborhood Design guiding principles during the design phase to provide for opportunities to achieve the Project's vision statement, including:
    - Connections. To provide a series of sidewalks and trails connecting community parks, civic uses, employment areas, mixed-use and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
    - Traditional Street Network. To design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, as well as creating a visually favorable and comfortable environment for pedestrians and bicyclists.

  - Main Street Environment. To design commercial/retail areas to a human scale with storefronts oriented to the street providing a "Main Street" atmosphere for strolling and shopping, all within walking distance from most homes.
  - Public Spaces. To create plazas, parks, and community gathering places placed within centralized areas providing synergy between adjacent land uses.
  - Identifiable Neighborhoods. To design neighborhoods around a discernable center, which may include a small park, square, school, or mixed-use center, within a five-minute walking distance.
  - Mix of Housing. To provide neighborhoods with a range of household types: a variety of single-family detached homes, attached units for young families, and live/work units for small at-home businesses.
- Design a mixed-use environment to ensure compatible uses that are cohesive and integrate a diversity of residential neighborhoods, with a range of commercial uses, and supporting open spaces.
- Utilize transportation, utility, and greenways/open space networks to establish clear edges and boundaries.
- Accommodate residential, commercial, open space, public, and other uses in accordance with the generalized distribution of uses depicted within the City's TOP Land Use Plan.
- Implement elements that will ensure walkability throughout the Project Area to discourage automobile dependency and encourage walking, biking, and other forms of transportation. This is achieved through the incorporation of subarea greenways and pedestrian connections and through sensitive site design of mixed-use development.
- Implement technological advances within residential communities, including internet access, to allow residents to shop and work from home and to decrease reliance on automobiles.
- Provide opportunity for at least one major public plaza/square as a centerpiece of community activities, including events and celebrations, outdoor performances, community meetings, picnics, farmers markets, and similar functions.
- Establish a clearly defined "edge" for the City's TOP area, where appropriate, that avoids the use of walls and creation of a "walled" enclave.

- Incorporate electrical transmission corridors and similar elements to form "edges" for residential neighborhoods and centers and/or accommodate public greenways/trails/corridors.

Residential District Objectives

- Create a livable community with neighborhoods designed at a human scale and oriented for pedestrian access to mixed-use, educational, and recreational uses.
- Provide for a range and diversity of housing products (detached single-family, detached and attached condominiums, and townhomes) that respond to a variety of homeownership needs and desires.
- Design residential projects to complement the character of adjacent neighborhoods.
- Encourage interaction among residents through the provision of an organized, simple, and "neo-traditional" system of streets, pathways, and entries to allow residents to walk or bike to parks, recreation, and public facilities (including schools).
- Promote outdoor activity and casual social contact among residents and neighbors by designing neighborhoods around a central park where they can gather.
- Provide a focal point of activity within each residential planning area that may include a park, school, common area, or public meeting facility.
- Encourage architectural styles and traditional design elements that reflect the historic and eclectic mixture of architecture, reflective of the greater Ontario area.
- Increase densities adjacent to commercial centers.
- Establish clear, defined "edges" and "entries" that contribute to neighborhood identity.
- Avoid the use of walls to separate residential areas from arterials and other high traffic volume streets by expanded landscape setbacks, frontage roads, and other appropriate techniques.
- Include clustered multi-family housing within the Residential District, in order to create a diverse range of housing products and opportunities, while still in keeping with the overall low-density residential designation.

- Locate higher-density residential uses that provide population to support adjacent regional commercial centers.
- Provide sufficient on-site recreational amenities within higher density developments.
- Include community-oriented uses such as public meeting rooms, plazas and courtyards, and similar uses.
- Establish visual and physical links among the individual multi-family developments to create a cohesive and continuous corridor.
- Design building elevations to promote visual interest.
- Provide linkages between community service facilities, multi-family corridors, and residential neighborhoods.

Regional Commercial/Mixed-Use District Objectives

- Accommodate a diversity of large-scale retail, community and neighborhood shopping, office, medical research, entertainment, hotel/motel, dining, housing, cultural, public, and similar uses that will serve the Project area and neighboring Planning Areas.
- Function with a high level of activity and/or employment.
- Accommodate development of multi-family housing, mixed-use buildings that incorporate housing and retail/office, and live/work facilities.
- Accommodate single-use buildings and mixed-use structures containing a variety of uses from residential over retail or office-to-office over retail.
- Encourage traditional, mixed-use design of commercial buildings, by requiring a lower maximum floor area ration (FAR) for single-use buildings, and a higher maximum FAR for mixed-use buildings.
- Develop plaza areas and other amenities to provide places of social interaction.
- Include one or more public "squares" to serve as gathering places.
- Incorporate modulated building volumes, mass, height, and articulated facades to create individual spaces.
- Site a portion of the buildings on peripheral streets to provide connectivity to adjacent uses.

- Orient buildings towards the local streets whenever possible to create an urban edge and sense of arrival and place.
- Include sidewalks of sufficient width to accommodate pedestrian activity and outdoor restaurants, newsstands, and other uses.
- Create visual interest through the opening of streets and sidewalks/plazas towards building elevations.
- Incorporate landscaping to enhance the environment.
- Visually integrate parking structures to continue the intended design character of the district.
- Incorporate multi-family housing to create a cohesive and continuous corridor.
- Ensure an appropriate mix of uses (residential and commercial) that are compatible.
- Encourage pedestrian access and ease of use within the mixed-use area by designing pedestrian and bike paths.
- Create a "Main Street" environment with buildings designed to a human scale where pedestrian activity is not overwhelmed by automobile traffic.
- Utilize urban design to create a "Gateway" or portal to the Ontario Ranch.

Industrial District Objectives

- Incorporate transitions and/or buffers between commercial/mixed-use and industrial areas and adjacent residential areas.
- Contribute to the regional jobs to housing balance by providing employment opportunities while minimizing development impacts on surrounding neighborhoods.
- Create a high-quality industrial park development that attracts an array of businesses and provides employment opportunities within proximity to area residents.
- Provide safe and efficient access/circulation routes for the distribution/transportation of goods.

Circulation Objectives

- Provide a circulation system designed to promote pedestrian activity through a network of off-street pedestrian walkways linking each neighborhood to parks, mixed-use commercial, and residential uses.
- Design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, creating a visually attractive, enhanced, and comfortable environment for pedestrians and bicyclists.
- Design streets to incorporate landscaped parkways and pedestrian walkways separated from the street to enhance safety and enjoyment of residents and visitors.
- Provide opportunities for transit connections and alternative modes of transportation.

Recreation/Trails Objectives

- Provide new recreational opportunities for residents through the development of a series of public and private parks.
- Provide a series of pedestrian trails connecting community parks, civic uses, mixed-use, and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
- Incorporate off-street multi-use trails within the Southern California Edison easements.
- Incorporate a system of on- and off-street bicycle pathways with access from the residences to mixed-use areas.
- Use landscaping and streetscape materials that are low maintenance in recreation and trail areas.
- Provide a system of on-street bikeways integrated throughout the Project to provide access to schools, parks, and commercial uses.
- Provide new recreational opportunities for residents through the development of a series of parks ranging in size.

Community Facilities Objectives

- Incorporate existing major utilities into the overall fabric of the community.

- Provide opportunities for incorporation of community facilities (e.g., schools, fire station) as identified by affected agencies.

Please refer also to EIR Section 3.5, *Project Objectives*.

5.2.2 Description of Alternatives

Alternatives to the Project considered in this analysis include:

- No Project Alternative: No Build;
- No Project Alternative: Development per Existing Specific Plan Land Uses;
- Reduced Intensity Alternative.

Descriptions of the selected Alternatives are provided below.

5.2.2.1 No Project Alternatives

Overview

The *CEQA Guidelines* require that the EIR include in its evaluation of Alternatives a No Project Alternative. Within this analysis, two No Project scenarios are considered – "No Build" and "Development per Existing Specific Plan Land Uses."

No Project Alternative: No Build

The No Project Alternative: No Build scenario assumes the site remains in its current undeveloped condition. If this scenario were maintained, its comparative environmental impacts would replicate the existing conditions discussions for each of the environmental topics evaluated in this EIR; and comparative impacts of the Project would be as presented under each of the EIR environmental topics. A No Build condition would achieve none of the basic Project Objectives.

No Project Alternative: Development per Existing Specific Plan Land Uses

The No Project Alternative: Development per Existing Specific Plan Land Uses (Existing Specific Plan Land Uses) scenario represents foreseeable development of the subject site pursuant to the site's current Policy Plan Land Use designations. Table 5.2-1 compares

the composition and scope of uses under the Project with development that could result under the Existing Specific Plan Land Uses scenario.

Table 5.2-1
Site Development Comparison
No Project Alternative and Project Land Uses

	No Project Alternative Existing (2021) Rich-Haven Specific Plan Land Uses			
	Gross Acres	**Max. Dwelling Units**	**Max. Commercial/ Office SF**	**Max. Light Industrial SF**
	584.9	7,194	990,902	1,183,525
	Project **2022 Rich-Haven Specific Plan Amendment Land Uses**			
	Gross Acres	**Max. Dwelling Units**	**Max. Commercial/Office SF**	**Max. Light Industrial SF**
	584.9	7,194	925,002	2,767,148
Delta	**--**	**---**	**(65,900 SF)**	**+ 1,583,623 SF**

Sources: 2021 Rich-Haven Specific Plan; 2022 Rich-Haven Specific Plan Amendment

5.2.2.2 Reduced Intensity Alternative

The Reduced Intensity Alternative focuses on a development scenario that would reduce the significant operational-source air quality impacts otherwise occurring under the Project.

Of the total operational-source emissions generated by the Project, approximately 77 percent (by weight) would be generated by Project mobile sources (traffic). An effective way to reduce the Project operational-source emissions would therefore be an Alternative that would reduce the total amount of traffic generated by the Project. Based on the reduction in total traffic, the Reduced Intensity Alternative would also reduce the scope and/or intensity of significant air quality impacts, and GHG emissions impacts that would otherwise result from implementation of the Project.

For purposes of the EIR Alternatives Analysis, the Reduced Intensity Alternative would implement the Project uses at an approximately 25 percent reduction in overall development intensity. The mix of land uses proposed by the Project would be proportionally maintained under the Reduced Intensity Alternative. Development under the Project and the Reduced Intensity Alternative is compared at Table 5.2-2.

Table 5.2-2
Site Development Comparison
Project and Reduced Intensity Alternative

	Project			
	Gross Acres	**Max. Dwelling Units**	**Max. Commercial/Office SF**	**Max. Light Industrial SF**
	584.9	7,194	925,002	2,767,148
	Reduced Intensity Alternative			
	Gross Acres	**Max. Dwelling Units**	**Max. Commercial/Office SF**	**Max. Light Industrial SF**
	584.9	5,396	693,752	2,075,361
Delta	**---**	**(1798 DU)**	**(231,250 SF)**	**(691,787 SF)**

Sources: 2022 Rich-Haven Specific Plan Amendment; Reduced Intensity Alternative-Applied Planning, Inc.

5.2.3 Alternatives Considered and Rejected

5.2.3.1 Alternative Sites Considered and Rejected

As stated at *CEQA Guidelines* §15126.6 (f)(1)(2)(A), the "key question and first step in [the] analysis [of alternative locations] is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR." *CEQA Guidelines* §15126.6 (f) (1) also provides that when considering the feasibility of potential alternative sites, the factors that may be taken into account include: "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). None of these factors establishes a fixed limit on the scope of reasonable alternatives."

As discussed below, relocation of the Project would not avoid or substantially lessen the Project's significant environmental impacts. Further, there are no feasible alternative sites under control or likely control of the Applicant that would allow for relocation of the Project in a manner that could substantially reduce the Project's significant environmental impacts.

Significant Air Quality Impacts Not Substantially Reduced at Alternative Site

- Relocation to an Alternative Site would not likely achieve any measurable reduction in the Project's regional construction-source and operational-source air quality impacts and contributions to nonattainment conditions. AQMP inconsistencies tied to the Project significant air quality impacts similarly would not be reduced by relocation of the Project. Relocation of the Project anywhere within the South Coast Air Basin would not alter or diminish the significance of these impacts.

Significant GHG Emissions Impacts Not Substantially Reduced at Alternative Site

- GHG emissions impacts are, by definition, cumulative and global in their effects. Relocation of the Project would not alter or diminish the significance of its GHG emissions impacts.

Based on the preceding considerations, analysis of an Alternative Site as means of reducing the Project's significant environmental impacts was not further considered.

5.2.3.2 "No Threshold Exceedance" Alternative for Significant Air Quality Impacts Considered and Rejected

Operational-Source Emissions

In order to reduce Project operational-source air quality emissions to levels that would preclude exceedance of all SCAQMD thresholds, the Project scope would need to be reduced by approximately 92.4 percent[1] (this may achieve the most restrictive threshold [VOC] and all subordinate thresholds). At such a reduction in scope, the Project Objectives would not be realized in any meaningful sense. As such, potential alternatives with the specific goal of avoiding all significant operational-source air quality impacts

[1] Maximum daily operational-source VOC emissions at Project buildout [mitigated] = 730.53 lbs./day. VOC threshold = 55 lbs./day. Assuming roughly linear reduction necessary to meet threshold condition = 55/730.53 = 0.075 of maximum daily VOC emissions = 92.4 percent reduction in VOC emissions = 92.4 percent reduction in Project scope.

resulting from the Project were rejected from consideration, and are not further evaluated in this discussion.

Project operational-source emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants for which the Project region is non-attainment. For the same reasons noted above, there are no feasible means or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant. However, this impact and all operational-source air quality impacts would be diminished under the EIR Reduced Intensity Alternative.

Construction-Source Emissions

In order to reduce Project construction-source air quality emissions to levels that would preclude exceedance of all SCAQMD thresholds would require use of construction equipment or construction technologies that are not currently available or that would be available in the near-term. In this regard, use of alternative fuel construction equipment, including electric-powered equipment, is not feasible at this time as such equipment is not commercially available, and is not expected to be in the near-term. Alternatively, the duration of Project construction activities would need to be protracted by an estimated additional 67 percent of the current Project construction schedule.[2] This may achieve the most restrictive construction-source emissions threshold [NOx], but in so doing would only prolong the duration of air quality emissions, the duration of construction-source equipment noise, and the duration of general disturbances associated with construction activities. The Lead Agency has determined that the benefits of the Project's current construction schedule outweigh the potential benefit in a temporary decrease in air quality emissions that may be achieved through a protracted Project construction schedule. Moreover, accepted air quality modeling parameters do not provide for such an assumed extended construction period. For these reasons, there are no feasible means or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant.

[2] Maximum daily construction-source NOx emissions [mitigated] = 165.30 lbs./day. NOx threshold = 55 lbs./day. Assuming roughly linear reduction necessary to meet threshold condition = 55/165.30 = 0.33 of maximum daily NOx emissions = 67 percent reduction in VOC emissions = 67 percent extension of Project construction schedule.

5.2.3.3 "No Threshold Exceedance" Alternative for GHG Emissions Impacts Considered and Rejected

As discussed at EIR Section 4.4, *Greenhouse Gas Emissions*, quantified Project-source GHG emissions would exceed 3,000 $MTCO_2e$/year; and the Project cannot feasibly achieve the SCAQMD screening-level threshold of 3,000 $MTCO_2e$/year. The SCAQMD 3,000 $MTCO_2e$/year screening-level threshold is the most conservative metric available and is employed in this analysis in of GHG emissions significance. On this basis, Project GHG emissions have the potential to either directly or indirectly result in a significant impact on the environment.

The majority (approximately 72 percent) of the Project GHG emissions would be generated by Project vehicular sources. Responsibility and authority for regulation of vehicular-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can effect or mandate substantial reductions in vehicular-source GHG emissions, much less reductions that would achieve no net increase condition or achieve the SCAQMD screening-level 3,000 MTCO2e/year threshold. In effect, all Project traffic would need to be eliminated or be "zero GHG emissions sources" in order to achieve the SCAQMD threshold. There are no feasible means to or alternatives to eliminate all Project traffic, or to ensure that Project traffic would comprise zero GHG emissions sources. In terms of its practical application, this would constitute a "no build" condition.

The Project would however implement all feasible measures to reduce GHG emissions as outlined under the City of Ontario 2022 Community Climate Action Plan Update (2022 CCAP Update). Under the 2022 CCAP Update, mixed use developments that garner at least 100 Screening Table points would be consistent with the GHG emissions reduction targets in the City's 2022 CCAP Update. As substantiated at EIR Section 4.4, *Greenhouse Gas Emissions*, the Project would attain more than 100 Screening Table points. The Project is therefore determined to be consistent with the 2022 CCAP Update.

5.2.4 Comparative Impacts of Alternatives

For each environmental topic addressed in the EIR, the following analyses present an assessment of comparative impacts of Alternatives to the Project. At the conclusion of these discussions, Table 5.2-4 summarizes and compares relative impacts of the Project and the considered Alternatives.

5.2.4.1 Land Use and Planning - Comparative Impacts

In order to implement the Project approval of certain discretionary actions, consultation, and permitting would be required. The Project would comply with associated requirements incorporated therein. Potential land use and planning impacts of the Project would be less-than-significant. See also: EIR Section 4.1, *Land Use and Planning*.

No Project Alternative: No Build

Under this Alternative, existing land use/planning conditions would be maintained (see: EIR Section 4.1, *Land Use and Planning*, 4.1.2, *Setting*). This Alternative would realize no new development and would require no land use or planning discretionary actions or permits. In this respect, land uses and planning impacts would be decreased when compared to the Project. However, this Alternative would not support the City's long-range vision for the subject site, under which the site would be developed with Specific Plan Residential, Office/Commercial, Light Industrial, and Community Facilities Land Uses. Comparative Land Use and Planning impacts under this Alternative would be reduced when compared to the Project. Under both the Project and this Alternative, Land Use and Planning impacts would be less-than-significant.

No Project Alternative: Existing Specific Plan Land Uses

This scenario assumes development of the subject site consistent with the site's Existing (2021) Rich-Haven Specific Plan Land Use designations. This Alternative would not require amendment of the existing Rich-Haven Specific Plan, as proposed by the Project. It is noted here that the proposed 2022 Rich-Haven Specific Plan Amendment is consistent with TOP 2050 Policy Plan Land Use Plan, whereas the 2021 Rich-Haven Specific Plan is not. That is, for the 2021 Specific Plan to be maintained, it would require amendment of TOP 2050 Policy Plan Land Use Plan; in this respect, implications of Policy

Plan (General Plan) amendments are generally broader in scope and more fundamental when compared to an amendment of an existing Specific Plan. No Project Alternative would likely result in Land Use and Planning impacts equal to or greater than impacts of the Project.

Reduced Intensity Alternative

The Reduced Intensity Alternative would require amendment of Policy Plan Land Use designations similar to the Project. Other discretionary actions, consultations, and permitting required under the Reduced Intensity Alternative and the Project would be the same. Under either the Project or the Reduced Intensity Alternative, land use and planning impacts would be less-than-significant.

5.2.4.2 Transportation - Comparative Impacts

VMT impacts resulting from the Project would be individually and cumulatively less-than-significant. All other Project transportation impacts would also be less-than-than-significant. See also: EIR Section 4.2, *Transportation*.

No Project Alternative: No Build

VMT Impacts

This Alternative would maintain existing VMT conditions. This Alternative would result in decreased total VMT when compared to the Project. Because the intensity and scope of uses is diminished under this Alternative, the Service Population would also be decreased. On this basis, this Alternative may not substantially alter the VMT/SP ratio otherwise resulting from the Project. Under the Project and this Alternative, VMT impacts would be less-than-significant.

Other Transportation Topics

No new traffic would be generated, and no new or additional impacts related to other transportation topics would result under this Alternative. As with the Project, airport land use compatibility, traffic hazards, and emergency access impacts would be less-than-significant.

No Project Alternative: Existing Specific Plan Land Uses

VMT Impacts

When compared to the Project, this Alternative would likely result in comparable total development within the Specific Plan Area, though the types and configuration of uses would be amended under the Project. The Specific Plan Service Population would also likely be comparable. On this basis, this Alternative would not substantially alter the VMT/SP ratio otherwise resulting from the Project. Under the Project and this Alternative, VMT impacts would be less-than-significant.

Other Transportation Topics

As with the Project, required Study Area traffic improvements would be constructed or proportionally funded under this Alternative. As with the Project, airport land use compatibility impacts would be less-than-significant. It is assumed that like the Project, development of the subject site under the Reduced Intensity Alternative would incorporate those site adjacent and on-site circulation system improvements necessary to avoid or mitigate development-specific traffic impacts. As a matter of law, this Alternative would be required to comply with City ordinances addressing the Study Area circulation system. As with the Project, transportation systems improvements would be designed and implemented consistent with City and Manual on Uniform Traffic Control Devices (MUTCD) requirements. Under this Alternative, as with the Project, "other" transportation impacts would be less-than-significant.

Reduced Intensity Alternative

VMT Impacts

The Reduced Intensity Alternative would reduce Project development intensity, associated trip generation, and VMT by an estimated 25 percent. The reduction in Service Population would also likely be comparable.

The Reduced Intensity Alternative would result in reduced total VMT when compared to the Project. Because the intensity and scope of uses would be decreased under the

Reduced Intensity Alternative, the Service Population would also likely be decreased. The Reduced Intensity Alternative would therefore not substantially alter the VMT/SP ratio otherwise resulting from the Project.

Other Transportation Topics

Based on the 25 percent reduction in trip generation, the extent of Study Area traffic improvements required under this Alternative would likely be reduced when compared to the Project. Because the Reduced Intensity Alternative would generate less traffic than the Project, fair share fee responsibilities, (which are based on proportional traffic contributions), would be reduced when compared to the Project. Required DIF payments (which are based on development building areas) would also be reduced. It is assumed that, like the Project, development of the subject site under the Reduced Intensity Alternative would incorporate those site adjacent and on-site circulation system improvements necessary to avoid or mitigate development-specific traffic impacts.

As a matter of law, this Alternative would be required to comply with City ordinances addressing the Study Area circulation system. As with the Project, transportation systems improvements would be designed and implemented consistent with City and Manual on MUTCD requirements. Under this Alternative, as with the Project, "other" transportation impacts would be less-than-significant.

5.2.4.3 Air Quality - Comparative Impacts

Even with application of mitigation, Project construction-source NO_x and CO emissions would exceed applicable SCAQMD regional thresholds and per AQMD criteria would be significant. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable. Project construction-source NO_x emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone) for which the Project region is non-attainment. These are cumulatively significant and unavoidable air quality impacts.

Even with application of mitigation, Project operational-source VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$ emissions would exceed applicable SCAQMD regional thresholds and per AQMD

criteria would be significant. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable. Project construction-source VOC, NO_x, PM_{10}, and $PM_{2.5}$ emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and $PM_{10}/PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant and unavoidable air quality impacts.

Project construction-source and operational-source emissions threshold exceedances noted above would impede air quality attainment strategies and goals outlined in the AQMP. On this basis, the Project is considered inconsistent with the AQMP. This is a significant and unavoidable impact. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable.

All other Project air quality impacts would be less-than-significant, or less-than-significant as mitigated. See also: EIR Section 4.3, *Air Quality*.

No Project Alternative: No Build

Under this Alternative existing air quality conditions would be maintained (see: EIR Section 4.3, *Air Quality*, 4.3.3, *Setting*). This Alternative would realize no new development and would generate no additional air pollutant emissions. This Alternative would result in reduced air quality impacts when compared to the Project. No air quality impact mitigation would be implemented under this Alternative.

No Project Alternative: Existing Specific Plan Land Uses

Under this Alternative, similar construction activities and use of construction equipment would be similar to that occurring under the Project. The maximum daily area of disturbance would be the same under both scenarios. Construction-source emissions impacts under the Project and this Alternative would be comparable, and would be individually and cumulatively significant and unavoidable.

When compared to the Project, this Alternative would likely result in comparable total development within the Specific Plan Area, though the types and configuration of uses

would be amended under the Project. Operational-source emissions under this Alternative would be comparable to the Project operational-source emissions and would be individually and cumulatively significant and unavoidable.

Construction-source and operational-source emissions threshold exceedances under this Alternative would impede air quality attainment strategies and goals outlined in the AQMP. On this basis, this Alternative would be inconsistent with the AQMP. This is a significant and unavoidable impact. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable.

All other air quality impacts under this Alternative would be less-than-significant, or less-than-significant as mitigated.

Reduced Intensity Alternative

Construction activities and use of construction equipment would be similar to the Project. The maximum daily area of disturbance would be the same under both scenarios. Construction-source emissions impacts under the Project and this Alternative would be comparable, and would be individually and cumulatively significant and unavoidable.

The 25 percent reduction in development intensity under the Reduced Intensity Alternative would translate roughly to a 25 percent reduction in operational-source air pollutant emissions when compared to the Project. Table 5.2-3 compares operational-source air pollutant emissions under the Project and Reduced Intensity Alternative.

Table 5.2-3
Project and Reduced Intensity Alternative
Operational-Source Emissions Comparison
(Pounds per Day, Maximum Total Summer/Winter Emissions)

Pollutant	SCAQMD Threshold	Project		Reduced Intensity Alternative	
		Emissions	Threshold Exceeded?	Emissions	Threshold Exceeded?
VOC	55	929.39	**YES**	697.04	**YES**
NOx	55	609.87	**YES**	457.40	**YES**
CO	550	4,032.65	**YES**	3,024.49	**YES**

Table 5.2-3
Project and Reduced Intensity Alternative
Operational-Source Emissions Comparison
(Pounds per Day, Maximum Total Summer/Winter Emissions)

Pollutant	SCAQMD Threshold	Project		Reduced Intensity Alternative	
		Emissions	Threshold Exceeded?	Emissions	Threshold Exceeded?
SOx	150	9.49	No	7.12	No
PM_{10}	150	300.66	**YES**	225.50	**YES**
$PM_{2.5}$	55	70.71	**YES**	53.03	No

Sources: Project operational-source emissions estimates from: *Rich-Haven Specific Plan, 2022 Amendment Air Quality Impact Analysis, City of Ontario* (Urban Crossroads, Inc.) November 8, 2022. No Project Alternative operational-source emissions estimates–Applied Planning, Inc.

As indicated at Table 5.2-3, when compared to the Project, operational-source emissions would be incrementally reduced for all pollutants under the Reduced Intensity Alternative. As with the Project, operational-source VOC, NO_x, CO, and PM_{10} emissions under the Reduced Intensity Alternative would exceed applicable SCAQMD regional thresholds. As with the Project, the Reduced Intensity Alternative's VOC, NO_x, and PM_{10} and regional threshold exceedances would contribute to existing Basin ozone and $PM_{10}/PM_{2.5}$ nonattainment conditions.

Construction-source and operational-source emissions threshold exceedances under this Alternative would impede air quality attainment strategies and goals outlined in the AQMP. On this basis, this Alternative would be inconsistent with the AQMP. This is a significant and unavoidable impact. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable.

All other air quality impacts under this Alternative would be less-than-significant, or less-than-significant as mitigated.

All other air quality impacts under this Alternative would be diminished when compared to the project and would be less-than-significant, or less-than-significant as mitigated.

5.2.4.4 Greenhouse Gas/Global Climate Change - Comparative Impacts

Even with application of mitigation, Project GHG emissions would exceed the SCAQMD screening level threshold of 3,000 $MTCO_2e$/year. On this basis, Project GHG emissions would result in a significant and unavoidable environmental impact.

The Project would implement GHG emissions mitigation per the 2022 CCAP Update. Compliance with the 2022 CCAP Update ensures that the Project would not conflict with any applicable plan or strategy for controlling or reducing GHG emissions. Project impacts in this regard would be less-than-significant.

No Project Alternative: No Build

Under this Alternative, existing GHG emissions conditions would be maintained. This Alternative would realize no new development and would generate no additional GHG emissions. This Alternative would result in reduced GHG emissions impacts when compared to the Project. No GHG impact mitigation would be implemented under this Alternative.

No Project Alternative: Existing Specific Plan Land Uses

When compared to the Project, this Alternative would likely result in comparable total development within the Specific Plan Area, though the types and configuration of uses would be amended under the Project. GHG emissions under this Alternative would be comparable to the Project GHG emissions and would exceed the SCAQMD screening level threshold of 3,000 $MTCO_2e$/year. On this basis, GHG emissions under this Alternative would result in a significant and unavoidable environmental impact.

This Alternative would implement GHG emissions mitigation per the 2022 CCAP Update. Compliance with the 2022 CCAP Update ensures that this Alternative would not conflict with any applicable plan or strategy for controlling or reducing GHG emissions. Impacts of this Alternative in this regard would be less-than-significant.

Reduced Intensity Alternative

When compared to the Project, the Reduced Intensity Alternative would result in diminished GHG emissions due to the reduced scope of facilities, reductions in building/facility energy demands, and reduced trip generation. Assuming a reduction in GHG emissions comparable to the 25 percent reduction in scope under this Alternative, GHG emissions would total approximately 0.75 x of the Project GHG emissions, or 0.75 x 129,314.95 $MTCO_2e/yr.$ = 96,986.21 $MTCO_2e/yr.$

As with the Project, the GHG emissions generated by the Reduced Intensity Alternative would exceed the SCAQMD screening level threshold of 3,000 $MTCO_2e/yr.$ On this basis, GHG emissions generated by the Reduced Intensity Alternative would represent a significant and unavoidable environmental impact.

This Alternative would implement GHG emissions mitigation per the 2022 CCAP Update. Compliance with the 2022 CCAP Update ensures that this Alternative would not conflict with any applicable plan or strategy for controlling or reducing GHG emissions. Impacts of this Alternative in this regard would be less-than-significant.

5.2.4.5 Energy - Comparative Impacts

Project construction and operations would consume energy. Energy would be provided to the Project by existing sources. The Project would not require new sources of energy or construction of new energy producing facilities. The Project would comply with applicable energy conservation and energy efficiency regulations and policies and would achieve energy conservation and energy efficiencies surpassing regulatory requirements. Project energy consumption would be typical for the uses and scope of development proposed. The Project does not propose or require facilities or operations that would result in wasteful, inefficient or unnecessary consumption. On this basis, the Project would not result in or cause potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources. Neither would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Potential energy impacts of the Project would therefore be less-than-significant. See also: EIR Section 4.5, *Energy.*

No Project Alternative: No Build

Under this Alternative, existing energy conditions would be maintained. This Alternative would realize no new development and would not result in increased energy demands. This Alternative would result in reduced energy impacts when compared to the Project. As with the Project, energy impacts would be less-than-significant.

No Project Alternative: Existing Specific Plan Land Uses

As with the Project, this Alternative would be provided energy from existing sources. It is assumed that this Alternative would comply with applicable energy conservation and energy efficiency regulations and policies; and that this Alternative would not implement facilities or operations that would result in wasteful, inefficient or unnecessary consumption. When compared to the Project, energy consumption would likely be comparable under this Alternative. As with the Project, energy impacts would be less-than-significant.

Reduced Intensity Alternative

The reduction in development scope under the Reduced Intensity Project Alternative would tend to reduce total energy demands and total energy consumption. As with the Project, the Reduced Intensity Alternative uses would be required to implement energy-efficient facilities, and to otherwise demonstrate effective energy use. Under the Reduced Intensity Alternative, proposed development would also be required to substantiate compliance with state or local plan for renewable energy or energy efficiency. Impacts would be similar to the Project.

5.2.4.6 Noise/Vibration - Comparative Impacts

Project construction-source noise/vibration levels received at area land uses would be less-than-significant. Measures recommended in the EIR would further reduce these already less-than-significant impacts.

Project operational-source noise/vibration levels received at area land uses would be less-than-significant. Measures recommended in the EIR would further reduce these already less-than-significant impacts.

Certain of the Project residential uses could be exposed to potentially significant vehicular-source noise levels. Mitigation included in the EIR would reduce this impact to levels that would be less-than-significant.

The Project would not expose people residing or working in the Project area to excessive aircraft or airport-source noise levels.

No Project Alternative: No Build

Under this Alternative, existing noise/vibration conditions would be maintained. This Alternative would realize no new development and would generate no additional noise or vibration. This Alternative would result in reduced noise and vibration levels when compared to the Project. No noise or vibration impact mitigation would be required or would be implemented under this Alternative.

No Project Alternative: Existing Specific Plan Land Uses

Under this Alternative, areas affected by construction activities and the types and operations of construction equipment employed would be substantially the same as would occur under the Project. Maximum received construction-source noise/vibration levels would be unchanged and would be less-than-significant.

This Alternative would not generate or result in operational area-source noise/vibration substantially different than would result from uses proposed by the Project. Under this Alternative and the Project, operational area-source noise/vibration impacts would be comparable and would be less-than-significant.

As with the Project, certain of the residential uses under this Alternative could be exposed to potentially significant vehicular-source noise levels. Mitigation would be included to reduce this impact to levels that would be less-than-significant.

As with the Project, this Alternative would not expose people residing or working in the area to excessive aircraft or airport-source noise levels.

Reduced Intensity Alternative

Under the Reduced Intensity Alternative, the types of construction activities and equipment employed would likely be similar to those associated with construction of the Project. Maximum received construction-source noise/vibration levels would be unchanged. As with the Project, construction-source noise/vibration levels received at area land uses would be less-than-significant.

The Reduced Intensity Alternative would not generate or result in operational area-source noise/vibration substantially different than would result from the Project. Under the Reduced Intensity Alternative and the Project, operational area-source noise/vibration impacts would be less-than-significant.

As with the Project, certain of the residential uses under this Alternative could be exposed to potentially significant vehicular-source noise levels. Mitigation would be included to reduce this impact to levels that would be less-than-significant.

As with the Project, this Alternative would not expose people residing or working in the area to excessive aircraft or airport-source noise levels.

5.2.4.7 Hazards/Hazardous Materials - Comparative Impacts

The Project would not implement uses or programs that would exacerbate any existing adverse hazards/hazardous materials conditions. Under the Project, existing hazards or potentially hazardous conditions affecting the subject site would be remediated and related impacts reduced to levels that would be less-than-significant. See also: EIR Section 4.7, *Hazards/Hazardous Materials.*

No Project Alternative: No Build

Under this Alternative, existing hazards/hazardous materials conditions would be maintained. This Alternative would realize no new development and would generate no additional hazards/hazardous materials impacts. Existing adverse hazards/hazardous conditions affecting the subject site and surrounding areas would persist. This Alternative may therefore result in increased hazards/hazardous conditions impacts

when compared to the Project. That is, under the Project, adverse hazards/hazardous conditions affecting the site would be comprehensively remediated as part of the Project development—such remediation would not occur under this Alternative. No hazards/hazardous materials impact mitigation would be implemented under this Alternative.

No Project Alternative: Existing Specific Plan Land Uses

As with the Project, existing hazards or potentially hazardous conditions affecting the subject site would be remediated and related impacts reduced to levels that would be less-than-significant. This Alternative use would not result in hazards and hazardous materials impacts different than those resulting from the Project. This Alternative would not implement uses or programs that would exacerbate any existing adverse hazards/hazardous materials conditions. As with the Project, potential hazards/hazardous materials impacts would be less-than-significant.

Reduced Intensity Alternative

As with the Project, existing hazards or potentially hazardous conditions affecting the subject site would be remediated and related impacts reduced to levels that would be less-than-significant. The Reduced Intensity Alternative land uses would be similar to the Project and would not result in hazards and hazardous materials impacts different than those resulting from the Project. The Reduced Intensity Alternative would not implement uses or programs that would exacerbate any existing adverse hazards/hazardous materials conditions. Potential hazards/hazardous materials impacts of the Reduced Intensity Alternative and the Project would be comparable and would be less-than-significant.

5.2.4.8 Hydrology and Water Quality - Comparative Impacts

The Project would implement all necessary on-site storm drain infrastructure improvements. The Project would implement mitigation measures to ensure that capacities of receiving MPoD storm drains would not be exceeded. The Project would implement a construction Storm Water Pollution Prevention Plan (SWPPP) and operational Water Quality Management Plan (WQMP) reducing potential water quality

impacts to levels that would be less-than-significant. On this basis, Project hydrology and water quality impacts would be less-than-significant as mitigated. See also: EIR Section 4.8, *Hydrology and Water Quality*.

No Project Alternative: No Build

Under this Alternative, existing hydrology/water quality conditions would be maintained. This Alternative would realize no new development and would generate no additional hydrology and water quality impacts. Existing adverse hydrology/water quality conditions affecting the subject site (e.g., lack of storm sewers, lack of storm water quality treatment systems, degraded water quality due to dairy farming operations) would persist. This Alternative may therefore result in increased hydrology and water quality impacts when compared to the Project. That is, under the Project, adverse hydrology and water quality conditions affecting the site and surrounding areas would be comprehensively addressed through implementation of the Project stormwater management systems. These stormwater management system improvements would not be implemented under this Alternative. No hydrology/water quality impact mitigation would be implemented under this Alternative.

No Project Alternative: Existing Specific Plan Land Uses

This Alternative would implement all necessary storm drain infrastructure improvements. The area subject to development with impervious surfaces under this Alternative and the Project would be comparable. This Alternative and Project would therefore result in comparable rates and quantities of post-development storm water runoff. This Alternative would be required to implement on-site storm water management systems, reducing impacts to storm drain capacities to levels that would be less-than-significant. This Alternative would be required to comply with applicable SWPPP and WQMP provisions, thereby reducing potential water quality impacts to levels that would be less-than-significant. Stormwater management systems implemented under this Alternative would act to improve existing hydrology and water quality conditions. Potential hydrology and water quality impacts of this Alternative and the Project would be comparable and would be less-than-significant as mitigated.

Reduced Intensity Alternative

The Reduced Intensity Alternative would implement all necessary storm drain infrastructure improvements. When compared to the Project, the area subject to development with impervious surfaces under the Reduced Intensity Alternative may be reduced. The Reduced Intensity Alternative may therefore result in reduced rates and quantities of post-development storm water runoff. The Reduced Intensity Alternative would be required to implement on-site storm water management systems, reducing impacts to storm drain capacities to levels that would be less-than-significant. The Reduced Intensity Alternative would be required to comply with applicable SWPPP and WQMP provisions, thereby reducing potential water quality impacts to levels that would be less-than-significant. Stormwater management systems implemented under the Reduced Intensity Alternative would act to improve existing hydrology and water quality conditions. Hydrology and water quality impacts of the Reduced Intensity Alternative and the Project would be comparable and would be less-than-significant as mitigated.

5.2.4.9 Geology and Soils - Comparative Impacts

The Project does not propose or require facilities or operations that would result in adverse geology/soils conditions, or exacerbate any existing adverse geology/soils conditions. Compliance with the California Building Code (CBC), the City of Ontario Building Code, measures and recommendations identified in the Project Geotechnical Studies, and Project mitigation would reduce potential geology and soils impacts of the Project to levels that would be less-than-significant. See also: EIR Section 4.9, *Geology and Soils*.

No Project Alternative: No Build

Under this Alternative, existing geology and soils conditions would be maintained. This Alternative would realize no new development and would result in no new or additional geology and soils impacts. This Alternative would result in reduced geology and soils impacts when compared to the Project. As with the Project, geology and soils impacts would be less-than-significant.

No Project Alternative: Existing Specific Plan Land Uses

It is assumed that this Alternative would not propose or require facilities or operations that would result in adverse geology/soils conditions, or exacerbate any existing adverse geology/soils conditions. As with the Project, this Alternative would be subject to requirements of the CBC, City of Ontario Building Code, site- and development-specific geotechnical studies, and any necessary mitigation measures. Geology and soils impacts under this Alternative would be similar to the Project and would be less-than-significant.

Reduced Intensity Alternative

The Reduced Intensity Alternative would implement the Project uses at a reduced scale within the same site developed under the Project. It is assumed that the Reduced Intensity Alternative would not propose or require facilities or operations that would result in adverse geology/soils conditions, or exacerbate any existing adverse geology/soils conditions. As with the Project, the Reduced Intensity Alternative would be subject to requirements of the CBC, City of Ontario Building Code, site- and development-specific geotechnical studies, and any necessary mitigation measures. Geology and soils impacts under this Alternative would be similar to the Project and would be less-than-significant.

5.2.4.10 Biological Resources - Comparative Impacts

As discussed at EIR Section 4.10, *Biological Resources*, the subject site in total is considered to be of limited biologic value in that it exhibits extensive disturbance due to current and former dairy farming, agricultural uses and existing urban development. These uses have substantially degraded the site in terms of its function as potential habitat. The Project site does not contain protected habitat, and does not function as valuable or unique habitat for any vegetation wildlife. It is further noted that development of the Project site is anticipated under the TOP 2050, and the Project site would not be preserved for biologic purposes in any case. Mitigation is included in the Project that reduces potential impacts to biological resources to levels that would be less-than-significant.

No Project Alternative: No Build

Under this Alternative, existing biological resources conditions would be maintained. This Alternative would realize no new development and would have no incremental effects on biological resources. This Alternative would result in reduced biological

resources impacts when compared to the Project. Biological resources impacts under this Alternative would be less-than-significant.

No Project Alternative: Existing Specific Plan Land Uses

Development realized under this Alternative would result in disturbance of the subject site similar to that occurring under the Project. Potential impacts to biological resources would also likely be similar to those of the Project. As with the Project, potential biological resources impacts would be less-than-significant as mitigated.

Reduced Intensity Alternative

The reduction in overall site development realized under the Reduced Intensity Alternative could result in a portion of the site remaining, for the time being, in an undeveloped condition. Realistically, however, potential impacts to biological resources would likely be similar to those of the Project, given the extent of construction activities and subsequent occupancies that would result from the site's development. Biological resources impacts under this Alternative would be similar to the Project and would be less-than-significant as mitigated.

5.2.4.11 Cultural Resources/Tribal Cultural Resources - Comparative Impacts

The Project incorporates mitigation that reduces potential impacts to cultural resources/tribal cultural resources to levels that would be less-than-significant. Tribal consultation is in process as required under *AB 52, Gatto. Native Americans: California Environmental Quality Act*. See also Section 4.11, *Cultural Resources/Tribal Cultural Resources*.

No Project Alternative: No Build

Under this Alternative, existing cultural resources/tribal cultural resources conditions would be maintained. This Alternative would realize no new development and would result in no new or additional cultural resources/tribal cultural resources impacts. This Alternative would result in reduced cultural resources/tribal cultural resources impacts when compared to the Project. No cultural resources/tribal cultural resources impact mitigation would be implemented under this Alternative.

No Project Alternative: Existing Specific Plan Land Uses

*S*ite disturbance and potential impacts to cultural resources would be similar to those of the Project. This Alternative would incorporate mitigation that would reduce potential impacts to cultural resources/tribal cultural resources to levels that would be less-than-significant. Cultural resources/tribal cultural resources impacts of this Alternative and the Project would be comparable and would be less-than-significant as mitigated.

Reduced Intensity Alternative

Site disturbance and potential impacts to cultural resources would be similar to those of the Project. This Alternative would incorporate mitigation that would reduce potential impacts to cultural resources/tribal cultural resources to levels that would be less-than-significant. Cultural resources/tribal cultural resources impacts of this Alternative and the Project would be comparable and would be less-than-significant as mitigated.

5.2.4.12 Utilities & Service Systems - Comparative Impacts

The Project would implement all necessary on-site and off-site utilities and service infrastructure system improvements. Project utilities and service systems impacts would be less-than-significant. See also: EIR Section 4.12, *Utilities & Service Systems.*

No Project Alternative: No Build

Under this Alternative, existing utilities and service systems conditions would be maintained. This Alternative would realize no new development and would result in no new or additional utilities and service systems impacts. This Alternative would result in reduced utilities and service systems impacts when compared to the Project. No utilities and service systems impact mitigation would be implemented under this Alternative.

No Project Alternative: Existing Specific Plan Land Uses

This Alternative would result in development intensities comparable to the Project. It is assumed that this Alternative would implement all necessary on-site and off-site utilities and service infrastructure system improvements. Utilities and service system impacts of this Alternative and the Project would be comparable and would be less-than-significant.

Reduced Intensity Alternative

The Reduced Intensity Alternative would result in development of similar land uses but at a lower intensity than the Project. It is assumed that the Reduced Intensity Alternative would implement all necessary on-site and off-site utilities and service infrastructure system improvements. Utilities and service systems impacts of this Alternative and the Project would be comparable and would be less-than-significant.

5.2.4.13 Comparative Attainment of Project Objectives

Comparative Attainment of Project Objectives is summarized for each of the Alternatives considered here. For ease of reference, the Project Objectives are reiterated below.

Project Objectives

The primary goal of the Project is the development of the subject site with a productive mix of Specific Plan residential, commercial, light industrial and community facilities. Complementary Project Objectives include the following:

General

- Implement TOP 2050 Policy Plan Land Use Plan.
- Support TOP 2050 vision for urbanization of the Ontario Ranch area of the City.
- Implement a Specific Plan development supporting office/commercial and light industrial uses providing a broad range of long-term employment opportunities.
- Implement Specific Plan developments providing a broad range of additional construction employment opportunities.
- Establish new development that would further the City's near-term and long-range fiscal goals.
- Improve the regional jobs/housing balance.

Specific Plan Uses

Livable Neighborhood Development

- Incorporate Traditional Neighborhood Design guiding principles during the design phase to provide for opportunities to achieve the Project's vision statement, including:
  - Connections. To provide a series of sidewalks and trails connecting community parks, civic uses, employment areas, mixed-use and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
  - Traditional Street Network. To design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, as well as creating a visually favorable and comfortable environment for pedestrians and bicyclists.
  - Main Street Environment. To design commercial/retail areas to a human scale with storefronts oriented to the street providing a "Main Street" atmosphere for strolling and shopping, all within walking distance from most homes.
  - Public Spaces. To create plazas, parks, and community gathering places placed within centralized areas providing synergy between adjacent land uses.
  - Identifiable Neighborhoods. To design neighborhoods around a discernable center, which may include a small park, square, school, or mixed-use center, within a five-minute walking distance.
  - Mix of Housing. To provide neighborhoods with a range of household types: a variety of single-family detached homes, attached units for young families, and live/work units for small at-home businesses.
- Design a mixed-use environment to ensure compatible uses that are cohesive and integrate a diversity of residential neighborhoods, with a range of commercial uses, and supporting open spaces.
- Utilize transportation, utility, and greenways/open space networks to establish clear edges and boundaries.
- Accommodate residential, commercial, open space, public, and other uses in accordance with the generalized distribution of uses depicted within the City's TOP Land Use Plan.

- Implement elements that will ensure walkability throughout the Project Area to discourage automobile dependency and encourage walking, biking, and other forms of transportation. This is achieved through the incorporation of subarea greenways and pedestrian connections and through sensitive site design of mixed-use development.
- Implement technological advances within residential communities, including internet access, to allow residents to shop and work from home and to decrease reliance on automobiles.
- Provide opportunity for at least one major public plaza/square as a centerpiece of community activities, including events and celebrations, outdoor performances, community meetings, picnics, farmers markets, and similar functions.
- Establish a clearly defined "edge" for the City's TOP area, where appropriate, that avoids the use of walls and creation of a "walled" enclave.
- Incorporate electrical transmission corridors and similar elements to form "edges" for residential neighborhoods and centers and/or accommodate public greenways/trails/corridors.

Residential District Objectives

- Create a livable community with neighborhoods designed at a human scale and oriented for pedestrian access to mixed-use, educational, and recreational uses.
- Provide for a range and diversity of housing products (detached single-family, detached and attached condominiums, and townhomes) that respond to a variety of homeownership needs and desires.
- Design residential projects to complement the character of adjacent neighborhoods.
- Encourage interaction among residents through the provision of an organized, simple, and "neo-traditional" system of streets, pathways, and entries to allow residents to walk or bike to parks, recreation, and public facilities (including schools).
- Promote outdoor activity and casual social contact among residents and neighbors by designing neighborhoods around a central park where they can gather.

- Provide a focal point of activity within each residential planning area that may include a park, school, common area, or public meeting facility.
- Encourage architectural styles and traditional design elements that reflect the historic and eclectic mixture of architecture, reflective of the greater Ontario area.
- Increase densities adjacent to commercial centers.
- Establish clear, defined "edges" and "entries" that contribute to neighborhood identity.
- Avoid the use of walls to separate residential areas from arterials and other high traffic volume streets by expanded landscape setbacks, frontage roads, and other appropriate techniques.
- Include clustered multi-family housing within the Residential District, in order to create a diverse range of housing products and opportunities, while still in keeping with the overall low-density residential designation.
- Locate higher-density residential uses that provide population to support adjacent regional commercial centers.
- Provide sufficient on-site recreational amenities within higher density developments.
- Include community-oriented uses such as public meeting rooms, plazas and courtyards, and similar uses.
- Establish visual and physical links among the individual multi-family developments to create a cohesive and continuous corridor.
- Design building elevations to promote visual interest.
- Provide linkages between community service facilities, multi-family corridors, and residential neighborhoods.

Regional Commercial/Mixed-Use District Objectives

- Accommodate a diversity of large-scale retail, community and neighborhood shopping, office, medical research, entertainment, hotel/motel, dining, housing, cultural, public, and similar uses that will serve the Project area and neighboring Planning Areas.
- Function with a high level of activity and/or employment.

- Accommodate development of multi-family housing, mixed-use buildings that incorporate housing and retail/office, and live/work facilities.
- Accommodate single-use buildings and mixed-use structures containing a variety of uses from residential over retail or office-to-office over retail.
- Encourage traditional, mixed-use design of commercial buildings, by requiring a lower maximum floor area ration (FAR) for single-use buildings, and a higher maximum FAR for mixed-use buildings.
- Develop plaza areas and other amenities to provide places of social interaction.
- Include one or more public "squares" to serve as gathering places.
- Incorporate modulated building volumes, mass, height, and articulated facades to create individual spaces.
- Site a portion of the buildings on peripheral streets to provide connectivity to adjacent uses.
- Orient buildings towards the local streets whenever possible to create an urban edge and sense of arrival and place.
- Include sidewalks of sufficient width to accommodate pedestrian activity and outdoor restaurants, newsstands, and other uses.
- Create visual interest through the opening of streets and sidewalks/plazas towards building elevations.
- Incorporate landscaping to enhance the environment.
- Visually integrate parking structures to continue the intended design character of the district.
- Incorporate multi-family housing to create a cohesive and continuous corridor.
- Ensure an appropriate mix of uses (residential and commercial) that are compatible.
- Encourage pedestrian access and ease of use within the mixed-use area by designing pedestrian and bike paths.
- Create a "Main Street" environment with buildings designed to a human scale where pedestrian activity is not overwhelmed by automobile traffic.
- Utilize urban design to create a "Gateway" or portal to the Ontario Ranch.

Industrial District Objectives

- Incorporate transitions and/or buffers between commercial/mixed-use and industrial areas and adjacent residential areas.
- Contribute to the regional jobs to housing balance by providing employment opportunities while minimizing development impacts on surrounding neighborhoods.
- Create a high-quality industrial park development that attracts an array of businesses and provides employment opportunities within proximity to area residents.
- Provide safe and efficient access/circulation routes for the distribution/transportation of goods.

Circulation Objectives

- Provide a circulation system designed to promote pedestrian activity through a network of off-street pedestrian walkways linking each neighborhood to parks, mixed-use commercial, and residential uses.
- Design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, creating a visually attractive, enhanced, and comfortable environment for pedestrians and bicyclists.
- Design streets to incorporate landscaped parkways and pedestrian walkways separated from the street to enhance safety and enjoyment of residents and visitors.
- Provide opportunities for transit connections and alternative modes of transportation.

Recreation/Trails Objectives

- Provide new recreational opportunities for residents through the development of a series of public and private parks.
- Provide a series of pedestrian trails connecting community parks, civic uses, mixed-use, and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
- Incorporate off-street multi-use trails within the Southern California Edison easements.

- Incorporate a system of on- and off-street bicycle pathways with access from the residences to mixed-use areas.
- Use landscaping and streetscape materials that are low maintenance in recreation and trail areas.
- Provide a system of on-street bikeways integrated throughout the Project to provide access to schools, parks, and commercial uses.
- Provide new recreational opportunities for residents through the development of a series of parks ranging in size.

Community Facilities Objectives

- Incorporate existing major utilities into the overall fabric of the community.
- Provide opportunities for incorporation of community facilities (e.g., schools, fire station) as identified by affected agencies.

No Project Alternative: No Build

This Alternative would realize none of the stated Project Objectives.

No Project Alternative: Existing Specific Plan Land Uses

This Alternative would likely realize the stated Project Objectives regarding design and implementation of Specific Plan Land Uses. To these ends, this Alternative would provide a mix of residential, commercial-office, light industrial and community facilities uses similar to the Project. However, uses would be configured and oriented in a manner differing from the Project.

This Alternative would however fail to achieve or would impede attainment the following Project Objectives:

- **Implement TOP 2050 Policy Plan Land Use Plan;** Support **TOP 2050 vision for urbanization of the Ontario Ranch area of the City**. This Alternative proposes land uses that are inconsistent with TOP 2050 Policy Plan Land Use Plan, and would require amendment of TOP Policy Plan Land Use Plan. This alternative

would therefore conflict with, rather than support, implementation of TOP 2050 Policy Plan.

Reduced Intensity Alternative

The Reduced Intensity Alternative would implement the proposed 2022 Specific Plan Amendment Land Uses and development concepts at an approximately 25 percent reduction in overall development intensity. Due to its comparative reduction in scope, the Reduced Intensity Alternative would likely impede or substantially restrict attainment of the following Project Objectives.

- **Implement a Specific Plan development supporting office/commercial and light industrial uses providing a broad range of employment opportunities.** *The comparative 25 percent reduction in development intensity under the Reduced Intensity Alternative would diminish the number and diversity of potential employment opportunities otherwise provided by the Project. The noted reduction in scope would also restrict potential synergy between uses at this location and other vicinity uses.*

- **Implement Specific Plan developments providing a broad range of additional construction employment opportunities.** *The comparative 25 percent reduction in development intensity under the Reduced Intensity Alternative would diminish the number and diversity of potential construction employment opportunities otherwise provided by the Project. The noted reduction in scope would also restrict potential synergy between uses at this location and other vicinity uses.*

- **Support TOP 2050 vision for urbanization of the Ontario Ranch area of the City.** *The comparative 25 percent reduction in development intensity under the Reduced Intensity Alternative would limit development potential of prime urban properties within the City. In this respect, the subject site is designated and anticipated for development types and intensities such as are proposed by the Project; is bounded by similar compatible urban development; and is served by all necessary services and utilities. The Reduced Intensity Alternative would fail to take advantage of these site attributes. Further, this Alternative*

would conflict with or impede TOP Policy Plan vision for urbanization of the Ontario Ranch area of the City. Potential contrary effects would include:

- *A reduction in residential, commercial-office, light industrial, and community facilities development opportunities otherwise available under the Project.*
- *A reduction in the range and variety of residential, commercial-office, light industrial developers and tenants that would be attracted to the City.*
- *Diminished potential for development of the site with uses and at an intensity the City considers to be the highest and best use for the subject property.*
- *Diminished fiscal benefits available to the City of Ontario.*
- *Diminished job creation. Related diminished potential for improvement of the regional jobs/housing balance condition.*
- *Diminished residential opportunities. This Alternative would reduce residential products types and the total quantity of available housing within the City. To these ends, this Alternative would conflict with residential goals, strategies, and opportunities outlines in TOP 2020 Housing Element. By reducing the potential for residential development there is also the potential for this Alternative to conflict with SB 330, Skinner. Housing Crisis Act of 2019.*[3]

5.2.5 Comparison of Alternatives

Table 5.2-4 summarizes, by topic, comparative impacts of the Project and the considered Alternatives.

[3] SB 330, until January 1, 2025, with respect to land where housing is an allowable use would prohibit a county or city, from enacting a development policy, standard, or condition, as defined, that would have the effect of (A) changing the land use designation or zoning of a parcel or parcels of property to a less intensive use or reducing the intensity of land use within an existing zoning district below what was allowed under the general plan or specific plan land use designation and zoning ordinances of the county or city as in effect on January 1, 2018.

Table 5.2-4
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

EIR Topic: Project Impacts	No Project Alternative: No Build	No Project Alternative: Existing Specific Plan Land Uses	Reduced Intensity Alternative
Land Use and Planning			
Impacts would be less-than-significant.	Existing land use/planning conditions would be maintained. No discretionary actions, permits, or consultations would be required. Impacts in these regards would be reduced when compared to the Project impacts.	The scope of requested discretionary actions would be increased in that a Policy Plan Land Use Amendment would be required. Impacts would likely be greater than the Project.	Impacts would be similar to the Project impacts.
Transportation			
VMT impacts would be less-than-significant. Other transportation impacts would be less-than-significant.	This Alternative would maintain existing VMT conditions. This Alternative would result in decreased total VMT when compared to the Project impacts. Because the intensity and scope of uses is diminished under this Alternative, the Service Population would also be decreased. On this basis, this Alternative may not substantially alter the VMT/SP ratio otherwise resulting from the Project. Other transportation impacts would be less-than-significant.	Total VMT and VMT/SP impacts would likely be comparable to those of the Project. Other transportation impacts would be similar to those resulting from the Project.	Total VMT would be diminished. VMT/SP impacts would likely be comparable to those of the Project. Other transportation impacts would be similar to those resulting from the Project.
Air Quality			
Project construction-source NOx and CO emissions would exceed applicable SCAQMD regional thresholds and per AQMD criteria would be significant. Per SCAQMD criteria, development-level impacts that are significant are also cumulatively considerable. Project construction-source NO_x emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone) for which the region is non-attainment. These are cumulatively significant and unavoidable air quality impacts. Project operational-source VOC, NO_x, CO, CO, PM_{10}, and $PM_{2.5}$ emissions would	Existing air quality conditions would be maintained. This Alternative would realize no new development and would generate no additional air pollutant emissions. This Alternative would result in reduced air quality impacts when compared to the Project impacts.	Construction-source NOx and CO emissions under this Alternative would exceed applicable SCAQMD regional thresholds and per AQMD criteria would be significant. Per SCAQMD criteria, project-level impacts that are significant are also cumulatively considerable. Construction-source NO_x emissions threshold exceedances under this Alternative would result in a cumulatively considerable net increase in criteria pollutants (ozone) for which the region is non-attainment. This is a cumulatively significant and unavoidable air quality impact. Operational-source emissions under this Alternative would be comparable to the Project impacts. Operational-source exceedances of	Construction-source NOx and CO emissions under this Alternative would exceed applicable SCAQMD regional thresholds and per AQMD criteria would be significant. Per SCAQMD criteria, project-level impacts that are significant are also cumulatively considerable. Construction-source NO_x emissions threshold exceedances under this Alternative would result in a cumulatively considerable net increase in criteria pollutants (ozone) for which the region is non-attainment. This is a cumulatively significant and unavoidable air quality impact. Under this Alternative, operational-source VOC, NO_x, CO, and PM_{10} emissions contributions to Basin non-attainment conditions would decrease

Table 5.2-4
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

EIR Topic: Project Impacts	No Project Alternative: No Build	No Project Alternative: Existing Specific Plan Land Uses	Reduced Intensity Alternative
exceed applicable SCAQMD regional thresholds and per AQMD criteria would be significant. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable. Project operational-source VOC, NO_x, PM_{10}, and $PM_{2.5}$ emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and $PM_{10}/PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant and unavoidable air quality impacts. Construction-source and operational-source emissions threshold exceedances under the Project would impede air quality attainment strategies and goals outlined in the AQMP. On this basis, the Project would be inconsistent with the AQMP. This is a significant and unavoidable impact. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable. Other air quality impacts would be less than-significant.		VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$ emissions contributions to Basin non-attainment conditions would be comparable to the Project impacts. AQMP inconsistency impacts occurring under the Project would also result under this Alternative. Other air quality impacts would be similar to those resulting from the Project.	in severity and magnitude, but would remain cumulatively significant and unavoidable. Operational-source $PM_{2.5}$ emissions would be reduced below significance thresholds. AQMP inconsistency impacts occurring under the Project would also result under this Alternative. Other air quality impacts would be similar to those resulting from the Project.
Greenhouse Gas Emissions			
The Project's potential to contribute considerably (either individually or cumulatively) to global climate change impacts through GHG emissions is considered significant and unavoidable. The Project would implement GHG emissions mitigation per the 2022 CCAP Update. Compliance with the 2022 CCAP Update ensures that this Alternative would	Existing GHG emissions conditions would be maintained. This Alternative would realize no new development and would generate no additional GHG emissions. This Alternative would result in reduced GHG emissions impacts when compared to the Project impacts.	GHG emissions impacts under this Alternative would be comparable to the Project impacts. This Alternative would implement GHG emissions mitigation per the 2022 CCAP Update. Compliance with the 2022 CCAP Update ensures that this Alternative would not conflict with any applicable plan or strategy for controlling or reducing GHG emissions. Impacts	Total GHG emissions would be reduced when compared to the Project. However, the potential to contribute considerably (either individually or cumulatively) to global climate change impacts through GHG emissions would be significant and unavoidable. This Alternative would implement GHG emissions mitigation per the 2022 CCAP Update. Compliance with the 2022 CCAP Update

Table 5.2-4
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

EIR Topic: Project Impacts	No Project Alternative: No Build	No Project Alternative: Existing Specific Plan Land Uses	Reduced Intensity Alternative
not conflict with any applicable plan or strategy for controlling or reducing GHG emissions. Impacts of this Alternative in this regard would be less-than-significant.		of this Alternative in this regard would be less-than-significant.	ensures that this Alternative would not conflict with any applicable plan or strategy for controlling or reducing GHG emissions. Impacts of this Alternative in this regard would be less-than-significant.
Energy			
Energy impacts would be less-than-significant.	Existing energy conditions would be maintained. This Alternative would realize no new development and would not result in increased energy demands. This Alternative would result in reduced energy impacts when compared to the Project impacts.	Energy impacts would be similar to the Project impacts.	Based on the reduction in development intensity, total energy demands and energy consumption impacts would likely be reduced when compared to the Project impacts.
Noise/Vibration			
Construction-source noise/vibration impacts would be less-than-significant. Operational-source noise/vibration impacts would be less-than-significant. Vehicular-source impacts that could affect certain of the Project residential uses would be less-than-significant as mitigated.	Existing noise/vibration conditions would be maintained. This Alternative would realize no new development and would generate no additional noise/vibration. This Alternative would result in reduced noise/vibration impacts when compared to the Project impacts. No noise/vibration impact mitigation would be implemented under this Alternative.	Construction-source noise/vibration impacts would be similar to the Project impacts. Operational-source noise/vibration impacts would be similar to the Project impacts. Vehicular-source noise/vibration impacts would be similar to the Project impacts.	Construction-source noise/vibration impacts resulting from construction of off-site master plan infrastructure improvements would be similar to the Project impacts. Operational-source noise/vibration impacts would be similar to the Project impacts. Vehicular-source noise/vibration impacts would be similar to the Project impacts.
Hazards/Hazardous Materials			
Hazards/hazardous materials impacts would be less-than-significant as mitigated.	Existing hazards/hazardous materials conditions would be maintained. This Alternative would realize no new development and would generate no additional hazards/hazardous materials impacts. Potential existing adverse hazards/hazardous conditions affecting the subject site would persist.	Hazards/hazardous materials impacts would be similar to the Project impacts.	Hazards/hazardous materials impacts would be similar to the Project impacts.
Hydrology/Water Quality			
Hydrology/water quality impacts would be less-than-significant as mitigated.	Existing hydrology/water quality conditions would be maintained This Alternative would realize no new development and would	Hydrology/water quality impacts would be similar to the Project impacts.	Hydrology/water quality impacts would be similar to the Project impacts.

Table 5.2-4
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

EIR Topic: Project Impacts	No Project Alternative: No Build	No Project Alternative: Existing Specific Plan Land Uses	Reduced Intensity Alternative
	generate no additional hydrology and water quality impacts.		
Geology and Soils			
Geology and soils impacts would be less-than-significant as mitigated.	Existing geology and soils conditions would be maintained. This Alternative would realize no new development and would result in no new or additional geology and soils impacts. This Alternative would result in reduced geology and soils impacts when compared to the Project impacts.	Geology and soils impacts would be similar to the Project impacts.	Geology and soils impacts would be similar to the Project impacts.
Biological Resources			
Biological resources impacts would be less-than-significant as mitigated.	Existing biological resources conditions would be maintained. This Alternative would realize no new development and would have no incremental effects on biological resources. This Alternative would result in reduced biological resources impacts when compared to the Project impacts.	Biological resources impacts would be similar to the Project impacts.	Biological resources impacts would be similar to the Project impacts.
Cultural Resources/Tribal Cultural Resources			
Cultural resources/tribal cultural resources impacts would be less-than-significant as mitigated.	Existing cultural resources/tribal cultural resources conditions would be maintained. This Alternative would realize no new development and would result in no new or additional cultural resources/tribal cultural resources impacts. This Alternative would result in reduced cultural resources/tribal cultural resources impacts when compared to the Project impacts.	Cultural resources/tribal cultural resources impacts would be similar to the Project impacts.	Cultural resources/tribal cultural resources impacts would be similar to the Project impacts.
Utilities & Service Systems			
Impacts associated with Project infrastructure improvements would be less-than-significant. *Note:* Mitigation for potential impacts to area storm drain systems are addressed above under the topic: *Hydrology and Water Quality*.	Existing utilities and service systems conditions would be maintained. This Alternative would realize no new development and would result in no new or additional utilities and service systems impacts. This Alternative would result in reduced utilities and service systems impacts when compared to the Project impacts.	Utilities and service systems impacts would be similar to the Project impacts.	Utilities and service systems impacts would be similar to the Project impacts.

Table 5.2-4
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

EIR Topic: Project Impacts	No Project Alternative: No Build	No Project Alternative: Existing Specific Plan Land Uses	Reduced Intensity Alternative
Relative Attainment of Project Objectives			
All Project Objectives would be attained.	Existing site conditions would be maintained. None of the Project land uses or development concepts would be implemented. None of the Project Objectives would be realized.	This Alternative would not support implementation of TOP 2050 Policy Plan Land Use Plan, and would require amendment of the Land Use Plan. This Alternative would not support development of the Ontario Ranch area of the City as envisioned under TOP 2050. Other project objectives would likely be achieved,	Due to the reduction in scope under this Alternative, the Reduced Intensity Alternative would impede or substantially restrict attainment of the following Project Objectives: • **Implement a Specific Plan development providing a broad range of employment opportunities.** *The comparative 25 percent reduction in development intensity under the Reduced Intensity Alternative would diminish the number and diversity of potential employment opportunities otherwise provided by the Project. The noted reduction in scope and would also restrict potential synergy between uses at this location and other vicinity uses.* • **Implement Specific Plan developments providing a broad range of additional construction employment opportunities.** *The comparative 25 percent reduction in development intensity under the Reduced Intensity Alternative would diminish the number and diversity of potential construction employment opportunities otherwise provided by the Project. The noted reduction in scope and would also restrict potential synergy between uses at this location and other vicinity uses.* • **Support TOP 2050 vision for urbanization of the Ontario Ranch area of the City.** *The comparative 25 percent reduction in development intensity under the Reduced Intensity Alternative would limit development potential of prime urban properties within the City. In this respect, the subject site is designated and anticipated for development types and intensities such as are proposed by the Project; is bounded by similar compatible urban development; and is served by all necessary*

Table 5.2-4
Summary of Potential Impacts, Alternatives Compared to Project, By Topic

EIR Topic: Project Impacts	No Project Alternative: No Build	No Project Alternative: Existing Specific Plan Land Uses	Reduced Intensity Alternative
			services and utilities. The Reduced Intensity Alternative would fail to take advantage of these site attributes. Further, this Alternative would conflict with or impede TOP Policy Plan vision for urbanization of the Ontario Ranch area of the City. Potential contrary effects would include: • *A reduction in residential, commercial-office, light industrial, and community facilities development opportunities otherwise available under the Project.* • *A reduction in the range and variety of residential, commercial-office, light industrial developers and tenants that would be attracted to the City.* • *Diminished potential for development of the site with uses and at an intensity the City considers to be the highest and best use for the subject property.* • *Diminished fiscal benefits available to the City of Ontario.* • *Diminished job creation. Related diminished potential for improvement of the regional jobs/housing balance condition.* • *Diminished residential opportunities. This Alternative would reduce residential products types and the total quantity of available housing within the City. To these ends, this Alternative would conflict with residential goals, strategies, and opportunities outlines in TOP 2020 Housing Element. By reducing the potential for residential development there is also the potential for this Alternative to conflict with* SB 330, *Skinner. Housing Crisis Act of 2019.*[4]

[4] SB 330, until January 1, 2025, with respect to land where housing is an allowable use would prohibit a county or city, from enacting a development policy, standard, or condition, as defined, that would have the effect of (A) changing the land use designation or zoning of a parcel or parcels of property to a less intensive use or reducing the intensity of land use within an existing zoning district below what was allowed under the general plan or specific plan land use designation and zoning ordinances of the county or city as in effect on January 1, 2018.

5.2.6 Environmentally Superior Alternative

No Project Alternative: No Build Eliminated from Consideration

As indicated at Table 5.2-4, the No Project Alternative**:** No Build would achieve none of the Project Objectives, and under certain topics, may increase the severity of, or create additional impacts not otherwise occurring under the Project. This Alternative is therefore eliminated from consideration as the "Environmentally Superior Alternative."

No Project Alternative: Existing Specific Plan Land Uses Eliminated from Consideration

As indicated at Table 5.2-4, the No Project Alternative: Existing Specific Plan Land Uses scenario would provide no significant reduction in environmental impacts when compared to the Project, and may increase the severity of, or create additional impacts not otherwise occurring under the Project. It is specifically noted that Land Use designations under this Alternative are inconsistent with TOP 2050, and this Alternative would require amendment of TOP 2050 Land Use Plan. This Alternative is therefore eliminated from consideration as the "Environmentally Superior Alternative."

Reduced Intensity Alternative Considerations

As also indicated at Table 5.2-4, the Reduced Intensity Alternative scenario would incrementally reduce certain of the Project's environmental impacts. Significant and unavoidable environmental impacts under the Project would persist under the Reduced Intensity Alternative, though the degree of these impacts would be diminished. Relative merits of the Reduced Intensity Alternative are summarized below:

Reduced Intensity Alternative Would Reduce but Would not Eliminate Significant Impacts

The Reduced Intensity Alternative would reduce, but not eliminate the Project's significant impacts regarding air quality and GHG emissions. More specifically:

- The magnitude of operational-source air quality impacts (VOC, NO_x, CO, PM_{10}) would be diminished but would remain significant and unavoidable. $PM_{2.5}$ emissions impacts would be reduced below significance thresholds.

- Total GHG emissions would be reduced. However, GHG emissions would still exceed the SCAQMD 3,000 $MTCO_2e$ screening threshold. Impacts in this regard would remain significant and unavoidable.

Reduced Intensity Alternative Would Marginalize Attainment of Project Objectives

Based on the reduction in overall development scope, the Reduced Intensity Alternative would broadly restrict attainment of all Project Objectives. Where quantifiable (e.g., additional sales tax revenues, job creation, incremental property tax revenues), this reduction in attainment of Objectives would be approximately 25 percent less than would be otherwise realized under the Project. Qualitatively, development of the subject site under the Reduced Intensity Alternative fails to optimize use of a significant vacant property, and is not considered by the Lead Agency to represent the highest and best use of the subject site.

Summary and Conclusions

Reduced Intensity Alternative Identified as the Environmentally Superior Alternative

In conclusion, the Reduced Intensity Alternative would result in potential incremental reduction in certain significant environmental impacts otherwise occurring under the Project, but would not eliminate these impacts. The Reduced Intensity Alternative would allow for limited attainment of the Project Objectives. On this basis, the Reduced Intensity Alternative is identified as the environmentally superior alternative.

Other Considerations

Countering its potential environmental benefits, the Reduced Intensity Alternative would broadly and substantially diminish attainment of the Project Objectives, with related diminishment of socio-economic benefits to the City and region. CEQA indicates that socioeconomic effects (while not lone determinants) are important considerations for

decision-makers in evaluating and considering EIR Alternatives. With respect to socioeconomics, the Project and the Reduced Intensity Alternative would each have beneficial effects for the area. Either of these scenarios would contribute to area employment and the City's overall tax base. However, as noted previously, because the scope and variety of land uses would be reduced by approximately 25 percent under the Reduced Intensity Alternative, the resulting effective realization of the Project Objectives, to include economic benefits to the City and region, would likely be similarly diminished.

Additionally, at an approximate 25 percent reduction in the Project's development scope, the Reduced Intensity Alternative would not recognize the site's value as one of the remaining undeveloped properties within the City; or take advantage of the site's available acreage and consequently would not result in development of the subject site in a manner considered to be its highest and best use.

5.3 GROWTH-INDUCING IMPACTS OF THE PROPOSED ACTION

5.3.1 Overview

CEQA Guidelines Section 15126.2 (e) *Growth-Inducing Impact of the Proposed Project* requires that an EIR:

> "Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a recycled water plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is

necessarily beneficial, detrimental, or of little significance to the environment."

Potential growth-inducing aspects and elements of the Project are discussed below and would include:

- Housing opportunities and population growth;
- Commercial-office, light industrial development and employment growth; and
- Economic stimulus/other.

5.3.2 Housing Opportunities and Population Growth

The Project would construct new housing and could therefore facilitate City population growth. The Project Land Uses, development concepts, and housing are consistent with TOP 2050. Population growth resulting from the Project would therefore not exceed TOP 2050 Policy Plan population forecasts for the subject site and the City. Project population and any associated growth are therefore reflected in TOP Policy Plan and impacts of such growth are considered and addressed in TOP 2050 SEIR. Project population and associated growth would not result in impacts not already considered and addressed in TOP 2050 SEIR.

5.3.3 Commercial-Office, Light Industrial Development and Employment Growth

The Project would construct new commercial-office and light industrial uses and could therefore facilitate City employment growth. In general terms, employment growth furthers growth via wages, salaries, and general fiscal benefits; increased demands for housing; and increased demands for consumer goods and services. The Project Land Uses and development concepts are consistent with TOP 2050. Project employment growth would therefore not exceed TOP 2050 Policy Plan employment forecasts for the subject site and the City. Project employment and any associated growth are therefore reflected in TOP Policy Plan and impacts of such growth are considered and addressed in TOP 2050 SEIR. Project employment growth would not result in impacts not already considered and addressed in TOP 2050 SEIR.

Economic Stimulus/Other

Construction and operation of the Project would act generally as economic stimulus for the City and region. As noted above, Project job creation would provide local and regional fiscal benefits and would contribute generally to increased demands for housing, goods, and services. Salaries and wages paid to employees, taxes, and other revenue streams generated by the Project would provide incentive for creation of second tier businesses with accompanying economic stimulus, which in turn would create third tier businesses, with accompanying economic stimulus, etc.

Economic stimulus and related growth resulting from the Project would create additional demands for City services. As noted previously, growth resulting from the Project is comprehensively reflected in TOP Policy Plan, and environmental impacts of this growth, including demands on City services are considered and addressed in TOP 2050 SEIR. Growth due to Project economic stimulus factors would not result in impacts not already considered and addressed in TOP 2050 SEIR.

Moreover, the Project Economic/Fiscal Impact Analysis substantiates that the Project would be self-supporting in terms of its fiscal impacts on City services, and would not result in undue or unaddressed demands for services. Further, the Project would be required to comply with TOP 2050 Policy Plan Policy LU-4.3 *Infrastructure Timing.* Policy LU-4.3 requires that necessary infrastructure and services be in place prior to or concurrent with new development. New development that may be facilitated by availability of infrastructure constructed by the Project would therefore not result in adverse impacts to infrastructure systems themselves or to customers served by those infrastructure systems.

The Project would not otherwise encourage or facilitate known or probable activities that could significantly and adversely affect the environment, either individually or cumulatively. To the satisfaction of the City, as-yet unknown activities or developments that may derive from the Project would be independently required to evaluate and address their potential environmental impacts.

Summary

The Project could induce growth through the construction of housing, commercial-office uses, light industrial uses, job creation, and economic stimulus. The Project land uses and associated development are consistent with and anticipated under TOP 2050. Growth inducement resulting from the Project would not exceed projections developed under TOP 2050. Any Project-induced growth would not result in environmental impacts not already considered and addressed in TOP 2050 SEIR.

The Project would not otherwise encourage and facilitate known or probable activities that could significantly affect the environment, either individually or cumulatively. To the satisfaction of the City, as-yet unknown activities or developments that may derive from the Project would be independently required to evaluate and address their potential environmental impacts.

5.4 SIGNIFICANT ENVIRONMENTAL EFFECTS

An EIR must identify any significant environmental effects that would result from the Project. (Pub. Resources Code, §21100, subd. (b)(2)(B).) Significant environmental effects of the Project are summarized below.

5.4.1 Significant Air Quality Impacts

EIR Section 4.3, *Air Quality*, details the Project's potential air quality impacts. As discussed in that Section, even after compliance with applicable regulations and requirements, and application of mitigation measures, the Project would result in the following significant and unavoidable air quality impacts:

- Project construction-source NOx and CO emissions would exceed applicable SCAQMD regional thresholds and per AQMD criteria would be significant. Per SCAQMD criteria, development-level impacts that are significant are also cumulatively considerable. Project construction-source NO_x emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone) for which the region is non-attainment. These is a cumulatively significant and unavoidable air quality impact.

- Project construction-source NOx and CO emissions would exceed applicable SCAQMD regional thresholds and per AQMD criteria would be significant. Per SCAQMD criteria, development-level impacts that are significant are also cumulatively considerable. Project construction-source NO_x emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone) for which the region is non-attainment. These is a cumulatively significant and unavoidable air quality impact.

- Project operational-source VOC, NO_x, CO, CO, PM_{10}, and $PM_{2.5}$ emissions would exceed applicable SCAQMD regional thresholds and per AQMD criteria would be significant. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable. Project operational-source VOC, NO_x, PM_{10}, and $PM_{2.5}$ emissions threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and $PM_{10}/PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant and unavoidable air quality impacts.

- Construction-source and operational-source emissions threshold exceedances under the Project would impede air quality attainment strategies and goals outlined in the AQMP. On this basis, the Project would be inconsistent with the AQMP. This is a significant and unavoidable impact. Per SCAQMD criteria, Project-level impacts that are significant are also cumulatively considerable.

5.4.2 Significant GHG Emissions Impacts

EIR Section 4.4, *Greenhouse Gas Emissions*, details the Project's potential GHG emissions impacts. As discussed in that Section, even after compliance with applicable regulations and requirements, and application of mitigation measures, Project GHG emissions would exceed the SCAQMD 3,000 $MTCO_2e$/year screening threshold. On this basis, the Project's potential to contribute considerably (either individually or cumulatively) to global climate change impacts through GHG emissions is considered significant and unavoidable.

5.5 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The *CEQA Guidelines* § § 15126, subd. (c), 15126.2, subd. (c), 15127, require that for certain types or categories of projects, an EIR must address significant irreversible environmental changes that would occur should the Project be implemented. As presented at *CEQA Guidelines* §15127, the topic of Significant Irreversible Environmental Changes need be addressed in EIRs prepared in connection with any of the following activities:

> (a) The adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency;
>
> (b) The adoption by a local agency formation commission of a resolution making determinations; or
>
> (c) A project which will be subject to the requirements for preparing of an environmental impact statement pursuant to the requirements of the National Environmental Policy Act of 1969, 42 U.S.C. 4321-4347.

The Project qualifies under *Guidelines* §15127 (a) in that an amendment to the current (2021) Rich-Haven Specific Plan is required in order to implement the Project. As such, this EIR analysis addresses significant irreversible environmental changes which could be involved in the proposed action should it be implemented [*Guidelines*, Sections 15126(e) and 15127]. An impact would fall into this category if:

- A project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses;
- A project involves uses in which irreversible damage could result from any potential environmental incidents associated with the project; or
- The proposed consumption of resources is not justified (e.g., the project results in wasteful use of energy).

With regard to the above considerations, various natural resources, in the form of construction materials and energy resources, would be used in the construction of the Project, but their use is not expected to result in shortfalls in the availability of these resources. Development of the site with the Project uses will commit the property to such uses for the foreseeable future, and thereby limit the site's prospective alternative uses. Notwithstanding, given the following, commitment of the site to uses proposed by the Project is considered appropriate.

- The Project site is currently zoned for Specific Plan development. The Project proposes Specific Plan development.
- The Project and the Project development intensities are consistent with development intensities envisioned under TOP 2050 Policy Plan Land Use designations.
- Urbanization of the subject site as proposed under the Project is a compatible infill continuation of urbanizing surrounding properties.

The Project presents no significant possibility of irreversible environmental damage "from any potential environmental incidents associated with the project." That is, the Project does not propose facilities or uses that would result in potentially significant environmental incidents. Moreover, all feasible mitigation is incorporated in the Project to reduce its potential environmental effects. As discussed herein, the Project would not result in or cause unwarranted or wasteful use of resources, including energy.

6.0 ACRONYMS AND ABBREVIATIONS

6.0 ACRONYMS AND ABBREVIATIONS

ACMs	Asbestos Containing Materials
ADT	Average Daily Traffic
ALUCP	Airport Land Use Compatibility Plan
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
AST	above-ground storage tank
AVO	Average Vehicle Occupancy
BAT	best available technology
BCT	best conventional pollutant control technology
BMP	Best Management Practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention Program
CalEPA	California Environmental Protection Agency
CALINE4	California Line Source Dispersion Model
Cal/OSHA	California Department of Industrial Relations, Division of Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CC&Rs	Covenants, Conditions and Restrictions

CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH_4	Methane
CIWMB	California Integrated Waste Management Board
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CO	Carbon monoxide
CO_2	Carbon dioxide
CPUC	California Public Utilities Commission
CRA	Community Redevelopment Agency
CRWQCB	California Regional Water Quality Control Board
CTP	Comprehensive Transportation Plan
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DHS	California Department of Health Services
DIF	Development Impact Fees
DOT	U. S. Department of Transportation
DPM	Diesel Particulate Matter
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FCAA	Federal Clean Air Act

Fed/OSHA	Federal Occupational Safety and Health Administration
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FIRM	Flood Insurance Rating Map
FMMP	Farmland Mapping & Monitoring Program
fpm	feet per minute
GCC	Global Climate Change
GHG	Greenhouse Gas
GMP	Growth Management Plan
gpd	gallons per day
HCM	Highway Capacity Manual
HDV	Heavy-Duty Vehicle
HOV	High Occupancy Vehicle
HRA	Health Risk Assessment
HSC	Health and Safety Code
HSWA	Hazardous and Solid Waste Amendments Act
HUD	U. S. Department of Housing and Urban Development
ICU	Intersection Capacity Utilization
IEUA	Inland Empire Utilities Agency
IS	Initial Study
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
kV	kilovolt
kVA	kilovolt-ampere
LBP	Lead-Based Paint
Ldn	day/night average sound level
LDV	Light-Duty Vehicle
LEA	Local Enforcement Agency
Leq	equivalent sound level
LEED	Leadership in Energy and Environmental Design

LOS	Level of Service
LST	Localized Significance Threshold
M	Richter Magnitude
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MOE	Measure of Effectiveness
MPE	maximum probable earthquake
mph	miles per hour
MPO	Metropolitan Planning Organization
MPODC	Master Plan and Overall Design Concept
MRF	Material Recovery Facility
msl	mean sea level
MSW	Municipal Solid Waste
MTA	Metropolitan Transit Authority
$\mu g/m^3$	micrograms per cubic meter
NAAQS	National Ambient Air Quality Standards
NDFE	Non-Disposal Facility Element
NIH	National Institutes of Health
NO_2	Nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
NTS	Natural Treatment System
O_3	Ozone
OAP	Ozone Attainment Plan
OEHHA	California Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OSHA	Occupational Safety and Health Administration
PA	Preliminary Assessment
Pb	Lead

PCE	passenger car equivalency
$PM_{2.5}$	Particulate Matter Less Than 2.5 Microns in Diameter
PM_{10}	Particulate Matter Less Than 10 Microns in Diameter
ppm	parts per million
PV	Photovoltaic
RCRA	Resource Conservation and Recovery Act
REMEL	Reference Energy Mean Emission Level
RMP	Resources Management Plan
ROG	Reactive Organic Gases
RWMP	Regional Water Management Plan
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments & Reauthorization Act
SARWQCB	Santa Ana Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCH	State Clearinghouse
SCUP	Special Conditional Use Permit
SIP	State Implementation Plan
SLM	Sound Level Meter
SO_x	Oxides of sulfur
SRRE	Source Reduction and Recycling Element
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TDS	total dissolved solids
TEA-21	Transportation Equity Act for the 21st Century
TIA	Traffic Impact Analysis
TPD	tons per day
UBC	Uniform Building Code
UFC	Uniform Fire Code
USEPA	United States Environmental Protection Agency

USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
V/C	Volume to Capacity
VdB	vibration decibel
VMT	vehicle miles traveled
VOC	Volatile Organic Compound
WQMP	Water Quality Management Plan
WSA	Water Supply Assessment

7.0 REFERENCES

7.0 REFERENCES

PERSONS AND ORGANIZATIONS CONSULTED

City of Ontario
Lorena Mejia, Senior Planner

Project Applicant
BrookCal Ontario LLC/Richland Developers, Inc.
3161 Michelson Drive, Suite 425
Irvine, CA 92612

EIR PREPARERS

Applied Planning, Inc.
Ross S. Geller, Principal
Charly Ray, Senior Project Manager
Amy Flores, Assistant Project Manager
Jennifer Gilbert, Staff Editor

DOCUMENTS CONSULTED

*Biological Report for the Rich Haven 2022 Specific Plan Amendment Project Site (*Harmsworth Associates) July 2022

Consolidated Geotechnical Report to Support the Environmental Impact Report for the Rich-Haven Specific Plan, City of Ontario, California (LGC Geotechnical, Inc.) September 20, 2022

Cultural Resources Assessment, Rich-Haven Specific Plan Areas of Change Project, City of Ontario, San Bernardino County, California (BCR Consulting, Inc.) August 18, 2022

Phase I Environmental Site Assessment 1601 E. Riverside Drive, Ontario, California 91761 (Hillman Consulting) July 28, 2016

Rich-Haven Specific Plan, 2022 Amendment, Amended Draft for Review, February 16, 2023

Rich-Haven Specific Plan, 2022 Amendment, Air Quality Impact Analysis, City of Ontario (Urban Crossroads, Inc.) November 8, 2022

Rich-Haven Specific Plan, 2022 Amendment, Energy Analysis, City of Ontario (Urban Crossroads, Inc.) November 8, 2022

Rich-Haven Specific Plan, 2022 Amendment, Greenhouse Gas Analysis, City of Ontario (Urban Crossroads, Inc.) November 8, 2022

Rich-Haven Specific Plan, Hydrology Report (X Engineering & Consulting, Inc.) September 2022

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Rich-Haven Specific Plan Amendment, Vehicle Miles Traveled (VMT) Analysis (Urban Crossroads, Inc.) October 3, 2022

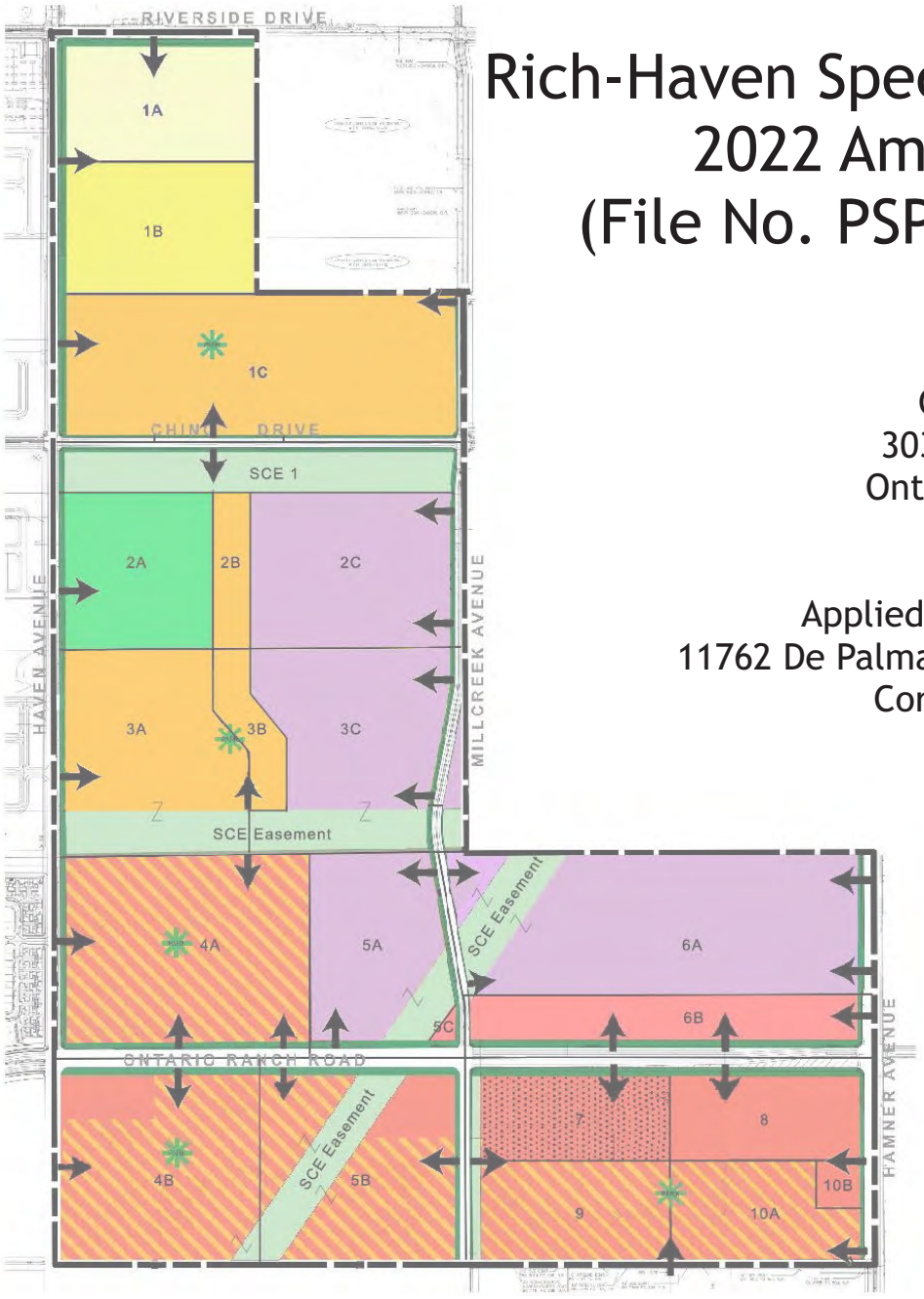
Water Supply Assessment and Written Verification of Sufficient Water Supply, Rich-Haven Specific Plan Amendment No. 3 (Albert A. Webb Associates) March 18, 2021

Screencheck

Final Environmental Impact Report

for the

Rich-Haven Specific Plan 2022 Amendment (File No. PSPA22-001)



Prepared for:
City of Ontario
303 East B Street
Ontario, CA 91764

Prepared by:
Applied Planning, Inc.
11762 De Palma Road, 1C-310
Corona, CA 92883

May 8, 2023

Screencheck

FINAL ENVIRONMENTAL IMPACT REPORT

for the

Rich-Haven Specific Plan, 2022 Amendment

Prepared for:

City of Ontario
303 East "B" Street
Ontario, CA 91764

Prepared by:

Applied Planning, Inc.
11762 De Palma Road, 1-C 310
Corona, CA 92883

May 8, 2023

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1.0 INTRODUCTION

1.0 INTRODUCTION

1.1 OVERVIEW

This document, combined with the Draft Environmental Impact Report (DEIR), constitutes the Final EIR for the Rich-Haven Specific Plan, 2022 Amendment Project (Project). The DEIR describes existing environmental conditions relevant to the proposal, evaluates the Project's potential environmental effects, and identifies mitigation measures to reduce or avoid the potentially significant impacts. The DEIR was circulated for a 45-day review period: February 24 through April 10, 2023.

1.2 CONTENT AND FORMAT

Subsequent to this introductory Section 1.0, Section 2.0 of this Final EIR presents revisions and errata corrections to the DEIR text. Responses to comments received on the DEIR are presented in Final EIR Section 3.0. The EIR Mitigation Monitoring Program is presented in Final EIR Section 4.0.

1.3 DRAFT EIR COMMENTERS

1.3.1 Overview

The complete list of Draft EIR commenters, along with copies of comment letters and responses to comments, is presented in Section 3.0 of this Final EIR. The following list identifies the comment letters received in regard to the Draft EIR:

- Governor's Office of Planning and Research, State Clearinghouse
- San Bernardino County, Department of Public Works
- South Coast Air Quality Management District
- Eric Belisle
- Vivian Or
- Kendra Reif

1.3.2 Presentation of Comments and Responses

All comment letters received in regard to the Draft EIR are included, along with corresponding responses, in their entirety in Final EIR Section 3.0, *Comments and Responses*.

1.4 LEAD AGENCY AND POINT OF CONTACT

The Lead Agency for the Project and EIR is the City of Ontario. Any questions or comments regarding the preparation of this document, its assumptions, or its conclusions, should be referred to:

City of Ontario
Planning Department
303 East "B" Street
Ontario, CA 91764
Contact Person: Lorena Mejia, Senior Planner

1.5 PROJECT SUMMARY

The following information is summarized from the Project Description in the Draft EIR. For additional detail in regard to Project characteristics and Project-related improvements, along with analyses of the Project's potential environmental impacts, please refer to Draft EIR Sections 3.0 and 4.0, respectively.

1.5.1 Project Location

The Project is located in the City of Ontario, within San Bernardino County. The Project site is located at the southeast corner of Haven Avenue and Riverside Drive.

1.5.2 Project Overview

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses.

1.5.3 Project Objectives

The broad vision of the 2022 Specific Plan Amendment is to create a community with a mixture of uses, connected through a series of trails, which provides opportunities for people to live, work and play. Supporting 2022 Specific Plan Amendment objectives are listed below.

General

- Implement TOP 2050 Policy Plan Land Use Plan.
- Support TOP 2050 vision for urbanization of the Ontario Ranch area of the City.
- Implement a Specific Plan development supporting office/commercial and light industrial uses providing a broad range of long-term employment opportunities.
- Implement Specific Plan developments providing a broad range of additional construction employment opportunities.
- Establish new development that would further the City's near-term and long-range fiscal goals.
- Improve the regional jobs/housing balance.

Specific Plan Uses

Livable Neighborhood Development

- Incorporate Traditional Neighborhood Design guiding principles during the design phase to provide for opportunities to achieve the Project's vision statement, including:
  - Connections. To provide a series of sidewalks and trails connecting community parks, civic uses, employment areas, mixed-use and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
  - Traditional Street Network. To design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, as well as creating a visually favorable and comfortable environment for pedestrians and bicyclists.
  - Main Street Environment. To design commercial/retail areas to a human scale with storefronts oriented to the street providing a "Main Street" atmosphere for strolling and shopping, all within walking distance from most homes.

  - Public Spaces. To create plazas, parks, and community gathering places placed within centralized areas providing synergy between adjacent land uses.
  - Identifiable Neighborhoods. To design neighborhoods around a discernable center, which may include a small park, square, school, or mixed-use center, within a five-minute walking distance.
  - Mix of Housing. To provide neighborhoods with a range of household types: a variety of single-family detached homes, attached units for young families, and live/work units for small at-home businesses.
- Design a mixed-use environment to ensure compatible uses that are cohesive and integrate a diversity of residential neighborhoods, with a range of commercial uses, and supporting open spaces.
- Utilize transportation, utility, and greenways/open space networks to establish clear edges and boundaries.
- Accommodate residential, commercial, open space, public, and other uses in accordance with the generalized distribution of uses depicted within the City's TOP Land Use Plan.
- Implement elements that will ensure walkability throughout the Project Area to discourage automobile dependency and encourage walking, biking, and other forms of transportation. This is achieved through the incorporation of subarea greenways and pedestrian connections and through sensitive site design of mixed-use development.
- Implement technological advances within residential communities, including internet access, to allow residents to shop and work from home and to decrease reliance on automobiles.
- Provide opportunity for at least one major public plaza/square as a centerpiece of community activities, including events and celebrations, outdoor performances, community meetings, picnics, farmers markets, and similar functions.
- Establish a clearly defined "edge" for the City's TOP area, where appropriate, that avoids the use of walls and creation of a "walled" enclave.
- Incorporate electrical transmission corridors and similar elements to form "edges" for residential neighborhoods and centers and/or accommodate public greenways/trails/corridors.

Residential District Objectives

- Create a livable community with neighborhoods designed at a human scale and oriented for pedestrian access to mixed-use, educational, and recreational uses.
- Provide for a range and diversity of housing products (detached single-family, detached and attached condominiums, and townhomes) that respond to a variety of homeownership needs and desires.
- Design residential projects to complement the character of adjacent neighborhoods.
- Encourage interaction among residents through the provision of an organized, simple, and "neo-traditional" system of streets, pathways, and entries to allow residents to walk or bike to parks, recreation, and public facilities (including schools).
- Promote outdoor activity and casual social contact among residents and neighbors by designing neighborhoods around a central park where they can gather.
- Provide a focal point of activity within each residential planning area that may include a park, school, common area, or public meeting facility.
- Encourage architectural styles and traditional design elements that reflect the historic and eclectic mixture of architecture, reflective of the greater Ontario area.
- Increase densities adjacent to commercial centers.
- Establish clear, defined "edges" and "entries" that contribute to neighborhood identity.
- Avoid the use of walls to separate residential areas from arterials and other high traffic volume streets by expanded landscape setbacks, frontage roads, and other appropriate techniques.
- Include clustered multi-family housing within the Residential District, in order to create a diverse range of housing products and opportunities, while still in keeping with the overall low-density residential designation.
- Locate higher-density residential uses that provide population to support adjacent regional commercial centers.
- Provide sufficient on-site recreational amenities within higher density developments.
- Include community-oriented uses such as public meeting rooms, plazas and courtyards, and similar uses.

- Establish visual and physical links among the individual multi-family developments to create a cohesive and continuous corridor.
- Design building elevations to promote visual interest.
- Provide linkages between community service facilities, multi-family corridors, and residential neighborhoods.

Regional Commercial/Mixed-Use District Objectives

- Accommodate a diversity of large-scale retail, community and neighborhood shopping, office, medical research, entertainment, hotel/motel, dining, housing, cultural, public, and similar uses that will serve the Project area and neighboring Planning Areas.
- Function with a high level of activity and/or employment.
- Accommodate development of multi-family housing, mixed-use buildings that incorporate housing and retail/office, and live/work facilities.
- Accommodate single-use buildings and mixed-use structures containing a variety of uses from residential over retail or office-to-office over retail.
- Encourage traditional, mixed-use design of commercial buildings, by requiring a lower maximum floor area ration (FAR) for single-use buildings, and a higher maximum FAR for mixed-use buildings.
- Develop plaza areas and other amenities to provide places of social interaction.
- Include one or more public "squares" to serve as gathering places.
- Incorporate modulated building volumes, mass, height, and articulated facades to create individual spaces.
- Site a portion of the buildings on peripheral streets to provide connectivity to adjacent uses.
- Orient buildings towards the local streets whenever possible to create an urban edge and sense of arrival and place.
- Include sidewalks of sufficient width to accommodate pedestrian activity and outdoor restaurants, newsstands, and other uses.
- Create visual interest through the opening of streets and sidewalks/plazas towards building elevations.
- Incorporate landscaping to enhance the environment.

- Visually integrate parking structures to continue the intended design character of the district.
- Incorporate multi-family housing to create a cohesive and continuous corridor.
- Ensure an appropriate mix of uses (residential and commercial) that are compatible.
- Encourage pedestrian access and ease of use within the mixed-use area by designing pedestrian and bike paths.
- Create a "Main Street" environment with buildings designed to a human scale where pedestrian activity is not overwhelmed by automobile traffic.
- Utilize urban design to create a "Gateway" or portal to the Ontario Ranch.

Industrial District Objectives

- Incorporate transitions and/or buffers between commercial/mixed-use and industrial areas and adjacent residential areas.
- Contribute to the regional jobs to housing balance by providing employment opportunities while minimizing development impacts on surrounding neighborhoods.
- Create a high-quality industrial park development that attracts an array of businesses and provides employment opportunities within proximity to area residents.
- Provide safe and efficient access/circulation routes for the distribution/transportation of goods.

Circulation Objectives

- Provide a circulation system designed to promote pedestrian activity through a network of off-street pedestrian walkways linking each neighborhood to parks, mixed-use commercial, and residential uses.
- Design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, creating a visually attractive, enhanced, and comfortable environment for pedestrians and bicyclists.
- Design streets to incorporate landscaped parkways and pedestrian walkways separated from the street to enhance safety and enjoyment of residents and visitors.

- Provide opportunities for transit connections and alternative modes of transportation.

Recreation/Trails Objectives

- Provide new recreational opportunities for residents through the development of a series of public and private parks.
- Provide a series of pedestrian trails connecting community parks, civic uses, mixed-use, and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
- Incorporate off-street multi-use trails within the Southern California Edison easements.
- Incorporate a system of on- and off-street bicycle pathways with access from the residences to mixed-use areas.
- Use landscaping and streetscape materials that are low maintenance in recreation and trail areas.
- Provide a system of on-street bikeways integrated throughout the Project to provide access to schools, parks, and commercial uses.
- Provide new recreational opportunities for residents through the development of a series of parks ranging in size.

Community Facilities Objectives

- Incorporate existing major utilities into the overall fabric of the community.
- Provide opportunities for incorporation of community facilities (e.g., schools, fire station) as identified by affected agencies.

1.5.4 Discretionary Actions

1.5.4.1 Lead Agency Discretionary Actions and Permits

CEQA Guidelines Section 15124 states in pertinent part that if "a public agency must make more than one decision on a project, all its decisions subject to CEQA should be listed…" Requested decisions, or discretionary actions, necessary to realize the Project would include:

- EIR Certification;
- Approval of the 2022 Specific Plan Amendment;
- Approval of Tentative Parcel/Tract Maps;
- Approval of Development Agreements; and
- Approval of Development Plans.

1.5.4.2 Other Agency Consultation and Permits

Anticipated consultation(s) and permits from agencies necessary to realize the Project would likely include, but are not limited to, the following:

- Permitting by/through the Regional Water Quality Control Board (RWQCB) pursuant to requirements of the City's National Pollutant Discharge Elimination System (NPDES) Permit.
- Permitting by/through the South Coast Air Quality Management District (SCAQMD) for certain equipment or land uses that may be implemented pursuant to the Project.
- Permitting (i.e., utility construction and connection permits) from affected utility purveyors, notably the City of Ontario, IEUA, and SCE.

Other ministerial permits necessary to realize all on- and off-site improvements related to the development of the Project.

2.0 REVISIONS AND ERRATA CORRECTIONS

2.0 REVISIONS AND ERRATA CORRECTIONS

2.1 INTRODUCTION

Based on the comments received on the Draft EIR (which are provided in full in Section 3.0 of this Final EIR), this Section presents revisions to the text of the Draft EIR. For text corrections, additional text is identified by **bold underlined text**, while deletions are indicated by ~~strikeout~~ font. All text revisions affecting mitigation measures have been incorporated into the Mitigation Monitoring Plan presented in Section 4.0 of this Final EIR. Text changes are presented under the chapter or topical section of the Draft EIR where they are located. The revisions and corrections provided here expand and clarify analyses previously provided, and do not constitute substantive new information. Conclusions of the Draft EIR are not affected by these revisions.

2.2 REVISIONS

2.2.1 Revisions to Draft EIR Section 4.11, Cultural Resources

Pursuant to discussions between the City and responding Native American Tribal Representatives, Mitigation Measures 4.11.1 through 4.11.9 are universally revised and replaced by new Mitigation Measures 4.11.1, 4.11.2, and 4.11.3, as follows. Results and conclusions of the EIR are not affected.

> ~~*4.11.1 Prior to the issuance of (a) grading permit(s) for development proposal(s) within the Specific Plan Area, the Applicant or successor(s) in interest shall provide a letter to the City of Ontario Building Department, or designee, from a qualified professional archeologist meeting the Secretary of Interior's Professional Qualifications for Archaeology as defined at 36 CFR Part 61, Appendix A stating that the archeologist has been retained to provide on-call services in the event archeological resources are discovered. The archeologist shall be present at the pre-*~~

~~*grading conference to establish procedures for archeological resource surveillance. In the event a previously unrecorded archaeological deposit is encountered during construction, all activity within 50 feet of the area of discovery shall cease and the City shall be immediately notified. The archeologist shall be contacted to flag the area in the field and determine if the archaeological deposits meet the CEQA definition of historical (State CEQA Guidelines 15064.5(a)), unique archaeological resource (Public Resources Code 21083.2(g)), or Tribal Cultural Resource (Public Resources Code 21074 (a)). If the find is considered a "resource" the archaeologist shall pursue either protection in place or recovery, salvage and treatment of the deposits. A qualified archaeologist and a Native American Monitor of Gabrieleño Ancestry shall evaluate all archaeological resources unearthed by Project construction activities. If the resources are Native American in origin, they shall have the opportunity to consult with the City and/or Project developer on appropriate treatment and curation of these resources. If unique archaeological resources, or Tribal Cultural Resources cannot be preserved in place or left in an undisturbed state, recovery, salvage and treatment shall be required at the Applicant or successor(s) in interest's expense. Recovery, salvage and treatment protocols shall be developed in accordance with applicable provisions of Public Resource Code Section 21083.2 and State CEQA Guidelines 15064.5 and 15126.4. All recovered and salvaged resources shall be prepared to the point of identification and permanent preservation by the archaeologist. Resources shall be identified and curated into an established accredited professional repository. The archaeologist shall have a repository agreement in hand prior to initiating recovery of the resource. Excavation as a treatment option shall be restricted to those parts of the unique archaeological resource, or Tribal Cultural Resource that would be damaged or destroyed by the Project.*~~

~~*4.11.2 Project developer(s) shall retain a Native American Monitor of Gabrieleño Ancestry (Native American Monitor) that was consulted on this Project pursuant to Assembly Bill A52 - SB18 to conduct a Native American Indian Sensitivity Training for construction personnel prior to commencement of any excavation activities. The training session shall include a handout and focus on how to identify*~~

~~*Native American resources encountered during earthmoving activities and the procedures followed if resources are discovered, the duties of the Native American Monitor of Gabrieleño Ancestry and the general steps the Monitor would follow in conducting a salvage investigation.*~~

~~*4.11.3 Project developer(s) shall retain a Native American Monitor of Gabrieleño Ancestry that was consulted on this Project pursuant to Assembly Bill A52 - SB18 to be on-site during all Project-related, ground-disturbing construction activities Such activities include: pavement removal, auguring, boring, grading, excavation, potholing, trenching, and/or grubbing of previously undisturbed native soils to a maximum depth of 30 feet below ground surface. A copy of the executed consultant contract shall be submitted to the City of Ontario Planning Department prior to the issuance of any grading permit (any ground-disturbing activity). At their discretion, a Native American Monitor of Gabrieleño Ancestry can be present during the removal of dairy manure to native soil, but not at developer expense.*~~

~~*4.11.4 A qualified archaeologist and a Native American Monitor of Gabrieleño Ancestry that was consulted on this Project pursuant to Assembly Bill A52 - SB18 shall evaluate all archaeological resources unearthed by Project construction activities. If the resources are Native American in origin, the Tribe shall coordinate with the developer regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. If archeological features are discovered, the archeologist shall report such findings to the Ontario Planning Director. If the archeological resources are found to be significant, the archeologist shall determine the appropriate actions, in cooperation with the City that shall be taken for exploration and/or salvage in compliance with CEQA Guidelines Section 15064.5(f).*~~

~~*4.11.5 Prior to the start of ground disturbing activities, developer(s) shall arrange a designated site location within the footprint of the Project for the respectful reburial of Tribal human remains and/or ceremonial objects. All human skeletal material discoveries shall be reported immediately to the County Coroner. The*~~

~~*Native American Monitor shall immediately divert work a minimum of 50 feet from the discovery site and place an exclusion zone around the burial.*~~

~~*4.11.6 If encountering human skeletal materials, the Native American Monitor shall notify the construction manager who shall contact the San Bernardino County Coroner. All construction activity shall be diverted while the San Bernardino County Coroner determines if the remains are Native American. The discovery shall be confidential and secure to prevent further disturbance. If Native American, the San Bernardino County Coroner shall notify the Native American Heritage Commission (NAHC) as mandated by state law who will then appoint a Most Likely Descendant. In the case where discovered human remains cannot be documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24 hour guard shall be posted outside working hours. The Tribe shall make every effort to recommend diverting the Project and keep the remains in situ and protected. If the Project cannot be diverted, it may be determined that burials will be removed. If data recovery is approved by the Tribe, documentation shall be taken which includes, at a minimum, detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or means necessary to ensure complete recovery of all material. If the discovery of human remains includes four (4) or more burials, the location is considered a cemetery and a separate treatment plan shall be created. The Project developer shall consult with the Tribe regarding avoidance of all cemetery sites. Once complete, a final report of all activities shall be submitted to the NAHC.*~~

~~*4.11.7 There shall be no Scientific study or the utilization of any invasive diagnostics on any Native American human remains.*~~

~~*4.11.8 If the San Bernardino County Coroner determines the remains represent a historic non-Native American burial, the burial shall be treated in the same manner*~~

~~*of respect with agreement of the San Bernardino County Coroner. Reburial will be in an appropriate setting. If the San Bernardino County Coroner determines the remains to be modern, the San Bernardino County Coroner shall take custody of the remains.*~~

~~*4.11.9 As directed by the Project Archaeologist in consultation with the Native American Monitor, each occurrence of human remains and associated funerary objects shall be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony shall be removed to a secure container on site if possible. These items shall be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the Project site, but at a location agreed upon between the Tribe and developer(s) and protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.*~~

4.11.1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities:

A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.[1]

B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any

[1] Tribal monitoring shall cease once all ground disturbance activities have been completed with respect to the property or portion thereof. Example: Once excavation, grading, trenching, etc. have occurred tribal monitoring shall cease.

ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.[2]

C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's

[2] The extent of necessary personnel and hourly wage shall be subject to commercially reasonable standards. If there is a dispute as to scope of the necessary labor needs or wage rates, the City may arbitrate any such disputes in accordance with commercially reasonable standards.

sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

4.11.2 Unanticipated Discovery of Human Remains and Associated Funerary Objects:

A. ***Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.***
B. ***If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.***
C. ***Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).***
D. ***Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).)***

E. ***Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.***

F. ***Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.***

4.11.3 Procedures for Burials and Funerary Remains:

A. ***As the Most Likely Descendant ("MLD"), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains.***

B. ***If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.***

C. ***The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials.***

D. ***In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed.***

E. ***In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects.***

F. ***Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.***

G. ***The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the***

NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

3.0 COMMENTS AND RESPONSES

3.0 COMMENTS AND RESPONSES

3.1 INTRODUCTION

The following Section presents written comments received pursuant to public review of the DEIR and provides responses to those comments as required by California Code of Regulations, title 14 (hereinafter, "*CEQA Guidelines*") Sections 15089, 15132, and 15088. Specifically, *CEQA Guidelines* Section 15088, subd. (a) requires that: "[t]he lead agency… evaluate comments on environmental issues received from persons who reviewed the draft EIR and . . . prepare a written response. The lead agency shall respond to comments received during the noticed comment period and any extensions and may respond to late comments." The DEIR was circulated for a 45-day review period: February 24 through April 10, 2023.

In summary, the City's written responses describe the disposition of significant environmental issues raised and any revisions to the Draft EIR made as a result of the comments. Additionally, the City's written responses provide a good faith, reasoned analysis of all environmental issues raised and cite to specific factual and legal support for the Draft EIR's conclusions.

3.1.1 Comments Received

The following Section presents a list of the comment letters received during the Draft EIR public review period. Comment letters have been generally organized by state agencies; county, city, and local agencies; utilities; and local organizations and individuals. Each letter has been assigned an identifying designation (generally an acronym or name abbreviation), and topical items within each letter have been numbered. Table 3-1 lists all DEIR commenters and the designation assigned to each. Commenter correspondence

and correlating responses are presented subsequently. Comments have been reproduced verbatim and without grammatical or typographical correction.

Table 3-1
DEIR Commenters

Commenter	Acronym Assigned	Correspondence Date
State Agencies		
State Clearinghouse	SCH	--
Regional & County Agencies		
San Bernardino County, Department of Public Works	DPW	3/13/23
South Coast Air Quality Management District	AQMD	4/4/23
Private Organizations/Individuals		
Eric Belisle	EB	3/10/23
Vivian Or	VO	3/13/23
Kendra Reif	KR	3/16/23

Rich-Haven Specific Plan, 2022 Amendment Project (File No. PSPA22-001)

Summary

SCH Number	2022100425
Lead Agency	City of Ontario
Document Title	Rich-Haven Specific Plan, 2022 Amendment Project (File No. PSPA22-001)
Document Type	EIR - Draft EIR
Received	2/24/2023
Present Land Use	Zoning: Specific Plan // General Plan: TOP 2050 - LDR, LMDR, MDR, OS-NR, OS-R, MU, IND, GC
Document Description	The Project proposes a new amendment of the 2021 Rich-Haven Specific Plan (RHSP) and would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses..

Contact Information

Name	Lorena Mejia
Agency Name	City of Ontario
Job Title	Senior Planner
Contact Types	Lead/Public Agency
Address	303 East "B" Street Ontario, CA 91764
Phone	(909) 395-2036
Email	LMejia@ontarioca.gov

Location

Cities	Ontario
Counties	San Bernardino

Regions	Citywide
Cross Streets	Riverside Drive, Haven Avenue
Zip	91764
Total Acres	584
State Highways	SR-60, I-15
Airports	Ontario International Airport

Notice of Completion

State Review Period Start	2/24/2023
State Review Period End	4/10/2023
State Reviewing Agencies	California Air Resources Board (ARB), California Department of Conservation (DOC), California Department of Fish and Wildlife, Inland Deserts Region 6 (CDFW), California Department of Forestry and Fire Protection (CAL FIRE), California Department of Housing and Community Development (HCD), California Department of Parks and Recreation, California Department of Transportation, District 8 (DOT), California Department of Transportation, Division of Aeronautics (DOT), California Department of Transportation, Division of Transportation Planning (DOT), California Department of Water Resources (DWR), California Governor's Office of Emergency Services (OES), California Highway Patrol (CHP), California Native American Heritage Commission (NAHC), California Natural Resources Agency, California Public Utilities Commission (CPUC), California Regional Water Quality Control Board, Santa Ana Region 8 (RWQCB), Department of Toxic Substances Control, Office of Historic Preservation, State Water Resources Control Board, Division of Drinking Water, State Water Resources Control Board, Division of Drinking Water, District 13, State Water Resources Control Board, Division of Water Rights, State Water Resources Control Board, Divison of Financial Assistance
Development Types	Residential (Units 7194, Acres 307.5), Commercial (Employment is unknown at this time)(Sq. Ft. 925002, Acres 59.4, Employees 1), Industrial (Employment is unknown at this time)(Sq. Ft. 2767148, Acres 115.5, Employees 1)
Local Actions	Specific Plan, Site Plan
Project Issues	Air Quality, Biological Resources, Cultural Resources, Energy, Geology/Soils, Greenhouse Gas Emissions, Hazards & Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Noise, Transportation, Tribal Cultural Resources, Utilities/Service Systems
Local Review Period Start	2/24/2023
Local Review Period End	4/10/2023

Attachments

Draft Environmental Document [Draft IS, NOI_NOA_Public notices, OPR Summary Form, Appx,]	PSPA22-001 NOA PDF 137 K RichHaven_DEIR_Feb232023 PDF 40508 K Summary_Form_for_Document_Submittal PDF 191 K
Notice of Completion [NOC] Transmittal form	PSPA22-001 NOC PDF 221 K

Disclaimer: The Governor's Office of Planning and Research (OPR) accepts no responsibility for the content or accessibility of these documents. To obtain an attachment in a different format, please contact the lead agency at the contact information listed above. You may also contact the OPR via email at state.clearinghouse@opr.ca.gov or via phone at (916) 445-0613. For more information, please visit OPR's Accessibility Site.

STATE OF CALIFORNIA
GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
STATE CLEARINGHOUSE
SCH No. 2022100425

Response SCH-1

State Clearinghouse receipt of the Rich-Haven Specific Plan, 2022 Amendment Project Draft EIR is acknowledged, as is the distribution of the Draft EIR to the listed State Agencies. The State-assigned Clearinghouse reference number (SCH No. 2022100425) and dates of the public review period for the Draft EIR (February 24 through April 10, 2023) are also acknowledged.

Main Office - 825 East Third Street, San Bernardino, CA 92415-0835 | Phone: 909.387.7910 Fax: 909.387.7911

SAN BERNARDINO COUNTY

Department of Public Works

- Flood Control
- Operations
- Solid Waste Management
- Special Districts
- Surveyor
- Transportation

www.SBCounty.gov

Brendon Biggs, M.S., P.E.
Director

Noel Castillo, P.E.
Assistant Director

David Doublet, M.S., P.E.
Assistant Director

March 13, 2023

Transmitted Via Email
File: 10(ENV)-4.01

City of Ontario, Planning Department
Attn: Lorena Mejia, Senior Planner
303 East "B" Street
Ontario, CA 91764
LMejia@ontarioca.gov

RE: CEQA - NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL IMPACT REPORT (FILE NO. PSPA22-001) RICH-HAVEN SPECIFIC PLAN, 2022 AMENDMENT PROJECT (SCH NO. 2022100425).

Dear Ms. Mejia:

Thank you for allowing the San Bernardino County Department of Public Works the opportunity to comment on the above-referenced project. **We received this request on February 28, 2023** and pursuant to our review, we have no comments.

We respectfully request to be included on the circulation list for all project notices, public reviews, or public hearings. In closing, I would like to thank you again for allowing the San Bernardino County Department of Public Works the opportunity to comment on the above-referenced project. Should you have any questions or need additional clarification, please contact the individuals who provided the specific comment, as listed above.

DPW-1

Sincerely,

Nancy Sansonetti

Nancy Sansonetti
Supervising Planner
Environmental Management Division

BOARD OF SUPERVISORS

Col. Paul Cook (Ret.) Vice Chairman, First District
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San Bernardino County, Department of Public Works
825 East Third Street
San Bernardino, CA 92415

Email Dated March 13, 2023

Comment DPW-1

Thank you for allowing the San Bernardino County Department of Public Works the opportunity to comment on the above-referenced project. We received this request on February 28, 2023 and pursuant to our review, we have no comments.

We respectfully request to be included on the circulation list for all project notices, public reviews, or public hearings. In closing, I would like to thank you again for allowing the San Bernardino County Department of Public Works the opportunity to comment on the above-referenced project. Should you have any questions or need additional clarification, please contact the individuals who provided the specific comment, as listed above.

Response DPW-1

DPW receipt of the Project EIR is acknowledged. DPW provided no comments on the EIR. DPW will be included on the circulation list for all Project notices, public reviews, or public hearings. Contact information provided by DPW is noted. Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA E-MAIL:
LMejia@ontarioca.gov
Lorena Mejia, Senior Planner
City of Ontario, Planning Department
303 East B Street
Ontario, California 91764

April 4, 2023

Draft Environmental Impact Report (Draft EIR) for the Proposed Rich-Haven Specific Plan 2022 Amendment (Proposed Project) File No. PSPA22-001 (SCH No. 2022100425)

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The City of Ontario is the Lead Agency under the California Environmental Quality Act (CEQA) for the Proposed Project. The following comments recommended revisions to the health risk assessment analysis, overlapped construction and operational activities analysis, additional air quality and greenhouse gas mitigation measures, health risk reduction strategies, South Coast AQMD Rules 2305 and 316, and information on South Coast AQMD permits and responsible agency that the Lead Agency should include in the Final EIR. AQMD-1

South Coast AQMD Staff's Summary of Project Information in the Draft EIR
By way of background, the Rich-Haven Specific Plan was approved by the Lead Agency in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021.[1] The Lead Agency proposes the current 2021 Specific Plan, which comprises approximately 584 acres,[2] with the Rich-Haven Specific Plan 2022 Amendment (Proposed Project), resulting in the primary revisions[3] to: AQMD-2

- Maintain the total residential development of 7,194 dwelling units, with the residential units and densities would be reassigned
- Reduce commercial development by approximately 65,900 square feet, an approximately 6.7 percent reduction, with a maximum square foot of 925,002.[4] The Proposed Project is assumed to accommodate a variety of commercial/retail development[5]
- Increase light industrial development by approximately 1,583,623 square feet, an approximately 134 percent increase, with a maximum square foot of 2,767,148.[6] The Proposed Project would accommodate a mix of high-cube fulfillment warehouses, refrigerated warehouses, and business park uses[7]

[1] Draft EIR. Page 3-1.
[2] *Ibid.*
[3] *Ibid.* Page 3-3.
[4] *Ibid.* Page 3-4.
[5] *Ibid.* Page 3-17.
[6] *Ibid.* Page 3-4.
[7] *Ibid.* Page 3-16.

- Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the Proposed Project

As of this Draft EIR, approximately 468 residential units of the total 7,194 dwelling units have been constructed and are occupied.[8] The remainder of the Proposed Project site has not yet been developed; these land uses include a dairy farm, a former hog ranch, vacant/disturbed properties throughout the site, and Southern California Edison (SCE) transmission line easement.[9] The Proposed Project is west of Interstate 15 (I-15) and south of State Route 60 (SR-60).[10] Based on the aerial photographs, South Coast AQMD staff finds that sensitive receptors (e.g., residences, Colony High School) are within 70-120 feet north, east, and west of the Proposed Project site. The Proposed Project development is anticipated in sequence in two phases: Phase 1 is for light industrial and commercial uses, and Phase 2 is for residential products and community amenities (including parks and open space).[11] The Proposed Project Opening year is defined as 2025.[12] At buildout in 2027,[13] the Proposed Project would generate 95,552 two-way vehicle trips, including 1,144 two-way truck trips per day.[14]

AQMD-2 (cont'd)

South Coast AQMD Staff's Comments on the Draft EIR

Health Risk Assessment (HRA) Analysis

Construction HRA

Based on the provided modeling files and the AERMOD modeling outputs file in Appendix D – Air Quality Impact Analysis,[15] the averaging time used in the model run is ANNUAL. However, according to the South Coast AQMD Risk Assessment Procedures for Rule 1401, 1401.1, and 212[16] (version 8.1), and South Coast AQMD Modeling Guidance for AERMOD,[17] the detailed HRA utilizing AERMOD should be run using the averaging time of PERIOD and 1-hour. Therefore, South Coast AQMD staff recommend that the Lead Agency revise the construction HRA utilizing PERIOD and 1-hour averaging time to determine the health risk impacts to the sensitive receptors and off-site workers and include the results in the Final EIR. If the revision is not included in the Final EIR, the Lead Agency should provide reasons for not having them supported by substantial evidence in the record.

AQMD-3

Operational HRA

Based on the provided modeling files, South Coast AQMD staff is able to verify that the building downwash option is not selected in the operational HRA. The ground-level pollutant concentrations near the building would be underestimated if the downwash effects were absent in

AQMD-4

[8] *Ibid.* Page 3-6.
[9] *Ibid.*
[10] *Ibid.* Page 3-1.
[11] *Ibid.* Page 3-17.
[12] *Ibid.* Page 3-26.
[13] *Ibid.* Page 4.3-31.
[14] *Ibid.* Appendix D – Air Quality Impact Analysis. Page 12.
[15] *Ibid.* Appendix D. Page 1139 of PDF.
[16] South Coast AQMD Risk Assessment Procedures for Rule 1401, 1401.1, and 212 Version 8.1. Page 23. Access at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf
[17] South Coast AQMD Modeling Guidance for AERMOD. Access at: http://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance

the dispersion modeling. Therefore, building downwash should be considered for the Proposed Project operation to predict more accurate ground-level concentrations.

In addition, the truck idling emissions would need to be estimated separately and included in the dispersion modeling analysis and HRA as point sources. However, truck idling emissions from the modeling files are modeled as line volume sources. In addition, the EIR needs to clarify if any stationary combustion engines (e.g., diesel firewater pump, diesel emergency generator, etc.) will be used on-site during operation. If any of these will be used when implementing the Proposed Project, they will need to be added as additional sources to the HRA and dispersion modeling files. Therefore, South Coast AQMD staff recommend that the Lead Agency revise the operational HRA modeling by incorporating the above recommendations and including the HRA results in the Final EIR. If the HRA modeling is not revised and included in the Final EIR, the Lead Agency should provide reasons supported by substantial evidence in the record to explain why the revision is not included. AQMD-4 (cont'd)

Overlapped Construction and Operational Activities

According to the Draft EIR and Appendix D, the first phase of development is anticipated in the Opening Year of 2024, and the Proposed Project Buildout is anticipated in the year 2027.[18,19] Hence, the possibility of overlapped construction (Phase 2) and operation (Phase 1) activities is likely to occur. However, the Draft EIR does not include an emissions analysis for the overlapping activities. Therefore, South Coast AQMD staff recommends that the Lead Agency analyze the overlapping activities to estimate emissions associated with the time. The estimated overlapped emissions should then be compared to South Coast AQMD's regional air quality CEQA operational thresholds[20] to determine the significance level, and the results should be included in the Final EIR. If the overlapped emissions analysis is not included in the Final EIR, the Lead Agency should provide reasons for not having them supported by substantial evidence in the record. AQMD-5

Additional Air Quality and Greenhouse Gas Mitigation Measures

According to the Draft EIR and Appendix D, the Lead Agency utilizes CalEEMod's latest version to analyze the maximum daily emissions from Proposed Project's construction and operational activities.[21] The peak unmitigated construction and peak operational emissions are shown in Tables 4.3-4, 4.3-6, and 4.3-7.[22] The Lead Agency concludes that regional construction and operational emissions would be significant and unavoidable. To reduce the emissions from construction and operational activities, the Lead Agency proposes mitigation measures (MM) from 4.3.1 to 4.3.18.[23] However, the Lead Agency concludes that the impact of air quality and greenhouse gas are significant and unavoidable even with mitigation incorporated.[24] AQMD-6

[18] *Ibid.* Page 4.3-31.
[19] *Ibid.* Appendix D. Page 11.
[20] South Coast AQMD Air Quality Significance Thresholds. Access at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf
[21] *Ibid.* Appendix D. Page 54.
[22] *Ibid.* Pages 4.3-29, 4.3-32, and 4.3-33.
[23] *Ibid.* Pages 4.3-29, 4.3-30, 4.3-34, 4.3-35, and 4.3-36.
[24] *Ibid.* Pages 4.3-31, 4.3-33, and 4.4-41.

Mitigation measures for operational air quality impacts from mobile sources that the Lead Agency should consider in the Final EIR may include the following:

- Require zero-emissions (ZE) or near-zero emission (NZE) on-road haul trucks, such as heavy-duty trucks with natural gas engines that meet the CARB's adopted optional NOx emissions standard at 0.02 grams per brake horsepower-hour (g/bhp-hr), if and when feasible. Given the state's clean truck rules and regulations aiming to accelerate the utilization and market penetration of ZE and NZE trucks, such as the Advanced Clean Trucks Rule[25] and the Heavy-Duty Low NOx Omnibus Regulation[26], ZE and NZE trucks will become increasingly more available to use. The Lead Agency should require a phase-in schedule to incentivize using these cleaner operating trucks to reduce any significant adverse air quality impacts. South Coast AQMD staff is available to discuss the availability of current and upcoming truck technologies and incentive programs with the Lead Agency. At a minimum, require the use of the 2010 model year[27] that meets CARB's 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks. Where appropriate, include environmental analyses to evaluate and identify sufficient electricity and supportive infrastructures in the Energy and Utilities and Service Systems Sections in the CEQA document. Include the requirement in applicable bid documents, purchase orders, and contracts. Operators shall maintain records of all trucks associated with project construction to document that each truck used meets these emission standards and make the records available for inspection. The Lead Agency should conduct regular inspections to the maximum extent feasible to ensure compliance.
- Limit the daily number of trucks allowed at the Proposed Project to levels analyzed in the Final CEQA document. If higher daily truck volumes are anticipated to visit the site, the Lead Agency should commit to re-evaluating the Proposed Project through CEQA prior to allowing this higher activity level.
- Provide electric vehicle (EV) charging stations or, at a minimum, provide the electrical infrastructure, and electrical panels should be appropriately sized. Electrical hookups should be provided for truckers to plug in any onboard auxiliary equipment.

AQMD-6 (cont'd)

Mitigation measures for operational air quality impacts from other area sources that the Lead Agency should consider in the Final EIR may include the following:

- Maximize the use of solar energy by installing solar energy arrays
- Use light-colored paving and roofing materials
- Utilize only Energy Star heating, cooling, and lighting devices, and appliances

[25] CARB. June 25, 2020. *Advanced Clean Trucks Rule*. Accessed at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks.

[26] CARB has recently passed a variety of new regulations that require new, cleaner heavy-duty truck technology to be sold and used in state. For example, on August 27, 2020, CARB approved the Heavy-Duty Low NOx Omnibus Regulation, which will require all trucks to meet the adopted emission standard of 0.05 g/hp-hr starting with engine model year 2024. Accessed at: https://ww2.arb.ca.gov/rulemaking/2020/hdomnibuslownox.

[27] CARB adopted the statewide Truck and Bus Regulation in 2010. The Regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. More information on the CARB's Truck and Bus Regulation is available at: https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.

- Use of water-based or low-VOC cleaning products that go beyond the requirements of South Coast AQMD Rule 1113

Furthermore, the Final EIR needs to clarify the routes designated for trucks associated with the Proposed Project development. Thus, design considerations for the Proposed Project that the Lead Agency should consider included in the Final EIR to further reduce air quality and health risk impacts may include the following:

- Identify any designated truck routes to transport to and from the Proposed Project
- Clearly mark truck routes with trailblazer signs so that trucks will not travel next to or near sensitive land uses (e.g., residences, schools, daycare centers, etc.)
- Design the Proposed Project such that truck entrances and exits are not facing sensitive receptors and trucks will not travel past sensitive land uses to enter or leave the Proposed Project site
- Design the Proposed Project such that any check-in point for trucks is inside the Proposed Project site to ensure that no trucks are queuing outside
- Design the Proposed Project to ensure that truck traffic inside the Proposed Project site is as far away as feasible from sensitive receptors
- Restrict overnight truck parking in sensitive land uses by providing overnight truck parking inside the Proposed Project site

AQMD-6 (cont'd)

South Coast AQMD staff also suggests the Lead Agency review the below-listed references and consider including the additional recommended mitigation measures in the Final EIR:

- State of California – Department of Justice: Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act[28]
- South Coast AQMD 2022 South Coast Air Quality Management Plan,[29] specifically:
  - Appendix IV-A – South Coast AQMD's Stationary and Mobile Source Control Measures
  - Appendix IV-B – CARB's Strategy for South Coast
  - Appendix IV-C – SCAG's Regional Transportation Strategy and Control Measures
- United States Environmental Protection Agency (U.S. EPA): Mobile Source Pollution - Environmental Justice and Transportation[30]

Health Risk Reduction Strategies

Notwithstanding the court rulings, South Coast AQMD staff recognizes that the Lead Agency that approves CEQA documents retain the authority to include any additional information they deem relevant to assessing and mitigating the environmental impacts of a project. South Coast AQMD staff is concerned about the potential public health impacts of siting sensitive populations within

AQMD-7

[28] State of California – Department of Justice. Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act. Access at: https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf
[29] 2022 South Coast AQMP. Access at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan
[30] United States Environmental Protection Agency (U.S. EPA): Mobile Source Pollution - Environmental Justice and Transportation. Access at: https://www.epa.gov/mobile-source-pollution/environmental-justice-and-transportation

proximity of sources of air pollution (e.g., warehouse). Therefore, it is recommended that, prior to approving future development projects, the Lead Agency consider the impacts of air pollutants on people who will live in and/or nearby a new project location and provide mitigation where necessary. Additionally, South Coast AQMD staff suggests that the Lead Agency review the CARB Air Quality Land Use and Handbook: A Community Health Perspective[31] as it is a reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process with additional guidance on strategies to reduce air pollution exposure near high-volume roadways available in CARB's technical advisory.[32]

AQMD-7 (cont'd)

Development of Air Quality Mitigation/Community Benefit Funds

Due to the proximity to sensitive receptors (e.g., residences, schools), the Proposed Project should consider additional mitigation strategies to reduce the health risk exposure to sensitive receptors. Many strategies are available to reduce exposures, including, but not limited to, building filtration systems with Minimum Efficiency Reporting Values (MERV) 13 or better, or in some cases, MERV 15 or better is recommended, building design, orientation, location, vegetation barriers or landscaping screening. Enhanced filtration units are capable of reducing exposures. However, enhanced filtration systems have limitations. For example, in a study that South Coast AQMD conducted to investigate filters,[33] a cost burden is expected to be within the range of $120 to $240 per year to replace each filter panel. The initial start-up cost could substantially increase if a Heating, Ventilation, and Air Conditioning (HVAC) system need to be installed and if standalone filter units are required. Installation costs may vary, including costs for conducting site assessments and obtaining permits and approvals before filters can be installed. Other costs may include filter life monitoring, annual maintenance, and training for conducting maintenance and reporting. In addition, because the filters would not be effective unless the HVAC system is running, there may be increased energy consumption. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and the environmental analysis does not generally account for the times when the residents have their windows or doors open or are in common space areas of the project. Additionally, these filters have no ability to filter out any toxic gases. Furthermore, when used filters are replaced, the replacement has the potential to result in emissions from the transportation of used filters at disposal sites and generate solid waste. Therefore, any filtration unit's presumed effectiveness and feasibility should be carefully evaluated in more detail before assuming they will sufficiently alleviate exposure to DPM emissions.

AQMD-8

In addition, South Coast AQMD offers a broad range of programs for businesses, the community, and local government that help to achieve cleaner air quality for all. Many of these programs offer financial incentives for implementing new clean air technologies. Some provide partnerships and new ways of addressing air quality issues throughout the South Coast Basin. Therefore, South Coast AQMD staff recommends that the Lead Agency review the incentive and programs on the South Coast AQMD Incentives & Programs landing page, http://www.aqmd.gov/home/programs.

[31] California Air Resources Board (CARB) Air Quality Land Use and Handbook: A Community Health Perspective. Access at: https://www.arb.ca.gov/ch/handbook.pdf

[32] CARB's technical advisory can be found at: https://www.arb.ca.gov/ch/landuse.htm

[33] South Coast AQMD, Pilot Study of High-Performance Air Filtration for Classrooms Applications, Draft Report: October 2009, http://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf. Also, see the 2012 Peer Review Journal article by South Coast AQMD: https://onlinelibrary.wiley.com/doi/10.1111/ina.12013.

South Coast AQMD Rules 2305 and 316

On May 7, 2021, South Coast AQMD's Governing Board adopted Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program, and Rule 316 – Fees for Rule 2305. Rules 2305 and 316 are new rules that will reduce regional and local emissions of nitrogen oxides (NOx) and particulate matter (PM), including diesel PM (DPM). These emission reductions will reduce public health impacts for communities near warehouses from mobile sources associated with warehouse activities. Also, the emission reductions will help the region attain federal and state ambient air quality standards. Rule 2305 applies to owners and operators of warehouses greater than or equal to 100,000 square feet. Under Rule 2305, operators are subject to an annual WAIRE Points Compliance Obligation calculated based on the annual number of truck trips to the warehouse. WAIRE Points can be earned by implementing actions in a prescribed menu in Rule 2305, implementing a site-specific custom plan, or paying a mitigation fee. Warehouse owners are only required to submit limited information reports, but they can opt-in to earn Points on behalf of their tenants if they choose because certain actions to reduce emissions may be better achieved during the warehouse development phase, for instance, the installation of solar and charging infrastructure. Rule 316 is a companion fee rule for Rule 2305, allowing South Coast AQMD to recover costs associated with Rule 2305 compliance activities. Since the Proposed Project consists of developing warehouses (unrefrigerated and refrigerated) under light industrial land use up to a maximum of 2,767,148 square feet, the Proposed Project's warehouse owners and operators will be required to comply with Rule 2305 once the warehouse is occupied. Therefore, South Coast AQMD staff recommends that the Lead Agency review South Coast AQMD Rule 2305 to determine the potential WAIRE Points Compliance Obligation for future operators and explore whether additional project requirements and CEQA mitigation measures can be identified and implemented at the Proposed Project that may help future warehouse operators meet their compliance obligation[34]. South Coast AQMD staff is available to answer questions concerning Rule 2305 implementation and compliance by phone or email at (909) 396-3140 or waire-program@aqmd.gov. For implementation guidance documents and compliance and reporting tools, please visit South Coast AQMD's WAIRE Program webpage[35]. AQMD-9

South Coast AQMD Permits and Responsible Agency

In the event that the implementation of the Proposed Project would require using new stationary equipment, permits from South Coast AQMD are required. Stationary equipment not only requires permits to construct but also permits to operate. Therefore, the Lead Agency should discuss any stationary equipment utilized in the Proposed Project's construction and operation, requiring South Coast AQMD permits and identifying South Coast AQMD as a Responsible Agency for the Proposed Project in the Final EIR. Any assumptions for the stationary sources in the Final EIR will also be used as the basis for the permit conditions and limits for the Proposed Project. Please contact South Coast AQMD's Engineering and Permitting staff at (909) 396-3385 for questions on permits. For more general information on permits, please visit South Coast AQMD's webpage at: http://www.aqmd.gov/home/permits. AQMD-10

[34] South Coast AQMD Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program. Accessed at: http://www.aqmd.gov/docs/default-source/rule-book/reg-xxiii/r2305.pdf.
[35] South Coast AQMD WAIRE Program. Accessed at: http://www.aqmd.gov/waire.

Conclusion

Pursuant to California Public Resources Code section 21092.5(a) and CEQA Guidelines section 15088(b), South Coast AQMD staff requests that the Lead Agency provide South Coast AQMD staff with written responses to all comments contained herein, at least 10 days prior to the certification of the Final EIR.[36] In addition, issues raised in the comments should be addressed in detail, giving reasons why specific comments and suggestions are not accepted. There should be good faith and reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice (CEQA Guidelines section 15088(c)). Conclusory statements do not facilitate the purpose and goal of CEQA on public disclosure and are not meaningful, informative, or useful to decision-makers and to the public who are interested in the Proposed Project. AQMD-11

South Coast AQMD staff is available to work with the Lead Agency to address any air quality questions that may arise from this comment letter. Please contact Danica Nguyen, Air Quality Specialist, at dnguyen1@aqmd.gov should you have any questions.

Sincerely,

Sam Wang

Sam Wang
Program Supervisor, CEQA IGR
Planning, Rule Development & Implementation

SW:DN
SBC230301-08
Control Number

[36] 2022 CEQA Statues and Guidelines section 21092.5(a): "At least ten days prior to certifying an environmental impact report, the lead agency shall provide a written proposed response to a public agency on comments made by that agency which conform with the requirements of this division. Proposed responses shall conform with the legal standards established for responses to comments on draft environmental impact reports. Copies of responses or the environmental document in which they are contained, prepared in conformance with other requirements of this division and the guidelines adopted pursuant to Section 21083, may be used to meet the requirements imposed by this section." Access at: https://www.califaep.org/docs/2022_CEQA_Statue_and_Guidelines.pdf

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Letter Dated April 4, 2023

Comment AQMD-1

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The City of Ontario is the Lead Agency under the California Environmental Quality Act (CEQA) for the Proposed Project. The following comments [sic] recommended revisions to the health risk assessment analysis, overlapped construction and operational activities analysis, additional air quality and greenhouse gas mitigation measures, health risk reduction strategies, South Coast AQMD Rules 2305 and 316, and information on South Coast AQMD permits and responsible agency that the Lead Agency should include in the Final EIR.

Response AQMD-1

The Lead Agency appreciates AQMD's participation in the Project CEQA process. Responses to AQMD comments are presented below.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed.

Comment AQMD-2

South Coast AQMD Staff's Summary of Project Information in the Draft EIR

By way of background, the Rich-Haven Specific Plan was approved by the Lead Agency in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The Lead Agency proposes the current 2021 Specific Plan, which comprises approximately 584 acres, with the Rich-Haven Specific Plan 2022 Amendment (Proposed Project), resulting in the primary revisions to:

- *Maintain the total residential development of 7,194 dwelling units, with the residential units and densities would be reassigned*
- *Reduce commercial development by approximately 65,900 square feet, an approximately 6.7 percent reduction, with a maximum square foot of 925,002. The Proposed Project is assumed to accommodate a variety of commercial/retail development*
- *Increase light industrial development by approximately 1,583,623 square feet, an approximately 134 percent increase, with a maximum square foot of 2,767,148. The Proposed Project would accommodate a mix of high-cube fulfillment warehouses, refrigerated warehouses, and business park uses*
- *Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the Proposed Project*

As of this Draft EIR, approximately 468 residential units of the total 7,194 dwelling units have been constructed and are occupied. The remainder of the Proposed Project site has not yet been developed; these land uses include a dairy farm, a former hog ranch, vacant/disturbed properties throughout the site, and Southern California Edison (SCE) transmission line easement. The Proposed Project is west of Interstate 15 (I-15) and south of State Route 60 (SR-60). Based on the aerial photographs, South Coast AQMD staff finds that sensitive receptors (e.g., residences, Colony High School) are within 70-120 feet north, east, and west of the Proposed Project site. The Proposed Project development is anticipated in sequence in two phases: Phase 1 is for light industrial and commercial uses, and Phase 2 is for residential products and community amenities (including parks and open space). The Proposed Project Opening year is defined as 2025. At buildout in 2027, the Proposed Project would generate 95,552 two-way vehicle trips, including 1,144 two-way truck trips per day.

Response AQMD-2

AQMD's summary description of the Project is materially correct. Please refer also to EIR Section 3.0, *Project Description*.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed.

Comment AQMD-3

South Coast AQMD Staff's Comments on the Draft EIR

Health Risk Assessment (HRA) Analysis

Construction HRA

Based on the provided modeling files and the AERMOD modeling outputs file in Appendix D – Air Quality Impact Analysis, the averaging time used in the model run is ANNUAL. However, according to the South Coast AQMD Risk Assessment Procedures for Rule 1401, 1401.1, and 212 (version 8.1), and South Coast AQMD Modeling Guidance for AERMOD, the detailed HRA utilizing AERMOD should be run using the averaging time of PERIOD and 1-hour. Therefore, South Coast AQMD staff recommend that the Lead Agency revise the construction HRA utilizing PERIOD and 1-hour averaging time to determine the health risk impacts to the sensitive receptors and off-site workers and include the results in the Final EIR. If the revision is not included in the Final EIR, the Lead Agency should provide reasons for not having them supported by substantial evidence in the record.

Response AQMD-3

As requested by AQMD, the EIR Health Risk Assessment (HRA) model was re-run utilizing the PERIOD and 1-hour averaging time options, as opposed to the ANNUAL averaging time output employed in the current EIR HRA. Under the PERIOD and 1-hour averaging time options, the modeling outputs are identical to those presented in the current EIR HRA. Under both modeling scenarios, no health risk thresholds would be exceeded, and health risk impacts would be less-than-significant. The original and revised HRA modeling are provided at FEIR Attachment A.

It is further noted that the 1-Hour averaging time option suggested by AQMD is typically used for analyzing non-cancer acute health impacts, which are assumed to take place over a period of 1 hour. The only Toxic Air Contaminant (TAC) emitted by Project construction activities would be diesel particulate matter (DPM). DPM does not have an acute Reference Exposure Level (REL) meaning there are no expected acute health impacts. In this instance, the 1-Hour averaging time option is not necessary.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required.

Comment AQMD-4

Operational HRA

Based on the provided modeling files, South Coast AQMD staff is able to verify that the building downwash option is not selected in the operational HRA. The ground-level pollutant concentrations near the building would be underestimated if the downwash effects were absent in the dispersion modeling. Therefore, building downwash should be considered for the Proposed Project operation to predict more accurate ground-level concentrations.

In addition, the truck idling emissions would need to be estimated separately and included in the dispersion modeling analysis and HRA as point sources. However, truck idling emissions from the modeling files are modeled as line volume sources. In addition, the EIR needs to clarify if any stationary combustion engines (e.g., diesel firewater pump, diesel emergency generator, etc.) will be used on-site during operation. If any of these will be used when implementing the Proposed Project, they will need to be added as additional sources to the HRA and dispersion modeling files. Therefore, South Coast AQMD staff recommend that the Lead Agency revise the operational HRA modeling by incorporating the above recommendations and including the HRA results in the Final EIR. If the HRA modeling is not revised and included in the Final EIR, the Lead Agency should provide reasons supported by substantial evidence in the record to explain why the revision is not included.

Response AQMD-4

AQMD states that the EIR HRA should have been performed utilizing the building downwash[1] option. This is to account for any impacts that buildings may have on ground level pollutant concentrations.

[1] Buildings and similar structures in the path of air flow create a turbulent wake region on the leeward (i.e., downwind) side of the building. Air pollutant emissions caught in the path of this flow are drawn into the wake, temporarily trapping it in a recirculating cavity. This "downwash" effect can result in greater ground-level pollutant concentrations near buildings than if buildings were not present.

AQMD's suggested use of the "downwash option" for modeling of the Project truck on-site idling emissions is not appropriate. For the Project, these idling emissions are effectively line volume sources and have been modeled as such consistent with applicable AERMOD protocols. Per *User's Guide for the AMS/EPA Regulatory Model (AERMOD)*, Section 3.3.9, *Specifying Building Downwash Information*, the building downwash algorithms do not apply to volume or area sources. The EIR Air Quality Impact Analysis experts (Urban Crossroads, Inc.) have therefore concluded that truck idling emissions sources resulting from the Project would not be materially affected by downwash from the Project warehouse buildings.

The assumed gas station component(s) of the Project were appropriately modeled as point sources. In this regard, site plans detailing the location and configuration of gas station buildings were not available at the time the analysis was prepared. However, given the typically compact nature of buildings typically associated with gas stations. The EIR Air Quality Impact Analysis experts (Urban Crossroads, Inc.) have concluded that the inclusion of building downwash in the analysis would not significantly alter the results of the EIR HRA and no potentially significant impacts would occur.

AQMD states further that truck idling emissions should be modeled using point sources rather than line volume sources. The Project idling emissions would occur in a line adjacent to the Project warehouse loading docks, indicating emissions should be evaluated as line-volume sources. Moreover, specific parameters unique to truck point source emissions such as exhaust temperature, flow rate, and stack diameter are not known. A point-source analysis based on these unknown factors would therefore be largely speculative and of nominal value to the overall analysis. Lastly, the Project HRA analysis is consistent with HRAs conducted by the EIR Air Quality Impact Analysis experts for other similar Project EIRs that have been certified by the Lead Agency.[2] Based on the preceding, the EIR HRA modeling of truck idling as line volume sources is considered accurate and appropriate.

[2] Merrill Commerce Center Specific Plan Project EIR (SCH No. 2019049079); West Ontario Commerce Center Project EIR (SCH Number 2017041074); Meredith International Center Project EIR (SCH Number 2014051020); Ontario Ranch Business Park Project EIR (SCH Number 2019050018)

With regard to use of emergency generators within the Project site and any resulting emissions, specific locations for, and types of, emergency generators or diesel-powered fire pumps that may be located within the Project site are not known at this preliminary stage of Project development. When these specific factors become available, AQMD will be contacted, and all AQMD permitting requirements as outlined in Rule 219 will be complied with, thereby precluding potential emissions impacts that may result from operations of emergency generators or diesel-powered fire pumps.

Note further, in other than emergency conditions, emergency generators or diesel-powered fire pumps operate only for short-term periodic testing, and emissions from such short-term operations would not contribute substantively to health risks. In this latter regard, as a means of comparison, the maximum incremental health risk resulting from Project construction equipment operations would be 1.21 in one million, which is substantially less than the SCAQMD significance threshold of 10 in one million (Project HRA, p. 25). The Project construction emissions include diesel emissions generated during grading operations involving the following heavy duty diesel equipment: 6 excavators, 3 graders, 3 rubber-tired dozers, 6 scrapers, and 6 crawler tractors - all operating for 8 hours per day for an estimated 154 days. It is highly unlikely that temporary and intermittent operations of a few emergency generators within the Project site would result in health risk impacts greater than would result from Project construction equipment operations. As with Project construction-source emissions health risk impacts, any potential health risk impacts resulting from emergency generator operations would be less-than-significant.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required.

Comment AQMD-5

Overlapped Construction and Operational Activities

According to the Draft EIR and Appendix D, the first phase of development is anticipated in the Opening Year of 2024, and the Proposed Project Buildout is anticipated in the year 2027. Hence, the possibility of overlapped construction (Phase 2) and operation (Phase 1) activities is likely to

occur. However, the Draft EIR does not include an emissions analysis for the overlapping activities. Therefore, South Coast AQMD staff recommends that the Lead Agency analyze the overlapping activities to estimate emissions associated with the time. The estimated overlapped emissions should then be compared to South Coast AQMD's regional air quality CEQA operational thresholds to determine the significance level, and the results should be included in the Final EIR. If the overlapped emissions analysis is not included in the Final EIR, the Lead Agency should provide reasons for not having them supported by substantial evidence in the record.

Response AQMD-5

AQMD recommends additional overlapped modeling of certain Project construction-source and operational-source emissions. The Lead Agency considers the current analysis to currently and appropriately reflect likely emissions overlap that would occur during Project Phase 1 and Phase 2 construction activities. Contrary to AQMD recommendations, it would not be appropriate to combine Project Phase 1 operational emissions and Project Phase 2 construction emissions for purposes of comparing these against SCAQMD's operational significance thresholds.

That is, because construction activities are short-term and relatively intense in nature, emissions generated by such activities are temporarily elevated when compared to emissions generated by long-term operations. Because of this difference in emissions generation characteristics, the air quality significance thresholds for construction activity are intentionally set higher than those for long-term operational activity. Comparing combined construction-source and operational source emissions against an operational emissions threshold distorts the impacts of emissions and provides no meaningful information regarding the actual significance or air emissions impacts. Moreover, there is no established threshold for assessing the significance of combined construction-source and operational-source emissions. For these reasons, the Lead Agency opts not to further analyze modeling of combined emissions sources.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required.

Comment AQMD-6

Additional Air Quality and Greenhouse Gas Mitigation Measures

According to the Draft EIR and Appendix D, the Lead Agency utilizes CalEEMod's latest version to analyze the maximum daily emissions from Proposed Project's construction and operational activities. The peak unmitigated construction and peak operational emissions are shown in Tables 4.3-4, 4.3-6, and 4.3-7. The Lead Agency concludes that regional construction and operational emissions would be significant and unavoidable. To reduce the emissions from construction and operational activities, the Lead Agency proposes mitigation measures (MM) from 4.3.1 to 4.3.18. However, the Lead Agency concludes that the impact of air quality and greenhouse gas are significant and unavoidable even with mitigation incorporated.

Mitigation measures for operational air quality impacts from mobile sources that the Lead Agency should consider in the Final EIR may include the following:

- *Require zero-emissions (ZE) or near-zero emission (NZE) on-road haul trucks, such as heavy-duty trucks with natural gas engines that meet the CARB's adopted optional NOx emissions standard at 0.02 grams per brake horsepower-hour (g/bhp-hr), if and when feasible. Given the state's clean truck rules and regulations aiming to accelerate the utilization and market penetration of ZE and NZE trucks, such as the Advanced Clean Trucks Rule and the Heavy-Duty Low NOx Omnibus Regulation, ZE and NZE trucks will become increasingly more available to use. The Lead Agency should require a phase-in schedule to incentivize using these cleaner operating trucks to reduce any significant adverse air quality impacts. South Coast AQMD staff is available to discuss the availability of current and upcoming truck technologies and incentive programs with the Lead Agency. At a minimum, require the use of the 2010 model year that meets CARB's 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks. Where appropriate, include environmental analyses to evaluate and identify sufficient electricity and supportive infrastructures in the Energy and Utilities and Service Systems Sections in the CEQA document. Include the requirement in applicable bid documents, purchase orders, and contracts. Operators shall maintain records of all trucks associated with project construction to document that each truck used meets these emission standards and make*

the records available for inspection. The Lead Agency should conduct regular inspections to the maximum extent feasible to ensure compliance.

- *Limit the daily number of trucks allowed at the Proposed Project to levels analyzed in the Final CEQA document. If higher daily truck volumes are anticipated to visit the site, the Lead Agency should commit to re-evaluating the Proposed Project through CEQA prior to allowing this higher activity level.*
- *Provide electric vehicle (EV) charging stations or, at a minimum, provide the electrical infrastructure, and electrical panels should be appropriately sized. Electrical hookups should be provided for truckers to plug in any onboard auxiliary equipment.*

Mitigation measures for operational air quality impacts from other area sources that the Lead Agency should consider in the Final EIR may include the following:

- *Maximize the use of solar energy by installing solar energy arrays*
- *Use light-colored paving and roofing materials*
- *Utilize only Energy Star heating, cooling, and lighting devices, and appliances*
- *Use of water-based or low-VOC cleaning products that go beyond the requirements of South Coast AQMD Rule 1113*

Furthermore, the Final EIR needs to clarify the routes designated for trucks associated with the Proposed Project development. Thus, design considerations for the Proposed Project that the Lead Agency should consider included in the Final EIR to further reduce air quality and health risk impacts may include the following:

- *Identify any designated truck routes to transport to and from the Proposed Project*
- *Clearly mark truck routes with trailblazer signs so that trucks will not travel next to or near sensitive land uses (e.g., residences, schools, daycare centers, etc.)*
- *Design the Proposed Project such that truck entrances and exits are not facing sensitive receptors and trucks will not travel past sensitive land uses to enter or leave the Proposed Project site*
- *Design the Proposed Project such that any check-in point for trucks is inside the Proposed Project site to ensure that no trucks are queuing outside*

- *Design the Proposed Project to ensure that truck traffic inside the Proposed Project site is as far away as feasible from sensitive receptors*
- *Restrict overnight truck parking in sensitive land uses by providing overnight truck parking inside the Proposed Project site*

South Coast AQMD staff also suggests the Lead Agency review the below-listed references and consider including the additional recommended mitigation measures in the Final EIR:

- *State of California – Department of Justice: Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act*
- *South Coast AQMD 2022 South Coast Air Quality Management Plan,29 specifically:*
  - *Appendix IV-A – South Coast AQMD's Stationary and Mobile Source Control Measures*
  - *Appendix IV-B – CARB's Strategy for South Coast*
  - *Appendix IV-C – SCAG's Regional Transportation Strategy and Control Measures*
- *United States Environmental Protection Agency (U.S. EPA): Mobile Source Pollution - Environmental Justice and Transportation*

Response AQMD-6

Additional GHG emissions mitigation measures suggested by AQMD will be considered by the Lead Agency in their deliberations regarding the Project. The measures offered by AQMD are already materially incorporated in the Project, either through the EIR Mitigation Measures (see EIR Mitigation Measures 4.3.2 through 4.3.18) or through mandated compliance with GHG emissions reduction and control measures incorporated in the City Community Climate Action Plan (see EIR Mitigation Measure 4.4.1).

Regarding truck emissions along routes accessing the Project site, the EIR HRA modeling reflects likely maximum impacts, including likely maximum impacts from emissions generated by trucks accessing the Project. These impacts are substantiated to be less-than-significant (DEIR, pp. 4.3-46 – 4.3-48, Project HRA [EIR Appendix D], pp. 11 – 28). The

Lead Agency, through the Project Conditions of Approval, may impose additional design criteria that could further reduce already less-than-significant HRA impacts.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required.

Comment AQMD-7

Health Risk Reduction Strategies

Notwithstanding the court rulings, South Coast AQMD staff recognizes that the Lead Agency that approves CEQA documents retain the authority to include any additional information they deem relevant to assessing and mitigating the environmental impacts of a project. South Coast AQMD staff is concerned about the potential public health impacts of siting sensitive populations within proximity of sources of air pollution (e.g., warehouse). Therefore, it is recommended that, prior to approving future development projects, the Lead Agency consider the impacts of air pollutants on people who will live in and/or nearby a new project location and provide mitigation where necessary. Additionally, South Coast AQMD staff suggests that the Lead Agency review the CARB Air Quality Land Use and Handbook: A Community Health Perspective as it is a reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process with additional guidance on strategies to reduce air pollution exposure near high-volume roadways available in CARB's technical advisory.

Response AQMD-7

AQMD recommendations regarding air quality impact assessments and assessment methodologies are acknowledged.

The current Lead Agency air quality impact assessments and assessment methodologies comprehensively consider and address potential air quality impacts of all Projects consistent with CEQA requirements. Please refer also to Responses AQMD-3 through AQMD-6.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required.

Comment AQMD-8

Development of Air Quality Mitigation/Community Benefit Funds

Due to the proximity to sensitive receptors (e.g., residences, schools), the Proposed Project should consider additional mitigation strategies to reduce the health risk exposure to sensitive receptors. Many strategies are available to reduce exposures, including, but not limited to, building filtration systems with Minimum Efficiency Reporting Values (MERV) 13 or better, or in some cases, MERV 15 or better is recommended, building design, orientation, location, vegetation barriers or landscaping screening. Enhanced filtration units are capable of reducing exposures. However, enhanced filtration systems have limitations. For example, in a study that South Coast AQMD conducted to investigate filters, a cost burden is expected to be within the range of $120 to $240 per year to replace each filter panel. The initial start-up cost could substantially increase if a Heating, Ventilation, and Air Conditioning (HVAC) system need to be installed and if standalone filter units are required. Installation costs may vary, including costs for conducting site assessments and obtaining permits and approvals before filters can be installed. Other costs may include filter life monitoring, annual maintenance, and training for conducting maintenance and reporting. In addition, because the filters would not be effective unless the HVAC system is running, there may be increased energy consumption. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and the environmental analysis does not generally account for the times when the residents have their windows or doors open or are in common space areas of the project. Additionally, these filters have no ability to filter out any toxic gases. Furthermore, when used filters are replaced, the replacement has the potential to result in emissions from the transportation of used filters at disposal sites and generate solid waste. Therefore, any filtration unit's presumed effectiveness and feasibility should be carefully evaluated in more detail before assuming they will sufficiently alleviate exposure to DPM emissions.

In addition, South Coast AQMD offers a broad range of programs for businesses, the community, and local government that help to achieve cleaner air quality for all. Many of these programs offer financial incentives for implementing new clean air technologies. Some provide partnerships and new ways of addressing air quality issues throughout the South Coast Basin. Therefore, South Coast AQMD staff recommends that the Lead Agency review the incentive and programs on the South Coast AQMD Incentives & Programs landing page, http://www.aqmd.gov/home/programs.

Response AQMD-8

AQMD discusses various measures and community benefit programs directed to generally reducing health effects of air pollutant emissions. The Lead Agency acknowledges these measures and community benefit programs.

Consistent with CEQA requirements, the EIR substantiates that potential health risks attributable to Project-source air pollutant emissions would be less-than-significant. No additional mitigation for these impacts is required. Measures and community benefit programs outlined by AQMD are not required. Outside of the CEQA and EIR processes, the Lead Agency may consider additional strategies that could further reduce the Project's already less-than-significant impacts. Please refer also to Responses AQMD-3 through AQMD-7.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required.

Comment AQMD-9

South Coast AQMD Rules 2305 and 316

On May 7, 2021, South Coast AQMD's Governing Board adopted Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program, and Rule 316 – Fees for Rule 2305. Rules 2305 and 316 are new rules that will reduce regional and local emissions of nitrogen oxides (NOx) and particulate matter (PM), including diesel PM (DPM). These emission reductions will reduce public health impacts for communities near warehouses from mobile sources associated with warehouse activities. Also, the emission reductions will help the region attain federal and state ambient air quality standards. Rule 2305 applies to owners and operators of warehouses greater than or equal to 100,000 square feet. Under Rule 2305, operators are subject to an annual WAIRE Points Compliance Obligation calculated based on the annual number of truck trips to the warehouse. WAIRE Points can be earned by implementing actions in a prescribed menu in Rule 2305, implementing a site-specific custom plan, or paying a mitigation fee. Warehouse owners are only required to submit limited information reports, but they can opt-in to earn Points on behalf of their tenants if they choose because certain actions to reduce emissions may be better achieved during the warehouse

development phase, for instance, the installation of solar and charging infrastructure. Rule 316 is a companion fee rule for Rule 2305, allowing South Coast AQMD to recover costs associated with Rule 2305 compliance activities. Since the Proposed Project consists of developing warehouses (unrefrigerated and refrigerated) under light industrial land use up to a maximum of 2,767,148 square feet, the Proposed Project's warehouse owners and operators will be required to comply with Rule 2305 once the warehouse is occupied. Therefore, South Coast AQMD staff recommends that the Lead Agency review South Coast AQMD Rule 2305 to determine the potential WAIRE Points Compliance Obligation for future operators and explore whether additional project requirements and CEQA mitigation measures can be identified and implemented at the Proposed Project that may help future warehouse operators meet their compliance obligation. South Coast AQMD staff is available to answer questions concerning Rule 2305 implementation and compliance by phone or email at (909) 396-3140 or waire-program@aqmd.gov. For implementation guidance documents and compliance and reporting tools, please visit South Coast AQMD's WAIRE Program webpage.

Response AQMD-9

AQMD cites Rule 2305 – *Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program*, and Rule 316 – *Fees for Rule 2305 Requirements*. As a matter of law, the Project must comply with applicable Rule 2035/Rule 316 requirements, and all other applicable SCAQMD Rules.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required.

Comment AQMD-10

South Coast AQMD Permits and Responsible Agency

In the event that the implementation of the Proposed Project would require using new stationary equipment, permits from South Coast AQMD are required. Stationary equipment not only requires permits to construct but also permits to operate. Therefore, the Lead Agency should discuss any stationary equipment utilized in the Proposed Project's construction and operation, requiring South Coast AQMD permits and identifying South Coast AQMD as a Responsible Agency for the Proposed Project in the Final EIR. Any assumptions for the stationary sources in

the Final EIR will also be used as the basis for the permit conditions and limits for the Proposed Project. Please contact South Coast AQMD's Engineering and Permitting staff at (909) 396-3385 for questions on permits. For more general information on permits, please visit South Coast AQMD's webpage at: http://www.aqmd.gov/home/permits.

Response AQMD-10

AQMD cites permitting requirements for any new stationary equipment that may be implemented by the Project. Per the EIR, no new stationary equipment that would be a substantive source of air pollutant emissions is proposed by the Project. Should such equipment be proposed at a future date, as a matter of law, the Project operator(s) would be required to comply with AQMD's permitting requirements.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required.

Comment AQMD-11

Conclusion

*Pursuant to California Public Resources Code section 21092.5(a) and CEQA Guidelines section 15088(b), South Coast AQMD staff requests that the Lead Agency provide South Coast AQMD staff with written responses to all comments contained herein, at least 10 days prior to the certification of the Final EIR.36 In addition, issues raised in the comments should be addressed in detail, giving reasons why specific comments and suggestions are not accepted. There should be good faith and reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice (*CEQA Guidelines *section 15088(c)). Conclusory statements do not facilitate the purpose and goal of CEQA on public disclosure and are not meaningful, informative, or useful to decision-makers and to the public who are interested in the Proposed Project.*

South Coast AQMD staff is available to work with the Lead Agency to address any air quality questions that may arise from this comment letter. Please contact Danica Nguyen, Air Quality Specialist, at dnguyen1@aqmd.gov, should you have any questions.

Response AQMD-11

Written responses to all AQMD comments have been provided to AQMD as required under PRC section 21092.5(a) and *CEQA Guidelines* section 15088(b). All comments and issues raised by AQMD have been adequately and appropriately addressed herein consistent with *CEQA Guidelines* section 15088(c). Contact information provided by AQMD is noted.

Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required.

Eric Belisle
3629 E Happy Paseo Unit 153
Ontario, CA 91761
(413) 250-3969
ericbx95@gmail.com

March 10th, 2023

Lorena Mejia
Senior Planner City of Ontario Planning Department
303 East "B" Street Ontario, CA 91764
(909) 395-2036
LMejia@ontarioca.gov

RE: Rich-Haven Specific Plan 2022 Amendment (File No. PSPA22-001) & Proposed Changes to PA 5A

Lorena Mejia,

My name is Eric Belisle and I reside at 3629 E Happy Paseo, Unit 153, Ontario, CA 91761. I write to you to provide commentary regarding the Rich-Haven Specific Plan 2022 Amendment (File No. PSPA22-001) and the proposed changes to PA 5A.

This area (PA 5A) is directly adjacent to **existing** residential dwellings with no street separating us – the owners and residents of this neighborhood did not purchase into this area to see that the planning in their own backyards be changed to light industrial use. We do not want a warehouse in our backyards. The environmental impact report refers to several "significant and unavoidable" impacts on air quality, as well as needed mitigation for noise. Further, PA 5A is already divided by an SCE Easement, placing any new construction very close to our homes.

The changes to PA 5A have negative environmental impacts to those of us already living here. We do not have the choice to not buy here – the land is already developed, and we already did before a bait-and-switch on the planning surrounding our homes. Selling our homes adjacent to this zoning will present challenges and decreased values.

I ask that you please reconsider the zoning of PA 5A as open space or residential use to protect our homes and families from the effects of being directly adjected to light industrial land use.

EB-1

Thank You,

Eric Belisle

Eric Belisle

Eric Belisle
3629 E. Happy Paseo Unit 153
Ontario, CA 91761

Email Dated March 10, 2023

Comment EB-1

My name is Eric Belisle and I reside at 3629 E Happy Paseo, Unit 153, Ontario, CA 91761. I write to you to provide commentary regarding the Rich-Haven Specific Plan 2022 Amendment (File No. PSPA22-001) and the proposed changes to PA 5A.

This area (PA 5A) is directly adjacent to existing residential dwellings with no street separating us - the owners and residents of this neighborhood did not purchase into this area to see that the planning in their own backyards be changed to light industrial use. We do not want a warehouse in our backyards. The environmental impact report refers to several "significant and unavoidable" impacts on air quality, as well as needed mitigation for noise. Further, PA 5A is already divided by an SCE Easement, placing any new construction very close to our homes.

The changes to PA 5A have negative environmental impacts to those of us already living here. We do not have the choice to not buy here - the land is already developed, and we already did before a bait-and-switch on the planning surrounding our homes. Selling our homes adjacent to this zoning will present challenges and decreased values.

I ask that you please reconsider the zoning of PA 5A as open space or residential use to protect our homes and families from the effects of being directly adjected to light industrial land use.

Response EB-1

Commenter residency and location relative to the Project site are recognized. Commenter preferences regarding development of the Project site and opinions regarding the Project are recognized.

The commenter correctly states that the EIR analysis substantiates that, even with application of mitigation, the Project would result in certain significant and unavoidable air quality impacts (EIR, pp. 1-33, 1-44, 1-45, 1-46, 1-50; EIR Section 4.3, *Air Quality*, et. al). Under CEQA, lead agencies can approve a project even if that project has significant and unavoidable impacts if the lead agency adopts a Statement of Overriding Considerations. Should the City decide to approve the Project and Certify the EIR, Findings and a Statement of Overriding Considerations would be required as provided for at *CEQA Guidelines* Section 15091. *Findings*, and Section 15093. *Statement of Overriding Considerations*, respectively.

The commenter correctly states that the EIR includes mitigation for the Project's potential noise impacts. The EIR substantiates that with application of mitigation, the Project's potential noise impacts would be less-than-significant (EIR, pp. 1-51, 1-52, 1-53, 1-54; EIR Section 4.4, *Noise*, et. al).

Commenter opinions regarding property valuations are noted. CEQA does not consider potential economic impacts of projects, unless such impacts could result in adverse physical impacts.

The commenter's statements have been forwarded to the decision-makers for their consideration. Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required. The City appreciates the commenter's participation in the Project CEQA review process.

Lorena Mejia

From: Vivian Or <viviano8813@gmail.com>
Sent: Monday, March 13, 2023 11:13 PM
To: Lorena Mejia
Subject: Rich Haven specific plan comments

Hello Lorena,

I am a resident of the Neuhouse community which is part of the rich haven plan and would like to offer some feedback that my neighbors also feel similarly about as I got a notice in my mail about the draft plans for the upcoming project in our area. Not sure if this is the appropriate place to send some comments but I am hoping this will at least reach the right people.

We are not sure if the city is aware but haven avenue is backed up at riverside drive until where Ontario ranch is every weekday morning due to influx of residents from Ontario ranch. Most of this is cause by people dropping off their kids at the nearby middle school and getting to the 60 freeway for work. My commute is increased by 10-15 minutes due to the one lane layout of haven avenue... and with the plans to add even more commercial and residential plans in the empty land in that area, it would be comical to not open up more lanes somehow on haven to help meet the demand of cars coming from Ontario ranch up Haven to enter the 60 freeway.

In addition, we hope that you highly consider the type of commercial businesses you bring into this area... Ontario ranch is up and coming... and in a way it seems like you guys are trying to mimic an almost Irvine-like type of community (great park, all new housing units, etc), I can tell you as someone who moved from south OC to here, a lot of the residents like myself have been disappointed in the potential choices of commercial business that will potentially occupy these spaces (lots of rumored layouts with potential plans floating on the internet and social media). We hope to see more businesses that raise the scale of the community and unfortunately, inland empire has nothing to offer compared to luxury shopping centers in Los Angeles and OC. I would like to encourage thoughtful conversation with your team on what you guys want to achieve with this area. Less lower tier stores that can be commonly found in inland empire please! Landscaping could also be improved all around.

I hope your teams considers the needs of their residents and the work it is going to take for this area to live up to the potential to break boundaries for the city. I am hopeful and excited to see what the plans are.

VO-1

Thank you for your time!
Vivian

Sent from my iPhone

Vivian Or
Address Not Provided

Email Dated March 13, 2023

Comment VO-1

I am a resident of the Neuhouse community which is part of the rich haven plan and would like to offer some feedback that my neighbors also feel similarly about as I got a notice in my mail about the draft plans for the upcoming project in our area. Not sure if this is the appropriate place to send some comments but I am hoping this will at least reach the right people.

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In addition, we hope that you highly consider the type of commercial businesses you bring into this area… Ontario ranch is up and coming… and in a way it seems like you guys are trying to mimic an almost Irvine-like type of community (great park, all new housing units, etc), I can tell you as someone who moved from south OC to here, a lot of the residents like myself have been disappointed in the potential choices of commercial business that will potentially occupy these spaces (lots of rumored layouts with potential plans floating on the internet and social media). We hope to see more businesses that raise the scale of the community and unfortunately, inland empire has nothing to offer compared to luxury shopping centers in Los Angeles and OC. I would like to encourage thoughtful conversation with your team on what you guys want to achieve with this area. Less lower tier stores that can be commonly found in inland empire please! Landscaping could also be improved all around.

I hope your teams considers the needs of their residents and the work it is going to take for this area to live up to the potential to break boundaries for the city. I am hopeful and excited to see what the plans are.

Response VO-1

Commenter residency and location relative to the Project site are recognized. Commenter preferences regarding development of the Project site and opinions regarding the Project are recognized.

The commenter's statements have been forwarded to the decision-makers for their consideration. The commenter does not express specific concerns regarding the EIR. Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required. The City appreciates the commenter's participation in the Project CEQA review process.

Lorena Mejia

From: Kendra Reif <kendrareif@icloud.com>
Sent: Thursday, March 16, 2023 3:12 PM
To: Lorena Mejia

Good Morning Ms. Mejia,

My name is Kendra Reif and I am a resident that owns a home within the Rich-Haven Specific Plan area. I was interested in learning more about the amendment to the SP. Can you please highlight the majors differences between the existing SP and the new one. Do you know who would be developing the additional housing units, commercial spaces, and warehouse? Have they identified end uses for the commercial and industrial spaces? KR-1

Thank you so much,

Kendra Reif
(760) 831-4053

Sent from my iPhone

Kendra Reif
Address Not Provided

Email Dated March 16, 2023

Comment KR-1

My name is Kendra Reif and I am a resident that owns a home within the Rich-Haven Specific Plan area. I was interested in learning more about the amendment to the SP. Can you please highlight the majors differences between the existing SP and the new one. Do you know who would be developing the additional housing units, commercial spaces, and warehouse? Have they identified end uses for the commercial and industrial spaces?

Response KR-1

Commenter residency and location relative to the Project site are recognized.

The commenter's statements have been forwarded to the decision-makers for their consideration. The commenter does not express specific concerns regarding the EIR. Findings and conclusions of the EIR are not affected. No revisions to the EIR are proposed or required. The City appreciates the commenter's participation in the Project CEQA review process.

4.0 MITIGATION MONITORING PROGRAM

4.0 MITIGATION MONITORING PROGRAM

4.1 INTRODUCTION

To ensure that the mitigation measures contained in this EIR are properly implemented, a mitigation monitoring program has been developed pursuant to state law. This Mitigation Monitoring Program (MMP) identifies measures incorporated in the Project which reduce its potential environmental effects; the entities responsible for implementation and monitoring of mitigation measures; and timing for implementation of mitigation measures. As described in *CEQA Guidelines* §15097, this MMP employs both reporting on, and monitoring of, Project mitigation measures.

The objectives of the MMP are to:

- Assign responsibility for, and further proper implementation of mitigation measures;
- Assign responsibility for, and provide for monitoring and reporting of compliance with mitigation measures;
- Provide the mechanism to identify areas of noncompliance and need for enforcement action before irreversible environmental damage occurs.

Mitigation monitoring and reporting procedures incorporated in the Project are presented in the following Section 4.2. Specific mitigation measures incorporated in the Project, mitigation timing, and implementation and reporting/monitoring responsibilities are presented within this Section in Table 4.2-1.

4.2 MITIGATION MONITORING AND REPORTING

Mitigation Monitoring and Responsibilities

As the Lead Agency, the City of Ontario is responsible for ensuring full compliance with the mitigation measures adopted for the Project. The City shall monitor and report on all mitigation activities. Mitigation measures shall be implemented at different stages of development throughout the Project area. In this regard, the responsibilities for implementation have been assigned to the Lead and Responsible Agencies, Applicant or successor(s) in interest, Contractors, On-Site Monitors, or combinations thereof.

If during the course of Project implementation, any of the mitigation measures identified herein cannot be successfully implemented, the City shall be immediately informed, and the City shall then inform any affected responsible agencies. The City, in conjunction with any affected responsible agencies, shall then determine if modification to the Project is required and/or whether alternative mitigation is appropriate.

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
4.3 Air Quality					
4.3.1	*Fugitive dust control measures surpassing SCAQMD Rule 403 minimum requirements shall be implemented. Such measures may include: use of nontoxic soil stabilizers, applying water every four hours to active soil disturbing activities and tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.*	Fugitive dust control measures shall be implemented for the duration of site disturbing activities. This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario Building Department.	
4.3.2	*Construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or higher exhaust emission limits shall be utilized.*	Use of Tier 3 equipment shall be required for the duration of construction activities. This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario Building Department.	
4.3.3	*Construction equipment shall be properly serviced and maintained to the manufacturer's standards.*	Construction equipment shall be properly serviced and maintained for the duration of construction activities. This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario Building Department.	
4.3.4	*Non-essential idling of construction equipment shall be limited to no more than five consecutive minutes.*	Equipment idling restrictions shall be in force for the duration of construction activities. This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario Building Department.	
4.3.5	*Super-Compliant VOC paints for coating of architectural surfaces shall be used whenever possible.*	Build plan language specifying required use of "Super-Compliant" low VOC paints shall be verified by the City prior to issuance of building permit(s).	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
4.3.6	*Construction contractors shall use off-road diesel construction equipment that complies with EPA/CARB Tier 4 Interim or better emissions standards during all construction phases.*	Language specifying required use of Tier 4 construction equipment or better shall be verified by the City prior to issuance of development permit(s). Demonstrated ability to supply the Tier 4 construction equipment shall be provided by contractors/developers prior to issuance of development permit(s). At the time of mobilization of each applicable unit of equipment, and throughout construction activities, a copy of each unit's certified tier specification or model year specification and CARB or South Coast AQMD operating permit (if applicable) shall be made available by contractor(s)/developer(s) upon request by the City. Throughout construction activities, contractor(s)/developer(s) shall report to the City documenting Tier 4 equipment compliance. This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	
4.3.7	*Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable CARB anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five (5) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, the City shall conduct a site inspection to ensure that the signs are in place.*	Implemented signs per this measure shall be verified by the City prior to the issuance of Certificate(s) of Occupancy for non-residential use(s).	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
4.3.8	*Industrial building occupants/tenants shall be provided documentation on funding opportunities, such as the Carl Moyer Program, that provide incentives for using cleaner-than-required engines and equipment.*	Inclusion of language notifying non-residential tenants of *Carl Moyer Program* availability shall be verified by the City prior to issuance of Business License(s).	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	
4.3.9	*Non-residential building plans and site designs shall include natural light, passive heating, and passive cooling measures. Typical measures would include efficient window designs, awnings, overhangs, and skylights.*	Inclusion of natural light, passive heating, and passive cooling measures in site plans and building plans shall be verified by the City prior to final site plan approval(s), and issuance of building permit(s) as applicable.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	
4.3.10	*Building and site plans for non-residential uses shall provide electrical service accessible to landscaped areas.*	Inclusion of accessible electrical service and outlets in site plans and building plans shall be verified by the City prior to final site plan approval(s), and issuance of building permit(s) as applicable.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	
4.3.11	*The following or similar language shall be included in lease/sale agreements for all non-residential buildings: "Building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements."*	Inclusion of language specifying required use of electrical landscape equipment shall be verified by the City prior to issuance of Business License(s) for non-residential uses. Verification of this measure's operational implementation is subject to periodic City inspection.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	
4.3.12	*The following or similar language shall be included in lease/sale agreements for all industrial buildings: "Tenants shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment, through requirements in the lease agreements. Electric-powered service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically or natural gas fueled provided such yard trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles."*	Inclusion of language per this measure shall be verified by the City prior to issuance of Business License(s) for industrial uses. This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
4.3.13	*The following or similar language shall be included in lease/sale agreements for all industrial buildings: "Tenants that do not already operate 2010 and newer trucks shall apply in good faith for funding to replace/retrofit their trucks. Funding mechanisms include Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible." Note: This measure shall not apply to trucks that are not owned or otherwise controlled by the facility owner or facility tenant.*	Inclusion of language per this measure shall be verified by the City prior to issuance of Business License(s) for industrial uses. This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	
4.3.14	*The following or similar language shall be included in lease/sale agreements for all industrial buildings: "Tenants who employ 250 or more employees on a full- or part-time basis shall comply with SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Tenants with less than 250 employees or tenants with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to Rule 2202 with annual reporting of actions and results to the City. The tenant-implemented program would include, but not be limited to the following:* • *Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees.* • *Create and maintain a "commuter club" to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work.* • *Inform employees of public transit and commuting services available to them (e.g., social media, signage).* • *Provide on-site transit pass sales and discounted transit passes.* • *Guarantee a ride home.* • *Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted.*	Inclusion of language per this measure shall be verified by the City prior to issuance of Business License(s) for industrial uses. This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
4.3.15	*Loading docks shall be designed to be compatible with SmartWay trucks.*	Design of loading docks per this measure shall be verified by the City prior to final site plan approval(s), and issuance of building permit(s).	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	
4.3.16	*Non-residential use site plans shall include signs or other directional indicators delineating required site access and on-site circulation plan.*	Inclusion of signs or other directional indicators delineating required site access and on-site circulation shall be verified by the City prior to final site plan approval(s) for non-residential uses.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	
4.3.17	*The following or similar language shall be included in lease/sale agreements for all non-residential buildings: Tenants shall install (a) sign(s) on their respective property(ies) with telephone, email, and regular mail contact information for a designated tenant representative (representative) who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the City for perceived Code violations. The representative shall keep records of any complaints received and actions taken to communicate with the complainant and resolve the complaint. The representative shall endeavor to resolve complaints within 24 hours.*	Inclusion of language per this measure shall be verified by the City prior to issuance of Business License(s) for non-residential uses. This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	
4.3.18	*Industrial building designs and site plans shall incorporate electrical supply lines and panels sized to support anticipated future requirements for heavy truck charging facilities. Such designs and plans shall be based on reasonable predictions derived from the most recent available truck manufacturer's data.*	Inclusion of electrical supply lines and panels per this measure for industrial uses shall be verified by the City prior to final site plan approval(s), and issuance of building permit(s).	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department and Planning Department.	
4.4 Greenhouse Gas Emissions					
4.4.1	*Development proposals within the Specific Plan Area shall implement Screening Table Measures to achieve a minimum of 100 points per the City's 2022 CCAP Update Screening Tables. The City shall verify minimum 100-point attainment prior to issuance of site plans and building permits.*	Verification of CAP Screening Table Measures achieving the CAP 100-point performance standard shall be verified prior to the issuance of building permit(s) and/or site plans (as applicable). Implemented Screening Table Measures	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
		shall be verified prior to issuance of Certificate(s) of Occupancy.			
4.6 Noise					
4.6.1	*Prior to Grading Permit issuance, the Applicant shall demonstrate that the Project complies with the following:* • *All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers, to the satisfaction of the Noise Control Officer;* • *During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers to the satisfaction of the City Planner; and* • *During construction and to the satisfaction of the City Planner, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors during construction activities.*	Contractor(s) shall designate a Noise Control Officer. The Noise Control Officer(s) shall ensure compliance with the City Noise Ordinance, shall respond to any citizen noise complaints, and shall ensure implementation of the EIR noise impact mitigation measures. On-going verification of noise impact mitigation measure implementation throughout Project development. Noise officers shall respond to citizen noise complaints within 24 hours and shall coordinate response(s) to complaints with the City.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department.	
4.6.2	*Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of 10 p.m. and 7 a.m. is prohibited. The City Planner may approve additional hours when it can be found that such additional hours will not generate additional disturbance, or that mitigation measures will ensure compatibility with nearby residential areas.*	On-going verification of noise impact mitigation measure implementation throughout Project development. Noise officers shall respond to citizen noise complaints within 24 hours and shall coordinate response(s) to complaints with the City.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department.	
4.6.3	*Prior to the construction of residential development along Riverside Drive, Haven Avenue, Mill Creek Avenue, Edison Avenue, and Milliken Avenue, an acoustical noise analysis shall be prepared prior to the submittal of final tentative tract maps to ensure that exterior and interior noise levels are met. The acoustical analysis shall demonstrate that the buildings have been designed to limit interior noise levels to 45 dBA CNEL and exterior noise (backyards and habitable balconies and patios) to less than 65 dBA CNEL. Individual*	The required acoustical analyses shall be reviewed and approved by the City prior to approval of final tract maps for residential development along Riverside Drive, Haven Avenue, Mill Creek Avenue, Edison Avenue, and Milliken Avenue.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
	developments shall, to the extent feasible, implement site-planning techniques.				
4.6.4	*Prior to final development plan approval, on a project-by-project basis and at the discretion of the Ontario Planning Department, subsequent noise studies shall be prepared, which demonstrate site placement of stationary noise sources would not result in noise exceeding criteria established in the City of Ontario Municipal Code. The analysis shall verify that loading dock facilities, rooftop equipment, trash compactors and other stationary noise sources are adequately shielded and/or located at an adequate distance from residential areas in order to comply with the City's noise standards.*	Any required noise studies shall be reviewed and approved by the City prior to final site plan approval(s) for the development(s) under consideration. Noise studies shall ensure that noise levels received do not exceed levels considered and addressed in the EIR.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	
4.6.5	*Prior to Building Permit issuance and to the satisfaction of the Ontario Planning Department, the Project Applicants, on a project-by-project basis, shall demonstrate compliance with the following with respect to mechanical equipment:* • *Mechanical equipment shall include specifications of quiet equipment;* • *Mechanical equipment shall be properly selected and installed, and shall include sound attenuation packages;* • *To the extent possible, mechanical equipment shall be oriented away from the nearest noise sensitive receptors; and* • *The need for sound attenuation measures, and design of, such measures shall be determined as part of the final engineering design on a project-by-project basis.*	Mechanical equipment compliance requirements per this measure shall be verified prior to issuance of building permit(s).	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	
4.6.6	*Where a commercial zone abuts a residential zone or residential use, the following or similar language shall be included in lease/sale agreements for all non-residential buildings: All deliveries of goods and supplies; trash pick-up, including the use of parking lot trash sweepers; and the operation of machinery or mechanical equipment which emits noise levels in excess of 65 dBA, as measured from the closest property line to the equipment, shall only be allowed between the hours of 7 a.m. and 10 p.m., unless otherwise specified in an approved conditional use permit or other discretionary approval.*	Inclusion of language per this measure shall be verified by the City prior to issuance of Business License(s) for non-residential uses. This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
4.6.7	*Prior to final development plan approval, on a project-by-project basis, a subsequent noise analysis shall be prepared, to the satisfaction of the Ontario Planning Department, which demonstrates that all feasible sound attenuation has been incorporated into the parking areas (i.e., landscaping and brushed driving surfaces), such that noise from parking areas has been minimized to the greatest extent practicable.*	Any required noise studies shall be reviewed and approved by the City prior to final site plan approval(s) for the development(s) under consideration. Noise studies shall ensure that noise levels received do not exceed levels considered and addressed in the EIR.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	
4.7 Hazards/Hazardous Materials					
4.7.1	*Prior to the issuance of permits for any structural demolition activities on the Project site, the Project developer(s) shall submit documentation to the City of Ontario Building Department that asbestos and lead-based paint issues are not applicable to their property or that appropriate remediation actions have been undertaken to correct any lead-based paint or asbestos issues. Any required remediation shall conform with the regulations of the South Coast Air Quality Management District and the State of California, Division of Occupational Health and Safety.*	Required documentation per this measure shall be provided to City of Ontario Building Department prior to the issuance of permits for any structural demolition activities on the Project site. Any required remediation shall be completed prior to the issuance of building permits or as otherwise specified by the City of Ontario Building Department.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	
4.7.2	*Testing for methane gas shall be conducted subsequent to mass grading of any site within the Specific Plan Area. Methane gas testing shall conform to requirements of "City of Ontario Building Department Methane Gas Assessment for Projects in the New Model Colony."[1] Project designs shall conform to the Assessment's Methane Design Guidelines or other requirements stipulated by the City of Ontario Building Department.*	To the satisfaction of the City of Ontario Building Department, testing for methane presence shall be completed prior to issuance of building permits.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	
4.7.3	*Site grubbing, clearing, and stockpiling and disposal of soils shall conform to City grading permit requirements. Such requirements may include, but would not be limited to, identification and segregation/stockpiling or proper disposal of soils that contain elevated levels of organic material.*	This measure's operational implementation is subject to periodic City inspection and verification.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Building Department.	

[1] See:https://www.ontarioca.gov/sites/default/files/Ontario-Files/Building/general/methane_assessment.pdf.

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
4.7.4	*Prior to approval of tract maps or approval for development of any uses on the Hillardis Property (APNs 218-161-04, 218-161-05, 218-161-10, 218-161-11), the Applicant or successor interest shall complete a Phase II Environmental Site Assessment (ESA) for that property. Prior to issuance of the first development permit for the site, the Applicant or successor interest shall comply with requirements of the Phase II ESA, and shall provide documentation to the City of Ontario to that effect.*	Completion of Phase II ESA for APNs 218-161-04, 218-161-05, 218-161-10, 218-161-11 shall be verified prior to approval of tract maps or approval for development of any uses within the referenced properties.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	
4.8 Hydrology and Water Quality					
4.8.1	*General: In conjunction with all development proposals within the Specific Plan Area, peak flow mitigation measures for each development shall be implemented such that discharges to receiving MPD storm drain mainlines do not exceed the maximum allowable flow rates identified at Project Hydrology Report, Appendix A, Exhibit 3. Ultimate design, location, and configuration of peak flow mitigation measures are site-and use-specific. Design, location, and configuration of peak flow mitigation measures shall be approved by the City as part of site plan review and approval processes.*	Hydrologic analyses shall be prepared for individual developments within the Specific Plan Area. Hydrologic analyses shall be reviewed and approved by the City prior to the issuance of development permits. Hydrologic analyses shall substantiate that discharges to receiving MPD storm drain mainlines do not exceed the maximum allowable flow rates identified at Project Hydrology Report, Appendix A, Exhibit 3.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	
4.8.2	*Haven Storm Drain Mitigation: Measures (e.g., detention basins or similar) to control peak flows to the Haven Storm Drain shall be implemented to address increased stormwater discharges resulting from development of Planning Areas 1A, 1B, 1C, 2C, and 3C. Please refer to Figure 4.8-5. Locations for these measures shall be reviewed and approved by the City prior to final site plan approval(s) for development within Planning Areas 1A, 1B, 1C, 2C, and 3C.*	Haven Storm Drain Mitigation per this measure shall be implemented prior to issuance of issuance of a Certificate of Occupancy within any of the following *Planning Areas: 1A, 1B, 1C, 2C, or 3C.*	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	
4.8.3	*Mill Creek Storm Drain Mitigation: Peak flow mitigation measures shall be implemented for stormwater discharges resulting from development of Planning Areas 2C, 3C, 5A, 6A, and 6B. Please refer to Figure 4.8-5. Locations for these measures shall be reviewed and approved by the City prior to final site plan approval(s) for development within Planning Areas 2C, 3C, 5A, 6A, and 6B.*	Mill Creek Storm Drain Mitigation per this measure shall be implemented prior to issuance of issuance of a Certificate of Occupancy within any of the following *Planning Areas: 2C, 3C, 5A, 6A, or 6B.*	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	

Table 4.2-1: Mitigation Monitoring Program

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Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
4.9 Geology and Soils					
4.9.1	*All proposed development within the Specific Plan Area shall, at a minimum, comply with recommendations and standards identified in the Preliminary Geotechnical Report at Section 4.0, Recommendations. If further recommendations are developed as part of future site- and design-specific geotechnical investigations they shall prevail.*	Compliance with the Geotechnical Report Recommendations shall be verified prior to issuance of grading permits/building permits as applicable. Implemented Geotechnical Study Recommendations shall be verified prior to Final Grading Certification, issuance of Certificate(s) of Occupancy as applicable.	Applicant or successor(s) in interest, contractor(s), developer(s).	City of Ontario: Planning Department, Building Department.	
4.10 Biological Resources					
4.10.1	*Avoidance of Nesting Migratory Birds: If possible, all vegetation removal activities shall be scheduled from August 1 to February 1, which is outside the general avian nesting season. This would ensure that no active nests would be disturbed and that removal could proceed rapidly. If vegetation is to be cleared during the nesting season, all suitable habitat will be thoroughly surveyed within 72 hours prior to clearing for the presence of nesting birds by a qualified biologist (Project Biologist). The Project Biologist shall be approved by the City and retained by the Applicant. The survey results shall be submitted by the Project Applicant to the City Planning Department. If any active nests are detected, the area shall be flagged and mapped on the construction plans along with a minimum 300-foot buffer, with the final buffer distance to be determined by the Project Biologist. The buffer area shall be avoided until, as determined by the Project Biologist, the nesting cycle is complete or it is concluded that the nest has failed. In addition, the Project Biologist shall be present on the site to monitor the vegetation removal to ensure that any nests, which were not detected during the initial survey, are not disturbed.*	Prior to issuance of the first grading permit; on-going monitoring of this measure during ground disturbing activities.	Applicant or successor(s) in interest, contractor(s), developer(s), Project Biologist.	City of Ontario: Planning Department, Building Department, Project Biologist.	
4.10.2	*Avoidance of Nesting Burrowing Owls: No more than 72 hours prior to any site disturbances, focused surveys for the burrowing owl shall be conducted. If absence of this species is confirmed, Project work can proceed. If, however, burrowing owl is located on site, the appropriate resource agencies (CDFW and USFWS) shall be contacted. The*	Pre-construction presence/absence surveys for burrowing owls shall be completed within 72 hours prior to site disturbing activities. The surveys shall be submitted	Applicant or successor(s) in interest, contractor(s), developer(s), Project Biologist.	City of Ontario: Planning Department, Building Department, Project Biologist.	

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
	Project Applicant shall consult with the wildlife agencies regarding the most appropriate methods and timing for removal of owls. As necessary, owls will be actively evicted following agency approved protocols (i.e., placing a one-way door at the burrow entrance to ensure that owls cannot access the burrow once they leave). Any such active eviction shall occur outside of the breeding/nesting season. That is, active eviction shall be accomplished between September 1 and February 15. If more than 30 days has elapsed between owl eviction and completion of clearing and grubbing activities, a subsequent survey for the burrowing owl shall be conducted to ensure that owls have not re-populated the site. Any reoccupation by owls will require subsequent protocol active eviction.	to, and reviewed and approved by the City prior to site disturbing activities. Burrowing owl mitigation (if any required) shall be on-going throughout site disturbing activities.			
4.11 Cultural Resources					
	~~*4.11.1 Prior to the issuance of (a) grading permit(s) for development proposal(s) within the Specific Plan Area, the Applicant or successor(s) in interest shall provide a letter to the City of Ontario Building Department, or designee, from a qualified professional archeologist meeting the Secretary of Interior's Professional Qualifications for Archaeology as defined at 36 CFR Part 61, Appendix A stating that the archeologist has been retained to provide on call services in the event archeological resources are discovered. The archeologist shall be present at the pre grading conference to establish procedures for archeological resource surveillance. In the event a previously unrecorded archaeological deposit is encountered during construction, all activity within 50 feet of the area of discovery shall cease and the City shall be immediately notified. The archeologist shall be contacted to flag the area in the field and determine if the archaeological deposits meet the CEQA definition of historical (State CEQA Guidelines 15064.5(a)), unique archaeological resource (Public Resources Code 21083.2(g)), or Tribal Cultural Resource (Public Resources Code 21074 (a)). If the find is considered a "resource" the archaeologist shall pursue either protection in place or recovery, salvage and treatment of the deposits. A qualified archaeologist and a Native American Monitor of Gabrieleño Ancestry shall evaluate all archaeological resources*~~	**See below for revised Mitigation Measures, as presented in Section 2.**			

Table 4.2-1: Mitigation Monitoring Program

General Note: *To facilitate coordination and effective implementation of mitigation measures, the mitigation measures provided herein shall appear on all grading plans, construction specifications, and bid documents. Incorporation of required notations shall be verified by the City prior to issuance of first development permit. Implementation Entities shall comply with listed mitigation requirements.*

Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
	~~*unearthed by Project construction activities. If the resources are Native American in origin, they shall have the opportunity to consult with the City and/or Project developer on appropriate treatment and curation of these resources. If unique archaeological resources, or Tribal Cultural Resources cannot be preserved in place or left in an undisturbed state, recovery, salvage and treatment shall be required at the Applicant or successor(s) in interest's expense. Recovery, salvage and treatment protocols shall be developed in accordance with applicable provisions of Public Resource Code Section 21083.2 and State CEQA Guidelines 15064.5 and 15126.4. All recovered and salvaged resources shall be prepared to the point of identification and permanent preservation by the archaeologist. Resources shall be identified and curated into an established accredited professional repository. The archaeologist shall have a repository agreement in hand prior to initiating recovery of the resource. Excavation as a treatment option shall be restricted to those parts of the unique archaeological resource, or Tribal Cultural Resource that would be damaged or destroyed by the Project.*~~ ~~*4.11.2 Project developer(s) shall retain a Native American Monitor of Gabrieleño Ancestry (Native American Monitor) that was consulted on this Project pursuant to Assembly Bill AB52 - SB18 to conduct a Native American Indian Sensitivity Training for construction personnel prior to commencement of any excavation activities. The training session shall include a handout and focus on how to identify Native American resources encountered during earthmoving activities and the procedures followed if resources are discovered, the duties of the Native American Monitor of Gabrieleño Ancestry and the general steps the Monitor would follow in conducting a salvage investigation.*~~ ~~*4.11.3 Project developer(s) shall retain a Native American Monitor of Gabrieleño Ancestry that was consulted on this Project pursuant to Assembly Bill AB52 - SB18 to be on site during all Project related, ground disturbing construction activities Such activities include: pavement removal, auguring, boring, grading,*~~				

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Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
	~~*excavation, potholing, trenching, and/or grubbing of previously undisturbed native soils to a maximum depth of 30 feet below ground surface. A copy of the executed consultant contract shall be submitted to the City of Ontario Planning Department prior to the issuance of any grading permit (any ground disturbing activity). At their discretion, a Native American Monitor of Gabrieleño Ancestry can be present during the removal of dairy manure to native soil, but not at developer expense.*~~ ~~*4.11.4 A qualified archaeologist and a Native American Monitor of Gabrieleño Ancestry that was consulted on this Project pursuant to Assembly Bill A52 SB18 shall evaluate all archaeological resources unearthed by Project construction activities. If the resources are Native American in origin, the Tribe shall coordinate with the developer regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. If archeological features are discovered, the archeologist shall report such findings to the Ontario Planning Director. If the archeological resources are found to be significant, the archeologist shall determine the appropriate actions, in cooperation with the City that shall be taken for exploration and/or salvage in compliance with CEQA Guidelines Section 15064.5(f).*~~ ~~*4.11.5 Prior to the start of ground disturbing activities, developer(s) shall arrange a designated site location within the footprint of the Project for the respectful reburial of Tribal human remains and/or ceremonial objects. All human skeletal material discoveries shall be reported immediately to the County Coroner. The Native American Monitor shall immediately divert work a minimum of 50 feet from the discovery site and place an exclusion zone around the burial.*~~ ~~*4.11.6 If encountering human skeletal materials, the Native American Monitor shall notify the construction manager who shall contact the San Bernardino County Coroner. All construction activity shall be diverted while the San Bernardino County Coroner*~~				

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Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
	~~*determines if the remains are Native American. The discovery shall be confidential and secure to prevent further disturbance. If Native American, the San Bernardino County Coroner shall notify the Native American Heritage Commission (NAHC) as mandated by state law who will then appoint a Most Likely Descendant. In the case where discovered human remains cannot be documented and recovered on the same day, the remains shall be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24 hour guard shall be posted outside working hours. The Tribe shall make every effort to recommend diverting the Project and keep the remains in situ and protected. If the Project cannot be diverted, it may be determined that burials will be removed. If data recovery is approved by the Tribe, documentation shall be taken which includes, at a minimum, detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or means necessary to ensure complete recovery of all material. If the discovery of human remains includes four (4) or more burials, the location is considered a cemetery and a separate treatment plan shall be created. The Project developer shall consult with the Tribe regarding avoidance of all cemetery sites. Once complete, a final report of all activities shall be submitted to the NAHC.*~~ ~~*4.11.7 There shall be no Scientific study or the utilization of any invasive diagnostics on any Native American human remains.*~~ ~~*4.11.8 If the San Bernardino County Coroner determines the remains represent a historic non-Native American burial, the burial shall be treated in the same manner of respect with agreement of the San Bernardino County Coroner. Reburial will be in an appropriate setting. If the San Bernardino County Coroner determines the remains to be modern, the San Bernardino County Coroner shall take custody of the remains.*~~				

Table 4.2-1: Mitigation Monitoring Program

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Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
	~~*4.11.9 As directed by the Project Archaeologist in consultation with the Native American Monitor, each occurrence of human remains and associated funerary objects shall be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony shall be removed to a secure container on site if possible. These items shall be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the Project site, but at a location agreed upon between the Tribe and developer(s) and protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.*~~				
4.11.1	***Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities:*** ***A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.*** [2] ***B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.*** [3] ***C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed,***	Retainment of Native American Monitor shall be verified prior to the issuance of the first grading permit. Mitigation for potential impacts to archaeological, historical, and tribal cultural resources per this measure shall be on-going for the duration of site disturbing activities.	Applicant or successor(s) in interest, contractor(s), developer(s), Native American Monitor.	City of Ontario: Planning Department, Building Department.	

[2] Tribal monitoring shall cease once all ground disturbance activities have been completed with respect to the property or portion thereof. Example: Once excavation, grading, trenching, etc. have occurred tribal monitoring shall cease. [3] The extent of necessary personnel and hourly wage shall be subject to commercially reasonable standards. If there is a dispute as to scope of the necessary labor needs or wage rates, the City may arbitrate any such disputes in accordance with commercially reasonable standards.

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Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
	locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe. ***D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.*** ***E. Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.***				
4.11.2	***Unanticipated Discovery of Human Remains and Associated Funerary Objects:*** ***A. Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code***	Mitigation for potential impacts to tribal cultural resources per this measure shall be on-going for the duration of site disturbing activities.	Applicant or successor(s) in interest, contractor(s), developer(s), Native American Monitor.	City of Ontario: Planning Department, Building Department.	

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Section / MM No.	Mitigation Measure	Mitigation Timing/Remarks	Implementation Entity	Monitoring/ Reporting Entity	Date of Completion/ Initials
	Section 5097.98, are also to be treated according to this statute. ***B. If Native American human remains and/or grave goods discovered or recognized on the project site, then all construction activities shall immediately cease. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.*** ***C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).*** ***D. Construction activities may resume in other parts of the project site at a minimum of 200 feet away from discovered human remains and/or burial goods, if the Kizh determines in its sole discretion that resuming construction activities at that distance is acceptable and provides the project manager express consent of that determination (along with any other mitigation measures the Kizh monitor and/or archaeologist deems necessary). (CEQA Guidelines Section 15064.5(f).)*** ***E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods. Any historic archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.***				

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	F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.				
4.11.3	***Procedures for Burials and Funerary Remains:*** ***A. As the Most Likely Descendant ("MLD"), the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains.*** ***B. If the discovery of human remains includes four or more burials, the discovery location shall be treated as a cemetery and a separate treatment plan shall be created.*** ***C. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects. Cremations will either be removed in bulk or by means as necessary to ensure complete recovery of all sacred materials.*** ***D. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed.*** ***E. In the event preservation in place is not possible despite good faith efforts by the project applicant/developer and/or***	Mitigation for potential impacts to tribal cultural resources per this measure shall be on-going for the duration of site disturbing activities.	Applicant or successor(s) in interest, contractor(s), developer(s), Native American Monitor.	City of Ontario: Planning Department, Building Department.	

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	landowner, before ground-disturbing activities may resume on the project site, the landowner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects. ***F. Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.*** ***G. The Tribe will work closely with the project's qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be prepared and shall include (at a minimum) detailed descriptive notes and sketches. All data recovery data recovery-related forms of documentation shall be approved in advance by the Tribe. If any data recovery is performed, once complete, a final report shall be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.***				

ATTACHMENT A

Original HRA Modeling (dated 10/19/22)

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** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/19/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\14822 Construction HRA\14822
Construction HRA.ADI
**
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**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "14822 Construction HRA.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
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   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** ------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.0021654378
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 5
** 448415.406, 3762409.748, 225.24, 3.49, 6.51
** 448659.241, 3762398.494, 224.01, 3.49, 6.51
** 448751.148, 3762400.370, 222.22, 3.49, 6.51
** 448929.335, 3762451.012, 223.01, 3.49, 6.51
** 449315.720, 3762593.562, 224.31, 3.49, 6.51
** ------------------------------------------------------------------
   LOCATION L0000001     VOLUME   448422.398 3762409.425 225.28
   LOCATION L0000002     VOLUME   448436.383 3762408.780 225.27
   LOCATION L0000003     VOLUME   448450.368 3762408.134 225.27
   LOCATION L0000004     VOLUME   448464.354 3762407.489 225.26
   LOCATION L0000005     VOLUME   448478.339 3762406.843 225.25
   LOCATION L0000006     VOLUME   448492.324 3762406.198 225.25
   LOCATION L0000007     VOLUME   448506.309 3762405.552 225.24
   LOCATION L0000008     VOLUME   448520.294 3762404.907 225.23
   LOCATION L0000009     VOLUME   448534.279 3762404.262 225.23
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   LOCATION L0000010     VOLUME   448548.264 3762403.616 225.22
   LOCATION L0000011     VOLUME   448562.249 3762402.971 225.21
   LOCATION L0000012     VOLUME   448576.234 3762402.325 225.27
   LOCATION L0000013     VOLUME   448590.220 3762401.680 225.38
   LOCATION L0000014     VOLUME   448604.205 3762401.034 225.39
   LOCATION L0000015     VOLUME   448618.190 3762400.389 225.20
   LOCATION L0000016     VOLUME   448632.175 3762399.743 224.95
   LOCATION L0000017     VOLUME   448646.160 3762399.098 224.43
   LOCATION L0000018     VOLUME   448660.146 3762398.513 223.93
   LOCATION L0000019     VOLUME   448674.143 3762398.798 223.50
   LOCATION L0000020     VOLUME   448688.140 3762399.084 223.08
   LOCATION L0000021     VOLUME   448702.137 3762399.370 222.76
   LOCATION L0000022     VOLUME   448716.134 3762399.655 222.44
   LOCATION L0000023     VOLUME   448730.131 3762399.941 222.31
   LOCATION L0000024     VOLUME   448744.128 3762400.226 222.23
   LOCATION L0000025     VOLUME   448757.861 3762402.278 222.28
   LOCATION L0000026     VOLUME   448771.328 3762406.105 222.42
   LOCATION L0000027     VOLUME   448784.794 3762409.932 222.56
   LOCATION L0000028     VOLUME   448798.261 3762413.760 222.74
   LOCATION L0000029     VOLUME   448811.728 3762417.587 222.90
   LOCATION L0000030     VOLUME   448825.194 3762421.415 222.80
   LOCATION L0000031     VOLUME   448838.661 3762425.242 222.70
   LOCATION L0000032     VOLUME   448852.128 3762429.069 222.70
   LOCATION L0000033     VOLUME   448865.594 3762432.897 222.74
   LOCATION L0000034     VOLUME   448879.061 3762436.724 222.81
   LOCATION L0000035     VOLUME   448892.528 3762440.551 222.85
   LOCATION L0000036     VOLUME   448905.994 3762444.379 222.89
   LOCATION L0000037     VOLUME   448919.461 3762448.206 222.93
   LOCATION L0000038     VOLUME   448932.839 3762452.305 222.99
   LOCATION L0000039     VOLUME   448945.974 3762457.151 223.14
   LOCATION L0000040     VOLUME   448959.108 3762461.997 223.33
   LOCATION L0000041     VOLUME   448972.243 3762466.843 223.42
   LOCATION L0000042     VOLUME   448985.378 3762471.688 223.47
   LOCATION L0000043     VOLUME   448998.512 3762476.534 223.52
   LOCATION L0000044     VOLUME   449011.647 3762481.380 223.57
   LOCATION L0000045     VOLUME   449024.782 3762486.226 223.67
   LOCATION L0000046     VOLUME   449037.916 3762491.071 223.86
   LOCATION L0000047     VOLUME   449051.051 3762495.917 224.02
   LOCATION L0000048     VOLUME   449064.185 3762500.763 224.07
   LOCATION L0000049     VOLUME   449077.320 3762505.609 224.12
   LOCATION L0000050     VOLUME   449090.455 3762510.455 224.17
   LOCATION L0000051     VOLUME   449103.589 3762515.300 224.22
   LOCATION L0000052     VOLUME   449116.724 3762520.146 224.27
   LOCATION L0000053     VOLUME   449129.859 3762524.992 224.32
   LOCATION L0000054     VOLUME   449142.993 3762529.838 224.37
   LOCATION L0000055     VOLUME   449156.128 3762534.684 224.42
   LOCATION L0000056     VOLUME   449169.262 3762539.529 224.47
   LOCATION L0000057     VOLUME   449182.397 3762544.375 224.46
   LOCATION L0000058     VOLUME   449195.532 3762549.221 224.50
   LOCATION L0000059     VOLUME   449208.666 3762554.067 224.51
   LOCATION L0000060     VOLUME   449221.801 3762558.912 224.46
   LOCATION L0000061     VOLUME   449234.936 3762563.758 224.47
   LOCATION L0000062     VOLUME   449248.070 3762568.604 224.51
   LOCATION L0000063     VOLUME   449261.205 3762573.450 224.49
   LOCATION L0000064     VOLUME   449274.339 3762578.296 224.40
   LOCATION L0000065     VOLUME   449287.474 3762583.141 224.32
   LOCATION L0000066     VOLUME   449300.609 3762587.987 224.36
   LOCATION L0000067     VOLUME   449313.743 3762592.833 224.41
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
   SRCPARAM VOL1         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL2         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL3         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL4         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL5         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL6         0.0001378005     5.000    44.302     1.400
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   SRCPARAM VOL7         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL8         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL9         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL10        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL11        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL12        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL13        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL14        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL15        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL16        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL17        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL18        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL19        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL20        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL21        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL22        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL23        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL24        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL25        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL26        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL27        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL28        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL29        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL30        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL31        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL32        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL33        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL34        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL35        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL36        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL37        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL38        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL39        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL40        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL41        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL42        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL43        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL44        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL45        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL46        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL47        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL48        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL49        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL50        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL51        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL52        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL53        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL54        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL55        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL56        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL57        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL58        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL59        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL60        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL61        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL62        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL63        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL64        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL65        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL66        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL67        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL68        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL69        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL70        0.0001378005     5.000    44.302     1.400
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001     0.00003232      3.49      6.51      3.25
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SRCPARAM L0000002     0.00003232      3.49      6.51      3.25
SRCPARAM L0000003     0.00003232      3.49      6.51      3.25
SRCPARAM L0000004     0.00003232      3.49      6.51      3.25
SRCPARAM L0000005     0.00003232      3.49      6.51      3.25
SRCPARAM L0000006     0.00003232      3.49      6.51      3.25
SRCPARAM L0000007     0.00003232      3.49      6.51      3.25
SRCPARAM L0000008     0.00003232      3.49      6.51      3.25
SRCPARAM L0000009     0.00003232      3.49      6.51      3.25
SRCPARAM L0000010     0.00003232      3.49      6.51      3.25
SRCPARAM L0000011     0.00003232      3.49      6.51      3.25
SRCPARAM L0000012     0.00003232      3.49      6.51      3.25
SRCPARAM L0000013     0.00003232      3.49      6.51      3.25
SRCPARAM L0000014     0.00003232      3.49      6.51      3.25
SRCPARAM L0000015     0.00003232      3.49      6.51      3.25
SRCPARAM L0000016     0.00003232      3.49      6.51      3.25
SRCPARAM L0000017     0.00003232      3.49      6.51      3.25
SRCPARAM L0000018     0.00003232      3.49      6.51      3.25
SRCPARAM L0000019     0.00003232      3.49      6.51      3.25
SRCPARAM L0000020     0.00003232      3.49      6.51      3.25
SRCPARAM L0000021     0.00003232      3.49      6.51      3.25
SRCPARAM L0000022     0.00003232      3.49      6.51      3.25
SRCPARAM L0000023     0.00003232      3.49      6.51      3.25
SRCPARAM L0000024     0.00003232      3.49      6.51      3.25
SRCPARAM L0000025     0.00003232      3.49      6.51      3.25
SRCPARAM L0000026     0.00003232      3.49      6.51      3.25
SRCPARAM L0000027     0.00003232      3.49      6.51      3.25
SRCPARAM L0000028     0.00003232      3.49      6.51      3.25
SRCPARAM L0000029     0.00003232      3.49      6.51      3.25
SRCPARAM L0000030     0.00003232      3.49      6.51      3.25
SRCPARAM L0000031     0.00003232      3.49      6.51      3.25
SRCPARAM L0000032     0.00003232      3.49      6.51      3.25
SRCPARAM L0000033     0.00003232      3.49      6.51      3.25
SRCPARAM L0000034     0.00003232      3.49      6.51      3.25
SRCPARAM L0000035     0.00003232      3.49      6.51      3.25
SRCPARAM L0000036     0.00003232      3.49      6.51      3.25
SRCPARAM L0000037     0.00003232      3.49      6.51      3.25
SRCPARAM L0000038     0.00003232      3.49      6.51      3.25
SRCPARAM L0000039     0.00003232      3.49      6.51      3.25
SRCPARAM L0000040     0.00003232      3.49      6.51      3.25
SRCPARAM L0000041     0.00003232      3.49      6.51      3.25
SRCPARAM L0000042     0.00003232      3.49      6.51      3.25
SRCPARAM L0000043     0.00003232      3.49      6.51      3.25
SRCPARAM L0000044     0.00003232      3.49      6.51      3.25
SRCPARAM L0000045     0.00003232      3.49      6.51      3.25
SRCPARAM L0000046     0.00003232      3.49      6.51      3.25
SRCPARAM L0000047     0.00003232      3.49      6.51      3.25
SRCPARAM L0000048     0.00003232      3.49      6.51      3.25
SRCPARAM L0000049     0.00003232      3.49      6.51      3.25
SRCPARAM L0000050     0.00003232      3.49      6.51      3.25
SRCPARAM L0000051     0.00003232      3.49      6.51      3.25
SRCPARAM L0000052     0.00003232      3.49      6.51      3.25
SRCPARAM L0000053     0.00003232      3.49      6.51      3.25
SRCPARAM L0000054     0.00003232      3.49      6.51      3.25
SRCPARAM L0000055     0.00003232      3.49      6.51      3.25
SRCPARAM L0000056     0.00003232      3.49      6.51      3.25
SRCPARAM L0000057     0.00003232      3.49      6.51      3.25
SRCPARAM L0000058     0.00003232      3.49      6.51      3.25
SRCPARAM L0000059     0.00003232      3.49      6.51      3.25
SRCPARAM L0000060     0.00003232      3.49      6.51      3.25
SRCPARAM L0000061     0.00003232      3.49      6.51      3.25
SRCPARAM L0000062     0.00003232      3.49      6.51      3.25
SRCPARAM L0000063     0.00003232      3.49      6.51      3.25
SRCPARAM L0000064     0.00003232      3.49      6.51      3.25
SRCPARAM L0000065     0.00003232      3.49      6.51      3.25
SRCPARAM L0000066     0.00003232      3.49      6.51      3.25
SRCPARAM L0000067     0.00003232      3.49      6.51      3.25
```

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** ----------------------------------------------------------------------
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000001     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000001     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000002     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000002     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000003     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000003     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000004     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000004     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000005     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000005     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000006     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000007     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000008     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000009     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000010     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000010     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000011     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000011     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000012     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000013     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000014     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000015     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000016     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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EMISFACT L0000017     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000018     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000019     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000020     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000021     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000022     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000023     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000024     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000025     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000026     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000027     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000027     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000027     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000027     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000028     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000029     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000029     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000029     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000029     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000030     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000030     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000030     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000030     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000031     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000031     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000031     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000031     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000032     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000032     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000032     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000032     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000033     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000033     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000033     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000033     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000034     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000034     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000034     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000034     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000035     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000035     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000035     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000035     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000036     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000036     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000036     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000036     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000037     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000037     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000037     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000037     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000038     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000038     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000038     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000038     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000050     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Construction HRA.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
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   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "14822 CONSTRUCTION HRA.AD\AN00GALL.PLT" 31
   SUMMFILE "14822 Construction HRA.sum"
OU FINISHED
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** Project Parameters
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** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
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** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/19/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\14822 Construction HRA\14822
Construction HRA.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "14822 Construction HRA.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
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** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.0021654378
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 5
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** 448659.241, 3762398.494, 224.01, 3.49, 6.51
** 448751.148, 3762400.370, 222.22, 3.49, 6.51
** 448929.335, 3762451.012, 223.01, 3.49, 6.51
** 449315.720, 3762593.562, 224.31, 3.49, 6.51
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   LOCATION L0000005     VOLUME   448478.339 3762406.843 225.25
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   LOCATION L0000007     VOLUME   448506.309 3762405.552 225.24
   LOCATION L0000008     VOLUME   448520.294 3762404.907 225.23
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   LOCATION L0000010     VOLUME   448548.264 3762403.616 225.22
   LOCATION L0000011     VOLUME   448562.249 3762402.971 225.21
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   LOCATION L0000013     VOLUME   448590.220 3762401.680 225.38
   LOCATION L0000014     VOLUME   448604.205 3762401.034 225.39
   LOCATION L0000015     VOLUME   448618.190 3762400.389 225.20
   LOCATION L0000016     VOLUME   448632.175 3762399.743 224.95
   LOCATION L0000017     VOLUME   448646.160 3762399.098 224.43
   LOCATION L0000018     VOLUME   448660.146 3762398.513 223.93
   LOCATION L0000019     VOLUME   448674.143 3762398.798 223.50
   LOCATION L0000020     VOLUME   448688.140 3762399.084 223.08
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   LOCATION L0000023     VOLUME   448730.131 3762399.941 222.31
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   LOCATION L0000025     VOLUME   448757.861 3762402.278 222.28
   LOCATION L0000026     VOLUME   448771.328 3762406.105 222.42
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   LOCATION L0000035     VOLUME   448892.528 3762440.551 222.85
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   LOCATION L0000037     VOLUME   448919.461 3762448.206 222.93
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   LOCATION L0000039     VOLUME   448945.974 3762457.151 223.14
   LOCATION L0000040     VOLUME   448959.108 3762461.997 223.33
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   LOCATION L0000043     VOLUME   448998.512 3762476.534 223.52
   LOCATION L0000044     VOLUME   449011.647 3762481.380 223.57
   LOCATION L0000045     VOLUME   449024.782 3762486.226 223.67
   LOCATION L0000046     VOLUME   449037.916 3762491.071 223.86
   LOCATION L0000047     VOLUME   449051.051 3762495.917 224.02
   LOCATION L0000048     VOLUME   449064.185 3762500.763 224.07
   LOCATION L0000049     VOLUME   449077.320 3762505.609 224.12
   LOCATION L0000050     VOLUME   449090.455 3762510.455 224.17
   LOCATION L0000051     VOLUME   449103.589 3762515.300 224.22
   LOCATION L0000052     VOLUME   449116.724 3762520.146 224.27
   LOCATION L0000053     VOLUME   449129.859 3762524.992 224.32
   LOCATION L0000054     VOLUME   449142.993 3762529.838 224.37
   LOCATION L0000055     VOLUME   449156.128 3762534.684 224.42
   LOCATION L0000056     VOLUME   449169.262 3762539.529 224.47
   LOCATION L0000057     VOLUME   449182.397 3762544.375 224.46
   LOCATION L0000058     VOLUME   449195.532 3762549.221 224.50
   LOCATION L0000059     VOLUME   449208.666 3762554.067 224.51
   LOCATION L0000060     VOLUME   449221.801 3762558.912 224.46
   LOCATION L0000061     VOLUME   449234.936 3762563.758 224.47
   LOCATION L0000062     VOLUME   449248.070 3762568.604 224.51
   LOCATION L0000063     VOLUME   449261.205 3762573.450 224.49
   LOCATION L0000064     VOLUME   449274.339 3762578.296 224.40
   LOCATION L0000065     VOLUME   449287.474 3762583.141 224.32
   LOCATION L0000066     VOLUME   449300.609 3762587.987 224.36
   LOCATION L0000067     VOLUME   449313.743 3762592.833 224.41
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
   SRCPARAM VOL1         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL2         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL3         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL4         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL5         0.0001378005     5.000    44.302     1.400
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  SRCPARAM VOL6         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL7         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL8         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL9         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL10        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL11        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL12        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL13        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL14        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL15        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL16        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL17        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL18        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL19        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL20        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL21        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL22        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL23        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL24        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL25        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL26        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL27        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL28        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL29        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL30        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL31        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL32        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL33        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL34        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL35        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL36        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL37        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL38        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL39        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL40        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL41        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL42        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL43        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL44        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL45        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL46        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL47        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL48        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL49        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL50        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL51        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL52        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL53        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL54        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL55        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL56        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL57        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL58        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL59        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL60        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL61        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL62        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL63        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL64        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL65        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL66        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL67        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL68        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL69        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL70        0.0001378005     5.000    44.302     1.400
** LINE VOLUME Source ID = SLINE1
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SRCPARAM L0000001     0.00003232      3.49      6.51      3.25
SRCPARAM L0000002     0.00003232      3.49      6.51      3.25
SRCPARAM L0000003     0.00003232      3.49      6.51      3.25
SRCPARAM L0000004     0.00003232      3.49      6.51      3.25
SRCPARAM L0000005     0.00003232      3.49      6.51      3.25
SRCPARAM L0000006     0.00003232      3.49      6.51      3.25
SRCPARAM L0000007     0.00003232      3.49      6.51      3.25
SRCPARAM L0000008     0.00003232      3.49      6.51      3.25
SRCPARAM L0000009     0.00003232      3.49      6.51      3.25
SRCPARAM L0000010     0.00003232      3.49      6.51      3.25
SRCPARAM L0000011     0.00003232      3.49      6.51      3.25
SRCPARAM L0000012     0.00003232      3.49      6.51      3.25
SRCPARAM L0000013     0.00003232      3.49      6.51      3.25
SRCPARAM L0000014     0.00003232      3.49      6.51      3.25
SRCPARAM L0000015     0.00003232      3.49      6.51      3.25
SRCPARAM L0000016     0.00003232      3.49      6.51      3.25
SRCPARAM L0000017     0.00003232      3.49      6.51      3.25
SRCPARAM L0000018     0.00003232      3.49      6.51      3.25
SRCPARAM L0000019     0.00003232      3.49      6.51      3.25
SRCPARAM L0000020     0.00003232      3.49      6.51      3.25
SRCPARAM L0000021     0.00003232      3.49      6.51      3.25
SRCPARAM L0000022     0.00003232      3.49      6.51      3.25
SRCPARAM L0000023     0.00003232      3.49      6.51      3.25
SRCPARAM L0000024     0.00003232      3.49      6.51      3.25
SRCPARAM L0000025     0.00003232      3.49      6.51      3.25
SRCPARAM L0000026     0.00003232      3.49      6.51      3.25
SRCPARAM L0000027     0.00003232      3.49      6.51      3.25
SRCPARAM L0000028     0.00003232      3.49      6.51      3.25
SRCPARAM L0000029     0.00003232      3.49      6.51      3.25
SRCPARAM L0000030     0.00003232      3.49      6.51      3.25
SRCPARAM L0000031     0.00003232      3.49      6.51      3.25
SRCPARAM L0000032     0.00003232      3.49      6.51      3.25
SRCPARAM L0000033     0.00003232      3.49      6.51      3.25
SRCPARAM L0000034     0.00003232      3.49      6.51      3.25
SRCPARAM L0000035     0.00003232      3.49      6.51      3.25
SRCPARAM L0000036     0.00003232      3.49      6.51      3.25
SRCPARAM L0000037     0.00003232      3.49      6.51      3.25
SRCPARAM L0000038     0.00003232      3.49      6.51      3.25
SRCPARAM L0000039     0.00003232      3.49      6.51      3.25
SRCPARAM L0000040     0.00003232      3.49      6.51      3.25
SRCPARAM L0000041     0.00003232      3.49      6.51      3.25
SRCPARAM L0000042     0.00003232      3.49      6.51      3.25
SRCPARAM L0000043     0.00003232      3.49      6.51      3.25
SRCPARAM L0000044     0.00003232      3.49      6.51      3.25
SRCPARAM L0000045     0.00003232      3.49      6.51      3.25
SRCPARAM L0000046     0.00003232      3.49      6.51      3.25
SRCPARAM L0000047     0.00003232      3.49      6.51      3.25
SRCPARAM L0000048     0.00003232      3.49      6.51      3.25
SRCPARAM L0000049     0.00003232      3.49      6.51      3.25
SRCPARAM L0000050     0.00003232      3.49      6.51      3.25
SRCPARAM L0000051     0.00003232      3.49      6.51      3.25
SRCPARAM L0000052     0.00003232      3.49      6.51      3.25
SRCPARAM L0000053     0.00003232      3.49      6.51      3.25
SRCPARAM L0000054     0.00003232      3.49      6.51      3.25
SRCPARAM L0000055     0.00003232      3.49      6.51      3.25
SRCPARAM L0000056     0.00003232      3.49      6.51      3.25
SRCPARAM L0000057     0.00003232      3.49      6.51      3.25
SRCPARAM L0000058     0.00003232      3.49      6.51      3.25
SRCPARAM L0000059     0.00003232      3.49      6.51      3.25
SRCPARAM L0000060     0.00003232      3.49      6.51      3.25
SRCPARAM L0000061     0.00003232      3.49      6.51      3.25
SRCPARAM L0000062     0.00003232      3.49      6.51      3.25
SRCPARAM L0000063     0.00003232      3.49      6.51      3.25
SRCPARAM L0000064     0.00003232      3.49      6.51      3.25
SRCPARAM L0000065     0.00003232      3.49      6.51      3.25
SRCPARAM L0000066     0.00003232      3.49      6.51      3.25
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   SRCPARAM L0000067     0.00003232      3.49      6.51      3.25
** --------------------------------------------------------------------
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

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** WeekDays:
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   EMISFACT L0000001     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000002     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000003     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000004     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000004     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT L0000005     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000005     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000006     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000006     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000033     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000066     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000060     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000061     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000061     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000061     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000061     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000062     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000062     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000062     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000062     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000063     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000063     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000063     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000063     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000064     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

```
   EMISFACT L0000064     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000064     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000064     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED "14822 Construction HRA.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "14822 CONSTRUCTION HRA.AD\AN00GALL.PLT" 31
   SUMMFILE "14822 Construction HRA.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
```

```
 ME W186    2215       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    2215       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************


FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for   137 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: DPM

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:    137 Source(s);       1 Source Group(s); and     227 Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:    137 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
```

m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 289.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate
Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.7 MB of RAM.

**Input Runstream File:
aermod.inp
**Output Print File:
aermod.out

**Detailed Error/Message File: 14822 Construction HRA.err
**File for Summary of Results: 14822 Construction HRA.sum

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
VOL1	0	0.13780E-03	447959.2	3762097.7	222.0	5.00	44.30	1.40	YES HRDOW
VOL2	0	0.13780E-03	448134.4	3762098.8	222.4	5.00	44.30	1.40	YES HRDOW
VOL3	0	0.13780E-03	447790.3	3762102.9	221.9	5.00	44.30	1.40	YES HRDOW
VOL4	0	0.13780E-03	447618.2	3762098.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL5	0	0.13780E-03	447446.1	3762100.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL6	0	0.13780E-03	447276.1	3762094.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL7	0	0.13780E-03	447099.9	3762094.7	219.6	5.00	44.30	1.40	YES HRDOW
VOL8	0	0.13780E-03	446929.9	3762096.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL9	0	0.13780E-03	448310.5	3762107.0	222.0	5.00	44.30	1.40	YES HRDOW
VOL10	0	0.13780E-03	446926.7	3762209.8	221.3	5.00	44.30	1.40	YES HRDOW
VOL11	0	0.13780E-03	446924.1	3762324.3	222.2	5.00	44.30	1.40	YES HRDOW
VOL12	0	0.13780E-03	447100.3	3762207.3	221.0	5.00	44.30	1.40	YES HRDOW
VOL13	0	0.13780E-03	447276.4	3762207.3	221.9	5.00	44.30	1.40	

```
 YES   HRDOW
 VOL14            0   0.13780E-03  447447.5 3762207.3   222.0     5.00    44.30     1.40
 YES   HRDOW
 VOL15            0   0.13780E-03  447616.0 3762206.0   222.0     5.00    44.30     1.40
 YES   HRDOW
 VOL16            0   0.13780E-03  447807.2 3762206.0   222.6     5.00    44.30     1.40
 YES   HRDOW
 VOL17            0   0.13780E-03  447959.5 3762206.0   223.0     5.00    44.30     1.40
 YES   HRDOW
 VOL18            0   0.13780E-03  448138.1 3762203.5   222.6     5.00    44.30     1.40
 YES   HRDOW
 VOL19            0   0.13780E-03  448313.0 3762202.2   222.6     5.00    44.30     1.40
 YES   HRDOW
 VOL20            0   0.13780E-03  447100.3 3762325.5   222.0     5.00    44.30     1.40
 YES   HRDOW
 VOL21            0   0.13780E-03  447276.4 3762324.3   222.9     5.00    44.30     1.40
 YES   HRDOW
 VOL22            0   0.13780E-03  447448.7 3762324.3   222.7     5.00    44.30     1.40
 YES   HRDOW
 VOL23            0   0.13780E-03  447616.0 3762326.8   222.7     5.00    44.30     1.40
 YES   HRDOW
 VOL24            0   0.13780E-03  447789.6 3762328.0   223.7     5.00    44.30     1.40
 YES   HRDOW
 VOL25            0   0.13780E-03  447960.7 3762326.8   224.2     5.00    44.30     1.40
 YES   HRDOW
 VOL26            0   0.13780E-03  448135.6 3762328.0   224.5     5.00    44.30     1.40
 YES   HRDOW
 VOL27            0   0.13780E-03  448318.0 3762330.6   224.8     5.00    44.30     1.40
 YES   HRDOW
 VOL28            0   0.13780E-03  447432.4 3762513.0   225.3     5.00    44.30     1.40
 YES   HRDOW
 VOL29            0   0.13780E-03  447621.1 3762513.0   224.5     5.00    44.30     1.40
 YES   HRDOW
 VOL30            0   0.13780E-03  447811.0 3762515.5   225.4     5.00    44.30     1.40
 YES   HRDOW
 VOL31            0   0.13780E-03  447999.7 3762515.5   225.9     5.00    44.30     1.40
 YES   HRDOW
 VOL32            0   0.13780E-03  448189.7 3762514.2   225.7     5.00    44.30     1.40
 YES   HRDOW
 VOL33            0   0.13780E-03  448315.5 3762516.7   226.2     5.00    44.30     1.40
 YES   HRDOW
 VOL34            0   0.13780E-03  448316.7 3762709.2   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL35            0   0.13780E-03  448189.7 3762708.0   226.4     5.00    44.30     1.40
 YES   HRDOW
 VOL36            0   0.13780E-03  448001.0 3762706.7   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL37            0   0.13780E-03  447811.0 3762706.7   227.0     5.00    44.30     1.40
 YES   HRDOW
 VOL38            0   0.13780E-03  447621.1 3762704.2   226.6     5.00    44.30     1.40
 YES   HRDOW
 VOL39            0   0.13780E-03  447433.6 3762704.2   227.3     5.00    44.30     1.40
 YES   HRDOW
 VOL40            0   0.13780E-03  447524.2 3762897.9   228.4     5.00    44.30     1.40
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***
```

SOURCE ID	SOURCE SCALAR VARY BY	NUMBER URBAN PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)
VOL41	YES HRDOW	0	0.13780E-03	447329.2	3762897.9	228.7	5.00	44.30	1.40
VOL42	YES HRDOW	0	0.13780E-03	447304.1	3763089.1	231.3	5.00	44.30	1.40
VOL43	YES HRDOW	0	0.13780E-03	447533.0	3763086.6	231.2	5.00	44.30	1.40
VOL44	YES HRDOW	0	0.13780E-03	447433.6	3763086.6	231.2	5.00	44.30	1.40
VOL45	YES HRDOW	0	0.13780E-03	447530.5	3763277.8	232.5	5.00	44.30	1.40
VOL46	YES HRDOW	0	0.13780E-03	447305.3	3763281.6	232.2	5.00	44.30	1.40
VOL47	YES HRDOW	0	0.13780E-03	447419.8	3763282.9	232.6	5.00	44.30	1.40
VOL48	YES HRDOW	0	0.13780E-03	447112.8	3763304.2	231.8	5.00	44.30	1.40
VOL49	YES HRDOW	0	0.13780E-03	446924.1	3763305.5	231.6	5.00	44.30	1.40
VOL50	YES HRDOW	0	0.13780E-03	447533.0	3763469.0	233.5	5.00	44.30	1.40
VOL51	YES HRDOW	0	0.13780E-03	447217.3	3763472.8	233.2	5.00	44.30	1.40
VOL52	YES HRDOW	0	0.13780E-03	447088.9	3763471.6	233.0	5.00	44.30	1.40
VOL53	YES HRDOW	0	0.13780E-03	446925.4	3763474.1	232.6	5.00	44.30	1.40
VOL54	YES HRDOW	0	0.13780E-03	447361.9	3763470.3	233.5	5.00	44.30	1.40
VOL55	YES HRDOW	0	0.13780E-03	447531.7	3763659.5	234.9	5.00	44.30	1.40
VOL56	YES HRDOW	0	0.13780E-03	447533.5	3763806.8	235.6	5.00	44.30	1.40
VOL57	YES HRDOW	0	0.13780E-03	447359.9	3763658.4	234.1	5.00	44.30	1.40
VOL58	YES HRDOW	0	0.13780E-03	447219.0	3763657.1	234.1	5.00	44.30	1.40
VOL59	YES HRDOW	0	0.13780E-03	447090.7	3763659.7	234.5	5.00	44.30	1.40
VOL60	YES HRDOW	0	0.13780E-03	446930.9	3763659.7	234.2	5.00	44.30	1.40
VOL61	YES HRDOW	0	0.13780E-03	447357.4	3763804.3	234.7	5.00	44.30	1.40
VOL62	YES HRDOW	0	0.13780E-03	447219.0	3763804.3	234.9	5.00	44.30	1.40
VOL63	YES HRDOW	0	0.13780E-03	447093.2	3763805.6	235.8	5.00	44.30	1.40
VOL64	YES HRDOW	0	0.13780E-03	446932.2	3763805.6	235.5	5.00	44.30	1.40
VOL65	YES HRDOW	0	0.13780E-03	447133.5	3763996.8	237.4	5.00	44.30	1.40
VOL66	YES HRDOW	0	0.13780E-03	446943.5	3763996.8	237.4	5.00	44.30	1.40
VOL67	YES HRDOW	0	0.13780E-03	447134.7	3764159.1	239.1	5.00	44.30	1.40
VOL68	YES HRDOW	0	0.13780E-03	446944.8	3764159.1	240.0	5.00	44.30	1.40
VOL69		0	0.13780E-03	447136.0	3764318.9	241.0	5.00	44.30	1.40

```
 YES   HRDOW
 VOL70           0   0.13780E-03  446944.8 3764317.6   240.2     5.00    44.30     1.40
 YES   HRDOW
 L0000001        0   0.32320E-04  448422.4 3762409.4   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000002        0   0.32320E-04  448436.4 3762408.8   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000003        0   0.32320E-04  448450.4 3762408.1   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000004        0   0.32320E-04  448464.4 3762407.5   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000005        0   0.32320E-04  448478.3 3762406.8   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000006        0   0.32320E-04  448492.3 3762406.2   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000007        0   0.32320E-04  448506.3 3762405.6   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000008        0   0.32320E-04  448520.3 3762404.9   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000009        0   0.32320E-04  448534.3 3762404.3   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000010        0   0.32320E-04  448548.3 3762403.6   225.2     3.49     6.51     3.25
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - -

 L0000011        0   0.32320E-04  448562.2 3762403.0   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000012        0   0.32320E-04  448576.2 3762402.3   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000013        0   0.32320E-04  448590.2 3762401.7   225.4     3.49     6.51     3.25
 YES   HRDOW
 L0000014        0   0.32320E-04  448604.2 3762401.0   225.4     3.49     6.51     3.25
 YES   HRDOW
 L0000015        0   0.32320E-04  448618.2 3762400.4   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000016        0   0.32320E-04  448632.2 3762399.7   225.0     3.49     6.51     3.25
 YES   HRDOW
 L0000017        0   0.32320E-04  448646.2 3762399.1   224.4     3.49     6.51     3.25
 YES   HRDOW
 L0000018        0   0.32320E-04  448660.1 3762398.5   223.9     3.49     6.51     3.25
 YES   HRDOW
 L0000019        0   0.32320E-04  448674.1 3762398.8   223.5     3.49     6.51     3.25
 YES   HRDOW
 L0000020        0   0.32320E-04  448688.1 3762399.1   223.1     3.49     6.51     3.25
 YES   HRDOW
 L0000021        0   0.32320E-04  448702.1 3762399.4   222.8     3.49     6.51     3.25
 YES   HRDOW
 L0000022        0   0.32320E-04  448716.1 3762399.7   222.4     3.49     6.51     3.25
```

```
 YES   HRDOW
 L0000023         0   0.32320E-04  448730.1 3762399.9   222.3     3.49     6.51     3.25
 YES   HRDOW
 L0000024         0   0.32320E-04  448744.1 3762400.2   222.2     3.49     6.51     3.25
 YES   HRDOW
 L0000025         0   0.32320E-04  448757.9 3762402.3   222.3     3.49     6.51     3.25
 YES   HRDOW
 L0000026         0   0.32320E-04  448771.3 3762406.1   222.4     3.49     6.51     3.25
 YES   HRDOW
 L0000027         0   0.32320E-04  448784.8 3762409.9   222.6     3.49     6.51     3.25
 YES   HRDOW
 L0000028         0   0.32320E-04  448798.3 3762413.8   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000029         0   0.32320E-04  448811.7 3762417.6   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000030         0   0.32320E-04  448825.2 3762421.4   222.8     3.49     6.51     3.25
 YES   HRDOW
 L0000031         0   0.32320E-04  448838.7 3762425.2   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000032         0   0.32320E-04  448852.1 3762429.1   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000033         0   0.32320E-04  448865.6 3762432.9   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000034         0   0.32320E-04  448879.1 3762436.7   222.8     3.49     6.51     3.25
 YES   HRDOW
 L0000035         0   0.32320E-04  448892.5 3762440.6   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000036         0   0.32320E-04  448906.0 3762444.4   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000037         0   0.32320E-04  448919.5 3762448.2   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000038         0   0.32320E-04  448932.8 3762452.3   223.0     3.49     6.51     3.25
 YES   HRDOW
 L0000039         0   0.32320E-04  448946.0 3762457.2   223.1     3.49     6.51     3.25
 YES   HRDOW
 L0000040         0   0.32320E-04  448959.1 3762462.0   223.3     3.49     6.51     3.25
 YES   HRDOW
 L0000041         0   0.32320E-04  448972.2 3762466.8   223.4     3.49     6.51     3.25
 YES   HRDOW
 L0000042         0   0.32320E-04  448985.4 3762471.7   223.5     3.49     6.51     3.25
 YES   HRDOW
 L0000043         0   0.32320E-04  448998.5 3762476.5   223.5     3.49     6.51     3.25
 YES   HRDOW
 L0000044         0   0.32320E-04  449011.6 3762481.4   223.6     3.49     6.51     3.25
 YES   HRDOW
 L0000045         0   0.32320E-04  449024.8 3762486.2   223.7     3.49     6.51     3.25
 YES   HRDOW
 L0000046         0   0.32320E-04  449037.9 3762491.1   223.9     3.49     6.51     3.25
 YES   HRDOW
 L0000047         0   0.32320E-04  449051.1 3762495.9   224.0     3.49     6.51     3.25
 YES   HRDOW
 L0000048         0   0.32320E-04  449064.2 3762500.8   224.1     3.49     6.51     3.25
 YES   HRDOW
 L0000049         0   0.32320E-04  449077.3 3762505.6   224.1     3.49     6.51     3.25
 YES   HRDOW
 L0000050         0   0.32320E-04  449090.5 3762510.5   224.2     3.49     6.51     3.25
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE SCALAR VARY BY	EMISSION RATE PART. CATS. (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
L0000051	0	0.32320E-04	449103.6	3762515.3	224.2	3.49	6.51	3.25	YES HRDOW
L0000052	0	0.32320E-04	449116.7	3762520.1	224.3	3.49	6.51	3.25	YES HRDOW
L0000053	0	0.32320E-04	449129.9	3762525.0	224.3	3.49	6.51	3.25	YES HRDOW
L0000054	0	0.32320E-04	449143.0	3762529.8	224.4	3.49	6.51	3.25	YES HRDOW
L0000055	0	0.32320E-04	449156.1	3762534.7	224.4	3.49	6.51	3.25	YES HRDOW
L0000056	0	0.32320E-04	449169.3	3762539.5	224.5	3.49	6.51	3.25	YES HRDOW
L0000057	0	0.32320E-04	449182.4	3762544.4	224.5	3.49	6.51	3.25	YES HRDOW
L0000058	0	0.32320E-04	449195.5	3762549.2	224.5	3.49	6.51	3.25	YES HRDOW
L0000059	0	0.32320E-04	449208.7	3762554.1	224.5	3.49	6.51	3.25	YES HRDOW
L0000060	0	0.32320E-04	449221.8	3762558.9	224.5	3.49	6.51	3.25	YES HRDOW
L0000061	0	0.32320E-04	449234.9	3762563.8	224.5	3.49	6.51	3.25	YES HRDOW
L0000062	0	0.32320E-04	449248.1	3762568.6	224.5	3.49	6.51	3.25	YES HRDOW
L0000063	0	0.32320E-04	449261.2	3762573.4	224.5	3.49	6.51	3.25	YES HRDOW
L0000064	0	0.32320E-04	449274.3	3762578.3	224.4	3.49	6.51	3.25	YES HRDOW
L0000065	0	0.32320E-04	449287.5	3762583.1	224.3	3.49	6.51	3.25	YES HRDOW
L0000066	0	0.32320E-04	449300.6	3762588.0	224.4	3.49	6.51	3.25	YES HRDOW
L0000067	0	0.32320E-04	449313.7	3762592.8	224.4	3.49	6.51	3.25	YES HRDOW

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	VOL1 , VOL2 , VOL3 , VOL4 , VOL5 , VOL6 , VOL7 , VOL8 ,
	VOL9 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

```
            VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
            VOL23       , VOL24       ,

            VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
            VOL31       , VOL32       ,

            VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
            VOL39       , VOL40       ,

            VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
            VOL47       , VOL48       ,

            VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
            VOL55       , VOL56       ,

            VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
            VOL63       , VOL64       ,

            VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
            L0000001    , L0000002    ,

            L0000003    , L0000004    , L0000005    , L0000006    , L0000007    , L0000008    ,
            L0000009    , L0000010    ,

            L0000011    , L0000012    , L0000013    , L0000014    , L0000015    , L0000016    ,
            L0000017    , L0000018    ,

            L0000019    , L0000020    , L0000021    , L0000022    , L0000023    , L0000024    ,
            L0000025    , L0000026    ,

            L0000027    , L0000028    , L0000029    , L0000030    , L0000031    , L0000032    ,
            L0000033    , L0000034    ,

            L0000035    , L0000036    , L0000037    , L0000038    , L0000039    , L0000040    ,
            L0000041    , L0000042    ,

            L0000043    , L0000044    , L0000045    , L0000046    , L0000047    , L0000048    ,
            L0000049    , L0000050    ,

            L0000051    , L0000052    , L0000053    , L0000054    , L0000055    , L0000056    ,
            L0000057    , L0000058    ,

            L0000059    , L0000060    , L0000061    , L0000062    , L0000063    , L0000064    ,
            L0000065    , L0000066    ,

            L0000067    ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                      *** SOURCE IDs DEFINED AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                  SOURCE IDs
  --------   ---------                                  ----------


              2035210.   VOL1        , VOL2        , VOL3        , VOL4        , VOL5        ,
              VOL6        , VOL7        ,
 VOL8        ,

            VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14
```

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            VOL15       , VOL16       ,

            VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
            VOL23       , VOL24       ,

            VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
            VOL31       , VOL32       ,

            VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
            VOL39       , VOL40       ,

            VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
            VOL47       , VOL48       ,

            VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
            VOL55       , VOL56       ,

            VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
            VOL63       , VOL64       ,

            VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
            L0000001    , L0000002    ,

            L0000003    , L0000004    , L0000005    , L0000006    , L0000007    , L0000008    ,
            L0000009    , L0000010    ,

            L0000011    , L0000012    , L0000013    , L0000014    , L0000015    , L0000016    ,
            L0000017    , L0000018    ,

            L0000019    , L0000020    , L0000021    , L0000022    , L0000023    , L0000024    ,
            L0000025    , L0000026    ,

            L0000027    , L0000028    , L0000029    , L0000030    , L0000031    , L0000032    ,
            L0000033    , L0000034    ,

            L0000035    , L0000036    , L0000037    , L0000038    , L0000039    , L0000040    ,
            L0000041    , L0000042    ,

            L0000043    , L0000044    , L0000045    , L0000046    , L0000047    , L0000048    ,
            L0000049    , L0000050    ,

            L0000051    , L0000052    , L0000053    , L0000054    , L0000055    , L0000056    ,
            L0000057    , L0000058    ,

            L0000059    , L0000060    , L0000061    , L0000062    , L0000063    , L0000064    ,
            L0000065    , L0000066    ,

            L0000067    ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL1         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL2         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL3          ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL4          ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = VOL5   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL7         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                            DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                            DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL8         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                            DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

 SOURCE ID = VOL9   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

- - - - - - - - - - - - - - - - - -

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL11 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - - - - - - - - - - - - - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL12 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22

*** AERMET - VERSION 16216 ***

*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL13 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL14 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL16        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL17        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
```

```
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL18        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL19        ; SOURCE TYPE = VOLUME   :
```

```
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL20        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***       13:48:1
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL21 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL22 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00												

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL23 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL24 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL25 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL26 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL27        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
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```
                (HRDOW) *

 SOURCE ID = VOL28        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                (HRDOW) *

 SOURCE ID = VOL29        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
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* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL30 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL31 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL32 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL34        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL35        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
```

- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL37 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

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*** AERMET - VERSION 16216 ***

*** *** 13:48:15

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL38 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL39 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL41        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL42        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
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```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL43        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
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```
 SOURCE ID = VOL44        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL45        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL46 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL47 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL48        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL49        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL50        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL51        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
```

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22

*** AERMET - VERSION 16216 ***

*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL52 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

SOURCE ID = VOL53 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL55 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL56 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL57 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR						

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL58 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR						

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01				

```
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL59        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL60        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
```

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL61        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***       13:48:15
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL62 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL63 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	

```
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL64        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL65        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
```

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL66 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL68        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL69        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL70        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000001   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000003     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000004     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000005 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000007     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - -
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000008 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000009 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000010 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000011 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

```
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000012     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

                     PAGE  90
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000013     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
```

.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000014 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000016     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:1
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000017 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000018 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00												

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = L0000019 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000021     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000022     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000023     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

(HRDOW) *

SOURCE ID = L0000024 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000026 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000027 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000028     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000029     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
```

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000030 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000033 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000034 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000035 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

DAY OF WEEK = SUNDAY

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000037 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000039     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = L0000040     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000041     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000042 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000043 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000044 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000046     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000047     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
```

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22

*** AERMET - VERSION 16216 ***

*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000048 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = L0000049 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000051 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000052 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000053 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR						

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000054 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR						

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01				

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000055 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000058 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000060 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000062     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000063     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000064     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = L0000065     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000066     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000067   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

243.8,   243.8,   0.0);
(447365.0, 3764456.4,   243.3,   243.3,   0.0);   (447406.6, 3764460.6,
243.1,   243.1,   0.0);
(447441.5, 3764460.0,   243.2,   243.2,   0.0);   (447466.9, 3764460.2,
243.2,   243.2,   0.0);
(447490.0, 3764460.6,   242.9,   242.9,   0.0);   (447515.5, 3764460.4,
242.6,   242.6,   0.0);
(447573.1, 3764454.3,   241.6,   241.6,   0.0);   (447598.5, 3764445.2,
241.8,   241.8,   0.0);
(447652.9, 3764439.7,   243.1,   243.1,   0.0);   (447692.9, 3764439.5,
243.1,   243.1,   0.0);
(447713.8, 3764439.1,   243.1,   243.1,   0.0);   (447732.0, 3764438.7,
243.2,   243.2,   0.0);
(447751.1, 3764438.7,   243.3,   243.3,   0.0);   (447768.8, 3764437.5,
243.4,   243.4,   0.0);
(447789.1, 3764437.7,   243.7,   243.7,   0.0);   (447805.7, 3764437.3,
243.8,   243.8,   0.0);
(447824.0, 3764437.2,   243.9,   243.9,   0.0);   (447841.6, 3764437.9,
243.9,   243.9,   0.0);
(447861.7, 3764437.5,   243.9,   243.9,   0.0);   (447881.7, 3764435.2,
243.8,   243.8,   0.0);
(447902.8, 3764436.2,   243.8,   243.8,   0.0);   (447920.9, 3764435.3,
243.8,   243.8,   0.0);
(447942.2, 3764435.3,   243.8,   243.8,   0.0);   (447962.8, 3764434.8,
243.8,   243.8,   0.0);
(447980.7, 3764435.2,   243.8,   243.8,   0.0);   (448004.7, 3764435.2,
243.6,   243.6,   0.0);
(448021.2, 3764434.7,   243.0,   243.0,   0.0);   (447662.7, 3764379.6,
243.6,   243.6,   0.0);
(447681.3, 3764321.0,   243.4,   243.4,   0.0);   (447682.6, 3764285.8,
242.3,   242.3,   0.0);
(447662.5, 3764238.4,   241.1,   241.1,   0.0);   (447661.7, 3764207.4,
240.2,   240.2,   0.0);
(447683.1, 3764162.3,   239.1,   239.1,   0.0);   (447681.0, 3764145.9,
238.7,   238.7,   0.0);
(447679.6, 3764130.3,   238.2,   238.2,   0.0);   (447680.8, 3764112.0,
237.8,   237.8,   0.0);
(447681.5, 3764096.4,   237.6,   237.6,   0.0);   (447680.8, 3764078.8,
237.4,   237.4,   0.0);
(447680.0, 3764064.3,   237.4,   237.4,   0.0);   (447681.0, 3764045.8,
237.5,   237.5,   0.0);
(447680.6, 3764029.7,   237.5,   237.5,   0.0);   (447657.2, 3763992.0,
237.3,   237.3,   0.0);
(447656.3, 3763967.1,   237.5,   237.5,   0.0);   (447657.2, 3763928.7,
237.5,   237.5,   0.0);
(447657.2, 3763902.2,   237.6,   237.6,   0.0);   (447657.5, 3763869.0,
237.3,   237.3,   0.0);
(447656.2, 3763834.9,   237.4,   237.4,   0.0);   (447655.9, 3763808.3,
237.5,   237.5,   0.0);
(447657.1, 3763786.0,   237.6,   237.6,   0.0);   (447701.2, 3763782.1,
237.7,   237.7,   0.0);
(447856.9, 3763749.7,   236.2,   236.2,   0.0);   (447855.0, 3763730.1,
236.0,   236.0,   0.0);
(447854.3, 3763698.3,   235.6,   235.6,   0.0);   (447855.3, 3763676.8,
235.4,   235.4,   0.0);
(447675.5, 3763287.5,   232.0,   232.0,   0.0);   (448481.3, 3763485.3,
235.6,   235.6,   0.0);
(448480.0, 3763195.5,   232.0,   232.0,   0.0);   (448478.6, 3762907.2,
229.4,   229.4,   0.0);
(448497.9, 3762714.1,   228.1,   228.1,   0.0);   (448507.9, 3762487.7,
225.8,   225.8,   0.0);
(448480.5, 3762358.0,   224.8,   224.8,   0.0);   (448462.7, 3762339.8,
224.6,   224.6,   0.0);
(448464.5, 3762265.9,   223.3,   223.3,   0.0);   (448461.6, 3762165.2,
222.0,   222.0,   0.0);
(448472.6, 3762064.7,   220.0,   220.0,   0.0);   (448460.5, 3762016.7,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447269.3, 3761967.7, 219.7, 219.7, 0.0); (447389.5, 3761908.8, 220.0, 220.0, 0.0);
(447019.1, 3761964.3, 219.0, 219.0, 0.0); (447060.3, 3761963.6, 219.0, 219.0, 0.0);
(446975.3, 3761963.2, 219.0, 219.0, 0.0); (446940.9, 3761953.8, 219.0, 219.0, 0.0);
(446865.7, 3761974.5, 219.9, 219.9, 0.0); (446795.1, 3761957.9, 220.0, 220.0, 0.0);
(446757.6, 3761965.8, 220.0, 220.0, 0.0); (446709.3, 3761967.7, 220.0, 220.0, 0.0);
(446796.4, 3762028.6, 220.0, 220.0, 0.0); (446797.0, 3762045.3, 220.1, 220.1, 0.0);
(446796.7, 3762089.5, 221.0, 221.0, 0.0); (446796.1, 3762105.9, 221.0, 221.0, 0.0);
(446796.7, 3762137.3, 221.0, 221.0, 0.0); (446796.1, 3762153.4, 221.0, 221.0, 0.0);
(446772.4, 3762215.4, 221.6, 221.6, 0.0); (446795.1, 3762321.0, 222.0, 222.0, 0.0);
(446796.4, 3762451.0, 224.0, 224.0, 0.0); (446796.4, 3762471.2, 224.4, 224.4, 0.0);
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(446798.6, 3762584.8, 226.1, 226.1, 0.0); (446798.1, 3762604.4, 226.5, 226.5, 0.0);
(446799.7, 3762654.1, 227.5, 227.5, 0.0); (446800.0, 3762674.6, 228.0, 228.0, 0.0);
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(446800.0, 3762735.7, 228.6, 228.6, 0.0); (446797.8, 3762748.0, 228.6, 228.6, 0.0);
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(446802.4, 3762949.2, 228.3, 228.3, 0.0); (446803.0, 3762967.3, 228.3, 228.3, 0.0);
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(446803.0, 3763059.3, 229.2, 229.2, 0.0); (446803.5, 3763077.0, 229.3, 229.3, 0.0);
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(446808.3, 3763710.6, 235.0, 235.0, 0.0); (446808.3, 3763726.4, 235.0, 235.0, 0.0);
(446808.0, 3763742.1, 235.0, 235.0, 0.0); (446808.3, 3763756.9,

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    ( 446808.6, 3763798.3,     235.3,     235.3,       0.0);         ( 446810.2, 3764484.1,
    241.7,     241.7,       0.0);
    ( 446781.3, 3764475.1,     241.7,     241.7,       0.0);         ( 446722.6, 3764455.8,
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    ( 446170.3, 3764559.8,     242.5,     242.5,       0.0);         ( 446872.3, 3763190.3,
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    ( 446925.2, 3763179.2,     231.6,     231.6,       0.0);         ( 446984.9, 3763194.9,
    231.4,     231.4,       0.0);
    ( 447010.6, 3763193.3,     231.7,     231.7,       0.0);         ( 447036.6, 3763193.6,
    231.7,     231.7,       0.0);
    ( 447053.6, 3763193.3,     231.7,     231.7,       0.0);         ( 447076.4, 3763192.3,
    231.8,     231.8,       0.0);
    ( 447093.5, 3763192.6,     231.9,     231.9,       0.0);         ( 447122.0, 3763192.6,
    231.7,     231.7,       0.0);
    ( 447138.8, 3763192.3,     231.7,     231.7,       0.0);         ( 447168.0, 3763192.3,
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    ( 447170.7, 3763172.2,     231.4,     231.4,       0.0);         ( 447170.4, 3763158.2,
    231.2,     231.2,       0.0);
    ( 447169.3, 3763144.9,     231.2,     231.2,       0.0);         ( 447147.5, 3763107.4,
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    ( 447146.6, 3763084.2,     231.4,     231.4,       0.0);         ( 447146.9, 3763064.3,
    231.1,     231.1,       0.0);
    ( 447149.9, 3763038.9,     230.8,     230.8,       0.0);         ( 447148.6, 3763019.8,
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    ( 447148.6, 3762997.4,     230.2,     230.2,       0.0);         ( 447206.1, 3762958.5,
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    ( 447209.3, 3762922.5,     229.1,     229.1,       0.0);         ( 447208.4, 3762890.7,
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    ( 447145.8, 3762888.9,     228.9,     228.9,       0.0);         ( 447122.5, 3762889.1,
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    ( 447094.3, 3762890.0,     228.9,     228.9,       0.0);         ( 447071.0, 3762890.4,
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    ( 447043.6, 3762889.7,     228.9,     228.9,       0.0);         ( 447017.8, 3762888.9,
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    ( 446992.1, 3762889.1,     228.9,     228.9,       0.0);         ( 446964.3, 3762888.3,
    228.9,     228.9,       0.0);
    ( 446940.4, 3762888.5,     228.8,     228.8,       0.0);         ( 446911.2, 3762888.1,
    228.6,     228.6,       0.0);
    ( 446885.3, 3762889.7,     228.6,     228.6,       0.0);         ( 446862.1, 3762888.9,
    228.6,     228.6,       0.0);
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

                    PAGE 147
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 446871.5, 3762779.6,     228.6,     228.6,       0.0);         ( 446926.3, 3762768.7,
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    ( 446983.7, 3762774.2,     228.6,     228.6,       0.0);         ( 447009.0, 3762774.0,
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    ( 447030.5, 3762774.4,     228.2,     228.2,       0.0);         ( 447055.4, 3762774.0,
    228.0,     228.0,       0.0);
    ( 447076.9, 3762774.2,     228.1,     228.1,       0.0);         ( 447101.2, 3762774.4,
    228.3,     228.3,       0.0);
    ( 447123.8, 3762774.0,     228.3,     228.3,       0.0);         ( 447148.1, 3762775.0,
    228.4,     228.4,       0.0);
    ( 447170.2, 3762774.8,     228.5,     228.5,       0.0);         ( 447196.8, 3762775.5,
    228.5,     228.5,       0.0);
    ( 447242.1, 3762776.6,     228.5,     228.5,       0.0);         ( 447262.3, 3762776.0,
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(447313.4, 3762749.5, 228.3, 228.3, 0.0); (447327.9, 3762713.1,
228.1, 228.1, 0.0);
(447327.4, 3762679.9, 227.5, 227.5, 0.0); (447327.7, 3762657.0,
227.2, 227.2, 0.0);
(447327.3, 3762636.8, 226.9, 226.9, 0.0); (447327.5, 3762612.9,
226.4, 226.4, 0.0);
(447327.3, 3762592.2, 226.2, 226.2, 0.0); (447327.0, 3762569.7,
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(447327.3, 3762547.9, 225.8, 225.8, 0.0); (447326.6, 3762524.7,
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(447326.6, 3762506.1, 225.4, 225.4, 0.0); (447327.5, 3762477.5,
224.9, 224.9, 0.0);
(447325.9, 3762454.3, 224.5, 224.5, 0.0); (447225.6, 3762432.9,
224.1, 224.1, 0.0);
(447200.3, 3762430.6, 223.9, 223.9, 0.0); (447156.8, 3762430.2,
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(447131.8, 3762430.9, 223.6, 223.6, 0.0); (447102.7, 3762430.6,
223.4, 223.4, 0.0);
(447079.1, 3762430.9, 223.1, 223.1, 0.0); (447034.9, 3762433.6,
223.1, 223.1, 0.0);
(446995.5, 3762433.6, 223.1, 223.1, 0.0); (446972.7, 3762434.3,
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(446941.4, 3762434.6, 223.5, 223.5, 0.0); (446916.1, 3762436.9,
223.7, 223.7, 0.0);
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227.4, 227.4, 0.0);
(446848.8, 3762563.2, 225.9, 225.9, 0.0); (446849.2, 3762509.8,
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(446849.2, 3762455.8, 224.1, 224.1, 0.0); (446848.8, 3762702.0,
228.5, 228.5, 0.0);
(446849.5, 3762754.7, 228.7, 228.7,
0.0);
FF *** AERMOD - VERSION 22112 ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***   10/19/22
 *** AERMET - VERSION 16216 ***
 ***   ***   13:48:15

                    PAGE 148
 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                        *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
                                                (1=YES; 0=NO)

          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
          1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
          1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
          1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
          1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
          1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
          1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
          1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
          1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

              NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS
              INCLUDED IN THE DATA FILE.

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-16.4	0.171	-9.000	-9.000	-999.	170.	32.3	0.09	1.12	1.00	2.03	43.	7.9	285.9	2.0
12	01	01	1	02	-18.8	0.194	-9.000	-9.000	-999.	205.	41.3	0.09	1.12	1.00	2.28	34.	7.9	285.4	2.0
12	01	01	1	03	-17.8	0.182	-9.000	-9.000	-999.	187.	36.5	0.09	1.12	1.00	2.15	24.	7.9	282.0	2.0
12	01	01	1	04	-9.4	0.128	-9.000	-9.000	-999.	110.	19.6	0.09	1.12	1.00	1.55	41.	7.9	283.1	2.0
12	01	01	1	05	-16.9	0.173	-9.000	-9.000	-999.	173.	33.0	0.09	1.12	1.00	2.05	39.	7.9	280.4	2.0
12	01	01	1	06	-8.0	0.117	-9.000	-9.000	-999.	97.	17.8	0.09	1.12	1.00	1.43	21.	7.9	282.0	2.0
12	01	01	1	07	-7.6	0.115	-9.000	-9.000	-999.	93.	17.4	0.09	1.12	1.00	1.40	31.	7.9	282.5	2.0
12	01	01	1	08	-13.6	0.184	-9.000	-9.000	-999.	190.	40.5	0.09	1.12	0.54	2.16	34.	7.9	284.2	2.0
12	01	01	1	09	28.4	0.126	0.300	0.011	33.	108.	-6.2	0.09	1.12	0.32	1.03	29.	7.9	289.2	2.0
12	01	01	1	10	79.8	0.133	0.607	0.010	99.	116.	-2.6	0.09	1.12	0.25	0.94	173.	7.9	292.5	2.0
12	01	01	1	11	115.8	0.137	0.932	0.006	246.	121.	-2.0	0.09	1.12	0.22	0.92	172.	7.9	295.4	2.0
12	01	01	1	12	133.7	0.139	1.197	0.005	453.	125.	-1.8	0.09	1.12	0.21	0.92	146.	7.9	297.5	2.0
12	01	01	1	13	133.2	0.160	1.354	0.005	657.	153.	-2.7	0.09	1.12	0.21	1.14	117.	7.9	299.9	2.0
12	01	01	1	14	113.5	0.159	1.454	0.005	955.	151.	-3.1	0.09	1.12	0.23	1.16	285.	7.9	300.9	2.0
12	01	01	1	15	76.2	0.166	1.350	0.005	1138.	163.	-5.3	0.09	1.12	0.26	1.3

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 72.    7.9  302.0    2.0
 12 01 01   1 16   23.5  0.175  0.925  0.005 1183.  175.    -19.9  0.09   1.12   0.35    1.65
 107.    7.9  301.4    2.0
 12 01 01   1 17   -6.1  0.107 -9.000 -9.000 -999.   86.     18.0  0.09   1.12   0.63    1.31
 107.    7.9  298.1    2.0
 12 01 01   1 18  -11.1  0.141 -9.000 -9.000 -999.  127.     22.1  0.09   1.12   1.00    1.69
 86.    7.9  293.1    2.0
 12 01 01   1 19   -3.2  0.076 -9.000 -9.000 -999.   51.     11.8  0.09   1.12   1.00    0.91
 64.    7.9  292.0    2.0
 12 01 01   1 20   -2.3  0.066 -9.000 -9.000 -999.   41.     11.2  0.09   1.12   1.00    0.74
 73.    7.9  288.8    2.0
 12 01 01   1 21  -10.0  0.133 -9.000 -9.000 -999.  116.     20.5  0.09   1.12   1.00    1.60
 14.    7.9  288.1    2.0
 12 01 01   1 22  -19.4  0.201 -9.000 -9.000 -999.  216.     44.5  0.09   1.12   1.00    2.36
 22.    7.9  287.5    2.0
 12 01 01   1 23  -23.7  0.246 -9.000 -9.000 -999.  293.     66.5  0.09   1.12   1.00    2.86
 40.    7.9  287.0    2.0
 12 01 01   1 24  -12.3  0.147 -9.000 -9.000 -999.  139.     23.8  0.09   1.12   1.00    1.76
 40.    7.9  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1   43.    2.03   286.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

                    PAGE 150
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5 YEARS FOR
                   SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                                 VOL3        , VOL4        , VOL5        ,
                VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                VOL11       , VOL12       , VOL13       ,
                VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                VOL19       , VOL20       , VOL21       ,
                VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                VOL27       , VOL28       ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF DPM      IN
                                       MICROGRAMS/M**3                          **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
       (M)        CONC
 - - -
```

447066.60 3764465.73 0.00090 447099.65
3764456.17 0.00106
447145.28 3764468.27 0.00100 447175.54
3764468.03 0.00104
447205.32 3764468.27 0.00104 447232.43
3764467.55 0.00102
447264.02 3764467.30 0.00097 447294.77
3764466.94 0.00092
447364.97 3764456.41 0.00083 447406.61
3764460.65 0.00074
447441.47 3764460.04 0.00069 447466.88
3764460.20 0.00066
447490.00 3764460.56 0.00063 447515.50
3764460.40 0.00060
447573.06 3764454.29 0.00056 447598.49
3764445.22 0.00055
447652.90 3764439.70 0.00051 447692.92
3764439.51 0.00049
447713.82 3764439.11 0.00048 447731.95
3764438.72 0.00047
447751.07 3764438.72 0.00046 447768.82
3764437.53 0.00045
447789.12 3764437.73 0.00044 447805.68
3764437.34 0.00044
447824.02 3764437.20 0.00043 447841.61
3764437.87 0.00043
447861.72 3764437.53 0.00042 447881.66
3764435.18 0.00041
447902.78 3764436.19 0.00041 447920.87
3764435.35 0.00040
447942.16 3764435.35 0.00040 447962.77
3764434.85 0.00039
447980.70 3764435.18 0.00039 448004.66
3764435.18 0.00038
448021.25 3764434.68 0.00038 447662.70
3764379.63 0.00056
447681.30 3764320.98 0.00059 447682.64
3764285.79 0.00062
447662.53 3764238.37 0.00068 447661.70
3764207.37 0.00072
447683.14 3764162.29 0.00076 447680.97
3764145.87 0.00079
447679.63 3764130.28 0.00082 447680.80
3764112.02 0.00086
447681.47 3764096.43 0.00089 447680.80
3764078.84 0.00094
447679.96 3764064.26 0.00098 447680.97
3764045.82 0.00104
447680.63 3764029.74 0.00110 447657.17
3763992.03 0.00133
447656.33 3763967.06 0.00151 447657.17
3763928.69 0.00188
447657.17 3763902.21 0.00223 447657.51
3763869.03 0.00269
447656.16 3763834.94 0.00308 447655.93
3763808.27 0.00318
447657.09 3763786.00 0.00311 447701.21
3763782.14 0.00232
447856.92 3763749.71 0.00126 447854.99
3763730.13 0.00127
447854.35 3763698.35 0.00126 447855.31
3763676.84 0.00126
447675.51 3763287.46 0.00265 448481.33
3763485.29 0.00050
448479.95 3763195.53 0.00061 448478.56
3762907.16 0.00130

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 ,
VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	0.00729	448462.73	3762339.82	0.00570
448464.47	3762265.93	0.00382	448461.57	3762165.17	0.00302
448472.57	3762064.71	0.00149	448460.48	3762016.72	0.00102
448234.63	3761951.18	0.00089	448081.42	3761952.78	0.00098
448025.53	3761955.99	0.00102	447506.75	3761967.63	0.00110
447269.29	3761967.74	0.00106	447389.46	3761908.79	0.00068
447019.14	3761964.34	0.00085	447060.33	3761963.58	0.00088
446975.31	3761963.20	0.00079	446940.92	3761953.76	0.00068
446865.72	3761974.54	0.00065	446795.06	3761957.91	0.00044
446757.65	3761965.85	0.00039	446709.33	3761967.74	0.00033
446796.42	3762028.62	0.00063	446796.97	3762045.28	0.00068
446796.70	3762089.51	0.00079	446796.15	3762105.89	0.00083
446796.70	3762137.29	0.00088	446796.15	3762153.39	0.00090
446772.40	3762215.37	0.00074	446795.06	3762321.03	0.00084
446796.42	3762450.98	0.00049	446796.42	3762471.18	0.00045
446797.24	3762496.03	0.00041	446798.06	3762516.51	0.00039
446797.79	3762539.98	0.00036	446797.52	3762560.19	0.00035
446798.61	3762584.76	0.00033	446798.06	3762604.42	0.00032

```
        446799.70    3762654.11        0.00030                      446799.97
        3762674.58         0.00029
        446800.25    3762700.25        0.00029                      446800.25
        3762721.27         0.00029
        446799.97    3762735.74        0.00028                      446797.79
        3762748.02         0.00028
        446802.16    3762913.47        0.00029                      446802.16
        3762932.58         0.00030
        446802.43    3762949.24        0.00030                      446802.98
        3762967.26         0.00031
        446802.70    3762986.09        0.00032                      446802.16
        3763003.29         0.00032
        446802.16    3763021.86        0.00033                      446802.70
        3763040.70         0.00034
        446802.98    3763059.26        0.00035                      446803.52
        3763077.01         0.00037
        446756.29    3763085.26        0.00034                      446807.68
        3763646.39         0.00099
        446808.32    3763674.66        0.00100                      446807.68
        3763694.57         0.00099
        446808.32    3763710.63        0.00099                      446808.32
        3763726.37         0.00098
        446808.00    3763742.11        0.00097                      446808.32
        3763756.89         0.00098
        446808.64    3763798.32        0.00097                      446810.25
        3764484.08         0.00029
        446781.34    3764475.08        0.00027                      446722.56
        3764455.81         0.00023
        446170.32    3764559.79        0.00009                      446872.29
        3763190.26         0.00074
        446925.22    3763179.19        0.00079                      446984.86
        3763194.88         0.00105
        447010.56    3763193.28        0.00105                      447036.58
        3763193.60         0.00109
        447053.61    3763193.28        0.00112                      447076.42
        3763192.31         0.00117
        447093.45    3763192.63        0.00122                      447122.05
        3763192.63         0.00129
        447138.75    3763192.31        0.00133                      447167.99
        3763192.31         0.00143
        447170.68    3763172.18        0.00126                      447170.41
        3763158.25         0.00118
        447169.31    3763144.87        0.00113                      447147.46
        3763107.45         0.00092
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       13:48:15

                    PAGE 152
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5 YEARS FOR
                   SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                                  VOL3        , VOL4        , VOL5        ,
               VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
               VOL11       , VOL12       , VOL13       ,
               VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
               VOL19       , VOL20       , VOL21       ,
               VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
               VOL27       , VOL28       ,  . . .      ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                  ** CONC OF DPM      IN
```

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.00088	447146.92	3763064.30	0.00085
447149.92	3763038.90	0.00082	447148.56	3763019.78	0.00079
447148.56	3762997.39	0.00076	447206.08	3762958.49	0.00100
447209.33	3762922.51	0.00102	447208.40	3762890.70	0.00100
447145.83	3762888.87	0.00067	447122.55	3762889.07	0.00061
447094.33	3762890.05	0.00055	447071.04	3762890.45	0.00051
447043.61	3762889.66	0.00047	447017.76	3762888.87	0.00044
446992.11	3762889.07	0.00041	446964.28	3762888.28	0.00039
446940.41	3762888.47	0.00037	446911.20	3762888.08	0.00035
446885.35	3762889.66	0.00033	446862.07	3762888.87	0.00032
446871.45	3762779.57	0.00032	446926.31	3762768.72	0.00035
446983.74	3762774.24	0.00040	447009.00	3762774.05	0.00042
447030.51	3762774.44	0.00044	447055.37	3762774.05	0.00047
447076.88	3762774.24	0.00050	447101.16	3762774.44	0.00053
447123.85	3762774.05	0.00057	447148.12	3762775.03	0.00061
447170.23	3762774.84	0.00066	447196.78	3762775.48	0.00073
447242.12	3762776.57	0.00089	447262.33	3762776.03	0.00097
447294.56	3762776.30	0.00114	447313.13	3762775.48	0.00124
447313.40	3762749.53	0.00119	447327.86	3762713.09	0.00136
447327.36	3762679.87	0.00137	447327.74	3762657.02	0.00136
447327.28	3762636.82	0.00135	447327.51	3762612.90	0.00139
447327.28	3762592.24	0.00145	447327.04	3762569.71	0.00157
447327.28	3762547.89	0.00172	447326.58	3762524.67	0.00188
447326.58	3762506.09	0.00202	447327.51	3762477.53	0.00229
447325.88	3762454.31	0.00259	447225.58	3762432.95	0.00249
447200.27	3762430.63	0.00249	447156.85	3762430.16	0.00255
447131.77	3762430.86	0.00253	447102.74	3762430.63	0.00240
447079.06	3762430.86	0.00219	447034.94	3762433.65	0.00186
446995.47	3762433.65	0.00178	446972.71	3762434.34	0.00173
446941.37	3762434.58	0.00158	446916.06	3762436.90	0.00128

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        446876.35    3762436.90        0.00091                      446848.85
        3762647.05         0.00033
        446848.85    3762563.17        0.00039                      446849.17
        3762509.82         0.00047
        446849.17    3762455.82        0.00063                      446848.85
        3762702.00         0.00031
        446849.49    3762754.71
        0.00031

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       13:48:15

                     PAGE 153
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   5
                                  YEARS ***


                                   ** CONC OF DPM      IN
                                   MICROGRAMS/M**3                          **


            NETWORK
GROUP ID                        AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL,
ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.00729 AT (  448480.49,  3762357.96,   224.76,
224.76,    0.00)  DC
          2ND HIGHEST VALUE IS       0.00570 AT (  448462.73,  3762339.82,   224.57,
          224.57,    0.00)  DC
          3RD HIGHEST VALUE IS       0.00561 AT (  448507.91,  3762487.71,   225.77,
          225.77,    0.00)  DC
          4TH HIGHEST VALUE IS       0.00382 AT (  448464.47,  3762265.93,   223.32,
          223.32,    0.00)  DC
          5TH HIGHEST VALUE IS       0.00318 AT (  447655.93,  3763808.27,   237.51,
          237.51,    0.00)  DC
          6TH HIGHEST VALUE IS       0.00311 AT (  447657.09,  3763786.00,   237.62,
          237.62,    0.00)  DC
          7TH HIGHEST VALUE IS       0.00308 AT (  447656.16,  3763834.94,   237.37,
          237.37,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00302 AT (  448461.57,  3762165.17,   221.96,
          221.96,    0.00)  DC
          9TH HIGHEST VALUE IS       0.00269 AT (  447657.51,  3763869.03,   237.32,
          237.32,    0.00)  DC
         10TH HIGHEST VALUE IS       0.00265 AT (  447675.51,  3763287.46,   232.04,
         232.04,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       13:48:15

                     PAGE 154
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***
```

```
 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of         1628 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of         1278 Calm Hours Identified

A Total of          350 Missing Hours Identified (  0.80 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186    2215       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
ME W187    2215       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

Revised HRA Modeling (dated 4/12/23)

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.2.0
** Lakes Environmental Software Inc.
** Date: 4/12/2023
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\14822 Construction PER\14822
Construction PER.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME PERIOD
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "14822 Construction PER.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
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   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.0021654378
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 5
** 448415.406, 3762409.748, 225.24, 3.49, 6.51
** 448659.241, 3762398.494, 224.01, 3.49, 6.51
** 448751.148, 3762400.370, 222.22, 3.49, 6.51
** 448929.335, 3762451.012, 223.01, 3.49, 6.51
** 449315.720, 3762593.562, 224.31, 3.49, 6.51
** ----------------------------------------------------------------------
   LOCATION L0000001     VOLUME   448422.398 3762409.425 225.28
   LOCATION L0000002     VOLUME   448436.383 3762408.780 225.27
   LOCATION L0000003     VOLUME   448450.368 3762408.134 225.27
   LOCATION L0000004     VOLUME   448464.354 3762407.489 225.26
   LOCATION L0000005     VOLUME   448478.339 3762406.843 225.25
   LOCATION L0000006     VOLUME   448492.324 3762406.198 225.25
   LOCATION L0000007     VOLUME   448506.309 3762405.552 225.24
   LOCATION L0000008     VOLUME   448520.294 3762404.907 225.23
   LOCATION L0000009     VOLUME   448534.279 3762404.262 225.23
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   LOCATION L0000010     VOLUME   448548.264 3762403.616 225.22
   LOCATION L0000011     VOLUME   448562.249 3762402.971 225.21
   LOCATION L0000012     VOLUME   448576.234 3762402.325 225.27
   LOCATION L0000013     VOLUME   448590.220 3762401.680 225.38
   LOCATION L0000014     VOLUME   448604.205 3762401.034 225.39
   LOCATION L0000015     VOLUME   448618.190 3762400.389 225.20
   LOCATION L0000016     VOLUME   448632.175 3762399.743 224.95
   LOCATION L0000017     VOLUME   448646.160 3762399.098 224.43
   LOCATION L0000018     VOLUME   448660.146 3762398.513 223.93
   LOCATION L0000019     VOLUME   448674.143 3762398.798 223.50
   LOCATION L0000020     VOLUME   448688.140 3762399.084 223.08
   LOCATION L0000021     VOLUME   448702.137 3762399.370 222.76
   LOCATION L0000022     VOLUME   448716.134 3762399.655 222.44
   LOCATION L0000023     VOLUME   448730.131 3762399.941 222.31
   LOCATION L0000024     VOLUME   448744.128 3762400.226 222.23
   LOCATION L0000025     VOLUME   448757.861 3762402.278 222.28
   LOCATION L0000026     VOLUME   448771.328 3762406.105 222.42
   LOCATION L0000027     VOLUME   448784.794 3762409.932 222.56
   LOCATION L0000028     VOLUME   448798.261 3762413.760 222.74
   LOCATION L0000029     VOLUME   448811.728 3762417.587 222.90
   LOCATION L0000030     VOLUME   448825.194 3762421.415 222.80
   LOCATION L0000031     VOLUME   448838.661 3762425.242 222.70
   LOCATION L0000032     VOLUME   448852.128 3762429.069 222.70
   LOCATION L0000033     VOLUME   448865.594 3762432.897 222.74
   LOCATION L0000034     VOLUME   448879.061 3762436.724 222.81
   LOCATION L0000035     VOLUME   448892.528 3762440.551 222.85
   LOCATION L0000036     VOLUME   448905.994 3762444.379 222.89
   LOCATION L0000037     VOLUME   448919.461 3762448.206 222.93
   LOCATION L0000038     VOLUME   448932.839 3762452.305 222.99
   LOCATION L0000039     VOLUME   448945.974 3762457.151 223.14
   LOCATION L0000040     VOLUME   448959.108 3762461.997 223.33
   LOCATION L0000041     VOLUME   448972.243 3762466.843 223.42
   LOCATION L0000042     VOLUME   448985.378 3762471.688 223.47
   LOCATION L0000043     VOLUME   448998.512 3762476.534 223.52
   LOCATION L0000044     VOLUME   449011.647 3762481.380 223.57
   LOCATION L0000045     VOLUME   449024.782 3762486.226 223.67
   LOCATION L0000046     VOLUME   449037.916 3762491.071 223.86
   LOCATION L0000047     VOLUME   449051.051 3762495.917 224.02
   LOCATION L0000048     VOLUME   449064.185 3762500.763 224.07
   LOCATION L0000049     VOLUME   449077.320 3762505.609 224.12
   LOCATION L0000050     VOLUME   449090.455 3762510.455 224.17
   LOCATION L0000051     VOLUME   449103.589 3762515.300 224.22
   LOCATION L0000052     VOLUME   449116.724 3762520.146 224.27
   LOCATION L0000053     VOLUME   449129.859 3762524.992 224.32
   LOCATION L0000054     VOLUME   449142.993 3762529.838 224.37
   LOCATION L0000055     VOLUME   449156.128 3762534.684 224.42
   LOCATION L0000056     VOLUME   449169.262 3762539.529 224.47
   LOCATION L0000057     VOLUME   449182.397 3762544.375 224.46
   LOCATION L0000058     VOLUME   449195.532 3762549.221 224.50
   LOCATION L0000059     VOLUME   449208.666 3762554.067 224.51
   LOCATION L0000060     VOLUME   449221.801 3762558.912 224.46
   LOCATION L0000061     VOLUME   449234.936 3762563.758 224.47
   LOCATION L0000062     VOLUME   449248.070 3762568.604 224.51
   LOCATION L0000063     VOLUME   449261.205 3762573.450 224.49
   LOCATION L0000064     VOLUME   449274.339 3762578.296 224.40
   LOCATION L0000065     VOLUME   449287.474 3762583.141 224.32
   LOCATION L0000066     VOLUME   449300.609 3762587.987 224.36
   LOCATION L0000067     VOLUME   449313.743 3762592.833 224.41
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
   SRCPARAM VOL1         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL2         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL3         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL4         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL5         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL6         0.0001378005     5.000    44.302     1.400
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   SRCPARAM VOL7         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL8         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL9         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL10        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL11        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL12        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL13        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL14        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL15        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL16        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL17        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL18        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL19        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL20        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL21        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL22        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL23        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL24        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL25        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL26        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL27        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL28        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL29        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL30        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL31        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL32        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL33        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL34        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL35        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL36        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL37        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL38        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL39        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL40        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL41        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL42        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL43        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL44        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL45        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL46        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL47        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL48        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL49        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL50        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL51        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL52        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL53        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL54        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL55        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL56        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL57        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL58        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL59        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL60        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL61        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL62        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL63        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL64        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL65        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL66        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL67        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL68        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL69        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL70        0.0001378005     5.000    44.302     1.400
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001     0.00003232      3.49      6.51      3.25
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SRCPARAM L0000002     0.00003232      3.49      6.51      3.25
SRCPARAM L0000003     0.00003232      3.49      6.51      3.25
SRCPARAM L0000004     0.00003232      3.49      6.51      3.25
SRCPARAM L0000005     0.00003232      3.49      6.51      3.25
SRCPARAM L0000006     0.00003232      3.49      6.51      3.25
SRCPARAM L0000007     0.00003232      3.49      6.51      3.25
SRCPARAM L0000008     0.00003232      3.49      6.51      3.25
SRCPARAM L0000009     0.00003232      3.49      6.51      3.25
SRCPARAM L0000010     0.00003232      3.49      6.51      3.25
SRCPARAM L0000011     0.00003232      3.49      6.51      3.25
SRCPARAM L0000012     0.00003232      3.49      6.51      3.25
SRCPARAM L0000013     0.00003232      3.49      6.51      3.25
SRCPARAM L0000014     0.00003232      3.49      6.51      3.25
SRCPARAM L0000015     0.00003232      3.49      6.51      3.25
SRCPARAM L0000016     0.00003232      3.49      6.51      3.25
SRCPARAM L0000017     0.00003232      3.49      6.51      3.25
SRCPARAM L0000018     0.00003232      3.49      6.51      3.25
SRCPARAM L0000019     0.00003232      3.49      6.51      3.25
SRCPARAM L0000020     0.00003232      3.49      6.51      3.25
SRCPARAM L0000021     0.00003232      3.49      6.51      3.25
SRCPARAM L0000022     0.00003232      3.49      6.51      3.25
SRCPARAM L0000023     0.00003232      3.49      6.51      3.25
SRCPARAM L0000024     0.00003232      3.49      6.51      3.25
SRCPARAM L0000025     0.00003232      3.49      6.51      3.25
SRCPARAM L0000026     0.00003232      3.49      6.51      3.25
SRCPARAM L0000027     0.00003232      3.49      6.51      3.25
SRCPARAM L0000028     0.00003232      3.49      6.51      3.25
SRCPARAM L0000029     0.00003232      3.49      6.51      3.25
SRCPARAM L0000030     0.00003232      3.49      6.51      3.25
SRCPARAM L0000031     0.00003232      3.49      6.51      3.25
SRCPARAM L0000032     0.00003232      3.49      6.51      3.25
SRCPARAM L0000033     0.00003232      3.49      6.51      3.25
SRCPARAM L0000034     0.00003232      3.49      6.51      3.25
SRCPARAM L0000035     0.00003232      3.49      6.51      3.25
SRCPARAM L0000036     0.00003232      3.49      6.51      3.25
SRCPARAM L0000037     0.00003232      3.49      6.51      3.25
SRCPARAM L0000038     0.00003232      3.49      6.51      3.25
SRCPARAM L0000039     0.00003232      3.49      6.51      3.25
SRCPARAM L0000040     0.00003232      3.49      6.51      3.25
SRCPARAM L0000041     0.00003232      3.49      6.51      3.25
SRCPARAM L0000042     0.00003232      3.49      6.51      3.25
SRCPARAM L0000043     0.00003232      3.49      6.51      3.25
SRCPARAM L0000044     0.00003232      3.49      6.51      3.25
SRCPARAM L0000045     0.00003232      3.49      6.51      3.25
SRCPARAM L0000046     0.00003232      3.49      6.51      3.25
SRCPARAM L0000047     0.00003232      3.49      6.51      3.25
SRCPARAM L0000048     0.00003232      3.49      6.51      3.25
SRCPARAM L0000049     0.00003232      3.49      6.51      3.25
SRCPARAM L0000050     0.00003232      3.49      6.51      3.25
SRCPARAM L0000051     0.00003232      3.49      6.51      3.25
SRCPARAM L0000052     0.00003232      3.49      6.51      3.25
SRCPARAM L0000053     0.00003232      3.49      6.51      3.25
SRCPARAM L0000054     0.00003232      3.49      6.51      3.25
SRCPARAM L0000055     0.00003232      3.49      6.51      3.25
SRCPARAM L0000056     0.00003232      3.49      6.51      3.25
SRCPARAM L0000057     0.00003232      3.49      6.51      3.25
SRCPARAM L0000058     0.00003232      3.49      6.51      3.25
SRCPARAM L0000059     0.00003232      3.49      6.51      3.25
SRCPARAM L0000060     0.00003232      3.49      6.51      3.25
SRCPARAM L0000061     0.00003232      3.49      6.51      3.25
SRCPARAM L0000062     0.00003232      3.49      6.51      3.25
SRCPARAM L0000063     0.00003232      3.49      6.51      3.25
SRCPARAM L0000064     0.00003232      3.49      6.51      3.25
SRCPARAM L0000065     0.00003232      3.49      6.51      3.25
SRCPARAM L0000066     0.00003232      3.49      6.51      3.25
SRCPARAM L0000067     0.00003232      3.49      6.51      3.25
```

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** ----------------------------------------------------------------------
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000057     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000058     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000058     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000058     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000058     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000059     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000059     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000059     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000059     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000060     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000060     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000060     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000060     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000061     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000061     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000061     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000061     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000062     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000062     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000062     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000062     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000063     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000063     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000063     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000063     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000064     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000064     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
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** AERMOD Receptor Pathway
**********************************
**
**
RE STARTING
   INCLUDED "14822 Construction PER.rou"
RE FINISHED
**
**********************************
** AERMOD Meteorology Pathway
**********************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**********************************
** AERMOD Output Pathway
**********************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE PERIOD ALL "14822 CONSTRUCTION PER.AD\PE00GALL.PLT" 31
   SUMMFILE "14822 Construction PER.sum"
OU FINISHED
**
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** Project Parameters
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** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
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** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.2.0
** Lakes Environmental Software Inc.
** Date: 4/12/2023
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\14822 Construction PER\14822
Construction PER.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME PERIOD
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "14822 Construction PER.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
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   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.0021654378
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 5
** 448415.406, 3762409.748, 225.24, 3.49, 6.51
** 448659.241, 3762398.494, 224.01, 3.49, 6.51
** 448751.148, 3762400.370, 222.22, 3.49, 6.51
** 448929.335, 3762451.012, 223.01, 3.49, 6.51
** 449315.720, 3762593.562, 224.31, 3.49, 6.51
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   LOCATION L0000002     VOLUME   448436.383 3762408.780 225.27
   LOCATION L0000003     VOLUME   448450.368 3762408.134 225.27
   LOCATION L0000004     VOLUME   448464.354 3762407.489 225.26
   LOCATION L0000005     VOLUME   448478.339 3762406.843 225.25
   LOCATION L0000006     VOLUME   448492.324 3762406.198 225.25
   LOCATION L0000007     VOLUME   448506.309 3762405.552 225.24
   LOCATION L0000008     VOLUME   448520.294 3762404.907 225.23
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   LOCATION L0000009     VOLUME   448534.279 3762404.262 225.23
   LOCATION L0000010     VOLUME   448548.264 3762403.616 225.22
   LOCATION L0000011     VOLUME   448562.249 3762402.971 225.21
   LOCATION L0000012     VOLUME   448576.234 3762402.325 225.27
   LOCATION L0000013     VOLUME   448590.220 3762401.680 225.38
   LOCATION L0000014     VOLUME   448604.205 3762401.034 225.39
   LOCATION L0000015     VOLUME   448618.190 3762400.389 225.20
   LOCATION L0000016     VOLUME   448632.175 3762399.743 224.95
   LOCATION L0000017     VOLUME   448646.160 3762399.098 224.43
   LOCATION L0000018     VOLUME   448660.146 3762398.513 223.93
   LOCATION L0000019     VOLUME   448674.143 3762398.798 223.50
   LOCATION L0000020     VOLUME   448688.140 3762399.084 223.08
   LOCATION L0000021     VOLUME   448702.137 3762399.370 222.76
   LOCATION L0000022     VOLUME   448716.134 3762399.655 222.44
   LOCATION L0000023     VOLUME   448730.131 3762399.941 222.31
   LOCATION L0000024     VOLUME   448744.128 3762400.226 222.23
   LOCATION L0000025     VOLUME   448757.861 3762402.278 222.28
   LOCATION L0000026     VOLUME   448771.328 3762406.105 222.42
   LOCATION L0000027     VOLUME   448784.794 3762409.932 222.56
   LOCATION L0000028     VOLUME   448798.261 3762413.760 222.74
   LOCATION L0000029     VOLUME   448811.728 3762417.587 222.90
   LOCATION L0000030     VOLUME   448825.194 3762421.415 222.80
   LOCATION L0000031     VOLUME   448838.661 3762425.242 222.70
   LOCATION L0000032     VOLUME   448852.128 3762429.069 222.70
   LOCATION L0000033     VOLUME   448865.594 3762432.897 222.74
   LOCATION L0000034     VOLUME   448879.061 3762436.724 222.81
   LOCATION L0000035     VOLUME   448892.528 3762440.551 222.85
   LOCATION L0000036     VOLUME   448905.994 3762444.379 222.89
   LOCATION L0000037     VOLUME   448919.461 3762448.206 222.93
   LOCATION L0000038     VOLUME   448932.839 3762452.305 222.99
   LOCATION L0000039     VOLUME   448945.974 3762457.151 223.14
   LOCATION L0000040     VOLUME   448959.108 3762461.997 223.33
   LOCATION L0000041     VOLUME   448972.243 3762466.843 223.42
   LOCATION L0000042     VOLUME   448985.378 3762471.688 223.47
   LOCATION L0000043     VOLUME   448998.512 3762476.534 223.52
   LOCATION L0000044     VOLUME   449011.647 3762481.380 223.57
   LOCATION L0000045     VOLUME   449024.782 3762486.226 223.67
   LOCATION L0000046     VOLUME   449037.916 3762491.071 223.86
   LOCATION L0000047     VOLUME   449051.051 3762495.917 224.02
   LOCATION L0000048     VOLUME   449064.185 3762500.763 224.07
   LOCATION L0000049     VOLUME   449077.320 3762505.609 224.12
   LOCATION L0000050     VOLUME   449090.455 3762510.455 224.17
   LOCATION L0000051     VOLUME   449103.589 3762515.300 224.22
   LOCATION L0000052     VOLUME   449116.724 3762520.146 224.27
   LOCATION L0000053     VOLUME   449129.859 3762524.992 224.32
   LOCATION L0000054     VOLUME   449142.993 3762529.838 224.37
   LOCATION L0000055     VOLUME   449156.128 3762534.684 224.42
   LOCATION L0000056     VOLUME   449169.262 3762539.529 224.47
   LOCATION L0000057     VOLUME   449182.397 3762544.375 224.46
   LOCATION L0000058     VOLUME   449195.532 3762549.221 224.50
   LOCATION L0000059     VOLUME   449208.666 3762554.067 224.51
   LOCATION L0000060     VOLUME   449221.801 3762558.912 224.46
   LOCATION L0000061     VOLUME   449234.936 3762563.758 224.47
   LOCATION L0000062     VOLUME   449248.070 3762568.604 224.51
   LOCATION L0000063     VOLUME   449261.205 3762573.450 224.49
   LOCATION L0000064     VOLUME   449274.339 3762578.296 224.40
   LOCATION L0000065     VOLUME   449287.474 3762583.141 224.32
   LOCATION L0000066     VOLUME   449300.609 3762587.987 224.36
   LOCATION L0000067     VOLUME   449313.743 3762592.833 224.41
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** Source Parameters **
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   SRCPARAM VOL2         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL3         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL4         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL5         0.0001378005     5.000    44.302     1.400
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  SRCPARAM VOL6         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL7         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL8         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL9         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL10        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL11        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL12        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL13        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL14        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL15        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL16        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL17        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL18        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL19        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL20        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL21        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL22        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL23        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL24        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL25        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL26        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL27        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL28        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL29        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL30        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL31        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL32        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL33        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL34        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL35        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL36        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL37        0.0001378005     5.000    44.302     1.400
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  SRCPARAM VOL40        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL41        0.0001378005     5.000    44.302     1.400
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  SRCPARAM VOL50        0.0001378005     5.000    44.302     1.400
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  SRCPARAM VOL52        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL53        0.0001378005     5.000    44.302     1.400
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  SRCPARAM VOL55        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL56        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL57        0.0001378005     5.000    44.302     1.400
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  SRCPARAM VOL59        0.0001378005     5.000    44.302     1.400
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  SRCPARAM VOL61        0.0001378005     5.000    44.302     1.400
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  SRCPARAM VOL68        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL69        0.0001378005     5.000    44.302     1.400
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** LINE VOLUME Source ID = SLINE1
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SRCPARAM L0000004     0.00003232      3.49      6.51      3.25
SRCPARAM L0000005     0.00003232      3.49      6.51      3.25
SRCPARAM L0000006     0.00003232      3.49      6.51      3.25
SRCPARAM L0000007     0.00003232      3.49      6.51      3.25
SRCPARAM L0000008     0.00003232      3.49      6.51      3.25
SRCPARAM L0000009     0.00003232      3.49      6.51      3.25
SRCPARAM L0000010     0.00003232      3.49      6.51      3.25
SRCPARAM L0000011     0.00003232      3.49      6.51      3.25
SRCPARAM L0000012     0.00003232      3.49      6.51      3.25
SRCPARAM L0000013     0.00003232      3.49      6.51      3.25
SRCPARAM L0000014     0.00003232      3.49      6.51      3.25
SRCPARAM L0000015     0.00003232      3.49      6.51      3.25
SRCPARAM L0000016     0.00003232      3.49      6.51      3.25
SRCPARAM L0000017     0.00003232      3.49      6.51      3.25
SRCPARAM L0000018     0.00003232      3.49      6.51      3.25
SRCPARAM L0000019     0.00003232      3.49      6.51      3.25
SRCPARAM L0000020     0.00003232      3.49      6.51      3.25
SRCPARAM L0000021     0.00003232      3.49      6.51      3.25
SRCPARAM L0000022     0.00003232      3.49      6.51      3.25
SRCPARAM L0000023     0.00003232      3.49      6.51      3.25
SRCPARAM L0000024     0.00003232      3.49      6.51      3.25
SRCPARAM L0000025     0.00003232      3.49      6.51      3.25
SRCPARAM L0000026     0.00003232      3.49      6.51      3.25
SRCPARAM L0000027     0.00003232      3.49      6.51      3.25
SRCPARAM L0000028     0.00003232      3.49      6.51      3.25
SRCPARAM L0000029     0.00003232      3.49      6.51      3.25
SRCPARAM L0000030     0.00003232      3.49      6.51      3.25
SRCPARAM L0000031     0.00003232      3.49      6.51      3.25
SRCPARAM L0000032     0.00003232      3.49      6.51      3.25
SRCPARAM L0000033     0.00003232      3.49      6.51      3.25
SRCPARAM L0000034     0.00003232      3.49      6.51      3.25
SRCPARAM L0000035     0.00003232      3.49      6.51      3.25
SRCPARAM L0000036     0.00003232      3.49      6.51      3.25
SRCPARAM L0000037     0.00003232      3.49      6.51      3.25
SRCPARAM L0000038     0.00003232      3.49      6.51      3.25
SRCPARAM L0000039     0.00003232      3.49      6.51      3.25
SRCPARAM L0000040     0.00003232      3.49      6.51      3.25
SRCPARAM L0000041     0.00003232      3.49      6.51      3.25
SRCPARAM L0000042     0.00003232      3.49      6.51      3.25
SRCPARAM L0000043     0.00003232      3.49      6.51      3.25
SRCPARAM L0000044     0.00003232      3.49      6.51      3.25
SRCPARAM L0000045     0.00003232      3.49      6.51      3.25
SRCPARAM L0000046     0.00003232      3.49      6.51      3.25
SRCPARAM L0000047     0.00003232      3.49      6.51      3.25
SRCPARAM L0000048     0.00003232      3.49      6.51      3.25
SRCPARAM L0000049     0.00003232      3.49      6.51      3.25
SRCPARAM L0000050     0.00003232      3.49      6.51      3.25
SRCPARAM L0000051     0.00003232      3.49      6.51      3.25
SRCPARAM L0000052     0.00003232      3.49      6.51      3.25
SRCPARAM L0000053     0.00003232      3.49      6.51      3.25
SRCPARAM L0000054     0.00003232      3.49      6.51      3.25
SRCPARAM L0000055     0.00003232      3.49      6.51      3.25
SRCPARAM L0000056     0.00003232      3.49      6.51      3.25
SRCPARAM L0000057     0.00003232      3.49      6.51      3.25
SRCPARAM L0000058     0.00003232      3.49      6.51      3.25
SRCPARAM L0000059     0.00003232      3.49      6.51      3.25
SRCPARAM L0000060     0.00003232      3.49      6.51      3.25
SRCPARAM L0000061     0.00003232      3.49      6.51      3.25
SRCPARAM L0000062     0.00003232      3.49      6.51      3.25
SRCPARAM L0000063     0.00003232      3.49      6.51      3.25
SRCPARAM L0000064     0.00003232      3.49      6.51      3.25
SRCPARAM L0000065     0.00003232      3.49      6.51      3.25
SRCPARAM L0000066     0.00003232      3.49      6.51      3.25
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   SRCPARAM L0000067     0.00003232      3.49      6.51      3.25
** ------------------------------------------------------------------
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000001     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000002     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000003     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000004     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000005     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000006     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000006     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000007     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000007     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000008     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000008     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000009     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000009     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000010     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000010     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000011     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000011     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000012     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000012     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000013     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000013     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000014     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000014     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000015     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000015     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000016     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000016     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000017     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000017     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000018     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000019     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000020     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000021     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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EMISFACT L0000066     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Construction PER.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE PERIOD ALL "14822 CONSTRUCTION PER.AD\PE00GALL.PLT" 31
   SUMMFILE "14822 Construction PER.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
```

```
 ME W186    2215       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    2215       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************


FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for   137 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: DPM

 **Model Calculates PERIOD Averages Only

 **This Run Includes:    137 Source(s);       1 Source Group(s); and     227 Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:    137 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
```

m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 289.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate
Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.7 MB of RAM.

**Input Runstream File:
aermod.inp
**Output Print File:
aermod.out

**Detailed Error/Message File: 14822 Construction PER.err
**File for Summary of Results: 14822 Construction PER.sum

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
VOL1	0	0.13780E-03	447959.2	3762097.7	222.0	5.00	44.30	1.40	YES HRDOW
VOL2	0	0.13780E-03	448134.4	3762098.8	222.4	5.00	44.30	1.40	YES HRDOW
VOL3	0	0.13780E-03	447790.3	3762102.9	221.9	5.00	44.30	1.40	YES HRDOW
VOL4	0	0.13780E-03	447618.2	3762098.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL5	0	0.13780E-03	447446.1	3762100.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL6	0	0.13780E-03	447276.1	3762094.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL7	0	0.13780E-03	447099.9	3762094.7	219.6	5.00	44.30	1.40	YES HRDOW
VOL8	0	0.13780E-03	446929.9	3762096.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL9	0	0.13780E-03	448310.5	3762107.0	222.0	5.00	44.30	1.40	YES HRDOW
VOL10	0	0.13780E-03	446926.7	3762209.8	221.3	5.00	44.30	1.40	YES HRDOW
VOL11	0	0.13780E-03	446924.1	3762324.3	222.2	5.00	44.30	1.40	YES HRDOW
VOL12	0	0.13780E-03	447100.3	3762207.3	221.0	5.00	44.30	1.40	YES HRDOW
VOL13	0	0.13780E-03	447276.4	3762207.3	221.9	5.00	44.30	1.40	

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 YES   HRDOW
 VOL14            0   0.13780E-03  447447.5 3762207.3   222.0     5.00    44.30     1.40
 YES   HRDOW
 VOL15            0   0.13780E-03  447616.0 3762206.0   222.0     5.00    44.30     1.40
 YES   HRDOW
 VOL16            0   0.13780E-03  447807.2 3762206.0   222.6     5.00    44.30     1.40
 YES   HRDOW
 VOL17            0   0.13780E-03  447959.5 3762206.0   223.0     5.00    44.30     1.40
 YES   HRDOW
 VOL18            0   0.13780E-03  448138.1 3762203.5   222.6     5.00    44.30     1.40
 YES   HRDOW
 VOL19            0   0.13780E-03  448313.0 3762202.2   222.6     5.00    44.30     1.40
 YES   HRDOW
 VOL20            0   0.13780E-03  447100.3 3762325.5   222.0     5.00    44.30     1.40
 YES   HRDOW
 VOL21            0   0.13780E-03  447276.4 3762324.3   222.9     5.00    44.30     1.40
 YES   HRDOW
 VOL22            0   0.13780E-03  447448.7 3762324.3   222.7     5.00    44.30     1.40
 YES   HRDOW
 VOL23            0   0.13780E-03  447616.0 3762326.8   222.7     5.00    44.30     1.40
 YES   HRDOW
 VOL24            0   0.13780E-03  447789.6 3762328.0   223.7     5.00    44.30     1.40
 YES   HRDOW
 VOL25            0   0.13780E-03  447960.7 3762326.8   224.2     5.00    44.30     1.40
 YES   HRDOW
 VOL26            0   0.13780E-03  448135.6 3762328.0   224.5     5.00    44.30     1.40
 YES   HRDOW
 VOL27            0   0.13780E-03  448318.0 3762330.6   224.8     5.00    44.30     1.40
 YES   HRDOW
 VOL28            0   0.13780E-03  447432.4 3762513.0   225.3     5.00    44.30     1.40
 YES   HRDOW
 VOL29            0   0.13780E-03  447621.1 3762513.0   224.5     5.00    44.30     1.40
 YES   HRDOW
 VOL30            0   0.13780E-03  447811.0 3762515.5   225.4     5.00    44.30     1.40
 YES   HRDOW
 VOL31            0   0.13780E-03  447999.7 3762515.5   225.9     5.00    44.30     1.40
 YES   HRDOW
 VOL32            0   0.13780E-03  448189.7 3762514.2   225.7     5.00    44.30     1.40
 YES   HRDOW
 VOL33            0   0.13780E-03  448315.5 3762516.7   226.2     5.00    44.30     1.40
 YES   HRDOW
 VOL34            0   0.13780E-03  448316.7 3762709.2   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL35            0   0.13780E-03  448189.7 3762708.0   226.4     5.00    44.30     1.40
 YES   HRDOW
 VOL36            0   0.13780E-03  448001.0 3762706.7   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL37            0   0.13780E-03  447811.0 3762706.7   227.0     5.00    44.30     1.40
 YES   HRDOW
 VOL38            0   0.13780E-03  447621.1 3762704.2   226.6     5.00    44.30     1.40
 YES   HRDOW
 VOL39            0   0.13780E-03  447433.6 3762704.2   227.3     5.00    44.30     1.40
 YES   HRDOW
 VOL40            0   0.13780E-03  447524.2 3762897.9   228.4     5.00    44.30     1.40
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***
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SOURCE ID	SOURCE SCALAR VARY BY	NUMBER URBAN PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)
VOL41	YES HRDOW	0	0.13780E-03	447329.2	3762897.9	228.7	5.00	44.30	1.40
VOL42	YES HRDOW	0	0.13780E-03	447304.1	3763089.1	231.3	5.00	44.30	1.40
VOL43	YES HRDOW	0	0.13780E-03	447533.0	3763086.6	231.2	5.00	44.30	1.40
VOL44	YES HRDOW	0	0.13780E-03	447433.6	3763086.6	231.2	5.00	44.30	1.40
VOL45	YES HRDOW	0	0.13780E-03	447530.5	3763277.8	232.5	5.00	44.30	1.40
VOL46	YES HRDOW	0	0.13780E-03	447305.3	3763281.6	232.2	5.00	44.30	1.40
VOL47	YES HRDOW	0	0.13780E-03	447419.8	3763282.9	232.6	5.00	44.30	1.40
VOL48	YES HRDOW	0	0.13780E-03	447112.8	3763304.2	231.8	5.00	44.30	1.40
VOL49	YES HRDOW	0	0.13780E-03	446924.1	3763305.5	231.6	5.00	44.30	1.40
VOL50	YES HRDOW	0	0.13780E-03	447533.0	3763469.0	233.5	5.00	44.30	1.40
VOL51	YES HRDOW	0	0.13780E-03	447217.3	3763472.8	233.2	5.00	44.30	1.40
VOL52	YES HRDOW	0	0.13780E-03	447088.9	3763471.6	233.0	5.00	44.30	1.40
VOL53	YES HRDOW	0	0.13780E-03	446925.4	3763474.1	232.6	5.00	44.30	1.40
VOL54	YES HRDOW	0	0.13780E-03	447361.9	3763470.3	233.5	5.00	44.30	1.40
VOL55	YES HRDOW	0	0.13780E-03	447531.7	3763659.5	234.9	5.00	44.30	1.40
VOL56	YES HRDOW	0	0.13780E-03	447533.5	3763806.8	235.6	5.00	44.30	1.40
VOL57	YES HRDOW	0	0.13780E-03	447359.9	3763658.4	234.1	5.00	44.30	1.40
VOL58	YES HRDOW	0	0.13780E-03	447219.0	3763657.1	234.1	5.00	44.30	1.40
VOL59	YES HRDOW	0	0.13780E-03	447090.7	3763659.7	234.5	5.00	44.30	1.40
VOL60	YES HRDOW	0	0.13780E-03	446930.9	3763659.7	234.2	5.00	44.30	1.40
VOL61	YES HRDOW	0	0.13780E-03	447357.4	3763804.3	234.7	5.00	44.30	1.40
VOL62	YES HRDOW	0	0.13780E-03	447219.0	3763804.3	234.9	5.00	44.30	1.40
VOL63	YES HRDOW	0	0.13780E-03	447093.2	3763805.6	235.8	5.00	44.30	1.40
VOL64	YES HRDOW	0	0.13780E-03	446932.2	3763805.6	235.5	5.00	44.30	1.40
VOL65	YES HRDOW	0	0.13780E-03	447133.5	3763996.8	237.4	5.00	44.30	1.40
VOL66	YES HRDOW	0	0.13780E-03	446943.5	3763996.8	237.4	5.00	44.30	1.40
VOL67	YES HRDOW	0	0.13780E-03	447134.7	3764159.1	239.1	5.00	44.30	1.40
VOL68	YES HRDOW	0	0.13780E-03	446944.8	3764159.1	240.0	5.00	44.30	1.40
VOL69		0	0.13780E-03	447136.0	3764318.9	241.0	5.00	44.30	1.40

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 YES   HRDOW
 VOL70           0   0.13780E-03  446944.8 3764317.6   240.2     5.00    44.30     1.40
 YES   HRDOW
 L0000001        0   0.32320E-04  448422.4 3762409.4   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000002        0   0.32320E-04  448436.4 3762408.8   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000003        0   0.32320E-04  448450.4 3762408.1   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000004        0   0.32320E-04  448464.4 3762407.5   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000005        0   0.32320E-04  448478.3 3762406.8   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000006        0   0.32320E-04  448492.3 3762406.2   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000007        0   0.32320E-04  448506.3 3762405.6   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000008        0   0.32320E-04  448520.3 3762404.9   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000009        0   0.32320E-04  448534.3 3762404.3   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000010        0   0.32320E-04  448548.3 3762403.6   225.2     3.49     6.51     3.25
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - -

 L0000011        0   0.32320E-04  448562.2 3762403.0   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000012        0   0.32320E-04  448576.2 3762402.3   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000013        0   0.32320E-04  448590.2 3762401.7   225.4     3.49     6.51     3.25
 YES   HRDOW
 L0000014        0   0.32320E-04  448604.2 3762401.0   225.4     3.49     6.51     3.25
 YES   HRDOW
 L0000015        0   0.32320E-04  448618.2 3762400.4   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000016        0   0.32320E-04  448632.2 3762399.7   225.0     3.49     6.51     3.25
 YES   HRDOW
 L0000017        0   0.32320E-04  448646.2 3762399.1   224.4     3.49     6.51     3.25
 YES   HRDOW
 L0000018        0   0.32320E-04  448660.1 3762398.5   223.9     3.49     6.51     3.25
 YES   HRDOW
 L0000019        0   0.32320E-04  448674.1 3762398.8   223.5     3.49     6.51     3.25
 YES   HRDOW
 L0000020        0   0.32320E-04  448688.1 3762399.1   223.1     3.49     6.51     3.25
 YES   HRDOW
 L0000021        0   0.32320E-04  448702.1 3762399.4   222.8     3.49     6.51     3.25
 YES   HRDOW
 L0000022        0   0.32320E-04  448716.1 3762399.7   222.4     3.49     6.51     3.25
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 YES   HRDOW
 L0000023         0   0.32320E-04  448730.1 3762399.9   222.3     3.49     6.51     3.25
 YES   HRDOW
 L0000024         0   0.32320E-04  448744.1 3762400.2   222.2     3.49     6.51     3.25
 YES   HRDOW
 L0000025         0   0.32320E-04  448757.9 3762402.3   222.3     3.49     6.51     3.25
 YES   HRDOW
 L0000026         0   0.32320E-04  448771.3 3762406.1   222.4     3.49     6.51     3.25
 YES   HRDOW
 L0000027         0   0.32320E-04  448784.8 3762409.9   222.6     3.49     6.51     3.25
 YES   HRDOW
 L0000028         0   0.32320E-04  448798.3 3762413.8   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000029         0   0.32320E-04  448811.7 3762417.6   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000030         0   0.32320E-04  448825.2 3762421.4   222.8     3.49     6.51     3.25
 YES   HRDOW
 L0000031         0   0.32320E-04  448838.7 3762425.2   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000032         0   0.32320E-04  448852.1 3762429.1   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000033         0   0.32320E-04  448865.6 3762432.9   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000034         0   0.32320E-04  448879.1 3762436.7   222.8     3.49     6.51     3.25
 YES   HRDOW
 L0000035         0   0.32320E-04  448892.5 3762440.6   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000036         0   0.32320E-04  448906.0 3762444.4   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000037         0   0.32320E-04  448919.5 3762448.2   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000038         0   0.32320E-04  448932.8 3762452.3   223.0     3.49     6.51     3.25
 YES   HRDOW
 L0000039         0   0.32320E-04  448946.0 3762457.2   223.1     3.49     6.51     3.25
 YES   HRDOW
 L0000040         0   0.32320E-04  448959.1 3762462.0   223.3     3.49     6.51     3.25
 YES   HRDOW
 L0000041         0   0.32320E-04  448972.2 3762466.8   223.4     3.49     6.51     3.25
 YES   HRDOW
 L0000042         0   0.32320E-04  448985.4 3762471.7   223.5     3.49     6.51     3.25
 YES   HRDOW
 L0000043         0   0.32320E-04  448998.5 3762476.5   223.5     3.49     6.51     3.25
 YES   HRDOW
 L0000044         0   0.32320E-04  449011.6 3762481.4   223.6     3.49     6.51     3.25
 YES   HRDOW
 L0000045         0   0.32320E-04  449024.8 3762486.2   223.7     3.49     6.51     3.25
 YES   HRDOW
 L0000046         0   0.32320E-04  449037.9 3762491.1   223.9     3.49     6.51     3.25
 YES   HRDOW
 L0000047         0   0.32320E-04  449051.1 3762495.9   224.0     3.49     6.51     3.25
 YES   HRDOW
 L0000048         0   0.32320E-04  449064.2 3762500.8   224.1     3.49     6.51     3.25
 YES   HRDOW
 L0000049         0   0.32320E-04  449077.3 3762505.6   224.1     3.49     6.51     3.25
 YES   HRDOW
 L0000050         0   0.32320E-04  449090.5 3762510.5   224.2     3.49     6.51     3.25
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE SCALAR VARY BY	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
L0000051	0	0.32320E-04	449103.6	3762515.3	224.2	3.49	6.51	3.25	YES HRDOW
L0000052	0	0.32320E-04	449116.7	3762520.1	224.3	3.49	6.51	3.25	YES HRDOW
L0000053	0	0.32320E-04	449129.9	3762525.0	224.3	3.49	6.51	3.25	YES HRDOW
L0000054	0	0.32320E-04	449143.0	3762529.8	224.4	3.49	6.51	3.25	YES HRDOW
L0000055	0	0.32320E-04	449156.1	3762534.7	224.4	3.49	6.51	3.25	YES HRDOW
L0000056	0	0.32320E-04	449169.3	3762539.5	224.5	3.49	6.51	3.25	YES HRDOW
L0000057	0	0.32320E-04	449182.4	3762544.4	224.5	3.49	6.51	3.25	YES HRDOW
L0000058	0	0.32320E-04	449195.5	3762549.2	224.5	3.49	6.51	3.25	YES HRDOW
L0000059	0	0.32320E-04	449208.7	3762554.1	224.5	3.49	6.51	3.25	YES HRDOW
L0000060	0	0.32320E-04	449221.8	3762558.9	224.5	3.49	6.51	3.25	YES HRDOW
L0000061	0	0.32320E-04	449234.9	3762563.8	224.5	3.49	6.51	3.25	YES HRDOW
L0000062	0	0.32320E-04	449248.1	3762568.6	224.5	3.49	6.51	3.25	YES HRDOW
L0000063	0	0.32320E-04	449261.2	3762573.4	224.5	3.49	6.51	3.25	YES HRDOW
L0000064	0	0.32320E-04	449274.3	3762578.3	224.4	3.49	6.51	3.25	YES HRDOW
L0000065	0	0.32320E-04	449287.5	3762583.1	224.3	3.49	6.51	3.25	YES HRDOW
L0000066	0	0.32320E-04	449300.6	3762588.0	224.4	3.49	6.51	3.25	YES HRDOW
L0000067	0	0.32320E-04	449313.7	3762592.8	224.4	3.49	6.51	3.25	YES HRDOW

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	VOL1 , VOL2 , VOL3 , VOL4 , VOL5 , VOL6 , VOL7 , VOL8 ,
	VOL9 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

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            VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
            VOL23       , VOL24       ,

            VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
            VOL31       , VOL32       ,

            VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
            VOL39       , VOL40       ,

            VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
            VOL47       , VOL48       ,

            VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
            VOL55       , VOL56       ,

            VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
            VOL63       , VOL64       ,

            VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
            L0000001    , L0000002    ,

            L0000003    , L0000004    , L0000005    , L0000006    , L0000007    , L0000008    ,
            L0000009    , L0000010    ,

            L0000011    , L0000012    , L0000013    , L0000014    , L0000015    , L0000016    ,
            L0000017    , L0000018    ,

            L0000019    , L0000020    , L0000021    , L0000022    , L0000023    , L0000024    ,
            L0000025    , L0000026    ,

            L0000027    , L0000028    , L0000029    , L0000030    , L0000031    , L0000032    ,
            L0000033    , L0000034    ,

            L0000035    , L0000036    , L0000037    , L0000038    , L0000039    , L0000040    ,
            L0000041    , L0000042    ,

            L0000043    , L0000044    , L0000045    , L0000046    , L0000047    , L0000048    ,
            L0000049    , L0000050    ,

            L0000051    , L0000052    , L0000053    , L0000054    , L0000055    , L0000056    ,
            L0000057    , L0000058    ,

            L0000059    , L0000060    , L0000061    , L0000062    , L0000063    , L0000064    ,
            L0000065    , L0000066    ,

            L0000067    ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                      *** SOURCE IDs DEFINED AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                  SOURCE IDs
  --------   ---------                                  ----------


              2035210.   VOL1        , VOL2        , VOL3        , VOL4        , VOL5        ,
              VOL6        , VOL7        ,
 VOL8        ,

            VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14
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            VOL15       , VOL16       ,

            VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
            VOL23       , VOL24       ,

            VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
            VOL31       , VOL32       ,

            VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
            VOL39       , VOL40       ,

            VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
            VOL47       , VOL48       ,

            VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
            VOL55       , VOL56       ,

            VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
            VOL63       , VOL64       ,

            VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
            L0000001    , L0000002    ,

            L0000003    , L0000004    , L0000005    , L0000006    , L0000007    , L0000008    ,
            L0000009    , L0000010    ,

            L0000011    , L0000012    , L0000013    , L0000014    , L0000015    , L0000016    ,
            L0000017    , L0000018    ,

            L0000019    , L0000020    , L0000021    , L0000022    , L0000023    , L0000024    ,
            L0000025    , L0000026    ,

            L0000027    , L0000028    , L0000029    , L0000030    , L0000031    , L0000032    ,
            L0000033    , L0000034    ,

            L0000035    , L0000036    , L0000037    , L0000038    , L0000039    , L0000040    ,
            L0000041    , L0000042    ,

            L0000043    , L0000044    , L0000045    , L0000046    , L0000047    , L0000048    ,
            L0000049    , L0000050    ,

            L0000051    , L0000052    , L0000053    , L0000054    , L0000055    , L0000056    ,
            L0000057    , L0000058    ,

            L0000059    , L0000060    , L0000061    , L0000062    , L0000063    , L0000064    ,
            L0000065    , L0000066    ,

            L0000067    ,
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Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL1         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL2         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
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```
 SOURCE ID = VOL3         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL4         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
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Haven\AQIA\14822 Ops ***        04/12/23
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = VOL5   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL7 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

- - - - - - - - - - - - - - - - - -

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00								
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01								
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00								
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00								
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00								
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00								
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00								

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*** AERMET - VERSION 16216 ***

*** *** 09:26:06

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL11 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

- - - - - - - - - - - - - - - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL12 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL13 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL14 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL15 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL16 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL18        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL19        ; SOURCE TYPE = VOLUME   :
```

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL20        ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:0
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL21 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL22 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00												

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL23 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL24 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL25 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL27        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

(HRDOW) *

SOURCE ID = VOL28 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL30 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL31 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL32        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL33        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
```

```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL34        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL35        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
```

- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL37 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL38 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL39   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -
- - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
    .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14
    .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
   .0000E+00   23 .0000E+00   24 .0000E+00
                                              DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
    .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
    .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
   .0000E+00   23 .0000E+00   24 .0000E+00
                                              DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
    .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
    .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
   .0000E+00   23 .0000E+00   24 .0000E+00

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL40   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- -
- - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
    .0000E+00   7 .0000E+00   8 .0000E+00
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14
    .1000E+01   15 .1000E+01   16 .1000E+01
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
   .0000E+00   23 .0000E+00   24 .0000E+00
                                              DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
    .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14

.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL41 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL42 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00

```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL43        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL44        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL45        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL46 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL47 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL48 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL49 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL50 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL52        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

SOURCE ID = VOL53 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL55 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL56 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL57        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL58        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
```

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL59 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL62 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL63 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	

```
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL64        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL65        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
```

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL66        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL67        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL68        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL69        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL70        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000001   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000003     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000004     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

```
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000007     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - -
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000008 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23

*** AERMET - VERSION 16216 ***

*** *** 09:26:06

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000009 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000010 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000011 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

```
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000012     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000013     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
```

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   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
 *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000014     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
 *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000015     ; SOURCE TYPE = VOLUME   :
```

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000016     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:0
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000017 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000018 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00												

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000019 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000020 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000021 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000023     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

(HRDOW) *

SOURCE ID = L0000024 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000026 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000027 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

                                                DAY OF WEEK = SUNDAY
   1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
   .0000E+00   7 .0000E+00   8 .0000E+00
   9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
   .0000E+00   15 .0000E+00   16 .0000E+00
  17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
  .0000E+00   23 .0000E+00   24 .0000E+00
FF *** AERMOD - VERSION 22112 ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***   04/12/23
 *** AERMET - VERSION 16216 ***
 ***   ***   09:26:06

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 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000028   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
   .0000E+00   7 .0000E+00   8 .0000E+00
   9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14
   .1000E+01   15 .1000E+01   16 .1000E+01
  17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
  .0000E+00   23 .0000E+00   24 .0000E+00
                                                DAY OF WEEK = SATURDAY
   1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
   .0000E+00   7 .0000E+00   8 .0000E+00
   9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
   .0000E+00   15 .0000E+00   16 .0000E+00
  17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
  .0000E+00   23 .0000E+00   24 .0000E+00
                                                DAY OF WEEK = SUNDAY
   1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
   .0000E+00   7 .0000E+00   8 .0000E+00
   9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00   13 .0000E+00   14
   .0000E+00   15 .0000E+00   16 .0000E+00
  17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22
  .0000E+00   23 .0000E+00   24 .0000E+00
FF *** AERMOD - VERSION 22112 ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***   04/12/23
 *** AERMET - VERSION 16216 ***
 ***   ***   09:26:06

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 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000029   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00   5 .0000E+00   6
   .0000E+00   7 .0000E+00   8 .0000E+00
   9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01   13 .1000E+01   14
   .1000E+01   15 .1000E+01   16 .1000E+01
  17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00   21 .0000E+00   22

```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000030     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000031     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
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- - - -

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000033 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000034 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000035 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

DAY OF WEEK = SUNDAY

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000037 ; SOURCE TYPE = VOLUME :

DAY OF WEEK = WEEKDAY

DAY OF WEEK = SATURDAY

DAY OF WEEK = SUNDAY

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000038 ; SOURCE TYPE = VOLUME :

DAY OF WEEK = WEEKDAY

```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000039     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = L0000040     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000041     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000042 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000043 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000044 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000045 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000046 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000047 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000048 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000049 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000051 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000052 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22													

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000053 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR						

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000054 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR						

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01				

```
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000055     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000056     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
```

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000058 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000059 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	

```
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000060     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000061     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
```

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000062     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000063     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000064     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
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```
 SOURCE ID = L0000065     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***        09:26:06

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000066     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000067   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

243.8,   243.8,   0.0);
(447365.0, 3764456.4,   243.3,   243.3,   0.0);   (447406.6, 3764460.6,
243.1,   243.1,   0.0);
(447441.5, 3764460.0,   243.2,   243.2,   0.0);   (447466.9, 3764460.2,
243.2,   243.2,   0.0);
(447490.0, 3764460.6,   242.9,   242.9,   0.0);   (447515.5, 3764460.4,
242.6,   242.6,   0.0);
(447573.1, 3764454.3,   241.6,   241.6,   0.0);   (447598.5, 3764445.2,
241.8,   241.8,   0.0);
(447652.9, 3764439.7,   243.1,   243.1,   0.0);   (447692.9, 3764439.5,
243.1,   243.1,   0.0);
(447713.8, 3764439.1,   243.1,   243.1,   0.0);   (447732.0, 3764438.7,
243.2,   243.2,   0.0);
(447751.1, 3764438.7,   243.3,   243.3,   0.0);   (447768.8, 3764437.5,
243.4,   243.4,   0.0);
(447789.1, 3764437.7,   243.7,   243.7,   0.0);   (447805.7, 3764437.3,
243.8,   243.8,   0.0);
(447824.0, 3764437.2,   243.9,   243.9,   0.0);   (447841.6, 3764437.9,
243.9,   243.9,   0.0);
(447861.7, 3764437.5,   243.9,   243.9,   0.0);   (447881.7, 3764435.2,
243.8,   243.8,   0.0);
(447902.8, 3764436.2,   243.8,   243.8,   0.0);   (447920.9, 3764435.3,
243.8,   243.8,   0.0);
(447942.2, 3764435.3,   243.8,   243.8,   0.0);   (447962.8, 3764434.8,
243.8,   243.8,   0.0);
(447980.7, 3764435.2,   243.8,   243.8,   0.0);   (448004.7, 3764435.2,
243.6,   243.6,   0.0);
(448021.2, 3764434.7,   243.0,   243.0,   0.0);   (447662.7, 3764379.6,
243.6,   243.6,   0.0);
(447681.3, 3764321.0,   243.4,   243.4,   0.0);   (447682.6, 3764285.8,
242.3,   242.3,   0.0);
(447662.5, 3764238.4,   241.1,   241.1,   0.0);   (447661.7, 3764207.4,
240.2,   240.2,   0.0);
(447683.1, 3764162.3,   239.1,   239.1,   0.0);   (447681.0, 3764145.9,
238.7,   238.7,   0.0);
(447679.6, 3764130.3,   238.2,   238.2,   0.0);   (447680.8, 3764112.0,
237.8,   237.8,   0.0);
(447681.5, 3764096.4,   237.6,   237.6,   0.0);   (447680.8, 3764078.8,
237.4,   237.4,   0.0);
(447680.0, 3764064.3,   237.4,   237.4,   0.0);   (447681.0, 3764045.8,
237.5,   237.5,   0.0);
(447680.6, 3764029.7,   237.5,   237.5,   0.0);   (447657.2, 3763992.0,
237.3,   237.3,   0.0);
(447656.3, 3763967.1,   237.5,   237.5,   0.0);   (447657.2, 3763928.7,
237.5,   237.5,   0.0);
(447657.2, 3763902.2,   237.6,   237.6,   0.0);   (447657.5, 3763869.0,
237.3,   237.3,   0.0);
(447656.2, 3763834.9,   237.4,   237.4,   0.0);   (447655.9, 3763808.3,
237.5,   237.5,   0.0);
(447657.1, 3763786.0,   237.6,   237.6,   0.0);   (447701.2, 3763782.1,
237.7,   237.7,   0.0);
(447856.9, 3763749.7,   236.2,   236.2,   0.0);   (447855.0, 3763730.1,
236.0,   236.0,   0.0);
(447854.3, 3763698.3,   235.6,   235.6,   0.0);   (447855.3, 3763676.8,
235.4,   235.4,   0.0);
(447675.5, 3763287.5,   232.0,   232.0,   0.0);   (448481.3, 3763485.3,
235.6,   235.6,   0.0);
(448480.0, 3763195.5,   232.0,   232.0,   0.0);   (448478.6, 3762907.2,
229.4,   229.4,   0.0);
(448497.9, 3762714.1,   228.1,   228.1,   0.0);   (448507.9, 3762487.7,
225.8,   225.8,   0.0);
(448480.5, 3762358.0,   224.8,   224.8,   0.0);   (448462.7, 3762339.8,
224.6,   224.6,   0.0);
(448464.5, 3762265.9,   223.3,   223.3,   0.0);   (448461.6, 3762165.2,
222.0,   222.0,   0.0);
(448472.6, 3762064.7,   220.0,   220.0,   0.0);   (448460.5, 3762016.7,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447269.3, 3761967.7, 219.7, 219.7, 0.0); (447389.5, 3761908.8, 220.0, 220.0, 0.0);
(447019.1, 3761964.3, 219.0, 219.0, 0.0); (447060.3, 3761963.6, 219.0, 219.0, 0.0);
(446975.3, 3761963.2, 219.0, 219.0, 0.0); (446940.9, 3761953.8, 219.0, 219.0, 0.0);
(446865.7, 3761974.5, 219.9, 219.9, 0.0); (446795.1, 3761957.9, 220.0, 220.0, 0.0);
(446757.6, 3761965.8, 220.0, 220.0, 0.0); (446709.3, 3761967.7, 220.0, 220.0, 0.0);
(446796.4, 3762028.6, 220.0, 220.0, 0.0); (446797.0, 3762045.3, 220.1, 220.1, 0.0);
(446796.7, 3762089.5, 221.0, 221.0, 0.0); (446796.1, 3762105.9, 221.0, 221.0, 0.0);
(446796.7, 3762137.3, 221.0, 221.0, 0.0); (446796.1, 3762153.4, 221.0, 221.0, 0.0);
(446772.4, 3762215.4, 221.6, 221.6, 0.0); (446795.1, 3762321.0, 222.0, 222.0, 0.0);
(446796.4, 3762451.0, 224.0, 224.0, 0.0); (446796.4, 3762471.2, 224.4, 224.4, 0.0);
(446797.2, 3762496.0, 224.9, 224.9, 0.0); (446798.1, 3762516.5, 225.3, 225.3, 0.0);
(446797.8, 3762540.0, 225.7, 225.7, 0.0); (446797.5, 3762560.2, 225.9, 225.9, 0.0);
(446798.6, 3762584.8, 226.1, 226.1, 0.0); (446798.1, 3762604.4, 226.5, 226.5, 0.0);
(446799.7, 3762654.1, 227.5, 227.5, 0.0); (446800.0, 3762674.6, 228.0, 228.0, 0.0);
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(446800.0, 3762735.7, 228.6, 228.6, 0.0); (446797.8, 3762748.0, 228.6, 228.6, 0.0);
(446802.2, 3762913.5, 228.3, 228.3, 0.0); (446802.2, 3762932.6, 228.3, 228.3, 0.0);
(446802.4, 3762949.2, 228.3, 228.3, 0.0); (446803.0, 3762967.3, 228.3, 228.3, 0.0);
(446802.7, 3762986.1, 228.4, 228.4, 0.0); (446802.2, 3763003.3, 228.6, 228.6, 0.0);
(446802.2, 3763021.9, 228.8, 228.8, 0.0); (446802.7, 3763040.7, 229.0, 229.0, 0.0);
(446803.0, 3763059.3, 229.2, 229.2, 0.0); (446803.5, 3763077.0, 229.3, 229.3, 0.0);
(446756.3, 3763085.3, 228.7, 228.7, 0.0); (446807.7, 3763646.4, 234.6, 234.6, 0.0);
(446808.3, 3763674.7, 234.8, 234.8, 0.0); (446807.7, 3763694.6, 234.9, 234.9, 0.0);
(446808.3, 3763710.6, 235.0, 235.0, 0.0); (446808.3, 3763726.4, 235.0, 235.0, 0.0);
(446808.0, 3763742.1, 235.0, 235.0, 0.0); (446808.3, 3763756.9,

235.0,   235.0,   0.0);
(446808.6, 3763798.3,   235.3,   235.3,   0.0);   (446810.2, 3764484.1,
241.7,   241.7,   0.0);
(446781.3, 3764475.1,   241.7,   241.7,   0.0);   (446722.6, 3764455.8,
241.4,   241.4,   0.0);
(446170.3, 3764559.8,   242.5,   242.5,   0.0);   (446872.3, 3763190.3,
231.5,   231.5,   0.0);
(446925.2, 3763179.2,   231.6,   231.6,   0.0);   (446984.9, 3763194.9,
231.4,   231.4,   0.0);
(447010.6, 3763193.3,   231.7,   231.7,   0.0);   (447036.6, 3763193.6,
231.7,   231.7,   0.0);
(447053.6, 3763193.3,   231.7,   231.7,   0.0);   (447076.4, 3763192.3,
231.8,   231.8,   0.0);
(447093.5, 3763192.6,   231.9,   231.9,   0.0);   (447122.0, 3763192.6,
231.7,   231.7,   0.0);
(447138.8, 3763192.3,   231.7,   231.7,   0.0);   (447168.0, 3763192.3,
231.6,   231.6,   0.0);
(447170.7, 3763172.2,   231.4,   231.4,   0.0);   (447170.4, 3763158.2,
231.2,   231.2,   0.0);
(447169.3, 3763144.9,   231.2,   231.2,   0.0);   (447147.5, 3763107.4,
231.5,   231.5,   0.0);
(447146.6, 3763084.2,   231.4,   231.4,   0.0);   (447146.9, 3763064.3,
231.1,   231.1,   0.0);
(447149.9, 3763038.9,   230.8,   230.8,   0.0);   (447148.6, 3763019.8,
230.6,   230.6,   0.0);
(447148.6, 3762997.4,   230.2,   230.2,   0.0);   (447206.1, 3762958.5,
229.5,   229.5,   0.0);
(447209.3, 3762922.5,   229.1,   229.1,   0.0);   (447208.4, 3762890.7,
228.9,   228.9,   0.0);
(447145.8, 3762888.9,   228.9,   228.9,   0.0);   (447122.5, 3762889.1,
228.9,   228.9,   0.0);
(447094.3, 3762890.0,   228.9,   228.9,   0.0);   (447071.0, 3762890.4,
229.0,   229.0,   0.0);
(447043.6, 3762889.7,   228.9,   228.9,   0.0);   (447017.8, 3762888.9,
228.9,   228.9,   0.0);
(446992.1, 3762889.1,   228.9,   228.9,   0.0);   (446964.3, 3762888.3,
228.9,   228.9,   0.0);
(446940.4, 3762888.5,   228.8,   228.8,   0.0);   (446911.2, 3762888.1,
228.6,   228.6,   0.0);
(446885.3, 3762889.7,   228.6,   228.6,   0.0);   (446862.1, 3762888.9,
228.6,   228.6,   0.0);

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                       (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

(446871.5, 3762779.6,   228.6,   228.6,   0.0);   (446926.3, 3762768.7,
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(446983.7, 3762774.2,   228.6,   228.6,   0.0);   (447009.0, 3762774.0,
228.5,   228.5,   0.0);
(447030.5, 3762774.4,   228.2,   228.2,   0.0);   (447055.4, 3762774.0,
228.0,   228.0,   0.0);
(447076.9, 3762774.2,   228.1,   228.1,   0.0);   (447101.2, 3762774.4,
228.3,   228.3,   0.0);
(447123.8, 3762774.0,   228.3,   228.3,   0.0);   (447148.1, 3762775.0,
228.4,   228.4,   0.0);
(447170.2, 3762774.8,   228.5,   228.5,   0.0);   (447196.8, 3762775.5,
228.5,   228.5,   0.0);
(447242.1, 3762776.6,   228.5,   228.5,   0.0);   (447262.3, 3762776.0,

228.4, 228.4, 0.0);
(447294.6, 3762776.3, 228.3, 228.3, 0.0); (447313.1, 3762775.5,
228.3, 228.3, 0.0);
(447313.4, 3762749.5, 228.3, 228.3, 0.0); (447327.9, 3762713.1,
228.1, 228.1, 0.0);
(447327.4, 3762679.9, 227.5, 227.5, 0.0); (447327.7, 3762657.0,
227.2, 227.2, 0.0);
(447327.3, 3762636.8, 226.9, 226.9, 0.0); (447327.5, 3762612.9,
226.4, 226.4, 0.0);
(447327.3, 3762592.2, 226.2, 226.2, 0.0); (447327.0, 3762569.7,
226.0, 226.0, 0.0);
(447327.3, 3762547.9, 225.8, 225.8, 0.0); (447326.6, 3762524.7,
225.5, 225.5, 0.0);
(447326.6, 3762506.1, 225.4, 225.4, 0.0); (447327.5, 3762477.5,
224.9, 224.9, 0.0);
(447325.9, 3762454.3, 224.5, 224.5, 0.0); (447225.6, 3762432.9,
224.1, 224.1, 0.0);
(447200.3, 3762430.6, 223.9, 223.9, 0.0); (447156.8, 3762430.2,
223.7, 223.7, 0.0);
(447131.8, 3762430.9, 223.6, 223.6, 0.0); (447102.7, 3762430.6,
223.4, 223.4, 0.0);
(447079.1, 3762430.9, 223.1, 223.1, 0.0); (447034.9, 3762433.6,
223.1, 223.1, 0.0);
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223.2, 223.2, 0.0);
(446941.4, 3762434.6, 223.5, 223.5, 0.0); (446916.1, 3762436.9,
223.7, 223.7, 0.0);
(446876.3, 3762436.9, 223.7, 223.7, 0.0); (446848.8, 3762647.0,
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(446849.5, 3762754.7, 228.7, 228.7,
0.0);

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 04/12/23
*** AERMET - VERSION 16216 ***
*** *** 09:26:06

PAGE 148
*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-16.4	0.171	-9.000	-9.000	-999.	170.	32.3	0.09	1.12	1.00	2.03	43.	7.9	285.9	2.0
12	01	01	1	02	-18.8	0.194	-9.000	-9.000	-999.	205.	41.3	0.09	1.12	1.00	2.28	34.	7.9	285.4	2.0
12	01	01	1	03	-17.8	0.182	-9.000	-9.000	-999.	187.	36.5	0.09	1.12	1.00	2.15	24.	7.9	282.0	2.0
12	01	01	1	04	-9.4	0.128	-9.000	-9.000	-999.	110.	19.6	0.09	1.12	1.00	1.55	41.	7.9	283.1	2.0
12	01	01	1	05	-16.9	0.173	-9.000	-9.000	-999.	173.	33.0	0.09	1.12	1.00	2.05	39.	7.9	280.4	2.0
12	01	01	1	06	-8.0	0.117	-9.000	-9.000	-999.	97.	17.8	0.09	1.12	1.00	1.43	21.	7.9	282.0	2.0
12	01	01	1	07	-7.6	0.115	-9.000	-9.000	-999.	93.	17.4	0.09	1.12	1.00	1.40	31.	7.9	282.5	2.0
12	01	01	1	08	-13.6	0.184	-9.000	-9.000	-999.	190.	40.5	0.09	1.12	0.54	2.16	34.	7.9	284.2	2.0
12	01	01	1	09	28.4	0.126	0.300	0.011	33.	108.	-6.2	0.09	1.12	0.32	1.03	29.	7.9	289.2	2.0
12	01	01	1	10	79.8	0.133	0.607	0.010	99.	116.	-2.6	0.09	1.12	0.25	0.94	173.	7.9	292.5	2.0
12	01	01	1	11	115.8	0.137	0.932	0.006	246.	121.	-2.0	0.09	1.12	0.22	0.92	172.	7.9	295.4	2.0
12	01	01	1	12	133.7	0.139	1.197	0.005	453.	125.	-1.8	0.09	1.12	0.21	0.92	146.	7.9	297.5	2.0
12	01	01	1	13	133.2	0.160	1.354	0.005	657.	153.	-2.7	0.09	1.12	0.21	1.14	117.	7.9	299.9	2.0
12	01	01	1	14	113.5	0.159	1.454	0.005	955.	151.	-3.1	0.09	1.12	0.23	1.16	285.	7.9	300.9	2.0
12	01	01	1	15	76.2	0.166	1.350	0.005	1138.	163.	-5.3	0.09	1.12	0.26	1.3

```
 72.    7.9  302.0    2.0
 12 01 01   1 16   23.5  0.175  0.925  0.005 1183.  175.    -19.9  0.09   1.12   0.35    1.65
 107.    7.9  301.4    2.0
 12 01 01   1 17   -6.1  0.107 -9.000 -9.000 -999.   86.     18.0  0.09   1.12   0.63    1.31
 107.    7.9  298.1    2.0
 12 01 01   1 18  -11.1  0.141 -9.000 -9.000 -999.  127.     22.1  0.09   1.12   1.00    1.69
 86.    7.9  293.1    2.0
 12 01 01   1 19   -3.2  0.076 -9.000 -9.000 -999.   51.     11.8  0.09   1.12   1.00    0.91
 64.    7.9  292.0    2.0
 12 01 01   1 20   -2.3  0.066 -9.000 -9.000 -999.   41.     11.2  0.09   1.12   1.00    0.74
 73.    7.9  288.8    2.0
 12 01 01   1 21  -10.0  0.133 -9.000 -9.000 -999.  116.     20.5  0.09   1.12   1.00    1.60
 14.    7.9  288.1    2.0
 12 01 01   1 22  -19.4  0.201 -9.000 -9.000 -999.  216.     44.5  0.09   1.12   1.00    2.36
 22.    7.9  287.5    2.0
 12 01 01   1 23  -23.7  0.246 -9.000 -9.000 -999.  293.     66.5  0.09   1.12   1.00    2.86
 40.    7.9  287.0    2.0
 12 01 01   1 24  -12.3  0.147 -9.000 -9.000 -999.  139.     23.8  0.09   1.12   1.00    1.76
 40.    7.9  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1   43.    2.03   286.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:26:06

                      PAGE 150
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                              *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                              SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                                  VOL3        , VOL4        , VOL5        ,
                    VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                    VOL11       , VOL12       , VOL13       ,
                    VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                    VOL19       , VOL20       , VOL21       ,
                    VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                    VOL27       , VOL28       ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF DPM      IN
                                       MICROGRAMS/M**3                          **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)   Y-COORD
       (M)        CONC
 - - -
```

447066.60 3764465.73 0.00090 447099.65
3764456.17 0.00106
447145.28 3764468.27 0.00100 447175.54
3764468.03 0.00104
447205.32 3764468.27 0.00104 447232.43
3764467.55 0.00102
447264.02 3764467.30 0.00097 447294.77
3764466.94 0.00092
447364.97 3764456.41 0.00083 447406.61
3764460.65 0.00074
447441.47 3764460.04 0.00069 447466.88
3764460.20 0.00066
447490.00 3764460.56 0.00063 447515.50
3764460.40 0.00060
447573.06 3764454.29 0.00056 447598.49
3764445.22 0.00055
447652.90 3764439.70 0.00051 447692.92
3764439.51 0.00049
447713.82 3764439.11 0.00048 447731.95
3764438.72 0.00047
447751.07 3764438.72 0.00046 447768.82
3764437.53 0.00045
447789.12 3764437.73 0.00044 447805.68
3764437.34 0.00044
447824.02 3764437.20 0.00043 447841.61
3764437.87 0.00042
447861.72 3764437.53 0.00042 447881.66
3764435.18 0.00041
447902.78 3764436.19 0.00041 447920.87
3764435.35 0.00040
447942.16 3764435.35 0.00040 447962.77
3764434.85 0.00039
447980.70 3764435.18 0.00039 448004.66
3764435.18 0.00038
448021.25 3764434.68 0.00038 447662.70
3764379.63 0.00056
447681.30 3764320.98 0.00059 447682.64
3764285.79 0.00062
447662.53 3764238.37 0.00068 447661.70
3764207.37 0.00072
447683.14 3764162.29 0.00076 447680.97
3764145.87 0.00079
447679.63 3764130.28 0.00082 447680.80
3764112.02 0.00086
447681.47 3764096.43 0.00089 447680.80
3764078.84 0.00094
447679.96 3764064.26 0.00098 447680.97
3764045.82 0.00104
447680.63 3764029.74 0.00110 447657.17
3763992.03 0.00133
447656.33 3763967.06 0.00151 447657.17
3763928.69 0.00188
447657.17 3763902.21 0.00223 447657.51
3763869.03 0.00269
447656.16 3763834.94 0.00308 447655.93
3763808.27 0.00318
447657.09 3763786.00 0.00311 447701.21
3763782.14 0.00232
447856.92 3763749.71 0.00126 447854.99
3763730.13 0.00127
447854.35 3763698.35 0.00126 447855.31
3763676.84 0.00125
447675.51 3763287.46 0.00265 448481.33
3763485.29 0.00050
448479.95 3763195.53 0.00061 448478.56
3762907.16 0.00130

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 ,
VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	0.00729	448462.73	3762339.82	0.00570
448464.47	3762265.93	0.00382	448461.57	3762165.17	0.00302
448472.57	3762064.71	0.00149	448460.48	3762016.72	0.00102
448234.63	3761951.18	0.00089	448081.42	3761952.78	0.00098
448025.53	3761955.99	0.00102	447506.75	3761967.63	0.00110
447269.29	3761967.74	0.00106	447389.46	3761908.79	0.00068
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                    PAGE 152
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP: ALL      ***
                              INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                              VOL3        , VOL4        , VOL5        ,
                VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                VOL11       , VOL12       , VOL13       ,
                VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                VOL19       , VOL20       , VOL21       ,
                VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                VOL27       , VOL28       ,  . . .      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                         ** CONC OF DPM      IN
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MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
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                     PAGE 153
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                    *** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS
                                    ***


                                  ** CONC OF DPM      IN
                                  MICROGRAMS/M**3                          **


           NETWORK
GROUP ID                        AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL,
ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.00729 AT (  448480.49,  3762357.96,   224.76,
224.76,    0.00)  DC
          2ND HIGHEST VALUE IS       0.00570 AT (  448462.73,  3762339.82,   224.57,
          224.57,    0.00)  DC
          3RD HIGHEST VALUE IS       0.00561 AT (  448507.91,  3762487.71,   225.77,
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          237.32,    0.00)  DC
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 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        04/12/23
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:26:06

                     PAGE 154
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***
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 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of         1628 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of         1278 Calm Hours Identified

A Total of          350 Missing Hours Identified (  0.80 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186    2215       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
ME W187    2215       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

Notice of Preparation

303 East B Street, Ontario, California 91764 Phone: 909.395.2036 / Fax: 909.395.2420

TO: **Property Owners, Responsible Agencies, and Interested Parties**

FROM: **City of Ontario, Planning Department, 303 East "B" Street, Ontario, CA 91764**

SUBJECT: **Notice of Preparation of a Draft Environmental Impact Report**

NOTICE IS HEREBY GIVEN that the City of Ontario will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The Project description, location and the probable environmental effects are contained in the attached materials. A copy of the Initial Study ☒ is, ☐ is not, attached and is available at Ontario City Hall, Planning Department. Electronic format of the document can also be obtained online using the following link: https://www.ontarioca.gov/Planning/Reports/EnvironmentalImpact.

The proposed project ☒ is, ☐ is not, considered a project of statewide, regional, or area-wide significance. The proposed project ☐ will, ☒ will not, affect highways or other facilities under the jurisdiction of the State Department of Transportation. A scoping meeting ☒ will, ☐ will not, be held by the lead agency.

Scoping Meeting: If the project meets the criteria requiring the scoping meeting, or if the agency voluntarily elects to hold such a meeting, the date, time, and location of the scoping meeting are as follows:

Date and Time: October 27, 2022, at 6:00 p.m.
Location (this meeting will be held as a virtual meeting via Zoom): The Zoom meeting may be accessed online using the following link: https://us02web.zoom.us/j/83565725981 ; Webinar ID: 835 6572 5981. Alternatively, the Zoom meeting may be attended via telephone: (for higher quality, dial a number based on your current location): +1 669 900 9128 or +1 669 444 9171 or +1 346 248 7799 or +1 719 359 4580 or +1 253 215 8782 or +1 564 217 2000 or +1 646 558 8656 or +1 646 931 3860 or +1 301 715 8592 or +1 309 205 3325 or +1 312 626 6799 or +1 386 347 5053 or 888 788 0099 (Toll Free) or 833 548 0276 (Toll Free) or 833 548 0282 (Toll Free) or 877 853 5247 (Toll Free)

Review Period: The 30-day review period for this Notice of Preparation begins on October 17, 2022. Comments will be received until the close of business day on November 15, 2022, at 5:30 p.m. Please send your response to the contact person identified below. Please be sure to include the name of a contact person for your agency.

Charles Mercier, Principal Planner
City of Ontario Planning Department
303 East B Street, Ontario, CA 91764
Phone: (909) 395-2425
Email: cmercier@ontarioca.gov

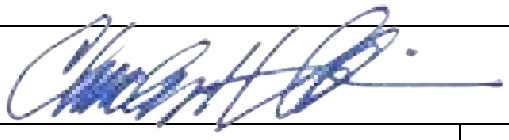
Project Title/File No.: PSPA22-001

Project Location: The Specific Plan area comprises approximately 584 acres of land located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west, in the City of Ontario, County of San Bernardino.

Project Description: Under the proposed 2022 Rich-Haven Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses.

Project Applicant: BrookCal Ontario LLC/Richland Developers, Inc., 3161 Michelson Drive, Suite 425, Irvine, CA 92612

Consulting firm retained to prepare Draft EIR: Applied Planning, Inc, 11762 De Palma Road, 1-C 310, Corona, CA 92883; Contact: Ross Geller (909) 937-0333

Signature: 	**Date:** 10/7/2022
Name: Charles H Mercier	**Title:** Principal Planner

Reference: California Code of Regulations, Title 14 (CEQA Guidelines) Sections 15082(a), 15103, and 15375.

Initial Study
for the
Rich-Haven Specific Plan, 2022 Amendment
(File No. PSPA22-001)

Prepared for:
City of Ontario
303 East B Street
Ontario, CA 91764

Prepared by:
Applied Planning, Inc.
11762 De Palma Road, 1C-310
Corona, CA 92883

October 2022

INITIAL STUDY

for the

Rich-Haven Specific Plan, 2022 Amendment
(File No. PSPA22-001)

Prepared for:

City of Ontario
303 East B Street
Ontario, CA 91764

Prepared by:

Applied Planning, Inc.
11762 De Palma Road, 1-C 310
Corona, CA 92883

October 2022

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1.0 INTRODUCTION

1.0 INTRODUCTION

1.1 BACKGROUND AND PROJECT OVERVIEW

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in this Initial Study (IS) proposes a new amendment of the RHSP.

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This IS evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.
3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment.

1.2 PURPOSE AND DISPOSITION OF THIS DOCUMENT

This IS was prepared pursuant to Section 15063 of the California Environmental Quality Act (CEQA) Guidelines. Although this IS was prepared with consultant support, all analysis, conclusions, findings and determinations presented in the IS fully represent the independent judgment and position of the City of Ontario, acting as Lead Agency under CEQA. In accordance with the provisions of CEQA and the State and local CEQA Guidelines, as the Lead Agency, the City of Ontario is solely responsible for approval of the Project. As part of the decision-making process, the City is required to review and consider the Project's potential environmental effects. This IS is an informational document, providing the City of Ontario decision-makers, other public agencies, and the public with an assessment of the potential environmental impacts that could result from the Project.

The City of Ontario (Lead Agency) specifically recognizes previous Certified CEQA documentation[1] and analysis prepared for the RHSP and its Amendments – as well as related State *CEQA Guidelines* Section 15162 limits and mandates (excerpted below) governing preparation of EIRs when a previous EIR has been Certified for a project. Lead Agency findings (italicized) for these criteria are summarized following each of the listed considerations. Based on the Lead Agency findings presented below and supporting analysis presented in this IS, a new EIR will be prepared that will analyze and disclose potential environmental impacts of the proposed 2022 Specific Plan Amendment.

> *CEQA Guidelines* Section 15162:
>
> (a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
>
> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

As substantiated in this IS, substantial changes to the previous project are proposed under the RHSP 2022 SPA. These changes include, but are not limited to: land use re-designations and land use reconfigurations, increased industrial development, and modified residential development. These changes could result in potentially new or different significant environmental impacts not considered or addressed in previous CEQA documentation prepared for the RHSP and its amendments.

[1] *Rich Haven Specific Plan Environmental Impact Report*, July 3, 2007 (SCH No. 2006051081); Rich Haven Specific Plan Amendments: 2015, 2016, 2018, 2021 - evaluated as Addendums to Certified EIRs.

Substantive changes proposed by the Project are detailed at IS Section 2.0, Project Description. *IS Section 3.0,* Environmental Evaluation *discusses and evaluates potentially significant impacts that could result from the Project.*

> (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

Changes in circumstances warranting major revisions of the previous EIR include recent adoption of The Ontario Plan 2050 (TOP 2050) and associated General Plan Update. TOP 2050 and the General Plan Update represent a new context for the RHSP that could result in new significant environmental effects or a substantial increase in the severity of previously-identified significant effects presented in the previous RHSP EIR(s). Moreover, changes in circumstances from a regulatory perspective indicate that previous analyses for the RHSP and its Amendments have become increasingly decoupled from evolving CEQA analytic topics and protocols, diminishing the value and applicability of these analyses. These latter changes in circumstances contribute further to the likelihood that the Project could result in new or substantially different or increased impacts than were analyzed in the previous EIR.

> (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
>
> (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
> (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR.
> C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce

one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Please refer to discussions at preceding Items (a) (1) (2).

Based on the preceding, potential environmental impacts of the Project will be evaluated and documented in a Project-specific Environmental Impact Report (EIR).

This IS and accompanying Notice of Preparation (NOP) for the EIR will be available for review for 30 days from October 17, 2022 to November 15, 2022 and can be accessed or obtained by contacting:

City of Ontario
Planning Department
303 East "B" Street
Ontario, CA 91764
Attention: Charles Mercier, Principal Planner

The public is encouraged to contact the City of Ontario for information regarding the Project and related CEQA processes.

1.3 DOCUMENT ORGANIZATION

This IS includes the following sections:

Introduction: This Section (1.0) describes the CEQA context of the Project, the IS format, and provides a summary of the findings of the IS.

Project Description: This Section (2.0) describes the Project and its Objectives. Discretionary actions, permits, and consultation necessary to realize the Project are also identified.

Environmental Evaluation: This Section (3.0) provides background information regarding the Project and Lead Agency, and presents responses to each question on the CEQA Initial Study Checklist regarding the possible environmental impacts of the Project. Answers provided in the checklist are substantiated qualitatively in all instances, and quantitatively where feasible and appropriate.

Determination: This Section (4.0) summarizes the results of the IS, and presents the determination regarding the appropriate environmental document for the Project. Source information cited within this IS is available through, or by contacting, the City of Ontario Planning Department.

1.4 POTENTIAL ENVIRONMENTAL EFFECTS

The analysis presented in this IS indicates that the Project may result in or cause potentially significant effects related to:

- Air Quality;
- Biological Resources;
- Cultural/Tribal Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards/Hazardous Materials;
- Hydrology/Water Quality;
- Land Use and Planning;
- Noise;
- Transportation; and
- Utilities and Service Systems.

Consistent with the conclusion and findings of this IS, an EIR will be prepared for the Project. At a minimum, the EIR will evaluate the Project's potential environmental impacts under the topical areas identified above. Additional issues or concerns that may be identified pursuant to the EIR NOP process and/or scoping meeting(s) conducted for the Project will also be evaluated and addressed in the EIR.

2.0 PROJECT DESCRIPTION

2.0 PROJECT DESCRIPTION

2.1 BACKGROUND AND PROJECT OVERVIEW

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. Location of the 2021 Specific Plan is presented at Figure 2.1-1. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated in this Initial Study (IS) coincide with the location and boundaries in the 2021 Specific Plan.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in this Initial Study (IS) proposes a new amendment of the RHSP as described herein.



NOT TO SCALE

Source: Google Earth; Applied Planning, Inc.

Figure 2.1-1
Specific Plan Location

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This IS evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.[1]

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.
3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment. A summary of land uses and development by Planning Area is provided at Table 2.1-1.

[1] Potential environmental impacts of the Rich Haven Specific Plan were initially evaluated in *Rich Haven Specific Plan Environmental Impact Report*, July 3, 2007 (SCH No. 2006051081). Subsequent Rich Haven Specific Plan Amendments: 2015, 2016, 2018, 2021 have been evaluated as Addendums to Certified EIRs. While the City could have continued tiering off previous environmental documents in evaluation of the Project's potential environmental impacts, in order to provide a contemporary and comprehensive analysis of the Project's impacts, a new Project-level EIR will be developed.

Table 2.1-1
2022 Specific Plan Amendment Land Use Summary

Planning Area	Land Use	Acres (Gross)	Dwelling Units (Maximum)	Residential Density (Gross)	Comm./ Office (sf) (Maximum)	Light Industrial (sf) (Maximum)
1A	Low Density Residential	25.5	128	5.0	-	-
1B	Low-Medium Density Residential	24.5	294	12.0	-	-
1C	Medium Density Residential	60.6	1,031	17.0	-	-
SCE 1	Edison Parcel	20.0	-	-	-	-
2A	Public Park	27.0	-	-	-	-
2B	Low-Medium Density Residential	8.1	190	23.5	-	-
2C	Light Industrial	23.4	-	-	-	560,617
3A	Low-Medium Density Residential Open Space-Non Recreation	36.1 8.3	560	15.5	-	-
3B	Low-Medium Density Residential	8.6	190	22.1	-	-
3C	Light Industrial Open Space-Non Recreation	21.4 8.5	-	-	-	512,701
4A	Stand Alone Residential Overlay	45.0	1,099	24.4	-	-
4B	Regional Commercial Stand Alone Residential Overlay Open Space-Non Recreation	5.0 35.2 0.4	1,150	32.7	166,182	-
5A	Light Industrial Open Space-Non Recreation	21.3 3.7	-	-	-	510,305
5B	Regional Commercial Stand Alone Residential Overlay Open Space-Non Recreation	5.0 26.6 7.5	1,150	43.2	76,320	-
5C	Regional Commercial	1.0	-	-	7,500	-
6A	Light Industrial Open Space-Non Recreation	49.4 6.6	-	-	-	1,183,525
6B	Regional Commercial	25.1	-	-	300,000	-
7	Mixed Use Overlay	20.5	552	26.9	162,500	-
8	Regional Commercial	20.5	-	-	162,500	-
9	Stand Alone Residential Overlay	20.4	300	14.7	-	-
10A	Stand Alone Residential Overlay	16.9	550	32.5	-	-
10B	Regional Commercial	2.8	-	-	50,000	-
Total		**584.9**	**7,194**	**-**	**925,002**	**2,767,148**

Source: 2022 Rich Haven Specific Plan Amendment

The discussions presented in this IS reflect information in the preliminary 2022 Specific Plan Amendment, and reflect the range and types of uses envisioned under this Project. Based on the findings of this IS, the Project may result in certain potentially significant environmental impacts (see IS Section 3.0, *Environmental Evaluation*). Accordingly, potential environmental impacts of the Project will be evaluated and documented in a Project Environmental Impact Report (EIR). Within the subsequent Project EIR, discussions will be revised to reflect any substantive changes that may occur as the 2022 Specific Plan Amendment is further defined.

2.2 EXISTING CONDITIONS

2.2.1 THE ONTARIO PLAN (TOP) 2050

2.2.1.1 TOP 2050 Overview and Project Consistency with TOP 2050

The Project would be required to conform with applicable provisions of The Ontario Plan (TOP). TOP 2050 provides long-range guidance for the City of Ontario addressing development and conservation. TOP consists of a six-part component framework: 1) Vision, 2) Governance Manual, 3) Policy Plan (General Plan), 4) City Council Priorities, 5) Implementation, and 6) Tracking and Feedback. TOP 2050[2] represents the City's vision for the next 30 years.

The Project has been planned and designed to be consistent with TOP 2050. Within this analysis, unless otherwise noted, TOP 2050 and TOP 2050 SEIR are the basis for the Project's potential environmental impacts.

2.2.2 EXISTING LAND USES

Existing land uses within, and adjacent to, the Project site are illustrated at Figure 2.2-1 and are described below. Representative photos of existing Project site conditions are presented at Figures 2.2-2 through 2.2-5.

[2] TOP 2050 Draft SEIR, and TOP 2050 Final SEIR can be accessed at: https://www.ontarioplan.org/top2050/.



NOT TO SCALE

Source: Google Earth; Applied Planning, Inc.

appliedplanning

Figure 2.2-1
Existing Land Uses



Photograph 1: From Haven Avenue looking west, February 2022.



Photograph 2: From eastern boundary directly opposite Haven Avenue, looking east, February 2022.

Source: Harmsworth Associates, Inc.

appliedplanning inc

Figure 2.2-2
Site Photos (1)



Photograph 3: Central portion of site looking north, February 2022.



Photograph 4: Northwest corner of site looking southeast, February 2022.

Source: Harmsworth Associates, Inc.

appliedplanning llc

Figure 2.2-3
Site Photos (2)



Photograph 5c Central western boundary of site looking southeast, February 2022.



Photograph 6c Eastern boundary of site looking north, February 2022.

Source: Harmsworth Associates, Inc.

Figure 2.2-4
Site Photos (3)



Photograph 7: Southeastern corner of site looking northwest, February 2022.



Photograph 8: Southwestern corner of site looking northeast, February 2022.

Source: Harmsworth Associates, Inc.

appliedplanning inc

Figure 2.2-5
Site Photos (4)

2.2.2.1 Project Site

Existing land uses within the Specific Plan Area include developed portions of the currently entitled 2021 Specific Plan, and entitled areas that are undeveloped. As of the date of this IS, approximately 468 residential units of the total 7,194 dwelling units entitled under the 2021 Specific Plan have been constructed and are occupied. Existing residential development within the Specific Plan Area is located generally northeast of the intersection of Haven Avenue and Ontario Ranch Road.

The remainder of the 2021 Specific Plan entitlements have yet to be developed. Existing land uses in these areas include a dairy farm in the northern portion of the Specific Plan area, and vacant/disturbed properties through the remaining portions of the site. Additionally, within the southern portion of the Specific Plan Area, Southern California Edison (SCE) transmission line easements exist along a generally east – west/northeast – southwest alignment within the Specific Plan Area.

2.2.2.2 Vicinity Land Uses

Land uses adjacent to northern portions of the Specific Plan Area include residential development, agricultural uses, and Colony High School. Adjacent to the central Specific Plan Area are an SCE Substation occupying approximately 160 acres to the east, and agricultural/dairy and residential development to the west. The southern portion of the Specific Plan Area is bounded by residential and commercial development to the west across Haven Avenue, and vacant disturbed properties, residences, and dairy farm uses to the south across "Old" Edison Avenue [alignment]. To the east, across Hamner Avenue, are City of Eastvale properties that are developed or are being developed with commercial and light industrial uses.

2.3 EXISTING and PROPOSED LAND USE DESIGNATIONS

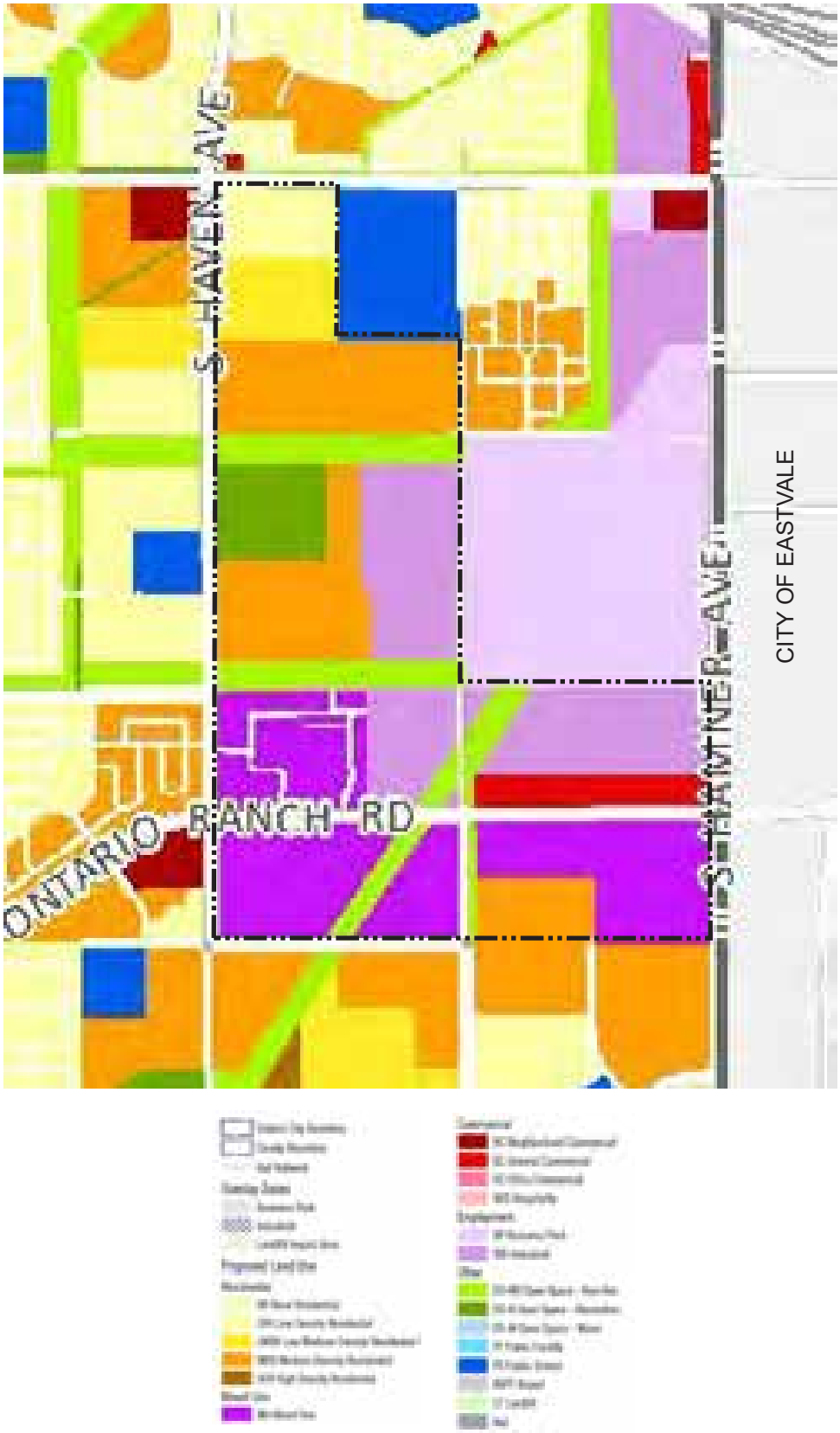
2.3.1 Project Site

Policy Plan Land Uses

TOP 2050 Policy Plan Land Use designations for the Project site and surrounding areas are presented at Figure 2.3-1. Policy Plan Land Uses proposed by the Project are consistent with TOP 2050 Policy Plan Land Use designations for the Project site.

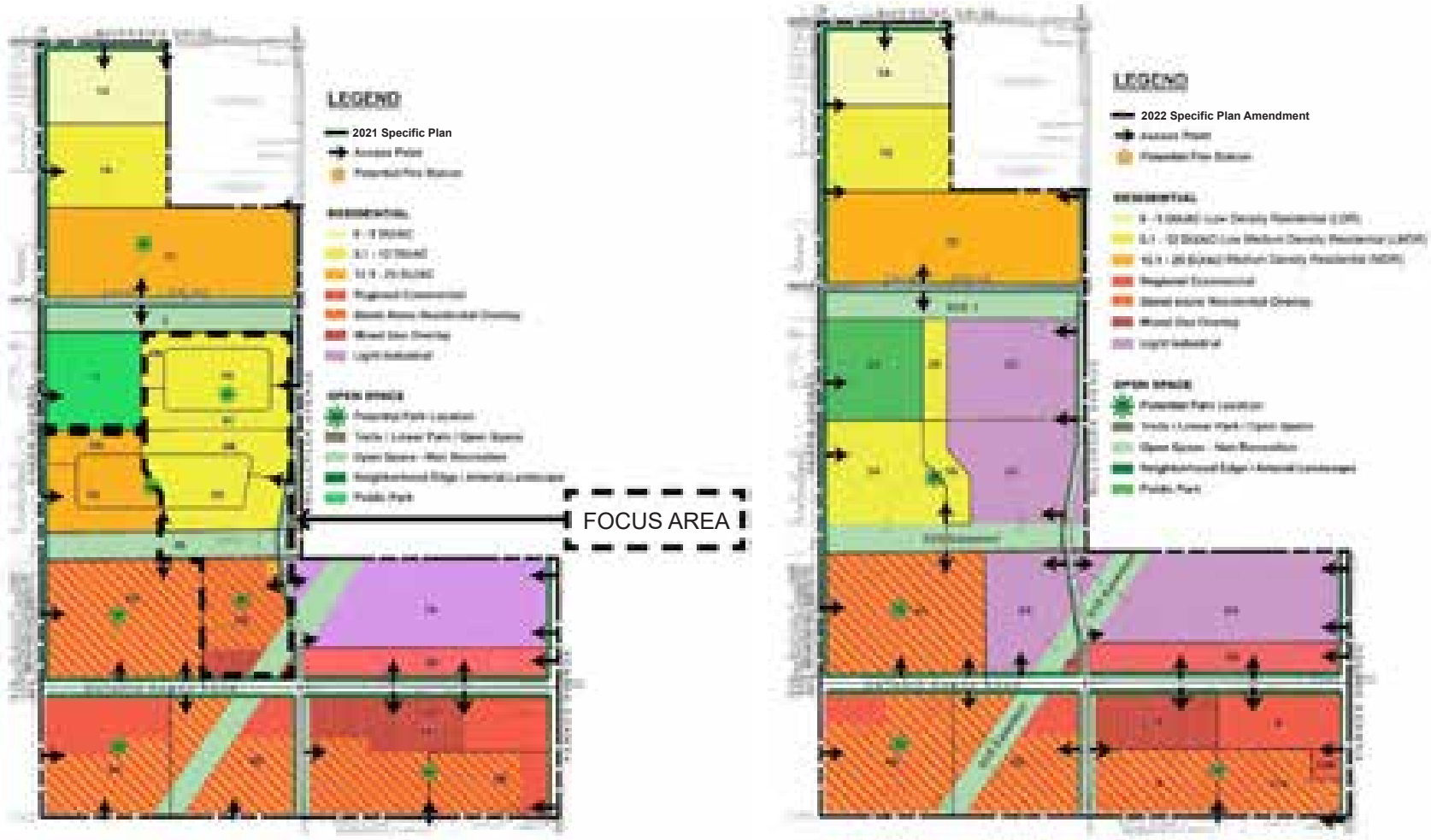
Zoning Designations

Existing Zoning of the Project site is established by the 2021 Specific Plan. Zoning of the Project site would be modified by the 2022 Specific Plan Amendment described herein. The 2021 Specific Plan and 2022 Specific Plan Amendment are compared at Figure 2.3-2.



Source: TOP 2050

Figure 2.3-1
TOP 2050 Policy Plan Land Use Designations



2021 SPECIFIC PLAN

2022 SPECIFIC PLAN AMENDMENT

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NOT TO SCALE

Source: Rich-Haven Specific Plan

Figure 2.3-2
2021 Specific Plan vs. 2022 Specific Plan Amendment

2.3.2 Vicinity Properties

Policy Plan Land Use and Zoning designations of surrounding properties are summarized below. The Project would not affect Land Use and Zoning designations of surrounding properties. Unless noted otherwise, existing and proposed land use designations of vicinity properties are consistent under current and known or anticipated future conditions.

North (across Riverside Drive)

- Policy Plan Land Use Designations: Open Space – Non-Recreation (abutting Riverside Drive), General Commercial, Low Density Residential
- Zoning: Specific Plan (*Creekside Specific Plan*), CT (abutting Riverside Drive), Low Density Residential

South (across East Edison Avenue)

- Policy Plan Land Use Designations: Medium Density Residential, Open Space – Non-Recreation, Low Density Residential.
- Zoning: Specific Plan (*Esperanza Specific Plan*), Specific Plan w/Agricultural Overlay

East

- Across Hamner Avenue:
    - City of Eastvale General Plan: Light Industrial, Commercial Retail
    - City of Eastvale Zoning: Industrial Park, Specific Plan (*Goodman Commerce Center Specific Plan*)
- Across Mill Creek Avenue:
    - Policy Plan Land Use Designations: Medium Density Residential, Low Density Residential, Business Park
    - Zoning: Specific Plan (*Edenglen Specific Plan*), Specific Plan w/Agricultural Overlay (Developed as SCE Substation)
- Abutting to Northeast:
    - Policy Plan Land Use Designation: Public School
    - Zoning: Civic

West (across Haven Avenue)

- Policy Plan Land Use Designations: Office Commercial, Low Density Residential, Low Medium Density Residential, Medium Density Residential Public School, Open Space – Non-Recreation
- Zoning: Specific Plan (*West Haven Specific Plan*)

2.4 PROJECT OPERATIONS/OCCUPANCY SUMMARY

For the purposes of this analysis, it is assumed that all Project development will be complete and fully operational by 2025, the Project Opening Year. Operational attributes of the Project land uses are presented below. Please refer also to the 2022 Specific Plan Amendment for details regarding the proposed Land Use Plan, Design Guidelines, and Development Standards.

2.4.1 Light Industrial Land Use

The Project light industrial land uses would accommodate a mix of high-cube fulfillment warehouse uses, refrigerated warehouse uses, and business park uses. Configurations and mix of these uses will be identified in the EIR as the Project is further defined.

- All uses are assumed to be open and operational 7 days per week, 24 hours per day.
- Unless otherwise noted herein, all operations would occur internal to main buildings.
- On-site operations would include on-site cargo handling. The most common type of cargo handling equipment is the yard truck designed for moving cargo containers. Yard trucks are also known as yard goats, utility tractors (UTRs), hustlers, yard hostlers, and yard tractors. Any yard trucks based at the Project site would be non-diesel (e.g., gasoline and/or electric-powered).

2.4.2 Commercial Land Use

The Project commercial land uses are assumed to accommodate a variety of commercial/retail development.

- All uses are assumed to be open and operational 7 days per week, 24 hours per day.
- Unless otherwise noted herein, all operations would occur internal to main buildings.

2.4.3 Residential Land Uses

- Residential land uses are assumed to be developed at quantities and densities reflected in the 2022 Specific Plan Amendment.

2.4.4 Open Space/Park Land Uses

- All open space/park land uses are assumed to be developed only with site/surface improvements supporting outdoor recreational activities.

2.5 DEVELOPMENT CONCEPT

Development implemented under the Project would be required to conform to provisions of the 2022 Specific Plan Amendment. In instances where the 2022 Specific Plan Amendment is silent, development proposals within the Specific Plan Area would be required to conform to applicable provisions of the City Development Code. The following discussions reflect preliminary 2022 Specific Plan Amendment information available to date. Within the subsequent Project EIR, discussions will be revised to reflect any substantive changes that may occur as the 2022 Specific Plan Amendment is further defined.

2.5.1 DEVELOPMENT SEQUENCING

The Project land uses would be constructed contingent on the availability of supporting infrastructure (e.g., water, sewer, storm drains, roadways/access) and as market conditions warrant. Generally, the anticipated sequence of development is as follows:

1. Light industrial/commercial uses; and
2. Residential products and community amenities including parks/open space uses.

2.5.2 SITE DESIGN/ARCHITECTURAL CONCEPTS

All Project development proposals would be required to conform to requirements and implement guidance articulated at 2022 Specific Plan Amendment Section 5, *Development Regulations*; and Section 6, *Design Guidelines*. All final Project site plans and building designs would be subject to City review and approval, to include consistency analysis with applicable provisions of the 2022 Specific Plan Amendment.

2.5.3 ACCESS AND CIRCULATION

Access to and within the Specific Plan Area is summarized below. Please also refer to 2022 Specific Plan Amendment Section 4.1, *Circulation Plan*.

2.5.3.1 Roadways

Regional access to the City and the Specific Plan Area is provided by State Route 60 (E – W) and Interstate 15 (N – S). State Route 60 (SR-60) interchanges with Interstate 15 (I-15) approximately 1.5 miles northeast of the Specific Plan Area. Local access to the Specific Plan Area is provided by existing vicinity roadways. These roadways include Riverside Drive to the north, Haven Avenue to the west, Mill Creek Avenue (partial) to the east, Hamner Avenue to the east, and Ontario Ranch Road which traverses the southern portion of the Specific Plan Area.

Ultimate designs of roadway alignments, roadway configurations, and site access would be required to conform to applicable provisions of the 2022 Specific Plan Amendment and City Conditions of Approval; and would be subject to City review and approval.

Roadways within and abutting the Project site would be constructed to their respective ultimate cross-sections pursuant to the 2022 Specific Plan Amendment design standards and City requirements.[3]

[3] The Specific Plan Amendment proposes modified design standards for Chino Avenue within the Project site, to include enhanced roadway sections with raised landscapes and roundabouts. These modified design standards would be subject to City review and approval as one component of the Specific Plan Amendment.

2.5.3.2 Bicycle and Pedestrian Access

The Project would construct bicycle and pedestrian access improvements consistent with the City Multipurpose Trails and Bikeway Corridor Plan.

Within the Project site, streets would be constructed with sidewalks, providing pedestrian access and inter-connectivity between various residential and mixed-use areas. Trail access would be provided to the various park facilities. As part of the City's Master Plan of Trails, the SCE Corridor Trail within the Project site would be extended within the linear park areas located within the existing SCE easements. Access to the SCE Corridor Trail would be provided at key points throughout the Project. On-street curb adjacent 5-foot bike lanes would be provided on both sides of the proposed modified/enhanced Chino Avenue section.

2.5.3.3 Bus Service

Bus service is available to the City via Omnitrans and the Riverside Transit Authority (RTA). No bus routes currently provide proximate service (within one-quarter mile) of the 2021 Specific Plan Area. Transit service providers periodically review and update schedules and routes to address ridership, budget, and community demands. The Applicant and City would coordinate Project final designs with Omnitrans and RTA to evaluate the potential for provision of bus services and bus amenities serving the 2021 Specific Plan Area. Omnitrans bus routes and schedules can be accessed at: https://omnitrans.org. RTA bus routes and schedules can be accessed at: https://www.riversidetransit.com/index.php/riding-the-bus/maps-schedules.

2.5.4 PARKING

The Project would be required to adhere to parking requirements established under the 2022 Specific Plan Amendment and the City of Ontario Development Code. Parking assignments and design of parking areas within the site would be subject to City review and approval.

2.5.5 LANDSCAPE/STREETSCAPE

The 2022 Specific Plan Amendment Landscape Concept is presented in detail at 2022 Specific Plan Amendment Section 7, *Landscape Plan*. All landscaping/streetscaping

implemented under the Project would be required to comply with applicable provisions of the 2022 Specific Plan Amendment and the City Municipal Code. The implemented landscape/streetscape concept would act to enhance perception of the site as developed under the Project, and to screen views of the site interior from off-site vantages. Landscape and streetscape elements would provide shade and visual interest, define entry/access points, and accentuate site and architectural features.

2.5.6 INFRASTRUCTURE/UTILITIES

2.5.6.1 Water Service

Potable (Domestic) Water

Potable water would be provided by the Ontario Municipal Utilities Company (OMUC).[4] The Project lies within the OMUC 925 and 1010 Pressure Zones. Within the Project site, water service would be provided by a system of 8-inch to 12-inch water mains constructed within the backbone roadway system. Connecting 8-inch service lines would be provided to individual developments.

The on-site public water system sizing would be required to comply with provisions of a City-approved hydraulic analysis to be conducted at the project-level design stage. All water mains and wells internal to site would be constructed by the merchant builder(s). In-tract water system design will be provided at the time of subdivision. Final designs of water conveyance systems serving the Project would be required to conform to City and OMUC requirements. Please refer also to 2022 Specific Plan Amendment Section 4.2.1, *Domestic Water*.

[4] Additionally, as discussed in the Specific Plan Amendment, "the Chino Basin Water Master Water Quality Map identifies the Rich-Haven [Project] area within an optimum water quality zone and requires that the owner/developer dedicate a total of two wells within the Specific Plan area to the City of Ontario for production of potable water." Well dedications within the Project site would be provided if/as required by the City/OMUC.

Recycled Water

The Project area would be served by OMUC 930/1050 Pressure Zones for recycled water. A range of recycled water lines would be constructed both on-site and off-site to service the Project. All Master Plan recycled water improvements implemented to serve the Project would be required to conform to the incumbent City Recycled Water Master Plan. Please refer also to 2022 Specific Plan Amendment Section 4.2.2, *Recycled Water*, *Regional Recycled Water Plan*.

The Project would be required to comply with applicable provisions of City Municipal Code Chapter 8c: *Recycled Water Use.*[5] Within the Project area, recycled water would be used for all approved applications, including but not limited to irrigation of parks, schools, street landscaping, recreational trails, HOA-maintained common areas and landscaping. An engineering report approved by the City and the California Department of Public Health is required prior to the use of recycled water.

Within the Project area, the backbone recycled water system would comprise 8-inch to 12-inch lines and would be located in the backbone street system. In-tract recycled water system design would be provided at the time of subdivision. It is noted here that ***no*** [emphasis added] recycled water can be used on single-family single lot ownership properties. Per the 2022 Specific Plan Amendment, a clear physical separation between potable and recycled water systems is required, such separations may comprise walls, fences, sidewalks, or mow strips. Please refer also to 2022 Specific Plan Amendment Section 4.2.2, *Recycled Water*, *Local Backbone Recycled Water Plan*.

2.5.6.2 Sewer Services

Sewer service would be provided by the City of Ontario. Master Plan sewer system improvements serving the Project and surrounding areas would be constructed consistent with the City's Sewer Master Plan. All Master Plan sewer improvements implemented to serve the Project would be required to conform to the incumbent City

[5] See also: https://codelibrary.amlegal.com/codes/ontarioca/latest/ontario_ca/0-0-0-44580#JD_6-8.714

Sewer System Master Plan. Please refer also to 2022 Specific Plan Amendment Section 4.3, *Sewer Master Plan*.

2.5.6.3 Stormwater Management System

Storm Drains

Multiple City Master Plan of Drainage storm drain facilities would serve the Project site. All Master Plan storm water management system improvements implemented to serve the Project would be required to conform to the incumbent City Master Plan of Drainage. Under post-development conditions, existing southerly trending on-site drainage patterns would be maintained.

Within the Project site, individual developments would implement required stormwater management systems. On-site storm stormwater management system designs would be provided concurrent with development plan submittals. Final designs of stormwater management systems serving the Project would be required to conform to City requirements. Please refer also to 2022 Specific Plan Amendment Section 4.4, *Drainage Master Plan*, *Regional Backbone Drainage Plan*.

Water Quality Management Plan

On a regional level, stormwater quality management would be available via the regional Mill Creek Wetlands system. Within the Project site, complementary on-site stormwater management systems that would detain and treat stormwater discharges. Stormwater discharges from the Project would be required to comply with requirements and performance standards established under the incumbent San Bernardino County National Pollutant Discharge Elimination System (NPDES) Stormwater Program MS4 Permit and Water Quality Management Plan (WQMP). To these ends, developments within the Project site would implement Low Impact Development (LID) Site Design Best Management Practices (BMPs) to reduce pollutant transport and increase on-site stormwater infiltration. Additionally, all Priority Land Use (PLU) areas within the Project site would be required to comply with the statewide Trash Provisions adopted by the

State Water Resources Control Board (SWRCB) and trash requirements in the most current San Bernardino County Area-Wide MS4 Permit.

Non-structural and structural Source Control BMPs would be documented in the Project WQMPs. Final WQMPs, as approved by the City, would ensure that the Project stormwater management systems have been designed to convey and treat stormwater discharges and limit the post-development peak flows consistent with available storm drain capacities. Please refer also to 2022 Specific Plan Amendment Section 4.4, *Drainage Master Plan, Stormwater Quality Measures*.

2.5.6.4 Solid Waste Management

The City of Ontario provides solid waste collection services for the City and will service the Project.

2.5.6.5 Electricity

Southern California Edison (SCE) would provide electricity to the site from existing vicinity facilities. SCE facilities located within and adjacent to the Project site consist of 115kV, 66kV, 12kV, towers/power lines and attached communication lines. Facilities less than 34.5kV will be located underground if they are located adjacent to any streets proposed to be improved in conjunction with site improvements.

2.5.6.6 Natural Gas

The Gas Company will provide natural gas to the site. All proposed connections and modifications to Gas Company facilities would conform to Gas Company and City requirements.

2.5.6.7 Fiber Optics System

A backbone fiber optics system (conduits, tracer wire, and fiber) would be constructed within the Project backbone street system. Backbone fiber optic components (conduits, hand holes, tracer wire, and fiber) would be placed underground within a duct and structure system to be installed in a joint trench. In-tract fiber and conduit would be installed per the City's in-tract fiber optic design guidelines (see:

https://www.ontarioca.gov/sites/default/files/Ontario-Files/Information-Technology/2014-12-16_in-tract_designguidelines.pdf).

2.5.6.8 Communications Services

Communications services, including wired and wireless telephone and internet services, are available through numerous private providers and would be provided on an as-needed basis. To the extent practical and consistent with City Conditions of Approval, existing and proposed wires, conductors, conduits, raceways, and similar communications improvements within the Project area would be installed underground. Any necessary surface-mounted equipment, e.g., terminal boxes, transformers, meters, service cabinets, etc., would be screened and would conform to City building setback requirements.

2.5.7 ENERGY EFFICIENCY/SUSTAINABILITY

Energy-saving and sustainable design features and operational programs would be incorporated in all facilities developed pursuant to the Project. The Project would be required to comply with incumbent energy efficiency and performance standards established under the incumbent CALGreen Code and City of Ontario Climate Action Plan (CAP).

2.5.8 CONSTRUCTION AREA TRAFFIC MANAGEMENT PLAN

Temporary and short-term traffic detours and traffic disruptions could result during construction activities including implementation of access and circulation improvements noted above. Accordingly, the Applicant would be responsible for the preparation and submittal of a Construction Area Traffic Management Plan (Plan). Typical elements and information incorporated in the Plan would include, but not be limited to:

- **Name of on-site construction superintendent and contact phone number.**

- **Identification of Construction Contract Responsibilities** - For example, for excavation and grading activities, describe the approximate depth of excavation, and quantity of soil import/export (if any).

- **Identification and Description of Truck Routes** - to include the number of trucks and their staging location(s) (if any).

- **Identification and Description of Material Storage Locations (if any).**

- **Location and Description of Construction Trailer (if any).**

- **Identification and Description of Traffic Controls** - Traffic controls shall be provided per the Manual of Uniform Traffic Control Devices (MUTCD) if the occupation or closure of any traffic lanes, parking lanes, parkways or any other public right-of-way is required. If the right-of-way occupation requires configurations or controls not identified in the MUTCD, a separate traffic control plan must be submitted to the City for review and approval. All right-of-way encroachments would require permitting through the City.

- **Identification and Description of Parking** - Estimate the number of workers and identify parking areas for their vehicles.

- **Identification and Description of Maintenance Measures** - Identify and describe measures taken to ensure that the work site and public right-of-way would be maintained (including dust control).

The Plan would be reviewed and approved by the City prior to the issuance of the first building permit. The Plan and its requirements would also be required to be provided to all contractors as one component of building plan/contract document packages.

2.5.9 OPENING YEAR

For the purposes of this analysis, the Project Opening Year is defined as 2025, by which time all proposed uses are assumed to be complete, occupied, and operational.

2.6 PROJECT OBJECTIVES

The broad vision of the 2022 Specific Plan Amendment is to create a community with a mixture of uses, connected through a series of trails, which provides opportunities for people to live, work and play. Supporting 2022 Specific Plan Amendment objectives are listed below.

Livable Neighborhood Development

- Incorporate Traditional Neighborhood Design guiding principles during the design phase to provide for opportunities to achieve the Project's vision statement, including:
  - Connections. To provide a series of sidewalks and trails connecting community parks, civic uses, employment areas, mixed-use and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
  - Traditional Street Network. To design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, as well as creating a visually favorable and comfortable environment for pedestrians and bicyclists.
  - Main Street Environment. To design commercial/retail areas to a human scale with storefronts oriented to the street providing a "Main Street" atmosphere for strolling and shopping, all within walking distance from most homes.
  - Public Spaces. To create plazas, parks, and community gathering places placed within centralized areas providing synergy between adjacent land uses.
  - Identifiable Neighborhoods. To design neighborhoods around a discernable center, which may include a small park, square, school, or mixed-use center, within a five-minute walking distance.
  - Mix of Housing. To provide neighborhoods with a range of household types: a variety of single-family detached homes, attached units for young families, and live/work units for small at-home businesses.
- Design a mixed-use environment to ensure compatible uses that are cohesive and integrate a diversity of residential neighborhoods, with a range of commercial uses, and supporting open spaces.

- Utilize transportation, utility, and greenways/open space networks to establish clear edges and boundaries.
- Accommodate residential, commercial, open space, public, and other uses in accordance with the generalized distribution of uses depicted within the City's TOP Land Use Plan.
- Implement elements that will ensure walkability throughout the Project Area to discourage automobile dependency and encourage walking, biking, and other forms of transportation. This is achieved through the incorporation of subarea greenways and pedestrian connections and through sensitive site design of mixed-use development.
- Implement technological advances within residential communities, including internet access, to allow residents to shop and work from home and to decrease reliance on automobiles.
- Provide opportunity for at least one major public plaza/square as a centerpiece of community activities, including events and celebrations, outdoor performances, community meetings, picnics, farmers markets, and similar functions.
- Establish a clearly defined "edge" for the City's TOP area, where appropriate, that avoids the use of walls and creation of a "walled" enclave.
- Incorporate electrical transmission corridors and similar elements to form "edges" for residential neighborhoods and centers and/or accommodate public greenways/trails/corridors.

Residential District Objectives

- Create a livable community with neighborhoods designed at a human scale and oriented for pedestrian access to mixed-use, educational, and recreational uses.
- Provide for a range and diversity of housing products (detached single-family, detached and attached condominiums, and townhomes) that respond to a variety of homeownership needs and desires.
- Design residential projects to complement the character of adjacent neighborhoods.
- Encourage interaction among residents through the provision of an organized, simple, and "neo-traditional" system of streets, pathways, and entries to allow

residents to walk or bike to parks, recreation, and public facilities (including schools).

- Promote outdoor activity and casual social contact among residents and neighbors by designing neighborhoods around a central park where they can gather.
- Provide a focal point of activity within each residential planning area that may include a park, school, common area, or public meeting facility.
- Encourage architectural styles and traditional design elements that reflect the historic and eclectic mixture of architecture, reflective of the greater Ontario area.
- Increase densities adjacent to commercial centers.
- Establish clear, defined "edges" and "entries" that contribute to neighborhood identity.
- Avoid the use of walls to separate residential areas from arterials and other high traffic volume streets by expanded landscape setbacks, frontage roads, and other appropriate techniques.
- Include clustered multi-family housing within the Residential District, in order to create a diverse range of housing products and opportunities, while still in keeping with the overall low-density residential designation.
- Locate higher-density residential uses that provide population to support adjacent regional commercial centers.
- Provide sufficient on-site recreational amenities within higher density developments.
- Include community-oriented uses such as public meeting rooms, plazas and courtyards, and similar uses.
- Establish visual and physical links among the individual multi-family developments to create a cohesive and continuous corridor.
- Design building elevations to promote visual interest.
- Provide linkages between community service facilities, multi-family corridors, and residential neighborhoods.

Regional Commercial/Mixed-Use District Objectives

- Accommodate a diversity of large-scale retail, community and neighborhood shopping, office, medical research, entertainment, hotel/motel, dining, housing,

cultural, public, and similar uses that will serve the Project area and neighboring Planning Areas.

- Function with a high level of activity and/or employment.
- Accommodate development of multi-family housing, mixed-use buildings that incorporate housing and retail/office, and live/work facilities.
- Accommodate single-use buildings and mixed-use structures containing a variety of uses from residential over retail or office-to-office over retail.
- Encourage traditional, mixed-use design of commercial buildings, by requiring a lower maximum floor area ration (FAR) for single-use buildings, and a higher maximum FAR for mixed-use buildings.
- Develop plaza areas and other amenities to provide places of social interaction.
- Include one or more public "squares" to serve as gathering places.
- Incorporate modulated building volumes, mass, height, and articulated facades to create individual spaces.
- Site a portion of the buildings on peripheral streets to provide connectivity to adjacent uses.
- Orient buildings towards the local streets whenever possible to create an urban edge and sense of arrival and place.
- Include sidewalks of sufficient width to accommodate pedestrian activity and outdoor restaurants, newsstands, and other uses.
- Create visual interest through the opening of streets and sidewalks/plazas towards building elevations.
- Incorporate landscaping to enhance the environment.
- Visually integrate parking structures to continue the intended design character of the district.
- Incorporate multi-family housing to create a cohesive and continuous corridor.
- Ensure an appropriate mix of uses (residential and commercial) that are compatible.
- Encourage pedestrian access and ease of use within the mixed-use area by designing pedestrian and bike paths.
- Create a "Main Street" environment with buildings designed to a human scale where pedestrian activity is not overwhelmed by automobile traffic.

- Utilize urban design to create a "Gateway" or portal to the Ontario Ranch.

Industrial District Objectives

- Incorporate transitions and/or buffers between commercial/mixed-use and industrial areas and adjacent residential areas.
- Contribute to the regional jobs to housing balance by providing employment opportunities while minimizing development impacts on surrounding neighborhoods.
- Create a high-quality industrial park development that attracts an array of businesses and provides employment opportunities within proximity to area residents.
- Provide safe and efficient access/circulation routes for the distribution/transportation of goods.

Circulation Objectives

- Provide a circulation system designed to promote pedestrian activity through a network of off-street pedestrian walkways linking each neighborhood to parks, mixed-use commercial, and residential uses.
- Design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, creating a visually attractive, enhanced, and comfortable environment for pedestrians and bicyclists.
- Design streets to incorporate landscaped parkways and pedestrian walkways separated from the street to enhance safety and enjoyment of residents and visitors.
- Provide opportunities for transit connections and alternative modes of transportation.

Recreation/Trails Objectives

- Provide new recreational opportunities for residents through the development of a series of public and private parks.
- Provide a series of pedestrian trails connecting community parks, civic uses, mixed-use, and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.

- Incorporate off-street multi-use trails within the Southern California Edison easements.
- Incorporate a system of on- and off-street bicycle pathways with access from the residences to mixed-use areas.
- Use landscaping and streetscape materials that are low maintenance in recreation and trail areas.
- Provide a system of on-street bikeways integrated throughout the Project to provide access to schools, parks, and commercial uses.
- Provide new recreational opportunities for residents through the development of a series of parks ranging in size.

Community Facilities Objectives

- Incorporate existing major utilities into the overall fabric of the community.
- Provide opportunities for incorporation of community facilities (e.g., schools, fire station) as identified by affected agencies.

2.7 DISCRETIONARY APPROVALS AND PERMITS

Discretionary actions, permits, and related consultation(s) necessary to approve and implement the Project include, but are not limited to, the following.

2.7.1 LEAD AGENCY DISCRETIONARY ACTIONS AND PERMITS

- EIR Certification;
- Approval of the 2022 Specific Plan Amendment;
- Approval of Tentative Parcel Maps;
- Approval of Development Agreements; and
- Approval of Development Plans.

2.7.2 OTHER CONSULTATION AND PERMITS

Anticipated consultation and permits necessary to realize the Project would or may include the following:

- Permitting by/through the Regional Water Quality Control Board (RWQCB) pursuant to requirements of the City's National Pollutant Discharge Elimination System (NPDES) Permit.

- Permitting by/through the South Coast Air Quality Management District (SCAQMD) for certain equipment or land uses that may be implemented pursuant to the Project.

- Permitting (i.e., utility construction and connection permits) from affected utility purveyors, notably the City of Ontario, IEUA, and SCE.

Other ministerial permits necessary to realize all on- and off-site improvements related to the development of the Project.

3.0 ENVIRONMENTAL EVALUATION

3.0 ENVIRONMENTAL EVALUATION

3.1 PROJECT TITLE

Rich-Haven Specific Plan Project (Project)

PSPA22-001

3.2 LEAD AGENCY NAME AND ADDRESS

City of Ontario, Planning Department

303 East "B" Street

Ontario, CA 91764

Contact: Charles Mercier, Principal Planner

3.3 PROJECT APPLICANT

BrookCal Ontario LLC/Richland Developers, Inc.

3161 Michelson Drive, Suite 425

Irvine, CA 92612

3.4 BACKGROUND AND PROJECT OVERVIEW

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. Location of the 2021 Specific Plan is presented at Figure 2.1-1. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated in this Initial Study (IS) coincide with the location and boundaries in the 2021 Specific Plan.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (Project, Project) evaluated in this Initial Study (IS) proposes a new amendment of the RHSP.

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This IS evaluates potential environmental impacts of buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.[1]

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.
3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

[1] Potential environmental impacts of the Rich Haven Specific Plan were initially evaluated in *Rich Haven Specific Plan Environmental Impact Report*, July 3, 2007 (SCH No. 2006051081). Subsequent Rich Haven Specific Plan Amendments: 2015, 2016, 2018, 2021 have been evaluated as Addendums to Certified EIRs. While the City could have continued tiering off previous environmental documents in evaluation of the Project's potential environmental impacts, in order to provide a contemporary and comprehensive analysis of the Project's impacts, a new Project-level EIR will be developed.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment.

The discussions presented in this IS reflect preliminary 2022 Specific Plan Amendment information available to date, and reflect the range and types of uses envisioned under this Project. Based on the findings of this IS, the Project may result in certain potentially significant environmental impacts. Accordingly, potential environmental impacts of the Project will be evaluated and documented in a Project EIR. Within the subsequent Project EIR, discussions will be revised to reflect any substantive changes that may occur as the 2022 Specific Plan Amendment is further defined. Please refer also to the detailed discussion of the Project characteristics and attributes presented at IS Section 2.0, *Project Description*.

3.5 PREVIOUS ENVIRONMENTAL DOCUMENTATION, DOCUMENTS INCORPORATED BY REFERENCE

Section 15150 of the State *CEQA Guidelines* permits and encourages that an environmental document incorporate by reference other documents that provide relevant data. The documents outlined in this Section are hereby incorporated by reference, and the pertinent material is summarized throughout this Initial Study. All documents incorporated by reference are available through the City of Ontario Planning Department.

The Ontario Plan 2050 (TOP 2050), TOP 2050 Supplemental Environmental Impact Report (TOP 2050 SEIR), TOP 2050 Policy Plan (General Plan) Component

As one component of The Ontario Plan 2050 (TOP 2050), the City has updated the City Policy Plan (General Plan). Concurrent with the General Plan approval process, the City has certified the TOP 2050 Supplemental Environmental Impact Report (TOP 2050 SEIR) addressing the potential impacts of the General Plan as updated under TOP 2050. TOP 2050 and TOP 2050 SEIR[2] can be accessed at: https://www.ontarioplan.org/top2050/.

[2] TOP 2050 SEIR comprises TOP 2050 Draft SEIR, TOP 2050 Final SEIR, and all supporting technical analyses. These documents can be accessed at https://www.ontarioplan.org/top2050/, or by contacting the City of Ontario.

As noted at IS Section 2.0, *Project Description*, the Project has been planned and designed to be consistent with TOP 2050 and would therefore not likely result in impacts not currently identified and addressed in TOP 2050 SEIR. Within this analysis, unless otherwise noted, TOP 2050 and TOP 2050 SEIR are the basis for the Project's potential environmental impacts. TOP 2050 SEIR is a Supplemental EIR tiering off of TOP 2010 Certified EIR. TOP 2050 SEIR identifies potentially significant impacts resulting from TOP 2050 not already considered and addressed in TOP 2010 Certified EIR. As a corollary, impacts that are identified as less-than-significant under TOP 2050 SEIR are also less-than-significant under TOP 2010 Certified EIR.

2022 Rich-Haven Specific Plan Amendment

The 2022 Rich-Haven Specific Plan Amendment is the Project evaluated in this IS. To the extent practical, substantive provisions of the Project have been summarized in this IS (see: IS Section 2.0, *Project Description*). The 2022 Specific Plan Amendment is currently in draft form, and when completed, will be appended to the Project EIR.

3.6 EXPLANATION OF CHECKLIST CATEGORIES

"No Impact" applies where the impact simply does not apply to projects like the one involved. For example, if the project site is not located in a fault rupture zone, then the item asking whether the project would result in or expose people to potential impacts involving fault rupture should be marked as "No Impact."

"Less-Than-Significant Impact" applies where the impact would occur, but the magnitude of the impact is considered insignificant or negligible. For example, a development that would nominally increase the amount of surface water runoff generated at a project site would be considered to have a less-than-significant impact on surface water runoff.

"Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." Incorporated mitigation measures should be outlined within the checklist and a discussion should be provided which explains how the

measures reduce the impact to a less-than-significant level. This designation is appropriate for a Mitigated Negative Declaration, where potentially significant issues have been analyzed and mitigation measures have been recommended.

"Potentially Significant Impact" applies where the project has the potential to cause a significant and unmitigable environmental impact. If there are one or more items marked as "Potentially Significant Impact," an EIR is required.

3.7 INITIAL STUDY CHECKLIST AND SUBSTANTIATION

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to trees, rocks, outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In a non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare, which would adversely affect the day or nighttime views in the area?	☐	☐	☒	☐

Substantiation:

a, c) *Less-Than-Significant Impact.* There are no scenic vistas within the Project site, nor would the Project otherwise adversely affect a designated scenic vista. Views of the San Gabriel Mountains, located to the north of the City, are the dominant scenic resource in the area.

The Project is located in an urbanized area and would be subject to those provisions of TOP 2050 General Plan and City of Ontario Development Code governing scenic quality. TOP 2050 General Plan Community Development

Element establishes multiple policies that protect scenic resources and promote high quality, visually compatible development. For example, TOP General Plan 2050 Community Design Element Policy CD-1.5 requires that "all major north-south streets be designed and redeveloped to feature views of the San Gabriel Mountains, which are part of the City's visual identity and a key to geographic orientation. Such views should be free of visual clutter, including billboards and may be enhanced by framing with trees"; Policy CD-2.1 encourages "all development projects to convey visual interest and character . . ."; Policy CD-2.15 supports "excellence in design and construction quality through collaboration with trade and professional organizations that provide expertise, resources and programs for developers, builders and the public" (TOP 2050 Policy Plan, p. 91).

TOP 2050 General Plan policies governing scenic quality, including those noted above, ensure protection of scenic resources and promote visually compatible and appealing development. These policies are implemented through the City of Ontario Development Code (Development Code Chapter 6.0 *Development and Subdivision Regulations*, et al.). The City would assure that the Project as implemented would conform to applicable provisions of the Project including the Project Development Regulations and Design Guidelines. The Project Development Regulations and Design Guidelines would, at a minimum, be required to conform to provisions of TOP 2050 General Plan and Development Code. Conformance with the Project would minimize the potential for the Project to adversely affect scenic resources or result in development that would conflict with applicable zoning and other regulations governing scenic quality.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. TOP 2050 SEIR concludes that the potential for TOP 2050 General Plan to adversely affect scenic vistas or conflict with zoning or other regulations governing scenic quality would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.1, *Aesthetics*).

Based on the preceding, the potential for the Project to have a substantial adverse effect on a scenic vista or to conflict with applicable zoning and other regulations governing scenic quality is considered less-than-significant.

b) *Less-Than-Significant Impact.* The City of Ontario is served by three freeways, including Interstate 10 (I-10), Interstate 15 (I-15), and State Route 60 (SR-60). The segments of these freeways located within the City are not designated as scenic highways by the California Department of Transportation. There are no scenic resources, including, but not limited to trees, rocks, outcroppings, and historic buildings within a state scenic highway located within the Project site. Nor does the Project propose or require facilities or operations that would otherwise substantially damage such resources.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. TOP 2050 SEIR concludes that the potential for TOP 2050 General Plan to adversely affect scenic resources would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.1, *Aesthetics*).

On this basis, the potential for the Project to substantially damage scenic resources, including, but not limited to trees, rocks, outcroppings, and historic buildings within a state scenic highway is considered less-than-significant.

d) *Less-Than-Significant Impact.* The Project would create new sources of lighting, including ground, building-mounted, wall-mounted, and pole-mounted lighting fixtures. The Project would also provide illuminated exterior signs. The City would assure that the Project, as implemented, contains Development Regulations and Design Guidelines that would, at a minimum, conform to City regulations addressing lighting and light overspill (see: Development Code, Division 6.01 – *District Standards and Guidelines*, *Lighting*). All subsequent development within the Project area would be required to conform with the Project Regulations and Design

Guidelines addressing light, glare and overspill. Conformance with the Project would minimize the potential for the Project to result in adverse light and glare impacts.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. TOP 2050 SEIR concludes that the potential for TOP 2050 General Plan to create a new source of substantial light or glare, which would adversely affect the day or nighttime views in the area would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.1, *Aesthetics*).

Based on the preceding, the potential for the Project to create a new source of substantial light or glare, which would adversely affect the day or nighttime views in the area is considered less-than-significant.

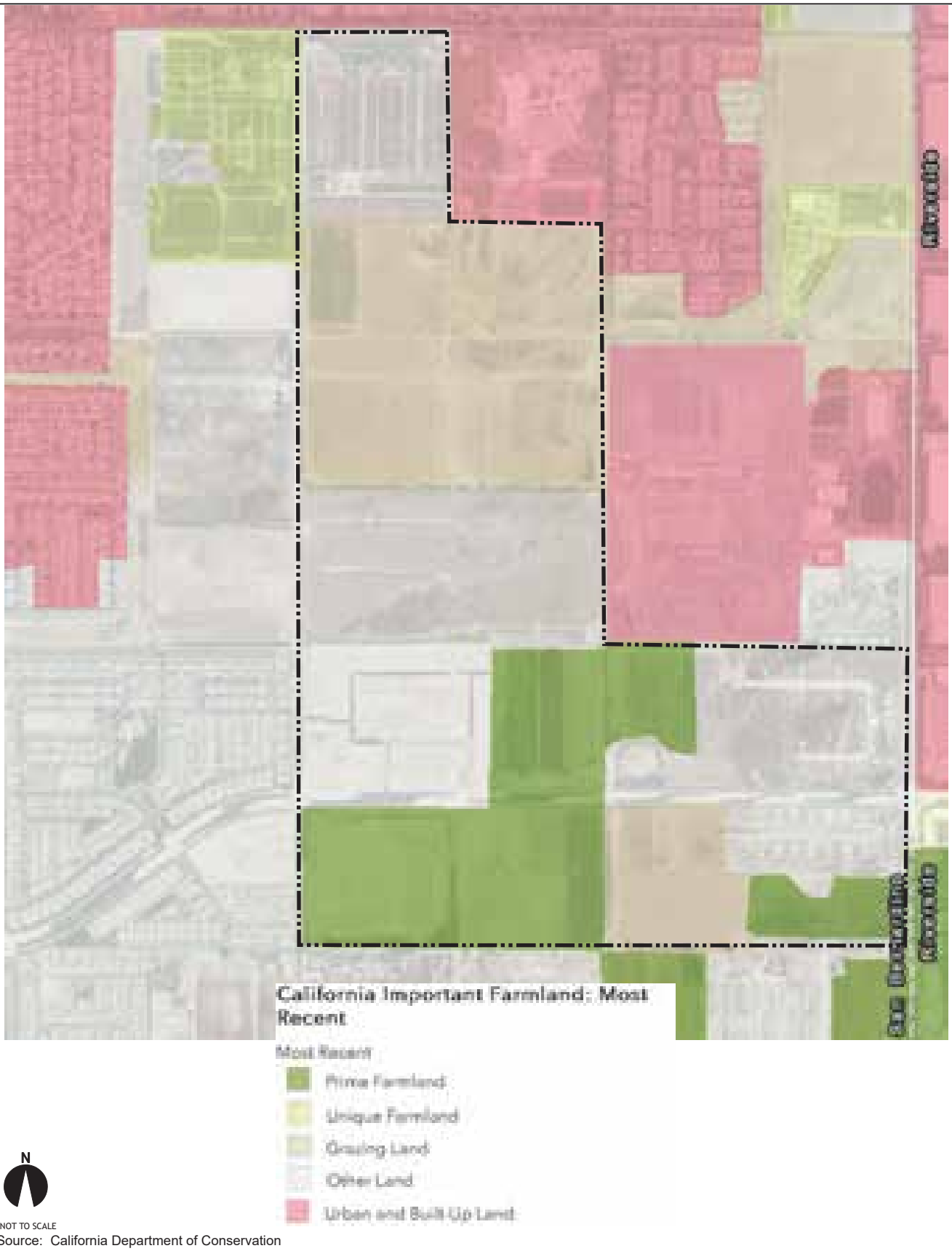
Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; City of Ontario Development Code; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy				

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Substantiation:

a) *Less-Than-Significant Impact.* The California Department of Conservation (CDC) Farmland Mapping and Monitoring (FMMP) System designates properties within the Project site as: "Prime Farmland," "Grazing Land," and "Other Land." Please refer to Figure II-1. See also: https://maps.conservation.ca.gov/dlrp/ciff/.



Source: California Department of Conservation

Figure II-1
California Important Farmland Finder

The City of Ontario does not prohibit the transition of agricultural land to urban uses. While existing agricultural uses are allowed to persist and are accommodated as transitional uses under the City's Agricultural Overlay District, the City Land Use Plan does not formally designate or allocate any areas of the City as "Agricultural" land uses.

The City of Ontario has acknowledged the planned transition of existing agricultural uses to urbanized uses pursuant to TOP 2050 Land Use Plan (Land Use Plan). As discussed in TOP 2050 DSEIR, "because former agriculture areas within Ontario are now already designated for nonagricultural uses and the current TOP is the baseline for this SEIR, the Proposed Project [TOP 2050] would not conflict with agricultural uses and would not result in conversion of farmland to nonagricultural use" (TOP 2050 DSEIR, p. 5.2-14).

The Project is consistent with TOP 2050 and with land uses and development anticipated under TOP 2050 SEIR. Further, the Project would implement provisions of the Project and requirements of the City Development Code that support buffering of, and separation between, agricultural and urban uses. These requirements support the City's planned orderly transition of existing agricultural uses to urban uses. These requirements include, but are not limited to:

- Project setback and screening standards that act to buffer and separate potentially incompatible uses.

- City of Ontario Development Code requirements including a minimum 100-foot separation between "a new residential, commercial or industrial development or structure used for public assembly and an existing animal feed trough, corral/pen or an existing dairy/feed lot including manure stockpiles and related wastewater detention basins" (Development Code Chapter 6 *Development and Subdivision Regulations*, p. 6.01-63).

Based on the preceding, the potential for the Project to result in adverse impacts related to conversion of Farmlands to non-agricultural use would be less-than-significant.

b) *Less-Than-Significant Impact.*

Agricultural Zoning

The Project site is Zoned "Specific Plan." The Project does not propose or require uses or activities that would otherwise result in potentially adverse effects at agriculturally-zoned properties. Based on the preceding, Project impacts to or affecting agricultural-zoned properties would be less-than-significant.

Williamson Act Contracts

The California Land Conservation Act of 1965 (the Williamson Act, Government Code Sections 51200 through 51297.4) encourages the preservation of agricultural lands through tax incentives due to the increasing trend toward the conversion of agricultural lands to urban uses. The Act enables counties and cities to designate agricultural preserves (Williamson Act lands) and within these preserves offer preferential taxation to agricultural landowners based on the agricultural income-producing value of the property.

One property within the Project site (APN 0218-161-13) is currently under a Williamson Act Contract (Contract No. 71-235). Buildout of the Project site would require the cancellation or nonrenewal of Contract No. 71-235.

The Project has been designed to be consistent with TOP 2050. Buildout of the Project site and cancellation or nonrenewal of Contract No. 71-235 are consistent with development anticipated under TOP 2050 as evaluated in TOP 2020 SEIR. In this regard, TOP 2050 SEIR concluded that development of the City (including the Project site) pursuant to TOP 2050 would result in City-wide cancellation or nonrenewal of Williamson Act contracts. The Project would not result in further impacts to Williamson Act lands beyond those already considered and addressed in TOP 2050

SEIR. As such, impacts from the Project in this respect would be less than significant. See also: TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation*; TOP 2050 DSEIR Section 5.2, *Agriculture and Forestry Resources*.

Based on the preceding, Project impacts to, or affecting, Williamson Act Contract properties would be less-than-significant.

c, d) *No Impact.* There is currently no land in the City of Ontario that qualifies as forest land or timberland. Neither TOP 2050 General Plan nor the City's Development Code provide such designations. As such, the Project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland, or result in the loss or conversion of forest land.

e) *No Impact.* The Project does not involve other changes to the environment that could result in the conversion of farmland or forest land to other uses beyond those identified under the preceding discussions.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; City of Ontario Development Code; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
III. AIR QUALITY - Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the	☒	☐	☐	☐

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
project region is non-attainment under an applicable federal or state ambient air quality standard?				
c) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Substantiation:

a) *Potentially Significant Impact.* The Project site is located within the South Coast Air Basin (Basin), which includes all of Orange County, and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The SCAQMD is locally responsible for administration and implementation of the Air Quality Management Plan (AQMP). Development of the Project could result in the production of additional criteria air pollutants which may interfere with, or obstruct, implementation of the AQMP. These potential impacts will be addressed in the Air Quality Impact Analysis (AQIA) prepared as part of the Project EIR. Mitigation measures will be developed to address any potentially significant impacts.

b, c) *Potentially Significant Impact.* Project demolition activities would result in site disturbance and generation of fugitive dust, and could also result in disturbance and release of asbestos, lead or other toxic materials that may be present in existing on-site structures or in subsurface improvements. Project construction activities would generate fugitive dust and construction equipment emissions.

The implemented Project land uses would generate vehicular trips and associated vehicular-source air pollutant emissions. Project truck traffic would generate diesel emissions and diesel particulate matter (DPM). DPM is a known carcinogen that could result in, or contribute to, adverse health effects. On-site Project operations

would result in energy consumption and byproduct air pollutant emissions. Construction-source and operational-source emissions resulting from the Project may contribute to existing and projected regional exceedances of criteria pollutants within the Basin. Localized concentrations of construction-source and operational-source emissions could adversely affect sensitive receptors.

These potential impacts will be addressed in the Project EIR AQIA. Mitigation measures will be developed to address any potentially significant impacts.

d) *Less-Than-Significant Impact.* Temporary, short-term odor releases are potentially associated with Project construction activities. Potential sources of odors associated with construction activities would include, but not be limited to: asphalt/paving materials, glues, paint, and other architectural coatings. Construction-source odor impacts are minimized through compliance with established regulations (Code of Federal Regulations [CFR], Subpart H-*Materials Handling, Storage Use and Disposal*, et al.) addressing construction materials storage, use, and disposal. In pertinent part the isolation/containment devices or mechanisms specified under these regulations prevent significant release of odors. The Project would be required to comply with these regulations.

Uses typically considered to be sources of odors or other emissions that could adversely affect a substantial number of people include agricultural operations, cement plants, wastewater treatment plants, and the like. The Project proposes none of these. Rather, the Project would implement contemporary residential, commercial, light industrial, parks, and open-space uses.

Refuse generated by the Project uses could be a source of localized odors. Project refuse is required to be collected, contained, and disposed of as stipulated in the City of Ontario Municipal Code (see: Municipal Code, Chapter 3: *Integrated Solid Waste Management*). Per the Municipal Code, refuse is to be disposed of in covered receptacles and routinely removed, thereby limiting the escape of odors to the open

air. Any odors generated would be temporary and transient, with little or no potential to adversely affect a substantial number of people.

Further, all Project construction activities, uses and occupancies would be required to conform to SCAQMD Rule 402. Rule 402 provides in pertinent part that there shall be no "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to result in other emissions (such as those leading to odors) adversely affecting a substantial number of people would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.3, *Air Quality*).

Based on the preceding discussion, the potential for the Project to result in other emissions (such as those leading to odors) adversely affecting a substantial number of people is considered less-than-significant.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; City of Ontario Development Code; Code of Federal Regulations; SCAQMD Rule 402; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) though direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☒	☐	☐	☐

Substantiation:

a – f) *Potentially Significant Impact*. Historic and on-going ground-disturbing activities within, and in areas adjacent to, the Project site have substantially altered the Project site from its natural state. Notwithstanding, certain biological resources may be adversely affected by the Project. Special status species that have the potential to occur within the Project or that could be otherwise affected by Project construction and operations include, but are not limited to: the Delhi Sands Flower Loving Fly, the San Bernardino Kangaroo Rat, and the Burrowing Owl. Therefore, there is a potential for the Project to result in a range of potentially significant biological resources impacts. Accordingly, a Biological Resources Assessment will be conducted as part of the Project EIR. The Assessment will evaluate all potential biological resources impacts listed above that could result from Project construction and operations. The results of the Assessment, along with any necessary mitigation measures, will be presented in the Project EIR.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Substantiation:

a, b) *Potentially Significant Impact*. There are no known historic structures or archaeological resources located within the Project site nor would the Project affect any known off-site resources of historical or archaeological significance. However, TOP 2050 SEIR indicates the potential for discovery of as yet unknown archeological and paleontological resources within the General Plan area is high (TOP 2050 DSEIR, p. 5.7-23).

In areas affected by Project development, historic or archaeological resources may persist in a buried context. These resources could be disturbed during Project site-disturbing activities. The Project EIR will include a Cultural Resources Assessment of potential historical and archaeological resources impacts that could result from the Project. The Assessment will evaluate and address all potential on-site and off-site cultural resources impacts that could result from the Project. The results of the Assessment, along with any necessary mitigation measures, will be presented in the Project EIR.

c) *Less-Than-Significant Impact.* There are no known formal cemeteries or informal burial sites within the Project site or in off-site areas that would likely be affected by Project construction activities. The likelihood of encountering human remains in the course of Project development is therefore considered minimal. Further, as required under California Health and Safety Code Section 7050.5 (b) should human remains be encountered in the course of Project development, "there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined . . . that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or

her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code."

Additionally, California Health and Safety Code Section 7050.5 (c) provides that "[i]f the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission." All Project activities would be required to comply with provisions of the California Health and Safety Code and Public Resources Code as summarized above, minimizing or avoiding the potential to disturb human remains.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to adversely affect human remains would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.5, *Cultural Resources*).

Based on the preceding, the potential for the Project to disturb any human remains, including those interred outside of formal cemeteries would be less-than-significant.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; City of Ontario Development Code; California Health and Safety Code; California Public Resources Code; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☒	☐	☐	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☒	☐	☐	☐

Substantiation:

a, b) *Potentially Significant Impact*. The Project would allow for development and operation of various new residential, light industrial, and commercial uses. When compared to existing conditions, construction and operation of the Project would result in increased consumption of energy resources. The Project EIR will analyze the potential for Project consumption of energy resources to result in environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy. Potential for the Project to conflict with state or local energy plans for renewable energy or energy efficiency will also be evaluated in the Project EIR. Mitigation measures will be proposed for those impacts determined to be potentially significant.

Sources: Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the Project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☒	☐	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☒	☐	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☒	☐	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☒	☐

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☒	☐	☐	☐

Substantiation:

a. i) *Less-Than-Significant Impact.* TOP 2050 DSEIR Figure 5.7-2, *Regional Faults and Fault Zones* identifies active and/or potentially active fault zones in the region, none of which are located within the City. There are no active faults known with the Project site. The Project site is outside any Fault Rapture Hazard Zone (formerly Alquist-Priolo Zone). The Project does not propose actions or facilities that would otherwise exacerbate known or probable adverse earthquake fault conditions.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to cause potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a known earthquake fault would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.7, *Geology and Soils*).

Based on the preceding, the potential for the Project to directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving rupture of a known earthquake fault is considered less-than-significant.

a. ii – iii) *Potentially Significant Impact.* The Project does not propose actions or facilities that would exacerbate known or probable adverse strong seismic ground shaking, or seismic-related ground failure conditions. However, Southern California in general, including the Project site and surrounding areas, is generally susceptible to seismic events. Therefore, there is a potential for the Project to directly or indirectly

cause potential substantial adverse effects, including the risk of loss, injury or death involving strong seismic ground shaking, and/or seismic-related ground failure (including liquefaction). As part of the Project EIR, a Preliminary Geotechnical Investigation will be prepared, addressing these potential impacts. Mitigation will be proposed for any impacts determined to be potentially significant.

a. iv) *Less-Than-Significant Impact.* The Project site topography evidences little internal difference, with a moderate northeast to southwest downward trending slope, averaging between +2.0 % to -2.3% (Google Earth Imagery 2022). The Project site is not considered internally susceptible to land sliding. Any slopes manufactured in the course of Project development would be subject to review and approval by the City Building Department to ensure their stability. Adjacent properties also present little topographic relief.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to exacerbate geologic hazards in the City, such as on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.7, *Geology and Soils*).

Based on the preceding, the potential for the Project to directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving landslides is considered less-than-significant.

b) *Less-Than-Significant Impact.* Project construction activities would temporarily expose underlying soils, thereby increasing their susceptibility to erosion. Potential erosion impacts incurred during construction activities are mitigated below the level of significance through the Project's mandated compliance with a City-approved Storm Water Pollution Prevention Plan (SWPPP), as well as compliance with SCAQMD Rules that prohibit grading activities and site disturbance during

high wind events. At Project completion, potential soil erosion impacts in the area will be resolved, as pavement, roads, buildings, and landscaping are established, overcovering previously-exposed soils.

The Project does not propose altering existing topography in a manner that would result in substantial soil erosion or the loss of topsoil. All Project development plans would be subject to review and approval by the City. As part of this review, the City would ensure that permanent slopes and slope protection would conform to City requirements, thereby minimizing the potential for soil erosion over the life of the Project. City review and approval of development plans would also ensure that stormwater management systems are incorporated that would minimize potential erosion from stormwater runoff, both on-site and off-site.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to result in substantial soil erosion or the loss of topsoil would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.7, *Geology and Soils*).

Based on the preceding, the potential for the Project to result in substantial soil erosion or the loss of topsoil is considered less-than-significant.

c, d) *Potentially Significant Impact.* Adverse/unstable soils or subsurface conditions may exist within the Project site and would be considered potentially significant impacts. As part of the Project EIR, a Preliminary Geotechnical Investigation will be prepared, addressing these potential impacts. Mitigation will be proposed for any impacts determined to be potentially significant.

e) *Less-Than Significant Impact.* The Project uses would be served by municipal sewer services. No septic tanks or other alternative wastewater disposal systems are proposed by the Project.

Moreover, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.7, *Geology and Soils*).

On this basis, the potential for the Project to affect or be affected by soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems would be less-than-significant.

f) *Potentially Significant Impact.* No known paleontological resources or unique geological features exist within the Specific Plan area. However, such resources may exist within the Project site and could be affected by site-disturbing activities. As part of the Project EIR, a Paleontological Resources Assessment will be prepared. This Assessment, in combination with the Project Geotechnical Investigation, will evaluate and substantiate the potential for the Project to directly or indirectly destroy a unique paleontological resource or site or unique geological feature. Pending information indicating otherwise, there is the potential for the Project to directly or indirectly destroy a unique paleontological resource or site or unique geological feature. The Project EIR will evaluate these impacts and mitigation will be proposed for those impacts determined to be potentially significant.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; City of Ontario Development Code; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Substantiation:

a, b) *Potentially Significant Impact.* Project construction and operations would generate Greenhouse Gas (GHG) emissions. The Project's contribution to greenhouse gas emissions may be potentially significant, both as a source of environmental impacts and in context of applicable plans, policies and regulations adopted for the purpose of reducing GHGs. Accordingly, a Greenhouse Gas Analysis (GHGA) will be prepared as part of the Project EIR. The GHGA findings, together with any necessary mitigation measures, will be presented within the Project EIR.

Source: Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☒	☐	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☒	☐	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for the people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Substantiation:

a – c) *Potentially Significant Impact.* Implementation of the Project would not require the transportation, use, storage, or disposal of hazardous or potentially hazardous materials beyond those typically employed for the construction and maintenance of the Project uses. However, the Project site could be affected by or could result in potentially significant hazards/hazards materials impacts due to structure demolition, potential presence of methane gas, presence of organic materials, and general hazards or hazardous conditions associated with current and historic agricultural and dairy farming uses.

Prior to, or concurrent with construction of the Project facilities, remediation of existing significant hazards/hazardous materials conditions would be required. These remedial actions could create a significant hazard to the public or the environment through the routine transport or disposal of hazardous materials; could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment; and could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The Project EIR will evaluate these potential impacts and will propose mitigation for those impacts determined to be potentially significant.

d) *Less-Than-Significant Impact.* The subject site is not included on the hazardous materials sites list compiled pursuant to Government Code Section 65962.5. Additionally, the Project would be required to comply with applicable federal, state, and local regulations, ensuring that hazards/hazardous materials impacts are maintained at levels that would be less-than-significant.

Moreover, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to

result in development of sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.9, *Hazards and Hazardous Materials*).

On this basis, the potential for the Project to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 is considered less-than-significant.

e) *Less-Than-Significant Impact.* The Project site is located within the area subject to provisions of the ONT Airport Land Use Compatibility Plan (ALUCP, July 2018). The ALUCP defines the ONT Airport Influence Area (AIA) as an area in which current and future airport-related noise, overflight, safety, and airspace protection factors may significantly affect land uses or necessitate restriction on those uses. The Project site is located outside the ONT safety zones (see: TOP 2050 DSEIR Figure 5.9-2, *Airport Safety Zones*). All Project development would be required to comply with ALUCP requirements, thereby precluding or minimizing potential airport/aircraft-related hazards. The Project does not propose or require uses that would contribute to potential airport/aircraft-related hazards.

Moreover, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to expose developments or populations to airport/aircraft-related hazards would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.9, *Hazards and Hazardous Materials*).

Based on the preceding, the potential for the Project to result in a safety hazard for the people residing or working in the project area is considered less-than-significant.

Please refer also to discussions addressing airport/aircraft-source noise presented at Checklist Item XIII. *Noise* (c).

f) *Less-Than-Significant Impact.* The Project does not propose or require permanent alteration of vehicle circulation routes, and would not interfere with any identified emergency response or emergency evacuation plan. Consistent with City policies, coordination with the local fire and police departments during pre-construction review of Project plans would ensure that potential interference with emergency response plans and evacuation plans are avoided.

Moreover, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to impair implementation of or physically interfere with an adopted emergency response plan would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.9, *Hazards and Hazardous Materials*).

Based on the preceding, the potential for the Project to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan is considered less-than-significant.

g) *Less-Than-Significant Impact*. The Project site is located in an urbanizing area, and no wildlands are located in the vicinity of the Project site. Fire protection services are provided to the City and the Project site by the Ontario Fire Department. Pre-construction coordination with Fire Department staff and adherence to local fire regulations during construction and operation of the Project would be required. The City and Fire Department would require that fire prevention/fire suppression measures are incorporated in the Project designs and that water delivery systems serving the Project site provide adequate fire flow. Creation and maintenance of firebreaks and fire-defensible spaces adjacent to building and roadways as required by the City and Fire Department would further reduce the potential for exposure to

wildland fires and the spread of wildland fires. The City would also enforce weed abatement measures, minimizing potential fire fuel loads. Additionally, development of the Project site would act to reduce fire hazards by eliminating existing fire fuel loads such as manure, hay, and weeds; while improving area fire protection infrastructure systems.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.9, *Hazards and Hazardous Materials*).

Based on the preceding, the potential for the Project to result in significant risk of loss, injury or death involving wildland fires is considered less-than-significant. Please also refer also to the discussions at subsequent Checklist Item XX, *Wildfire*.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; City of Ontario Development Code; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☒	☐	☐	☐

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☒	☐	☐	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☒	☐	☐	☐
(iv) impede or redirect flood flows?	☒	☐	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☒	☐	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☒	☐	☐	☐

Substantiation:

a, e) *Potentially Significant Impact*. Runoff from the Project area may include oils from paved areas and other chemicals which may contribute to degradation of surface and groundwater quality. The Project may also conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan, thereby resulting in potentially significant environmental impacts. Analysis of potential impacts in regard to water quality standards/waste

discharge requirements, and consistency with an applicable water quality control plan and/or sustainable groundwater management plan will be included in the Project EIR. Mitigation measures will be incorporated to address any potentially significant impacts.

b) *Less-Than-Significant Impact*. Direct additions or withdrawals of groundwater are not proposed by the Project. Further, construction proposed by the Project will not involve substructures or other intrusions at depths that would significantly impair or alter the direction or rate of flow of groundwater. Water is provided throughout the City by the City of Ontario Utilities Department.[3] Groundwater which may be consumed by the Project and the City of Ontario, as a whole, would be recharged pursuant to the Department's policies and programs. The Project site is not a designated groundwater recharge area. The Project does not propose or require facilities or operations that would otherwise adversely affect designated recharge areas.

Moreover, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to substantially decrease groundwater supplies or interfere substantially with groundwater recharge and thereby impede sustainable groundwater management of the basin would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.10, *Hydrology and Water Quality*).

Based on the preceding, the potential for the Project to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin is considered less-than-significant.

[3] Water supply availability to the Project generally is discussed at Checklist Item XIX, *Utilities and Service Systems*.

c (i) *Less-Than-Significant Impact.* Please refer to previous discussions at Checklist Item VII, *Geology and Soils* (b).

c (ii, iv) *Potentially Significant Impact*. The Project would implement new structures and surface improvements that could result in substantially increased rates of surface runoff, with resulting increased on-site or off-site flooding potential. Similarly, Project structures and surface improvements could alter existing area stormwater runoff patterns in a manner that would create, impede, or redirect flood flows. The Project EIR will address these potential impacts. Mitigation will be proposed for impacts determined to be potentially significant.

c (iii) *Potentially Significant Impact*. The increase in impervious surfaces created by development of the Project site would result in decreased absorption rates and increased surface runoff. Development of the Project site could also substantially alter the existing drainage pattern of the site or area in a manner that could create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The Project EIR will address these potential impacts. Mitigation will be proposed for impacts determined to be potentially significant.

d) *Potentially Significant Impact*. As shown at TOP 2050 DSEIR Figure 5.10-2, *Flood Hazard Zones*, the Project site is not located proximate to a 100-year flood plain. The Project site does however lie within the dam inundation zone for the potential San Antonio Dam (see: TOP 2050 DSEIR Figure 5.10-3, *Dam Inundation Zones*). The Project uses would include limited on-site storage of conventional materials such as petroleum products, landscape fertilizer, cleaning products, etc. that could be released should the Project site be inundated. On this basis, there is a potential risk of release of pollutants due to inundation of the Project site. This impact will be evaluated in the Project EIR. Mitigation will be proposed if the impact is determined to be potentially significant.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; City of Ontario Development Code; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☒	☐
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

Substantiation:

a) *Less-Than-Significant Impact*. The developed Project would establish a pattern of cohesive and complementary land uses. The Project configuration and orientation of land uses, combined with integral development standards and design guidelines, act to preclude division or disruption of an established community, whether that community be internal or external to the Project site.

Physical arrangement of surrounding areas would not be modified or otherwise affected by the Project. Based on the preceding discussion, the Project's potential to disrupt or divide the physical arrangement of an established community is considered less-than-significant.

b) *Potentially Significant Impact.* The Project comprises an amendment to the current Rich-Haven Specific Plan. The proposed Specific Plan Amendment is intended to achieve land use designations that best represent the development and land use activities contemplated by the Project.

When a project includes amendments to the applicable land use designation(s), inconsistency with the existing designation(s) is an element of the project itself, which then requires a legislative policy decision of the agency. The request and subsequent approval of a change in designation in this regard does not of itself signify a potential environmental effect. Land use changes proposed by the Project could however result in physical changes translating to potentially significant environmental impacts, as discussed elsewhere in this IS. These potential impacts, as well as Project consistency with applicable land use policies addressing environmental effects, will be evaluated in the Project EIR.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; City of Ontario Development Code; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and to the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

Substantiation:

a, b) *Less-Than-Significant Impact.* Mineral resources in the City are limited to construction aggregates such as sand and gravel. There are currently no permitted mining operations located within the City (TOP 2050 DSEIR, p. 5.12-2). TOP 2050 DSEIR at Figure 5.12-1, *Areas of Mineral Resource Significance,* indicates that the Project site is

classified pursuant to the California Geological Survey as Mineral Resource Zone 3 (MRZ-3). The Project does not propose or require facilities or operations that would affect the availability of locally important or regionally important mineral resources.

Moreover, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to result in the loss of availability of a known mineral resource would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.12, *Mineral Resources*).

On this basis, the potential for the Project to result in the loss of availability of a known mineral resource that would be of value to the region and to the residents of the state; or result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan is considered less-than-significant.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XIII. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
	☒	☐	☐	☐

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
b) Generation of excessive groundborne vibration or groundborne noise?				
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☒	☐	☐	☐

Substantiation:

a - c) *Potentially Significant Impact.* Construction of the Project would temporarily increase localized noise levels, and occupation of Project facilities will establish long-term stationary operational noise sources. These noise sources could adversely affect sensitive receptors. Further, Project traffic may increase noise levels along affected area roadways, with potentially adverse effects at receiving land uses. Additionally, there is the potential for the Project land uses to be adversely affected by noise generated by operations of the Ontario International Airport.

Accordingly, a Noise Impact Analysis will be prepared as part of the Project EIR. The Analysis will evaluate and address all Project-source noise impacts. The Analysis will also address potential effects of noise generated by Ontario International Airport operations. Mitigation measures will be proposed for impacts determined to be potentially significant.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; City of Ontario Development Code; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XIV. POPULATION AND HOUSING. Would the project:				
a) Induce substantial unplanned population growth in the area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension or roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

Substantiation:

a) *Less-Than-Significant Impact.* The Project proposes new and reconfigured residential uses that would directly contribute to population growth. Additionally, the Project light industrial and commercial uses would create additional employment opportunities that could indirectly contribute to population growth. Development proposed by the Project responds globally to existing and anticipated market demands of the City and region, and employment generated by the Project would be a byproduct of this anticipated growth. The Project represents a component of development and growth anticipated by the City, as reflected by the site's TOP 2050 General Plan Land Use designations.

Moreover, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. As concluded in TOP 2050 SEIR, the potential for TOP 2050 General Plan to induce substantial unplanned population growth in the area would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.14, *Population and Housing*).

Based on the preceding, the potential for the Project to result in or induce substantial unplanned population growth, either directly or indirectly is considered less-than-significant.

b) *Less-than-Significant Impact.* The Project would maintain net residential development within the Specific Plan Area when compared to land uses and development entitled under the 2021 Specific Plan. That is, under both the 2021 Specific Plan and the proposed 2022 SPA, 7,194 dwelling units (all residential types) would be entitled. Locations and configurations of entitled residential uses would however be amended under the 2022 SPA. These amendments would not eliminate housing, diminish the potential for new housing, or displace persons from existing housing.

Moreover, the Project would be implemented consistent with TOP 2050. TOP 2050 SEIR concludes that the potential for TOP 2050 General Plan to displace people or housing, necessitating construction of replacement housing would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.14, *Population and Housing*).

Based on the preceding, the potential for the Project to displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere is considered less-than-significant.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; City of Ontario Development Code; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XV. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of the new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire Protection?	☐	☐	☒	☐
b) Police Protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

Substantiation:

a) *Less-Than-Significant Impact.* Fire suppression and emergency response services for the Project would be provided by the Ontario Fire Department (OFD). TOP 2050 SEIR recognizes the potential for development pursuant to The Ontario Plan, including development of the area encompassing the Project site to result in increased demands for fire protection services (TOP 2050 DSEIR, p. 5.15-3). TOP 2050 SEIR also recognizes that evaluation of potential environmental impacts resulting from the construction or expansion of new or modified fire protection facilities would be speculative until such time the location(s) of such facilities are determined. The Project provides for potential location of a new fire station at the northwest corner of Ontario Ranch Road (E – W) at Mill Creek Avenue (N – S). Ultimate need for and location of this fire station would be subject to review and

approval by the City and Fire Department. Environmental review of this facility would be conducted when and as required by the City.

Additionally, the Project would pay General City (GC) Development Impact Fees, a portion of which is available to offset incremental fire protection service demands generated by the Project. The Project Applicant would pay incumbent Development Impact Fees at issuance of building permit(s).

To the satisfaction of the OFD, the Project would comply with City and OFD fire prevention and suppression requirements, including building/site design requirements, substantiated fire flow adequacy, and provisions for emergency access, thereby reducing potential increased demands for fire protection services.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. TOP 2050 SEIR concludes that the potential for TOP 2050 General Plan to result in substantial adverse physical impacts associated with the provision of the new or physically altered fire protection and emergency services would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.15, *Public Services*).

Based on the preceding, the potential for the Project to result in substantial adverse physical impacts associated with the provision of the new or physically altered fire protection facilities is considered less-than-significant.

b) *Less-Than-Significant Impact.* The Project does not propose or require construction or modification of police protection facilities. The Project site is not designated or proposed as the location for new or modified police protection facilities. Incremental police protection service demands generated by the Project are offset through Project payment of City of Ontario General City (GC) Development Impact Fees. A portion of the City's GC Development Impact Fees are allocated for police protection

services. The Project Applicant would pay incumbent Development Impact Fees at issuance of building permit(s).

Additionally, the Project site plan concept and proposed building designs would be reviewed by the Ontario Police Department (OPD) to ensure incorporation of appropriate safety and security elements. Such design features would include secure building designs, defensible spaces, and area and facility security lighting. These design features would act to reduce Project demands for police protection services.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. TOP 2050 SEIR concludes that the potential for TOP 2050 General Plan to result in substantial adverse physical impacts associated with the provision of the new or physically altered police protection services would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.15, *Public Services*).

Based on the preceding, the potential for the Project to result in substantial adverse physical impacts associated with the provision of the new or physically altered police protection facilities is considered less-than-significant.

c) *Less-Than-Significant Impact.* Public school services for the City of Ontario are provided by the following school districts:

- Chino Valley Unified School District;
- Cucamonga Elementary School District;
- Mountain View Elementary School District; and
- Ontario-Montclair Elementary School District.

Occupancy of the Project residential uses would directly contribute to demands on school services. Indirectly, the Project may contribute to area demands for school

services if Project employees and their school age children would relocate to school districts serving the City.

The Project does not propose or require construction or modification of school facilities. The Project site is not designated or proposed as the location for new or modified school facilities.

Project incremental impacts to school services would be offset through mandated payment of school impact fees. The Project Applicant would pay incumbent school impact fees at issuance of building permit(s). Payment of school impact fees would reduce the Project's potential impacts to school services to levels that would be less-than-significant.

Lastly, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. TOP 2050 SEIR concludes that the potential for TOP 2050 General Plan to result in substantial adverse physical impacts associated with the provision of the new or physically altered school facilities would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.15, *Public Services*).

Based on the preceding, the potential for the Project to result in substantial adverse physical impacts associated with the provision of the new or physically altered school facilities is considered less-than-significant.

d) *Less-Than-Significant Impact.* The Project includes parks and open space non-recreation areas that would complement and support development of the Specific Plan Area generally. Potential environmental effects of construction of these facilities are reflected in the scope on analysis of environmental impacts of the Project in total.

Moreover, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. TOP 2050 SEIR concludes that the potential for TOP 2050 General Plan to result in substantial adverse physical impacts associated with the provision of the new or physically altered parks, recreational facilities, or recreational services would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.16, *Recreation*).

Of themselves, environmental impacts of parks and open space non-recreation areas that would be constructed as part of the Project are considered less-than-significant.

e) *Less-Than-Significant Impact.* Development of the Project would require established public agency oversight including, but not limited to, various plan check and permitting actions by the City. Impacts of the Project would fall within routine tasks of these agencies/departments and are paid for via plan check and inspection fees. Impacts of the Project would not be of such magnitude that new or physically altered facilities would be required. There are no known or probable other public facilities that would be substantially affected by the Project.

Based on the preceding, the potential for the Project to result in substantial adverse physical impacts associated with the provision of the new or physically altered other public facilities is considered less-than-significant.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XVI. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Substantiation:

a, b) *Less-Than-Significant Impact*. The Project includes parks and open space non-recreation areas that would complement and support development of the Specific Plan Area generally. Potential environmental effects of construction of these facilities are reflected in the scope on analysis of environmental impacts of the Project in total. Of themselves, environmental impacts of parks and open space non-recreation areas that would be constructed as part of the Project are considered less-than-significant. New residential development within the City is required to pay GC Development Impact Fees, a portion of which would be allocated for parks facilities, acting to offset incremental demands on neighborhood and regional parks or other recreational facilities. The Applicant would pay all requisite GC Development Impact Fees.

Moreover, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. TOP 2050 SEIR concludes that the potential for TOP 2050 General Plan to result in substantial adverse physical impacts associated with the provision of the new or physically altered parks, recreational facilities, or recreational services

would be less-than-significant (TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.16, *Recreation*). Please refer also to discussions presented at Checklist Item XV. *Public Services* (d).

Based on the preceding, the potential for the Project to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facility would occur or be accelerated; or to require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment is considered less-than-significant.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XVII. TRANSPORTATION. Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☒	☐	☐	☐
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☒	☐	☐	☐
c) Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
d) Result in inadequate emergency access?	☒	☐	☐	☐

Substantiation:

a) *Potentially Significant Impact*. The Project would generate auto, transit, pedestrian, and bicycle trips. The Project has the potential to result in increased demand on the local transportation system, including the roadway network, transit service, pedestrian and bicycle facilities.

New or modified land uses proposed under the Project could result in various changes to circulation patterns. Based on the preceding, the Project would have the potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

The Project EIR will evaluate and assess the potential for the Project to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, and thereby result in potentially significant environmental impacts.

b) *Potentially Significant Impact.* Project traffic may result in substantial additional vehicle miles traveled (VMT). The EIR will evaluate Project VMT impacts against per capita, per service population, or other VMT significance thresholds implemented by the Lead Agency. Mitigation will be developed for impacts determined to be potentially significant.

For informational purposes, and to facilitate Lead Agency planning of area transportation system improvements, the Project EIR will also present a summary of anticipated level-of-service (LOS) deficiencies, together with recommended improvements to address identified deficiencies.

c, d) *Potentially Significant Impact*. Although preliminary review of the Project does not indicate elements or aspects that would be considered hazardous design features or result in inadequate emergency access, these considerations will be further evaluated in the Project EIR. Mitigation will be developed for impacts determined to be potentially significant.

Source: Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES.				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☒	☐	☐	☐
(i) Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☒	☐	☐	☐
(ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☒	☐	☐	☐

Substantiation:

a. i, ii) *Potentially Significant Impact*. There are no known Tribal Cultural Resources (TCRs) within the Project site. Nor is it anticipated that the Project would adversely affect off-site TCRs. However, detailed surveys confirming the presence or absence of these resources has not yet been conducted. A Tribal Cultural Resources Assessment of the Project site and potentially affected off-site areas will be prepared as an element of the Project EIR. Tribal Resources consultation with requesting Tribes will be conducted as provided for under *AB 52, Gatto. Native Americans: California Environmental Quality Act*. Pending completion of the Project Cultural Resources survey and any requested Tribal Consultation(s), the potential for the Project to cause a substantial adverse change in the

significance of a tribal cultural resource is considered potentially significant. The Project EIR will address these potential impacts. Mitigation will be proposed for impacts determined to be potentially significant.

Source: Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☒	☐	☐	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☒	☐	☐	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☒	☐	☐	☐

Substantiation:

a) *Potentially Significant Impact.* The Project would require new or altered infrastructure improvements for: water delivery, wastewater collection, storm water management, electric power distribution, natural gas service, and telecommunications service. Construction of or alteration of these facilities has the potential to cause significant environmental effects. The Project EIR will evaluate these potential impacts. Mitigation will be proposed for impacts determined to be potentially significant.

b) *Potentially Significant Impact.* The City of Ontario water supply is derived from a combination of local and imported water, obtained primarily from Ontario wells and treatment in the Chino Groundwater Basin, the Chino Desalter Authority (CDA) wells and treatment in the Chino Groundwater Basin, treated State Water Project water from the Water Facilities Authority (WFA), and recycled water from the Inland Empire Utilities Agency (IEUA), a member agency of the Metropolitan Water District of Southern California (MWD).

The Project uses could increase demands on available water supplies. Water supply and availability are recognized as general issues of concern. The City will prepare a Water Supply Assessment (WSA) pursuant to the requirements of SB 610. The results of the WSA will be summarized within the Project EIR.

Pending completion of the Project WSA, the Project's potential impacts to water supplies and potential effects on the availability of water are considered potentially significant, and will be further addressed in the Project EIR. Mitigation measures will be proposed for those impacts determined to be potentially significant.

c) *Potentially Significant Impact.* The City maintains a wastewater collection system and contracts with the Inland Empire Utilities Agency (IEUA) for wastewater treatment. The Project uses could result in increased wastewater treatment

demands that could exceed available wastewater treatment capacities. The Project EIR will evaluate the potential for the Project to generate wastewater exceeding available treatment capacities. Mitigation will be proposed for impacts determined to be potentially significant.

d, e) *Potentially Significant Impact.* Solid waste collection services are currently provided to City residents by the City of Ontario Solid Waste Department. Solid Waste generated by the Project would be disposed of at the Mid-Valley Sanitary Landfill, located in the City of Rialto. Implementation of the Project would result in increased solid waste generation. The Project EIR will evaluate the potential for Project uses to generate waste in excess of state or local standards, or to conflict with federal, state, and local management and reduction statutes and regulations related to solid waste. Mitigation will be proposed for impacts determined to be potentially significant.

Sources: *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Substantiation:

a - d) *Less-Than-Significant Impact*. CAL FIRE maintains California Fire Hazard Severity Zone Maps, including maps for State responsibility areas, as well as local responsibility areas.[4] As shown on the State responsibility map for southwestern San Bernardino County, the City of Ontario is located within a local responsibility area. According to the local responsibility map, Ontario is located in a non-very high fire hazard severity zone (Non-VHFHSZ).

As such, the Project is not located within or near a state responsibility area, or within an area classified as a very high fire hazard severity zone. All development would be required to comply with City building and Fire Codes. All building plans within the City are reviewed by the Ontario Fire Department to ensure their compliance with the City's fire code.

Moreover, the Project has been designed to be consistent with TOP 2050, and by extension would not result in impacts not considered and addressed in the TOP 2050 SEIR. TOP 2050 SEIR concludes that the potential for TOP 2050 General Plan to result in substantial adverse wildfire impacts would be less-than-significant

[4] https://egis.fire.ca.gov/FHSZ/

(TOP 2050 DSEIR Table ES-2, *Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation;* TOP 2050 DSEIR Section 5.20, *Wildfire*).

Based on the preceding, the potential for the Project to substantially impair an adopted emergency response or evacuation plan, expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, involve infrastructure that may exacerbate fire risk, or result in significant post-fire risks is considered less-than-significant.

Sources: CAL FIRE; *City of Ontario Policy Plan, A Component of The Ontario Plan 2050* (Placeworks); *The Ontario Plan 2050 DSEIR, SCH No. 2021070364* (Placeworks) May 2022; Project Application Materials.

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when reviewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Substantiation:

a) *Potentially Significant Impact.* Certain biological and cultural resources may be adversely affected by the Project. Potential impacts in this regard will be addressed within the Project EIR.

b) *Potentially Significant Impact.* The Project has the potential to result in cumulatively considerable impacts. As discussed in the previous environmental evaluation, implementation of the Project may result in potentially significant impacts under the environmental topics of:

- Air Quality;
- Biological Resources;
- Cultural/Tribal Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards/Hazardous Materials;
- Hydrology/Water Quality;
- Land Use and Planning;
- Noise;
- Transportation; and
- Utilities and Service Systems.

Impacts of the Project, together with impacts of other known or probable related projects, may have considerably cumulative effects under the above-noted

environmental topics. The Project EIR will identify the Project's contribution to, and context within, potentially significant cumulative environmental impacts.

c) *Potentially Significant Impact***.** As indicated by this IS evaluation, the Project may cause or result in certain potentially significant environmental effects, resulting in potentially adverse effects to human beings. While adverse environmental effects that could affect human beings could, to some degree, be substantiated under all CEQA issue areas, Project impacts considered to be potentially significant and that could directly affect human beings include:

- Air Quality;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards/Hazardous Materials;
- Hydrology/Water Quality;
- Land Use;
- Noise;
- Transportation; and
- Utilities and Service Systems.

The Project EIR will address these environmental topics and present mitigation measures addressing potentially significant impacts.

4.0 DETERMINATION

4.0 DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☐
I find that although the project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described previously have been added to the project. A NEGATIVE DECLARATION will be prepared.	☐
I find that the project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required.	☒
I find that the project MAY have a significant effect(s) on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on an earlier analysis as described on attached sheets. If the effect is a potentially significant impact or potentially significant unless mitigated an ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that need to be addressed.	☐
I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.	☐

City of Ontario:
Signature _____ Date 10/10/2022

Printed Signature: Charles Mercier, City of Ontario Principal Planner

From: Vega, Jaqueline
To: Charles Mercier
Subject: PSPA22-001
Date: Friday, November 4, 2022 2:08:27 PM
Attachments: image001.png

Hello Charles,

Thank you for transmitting the above referenced project to ALUC for review. Please note that the proposed project may be influenced by Ontario International Airport. Please contact them for there procedures, additionally it seems like the project is outside the County and not in our jurisdiction.

Should you have any questions, please contact me.

Jackie Vega
Urban Regional Planner I

Riverside County Airport Land Use Commission
4080 Lemon Street, 14th Floor
Riverside, Ca 92501
(951) 955-0982
Javega@RIVCO.ORG
www.rcaluc.org

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County of Riverside California [countyofriverside.us]

NOVEMBER 16, 2022

VIA EMAIL: CMERCIER@ONTARIOCA.GOV
Charles Mercier, Principal Planner
City of Ontario Planning Department
303 East B Street
Ontario, CA 91764

Dear Mr. Mercier:

INITIAL STUDY AND NOTICE OF PREPERATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE 2022 RICH-HAVEN SPECIFIC PLAN AMENDMENT PROJECT, SCH# 2022100425

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Initial Study and Notice of Preparation of a Draft Environmental Impact Report for the 2022 Rich-Haven Specific Plan Amendment Project (Project). The Division monitors farmland conversion on a statewide basis, provides technical assistance regarding the Williamson Act, and administers various agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's potential impacts on agricultural land and resources.

Project Description

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan comprises approximately 584 acres located west of Interstate I-15, and south of State Route SR-60. The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated in the Initial Study coincide with the location and boundaries in the 2021 Specific Plan.

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.

2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.

3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Department Comments

The conversion of agricultural land represents a permanent reduction and significant impact to California's agricultural land resources. CEQA requires that all feasible and reasonable mitigation be reviewed and applied to projects. Under CEQA, a lead agency should not approve a project if there are feasible alternatives or feasible mitigation measures available that would lessen the significant effects of the project.

All mitigation measures that are potentially feasible should be included in the project's environmental review. A measure brought to the attention of the lead agency should not be left out unless it is infeasible based on its elements.

Consistent with CEQA Guidelines, the Department recommends the County consider agricultural conservation easements, among other measures, as potential mitigation. (See Cal. Code Regs., tit. 14, § 15370 [mitigation includes "compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements."])

Mitigation through agricultural easements can take at least two forms: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. The conversion of agricultural land should be deemed an impact of at least regional significance. Hence, the search for replacement lands should not be limited strictly to lands within the project's surrounding area.

A helpful source for regional and statewide agricultural mitigation banks is the California Council of Land Trusts. They provide helpful insight into farmland mitigation policies and implementation strategies, including a guidebook with model policies and a model local ordinance. The guidebook can be found at:

California Council of Land Trusts

Of course, the use of conservation easements is only one form of mitigation that should be considered. Any other feasible mitigation measures should also be considered. Indeed, the recent judicial opinion in King and Gardiner Farms, LLC v. County of Kern (2020) 45 Cal.App.5th 814 ("KG Farms") holds that agricultural conservation easements on a 1 to 1 ratio are not alone sufficient to adequately mitigate a project's conversion of agricultural land. KG Farms does not stand for the proposition that agricultural

conservation easements are irrelevant as mitigation. Rather, the holding suggests that to the extent they are considered, they may need to be applied at a greater than 1 to 1 ratio, or combined with other forms of mitigation (such as restoration of some land not currently used as farmland).

Conclusion

The Department recommends further discussion of the following issues:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Proposed mitigation measures for all impacted agricultural lands within the proposed project area.
- Projects compatibility with lands within an agricultural preserve and/or enrolled in a Williamson Act contract.
- If applicable, notification of Williamson Act contract non-renewal and/or cancellation.

Conclusion

Thank you for giving us the opportunity to comment on the Initial Study and Notice of Preparation of a Draft Environmental Impact Report for the 2022 Rich-Haven Specific Plan Amendment Project. Please provide this Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Associate Environmental Planner via email at Farl.Grundy@conservation.ca.gov.

Sincerely,

Monique Wilber

Monique Wilber

Conservation Program Support Supervisor

NATIVE AMERICAN HERITAGE COMMISSION

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NOV 07 2022
[illegible]
Planning Department

[illegible], 2022

[illegible]
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[illegible]

Re: 2022100425, Rich-Hereon Specific Plan 2022 Amendment Project, San Bernardino County

Dear [illegible]:

[illegible]

[illegible] **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** [illegible] **both SB 18 and AB 52 have tribal consultation requirements.** [illegible]

[illegible]

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

[illegible]

1. [illegible]
   a. [illegible]
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2. [illegible]
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[illegible]

1. [illegible] **A letter not 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** [illegible]
2. [illegible]
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c. [illegible]

[illegible]

Sincerely,

Clemencia Vela

[illegible]

[illegible]

[illegible]

SCAG
INNOVATING FOR A BETTER TOMORROW

SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
T: (213) 236-1800
www.scag.ca.gov

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Ray Marquez, Chino Hills

November 14, 2022

Charles H Mercier, Principal Planner
City of Ontario, Planning Department
303 East B Street
Ontario, California 91764
Phone: (909) 395-2425
E-mail: cmercier@ontarioca.gov

RE: SCAG Comments on the Notice of Preparation of a Draft Environmental Impact Report for the Rich-Haven Specific Plan Amendment [SCAG NO. IGR10750]

Dear Charles H Mercier,

Thank you for submitting the Notice of Preparation of a Draft Environmental Impact Report for the Rich-Haven Specific Plan Amendment ("proposed project") to the Southern California Association of Governments (SCAG) for review and comment. SCAG is responsible for providing informational resources to regionally significant plans, projects, and programs per the California Environmental Quality Act (CEQA) to facilitate the consistency of these projects with SCAG's adopted regional plans, to be determined by the lead agencies.[1]

Pursuant to Senate Bill (SB) 375, SCAG is the designated Regional Transportation Planning Agency under state law and is responsible for preparation of the Regional Transportation Plan (RTP) including the Sustainable Communities Strategy (SCS). SCAG's feedback is intended to assist local jurisdictions and project proponents to implement projects that have the potential to contribute to attainment of Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) goals and align with RTP/SCS policies. Finally, SCAG is the authorized regional agency for Intergovernmental Review (IGR) of programs proposed for Federal financial assistance and direct Federal development activities, pursuant to Presidential Executive Order 12372.

SCAG staff has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Rich-Haven Specific Plan Amendment in San Bernardino County. The proposed project includes a Specific Plan Amendment that would allow development of up to 7,194 dwelling units, up to 925,002 square feet (SF) of commercial space, and up to 2,767,148 SF of light industrial uses on a 584-acre site.

When available, please email environmental documentation to IGR@scag.ca.gov providing, at a minimum, the full public comment period for review.

If you have any questions regarding the attached comments, please contact the Intergovernmental Review (IGR) Program, attn.: Annaleigh Ekman, Associate Regional Planner, at (213) 630-1427 or IGR@scag.ca.gov. Thank you.

Sincerely,

Frank Wen, Ph.D.
Manager, Planning Strategy Department

[1] Lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the 2020 RTP/SCS (Connect SoCal) for the purpose of determining consistency for CEQA.

COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE RICH-HAVEN SPECIFIC PLAN AMENDMENT [SCAG NO. IGR10750]

CONSISTENCY WITH CONNECT SOCAL

SCAG provides informational resources to facilitate the consistency of the proposed project with the adopted 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal). For the purpose of determining consistency with CEQA, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with Connect SoCal.

CONNECT SOCAL GOALS

The SCAG Regional Council fully adopted Connect SoCal in September 2020. Connect SoCal, also known as the 2020 – 2045 RTP/SCS, builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. The long-range visioning plan balances future mobility and housing needs with goals for the environment, the regional economy, social equity and environmental justice, and public health. The goals included in Connect SoCal may be pertinent to the proposed project. These goals are meant to provide guidance for considering the proposed project. Among the relevant goals of Connect SoCal are the following:

SCAG CONNECT SOCAL GOALS	
Goal #1:	*Encourage regional economic prosperity and global competitiveness*
Goal #2:	*Improve mobility, accessibility, reliability and travel safety for people and goods*
Goal #3:	*Enhance the preservation, security, and resilience of the regional transportation system*
Goal #4:	*Increase person and goods movement and travel choices within the transportation system*
Goal #5:	*Reduce greenhouse gas emissions and improve air quality*
Goal #6:	*Support healthy and equitable communities*
Goal #7:	*Adapt to a changing climate and support an integrated regional development pattern and transportation network*
Goal #8:	*Leverage new transportation technologies and data-driven solutions that result in more efficient travel*
Goal #9:	*Encourage development of diverse housing types in areas that are supported by multiple transportation options*
Goal #10:	*Promote conservation of natural and agricultural lands and restoration of habitats*

For ease of review, we encourage the use of a side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency or non-applicability of the goals and supportive analysis in a table format. Suggested format is as follows:

SCAG CONNECT SOCAL GOALS		
	Goal	Analysis
Goal #1:	*Encourage regional economic prosperity and global competitiveness*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
Goal #2:	*Improve mobility, accessibility, reliability and travel safety for people and goods*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
etc.		etc.

Connect SoCal Strategies

To achieve the goals of Connect SoCal, a wide range of land use and transportation strategies are included in the accompanying twenty (20) technical reports. Of particular note are multiple strategies included in Chapter 3 of Connect SoCal intended to support implementation of the regional Sustainable Communities Strategy (SCS) framed within the context of focusing growth near destinations and mobility options; promoting diverse housing choices; leveraging technology innovations; supporting implementation of sustainability policies; and promoting a Green Region. To view Connect SoCal and the accompanying technical reports, please visit the Connect SoCal webpage. Connect SoCal builds upon the progress from previous RTP/SCS cycles and continues to focus on integrated, coordinated, and balanced planning for land use and transportation that helps the SCAG region strive towards a more sustainable region, while meeting statutory requirements pertinent to RTP/SCSs. These strategies within the regional context are provided as guidance for lead agencies such as local jurisdictions when the proposed project is under consideration.

The 2020 Connect SoCal also identifies a goods movement system in the SCAG region and develops strategies to address expected growth trends and demands in goods movement. For further information on the goods movement strategies, please see the 2020 Connect SoCal Goods Movement Technical Report. For further information on industrial development and warehousing in Southern California, please see Industrial Warehousing in the SCAG Region.

Connect SoCal identified Key Connections that lie at the intersection of land use, transportation and innovation meant to advance policy discussions and strategies to leverage new technologies and create better partnerships to increase progress on the regional goals. Accelerated Electrification is one of the Key Connections and was established to create a holistic and coordinated approach to de-carbonizing or electrifying passenger vehicles, transit, and goods movement vehicles. The Accelerated Electrification Key Connection sets a vision to reduce both the local and global emissions associated with multiple modes of transportation by deploying clean mobility solutions and the infrastructure needed to support them. SCAG staff encourages the lead agency to incorporate clean mobility solutions and supporting infrastructure into the project, as appropriate.

DEMOGRAPHICS AND GROWTH FORECASTS

A key, formative step in projecting future population, households, and employment through 2045 for Connect SoCal was the generation of a forecast of regional and county level growth in collaboration with expert demographers and economists on Southern California. From there, jurisdictional level forecasts were ground-truthed by subregions and local agencies, which helped SCAG identify opportunities and barriers to future development. This forecast helps the region understand, in a very general sense, where we are expected to grow, and allows SCAG to focus attention on areas that are experiencing change and may have increased transportation needs. After a year-long engagement effort with all 197 jurisdictions one-on-one, 82 percent of SCAG's 197 jurisdictions provided feedback on the forecast

of future growth for Connect SoCal. SCAG also sought feedback on potential sustainable growth strategies from a broad range of stakeholder groups – including local jurisdictions, county transportation commissions, other partner agencies, industry groups, community-based organizations, and the general public. Connect SoCal utilizes a bottom-up approach in that total projected growth for each jurisdiction reflects feedback received from jurisdiction staff, including city managers, community development/planning directors, and local staff. Growth at the neighborhood level (i.e., transportation analysis zone (TAZ) reflects entitled projects and adheres to current general and specific plan maximum densities as conveyed by jurisdictions (except in cases where entitled projects and development agreements exceed these capacities as calculated by SCAG). Neighborhood level growth projections also feature strategies that help to reduce greenhouse gas emissions (GHG) from automobiles and light trucks to achieve Southern California's GHG reduction target, approved by the California Air Resources Board (CARB) in accordance with state planning law. Connect SoCal's Forecasted Development Pattern is utilized for long range modeling purposes and does not supersede actions taken by elected bodies on future development, including entitlements and development agreements. SCAG does not have the authority to implement the plan -- neither through decisions about what type of development is built where, nor what transportation projects are ultimately built, as Connect SoCal is adopted at the jurisdictional level. Achieving a sustained regional outcome depends upon informed and intentional local action. To access jurisdictional level growth estimates and forecasts for years 2016 and 2045, please refer to the Connect SoCal Demographics and Growth Forecast Technical Report. The growth forecasts for the region and applicable jurisdictions are below.

	Adopted SCAG Region Wide Forecasts				Adopted City of Ontario Forecasts			
	Year 2020	**Year 2030**	**Year 2035**	**Year 2045**	**Year 2020**	**Year 2030**	**Year 2035**	**Year 2045**
Population	19,517,731	20,821,171	21,443,006	22,503,899	192,072	221,806	236,012	269,050
Households	6,333,458	6,902,821	7,170,110	7,633,451	51,841	60,602	64,787	74,521
Employment	8,695,427	9,303,627	9,566,384	10,048,822	124,571	143,699	152,116	169,331

MITIGATION MEASURES

SCAG staff recommends that you review the Final Program Environmental Impact Report (Final PEIR) for Connect SoCal for guidance, as appropriate. SCAG's Regional Council certified the PEIR and adopted the associated Findings of Fact and a Statement of Overriding Considerations (FOF/SOC) and Mitigation Monitoring and Reporting Program (MMRP) on May 7, 2020 and also adopted a PEIR Addendum and amended the MMRP on September 3, 2020 (please see the PEIR webpage and scroll to the bottom of the page for the PEIR Addendum). The PEIR includes a list of project-level performance standards-based mitigation measures that may be considered for adoption and implementation by lead, responsible, or trustee agencies in the region, as applicable and feasible. Project-level mitigation measures are within responsibility, authority, and/or jurisdiction of project-implementing agency or other public agency serving as lead agency under CEQA in subsequent project- and site- specific design, CEQA review, and decision-making processes, to meet the performance standards for each of the CEQA resource categories.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 - www.aqmd.gov

SENT VIA E-MAIL:
cmercier@ontarioca.gov
Charles Mercier, Principal Planner
City of Ontario
Planning Department
303 East B Street
Ontario, California 91764

November 11, 2022

Notice of Preparation of a Draft Environmental Impact Report for the PSPA22-001

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. Our comments are recommendations on the analysis of potential air quality impacts from the Proposed Project that should be included in the Draft Environmental Impact Report (EIR). Please send a copy of the Draft EIR upon its completion and public release directly to South Coast AQMD as copies of the Draft EIR submitted to the State Clearinghouse are not forwarded. **In addition, please send all appendices and technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all emission calculation spreadsheets, and air quality modeling and health risk assessment input and output files (not PDF files). Any delays in providing all supporting documentation for our review will require additional review time beyond the end of the comment period.**

CEQA Air Quality Analysis

Staff recommends that the Lead Agency use South Coast AQMD's CEQA Air Quality Handbook and website[1] as guidance when preparing the air quality and greenhouse gas analyses. It is also recommended that the Lead Agency use the CalEEMod[2] land use emissions software, which can estimate pollutant emissions from typical land use development and is the only software model maintained by the California Air Pollution Control Officers Association.

South Coast AQMD has developed both regional and localized significance thresholds. South Coast AQMD staff recommends that the Lead Agency quantify criteria pollutant emissions and compare the emissions to South Coast AQMD's CEQA regional pollutant emissions significance thresholds[3] and localized significance thresholds (LSTs)[4] to determine the Proposed Project's air quality impacts. The localized analysis can be conducted by either using the LST screening tables or performing dispersion modeling.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the Proposed Project and all air pollutant sources related to the Proposed Project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of

[1] South Coast AQMD's CEQA Handbook and other resources for preparing air quality analyses can be found at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook.
[2] CalEEMod is available free of charge at: www.caleemod.com.
[3] South Coast AQMD's CEQA regional pollutant emissions significance thresholds can be found at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.
[4] South Coast AQMD's guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips, and hauling trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers and air pollution control devices), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, such as sources that generate or attract vehicular trips, should be included in the analysis. Furthermore, emissions from the overlapping construction and operational activities should be combined and compared to South Coast AQMD's regional air quality CEQA ***operational*** thresholds to determine the level of significance.

If the Proposed Project generates diesel emissions from long-term construction or attracts diesel-fueled vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the Lead Agency perform a mobile source health risk assessment[5].

Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants and include schools, daycare centers, nursing homes, elderly care facilities, hospitals, and residential dwelling units. The Proposed Project will include, among others, 7,194 residential units and is located in close proximity to Interstate 15 and State Route 60, and to facilitate the purpose of an EIR as an informational document, it is recommended that the Lead Agency perform a mobile source health risk assessment[5] to disclose the potential health risks[6].

In the event that implementation of the Proposed Project requires a permit from South Coast AQMD, South Coast AQMD should be identified as a Responsible Agency for the Proposed Project in the Draft EIR. The assumptions in the air quality analysis in the EIR will be the basis for evaluating the permit under CEQA and imposing permit conditions and limits. Questions on permits should be directed to South Coast AQMD's Engineering and Permitting staff at (909) 396-3385.

The California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Health Perspective*[7] is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process with additional guidance on strategies to reduce air pollution exposure near high-volume roadways available in CARB's technical advisory[8].

The South Coast AQMD's *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*[9] includes suggested policies that local governments can use in their General Plans or through local planning to prevent or reduce potential air pollution impacts and protect public health. It is recommended that the Lead Agency review this Guidance Document as a tool when making local planning and land use decisions.

Mitigation Measures

In the event that the Proposed Project results in significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize these impacts. Any impacts resulting from mitigation measures must also be analyzed. Several resources to

[5] South Coast AQMD's guidance for performing a mobile source health risk assessment can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis.
[6] *Ibid*.
[7] CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* can be found at: http://www.arb.ca.gov/ch/handbook.pdf.
[8] CARB's technical advisory can be found at: https://www.arb.ca.gov/ch/landuse.htm.
[9] South Coast AQMD. 2005. *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*. Available at: http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf.

assist the Lead Agency with identifying potential mitigation measures for the Proposed Project include South Coast AQMD's CEQA Air Quality Handbook,[10] South Coast AQMD's Mitigation Monitoring and Reporting Plan for the 2022 Air Quality Management Plan,[11] and Southern California Association of Government's Mitigation Monitoring and Reporting Plan for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy.[12]

Mitigation measures for operational air quality impacts from mobile sources that the Lead Agency should consider in the Draft EIR may include the following:

- Require zero-emissions (ZE) or near-zero emission (NZE) on-road haul trucks such as heavy-duty trucks with natural gas engines that meet the CARB's adopted optional NOx emissions standard at 0.02 grams per brake horsepower-hour (g/bhp-hr), if and when feasible. Given the state's clean truck rules and regulations aiming to accelerate the utilization and market penetration of ZE and NZE trucks such as the Advanced Clean Trucks Rule[13] and the Heavy-Duty Low NOx Omnibus Regulation[14], ZE and NZE trucks will become increasingly more available to use. The Lead Agency should require a phase-in schedule to incentive the use of these cleaner operating trucks to reduce any significant adverse air quality impacts. South Coast AQMD staff is available to discuss the availability of current and upcoming truck technologies and incentive programs with the Lead Agency. At a minimum, require the use of 2010 model year[15] that meet CARB's 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks. Include environmental analyses to evaluate and identify sufficient electricity and supportive infrastructures in the Energy and Utilities and Service Systems Sections in the CEQA document, where appropriate. Include the requirement in applicable bid documents, purchase orders, and contracts. Operators shall maintain records of all trucks associated with project construction to document that each truck used meets these emission standards, and make the records available for inspection. The Lead Agency should conduct regular inspections to the maximum extent feasible to ensure compliance.
- Limit the daily number of trucks allowed at the Proposed Project to levels analyzed in the Final CEQA document. If higher daily truck volumes are anticipated to visit the site, the Lead Agency should commit to re-evaluating the Proposed Project through CEQA prior to allowing this higher activity level.
- Provide electric vehicle (EV) charging stations or at a minimum, provide the electrical infrastructure and electrical panels should be appropriately sized. Electrical hookups should be provided for truckers to plug in any onboard auxiliary equipment.

[10] https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook
[11] South Coast AQMD's 2022 Air Quality Management Plan can be found at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan (Chapter 4 - Control Strategy and Implementation).
[12] Southern California Association of Governments' 2020-2045 RTP/SCS can be found at: https://www.connectsocal.org/Documents/PEIR/certified/Exhibit-A_ConnectSoCal_PEIR.pdf.
[13] CARB. June 25, 2020. *Advanced Clean Trucks Rule*. Accessed at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks.
[14] CARB has recently passed a variety of new regulations that require new, cleaner heavy-duty truck technology to be sold and used in state. For example, on August 27, 2020, CARB approved the Heavy-Duty Low NOx Omnibus Regulation, which will require all trucks to meet the adopted emission standard of 0.05 g/hp-hr starting with engine model year 2024. Accessed at: https://ww2.arb.ca.gov/rulemaking/2020/hdomnibuslownox.
[15] CARB adopted the statewide Truck and Bus Regulation in 2010. The Regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. More information on the CARB's Truck and Bus Regulation is available at: https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.

Mitigation measures for operational air quality impacts from other area sources that the Lead Agency should consider in the Draft EIR may include the following:

- Maximize use of solar energy by installing solar energy arrays.
- Use light colored paving and roofing materials.
- Utilize only Energy Star heating, cooling, and lighting devices, and appliances.
- Use of water-based or low VOC cleaning products that go beyond the requirements of South Coast AQMD Rule 1113.

Design considerations for the Proposed Project that the Lead Agency should consider to further reduce air quality and health risk impacts include the following:

- Clearly mark truck routes with trailblazer signs, so that trucks will not travel next to or near sensitive land uses (e.g., residences, schools, day care centers, etc.).
- Design the Proposed Project such that truck entrances and exits are not facing sensitive receptors and trucks will not travel past sensitive land uses to enter or leave the Proposed Project site.
- Design the Proposed Project such that any check-in point for trucks is inside the Proposed Project site to ensure that there are no trucks queuing outside.
- Design the Proposed Project to ensure that truck traffic inside the Proposed Project site is as far away as feasible from sensitive receptors.
- Restrict overnight truck parking in sensitive land uses by providing overnight truck parking inside the Proposed Project site.

On May 7, 2021, South Coast AQMD's Governing Board adopted Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program, and Rule 316 – Fees for Rule 2305. Rules 2305 and 316 are new rules that will reduce regional and local emissions of nitrogen oxides (NOx) and particulate matter (PM), including diesel PM. These emission reductions will reduce public health impacts for communities located near warehouses from mobile sources that are associated with warehouse activities. Also, the emission reductions will help the region attain federal and state ambient air quality standards. Rule 2305 applies to owners and operators of warehouses greater than or equal to 100,000 square feet. Under Rule 2305, operators are subject to an annual WAIRE Points Compliance Obligation that is calculated based on the annual number of truck trips to the warehouse. WAIRE Points can be earned by implementing actions in a prescribed menu in Rule 2305, implementing a site-specific custom plan, or paying a mitigation fee. Warehouse owners are only required to submit limited information reports, but they can opt in to earn Points on behalf of their tenants if they so choose because certain actions to reduce emissions may be better achieved at the warehouse development phase, for instance the installation of solar and charging infrastructure. Rule 316 is a companion fee rule for Rule 2305 to allow South Coast AQMD to recover costs associated with Rule 2305 compliance activities. Since the Proposed Project consists of the development of up to 2,767,148-square-foot light industrial use area, if the Proposed Project's light industrial use is for warehouse, the owners and operators will be required to comply with Rule 2305 once the warehouse is occupied. Therefore, South Coast AQMD staff recommends that the Lead Agency review South Coast AQMD Rule 2305 to determine the potential WAIRE Points Compliance Obligation for future operators and explore whether additional project requirements and CEQA mitigation measures can be identified and implemented at the Proposed Project that may help future warehouse operators meet their compliance obligation[16]. South Coast AQMD staff is available to answer questions concerning Rule 2305 implementation and compliance by phone or email at

[16] South Coast AQMD Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program. Accessed at: http://www.aqmd.gov/docs/default-source/rule-book/reg-xxiii/r2305.pdf.

(909) 396-3140 or waire-program@aqmd.gov. For implementation guidance documents and compliance and reporting tools, please visit South Coast AQMD's WAIRE Program webpage[17].

Health Risk Reduction Strategies

Many strategies are available to reduce exposures, including, but are not limited to, building filtration systems with MERV 13 or better, or in some cases, MERV 15 or better is recommended; building design, orientation, location; vegetation barriers or landscaping screening, etc. Enhanced filtration units are capable of reducing exposures. However, enhanced filtration systems have limitations. For example, in a study that South Coast AQMD conducted to investigate filters[18], a cost burden is expected to be within the range of $120 to $240 per year to replace each filter panel. The initial start-up cost could substantially increase if an HVAC system needs to be installed and if standalone filter units are required. Installation costs may vary and include costs for conducting site assessments and obtaining permits and approvals before filters can be installed. Other costs may include filter life monitoring, annual maintenance, and training for conducting maintenance and reporting. In addition, because the filters would not have any effectiveness unless the HVAC system is running, there may be increased energy consumption that the Lead Agency should evaluate in the Draft EIR. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and the environmental analysis does not generally account for the times when the residents have their windows or doors open or are in common space areas of the project. These filters have no ability to filter out any toxic gases. Furthermore, when used filters are replaced, replacement has the potential to result in emissions from the transportation of used filters at disposal sites and generate solid waste that the Lead Agency should evaluate in the Draft EIR. Therefore, the presumed effectiveness and feasibility of any filtration units should be carefully evaluated in more detail prior to assuming that they will sufficiently alleviate exposures to diesel particulate matter emissions.

South Coast AQMD staff is available to work with the Lead Agency to ensure that air quality, greenhouse gas, and health risk impacts from the Proposed Project are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at swang1@aqmd.gov.

Sincerely,

Sam Wang

Sam Wang
Program Supervisor, CEQA IGR
Planning, Rule Development & Implementation

SW
SBC221018-15
Control Number

[17] South Coast AQMD WAIRE Program. Accessed at: http://www.aqmd.gov/waire.

[18] This study evaluated filters rated MERV 13 or better. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf. Also see 2012 Peer Review Journal article by South Coast AQMD: https://onlinelibrary.wiley.com/doi/10.1111/ina.12013.

City of Ontario
303 East “B” Street
Ontario, CA 91764-4196

November 16, 2022

Attention: Planning Department

Subject: PSPA22-001

Our review of the subject subdivision of PSPA22-001 reveals that the proposed development may interfere with easement rights, and/or facilities held by Southern California Edison within or adjacent to the subdivision boundaries. Until such time as arrangements have been made with the developer to eliminate this interference, the development of the subdivision may unreasonably interfere with the complete and free exercise of Edison’s rights.

One copy of the following maps with scaled plans (1”=50’ maximum), including all maps submitted in hard copies or emailed in pdf format: including grading, drainage, landscape and street improvement plans are required to be submitted by the developer to determine the extent of the interference. The Edison facilities and the easements should be plotted on the above reference maps. Included with the above referenced plans, the developer must state the proposed method to eliminate any interference.

Plans should be emailed to following address:

Southern California Edison Company
Sharat.misra@sce.com

If you have any questions or need additional information in connection with the subject subdivision, please contact me at (909) 274-1078.

Jeff Clark
Title and Valuation
Vegetation & Land Management

cc:

Rich-Haven Specific Plan Amendment (File No. PSPA22-001)

Summary

SCH Number	2022100425
Lead Agency	City of Ontario
Document Title	Rich-Haven Specific Plan Amendment (File No. PSPA22-001)
Document Type	NOP - Notice of Preparation of a Draft EIR
Received	10/20/2022
Present Land Use	Zoning - Rich-Haven Specific Plan / General Plan: TOP 2050 - LDR, LMDR, OS-NR, OS-R, MU, IND, GC
Document Description	The Project proposes a new amendment of the 2021 Rich-Haven Specific Plan (RHSP) and would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses.

Contact Information

Name	Charles H. Mercier
Agency Name	City of Ontario
Job Title	Principal Planner
Contact Types	Lead/Public Agency
Address	303 East B Street Ontario, CA 91764
Phone	(909) 395-2036
Email	cmercier@ontarioca.gov

Name	Ross Geller
Agency Name	Applied Planning, Inc
Job Title	Consultant
Contact Types	Consulting Firm
Address	11762 De Palma Road 1-C 310 Corona, CA 92883
Phone	

	(909) 937-0333
Email	rgeller@appliedplanning.com

Name	Tim Roberts
Agency Name	BrookCal Ontario LLC/Richland Developers, Inc
Job Title	Project Applicant
Contact Types	Project Applicant
Address	3161 Michelson Drive Suite 425 Irvine, CA 92612
Phone	(714) 200-1550
Email	tim.roberts@brookfieldrp.com

Name	Lorena Mejia
Agency Name	City of Ontario
Job Title	Senior Planner
Contact Types	Lead/Public Agency
Address	303 East B Street Ontario, CA 91764
Phone	(909) 395-2036
Email	lmejia@ontarioca.gov

Location

Counties	San Bernardino
Regions	Citywide
Cross Streets	Riverside Drive, Haven Avenue
Zip	91764
Total Acres	584
State Highways	SR-60, I-15
Airports	Ontario International Airport

Notice of Completion

State Review Period Start	10/20/2022

State Review Period End	11/19/2022
State Reviewing Agencies	California Air Resources Board (ARB), California Department of Conservation (DOC), California Department of Fish and Wildlife, Inland Deserts Region 6 (CDFW), California Department of Forestry and Fire Protection (CAL FIRE), California Department of Housing and Community Development (HCD), California Department of Parks and Recreation, California Department of Transportation, District 8 (DOT), California Department of Transportation, Division of Aeronautics (DOT), California Department of Transportation, Division of Transportation Planning (DOT), California Department of Water Resources (DWR), California Governor's Office of Emergency Services (OES), California Highway Patrol (CHP), California Native American Heritage Commission (NAHC), California Natural Resources Agency, California Public Utilities Commission (CPUC), California Regional Water Quality Control Board, Santa Ana Region 8 (RWQCB), Department of Toxic Substances Control, Office of Historic Preservation, State Water Resources Control Board, Division of Drinking Water, District 13
Development Types	Residential (Units 7194, Acres 307.5), Commercial (Employment is unknown at this time and will be analyzed in DEIR)(Sq. Ft. 925002, Acres 59.4, Employees 1), Industrial (Employment is unknown at this time and will be analyzed in DEIR)(Sq. Ft. 1767148, Acres 115.5, Employees 1)
Local Actions	Specific Plan, Site Plan
Project Issues	Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Cumulative Effects, Drainage/Absorption, Flood Plain/Flooding, Geology/Soils, Greenhouse Gas Emissions, Hazards & Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Mandatory Findings of Significance, Noise, Population/Housing, Public Services, Recreation, Sewer Capacity, Transportation, Tribal Cultural Resources, Utilities/Service Systems
Local Review Period Start	10/20/2022
Local Review Period End	11/19/2022

Attachments

Notice of Completion [NOC] Transmittal form	PSPA22-001_NOC_20221019 PDF 227 K PSPA22-001_NOP_20221019 PDF 112 K

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URBAN | CROSSROADS

RICH HAVEN SPECIFIC PLAN

TRAFFIC ANALYSIS

PREPARED BY: Charlene So, PE | cso@urbanxroads.com
Connor Paquin, PE | cpaquin@urbanxroads.com
Aric Evatt | aevatt@urbanxroads.com

Reference Number	Agency	Date
14822-03 TA Report REV	City of Ontario	December 16, 2022

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CCI	Construction Cost Index
CMP	Congestion Management Program
DIF	Development Impact Fee
DU	Dwelling Units
E+P	Existing Plus Project
FHWA	Federal Highway Administration
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
PHF	Peak Hour Factor
Project	Rich Haven Specific Plan
SBCTA	San Bernardino County Transportation Authority
TA	Traffic Analysis
v/c	Volume to Capacity
vphgpl	Vehicles per Hour Green per Lane

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1 INTRODUCTION

This report presents the results of the Traffic Analysis (TA) for Rich Haven Specific Plan ("Project"), which is generally located north of Ontario Ranch Road, south of Riverside Drive, east of Haven Avenue, and on either side of Mill Creek Avenue in the City of Ontario, as shown on Exhibit 1-1. The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and where necessary recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This traffic study has been prepared in accordance with the County of San Bernardino's Traffic Impact Study Guidelines and consultation with City staff during the traffic study scoping process. (1) The City approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

1.5 SUMMARY OF FINDINGS

The Project is to construct the following improvements as design features in conjunction with development of the site:

- Project to construct Riverside Drive at its ultimate half-section width as a Minor Arterial (6-lanes, 108-foot right-of-way) from the Project's eastern boundary to Haven Avenue consistent with the City's standards.
- Project to construct Chino Avenue at its ultimate full-section width as a Minor Arterial (2-lanes, 88-foot right-of-way) from Haven Avenue to Mill Creek Avenue consistent with the City's standards. It should be noted, Chino Avenue will be constructed to its ultimate full-section width, however will only be striped with one lane of travel in each direction.
- Project to construct Ontario Ranch Road at its ultimate full-section width as a Principal Arterial (8-lanes, 124-foot right-of-way) from Haven Avenue to Hamner Avenue consistent with the City's standards.
- Project to construct Mill Creek Avenue at its ultimate full-section width as a Collector (4-lanes, 88-foot right-of-way) from the Project's southern boundary to the southern boundary of Planning Area 2C, and at its ultimate half-section width from the southern boundary of Planning Area 2C to the Project's northern boundary (northern boundary of Planning Area 1C) (with an additional 12-feet of pavement on the east side from the southern boundary of Planning Area 2C to Chino Avenue to facilitate site access) consistent with the City's standards.
- Project to construct Hamner Avenue at its ultimate half-section width as a Minor Arterial (6-lanes, 108-foot right-of-way) from the Project's northern boundary to the Project's southern boundary consistent with the City's standards.
- Project to construct Haven Avenue at its ultimate half-section width as a Principal Arterial (4-lanes, 124-foot right-of-way) from Riverside Drive to the Project's southern boundary consistent with the City's standards.
- Project to install a traffic signal at Haven Avenue & Chino Avenue.
- Project to construct a single-lane roundabout at Mill Creek Avenue & Chino Avenue and Twinkle Avenue & Chino Avenue.

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report.

1.2 PROJECT OVERVIEW

Exhibit 1-1 illustrates the location map for the proposed Project and Exhibit 1-2 shows the proposed land use plan. The proposed Project is to consist of 7,194 single family and multifamily residential dwelling units, 27.0 acres of public park, 2,780,000 square feet of industrial uses, and 772,500 square feet of retail/office uses. Note that portions of Planning Areas 3A and 4A have already been developed (currently existing). Planning Areas 2, 3, 4A, 5C, 6, 10, and portions of 7, 8, and 9 are anticipated to be developed as part of the first phase with an anticipated Opening Year of 2024. Project Buildout is anticipated in Year 2027. Access to the proposed Project would be provided to the surrounding roadways of Riverside Drive to the north, Haven Avenue to the west, Ontario Ranch Road to the south, and Mill Creek Avenue to the east. Chino Avenue is also an east-west roadway that runs through the Project.

Regional access to the Project site is available from the SR-60 Freeway via Archibald Avenue, Haven Avenue, and Milliken Avenue interchanges and the I-15 Freeway via Cantu Galleano Road. Exhibit 1-3 depicts the location of the proposed Project in relation to the existing roadway network and the study area intersections.

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) for the following land uses have been utilized (2):

- Industrial Park (ITE Land Use Code 130)
- High-Cube Transload Warehouse (ITE Land Use Code 154)
- High-Cube Fulfillment Center (Sort) (ITE Land Use Code 155)
- High-Cube Cold Storage Warehouse (ITE Land Use Code 157)
- Single Family Detached Residential (ITE Land Use Code 210)
- Multifamily (Low-Rise) Housing (ITE Land Use Code 220)
- Public Park (ITE Land Use Code 411)
- General Office (ITE Land Use Code 810)
- Shopping Center (>150,000 square feet) (ITE Land Use Code 820)
- Shopping Center (40,000-150,000 square feet) (ITE Land Use Code 821)
- Strip Retail (<40,000 square feet) (ITE Land Use Code 822)
- High turnover Restaurant (ITE Land Use Code 932)
- Fast-Food Restaurant with Drive-Thru Window (ITE Land Use Code 934)
- Gas Station (4,000-5,000 square feet Convenience Market) (ITE Land Use Code 945)

EXHIBIT 1-1: LOCATION MAP



EXHIBIT 1-2: PRELIMINARY LAND USE PLAN

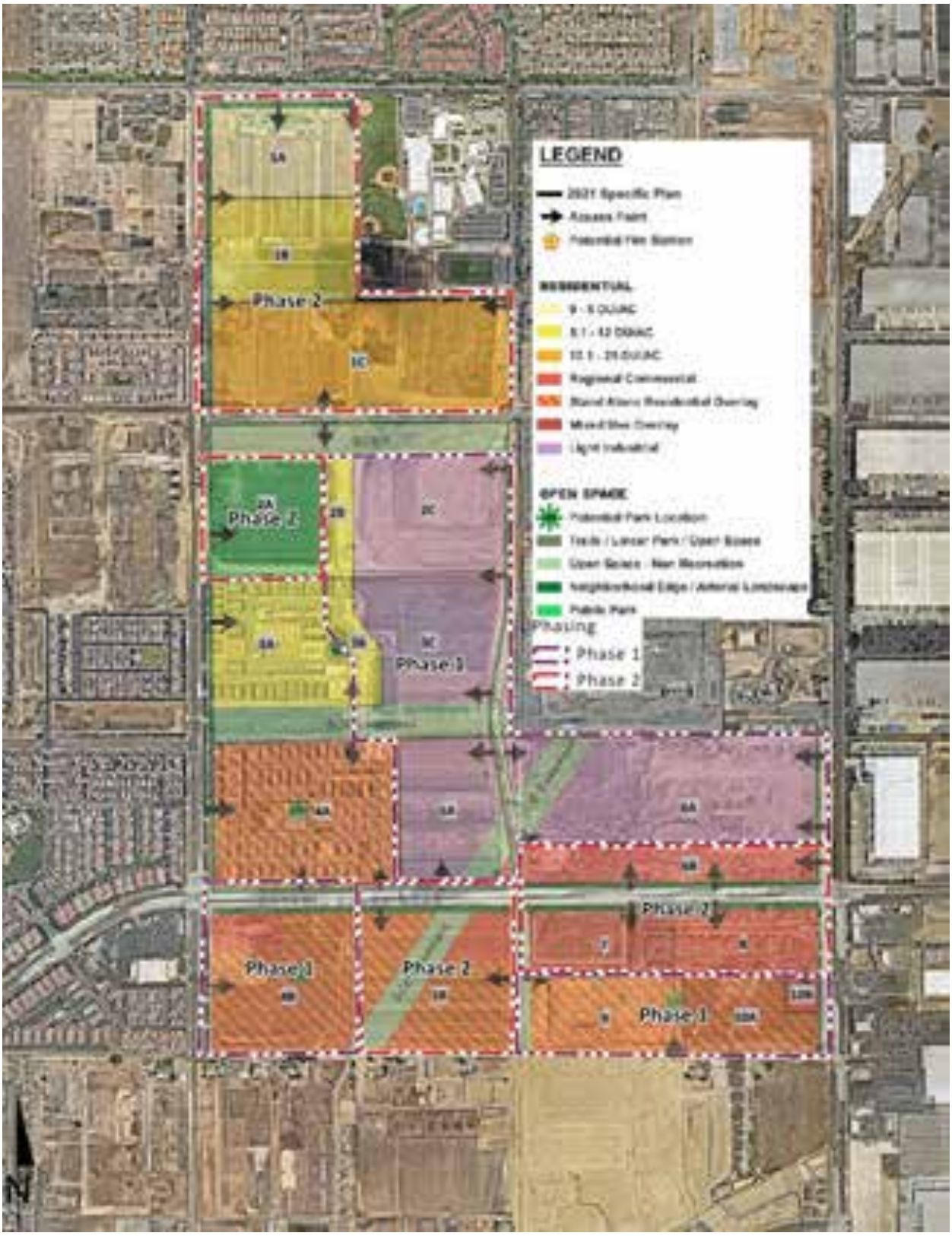


EXHIBIT 1-3: STUDY AREA



A portion of the High-Cube Fulfillment Center Warehouse use has been evaluated utilizing the High-Cube Warehouse Trip Generation Study, WSP, January 29, 2019. With the development of the proposed Project, the Project is anticipated to generate a total of 95,538 vehicle trip-ends per day with 8,078 AM peak hour trips and 8,036 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2022)
- Existing plus Project – Phase 1
- Existing plus Project – Project Buildout
- Opening Year Cumulative (2027) Without Project
- Opening Year Cumulative (2027) With Project – Project Buildout only
- Horizon Year (2050) Without Project
- Horizon Year (2050) With Project – Project Buildout only

1.3.1 EXISTING (2022) CONDITIONS

Information for Existing (2022) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

1.3.2 EXISTING PLUS PROJECT (E+P) CONDITIONS

The Existing plus Project (E+P) analysis determines traffic deficiencies that would occur on the existing roadway system with the addition of Project (Phase 1 and Project Buildout) traffic. E+P traffic conditions have been evaluated in order to determine any potential off-site improvements.

1.3.3 OPENING YEAR CUMULATIVE (2027) CONDITIONS

The Opening Year Cumulative conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth factor from Existing conditions of 2% per year (compounded annually) are included for Opening Year Cumulative (2027) traffic conditions. The total growth factor for Opening Year Cumulative (2027) traffic conditions is 14.9% (or $1.02^{7\ years}$). Opening Year Cumulative traffic conditions have been evaluated for the proposed Project. This comprehensive list was compiled from information provided by the City of Ontario and other near-by agencies.

1.3.4 HORIZON YEAR (2050) CONDITIONS

Traffic projections for Horizon Year (2050) conditions were derived from the San Bernardino County Transportation Analysis Model (SBTAM) using accepted procedures for model forecast refinement and smoothing and is based on the currently adopted The Ontario Plan (TOP) 2050 General Plan Update, The Horizon Year conditions analysis will be utilized to determine if improvements funded through

regional transportation mitigation fee programs can accommodate the long-range cumulative traffic at the target Level of Service (LOS) identified in the City of Ontario (lead agency) General Plan. Each of the applicable transportation fee programs are discussed in more detail In Section 8 *Local and Regional Funding Mechanisms*.

1.4 STUDY AREA

To ensure that this TA satisfies the City of Ontario's traffic study requirements, Urban Crossroads, Inc. prepared a Project traffic study scoping package for review by City of Ontario staff prior to the preparation of this report. This agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The agreement approved by the City is included in Appendix 1.1 of this TA.

The following 27 study area intersections shown on Exhibit 1-3 and listed in Table 1-1 were selected for this TA based on consultation with City of Ontario staff. The "50 peak hour trip" criterion utilized by the City of Ontario is consistent with the methodology employed by the County of San Bernardino, and generally represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of influence (i.e., study area). Other analysis intersections, within the adjacent cities were not selected for evaluation as the Project is anticipated to contribute less than 50 peak hour trips.

The intent of a Congestion Management Program (CMP) is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. Study area intersections that are identified as CMP facilities in the County of San Bernardino per the San Bernardino County Transportation Authority (SBCTA) CMP are indicated in Table 1-1. (3)

1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 3 *Area Conditions*, Section 5 *E+P Traffic Conditions*, Section 6 *Opening Year Cumulative (2027) Conditions*, and Section 7 *Horizon Year (2050) Traffic Conditions* includes the detailed analysis. A summary of Level of Service (LOS) results for all analysis scenarios is presented in Table 1-2.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection
1	Archibald Av. & SR-60 WB Ramps
2	Archibald Av. & SR-60 EB Ramps
3	Archibald Av. & Riverside Dr.
4	Archibald Av. & Chino Av.
5	Archibald Av. & Schaefer Av.
6	Archibald Av. & Ontario Ranch Rd.
7	Turner Av. & Riverside Dr.
8	Turner Av. & Chino Av.
9	Turner Av. & Ontario Ranch Rd.
10	Haven Av. & SR-60 WB Ramps
11	Haven Av. & SR-60 EB Ramps
12	Haven Av. & Riverside Dr.
13	Haven Av. & Chino Av.
14	Haven Av. & Schaefer Av.
15	Haven Av. & Ontario Ranch Rd.
16	Twinkle Av. & Chino Av.
17	Mill Creek Av. & Riverside Dr.
18	Mill Creek Av. & Chino Av.
19	Mill Creek Av. & Ontario Ranch Rd.
20	Milliken Av. & SR-60 WB Ramps
21	Milliken Av. & SR-60 EB Ramps
22	Milliken Av. & Riverside Dr.
23	Hamner Av. & Chino Av.
24	Hamner Av. & Ontario Ranch Rd.
25	I-15 SB Ramps & Cantu Galleano Ranch Rd.
26	I-15 NB Ramps & Cantu Galleano Ranch Rd.
27	Wineville Av. & Cantu Galleano Ranch Rd.

TABLE 1-2: SUMMARY OF LOS

#	Intersection	Existing AM	Existing PM	E+P Phase 1 AM	E+P Phase 1 PM	E+P Buildout AM	E+P Buildout PM	2027 Without Project AM	2027 Without Project PM	2027 With Project AM	2027 With Project PM	2045 Without Project AM	2045 Without Project PM	2045 With Project AM	2045 With Project PM
1	Archibald Av. & SR-60 WB Ramps	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
2	Archibald Av. & SR-60 EB Ramps	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
3	Archibald Av. & Riverside Dr.	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	F	F	F	F	F	F
4	Archibald Av. & Chino Av.	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	F	A - E	F
5	Archibald Av. & Schaefer Av.	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
6	Archibald Av. & Ontario Ranch Rd.	A - E	A - E	A - E	A - E	F	F	A - E	A - E	F	F	F	F	F	F
7	Turner Av. & Riverside Dr.	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
8	Turner Av. & Chino Av.	A - E	A - E	A - E	A - E	A - E	A - E	F	A - E	F	A - E	F	A - E	F	A - E
9	Turner Av. & Ontario Ranch Rd.	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
10	Haven Av. & SR-60 WB Ramps	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
11	Haven Av. & SR-60 EB Ramps	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
12	Haven Av. & Riverside Dr.	F	F	F	F	F	F	F	F	F	F	F	F	F	F
13	Haven Av. & Chino Av.	A - E	A - E	A - E	F	F	F	A - E	A - E	F	F	F	F	A - E	A - E
14	Haven Av. & Schaefer Av.	A - E	A - E	A - E	A - E	F	A - E	A - E	A - E	F	A - E	A - E	A - E	A - E	A - E
15	Haven Av. & Ontario Ranch Rd.	A - E	A - E	A - E	F	F	F	A - E	A - E	F	F	A - E	F	F	F
16	Twinkle Av. & Chino Av.	N/A	N/A	A - E	A - E	A - E	A - E	N/A	N/A	A - E	A - E	N/A	N/A	A - E	A - E
17	Mill Creek Av. & Riverside Dr.	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	F	F	F	F
18	Mill Creek Av. & Chino Av.	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
19	Mill Creek Av. & Ontario Ranch Rd.	N/A	N/A	A - E	A - E	A - E	A - E	N/A	N/A	A - E	A - E	N/A	N/A	A - E	A - E
20	Milliken Av. & SR-60 WB Ramps	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
21	Milliken Av. & SR-60 EB Ramps	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
22	Milliken Av. & Riverside Dr.	A - E	A - E	A - E	A - E	F	A - E	F	A - E	F	F	F	F	F	F
23	Hamner Av. & Chino Av.	A - E	A - E	A - E	F	F	F	A - E	A - E	F	F	F	F	F	A - E
24	Hamner Av. & Ontario Ranch Rd.	A - E	A - E	A - E	A - E	F	F	A - E	A - E	F	F	F	F	F	F
25	I-15 SB Ramps & Cantu Galleano Ranch Rd.	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
26	I-15 NB Ramps & Cantu Galleano Ranch Rd.	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E
27	Wineville Av. & Cantu Galleano Ranch Rd.	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E	A - E

= A - E = F

1.5.1 EXISTING (2022) CONDITIONS

The following study area intersection is currently operating at an unacceptable LOS during the peak hours:

- Haven Avenue & Riverside Drive (#13) – LOS F AM peak hour only

1.5.2 E+P CONDITIONS

the following additional study area intersections are anticipated to operate at an unacceptable LOS during the peak hours under E+P (Phase 1) traffic conditions, in addition to the intersections identified under Existing (2022) traffic conditions:

- Haven Avenue & Chino Avenue (#13) – LOS F PM peak hour only
- Haven Avenue & Ontario Ranch Road (#15) – LOS F PM peak hour only
- Milliken Avenue & Riverside Drive (#22) – LOS E AM peak hour only
- Hamner Avenue & Chino Avenue (#23) – LOS F PM peak hour only
- Hamner Avenue & Ontario Ranch Road (#24) – LOS E PM peak hour only

The following additional study area intersection is anticipated to operate at an unacceptable LOS during the peak hours under E+P (Project Buildout) traffic conditions, in addition to the intersections identified under Existing (2022) traffic conditions:

- Archibald Avenue & Ontario Ranch Road (#6) – LOS F AM and PM peak hours

1.5.3 OPENING YEAR CUMULATIVE (2027) CONDITIONS

The following study area intersections are anticipated to operate at an unacceptable LOS during the peak hours under Opening Year Cumulative (2027) Without Project traffic conditions:

- Turner Avenue & Chino Avenue (#8) – LOS F AM peak hour only
- Haven Avenue & Riverside Drive (#12) – LOS F AM and PM peak hours
- Milliken Avenue & Riverside Drive (#22) – LOS F AM peak hour only

The following additional study area intersections anticipated to operate at an unacceptable LOS during the peak hours with the addition of Project traffic under Opening Year Cumulative (2027) With Project traffic conditions:

- Archibald Avenue & Riverside Drive (#3) – LOS F AM and PM peak hours
- Archibald Avenue & Ontario Ranch Road (#6) – LOS F AM and PM peak hours
- Haven Avenue & Chino Avenue (#13) – LOS F PM peak hour only
- Haven Avenue & Schaefer Avenue (#14) – LOS F AM peak hour only
- Haven Avenue & Ontario Ranch Road (#15) – LOS F AM and PM peak hours
- Hamner Avenue & Chino Avenue (#23) – LOS F AM and PM peak hours
- Hamner Avenue & Ontario Ranch Road (#24) – LOS F AM and PM peak hours

1.5.4 HORIZON YEAR (2050) CONDITIONS

The following study area intersections are anticipated to operate at an unacceptable LOS during the peak hours:

- Archibald Avenue & Riverside Drive (#3) – LOS F AM and PM peak hours
- Archibald Avenue & Chino Avenue (#4) – LOS F PM peak hour only
- Turner Avenue & Chino Avenue (#8) – LOS F PM peak hour only
- Haven Avenue & Riverside Drive (#12) – LOS F AM and PM peak hours
- Haven Avenue & Chino Avenue (#13) – LOS F AM and PM peak hours
- Haven Avenue & Ontario Ranch Road (#15) – LOS F PM peak hour only
- Mill Creek Road & Riverside Drive (#15) – LOS F AM and PM peak hours
- Milliken Avenue & Riverside Drive (#22) – LOS F AM peak hour only
- Archibald Avenue & Ontario Ranch Road (#6) – LOS F AM and PM peak hours
- Haven Avenue & Chino Avenue (#13) – LOS F PM peak hour only
- Haven Avenue & Schaefer Avenue (#14) – LOS F AM peak hour only
- Haven Avenue & Ontario Ranch Road (#15) – LOS F AM and PM peak hours

- Mill Creek Avenue & Riverside Drive (#17) – LOS F AM and PM peak hours
- Milliken Avenue & Riverside Drive (#22) – LOS F AM and PM peak hours
- Hamner Avenue & Chino Avenue (#23) – LOS F AM and PM peak hours
- Hamner Avenue & Ontario Ranch Road (#24) – LOS F AM and PM peak hours

1.6 RECOMMENDATIONS

1.6.1 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for the proposed Project. The site adjacent recommendations are shown on Exhibit 1-4. The site adjacent queuing analysis worksheets are provided in Appendix 1.2.

The existing lane geometrics and traffic control should remain at the intersection of Haven Avenue & Ontario Ranch Road (#15).

Recommendation 1 – ***Haven Avenue & Riverside Drive (#12)*** – The following improvement is necessary to accommodate site access:

- Project to construct a northbound left turn lane and right turn lane.

Recommendation 2 – ***Haven Avenue & Chino Avenue (#13)*** – The following improvements are necessary to accommodate site access:

- Project to install a traffic signal.
- Project to construct a northbound shared through-right turn lane.
- Project to construct a southbound left turn lane.
- Project to construct a westbound left turn lane and shared through-right turn lane.

Recommendation 3 – ***Haven Avenue & Schaefer Avenue (#14)*** – The following improvement is necessary to accommodate site access:

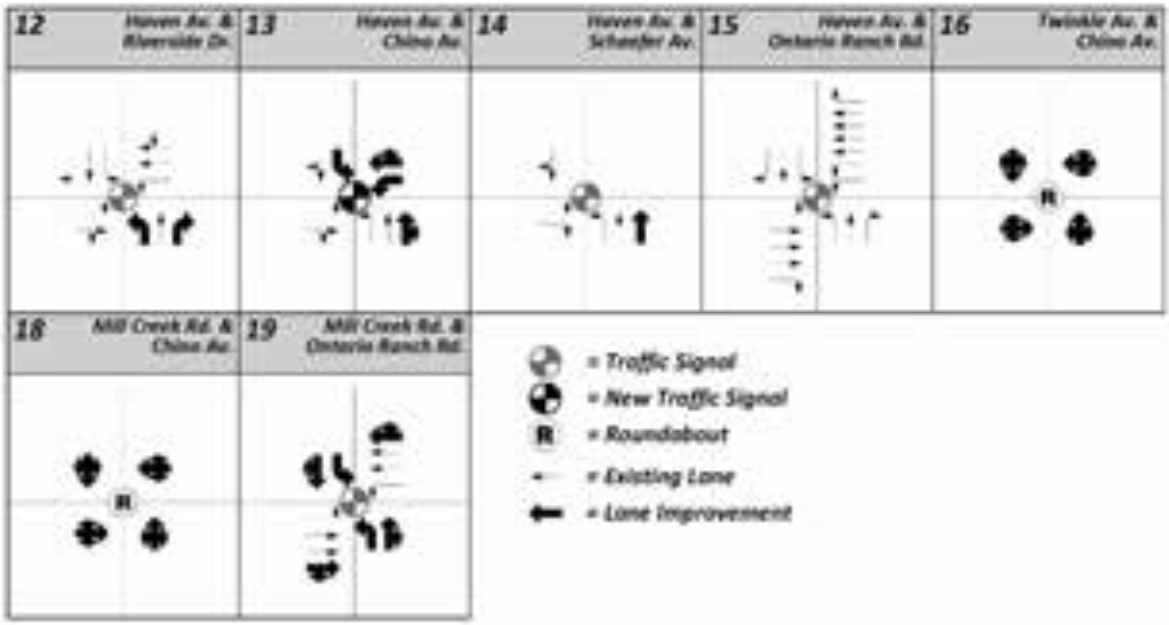
- Project to construct a northbound through lane.

Recommendation 4 – ***Twinkle Avenue & Chino Avenue (#16)*** – The following improvements are necessary to accommodate site access:

- Project to construct a single-lane roundabout.
- Project to construct a northbound shared left-through-right turn lane.
- Project to construct a southbound shared left-through-right turn lane.
- Project to construct an eastbound shared left-through-right turn lane.
- Project to construct a westbound shared left-through-right turn lane.

EXHIBIT 1-4: SITE ACCESS RECOMMENDATIONS





Recommendation 5 – ***Mill Creek Avenue & Chino Avenue (#18)*** – The following improvements are necessary to accommodate site access:

- Project to construct a single-lane roundabout.
- Project to construct a northbound shared left-through-right turn lane.
- Project to construct a southbound shared left-through-right turn lane.
- Project to construct an eastbound shared left-through-right turn lane.
- Project to construct a westbound shared left-through-right turn lane.

Recommendation 6 – ***Mill Creek Avenue & Ontario Ranch Road (#19)*** – The following improvements are necessary to accommodate site access:

- Project to construct a northbound left turn lane and shared through-right turn lane.
- Project to construct a southbound left turn lane and shared through-right turn lane.
- Project to construct an eastbound shared through-right turn lane.
- Project to construct a westbound shared through-right turn lane.

Recommendation 7 – Riverside Drive is an east-west oriented roadway located on the Project's northern boundary. Project to construct Riverside Drive at its ultimate half-section width as a Minor Arterial (6-lanes, 108-foot right-of-way) from the Project's eastern boundary to Haven Avenue consistent with the City's standards.

Recommendation 8 – Chino Avenue is an east-west oriented roadway located within the Project site. Project to construct Chino Avenue at its ultimate full-section width as a Minor Arterial (2-lanes, 88-foot right-of-way) from Haven Avenue to Mill Creek Avenue consistent with the City's standards. It should be noted, Chino Avenue will be constructed to its ultimate full-section width, however will only be striped with one lane of travel in each direction.

Recommendation 9 – Ontario Ranch Road is an east-west oriented roadway located on the Project's southern boundary. Project to construct Ontario Ranch Road at its ultimate full-section width as a Principal Arterial (8-lanes, 124-foot right-of-way) from Haven Avenue to Hamner Avenue consistent with the City's standards.

Recommendation 10 – Mill Creek Avenue is a north-south oriented roadway generally located on the Project's eastern boundary. Project to construct Mill Creek Avenue at its ultimate full-section width as a Collector (4-lanes, 88-foot right-of-way) from the Project's southern boundary to the southern boundary of Planning Area 2C, and at its ultimate half-section width from the southern boundary of Planning Area 2C to the Project's northern boundary (northern boundary of Planning Area 1C) (with an additional 12-feet of pavement on the east side from the southern boundary of Planning Area 2C to Chino Avenue to facilitate site access) consistent with the City's standards.

Recommendation 11 – Hamner Avenue is a north-south oriented roadway located on the Project's eastern boundary. Project to construct Hamner Avenue at its ultimate half-section width as a Minor Arterial (6-lanes, 108-foot right-of-way) from the Project's northern boundary to the Project's southern boundary consistent with the City's standards.

Recommendation 12 – Haven Avenue is a north-south oriented roadway located on the Project's western boundary. Project to construct Haven Avenue at its ultimate half-section width as a Principal Arterial (4-lanes, 124-foot right-of-way) from Riverside Drive to the Project's southern boundary consistent with the City's standards.

On-site traffic signing and striping should be implemented agreeable with the provisions of the California Manual on Uniform Traffic Control Devices (CA MUTCD) and in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard California Department of Transportation (Caltrans) and City of Ontario sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

It should be noted, the Project will construct Chino Avenue at its ultimately full-section width, but striping one lane in each direction. Since the proposed roundabouts along Chino Avenue are single-lane roundabouts, one lane in each direction along Chino Avenue will facilities site access without requiring merging of traffic into the roundabout. Although the turning volumes (such as the northbound right turn) at the intersection of Haven Avenue & Chino Avenue may be relatively high during the peak hour, the intersection operations analysis at this location and the roadway segment analysis (see discussion below) are anticipated to operate at acceptable levels. As such, no additional roadway segment widening beyond the 2-lane roadway is recommended along Chino Avenue as the intersections are able to process the turning movement volumes at Haven Avenue & Chino Avenue.

According to the City of Ontario General Plan, a 2-lane roadway has a capacity of 12,500 vehicles per day. Based on a review of Horizon Year traffic volumes along Chino Avenue for the segment between Haven Avenue and Twinkle Avenue, it is estimated that 9,300 vehicles per day will utilize Chino Avenue, which is well within a 12,500 vehicle per day capacity of a 2-lane roadway.

The segment of Chino Avenue, between Twinkle Avenue and Mill Creek Avenue, is anticipated to exceed this capacity for Horizon Year (2050) With Project traffic conditions. This is due to the volumes developed from the City's new TOP model, which results in a daily volume of 12,800 vehicles per day for the segment of Chino Avenue, between Twinkle Avenue and Mill Creek Avenue. This exceeds the 2-lane capacity of 12,500 vehicles per day. However, it should be noted that in cases where anticipated daily volumes exceed the defined roadway segment capacity (based on the City's General Plan), a review of the more detailed peak hour intersection operations analysis is undertaken. The more detailed peak hour intersection operations analysis explicitly accounts for factors that affect roadway capacity and is utilized to determine if roadway segment widening is actually necessary. If the intersection operations for the intersections on either side of the roadway segment are anticipated to operate at an acceptable LOS during the peak hours, roadway segment widening is typically not recommended. The intersections are considered "choke points" along the roadways and if the intersection operations analysis is anticipated to operate at acceptable levels, then it is anticipated that the intersections can process the traffic volumes along the roadway segment without the need for additional roadway segment widening. Additionally, roadway segment analysis is considered a planning level analysis whereas the intersection operations analysis is considered more design level analysis. Based on a review of the anticipated intersection operations analysis under Horizon Year (2050) traffic conditions, the study area intersections along Chino Avenue (at Twinkle Avenue and Mill Creek Avenue) are anticipated to operate at an acceptable LOS during the peak hours.

As such, additional roadway segment widening along Chino Avenue is not recommended beyond the 2-lane roadway. It should also be noted, the City's TOP model classifies Chino Avenue as a 2-lane roadway. Therefore, the proposed 2-lane roadway for Chino Avenue is consistent with the City's General Plan.

Exhibit 1-5 shows the proposed roadway of Chino Avenue, from Haven Avenue to Mill Creek Avenue. As shown on Exhibit 1-5, single-lane roundabouts are proposed at the intersections of Twinkle Avenue & Chino Avenue and at Mill Creek Avenue & Chino Avenue. Based on the Federal Highway Administration's (FHWA) roundabout operational guidelines published in the Roundabouts: An Informational Guide, circulating traffic flows exceeding 1,800 vehicles per hour may indicate the need for a double-lane roundabout. (4) Based on a review of the peak hour traffic volumes under Horizon Year (2050) With Project traffic conditions, the anticipated peak hour traffic flow is 845 vehicles at Twinkle Avenue & Chino Avenue and 1,250 vehicles at Mill Creek Avenue & Chino Avenue. As such, a double-lane roundabout does not appear necessary to process peak hour traffic flows at both Twinkle Avenue & Chino Avenue and Mill Creek Avenue & Chino Avenue, as the single-lane roundabout is anticipated to process the peak hour traffic flows and operate at acceptable LOS during the peak hours under Horizon Year (2050) With Project traffic conditions.

1.6.2 OFF-SITE RECOMMENDATIONS

A summary of the off-site intersection improvements is provided in Table 1-3. For those improvements listed in Table 1-3 and not constructed as part of the Project, the Project Applicant's responsibility for the Project's contributions towards deficient intersections is fulfilled through payment of fees or fair share that would be assigned to construction of the identified recommended improvements.

TABLE 1-3: SUMMARY OF IMPROVEMENTS BY ANALYSIS SCENARIO

#	Intersection Location	Jurisdiction	E+P (Phase 1)	E+P (Project Buildout)	2032 Without Project	2032 With Project	2045 Without Project	2045 With Project	Project Responsibility	Improvements in DIF[1,2]	Estimated Cost[3,4]	Project Fair Share	Fair Share Cost[5]
3	Archibald Av. & Riverside Dr.	Ontario	None	None	Add 2nd NB left turn lane	Same	Same	Same	Fair Share	No	$88,500	33.1%	$29,260
					Add 2nd SB left turn lane	Same	Same	Same	Fair Share	No	$88,500		$29,260
										Total:	**$177,000**		**$58,520**
4	Archibald Av. & Chino Av.	Ontario	None	None	None	None	Add EB right turn lane	Same	Fair Share	No	$88,500	37.8%	$33,428
										Total:	**$88,500**		**$33,428**
6	Archibald Av. & Merrill Av.	Ontario	None	Add 2nd SB left turn lane	Same	Same	Same	Same	Construct	No	$0	17.9%	$0
				Add 2nd WB through lane	Same	Same	Same	Same	Construct	No	$0		$0
							Add 2nd NB left turn lane	Same	Fair Share	No	$88,500		$15,806
							Add 3rd NB through lane	Same	Fees	Yes (ST-002)	$0		$0
							Add 3rd SB through lane	Same	Fees	Yes (ST-002)	$0		$0
							Add 3rd EB through lane	Same	Fair Share	No	$318,600		$56,902
										Total:	**$407,100**		**$72,708**
8	Turner Av. & Chino Av.	Eastvale	None	None	Install a traffic signal	Same	Same	Same	Fair Share	No	$442,500	39.0%	$79,030
										Total:	**$442,500**		**$79,030**
12	Haven Av. & Riverside Dr.	Ontario	Add NB left turn lane	Same	Same	Same	Same	Same	Fair Share	No	$88,500	63.6%	$56,251
			Add 2nd NB through lane	Same	Same	Same	Same	Same	Fair Share	No	$318,600		$202,505
			Add 2nd EB through lane	Same	Same	Same	Same	Same	Fees	Yes (ST-019)	$0		$0
							Add NB right turn lane	Same	Fair Share	No	$88,500		$56,251
							Add 2nd SB through lane	Same	Fees	Yes (ST-014)	$0		$0
							Add 2nd EB left turn lane	Same	Fair Share	No	$88,500		$56,251
							Add 2nd WB left turn lane	Same	Fair Share	No	$88,500		$56,251
										Total:	**$672,600**		**$427,511**
13	Haven Av. & Chino Av.	Ontario	Add 2nd NB through lane	Same	Same	Same	Same	Same	Fees	Yes (ST-014)	$0	--	$0
			Add SB left turn lane	Same	Not Applicable	Same as E+P (Phase 1)	Not Applicable	Same as E+P (Phase 1)	Construct	No	$0		$0
			Add 2nd SB through lane	Same	Same	Same	Same	Same	Fees	Yes (ST-014)	$0		$0
			Add WB left turn lane	Same	Not Applicable	Same as E+P (Phase 1)	Not Applicable	Same as E+P (Phase 1)	Construct	No	$0		$0
			Add WB through lane	Same	Not Applicable	Same as E+P (Phase 1)	Not Applicable	Same as E+P (Phase 1)	Construct	No	$0		$0
										Total:	**$0**		**$0**
14	Haven Av. & Schaefer Av.	Ontario	None	Stripe the 2nd NB through lane	Same	Same	Same	Same	Construct	Yes (ST-014)	$0	--	$0
										Total:	**$0**		**$0**
15	Haven Av. & Ontario Ranch Rd.	Ontario	Add 2nd NB through lane	Same	Same	Same	Same	Same	Construct	No	$0	--	$0
			Add 2nd SB left turn lane	Same	Same	Same	Same	Same	Construct	No	$0		$0
			Add 2nd SB right turn lane	Same	Same	Same	Same	Same	Construct	No	$0		$0
			Stripe the 2nd EB left turn lane	Same	Same	Same	Same	Same	Construct	No	$0		$0
										Total:	**$0**		**$0**
17	Mill Creek Av. & Riverside Dr.	Ontario	None	None	None	None	Install a traffic signal	Same	Fair Share	No	$442,500	62.2%	$275,333
							Add 3rd EB through lane	Same	Fees	Yes (ST-006)	$0		$0
							Add 3rd WB through lane	Same	Fees	Yes (ST-006)	$0		$0
										Total:	**$442,500**		**$275,333**
22	Milliken Av. & Riverside Dr.	Ontario, Eastvale	Add 2nd NB left turn lane	Same	Same	Same	Same	Same	Construct	No	$0	44.3%	$0
					Add 2nd SB left turn lane lane	Same	Same	Same	Fair Share	No	$88,500		$39,200
							Add 2nd SB right turn lane	Same	Fair Share	No	$88,500		$39,200
										Total:	**$177,000**		**$78,400**
23	Hamner Av. & Chino Av.	Ontario, Eastvale	Install a traffic signal	Same	Same	Same	Same	Same	Construct	No	$0	--	$0
			Add 2nd SB through lane	Same	Same	Same	Same	Same	Construct	Yes (ST-017)	$0		$0
										Total:	**$0**		**$0**
24	Hamner Av. & Ontario Ranch Rd.	Ontario, Eastvale	Install a traffic signal	Same	Same	Same	Same	Same	Construct	No	$0	37.8%	$0
			Add 4th SB through lane	Same	Same	Same	Same	Same	Construct	Yes (ST-017)	$0		$0
			Add 2nd EB left turn lane	Same	Same	Same	Same	Same	Construct	No	$0		$0
			Add 4th WB through lane	Same	Same	Same	Same	Same	Construct	No	$0		$0
					Add 2nd SB right turn lane	Same	Same	Same	Fair Share	No	$88,500		$33,424
					Add EB right turn lane	Same	Same	Same	Fair Share	No	$88,500		$33,424
										Total:	**$177,000**		**$66,849**
										Total Cost for Improvements	$2,584,200		$1,091,779
										Total Project Fair Share Contribution to the City of Ontario (non-DIF/other)[6]		$1,012,749	
										Total Project Fair Share Contribution to the City of Eastvale[7]		$79,030	

[1] Improvements included in regional/City DIF programs have been identified as such.

[2] Program improvements constructed by project may be eligible for fee credit. In lieu fee payment is at the discretion of the City.

[3] Costs have been estimated using the data provided in Appendix "G" of the CMP (2003 Update) for preliminary construction costs with an application of 1.77 factor to adjust costs to 2022.

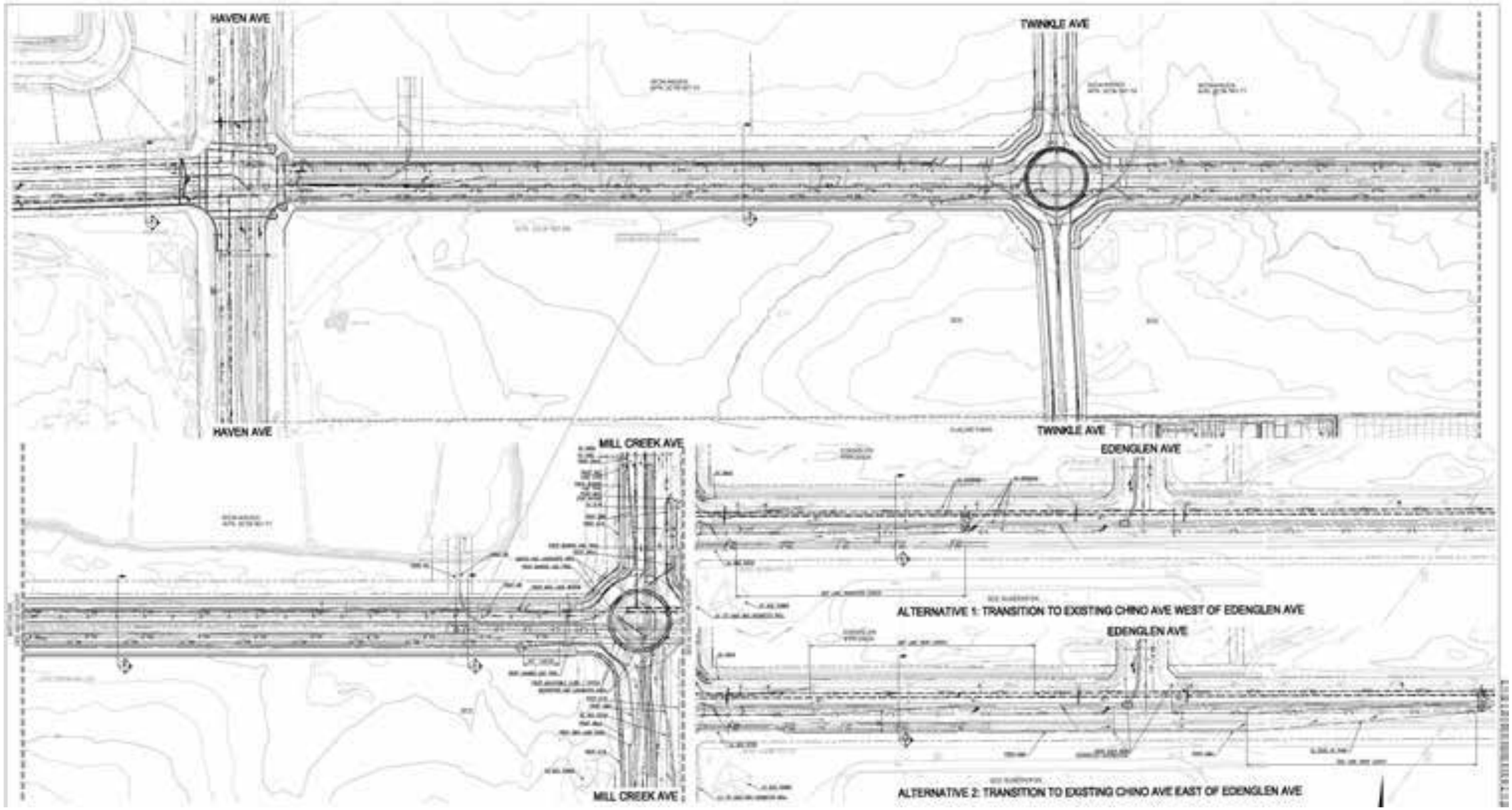
[4] Total project fair share contribution consists of the improvements which are not already included in a pre-existing fee program.

[5] Rough order of magnitude cost estimate.

[6] Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Ontario.

[7] Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Eastvale.

EXHIBIT 1-5: PROPOSED CHINO AVENUE IMPROVEMENTS



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2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with City of Ontario's Traffic Study Guidelines.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors, such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 6th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (4) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Ontario requires signalized intersection operations analysis based on the methodology described in the HCM. (4) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0[1]
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F

Source: HCM, 6th Edition

[1] If V/C is greater than 1.0 then LOS is F per HCM.

Consistent with Appendix B of the San Bernardino County CMP, the following saturation flow rates, in vehicles per hour green per lane (vphgpl), will be utilized in the traffic analysis for signalized intersections:

Existing, E+P, and Opening Year Cumulative Traffic Conditions:

- Exclusive through: 1800 vphgpl
- Exclusive left: 1700 vphgpl
- Exclusive right: 1800 vphgpl
- Exclusive dual left: 1600 vphgpl
- Exclusive triple left: 1500 vphgpl

Horizon Year Traffic Conditions:

- Exclusive through: 1900 vphgpl
- Exclusive left: 1800 vphgpl
- Exclusive right: 1900 vphgpl
- Exclusive dual left: 1700 vphgpl
- Exclusive triple left: 1600 vphgpl

The traffic modeling and signal timing optimization software package Synchro (Version 11) has been utilized to analyze signalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Customary practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (4)

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Ontario requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (4) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (average delay).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0[1]
Little or no delays.	0 to 10.00	A
Short traffic delays.	10.01 to 15.00	B
Average traffic delays.	15.01 to 25.00	C
Long traffic delays.	25.01 to 35.00	D
Very long traffic delays.	35.01 to 50.00	E
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F

Source: HCM, 6th Edition

[1] If V/C is greater than 1.0 then LOS is F per HCM.

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (5)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (5) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions and for all future analysis scenarios for existing unsignalized intersections. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics. For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. Urban warrants have been used as posted speed limits on the major roadways with unsignalized intersections are 40 miles per hour or below and rural warrants have been used where speeds exceed 40 miles per hour.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants.

Traffic signal warrant analyses were performed for the following study area intersection shown in Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection
1	Archibald Av. & SR-60 WB Ramps
13	Haven Av. & Chino Av.
19	Mill Creek Av. & Ontario Ranch Rd.
23	Hamner Av. & Chino Av.

Although unsignalized, the intersections of Twinkle Avenue & Chino Avenue (#16) and Mill Creek Avenue & Chino Avenue (#18) have not been evaluated for traffic signal warrants as these intersections are proposed for roundabouts.

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *E+P Traffic Conditions*, Section 6 *Opening Year Cumulative (2027) Conditions*, and Section 7 *Horizon Year (2050) Traffic Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 QUEUING ANALYSIS

Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections at the SR-60 Freeway at the Archibald Avenue, Haven Avenue, and Milliken Avenue interchanges and at the I-15 Freeway at the Cantu Galleano Road interchange. Specifically, the off-ramp queuing analysis is utilized to identify any potential queuing and "spill back" onto the SR-60 and I-15 Freeway mainlines from the off-ramps.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. The footnote from the Synchro output sheets indicates if the 95th percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The 95th percentile queue is derived from the average queue plus 1.65 standard deviations. The 95th percentile queue is not necessarily ever observed it is simply based on statistical calculations.

2.5 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

Minimum Acceptable LOS and associated definitions of intersection deficiencies has been obtained from each of the applicable surrounding jurisdictions.

2.5.1 CITY OF ONTARIO

Per the Ontario Plan's Policy M-1, the City of Ontario utilizes a minimum acceptable LOS of LOS E, where feasible. (6)

2.5.2 CITY OF EASTVALE

The City of Eastvale General Plan Policy C-10 sets a standard of LOS C with LOS D as acceptable in commercial and employment areas and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramps. (7) Based on this criterion, where feasible, LOS D is the minimum acceptable LOS at each of the study intersections within the City of Eastvale.

2.5.3 CALTRANS

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway System facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. (8) If an existing State highway facility is operating at less than this target LOS, the existing LOS should be maintained. In general, the region-wide goal for an acceptable LOS on all freeways and intersections is LOS D. Consistent with the City of Ontario LOS threshold of LOS D and in excess of the City of Ontario stated LOS threshold of LOS E, LOS D will be used as the target LOS.

2.6 DEFICIENCY CRITERIA

To determine whether the addition of project traffic at a study intersection would result in a traffic deficiency, the following will be utilized:

- When the Without Project condition is at or better than LOS D (or LOS E for CMP intersections and intersections located in the City of Ontario) (i.e., acceptable LOS), and project-generated traffic causes deterioration below LOS D/LOS E (i.e., unacceptable LOS), a deficiency is deemed to occur.

When the Without Project condition is already below LOS D/LOS E (i.e., unacceptable LOS), the Project will be responsible for improving its deficiency to acceptable levels of service. Thus, for intersections operating at unacceptable LOS during either the AM and/or PM peak hour, improvements have been identified to improve the deficiencies of the Project to an intersection LOS that is equal to or better than Without Project conditions (see Table 2-4).

The Project's contribution to a deficiency can be reduced if the Project is required to implement or fund its fair share of improvements designed to alleviate its contribution to the deficient condition.

TABLE 2-4: DEFICIENCY CRITERIA

Without Project Level of Service	Level of Service	Deficient?	Improvement Required?
City of Ontario			
A	A-D	No	No
B	B-D	No	No
C	C-D	No	No
D	D-E	No	No
E	E	No	No
A-E	F	Yes	Yes, bring LOS to E or better
F	F	Yes	Yes, bring LOS to E or better
City of Eastvale			
A	A-D	No	No
B	B-D	No	No
C	C-D	No	No
D	D	No	No
A-D	E or F	Yes	Yes, bring LOS to D or better
E	E	Yes	Yes, bring LOS to D or better
E	F	Yes	Yes, bring LOS to D or better
F	F	Yes	Yes, bring LOS to D or better

In the event that an intersection is operating at or is forecast to operate at a deficient LOS, the CMP guidelines have defined a series of steps to be completed to determine the Project's contribution to the deficiency of intersections, which has been applied to both CMP and non-CMP study area intersections. The steps are as follows:

- Determine the improvements necessary to achieve an acceptable service level,
- Calculate the Project's share in the future traffic volume projections for the peak hours,
- Estimate the cost to implement recommended improvements, and
- Calculate the Project's fair-share contribution to improve the Project's traffic deficiencies

2.7 PROJECT FAIR SHARE CALCULATION METHODOLOGY

In cases where this TA identifies that the Project would contribute additional traffic volumes to traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to new traffic, and new traffic is total future (Opening Year) traffic less existing baseline traffic:

Project Fair Share % = Project (Project Buildout) AM/PM Traffic / (2050 With Project AM/PM Total Traffic – Existing AM/PM Traffic)

The project fair share percentage has been calculated for both the AM peak hour and PM peak hour and the highest of the two has been selected. The Project fair share contribution calculations are presented in Section 8 *Local and Regional Funding Mechanisms* of this TA. The cost of implementing the improvements shown in Table 1-3 have been estimated based on the preliminary construction cost estimates found in Appendix G of the San Bernardino County CMP in conjunction with a total cost escalation factor of 1.77 to more closely approximate current (2022) costs. These cost estimates have been utilized in conjunction with the Project fair share percentages to determine the Project's fair share cost of the recommended improvements (see Table 7-2). These estimates are a rough order of magnitude only as they are intended only for discussion purposes and do not imply any legal responsibility or formula for contributions or physical improvements. If any analyzed intersections and roadway improvements fall outside of the jurisdiction of the City, the City does not have the authority to construct or demand the construction of such improvements. For this reason, the payment of fair share fees for the improvements identified in Table 1-3 is considered infeasible and therefore results in a significant and unavoidable impact for those locations outside of the City.

3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Ontario General Plan Circulation Network, and a review of existing peak hour intersection operations, traffic signal warrant, and off-ramp queuing analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Ontario staff (Appendix 1.1), the study area includes a total of 27 existing and future intersections as shown previously on Exhibit 1-3. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF ONTARIO GENERAL PLAN CIRCULATION ELEMENT

The 2050 Ontario Plan circulation element is shown on Exhibit 3-2. The study area roadways that are classified as 8-lane Other Principal Arterials are identified as having four lanes of travel in each direction. The following study area roadways within the City of Ontario are classified as 8-lane Other Principal Arterials:

- Hamner Avenue from the SR-60 Freeway to Bellegrave Avenue
- Edison Avenue

The study area roadways that are classified as 6-lane Other Principal Arterials are identified as having three lanes of travel in each direction and a 14-foot curbed or painted median. The following study area roadways within the City of Ontario are classified as 6-lane Other Principal Arterials:

- Archibald Avenue
- Haven Avenue, between Riverside Drive and SR-60 Freeway
- Vineyard Avenue

The study area roadways that are classified as 4-lane Other Principal Arterials are identified as having two lanes of travel in each direction. The following study area roadways within the City of Ontario are classified as 4-lane Other Principal Arterials:

- Haven Avenue, south of Riverside Drive

The study area roadway that is classified as a 6-lane Minor Arterial is identified as having three lanes of travel in each direction. The following study area roadway within the City of Ontario is classified as a 6-lane Minor Arterial:

- Riverside Drive

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS (PAGE 1 OF 2)



EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS (PAGE 2 OF 2

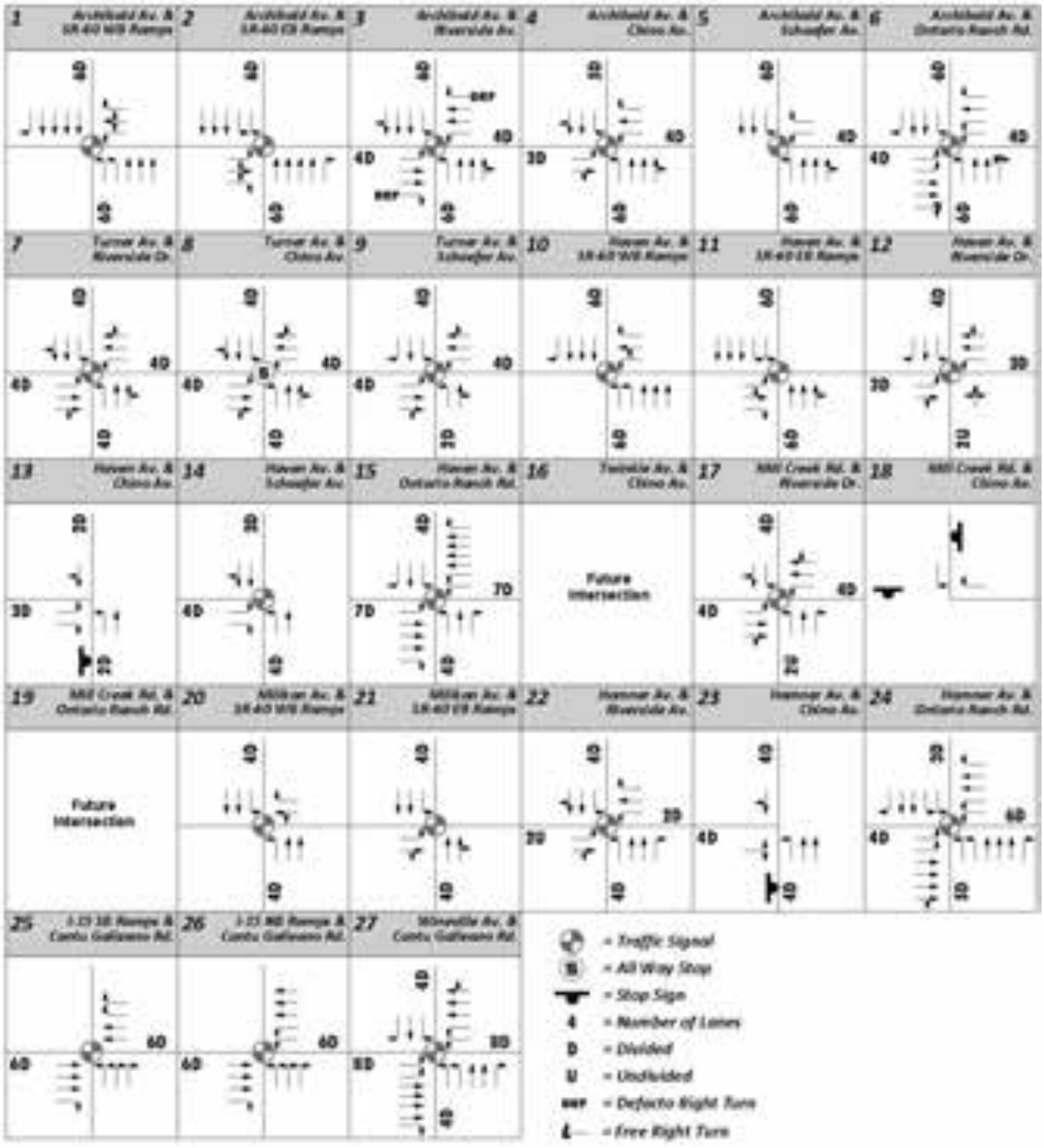


EXHIBIT 3-2: CITY OF ONTARIO 2050 GENERAL PLAN CIRCULATION ELEMENT



The study area roadways that are classified as Collector Streets are identified as having two to four lanes of travel in each direction. The following study area roadways within the City of Ontario are classified as Collector Streets:

- Chino Avenue
- Schaefer Avenue
- Eucalyptus Avenue
- Merrill Avenue
- Turner Avenue
- Mill Creek Avenue

3.3 CITY OF EASTVALE GENERAL PLAN CIRCULATION ELEMENT

Exhibit 3-3 shows the City of Eastvale General Plan Circulation Element and Exhibit 3-4 shows the City of Eastvale General Plan roadway cross-sections.

3.4 BICYCLE & PEDESTRIAN FACILITIES

Exhibit 3-5 illustrates the 2050 Ontario Plan bicycle facilities. Existing pedestrian facilities within the study area are shown on Exhibit 3-6. As shown on Exhibit 3-6, there are limited pedestrian facilities in the vicinity of the Project site. Field observations and traffic counts conducted in August 2022 indicate light pedestrian and bicycle activity within the study area.

3.5 TRANSIT SERVICE

Exhibit 3-7 shows the 2050 Ontario Plan transit facilities. The study area within the City of Ontario is currently served by Omnitrans, a public transit agency serving various jurisdictions within San Bernardino County. Exhibit 3-8 shows the existing transit facilities, which indicates that Omnitrans Route 87 could potentially serve the Project site. Transit service is reviewed and updated by Omnitrans periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. As such, it is recommended that the applicant work in conjunction with Omnitrans to potentially provide bus service to the site.

3.6 EXISTING (2022) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in May 2022. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

EXHIBIT 3-3: CITY OF EASTVALE CIRCULATION ELEMENT

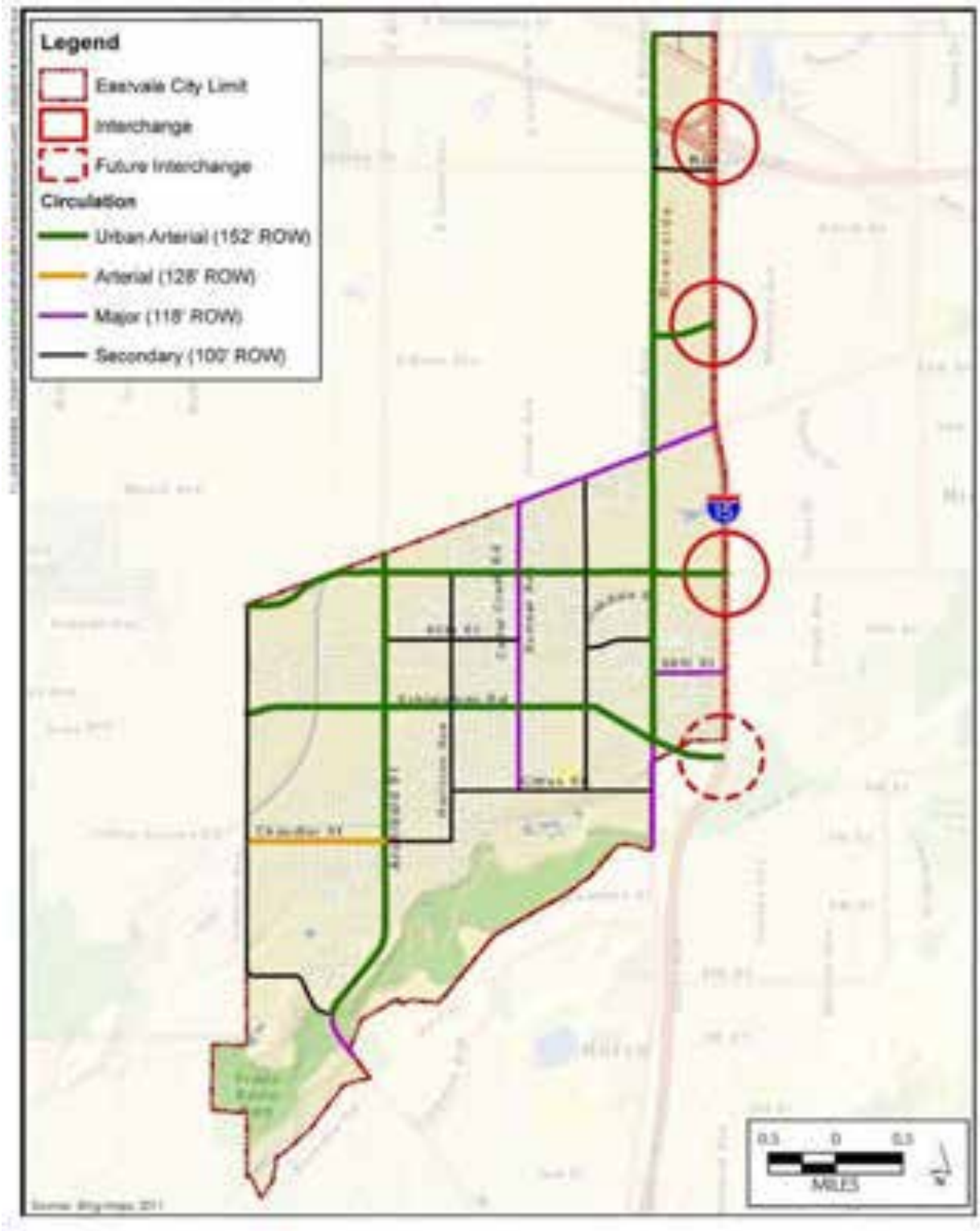


EXHIBIT 3-4: CITY OF EASTVALE GENERAL ROADWAY PLAN CROSS-SECTIONS

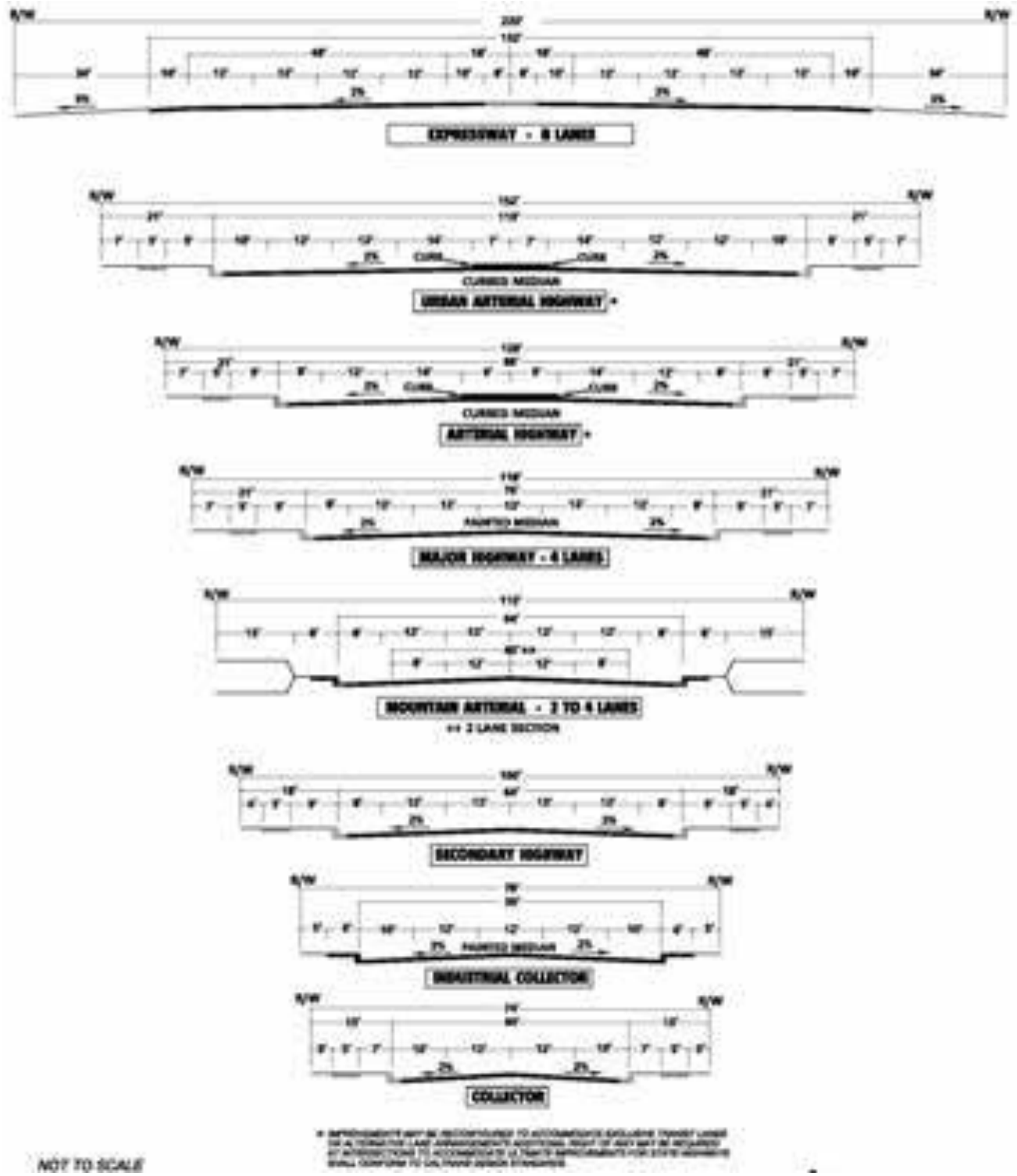


EXHIBIT 3-5: CITY OF ONTARIO 2050 BICYCLE FACILITIES

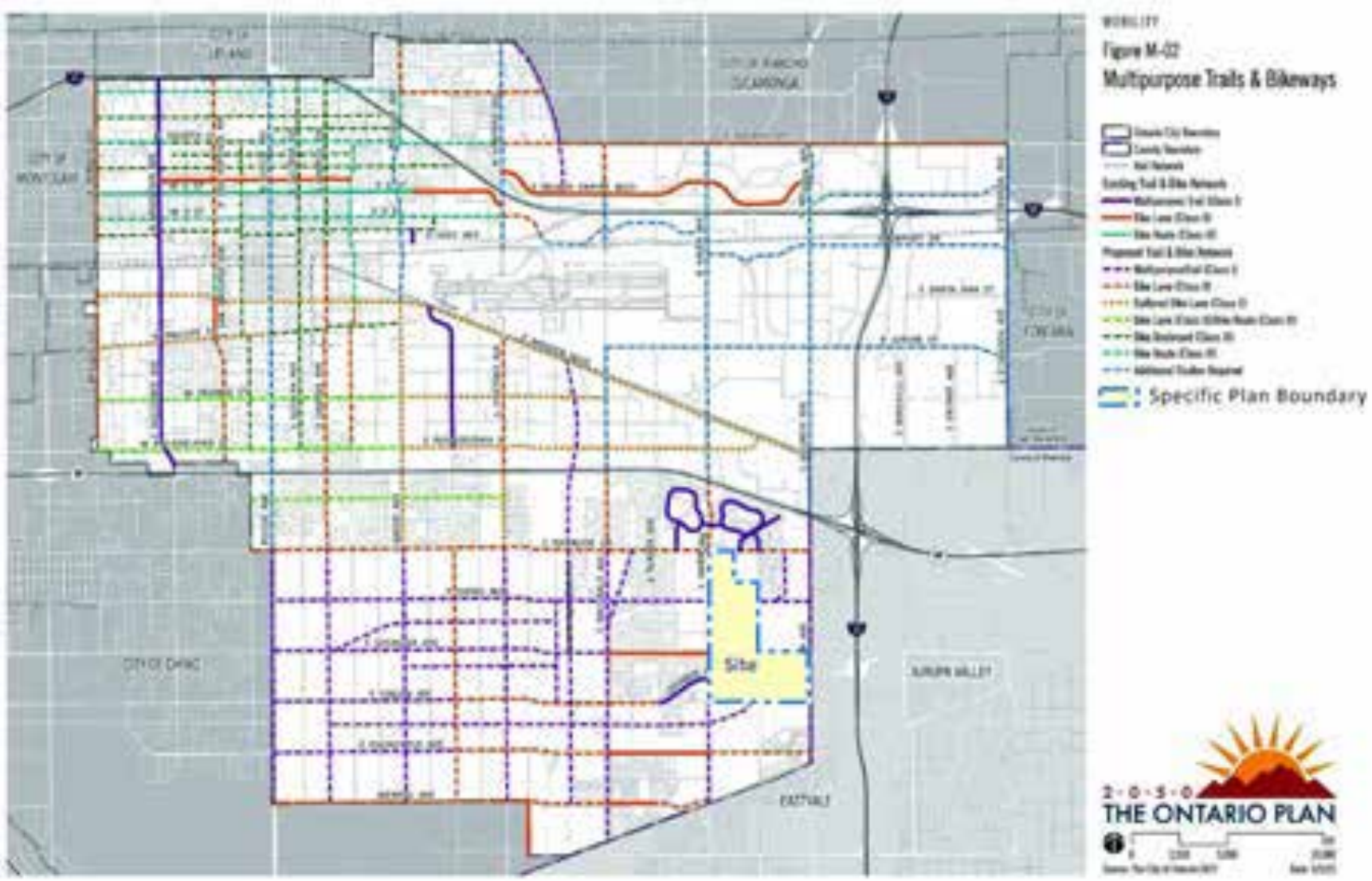


EXHIBIT 3-6: EXISTING PEDESTRIAN FACILITIES



EXHIBIT 3-7: CITY OF ONTARIO 2050 GENERAL PLAN TRANSIT ROUTES



EXHIBIT 3-8: EXISTING TRANSIT FACILITIES



The 2022 weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. As such, no additional adjustments were made to the traffic counts to establish the baseline condition. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

Existing weekday ADT volumes are shown on Exhibit 3-11. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 12.65 = Leg Volume

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 7.91 percent. As such, the above equation utilizing a factor of 12.65 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of 7.91 percent (i.e., 1/0.0791 = 12.65) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. Existing weekday and weekend peak hour intersection volumes are also shown on Exhibit 3-9.

3.7 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1, which indicates that the following study area intersection is currently operating at an unacceptable LOS during the peak hours:

- Haven Avenue & Riverside Drive (#13) – LOS F AM peak hour only

The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

3.8 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. The intersection of Turner Avenue & Chino Avenue (#8) currently meets a traffic signal warrant under Existing (2022) traffic conditions. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

EXHIBIT 3-9: EXISTING (2022) TRAFFIC VOLUMES (PAGE 1 OF 2)

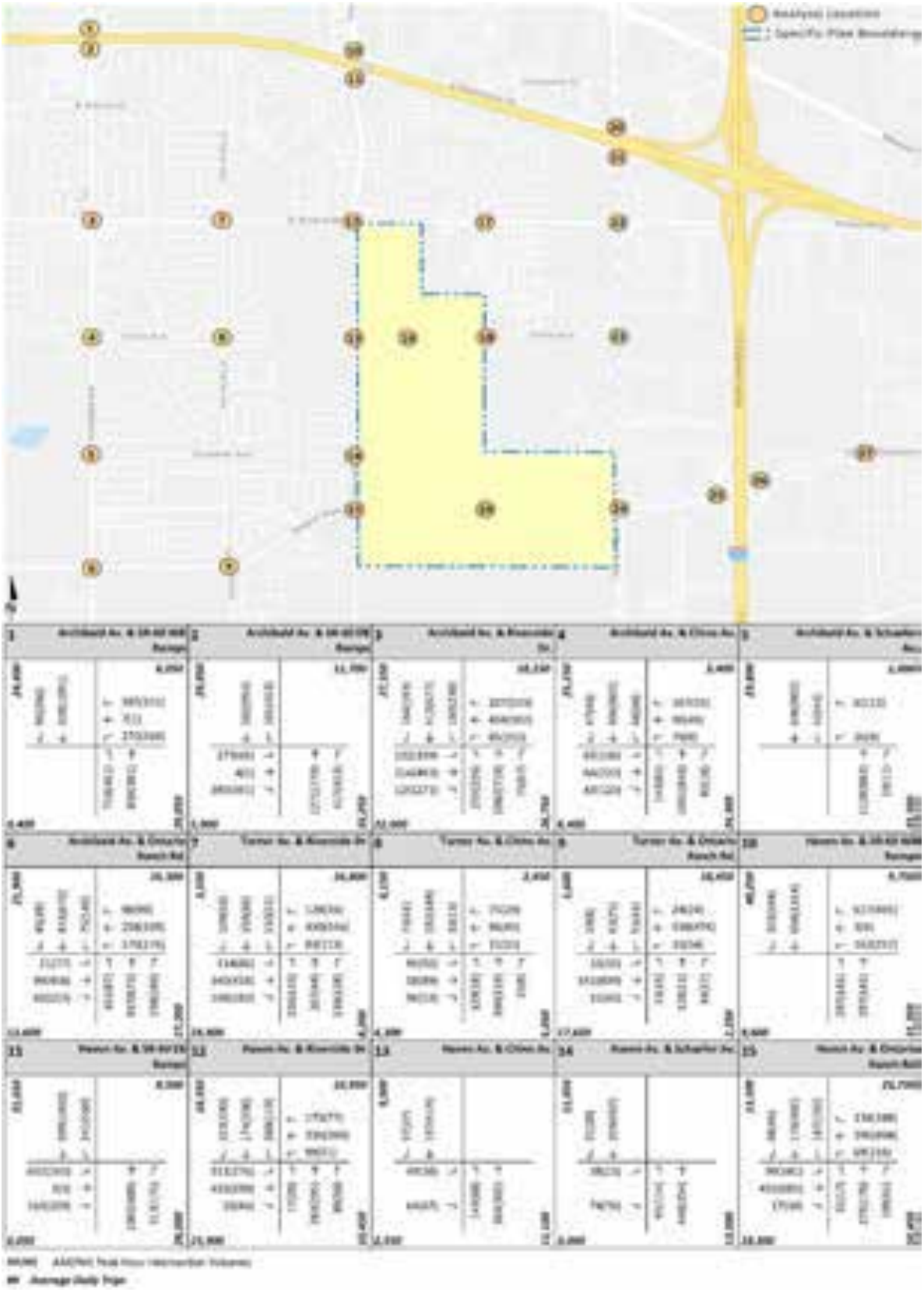


EXHIBIT 3-9: EXISTING (2022) TRAFFIC VOLUMES (PAGE 2 OF 2)

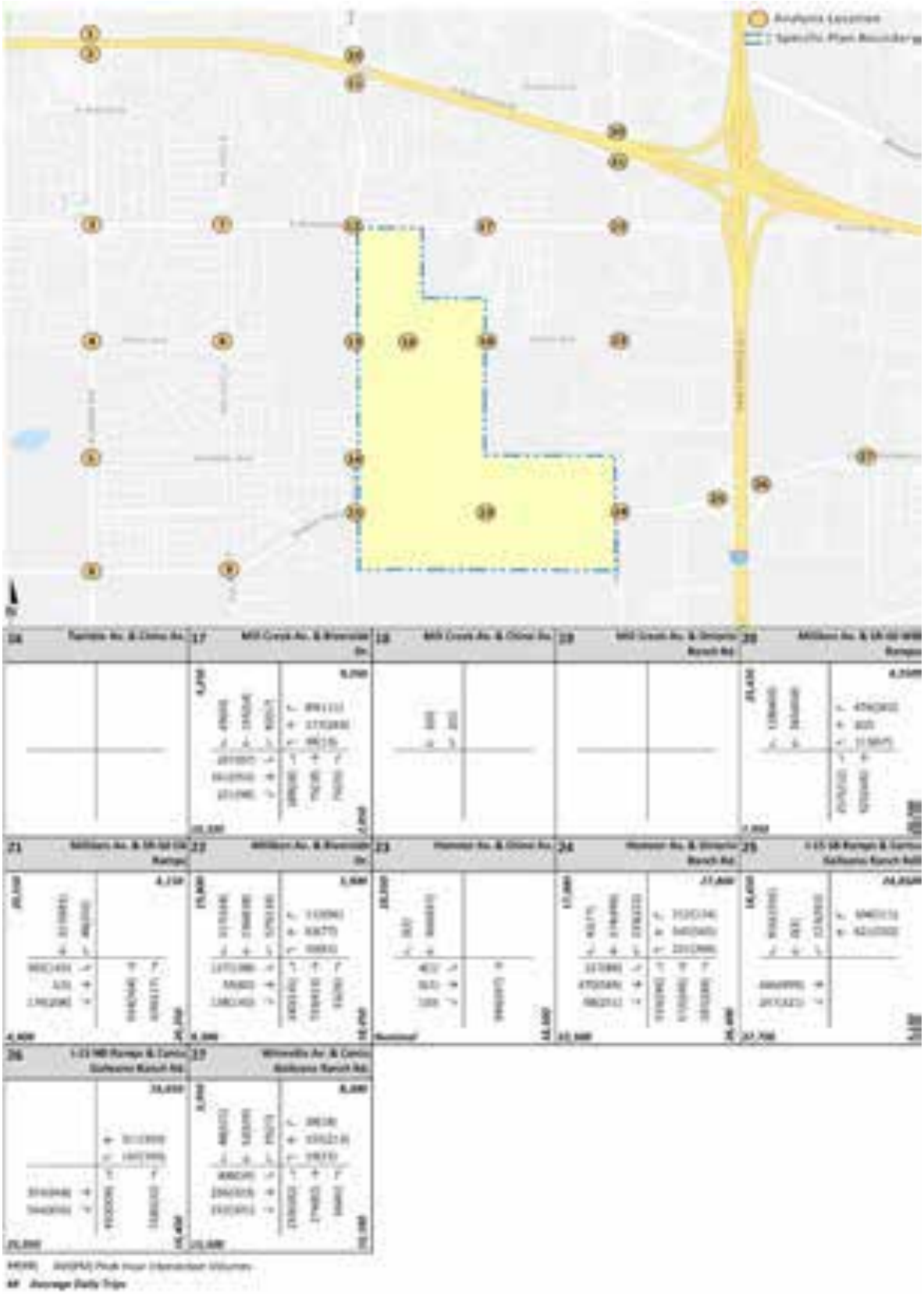


TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2022) CONDITIONS

#	Intersection	Traffic Control[2]	Delay[1] (secs.) AM	Delay[1] (secs.) PM	Level of Service AM	Level of Service PM	Acceptable LOS
1	Archibald Av. & SR-60 WB Ramps	TS	18.5	28.9	B	C	D
2	Archibald Av. & SR-60 EB Ramps	TS	14.9	13.9	B	B	D
3	Archibald Av. & Riverside Dr.	TS	39.2	34.8	D	C	E
4	Archibald Av. & Chino Av.	TS	20.3	23.7	C	C	E
5	Archibald Av. & Schaefer Av.	TS	10.6	5.9	B	A	E
6	Archibald Av. & Ontario Ranch Rd.	TS	30.6	28.6	C	C	E
7	Turner Av. & Riverside Dr.	TS	33.2	22.5	C	C	E
8	Turner Av. & Chino Av.	AWS	27.3	10.0	D	A	E
9	Turner Av. & Ontario Ranch Rd.	TS	16.3	13.3	B	B	E
10	Haven Av. & SR-60 WB Ramps	TS	14.4	11.2	B	B	D
11	Haven Av. & SR-60 EB Ramps	TS	22.7	17.2	C	B	D
12	Haven Av. & Riverside Dr.	TS	**106.4**	**82.4**	**F**	**F**	E
13	Haven Av. & Chino Av.	CSS	12.7	13.1	B	B	E
14	Haven Av. & Schaefer Av.	TS	9.0	9.4	A	A	E
15	Haven Av. & Ontario Ranch Rd.	TS	32.1	45.0	C	D	E
16	Twinkle Av. & Chino Av.		Future Intersection				E
17	Mill Creek Av. & Riverside Dr.	TS	40.9	21.2	D	C	E
18	Mill Creek Av. & Chino Av.	AWS	7.1	7.2	A	A	E
19	Mill Creek Av. & Ontario Ranch Rd.		Future Intersection				E
20	Milliken Av. & SR-60 WB Ramps	TS	18.6	16.1	B	B	D
21	Milliken Av. & SR-60 EB Ramps	TS	22.4	16.5	C	B	D
22	Milliken Av. & Riverside Dr.	TS	50.7	27.1	D	C	D
23	Hamner Av. & Chino Av.	CSS	13.1	16.3	B	C	D
24	Hamner Av. & Ontario Ranch Rd.	TS	22.6	29.6	C	C	D
25	I-15 SB Ramps & Cantu Galleano Ranch Rd.	TS	26.8	24.3	C	C	D
26	I-15 NB Ramps & Cantu Galleano Ranch Rd.	TS	18.1	18.1	B	B	D
27	Wineville Av. & Cantu Galleano Ranch Rd.	TS	17.8	17.8	B	B	D

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

2 TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop

3.9 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the SR-60 Freeway at the Archibald Avenue and Haven Avenue interchanges to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the SR-60 Freeway mainline. Queuing analysis findings are presented in Table 3-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 3-2, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. Worksheets for Existing (2022) traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

TABLE 3-2: PEAK HOUR OFF-RAMP QUEUING SUMMARY FOR EXISTING (2022) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)[3]		Acceptable?[1]	
			AM Peak Hour	PM Peak Hour	AM	PM
Archibald Av. & SR-60 WB Ramps	WBL	365	308 [2]	190	Yes	Yes
	WBL/T/R	1,285	178 [2]	193	Yes	Yes
	WBR	365	131	53	Yes	Yes
Archibald Av. & SR-60 EB Ramps	EBL	325	228	101	Yes	Yes
	EBL/T/R	1,265	160	132	Yes	Yes
	EBR	325	74	123	Yes	Yes
Haven Av. & SR-60 WB Ramps	WBL	240	52	141	Yes	Yes
	WBL/T	1,370	256	140	Yes	Yes
	WBR	240	0	0	Yes	Yes
Haven Av. & SR-60 EB Ramps	EBL	1,400	302 [2]	163	Yes	Yes
	EBL/T	660	307 [2]	165	Yes	Yes
	EBR	285	42	120	Yes	Yes
Milliken Av. & SR-60 WB Ramps	WBL	215	95	83	Yes	Yes
	WBR	1,490	439 [2]	118	Yes	Yes
Milliken Av. & SR-60 EB Ramps	EBL	1,415	361 [2]	212	Yes	Yes
	EBR	1,165	120	167	Yes	Yes
I-15 NB Ramps & Cantu Galleano Ranch Rd.	SBL	1,435	244	154	Yes	Yes
	SBL/R	550	126	517	Yes	Yes
	SBR	455	89	466 [3]	Yes	Yes
Wineville Av. & Cantu Galleano Ranch Rd.	NBL	1,615	268	188	Yes	Yes
	NBL/R	585	74	61	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.
[2] 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
[3] Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-15Freeway mainline.

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. A preliminary land use plan for the proposed Project is shown previously on Exhibit 1-2. The proposed Project is to consist of 7,194 single family and multifamily residential dwelling units, 27.0 acres of public park, 2,780,000 square feet of industrial uses, and 772,500 square feet of retail/office uses. Table 4-1 provides a summary of the proposed land uses and Planning Areas. Note that portions of Planning Areas 3A and 4A have already been developed (currently existing). Planning Areas 2, 3, 4A, 5C, 6, 10, and portions of 7, 8, and 9 are anticipated to be developed as part of the first phase with an anticipated Opening Year of 2024. Project Buildout is anticipated in Year 2027. Access to the proposed Project would be provided to the surrounding roadways of Riverside Drive to the north, Haven Avenue to the west, Ontario Ranch Road to the south, and Mill Creek Avenue to the east. Chino Avenue is also an east-west roadway that runs through the Project.

Regional access to the Project site is available from the SR-60 Freeway via Archibald Avenue, Haven Avenue, and Milliken Avenue interchanges and the I-15 Freeway via Cantu Galleano Road. Exhibit 1-3 depicts the location of the proposed Project in relation to the existing roadway network and the study area intersections.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development. Trip generation rates for the proposed Project are provided in Appendix 4.1.

4.1.1 CURRENTLY APPROVED

Trip generation for the currently approved land uses are shown in Table 4-2 as evaluated in the Traffic Impact Analysis Report Rich Haven Specific Plan PA 1 & PA 7 Amendment (dated January 2021, prepared by LLG Engineers). The currently approved Specific Plan land uses include 7,194 single family detached and multifamily residential dwelling units, 27.0 acres of public park, 1,183,525 square feet of industrial uses and 990,902 square feet of retail/office uses. As shown in Table 4-2, the currently approved uses generate a total of 91,993 trip-ends per day with 6,372 AM peak hour trips and 8,772 PM peak hour trips.

TABLE 4-1: PROPOSED LAND USE SUMMARY

PA	Land Use	Quantity	Unit[1]
1A	Single Family Residential (0-5 DU/Ac)	128	DU
1B	Single Family Residential (5.1-12 DU/Ac)	94	DU
1B	Multifamily Residential (12.1-25 DU/Ac)	200	DU
1C	Single Family Residential (5.1-12 DU/Ac)	231	DU
1C	Multifamily Residential (12.1-25 DU/Ac)	800	DU
	Open Space (Edison Easement)	20.0	AC
	Public Park	27.0	AC
2B	Multifamily Residential (12.1-25 DU/Ac)	190	DU
2C	Light Industrial	560.617	TSF
	Public Park	1.3	AC
3A	Single Family Residential (5.1-12 DU/Ac)	100	DU
3A	Multifamily Residential (12.1-25 DU/Ac)	110	DU
3A	Single Family Residential (5.1-12 DU/Ac)	100	DU
3A	Multifamily Residential (12.1-25 DU/Ac)	250	DU
3B	Multifamily Residential (12.1-25 DU/Ac)	190	DU
3C	Light Industrial	512.701	TSF
4A	Regional Commercial/Stand Alone Residential Overlay	1,099	DU
4B	Regional Commercial/Stand Alone Residential Overlay	1,150	DU
		166.182	TSF
5A	Light Industrial	510.305	TSF
	Open Space	3.7	AC
5B	Regional Commercial/Stand Alone Residential Overlay	1,150	DU
		76.320	TSF
5C	Regional Commercial	7.500	TSF
5E	Open Space (Edison Easement)	8.3	AC
5F	Open Space (Edison Easement)	8.5	AC
6A	Light Industrial	1,183.525	TSF
6B	Regional Commercial	300.000	TSF
7/8/9	Regional Commercial/Mixed Use Overlay	852	DU
		325.000	TSF
10A/10B	Regional Commercial/Stand Alone Residential Overlay	550	DU
		50.000	TSF

[1] DU = Dwelling Units; TSF = Thousand Square Feet; AC = Acres

Portions of this Planning Area has been developed.

TABLE 4-2: CURRENTLY APPROVED LAND USES TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
PA 1A: Single Family Detached Residential	115	DU	21	64	85	72	42	114	1,086
PA 1B: Single Family Detached Residential	175	DU	32	98	130	109	64	173	1,652
PA 1C: Single Family Detached Residential	231	DU	31	95	126	106	62	168	1,605
PA 1C: Multifamily (Low-Rise) Residential	500	DU	59	199	258	198	116	314	4,107
Public Park	27.0	AC	1	0	1	2	1	3	21
PA 2C: Single Family Detached Residential	154	DU	28	86	114	96	56	152	1,454
PA 2B: Single Family Detached Residential	101	DU	19	56	75	63	37	100	953
PA 2B: Single Family Detached Residential	108	DU	20	60	80	67	40	107	1,020
PA 3A: Single Family Detached Residential	109	DU	20	61	81	68	40	108	1,029
PA 5C: Single Family Detached Residential	65	DU	12	36	48	41	23	64	614
PA 5C: Multifamily (Low-Rise) Residential	100	DU	11	35	46	35	21	56	732
PA 3A: Single Family Detached Residential	332	DU	61	185	246	207	122	329	3,134
PA 3B: Single Family Detached Residential	81	DU	15	45	60	51	29	80	765
PA 3B: Multifamily (Low-Rise) Residential	280	DU	30	99	129	99	58	157	2,050
PA 4A: Single Family Detached Residential	1,089	DU	201	605	806	679	399	1,078	10,280
PA 4A: General Office	41.546	TSF	41	7	48	8	40	48	405
PA 4A: Shopping Center	41.545	TSF	24	15	39	76	82	158	1,568
PA 5A: Single Family Detached Residential	703	DU	130	390	520	438	258	696	6,636
PA 5A: General Office	19.080	TSF	19	3	22	4	18	22	186
PA 5A: Shopping Center	19.080	TSF	11	7	18	35	38	73	720
PA 6A: High-Cube Transload	591.763	TSF	53	11	64	27	47	74	1,092
PA 6A: High-Cube Fulfillment Center	295.881	TSF	270	66	336	163	258	421	2,516
PA 6A: High-Cube Cold Storage	295.881	TSF	29	9	38	13	32	45	827
PA 6B: Shopping Center	225.000	TSF	55	33	88	171	186	357	3,539
PA 6B: High Turnover Restaurant	45.000	TSF	102	84	186	113	70	183	2,103
PA 6B: Fast-Food Restaurant w/ Drive-Through	30.000	TSF	256	246	502	212	196	408	5,887
PA 7, 8, 9: Single Family Detached Residential	852	DU	158	472	630	531	312	843	8,043
PA 7, 8, 9: General Office	162.500	TSF	162	27	189	30	157	187	1,583
PA 7, 8, 9: Shopping Center	162.500	TSF	95	58	153	297	322	619	6,134
PA 10A, 10B: Multifamily (Low-Rise) Residential	407	DU	43	144	187	144	84	228	2,979
PA 10A, 10B: General Office	61.700	TSF	62	10	72	11	60	71	601
PA 10A, 10B: Shopping Center	61.700	TSF	36	22	58	113	122	235	2,329
PA 4B: Single Family Detached Residential	1,089	DU	201	605	806	679	399	1,078	10,280
PA 4B: General Office	41.546	TSF	41	7	48	8	40	48	405
PA 4B: Shopping Center	41.545	TSF	24	15	39	76	82	158	1,568
PA 5B: Single Family Detached Residential	703	DU	130	390	520	438	258	696	6,636
PA 5B: General Office	19.080	TSF	19	3	22	4	18	22	186
PA 5B: Shopping Center	19.080	TSF	11	7	18	35	38	73	720
Internal Capture			-72	-137	-209	-182	-135	-317	-3,061
Pass-by Reduction			-159	-148	-307	-334	-323	-657	-2,391
Total Trips			**2,302**	**4,070**	**6,372**	**5,003**	**3,769**	**8,772**	**91,993**

Source: Traffic Impact Analysis Report Rich Haven Specific Plan PA 1 & PA 7 Amendment, LLG Engineers, January 2021.

[1] DU = dwelling units; TSF = thousand square feet; AC = acres

4.1.2 PROPOSED PROJECT

The proposed Project is to consist of 7,194 single family and multifamily residential dwelling units, 27.0 acres of public park, 2,780,000 square feet of industrial uses, and 772,500 square feet of retail/office uses. The trip generation rates used the proposed Project are based upon information collected by the ITE as provided in their latest Trip Generation Manual, 11th Edition, 2021. The proposed Project trip generation summary is shown in Table 4-3. Detailed trip generation calculations are provided in Appendix 4.1. The proposed Project is anticipated to generate a total of 95,538 two-way trips per day with 8,078 AM peak hour trips and 8,036 PM peak hour trips, in actual vehicles. Pass-by is based on the ITE's latest Trip Generation Manual. For the purposes of the operations analysis, the PCE trip generation has been utilized, consistent with the City of Ontario traffic study guidelines.

TABLE 4-3: PROPOSED PROJECT TRIP GENERATION SUMMARY

	AM Peak Hour			PM Peak Hour			
Land Use	In	Out	Total	In	Out	Total	Daily
Actual Vehicles:							
Phase 1 Total Trips	1,634	2,101	3,735	2,199	1,832	4,031	47,226
Phase 2 Total Trips	2,005	2,338	4,343	2,281	1,724	4,005	48,312
Project Buildout Total Trips (Actual Vehicles)	**3,639**	**4,439**	**8,078**	**4,480**	**3,556**	**8,036**	**95,538**
Passenger Car Equivalent (PCE):							
Phase 1 Total Trips	1,694	2,140	3,834	2,231	1,893	4,124	48,922
Phase 2 Total Trips	2,005	2,338	4,343	2,281	1,724	4,005	48,312
Project Buildout Total Trips (PCE)	**3,699**	**4,478**	**8,177**	**4,512**	**3,617**	**8,129**	**97,234**

[1] DU = dwelling units; TSF = thousand square feet; AC = acres

4.1.3 TRIP GENERATION COMPARISON

As shown in Table 4-4, the proposed Project is anticipated to generate an additional 7,411 trip-ends per day with 1,969 additional AM peak hour trips and 392 fewer PM peak hour trips as compared to the uses evaluated in the currently approved Specific Plan. Since the currently approved TOP 2050 traffic forecasts include the currently approved Rich Haven Specific Plan, the trip generation comparison shown in Table 4-4 has been utilized for Horizon Year (2050) traffic conditions only.

TABLE 4-4: TRIP GENERATION COMPARISON SUMMARY

	AM Peak Hour			PM Peak Hour			
Land Use	In	Out	Total	In	Out	Total	Daily
2021 SPA Trip Generation	2,302	4,070	6,372	5,003	3,769	8,772	91,993
Proposed Project Trip Generation	3,639	4,439	8,078	4,480	3,556	8,036	95,538
Existing Uses	67	196	263	217	127	344	3,866
Variance	**1,404**	**565**	**1,969**	**-306**	**-86**	**-392**	**7,411**

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. Since the distribution patterns is influence by the type of land use, separate distribution patterns have been evaluated for the residential, non-residential, and industrial (passenger cars and trucks) uses. The Project trip distribution patterns are shown on the following Exhibits:

- Exhibit 4-1: Project (Residential) Trip Distribution
- Exhibit 4-2: Project (Non-Residential) Trip Distribution
- Exhibit 4-3: Project (2C, 3C & 5A Industrial – Passenger Cars) Trip Distribution
- Exhibit 4-4: Project (2C, 3C & 5A Industrial – Trucks) Trip Distribution
- Exhibit 4-5: Project (6A Industrial – Passenger Cars) Trip Distribution
- Exhibit 4-6: Project (6A Industrial – Trucks) Trip Distribution

4.3 MODAL SPLIT

The potential for Project trips to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project (Phase 1) and Project (Project Buildout) weekday ADT and weekday peak hour intersection turning movement volumes, in actual vehicles, are shown on Exhibits 4-7 and 4-8, respectively. The Project Only traffic volumes, in actual vehicles, for the variance in trip generation from the proposed Project to the currently approved Specific Plan utilized for Horizon Year (2050) conditions is shown in Exhibit 4-9.

EXHIBIT 4-1: PROJECT (RESIDENTIAL) TRIP DISTRIBUTION



EXHIBIT 4-2: PROJECT (NON-RESIDENTIAL) TRIP DISTRIBUTION



EXHIBIT 4-3: PROJECT (2C, 3C & 5A INDUSTRIAL – PASSENGER CARS) TRIP DISTRIBUTION



EXHIBIT 4-4: PROJECT (2C, 3C & 5A INDUSTRIAL – TRUCKS) TRIP DISTRIBUTION



EXHIBIT 4-5: PROJECT (6A INDUSTRIAL – PASSENGER CARS) TRIP DISTRIBUTION



EXHIBIT 4-6: PROJECT (6A INDUSTRIAL – TRUCKS) TRIP DISTRIBUTION



EXHIBIT 4-7: PROJECT ONLY (PHASE 1) TRAFFIC VOLUMES (PAGE 1 OF 2)



EXHIBIT 4-7: PROJECT ONLY (PHASE 1) TRAFFIC VOLUMES (PAGE 2 OF 2)



EXHIBIT 4-8: PROJECT ONLY (PROJECT BUILDOUT) TRAFFIC VOLUMES (PAGE 1 OF 2)

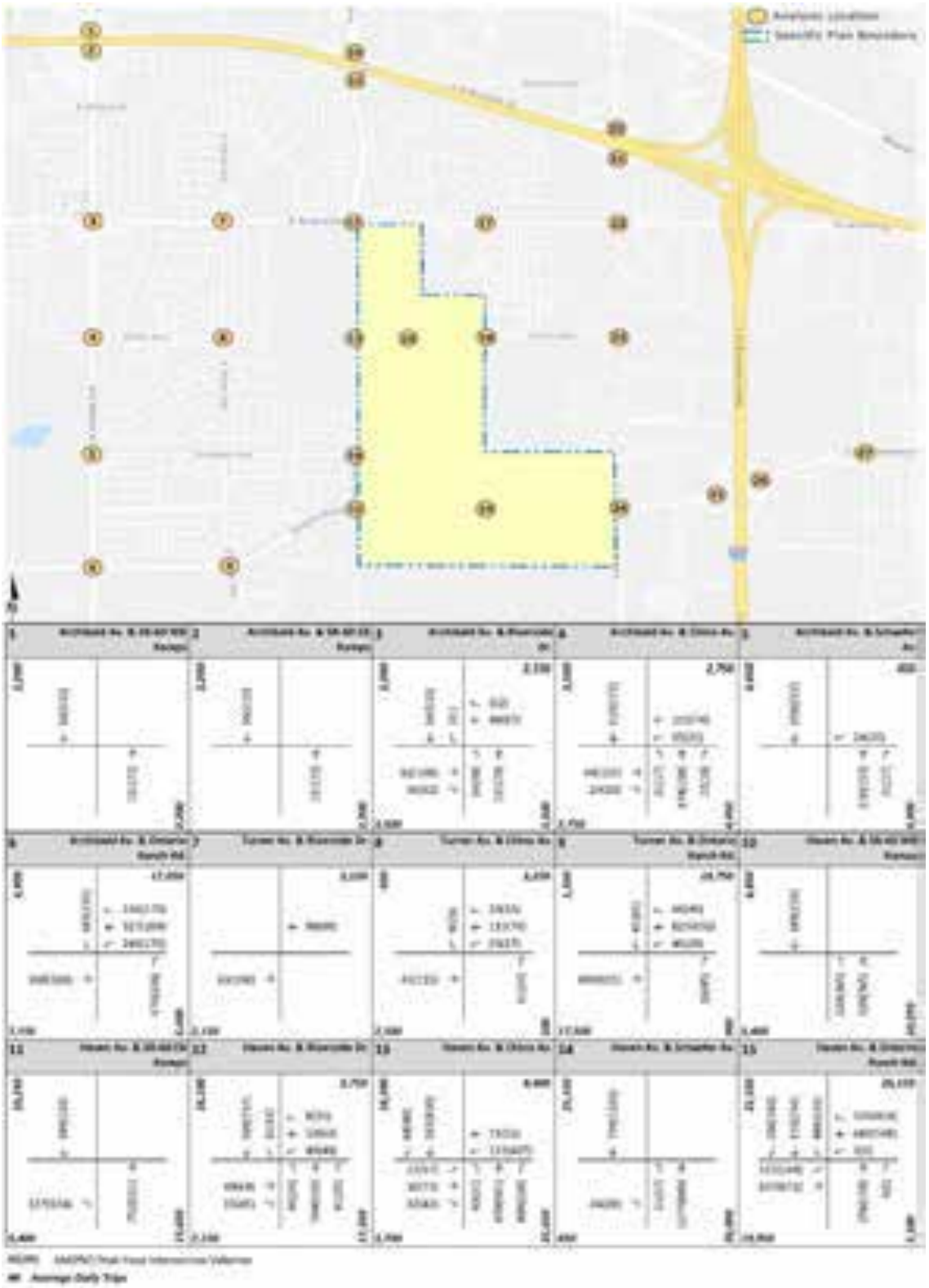


EXHIBIT 4-8: PROJECT ONLY (PROJECT BUILDOUT) TRAFFIC VOLUMES (PAGE 2 OF 2)

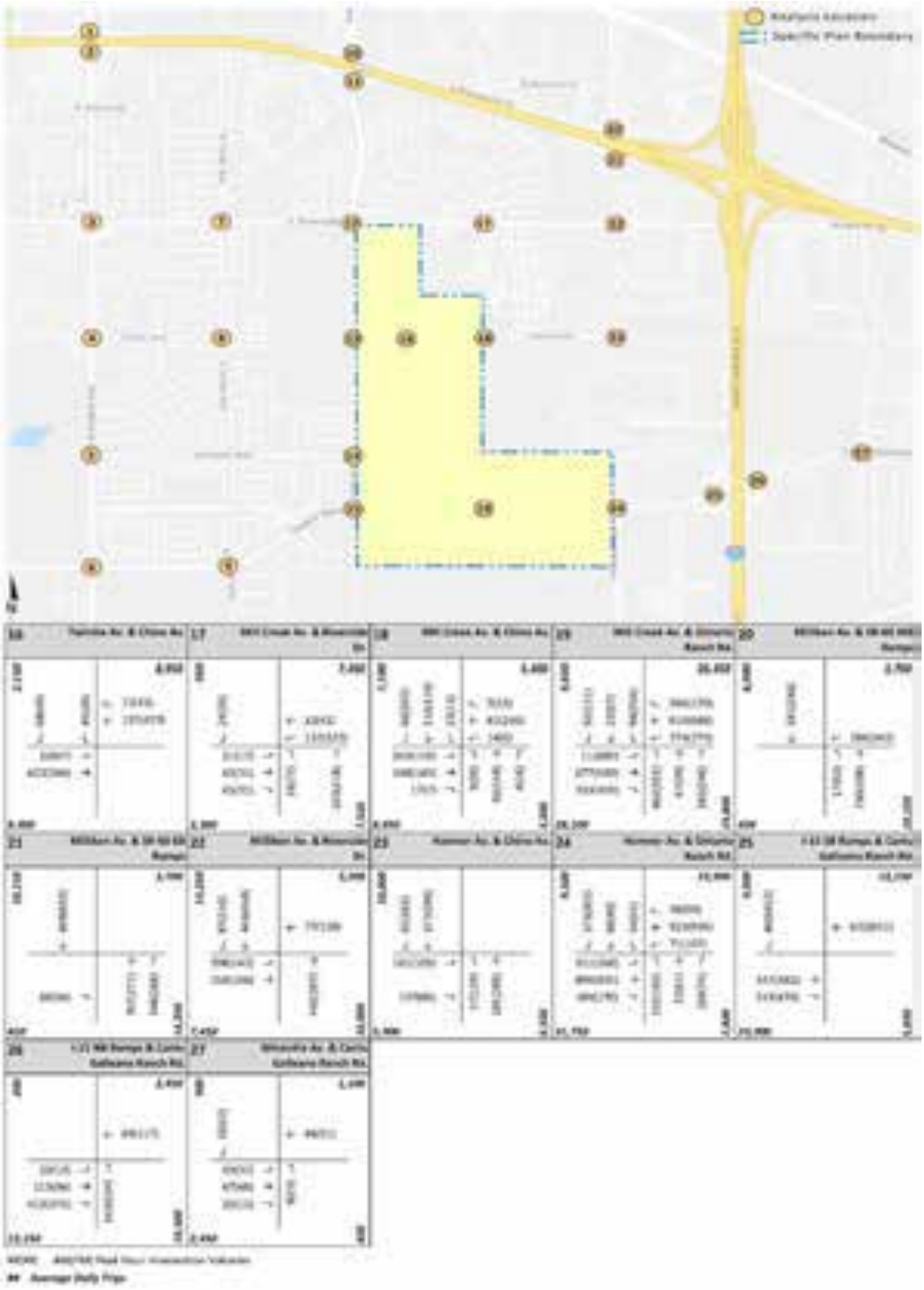


EXHIBIT 4-9: PROJECT ONLY (VARIANCE) TRAFFIC VOLUMES (PAGE 1 OF 2)

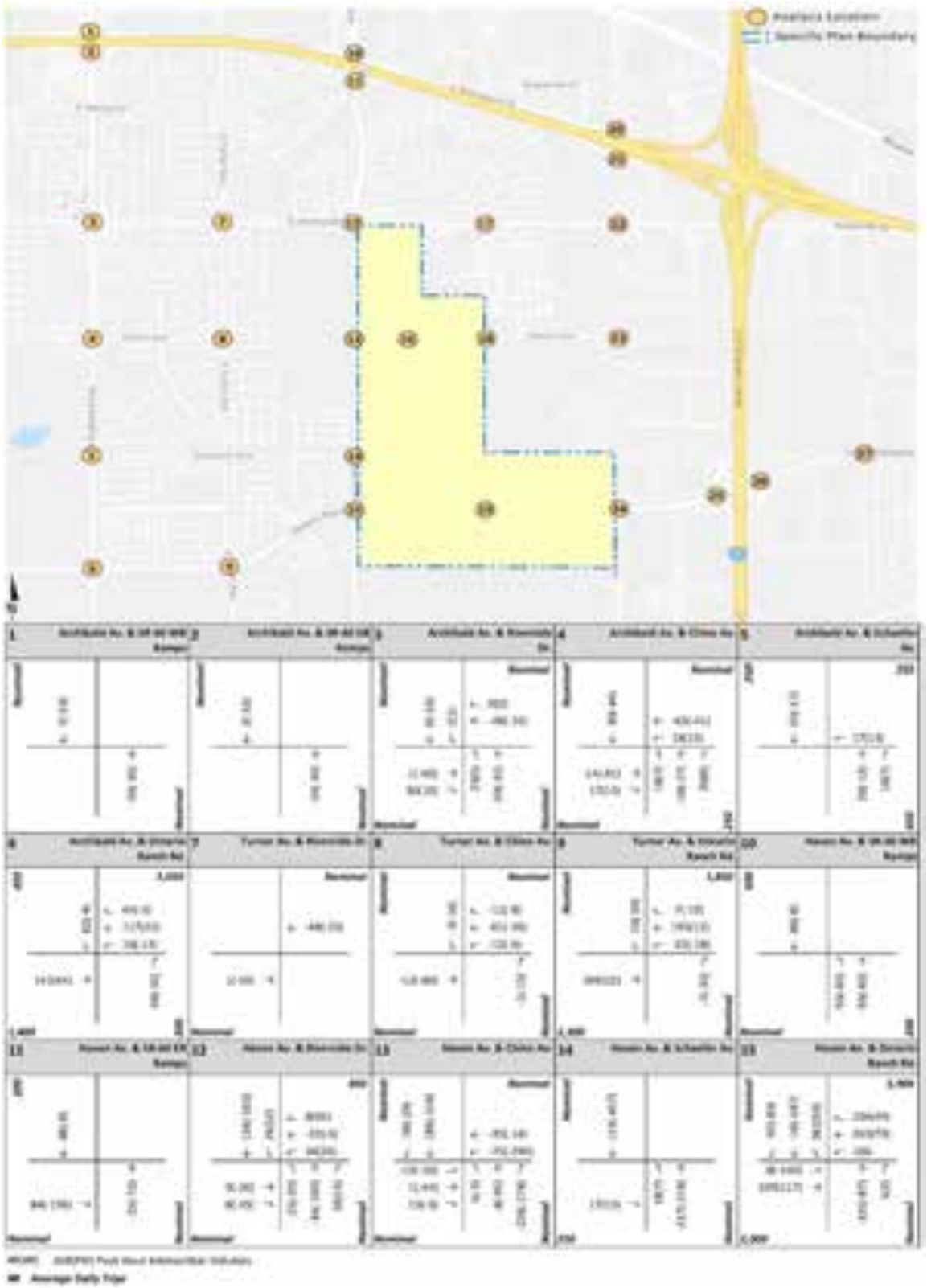
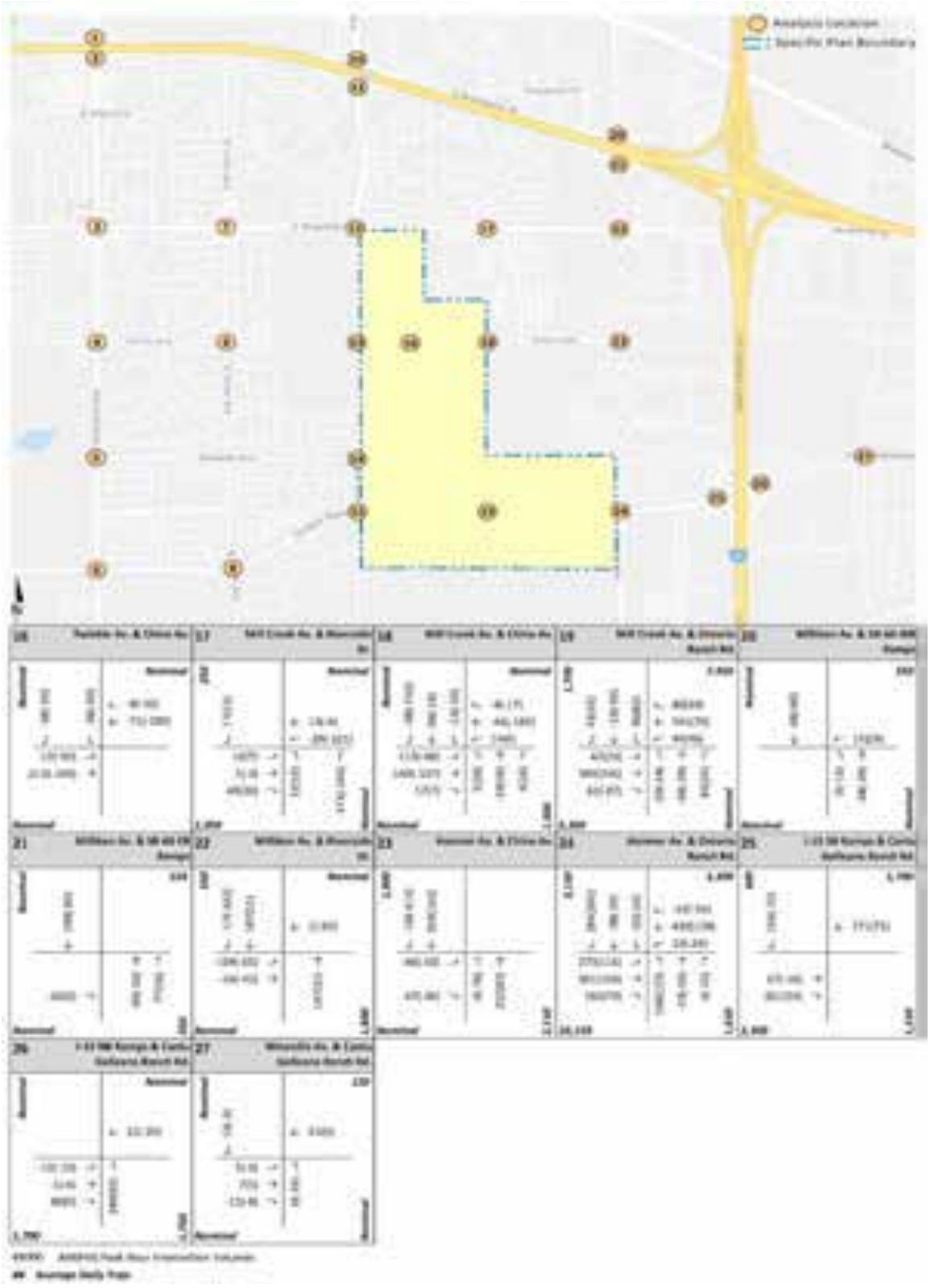


EXHIBIT 4-9: PROJECT ONLY (VARIANCE) TRAFFIC VOLUMES (PAGE 2 OF 2)



4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year, compounded annually, for 2027 traffic conditions. The total ambient growth is 14.9% for 2027 traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in conjunction with traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. 2027 traffic volumes are provided in Section 6 of this report. The traffic generated by the proposed Project was then manually added to the base volume to determine With Project forecasts.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Ontario. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections. Exhibit 4-10 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown in Table 4-5. If applicable, the traffic generated by individual cumulative projects was manually added to the Without Project forecasts to ensure that traffic generated by the listed cumulative development projects in Table 4-5 are reflected as part of the background traffic. In an effort to conduct a conservative analysis, the cumulative projects are added in conjunction with the ambient growth identified in Section 4.5 *Background Traffic*. The Cumulative Only ADT and peak hour intersection turning movement volumes, in actual vehicles, are shown on Exhibit 4-11.

EXHIBIT 4-10: CUMULATIVE DEVELOPMENT LOCATON MAP

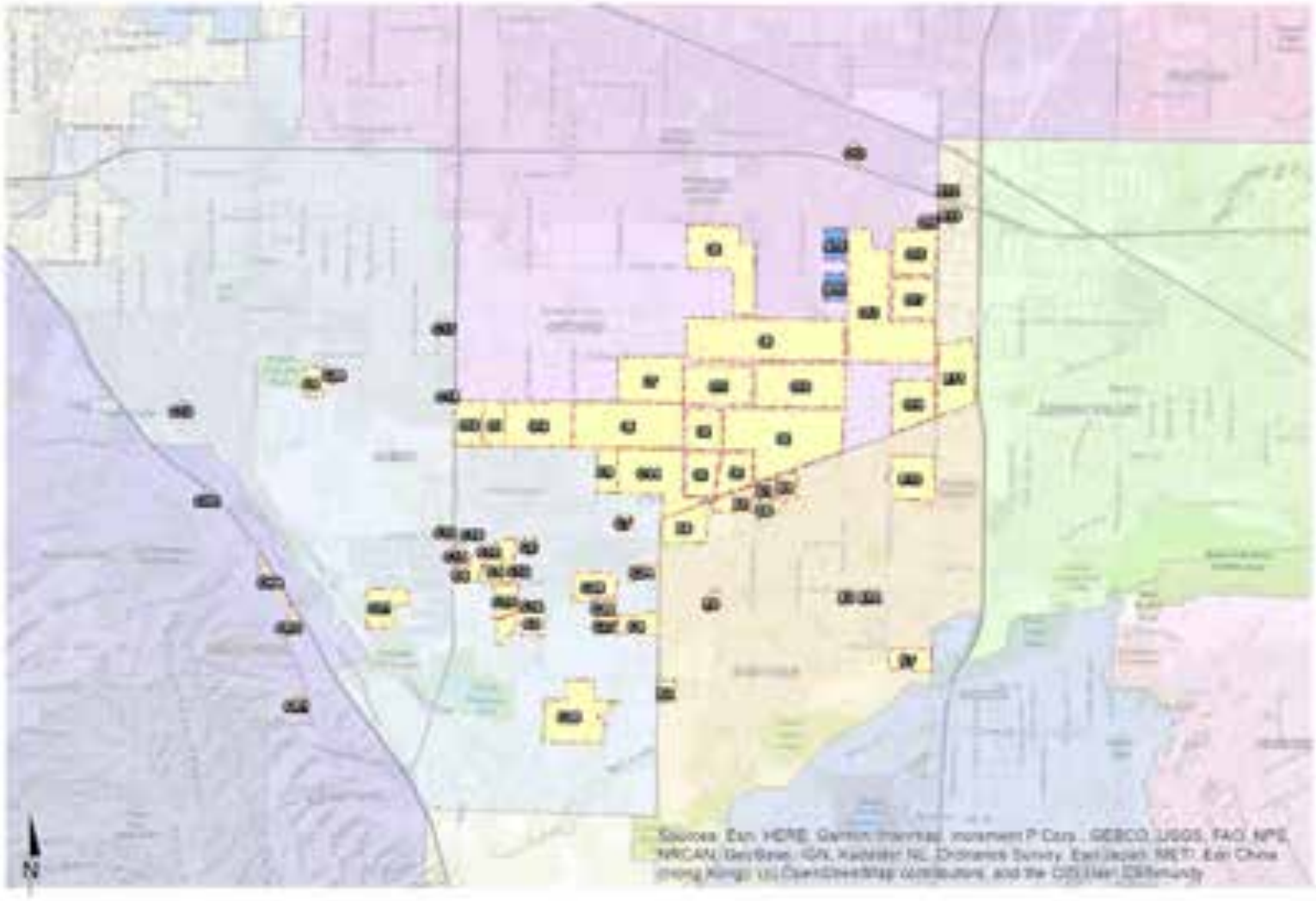


EXHIBIT 4-11: CUMULATIVE ONLY TRAFFIC VOLUMES (PAGE 1 OF 2)



EXHIBIT 4-11: CUMULATIVE ONLY TRAFFIC VOLUMES (PAGE 2 OF 2)

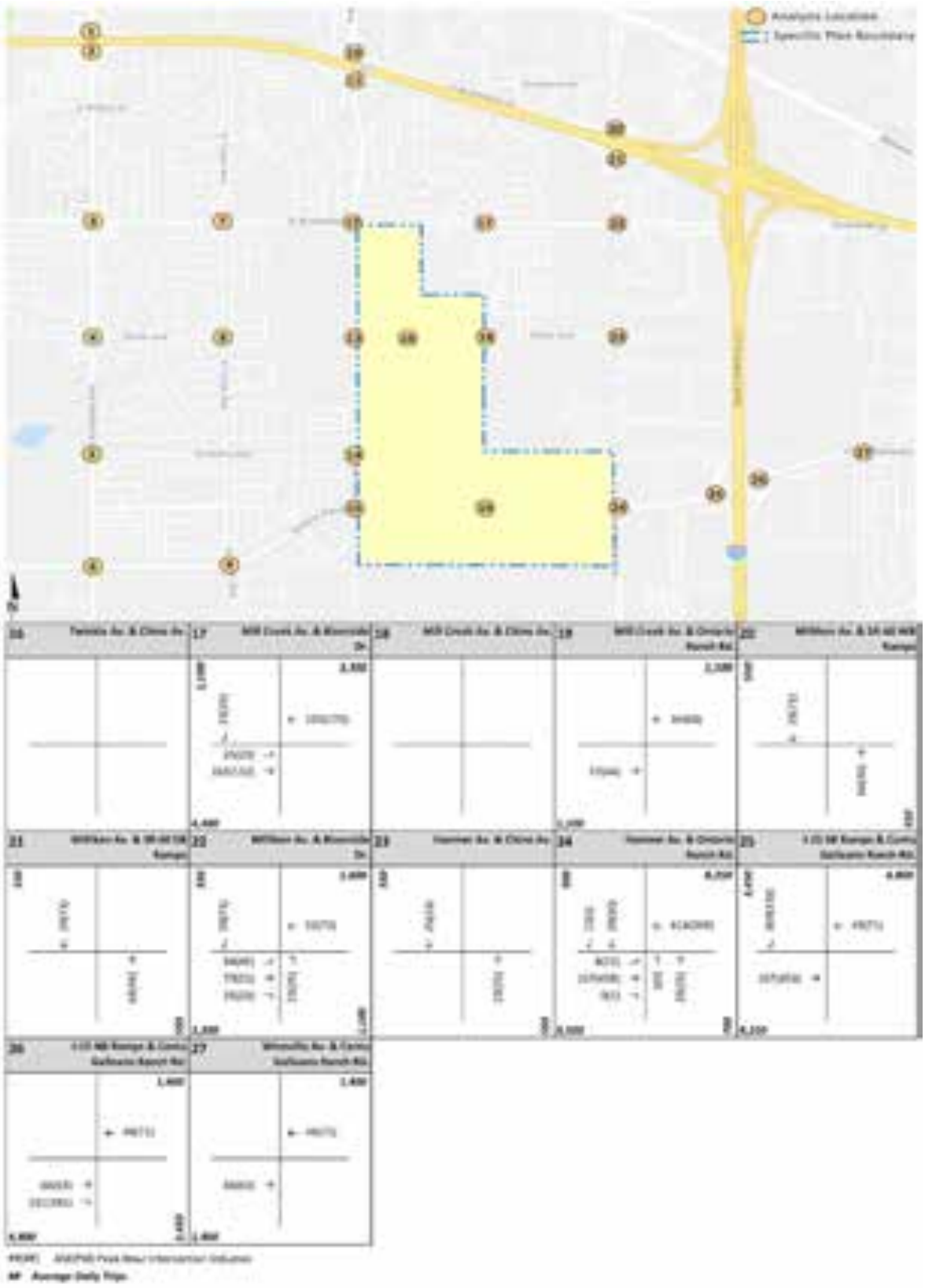


TABLE 4-5: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

#	Project/Location	Land Use	Quantity	Units[1]
City of Ontario				
O1	Ontario Ranch Business Park	Business Park	227.951	TSF
		High-Cube Fulfillment Center Warehouse	913.053	TSF
		High-Cube Cold Storage Warehouse	179.135	TSF
		Warehouse	320.551	TSF
O2	Subarea 29 & Amendment (75% complete)	Single Family Detached	716	DU
		Shopping Center	87.000	TSF
O3	Ontario Ranch Commerce Center	High-Cube Fulfillment Warehouse	1,447.123	TSF
		Business Park	457.904	TSF
O4	South Ontario Logistics Center	Business Park	1,075.235	TSF
		High-Cube Fulfillment Warehouse	2,819.282	TSF
		High-Cube Cold Storage Warehouse	563.857	TSF
		Warehousing	954.218	TSF
O5	Parkside Specific Plan	Single Family Detached	804	DU
		Multifamily Housing (Low-Rise)	2,046	DU
		Park	58.860	AC
O6	Merrill Commerce Center	High-Cube Fulfillment Warehouse	7014.000	TSF
		Business Park	1441.000	TSF
O7	Parente Home Ranch SP	Single Family Detached	270	DU
		Condo/Townhouse	1,872	DU
		General Office	462.281	TSF
		Shopping Center	194.278	TSF
O8	Countryside	Single Family Detached	819	DU
	Armstrong Ranch	Single Family Detached	994	DU
O9	The Avenue (50% Complete)	Single Family Detached	2,020	DU
		Multi-Family Attached (Apartments)	586	DU
		Shopping Center	250.000	TSF
O10	Grand Park (80% Complete)	Single Family Detached	484	DU
		Multi-Family Attached (Apartments)	843	DU
O11	West Haven	Single Family Detached	149	DU
		Multifamily Housing	654	DU
		Elementary School	650	STU
		Shopping Center	87.000	TSF
O12	Haven Gateway	General Light Industrial	42.160	TSF
		High-Cube Warehouse	168.640	TSF
O13	PDEV10-008 - Dry Food Storage	Mini-Warehouse	17.000	TSF
O14	Esperanza (50% Complete)	Single Family Detached	914	DU
		Multi-Family Attached (Apartments)	496	DU
O15	Edenglen (50% Complete)	Single Family Detached	310	DU
		Multi-Family Attached (Condo)	274	DU
		Shopping Center	217.520	TSF
		Business Park	550.000	TSF
O17	Tuscana Village	Single Family Detached	176	DU
		Shopping Center	26.000	TSF

City of Chino		Shopping Center	15	TSF
		Multifamily Housing (Low-Rise)	698	DU
		Multifamily Housing (Mid-Rise)	440	DU
C1	Falloncrest at the Preserve	Public Parks	21.60	AC
		General Office	77.597	TSF
		Shopping Center	77.597	TSF
		Multifamily Housing	549	DU
		Office	16.300	TSF
		Shopping Center	36.800	TSF
C2	The Preserve Town Center (Blocks 6 and 7)	Pharmacy with Drive-Thru	12.900	TSF
		Supermarket	45.000	TSF
		Fast-Food Restaurant with Drive-Thru	6.500	TSF
		Fast Casual Restaurant	13.750	TSF
		Quality Restaurant	13.750	TSF
		Single Family Detached	552	DU
C3	Pines Community	Public Park	3.0	AC
		Self Storage & RV Storage	120.000	TSF
		Sports Park	41.8	AC
C4	Ag. Buffer, Bungalow, Lic. Product, Liberty Deluxe, Lyon 2 & 3	Single Family Detached	474	DU
C5	Farmer Boys	Fast-food w/ Drive-Thru	3.218	TSF
		Shopping Center	2.300	TSF
C6	Euclid & Bickmore Warehouse	Warehousing	205.820	TSF
		General Light Industrial	51.030	TSF
		Business Park	110.620	TSF
C7	Kimball Business Park	Gas Station w/ Market	16	VFP
		Fast-Food with Drive-Thru	2.500	TSF
C8	Chaffey College Expansion	Junior/Community College	93.50	AC
	College Park Commercial	Shopping Center	7.50	AC
C9	The Campus at College Park	Church	27.000	TSF
		General Office	16.969	TSF
		Shopping Center	17.785	TSF
		High-Turnover (Sit Down) Restaurant	15.876	TSF
C10	Altitude Business Centre	Warehousing	715.000	TSF
		Light Industrial	255.000	TSF
		Business Park	233.000	TSF
		Self-Storage	110.000	TSF
C11	Majestic Gateway	Specialty Retail	25.000	TSF
		Pharmacy/Drugstore with Drive-Thru	13.000	TSF
		Fast-Food with Drive-Thru	8.600	TSF
C12	The Preserve Civic Center	Elementary School	1,200	STU
		Library	10.00	AC
		Community Center	10.00	AC
		Park	8.00	AC
C13	Fairfield Inn & Suites (PL 17-0060 & PL 17-0061)	Hotel	111	RM
C14	Watson Industrial Park (90% complete)	High-Cube Warehouse	388.990	TSF

C15	Majestic Chino Heritage	High-Cube Fulfillment Warehouse	1982.700	TSF
		High-Cube Cold Storage Warehouse	100.000	TSF
C16	Church	Church	47.979	TSF
		Daycare	190	STU
C17	Appesetche Residential	Single Family Detached	60	DU
		Condo/Townhouse	160	DU
C18	Archibald's (PL 17-0037)	Fast-Food with Drive-Thru	3.147	TSF
C19	Rancho Miramonte	Single Family Detached	691	DU
		Condo/Townhouse	132	DU
		Neighborhood Retail	21.780	TSF
		Church	400	SEAT
C20	Eagle's Nest (storage for 33 aircraft)	Aviation Storage	8.3	AC
C21	Lewis Block 3	Single Family Detached	114	DU
C22	Lewis Block 11	Single Family Detached	220	DU
		Multifamily (Low-Rise) Residential	85	DU
		Recreational Community Center	16.000	TSF
C23	Chino Flight	High-Cube Cold Storage Warehouse	138.804	TSF
		High-Cube Fulfillment Center Warehouse	786.558	TSF
City of Eastvale				
E1	Magnolia Ranch	Single Family Detached	39	DU
		Multifamily Housing	90	DU
E2	TR29997	Single Family Detached	122	DU
E3	Sumner Place	Multifamily Housing	216	DU
		Shopping Center	2.500	TSF
		Fast-Food Without Drive-Thru	2.500	TSF
E4	Eastvale Commerce Center (75% complete)	Shopping Center	162.500	TSF
E5	PP23219 (PM35865) (50% complete)	General Light Industrial	738.430	TSF
E6	Eastvale Shopping Center	Free-Standing Discount Superstore	192.000	TSF
		Specialty Retail	9.200	TSF
		Fast-Food Without Drive-Thru	7.200	TSF
		Coffee/Donut Shop w/ Drive Thru	2.000	TSF
		Fast-Food with Drive-Thru	3.500	TSF
		Gas Station w/ convenience store and car wash	16	VFP
E8	SP00358 - The Ranch at Eastvale (75% complete)	Shopping Center	267.200	TSF
		General Light Industrial	801.500	TSF
		Business Park	280.275	TSF
E9	15-1508 - Industrial Warehouse	Warehousing	155.000	TSF
E10	Leal Master Plan	Lifestyle Center (Commercial)	1,300.000	TSF
		General Commercial	225.000	TSF
		Office	920.000	TSF
		Hotel	450	RM
		High Density Residential	500-660	DU
City of Chino Hills				
CH1	Country Club Villas	Condo/Townhouse	46	DU
CH2	Heritage Professional Center	Hospital	55.000	TSF
		Medical Office Building	86.952	TSF
		Hotel	120	RM
		Shopping Center	38.848	TSF
		Restaurant	7.200	TSF

[1] TSF = Thousand Square Feet; DU = Dwelling Unit; VFP = Vehicle Fueling Position ; AC = Acres; RM = Rooms

4.7 NEAR-TERM TRAFFIC CONDITIONS

The "buildup" approach combines existing traffic counts with a background ambient growth factor to forecast Opening Year Cumulative (2027) traffic conditions. An ambient growth factor accounts for background (area-wide) traffic increases that occur over time up to the year 2027 from the year 2022. Traffic volumes generated by the Project are then added to assess the near-term traffic conditions. The 2027 roadway networks are similar to the Existing conditions roadway network, with the exception of future driveways proposed to be developed by the Project.

The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- Opening Year Cumulative (2027) Without Project
  - Existing 2022 counts
  - Ambient growth traffic (14.9%)
  - Cumulative Development Traffic

  - Opening Year Cumulative (2027) With Project
  - Existing 2022 counts
  - Ambient growth traffic (14.9%)
  - Cumulative Development Traffic
  - Project (Project Buildout) traffic

4.8 HORIZON YEAR (2050) VOLUME DEVELOPMENT

Traffic projections for Horizon Year (2050) without Project conditions were derived from the SBTAM using accepted procedures for model forecast refinement and smoothing for study area intersections located within the County of San Bernardino and are based on the City on Ontario TOP 2050 currently approved General Plan forecasts. The traffic forecasts reflect the area-wide growth anticipated between Existing (2022) conditions and Horizon Year (2050) traffic conditions. In most instances the traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. Therefore, the Horizon Year (2050) peak hour forecasts were refined using the model derived long range forecasts, base (validation) year model forecasts, along with existing peak hour traffic count data collected at each analysis location in May 2022. The SBTAM has a base (validation) year of 2016 and a horizon (future forecast) year of 2050. The difference in model volumes (2050-2016) defines the growth in traffic over the 32-year period.

The refined future peak hour approach and departure volumes obtained from the model output data are then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program (NCHRP Report 765), along with initial estimates of turning movement proportions. A linear programming algorithm is used to calculate individual turning movements which match the known directional roadway segment forecast volumes computed in the previous step. This program computes a likely set of intersection turning movements from intersection approach counts and the initial turning proportions from each approach leg.

The SBTAM uses an AM peak period-to-peak hour factor of 0.35 and a PM peak period-to-peak hour factor of 0.27. These factors represent the relationship of the highest single AM peak hour to the modeled 3-hour AM peak period (an even distribution would result in a factor of 0.33) and the highest single PM peak hour to the modeled 4-hour PM peak period (an even distribution would result in a factor of 0.25).

5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for E+P conditions and the resulting intersection operations, traffic signal warrant, and off-ramp queuing analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for E+P conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

5.2 E+P (PHASE 1) GROWTH TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus the addition of Project (Phase 1) traffic. The weekday ADT and weekday AM and PM peak hour volumes, in actual vehicles, which can be expected for E+P traffic conditions are shown on Exhibit 5-1.

5.2 E+P (PROJECT BUILDOUT) GROWTH TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus the addition of Project (Project Buildout) traffic. The weekday ADT and weekday AM and PM peak hour volumes, in actual vehicles, which can be expected for E+P traffic conditions are shown on Exhibit 5-2.

5.3 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1 for E+P traffic conditions, which indicates that the following additional study area intersections are anticipated to operate at an unacceptable LOS during the peak hours under E+P (Phase 1) traffic conditions, in addition to the intersections identified under Existing (2022) traffic conditions:

- Haven Avenue & Chino Avenue (#13) – LOS F PM peak hour only
- Haven Avenue & Ontario Ranch Road (#15) – LOS F PM peak hour only
- Milliken Avenue & Riverside Drive (#22) – LOS E AM peak hour only
- Hamner Avenue & Chino Avenue (#23) – LOS F PM peak hour only
- Hamner Avenue & Ontario Ranch Road (#24) – LOS E PM peak hour only

The following additional study area intersection is anticipated to operate at an unacceptable LOS during the peak hours under E+P (Project Buildout) traffic conditions, in addition to the intersections identified under Existing (2022) traffic conditions:

- Archibald Avenue & Ontario Ranch Road (#6) – LOS F AM and PM peak hours

EXHIBIT 5-1: E+P (PHASE 1) TRAFFIC VOLUMES (PAGE 1 OF 2)

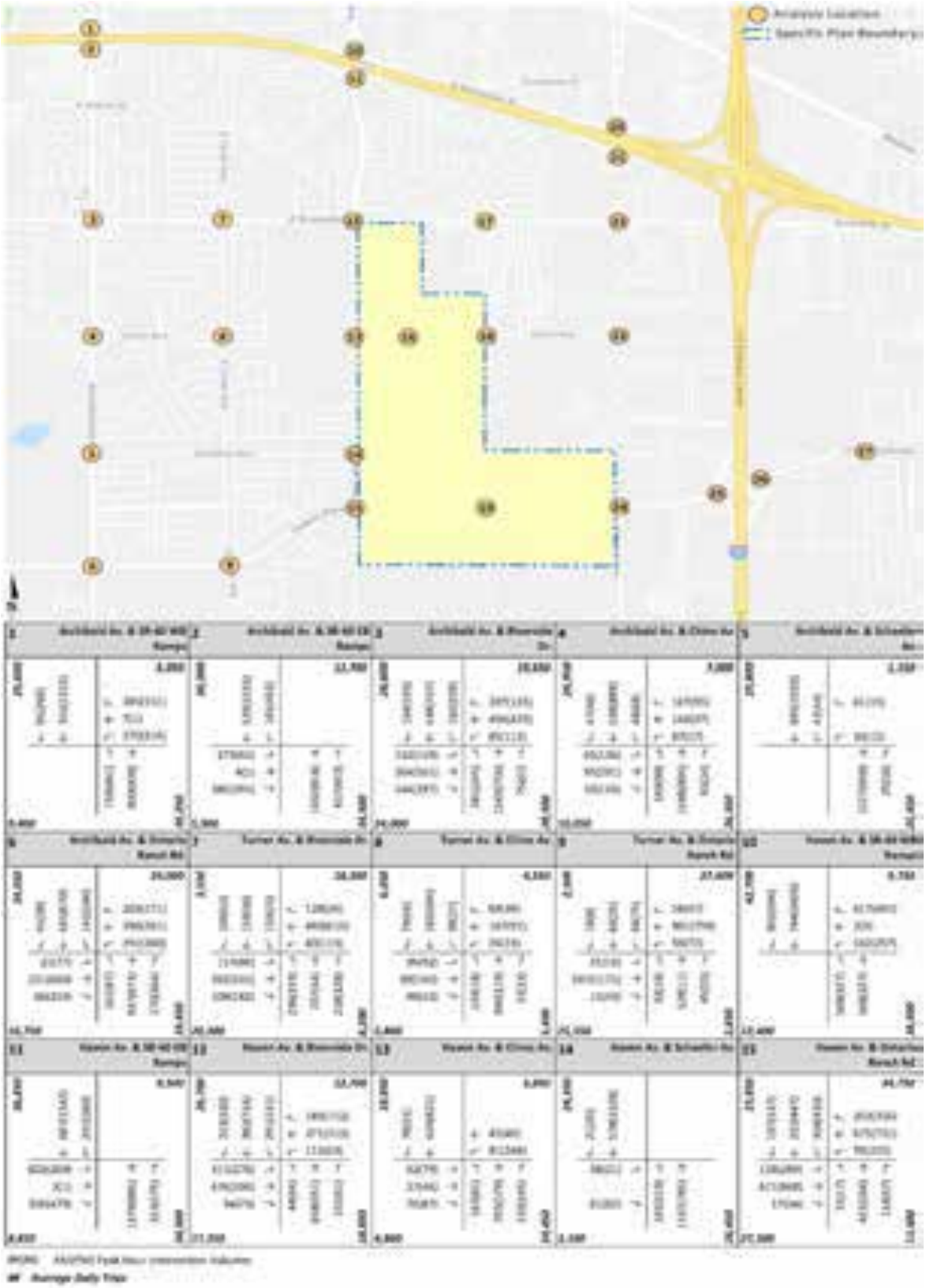


EXHIBIT 5-1: E+P (PHASE 1) TRAFFIC VOLUMES (PAGE 2 OF 2)

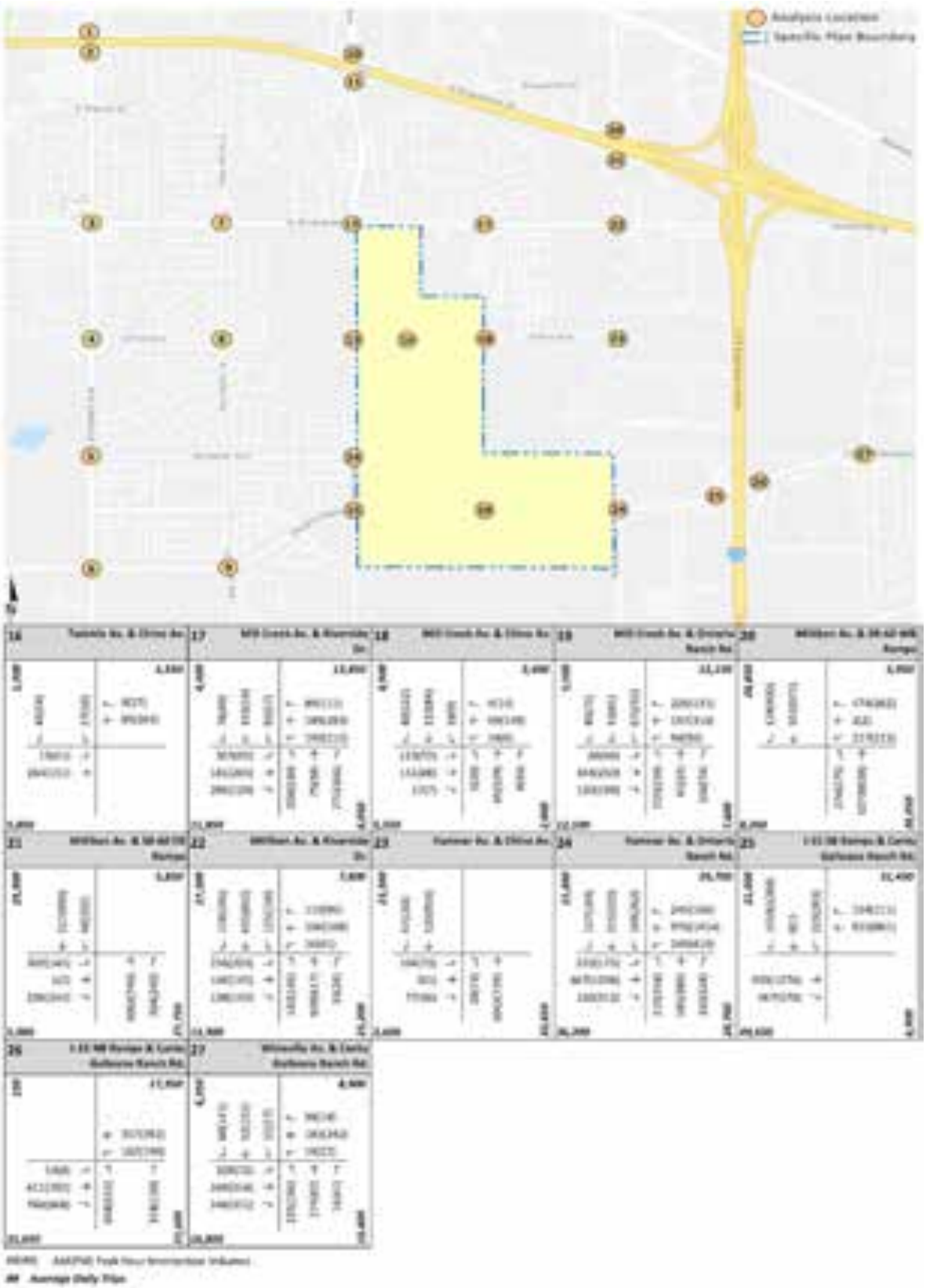


EXHIBIT 5-2: E+P (BUILDOUT) TRAFFIC VOLUMES (PAGE 1 OF 2)

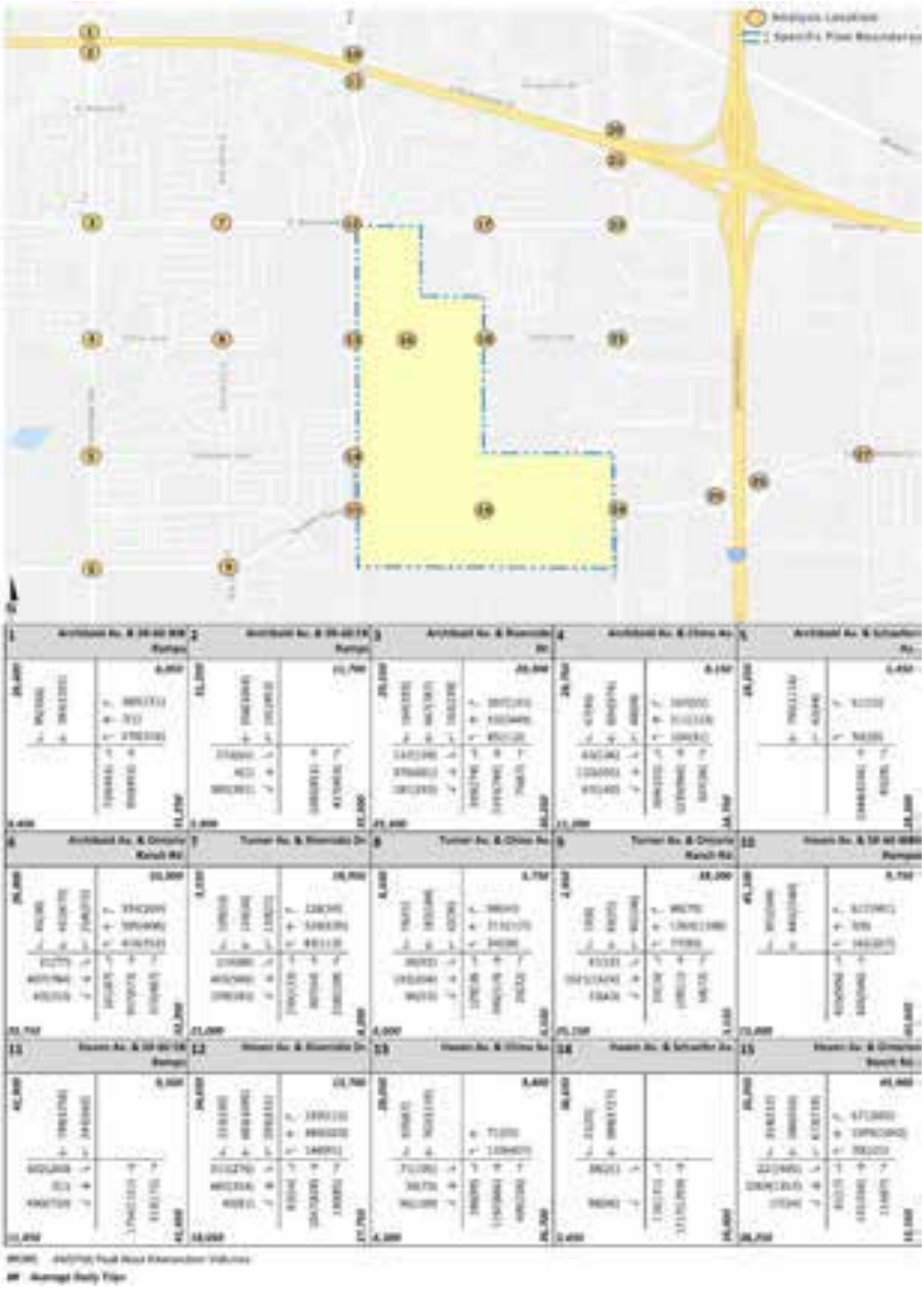


EXHIBIT 5-2: E+P (BUILDOUT) TRAFFIC VOLUMES (PAGE 2 OF 2)

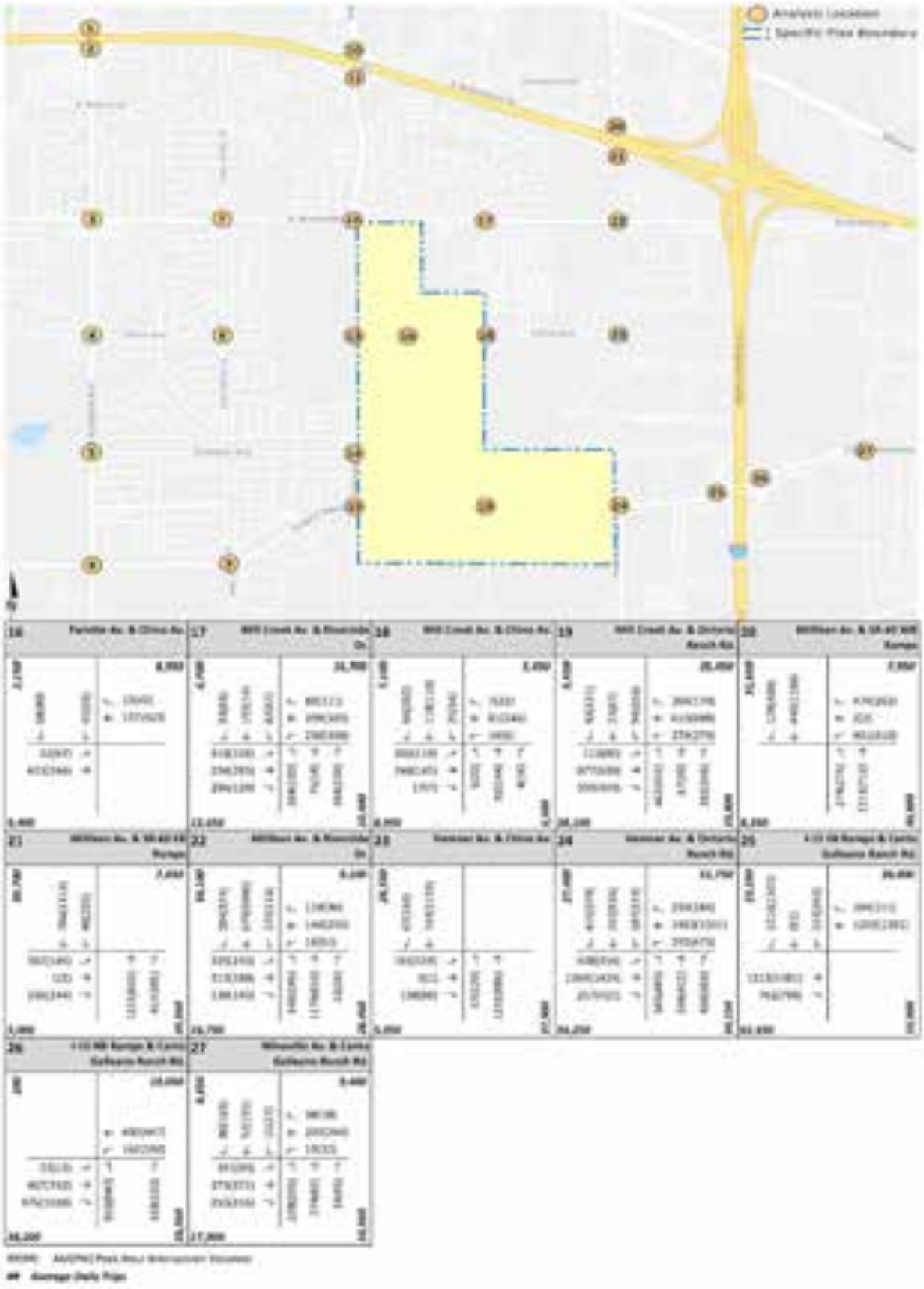


TABLE 5-1: INTERSECTION ANALYSIS FOR E+P CONDITIONS

#	Intersection	Traffic Control[2]	Existing (2022) Delay[1] (secs.) AM	Existing (2022) Delay[1] (secs.) PM	Existing (2022) Level of Service AM	Existing (2022) Level of Service PM	E+P (Phase 1) Delay[1] (secs.) AM	E+P (Phase 1) Delay[1] (secs.) PM	E+P (Phase 1) Level of Service AM	E+P (Phase 1) Level of Service PM	E+P (Project Buildout) Delay[1] (secs.) AM	E+P (Project Buildout) Delay[1] (secs.) PM	E+P (Project Buildout) Level of Service AM	E+P (Project Buildout) Level of Service PM	Acceptable LOS
1	Archibald Av. & SR-60 WB Ramps	TS	18.5	28.9	B	C	18.3	28.5	B	C	18.2	28.2	A	C	D
2	Archibald Av. & SR-60 EB Ramps	TS	14.9	13.9	B	B	14.8	13.6	B	B	14.6	13.4	B	B	D
3	Archibald Av. & Riverside Dr.	TS	39.2	34.8	D	C	44.0	39.1	D	D	48.3	44.8	D	D	E
4	Archibald Av. & Chino Av.	TS	20.3	23.7	C	C	23.9	30.9	C	C	28.2	42.6	C	D	E
5	Archibald Av. & Schaefer Av.	TS	10.6	5.9	B	A	10.9	6.0	B	A	11.4	6.4	B	A	E
6	Archibald Av. & Ontario Ranch Rd.	TS	30.6	28.6	C	C	36.2	22.8	D	C	**142.5**	**91.8**	**F**	**F**	E
7	Turner Av. & Riverside Dr.	TS	33.2	22.5	C	C	35.9	22.8	D	C	37.7	22.9	D	C	E
8	Turner Av. & Chino Av.	AWS	27.3	10.0	D	A	36.6	10.9	E	B	45.4	11.5	E	B	E
9	Turner Av. & Ontario Ranch Rd.	TS	16.3	13.3	B	B	18.5	14.9	B	B	26.8	24.1	C	C	E
10	Haven Av. & SR-60 WB Ramps	TS	14.4	11.2	B	B	16.7	13.9	B	B	19.0	16.5	B	B	D
11	Haven Av. & SR-60 EB Ramps	TS	22.7	17.2	C	B	23.6	20.4	C	C	39.9	45.6	D	D	D
12	Haven Av. & Riverside Dr.	TS	**106.4**	**82.4**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	E
13	Haven Av. & Chino Av.	CSS/**TS**	12.7	13.1	B	B	35.5	**>100.0**	D	**F**	**>100.0**	**>100.0**	**F**	**F**	E
14	Haven Av. & Schaefer Av.	TS	9.0	9.4	A	A	14.4	11.3	B	B	**93.5**	28.4	**F**	C	E
15	Haven Av. & Ontario Ranch Rd.	TS	32.1	45.0	C	D	74.6	**84.4**	E	**F**	**>200.0**	**>200.0**	**F**	**F**	E
16	Twinkle Av. & Chino Av.	RB	Future Intersection				4.7	4.9	A	A	6.4	6.8	A	A	E
17	Mill Creek Av. & Riverside Dr.	TS	40.9	21.2	D	C	56.3	24.5	E	C	60.8	27.1	E	C	E
18	Mill Creek Av. & Chino Av.	AWS/**RB**	7.1	7.2	A	A	10.6	9.5	B	A	12.5	11.5	B	B	E
19	Mill Creek Av. & Ontario Ranch Rd.	TS	Future Intersection				22.0	22.7	C	C	53.5	41.9	D	D	E
20	Milliken Av. & SR-60 WB Ramps	TS	18.6	16.1	B	B	20.4	23.7	C	C	23.4	45.2	C	D	D
21	Milliken Av. & SR-60 EB Ramps	TS	22.4	16.5	C	B	25.0	17.0	C	B	31.5	19.4	C	B	D
22	Milliken Av. & Riverside Dr.	TS	50.7	27.1	D	C	**60.3**	40.6	**E**	D	**93.5**	**66.2**	**F**	**E**	D
23	Hamner Av. & Chino Av.	CSS	13.1	16.3	B	C	29.3	**51.2**	D	**F**	**>100.0**	**>100.0**	**F**	**F**	D
24	Hamner Av. & Ontario Ranch Rd.	TS	22.6	29.6	C	C	33.8	**70.2**	C	**E**	**139.7**	**171.1**	**F**	**F**	D
25	I-15 SB Ramps & Cantu Galleano Ranch Rd.	TS	26.8	24.3	C	C	30.2	24.9	C	C	19.3	26.4	B	C	D
26	I-15 NB Ramps & Cantu Galleano Ranch Rd.	TS	18.1	18.1	B	B	38.4	24.8	D	C	41.1	35.5	D	D	D
27	Wineville Av. & Cantu Galleano Ranch Rd.	TS	17.8	17.8	B	B	18.0	18.2	B	B	18.7	18.7	B	B	D

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

2 TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop; RB = Roundabout; **TS** = Traffic Signal

The intersection operations analysis worksheets for E+P (Phase 1) and E+P (Project Buildout) traffic conditions are included in Appendices 5.1 and 5.2, respectively.

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for E+P traffic conditions is based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. The following unsignalized study area intersections of are anticipated to meet a traffic signal warrant under E+P (Phase 1) traffic conditions (see Appendix 5.3):

- Haven Avenue & Chino Avenue (#13)
- Hamner Avenue & Chino Avenue (#23)

There are no unsignalized study area intersections evaluated for E+P (Project Buildout) traffic conditions, since all unsignalized study area intersections have previously met a traffic signal warrant under Existing or E+P (Phase 1) traffic conditions.

5.5 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for E+P are presented in Table 5-2. As shown in Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows, consistent with Existing (2022) traffic conditions. Worksheets for E+P (Phase 1) and E+P (Project Buildout) traffic conditions queuing analysis are provided in Appendices 5.4 and 5.5, respectively.

5.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

Improvements needed to achieve acceptable LOS have been identified at intersections or off-ramps that are anticipated to operate at a deficient LOS under E+P traffic conditions.

5.6.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been recommended at intersections that have been identified as deficient under E+P traffic conditions in an effort to achieve an acceptable LOS. The effectiveness of the recommended improvement strategies to address E+P traffic deficiencies are presented in Table 5-3. Worksheets for E+P (Phase 1) and E+P (Project Buildout) conditions, with improvements, HCM calculation worksheets are provided in Appendices 5.6 and 5.7, respectively.

5.6.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown in Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for E+P traffic conditions. As such, no improvements have been identified.

TABLE 5-2: PEAK HOUR OFF-RAMP QUEUING SUMMARY FOR E+P CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2022) 95th Percentile Queue (Feet) AM Peak	Existing (2022) 95th Percentile Queue (Feet) PM Peak	Existing (2022) Acceptable? [1] AM	Existing (2022) Acceptable? [1] PM	E+P (Phase 1) 95th Percentile Queue (Feet) AM Peak	E+P (Phase 1) 95th Percentile Queue (Feet) PM Peak	E+P (Phase 1) Acceptable? [1] AM	E+P (Phase 1) Acceptable? [1] PM	E+P (Project Buildout) 95th Percentile Queue (Feet) AM Peak	E+P (Project Buildout) 95th Percentile Queue (Feet) PM Peak	E+P (Project Buildout) Acceptable? [1] AM	E+P (Project Buildout) Acceptable? [1] PM
Archibald Av. & SR-60 WB Ramps	WBL	365	308 [2]	190	Yes	Yes	308 [2]	190	Yes	Yes	308 [2]	190	Yes	Yes
	WBL/T/R	1,285	178 [2]	193	Yes	Yes	178 [2]	193	Yes	Yes	178 [2]	193	Yes	Yes
	WBR	365	131	53	Yes	Yes	146	53	Yes	Yes	155	53	Yes	Yes
Archibald Av. & SR-60 EB Ramps	EBL	325	228	101	Yes	Yes	228	101	Yes	Yes	228	101	Yes	Yes
	EBL/T/R	1,265	160	132	Yes	Yes	160	143	Yes	Yes	160	151	Yes	Yes
	EBR	325	74	123	Yes	Yes	84	133	Yes	Yes	94	141	Yes	Yes
Haven Av. & SR-60 WB Ramps	WBL	240	52	141	Yes	Yes	52	141	Yes	Yes	52	141	Yes	Yes
	WBL/T	1,370	256	140	Yes	Yes	256	140	Yes	Yes	256	140	Yes	Yes
	WBR	240	0	0	Yes	Yes	0	0	Yes	Yes	0	0	Yes	Yes
Haven Av. & SR-60 EB Ramps	EBL	1,400	302 [2]	163	Yes	Yes	302 [2]	163	Yes	Yes	302 [2]	163	Yes	Yes
	EBL/T	660	307 [2]	165	Yes	Yes	307 [2]	165	Yes	Yes	307 [2]	165	Yes	Yes
	EBR	285	42	120	Yes	Yes	129	491 [2,3]	Yes	Yes	367 [2,3]	843 [2,3]	Yes	Yes
Milliken Av. & SR-60 WB Ramps	WBL	215	95	83	Yes	Yes	172	235 [2,3]	Yes	Yes	313 [3]	504 [2,3]	Yes	Yes
	WBR	1,490	439 [2]	118	Yes	Yes	439 [2]	159	Yes	Yes	439 [2]	208 [2]	Yes	Yes
Milliken Av. & SR-60 EB Ramps	EBL	1,415	361 [2]	212	Yes	Yes	380 [2]	212	Yes	Yes	380 [2]	212	Yes	Yes
	EBR	1,165	120	167	Yes	Yes	184	332 [2]	Yes	Yes	308 [2]	384 [2]	Yes	Yes
I-15 NB Ramps & Cantu Galleano Ranch Rd.	SBL	1,435	244	154	Yes	Yes	209	154	Yes	Yes	183	154	Yes	Yes
	SBL/R	550	126	517	Yes	Yes	239	875 [2,3]	Yes	Yes	941 [2,3]	1,101 [2,3]	Yes	Yes
	SBR	455	89	466 [3]	Yes	Yes	218	734 [2,3]	Yes	Yes	883 [2,3]	1,004 [2,3]	Yes	Yes
Wineville Av. & Cantu Galleano Ranch Rd.	NBL	1,615	268	188	Yes	Yes	447 [2]	420 [2]	Yes	Yes	724 [2]	694 [2]	Yes	Yes
	NBL/R	585	74	61	Yes	Yes	89	63	Yes	Yes	163	86	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

[2] 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

[3] Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60 and I-15 Freeway mainline.

TABLE 5-3: E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WITH IMPROVEMENTS

	Traffic	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service		Acceptable
		Northbound			Southbound			Eastbound			Westbound							
	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	LOS
6 Archibald Av. & Ontario Ranch Rd.																		
E+P (Phase 1):		Not Applicable																E
E+P (Project Buildout):	TS	1	2	1	**2**	2	1	2	2	1	2	**2**	1	62.7	52.0	E	D	
12 Haven Av. & Riverside Dr.																		
E+P (Phase 1):	TS	**1**	**2**	0	1	1	1	1	**2**	0	1	2	0	44.8	35.3	D	D	E
E+P (Project Buildout):	TS	**1**	**2**	0	1	1	1	1	**2**	0	1	2	0	77.8	65.7	E	E	
13 Haven Av. & Chino Av.																		
E+P (Phase 1):	**TS**	1	**2**	0	**1**	**2**	0	1	**1**	**0**	**1**	**1**	0	17.8	23.4	B	C	E
E+P (Project Buildout):	**TS**	1	**2**	0	**1**	**2**	0	1	**1**	**0**	**1**	**1**	0	22.7	68.0	C	E	
14 Haven Av. & Schaefer Av.																		
E+P (Phase 1):		Not Applicable																E
E+P (Project Buildout):	TS	1	**2**	0	0	2	0	1	0	1	0	0	0	5.0	18.3	A	B	
15 Haven Av. & Ontario Ranch Rd.																		
E+P (Phase 1):	TS	1	**2**	1	**2**	**2**	1	**2**	3	1	2	4	1	28.0	24.7	C	C	E
E+P (Project Buildout):	TS	1	**2**	1	**2**	**2**	1	**2**	3	1	2	4	1	54.9	78.2	D	E	
22 Milliken Av. & Riverside Dr.																		
E+P (Phase 1):	TS	**2**	2	1	1	2	1	1	1	1	1	1	1	29.2	23.6	C	C	D
E+P (Project Buildout):	TS	**2**	2	1	1	2	1	1	1	1	1	1	1	39.7	30.9	D	C	
23 Hamner Av. & Chino Av.																		
E+P (Phase 1):	**TS**	0	2	0	0	**2**	0	0	1	0	0	0	0	6.2	6.3	A	A	D
E+P (Project Buildout):	**TS**	0	2	0	0	**2**	0	0	1	0	0	0	0	10.7	8.5	B	A	
24 Hamner Av. & Ontario Ranch Rd.																		
E+P (Phase 1):	**TS**	2	3	1	2	**4**	**2**	2	4	**1**	2	**4**	1	25.3	33.5	C	C	D
E+P (Project Buildout):	**TS**	2	3	1	2	**4**	**2**	2	4	**1**	2	**4**	1	71.2	75.2	E	E	

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; **1** = Improvement

[2] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] TS = Traffic Signal; **TS** = Traffic Signal

[4] Improvement includes modifying the traffic signal to implement protected left turn phasing for the northbound and southbound approaches.

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6 OPENING YEAR CUMULATIVE (2027) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Opening Year Cumulative (2027) conditions and the resulting intersection operations, traffic signal warrant, and off-ramp queuing analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2027) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative (2027) conditions (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative (2027) conditions (e.g., intersection and roadway improvements at the Project's frontage and driveways).

6.2 OPENING YEAR CUMULATIVE (2027) WITHOUT PROJECT GROWTH TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 14.9% plus traffic from pending and approved but not yet constructed known development projects in the area. The weekday ADT and weekday AM and PM peak hour volumes, in actual vehicles, which can be expected for Opening Year Cumulative (2027) Without Project traffic conditions are shown on Exhibit 6-1.

6.3 OPENING YEAR CUMULATIVE (2027) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Opening Year Cumulative (2027) Without Project traffic in conjunction with the addition of Project (Project Buildout) traffic. The weekday ADT and weekday AM and PM peak hour volumes, in actual vehicles, which can be expected for Opening Year Cumulative (2027) With Project traffic conditions are shown on Exhibit 6-2.

EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2027) WITHOUT PROJECT TRAFFIC VOLUMES (PAGE 1 OF 2)



EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2027) WITHOUT PROJECT TRAFFIC VOLUMES (PAGE 2 OF 2)



EXHIBIT 6-2: OPENING YEAR CUMULATIVE (2027) WITH PROJECT TRAFFIC VOLUMES (PAGE 1 OF 2)

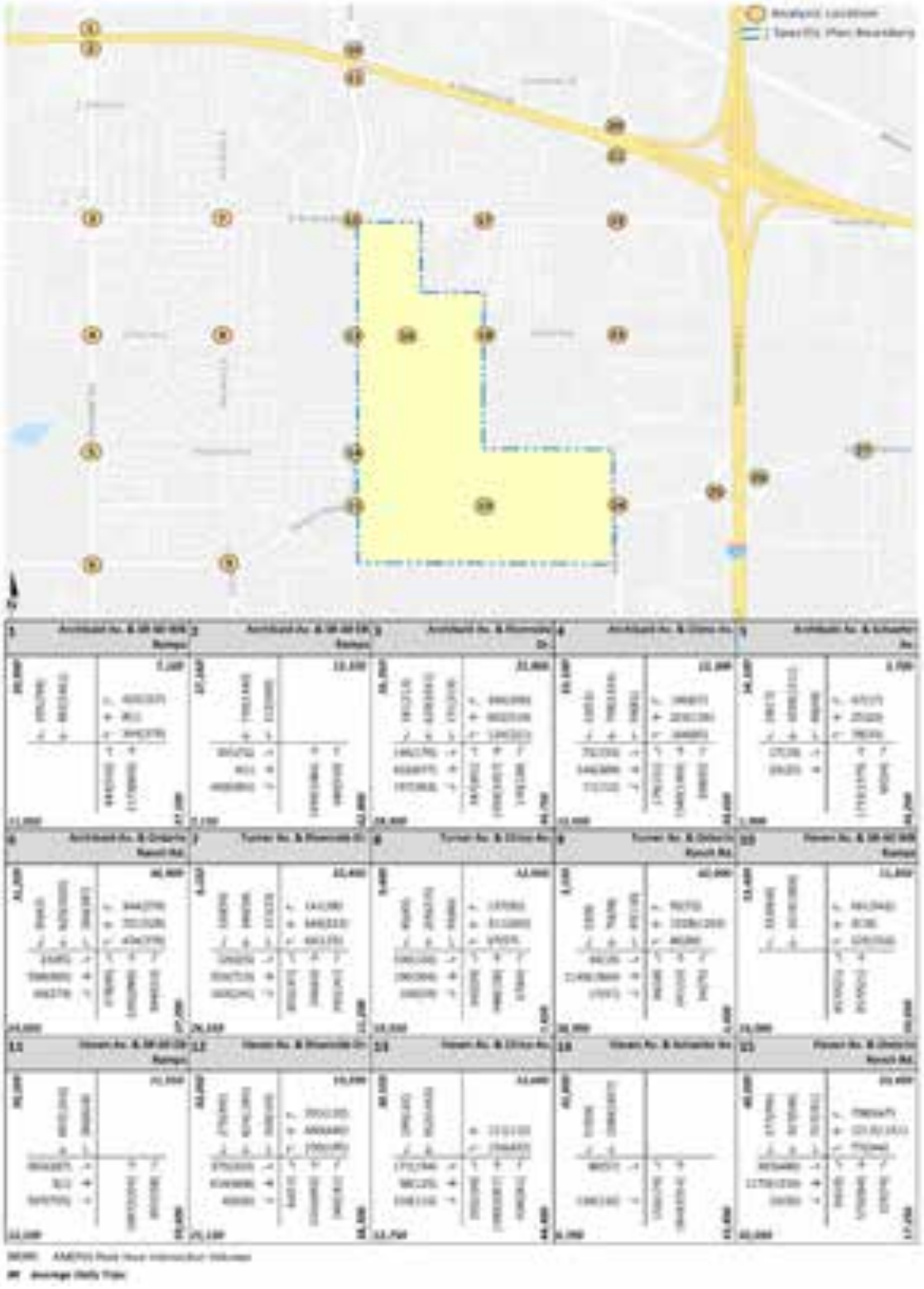


EXHIBIT 6-2: OPENING YEAR CUMULATIVE (2027) WITH PROJECT TRAFFIC VOLUMES (PAGE 2 OF 2)



6.4 INTERSECTION OPERATIONS ANALYSIS

Opening Year Cumulative (2027) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 6-1 for Opening Year Cumulative (2027) traffic conditions, which indicates that the following study area intersections are anticipated to operate at an unacceptable LOS during the peak hours under Opening Year Cumulative (2027) Without Project traffic conditions:

- Turner Avenue & Chino Avenue (#8) – LOS F AM peak hour only
- Haven Avenue & Riverside Drive (#12) – LOS F AM and PM peak hours
- Milliken Avenue & Riverside Drive (#22) – LOS F AM peak hour only

The following additional study area intersections anticipated to operate at an unacceptable LOS during the peak hours with the addition of Project traffic under Opening Year Cumulative (2027) With Project traffic conditions:

- Archibald Avenue & Riverside Drive (#3) – LOS F AM and PM peak hours
- Archibald Avenue & Ontario Ranch Road (#6) – LOS F AM and PM peak hours
- Haven Avenue & Chino Avenue (#13) – LOS F PM peak hour only
- Haven Avenue & Schaefer Avenue (#14) – LOS F AM peak hour only
- Haven Avenue & Ontario Ranch Road (#15) – LOS F AM and PM peak hours
- Hamner Avenue & Chino Avenue (#23) – LOS F AM and PM peak hours
- Hamner Avenue & Ontario Ranch Road (#24) – LOS F AM and PM peak hours

The intersection operations analysis worksheets for Opening Year Cumulative (2027) Without Project and With Project traffic conditions are included in Appendices 6.1 and 6.2, respectively.

6.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

All unsignalized study area intersections are anticipated to meet a traffic signal warrant under previous scenarios. As such, traffic signal warrants have not been evaluated for Opening Year Cumulative (2027) traffic conditions.

6.6 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for Opening Year Cumulative (2027) traffic conditions are presented in Table 6-2. As shown in Table 6-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. Worksheets for Opening Year Cumulative (2027) Without Project and With Project traffic conditions queuing analysis are provided in Appendices 6.3 and 6.4, respectively.

TABLE 6-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2027) CONDITIONS

#	Intersection	Traffic Control[2]	2027 Without Project Delay[1] (secs.) AM	2027 Without Project Delay[1] (secs.) PM	2027 Without Project Level of Service AM	2027 Without Project Level of Service PM	2027 With Project Delay[1] (secs.) AM	2027 With Project Delay[1] (secs.) PM	2027 With Project Level of Service AM	2027 With Project Level of Service PM	Acceptable LOS
1	Archibald Av. & SR-60 WB Ramps	TS	21.9	28.8	C	C	21.5	28.5	C	C	D
2	Archibald Av. & SR-60 EB Ramps	TS	15.9	15.0	B	B	15.8	14.6	B	B	D
3	Archibald Av. & Riverside Dr.	TS	79.3	68.9	E	E	**101.6**	**93.7**	**F**	**F**	E
4	Archibald Av. & Chino Av.	TS	31.2	48.6	C	D	51.9	76.2	D	E	E
5	Archibald Av. & Schaefer Av.	TS	13.0	10.7	B	B	15.5	11.2	B	B	E
6	Archibald Av. & Ontario Ranch Rd.	TS	60.1	49.1	E	D	**194.8**	**128.0**	**F**	**F**	E
7	Turner Av. & Riverside Dr.	TS	54.9	26.4	D	C	56.4	26.7	E	C	E
8	Turner Av. & Chino Av.	AWS	**92.9**	12.6	**F**	B	**>100.0**	16.2	**F**	C	E
9	Turner Av. & Ontario Ranch Rd.	TS	17.5	13.5	B	B	42.1	42.1	D	D	E
10	Haven Av. & SR-60 WB Ramps	TS	17.6	12.8	B	B	44.7	19.1	D	B	D
11	Haven Av. & SR-60 EB Ramps	TS	27.0	17.1	C	B	47.7	43.0	D	D	D
12	Haven Av. & Riverside Dr.	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	E
13	Haven Av. & Chino Av.	CSS/**TS**	29.9	25.2	D	D	**179.0**	**>200.0**	**F**	**F**	E
14	Haven Av. & Schaefer Av.	TS	12.1	12.9	B	B	**116.2**	57.5	**F**	E	E
15	Haven Av. & Ontario Ranch Rd.	TS	49.9	62.6	D	E	**>200.0**	**>200.0**	**F**	**F**	E
16	Twinkle Av. & Chino Av.	RB	Future Intersection				6.4	6.8	A	A	E
17	Mill Creek Av. & Riverside Dr.	TS	61.6	22.2	E	C	78.7	30.4	E	C	E
18	Mill Creek Av. & Chino Av.	AWS/**RB**	7.1	7.2	A	A	12.5	11.5	B	B	E
19	Mill Creek Av. & Ontario Ranch Rd.	TS	Future Intersection				55.0	43.2	D	D	E
20	Milliken Av. & SR-60 WB Ramps	TS	17.3	19.5	B	B	26.2	50.1	C	D	D
21	Milliken Av. & SR-60 EB Ramps	TS	26.8	17.3	C	B	40.0	26.0	D	C	D
22	Milliken Av. & Riverside Dr.	TS	**82.3**	46.9	**F**	D	**168.3**	**160.4**	**F**	**F**	D
23	Hamner Av. & Chino Av.	CSS	14.0	18.1	B	C	**196.8**	**>100.0**	**F**	**F**	D
24	Hamner Av. & Ontario Ranch Rd.	TS	31.0	50.3	C	D	**184.5**	**>200.0**	**F**	**F**	D
25	I-15 SB Ramps & Cantu Galleano Ranch Rd.	TS	30.7	28.0	C	C	22.6	23.9	C	C	D
26	I-15 NB Ramps & Cantu Galleano Ranch Rd.	TS	35.6	16.0	D	B	51.8	54.3	D	D	D
27	Wineville Av. & Cantu Galleano Ranch Rd.	TS	18.5	18.8	B	B	20.1	19.8	C	B	D

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

[2] TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop; RB = Roundabout

TABLE 6-2: PEAK HOUR OFF-RAMP QUEUING SUMMARY FOR OPENING YEAR CUMULATIVE (2027) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	2027 Without Project 95th Percentile Queue (Feet) AM Peak	2027 Without Project 95th Percentile Queue (Feet) PM Peak	2027 Without Project Acceptable? [1] AM	2027 Without Project Acceptable? [1] PM	2027 With Project 95th Percentile Queue (Feet) AM Peak	2027 With Project 95th Percentile Queue (Feet) PM Peak	2027 With Project Acceptable? [1] AM	2027 With Project Acceptable? [1] PM
Archibald Av. & SR-60 WB Ramps	WBL	365	373 [2,3]	245 [2]	Yes	Yes	373 [2,3]	245 [2]	Yes	Yes
	WBL/T/R	1,285	300 [2]	251 [2]	Yes	Yes	308 [2]	251 [2]	Yes	Yes
	WBR	365	257 [2]	55	Yes	Yes	257 [2]	55	Yes	Yes
Archibald Av. & SR-60 EB Ramps	EBL	325	269	109	Yes	Yes	269	109	Yes	Yes
	EBL/T/R	1,265	180	261 [2]	Yes	Yes	193	278 [2]	Yes	Yes
	EBR	325	164	225 [2]	Yes	Yes	177	225 [2]	Yes	Yes
Haven Av. & SR-60 WB Ramps	WBL	240	69	174	Yes	Yes	69	174	Yes	Yes
	WBL/T	1,370	427 [2]	176	Yes	Yes	427 [2]	176	Yes	Yes
	WBR	240	0	0	Yes	Yes	0	0	Yes	Yes
Haven Av. & SR-60 EB Ramps	EBL	1,400	349 [2]	178	Yes	Yes	349 [2]	178	Yes	Yes
	EBL/T	660	353 [2]	181	Yes	Yes	353 [2]	181	Yes	Yes
	EBR	285	69	149	Yes	Yes	400 [2,3]	873 [2,3]	Yes	Yes
Milliken Av. & SR-60 WB Ramps	WBL	215	103	90	Yes	Yes	325 [3]	514 [2,3]	Yes	Yes
	WBR	1,490	514 [2]	220 [2]	Yes	Yes	514 [2]	294 [2]	Yes	Yes
Milliken Av. & SR-60 EB Ramps	EBL	1,415	418 [2]	234	Yes	Yes	438 [2]	234	Yes	Yes
	EBR	1,165	150	272 [2]	Yes	Yes	381 [2]	449 [2]	Yes	Yes
I-15 NB Ramps & Cantu Galleano Ranch Rd.	SBL	1,435	232	172	Yes	Yes	185	172	Yes	Yes
	SBL/R	550	571 [2,3]	881 [2,3]	Yes	Yes	1,362 [2]	1,362 [2]	**No**	**No**
	SBR	455	444	802 [2,3]	Yes	Yes	1,293 [2]	1,260 [2]	**No**	**No**
Wineville Av. & Cantu Galleano Ranch Rd.	NBL	1,615	313	214	Yes	Yes	759 [2]	604 [2]	Yes	Yes
	NBL/R	585	81	67	Yes	Yes	189	73	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

[2] 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
[3] Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60 Freeway mainline.

6.7 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

Improvements needed to achieve acceptable LOS have been identified at intersections or off-ramps that are anticipated to operate at a deficient LOS under Opening Year Cumulative (2027) traffic conditions.

6.7.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been recommended at intersections that have been identified as deficient under Opening Year Cumulative (2027) traffic conditions in an effort to achieve an acceptable LOS. The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2027) traffic deficiencies are presented in Table 6-3. Worksheets for Opening Year Cumulative (2027) Without Project and With Project traffic conditions, with improvements, HCM calculation worksheets are provided in Appendices 6.5 and 6.6, respectively.

6.7.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 6-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Opening Year Cumulative (2027) traffic conditions. As such, no improvements have been identified.

TABLE 6-3: OPENING YEAR CUMULATIVE (2027) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WITH IMPROVEMENTS

	Traffic	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service		Acceptable
		Northbound			Southbound			Eastbound			Westbound							
	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	LOS
3 Archibald Av. & Riverside Dr.																		
Without Project:	TS	**2**	3	0	**2**	3	0	1	2	1	1	2	1	45.2	45.5	D	D	E
With Project:	TS	**2**	3	0	**2**	3	0	1	2	1	1	2	1	53.6	52.9	D	D	
6 Archibald Av. & Merrill Av.																		
Without Project:	TS	**2**	**3**	1	**2**	**3**	1	2	**3**	1	2	**2**	1	24.4	26.2	C	C	E
With Project:	TS	**2**	**3**	1	**2**	**3**	1	2	**3**	1	2	**2**	1	55.1	47.0	E	D	
8 Turner Av. & Chino Av.																		
Without Project:	**TS**	1	2	0	1	2	0	1	2	0	1	2	0	10.7	6.,5	B	A	E
With Project:	**TS**	1	2	0	1	2	0	1	2	0	1	2	0	13.2	7.0	B	A	
12 Haven Av. & Riverside Dr.																		
Without Project:	TS	**1**	**2**	0	1	1	1	1	**2**	0	1	2	0	35.0	21.9	C	C	E
With Project:	TS	**1**	**2**	0	1	1	1	1	**2**	0	1	2	0	79.2	32.3	E	C	
13 Haven Av. & Chino Av.																		
Without Project:	**TS**	1	1	0	0	**2**	0	1	0	1	0	0	0	18.2	19.7	B	B	E
With Project:	**TS**	1	**2**	0	**1**	**2**	0	1	**1**	**0**	**1**	**1**	0	32.0	75.4	C	E	
14 Haven Av. & Schaefer Av.																		
Without Project:	TS	1	**2**	0	0	2	0	1	0	1	0	0	0	10.9	12.3	B	B	E
With Project:	TS	1	**2**	0	0	2	0	1	0	1	0	0	0	12.7	36.4	B	D	
15 Haven Av. & Ontario Ranch Rd.																		
Without Project:	TS	1	**2**	1	**2**	**2**	1	**2**	3	1	2	4	1	26.2	25.3	C	C	E
With Project:	TS	1	**2**	1	**2**	**2**	1	**2**	3	1	2	4	1	77.3	77.9	E	E	
22 Milliken Av. & Riverside Dr.																		
Without Project:	TS	**2**	2	1	**2**	2	1	1	1	1	1	1	1	23.5	20.9	C	C	D
With Project:	TS	**2**	2	1	**2**	2	1	1	1	1	1	1	1	54.3	23.1	D	C	
23 Hamner Av. & Chino Av.																		
Without Project:	**TS**	0	2	0	0	**2**	0	0	1	0	0	0	0	2.5	23.1	A	C	D
With Project:	**TS**	0	2	0	0	**2**	0	0	1	0	0	0	0	12.0	3.4	B	A	
24 Hamner Av. & Ontario Ranch Rd.																		
Without Project:	**TS**	2	3	1	2	**4**	**2**	2	4	**1**	2	**4**	1	22.2	28.1	C	C	D
With Project:	**TS**	2	3	1	2	**4**	**2**	2	4	**1**	2	**4**	1	35.8	54.7	D	D	

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; **1** = Improvement

[2] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] TS = Traffic Signal; **TS** = Traffic Signal

[4] Improvement includes modifying the traffic signal to implement protected left turn phasing for the northbound and southbound approaches.

7 HORIZON YEAR (2050) TRAFFIC CONDITIONS

This section discusses the methods used to develop Horizon Year (2050) Without and With Project traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Horizon Year (2050) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Horizon Year conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- If applicable, driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Horizon Year conditions only.

7.2 WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-process volumes obtained from the SBTAM (see Section 4.8 *Horizon Year (2050) Volume Development* of this TA for a detailed discussion on the post-processing methodology). The weekday ADT and weekday AM and PM peak hour volumes, in actual vehicles, which can be expected for Horizon Year (2050) Without Project traffic conditions are shown on Exhibit 7-1.

7.3 WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-process volumes obtained from the SBTAM, plus the variance in traffic generated by the buildout proposed Project compared to the approved Specific Plan. The weekday ADT and weekday AM and PM peak hour volumes, in actual vehicles, which can be expected for Horizon Year (2050) With Project traffic conditions are shown on Exhibit 7-2.

7.4 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under Horizon Year (2050) Without Project conditions with roadway and intersection geometrics consistent with Section 7.1 *Roadway Improvements*. As shown on Table 7-1, the following study area intersections are anticipated to operate at an unacceptable LOS during the peak hours:

- Archibald Avenue & Riverside Drive (#3) – LOS F AM and PM peak hours
- Archibald Avenue & Chino Avenue (#4) – LOS F PM peak hour only
- Turner Avenue & Chino Avenue (#8) – LOS F PM peak hour only
- Haven Avenue & Riverside Drive (#12) – LOS F AM and PM peak hours
- Haven Avenue & Chino Avenue (#13) – LOS F AM and PM peak hours
- Haven Avenue & Ontario Ranch Road (#15) – LOS F PM peak hour only

EXHIBIT 7-1: HORIZON YEAR (2050) WITHOUT PROJECT TRAFFIC VOLUMES (PAGE 1 OF 2)

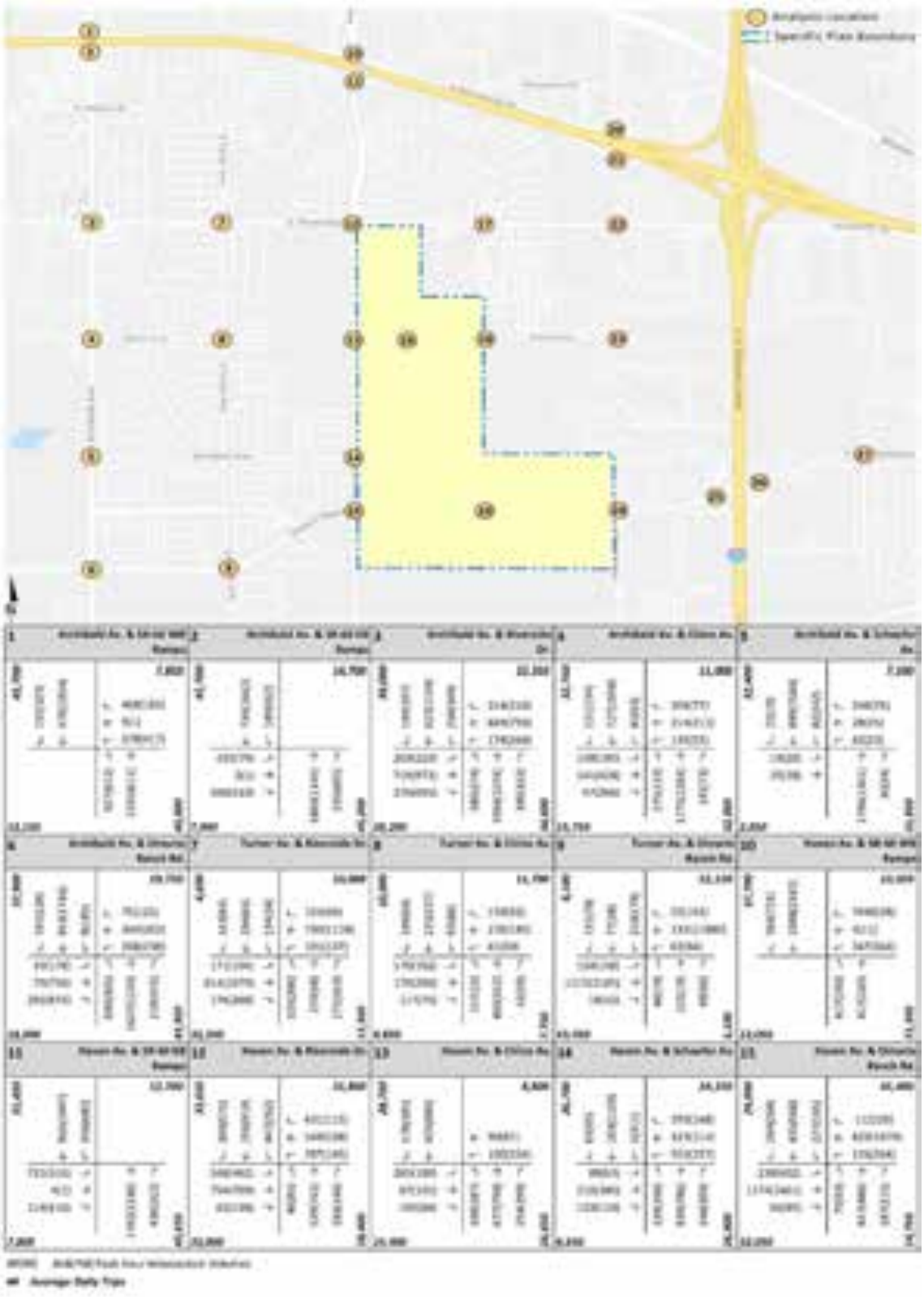


EXHIBIT 7-1: HORIZON YEAR (2050) WITHOUT PROJECT TRAFFIC VOLUMES (PAGE 2 OF 2)

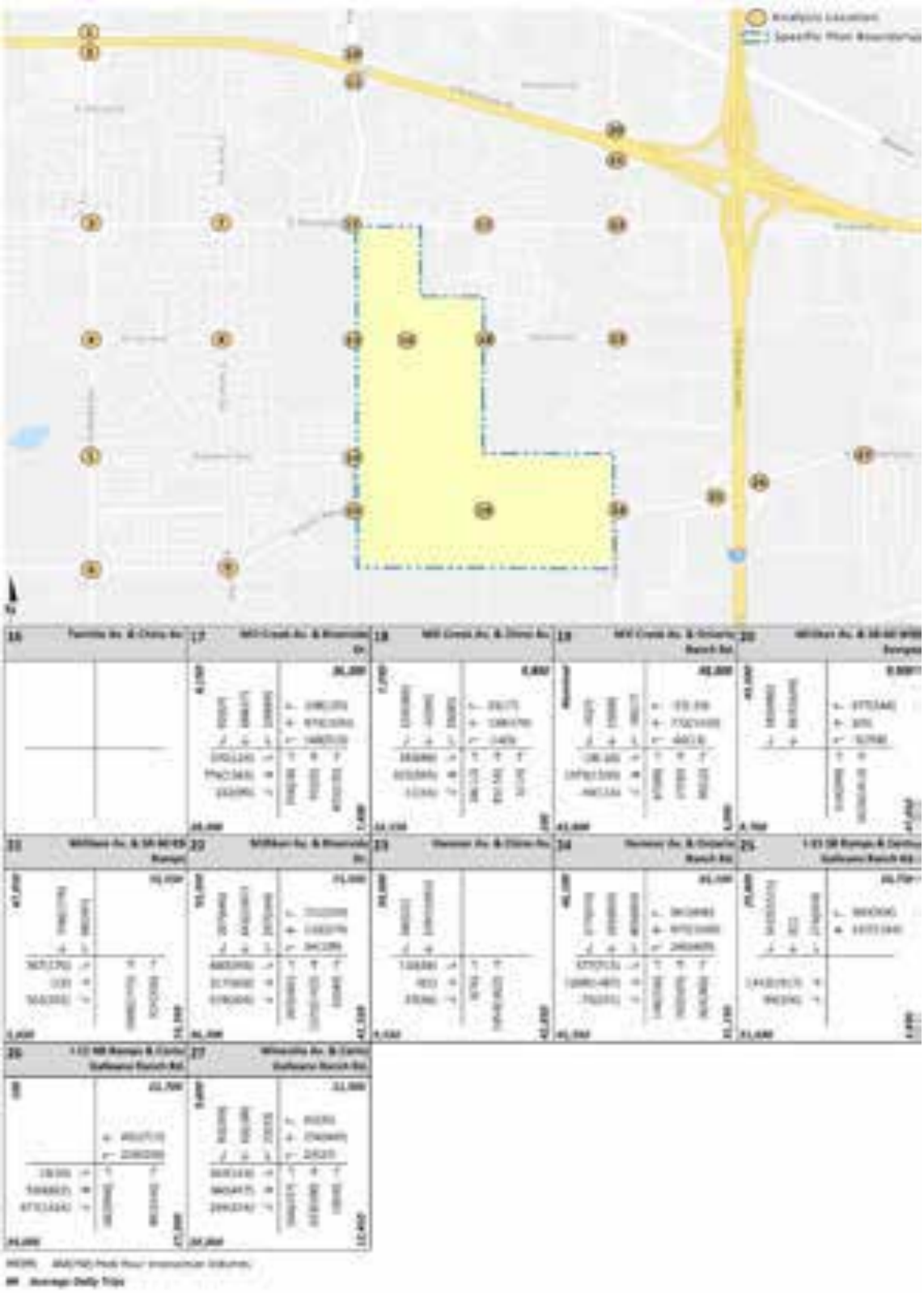


EXHIBIT 7-2: HORIZON YEAR (2050) WITH PROJECT TRAFFIC VOLUMES (PAGE 1 OF 2)

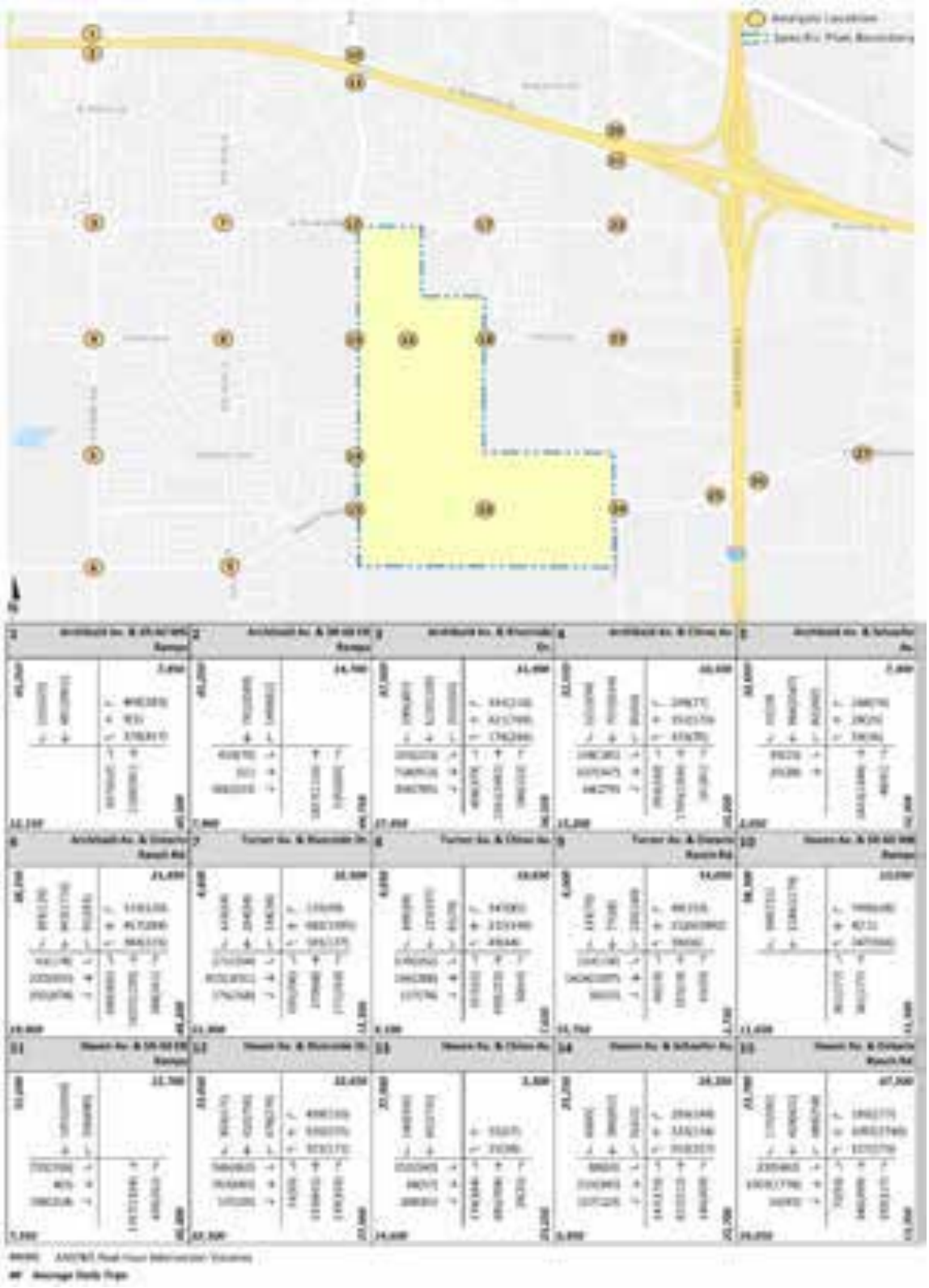


EXHIBIT 7-2: HORIZON YEAR (2050) WITH PROJECT TRAFFIC VOLUMES (PAGE 2 OF 2)

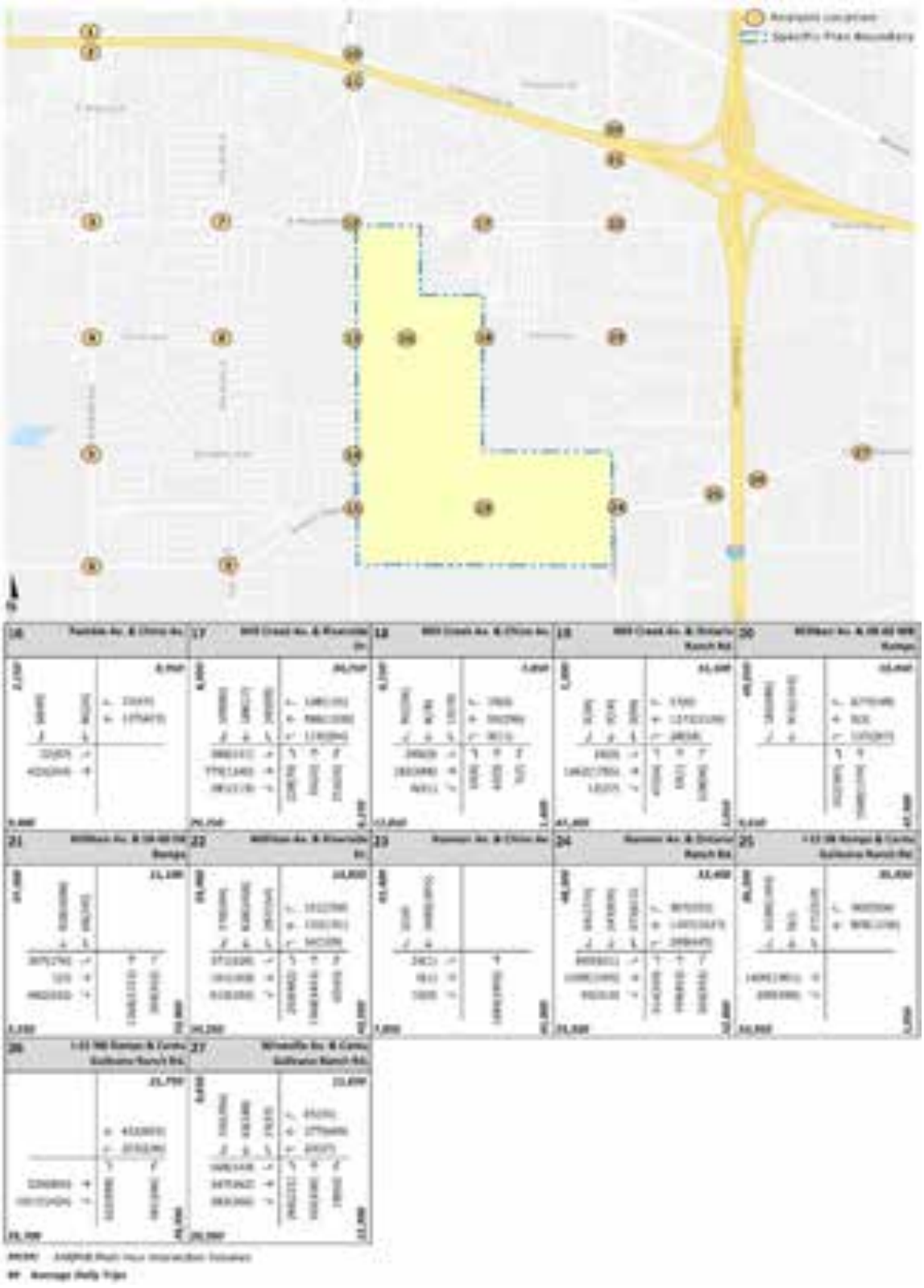


TABLE 7-1: INTERSECTION ANALYSIS FOR HORIZON YEAR (2050) CONDITIONS

#	Intersection	Traffic Control[2]	2045 Without Project Delay[1] (secs.) AM	2045 Without Project Delay[1] (secs.) PM	2045 Without Project Level of Service AM	2045 Without Project Level of Service PM	2045 With Project Delay[1] (secs.) AM	2045 With Project Delay[1] (secs.) PM	2045 With Project Level of Service AM	2045 With Project Level of Service PM	Acceptable LOS
1	Archibald Av. & SR-60 WB Ramps	TS	26.4	29.8	C	C	26.7	29.7	C	C	D
2	Archibald Av. & SR-60 EB Ramps	TS	17.6	17.0	B	B	17.6	17.2	B	B	D
3	Archibald Av. & Riverside Dr.	TS	**124.3**	**159.7**	**F**	**F**	**119.2**	**153.1**	**F**	**F**	E
4	Archibald Av. & Chino Av.	TS	56.9	**107.1**	E	**F**	59.3	**105.4**	E	**F**	E
5	Archibald Av. & Schaefer Av.	TS	24.2	15.1	C	B	25.7	20.4	C	C	E
6	Archibald Av. & Ontario Ranch Rd.	TS	**>200.0**	**167.8**	**F**	**F**	**>200.0**	**169.7**	**F**	**F**	E
7	Turner Av. & Riverside Dr.	TS	72.1	30.3	E	D	78.7	37.6	E	D	E
8	Turner Av. & Chino Av.	AWS	**>100.0**	18.4	**F**	C	**>100.0**	15.7	**F**	C	E
9	Turner Av. & Ontario Ranch Rd.	TS	45.1	74.5	D	E	62.6	62.1	E	E	E
10	Haven Av. & SR-60 WB Ramps	TS	21.3	17.0	C	B	20.5	15.1	C	B	D
11	Haven Av. & SR-60 EB Ramps	TS	51.0	17.9	D	B	50.6	16.6	D	B	D
12	Haven Av. & Riverside Dr.	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	E
13	Haven Av. & Chino Av.	CSS/**TS**	**>100.0**	**>100.0**	**F**	**F**	60.8	62.6	E	E	E
14	Haven Av. & Schaefer Av.	TS	12.9	16.3	B	B	13.0	13.7	B	B	E
15	Haven Av. & Ontario Ranch Rd.	TS	71.5	**>200.0**	E	**F**	**105.3**	**131.1**	**F**	**F**	E
16	Twinkle Av. & Chino Av.	**RB**	Future Intersection				6.4	6.8	A	A	E
17	Mill Creek Av. & Riverside Dr.	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**144.5**	**F**	**F**	E
18	Mill Creek Av. & Chino Av.	AWS/**RB**	8.0	23.2	A	C	11.6	12.1	B	B	E
19	Mill Creek Av. & Ontario Ranch Rd.	TS	Future Intersection				12.5	17.4	B	B	E
20	Milliken Av. & SR-60 WB Ramps	TS	29.7	54.4	C	D	33.4	51.0	C	D	D
21	Milliken Av. & SR-60 EB Ramps	TS	54.9	49.9	D	D	49.5	48.4	D	D	D
22	Milliken Av. & Riverside Dr.	TS	**>200.0**	**>200.0**	**F**	**F**	**>200.0**	**>200.0**	**F**	**F**	D
23	Hamner Av. & Chino Av.	CSS	**>100.0**	**>100.0**	**F**	**F**	**52.6**	**43.3**	**F**	**E**	D
24	Hamner Av. & Ontario Ranch Rd.	TS	**124.6**	**>200.0**	**F**	**F**	**276.3**	**>200.0**	**F**	**F**	D
25	I-15 SB Ramps & Cantu Galleano Ranch Rd.	TS	33.6	45.0	C	D	19.5	22.7	B	C	D
26	I-15 NB Ramps & Cantu Galleano Ranch Rd.	TS	36.5	48.4	D	D	28.0	53.2	C	D	D
27	Wineville Av. & Cantu Galleano Ranch Rd.	TS	21.7	21.3	C	C	22.3	20.9	C	C	D

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported

2 TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop; RB = Roundabout

- Mill Creek Road & Riverside Drive (#15) – LOS F AM and PM peak hours
- Milliken Avenue & Riverside Drive (#22) – LOS F AM peak hour only
- Archibald Avenue & Ontario Ranch Road (#6) – LOS F AM and PM peak hours
- Haven Avenue & Chino Avenue (#13) – LOS F PM peak hour only
- Haven Avenue & Schaefer Avenue (#14) – LOS F AM peak hour only
- Haven Avenue & Ontario Ranch Road (#15) – LOS F AM and PM peak hours
- Mill Creek Avenue & Riverside Drive (#17) – LOS F AM and PM peak hours
- Milliken Avenue & Riverside Drive (#22) – LOS F AM and PM peak hours
- Hamner Avenue & Chino Avenue (#23) – LOS F AM and PM peak hours
- Hamner Avenue & Ontario Ranch Road (#24) – LOS F AM and PM peak hours

As shown on Table 7-1, the addition of the variance in Project (Project Buildout) traffic is not anticipated to result in any new deficiencies from those identified under Horizon Year (2050) Without Project traffic conditions. The intersection operations analysis worksheets for Horizon Year (2050) Without Project and With Project traffic conditions are included in Appendices 7.1 and 7.2, respectively.

7.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

All unsignalized study area intersections are anticipated to meet a traffic signal warrant under previous scenarios. As such, traffic signal warrants have not been evaluated for Horizon Year (2050) traffic conditions.

7.6 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for Horizon Year (2050) traffic conditions are presented in Table 7-2. As shown in Table 7-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. Worksheets for Horizon Year (2050) Without Project and With Project traffic conditions queuing analysis are provided in Appendices 7.3 and 7.4, respectively.

TABLE 7-2: PEAK HOUR OFF-RAMP QUEUING SUMMARY FOR HORIZON YEAR (2050) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	2045 Without Project				2045 With Project			
			95th Percentile Queue (Feet)		Acceptable? [1]		95th Percentile Queue (Feet)		Acceptable? [1]	
			AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
Archibald Av. & SR-60 WB Ramps	WBL	365	421 [2,3]	282 [2]	Yes	Yes	421 [2,3]	282 [2]	Yes	Yes
	WBL/T/R	1,285	363 [2]	290 [2]	Yes	Yes	358 [2]	290 [2]	Yes	Yes
	WBR	365	302 [2]	57	Yes	Yes	302 [2]	57	Yes	Yes
Archibald Av. & SR-60 EB Ramps	EBL	325	305	117	Yes	Yes	305	117	Yes	Yes
	EBL/T/R	1,265	235	336 [2]	Yes	Yes	235	331 [2]	Yes	Yes
	EBR	325	210	264 [2]	Yes	Yes	210	264 [2]	Yes	Yes
Haven Av. & SR-60 WB Ramps	WBL	240	75	195 [2]	Yes	Yes	75	195 [2]	Yes	Yes
	WBL/T	1,370	487 [2]	191	Yes	Yes	487 [2]	191	Yes	Yes
	WBR	240	0	0	Yes	Yes	0	0	Yes	Yes
Haven Av. & SR-60 EB Ramps	EBL	1,400	397 [2]	196	Yes	Yes	397 [2]	196	Yes	Yes
	EBL/T	660	403 [2]	198	Yes	Yes	403 [2]	198	Yes	Yes
	EBR	285	37	392 [2,3]	Yes	Yes	86	169	Yes	Yes
Milliken Av. & SR-60 WB Ramps	WBL	215	16	269 [2]	Yes	No	112	283 [2,3]	Yes	Yes
	WBR	1,490	645 [2]	611 [2]	Yes	Yes	645 [2]	611 [2]	Yes	Yes
Milliken Av. & SR-60 EB Ramps	EBL	1,415	503 [2]	263 [2]	Yes	Yes	503 [2]	263 [2]	Yes	Yes
	EBR	1,165	581 [2]	512 [2]	Yes	Yes	522 [2]	447 [2]	Yes	Yes
I-15 NB Ramps & Cantu Galleano Ranch Rd.	SBL	1,435	307	192	Yes	Yes	205	192	Yes	Yes
	SBL/R	550	659 [2,3]	1,108 [2,3]	Yes	Yes	1,093 [2,3]	1,049 [2,3]	Yes	Yes
	SBR	455	612 [2,3]	1,104 [2]	Yes	Yes	1,018 [2,3]	945 [2,3]	Yes	Yes
Wineville Av. & Cantu Galleano Ranch Rd.	NBL	1,615	319	646 [2]	Yes	Yes	444 [2]	699 [2]	Yes	Yes
	NBL/R	585	82	86	Yes	Yes	96	93	Yes	Yes

[1] Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

[2] 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

[3] Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60 and I-15 Freeway mainline.

7.7 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

Improvements needed to achieve acceptable LOS have been identified at intersections or off-ramps that are anticipated to operate at a deficient LOS under Horizon Year (2050) traffic conditions.

7.7.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been recommended at intersections that have been identified as deficient under Horizon Year (2050) traffic conditions in an effort to achieve an acceptable LOS. The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2050) traffic deficiencies are presented in Table 6-3. Worksheets for Horizon Year (2050) Without Project and With Project traffic conditions, with improvements, HCM calculation worksheets are provided in Appendices 7.5 and 7.6, respectively.

7.7.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously in Table 7-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Horizon Year (2050) traffic conditions. As such, no improvements have been identified.

TABLE 7-3: HORIZON YEAR (2045) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WITH IMPROVEMENTS

	Traffic	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service		Acceptable
		Northbound			Southbound			Eastbound			Westbound							
	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	LOS
3 Archibald Av. & Riverside Dr.																		
Without Project:	TS	**2**	3	0	**2**	3	0	1	2	1	1	2	1	63.4	71.6	E	E	E
With Project:	TS	**2**	3	0	**2**	3	0	1	2	1	1	2	1	69.7	76.2	E	E	
4 Archibald Av. & Chino Av.																		
Without Project:	TS	1	3	0	1	2	0	1	1	**1**	1	1	1	47.5	75.8	D	E	E
With Project:	TS	1	3	0	1	2	0	1	1	**1**	1	1	1	48.1	67.7	D	E	
6 Archibald Av. & Merrill Av.																		
Without Project:	TS	**2**	**3**	1	**2**	**3**	1	2	**3**	1	2	**2**	1	57.7	45.4	E	D	E
With Project:	TS	**2**	**3**	1	**2**	**3**	1	2	**3**	1	2	**2**	1	71.9	45.7	E	D	
8 Turner Av. & Chino Av.																		
Without Project:	**TS**	1	2	0	1	2	0	1	2	0	1	2	0	15.6	7.3	B	A	E
With Project:	**TS**	1	2	0	1	2	0	1	2	0	1	2	0	16.6	7.3	B	A	
12 Haven Av. & Riverside Dr.																		
Without Project:	TS	**1**	**2**	**1**	1	**2**	1	**2**	**2**	0	**2**	2	0	66.7	61.6	E	E	E
With Project:	TS	**1**	**2**	**1**	1	**2**	1	**2**	**2**	0	**2**	2	0	69.3	63.0	E	E	
13 Haven Av. & Chino Av.																		
Without Project:	**TS**	1	1	0	**1**	**2**	0	1	**1**	**0**	**1**	**1**	0	19.4	53.5	B	D	E
With Project:	**TS**	1	**2**	0	**1**	**2**	0	1	**1**	**0**	**1**	**1**	0	26.6	27.5	C	C	
15 Haven Av. & Ontario Ranch Rd.																		
Without Project:	TS	1	**2**	1	1	**2**	1	**2**	3	1	2	4	1	29.9	47.0	C	D	E
With Project:	TS	1	**2**	1	1	**2**	1	**2**	3	1	2	4	1	62.2	79.0	E	E	
17 Mill Creek Av. & Riverside Dr.																		
Without Project:	**TS**	1	1	1	1	1	0	1	**3**	0	1	**3**	0	74.1	51.5	E	D	E
With Project:	**TS**	1	1	1	1	1	0	1	**3**	0	1	**3**	0	78.5	30.6	E	C	
22 Milliken Av. & Riverside Dr.																		
Without Project:	TS	**2**	2	1	**2**	2	**2**	1	1	1	1	1	1	40.7	48.4	D	D	D
With Project:	TS	**2**	2	1	**2**	2	**2**	1	1	1	1	1	1	41.2	45.6	D	D	
23 Hamner Av. & Chino Av.																		
Without Project:	**TS**	0	2	0	0	**2**	0	0	1	0	0	0	0	6.7	12.4	A	B	D
With Project:	**TS**	0	2	0	0	**2**	0	0	1	0	0	0	0	3.1	4.2	A	A	
24 Hamner Av. & Ontario Ranch Rd.																		
Without Project:	**TS**	2	3	1	2	**4**	**2**	2	4	**1**	2	**4**	1	43.7	52.8	D	D	D
With Project:	**TS**	2	3	1	2	**4**	**2**	2	4	**1**	2	**4**	1	54.6	54.7	D	D	

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; **1** = Improvement

[2] Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] TS = Traffic Signal; **TS** = Traffic Signal

[4] Improvement includes modifying the traffic signal to implement protected left turn phasing for the northbound and southbound approaches.

8 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Ontario are funded through a combination of construction of improvements, development impact fee programs or fair share contributions, such as the City of Ontario Development Impact Fee (DIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

8.1 CITY OF ONTARIO DEVELOPMENT IMPACT FEE PROGRAM

The City of Ontario has created its own local DIF program to impose and collect fees from new residential, commercial, and industrial development for the purpose of funding roadways and intersections necessary to accommodate City growth as identified in the City's General Plan Circulation Element. The City's DIF includes regional improvements to comply with Measure "I." The fee schedule was last updated in January 2020 and is reviewed/adjusted annually based upon changes in the construction cost index (CCI). Under the City's DIF program, the City may grant to developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the DIF program.

The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and consultants. The City uses this data to determine the timing of implementing the improvements listed in its facilities list. The City also uses this data to ensure that the improvements listed on the facilities list are constructed before the LOS falls below the LOS performance standards adopted by the City. In this way, the improvements are constructed before the LOS falls below the City's LOS performance thresholds.

The Project Applicant will be subject to the City's DIF fee program and will pay the requisite City DIF fees at the rates then in effect pursuant to the City's ordinance. The Project Applicant's payment of the requisite DIF at the rates then in effect, pursuant to the City DIF Program, would satisfy the Project's proportional improvement requirements at potentially affected DIF-funded facilities.

TABLE 8-1: ESTIMATED FEE OBLIGATION

Fee Reference	$ PER UNIT
Detached Dwellings	$4,847.00
Attached Dwellings	$3,237.00
Retail/Service Uses	$9.794
Business Park Uses	$5.824
Industrial Uses	$3.002

Source: City of Ontario General City (GC) Development Impact Fees (DIF), effective January 1, 2020.

Fee Calculation

Program	Category	Unit Cost	Units	Local Circulation
Streets, Signals and Bridges	Detached Dwellings	$4,847.00	1,553	$7,527,391
Streets, Signals and Bridges	Attached Dwellings	$3,237.00	5,641	$18,259,917
Streets, Signals and Bridges	Retail/Service Uses	$9.794	925,002	$9,059,470
Streets, Signals and Bridges	Business Park Uses	$5.824	316,724.6	$1,844,604
Streets, Signals and Bridges	Industrial Uses	$3.002	2,450,423.4	$7,356,171
		Total Transportation Impact Fees		**$44,047,553**

8.2 MEASURE "I" FUNDS

In 2004, the voters of San Bernardino County approved the 30-year extension of Measure "I," a one-half of one percent sales tax on retail transactions, through the year 2040, for transportation projects including, but not limited to, infrastructure improvements, commuter rail, public transit, and other identified improvements. The Measure "I" extension requires that a regional traffic impact fee be created to ensure development is paying its fair share. A regional Nexus study was prepared by SBCTA and concluded that each jurisdiction should include a regional fee component in their local programs in order to meet the Measure "I" requirement. The regional component assigns specific facilities and cost sharing formulas to each jurisdiction and was most recently updated in November 2011. Revenues collected through these programs are used in tandem with Measure "I" funds to deliver projects identified in the Nexus Study. While Measure "I" is a self-executing sales tax administered by SBCTA, it bears discussion here because the funds raised through Measure "I" have funded in the past and will continue to fund new transportation facilities in San Bernardino County.

8.3 FAIR SHARE CONTRIBUTION

Project improvement may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City's discretion).

When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, has been provided in Table 8-2 for the applicable deficient study area intersections.

These fees are collected with the proceeds solely used as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases.

TABLE 8-2: PROJECT FAIR SHARE CALCULATIONS

#	Intersection		Existing (2022)	Project Buildout	2045 With Project[2]	Total New Traffic	Project % of New Traffic[1]
3	Archibald Av. & Riverside Dr.						
		AM:	3,446	447	4,798	1,352	**33.1%**
		PM:	3,650	488	5,165	1,515	32.2%
4	Archibald Av. & Chino Av.						
		AM:	2,394	17	4,035	1,641	1.0%
		PM:	2,456	556	3,928	1,472	**37.8%**
6	Archibald Av. & Merrill Av.						
		AM:	2,559	469	5,185	2,626	**17.9%**
		PM:	3,059	13	6,371	3,312	0.4%
8	Turner Av. & Chino Av.						
		AM:	1,260	226	1,967	707	32.0%
		PM:	698	270	1,391	693	**39.0%**
12	Haven Av. & Riverside Dr.						
		AM:	2,425	203	4,598	2,173	9.3%
		PM:	2,160	1,610	4,693	2,533	**63.6%**
17	Mill Creek Av. & Riverside Dr.						
		AM:	1,693	656	2,841	1,148	57.1%
		PM:	1,035	756	2,250	1,215	**62.2%**
22	Milliken Av. & Riverside Dr.						
		AM:	1,893	153	4,547	2,654	5.8%
		PM:	2,071	1,471	5,392	3,321	**44.3%**
24	Hamner Av. & Ontario Ranch Rd.						
		AM:	2,989	1,482	6,913	3,924	**37.8%**
		PM:	3,706	529	8,642	4,936	10.7%

[1] **BOLD =** Highest fair share percentage is highlighted.

[2] For intersections where the Horizon Year project only volumes are negative, the opening year cumulative volumes have been utilized.

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9 REFERENCES

1. **County of San Bernardino.** *Transportation Impact Study Guidelines.* County of San Bernardino : s.n., July 2019.
2. **Institute of Transportation Engineers.** *Trip Generation Manual.* 11th Edition. 2021.
3. **San Bernardino Associated Governments.** *Congestion Management Program for County of San Bernardino.* County of San Bernardino : s.n., Updated June 2016.
4. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
5. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD).* 2014, Updated March 30, 2021 (Revision 6).
6. **The Planning Center for The City of Ontario.** *The Ontario Plan Environmental Impact Report.* Ontario : s.n., July 2009.
7. **The City of Eastvale.** *Adopted Genreal Plan.* Eastvale : s.n., June 13, 2012.
8. **California Department of Transportation.** *Guide for the Preparation of Traffic Impact Studies.* December 2002.

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APPENDIX 1.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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August 19, 2022

Mr. Jay Bautista
City of Ontario
303 E. B Street
Ontario, CA 91764

RICH HAVEN SPECIFIC PLAN TRAFFIC STUDY SCOPING AGREEMENT

Mr. Jay Bautista,

Urban Crossroads, Inc. has prepared the following assessment for the proposed Rich Haven Specific Plan development (**Project**) to establish a traffic analysis (**TA**) scope of work that would be prepared in support of the proposed Rich Haven Specific Plan Amendment. The Project is north of Ontario Ranch Road, south of Riverside Drive, east of Haven Avenue, and on either side of Mill Creek Avenue in the City of Ontario. The following memo outlines the project-related trip generation, trip distribution patterns, proposed study area and analysis scenarios expected to be included in the Project traffic analysis.

PROJECT DESCRIPTION

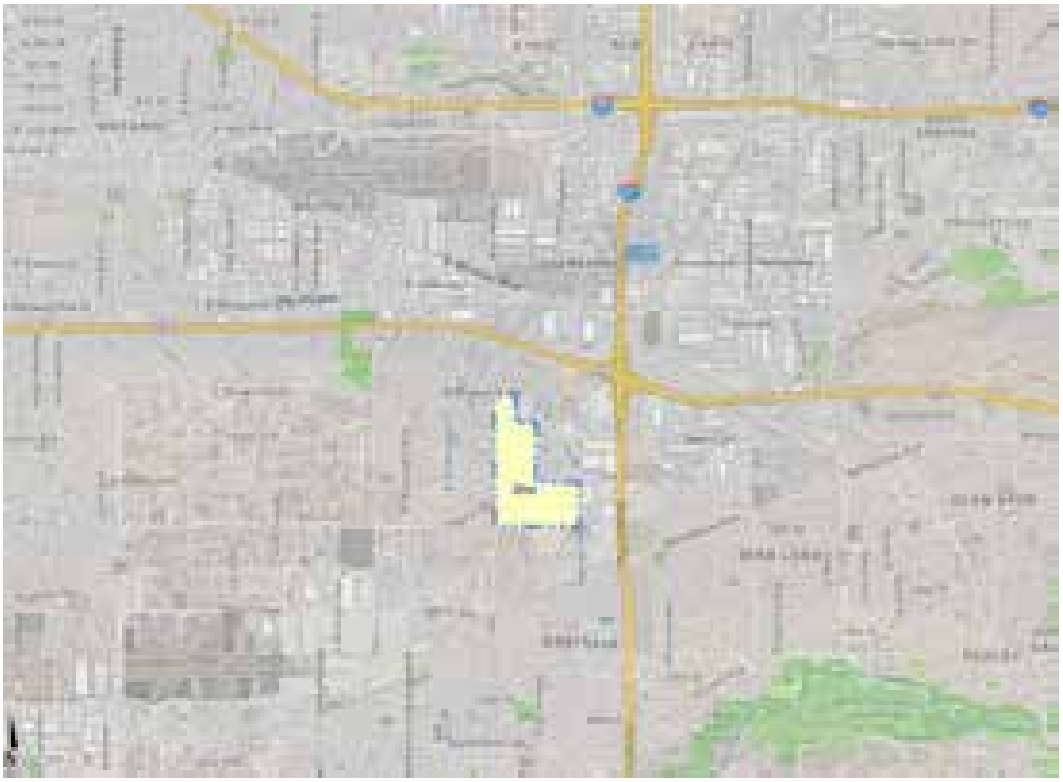
Exhibit 1 illustrates the location map for the proposed Project and Exhibit 2 shows the proposed land use plan. It is our understanding that the Project is to consist of amending the Rich Haven Specific Plan to accomplish the following:

1. Total acreage of the Specific Plan would increase by approximately 6.3-acres (approximately 1 percent) to include all properties accurately and correctly within the Specific Plan boundary.
2. Total residential development within the Specific Plan would be maintained at 7,194 dwelling units. Residential units and densities would however be reassigned within the Specific Plan.
3. Total commercial development would be reduced by 65,900 square feet (approximately 7 percent reduction from the 2021 Specific Plan commercial entitlements).
4. Total light industrial development would be increased by 1,583,623 square feet (approximately 134 percent increase from the 2021 Specific Plan light industrial entitlements).

Note that portions of Planning Areas 5A, 5C, and 6A have already been developed (currently existing). For Planning Areas 5A and 5C, approximately 164 dwelling units of the proposed 560 dwelling units have been built and occupied. Planning Area 6A is proposed to allow for 1,099 dwelling units and as of the date of the traffic counts 316 dwelling units have been sold. Remaining units in these PAs will be included as part of Phase 1. Planning Areas 4A, 4B, 4C, 5A, 5B, 5C, 5D, 6A, 6B, 6D, 7A, 8A, 8B, and 9A are anticipated to be developed as part of the first phase with an anticipated Opening Year of 2024. Project Buildout is anticipated in Year 2027. For purposes of the TA, the mix of uses for each planning area is summarized on Table 1. Access to the proposed Project would be provided to the surrounding roadways of Riverside Drive to the

north, Haven Avenue to the west, Ontario Ranch Road to the south, and Mill Creek Avenue to the east. Chino Avenue is also an east-west roadway that runs through the Project.

EXHIBIT 1: LOCATION MAP



PROPOSED ANALYSIS SCENARIOS

The following analysis scenarios are proposed to be evaluated in the Traffic Study:

- Existing (2022)
- Existing plus Project – Phase 1
- Existing plus Project – Project Buildout
- Opening Year Cumulative (2027) Without Project
- Opening Year Cumulative (2027) With Project – Project Buildout only
- Horizon Year (2050) Without Project – will be evaluated based on both the Currently Adopted and Draft TOP Update
- Horizon Year (2050) With Project – Project Buildout only

Horizon Year (2050) forecasts will be developed for both the currently adopted General Plan and based on The Ontario Plan (TOP 2050) General Plan Update (Draft). As such, there will be two Horizon Year (2050) Without Project and two Horizon Year (2050) With Project traffic conditions evaluated for the purposes of this TA.

EXHIBIT 2: PROPOSED LAND USE PLAN

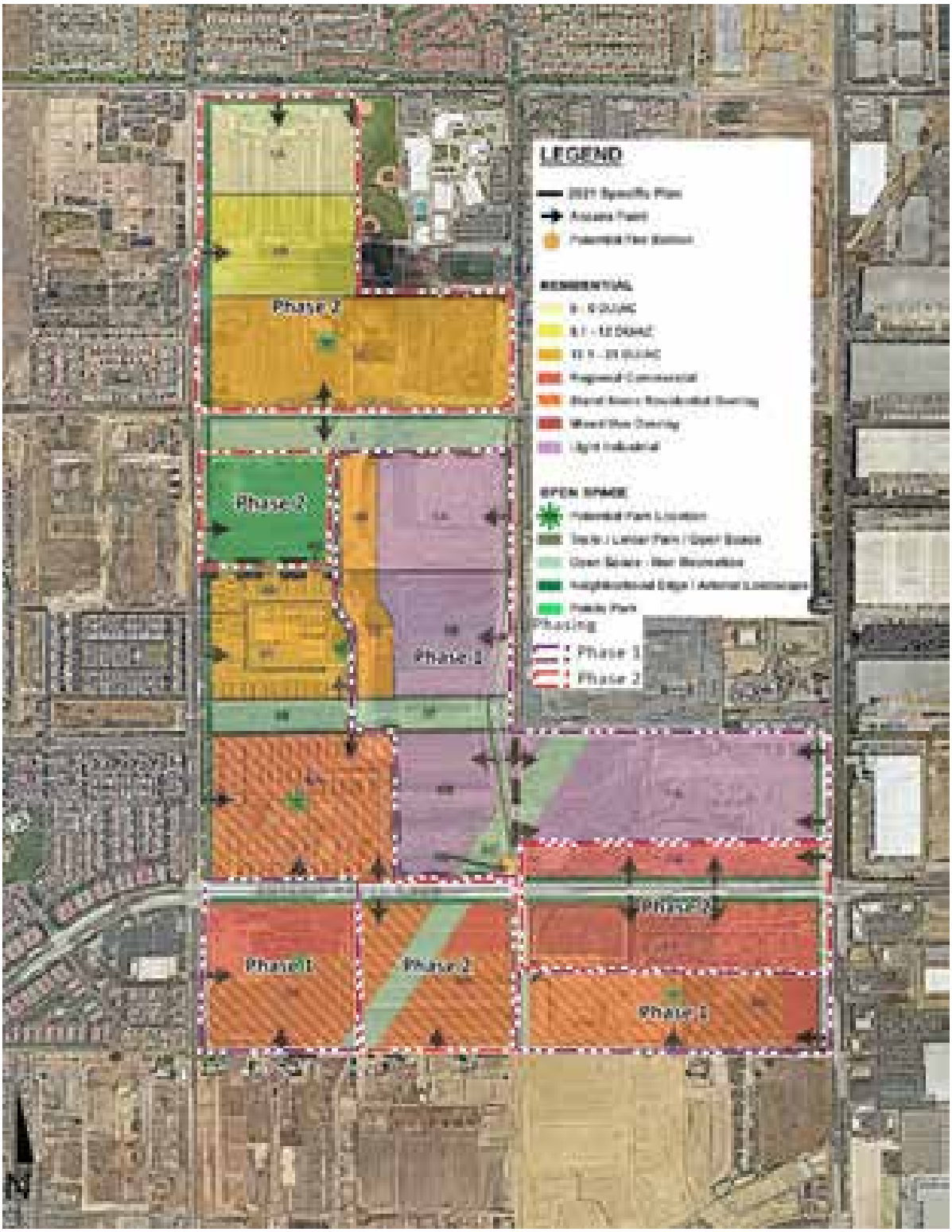


TABLE 1: SUMMARY OF PROPOSED LAND USES

PA	Land Use	Quantity	Unit[1]
1A	Single Family Residential (0-5 DU/Ac)	128	DU
1B	Single Family Residential (5.1-12 DU/Ac)	94	DU
	Multifamily Residential (12.1-25 DU/Ac)	200	DU
1C	Single Family Residential (5.1-12 DU/Ac)	231	DU
	Multifamily Residential (12.1-25 DU/Ac)	800	DU
2	Open Space (Edison Easement)	20.0	AC
3	Public Park	27.0	AC
4A	Light Industrial	560.617	TSF
4B	Multifamily Residential (12.1-25 DU/Ac)	190	DU
4C	Public Park	1.3	AC
5A	Single Family Residential (5.1-12 DU/Ac)	100	DU
	Multifamily Residential (12.1-25 DU/Ac)	110	DU
5B	Light Industrial	512.701	TSF
5C	Single Family Residential (5.1-12 DU/Ac)	100	DU
	Multifamily Residential (12.1-25 DU/Ac)	250	DU
5D	Multifamily Residential (12.1-25 DU/Ac)	190	DU
5E	Open Space (Edison Easement)	8.3	AC
5F	Open Space (Edison Easement)	8.5	AC
6A	Regional Commercial/Stand Alone Residential Overlay	1,099	DU
6B	Light Industrial	510.305	TSF
6C	Open Space	3.7	AC
6D	Regional Commercial	7.500	TSF
7A	Light Industrial	1,183.525	TSF
7B	Regional Commercial	300.000	TSF
8A	Regional Commercial/Mixed Use Overlay	852	DU
		325.000	TSF
8B	Regional Commercial/Stand Alone Residential Overlay	550	DU
		50.000	TSF
9A	Regional Commercial/Stand Alone Residential Overlay	1,150	DU
		166.182	TSF
9B	Regional Commercial/Stand Alone Residential Overlay	1,150	DU
		76.320	TSF

[1] DU = Dwelling Units; TSF = Thousand Square Feet; AC = Acres

EXISTING COUNT DATA

We are proposing to use new traffic counts for the study area intersections that were conducted in April and May 2022 while local schools were in session and will not apply any further adjustments in establishing the baseline as traffic counts would reflect the current conditions, including any foreseeable lasting effects due to the COVID-19 pandemic.

AMBIENT GROWTH

Future year traffic forecasts will be based upon a background (ambient) growth of 2% per year, compounded annually for five years. The growth factor for Opening Year Cumulative (2027) traffic conditions will be 10.41% (or $1.02^{5\ years}$).

TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

CURRENTLY APPROVED LAND USES

Trip generation for the currently approved land uses are shown in Table 2 as evaluated in the Traffic Study for the Rich Haven Specific Plan PA 1 & PA 7 Amendment (dated January 22, 2021, prepared by Linscott Law & Greenspan Engineers, referred to as **2021 Traffic Study** in support of the **2021 Specific Plan Amendment**). The currently approved Specific Plan (2021 Specific Plan Amendment) land uses include 7,194 residential dwelling units, 990,902 square feet of commercial retail/general office use, and 1,183,525 square feet of light industrial use. The trip generation utilized for the project was obtained from the 2021 Traffic Study. As shown in Table 2, the currently approved uses generate a net total of 91,993 two-way trips per day with 6,372 AM peak hour trips and 8,772 PM peak hour trips.

TABLE 2: CURRENTLY APPROVED TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
PA 1A: Single Family Detached Residential	115	DU	21	64	85	72	42	114	1,086
PA 1B: Single Family Detached Residential	175	DU	32	98	130	109	64	173	1,652
PA 1C: Single Family Detached Residential	231	DU	31	95	126	106	62	168	1,605
PA 1C: Multifamily (Low-Rise) Residential	500	DU	59	199	258	198	116	314	4,107
PA 3: Public Park	27.0	AC	1	0	1	2	1	3	21
PA 4A: Single Family Detached Residential	154	DU	28	86	114	96	56	152	1,454
PA 4B: Single Family Detached Residential	101	DU	19	56	75	63	37	100	953
PA 4C: Single Family Detached Residential	108	DU	20	60	80	67	40	107	1,020
PA 5A: Single Family Detached Residential	109	DU	20	61	81	68	40	108	1,029
PA 5B: Single Family Detached Residential	65	DU	12	36	48	41	23	64	614
PA 5B: Multifamily (Low-Rise) Residential	100	DU	11	35	46	35	21	56	732
PA 5C: Single Family Detached Residential	332	DU	61	185	246	207	122	329	3,134
PA 5D: Single Family Detached Residential	81	DU	15	45	60	51	29	80	765
PA 5D: Multifamily (Low-Rise) Residential	280	DU	30	99	129	99	58	157	2,050
PA 6A: Single Family Detached Residential	1,089	DU	201	605	806	679	399	1,078	10,280
PA 6A: General Office	41.546	TSF	41	7	48	8	40	48	405
PA 6A: Shopping Center	41.545	TSF	24	15	39	76	82	158	1,568
PA 6B: Single Family Detached Residential	703	DU	130	390	520	438	258	696	6,636
PA 6B: General Office	19.080	TSF	19	3	22	4	18	22	186
PA 6B: Shopping Center	19.080	TSF	11	7	18	35	38	73	720
PA 7A: High-Cube Transload	591.763	TSF	53	11	64	27	47	74	1,092
PA 7A: High-Cube Fulfillment Center	295.881	TSF	270	66	336	163	258	421	2,516
PA 7A: High-Cube Cold Storage	295.881	TSF	29	9	38	13	32	45	827
PA 7B: Shopping Center	225.000	TSF	55	33	88	171	186	357	3,539
PA 7B: High Turnover Restaurant	45.000	TSF	102	84	186	113	70	183	2,103
PA 7B: Fast-Food Restaurant w/ Drive-Through	30.000	TSF	256	246	502	212	196	408	5,887
PA 8A: Single Family Detached Residential	852	DU	158	472	630	531	312	843	8,043
PA 8A: General Office	162.500	TSF	162	27	189	30	157	187	1,583
PA 8A: Shopping Center	162.500	TSF	95	58	153	297	322	619	6,134
PA 8B: Multifamily (Low-Rise) Residential	407	DU	43	144	187	144	84	228	2,979
PA 8B: General Office	61.700	TSF	62	10	72	11	60	71	601
PA 8B: Shopping Center	61.700	TSF	36	22	58	113	122	235	2,329
PA 9A: Single Family Detached Residential	1,089	DU	201	605	806	679	399	1,078	10,280
PA 9A: General Office	41.546	TSF	41	7	48	8	40	48	405
PA 9A: Shopping Center	41.545	TSF	24	15	39	76	82	158	1,568
PA 9B: Single Family Detached Residential	703	DU	130	390	520	438	258	696	6,636
PA 9B: General Office	19.080	TSF	19	3	22	4	18	22	186
PA 9B: Shopping Center	19.080	TSF	11	7	18	35	38	73	720
PA 6, PA 7, PA 8 & PA 9 Internal Capture			-72	-137	-209	-182	-135	-317	-3,061
PA 6, PA 7, PA 8 & PA 9 Pass-by Reduction			-159	-148	-307	-334	-323	-657	-2,391
Total Trips			**2,302**	**4,070**	**6,372**	**5,003**	**3,769**	**8,772**	**91,993**

Source: Traffic Impact Analysis Report Rich Haven Specific Plan PA 1 & PA 7 Amendment, LLG Engineers, January 2021.

[1] DU = dwelling units; TSF = thousand square feet; AC = acres

PROPOSED PROJECT

The trip generation rates used the proposed Project are based upon information collected by the ITE as provided in their latest Trip Generation Manual, 11th Edition, 2021 and the High Cube Warehouse Trip Generation Study (WSP, January 2019). Attachment A contains the Project's trip generation rates and summary tables. Table A-1 in Attachment A summarizes the trip generation rates used for the proposed Project. The proposed Project trip generation summary is shown on Table A-2 in actual vehicles and on Table A-3 in PCE. A condensed summary of the Project's trip generation is shown on Table 3 summarizing the detailed trip generation provided in Attachment A. The proposed Project is anticipated to generate a total of 95,538 two-way trips per day with 8,078 AM peak hour trips and 8,036 PM peak hour trips. Internal capture percentages have been derived from the worksheets included in Attachment A and pass-by reductions are based on the latest ITE Trip Generation Manual for each applicable retail/restaurant land use.

TABLE 3: PROJECT TRIP GENERATION SUMMARY

	AM Peak Hour			PM Peak Hour			
Land Use	In	Out	Total	In	Out	Total	Daily
Actual Vehicles:							
Phase 1 Total Trips	1,634	2,101	3,735	2,199	1,832	4,031	47,226
Phase 2 Total Trips	2,005	2,338	4,343	2,281	1,724	4,005	48,312
Project Buildout Total Trips (Actual Vehicles)	**3,639**	**4,439**	**8,078**	**4,480**	**3,556**	**8,036**	**95,538**
Passenger Car Equivalent (PCE):							
Phase 1 Total Trips	1,694	2,140	3,834	2,231	1,893	4,124	48,922
Phase 2 Total Trips	2,005	2,338	4,343	2,281	1,724	4,005	48,312
Project Buildout Total Trips (PCE)	**3,699**	**4,478**	**8,177**	**4,512**	**3,617**	**8,129**	**97,234**

[1] DU = dwelling units; TSF = thousand square feet; AC = acres

TRIP GENERATION COMPARISON

As shown on Table 4, the proposed Project is anticipated to generate 7,411 more two-way peak hour trips, 1,969 more AM peak hour trips, and 392 fewer PM peak hour trips as compared to the uses evaluated in the 2021 Specific Plan Amendment.

TABLE 4: TRIP GENERATION COMPARISON

	AM Peak Hour			PM Peak Hour			
Land Use	In	Out	Total	In	Out	Total	Daily
2021 SPA Trip Generation	2,302	4,070	6,372	5,003	3,769	8,772	91,993
Proposed Project Trip Generation	3,639	4,439	8,078	4,480	3,556	8,036	95,538
Existing Uses	67	196	263	217	127	344	3,866
Variance	**1,404**	**565**	**1,969**	**-306**	**-86**	**-392**	**7,411**

TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. Trip distribution patterns have been developed for each land use component of the Specific Plan as follows:

- Exhibit 4: Project (Residential) Trip Distribution
- Exhibit 5: Project (Non-Residential) Trip Distribution
- Exhibit 6: Project (4A, 5B, and 6B Industrial – Passenger Cars) Trip Distribution
- Exhibit 7: Project (4A, 5B, and 6B Industrial – Trucks) Trip Distribution
- Exhibit 8: Project (7A Industrial – Passenger Cars) Trip Distribution
- Exhibit 9: Project (7A Industrial – Trucks) Trip Distribution

The proposed residential, non-residential, and industrial trip distributions are based on select zone runs for the Project from the latest TOP traffic model. The trip distribution patterns for passenger cars and trucks for PA 7A is consistent with the 2021 Traffic Study prepared for the last Specific Plan Amendment. The non-residential land uses include the general office, shopping center, retail, and restaurant uses.

EXHIBIT 4: PROJECT (RESIDENTIAL) TRIP DISTRIBUTION



EXHIBIT 5: PROJECT (NON-RESIDENTIAL) TRIP DISTRIBUTION



EXHIBIT 6: PROJECT (4A, 5B & 6B INDUSTRIAL – PASSENGER CARS) TRIP DISTRIBUTION



EXHIBIT 7: PROJECT (4A, 5B & 6B INDUSTRIAL – TRUCKS) TRIP DISTRIBUTION



EXHIBIT 8: PROJECT (7A INDUSTRIAL – PASSENGER CARS) TRIP DISTRIBUTION



EXHIBIT 9: PROJECT (7A INDUSTRIAL – TRUCKS) TRIP DISTRIBUTION



INTERSECTION ANALYSIS LOCATIONS

Exhibit 10 depicts the recommended intersection analysis locations, based upon the Project trip generation and trip distribution patterns included as part of this letter. The study area intersections are consistent with the locations evaluated in the Specific Plan. Table 5 also includes a summary of the study area intersections.

TABLE 5: INTERSECTION ANALYSIS LOCATIONS

#	Intersections
1	Archibald Av. & SR-60 WB Ramps
2	Archibald Av. & SR-60 EB Ramps
3	Archibald Av. & Riverside Dr.
4	Archibald Av. & Chino Av.
5	Archibald Av. & Schaefer Av.
6	Archibald Av. & Merrill Av.
7	Turner Av. & Riverside Dr.
8	Turner Av. & Chino Av.
9	Turner Av. & Ontario Ranch Rd.
10	Haven Av. & SR-60 WB Ramps
11	Haven Av. & SR-60 EB Ramps
12	Haven Av. & Riverside Dr.
13	Haven Av. & Chino Av.
14	Haven Av. & Schaefer Av.
15	Haven Av. & Ontario Ranch Rd.
16	Twinkle Av. & Chino Av.
17	Mill Creek Av. & Riverside Dr.
18	Mill Creek Av. & Chino Av.
19	Mill Creek Av. & Ontario Ranch Rd.
20	Milliken Av. & SR-60 WB Ramps
21	Milliken Av. & SR-60 EB Ramps
22	Milliken Av. & Riverside Dr.
23	Hamner Av. & Chino Av.
24	Hamner Av. & Ontario Ranch Rd.
25	I-15 SB Ramps & Cantu Galleano Ranch Rd.
26	I-15 NB Ramps & Cantu Galleano Ranch Rd.
27	Wineville Av. & Cantu Galleano Ranch Rd.

EXHIBIT 10: STUDY AREA



VEHICLE MILES TRAVELLED (VMT)

The VMT thresholds and methodology outlined in the City of Ontario's May 2020 VMT guidelines will be utilized to conduct the VMT analysis for the Project. The VMT analysis will be prepared and submitted under separate cover.

TRAFFIC SIGNAL WARRANTS

Traffic signal warrant analysis will be conducted for all unsignalized full access driveways/intersections following the guidance of the California Manual on Uniform Control Devices (CA MUTCD).

OPEN ITEMS – CUMULATIVE DEVELOPMENT PROJECTS

It is requested that the City of Ontario provide a current list of cumulative development projects for inclusion in our traffic study. A preliminary list of cumulative development projects is provided on Table 6 and graphically shown on Exhibit 11.

SPECIAL ISSUES

The following special issues will be addressed as part of the TA:

- The proposed reduced lanes along Chino Avenue between Haven Avenue and Mill Creek Avenue will also be evaluated as part of the Traffic Study to ensure acceptable operations. Chino Avenue between Haven Avenue and Mill Creek Avenue is proposed to maintain the ultimate right-of-way (88-feet) but is proposed to accommodate one lane in each direction, separated by a raised median. Chino Avenue will accommodate two-lanes of travel in each direction between Mill Creek Avenue and Hamner Avenue, consistent with the standard street section.
- Assess the roadway segment capacity for Chino Avenue to determine the necessary roadway cross-section.
- The proposed roundabouts located at Twinkle Avenue (#16) and Mill Creek Avenue (#18) along Chino Avenue will also be evaluated as part of the Traffic Study based on the preliminary concept plans for both locations. Twinkle Avenue is located approximately mid-block between Haven Avenue and Mill Creek Avenue.
- A concept striping plan will be included in the traffic study to reflect the proposed single lane roundabouts and the design necessary to transition to the adjacent roadway segments.
- Traffic signal warrant analyses will be conducted for all unsignalized study area intersections for all applicable analysis scenarios.

OPEN ITEMS – SIGNAL TIMING

It is requested that the City provide traffic signal timing for any City controlled intersections that we should take into consideration in our operations analysis. Applicable signal timing for Caltrans facilities will be obtained from District 8.

If you have any questions or comments, I can be reached at cso@urbanxroads.com.

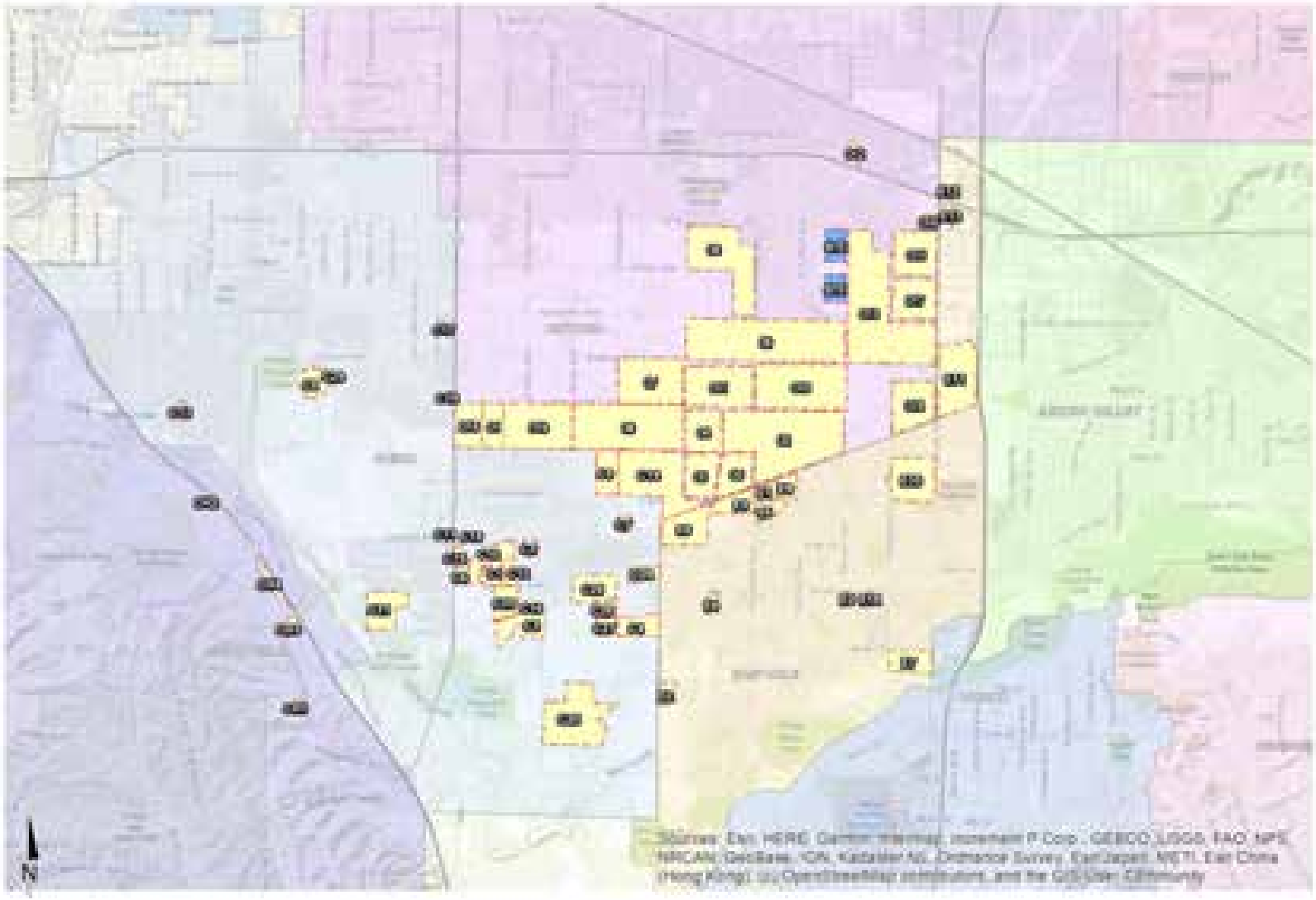
Respectfully submitted,

URBAN CROSSROADS, INC.

Charlene So, PE
Principal



EXHIBIT 11: CUMULATIVE DEVELOPMENT LOCATION MAP



ATTACHMENT A: TRIP GENERATION TABLES

TABLE A-1: TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates									
Industrial Park[3]	TSF	130	0.275	0.065	0.340	0.075	0.265	0.340	3.370
Passenger Cars			0.243	0.057	0.300	0.066	0.234	0.300	2.800
2-Axle Trucks			0.005	0.001	0.007	0.001	0.005	0.007	0.095
3-Axle Trucks			0.007	0.002	0.008	0.002	0.006	0.008	0.118
4+-Axle Trucks			0.020	0.005	0.025	0.006	0.020	0.025	0.357
High-Cube Transload Warehouse[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.052	0.008	0.060	0.023	0.067	0.090	1.180
2-Axle Trucks			0.002	0.001	0.003	0.001	0.001	0.002	0.037
3-Axle Trucks			0.002	0.002	0.004	0.001	0.001	0.002	0.046
4+-Axle Trucks			0.006	0.007	0.013	0.003	0.003	0.006	0.138
High-Cube Fulfillment Center (Sort)[3]	TSF	155	0.705	0.165	0.870	0.468	0.732	1.200	6.440
Passenger Cars			0.695	0.155	0.850	0.458	0.722	1.180	6.250
2-Axle Trucks			0.002	0.001	0.003	0.002	0.001	0.003	0.032
3-Axle Trucks			0.002	0.002	0.004	0.002	0.002	0.004	0.039
4+-Axle Trucks			0.006	0.007	0.013	0.006	0.007	0.013	0.119
High-Cube Cold Storage Warehouse[3]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.065	0.090	1.370
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.407
High-Cube Fulfillment Center Warehouse[4]	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+-Axle Trucks			0.008	0.003	0.011	0.003	0.007	0.010	0.217
Single Family Detached Residential	DU	210	0.18	0.52	0.70	0.59	0.35	0.94	9.43
Multifamily (Low-Rise) Housing	DU	220	0.10	0.30	0.40	0.32	0.19	0.51	6.74
Public Park	AC	411	0.01	0.01	0.02	0.06	0.05	0.11	0.78
General Office	TSF	710	1.34	0.18	1.52	0.24	1.20	1.44	10.84
Shopping Center (>150,000 SF)	TSF	820	0.52	0.32	0.84	1.63	1.77	3.40	37.01
Shopping Center (40,000-150,000 SF)	TSF	821	1.07	0.66	1.73	2.54	2.65	5.19	67.52
Strip Retail (<40,000 SF)	TSF	822	1.42	0.94	2.36	3.30	3.29	6.59	54.45
High Turnover Restaurant	TSF	932	5.26	4.31	9.57	5.52	3.53	9.05	107.20
Fast-Food Restaurant With Drive-Thru Window	TSF	934	22.75	21.86	44.61	17.18	15.85	33.03	467.48
Gas Station (4,000-5,500 SF Convenience)	VFP	945	13.52	13.52	27.04	11.38	11.38	22.76	257.13

[1] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet; DU = Dwelling Units; AC = Acres; VFP = Vehicle Fueling Position

[3] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

[4] Vehicle Mix Source: High Cube Warehouse Trip Generation Study, WSP, January 29, 2019.

Inbound and outbound split source: ITE Trip Generation Manual, Eleventh Edition (2021) for ITE Land Use Code 154.

TABLE A-2: PROJECT TRIP GENERATION SUMMARY (ACTUAL VEHICLES)

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Existing Uses:									
PA 5A: Multifamily (Low-Rise) Residential	106	DU	19	55	74	63	37	100	1,000
PA 5C: Single Family Detached Residential	58	DU	11	30	41	34	20	54	548
PA 6A: Single Family Detached Residential	70	DU	13	36	49	41	24	65	660
PA 6A: Multifamily (Low-Rise) Residential	246	DU	24	75	99	79	46	125	1,658
PA 5A, 5C, & 6A Subtotal			**67**	**196**	**263**	**217**	**127**	**344**	**3,866**
Phase 1:									
PA 4A, 5B, 6B: Business Park (20%)	316.725	TSF							
Passenger Cars			77	18	95	21	74	95	888
Trucks			10	2	12	3	10	13	182
PA 4A, 5B, 6B: High-Cube Cold Storage (10%)	158.362	TSF							
Passenger Cars			10	3	13	4	10	14	218
Trucks			1	3	4	2	2	4	120
PA 4A, 5B, 6B: High-Cube Fulfillment (70%)	1,108.536	TSF							
Passenger Cars			88	26	114	45	115	160	1,940
Trucks			16	5	21	7	17	24	420
Internal Capture (1% AM, 2% PM/Daily)			-2	0	-2	-1	-4	-5	-62
PA 4B: Multifamily (Low-Rise) Residential	190	DU	18	58	76	61	36	97	1,282
PA 4C: Public Park	1.3	AC	0	0	0	0	0	0	2
PA 5A: Single Family Detached Residential	100	DU	18	52	70	59	35	94	944
PA 5A: Multifamily (Low-Rise) Residential	4	DU	0	1	1	1	1	2	28
PA 5C: Single Family Detached Residential	42	DU	8	22	30	25	15	40	396
PA 5C: Multifamily (Low-Rise) Residential	250	DU	24	76	100	80	47	127	1,686
PA 5D: Multifamily (Low-Rise) Residential	190	DU	18	58	76	61	36	97	1,282
PA 6A: Single Family Detached Residential	230	DU	42	119	161	136	80	216	2,170
PA 6A: Multifamily (Low-Rise) Residential	553	DU	53	168	221	178	104	282	3,728
Internal Capture (4% AM, 12% PM/Daily)			-7	-22	-29	-72	-42	-114	-1,382
PA 6D: Strip Retail	7.500	TSF	11	7	18	25	25	50	408
Internal Capture (3% AM, 19% PM/Daily)			0	0	0	-5	-5	-10	-78
PA 6D: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 4, 5, & 6 Subtotal			**435**	**646**	**1,081**	**667**	**593**	**1,260**	**15,004**
PA 7A: High-Cube Transload (50%)	591.763	TSF							
Passenger Cars			31	5	36	14	40	54	698
Trucks			6	6	12	3	3	6	130
PA 7A: High-Cube Fulfillment Center (25%)	295.881	TSF							
Passenger Cars			206	46	252	136	214	350	1,850
Trucks			3	3	6	3	3	6	56
PA 7A: High-Cube Cold Storage (25%)	295.881	TSF							
Passenger Cars			18	5	23	7	19	26	406
Trucks			3	6	9	4	4	8	222
Internal Capture (1% AM, 2% PM/Daily)			-3	-1	-4	-3	-5	-8	-60
PA 7 Subtotal			**264**	**70**	**334**	**164**	**278**	**442**	**3,302**
PA 8A: Single Family Detached Residential	300	DU	55	155	210	178	104	282	2,829
PA 8A: Multifamily (Low-Rise) Residential	552	DU	53	168	221	177	104	281	3,720
PA 8B: Multifamily (Low-Rise) Residential	550	DU	53	167	220	177	104	281	3,707
Internal Capture (4% AM, 12% PM/Daily)			-6	-20	-26	-64	-37	-101	-1,232
PA 8B: Shopping Center (75%)	37.500	TSF	40	25	65	95	99	194	2,532
Internal Capture (3% AM, 19% PM/Daily)			-1	-1	-2	-18	-19	-37	-482
Pass-by (40% PM/Daily)			0	0	0	-32	-32	-64	-820
PA 8B: High Turnover Restaurant (15%)	7.500	TSF	39	32	71	41	26	67	804
Internal Capture (8% AM, 17% PM/Daily)			-3	-3	-6	-7	-4	-11	-130
Pass-by (43% PM/Daily)			0	0	0	-9	-9	-18	-290
PA 8B: Fast-Food Restaurant w/ Drive-Through (10%)	5.000	TSF	114	109	223	86	79	165	2,338
Internal Capture (8% AM, 17% PM/Daily)			-9	-9	-18	-15	-13	-28	-374
Pass-by (50% AM, 55% PM/Daily)			-50	-50	-100	-34	-34	-68	-1,022
PA 8B: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 8 Subtotal			**335**	**623**	**958**	**612**	**405**	**1,017**	**12,412**

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
PA 9A: Single Family Detached Residential	150	DU	27	78	105	89	52	141	1,416
PA 9A: Multifamily (Low-Rise) Residential	1,000	DU	96	304	400	321	189	510	6,740
Internal Capture (4% AM, 12% PM/Daily)			-5	-15	-20	-49	-29	-78	-980
PA 9A: Shopping Center (75%)	124.637	TSF	134	82	216	317	330	647	8,416
Internal Capture (3% AM, 19% PM/Daily)			-4	-2	-6	-60	-63	-123	-1,600
Pass-by (40% PM/Daily)			0	0	0	-107	-107	-214	-2,726
PA 9A: High Turnover Restaurant (15%)	24.927	TSF	131	107	238	138	88	226	2,672
Internal Capture (8% AM, 17% PM/Daily)			-10	-9	-19	-23	-15	-38	-428
Pass-by (43% PM/Daily)			0	0	0	-31	-31	-62	-966
PA 9A: Fast-Food Restaurant w/ Drive-Through (10%)	16.618	TSF	378	363	741	285	263	548	7,770
Internal Capture (8% AM, 17% PM/Daily)			-30	-29	-59	-48	-45	-93	-1,244
Pass-by (50% AM, 55% PM/Daily)			-167	-167	-334	-113	-113	-226	-3,394
PA 9A: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 9 Subtotal			**600**	**762**	**1,362**	**756**	**556**	**1,312**	**16,508**
Phase 1 Total (Actual Vehicles)			**1,634**	**2,101**	**3,735**	**2,199**	**1,832**	**4,031**	**47,226**
Phase 2:									
PA 1A: Single Family Detached Residential	128	DU	23	66	89	76	45	121	1,208
PA 1B: Single Family Detached Residential	94	DU	17	49	66	56	33	89	886
PA 1B: Multifamily (Low-Rise) Residential	200	DU	19	61	80	64	38	102	1,348
PA 1C: Single Family Detached Residential	231	DU	42	120	162	137	80	217	2,178
PA 1C: Multifamily (Low-Rise) Residential	800	DU	77	243	320	257	151	408	5,392
Internal Capture (4% AM, 12% PM/Daily)			-7	-22	-29	-71	-42	-113	-1,322
PA 1 Subtotal			**171**	**517**	**688**	**519**	**305**	**824**	**9,690**
PA 3: Public Park	27.0	AC	0	0	0	2	1	3	22
PA 3 Subtotal			**0**	**0**	**0**	**2**	**1**	**3**	**22**
PA 7B: Shopping Center (75%)	225.000	TSF	117	72	189	367	398	765	8,328
Internal Capture (3% AM, 19% PM/Daily)			-4	-2	-6	-70	-76	-146	-1,582
Pass-by (40% PM/Daily)			0	0	0	-129	-129	-258	-2,698
PA 7B: High Turnover Restaurant (15%)	45.000	TSF	237	194	431	248	159	407	4,824
Internal Capture (8% AM, 17% PM/Daily)			-19	-16	-35	-42	-27	-69	-772
Pass-by (43% PM/Daily)			0	0	0	-57	-57	-114	-1,742
PA 7B: Fast-Food Restaurant w/ Drive-Through (10%)	30.000	TSF	683	656	1,339	515	476	991	14,024
Internal Capture (8% AM, 17% PM/Daily)			-55	-52	-107	-88	-81	-169	-2,244
Pass-by (50% AM, 55% PM/Daily)			-302	-302	-604	-205	-205	-410	-6,126
PA 7B: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 7 Subtotal			**707**	**600**	**1,307**	**576**	**495**	**1,071**	**12,844**
PA 8A: Shopping Center (75%)	243.750	TSF	127	78	205	398	431	829	9,022
Internal Capture (3% AM, 19% PM/Daily)			-4	-2	-6	-76	-82	-158	-1,714
Pass-by (40% PM/Daily)			0	0	0	-140	-140	-280	-2,924
PA 8A: High Turnover Restaurant (15%)	48.750	TSF	257	210	467	269	172	441	5,226
Internal Capture (8% AM, 17% PM/Daily)			-21	-17	-38	-46	-29	-75	-836
Pass-by (43% PM/Daily)			0	0	0	-61	-61	-122	-1,888
PA 8A: Fast-Food Restaurant w/ Drive-Through (10%)	32.500	TSF	739	710	1,449	558	515	1,073	15,194
Internal Capture (8% AM, 17% PM/Daily)			-59	-57	-116	-95	-88	-183	-2,432
Pass-by (50% AM, 55% PM/Daily)			-327	-327	-654	-222	-222	-444	-6,636
PA 8A: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 8 Subtotal			**762**	**645**	**1,407**	**622**	**533**	**1,155**	**13,844**
PA 9B: Single Family Detached Residential	150	DU	27	78	105	89	52	141	1,416
PA 9B: Multifamily (Low-Rise) Residential	1,000	DU	96	304	400	321	189	510	6,740
Internal Capture (4% AM, 12% PM/Daily)			-5	-15	-20	-49	-29	-78	-980
PA 6B/9B: Shopping Center (75%)	57.240	TSF	61	38	99	146	152	298	3,865
Internal Capture (3% AM, 19% PM/Daily)			-2	-1	-3	-28	-29	-57	-734
Pass-by (40% PM/Daily)			0	0	0	-49	-49	-98	-1,252
PA 6B/9B: High Turnover Restaurant (15%)	11.448	TSF	60	49	109	63	40	103	1,227
Internal Capture (8% AM, 17% PM/Daily)			-5	-4	-9	-11	-7	-18	-196
Pass-by (43% PM/Daily)			0	0	0	-14	-14	-28	-444
PA 6B/9B: Fast-Food Restaurant w/ Drive-Through (10%)	7.632	TSF	174	167	341	131	121	252	3,568
Internal Capture (8% AM, 17% PM/Daily)			-14	-13	-27	-22	-21	-43	-572
Pass-by (50% AM, 55% PM/Daily)			-77	-77	-154	-52	-52	-104	-1,558
PA 6B/9B: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 6B & 9 Subtotal			**365**	**576**	**941**	**562**	**390**	**952**	**11,912**
Phase 2 Total Trips			**2,005**	**2,338**	**4,343**	**2,281**	**1,724**	**4,005**	**48,312**
Project Buildout Total Trips (Actual Vehicles)			**3,639**	**4,439**	**8,078**	**4,480**	**3,556**	**8,036**	**95,538**

[1] DU = dwelling units; TSF = thousand square feet; AC = acres

TABLE A-3: PROJECT TRIP GENERATION SUMMARY (PCE)

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Existing Uses:									
PA 5A: Multifamily (Low-Rise) Residential	106	DU	19	55	74	63	37	100	1,000
PA 5C: Single Family Detached Residential	58	DU	11	30	41	34	20	54	548
PA 6A: Single Family Detached Residential	70	DU	13	36	49	41	24	65	660
PA 6A: Multifamily (Low-Rise) Residential	246	DU	24	75	99	79	46	125	1,658
PA 5A, 5C, & 6A Subtotal			**67**	**196**	**263**	**217**	**127**	**344**	**3,866**
Phase 1:									
PA 4A, 5B, 6B: Business Park (20%)	316.725	TSF							
Passenger Cars			77	18	95	21	74	95	888
Trucks (PCE)			26	6	32	7	25	32	460
PA 4A, 5B, 6B: High-Cube Cold Storage (10%)	158.362	TSF							
Passenger Cars			10	3	13	4	10	14	218
Trucks (PCE)			3	8	11	6	6	12	282
PA 4A, 5B, 6B: High-Cube Fulfillment (70%)	1,108.536	TSF							
Passenger Cars			88	26	114	45	115	160	1,940
Trucks (PCE)			42	12	54	16	42	58	1,082
Internal Capture (1% AM, 2% PM/Daily)			-2	0	-2	-1	-4	-5	-62
PA 4B: Multifamily (Low-Rise) Residential	190	DU	18	58	76	61	36	97	1,282
PA 4C: Public Park	1.3	AC	0	0	0	0	0	0	2
PA 5A: Single Family Detached Residential	100	DU	18	52	70	59	35	94	944
PA 5A: Multifamily (Low-Rise) Residential	4	DU	0	1	1	1	1	2	28
PA 5C: Single Family Detached Residential	42	DU	8	22	30	25	15	40	396
PA 5C: Multifamily (Low-Rise) Residential	250	DU	24	76	100	80	47	127	1,686
PA 5D: Multifamily (Low-Rise) Residential	190	DU	18	58	76	61	36	97	1,282
PA 6A: Single Family Detached Residential	230	DU	42	119	161	136	80	216	2,170
PA 6A: Multifamily (Low-Rise) Residential	553	DU	53	168	221	178	104	282	3,728
Internal Capture (4% AM, 12% PM/Daily)			-7	-22	-29	-72	-42	-114	-1,382
PA 6D: Strip Retail	7.500	TSF	11	7	18	25	25	50	408
Internal Capture (3% AM, 19% PM/Daily)			0	0	0	-5	-5	-10	-78
PA 6D: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 4, 5, & 6 Subtotal			**479**	**662**	**1,141**	**684**	**637**	**1,321**	**16,106**
PA 7A: High-Cube Transload (50%)	591.763	TSF							
Passenger Cars			31	5	36	14	40	54	698
Trucks (PCE)			15	15	30	7	8	15	332
PA 7A: High-Cube Fulfillment Center (25%)	295.881	TSF							
Passenger Cars			206	46	252	136	214	350	1,850
Trucks (PCE)			7	8	15	7	8	15	144
PA 7A: High-Cube Cold Storage (25%)	295.881	TSF							
Passenger Cars			18	5	23	7	19	26	406
Trucks (PCE)			6	15	21	11	11	22	526
Internal Capture (1% AM, 2% PM/Daily)			-3	-1	-4	-3	-5	-8	-60
PA 7 Subtotal			**280**	**93**	**373**	**179**	**295**	**474**	**3,896**
PA 8A: Single Family Detached Residential	300	DU	55	155	210	178	104	282	2,829
PA 8A: Multifamily (Low-Rise) Residential	552	DU	53	168	221	177	104	281	3,720
PA 8B: Multifamily (Low-Rise) Residential	550	DU	53	167	220	177	104	281	3,707
Internal Capture (4% AM, 12% PM/Daily)			-6	-20	-26	-64	-37	-101	-1,232
PA 8B: Shopping Center (75%)	37.500	TSF	40	25	65	95	99	194	2,532
Internal Capture (3% AM, 19% PM/Daily)			-1	-1	-2	-18	-19	-37	-482
Pass-by (40% PM/Daily)			0	0	0	-32	-32	-64	-820
PA 8B: High Turnover Restaurant (15%)	7.500	TSF	39	32	71	41	26	67	804
Internal Capture (8% AM, 17% PM/Daily)			-3	-3	-6	-7	-4	-11	-130
Pass-by (43% PM/Daily)			0	0	0	-9	-9	-18	-290
PA 8B: Fast-Food Restaurant w/ Drive-Through (10%	5.000	TSF	114	109	223	86	79	165	2,338
Internal Capture (8% AM, 17% PM/Daily)			-9	-9	-18	-15	-13	-28	-374
Pass-by (50% AM, 55% PM/Daily)			-50	-50	-100	-34	-34	-68	-1,022
PA 8B: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 8 Subtotal			**335**	**623**	**958**	**612**	**405**	**1,017**	**12,412**

Land Use	Quantity Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
PA 9A: Single Family Detached Residential	150 DU	27	78	105	89	52	141	1,416
PA 9A: Multifamily (Low-Rise) Residential	1,000 DU	96	304	400	321	189	510	6,740
Internal Capture (4% AM, 12% PM/Daily)		-5	-15	-20	-49	-29	-78	-980
PA 9A: Shopping Center	124.637 TSF	134	82	216	317	330	647	8,416
Internal Capture (3% AM, 19% PM/Daily)		-4	-2	-6	-60	-63	-123	-1,600
Pass-by (40% PM/Daily)		0	0	0	-107	-107	-214	-2,726
PA 9A: High Turnover Restaurant (15%)	24.927 TSF	131	107	238	138	88	226	2,672
Internal Capture (8% AM, 17% PM/Daily)		-10	-9	-19	-23	-15	-38	-428
Pass-by (43% PM/Daily)		0	0	0	-31	-31	-62	-966
PA 9A: Fast-Food Restaurant w/ Drive-Through (10	16.618 TSF	378	363	741	285	263	548	7,770
Internal Capture (8% AM, 17% PM/Daily)		-30	-29	-59	-48	-45	-93	-1,244
Pass-by (50% AM, 55% PM/Daily)		-167	-167	-334	-113	-113	-226	-3,394
PA 9A: Gas Station	16 VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)		-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)		-160	-160	-320	-110	-110	-220	-2,500
PA 9 Subtotal		**600**	**762**	**1,362**	**756**	**556**	**1,312**	**16,508**
Phase 1 Total (PCE)		**1,694**	**2,140**	**3,834**	**2,231**	**1,893**	**4,124**	**48,922**
Phase 2:								
PA 1A: Single Family Detached Residential	128 DU	23	66	89	76	45	121	1,208
PA 1B: Single Family Detached Residential	94 DU	17	49	66	56	33	89	886
PA 1B: Multifamily (Low-Rise) Residential	200 DU	19	61	80	64	38	102	1,348
PA 1C: Single Family Detached Residential	231 DU	42	120	162	137	80	217	2,178
PA 1C: Multifamily (Low-Rise) Residential	800 DU	77	243	320	257	151	408	5,392
Internal Capture (4% AM, 12% PM/Daily)		-7	-22	-29	-71	-42	-113	-1,322
PA 1 Subtotal		**171**	**517**	**688**	**519**	**305**	**824**	**9,690**
PA 3: Public Park	27.0 AC	0	0	0	2	1	3	22
PA 3 Subtotal		**0**	**0**	**0**	**2**	**1**	**3**	**22**
PA 7B: Shopping Center	225.000 TSF	117	72	189	367	398	765	8,328
Internal Capture (3% AM, 19% PM/Daily)		-4	-2	-6	-70	-76	-146	-1,582
Pass-by (40% PM/Daily)		0	0	0	-129	-129	-258	-2,698
PA 7B: High Turnover Restaurant	45.000 TSF	237	194	431	248	159	407	4,824
Internal Capture (8% AM, 17% PM/Daily)		-19	-16	-35	-42	-27	-69	-772
Pass-by (43% PM/Daily)		0	0	0	-57	-57	-114	-1,742
PA 7B: Fast-Food Restaurant w/ Drive-Through	30.000 TSF	683	656	1,339	515	476	991	14,024
Internal Capture (8% AM, 17% PM/Daily)		-55	-52	-107	-88	-81	-169	-2,244
Pass-by (50% AM, 55% PM/Daily)		-302	-302	-604	-205	-205	-410	-6,126
PA 7B: Gas Station	16 VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)		-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)		-160	-160	-320	-110	-110	-220	-2,500
PA 7 Subtotal		**707**	**600**	**1,307**	**576**	**495**	**1,071**	**12,844**
PA 8A: Shopping Center (75%)	243.750 TSF	127	78	205	398	431	829	9,022
Internal Capture (3% AM, 19% PM/Daily)		-4	-2	-6	-76	-82	-158	-1,714
Pass-by (40% PM/Daily)		0	0	0	-140	-140	-280	-2,924
PA 8A: High Turnover Restaurant (15%)	48.750 TSF	257	210	467	269	172	441	5,226
Internal Capture (8% AM, 17% PM/Daily)		-21	-17	-38	-46	-29	-75	-836
Pass-by (43% PM/Daily)		0	0	0	-61	-61	-122	-1,888
PA 8A: Fast-Food Restaurant w/ Drive-Through (10	32.500 TSF	739	710	1,449	558	515	1,073	15,194
Internal Capture (8% AM, 17% PM/Daily)		-59	-57	-116	-95	-88	-183	-2,432
Pass-by (50% AM, 55% PM/Daily)		-327	-327	-654	-222	-222	-444	-6,636
PA 8A: Gas Station	16 VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)		-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)		-160	-160	-320	-110	-110	-220	-2,500
PA 8 Subtotal		**762**	**645**	**1,407**	**622**	**533**	**1,155**	**13,844**
PA 9B: Single Family Detached Residential	150 DU	27	78	105	89	52	141	1,416
PA 9B: Multifamily (Low-Rise) Residential	1,000 DU	96	304	400	321	189	510	6,740
Internal Capture (4% AM, 12% PM/Daily)		-5	-15	-20	-49	-29	-78	-980
PA 6B/9B: Shopping Center (75%)	57.240 TSF	61	38	99	146	152	298	3,865
Internal Capture (3% AM, 19% PM/Daily)		-2	-1	-3	-28	-29	-57	-734
Pass-by (40% PM/Daily)		0	0	0	-49	-49	-98	-1,252
PA 6B/9B: High Turnover Restaurant (15%)	11.448 TSF	60	49	109	63	40	103	1,227
Internal Capture (8% AM, 17% PM/Daily)		-5	-4	-9	-11	-7	-18	-196
Pass-by (43% PM/Daily)		0	0	0	-14	-14	-28	-444
PA 6B/9B: Fast-Food Restaurant w/ Drive-Through (	7.632 TSF	174	167	341	131	121	252	3,568
Internal Capture (8% AM, 17% PM/Daily)		-14	-13	-27	-22	-21	-43	-572
Pass-by (50% AM, 55% PM/Daily)		-77	-77	-154	-52	-52	-104	-1,558
PA 6B/9B: Gas Station	16 VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)		-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)		-160	-160	-320	-110	-110	-220	-2,500
PA 6B & 9 Subtotal		**365**	**576**	**941**	**562**	**390**	**952**	**11,912**
Phase 2 Total Trips		**2,005**	**2,338**	**4,343**	**2,281**	**1,724**	**4,005**	**48,312**
Project Buildout Total Trips (PCE)		**3,699**	**4,478**	**8,177**	**4,512**	**3,617**	**8,129**	**97,234**

[1] DU = dwelling units; TSF = thousand square feet; AC = acres

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Rich Haven	**Organization:**	Urban Crossroads, Inc.
Project Location:	City of Ontario	**Performed By:**	CS
Scenario Description:	Project Buildout	**Date:**	7/27/2022
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				533	430	103
Retail				3,384	1,786	1,598
Restaurant				5,843	3,037	2,806
Cinema/Entertainment				0		
Residential				3,113	766	2,347
Hotel				0		
All Other Land Uses[2]				0		
				12,873	6,019	6,854

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		29	65	0	0	0
Retail	17		208	0	15	0
Restaurant	60	143		0	38	0
Cinema/Entertainment	0	0	0		0	0
Residential	13	23	469	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	12,873	6,019	6,854
Internal Capture Percentage	17%	18%	16%
External Vehicle-Trips[5]	10,713	4,939	5,774
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	21%	91%
Retail	11%	15%
Restaurant	24%	9%
Cinema/Entertainment	N/A	N/A
Residential	7%	22%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Rich Haven	**Organization:**	Urban Crossroads, Inc.
Project Location:	City of Ontario	**Performed By:**	CS
Scenario Description:	Project Buildout	**Date:**	7/27/2022
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				749	277	472
Retail				4,967	2,440	2,527
Restaurant				4,616	2,521	2,095
Cinema/Entertainment				0		
Residential				4,038	2,543	1,495
Hotel				0		
All Other Land Uses[2]				0		
				14,370	7,781	6,589

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		94	19	0	9	0
Retail	51		731	0	657	0
Restaurant	63	859		0	377	0
Cinema/Entertainment	0	0	0		0	0
Residential	60	244	314	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	14,370	7,781	6,589
Internal Capture Percentage	48%	45%	53%
External Vehicle-Trips[5]	7,414	4,303	3,111
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	63%	26%
Retail	49%	57%
Restaurant	42%	62%
Cinema/Entertainment	N/A	N/A
Residential	41%	41%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

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APPENDIX 3.1: TRAFFIC COUNTS – 2022

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T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Apr 13, 22

LOCATION: Ontario
NORTH & SOUTH: Archibale
EAST & WEST: SR-60 WB Ramps

PROJECT #: SC3380
LOCATION #: 11
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Archibale			SOUTHBOUND Archibale			EASTBOUND SR-60 WB Ramps			WESTBOUND SR-60 WB Ramps			
	LANES:	NL 2	NT 3	NR X	SL X	ST 4	SR 1	EL X	ET X	ER X	WL 1.3	WT 0.3	WR 1.3	TOTAL
AM	7:00 AM	173	149	0	0	68	14	0	0	0	66	3	80	553
	7:15 AM	179	171	0	0	60	33	0	0	0	69	3	69	584
	7:30 AM	211	208	0	0	73	17	0	0	0	73	3	98	683
	7:45 AM	156	238	0	0	97	24	0	0	0	64	1	116	696
	8:00 AM	173	222	0	0	98	21	0	0	0	64	0	102	680
	8:15 AM	154	183	0	0	79	22	0	0	0	58	2	72	570
	8:30 AM	164	144	0	0	83	32	0	0	0	46	1	63	533
	8:45 AM	160	204	0	0	73	23	0	0	0	46	1	64	571
	VOLUMES	1,370	1,519	0	0	631	186	0	0	0	486	14	664	4,870
	APPROACH %	47%	53%	0%	0%	77%	23%	0%	0%	0%	42%	1%	57%	
	APP/DEPART	2,889	/	2,183	817	/	1,117	0	/	0	1,164	/	1,570	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	719	839	0	0	328	95	0	0	0	270	7	385	2,643
	APPROACH %	46%	54%	0%	0%	78%	22%	0%	0%	0%	41%	1%	58%	
	PEAK HR FACTOR		0.930			0.874			0.000			0.914		0.949
	APP/DEPART	1,558	/	1,224	423	/	598	0	/	0	662	/	821	0
PM	4:00 PM	130	106	0	0	247	62	0	0	0	62	2	27	636
	4:15 PM	117	121	0	0	200	47	0	0	0	72	0	51	608
	4:30 PM	112	93	0	0	281	81	0	0	0	83	0	30	680
	4:45 PM	116	84	0	0	271	52	0	0	0	70	0	43	636
	5:00 PM	118	105	0	0	278	82	0	0	0	61	0	36	680
	5:15 PM	115	99	0	0	261	51	0	0	0	102	1	42	671
	5:30 PM	121	82	0	0	219	78	0	0	0	88	3	44	635
	5:45 PM	104	113	0	0	195	33	0	0	0	65	2	47	559
	VOLUMES	933	803	0	0	1,952	486	0	0	0	603	8	320	5,105
	APPROACH %	54%	46%	0%	0%	80%	20%	0%	0%	0%	65%	1%	34%	
	APP/DEPART	1,736	/	1,123	2,438	/	2,556	0	/	0	931	/	1,426	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	461	381	0	0	1,091	266	0	0	0	316	1	151	2,667
	APPROACH %	55%	45%	0%	0%	80%	20%	0%	0%	0%	68%	0%	32%	
	PEAK HR FACTOR		0.944			0.937			0.000			0.807		0.981
	APP/DEPART	842	/	532	1,357	/	1,408	0	/	0	468	/	727	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1

RTOR

NRR X	SRR 0	ERR X	WRR 0
0	2	0	43
0	11	0	37
0	7	0	40
0	9	0	54
0	6	0	41
0	12	0	38
0	12	0	35
0	10	0	27
0	69	0	315
0	33	0	172
0	18	0	11
0	16	0	29
0	32	0	23
0	20	0	29
0	29	0	27
0	17	0	27
0	32	0	28
0	17	0	26
0	181	0	200
0	98	0	106

Archibale

NORTH SIDE

SR-60 WB Ramps WEST SIDE EAST SIDE **SR-60 WB Ramps**

SOUTH SIDE

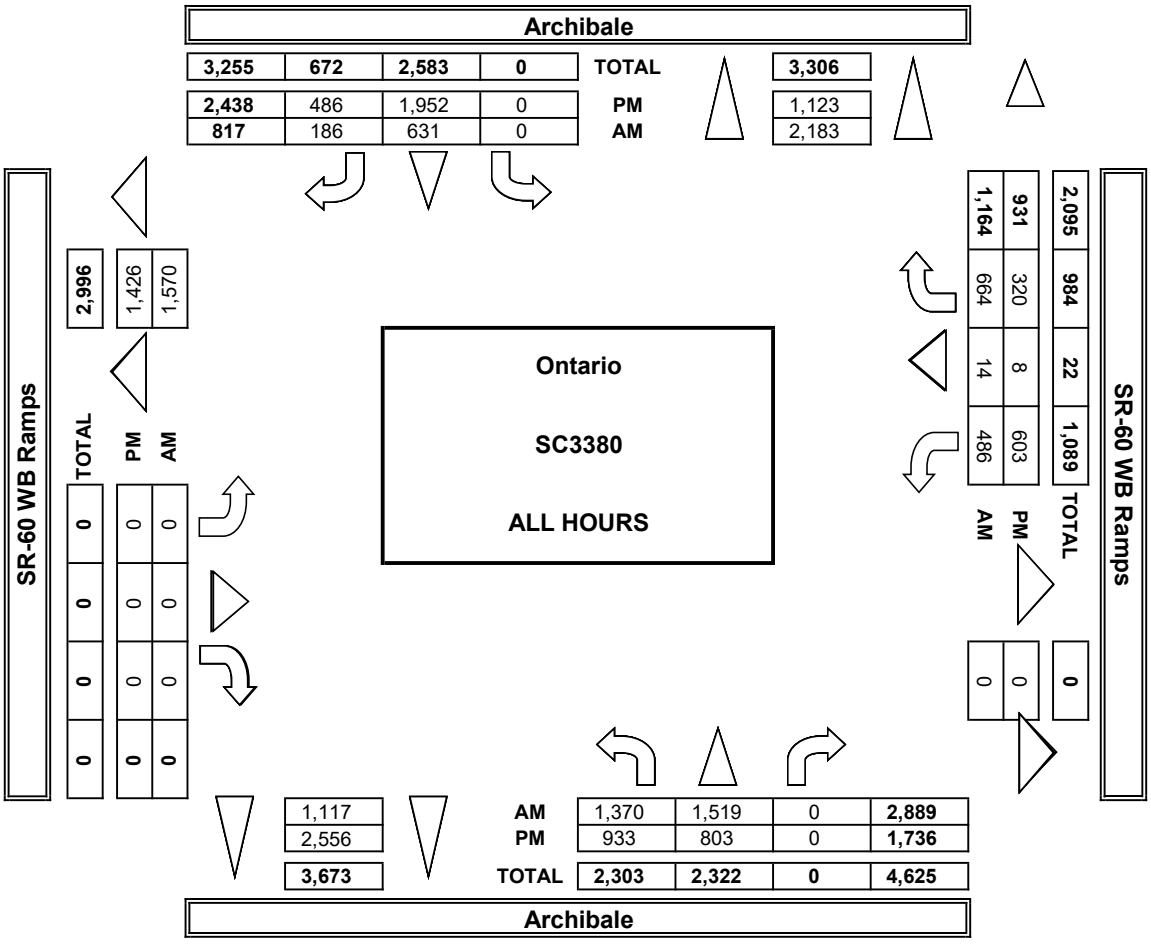
Archibale

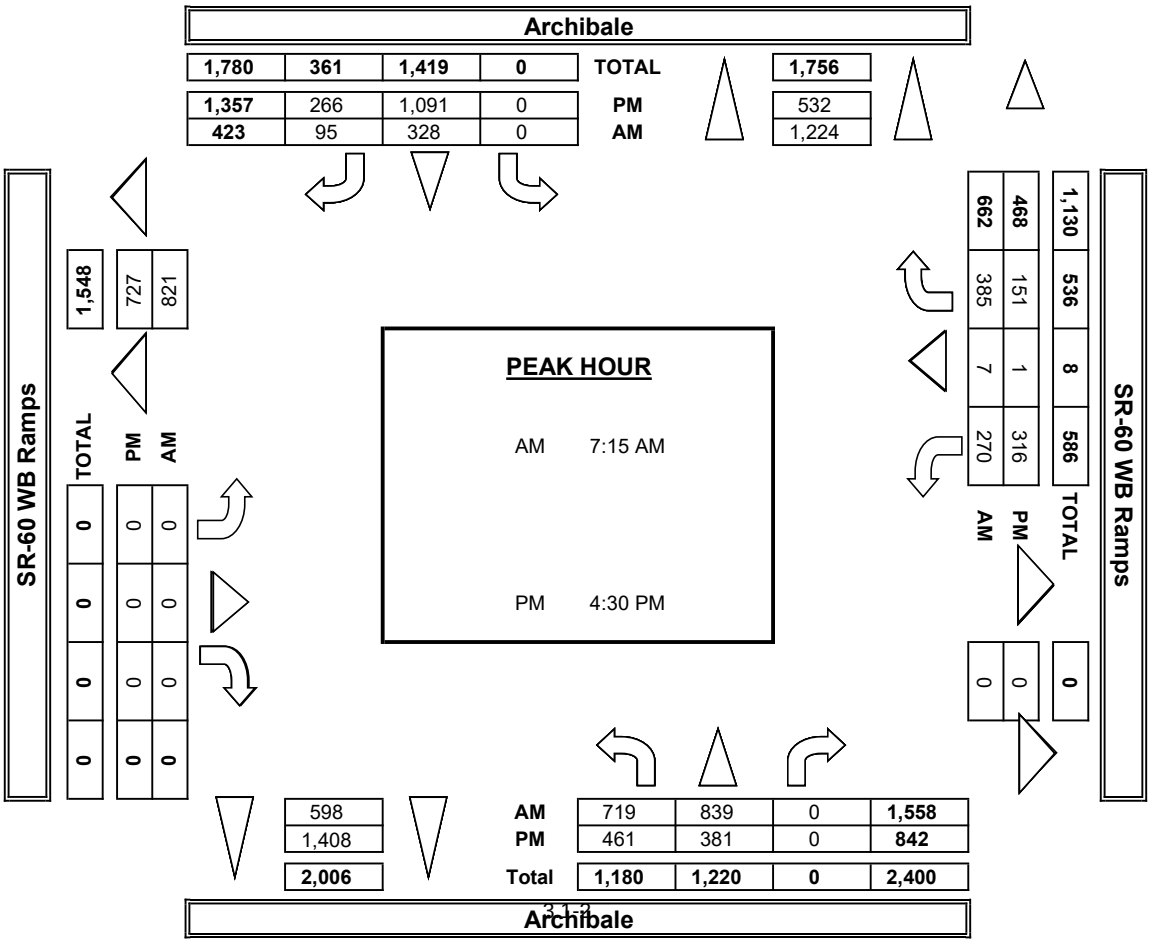
		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	8:30 AM	2	1	0	2	5	1	1	0	2	4	1	0	0	0	1
	8:45 AM	1	1	1	1	4	0	1	1	1	3	1	0	0	0	1
	TOTAL	5	4	1	3	13	2	3	1	3	9	3	1	0	0	4
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	1	2	0	0	3	0	1	0	0	1	1	1	0	0	2
	4:45 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	5:00 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2
	5:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	5:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	5:45 PM	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1
	TOTAL	4	6	0	0	10	1	1	0	0	2	3	5	0	0	8

1933

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibale	LOCATION #:	11
WEDNESDAY	EAST & WEST:	SR-60 WB Ramps	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

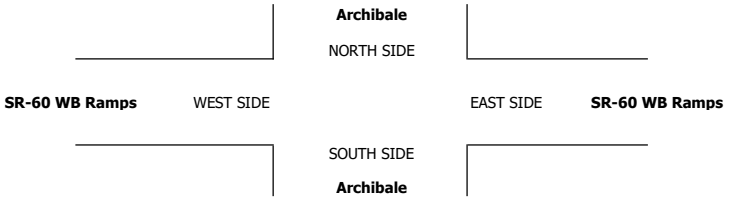
		NORTHBOUND (Archibale)			SOUTHBOUND (Archibale)			EASTBOUND (SR-60 WB Ramps)			WESTBOUND (SR-60 WB Ramps)			
	LANES:	NL 2	NT 3	NR X	SL X	ST 4	SR 1	EL X	ET X	ER X	WL 1.3	WT 0.3	WR 1.3	TOTAL
AM	7:00 AM	162	134	0	0	47	5	0	0	0	53	3	72	476
	7:15 AM	165	150	0	0	44	16	0	0	0	54	2	59	490
	7:30 AM	198	183	0	0	59	10	0	0	0	59	3	83	595
	7:45 AM	151	214	0	0	75	9	0	0	0	52	1	108	610
	8:00 AM	160	197	0	0	84	7	0	0	0	51	0	92	591
	8:15 AM	145	159	0	0	62	14	0	0	0	41	0	58	479
	8:30 AM	154	123	0	0	58	14	0	0	0	38	1	50	438
	8:45 AM	149	175	0	0	55	8	0	0	0	35	1	54	477
	VOLUMES	1,284	1,335	0	0	484	83	0	0	0	383	11	576	4,156
	APPROACH %	49%	51%	0%	0%	85%	15%	0%	0%	0%	39%	1%	59%	
	APP/DEPART	2,619	/	1,911	567	/	867	0	/	0	970	/	1,378	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	674	744	0	0	262	42	0	0	0	216	6	342	2,286
	APPROACH %	48%	52%	0%	0%	86%	14%	0%	0%	0%	38%	1%	61%	
	PEAK HR FACTOR		0.930			0.835			0.000			0.876		0.937
	APP/DEPART	1,418	/	1,086	304	/	478	0	/	0	564	/	722	0
PM	4:00 PM	113	83	0	0	230	53	0	0	0	52	2	19	552
	4:15 PM	109	96	0	0	183	40	0	0	0	61	0	43	532
	4:30 PM	105	75	0	0	259	74	0	0	0	69	0	27	609
	4:45 PM	108	69	0	0	248	44	0	0	0	62	0	37	568
	5:00 PM	113	80	0	0	256	73	0	0	0	52	0	32	606
	5:15 PM	105	78	0	0	242	39	0	0	0	90	1	34	589
	5:30 PM	113	71	0	0	209	70	0	0	0	79	3	36	581
	5:45 PM	99	93	0	0	187	27	0	0	0	57	2	41	506
	VOLUMES	865	645	0	0	1,814	420	0	0	0	522	8	269	4,543
	APPROACH %	57%	43%	0%	0%	81%	19%	0%	0%	0%	65%	1%	34%	
	APP/DEPART	1,510	/	914	2,234	/	2,337	0	/	0	799	/	1,292	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	430	302	0	0	1,005	230	0	0	0	273	1	130	2,372
	APPROACH %	59%	41%	0%	0%	81%	19%	0%	0%	0%	68%	0%	32%	
	PEAK HR FACTOR		0.949			0.927			0.000			0.808		0.974
	APP/DEPART	733	/	432	1,235	/	1,279	0	/	0	404	/	661	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1

RTOR

NRR X	SRR 0	ERR X	WRR 0
0	0	0	38
0	4	0	32
0	1	0	36
0	4	0	52
0	1	0	40
0	8	0	32
0	6	0	29
0	4	0	25
0	28	0	284
0	10	0	160
0	15	0	9
0	14	0	23
0	30	0	21
0	17	0	24
0	27	0	24
0	13	0	21
0	30	0	24
0	14	0	24
0	160	0	170
0	87	0	90



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibale	LOCATION #:	11
WEDNESDAY	EAST & WEST:	SR-60 WB Ramps	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER	▲ N / ◄ W / E ► / S ▼

		NORTHBOUND Archibale			SOUTHBOUND Archibale			EASTBOUND SR-60 WB Ramps			WESTBOUND SR-60 WB Ramps			
	LANES:	NL 2	NT 3	NR X	SL X	ST 4	SR 1	EL X	ET X	ER X	WL 1.3	WT 0.3	WR 1.3	TOTAL
AM	7:00 AM	6	2	0	0	13	4	0	0	0	4	0	4	33
	7:15 AM	11	6	0	0	8	8	0	0	0	4	1	6	44
	7:30 AM	7	8	0	0	5	3	0	0	0	6	0	6	35
	7:45 AM	0	10	0	0	13	7	0	0	0	2	0	2	34
	8:00 AM	7	10	0	0	8	7	0	0	0	3	0	4	39
	8:15 AM	5	6	0	0	4	4	0	0	0	4	2	9	34
	8:30 AM	8	12	0	0	14	3	0	0	0	3	0	3	43
	8:45 AM	6	11	0	0	5	3	0	0	0	2	0	1	28
	VOLUMES	50	65	0	0	70	39	0	0	0	28	3	35	290
	APPROACH %	43%	57%	0%	0%	64%	36%	0%	0%	0%	42%	5%	53%	
	APP/DEPART	115	/	100	109	/	98	0	/	0	66	/	92	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	25	34	0	0	34	25	0	0	0	15	1	18	152
	APPROACH %	42%	58%	0%	0%	58%	42%	0%	0%	0%	44%	3%	53%	
	PEAK HR FACTOR		0.868			0.738			0.000			0.708		0.864
	APP/DEPART	59	/	52	59	/	49	0	/	0	34	/	51	0
PM	4:00 PM	10	11	0	0	8	3	0	0	0	3	0	2	37
	4:15 PM	4	12	0	0	10	0	0	0	0	3	0	5	34
	4:30 PM	4	7	0	0	11	0	0	0	0	4	0	1	27
	4:45 PM	4	8	0	0	13	1	0	0	0	0	0	2	28
	5:00 PM	4	12	0	0	15	6	0	0	0	3	0	3	43
	5:15 PM	6	13	0	0	10	1	0	0	0	3	0	5	38
	5:30 PM	5	3	0	0	6	3	0	0	0	2	0	6	25
	5:45 PM	3	11	0	0	4	0	0	0	0	3	0	1	22
	VOLUMES	40	77	0	0	77	14	0	0	0	21	0	25	254
	APPROACH %	34%	66%	0%	0%	85%	15%	0%	0%	0%	46%	0%	54%	
	APP/DEPART	117	/	102	91	/	98	0	/	0	46	/	54	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	18	40	0	0	49	8	0	0	0	10	0	11	136
	APPROACH %	31%	69%	0%	0%	86%	14%	0%	0%	0%	48%	0%	52%	
	PEAK HR FACTOR		0.763			0.679			0.000			0.656		0.791
	APP/DEPART	58	/	51	57	/	59	0	/	0	21	/	26	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR X	WRR 0
0	1	0	2
0	4	0	4
0	2	0	2
0	3	0	1
0	2	0	0
0	2	0	5
0	2	0	1
0	2	0	0
0	18	0	15
0	11	0	7
0	0	0	1
0	0	0	4
0	0	0	0
0	0	0	2
0	2	0	2
0	1	0	5
0	0	0	4
0	0	0	1
0	3	0	19
0	3	0	9

Archibale

NORTH SIDE

SR-60 WB Ramps WEST SIDE EAST SIDE **SR-60 WB Ramps**

SOUTH SIDE

Archibale

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibale	LOCATION #:	11
WEDNESDAY	EAST & WEST:	SR-60 WB Ramps	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibale			SOUTHBOUND Archibale			EASTBOUND SR-60 WB Ramps			WESTBOUND SR-60 WB Ramps			
	LANES:	NL 2	NT 3	NR X	SL X	ST 4	SR 1	EL X	ET X	ER X	WL 1.3	WT 0.3	WR 1.3	TOTAL
AM	7:00 AM	3	3	0	0	1	0	0	0	0	6	0	1	14
	7:15 AM	1	4	0	0	3	1	0	0	0	5	0	1	15
	7:30 AM	1	6	0	0	3	1	0	0	0	3	0	0	14
	7:45 AM	2	6	0	0	5	0	0	0	0	6	0	0	19
	8:00 AM	1	3	0	0	1	2	0	0	0	6	0	1	14
	8:15 AM	0	3	0	0	3	0	0	0	0	1	0	0	7
	8:30 AM	1	0	0	0	3	1	0	0	0	0	0	0	5
	8:45 AM	3	5	0	0	2	0	0	0	0	5	0	0	15
	VOLUMES	12	30	0	0	21	5	0	0	0	32	0	3	103
	APPROACH %	29%	71%	0%	0%	81%	19%	0%	0%	0%	91%	0%	9%	
	APP/DEPART	42	/	33	26	/	53	0	/	0	35	/	17	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	5	19	0	0	12	4	0	0	0	20	0	2	62
	APPROACH %	21%	79%	0%	0%	75%	25%	0%	0%	0%	91%	0%	9%	
	PEAK HR FACTOR		0.750			0.800			0.000			0.786		0.816
	APP/DEPART	24	/	21	16	/	32	0	/	0	22	/	9	0
PM	4:00 PM	1	3	0	0	3	0	0	0	0	1	0	0	8
	4:15 PM	3	4	0	0	1	2	0	0	0	2	0	0	12
	4:30 PM	1	3	0	0	2	0	0	0	0	1	0	0	7
	4:45 PM	0	3	0	0	3	1	0	0	0	0	0	0	7
	5:00 PM	0	5	0	0	1	1	0	0	0	2	0	0	9
	5:15 PM	0	1	0	0	2	1	0	0	0	4	0	1	9
	5:30 PM	0	1	0	0	1	1	0	0	0	1	0	0	4
	5:45 PM	0	1	0	0	1	1	0	0	0	1	0	0	4
	VOLUMES	5	21	0	0	14	7	0	0	0	12	0	1	60
	APPROACH %	19%	81%	0%	0%	67%	33%	0%	0%	0%	92%	0%	8%	
	APP/DEPART	26	/	22	21	/	26	0	/	0	13	/	12	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	1	12	0	0	8	3	0	0	0	7	0	1	32
	APPROACH %	8%	92%	0%	0%	73%	27%	0%	0%	0%	88%	0%	13%	
	PEAK HR FACTOR		0.650			0.688			0.000			0.400		0.889
	APP/DEPART	13	/	13	11	/	15	0	/	0	8	/	4	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR X	WRR 0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	1
0	1	0	1
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	1	0	0

Archibale

NORTH SIDE

SR-60 WB Ramps WEST SIDE EAST SIDE **SR-60 WB Ramps**

SOUTH SIDE

Archibale

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibale	LOCATION #:	11
WEDNESDAY	EAST & WEST:	SR-60 WB Ramps	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibale			SOUTHBOUND Archibale			EASTBOUND SR-60 WB Ramps			WESTBOUND SR-60 WB Ramps			
	LANES:	NL 2	NT 3	NR X	SL X	ST 4	SR 1	EL X	ET X	ER X	WL 1.3	WT 0.3	WR 1.3	TOTAL
AM	7:00 AM	2	10	0	0	6	5	0	0	0	3	0	3	29
	7:15 AM	2	9	0	0	5	8	0	0	0	6	0	3	33
	7:30 AM	3	10	0	0	6	3	0	0	0	5	0	9	36
	7:45 AM	2	8	0	0	4	8	0	0	0	4	0	6	32
	8:00 AM	5	12	0	0	5	5	0	0	0	4	0	5	36
	8:15 AM	4	14	0	0	10	4	0	0	0	12	0	5	49
	8:30 AM	1	9	0	0	8	14	0	0	0	5	0	10	47
	8:45 AM	2	13	0	0	9	12	0	0	0	4	0	9	49
	VOLUMES	21	85	0	0	53	59	0	0	0	43	0	50	311
	APPROACH %	20%	80%	0%	0%	47%	53%	0%	0%	0%	46%	0%	54%	
	APP/DEPART	106	/	135	112	/	96	0	/	0	93	/	80	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	12	39	0	0	20	24	0	0	0	19	0	23	137
	APPROACH %	24%	76%	0%	0%	45%	55%	0%	0%	0%	45%	0%	55%	
	PEAK HR FACTOR	0.750			0.846			0.000			0.750			0.951
	APP/DEPART	51	/	62	44	/	39	0	/	0	42	/	36	0
PM	4:00 PM	4	9	0	0	6	6	0	0	0	6	0	6	37
	4:15 PM	1	7	0	0	6	5	0	0	0	6	0	3	28
	4:30 PM	2	8	0	0	8	6	0	0	0	9	0	2	35
	4:45 PM	4	4	0	0	7	6	0	0	0	8	0	4	33
	5:00 PM	1	8	0	0	6	2	0	0	0	4	0	1	22
	5:15 PM	4	7	0	0	7	10	0	0	0	5	0	2	35
	5:30 PM	3	7	0	0	3	4	0	0	0	6	0	2	25
	5:45 PM	2	8	0	0	3	5	0	0	0	4	0	5	27
	VOLUMES	21	58	0	0	46	44	0	0	0	48	0	25	242
	APPROACH %	27%	73%	0%	0%	51%	49%	0%	0%	0%	66%	0%	34%	
	APP/DEPART	79	/	83	90	/	94	0	/	0	73	/	65	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	11	27	0	0	28	24	0	0	0	26	0	9	125
	APPROACH %	29%	71%	0%	0%	54%	46%	0%	0%	0%	74%	0%	26%	
	PEAK HR FACTOR	0.864			0.765			0.000			0.729			0.893
	APP/DEPART	38	/	36	52	/	54	0	/	0	35	/	35	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR X	WRR 0
0	1	0	3
0	3	0	1
0	3	0	2
0	2	0	1
0	3	0	0
0	2	0	1
0	4	0	5
0	4	0	2
0	22	0	15
0	11	0	4
0	3	0	1
0	2	0	2
0	2	0	2
0	2	0	3
0	0	0	1
0	3	0	1
0	2	0	0
0	3	0	1
0	17	0	11
0	7	0	7

Archibale

NORTH SIDE

SR-60 WB Ramps WEST SIDE EAST SIDE **SR-60 WB Ramps**

SOUTH SIDE

Archibale

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibale	LOCATION #:	11
WEDNESDAY	EAST & WEST:	SR-60 WB Ramps	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

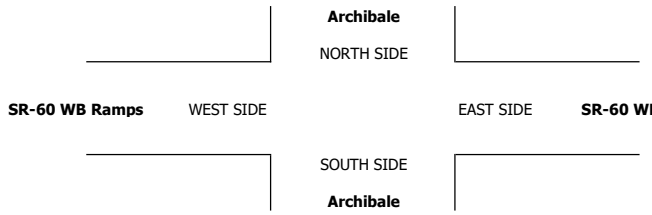
		NORTHBOUND Archibale			SOUTHBOUND Archibale			EASTBOUND SR-60 WB Ramps			WESTBOUND SR-60 WB Ramps			
	LANES:	NL 2	NT 3	NR X	SL X	ST 4	SR 1	EL X	ET X	ER X	WL 1.3	WT 0.3	WR 1.3	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	1	0	0	0	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	1	/	1	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	0	0	0	1	0	0	0	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.250			0.000			0.000		0.250
	APP/DEPART	0	/	0	1	/	1	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR X	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

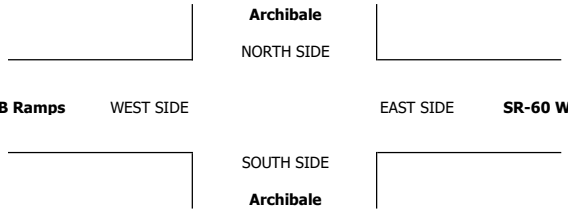
DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibale	LOCATION #:	11
WEDNESDAY	EAST & WEST:	SR-60 WB Ramps	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibale			SOUTHBOUND Archibale			EASTBOUND SR-60 WB Ramps			WESTBOUND SR-60 WB Ramps				U-TURNS					RTOR			
	LANES:	NL 2	NT 3	NR X	SL X	ST 4	SR 1	EL X	ET X	ER X	WL 1.3	WT 0.3	WR 1.3	TOTAL	NB	SB	EB	WB	TTL	NRR X	SRR 0	ERR X	WRR 0
AM	7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	7:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	7:30 AM	2	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	VOLUMES	3	4	0	0	3	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0
	APPROACH %	43%	57%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	7	/	4	3	/	3	0	/	0	0	/	3	0									
	BEGIN PEAK HR		7:15 AM																				
	VOLUMES	3	3	0	0	0	0	0	0	0	0	0	0	6						0	0	0	0
	APPROACH %	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR		0.500			0.000			0.000			0.000		0.500									
	APP/DEPART	6	/	3	0	/	0	0	/	0	0	/	3	0									
PM	4:00 PM	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	4:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	2	2	0	0	0	1	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
	APPROACH %	50%	50%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%										
	APP/DEPART	4	/	2	1	/	0	0	/	0	0	/	3	0									
	BEGIN PEAK HR		4:30 PM																				
	VOLUMES	0	0	0	0	0	1	0	0	0	0	0	0	1						0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%										
	PEAK HR FACTOR		0.000			0.250			0.000			0.000		0.250									
	APP/DEPART	0	/	0	1	/	0	0	/	0	0	/	1	0									



T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Apr 13, 22	LOCATION:	Ontario	PROJECT #: SC3380
	NORTH & SOUTH:	Archibald	LOCATION #: 12
	EAST & WEST:	SR-60 EB Ramps	CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

	NORTHBOUND (Archibald)			SOUTHBOUND (Archibald)			EASTBOUND (SR-60 EB Ramps)			WESTBOUND (SR-60 EB Ramps)			
LANES:	NL X	NT 4	NR 1	SL 2	ST 3	SR X	EL 1.3	ET 0.3	ER 1.3	WL X	WT X	WR X	TOTAL
7:00 AM	0	270	94	22	111	0	53	1	71	0	0	0	622
7:15 AM	0	285	90	18	110	0	65	0	79	0	0	0	647
7:30 AM	0	358	127	19	127	0	61	4	97	0	0	0	793
7:45 AM	0	314	98	35	125	0	79	0	87	0	0	0	738
8:00 AM	0	323	95	28	132	0	71	0	100	0	0	0	749
8:15 AM	0	276	97	19	118	0	62	0	96	0	0	0	668
8:30 AM	0	258	88	27	101	0	49	0	92	0	0	0	615
8:45 AM	0	302	88	22	96	0	63	0	88	0	0	0	659
AM VOLUMES	0	2,386	777	190	920	0	503	5	710	0	0	0	5,491
AM APPROACH %	0%	75%	25%	17%	83%	0%	41%	0%	58%	0%	0%	0%	
AM APP/DEPART	3,163	/	2,892	1,110	/	1,630	1,218	/	969	0	/	0	0
BEGIN PEAK HR		7:30 AM											
VOLUMES	0	1,271	417	101	502	0	273	4	380	0	0	0	2,948
APPROACH %	0%	75%	25%	17%	83%	0%	42%	1%	58%	0%	0%	0%	
PEAK HR FACTOR		0.870			0.942			0.961			0.000		0.929
APP/DEPART	1,688	/	1,546	603	/	882	657	/	520	0	/	0	0
4:00 PM	0	218	101	106	203	0	18	0	94	0	0	0	740
4:15 PM	0	223	114	84	186	0	15	0	100	0	0	0	722
4:30 PM	0	181	116	124	240	0	24	0	82	0	0	0	767
4:45 PM	0	191	132	107	234	0	9	0	98	0	0	0	771
5:00 PM	0	204	103	122	217	0	21	0	108	0	0	0	775
5:15 PM	0	203	102	100	263	0	11	1	103	0	0	0	783
5:30 PM	0	193	99	71	236	0	10	0	99	0	0	0	708
5:45 PM	0	198	74	72	186	0	22	0	111	0	0	0	663
PM VOLUMES	0	1,611	841	786	1,765	0	130	1	795	0	0	0	5,929
PM APPROACH %	0%	66%	34%	31%	69%	0%	14%	0%	86%	0%	0%	0%	
PM APP/DEPART	2,452	/	1,741	2,551	/	2,560	926	/	1,628	0	/	0	0
BEGIN PEAK HR		4:30 PM											
VOLUMES	0	779	453	453	954	0	65	1	391	0	0	0	3,096
APPROACH %	0%	63%	37%	32%	68%	0%	14%	0%	86%	0%	0%	0%	
PEAK HR FACTOR		0.954			0.966			0.886			0.000		0.989
APP/DEPART	1,232	/	844	1,407	/	1,345	457	/	907	0	/	0	0

U-TURNS

	NB 0	SB 0	EB 0	WB 0	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	1	0	0	1
8:00 AM	0	1	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	0	0
AM	0	3	0	0	3
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
PM	0	0	0	0	0

RTOR

	NRR 0	SRR X	ERR 0	WRR X
7:00 AM	36	0	28	0
7:15 AM	31	0	42	0
7:30 AM	49	0	57	0
7:45 AM	43	0	43	0
8:00 AM	37	0	48	0
8:15 AM	38	0	50	0
8:30 AM	44	0	58	0
8:45 AM	32	0	44	0
AM	310	0	370	0
AM	167	0	198	0
4:00 PM	50	0	53	0
4:15 PM	42	0	62	0
4:30 PM	40	0	51	0
4:45 PM	49	0	57	0
5:00 PM	43	0	66	0
5:15 PM	42	0	58	0
5:30 PM	40	0	50	0
5:45 PM	25	0	73	0
PM	331	0	470	0
PM	174	0	232	0

Archibald

NORTH SIDE

SR-60 EB Ramps WEST SIDE EAST SIDE **SR-60 EB Ramps**

SOUTH SIDE

Archibald

ALL PED AND BIKE

	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	1	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	1	1	0	0	2
8:30 AM	1	0	0	0	1
8:45 AM	2	3	0	0	5
AM TOTAL	5	5	0	0	10
4:00 PM	0	1	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	1	1	0	0	2
4:45 PM	1	1	0	0	2
5:00 PM	0	2	0	0	2
5:15 PM	0	1	0	0	1
5:30 PM	0	1	0	0	1
5:45 PM	2	0	0	0	2
TOTAL	4	7	0	0	11

PEDESTRIAN CROSSINGS

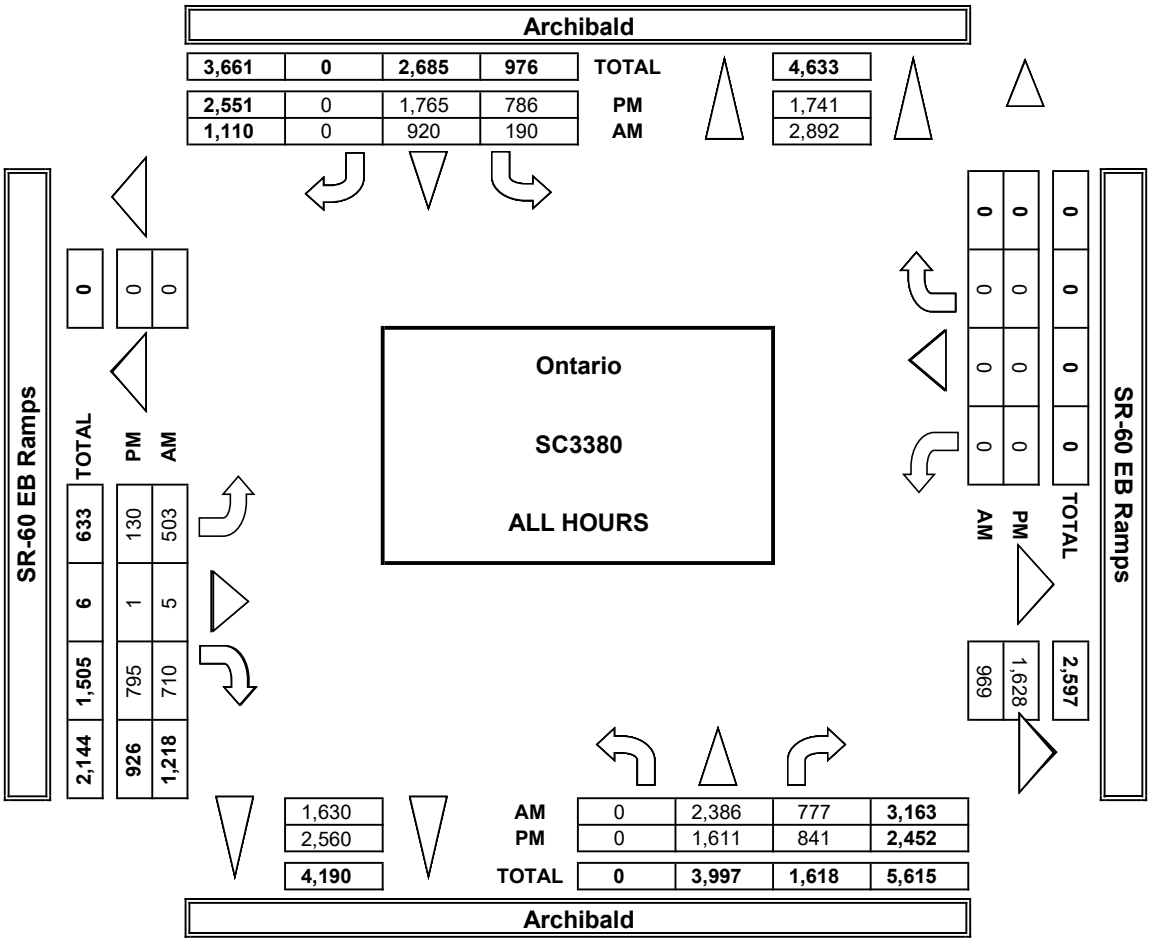
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	1	0	0	2
8:30 AM	1	0	0	0	1
8:45 AM	0	3	0	0	3
AM TOTAL	2	4	0	0	6
4:00 PM	0	1	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	1	0	0	0	1
TOTAL	1	2	0	0	3

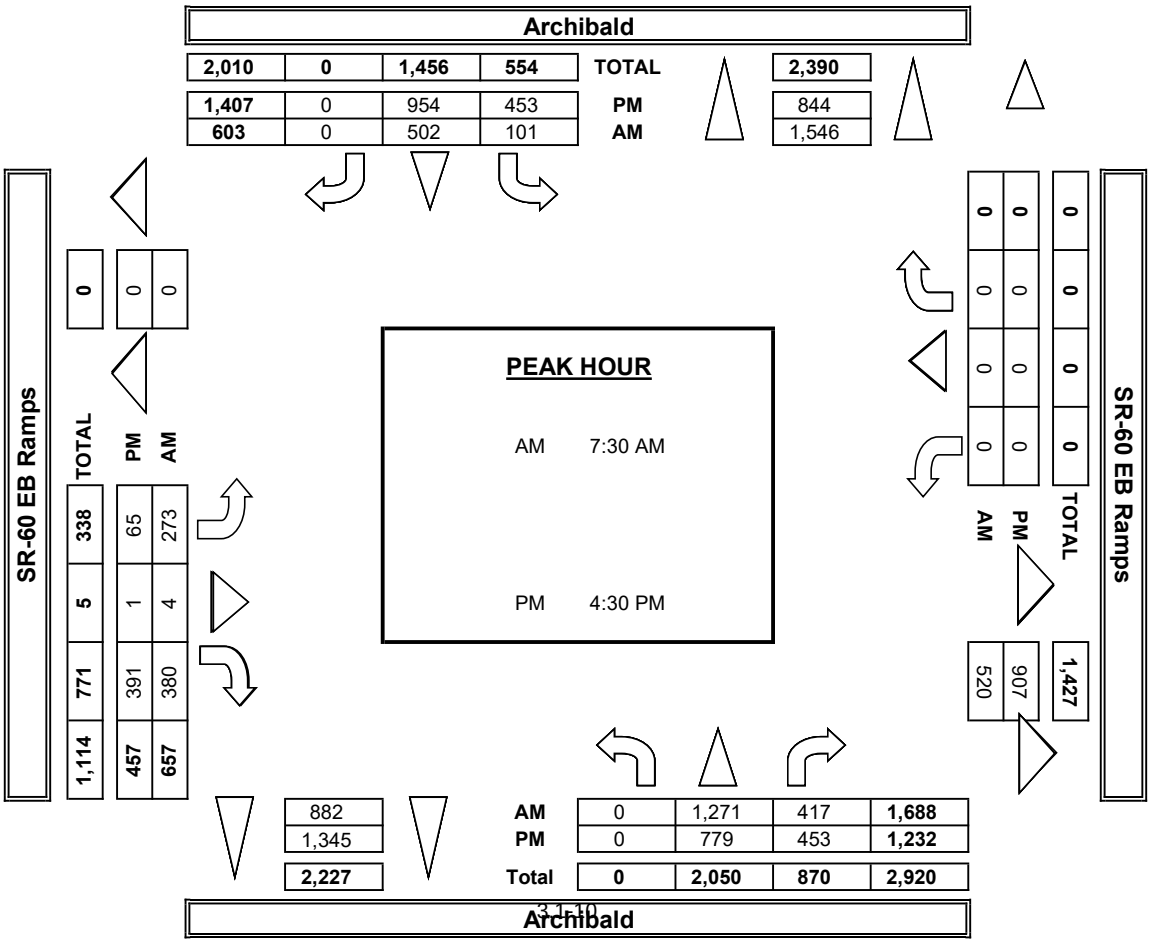
BICYCLE CROSSINGS

	ES	WS	SS	NS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	1	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	2	0	0	0	2
AM TOTAL	3	1	0	0	4
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	1	1	0	0	2
4:45 PM	1	0	0	0	1
5:00 PM	0	2	0	0	2
5:15 PM	0	1	0	0	1
5:30 PM	0	1	0	0	1
5:45 PM	1	0	0	0	1
TOTAL	3	5	0	0	8

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	12
WEDNESDAY	EAST & WEST:	SR-60 EB Ramps	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

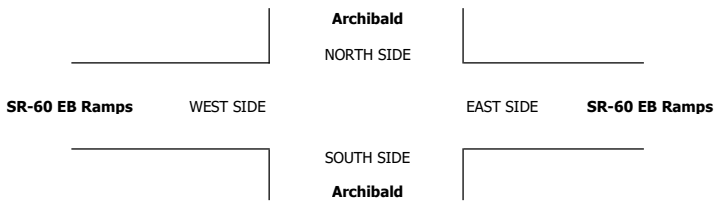
		NORTHBOUND (Archibald)			SOUTHBOUND (Archibald)			EASTBOUND (SR-60 EB Ramps)			WESTBOUND (SR-60 EB Ramps)			
	LANES:	NL X	NT 4	NR 1	SL 2	ST 3	SR X	EL 1.3	ET 0.3	ER 1.3	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	256	68	9	90	0	41	1	54	0	0	0	519
	7:15 AM	0	258	71	8	89	0	57	0	70	0	0	0	553
	7:30 AM	0	334	108	13	105	0	47	3	87	0	0	0	697
	7:45 AM	0	296	72	25	101	0	68	0	75	0	0	0	637
	8:00 AM	0	301	74	17	116	0	55	0	90	0	0	0	653
	8:15 AM	0	258	69	7	96	0	47	0	83	0	0	0	560
	8:30 AM	0	239	57	14	81	0	37	0	80	0	0	0	508
	8:45 AM	0	281	65	13	76	0	44	0	72	0	0	0	551
	VOLUMES	0	2,223	584	106	754	0	396	4	611	0	0	0	4,678
	APPROACH %	0%	79%	21%	12%	88%	0%	39%	0%	60%	0%	0%	0%	
	APP/DEPART	2,807	/	2,622	860	/	1,365	1,011	/	691	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	1,189	323	60	418	0	217	3	335	0	0	0	2,547
	APPROACH %	0%	79%	21%	13%	87%	0%	39%	1%	60%	0%	0%	0%	
	PEAK HR FACTOR		0.855			0.902			0.957			0.000		0.914
	APP/DEPART	1,512	/	1,408	480	/	753	555	/	386	0	/	0	0
PM	4:00 PM	0	186	82	95	187	0	10	0	82	0	0	0	642
	4:15 PM	0	197	99	76	166	0	8	0	94	0	0	0	640
	4:30 PM	0	166	98	118	210	0	14	0	71	0	0	0	677
	4:45 PM	0	172	113	101	209	0	5	0	86	0	0	0	686
	5:00 PM	0	185	94	115	193	0	10	0	105	0	0	0	702
	5:15 PM	0	179	93	94	238	0	4	1	94	0	0	0	703
	5:30 PM	0	179	92	67	221	0	5	0	93	0	0	0	657
	5:45 PM	0	184	69	70	172	0	11	0	103	0	0	0	609
	VOLUMES	0	1,448	740	736	1,596	0	67	1	728	0	0	0	5,316
	APPROACH %	0%	66%	34%	32%	68%	0%	8%	0%	91%	0%	0%	0%	
	APP/DEPART	2,188	/	1,515	2,332	/	2,324	796	/	1,477	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	702	398	428	850	0	33	1	356	0	0	0	2,768
	APPROACH %	0%	64%	36%	33%	67%	0%	8%	0%	91%	0%	0%	0%	
	PEAK HR FACTOR		0.965			0.962			0.848			0.000		0.984
	APP/DEPART	1,100	/	735	1,278	/	1,206	390	/	827	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	3	0	0	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR X	ERR 0	WRR X
28	0	23	0
20	0	36	0
40	0	50	0
31	0	35	0
31	0	42	0
26	0	43	0
28	0	50	0
23	0	34	0
227	0	313	0
128	0	170	0
40	0	45	0
33	0	58	0
35	0	45	0
43	0	49	0
40	0	65	0
37	0	56	0
38	0	45	0
24	0	69	0
290	0	432	0
155	0	215	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	12
WEDNESDAY	EAST & WEST:	SR-60 EB Ramps	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND SR-60 EB Ramps			WESTBOUND SR-60 EB Ramps			
	LANES:	NL X	NT 4	NR 1	SL 2	ST 3	SR X	EL 1.3	ET 0.3	ER 1.3	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	3	10	8	9	0	5	0	9	0	0	0	44
	7:15 AM	0	12	8	5	7	0	5	0	6	0	0	0	43
	7:30 AM	0	11	5	3	8	0	4	1	6	0	0	0	38
	7:45 AM	0	6	9	5	10	0	4	0	7	0	0	0	41
	8:00 AM	0	10	3	6	5	0	7	0	2	0	0	0	33
	8:15 AM	0	7	7	3	5	0	4	0	8	0	0	0	34
	8:30 AM	0	14	7	7	10	0	6	0	4	0	0	0	48
	8:45 AM	0	11	11	4	3	0	6	0	8	0	0	0	43
	VOLUMES	0	74	60	41	57	0	41	1	50	0	0	0	324
	APPROACH %	0%	55%	45%	42%	58%	0%	45%	1%	54%	0%	0%	0%	
	APP/DEPART	134	/	115	98	/	107	92	/	102	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	34	24	17	28	0	19	1	23	0	0	0	146
	APPROACH %	0%	59%	41%	38%	62%	0%	44%	2%	53%	0%	0%	0%	
	PEAK HR FACTOR		0.906			0.750			0.896			0.000		0.890
	APP/DEPART	58	/	53	45	/	51	43	/	42	0	/	0	0
PM	4:00 PM	0	20	6	6	5	0	1	0	10	0	0	0	48
	4:15 PM	0	12	10	5	8	0	4	0	2	0	0	0	41
	4:30 PM	0	8	12	5	10	0	3	0	6	0	0	0	44
	4:45 PM	0	11	14	4	9	0	1	0	9	0	0	0	48
	5:00 PM	0	13	3	2	16	0	3	0	2	0	0	0	39
	5:15 PM	0	18	5	5	8	0	1	0	3	0	0	0	40
	5:30 PM	0	7	2	2	6	0	1	0	3	0	0	0	21
	5:45 PM	0	8	2	1	6	0	6	0	5	0	0	0	28
	VOLUMES	0	97	54	30	68	0	20	0	40	0	0	0	309
	APPROACH %	0%	64%	36%	31%	69%	0%	33%	0%	67%	0%	0%	0%	
	APP/DEPART	151	/	117	98	/	108	60	/	84	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	50	34	16	43	0	8	0	20	0	0	0	171
	APPROACH %	0%	60%	40%	27%	73%	0%	29%	0%	71%	0%	0%	0%	
	PEAK HR FACTOR		0.840			0.819			0.700			0.000		0.891
	APP/DEPART	84	/	58	59	/	63	28	/	50	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR X	ERR 0	WRR X
2	0	3	0
2	0	4	0
3	0	5	0
3	0	5	0
0	0	2	0
2	0	3	0
5	0	2	0
3	0	5	0
20	0	29	0
8	0	15	0
2	0	6	0
6	0	2	0
4	0	4	0
4	0	5	0
0	0	1	0
3	0	2	0
1	0	2	0
1	0	2	0
21	0	24	0
11	0	12	0

Archibald

NORTH SIDE

SR-60 EB Ramps WEST SIDE EAST SIDE **SR-60 EB Ramps**

SOUTH SIDE

Archibald

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	12
WEDNESDAY	EAST & WEST:	SR-60 EB Ramps	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

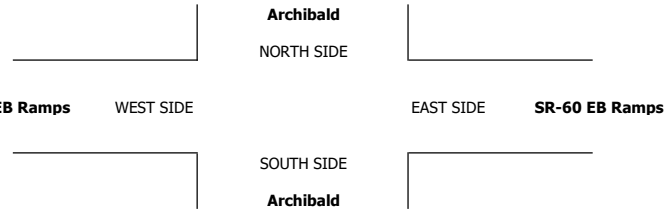
		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND SR-60 EB Ramps			WESTBOUND SR-60 EB Ramps			
	LANES:	NL X	NT 4	NR 1	SL 2	ST 3	SR X	EL 1.3	ET 0.3	ER 1.3	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	4	4	0	7	0	2	0	3	0	0	0	20
	7:15 AM	0	5	2	3	5	0	0	0	0	0	0	0	15
	7:30 AM	0	6	3	1	5	0	1	0	1	0	0	0	17
	7:45 AM	0	5	3	1	10	0	3	0	2	0	0	0	24
	8:00 AM	0	2	3	1	6	0	2	0	5	0	0	0	19
	8:15 AM	0	2	6	0	4	0	1	0	1	0	0	0	14
	8:30 AM	0	1	5	1	2	0	0	0	2	0	0	0	11
	8:45 AM	0	7	3	0	7	0	1	0	4	0	0	0	22
	VOLUMES	0	32	29	7	46	0	10	0	18	0	0	0	142
	APPROACH %	0%	52%	48%	13%	87%	0%	36%	0%	64%	0%	0%	0%	
	APP/DEPART	61	/	42	53	/	64	28	/	36	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	15	15	3	25	0	7	0	9	0	0	0	74
	APPROACH %	0%	50%	50%	11%	89%	0%	44%	0%	56%	0%	0%	0%	
	PEAK HR FACTOR		0.833			0.636			0.571			0.000		0.771
	APP/DEPART	30	/	22	28	/	34	16	/	18	0	/	0	0
PM	4:00 PM	0	4	4	2	2	0	0	0	2	0	0	0	14
	4:15 PM	0	7	1	0	3	0	0	0	1	0	0	0	12
	4:30 PM	0	2	2	0	3	0	2	0	1	0	0	0	10
	4:45 PM	0	2	0	1	2	0	1	0	1	0	0	0	7
	5:00 PM	0	4	3	1	2	0	1	0	0	0	0	0	11
	5:15 PM	0	0	2	0	6	0	1	0	3	0	0	0	12
	5:30 PM	0	1	2	0	2	0	0	0	1	0	0	0	6
	5:45 PM	0	1	1	0	2	0	0	0	1	0	0	0	5
	VOLUMES	0	21	15	4	22	0	5	0	10	0	0	0	77
	APPROACH %	0%	58%	42%	15%	85%	0%	33%	0%	67%	0%	0%	0%	
	APP/DEPART	36	/	26	26	/	32	15	/	19	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	8	7	2	13	0	5	0	5	0	0	0	40
	APPROACH %	0%	53%	47%	13%	87%	0%	50%	0%	50%	0%	0%	0%	
	PEAK HR FACTOR		0.536			0.625			0.625			0.000		0.833
	APP/DEPART	15	/	13	15	/	18	10	/	9	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR X	ERR 0	WRR X
1	0	0	0
1	0	0	0
2	0	1	0
3	0	1	0
1	0	4	0
4	0	1	0
4	0	2	0
1	0	4	0
17	0	13	0
10	0	7	0
2	0	2	0
1	0	0	0
1	0	0	0
0	0	1	0
2	0	0	0
1	0	0	0
1	0	1	0
0	0	0	0
8	0	4	0
4	0	1	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	12
WEDNESDAY	EAST & WEST:	SR-60 EB Ramps	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

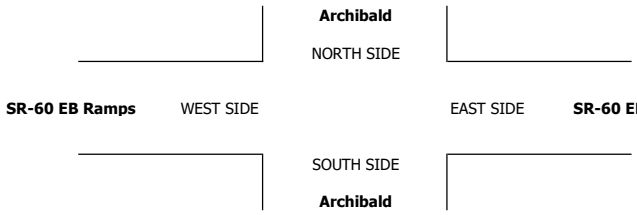
		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND SR-60 EB Ramps			WESTBOUND SR-60 EB Ramps			
	LANES:	NL X	NT 4	NR 1	SL 2	ST 3	SR X	EL 1.3	ET 0.3	ER 1.3	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	7	12	5	4	0	5	0	2	0	0	0	35
	7:15 AM	0	8	8	2	9	0	3	0	2	0	0	0	32
	7:30 AM	0	4	11	2	9	0	9	0	3	0	0	0	38
	7:45 AM	0	6	14	4	4	0	4	0	2	0	0	0	34
	8:00 AM	0	10	15	4	5	0	7	0	3	0	0	0	44
	8:15 AM	0	8	15	9	13	0	10	0	4	0	0	0	59
	8:30 AM	0	4	19	5	8	0	6	0	6	0	0	0	48
	8:45 AM	0	3	9	5	8	0	12	0	4	0	0	0	41
	VOLUMES	0	50	103	36	60	0	56	0	26	0	0	0	331
	APPROACH %	0%	33%	67%	38%	63%	0%	68%	0%	32%	0%	0%	0%	
	APP/DEPART	153	/	106	96	/	86	82	/	139	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	28	55	19	31	0	30	0	12	0	0	0	175
	APPROACH %	0%	34%	66%	38%	62%	0%	71%	0%	29%	0%	0%	0%	
	PEAK HR FACTOR		0.830			0.568			0.750			0.000		0.742
	APP/DEPART	83	/	58	50	/	43	42	/	74	0	/	0	0
PM	4:00 PM	0	6	9	3	9	0	7	0	0	0	0	0	34
	4:15 PM	0	5	4	3	9	0	3	0	3	0	0	0	27
	4:30 PM	0	5	4	1	16	0	5	0	4	0	0	0	35
	4:45 PM	0	6	5	1	14	0	2	0	2	0	0	0	30
	5:00 PM	0	2	3	4	6	0	7	0	1	0	0	0	23
	5:15 PM	0	6	2	1	11	0	5	0	3	0	0	0	28
	5:30 PM	0	6	3	2	7	0	4	0	2	0	0	0	24
	5:45 PM	0	5	2	1	6	0	5	0	2	0	0	0	21
	VOLUMES	0	41	32	16	78	0	38	0	17	0	0	0	222
	APPROACH %	0%	56%	44%	17%	83%	0%	69%	0%	31%	0%	0%	0%	
	APP/DEPART	73	/	79	94	/	95	55	/	48	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	19	14	7	47	0	19	0	10	0	0	0	116
	APPROACH %	0%	58%	42%	13%	87%	0%	66%	0%	34%	0%	0%	0%	
	PEAK HR FACTOR		0.750			0.794			0.806			0.000		0.829
	APP/DEPART	33	/	38	54	/	57	29	/	21	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR X	ERR 0	WRR X
5	0	1	0
8	0	1	0
4	0	1	0
6	0	1	0
5	0	0	0
6	0	3	0
7	0	4	0
5	0	1	0
46	0	12	0
21	0	5	0
6	0	0	0
2	0	2	0
0	0	2	0
2	0	2	0
1	0	0	0
1	0	0	0
0	0	2	0
0	0	2	0
12	0	10	0
4	0	4	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	12
WEDNESDAY	EAST & WEST:	SR-60 EB Ramps	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

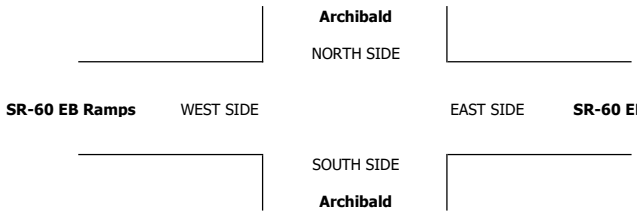
		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND SR-60 EB Ramps			WESTBOUND SR-60 EB Ramps			
	LANES:	NL X	NT 4	NR 1	SL 2	ST 3	SR X	EL 1.3	ET 0.3	ER 1.3	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	1	0	0	0	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	1	/	1	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	0	0	0	1	0	0	0	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.250			0.000			0.000		0.250
	APP/DEPART	0	/	0	1	/	1	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR X	ERR 0	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	12
WEDNESDAY	EAST & WEST:	SR-60 EB Ramps	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND SR-60 EB Ramps			WESTBOUND SR-60 EB Ramps			
	LANES:	NL X	NT 4	NR 1	SL 2	ST 3	SR X	EL 1.3	ET 0.3	ER 1.3	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	0	0	0	1	0	0	0	3	0	0	0	4
	7:15 AM	0	2	1	0	0	0	0	0	1	0	0	0	4
	7:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	3
	7:45 AM	0	1	0	0	0	0	0	0	1	0	0	0	2
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
	VOLUMES	0	7	1	0	3	0	0	0	5	0	0	0	16
	APPROACH %	0%	88%	13%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
	APP/DEPART	8	/	7	3	/	8	5	/	1	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	5	0	0	0	0	0	0	1	0	0	0	6
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	
	PEAK HR FACTOR		0.417			0.000			0.250			0.000		0.500
	APP/DEPART	5	/	5	0	/	1	1	/	0	0	/	0	0
PM	4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
	4:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	4	0	0	0	0	0	0	0	0	0	0	4
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	4	/	4	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR X	ERR 0	WRR X
0	0	1	0
0	0	1	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	3	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Archibald

NORTH SIDE

SR-60 EB Ramps WEST SIDE EAST SIDE **SR-60 EB Ramps**

SOUTH SIDE

Archibald

INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Apr 13, 22

LOCATION: Ontario
NORTH & SOUTH: Archibald
EAST & WEST: Riverside

PROJECT #: SC3380
LOCATION #: 13
CONTROL: SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

N
W
E
S

Add U-Turns to Left Turns

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	48	222	9	23	84	29	26	45	16	15	63	29	609
	7:15 AM	52	252	13	23	74	22	23	47	26	13	86	53	684
	7:30 AM	56	319	17	30	88	36	42	90	24	19	112	58	891
	7:45 AM	76	263	22	48	106	57	36	66	28	24	126	48	900
	8:00 AM	75	247	18	54	110	48	31	88	40	19	113	56	899
	8:15 AM	48	253	18	28	109	23	23	70	33	23	83	45	756
	8:30 AM	63	231	13	19	108	12	23	40	36	21	102	35	703
	8:45 AM	78	219	10	31	76	17	14	46	29	17	57	24	618
	VOLUMES	496	2,006	120	256	755	244	218	492	232	151	742	348	6,060
	APPROACH %	19%	77%	5%	20%	60%	19%	23%	52%	25%	12%	60%	28%	
	APP/DEPART	2,622	/	2,574	1,255	/	1,154	942	/	867	1,241	/	1,465	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	255	1,082	75	160	413	164	132	314	125	85	434	207	3,446
	APPROACH %	18%	77%	5%	22%	56%	22%	23%	55%	22%	12%	60%	29%	
	PEAK HR FACTOR		0.901			0.869			0.898			0.917		0.957
	APP/DEPART	1,412	/	1,422	737	/	631	571	/	549	726	/	844	0
PM	4:00 PM	60	221	26	50	160	32	29	122	56	28	73	31	888
	4:15 PM	73	199	14	57	134	30	29	120	69	27	79	29	860
	4:30 PM	70	198	21	48	177	46	37	88	70	21	59	22	857
	4:45 PM	72	193	25	53	143	42	56	102	63	29	60	36	874
	5:00 PM	44	183	20	60	157	37	39	159	80	22	100	33	934
	5:15 PM	59	185	18	50	172	41	36	130	73	28	99	31	922
	5:30 PM	64	172	16	67	170	53	50	101	54	37	85	35	904
	5:45 PM	59	179	13	61	178	62	34	103	64	25	78	34	890
	VOLUMES	501	1,530	153	446	1,291	343	310	925	529	217	633	251	7,129
	APPROACH %	23%	70%	7%	21%	62%	16%	18%	52%	30%	20%	57%	23%	
	APP/DEPART	2,184	/	2,092	2,080	/	2,099	1,764	/	1,522	1,101	/	1,416	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	226	719	67	238	677	193	159	493	271	112	362	133	3,650
	APPROACH %	22%	71%	7%	21%	61%	17%	17%	53%	29%	18%	60%	22%	
	PEAK HR FACTOR		0.966			0.920			0.830			0.960		0.977
	APP/DEPART	1,012	/	1,010	1,108	/	1,086	923	/	798	607	/	756	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	
0	1	0	0	1
3	0	0	0	3
1	0	0	1	2
2	1	0	0	3
3	0	0	0	3
3	0	0	0	3
2	0	0	0	2
3	0	0	0	3
17	2	0	1	20
11	0	0	0	11
11	1	0	0	12
5	0	0	0	5
9	1	0	0	10
5	0	0	0	5
5	0	0	0	5
9	0	0	0	9
7	0	1	0	8
62	2	1	0	65

RTOR

NRR	SRR	ERR	WRR
1	9	5	9
1	8	11	12
2	7	11	13
0	13	14	6
1	6	17	20
0	12	14	22
2	4	16	14
0	4	8	8
7	63	96	104
3	38	56	61
3	8	16	15
0	8	17	7
3	10	20	11
3	9	26	11
2	5	23	8
1	9	12	7
2	9	20	15
2	9	13	18
16	67	147	92
7	32	68	48

Archibald

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Archibald

ALL PED AND BIKE

	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	1	4	1	8	14
7:30 AM	1	0	2	0	3
7:45 AM	1	1	2	5	9
8:00 AM	2	1	0	0	3
8:15 AM	0	0	0	1	1
8:30 AM	0	0	1	1	2
8:45 AM	0	0	0	1	1
TOTAL	5	6	6	16	33
4:00 PM	0	0	2	1	3
4:15 PM	0	3	8	1	12
4:30 PM	0	4	0	0	4
4:45 PM	0	0	1	0	1
5:00 PM	0	0	1	3	4
5:15 PM	4	4	5	0	13
5:30 PM	0	6	5	0	11
5:45 PM	1	0	0	1	2
TOTAL	5	17	22	6	50

PEDESTRIAN CROSSINGS

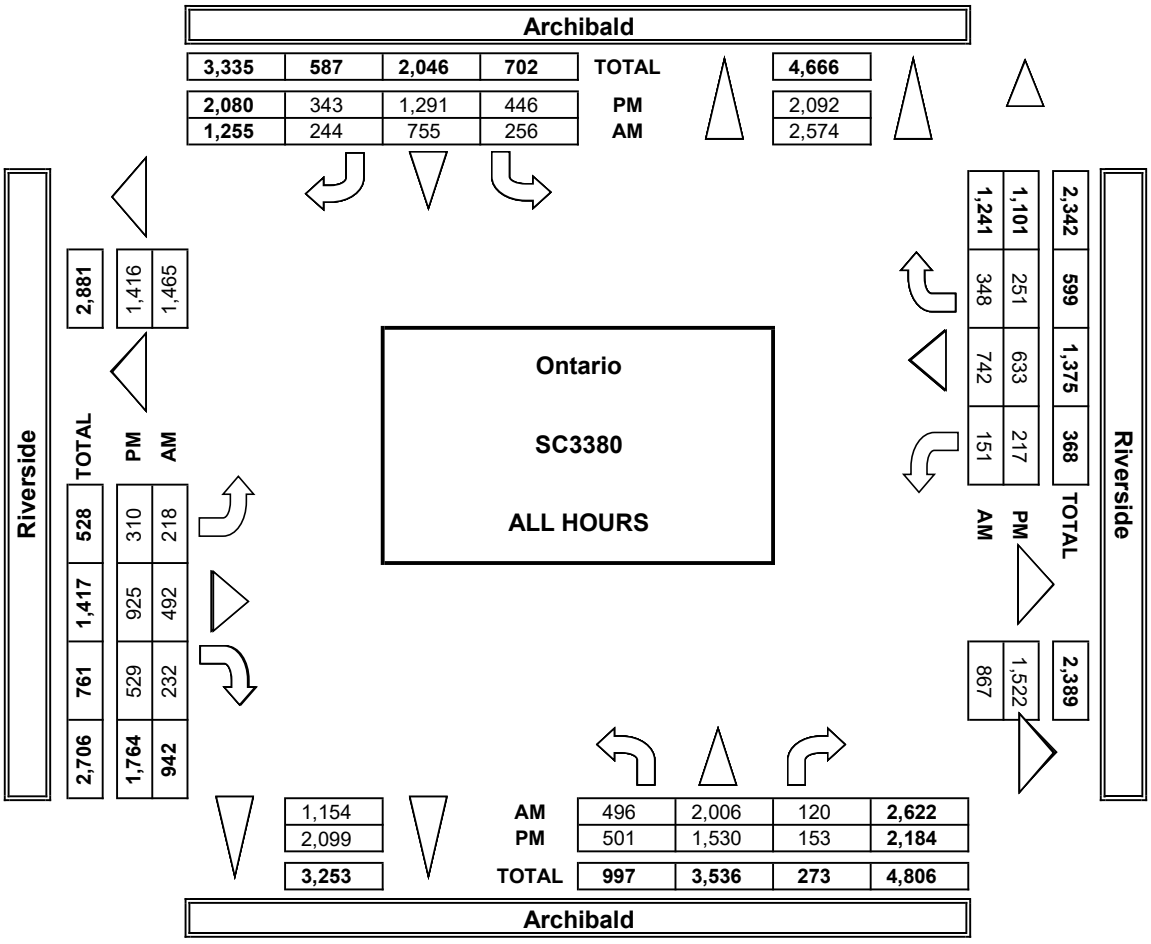
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	0	0	0	0
1	3	1	7	12
1	0	0	0	1
1	0	2	4	7
1	1	0	0	2
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
4	4	3	13	24
0	0	2	1	3
0	3	8	1	12
0	4	0	0	4
0	0	1	0	1
0	0	1	3	4
2	4	5	0	11
0	6	4	0	10
1	0	0	1	2
3	17	21	6	47

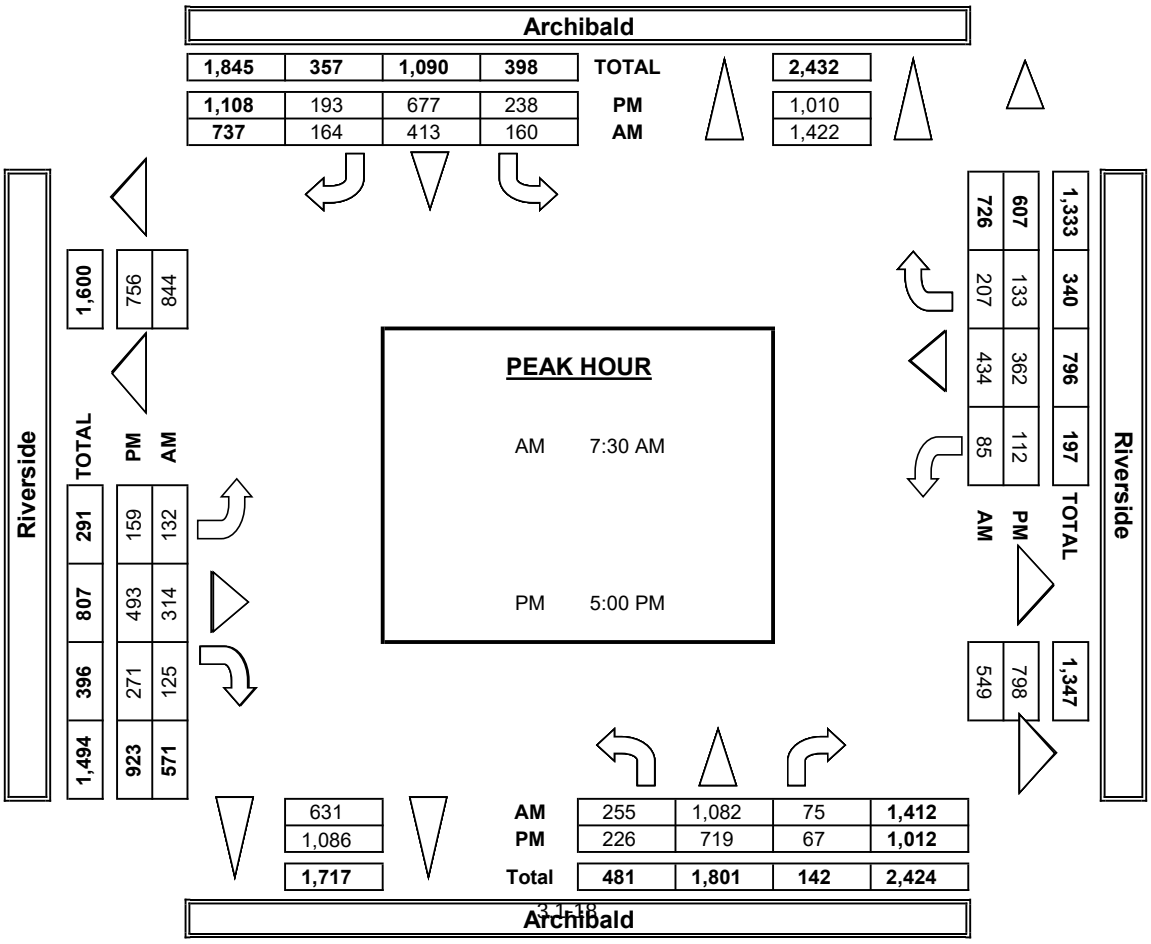
BICYCLE CROSSINGS

ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	1	0	1	2
0	0	2	0	2
0	1	0	1	2
1	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	0	0	0
1	2	3	3	9
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
0	0	1	0	1
0	0	0	0	0
2	0	1	0	3

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	13
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

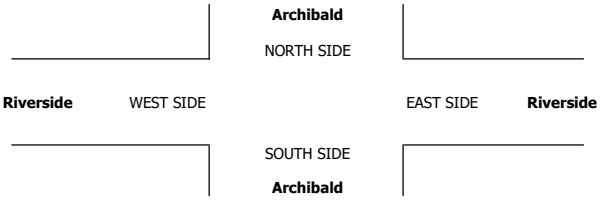
	NORTHBOUND (Archibald)			SOUTHBOUND (Archibald)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
7:00 AM	48	195	8	22	58	27	24	39	16	12	60	29	538
7:15 AM	49	214	11	18	56	21	19	45	24	13	81	50	601
7:30 AM	55	286	14	27	71	34	38	84	20	18	108	54	809
7:45 AM	71	232	21	42	87	55	32	63	25	23	122	48	821
8:00 AM	71	219	17	52	96	41	30	85	34	19	109	54	827
8:15 AM	44	213	16	22	87	20	18	67	30	22	78	45	662
8:30 AM	59	197	13	19	82	12	19	37	33	19	98	32	620
8:45 AM	76	195	8	28	58	17	12	42	29	16	54	23	558
AM VOLUMES	473	1,751	108	230	595	227	192	462	211	142	710	335	5,436
AM APPROACH %	20%	75%	5%	22%	57%	22%	22%	53%	24%	12%	60%	28%	
AM APP/DEPART	2,332	/	2,280	1,052	/	963	865	/	799	1,187	/	1,394	0
BEGIN PEAK HR		7:30 AM											
VOLUMES	232	950	68	142	341	150	118	299	109	81	417	201	3,119
APPROACH %	18%	75%	5%	22%	54%	24%	22%	57%	21%	12%	60%	29%	
PEAK HR FACTOR		0.887			0.839			0.883			0.907		0.943
APP/DEPART	1,259	/	1,270	634	/	540	526	/	510	700	/	799	0
4:00 PM	60	192	25	50	138	29	25	118	53	25	70	29	814
4:15 PM	72	165	13	55	121	30	26	118	66	27	76	28	797
4:30 PM	70	172	21	47	147	43	35	85	68	20	57	22	787
4:45 PM	69	169	24	50	126	42	54	94	62	28	58	35	811
5:00 PM	42	167	20	58	140	37	36	151	77	22	98	31	879
5:15 PM	59	159	16	49	150	39	33	127	70	28	95	29	854
5:30 PM	63	160	14	66	155	52	48	96	52	36	84	34	860
5:45 PM	59	162	13	60	157	60	32	101	62	24	74	32	836
PM VOLUMES	494	1,346	146	435	1,134	332	289	890	510	210	612	240	6,638
PM APPROACH %	25%	68%	7%	23%	60%	17%	17%	53%	30%	20%	58%	23%	
PM APP/DEPART	1,986	/	1,877	1,901	/	1,916	1,689	/	1,469	1,062	/	1,376	0
BEGIN PEAK HR		5:00 PM											
VOLUMES	197	648	63	233	602	188	149	475	261	110	351	126	3,429
APPROACH %	21%	69%	7%	23%	59%	18%	17%	54%	29%	19%	60%	21%	
PEAK HR FACTOR		0.985			0.923			0.838			0.953		0.975
APP/DEPART	934	/	923	1,023	/	999	885	/	771	587	/	736	0

U-TURNS

	NB	SB	EB	WB	TTL
AM	16	2	0	1	19
PM	62	2	0	0	64

RTOR

	NRR 0	SRR 0	ERR 0	WRR 0
AM	6	58	83	102
AM PEAK HR	2	33	47	61
PM	15	65	141	87
PM PEAK HR	7	32	65	46



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	13
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

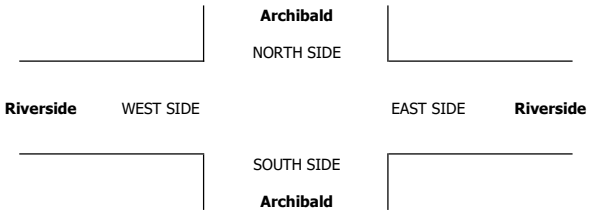
		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	4	0	0	14	2	0	5	0	3	3	0	31
	7:15 AM	3	14	0	2	5	0	0	1	2	0	3	2	32
	7:30 AM	1	13	2	2	3	2	2	5	2	0	2	2	36
	7:45 AM	2	9	1	5	6	1	1	3	3	1	3	0	35
	8:00 AM	2	5	1	2	2	5	0	2	2	0	3	1	25
	8:15 AM	2	9	2	4	5	3	4	3	2	1	3	0	38
	8:30 AM	3	13	0	0	9	0	1	2	2	1	4	3	38
	8:45 AM	1	3	2	1	4	0	0	1	0	0	2	1	15
	VOLUMES	14	70	8	16	48	13	8	22	13	6	23	9	250
	APPROACH %	15%	76%	9%	21%	62%	17%	19%	51%	30%	16%	61%	24%	
	APP/DEPART	92	/	87	77	/	68	43	/	46	38	/	49	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	7	36	6	13	16	11	7	13	9	2	11	3	134
	APPROACH %	14%	73%	12%	33%	40%	28%	24%	45%	31%	13%	69%	19%	
	PEAK HR FACTOR		0.766			0.833			0.806			1.000		0.882
	APP/DEPART	49	/	46	40	/	27	29	/	32	16	/	29	0
PM	4:00 PM	0	7	1	0	6	3	3	4	2	2	2	2	32
	4:15 PM	1	12	0	1	3	0	2	1	2	0	3	1	26
	4:30 PM	0	13	0	1	4	1	1	2	2	0	1	0	25
	4:45 PM	3	11	1	3	3	0	1	7	1	1	2	1	34
	5:00 PM	1	5	0	2	4	0	2	5	2	0	2	2	25
	5:15 PM	0	12	2	0	5	2	2	3	2	0	3	2	33
	5:30 PM	1	5	0	1	5	1	2	5	2	1	1	1	25
	5:45 PM	0	5	0	1	7	2	0	1	2	1	4	2	25
	VOLUMES	6	70	4	9	37	9	13	28	15	5	18	11	225
	APPROACH %	8%	88%	5%	16%	67%	16%	23%	50%	27%	15%	53%	32%	
	APP/DEPART	80	/	94	55	/	57	56	/	41	34	/	33	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	2	27	2	4	21	5	6	14	8	2	10	7	108
	APPROACH %	6%	87%	6%	13%	70%	17%	21%	50%	29%	11%	53%	37%	
	PEAK HR FACTOR		0.554			0.750			0.778			0.679		0.818
	APP/DEPART	31	/	40	30	/	31	28	/	20	19	/	17	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	2	0
1	0	1	0
0	1	3	0
0	3	1	0
0	1	1	0
0	0	2	2
0	0	0	0
1	5	10	2
1	5	6	0
1	1	1	1
0	0	0	1
0	1	1	0
0	0	0	1
0	0	0	0
0	0	1	0
0	0	2	0
0	0	0	2
1	2	5	5
0	0	3	2



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	13
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

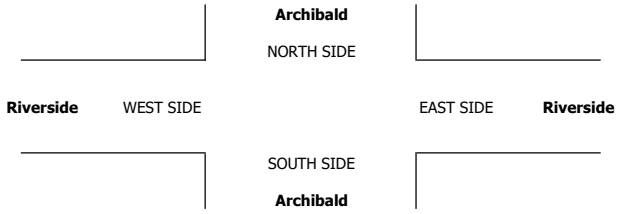
NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Archibald)			SOUTHBOUND (Archibald)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	7	0	1	5	0	0	0	0	0	0	0	13
	7:15 AM	0	9	0	2	8	0	1	1	0	0	0	0	21
	7:30 AM	0	5	0	0	6	0	1	0	0	0	1	1	14
	7:45 AM	0	8	0	1	4	1	0	0	0	0	0	0	14
	8:00 AM	1	3	0	0	4	1	0	0	1	0	0	1	11
	8:15 AM	0	5	0	1	4	0	0	0	0	0	0	0	10
	8:30 AM	0	5	0	0	3	0	1	0	1	0	0	0	10
	8:45 AM	0	9	0	1	5	0	1	1	0	1	1	0	19
	VOLUMES	1	51	0	6	39	2	4	2	2	1	2	2	112
	APPROACH %	2%	98%	0%	13%	83%	4%	50%	25%	25%	20%	40%	40%	
	APP/DEPART	52	/	57	47	/	42	8	/	8	5	/	5	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	1	21	0	2	18	2	1	0	1	0	1	2	49
	APPROACH %	5%	95%	0%	9%	82%	9%	50%	0%	50%	0%	33%	67%	
	PEAK HR FACTOR		0.688			0.917			0.500			0.375		0.875
	APP/DEPART	22	/	24	22	/	19	2	/	2	3	/	4	0
PM	4:00 PM	0	7	0	0	4	0	0	0	0	1	1	0	13
	4:15 PM	0	12	1	1	4	0	1	1	0	0	0	0	20
	4:30 PM	0	3	0	0	7	0	0	0	0	0	1	0	11
	4:45 PM	0	3	0	0	0	0	1	1	0	0	0	0	5
	5:00 PM	0	7	0	0	3	0	0	1	1	0	0	0	12
	5:15 PM	0	4	0	0	7	0	1	0	1	0	0	0	13
	5:30 PM	0	2	2	0	1	0	0	0	0	0	0	0	5
	5:45 PM	0	1	0	0	4	0	1	1	0	0	0	0	7
	VOLUMES	0	39	3	1	30	0	4	4	2	1	2	0	86
	APPROACH %	0%	93%	7%	3%	97%	0%	40%	40%	20%	33%	67%	0%	
	APP/DEPART	42	/	43	31	/	33	10	/	8	3	/	2	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	14	2	0	15	0	2	2	2	0	0	0	37
	APPROACH %	0%	88%	13%	0%	100%	0%	33%	33%	33%	0%	0%	0%	
	PEAK HR FACTOR		0.571			0.536			0.750			0.000		0.712
	APP/DEPART	16	/	16	15	/	17	6	/	4	0	/	0	0

U-TURNS					
	NB	SB	EB	WB	TTL
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0

RTOR				
	NRR 0	SRR 0	ERR 0	WRR 0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	13
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

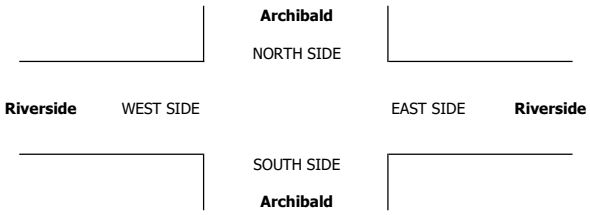
		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	15	1	0	4	0	2	0	0	0	0	0	22
	7:15 AM	0	13	1	0	4	1	2	0	0	0	0	1	22
	7:30 AM	0	13	0	1	8	0	1	0	1	0	0	0	24
	7:45 AM	0	14	0	0	8	0	3	0	0	0	0	0	25
	8:00 AM	0	20	0	0	8	1	1	0	1	0	0	0	31
	8:15 AM	0	26	0	1	13	0	1	0	1	0	1	0	43
	8:30 AM	1	16	0	0	14	0	2	0	0	1	0	0	34
	8:45 AM	0	12	0	1	9	0	1	1	0	0	0	0	24
	VOLUMES	1	129	2	3	68	2	13	1	3	1	1	1	225
	APPROACH %	1%	98%	2%	4%	93%	3%	76%	6%	18%	33%	33%	33%	
	APP/DEPART	132	/	143	73	/	72	17	/	6	3	/	4	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	73	0	2	37	1	6	0	3	0	1	0	123
	APPROACH %	0%	100%	0%	5%	93%	3%	67%	0%	33%	0%	100%	0%	
	PEAK HR FACTOR		0.702			0.714			0.750			0.250		0.715
	APP/DEPART	73	/	79	40	/	40	9	/	2	1	/	2	0
PM	4:00 PM	0	14	0	0	12	0	0	0	0	0	0	0	26
	4:15 PM	0	9	0	0	6	0	0	0	0	0	0	0	15
	4:30 PM	0	10	0	0	19	2	1	1	0	1	0	0	34
	4:45 PM	0	10	0	0	14	0	0	0	0	0	0	0	24
	5:00 PM	0	4	0	0	10	0	1	2	0	0	0	0	17
	5:15 PM	0	10	0	1	10	0	0	0	0	0	1	0	22
	5:30 PM	0	5	0	0	9	0	0	0	0	0	0	0	14
	5:45 PM	0	11	0	0	10	0	0	0	0	0	0	0	21
	VOLUMES	0	73	0	1	90	2	2	3	0	1	1	0	173
	APPROACH %	0%	100%	0%	1%	97%	2%	40%	60%	0%	50%	50%	0%	
	APP/DEPART	73	/	75	93	/	91	5	/	4	2	/	3	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	30	0	1	39	0	1	2	0	0	1	0	74
	APPROACH %	0%	100%	0%	3%	98%	0%	33%	67%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.682			0.909			0.250			0.250		0.841
	APP/DEPART	30	/	31	40	/	39	3	/	3	1	/	1	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	2	0
0	0	2	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	13
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Archibald

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Archibald

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	13
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	1	0	0	3	0	0	1	0	0	0	0	5
	7:15 AM	0	2	1	1	1	0	1	0	0	0	2	0	8
	7:30 AM	0	2	1	0	0	0	0	1	1	1	1	1	8
	7:45 AM	3	0	0	0	1	0	0	0	0	0	1	0	5
	8:00 AM	1	0	0	0	0	0	0	1	2	0	1	0	5
	8:15 AM	2	0	0	0	0	0	0	0	0	0	1	0	3
	8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:45 AM	1	0	0	0	0	0	0	1	0	0	0	0	2
	VOLUMES	7	5	2	1	5	0	1	5	3	1	6	1	37
	APPROACH %	50%	36%	14%	17%	83%	0%	11%	56%	33%	13%	75%	13%	
	APP/DEPART	14	/ 7		6	/ 9		9	/ 8		8	/ 13		0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	6	2	1	0	1	0	0	2	3	1	4	1	21
	APPROACH %	67%	22%	11%	0%	100%	0%	0%	40%	60%	17%	67%	17%	
	PEAK HR FACTOR		0.750			0.250			0.417			0.500		0.656
	APP/DEPART	9	/ 3		1	/ 5		5	/ 3		6	/ 10		0
PM	4:00 PM	0	1	0	0	0	0	1	0	1	0	0	0	3
	4:15 PM	0	1	0	0	0	0	0	0	1	0	0	0	2
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	1	2	0	0	0	0	1	0	2	0	0	0	6
	APPROACH %	33%	67%	0%	0%	0%	0%	33%	0%	67%	0%	0%	0%	
	APP/DEPART	3	/ 3		0	/ 2		3	/ 0		0	/ 1		0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	1	0	0	0	0	0	0	0	0	0	0	0	1
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250
	APP/DEPART	1	/ 0		0	/ 0		0	/ 0		0	/ 1		0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Archibald

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Archibald

T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Apr 13, 22	LOCATION:	Ontario	PROJECT #: SC3380
	NORTH & SOUTH:	Archibald	LOCATION #: 14
	EAST & WEST:	Chino	CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

	NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Chino			WESTBOUND Chino			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
7:00 AM	25	222	2	6	90	13	18	7	11	3	16	25	438
7:15 AM	24	277	13	9	101	12	19	11	13	2	25	31	537
7:30 AM	46	311	33	17	100	16	15	25	7	11	32	42	655
7:45 AM	52	270	43	11	122	8	21	15	16	54	32	56	700
8:00 AM	23	209	6	10	126	14	12	18	10	13	14	43	498
8:15 AM	22	271	3	10	146	9	17	8	10	1	18	26	541
8:30 AM	18	273	0	10	127	8	11	7	10	2	17	13	496
8:45 AM	16	243	2	3	116	10	11	6	8	2	12	13	442
VOLUMES	226	2,076	102	76	928	90	124	97	85	88	166	249	4,307
APPROACH %	9%	86%	4%	7%	85%	8%	41%	32%	28%	17%	33%	50%	
APP/DEPART	2,404	/	2,449	1,094	/	1,127	306	/	276	503	/	455	0
BEGIN PEAK HR		7:30 AM											
VOLUMES	143	1,061	85	48	494	47	65	66	43	79	96	167	2,394
APPROACH %	11%	82%	7%	8%	84%	8%	37%	38%	25%	23%	28%	49%	
PEAK HR FACTOR		0.826			0.892			0.837			0.602		0.855
APP/DEPART	1,289	/	1,293	589	/	635	174	/	199	342	/	267	0
4:00 PM	22	226	3	18	219	13	30	59	23	4	8	14	639
4:15 PM	18	237	4	21	179	10	39	43	22	1	10	19	603
4:30 PM	27	178	4	18	218	12	32	59	39	3	21	9	620
4:45 PM	18	207	7	11	186	11	35	59	36	1	10	13	594
5:00 PM	25	203	3	27	211	13	15	50	34	1	16	13	611
5:15 PM	16	184	3	19	222	16	39	61	25	2	9	16	612
5:30 PM	15	187	7	18	211	16	33	49	27	1	10	24	598
5:45 PM	21	167	4	17	196	14	22	42	27	4	17	19	550
VOLUMES	162	1,589	35	149	1,642	105	245	422	233	17	101	127	4,827
APPROACH %	9%	89%	2%	8%	87%	6%	27%	47%	26%	7%	41%	52%	
APP/DEPART	1,786	/	1,963	1,896	/	1,915	900	/	604	245	/	345	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	85	848	18	68	802	46	136	220	120	9	49	55	2,456
APPROACH %	9%	89%	2%	7%	88%	5%	29%	46%	25%	8%	43%	49%	
PEAK HR FACTOR		0.918			0.916			0.915			0.856		0.961
APP/DEPART	951	/	1,039	916	/	945	476	/	306	113	/	166	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	
1	0	0	1	2
2	0	0	0	2
6	0	0	0	6
6	0	0	0	6
3	0	0	0	3
4	0	0	0	4
2	0	0	0	2
3	0	0	0	3
27	0	0	1	28
4	0	0	0	4
2	0	0	0	2
4	0	0	0	4
4	0	0	0	4
3	0	0	0	3
2	1	0	0	3
0	0	0	0	0
4	1	0	0	5
23	2	0	0	25

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
1	0	1	13
2	1	1	13
2	0	1	16
5	1	3	21
0	5	2	25
0	1	1	18
0	2	6	9
1	3	4	6
11	13	19	121
7	7	7	80
0	1	9	8
0	1	4	10
0	0	8	5
1	2	3	8
0	0	3	5
0	0	6	9
2	0	7	13
0	5	3	6
3	9	43	64
1	4	24	31

Archibald

NORTH SIDE

Chino WEST SIDE EAST SIDE **Chino**

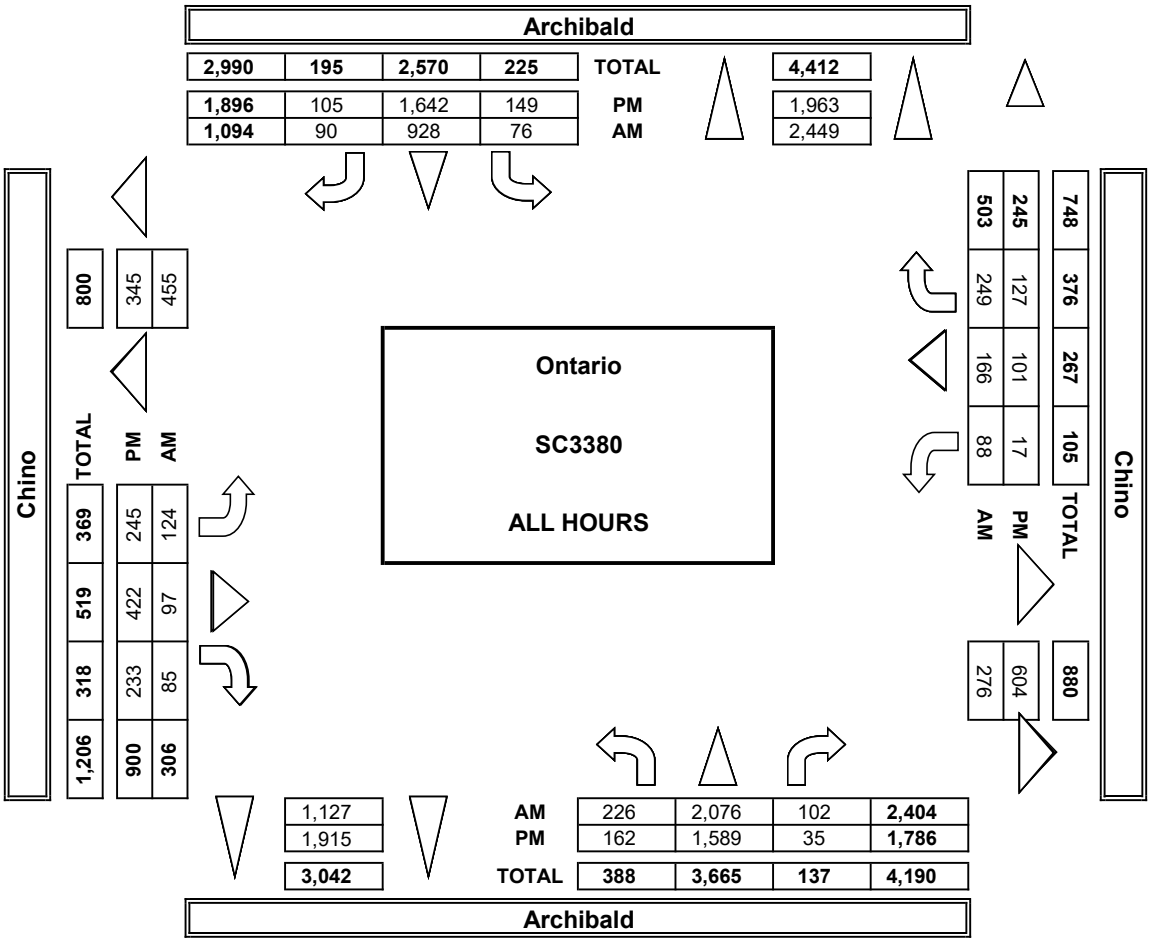
SOUTH SIDE

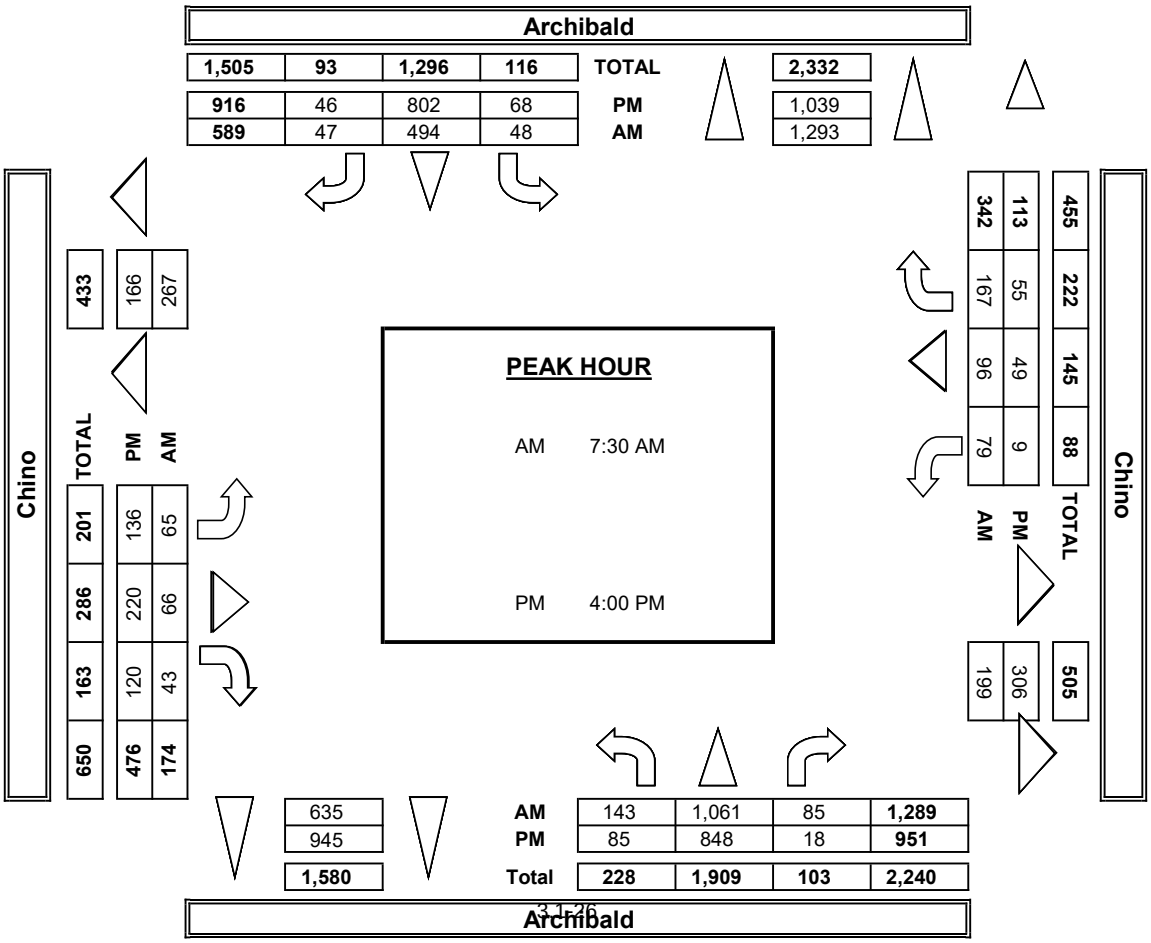
Archibald

	ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	3	0	1	0	4	2	0	1	0	3	1	0	0	0	1
TOTAL	4	1	1	1	7	2	0	1	0	3	2	1	0	1	4
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	2	0	0	1	0	1	0	0	1	0	1
4:30 PM	3	0	0	0	3	2	0	0	0	2	1	0	0	0	1
4:45 PM	2	0	1	0	3	2	0	1	0	3	0	0	0	0	0
5:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
5:45 PM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
TOTAL	9	0	3	0	12	7	0	2	0	9	2	0	1	0	3

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	14
WEDNESDAY	EAST & WEST:	Chino	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

	NORTHBOUND (Archibald)			SOUTHBOUND (Archibald)			EASTBOUND (Chino)			WESTBOUND (Chino)			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
7:00 AM	21	200	2	5	72	6	7	7	7	3	15	25	370
7:15 AM	21	250	12	7	83	8	6	9	12	2	25	30	465
7:30 AM	44	282	32	15	83	10	9	23	7	11	31	39	586
7:45 AM	51	239	43	11	107	7	12	13	14	54	31	53	635
8:00 AM	22	189	6	9	108	10	3	16	9	12	13	42	439
8:15 AM	17	240	3	9	125	5	9	8	9	1	17	25	468
8:30 AM	15	248	0	10	100	6	4	7	9	2	17	12	430
8:45 AM	12	224	2	3	98	4	2	4	6	2	12	13	382
AM VOLUMES	203	1,872	100	69	776	56	52	87	73	87	161	239	3,775
AM APPROACH %	9%	86%	5%	8%	86%	6%	25%	41%	34%	18%	33%	49%	
AM APP/DEPART	2,175	/	2,163	901	/	960	212	/	257	487	/	395	0
BEGIN PEAK HR		7:30 AM											
VOLUMES	115	950	84	44	423	32	33	60	39	78	92	159	2,128
APPROACH %	10%	81%	7%	9%	85%	6%	25%	45%	30%	24%	28%	48%	
PEAK HR FACTOR		0.816			0.897			0.846			0.596		0.838
APP/DEPART	1,168	/	1,142	499	/	559	132	/	188	329	/	239	0
4:00 PM	20	203	3	18	194	10	25	55	22	3	7	14	574
4:15 PM	16	210	4	21	164	6	30	42	20	1	8	18	540
4:30 PM	25	162	4	17	191	9	26	59	36	3	21	8	561
4:45 PM	16	186	5	11	171	9	33	53	35	1	9	11	540
5:00 PM	23	186	3	27	192	13	14	48	33	1	16	13	569
5:15 PM	15	167	3	19	208	13	33	57	23	2	8	14	562
5:30 PM	15	178	7	17	196	13	28	48	27	1	9	24	563
5:45 PM	20	151	4	17	177	10	19	40	25	4	17	19	503
PM VOLUMES	150	1,443	33	147	1,493	83	208	402	221	16	95	121	4,412
PM APPROACH %	9%	89%	2%	9%	87%	5%	25%	48%	27%	7%	41%	52%	
PM APP/DEPART	1,626	/	1,774	1,723	/	1,752	831	/	580	232	/	306	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	64	761	16	67	720	34	114	209	113	8	45	51	2,215
APPROACH %	7%	89%	2%	8%	88%	4%	26%	48%	26%	8%	43%	49%	
PEAK HR FACTOR		0.928			0.925			0.901			0.813		0.965
APP/DEPART	854	/	926	821	/	854	436	/	292	104	/	143	0

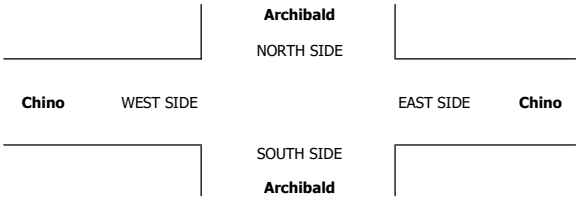
U-TURNS

	NB	SB	EB	WB	TTL
AM	25	0	0	1	26
PM	22	2	0	0	24
BEGIN PEAK HR					
PEAK HR	7	6	7	7	6

RTOR

	NRR 0	SRR 0	ERR 0	WRR 0
AM	11	9	17	115
PM	3	6	41	61
BEGIN PEAK HR				
PEAK HR	1	4	23	30

	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
7:00 AM	1	0	0	1	2	1	0	1	13	7:00 AM	1	0	0	1	2	1	0	1	13
7:15 AM	1	0	0	0	1	2	1	1	12	7:15 AM	1	0	0	0	1	2	1	1	12
7:30 AM	6	0	0	0	6	2	0	1	14	7:30 AM	6	0	0	0	6	2	0	1	14
7:45 AM	6	0	0	0	6	5	1	3	21	7:45 AM	6	0	0	0	6	5	1	3	21
8:00 AM	3	0	0	0	3	0	4	2	24	8:00 AM	3	0	0	0	3	0	4	2	24
8:15 AM	4	0	0	0	4	0	1	1	17	8:15 AM	4	0	0	0	4	0	1	1	17
8:30 AM	2	0	0	0	2	0	2	6	8	8:30 AM	2	0	0	0	2	0	2	6	8
8:45 AM	2	0	0	0	2	1	0	2	6	8:45 AM	2	0	0	0	2	1	0	2	6
AM VOLUMES	25	0	0	1	26	11	9	17	115	AM VOLUMES	25	0	0	1	26	11	9	17	115
AM APPROACH %	96%	0%	0%	4%		31%	25%	47%		AM APPROACH %	96%	0%	0%	4%		31%	25%	47%	
AM PEAK HR	7	0	0	0	7	7	6	7	76	AM PEAK HR	7	0	0	0	7	7	6	7	76
PEAK HR FACTOR					0.875				0.792	PEAK HR FACTOR					0.875				0.792
4:00 PM	4	0	0	0	4	0	1	9	8	4:00 PM	4	0	0	0	4	0	1	9	8
4:15 PM	2	0	0	0	2	0	1	4	10	4:15 PM	2	0	0	0	2	0	1	4	10
4:30 PM	4	0	0	0	4	0	0	7	5	4:30 PM	4	0	0	0	4	0	0	7	5
4:45 PM	3	0	0	0	3	1	2	3	7	4:45 PM	3	0	0	0	3	1	2	3	7
5:00 PM	3	0	0	0	3	0	0	3	5	5:00 PM	3	0	0	0	3	0	0	3	5
5:15 PM	2	1	0	0	3	0	0	5	7	5:15 PM	2	1	0	0	3	0	0	5	7
5:30 PM	0	0	0	0	0	2	0	7	13	5:30 PM	0	0	0	0	0	2	0	7	13
5:45 PM	4	1	0	0	5	0	2	3	6	5:45 PM	4	1	0	0	5	0	2	3	6
PM VOLUMES	22	2	0	0	24	3	6	41	61	PM VOLUMES	22	2	0	0	24	3	6	41	61
PM APPROACH %	92%	8%	0%	0%		5%	10%	69%		PM APPROACH %	92%	8%	0%	0%		5%	10%	69%	
PM PEAK HR	12	1	0	0	13	1	4	23	30	PM PEAK HR	12	1	0	0	13	1	4	23	30
PEAK HR FACTOR					0.813				0.833	PEAK HR FACTOR					0.813				0.833



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	14
WEDNESDAY	EAST & WEST:	Chino	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Chino			WESTBOUND Chino			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	2	7	0	0	8	4	2	0	3	0	1	0	27
	7:15 AM	1	14	0	1	7	1	1	1	1	0	0	1	28
	7:30 AM	0	12	1	0	3	1	1	2	0	0	1	2	23
	7:45 AM	0	11	0	0	4	0	1	1	1	0	0	1	19
	8:00 AM	1	4	0	0	6	0	2	2	0	1	1	0	17
	8:15 AM	2	7	0	0	7	0	0	0	0	0	0	1	17
	8:30 AM	2	10	0	0	13	0	0	0	1	0	0	1	27
	8:45 AM	2	10	0	0	4	0	0	2	1	0	0	0	19
	VOLUMES	10	75	1	1	52	6	7	8	7	1	3	6	177
	APPROACH %	12%	87%	1%	2%	88%	10%	32%	36%	32%	10%	30%	60%	
	APP/DEPART	86	/	88	59	/	62	22	/	10	10	/	17	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	3	34	1	0	20	1	4	5	1	1	2	4	76
	APPROACH %	8%	89%	3%	0%	95%	5%	40%	50%	10%	14%	29%	57%	
	PEAK HR FACTOR		0.731			0.750			0.625			0.583		0.826
	APP/DEPART	38	/	42	21	/	22	10	/	6	7	/	6	0
PM	4:00 PM	1	6	0	0	9	0	1	2	0	1	1	0	21
	4:15 PM	1	15	0	0	4	2	4	0	1	0	1	0	28
	4:30 PM	0	6	0	0	6	0	2	0	2	0	0	1	17
	4:45 PM	2	9	1	0	3	0	1	5	1	0	0	1	23
	5:00 PM	1	6	0	0	4	0	0	1	0	0	0	0	12
	5:15 PM	0	7	0	0	1	0	3	4	1	0	1	1	18
	5:30 PM	0	1	0	1	6	1	2	1	0	0	1	0	13
	5:45 PM	0	4	0	0	9	1	0	2	2	0	0	0	18
	VOLUMES	5	54	1	1	42	4	13	15	7	1	4	3	150
	APPROACH %	8%	90%	2%	2%	89%	9%	37%	43%	20%	13%	50%	38%	
	APP/DEPART	60	/	70	47	/	51	35	/	17	8	/	12	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	3	36	1	0	22	2	8	7	4	1	2	2	89
	APPROACH %	7%	88%	2%	0%	92%	8%	42%	37%	21%	20%	40%	40%	
	PEAK HR FACTOR		0.641			0.667			0.679			0.625		0.795
	APP/DEPART	41	/	46	24	/	28	19	/	8	5	/	7	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
2	0	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	1
0	0	1	0
0	0	1	4
0	0	0	2
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	1
0	0	0	0
0	0	0	1
0	0	0	0
0	1	0	0
0	1	1	2
0	0	1	1

Archibald

NORTH SIDE

Chino WEST SIDE EAST SIDE **Chino**

SOUTH SIDE

Archibald

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	14
WEDNESDAY	EAST & WEST:	Chino	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

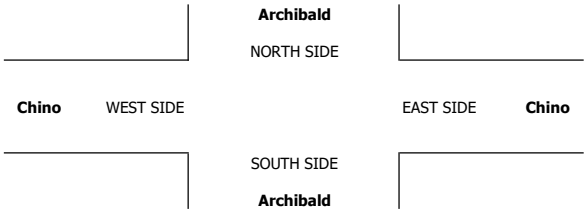
		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Chino			WESTBOUND Chino			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	0	2	0	0	3	3	1	0	0	0	0	0	9
	7:15 AM	2	8	0	1	5	3	0	0	0	0	0	0	19
	7:30 AM	0	5	0	0	3	3	2	0	0	0	0	0	13
	7:45 AM	0	3	0	0	4	1	2	1	1	0	0	0	12
	8:00 AM	0	1	0	0	5	1	3	0	1	0	0	0	11
	8:15 AM	0	3	0	1	3	0	2	0	0	0	1	0	10
	8:30 AM	0	4	0	0	3	1	5	0	0	0	0	0	13
	8:45 AM	0	4	0	0	4	5	6	0	1	0	0	0	20
	VOLUMES	2	30	0	2	30	17	21	1	3	0	1	0	107
	APPROACH %	6%	94%	0%	4%	61%	35%	84%	4%	12%	0%	100%	0%	
	APP/DEPART	32	/	51	49	/	33	25	/	3	1	/	20	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	12	0	1	15	5	9	1	2	0	1	0	46
	APPROACH %	0%	100%	0%	5%	71%	24%	75%	8%	17%	0%	100%	0%	
	PEAK HR FACTOR		0.600			0.875			0.750			0.250		0.885
	APP/DEPART	12	/	21	21	/	17	12	/	2	1	/	6	0
PM	4:00 PM	0	6	0	0	5	1	3	1	0	0	0	0	16
	4:15 PM	1	5	0	0	3	1	2	0	0	0	1	1	14
	4:30 PM	2	3	0	0	3	1	2	0	0	0	0	0	11
	4:45 PM	0	3	0	0	1	0	0	0	0	0	1	1	6
	5:00 PM	0	6	0	0	4	0	1	1	0	0	0	0	12
	5:15 PM	0	1	0	0	2	3	1	0	0	0	0	0	7
	5:30 PM	0	2	0	0	0	1	2	0	0	0	0	0	5
	5:45 PM	0	0	0	0	3	0	1	0	0	0	0	0	4
	VOLUMES	3	26	0	0	21	7	12	2	0	0	2	2	75
	APPROACH %	10%	90%	0%	0%	75%	25%	86%	14%	0%	0%	50%	50%	
	APP/DEPART	29	/	40	28	/	21	14	/	2	4	/	12	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	3	17	0	0	12	3	7	1	0	0	2	2	47
	APPROACH %	15%	85%	0%	0%	80%	20%	88%	13%	0%	0%	50%	50%	
	PEAK HR FACTOR		0.833			0.625			0.500			0.500		0.734
	APP/DEPART	20	/	26	15	/	12	8	/	1	4	/	8	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	2	1	0
0	3	1	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



1961

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	14
WEDNESDAY	EAST & WEST:	Chino	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Chino			WESTBOUND Chino			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	0	12	0	0	5	0	8	0	1	0	0	0	26
	7:15 AM	0	3	0	0	5	0	12	1	0	0	0	0	21
	7:30 AM	2	11	0	1	10	2	3	0	0	0	0	0	29
	7:45 AM	1	16	0	0	7	0	5	0	0	0	1	1	31
	8:00 AM	0	15	0	0	6	3	4	0	0	0	0	0	28
	8:15 AM	2	18	0	0	11	4	6	0	1	0	0	0	42
	8:30 AM	1	11	0	0	11	1	2	0	0	0	0	0	26
	8:45 AM	2	3	0	0	9	1	3	0	0	0	0	0	18
	VOLUMES	8	89	0	1	64	11	43	1	2	0	1	1	221
	APPROACH %	8%	92%	0%	1%	84%	14%	93%	2%	4%	0%	50%	50%	
	APP/DEPART	97	/	133	76	/	66	46	/	2	2	/	20	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	5	60	0	1	34	9	18	0	1	0	1	1	130
	APPROACH %	8%	92%	0%	2%	77%	20%	95%	0%	5%	0%	50%	50%	
	PEAK HR FACTOR		0.813			0.733			0.679			0.250		0.774
	APP/DEPART	65	/	79	44	/	35	19	/	1	2	/	15	0
PM	4:00 PM	1	9	0	0	10	2	1	1	1	0	0	0	25
	4:15 PM	0	7	0	0	8	1	3	1	1	0	0	0	21
	4:30 PM	0	7	0	0	18	2	2	0	1	0	0	0	30
	4:45 PM	0	8	1	0	11	2	1	1	0	0	0	0	24
	5:00 PM	1	5	0	0	11	0	0	0	1	0	0	0	18
	5:15 PM	1	9	0	0	11	0	2	0	0	0	0	1	24
	5:30 PM	0	6	0	0	9	1	1	0	0	0	0	0	17
	5:45 PM	1	12	0	0	7	3	2	0	0	0	0	0	25
	VOLUMES	4	63	1	0	85	11	12	3	4	0	0	1	184
	APPROACH %	6%	93%	1%	0%	89%	11%	63%	16%	21%	0%	0%	100%	
	APP/DEPART	68	/	76	96	/	89	19	/	4	1	/	15	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	1	31	1	0	47	7	7	3	3	0	0	0	100
	APPROACH %	3%	94%	3%	0%	87%	13%	54%	23%	23%	0%	0%	0%	
	PEAK HR FACTOR		0.825			0.675			0.650			0.000		0.833
	APP/DEPART	33	/	38	54	/	50	13	/	4	0	/	8	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	0
0	2	0	0
0	2	0	1
0	0	0	0

Archibald

NORTH SIDE

Chino WEST SIDE — EAST SIDE **Chino**

SOUTH SIDE

Archibald

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	14
WEDNESDAY	EAST & WEST:	Chino	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Chino			WESTBOUND Chino			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	14
WEDNESDAY	EAST & WEST:	Chino	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Chino			WESTBOUND Chino			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	2	1	0	1	2	0	0	0	0	0	0	0	6
	7:15 AM	0	2	1	0	1	0	0	0	0	0	0	0	4
	7:30 AM	0	1	0	1	1	0	0	0	0	0	0	1	4
	7:45 AM	0	1	0	0	0	0	1	0	0	0	0	1	3
	8:00 AM	0	0	0	1	1	0	0	0	0	0	0	1	3
	8:15 AM	1	3	0	0	0	0	0	0	0	0	0	0	4
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
	VOLUMES	3	10	1	3	6	0	1	0	0	0	0	3	27
	APPROACH %	21%	71%	7%	33%	67%	0%	100%	0%	0%	0%	0%	100%	
	APP/DEPART	14	/	14	9	/	6	1	/	4	3	/	3	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	1	5	0	2	2	0	1	0	0	0	0	3	14
	APPROACH %	17%	83%	0%	50%	50%	0%	100%	0%	0%	0%	0%	100%	
	PEAK HR FACTOR		0.375			0.500			0.250			0.750		0.875
	APP/DEPART	6	/	9	4	/	2	1	/	2	3	/	1	0
PM	4:00 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	3	0	1	1	0	0	0	1	0	0	0	6
	APPROACH %	0%	100%	0%	50%	50%	0%	0%	0%	100%	0%	0%	0%	
	APP/DEPART	3	/	3	2	/	2	1	/	1	0	/	0	0
	BEGIN PEAK HR		4:00 PM											
	VOLUMES	0	3	0	1	1	0	0	0	0	0	0	0	5
	APPROACH %	0%	100%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.375			0.500			0.000			0.000		0.417
	APP/DEPART	3	/	3	2	/	1	0	/	1	0	/	0	0

U-TURNS NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	2
0	0	0	2
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0

Archibald

NORTH SIDE

Chino WEST SIDE EAST SIDE **Chino**

SOUTH SIDE

Archibald

INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Apr 13, 22

LOCATION: Ontario
NORTH & SOUTH: Archibald
EAST & WEST: Schaefer

PROJECT #: SC3380
LOCATION #: 15
CONTROL: SIGNAL

NOTES:
W Leg closed

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND (Archibald)			SOUTHBOUND (Archibald)			EASTBOUND (Schaefer)			WESTBOUND (Schaefer)			
	LANES:	NL X	NT 3	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
AM	7:00 AM	0	214	1	2	103	0	0	0	0	4	0	23	347
AM	7:15 AM	0	340	7	3	104	0	0	0	0	9	0	16	479
AM	7:30 AM	0	282	8	3	106	0	0	0	0	5	0	14	418
AM	7:45 AM	0	311	10	19	175	0	0	0	0	8	0	22	545
AM	8:00 AM	0	216	2	3	136	0	0	0	0	6	0	9	372
AM	8:15 AM	0	335	5	13	191	0	0	0	0	8	0	19	571
AM	8:30 AM	0	266	2	7	134	0	0	0	0	4	0	11	424
AM	8:45 AM	0	232	2	5	125	0	0	0	0	6	0	6	376
AM	VOLUMES	0	2,196	37	55	1,074	0	0	0	0	50	0	120	3,573
AM	APPROACH %	0%	98%	2%	5%	92%	0%	0%	0%	0%	29%	0%	71%	
AM	APP/DEPART	2,237	/	2,353	1,166	/	1,128	0	/	92	170	/	0	0
AM	BEGIN PEAK HR		7:45 AM											
AM	VOLUMES	0	1,128	19	42	636	0	0	0	0	26	0	61	1,938
AM	APPROACH %	0%	98%	2%	6%	91%	0%	0%	0%	0%	30%	0%	70%	
AM	PEAK HR FACTOR		0.845			0.836			0.000			0.725		0.840
AM	APP/DEPART	1,149	/	1,213	702	/	664	0	/	61	87	/	0	0
PM	4:00 PM	0	237	5	11	195	0	0	0	0	2	0	8	458
PM	4:15 PM	0	231	1	13	193	0	0	0	0	3	0	8	449
PM	4:30 PM	0	194	1	6	252	0	0	0	0	3	0	2	458
PM	4:45 PM	0	229	4	13	212	0	0	0	0	1	0	2	461
PM	5:00 PM	0	229	5	12	245	0	0	0	0	2	0	3	496
PM	5:15 PM	0	173	2	16	225	0	0	0	0	2	0	7	425
PM	5:30 PM	0	206	6	12	217	0	0	0	0	3	0	8	452
PM	5:45 PM	0	180	1	9	212	0	0	0	0	4	0	13	419
PM	VOLUMES	0	1,679	25	92	1,751	0	0	0	0	20	0	51	3,702
PM	APPROACH %	0%	98%	1%	5%	91%	0%	0%	0%	0%	28%	0%	72%	
PM	APP/DEPART	1,711	/	1,807	1,920	/	1,778	0	/	117	71	/	0	0
PM	BEGIN PEAK HR		4:15 PM											
PM	VOLUMES	0	883	11	44	902	0	0	0	0	9	0	15	1,906
PM	APPROACH %	0%	98%	1%	4%	92%	0%	0%	0%	0%	38%	0%	63%	
PM	PEAK HR FACTOR		0.959			0.908			0.000			0.545		0.940
PM	APP/DEPART	898	/	936	984	/	915	0	/	55	24	/	0	0

U-TURNS

	NB	SB	EB	WB	TTL
	0	0	0	0	
7:00 AM	0	1	0	0	1
7:15 AM	1	7	0	0	8
7:30 AM	0	4	0	0	4
7:45 AM	0	3	0	0	3
8:00 AM	0	11	0	0	11
8:15 AM	0	6	0	0	6
8:30 AM	2	4	0	0	6
8:45 AM	1	1	0	0	2
	4	37	0	0	41
4:00 PM	1	14	0	0	15
4:15 PM	0	6	0	0	6
4:30 PM	3	13	0	0	16
4:45 PM	1	8	0	0	9
5:00 PM	0	11	0	0	11
5:15 PM	1	9	0	0	10
5:30 PM	0	8	0	0	8
5:45 PM	1	8	0	0	9
	7	77	0	0	84

RTOR

	NRR 0	SRR X	ERR X	WRR 0
7:00 AM	0	0	0	9
7:15 AM	1	0	0	11
7:30 AM	0	0	0	10
7:45 AM	0	0	0	15
8:00 AM	0	0	0	8
8:15 AM	1	0	0	12
8:30 AM	0	0	0	7
8:45 AM	0	0	0	3
	2	0	0	75
	1	0	0	42
4:00 PM	0	0	0	6
4:15 PM	0	0	0	4
4:30 PM	0	0	0	1
4:45 PM	1	0	0	0
5:00 PM	1	0	0	1
5:15 PM	0	0	0	4
5:30 PM	0	0	0	4
5:45 PM	0	0	0	4
	2	0	0	24
	2	0	0	6

Archibald

NORTH SIDE

Schaefer WEST SIDE EAST SIDE **Schaefer**

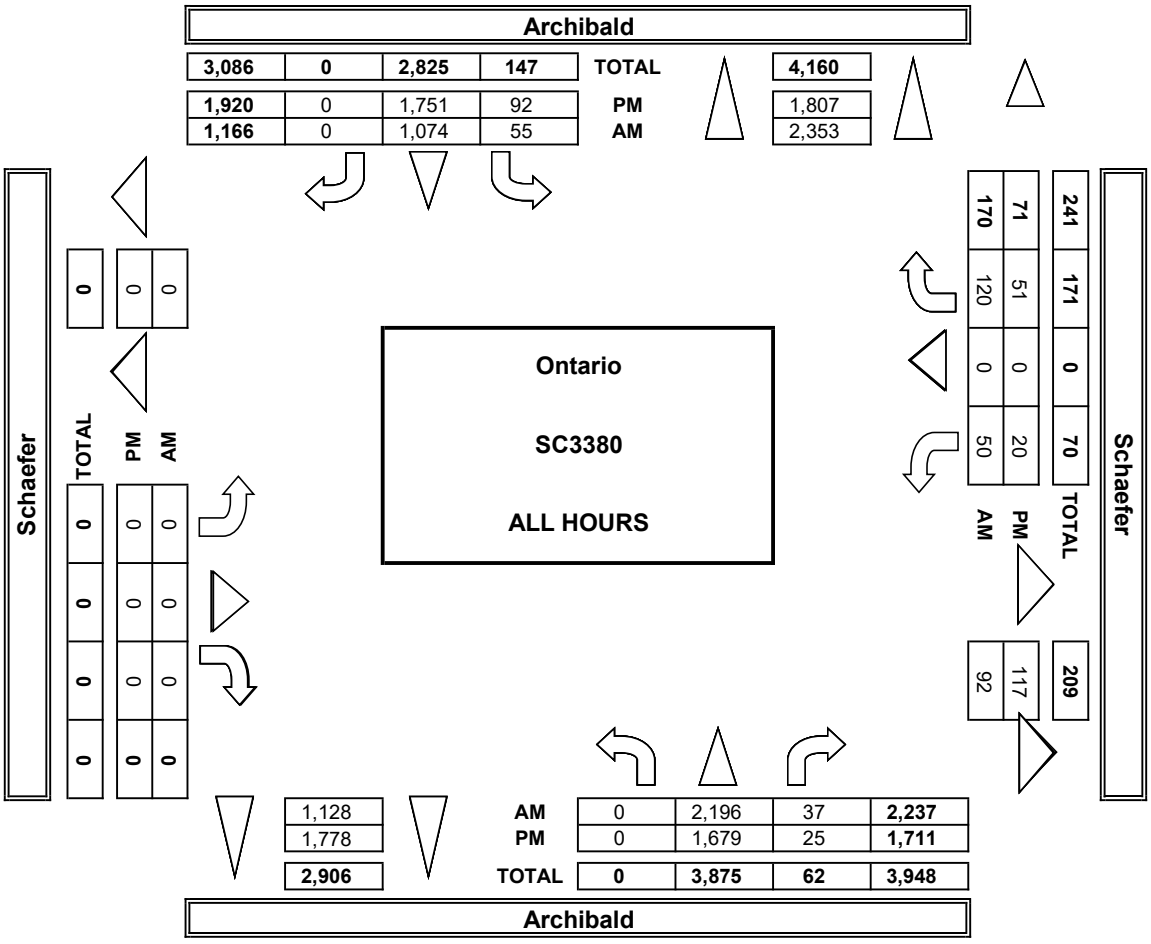
SOUTH SIDE

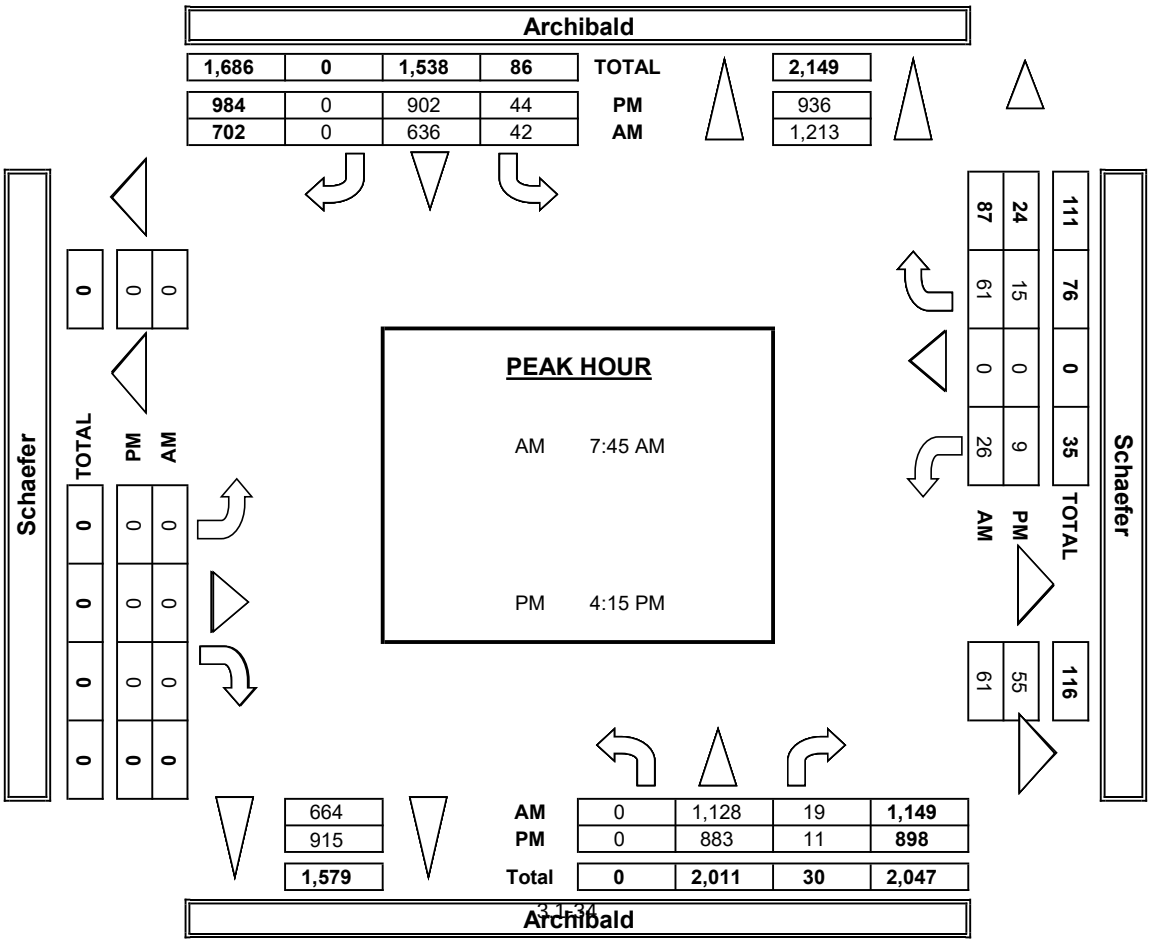
Archibald

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
AM	7:45 AM	2	1	0	0	3	2	0	0	0	2	0	1	0	0	1
AM	8:00 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1
AM	8:45 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
AM	TOTAL	6	2	0	0	8	3	0	0	0	3	3	2	0	0	5
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1
PM	5:45 PM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
	TOTAL	7	0	0	0	7	5	0	0	0	5	2	0	0	0	2

AimTD LLC

TURNING MOVEMENT COUNTS





1966

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	15
WEDNESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

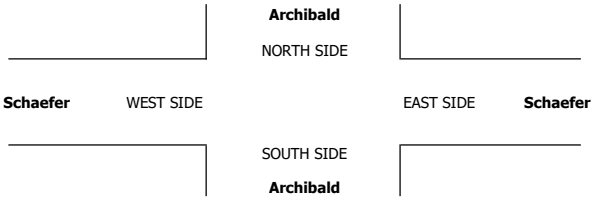
		NORTHBOUND (Archibald)			SOUTHBOUND (Archibald)			EASTBOUND (Schaefer)			WESTBOUND (Schaefer)			
	LANES:	NL X	NT 3	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
AM	7:00 AM	0	193	1	2	83	0	0	0	0	3	0	22	304
	7:15 AM	0	310	7	3	86	0	0	0	0	9	0	16	431
	7:30 AM	0	255	8	3	92	0	0	0	0	3	0	14	375
	7:45 AM	0	280	8	18	155	0	0	0	0	7	0	21	489
	8:00 AM	0	192	2	3	121	0	0	0	0	5	0	7	330
	8:15 AM	0	301	5	11	158	0	0	0	0	7	0	18	500
	8:30 AM	0	234	1	7	106	0	0	0	0	4	0	10	362
	8:45 AM	0	207	2	5	102	0	0	0	0	6	0	6	328
	VOLUMES	0	1,972	34	52	903	0	0	0	0	44	0	114	3,150
	APPROACH %	0%	98%	2%	5%	92%	0%	0%	0%	0%	28%	0%	72%	
	APP/DEPART	2,010	/	2,113	982	/	951	0	/	86	158	/	0	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	0	1,007	16	39	540	0	0	0	0	23	0	56	1,701
	APPROACH %	0%	98%	2%	7%	90%	0%	0%	0%	0%	29%	0%	71%	
	PEAK HR FACTOR		0.837			0.853			0.000			0.705		0.840
	APP/DEPART	1,025	/	1,081	597	/	565	0	/	55	79	/	0	0
PM	4:00 PM	0	211	5	11	173	0	0	0	0	2	0	8	410
	4:15 PM	0	206	1	13	176	0	0	0	0	2	0	8	406
	4:30 PM	0	175	1	6	226	0	0	0	0	3	0	2	413
	4:45 PM	0	203	4	12	194	0	0	0	0	1	0	2	416
	5:00 PM	0	207	5	11	225	0	0	0	0	2	0	3	453
	5:15 PM	0	158	2	15	206	0	0	0	0	2	0	7	390
	5:30 PM	0	196	5	12	202	0	0	0	0	3	0	8	426
	5:45 PM	0	158	1	9	194	0	0	0	0	4	0	13	379
	VOLUMES	0	1,514	24	89	1,596	0	0	0	0	19	0	51	3,368
	APPROACH %	0%	98%	2%	5%	91%	0%	0%	0%	0%	27%	0%	73%	
	APP/DEPART	1,544	/	1,634	1,754	/	1,621	0	/	113	70	/	0	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	791	11	42	821	0	0	0	0	8	0	15	1,724
	APPROACH %	0%	98%	1%	5%	92%	0%	0%	0%	0%	35%	0%	65%	
	PEAK HR FACTOR		0.949			0.914			0.000			0.575		0.933
	APP/DEPART	805	/	839	896	/	832	0	/	53	23	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
1	5	0	0	6
0	4	0	0	4
0	1	0	0	1
0	8	0	0	8
0	6	0	0	6
2	3	0	0	5
1	0	0	0	1
4	27	0	0	31
1	14	0	0	15
0	5	0	0	5
2	11	0	0	13
1	8	0	0	9
0	9	0	0	9
1	9	0	0	10
0	7	0	0	7
1	6	0	0	7
6	69	0	0	75

RTOR

NRR 0	SRR X	ERR X	WRR 0
0	0	0	9
1	0	0	11
0	0	0	10
0	0	0	14
0	0	0	7
1	0	0	12
0	0	0	7
0	0	0	3
2	0	0	73
1	0	0	40
0	0	0	6
0	0	0	4
0	0	0	1
1	0	0	0
1	0	0	1
0	0	0	4
0	0	0	4
0	0	0	4
2	0	0	24
2	0	0	6



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	15
WEDNESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

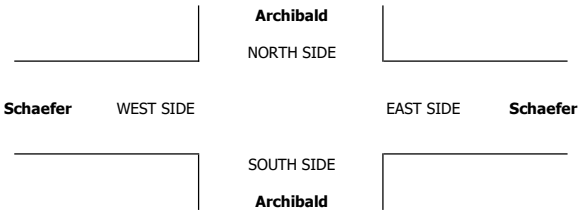
	NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Schaefer			WESTBOUND Schaefer			
LANES:	NL X	NT 3	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
7:00 AM	0	6	0	0	9	0	0	0	0	1	0	0	16
7:15 AM	0	16	0	0	7	0	0	0	0	0	0	0	23
7:30 AM	0	14	0	0	2	0	0	0	0	2	0	0	18
7:45 AM	0	11	1	1	9	0	0	0	0	1	0	1	24
8:00 AM	0	4	0	0	3	0	0	0	0	1	0	1	9
8:15 AM	0	9	0	0	10	0	0	0	0	1	0	0	20
8:30 AM	0	15	1	0	14	0	0	0	0	0	0	0	30
8:45 AM	0	12	0	0	10	0	0	0	0	0	0	0	22
AM VOLUMES	0	87	2	1	64	0	0	0	0	6	0	2	169
AM APPROACH %	0%	98%	2%	1%	89%	0%	0%	0%	0%	75%	0%	25%	
AM APP/DEPART	89	/	96	72	/	70	0	/	3	8	/	0	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	0	39	2	1	36	0	0	0	0	3	0	2	87
APPROACH %	0%	95%	5%	2%	88%	0%	0%	0%	0%	60%	0%	40%	
PEAK HR FACTOR		0.641			0.683			0.000			0.625		0.702
APP/DEPART	41	/	45	41	/	39	0	/	3	5	/	0	0
4:00 PM	0	10	0	0	8	0	0	0	0	0	0	0	18
4:15 PM	0	15	0	0	5	0	0	0	0	1	0	0	21
4:30 PM	0	7	0	0	6	0	0	0	0	0	0	0	13
4:45 PM	0	12	0	1	4	0	0	0	0	0	0	0	17
5:00 PM	0	13	0	1	6	0	0	0	0	0	0	0	20
5:15 PM	0	6	0	0	4	0	0	0	0	0	0	0	10
5:30 PM	0	1	1	0	8	0	0	0	0	0	0	0	10
5:45 PM	0	9	0	0	10	0	0	0	0	0	0	0	19
PM VOLUMES	0	73	1	2	51	0	0	0	0	1	0	0	133
PM APPROACH %	0%	97%	1%	4%	89%	0%	0%	0%	0%	100%	0%	0%	
PM APP/DEPART	75	/	77	57	/	53	0	/	3	1	/	0	0
BEGIN PEAK HR		4:15 PM											
VOLUMES	0	47	0	2	21	0	0	0	0	1	0	0	75
APPROACH %	0%	98%	0%	8%	81%	0%	0%	0%	0%	100%	0%	0%	
PEAK HR FACTOR		0.800			0.722			0.000			0.250		0.852
PM APP/DEPART	48	/	50	26	/	23	0	/	2	1	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	1	0	0	1
0	2	0	0	2
0	0	0	0	0
0	1	0	0	1
0	2	0	0	2
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	7	0	0	7
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
1	4	0	0	5
0	0	0	0	0

RTOR

NRR 0	SRR X	ERR X	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	15
WEDNESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Schaefer			WESTBOUND Schaefer			
	LANES:	NL X	NT 3	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
AM	7:00 AM	0	3	0	0	3	0	0	0	0	0	0	0	6
	7:15 AM	0	9	0	0	6	0	0	0	0	0	0	0	15
	7:30 AM	0	5	0	0	3	0	0	0	0	0	0	0	8
	7:45 AM	0	1	0	0	4	0	0	0	0	0	0	0	5
	8:00 AM	0	7	0	0	4	0	0	0	0	0	0	0	11
	8:15 AM	0	2	0	1	4	0	0	0	0	0	0	0	7
	8:30 AM	0	4	0	0	4	0	0	0	0	0	0	0	8
	8:45 AM	0	5	0	0	4	0	0	0	0	0	0	0	9
	VOLUMES	0	36	0	1	32	0	0	0	0	0	0	0	69
	APPROACH %	0%	100%	0%	3%	97%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	36	/	36	33	/	32	0	/	1	0	/	0	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	0	14	0	1	16	0	0	0	0	0	0	0	31
	APPROACH %	0%	100%	0%	6%	94%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.500			0.850			0.000			0.000		0.705
	APP/DEPART	14	/	14	17	/	16	0	/	1	0	/	0	0
PM	4:00 PM	0	8	0	0	3	0	0	0	0	0	0	0	11
	4:15 PM	0	4	0	0	4	0	0	0	0	0	0	0	8
	4:30 PM	0	4	0	0	4	0	0	0	0	0	0	0	8
	4:45 PM	0	4	0	0	2	0	0	0	0	0	0	0	6
	5:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	6
	5:15 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
	5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
	5:45 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
	VOLUMES	0	26	0	0	21	0	0	0	0	0	0	0	47
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	26	/	26	21	/	21	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	15	0	0	13	0	0	0	0	0	0	0	28
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.938			0.813			0.000			0.000		0.875
	APP/DEPART	15	/	15	13	/	13	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR X	ERR X	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Archibald

NORTH SIDE

Schaefer WEST SIDE EAST SIDE **Schaefer**

SOUTH SIDE

Archibald

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	15
WEDNESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

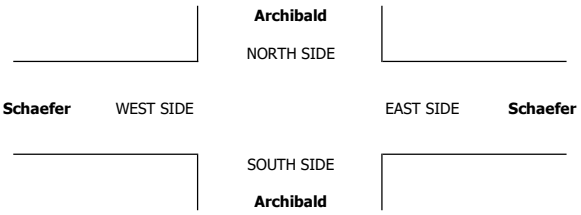
CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Schaefer			WESTBOUND Schaefer			
	LANES:	NL X	NT 3	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
AM	7:00 AM	0	11	0	0	6	0	0	0	0	0	0	0	17
	7:15 AM	0	2	0	0	4	0	0	0	0	0	0	0	6
	7:30 AM	0	7	0	0	8	0	0	0	0	0	0	0	15
	7:45 AM	0	18	0	0	6	0	0	0	0	0	0	0	24
	8:00 AM	0	12	0	0	7	0	0	0	0	0	0	0	19
	8:15 AM	0	21	0	1	19	0	0	0	0	0	0	0	41
	8:30 AM	0	13	0	0	10	0	0	0	0	0	0	0	23
	8:45 AM	0	7	0	0	9	0	0	0	0	0	0	0	16
	VOLUMES	0	91	0	1	69	0	0	0	0	0	0	0	162
	APPROACH %	0%	100%	0%	1%	97%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	91	/	92	71	/	69	0	/	1	0	/	0	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	0	64	0	1	42	0	0	0	0	0	0	0	108
	APPROACH %	0%	100%	0%	2%	95%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.762			0.550			0.000			0.000		0.659
	APP/DEPART	64	/	65	44	/	42	0	/	1	0	/	0	0
PM	4:00 PM	0	6	0	0	10	0	0	0	0	0	0	0	16
	4:15 PM	0	6	0	0	8	0	0	0	0	0	0	0	14
	4:30 PM	0	8	0	0	16	0	0	0	0	0	0	0	24
	4:45 PM	0	9	0	0	12	0	0	0	0	0	0	0	21
	5:00 PM	0	6	0	0	11	0	0	0	0	0	0	0	17
	5:15 PM	0	8	0	0	13	0	0	0	0	0	0	0	21
	5:30 PM	0	7	0	0	7	0	0	0	0	0	0	0	14
	5:45 PM	0	13	0	0	5	0	0	0	0	0	0	0	18
	VOLUMES	0	63	0	0	82	0	0	0	0	0	0	0	145
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	63	/	63	82	/	82	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	29	0	0	47	0	0	0	0	0	0	0	76
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.806			0.734			0.000			0.000		0.792
	APP/DEPART	29	/	29	47	/	47	0	/	0	0	/	0	0

U-TURNS					RTOR			
NB	SB	EB	WB	TTL	NRR 0	SRR X	ERR X	WRR 0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	1	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	1	0	0	1	0	0	0	0
					0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
					0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	15
WEDNESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Schaefer			WESTBOUND Schaefer			
	LANES:	NL X	NT 3	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	15
WEDNESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

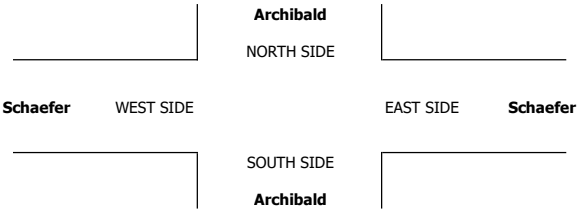
CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Schaefer			WESTBOUND Schaefer			
	LANES:	NL X	NT 3	NR 0	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
AM	7:00 AM	0	1	0	0	2	0	0	0	0	0	0	1	4
	7:15 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
	7:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
	7:45 AM	0	1	1	0	1	0	0	0	0	0	0	0	3
	8:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	3
	8:15 AM	0	2	0	0	0	0	0	0	0	0	0	1	3
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
	8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	VOLUMES	0	10	1	0	6	0	0	0	0	0	0	4	21
	APPROACH %	0%	91%	9%	0%	100%	0%	0%	0%	0%	0%	0%	100%	
	APP/DEPART	11	/	14	6	/	6	0	/	1	4	/	0	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	0	4	1	0	2	0	0	0	0	0	0	3	10
	APPROACH %	0%	80%	20%	0%	100%	0%	0%	0%	0%	0%	0%	100%	
	PEAK HR FACTOR		0.625			0.500			0.000			0.750		0.833
	APP/DEPART	5	/	7	2	/	2	0	/	1	3	/	0	0
PM	4:00 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	3	0	1	1	0	0	0	0	0	0	0	5
	APPROACH %	0%	100%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	3	/	3	2	/	1	0	/	1	0	/	0	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0

U-TURNS					RTOR			
NB	SB	EB	WB	TTL	NRR 0	SRR X	ERR X	WRR 0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1
					0	0	0	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
					0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Apr 13, 22	LOCATION:	Ontario	PROJECT #: SC3380
	NORTH & SOUTH:	Archibald	LOCATION #: 16
	EAST & WEST:	Edison	CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Edison			WESTBOUND Edison			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 2	ET 2	ER 1	WL 2	WT 1	WR 1	TOTAL
AM	7:00 AM	30	158	42	14	75	0	6	23	11	54	53	23	489
	7:15 AM	41	238	60	14	76	9	5	18	12	50	80	21	624
	7:30 AM	48	268	44	11	102	10	8	29	16	44	58	32	670
	7:45 AM	41	259	43	22	128	15	2	31	17	49	66	31	704
	8:00 AM	31	172	51	28	125	11	6	21	15	33	54	14	561
	8:15 AM	25	196	40	13	105	12	7	35	17	34	58	25	567
	8:30 AM	27	230	56	18	101	11	6	26	15	53	47	13	603
	8:45 AM	34	202	54	14	103	13	4	20	23	36	37	12	552
	VOLUMES	277	1,723	390	134	815	81	44	203	126	353	453	171	4,770
	APPROACH %	12%	72%	16%	13%	79%	8%	12%	54%	34%	36%	46%	18%	
	APP/DEPART	2,390	/	1,940	1,030	/	1,297	373	/	727	977	/	806	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	161	937	198	75	431	45	21	99	60	176	258	98	2,559
	APPROACH %	12%	72%	15%	14%	78%	8%	12%	55%	33%	33%	48%	18%	
	PEAK HR FACTOR		0.900			0.835			0.849			0.881		0.909
	APP/DEPART	1,296	/	1,057	551	/	669	180	/	372	532	/	461	0
PM	4:00 PM	28	175	77	29	145	14	22	85	38	40	27	31	711
	4:15 PM	11	167	62	35	141	6	20	104	60	41	43	34	724
	4:30 PM	30	171	65	40	185	11	17	95	64	41	30	28	777
	4:45 PM	18	169	68	30	178	5	23	129	70	48	40	27	805
	5:00 PM	20	188	67	32	138	15	11	122	57	45	32	24	751
	5:15 PM	19	145	49	38	169	7	26	112	62	42	37	20	726
	5:30 PM	27	175	56	26	181	14	16	94	51	42	38	19	739
	5:45 PM	18	138	52	33	174	10	12	82	57	77	51	21	725
	VOLUMES	171	1,328	496	263	1,311	82	147	823	459	376	298	204	5,958
	APPROACH %	9%	67%	25%	16%	79%	5%	10%	58%	32%	43%	34%	23%	
	APP/DEPART	1,995	/	1,682	1,656	/	2,146	1,429	/	1,578	878	/	552	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	87	673	249	140	670	38	77	458	253	176	139	99	3,059
	APPROACH %	9%	67%	25%	17%	79%	4%	10%	58%	32%	43%	34%	24%	
	PEAK HR FACTOR		0.917			0.898			0.887			0.900		0.950
	APP/DEPART	1,009	/	853	848	/	1,099	788	/	843	414	/	264	0

U-TURNS

NB	SB	EB	WB	TTL
0	1	0	1	2
2	0	0	0	2
0	0	0	0	0
0	0	0	1	1
1	1	0	0	2
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
5	2	0	2	9
1	0	0	0	1
0	1	0	1	2
0	3	0	0	3
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	2	0	2
1	5	2	1	9

RTOR

NRR X	SRR 0	ERR X	WRR 0
0	0	0	12
0	2	0	5
0	2	0	7
0	3	0	3
0	3	0	6
0	2	0	9
0	3	0	6
0	2	0	2
0	17	0	50
0	10	0	21
0	5	0	15
0	2	0	12
0	4	0	12
0	2	0	11
0	9	0	4
0	3	0	13
0	1	0	9
0	0	0	12
0	26	0	88
0	18	0	40

Archibald

NORTH SIDE

Edison WEST SIDE EAST SIDE **Edison**

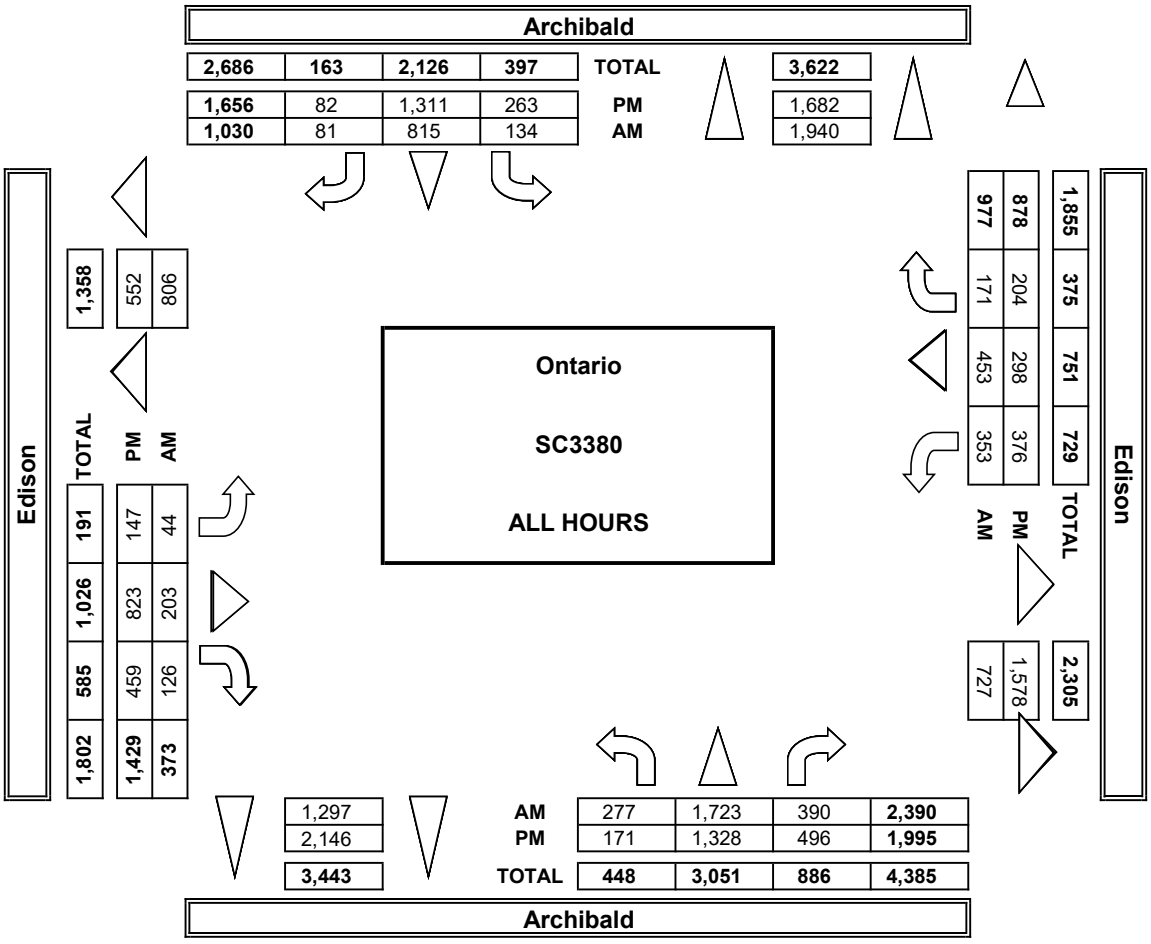
SOUTH SIDE

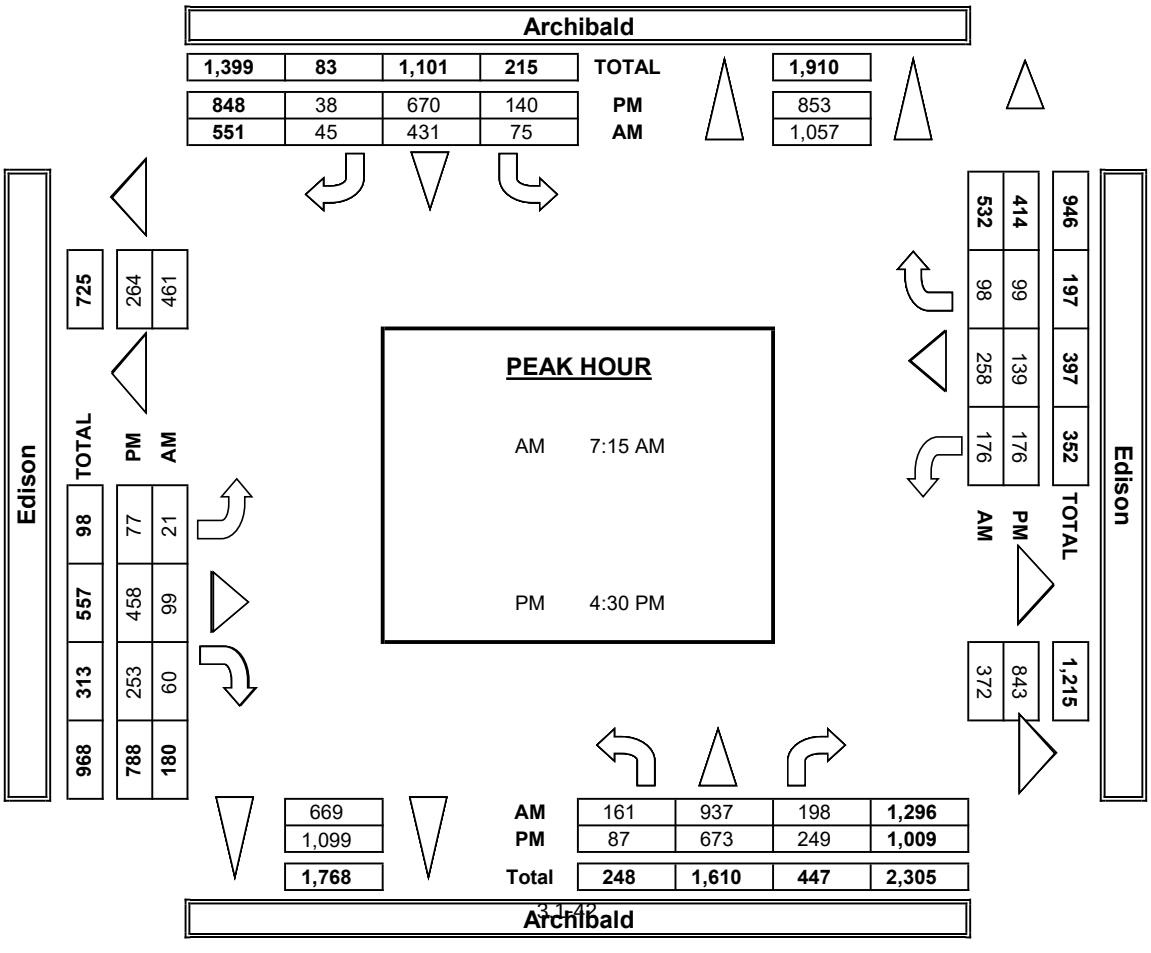
Archibald

	ALL PED AND BIKE					**PEDESTRIAN CROSSINGS**					**BICYCLE CROSSINGS**				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	1	2	0	0	0	0	0	0	1	0	1	2
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	2	0	1	4	0	0	0	0	0	1	2	0	1	4
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	1	2	0	0	0	0	0	0	1	0	1	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
5:30 PM	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	3	0	2	5	0	1	0	1	2	0	2	0	1	3

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	16
WEDNESDAY	EAST & WEST:	Edison	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

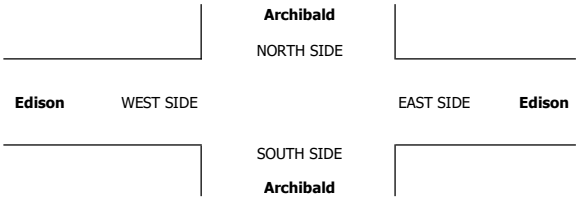
	NORTHBOUND (Archibald)			SOUTHBOUND (Archibald)			EASTBOUND (Edison)			WESTBOUND (Edison)			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 2	ET 2	ER 1	WL 2	WT 1	WR 1	TOTAL
7:00 AM	26	141	34	11	54	0	1	11	9	40	43	22	392
7:15 AM	39	217	38	12	64	8	3	14	11	35	62	18	521
7:30 AM	47	243	30	8	85	6	4	23	15	32	46	30	569
7:45 AM	39	236	31	21	111	12	1	21	12	40	58	28	610
8:00 AM	29	153	37	22	114	7	4	16	13	23	50	13	481
8:15 AM	23	174	21	10	93	8	4	25	15	23	44	22	462
8:30 AM	26	214	33	16	81	6	3	18	14	36	37	11	495
8:45 AM	32	184	37	13	84	11	3	13	19	24	31	11	462
AM VOLUMES	261	1,562	261	113	686	58	23	141	108	253	371	155	3,992
AM APPROACH %	13%	75%	13%	13%	80%	7%	8%	52%	40%	32%	48%	20%	
AM APP/DEPART	2,084	/	1,741	857	/	1,047	272	/	516	779	/	688	0
BEGIN PEAK HR		7:15 AM											
AM VOLUMES	152	849	136	62	374	33	12	74	51	129	216	89	2,181
AM APPROACH %	13%	75%	12%	13%	80%	7%	9%	54%	37%	30%	50%	20%	
AM PEAK HR FACTOR		0.890			0.816			0.815			0.863		0.894
AM APP/DEPART	1,139	/	951	470	/	556	137	/	273	435	/	401	0
4:00 PM	26	152	58	28	129	5	21	74	38	29	19	28	607
4:15 PM	11	142	50	32	131	5	19	95	57	30	26	32	630
4:30 PM	27	156	56	37	167	7	14	81	58	31	26	27	687
4:45 PM	16	152	59	30	161	3	17	121	66	41	31	24	721
5:00 PM	16	171	56	31	127	8	10	111	54	29	26	22	661
5:15 PM	17	130	44	38	157	7	23	100	61	29	31	19	656
5:30 PM	26	163	43	24	169	9	15	85	50	36	37	19	676
5:45 PM	18	121	46	32	159	7	11	76	54	60	43	20	647
PM VOLUMES	157	1,187	412	252	1,200	51	130	743	438	285	239	191	5,285
PM APPROACH %	9%	68%	23%	17%	80%	3%	10%	57%	33%	40%	33%	27%	
PM APP/DEPART	1,756	/	1,512	1,503	/	1,924	1,311	/	1,402	715	/	447	0
BEGIN PEAK HR		4:30 PM											
PM VOLUMES	76	609	215	132	612	25	64	413	239	130	114	92	2,725
PM APPROACH %	8%	68%	24%	17%	79%	3%	9%	58%	33%	39%	34%	27%	
PM PEAK HR FACTOR		0.926			0.916			0.877			0.875		0.945
PM APP/DEPART	900	/	769	773	/	981	716	/	760	336	/	215	0

U-TURNS

	NB	SB	EB	WB	TTL
AM	2	1	0	2	5
PM	1	5	1	0	7
	0	5	0	19	
	0	10	0	37	

RTOR

	NRR X	SRR 0	ERR X	WRR 0
AM	0	10	0	48
PM	0	13	0	83



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	16
WEDNESDAY	EAST & WEST:	Edison	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

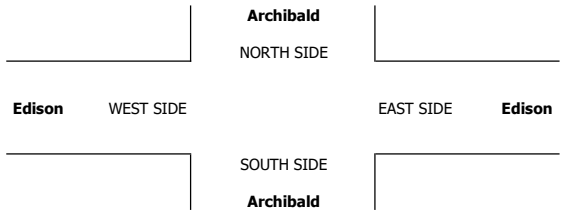
NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Edison			WESTBOUND Edison			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 2	ET 2	ER 1	WL 2	WT 1	WR 1	TOTAL
AM	7:00 AM	0	8	2	1	14	0	0	2	1	3	4	0	35
	7:15 AM	1	9	10	1	4	1	1	1	1	2	8	1	40
	7:30 AM	1	11	6	0	7	1	0	3	0	2	2	0	33
	7:45 AM	0	8	2	0	6	0	0	3	3	1	3	2	28
	8:00 AM	1	2	3	3	0	1	0	1	2	2	1	1	17
	8:15 AM	1	4	7	2	3	0	0	6	0	3	3	1	30
	8:30 AM	0	6	6	0	7	4	0	2	1	5	3	0	34
	8:45 AM	1	9	4	0	7	1	0	2	1	4	3	0	32
	VOLUMES	5	57	40	7	48	8	1	20	9	22	27	5	249
	APPROACH %	5%	56%	39%	11%	76%	13%	3%	67%	30%	41%	50%	9%	
	APP/DEPART	102	/	63	63	/	81	30	/	67	54	/	38	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	3	30	21	4	17	3	1	8	6	7	14	4	118
	APPROACH %	6%	56%	39%	17%	71%	13%	7%	53%	40%	28%	56%	16%	
	PEAK HR FACTOR		0.675			0.750			0.625			0.568		0.738
	APP/DEPART	54	/	35	24	/	30	15	/	33	25	/	20	0
PM	4:00 PM	1	8	8	1	6	2	0	2	0	1	1	1	31
	4:15 PM	0	12	3	1	5	0	0	4	3	2	6	2	38
	4:30 PM	2	6	4	0	6	1	1	6	5	4	0	0	35
	4:45 PM	2	10	0	0	4	1	2	4	3	1	3	1	31
	5:00 PM	2	7	2	1	4	0	0	7	1	4	1	2	31
	5:15 PM	2	7	2	0	1	0	1	8	1	4	1	0	27
	5:30 PM	0	5	3	1	6	0	0	3	1	1	0	0	20
	5:45 PM	0	4	0	1	7	0	1	2	1	3	1	0	20
	VOLUMES	9	59	22	5	39	4	5	36	15	20	13	6	233
	APPROACH %	10%	66%	24%	10%	81%	8%	9%	64%	27%	51%	33%	15%	
	APP/DEPART	90	/	69	48	/	74	56	/	63	39	/	27	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	8	30	8	1	15	2	4	25	10	13	5	3	124
	APPROACH %	17%	65%	17%	6%	83%	11%	10%	64%	26%	62%	24%	14%	
	PEAK HR FACTOR		0.958			0.643			0.813			0.750		0.886
	APP/DEPART	46	/	37	18	/	38	39	/	34	21	/	15	0

U-TURNS NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
1	0	0	0	1
2	0	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1

RTOR NRR	SRR	ERR	WRR
X	0	X	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	2	0	0
0	0	0	0
0	4	0	0
0	2	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	2
0	0	0	2



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	16
WEDNESDAY	EAST & WEST:	Edison	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

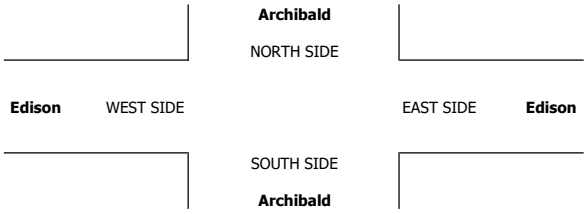
		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Edison			WESTBOUND Edison			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 2	ET 2	ER 1	WL 2	WT 1	WR 1	TOTAL
AM	7:00 AM	1	2	1	0	2	0	1	2	1	3	3	0	16
	7:15 AM	1	6	1	0	3	0	1	2	0	6	5	2	27
	7:30 AM	0	5	1	0	3	1	2	2	0	2	2	0	18
	7:45 AM	1	2	1	0	4	0	0	1	2	3	1	0	15
	8:00 AM	0	2	6	1	3	2	0	1	0	3	1	0	19
	8:15 AM	0	2	7	1	3	0	1	0	1	1	5	0	21
	8:30 AM	1	1	11	1	3	0	1	3	0	1	2	0	24
	8:45 AM	0	1	10	1	1	1	1	1	2	3	0	0	21
	VOLUMES	4	21	38	4	22	4	7	12	6	22	19	2	161
	APPROACH %	6%	33%	60%	13%	73%	13%	28%	48%	24%	51%	44%	5%	
	APP/DEPART	63	/	30	30	/	50	25	/	54	43	/	27	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	2	15	9	1	13	3	3	6	2	14	9	2	79
	APPROACH %	8%	58%	35%	6%	76%	18%	27%	55%	18%	56%	36%	8%	
	PEAK HR FACTOR		0.813			0.708			0.688			0.481		0.731
	APP/DEPART	26	/	20	17	/	29	11	/	16	25	/	14	0
PM	4:00 PM	0	5	3	0	3	0	1	2	0	1	1	1	17
	4:15 PM	0	7	2	1	2	0	0	1	0	2	1	0	16
	4:30 PM	1	3	2	0	2	0	1	2	1	0	1	1	14
	4:45 PM	0	2	2	0	4	0	0	0	0	3	2	0	13
	5:00 PM	1	6	6	0	1	1	1	0	0	0	0	0	16
	5:15 PM	0	1	2	0	4	0	0	1	0	3	1	0	12
	5:30 PM	0	2	2	0	0	0	0	0	0	1	0	0	5
	5:45 PM	0	1	5	0	3	0	0	0	1	2	1	0	13
	VOLUMES	2	27	24	1	19	1	3	6	2	12	7	2	106
	APPROACH %	4%	51%	45%	5%	90%	5%	27%	55%	18%	57%	33%	10%	
	APP/DEPART	53	/	32	21	/	33	11	/	31	21	/	10	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	2	12	12	0	11	1	2	3	1	6	4	1	55
	APPROACH %	8%	46%	46%	0%	92%	8%	33%	50%	17%	55%	36%	9%	
	PEAK HR FACTOR		0.500			0.750			0.375			0.550		0.859
	APP/DEPART	26	/	15	12	/	18	6	/	15	11	/	7	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR X	WRR 0
0	0	0	0
0	0	0	1
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	1
0	1	0	1
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	1
0	1	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	16
WEDNESDAY	EAST & WEST:	Edison	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

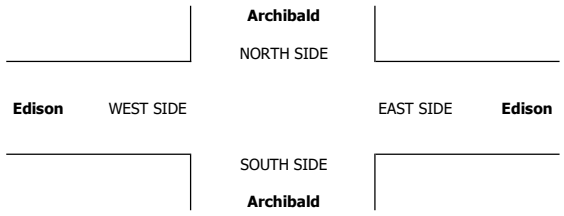
		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Edison			WESTBOUND Edison			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 2	ET 2	ER 1	WL 2	WT 1	WR 1	TOTAL
AM	7:00 AM	3	7	4	1	4	0	3	8	0	8	2	1	41
	7:15 AM	0	3	11	1	4	0	0	1	0	6	5	0	31
	7:30 AM	0	9	6	3	5	2	2	1	0	8	8	1	45
	7:45 AM	1	12	9	1	6	3	1	5	0	5	4	1	48
	8:00 AM	1	15	5	1	8	1	2	3	0	5	2	0	43
	8:15 AM	1	14	5	0	6	4	2	4	1	7	6	2	52
	8:30 AM	0	9	6	1	10	1	2	3	0	11	5	2	50
	8:45 AM	1	8	3	0	11	0	0	4	1	5	3	0	36
	VOLUMES	7	77	49	8	54	11	12	29	2	55	35	7	346
	APPROACH %	5%	58%	37%	11%	74%	15%	28%	67%	5%	57%	36%	7%	
	APP/DEPART	133	/	96	73	/	112	43	/	86	97	/	52	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	1	39	31	6	23	6	5	10	0	24	19	2	167
	APPROACH %	1%	54%	43%	17%	66%	17%	33%	67%	0%	53%	42%	4%	
	PEAK HR FACTOR		0.818			0.875			0.625			0.662		0.870
	APP/DEPART	72	/	46	35	/	48	15	/	47	45	/	26	0
PM	4:00 PM	1	9	7	0	7	7	0	7	0	9	6	0	53
	4:15 PM	0	6	7	0	3	1	1	4	0	6	10	0	38
	4:30 PM	0	6	3	3	10	3	1	6	0	6	3	0	41
	4:45 PM	0	5	7	0	9	1	4	4	1	3	3	1	38
	5:00 PM	1	4	3	0	6	6	0	4	2	12	5	0	43
	5:15 PM	0	7	1	0	7	0	2	3	0	6	4	1	31
	5:30 PM	1	5	8	1	6	5	1	6	0	4	1	0	38
	5:45 PM	0	12	1	0	5	3	0	4	1	12	6	1	45
	VOLUMES	3	54	37	4	53	26	9	38	4	58	38	3	327
	APPROACH %	3%	57%	39%	5%	64%	31%	18%	75%	8%	59%	38%	3%	
	APP/DEPART	94	/	66	83	/	115	51	/	79	99	/	67	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	1	22	14	3	32	10	7	17	3	27	15	2	153
	APPROACH %	3%	59%	38%	7%	71%	22%	26%	63%	11%	61%	34%	5%	
	PEAK HR FACTOR		0.771			0.703			0.750			0.647		0.890
	APP/DEPART	37	/	31	45	/	62	27	/	34	44	/	26	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR X	WRR 0
0	0	0	0
0	0	0	0
0	0	0	1
0	1	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	2	0	1
0	2	0	1
0	2	0	0
0	1	0	0
0	3	0	0
0	0	0	0
0	4	0	0
0	0	0	0
0	1	0	0
0	0	0	1
0	11	0	1
0	7	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	16
WEDNESDAY	EAST & WEST:	Edison	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

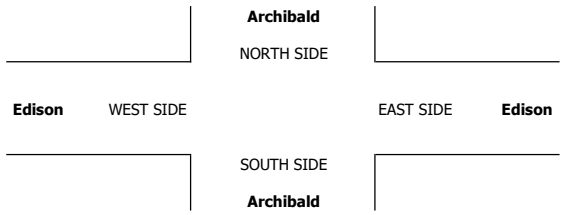
		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Edison			WESTBOUND Edison			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 2	ET 2	ER 1	WL 2	WT 1	WR 1	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	1	0	0	0	0	0	0	0	0	1	0	2
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
	APP/DEPART	1	/	1	0	/	0	0	/	0	1	/	1	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	1	0	1
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.250		0.250
	APP/DEPART	0	/	0	0	/	0	0	/	0	1	/	1	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR X	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

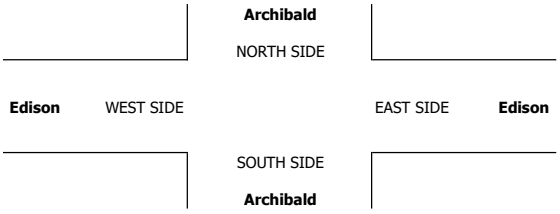
DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Archibald	LOCATION #:	16
WEDNESDAY	EAST & WEST:	Edison	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Archibald			SOUTHBOUND Archibald			EASTBOUND Edison			WESTBOUND Edison				U-TURNS					RTOR			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 2	ET 2	ER 1	WL 2	WT 1	WR 1	TOTAL	NB	SB	EB	WB	TTL	NRR X	SRR 0	ERR X	WRR 0
AM	7:00 AM	0	0	1	0	1	0	1	0	0	0	1	0	4	0	0	0	0	0	0	0	0	0
	7:15 AM	0	3	0	0	1	0	0	0	0	1	0	0	5	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	1	0	2	0	0	0	1	0	0	1	5	0	0	0	0	0	0	0	0	0
	7:45 AM	0	1	0	0	1	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	8:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
	VOLUMES	0	6	2	1	5	0	1	1	1	1	1	2	21	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	75%	25%	17%	83%	0%	33%	33%	33%	25%	25%	50%										
	APP/DEPART	8	/	9	6	/	7	3	/	4	4	/	1	0									
	BEGIN PEAK HR		7:15 AM																				
	VOLUMES	0	4	1	1	4	0	0	1	1	1	0	1	14						0	0	0	0
	APPROACH %	0%	80%	20%	20%	80%	0%	0%	50%	50%	50%	0%	50%										
	PEAK HR FACTOR		0.417			0.625			0.500			0.500		0.700									
	APP/DEPART	5	/	5	5	/	6	2	/	3	2	/	0	0									
PM	4:00 PM	0	0	1	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	1	1	0	0	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	1
	APPROACH %	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%										
	APP/DEPART	1	/	2	1	/	0	0	/	2	2	/	0	0									
	BEGIN PEAK HR		4:30 PM																				
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	1	1						0	0	0	1
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%										
	PEAK HR FACTOR		0.000			0.000			0.000			0.250		0.250									
	APP/DEPART	0	/	1	0	/	0	0	/	0	1	/	0	0									



INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22

LOCATION: Ontario
NORTH & SOUTH: Turner
EAST & WEST: Riverside

PROJECT #: SC3418
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — N / W / E / S

Add U-Turns to Left Turns

		NORTHBOUND (Turner)			SOUTHBOUND (Turner)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	45	9	35	6	4	8	5	47	9	11	78	12	269
AM	7:15 AM	51	41	36	12	14	23	28	75	13	15	99	20	427
AM	7:30 AM	50	104	53	42	78	29	52	73	28	30	102	72	713
AM	7:45 AM	77	48	66	34	56	30	22	85	35	18	107	29	607
AM	8:00 AM	58	14	63	22	11	27	12	107	33	20	122	7	496
AM	8:15 AM	39	10	42	10	3	12	7	85	24	27	120	10	389
AM	8:30 AM	31	4	26	3	7	15	9	62	15	12	108	12	304
AM	8:45 AM	31	7	16	6	3	9	13	56	16	16	70	6	249
AM	VOLUMES	382	237	337	135	176	153	148	590	173	149	806	168	3,454
AM	APPROACH %	40%	25%	35%	29%	38%	33%	16%	65%	19%	13%	72%	15%	
AM	APP/DEPART	956	/	552	464	/	498	911	/	1,062	1,123	/	1,342	0
AM	BEGIN PEAK HR		7:15 AM											
AM	VOLUMES	236	207	218	110	159	109	114	340	109	83	430	128	2,243
AM	APPROACH %	36%	31%	33%	29%	42%	29%	20%	60%	19%	13%	67%	20%	
AM	PEAK HR FACTOR		0.798			0.634			0.920			0.786		0.786
AM	APP/DEPART	661	/	448	378	/	351	563	/	668	641	/	776	0
PM	4:00 PM	38	18	29	4	11	21	15	111	50	14	117	10	438
PM	4:15 PM	28	10	26	5	6	17	17	126	39	22	102	14	412
PM	4:30 PM	24	11	32	6	11	12	21	110	42	25	115	8	417
PM	4:45 PM	26	12	40	8	7	17	17	109	50	30	113	4	433
PM	5:00 PM	38	19	30	6	7	12	23	102	43	10	136	11	437
PM	5:15 PM	36	6	35	5	9	13	22	119	47	28	146	8	474
PM	5:30 PM	31	5	30	5	8	12	25	114	42	40	149	3	464
PM	5:45 PM	28	14	33	5	12	16	16	123	50	35	115	12	459
PM	VOLUMES	249	95	255	44	71	120	156	914	363	204	993	70	3,534
PM	APPROACH %	42%	16%	43%	19%	30%	51%	11%	64%	25%	16%	78%	6%	
PM	APP/DEPART	599	/	320	235	/	638	1,433	/	1,213	1,267	/	1,363	0
PM	BEGIN PEAK HR		5:00 PM											
PM	VOLUMES	133	44	128	21	36	53	86	458	182	113	546	34	1,834
PM	APPROACH %	44%	14%	42%	19%	33%	48%	12%	63%	25%	16%	79%	5%	
PM	PEAK HR FACTOR		0.876			0.833			0.960			0.902		0.967
PM	APP/DEPART	305	/	163	110	/	331	726	/	607	693	/	733	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1

RTOR

NRR	SRR	ERR	WRR
12	3	1	3
5	7	5	6
3	1	10	23
6	4	16	10
13	5	17	7
6	2	12	3
4	2	5	4
4	1	7	0
53	25	73	56
27	17	48	46
7	3	23	6
10	3	22	4
8	2	12	1
7	6	18	1
8	0	12	4
5	1	18	2
5	4	13	1
6	3	11	6
56	22	129	25
24	8	54	13

Turner

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

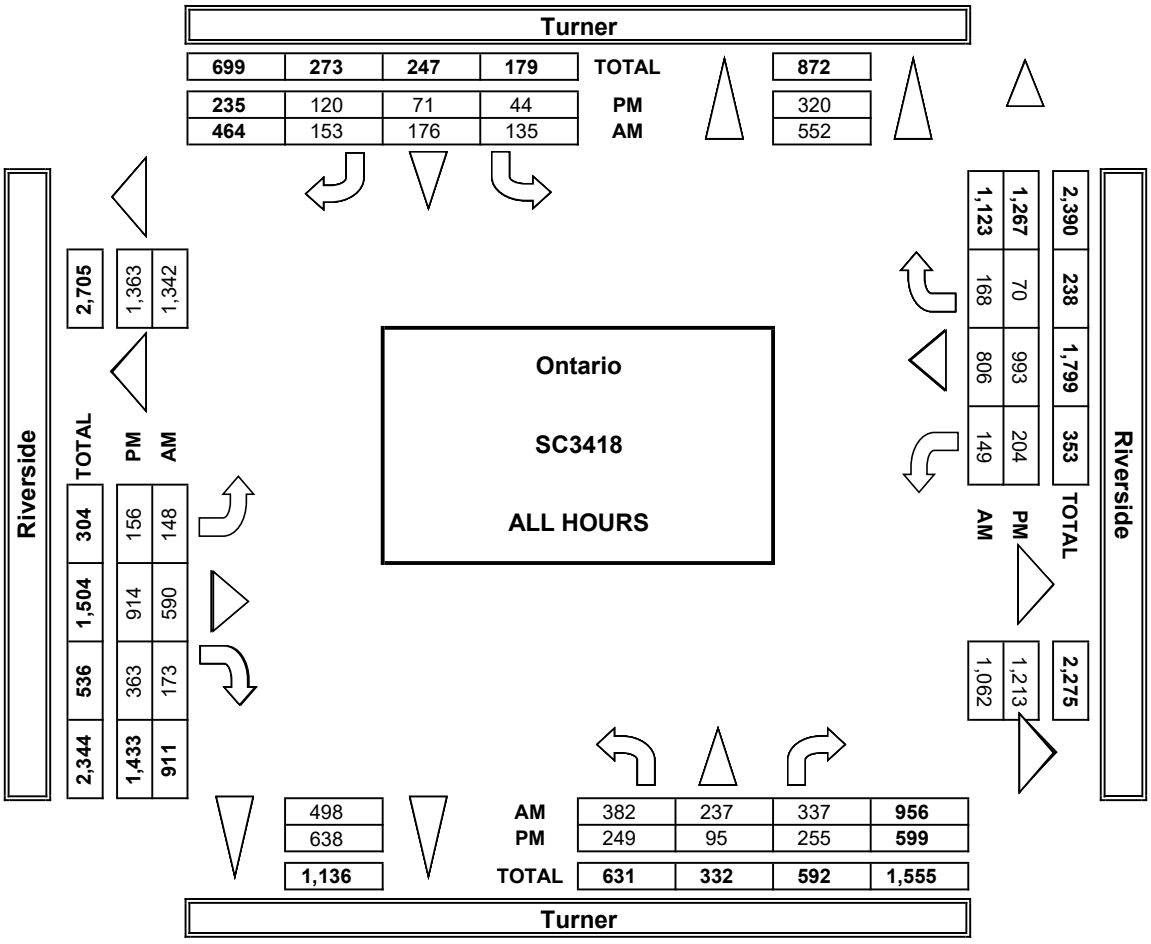
SOUTH SIDE

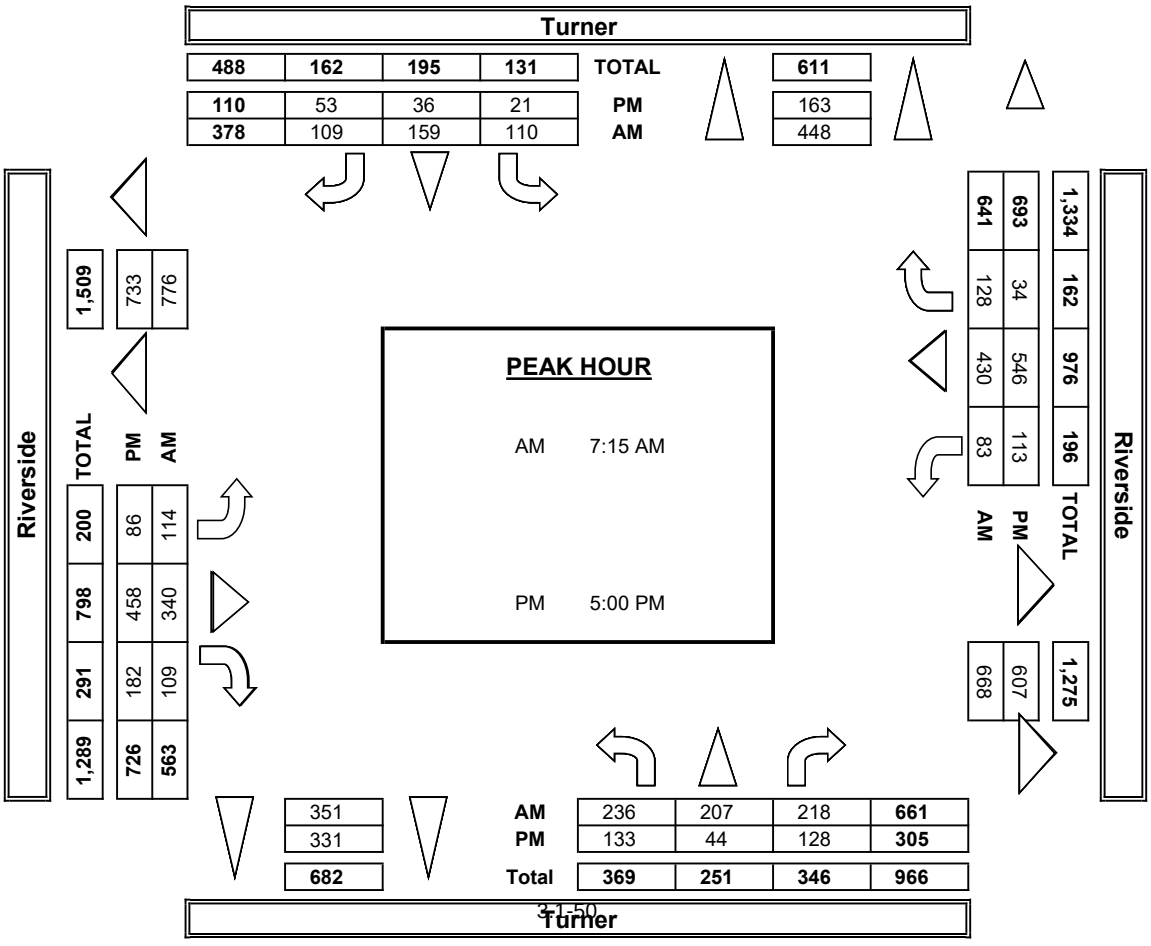
Turner

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	2	0	3	2	7	2	0	3	2	7	0	0	0	0	0
AM	7:15 AM	7	0	4	0	11	5	0	4	0	9	2	0	0	0	2
AM	7:30 AM	13	6	6	5	30	7	6	5	5	23	6	0	1	0	7
AM	7:45 AM	2	5	8	6	21	1	5	5	6	17	1	0	3	0	4
AM	8:00 AM	1	0	5	1	7	1	0	4	1	6	0	0	1	0	1
AM	8:15 AM	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1
AM	8:30 AM	2	0	1	3	6	2	0	1	1	4	0	0	0	2	2
AM	8:45 AM	2	0	4	1	7	1	0	3	1	5	1	0	1	0	2
AM	TOTAL	29	11	31	20	91	19	11	25	17	72	10	0	6	3	19
PM	4:00 PM	1	8	4	7	20	1	8	4	7	20	0	0	0	0	0
PM	4:15 PM	2	3	2	4	11	2	3	2	3	10	0	0	0	1	1
PM	4:30 PM	2	0	1	1	4	2	0	0	0	2	0	0	1	1	2
PM	4:45 PM	2	1	0	1	4	2	1	0	1	4	0	0	0	0	0
PM	5:00 PM	1	1	8	1	11	1	0	8	0	9	0	1	0	1	2
PM	5:15 PM	0	1	1	1	3	0	0	0	0	0	0	1	1	1	3
PM	5:30 PM	2	1	3	1	7	2	0	1	0	3	0	1	2	1	4
PM	5:45 PM	2	2	3	3	10	2	1	1	2	6	0	1	2	1	4
	TOTAL	12	17	22	19	70	12	13	16	13	54	0	4	6	6	16

AimTD LLC

TURNING MOVEMENT COUNTS





1982

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Turner	LOCATION #:	1
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

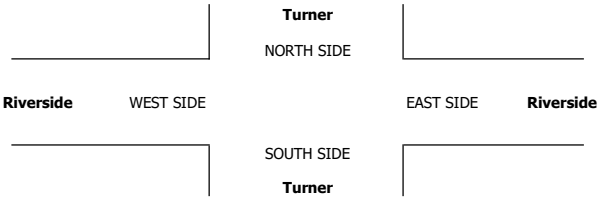
		NORTHBOUND (Turner)			SOUTHBOUND (Turner)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	43	9	35	6	4	8	5	45	9	11	73	11	259
	7:15 AM	51	39	36	12	14	22	26	70	13	14	90	20	407
	7:30 AM	47	103	52	41	75	28	49	70	27	30	92	70	684
	7:45 AM	77	48	65	33	56	30	19	82	32	17	102	29	590
	8:00 AM	58	14	61	21	11	26	12	97	32	19	110	6	467
	8:15 AM	37	10	42	10	3	12	6	80	22	27	116	10	375
	8:30 AM	30	3	25	3	6	15	5	59	13	12	103	11	285
	8:45 AM	31	6	16	5	3	7	12	50	15	16	61	6	228
	VOLUMES	374	232	332	131	172	148	134	553	163	146	747	163	3,295
	APPROACH %	40%	25%	35%	29%	38%	33%	16%	65%	19%	14%	71%	15%	
	APP/DEPART	938	/	528	451	/	481	850	/	1,016	1,056	/	1,270	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	233	204	214	107	156	106	105	319	104	80	394	125	2,148
	APPROACH %	36%	31%	33%	29%	42%	29%	20%	60%	20%	13%	66%	21%	
	PEAK HR FACTOR		0.806			0.641			0.906			0.780		0.785
	APP/DEPART	651	/	434	369	/	340	529	/	640	599	/	734	0
PM	4:00 PM	38	18	26	4	11	21	14	109	48	14	108	10	421
	4:15 PM	27	10	24	5	6	16	15	121	37	22	99	14	396
	4:30 PM	17	11	30	6	11	12	21	106	40	24	108	8	394
	4:45 PM	24	12	39	7	7	17	17	106	49	30	111	4	423
	5:00 PM	37	18	30	6	6	12	22	100	40	9	132	10	422
	5:15 PM	36	5	32	4	6	13	22	117	47	27	142	8	459
	5:30 PM	31	5	28	5	8	12	25	105	42	40	143	3	447
	5:45 PM	28	14	32	5	11	16	16	119	49	33	110	12	445
	VOLUMES	238	93	241	42	66	119	152	883	352	199	953	69	3,407
	APPROACH %	42%	16%	42%	19%	29%	52%	11%	64%	25%	16%	78%	6%	
	APP/DEPART	572	/	313	227	/	617	1,387	/	1,166	1,221	/	1,311	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	132	42	122	20	31	53	84	441	178	109	527	33	1,773
	APPROACH %	45%	14%	41%	19%	30%	51%	12%	63%	25%	16%	79%	5%	
	PEAK HR FACTOR		0.871			0.813			0.946			0.899		0.966
	APP/DEPART	296	/	159	104	/	318	704	/	583	669	/	713	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1

RTOR

NRR 0	SRR 0	ERR 0	WRR 0
12	3	1	3
5	7	5	6
3	1	10	22
6	4	15	10
13	5	17	6
6	2	11	3
4	2	5	4
4	1	6	0
53	25	70	54
27	17	47	44
7	3	23	6
9	3	22	4
8	2	12	1
7	6	18	1
8	0	10	3
5	1	18	2
5	4	13	1
6	3	11	6
55	22	127	24
24	8	52	12



1983

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Turner	LOCATION #:	1
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◄ W E ► S ▼

		NORTHBOUND Turner			SOUTHBOUND Turner			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	2	0	0	0	0	0	0	1	0	0	3	1	7
	7:15 AM	0	0	0	0	0	1	0	4	0	1	7	0	13
	7:30 AM	1	1	0	0	1	0	1	1	0	0	5	2	12
	7:45 AM	0	0	0	0	0	0	1	2	3	1	3	0	10
	8:00 AM	0	0	2	1	0	0	0	8	1	1	9	0	22
	8:15 AM	2	0	0	0	0	0	1	4	1	0	3	0	11
	8:30 AM	1	1	0	0	1	0	3	2	2	0	5	1	16
	8:45 AM	0	1	0	0	0	2	0	3	1	0	7	0	14
	VOLUMES	6	3	2	1	2	3	6	25	8	3	42	4	105
	APPROACH %	55%	27%	18%	17%	33%	50%	15%	64%	21%	6%	86%	8%	
	APP/DEPART	11	/	13	6	/	13	39	/	28	49	/	51	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	1	1	2	1	1	1	2	15	4	3	24	2	57
	APPROACH %	25%	25%	50%	33%	33%	33%	10%	71%	19%	10%	83%	7%	
	PEAK HR FACTOR		0.500			0.750			0.583			0.725		0.648
	APP/DEPART	4	/	5	3	/	8	21	/	18	29	/	26	0
PM	4:00 PM	0	0	3	0	0	0	0	1	2	0	6	0	12
	4:15 PM	1	0	2	0	0	1	1	5	1	0	1	0	12
	4:30 PM	6	0	2	0	0	0	0	1	2	1	5	0	17
	4:45 PM	2	0	1	1	0	0	0	2	1	0	0	0	7
	5:00 PM	1	1	0	0	1	0	1	1	2	1	2	1	11
	5:15 PM	0	1	3	0	1	0	0	2	0	1	4	0	12
	5:30 PM	0	0	2	0	0	0	0	9	0	0	5	0	16
	5:45 PM	0	0	1	0	1	0	0	4	1	2	2	0	11
	VOLUMES	10	2	14	1	3	1	2	25	9	5	25	1	98
	APPROACH %	38%	8%	54%	20%	60%	20%	6%	69%	25%	16%	81%	3%	
	APP/DEPART	26	/	5	5	/	17	36	/	40	31	/	36	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	1	2	6	0	3	0	1	16	3	4	13	1	50
	APPROACH %	11%	22%	67%	0%	100%	0%	5%	80%	15%	22%	72%	6%	
	PEAK HR FACTOR		0.563			0.750			0.556			0.900		0.781
	APP/DEPART	9	/	4	3	/	10	20	/	22	18	/	14	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	1
0	0	1	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	1	0
0	0	3	1
0	0	1	1
0	0	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	1	1
0	0	0	0
0	0	0	0
0	0	0	0
1	0	1	1
0	0	1	1

Turner

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Turner

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Turner	LOCATION #:	1
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

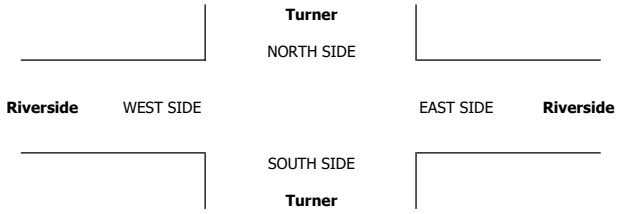
		NORTHBOUND (Turner)			SOUTHBOUND (Turner)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
	8:45 AM	0	0	0	0	0	0	1	1	0	0	0	0	2
	VOLUMES	0	0	1	0	1	0	1	2	0	0	3	0	8
	APPROACH %	0%	0%	100%	0%	100%	0%	33%	67%	0%	0%	100%	0%	
	APP/DEPART	1	/	1	1	/	1	3	/	3	3	/	3	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	1	0	0	0	0	0	2	0	3
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.250			0.000			0.500		0.375
	APP/DEPART	0	/	0	1	/	1	0	/	0	2	/	2	0
PM	4:00 PM	0	0	0	0	0	0	1	1	0	0	3	0	5
	4:15 PM	0	0	0	0	0	0	0	0	1	0	1	0	2
	4:30 PM	1	0	0	0	0	0	0	0	0	0	1	0	2
	4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
	5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
	5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	VOLUMES	1	0	0	0	2	0	1	1	1	0	10	0	16
	APPROACH %	100%	0%	0%	0%	100%	0%	33%	33%	33%	0%	100%	0%	
	APP/DEPART	1	/	1	2	/	3	3	/	1	10	/	11	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	2	0	0	0	0	0	3	0	5
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.250			0.000			0.750		0.625
	APP/DEPART	0	/	0	2	/	2	0	/	0	3	/	3	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR 0	SRR 0	ERR 0	WRR 0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Turner	LOCATION #:	1
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

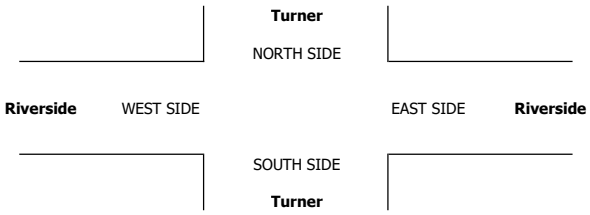
		NORTHBOUND Turner			SOUTHBOUND Turner			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	7:30 AM	0	0	0	0	0	0	1	1	1	0	3	0	6
	7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
	8:00 AM	0	0	0	0	0	0	0	2	0	0	2	0	4
	8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
	VOLUMES	0	0	0	0	0	0	2	4	1	0	9	0	16
	APPROACH %	0%	0%	0%	0%	0%	0%	29%	57%	14%	0%	100%	0%	
	APP/DEPART	0	/	2	0	/	1	7	/	4	9	/	9	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	2	4	1	0	6	0	13
	APPROACH %	0%	0%	0%	0%	0%	0%	29%	57%	14%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.000			0.583			0.500		0.542
	APP/DEPART	0	/	2	0	/	1	7	/	4	6	/	6	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:30 PM	0	0	0	0	0	0	0	3	0	0	1	0	4
	4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	1	1	0	1	0	3
	5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
	VOLUMES	0	0	0	1	0	0	0	5	1	0	5	0	12
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	83%	17%	0%	100%	0%	
	APP/DEPART	0	/	0	1	/	1	6	/	6	5	/	5	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	1	0	0	0	1	1	0	3	0	6
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	50%	50%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.250			0.250			0.375		0.500
	APP/DEPART	0	/	0	1	/	1	2	/	2	3	/	3	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Turner	LOCATION #:	1
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Turner			SOUTHBOUND Turner			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Turner

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Turner

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Turner	LOCATION #:	1
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

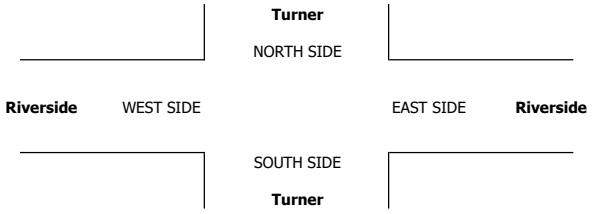
		NORTHBOUND (Turner)			SOUTHBOUND (Turner)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	7:15 AM	0	2	0	0	0	0	2	0	0	0	1	0	5
	7:30 AM	2	0	1	1	1	1	1	1	0	0	1	0	9
	7:45 AM	0	0	1	1	0	0	1	1	0	0	1	0	5
	8:00 AM	0	0	0	0	0	1	0	0	0	0	1	1	3
	8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
	8:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	2
	8:45 AM	0	0	0	1	0	0	0	2	0	0	0	0	3
	VOLUMES	2	2	2	3	1	2	5	6	1	0	5	1	30
	APPROACH %	33%	33%	33%	50%	17%	33%	42%	50%	8%	0%	83%	17%	
	APP/DEPART	6	/	8	6	/	2	12	/	11	6	/	9	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	2	2	2	2	1	2	4	2	0	0	4	1	22
	APPROACH %	33%	33%	33%	40%	20%	40%	67%	33%	0%	0%	80%	20%	
	PEAK HR FACTOR		0.500			0.417			0.750			0.625		0.611
	APP/DEPART	6	/	7	5	/	1	6	/	6	5	/	8	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	1	0	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	1	0	/	0	1	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

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RTOR

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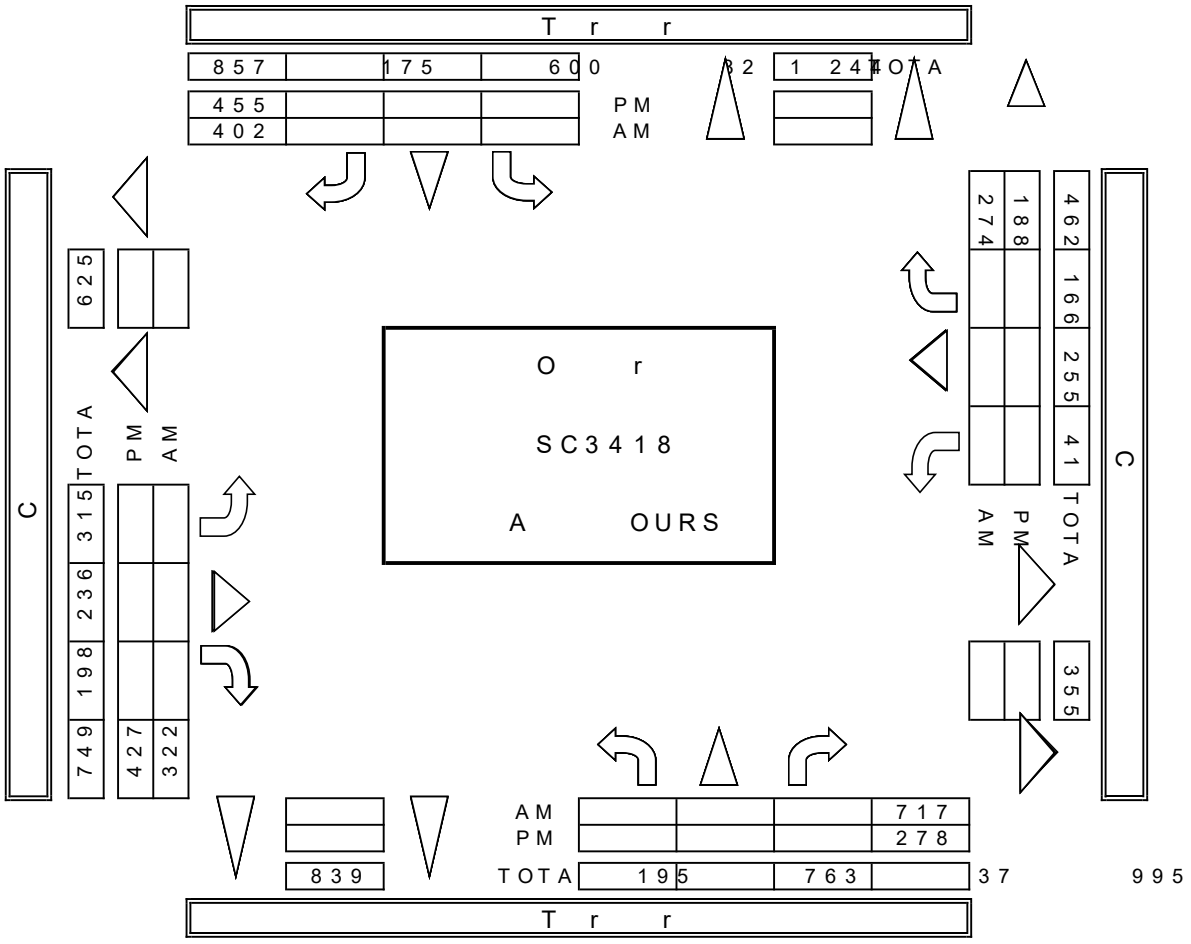
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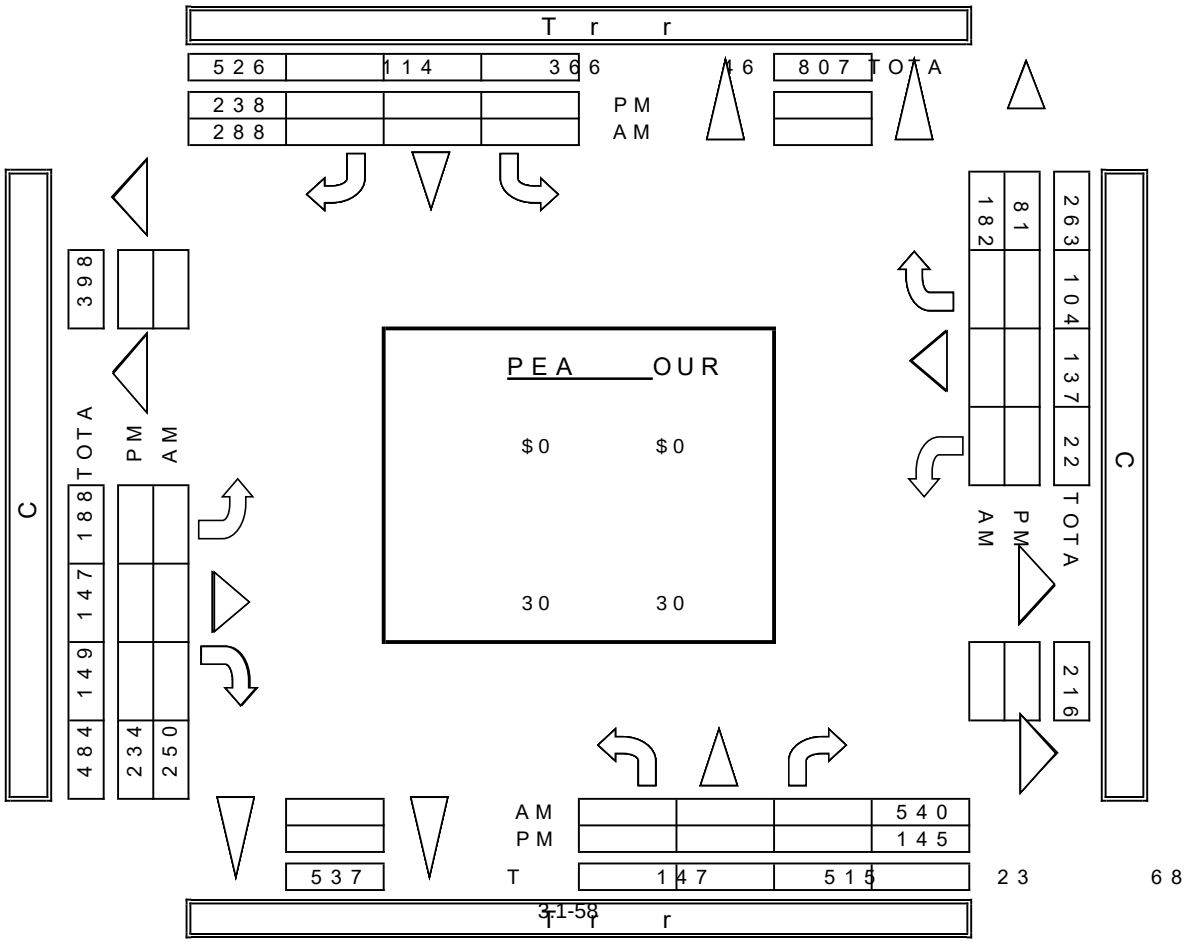
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Turner

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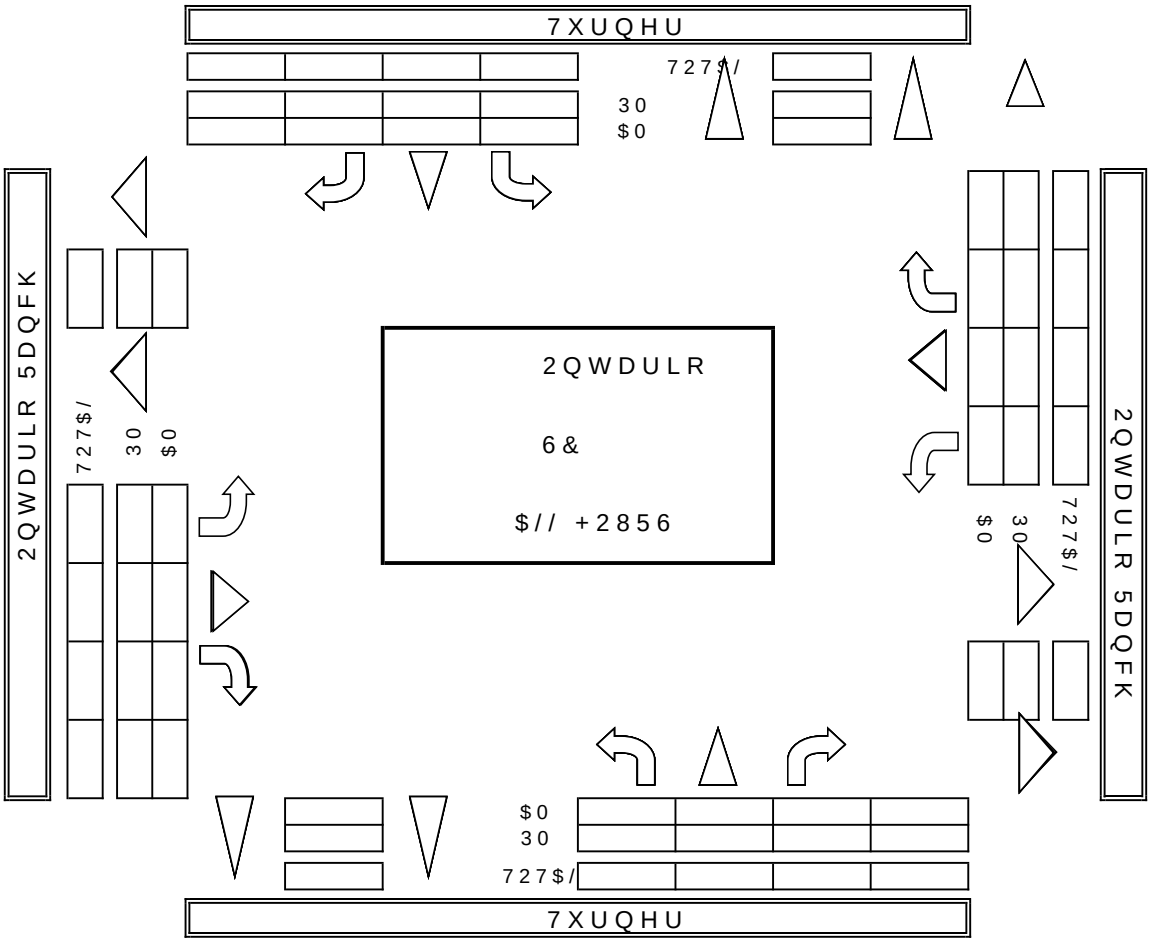
SOUT SID

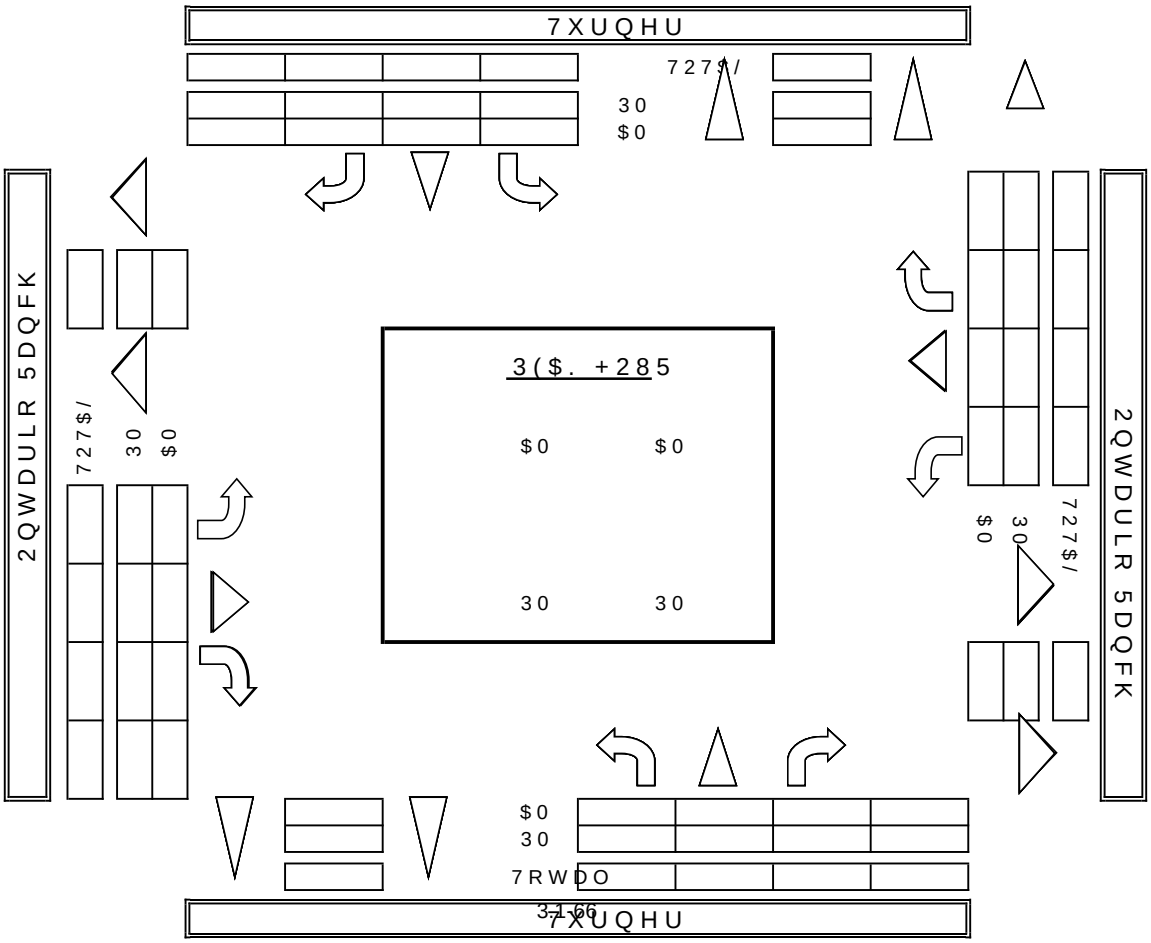
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INTERSECTION TURNING MOVEMENT COUNTS

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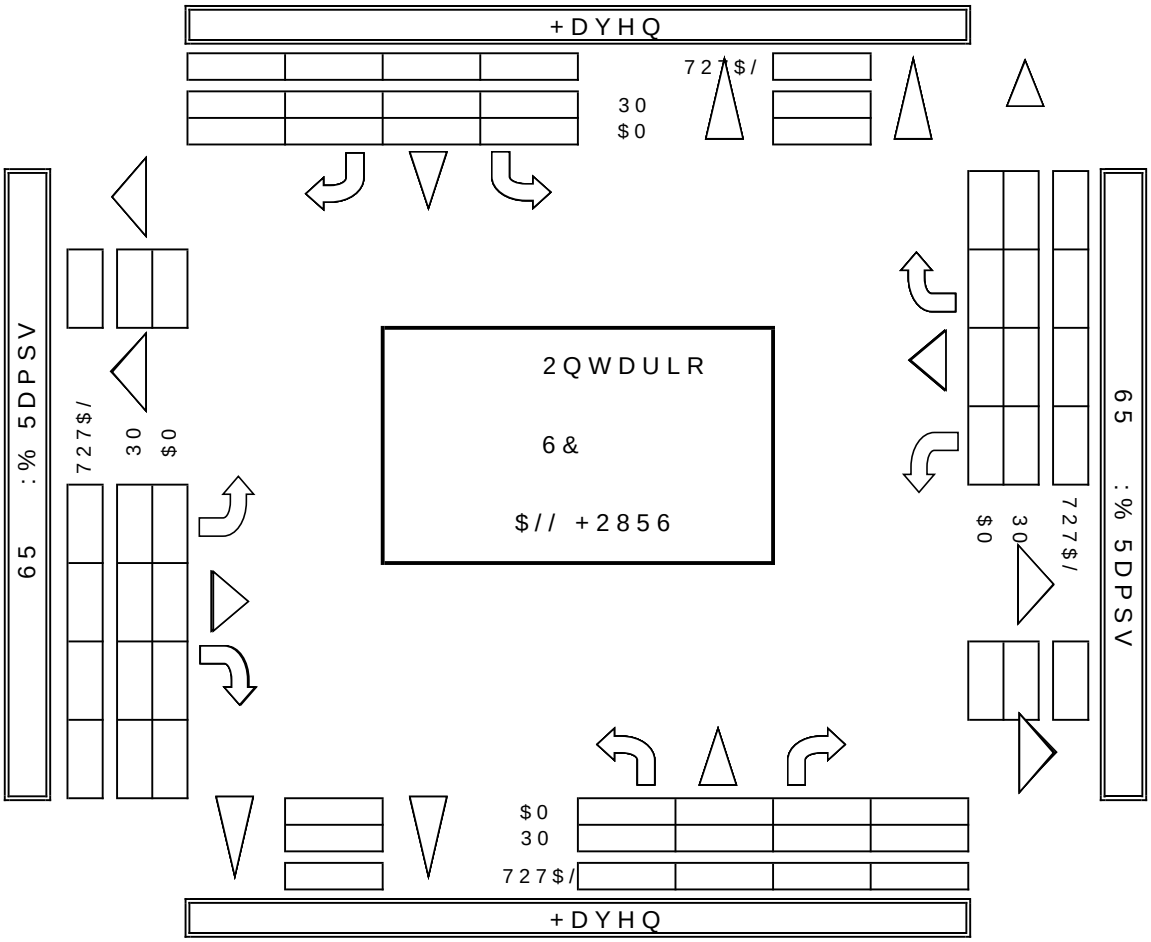
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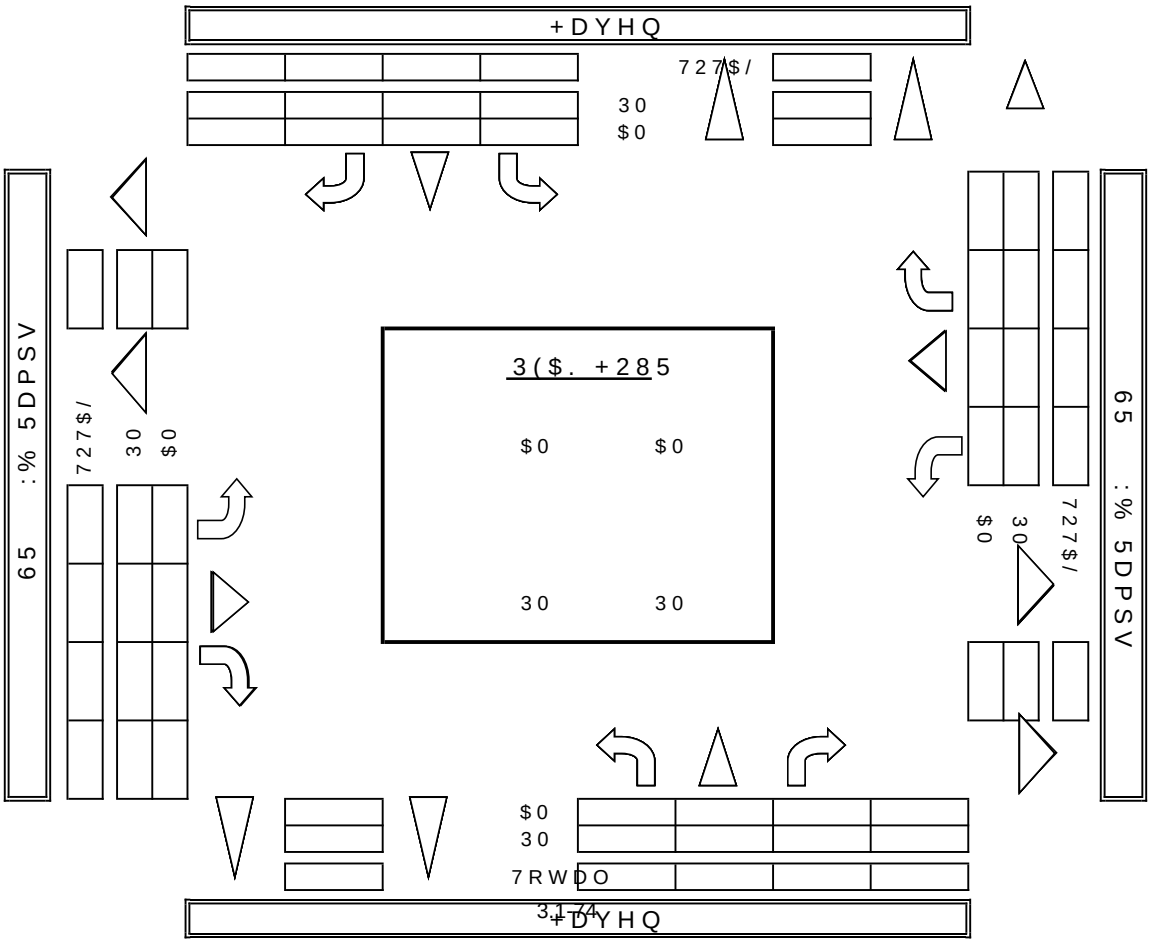
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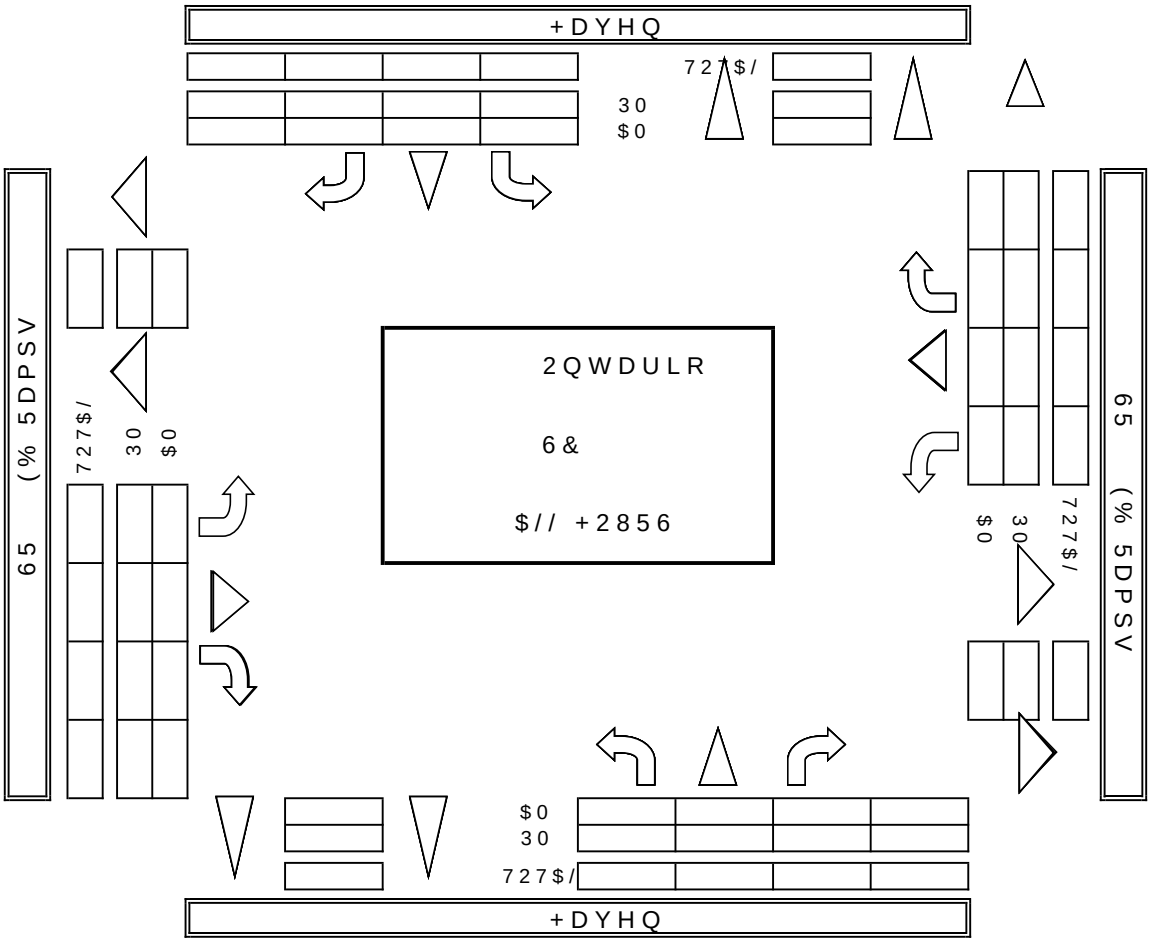
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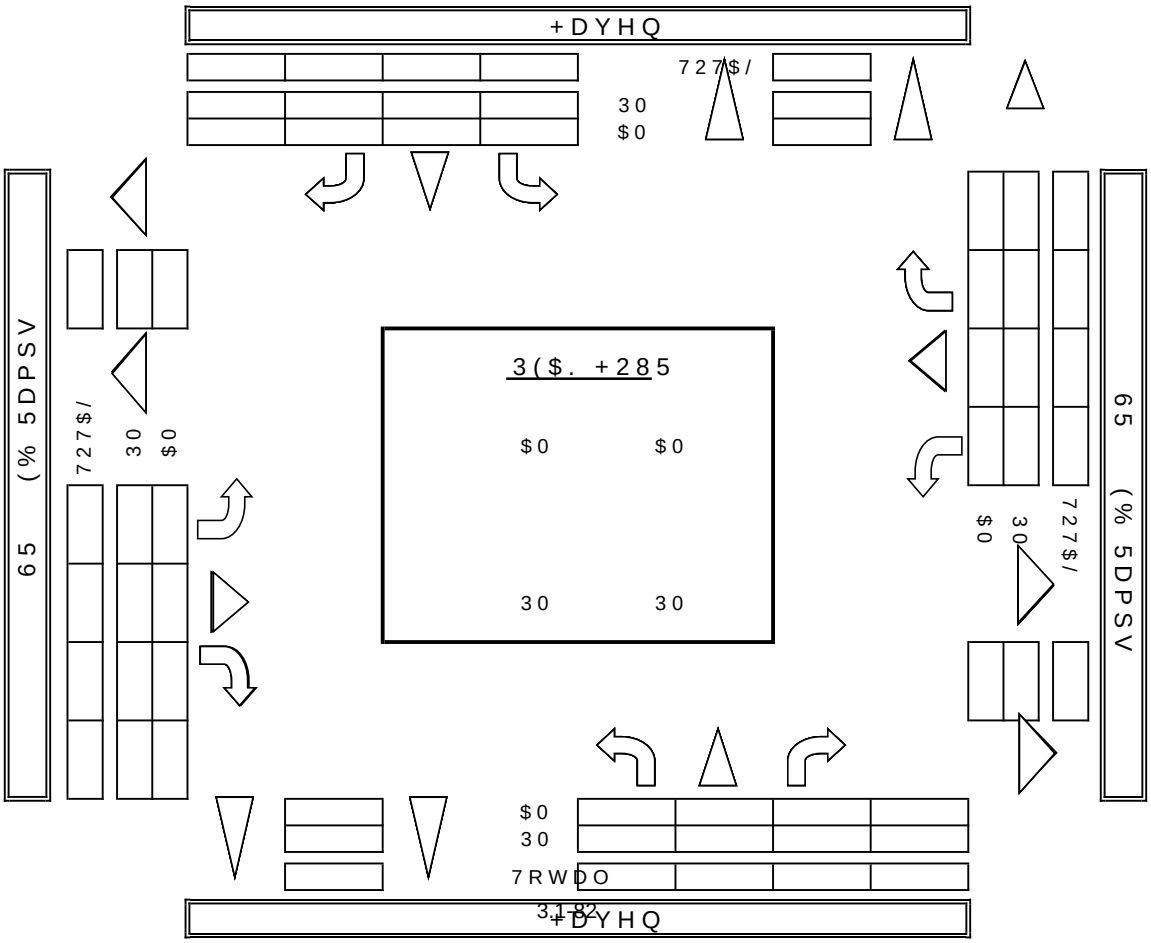
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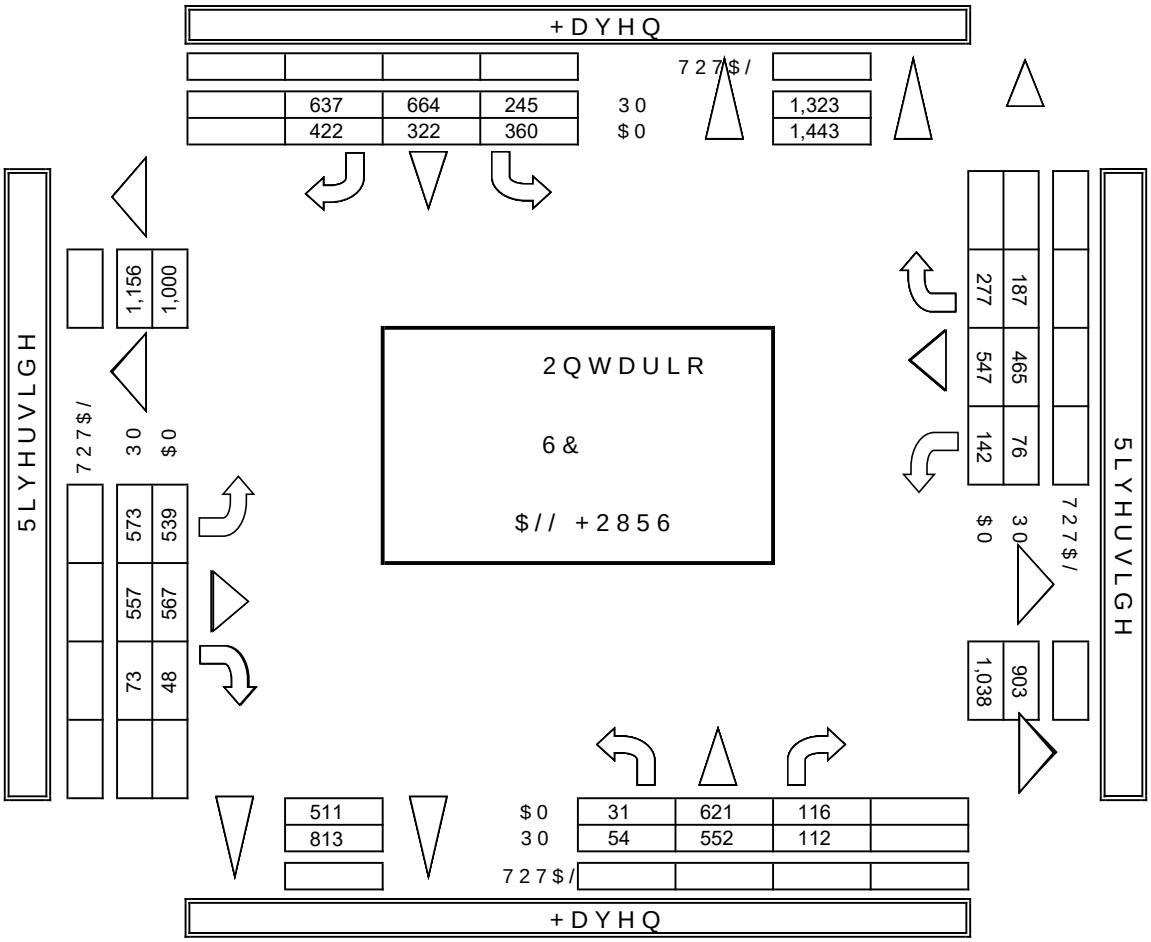
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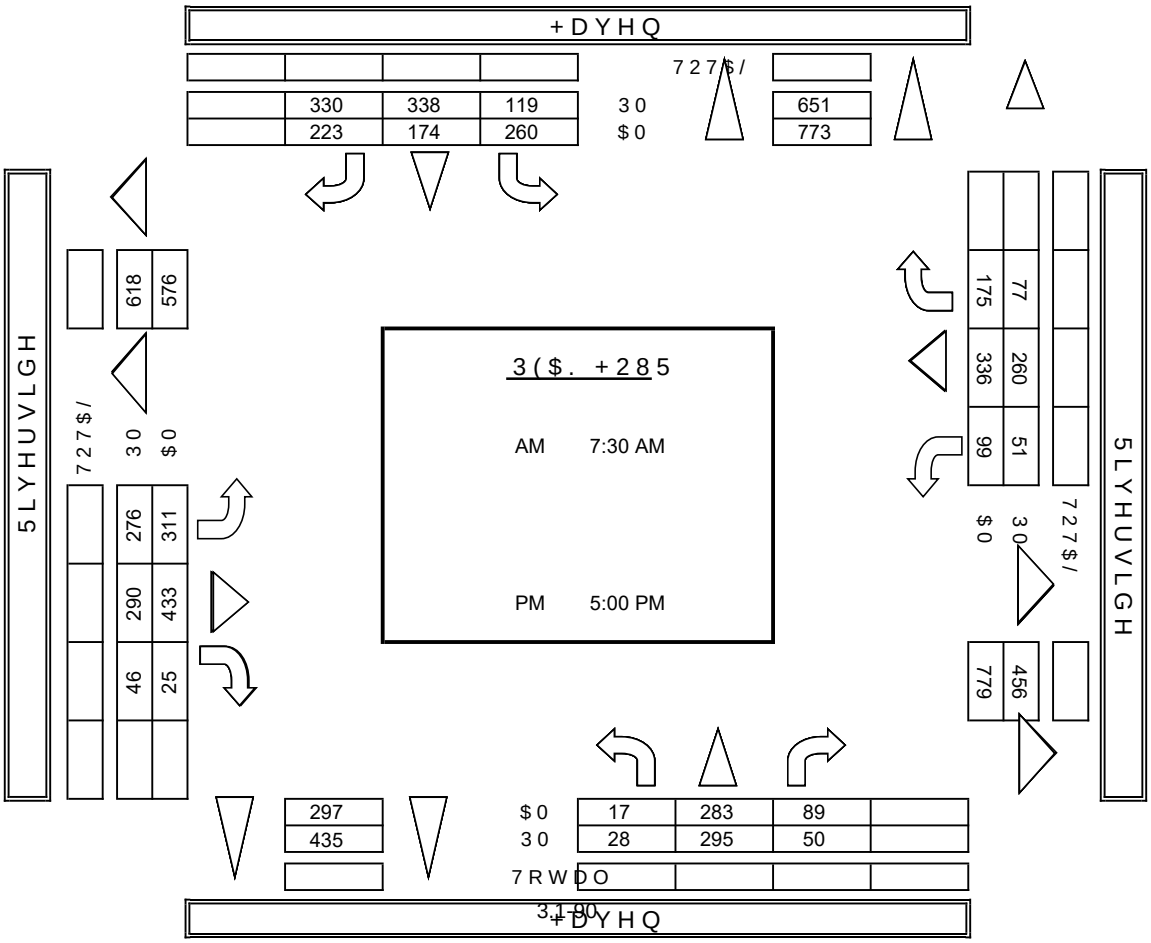
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TURNING MOVEMENT COUNTS





3,190

2022

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	19
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

	NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 1	EL 1	ET 1	ER 0	WL 1	WT 2	WR 0	TOTAL
7:00 AM	2	79	2	20	39	40	71	24	3	6	28	19	333
7:15 AM	1	96	8	36	23	58	63	43	3	12	60	29	432
7:30 AM	4	75	11	40	35	92	86	63	6	18	58	35	523
7:45 AM	4	73	15	58	40	46	86	123	5	19	77	34	580
8:00 AM	3	54	32	76	45	35	71	125	3	31	98	44	617
8:15 AM	4	67	27	77	40	42	51	105	5	29	90	53	590
8:30 AM	4	64	6	21	31	36	40	38	6	13	85	38	382
8:45 AM	6	80	9	18	31	45	45	21	4	8	22	11	300
AM VOLUMES	28	588	110	346	284	394	513	542	35	136	518	263	3,757
AM APPROACH %	4%	81%	15%	34%	28%	38%	47%	50%	3%	15%	56%	29%	
AM APP/DEPART	726	/	1,370	1,024	/	454	1,090	/	993	917	/	940	0
BEGIN PEAK HR		7:30 AM											
VOLUMES	15	269	85	247	160	215	294	416	19	96	323	166	2,310
APPROACH %	4%	73%	23%	39%	26%	34%	40%	57%	3%	16%	55%	28%	
PEAK HR FACTOR		0.941			0.937			0.852			0.847		0.936
APP/DEPART	369	/	733	626	/	275	729	/	749	586	/	553	0
4:00 PM	5	58	17	30	63	70	73	56	3	4	42	27	448
4:15 PM	6	61	13	41	67	67	79	78	11	6	50	22	501
4:30 PM	8	72	19	27	94	77	63	69	2	6	39	33	509
4:45 PM	5	47	10	24	89	84	72	50	11	7	60	24	483
5:00 PM	3	70	5	29	65	64	82	76	10	14	58	23	499
5:15 PM	8	71	11	23	82	94	64	68	7	11	61	15	515
5:30 PM	7	65	11	33	102	92	72	61	11	18	49	22	543
5:45 PM	9	73	21	30	78	73	42	69	17	6	82	15	515
PM VOLUMES	51	517	107	237	640	621	547	527	72	72	441	181	4,013
PM APPROACH %	8%	77%	16%	16%	43%	41%	48%	46%	6%	10%	64%	26%	
PM APP/DEPART	675	/	1,256	1,498	/	784	1,146	/	860	694	/	1,113	0
BEGIN PEAK HR		5:00 PM											
VOLUMES	27	279	48	112	327	323	260	274	45	49	250	75	2,072
APPROACH %	8%	79%	14%	15%	43%	42%	45%	47%	8%	13%	67%	20%	
PEAK HR FACTOR		0.859			0.843			0.862			0.908		0.954
APP/DEPART	354	/	617	765	/	421	579	/	434	374	/	600	0

U-TURNS

	NB	SB	EB	WB	TTL
AM	0	0	0	0	0
	0	0	0	0	0
	0	1	0	0	1
	0	1	0	0	1
	0	1	0	1	2
	0	1	0	0	1
	0	1	0	0	1
	0	1	0	0	1
AM	0	6	0	1	7
PM	0	0	0	0	0
	0	5	0	0	5
	0	2	0	0	2
	0	1	0	0	1
	0	1	0	0	1
	0	1	0	0	1
	0	0	0	0	0
	0	1	0	0	1
	0	1	0	0	1
PM	0	11	0	0	11

RTOR

	NRR 0	SRR 0	ERR 0	WRR 0
AM	1	23	1	6
	0	36	0	12
	2	64	1	3
	3	38	0	1
	6	24	1	17
	4	34	1	8
	1	31	1	3
	0	31	1	0
AM	17	281	6	50
	15	160	3	29
PM	3	54	0	11
	1	48	0	2
	2	38	0	15
	0	56	0	10
	0	40	0	5
	1	65	0	3
	0	57	1	9
	5	51	0	2
PM	12	409	1	57
	6	213	1	19

Haven
NORTH SIDE
Riverside WEST SIDE EAST SIDE **Riverside**
SOUTH SIDE
Haven

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	19
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 1	EL 1	ET 1	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	1	0	0	4	5	1	1	1	1	3	1	18
	7:15 AM	0	3	1	0	0	3	0	0	2	0	2	0	11
	7:30 AM	0	1	0	0	1	1	3	1	3	1	2	1	14
	7:45 AM	0	3	0	1	5	3	1	4	2	0	4	1	24
	8:00 AM	0	4	0	1	2	0	4	2	0	1	0	1	15
	8:15 AM	0	1	0	1	2	1	3	3	0	0	2	0	13
	8:30 AM	0	3	1	2	4	2	2	1	0	0	3	1	19
	8:45 AM	0	5	0	1	11	4	3	0	1	0	2	2	29
	VOLUMES	0	21	2	6	29	19	17	12	9	3	18	7	143
	APPROACH %	0%	91%	9%	11%	54%	35%	45%	32%	24%	11%	64%	25%	
	APP/DEPART	23	/	45	54	/	41	38	/	20	28	/	37	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	9	0	3	10	5	11	10	5	2	8	3	66
	APPROACH %	0%	100%	0%	17%	56%	28%	42%	38%	19%	15%	62%	23%	
	PEAK HR FACTOR		0.563			0.500			0.929			0.650		0.688
	APP/DEPART	9	/	23	18	/	17	26	/	13	13	/	13	0
PM	4:00 PM	1	4	2	1	2	1	2	4	0	1	4	0	22
	4:15 PM	1	5	0	0	2	1	2	0	0	0	3	2	16
	4:30 PM	0	2	0	0	4	1	1	1	0	1	3	0	13
	4:45 PM	0	6	0	0	3	2	1	4	0	0	3	2	21
	5:00 PM	0	1	0	0	2	0	3	3	0	1	0	0	10
	5:15 PM	1	4	0	0	4	1	3	5	0	0	3	0	21
	5:30 PM	0	3	0	0	1	3	4	4	0	0	1	0	16
	5:45 PM	0	4	1	1	2	3	0	0	1	0	5	1	18
	VOLUMES	3	29	3	2	20	12	16	21	1	3	22	5	137
	APPROACH %	9%	83%	9%	6%	59%	35%	42%	55%	3%	10%	73%	17%	
	APP/DEPART	35	/	50	34	/	24	38	/	26	30	/	37	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	1	12	1	1	9	7	10	12	1	1	9	1	65
	APPROACH %	7%	86%	7%	6%	53%	41%	43%	52%	4%	9%	82%	9%	
	PEAK HR FACTOR		0.700			0.708			0.719			0.458		0.774
	APP/DEPART	14	/	23	17	/	11	23	/	14	11	/	17	0

U-TURNS

	NB	SB	EB	WB	TTL
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	2	0	0
0	2	0	0
0	0	0	0
0	3	0	0
0	0	0	1
0	1	0	0
0	2	0	0
0	3	0	0
0	13	0	1
0	4	0	1
0	1	0	0
0	0	0	0
0	1	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	2	0	0
0	2	0	0
0	7	0	0
0	4	0	0

Haven

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Haven

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	19
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 1	EL 1	ET 1	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
	7:15 AM	0	0	0	0	0	1	0	0	1	0	0	0	2
	7:30 AM	1	0	0	0	0	1	1	0	0	0	0	0	3
	7:45 AM	0	0	1	0	0	0	0	1	0	0	0	0	2
	8:00 AM	0	1	0	0	0	0	1	0	0	0	1	0	3
	8:15 AM	0	0	1	0	1	0	0	1	0	0	0	0	3
	8:30 AM	0	1	0	0	0	0	0	0	0	2	1	0	4
	8:45 AM	1	1	0	1	0	0	1	0	0	0	4	1	9
	VOLUMES	2	4	2	1	2	2	3	2	1	2	6	1	28
	APPROACH %	25%	50%	25%	20%	40%	40%	50%	33%	17%	22%	67%	11%	
	APP/DEPART	8	/	8	5	/	5	6	/	5	9	/	10	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	1	1	2	0	1	1	2	2	0	0	1	0	11
	APPROACH %	25%	25%	50%	0%	50%	50%	50%	50%	0%	0%	100%	0%	
	PEAK HR FACTOR		1.000			0.500			1.000			0.250		0.917
	APP/DEPART	4	/	3	2	/	1	4	/	4	1	/	3	0
PM	4:00 PM	0	0	0	1	0	1	1	0	0	0	0	0	3
	4:15 PM	0	0	0	0	1	0	2	0	0	0	0	0	3
	4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	5:00 PM	0	1	0	1	1	0	1	1	0	0	0	1	6
	5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
	5:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	2
	5:45 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
	VOLUMES	0	2	0	2	2	1	5	4	0	1	1	1	19
	APPROACH %	0%	100%	0%	40%	40%	20%	56%	44%	0%	33%	33%	33%	
	APP/DEPART	2	/	8	5	/	3	9	/	6	3	/	2	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	2	0	1	1	0	2	3	0	1	0	1	11
	APPROACH %	0%	100%	0%	50%	50%	0%	40%	60%	0%	50%	0%	50%	
	PEAK HR FACTOR		0.500			0.250			0.625			0.500		0.458
	APP/DEPART	2	/	5	2	/	2	5	/	4	2	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0

Haven — NORTH SIDE

Riverside — WEST SIDE — EAST SIDE — Riverside

SOUTH SIDE — Haven

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	19
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

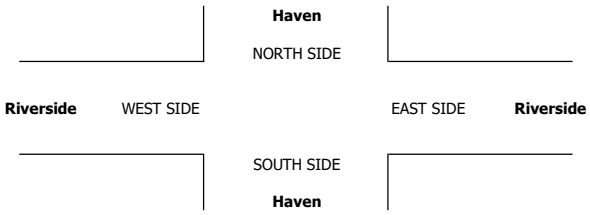
CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 1	EL 1	ET 1	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	1	0	0	2	0	0	1	0	0	0	0	4
	7:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	2
	7:30 AM	0	2	0	0	0	0	0	0	0	0	1	0	3
	7:45 AM	0	1	0	0	1	1	0	1	0	0	0	0	4
	8:00 AM	0	1	0	0	0	0	1	0	0	0	0	0	2
	8:15 AM	1	0	0	0	1	0	1	0	1	0	0	0	4
	8:30 AM	0	1	0	0	1	0	1	0	0	0	0	0	3
	8:45 AM	0	1	0	0	0	0	0	1	1	0	0	0	3
	VOLUMES	1	8	0	0	5	2	3	3	2	0	1	0	25
	APPROACH %	11%	89%	0%	0%	71%	29%	38%	38%	25%	0%	100%	0%	
	APP/DEPART	9	/	11	7	/	7	8	/	3	1	/	4	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	1	4	0	0	2	1	2	1	1	0	1	0	13
	APPROACH %	20%	80%	0%	0%	67%	33%	50%	25%	25%	0%	100%	0%	
	PEAK HR FACTOR		0.625			0.375			0.500			0.250		0.813
	APP/DEPART	5	/	6	3	/	3	4	/	1	1	/	3	0
PM	4:00 PM	0	0	0	0	0	1	1	0	0	0	0	0	2
	4:15 PM	0	0	1	0	0	0	0	1	0	0	0	0	2
	4:30 PM	0	1	0	0	0	1	0	2	0	0	0	0	4
	4:45 PM	0	1	0	0	1	0	0	1	0	0	0	0	3
	5:00 PM	0	0	0	0	1	0	3	0	0	0	1	0	5
	5:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
	5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
	5:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	2
	VOLUMES	0	3	2	1	2	2	5	5	0	0	1	0	21
	APPROACH %	0%	60%	40%	20%	40%	40%	50%	50%	0%	0%	100%	0%	
	APP/DEPART	5	/	8	5	/	2	10	/	8	1	/	3	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	1	1	1	1	0	4	1	0	0	1	0	10
	APPROACH %	0%	50%	50%	50%	50%	0%	80%	20%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.500			0.500			0.417			0.250		0.500
	APP/DEPART	2	/	5	2	/	1	5	/	3	1	/	1	0

U-TURNS					RTOR			
NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	2	0	0
					0	1	0	0
0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	2	0	0
					0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	19
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

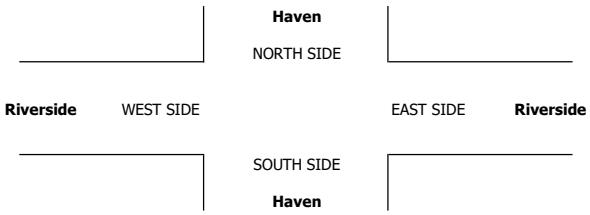
		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 1	EL 1	ET 1	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	1	0	0	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	1	/	0	0	/	0	0	/	1	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



2027

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	19
WEDNESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 1	EL 1	ET 1	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	1	1	0	0	1	0	1	0	4
	7:15 AM	0	0	0	0	0	3	1	0	0	1	0	0	5
	7:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
	7:45 AM	0	0	0	5	1	0	1	1	0	0	2	0	10
	8:00 AM	0	0	1	0	0	1	1	0	0	0	1	6	10
	8:15 AM	0	0	1	1	0	0	0	1	0	0	0	0	3
	8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:45 AM	0	0	0	1	0	0	0	3	0	0	0	0	4
	VOLUMES	0	0	2	7	2	5	3	8	1	1	4	6	39
	APPROACH %	0%	0%	100%	50%	14%	36%	25%	67%	8%	9%	36%	55%	
	APP/DEPART	2	/	9	14	/	4	12	/	17	11	/	9	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	2	6	1	1	2	4	0	0	3	6	25
	APPROACH %	0%	0%	100%	75%	13%	13%	33%	67%	0%	0%	33%	67%	
	PEAK HR FACTOR		0.500			0.333			0.750			0.321		0.625
	APP/DEPART	2	/	8	8	/	1	6	/	12	9	/	4	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	2
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
	VOLUMES	0	1	0	3	0	0	0	0	0	0	0	0	4
	APPROACH %	0%	100%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	1	/	1	3	/	0	0	/	3	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	1	0	1	0	0	0	0	0	0	0	0	2
	APPROACH %	0%	100%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.250			0.250			0.000			0.000		0.500
	APP/DEPART	1	/	1	1	/	0	0	/	1	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	1	1	0
0	2	0	0
0	0	0	0
0	0	0	0
0	0	0	4
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	3	1	4
1	0	0	4
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Haven — NORTH SIDE

Riverside — WEST SIDE — EAST SIDE — Riverside

SOUTH SIDE — Haven

INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22	LOCATION:	Ontario	PROJECT #: SC3418
	NORTH & SOUTH:	Haven	LOCATION #: 8
	EAST & WEST:	Chino	CONTROL: STOP E

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

	NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Chino			WESTBOUND Chino			
LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
7:00 AM	15	85	0	0	38	3	8	0	12	0	0	0	161
7:15 AM	34	105	0	0	39	9	9	0	16	0	0	0	212
7:30 AM	55	107	0	0	37	11	7	0	11	0	0	0	228
7:45 AM	36	75	0	0	53	10	11	0	17	0	0	0	202
8:00 AM	18	77	0	0	68	7	22	0	20	0	0	0	212
8:15 AM	15	90	0	0	71	16	3	0	9	0	0	0	204
8:30 AM	18	70	0	0	49	13	6	0	10	0	0	0	166
8:45 AM	14	67	0	0	47	9	4	0	7	0	0	0	148
AM VOLUMES	205	676	0	0	402	78	70	0	102	0	0	0	1,533
AM APPROACH %	23%	77%	0%	0%	84%	16%	41%	0%	59%	0%	0%	0%	
AM APP/DEPART	881	/	746	480	/	504	172	/	0	0	/	283	0
BEGIN PEAK HR		7:15 AM											
VOLUMES	143	364	0	0	197	37	49	0	64	0	0	0	854
APPROACH %	28%	72%	0%	0%	84%	16%	43%	0%	57%	0%	0%	0%	
PEAK HR FACTOR		0.782			0.780			0.673			0.000		0.936
APP/DEPART	507	/	413	234	/	261	113	/	0	0	/	180	0
4:00 PM	24	69	0	0	74	6	4	0	20	0	0	0	197
4:15 PM	23	88	0	0	86	10	6	0	8	0	0	0	221
4:30 PM	22	67	0	0	85	7	7	0	13	0	0	0	201
4:45 PM	21	84	0	0	90	7	9	0	22	0	0	0	233
5:00 PM	16	67	0	0	96	10	6	0	15	0	0	0	210
5:15 PM	22	85	0	0	98	9	15	0	13	0	0	0	242
5:30 PM	13	84	0	0	111	4	8	0	14	0	0	0	234
5:45 PM	17	69	0	0	114	4	9	0	25	0	0	0	238
PM VOLUMES	158	613	0	0	754	57	64	0	130	0	0	0	1,776
PM APPROACH %	20%	80%	0%	0%	93%	7%	33%	0%	67%	0%	0%	0%	
PM APP/DEPART	771	/	677	811	/	884	194	/	0	0	/	215	0
BEGIN PEAK HR		5:00 PM											
VOLUMES	68	305	0	0	419	27	38	0	67	0	0	0	924
APPROACH %	18%	82%	0%	0%	94%	6%	36%	0%	64%	0%	0%	0%	
PEAK HR FACTOR		0.871			0.945			0.772			0.000		0.955
APP/DEPART	373	/	343	446	/	486	105	/	0	0	/	95	0

U-TURNS

	NB 0	SB 0	EB 0	WB 0	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
AM TOTAL	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
PM TOTAL	0	0	0	0	0

RTOR

	NRR X	SRR X	ERR X	WRR X
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
AM TOTAL	0	0	0	0
AM PEAK HR	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
PM TOTAL	0	0	0	0
PM PEAK HR	0	0	0	0

Haven

NORTH SIDE

Chino — WEST SIDE — EAST SIDE — Chino

SOUTH SIDE

Haven

ALL PED AND BIKE

	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	0	0
AM TOTAL	0	1	0	0	1
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0

PEDESTRIAN CROSSINGS

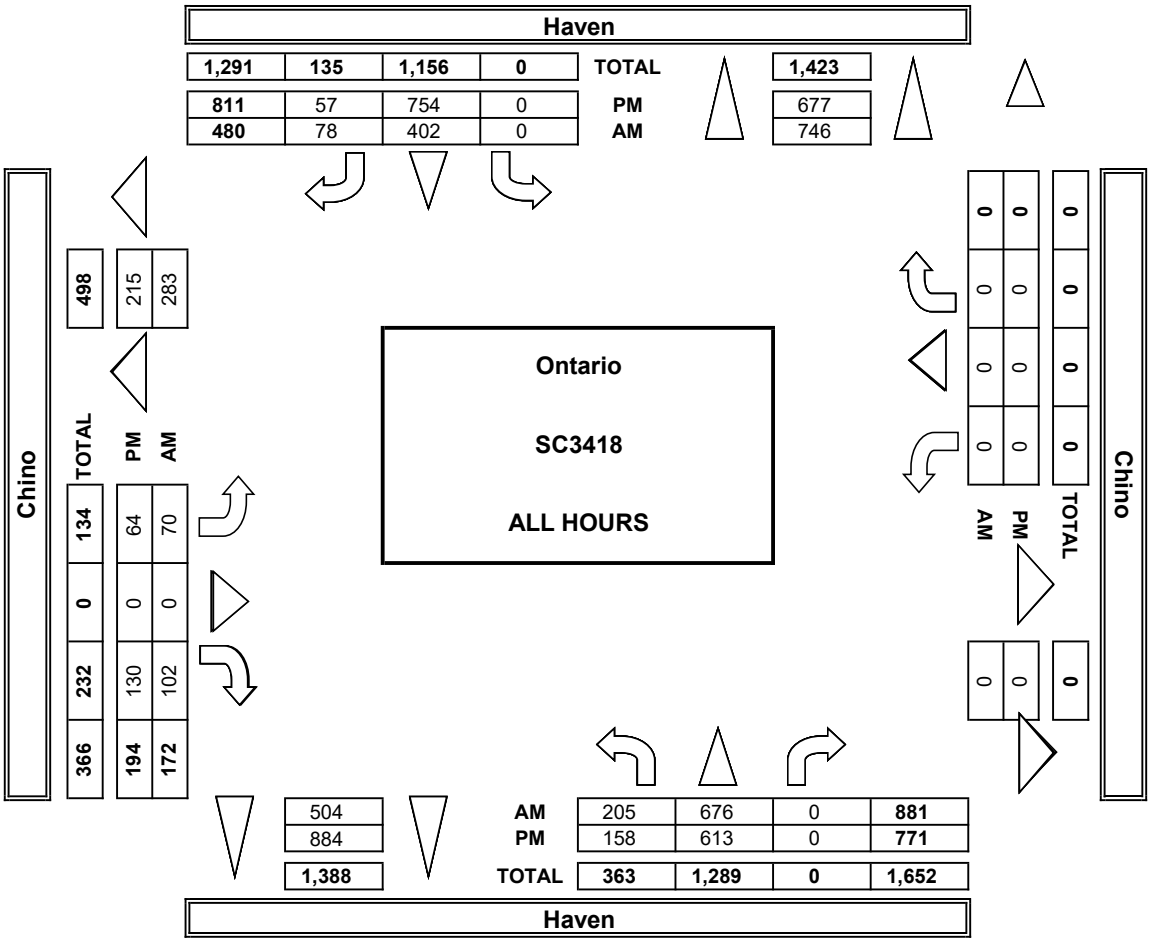
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	0	0
AM TOTAL	0	1	0	0	1
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0

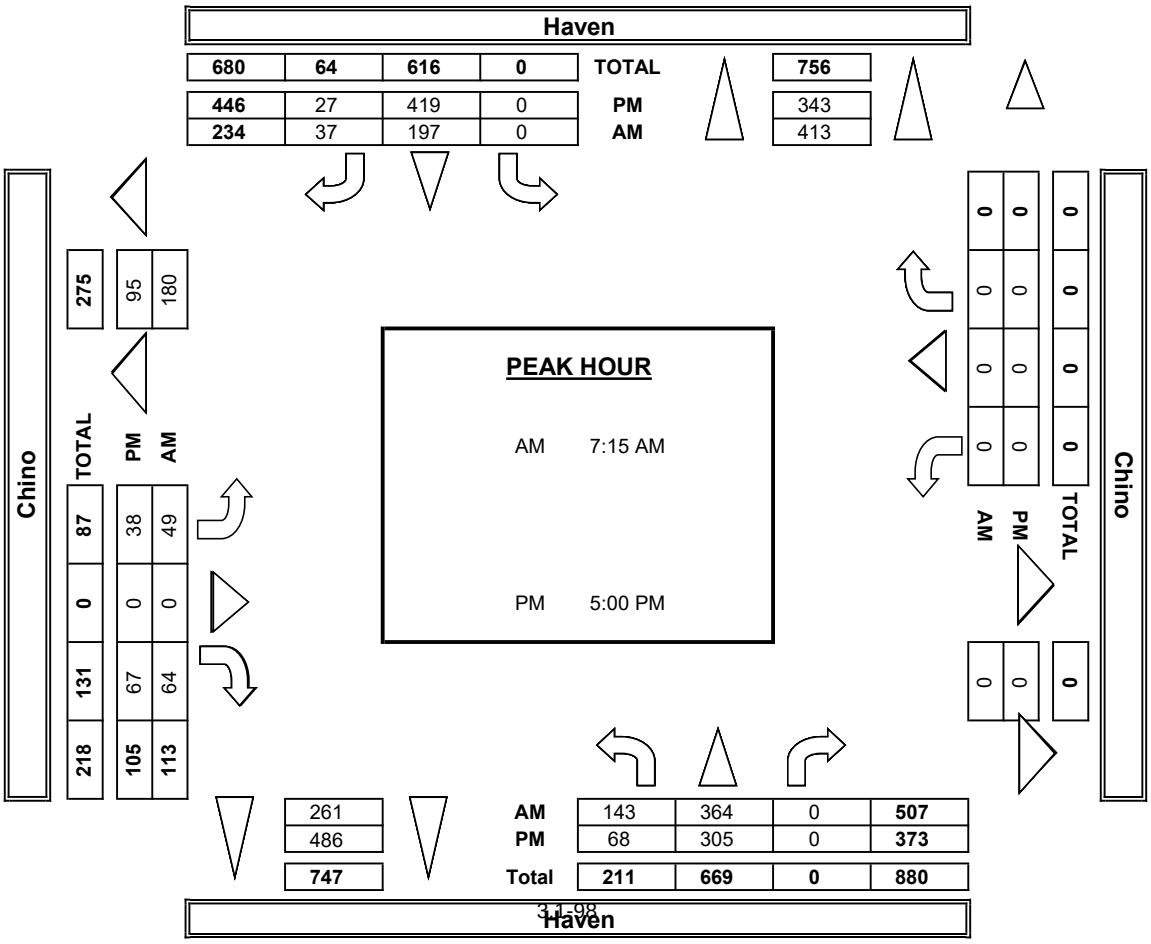
BICYCLE CROSSINGS

	ES	WS	SS	NS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
AM TOTAL	0	0	0	0	0
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





2030

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	8
TUESDAY	EAST & WEST:	Chino	CONTROL:	STOP E

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Chino)			WESTBOUND (Chino)			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	15	78	0	0	34	1	6	0	12	0	0	0	146
	7:15 AM	33	103	0	0	31	8	9	0	15	0	0	0	199
	7:30 AM	55	106	0	0	37	10	6	0	10	0	0	0	224
	7:45 AM	36	71	0	0	50	8	9	0	15	0	0	0	189
	8:00 AM	18	73	0	0	61	5	22	0	20	0	0	0	199
	8:15 AM	13	83	0	0	70	15	3	0	9	0	0	0	193
	8:30 AM	16	70	0	0	43	13	6	0	10	0	0	0	158
	8:45 AM	10	65	0	0	41	6	4	0	6	0	0	0	132
	VOLUMES	196	649	0	0	367	66	65	0	97	0	0	0	1,440
	APPROACH %	23%	77%	0%	0%	85%	15%	40%	0%	60%	0%	0%	0%	
	APP/DEPART	845	/	714	433	/	464	162	/	0	0	/	262	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	142	353	0	0	179	31	46	0	60	0	0	0	811
	APPROACH %	29%	71%	0%	0%	85%	15%	43%	0%	57%	0%	0%	0%	
	PEAK HR FACTOR		0.769			0.795			0.631			0.000		0.905
	APP/DEPART	495	/	399	210	/	239	106	/	0	0	/	173	0
PM	4:00 PM	24	64	0	0	73	6	2	0	20	0	0	0	189
	4:15 PM	21	75	0	0	80	10	3	0	8	0	0	0	197
	4:30 PM	21	63	0	0	83	6	7	0	13	0	0	0	193
	4:45 PM	21	83	0	0	86	5	9	0	21	0	0	0	225
	5:00 PM	14	63	0	0	93	10	5	0	14	0	0	0	199
	5:15 PM	21	82	0	0	92	8	15	0	12	0	0	0	230
	5:30 PM	11	79	0	0	108	3	7	0	13	0	0	0	221
	5:45 PM	16	66	0	0	111	4	7	0	24	0	0	0	228
	VOLUMES	149	575	0	0	726	52	55	0	125	0	0	0	1,682
	APPROACH %	21%	79%	0%	0%	93%	7%	31%	0%	69%	0%	0%	0%	
	APP/DEPART	724	/	630	778	/	851	180	/	0	0	/	201	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	62	290	0	0	404	25	34	0	63	0	0	0	878
	APPROACH %	18%	82%	0%	0%	94%	6%	35%	0%	65%	0%	0%	0%	
	PEAK HR FACTOR		0.854			0.933			0.782			0.000		0.954
	APP/DEPART	352	/	324	429	/	467	97	/	0	0	/	87	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Haven

NORTH SIDE

Chino WEST SIDE EAST SIDE **Chino**

SOUTH SIDE

Haven

INTERSECTION TURNING MOVEMENT COUNTS

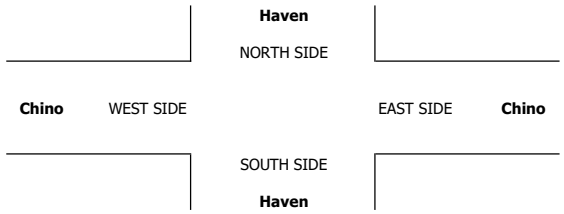
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	8
TUESDAY	EAST & WEST:	Chino	CONTROL:	STOP E

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM PM MD OTHER OTHER	▲ N ◄ W E ► S ▼

		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Chino)			WESTBOUND (Chino)			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	7	0	0	3	1	0	0	0	0	0	0	11
	7:15 AM	1	2	0	0	5	0	0	0	1	0	0	0	9
	7:30 AM	0	1	0	0	0	0	0	0	1	0	0	0	2
	7:45 AM	0	3	0	0	3	1	2	0	1	0	0	0	10
	8:00 AM	0	2	0	0	3	2	0	0	0	0	0	0	7
	8:15 AM	1	4	0	0	1	0	0	0	0	0	0	0	6
	8:30 AM	1	0	0	0	5	0	0	0	0	0	0	0	6
	8:45 AM	2	2	0	0	5	2	0	0	1	0	0	0	12
	VOLUMES	5	21	0	0	25	6	2	0	4	0	0	0	63
	APPROACH %	19%	81%	0%	0%	81%	19%	33%	0%	67%	0%	0%	0%	
	APP/DEPART	26	/	23	31	/	29	6	/	0	0	/	11	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	1	8	0	0	11	3	2	0	3	0	0	0	28
	APPROACH %	11%	89%	0%	0%	79%	21%	40%	0%	60%	0%	0%	0%	
	PEAK HR FACTOR		0.750			0.700			0.417			0.000		0.700
	APP/DEPART	9	/	10	14	/	14	5	/	0	0	/	4	0
PM	4:00 PM	0	4	0	0	1	0	2	0	0	0	0	0	7
	4:15 PM	1	9	0	0	6	0	3	0	0	0	0	0	19
	4:30 PM	1	4	0	0	2	1	0	0	0	0	0	0	8
	4:45 PM	0	0	0	0	3	1	0	0	1	0	0	0	5
	5:00 PM	1	4	0	0	3	0	1	0	1	0	0	0	10
	5:15 PM	1	3	0	0	6	1	0	0	1	0	0	0	12
	5:30 PM	1	5	0	0	2	1	1	0	1	0	0	0	11
	5:45 PM	1	2	0	0	3	0	2	0	1	0	0	0	9
	VOLUMES	6	31	0	0	26	4	9	0	5	0	0	0	81
	APPROACH %	16%	84%	0%	0%	87%	13%	64%	0%	36%	0%	0%	0%	
	APP/DEPART	37	/	40	30	/	31	14	/	0	0	/	10	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	4	14	0	0	14	2	4	0	4	0	0	0	42
	APPROACH %	22%	78%	0%	0%	88%	13%	50%	0%	50%	0%	0%	0%	
	PEAK HR FACTOR		0.750			0.571			0.667			0.000		0.875
	APP/DEPART	18	/	18	16	/	18	8	/	0	0	/	6	0

U-TURNS					RTOR			
NB	SB	EB	WB	TTL	NRR X	SRR X	ERR X	WRR X
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
					0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
					0	0	0	0



2032

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	8
TUESDAY	EAST & WEST:	Chino	CONTROL:	STOP E

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

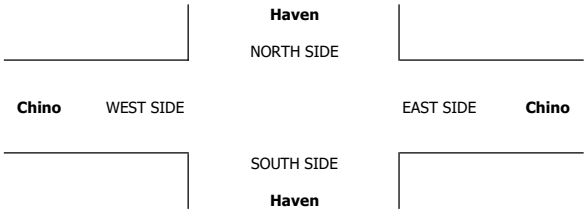
		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Chino)			WESTBOUND (Chino)			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	2
	7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	8:15 AM	1	1	0	0	0	0	0	0	0	0	0	0	2
	8:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	2
	8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	VOLUMES	2	1	0	0	4	1	1	0	0	0	0	0	9
	APPROACH %	67%	33%	0%	0%	80%	20%	100%	0%	0%	0%	0%	0%	
	APP/DEPART	3	/	2	5	/	4	1	/	0	0	/	3	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	2	0	0	0	0	0	0	0	2
	APPROACH %	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.500			0.000			0.000		0.500
	APP/DEPART	0	/	0	2	/	2	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	8
TUESDAY	EAST & WEST:	Chino	CONTROL:	STOP E

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

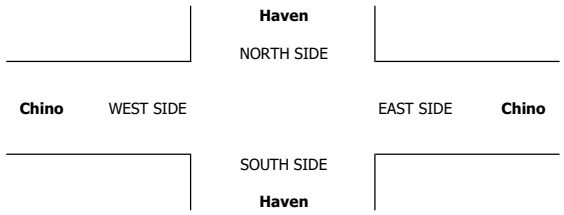
		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Chino)			WESTBOUND (Chino)			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
	7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	2
	7:45 AM	0	1	0	0	0	1	0	0	1	0	0	0	3
	8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	8:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	2
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	2	0	0	0	0	1	0	0	0	0	0	0	3
	VOLUMES	2	2	0	0	1	5	2	0	1	0	0	0	13
	APPROACH %	50%	50%	0%	0%	17%	83%	67%	0%	33%	0%	0%	0%	
	APP/DEPART	4	/	4	6	/	2	3	/	0	0	/	7	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	1	0	0	1	3	1	0	1	0	0	0	7
	APPROACH %	0%	100%	0%	0%	25%	75%	50%	0%	50%	0%	0%	0%	
	PEAK HR FACTOR		0.250			1.000			0.500			0.000		0.583
	APP/DEPART	1	/	2	4	/	2	2	/	0	0	/	3	0
PM	4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	4:15 PM	1	3	0	0	0	0	0	0	0	0	0	0	4
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	1	0	0	1	1	0	0	0	0	0	0	3
	5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	2
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	VOLUMES	3	6	0	0	2	1	0	0	0	0	0	0	12
	APPROACH %	33%	67%	0%	0%	67%	33%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	9	/	6	3	/	2	0	/	0	0	/	4	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	2	1	0	0	1	0	0	0	0	0	0	0	4
	APPROACH %	67%	33%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.750			0.250			0.000			0.000		0.500
	APP/DEPART	3	/	1	1	/	1	0	/	0	0	/	2	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	8
TUESDAY	EAST & WEST:	Chino	CONTROL:	STOP E

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

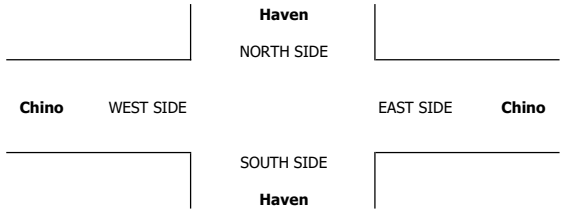
		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Chino)			WESTBOUND (Chino)			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	8
TUESDAY	EAST & WEST:	Chino	CONTROL:	STOP E

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

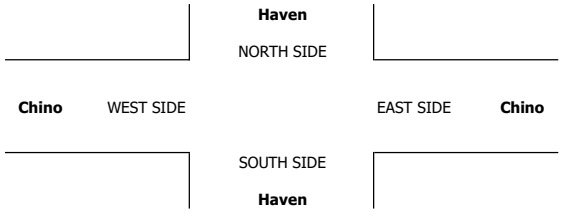
	NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Chino			WESTBOUND Chino			
LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM 7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	3	0	0	5	0	0	0	0	0	0	0	8
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	3	/ 3		5	/ 5		0	/ 0		0	/ 0		0
BEGIN PEAK HR		7:15 AM											
VOLUMES	0	2	0	0	4	0	0	0	0	0	0	0	6
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.250			0.500			0.000			0.000		0.375
APP/DEPART	2	/ 2		4	/ 4		0	/ 0		0	/ 0		0
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	0	/ 0		0	/ 0		0	/ 0		0	/ 0		0
BEGIN PEAK HR		5:00 PM											
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
APP/DEPART	0	/ 0		0	/ 0		0	/ 0		0	/ 0		0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR X	ERR X	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22	LOCATION:	Ontario	PROJECT #: SC3418
	NORTH & SOUTH:	Haven	LOCATION #: 9
	EAST & WEST:	Schaefer	CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Schaefer			WESTBOUND Schaefer				U-TURNS					RTOR			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NRR X	SRR 0	ERR 0	WRR X
AM	7:00 AM	16	103	0	0	51	2	11	0	8	0	0	0	191	3	0	0	0	3	0	0	4	0
	7:15 AM	20	120	0	0	60	1	15	0	13	0	0	0	229	3	0	0	0	3	0	0	10	0
	7:30 AM	30	142	0	0	43	5	11	0	21	0	0	0	252	2	0	0	0	2	0	0	11	0
	7:45 AM	29	85	0	0	74	10	5	0	23	0	0	0	226	5	0	0	0	5	0	1	18	0
	8:00 AM	16	93	0	0	82	5	7	0	17	0	0	0	220	5	0	0	0	5	0	2	11	0
	8:15 AM	22	93	0	0	77	7	6	0	7	0	0	0	212	4	0	0	0	4	0	1	6	0
	8:30 AM	20	81	0	0	56	4	8	0	14	0	0	0	183	6	0	0	0	6	0	0	11	0
	8:45 AM	17	86	0	0	52	2	9	0	8	0	0	0	174	6	0	0	0	6	0	0	5	0
	VOLUMES	170	803	0	0	495	36	72	0	111	0	0	0	1,687	34	0	0	0	34	0	4	76	0
	APPROACH %	17%	83%	0%	0%	93%	7%	39%	0%	61%	0%	0%	0%										
	APP/DEPART	973	/	875	531	/	640	183	/	0	0	/	172	0									
	BEGIN PEAK HR		7:15 AM																				
	VOLUMES	95	440	0	0	259	21	38	0	74	0	0	0	927						0	3	50	0
	APPROACH %	18%	82%	0%	0%	93%	8%	34%	0%	66%	0%	0%	0%										
	PEAK HR FACTOR		0.778			0.805			0.875			0.000		0.920									
	APP/DEPART	535	/	478	280	/	348	112	/	0	0	/	101	0									
PM	4:00 PM	20	78	0	0	92	5	5	0	18	0	0	0	218	3	0	0	0	3	0	0	12	0
	4:15 PM	34	102	0	0	87	2	6	0	10	0	0	0	241	6	0	0	0	6	0	0	9	0
	4:30 PM	20	92	0	0	103	0	5	0	18	0	0	0	238	5	0	0	0	5	0	0	15	0
	4:45 PM	26	97	0	0	114	2	7	0	27	0	0	0	273	4	0	0	0	4	0	0	21	0
	5:00 PM	22	81	0	0	96	6	5	0	16	0	0	0	226	4	0	0	0	4	0	0	14	0
	5:15 PM	26	95	0	0	112	6	6	0	11	0	0	0	256	4	0	0	0	4	0	0	8	0
	5:30 PM	29	87	0	0	118	5	5	0	18	0	0	0	262	2	0	0	0	2	0	0	13	0
	5:45 PM	37	91	0	0	136	3	5	0	31	0	0	0	303	5	0	0	0	5	0	0	24	0
	VOLUMES	214	723	0	0	858	29	44	0	149	0	0	0	2,017	33	0	0	0	33	0	0	116	0
	APPROACH %	23%	77%	0%	0%	97%	3%	23%	0%	77%	0%	0%	0%										
	APP/DEPART	937	/	767	887	/	1,040	193	/	0	0	/	210	0									
	BEGIN PEAK HR		5:00 PM																				
	VOLUMES	114	354	0	0	462	20	21	0	76	0	0	0	1,047						0	0	59	0
	APPROACH %	24%	76%	0%	0%	96%	4%	22%	0%	78%	0%	0%	0%										
	PEAK HR FACTOR		0.914			0.867			0.674			0.000		0.864									
	APP/DEPART	468	/	375	482	/	553	97	/	0	0	/	119	0									

Haven

NORTH SIDE

Schaefer WEST SIDE EAST SIDE **Schaefer**

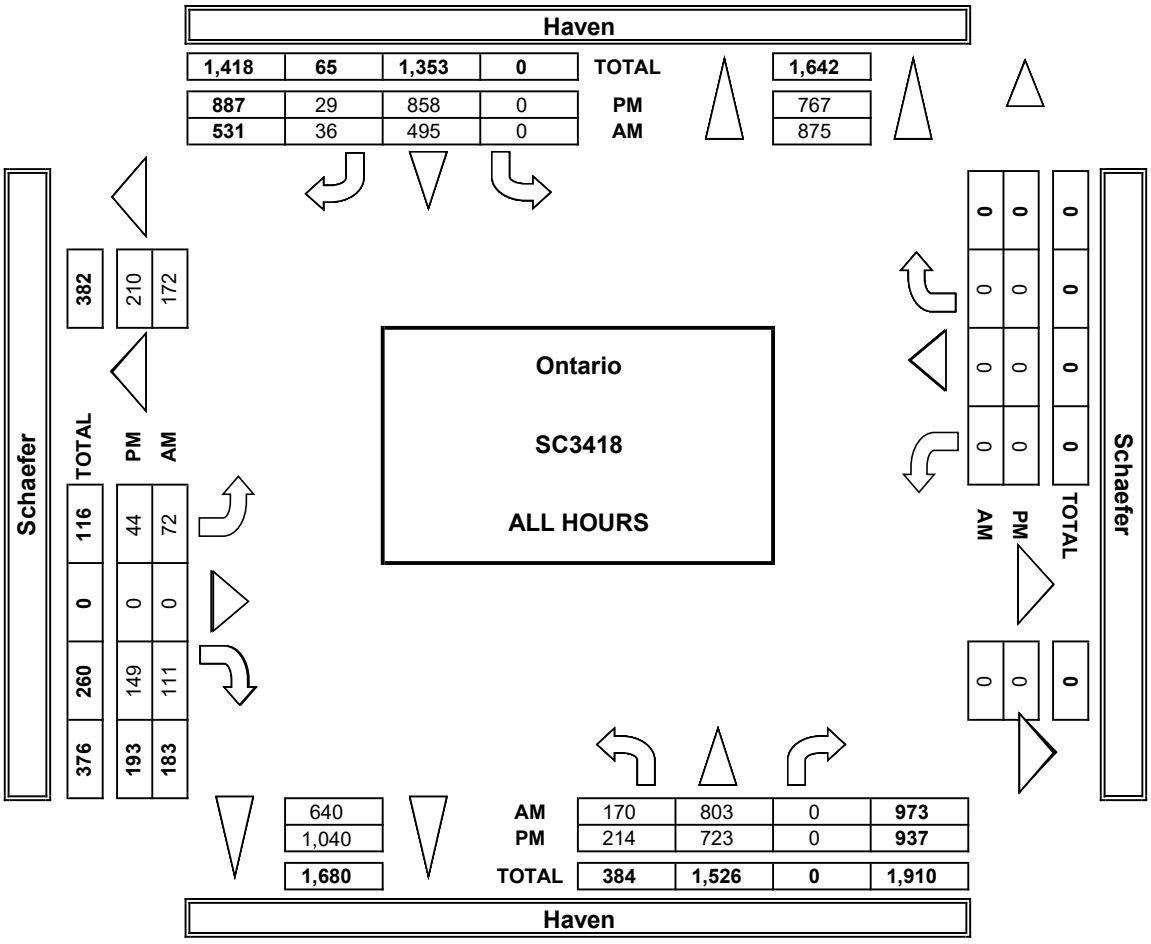
SOUTH SIDE

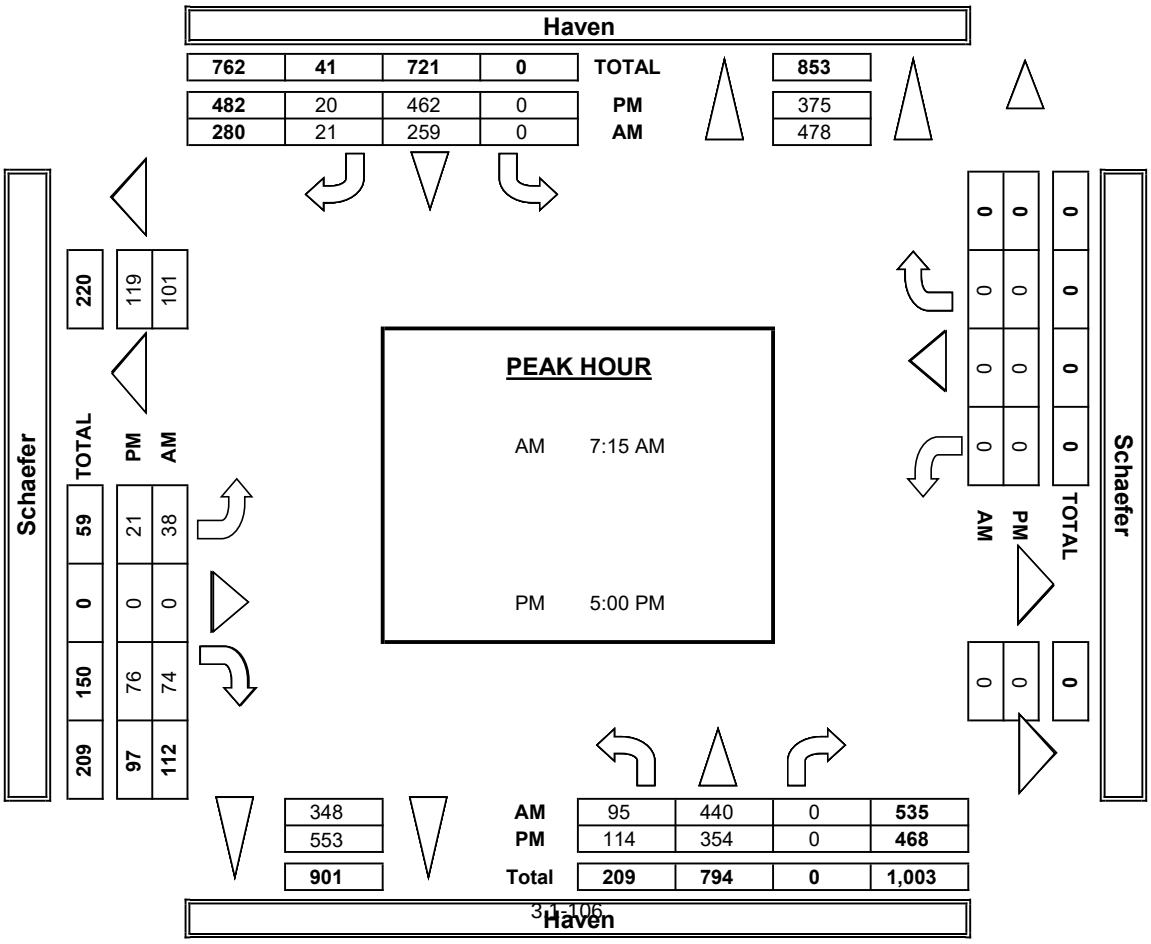
Haven

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	7:30 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	7:45 AM	0	2	1	2	5	0	0	1	0	1	0	2	0	2	4
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1	5	1	2	9	0	3	1	0	4	1	2	0	2	5
PM	4:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	9
TUESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Schaefer)			WESTBOUND (Schaefer)			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	13	97	0	0	47	2	11	0	7	0	0	0	177
	7:15 AM	19	119	0	0	53	1	14	0	12	0	0	0	218
	7:30 AM	28	141	0	0	40	5	11	0	18	0	0	0	243
	7:45 AM	28	82	0	0	69	9	5	0	22	0	0	0	215
	8:00 AM	16	83	0	0	77	4	7	0	17	0	0	0	204
	8:15 AM	22	85	0	0	74	7	6	0	7	0	0	0	201
	8:30 AM	17	79	0	0	49	3	7	0	14	0	0	0	169
	8:45 AM	17	79	0	0	45	2	9	0	8	0	0	0	160
	VOLUMES	160	765	0	0	454	33	70	0	105	0	0	0	1,587
	APPROACH %	17%	83%	0%	0%	93%	7%	40%	0%	60%	0%	0%	0%	
	APP/DEPART	925	/	835	487	/	592	175	/	0	0	/	160	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	76	425	0	0	239	19	37	0	69	0	0	0	880
	APPROACH %	15%	82%	0%	0%	93%	7%	35%	0%	65%	0%	0%	0%	
	PEAK HR FACTOR		0.763			0.796			0.914			0.000		0.905
	APP/DEPART	516	/	462	258	/	323	106	/	0	0	/	95	0
PM	4:00 PM	20	75	0	0	89	4	5	0	17	0	0	0	210
	4:15 PM	31	88	0	0	84	2	5	0	9	0	0	0	219
	4:30 PM	19	86	0	0	99	0	4	0	17	0	0	0	225
	4:45 PM	23	96	0	0	110	2	7	0	25	0	0	0	263
	5:00 PM	21	77	0	0	94	6	4	0	16	0	0	0	218
	5:15 PM	23	88	0	0	105	6	6	0	11	0	0	0	239
	5:30 PM	28	82	0	0	115	5	5	0	18	0	0	0	253
	5:45 PM	37	89	0	0	132	3	4	0	31	0	0	0	296
	VOLUMES	202	681	0	0	828	28	40	0	144	0	0	0	1,923
	APPROACH %	23%	77%	0%	0%	97%	3%	22%	0%	78%	0%	0%	0%	
	APP/DEPART	883	/	721	856	/	1,003	184	/	0	0	/	199	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	95	336	0	0	446	20	19	0	76	0	0	0	1,006
	APPROACH %	21%	76%	0%	0%	96%	4%	20%	0%	80%	0%	0%	0%	
	PEAK HR FACTOR		0.883			0.863			0.679			0.000		0.850
	APP/DEPART	445	/	355	466	/	536	95	/	0	0	/	115	0

U-TURNS

NB	SB	EB	WB	TTL
3	0	0	0	3
3	0	0	0	3
2	0	0	0	2
5	0	0	0	5
5	0	0	0	5
4	0	0	0	4
5	0	0	0	5
6	0	0	0	6
33	0	0	0	33
3	0	0	0	3
6	0	0	0	6
4	0	0	0	4
4	0	0	0	4
3	0	0	0	3
4	0	0	0	4
2	0	0	0	2
5	0	0	0	5
31	0	0	0	31

RTOR

NRR X	SRR 0	ERR 0	WRR X
0	0	4	0
0	0	9	0
0	0	10	0
0	1	17	0
0	2	11	0
0	1	6	0
0	0	11	0
0	0	5	0
0	4	73	0
0	3	47	0
0	0	11	0
0	0	8	0
0	0	14	0
0	0	20	0
0	0	14	0
0	0	8	0
0	0	13	0
0	0	24	0
0	0	112	0
0	0	59	0

Haven

NORTH SIDE

Schaefer WEST SIDE EAST SIDE **Schaefer**

SOUTH SIDE

Haven

2039

INTERSECTION TURNING MOVEMENT COUNTS

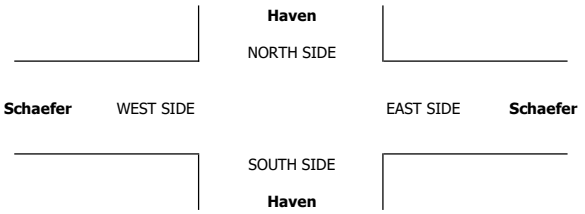
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	9
TUESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER	▲ N / ◄ W / E ► / S ▼

		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Schaefer)			WESTBOUND (Schaefer)			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	1	6	0	0	1	0	0	0	0	0	0	0	8
	7:15 AM	1	1	0	0	4	0	1	0	1	0	0	0	8
	7:30 AM	2	1	0	0	2	0	0	0	2	0	0	0	7
	7:45 AM	1	2	0	0	4	1	0	0	1	0	0	0	9
	8:00 AM	0	5	0	0	3	0	0	0	0	0	0	0	8
	8:15 AM	0	4	0	0	1	0	0	0	0	0	0	0	5
	8:30 AM	2	2	0	0	5	1	1	0	0	0	0	0	11
	8:45 AM	0	5	0	0	6	0	0	0	0	0	0	0	11
	VOLUMES	7	26	0	0	26	2	2	0	4	0	0	0	67
	APPROACH %	21%	79%	0%	0%	93%	7%	33%	0%	67%	0%	0%	0%	
	APP/DEPART	33	/	28	28	/	31	6	/	0	0	/	8	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	4	9	0	0	13	1	1	0	4	0	0	0	32
	APPROACH %	31%	69%	0%	0%	93%	7%	20%	0%	80%	0%	0%	0%	
	PEAK HR FACTOR		0.650			0.700			0.625			0.000		0.889
	APP/DEPART	13	/	10	14	/	17	5	/	0	0	/	5	0
PM	4:00 PM	0	2	0	0	2	1	0	0	0	0	0	0	5
	4:15 PM	2	10	0	0	3	0	0	0	1	0	0	0	16
	4:30 PM	0	6	0	0	4	0	1	0	1	0	0	0	12
	4:45 PM	1	0	0	0	3	0	0	0	2	0	0	0	6
	5:00 PM	1	3	0	0	2	0	1	0	0	0	0	0	7
	5:15 PM	3	7	0	0	7	0	0	0	0	0	0	0	17
	5:30 PM	1	4	0	0	2	0	0	0	0	0	0	0	7
	5:45 PM	0	1	0	0	4	0	1	0	0	0	0	0	6
	VOLUMES	8	33	0	0	27	1	3	0	4	0	0	0	76
	APPROACH %	20%	80%	0%	0%	96%	4%	43%	0%	57%	0%	0%	0%	
	APP/DEPART	41	/	36	28	/	32	7	/	0	0	/	8	0
	BEGIN PEAK HR	5:00 PM												
	VOLUMES	4	15	0	0	15	0	2	0	0	0	0	0	37
	APPROACH %	20%	75%	0%	0%	100%	0%	100%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.500			0.536			0.500			0.000		0.544
	APP/DEPART	20	/	17	15	/	16	2	/	0	0	/	4	0

U-TURNS					RTOR			
NB	SB	EB	WB	TTL	NRR X	SRR 0	ERR 0	WRR X
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	0	0	1	0	0	3	0
					0	0	3	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	0	0
1	0	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	0	0	1	0	0	3	0
					0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	9
TUESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

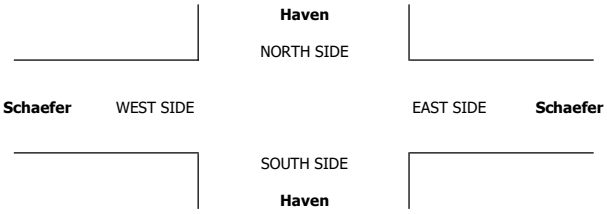
		NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Schaefer			WESTBOUND Schaefer			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	2	0	0	0	2	0	0	0	1	0	0	0	5
	7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
	8:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
	8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	VOLUMES	2	5	0	0	6	0	0	0	1	0	0	0	14
	APPROACH %	29%	71%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
	APP/DEPART	7	/	5	6	/	7	1	/	0	0	/	2	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	2	0	0	1	0	0	0	0	0	0	0	3
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.250			0.250			0.000			0.000		0.375
	APP/DEPART	2	/	2	1	/	1	0	/	0	0	/	0	0
PM	4:00 PM	0	1	0	0	0	0	0	0	1	0	0	0	2
	4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	VOLUMES	1	2	0	0	0	0	1	0	1	0	0	0	5
	APPROACH %	33%	67%	0%	0%	0%	0%	50%	0%	50%	0%	0%	0%	
	APP/DEPART	3	/	3	0	/	1	2	/	0	0	/	1	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.250			0.000			0.000			0.000		0.250
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR 0	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	9
TUESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

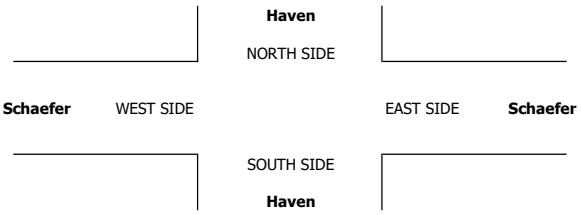
		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Schaefer)			WESTBOUND (Schaefer)			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
	7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
	8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
	8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	8:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
	VOLUMES	0	4	0	0	5	0	0	0	1	0	0	0	10
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
	APP/DEPART	4	/	4	5	/	6	1	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	2	0	0	3	0	0	0	1	0	0	0	6
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	
	PEAK HR FACTOR		0.500			0.750			0.250			0.000		0.750
	APP/DEPART	2	/	2	3	/	4	1	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	4:15 PM	1	4	0	0	0	0	0	0	0	0	0	0	5
	4:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
	4:45 PM	1	1	0	0	1	0	0	0	0	0	0	0	3
	5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	3	7	0	0	3	0	0	0	0	0	0	0	13
	APPROACH %	30%	70%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	10	/	7	3	/	4	0	/	0	0	/	2	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	2	0	0	1	0	0	0	0	0	0	0	3
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.500			0.250			0.000			0.000		0.375
	APP/DEPART	2	/	2	1	/	1	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1

RTOR

NRR X	SRR 0	ERR 0	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	9
TUESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Schaefer			WESTBOUND Schaefer			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Haven	LOCATION #:	9
TUESDAY	EAST & WEST:	Schaefer	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

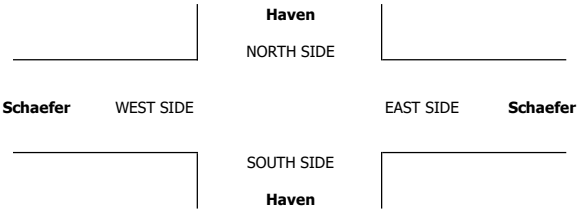
		NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Schaefer			WESTBOUND Schaefer			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 1	ET X	ER 1	WL X	WT X	WR X	TOTAL
AM	7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	2	0	0	1	1	0	0	0	0	0	0	4
	8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	8:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	1	3	0	0	4	1	0	0	0	0	0	0	9
	APPROACH %	25%	75%	0%	0%	80%	20%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	4	/	3	5	/	4	0	/	0	0	/	2	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	2	0	0	3	1	0	0	0	0	0	0	6
	APPROACH %	0%	100%	0%	0%	75%	25%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.250			0.500			0.000			0.000		0.375
	APP/DEPART	2	/	2	4	/	3	0	/	0	0	/	1	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR X	SRR 0	ERR 0	WRR X
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Apr 13, 22	LOCATION:	Ontario	PROJECT #: SC3380
	NORTH & SOUTH:	Haven	LOCATION #: 20
	EAST & WEST:	Ontario Ranch	CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Ontario Ranch			WESTBOUND Ontario Ranch			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 2	WT 4	WR 1	TOTAL
AM	7:00 AM	4	49	26	35	26	9	26	97	3	18	122	32	447
	7:15 AM	13	64	34	32	43	15	17	118	3	21	94	42	496
	7:30 AM	7	100	26	39	31	10	20	111	5	17	118	45	529
	7:45 AM	8	52	25	53	41	12	27	93	5	13	76	29	434
	8:00 AM	3	59	24	63	61	11	35	110	4	18	108	22	518
	8:15 AM	5	49	23	35	56	12	19	109	6	21	93	31	459
	8:30 AM	5	53	13	26	36	10	12	104	6	28	81	26	400
	8:45 AM	8	59	9	30	37	15	19	85	5	22	78	28	395
	VOLUMES	53	485	180	313	331	94	175	827	37	158	770	255	3,678
	APPROACH %	7%	68%	25%	42%	45%	13%	17%	80%	4%	13%	65%	22%	
	APP/DEPART	718	/	944	738	/	522	1,039	/	1,295	1,183	/	917	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	31	275	109	187	176	48	99	432	17	69	396	138	1,977
	APPROACH %	7%	66%	26%	45%	43%	12%	18%	79%	3%	11%	66%	23%	
	PEAK HR FACTOR		0.780			0.761			0.919			0.838		0.934
	APP/DEPART	415	/	532	411	/	262	548	/	709	603	/	474	0
PM	4:00 PM	5	30	18	48	49	7	27	163	8	39	114	37	545
	4:15 PM	2	43	14	35	68	8	45	181	11	42	100	53	602
	4:30 PM	8	36	21	62	70	11	37	167	8	37	107	54	618
	4:45 PM	2	32	21	38	63	9	23	186	7	48	124	45	598
	5:00 PM	2	42	16	41	74	5	35	186	8	51	119	39	618
	5:15 PM	3	47	13	49	71	17	26	176	9	60	97	50	618
	5:30 PM	6	35	14	54	91	13	34	172	11	59	144	53	686
	5:45 PM	6	52	22	48	66	11	46	151	6	46	134	46	634
	VOLUMES	34	317	139	375	552	81	273	1,382	68	382	939	377	4,919
	APPROACH %	7%	65%	28%	37%	55%	8%	16%	80%	4%	22%	55%	22%	
	APP/DEPART	490	/	980	1,008	/	996	1,723	/	1,873	1,698	/	1,070	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	17	176	65	192	302	46	141	685	34	216	494	188	2,556
	APPROACH %	7%	68%	25%	36%	56%	9%	16%	80%	4%	24%	55%	21%	
	PEAK HR FACTOR		0.806			0.854			0.939			0.877		0.931
	APP/DEPART	258	/	514	540	/	546	860	/	930	898	/	566	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	
0	2	1	3	6
0	5	0	1	6
0	4	0	0	4
1	1	0	0	2
0	10	0	0	10
0	5	1	0	6
0	0	0	2	2
1	4	0	0	5
2	31	2	6	41
0	2	2	0	4
0	2	2	0	4
1	6	2	0	9
0	2	2	1	5
0	5	0	0	5
0	3	2	2	7
0	3	4	1	8
0	7	3	3	13
1	30	17	7	55

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
16	3	1	4
9	7	2	17
13	4	3	13
10	6	2	14
15	4	3	4
14	9	3	12
8	4	4	14
4	8	1	17
89	45	19	95
47	21	10	48
8	2	1	13
6	3	4	25
6	4	4	16
12	5	3	16
9	2	1	12
9	8	5	18
6	9	5	24
8	3	3	9
64	36	26	133
32	22	14	63



		ALL PED AND BIKE				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM	7:00 AM	0	0	1	0	1
	7:15 AM	1	2	1	0	4
	7:30 AM	0	0	0	0	0
	7:45 AM	0	2	0	0	2
	8:00 AM	0	1	0	0	1
	8:15 AM	0	0	0	0	0
	8:30 AM	0	3	0	2	5
	8:45 AM	2	1	2	0	5
	TOTAL	3	9	4	2	18
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	1	0	0	1
	4:45 PM	0	0	0	0	0
	5:00 PM	1	0	0	0	1
	5:15 PM	0	3	0	4	7
	5:30 PM	0	1	0	2	3
	5:45 PM	0	1	0	2	3
	TOTAL	1	6	0	8	15

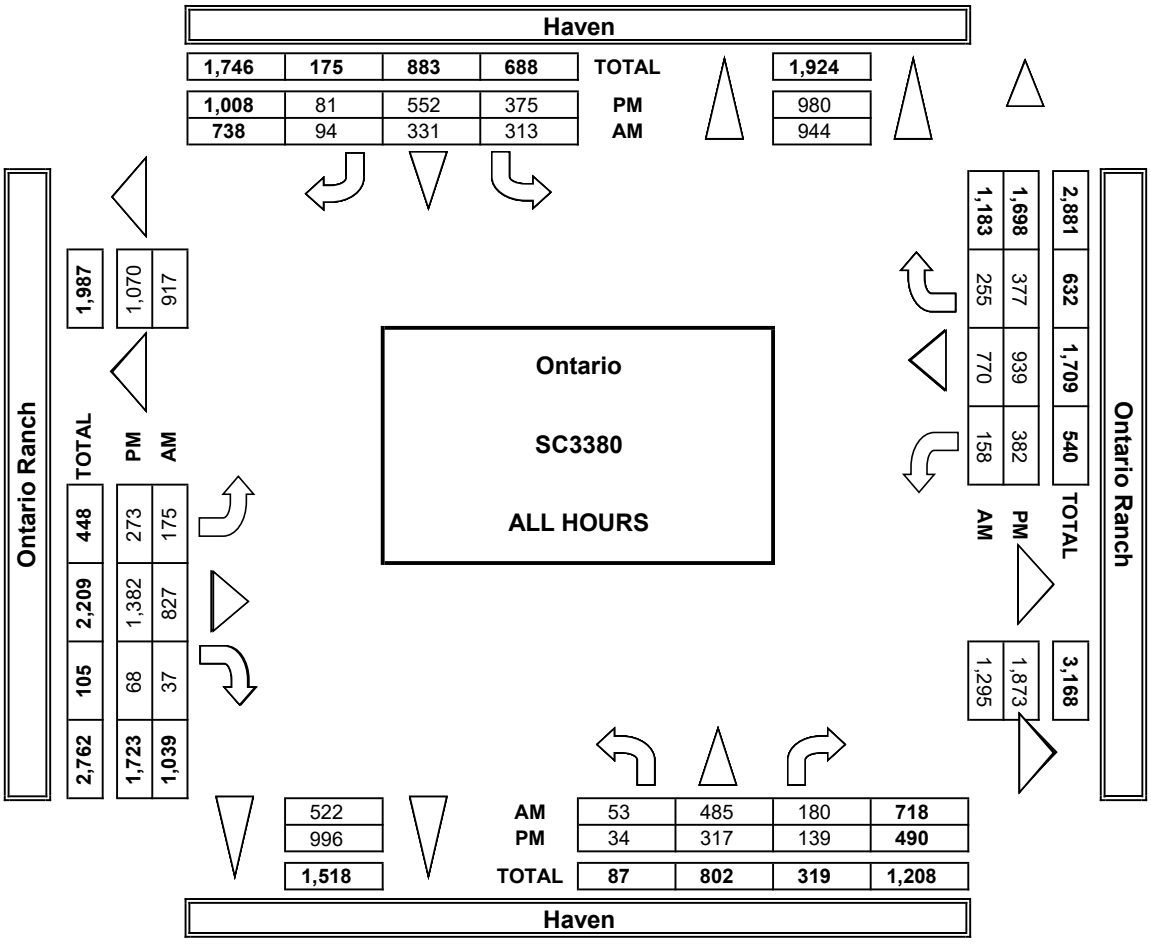
PEDESTRIAN CROSSINGS				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	0	0	0	0
1	2	1	0	4
0	0	0	0	0
0	2	0	0	2
0	1	0	0	1
0	0	0	0	0
0	2	0	1	3
2	1	2	0	5
3	8	3	1	15
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
1	0	0	0	1
0	3	0	4	7
0	1	0	2	3
0	1	0	2	3
1	6	0	8	15

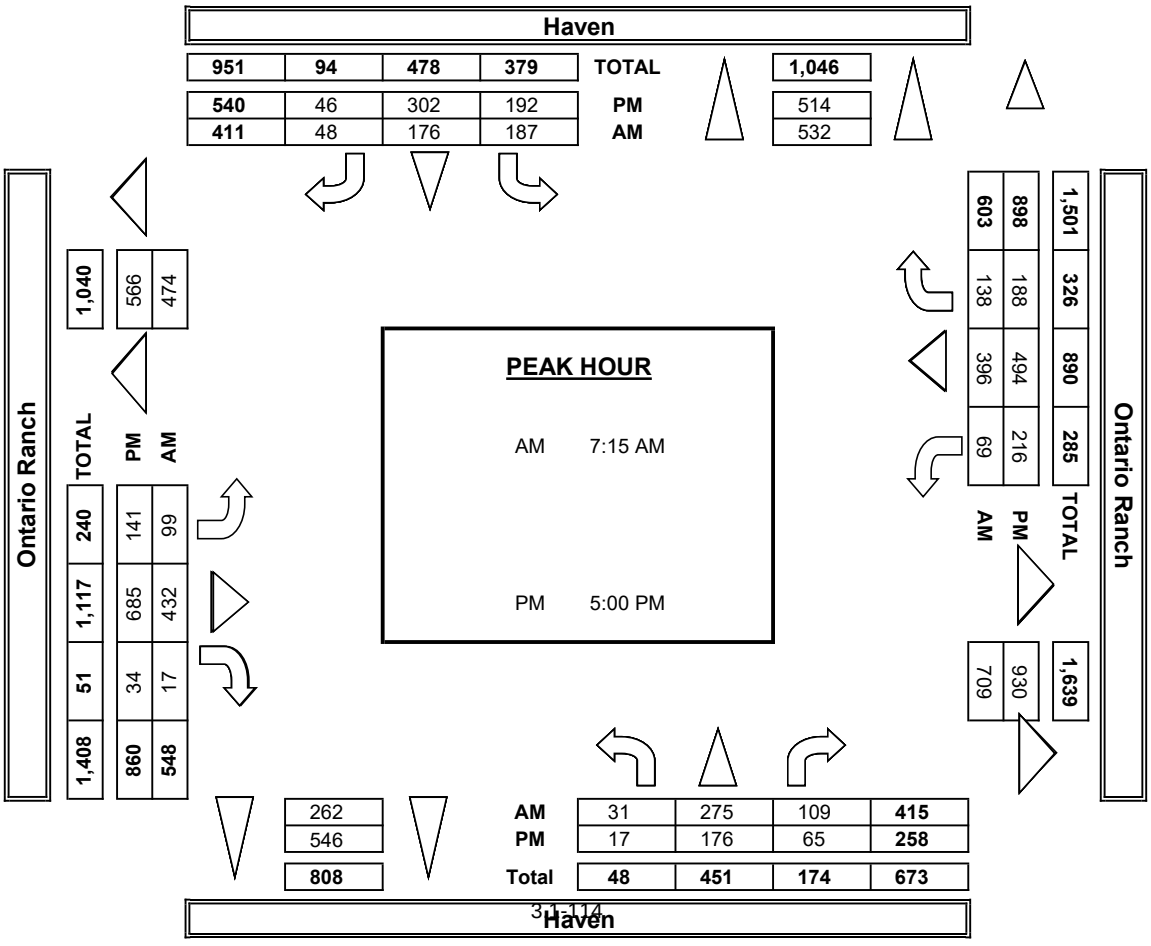
BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	1	2
0	0	0	0	0
0	1	1	1	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

2045

AimTD LLC

TURNING MOVEMENT COUNTS





2046

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	20
WEDNESDAY	EAST & WEST:	Ontario Ranch	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

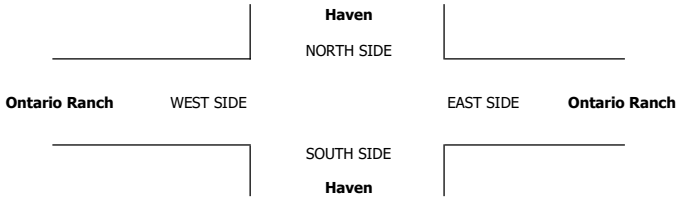
		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Ontario Ranch)			WESTBOUND (Ontario Ranch)			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 2	WT 4	WR 1	TOTAL
AM	7:00 AM	2	48	23	33	24	7	24	78	1	13	88	29	370
	7:15 AM	9	58	33	31	39	12	14	97	3	18	72	36	422
	7:30 AM	7	96	23	37	30	10	16	88	5	14	90	39	455
	7:45 AM	7	48	25	48	37	11	23	72	5	12	61	27	376
	8:00 AM	3	54	24	63	58	8	29	87	4	17	90	21	458
	8:15 AM	3	48	22	33	52	12	17	76	5	21	66	23	378
	8:30 AM	5	52	13	23	30	7	11	69	6	24	57	19	316
	8:45 AM	7	58	9	27	30	12	19	58	5	21	62	22	330
	VOLUMES	43	462	172	295	300	79	153	625	34	140	586	216	3,105
	APPROACH %	6%	68%	25%	44%	45%	12%	19%	77%	4%	15%	62%	23%	
	APP/DEPART	677	/	860	674	/	474	812	/	1,064	942	/	707	0
	BEGIN PEAK HR	**NOTES:**												
	VOLUMES	25	256	105	159	164	41	82	344	17	61	313	123	1,711
	APPROACH %	6%	66%	27%	41%	43%	11%	19%	78%	4%	12%	63%	25%	
	PEAK HR FACTOR		0.768			0.744			0.923			0.869		0.934
	APP/DEPART	387	/	481	384	/	243	443	/	608	497	/	379	0
PM	4:00 PM	3	28	15	46	49	6	23	136	8	37	84	36	471
	4:15 PM	1	42	14	34	67	6	43	153	11	41	84	50	546
	4:30 PM	8	32	19	60	67	10	35	141	8	35	93	51	559
	4:45 PM	2	30	19	37	60	9	20	172	7	46	101	43	546
	5:00 PM	2	42	15	39	72	5	33	164	8	50	95	39	564
	5:15 PM	3	45	13	47	69	17	24	161	9	55	81	49	573
	5:30 PM	5	34	12	52	90	12	33	146	10	57	125	50	626
	5:45 PM	6	50	19	47	65	11	44	136	6	45	116	42	587
	VOLUMES	30	303	126	362	539	76	255	1,209	67	366	779	360	4,472
	APPROACH %	7%	66%	27%	37%	55%	8%	17%	79%	4%	24%	52%	24%	
	APP/DEPART	459	/	939	977	/	969	1,531	/	1,671	1,505	/	893	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	16	171	59	167	296	45	129	607	33	204	417	180	2,350
	APPROACH %	7%	70%	24%	32%	56%	9%	17%	78%	4%	25%	52%	22%	
	PEAK HR FACTOR		0.820			0.854			0.944			0.866		0.938
	APP/DEPART	246	/	498	526	/	533	774	/	836	804	/	483	0

U-TURNS

NB	SB	EB	WB	TTL
0	2	0	1	3
0	5	0	0	5
0	4	0	0	4
1	1	0	0	2
0	10	0	0	10
0	4	1	0	5
0	0	0	1	1
1	4	0	0	5
2	30	1	2	35
0	2	0	0	2
0	2	1	0	3
1	6	1	0	8
0	2	2	1	5
0	5	0	0	5
0	3	0	0	3
0	3	3	1	7
0	7	2	2	11
1	30	9	4	44

RTOR

NRR 0	SRR 0	ERR 0	WRR 0
14	2	0	3
9	4	2	16
12	4	3	11
10	6	2	14
15	3	3	4
13	9	3	10
8	3	4	10
4	5	1	13
85	36	18	81
46	17	10	45
6	1	1	13
6	2	4	23
6	4	4	16
12	5	3	15
9	2	1	12
9	8	5	18
5	8	5	23
6	3	3	8
59	33	26	128
29	21	14	61



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	20
WEDNESDAY	EAST & WEST:	Ontario Ranch	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

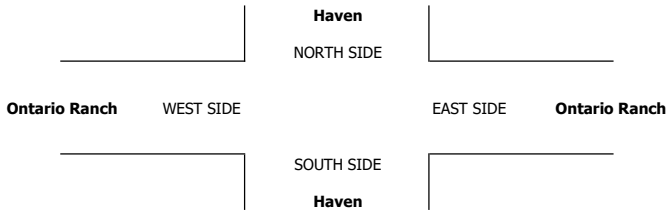
		NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Ontario Ranch			WESTBOUND Ontario Ranch			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 2	WT 4	WR 1	TOTAL
AM	7:00 AM	1	1	3	2	2	0	1	4	1	2	10	1	28
	7:15 AM	1	6	1	0	2	1	3	5	0	2	4	4	29
	7:30 AM	0	3	1	1	1	0	3	5	0	3	6	4	27
	7:45 AM	1	3	0	4	4	0	3	6	0	0	5	0	26
	8:00 AM	0	4	0	0	3	3	2	9	0	1	4	0	26
	8:15 AM	2	0	1	2	2	0	2	12	1	0	7	5	34
	8:30 AM	0	0	0	0	5	2	1	10	0	1	3	6	28
	8:45 AM	0	1	0	2	7	3	0	7	0	1	5	3	29
	VOLUMES	5	18	6	11	26	9	15	58	2	10	44	23	227
	APPROACH %	17%	62%	21%	24%	57%	20%	20%	77%	3%	13%	57%	30%	
	APP/DEPART	29	/	57	46	/	37	75	/	75	77	/	58	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	2	16	2	5	10	4	11	25	0	6	19	8	108
	APPROACH %	10%	80%	10%	26%	53%	21%	31%	69%	0%	18%	58%	24%	
	PEAK HR FACTOR		0.625			0.594			0.818			0.635		0.931
	APP/DEPART	20	/	35	19	/	16	36	/	32	33	/	25	0
PM	4:00 PM	1	2	2	1	0	1	2	7	0	1	8	1	26
	4:15 PM	0	1	0	1	1	2	1	12	0	1	5	3	27
	4:30 PM	0	3	2	2	2	1	1	10	0	2	2	3	28
	4:45 PM	0	1	1	1	3	0	2	5	0	2	7	2	24
	5:00 PM	0	0	1	2	1	0	1	6	0	1	7	0	19
	5:15 PM	0	2	0	1	2	0	0	8	0	2	4	1	20
	5:30 PM	1	0	2	2	1	1	0	6	1	2	6	3	25
	5:45 PM	0	2	3	1	1	0	1	6	0	0	2	4	20
	VOLUMES	2	11	11	11	11	5	8	60	1	11	41	17	189
	APPROACH %	8%	46%	46%	41%	41%	19%	12%	87%	1%	16%	59%	25%	
	APP/DEPART	24	/	36	27	/	23	69	/	82	69	/	48	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	1	4	6	6	5	1	2	26	1	5	19	8	84
	APPROACH %	9%	36%	55%	50%	42%	8%	7%	90%	3%	16%	59%	25%	
	PEAK HR FACTOR		0.550			0.750			0.906			0.727		0.840
	APP/DEPART	11	/	14	12	/	11	29	/	38	32	/	21	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	1	1
0	0	0	0	0
0	1	0	1	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
2	0	1	1
0	1	0	1
0	0	0	2
0	0	0	0
0	1	0	0
1	0	0	0
0	1	0	3
0	3	0	2
3	6	1	9
0	2	0	3
2	1	0	0
0	1	0	2
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
1	1	0	1
2	0	0	1
5	3	0	5
3	1	0	2



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	20
WEDNESDAY	EAST & WEST:	Ontario Ranch	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

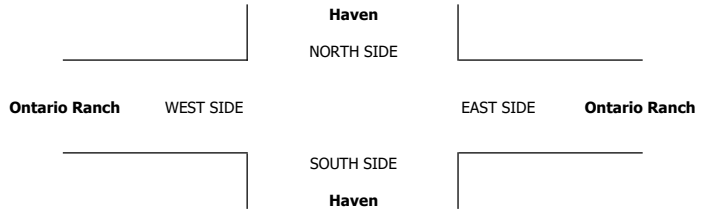
		NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Ontario Ranch			WESTBOUND Ontario Ranch			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 2	WT 4	WR 1	TOTAL
AM	7:00 AM	0	0	0	0	0	1	0	2	0	1	8	1	13
	7:15 AM	2	0	0	1	1	1	0	5	0	0	8	1	19
	7:30 AM	0	1	1	0	0	0	0	6	0	0	6	2	16
	7:45 AM	0	0	0	0	0	1	0	1	0	0	2	1	5
	8:00 AM	0	0	0	0	0	0	0	5	0	0	6	1	12
	8:15 AM	0	1	0	0	1	0	0	11	0	0	5	3	21
	8:30 AM	0	1	0	2	1	0	0	16	0	0	3	1	24
	8:45 AM	0	0	0	0	0	0	0	10	0	0	5	3	18
	VOLUMES	2	3	1	3	3	3	0	56	0	1	43	13	128
	APPROACH %	33%	50%	17%	33%	33%	33%	0%	100%	0%	2%	75%	23%	
	APP/DEPART	6	/	16	9	/	4	56	/	60	57	/	48	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	2	1	1	1	1	2	0	17	0	0	22	5	52
	APPROACH %	50%	25%	25%	25%	25%	50%	0%	100%	0%	0%	81%	19%	
	PEAK HR FACTOR		0.500			0.333			0.708			0.750		0.684
	APP/DEPART	4	/	6	4	/	1	17	/	19	27	/	26	0
PM	4:00 PM	1	0	0	0	0	0	0	4	0	0	2	0	7
	4:15 PM	0	0	0	0	0	0	0	5	0	0	2	0	7
	4:30 PM	0	0	0	0	1	0	0	5	0	0	3	0	9
	4:45 PM	0	1	0	0	0	0	0	2	0	0	5	0	8
	5:00 PM	0	0	0	0	1	0	1	5	0	0	2	0	9
	5:15 PM	0	0	0	1	0	0	0	3	0	0	1	0	5
	5:30 PM	0	1	0	0	0	0	0	4	0	0	2	0	7
	5:45 PM	0	0	0	0	0	0	0	3	0	1	4	0	8
	VOLUMES	1	2	0	1	2	0	1	31	0	1	21	0	60
	APPROACH %	33%	67%	0%	33%	67%	0%	3%	97%	0%	5%	95%	0%	
	APP/DEPART	3	/	3	3	/	2	32	/	33	22	/	22	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	1	0	1	1	0	1	15	0	0	9	0	29
	APPROACH %	0%	100%	0%	50%	50%	0%	6%	94%	0%	0%	90%	0%	
	PEAK HR FACTOR		0.250			0.500			0.667			0.500		0.806
	APP/DEPART	1	/	2	2	/	1	16	/	17	10	/	9	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1

RTOR

NRR	SRR	ERR	WRR
0	1	0	0
0	1	0	0
1	0	0	0
0	0	0	0
0	0	0	0
0	0	0	2
0	0	0	1
0	0	0	2
1	2	0	5
1	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	20
WEDNESDAY	EAST & WEST:	Ontario Ranch	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

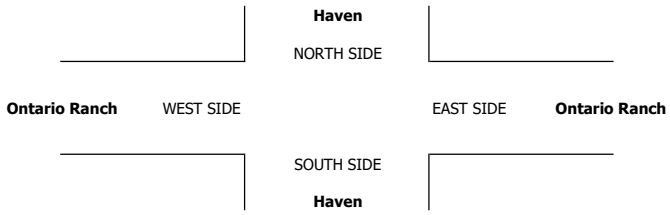
		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Ontario Ranch)			WESTBOUND (Ontario Ranch)			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 2	WT 4	WR 1	TOTAL
AM	7:00 AM	1	0	0	0	0	0	0	13	1	0	16	1	32
	7:15 AM	1	0	0	0	1	0	0	11	0	0	10	1	24
	7:30 AM	0	0	1	1	0	0	1	12	0	0	16	0	31
	7:45 AM	0	1	0	1	0	0	1	13	0	1	8	1	26
	8:00 AM	0	1	0	0	0	0	2	9	0	0	8	0	20
	8:15 AM	0	0	0	0	1	0	0	10	0	0	15	0	26
	8:30 AM	0	0	0	1	0	1	0	8	0	3	18	0	31
	8:45 AM	1	0	0	1	0	0	0	10	0	0	5	0	17
	VOLUMES	3	2	1	4	2	1	4	86	1	4	96	3	207
	APPROACH %	50%	33%	17%	57%	29%	14%	4%	95%	1%	4%	93%	3%	
	APP/DEPART	6	/	9	7	/	7	91	/	91	103	/	100	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	1	2	1	2	1	0	4	45	0	1	42	2	101
	APPROACH %	25%	50%	25%	67%	33%	0%	8%	92%	0%	2%	93%	4%	
	PEAK HR FACTOR		1.000			0.750			0.875			0.703		0.815
	APP/DEPART	4	/	8	3	/	2	49	/	48	45	/	43	0
PM	4:00 PM	0	0	1	1	0	0	0	16	0	1	20	0	39
	4:15 PM	1	0	0	0	0	0	0	10	0	0	9	0	20
	4:30 PM	0	1	0	0	0	0	0	11	0	0	9	0	21
	4:45 PM	0	0	1	0	0	0	1	7	0	0	10	0	19
	5:00 PM	0	0	0	0	0	0	0	11	0	0	15	0	26
	5:15 PM	0	0	0	0	0	0	0	4	0	1	11	0	16
	5:30 PM	0	0	0	0	0	0	0	16	0	0	11	0	27
	5:45 PM	0	0	0	0	0	0	1	6	0	0	12	0	19
	VOLUMES	1	1	2	1	0	0	2	81	0	2	97	0	187
	APPROACH %	25%	25%	50%	100%	0%	0%	2%	98%	0%	2%	98%	0%	
	APP/DEPART	4	/	2	1	/	2	83	/	84	99	/	99	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	37	0	1	49	0	88
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	97%	0%	2%	98%	0%	
	PEAK HR FACTOR		0.000			0.000			0.594			0.833		0.815
	APP/DEPART	0	/	0	0	/	1	38	/	37	50	/	50	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	20
WEDNESDAY	EAST & WEST:	Ontario Ranch	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

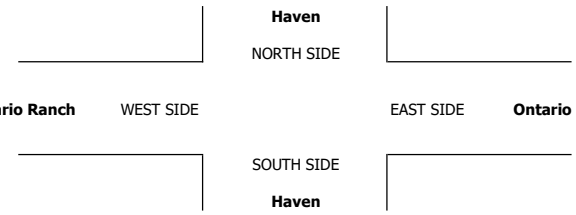
		NORTHBOUND (Haven)			SOUTHBOUND (Haven)			EASTBOUND (Ontario Ranch)			WESTBOUND (Ontario Ranch)			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 2	WT 4	WR 1	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
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0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3380
4/13/22	NORTH & SOUTH:	Haven	LOCATION #:	20
WEDNESDAY	EAST & WEST:	Ontario Ranch	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

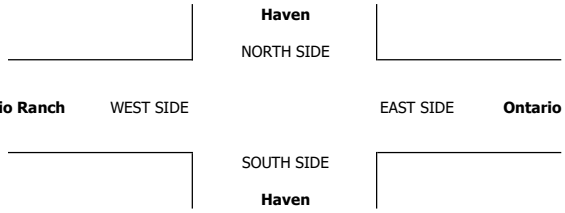
		NORTHBOUND Haven			SOUTHBOUND Haven			EASTBOUND Ontario Ranch			WESTBOUND Ontario Ranch			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 3	ER 1	WL 2	WT 4	WR 1	TOTAL
AM	7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
	7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	2
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	VOLUMES	0	0	0	0	0	2	2	2	0	0	1	0	7
	APPROACH %	0%	0%	0%	0%	0%	100%	50%	50%	0%	0%	100%	0%	
	APP/DEPART	0	/	2	2	/	0	4	/	2	1	/	3	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	0	0	1	2	1	0	0	0	0	4
	APPROACH %	0%	0%	0%	0%	0%	100%	67%	33%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.250			0.375			0.000		0.500
	APP/DEPART	0	/	2	1	/	0	3	/	1	0	/	1	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	1	0	0	1	0	2
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	1	/	1	1	/	1	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



2052

INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22	LOCATION:	Ontario	PROJECT #: SC3418
	NORTH & SOUTH:	Mill Creek	LOCATION #: 11
	EAST & WEST:	Riverside	CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

	NORTHBOUND Mill Creek			SOUTHBOUND Mill Creek			EASTBOUND Riverside			WESTBOUND Riverside			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
7:00 AM	16	1	4	8	4	12	2	20	11	7	59	9	153
7:15 AM	48	16	8	18	27	9	24	22	47	21	50	29	319
7:30 AM	41	10	6	16	13	18	54	38	38	6	66	20	326
7:45 AM	29	9	13	40	23	31	65	34	51	14	39	47	395
8:00 AM	52	15	24	18	43	13	86	35	69	34	33	11	433
8:15 AM	66	41	28	8	76	7	92	54	73	44	39	11	539
8:30 AM	56	32	13	5	23	12	46	31	25	16	41	5	305
8:45 AM	10	0	2	11	3	5	9	30	13	1	24	12	120
VOLUMES	318	124	98	124	212	107	378	264	327	143	351	144	2,590
APPROACH %	59%	23%	18%	28%	48%	24%	39%	27%	34%	22%	55%	23%	
APP/DEPART	540	/ 374		443	/ 684		969	/ 486		638	/ 1,046		0
BEGIN PEAK HR		7:30 AM											
VOLUMES	188	75	71	82	155	69	297	161	231	98	177	89	1,693
APPROACH %	56%	22%	21%	27%	51%	23%	43%	23%	34%	27%	49%	24%	
PEAK HR FACTOR		0.619			0.814			0.787			0.910		0.785
APP/DEPART	334	/ 246		306	/ 486		689	/ 314		364	/ 647		0
4:00 PM	26	9	10	9	0	12	29	71	25	9	48	17	265
4:15 PM	12	2	2	9	1	8	31	82	18	2	54	22	243
4:30 PM	13	5	4	11	2	16	16	64	18	4	59	23	235
4:45 PM	9	2	1	11	2	12	23	77	13	3	51	20	224
5:00 PM	15	10	4	13	7	12	29	52	24	3	71	30	270
5:15 PM	19	5	11	21	1	9	21	78	20	3	59	29	276
5:30 PM	13	2	3	15	4	11	19	69	22	4	68	24	254
5:45 PM	11	1	3	8	2	11	18	53	32	3	65	28	235
VOLUMES	118	36	38	97	19	91	186	546	172	31	475	193	2,002
APPROACH %	61%	19%	20%	47%	9%	44%	21%	60%	19%	4%	68%	28%	
APP/DEPART	192	/ 353		207	/ 222		904	/ 681		699	/ 746		0
BEGIN PEAK HR		5:00 PM											
VOLUMES	58	18	21	57	14	43	87	252	98	13	263	111	1,035
APPROACH %	60%	19%	22%	50%	12%	38%	20%	58%	22%	3%	68%	29%	
PEAK HR FACTOR		0.693			0.891			0.918			0.930		0.938
APP/DEPART	97	/ 192		114	/ 125		437	/ 330		387	/ 388		0

U-TURNS

	NB 0	SB 0	EB 0	WB 0	TTL
7:00 AM	0	0	2	0	2
7:15 AM	0	0	13	0	13
7:30 AM	0	0	34	0	34
7:45 AM	0	0	30	0	30
8:00 AM	2	0	74	0	76
8:15 AM	0	0	77	0	77
8:30 AM	0	0	36	0	36
8:45 AM	0	0	6	0	6
	2	0	272	0	274
4:00 PM	0	0	16	0	16
4:15 PM	0	0	11	0	11
4:30 PM	0	0	4	0	4
4:45 PM	0	0	7	0	7
5:00 PM	0	0	5	0	5
5:15 PM	0	0	8	0	8
5:30 PM	0	0	6	0	6
5:45 PM	0	0	5	0	5
	0	0	62	0	62

RTOR

	NRR 0	SRR 0	ERR 0	WRR 0
7:00 AM	1	3	5	2
7:15 AM	2	2	19	11
7:30 AM	5	5	11	6
7:45 AM	5	5	13	10
8:00 AM	13	3	16	1
8:15 AM	13	0	21	6
8:30 AM	8	3	4	1
8:45 AM	1	2	1	3
	48	23	90	40
	36	13	61	23
4:00 PM	3	6	7	6
4:15 PM	2	3	6	7
4:30 PM	1	9	2	3
4:45 PM	0	9	1	3
5:00 PM	1	4	2	5
5:15 PM	6	2	6	12
5:30 PM	3	7	4	8
5:45 PM	2	6	7	2
	18	46	35	46
	12	19	19	27

Mill Creek

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Mill Creek

ALL PED AND BIKE

	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	1	3	1	1	6
7:15 AM	0	2	0	0	2
7:30 AM	0	10	1	0	11
7:45 AM	2	12	1	0	15
8:00 AM	1	13	1	1	16
8:15 AM	1	40	3	6	50
8:30 AM	0	9	1	0	10
8:45 AM	0	8	0	0	8
TOTAL	5	97	8	8	118
4:00 PM	0	2	0	0	2
4:15 PM	4	2	0	0	6
4:30 PM	4	2	1	0	7
4:45 PM	0	1	0	0	1
5:00 PM	0	1	0	0	1
5:15 PM	0	4	2	0	6
5:30 PM	0	0	1	0	1
5:45 PM	1	3	0	0	4
TOTAL	9	15	4	0	28

PEDESTRIAN CROSSINGS

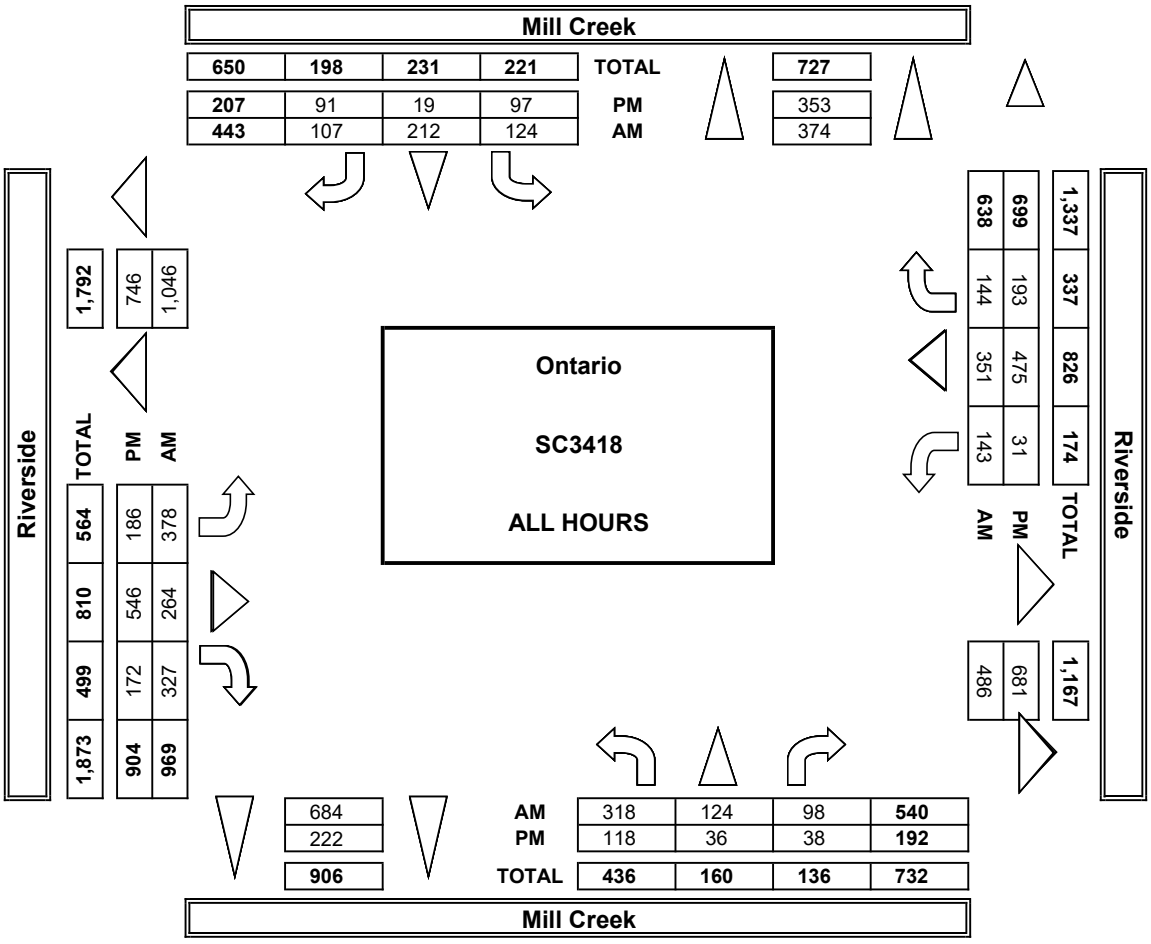
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	1	3	1	1	6
7:15 AM	0	2	0	0	2
7:30 AM	0	10	1	0	11
7:45 AM	2	11	1	0	14
8:00 AM	1	13	1	1	16
8:15 AM	1	39	3	6	49
8:30 AM	0	8	0	0	8
8:45 AM	0	6	0	0	6
	5	92	7	8	112
4:00 PM	0	2	0	0	2
4:15 PM	4	1	0	0	5
4:30 PM	4	2	1	0	7
4:45 PM	0	1	0	0	1
5:00 PM	0	1	0	0	1
5:15 PM	0	3	2	0	5
5:30 PM	0	0	1	0	1
5:45 PM	1	2	0	0	3
	9	12	4	0	25

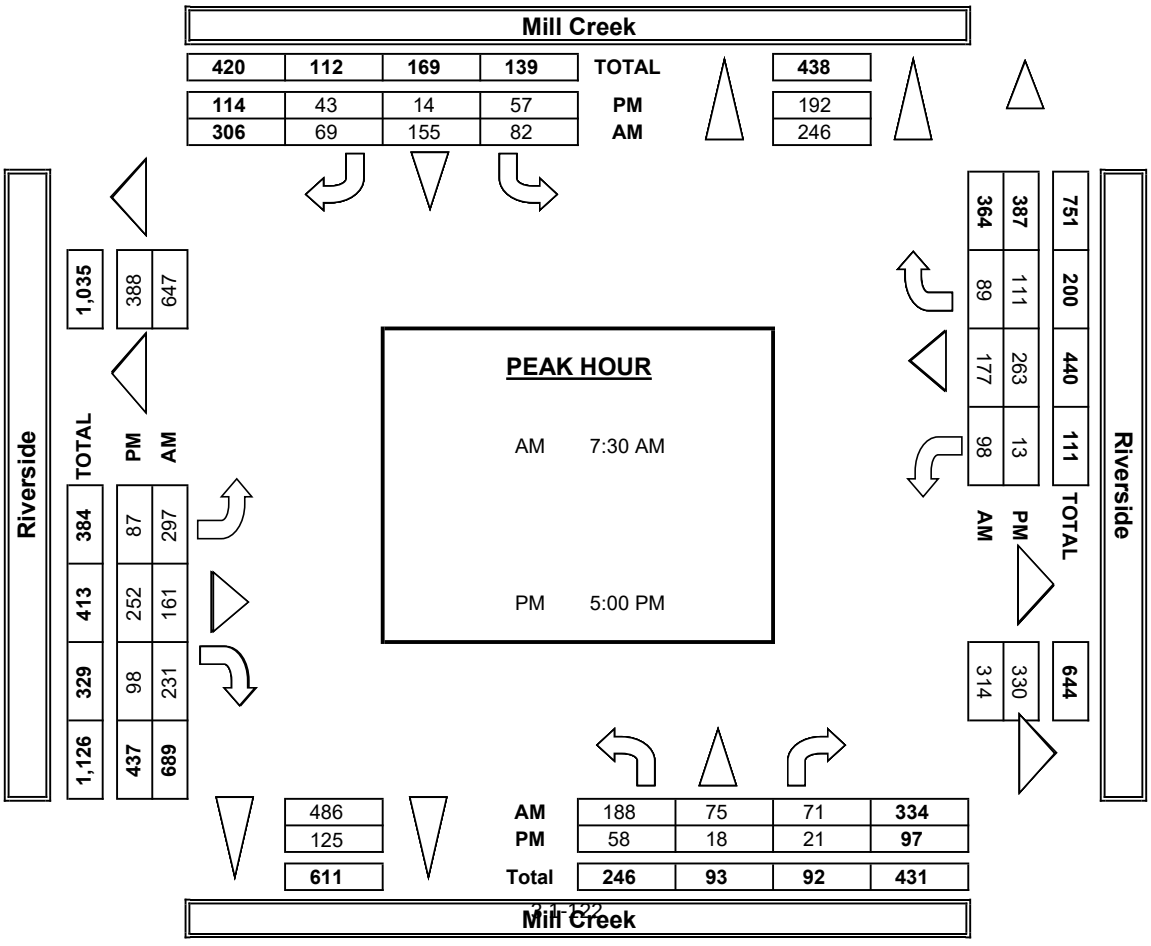
BICYCLE CROSSINGS

	ES	WS	SS	NS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	1	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	1	0	0	1
8:30 AM	0	1	1	0	2
8:45 AM	0	2	0	0	2
	0	5	1	0	6
4:00 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1
	0	3	0	0	3

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Mill Creek	LOCATION #:	11
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

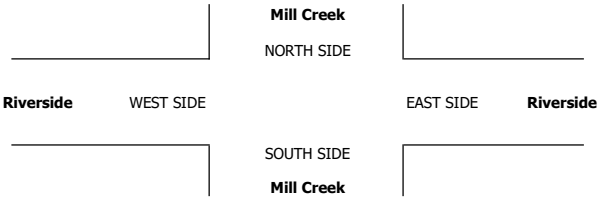
	NORTHBOUND (Mill Creek)			SOUTHBOUND (Mill Creek)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
7:00 AM	16	1	4	8	4	12	2	18	11	7	52	9	144
7:15 AM	48	16	8	18	27	7	16	21	47	21	46	29	304
7:30 AM	41	10	6	16	13	17	49	34	36	6	58	20	306
7:45 AM	27	9	12	40	23	30	57	33	50	13	36	46	376
8:00 AM	49	15	24	18	43	12	66	33	69	34	29	11	403
8:15 AM	64	41	28	7	76	7	66	50	72	44	36	11	502
8:30 AM	56	32	13	5	23	12	38	27	24	16	38	5	289
8:45 AM	10	0	2	11	3	5	9	26	12	1	22	10	111
AM VOLUMES	311	124	97	123	212	102	303	242	321	142	317	141	2,435
AM APPROACH %	58%	23%	18%	28%	49%	23%	35%	28%	37%	24%	53%	24%	
AM APP/DEPART	532	/	367	437	/	677	866	/	462	600	/	929	0
BEGIN PEAK HR		7:30 AM											
AM VOLUMES	179	75	70	81	155	66	80	150	227	97	159	88	1,587
AM APPROACH %	55%	23%	21%	27%	51%	22%	13%	24%	37%	28%	46%	26%	
AM PEAK HR FACTOR		0.613			0.812			0.818			0.905		0.790
AM APP/DEPART	326	/	243	302	/	481	615	/	301	344	/	562	0
4:00 PM	25	8	10	8	0	12	23	68	25	8	45	17	249
4:15 PM	12	2	2	9	1	7	29	75	18	2	54	20	231
4:30 PM	13	5	4	11	2	15	15	56	18	4	54	23	220
4:45 PM	9	2	1	10	2	12	23	75	13	3	50	20	220
5:00 PM	15	10	4	13	7	12	25	49	24	3	70	29	261
5:15 PM	19	5	11	20	1	9	21	73	20	3	59	29	270
5:30 PM	13	2	3	15	4	10	19	68	22	4	65	23	248
5:45 PM	11	1	3	8	2	10	18	50	30	3	63	27	226
PM VOLUMES	117	35	38	94	19	87	173	514	170	30	460	188	1,925
PM APPROACH %	62%	18%	20%	47%	10%	44%	20%	60%	20%	4%	68%	28%	
PM APP/DEPART	190	/	344	200	/	219	857	/	646	678	/	716	0
BEGIN PEAK HR		5:00 PM											
PM VOLUMES	58	18	21	56	14	41	61	240	96	13	257	108	1,005
PM APPROACH %	60%	19%	22%	50%	13%	37%	15%	57%	23%	3%	68%	29%	
PM PEAK HR FACTOR		0.693			0.867			0.919			0.926		0.931
PM APP/DEPART	97	/	187	111	/	123	419	/	317	378	/	378	0

U-TURNS

	NB	SB	EB	WB	TTL
AM	2	0	201	0	203
PM	0	0	52	0	52

RTOR

	NRR 0	SRR 0	ERR 0	WRR 0
AM	48	22	90	39
AM PEAK HR	36	12	61	22
PM	18	44	34	46
PM PEAK HR	12	18	18	27



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Mill Creek	LOCATION #:	11
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Mill Creek			SOUTHBOUND Mill Creek			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	5
	7:15 AM	0	0	0	0	0	1	1	0	0	0	4	0	6
	7:30 AM	0	0	0	0	0	0	0	2	1	0	3	0	6
	7:45 AM	1	0	0	0	0	1	0	1	1	1	2	0	7
	8:00 AM	0	0	0	0	0	0	1	1	0	0	3	0	5
	8:15 AM	0	0	0	1	0	0	0	1	1	0	2	0	5
	8:30 AM	0	0	0	0	0	0	0	2	1	0	3	0	6
	8:45 AM	0	0	0	0	0	0	0	4	1	0	1	2	8
	VOLUMES	1	0	0	1	0	2	2	11	5	1	23	2	48
	APPROACH %	100%	0%	0%	33%	0%	67%	11%	61%	28%	4%	88%	8%	
	APP/DEPART	1	/	3	3	/	6	18	/	12	26	/	27	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	1	0	0	1	0	1	0	5	3	1	10	0	23
	APPROACH %	100%	0%	0%	50%	0%	50%	0%	56%	33%	9%	91%	0%	
	PEAK HR FACTOR		0.250			0.500			0.750			0.917		0.821
	APP/DEPART	1	/	0	2	/	4	9	/	6	11	/	13	0
PM	4:00 PM	1	1	0	1	0	0	1	1	0	1	2	0	8
	4:15 PM	0	0	0	0	0	1	1	6	0	0	0	2	10
	4:30 PM	0	0	0	0	0	1	0	5	0	0	4	0	10
	4:45 PM	0	0	0	1	0	0	0	1	0	0	0	0	2
	5:00 PM	0	0	0	0	0	0	2	3	0	0	1	1	7
	5:15 PM	0	0	0	1	0	0	0	4	0	0	0	0	5
	5:30 PM	0	0	0	0	0	1	0	1	0	0	1	1	4
	5:45 PM	0	0	0	0	0	1	0	2	1	0	1	1	6
	VOLUMES	1	1	0	3	0	4	4	23	1	1	9	5	52
	APPROACH %	50%	50%	0%	43%	0%	57%	14%	82%	4%	7%	60%	33%	
	APP/DEPART	2	/	8	7	/	2	28	/	26	15	/	16	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	1	0	2	1	10	1	0	3	3	22
	APPROACH %	0%	0%	0%	33%	0%	67%	8%	77%	8%	0%	50%	50%	
	PEAK HR FACTOR		0.000			0.750			0.650			0.750		0.786
	APP/DEPART	0	/	4	3	/	1	13	/	11	6	/	6	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	2	0	2

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	2	0	0

0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	2	0	0

0	1	0	0

Mill Creek

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Mill Creek

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Mill Creek	LOCATION #:	11
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Mill Creek)			SOUTHBOUND (Mill Creek)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	2
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	2	0	0	3	1	6
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	75%	25%	
	APP/DEPART	0	/	1	0	/	0	2	/	2	4	/	3	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	0	0	0	0	0	0	0	1	0	0	2	1	4
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	67%	33%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.375		0.500
	APP/DEPART	0	/	1	0	/	0	1	/	1	3	/	2	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
	VOLUMES	0	0	0	0	0	0	0	1	1	0	3	0	5
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	50%	50%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	1	2	/	1	3	/	3	0
	BEGIN PEAK HR	5:00 PM												
	VOLUMES	0	0	0	0	0	0	0	1	1	0	1	0	3
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	50%	50%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.000			0.500			0.250		0.750
	APP/DEPART	0	/	0	0	/	1	2	/	1	1	/	1	0

U-TURNS					
	NB	SB	EB	WB	TTL
AM	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
PM	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	1	0

Mill Creek

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Mill Creek

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Mill Creek	LOCATION #:	11
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

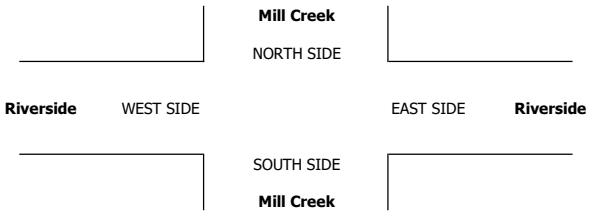
		NORTHBOUND Mill Creek			SOUTHBOUND Mill Creek			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
	7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	1	1	0	3	0	5
	7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
	8:00 AM	1	0	0	0	0	0	0	1	0	0	1	0	3
	8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	8:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
	8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	VOLUMES	1	0	1	0	0	0	0	6	1	0	7	0	16
	APPROACH %	50%	0%	50%	0%	0%	0%	0%	86%	14%	0%	100%	0%	
	APP/DEPART	2	/	0	0	/	1	7	/	7	7	/	8	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	1	0	1	0	0	0	0	2	1	0	5	0	10
	APPROACH %	50%	0%	50%	0%	0%	0%	0%	67%	33%	0%	100%	0%	
	PEAK HR FACTOR		0.500			0.000			0.375			0.417		0.500
	APP/DEPART	2	/	0	0	/	1	3	/	3	5	/	6	0
PM	4:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
	4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
	4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	5:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	VOLUMES	0	0	0	0	0	0	0	7	0	0	3	0	10
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	APP/DEPART	0	/	0	0	/	0	7	/	7	3	/	3	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	1	0	0	2	0	3
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.500		0.375
	APP/DEPART	0	/	0	0	/	0	1	/	1	2	/	2	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Mill Creek	LOCATION #:	11
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

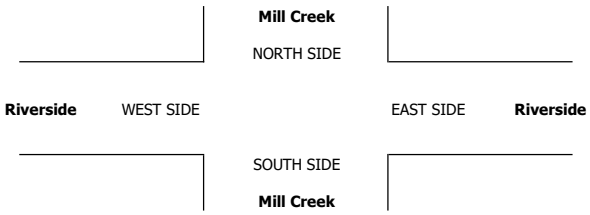
		NORTHBOUND Mill Creek			SOUTHBOUND Mill Creek			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Mill Creek	LOCATION #:	11
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Mill Creek)			SOUTHBOUND (Mill Creek)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	1	1	1	0	0	1	0	4
	7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
	8:00 AM	2	0	0	0	0	1	0	0	0	0	0	0	3
	8:15 AM	2	0	0	0	0	0	1	2	0	0	0	0	5
	8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	5	0	0	0	0	3	3	3	0	0	1	0	15
	APPROACH %	100%	0%	0%	0%	0%	100%	50%	50%	0%	0%	100%	0%	
	APP/DEPART	5	/	3	3	/	0	6	/	3	1	/	9	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	5	0	0	0	0	2	2	3	0	0	1	0	13
	APPROACH %	100%	0%	0%	0%	0%	100%	40%	60%	0%	0%	100%	0%	
	PEAK HR FACTOR		0.625			0.500			0.417			0.250		0.650
	APP/DEPART	5	/	2	2	/	0	5	/	3	1	/	8	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	1	0	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	1	0	/	0	1	/	0	0	/	0	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	0	0	0	1	0	0	0	0	0	1
	APPROACH %	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.000		0.250
	APP/DEPART	0	/	1	0	/	0	1	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	1	0	0
0	1	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Mill Creek

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Mill Creek

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue
Weather: Clear

File Name : 03_ONT_MC_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

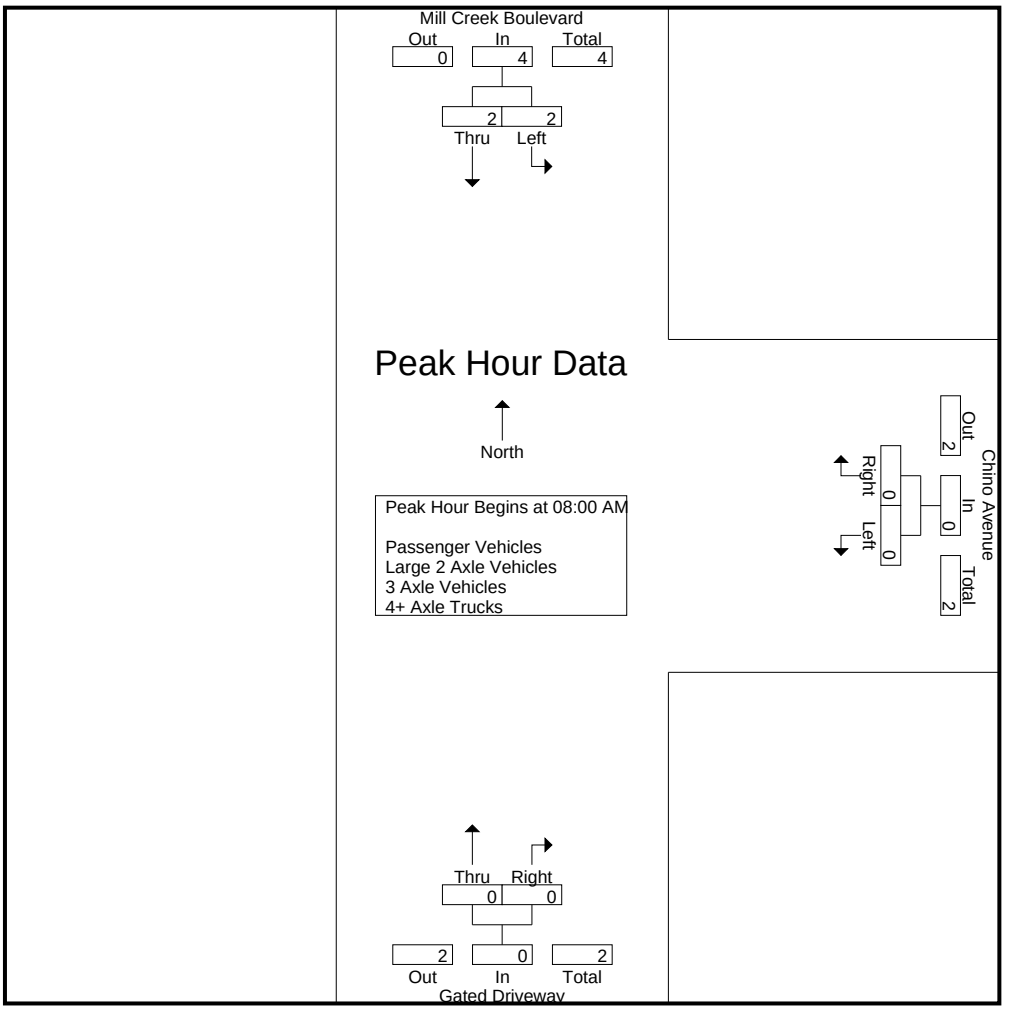
	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	1	0	0	0	1	0	1	2
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	1	1	2	0	0	0	1	0	1	3
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	1	0	0	0	0	0	0	1
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	1	1	2	0	0	0	0	0	0	2
Total	2	2	4	0	0	0	0	0	0	4
Grand Total	3	3	6	0	0	0	1	0	1	7
Apprch %	50	50		0	0		100	0		
Total %	42.9	42.9	85.7	0	0	0	14.3	0	14.3	
Passenger Vehicles	2	2	4	0	0	0	1	0	1	5
% Passenger Vehicles	66.7	66.7	66.7	0	0	0	100	0	100	71.4
Large 2 Axle Vehicles	1	1	2	0	0	0	0	0	0	2
% Large 2 Axle Vehicles	33.3	33.3	33.3	0	0	0	0	0	0	28.6
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	**1**	0	1	0	0	0	0	0	0	1
08:30 AM	0	**1**	1	0	0	0	0	0	0	1
08:45 AM	1	1	**2**	0	0	0	0	0	0	**2**
Total Volume	2	2	4	0	0	0	0	0	0	4
% App. Total	50	50		0	0		0	0		
PHF	.500	.500	.500	.000	.000	.000	.000	.000	.000	.500

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File Name : 03_ONT_MC_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	**1**	0	1	0	0	0	0	0	0
+30 mins.	0	**1**	1	0	0	0	0	0	0
+45 mins.	1	1	**2**	0	0	0	0	0	0
Total Volume	2	2	4	0	0	0	1	0	1
% App. Total	50	50		0	0		100	0	
PHF	.500	.500	.500	.000	.000	.000	.250	.000	.250

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City of Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue
Weather: Clear

File Name : 03_ONT_MC_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles

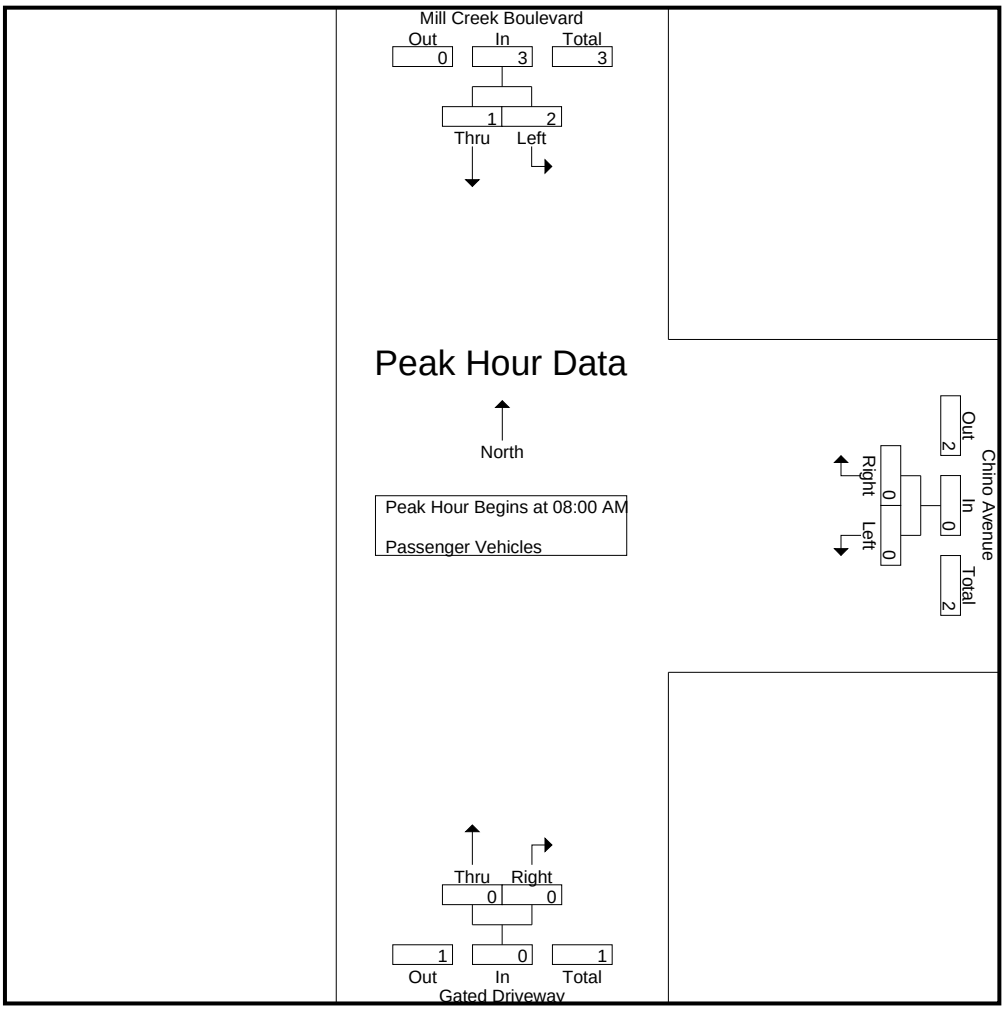
	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	1	0	0	0	1	0	1	2
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	1	0	1	2
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	1	0	0	0	0	0	0	1
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	1	0	1	0	0	0	0	0	0	1
Total	2	1	3	0	0	0	0	0	0	3
Grand Total	2	2	4	0	0	0	1	0	1	5
Apprch %	50	50		0	0		100	0		
Total %	40	40	80	0	0	0	20	0	20	

	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	**1**	0	**1**	0	0	0	0	0	0	**1**
08:30 AM	0	**1**	1	0	0	0	0	0	0	1
08:45 AM	1	0	1	0	0	0	0	0	0	1
Total Volume	2	1	3	0	0	0	0	0	0	3
% App. Total	66.7	33.3		0	0		0	0		
PHF	.500	.250	.750	.000	.000	.000	.000	.000	.000	.750

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City of Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue
Weather: Clear

File Name : 03_ONT_MC_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	**1**	0	0	0	0	0	0
+30 mins.	0	**1**	1	0	0	0	0	0	0
+45 mins.	1	0	1	0	0	0	0	0	0
Total Volume	2	1	3	0	0	0	0	0	0
% App. Total	66.7	33.3		0	0		0	0	
PHF	.500	.250	.750	.000	.000	.000	.000	.000	.000

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City of Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue
Weather: Clear

File Name : 03_ONT_MC_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

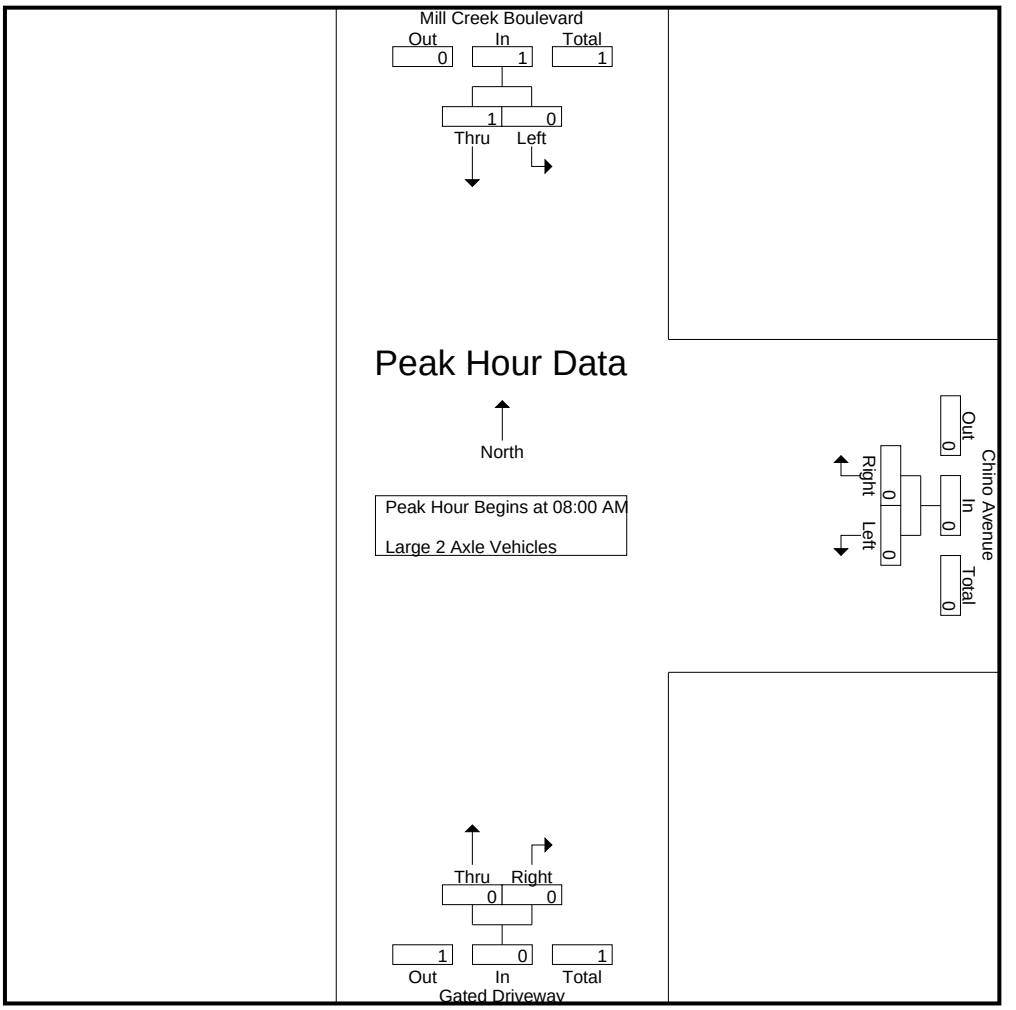
	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	1	0	0	0	0	0	0	1
Total	0	1	1	0	0	0	0	0	0	1
Grand Total	1	1	2	0	0	0	0	0	0	2
Apprch %	50	50		0	0		0	0		
Total %	50	50	100	0	0	0	0	0	0	

	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	**1**	**1**	0	0	0	0	0	0	**1**
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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City of Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue
Weather: Clear

File Name : 03_ONT_MC_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	**1**	**1**	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000

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City of Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue
Weather: Clear

File Name : 03_ONT_MC_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

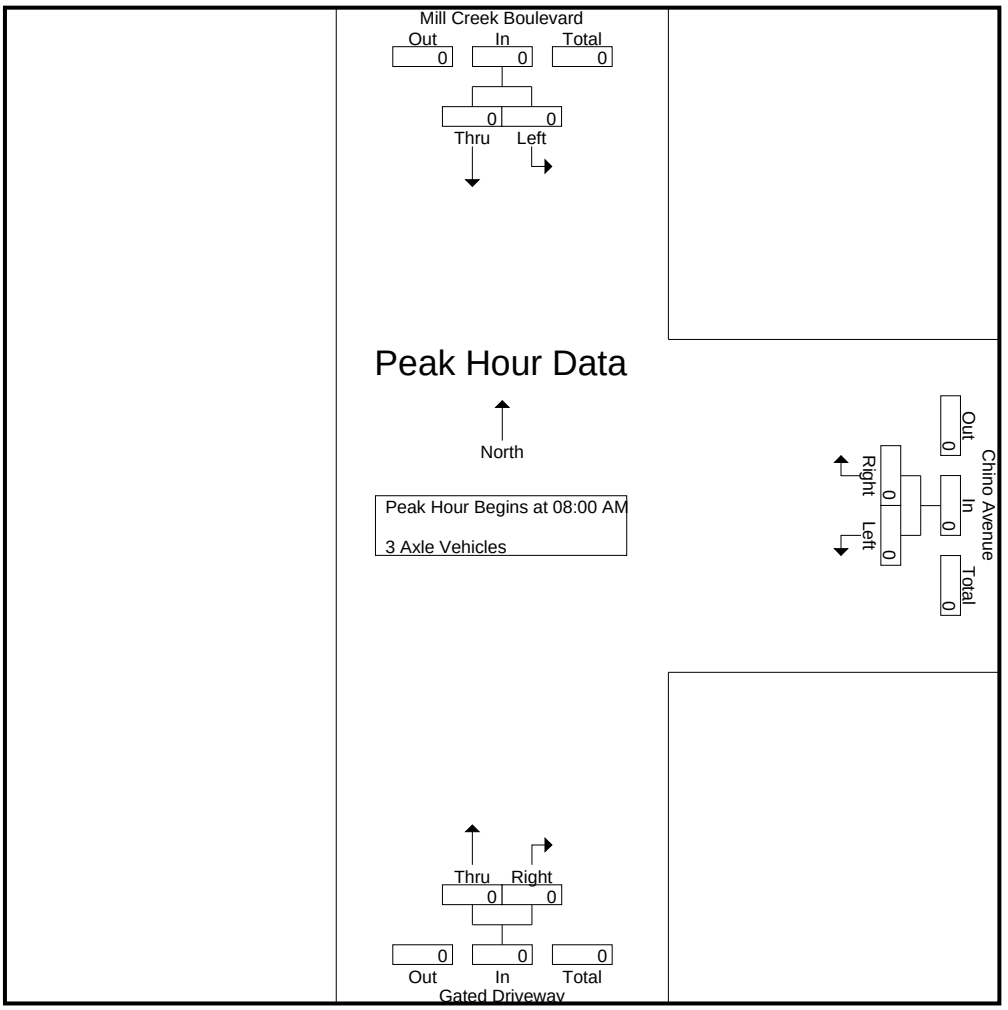
	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue
Weather: Clear

File Name : 03_ONT_MC_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue
Weather: Clear

File Name : 03_ONT_MC_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

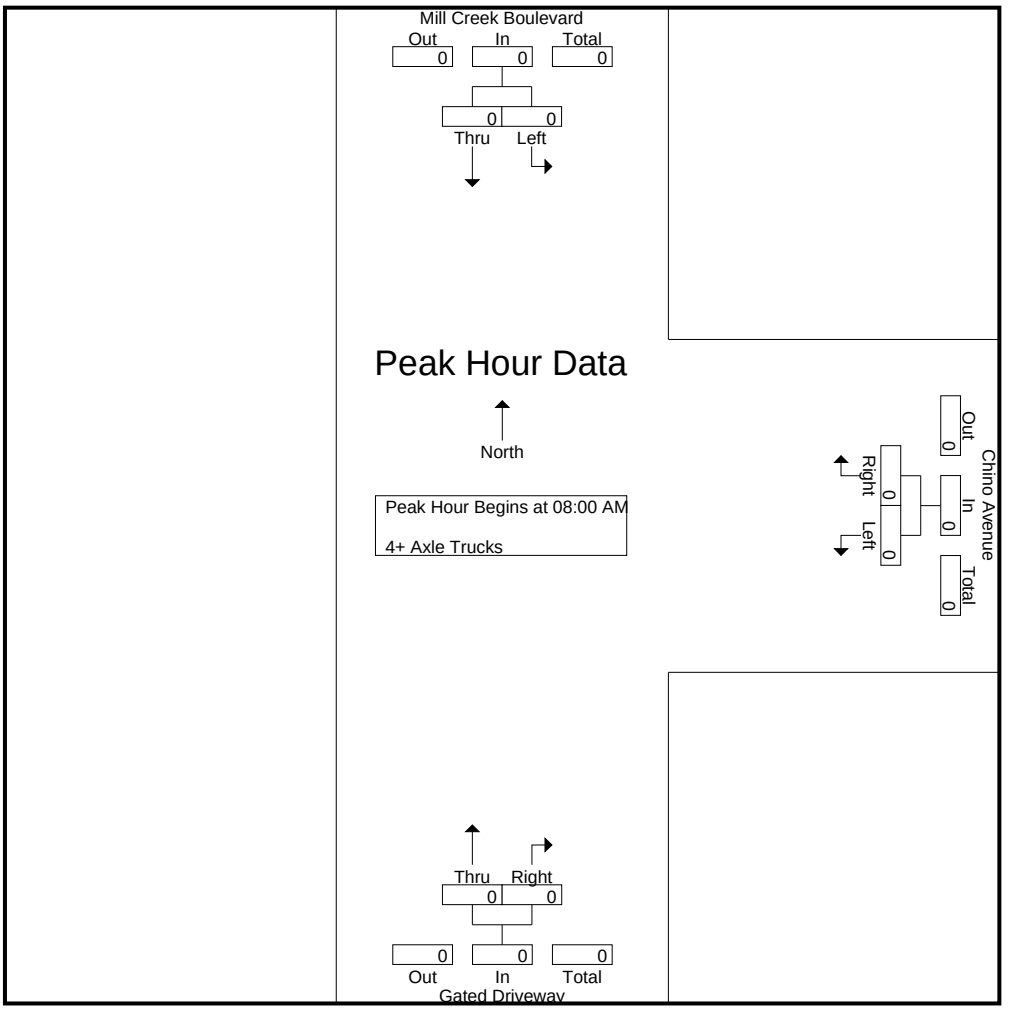
	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : 03_ONT_MC_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Weather: Clear

File Name : 03_ONT_MC_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

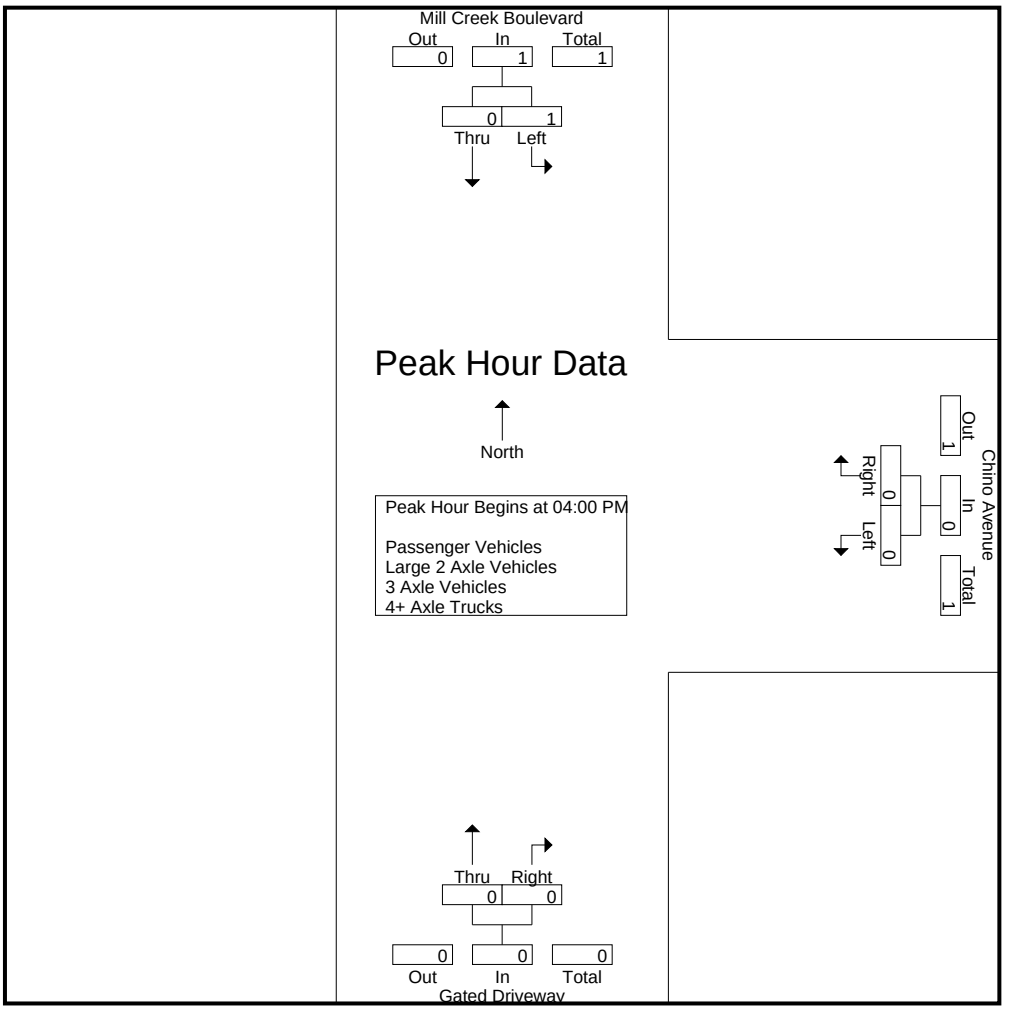
	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	0	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	1	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	0	0	0	1
Grand Total	1	0	1	0	1	1	0	0	0	2
Apprch %	100	0		0	100		0	0		
Total %	50	0	50	0	50	50	0	0	0	
Passenger Vehicles	1	0	1	0	1	1	0	0	0	2
% Passenger Vehicles	100	0	100	0	100	100	0	0	0	100
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	**1**	0	**1**	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0	1
% App. Total	100	0		0	0		0	0		
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250

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File Name : 03_ONT_MC_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:30 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	**1**	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	**1**	**1**	0	0	0
Total Volume	1	0	1	0	1	1	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000

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Weather: Clear

File Name : 03_ONT_MC_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles

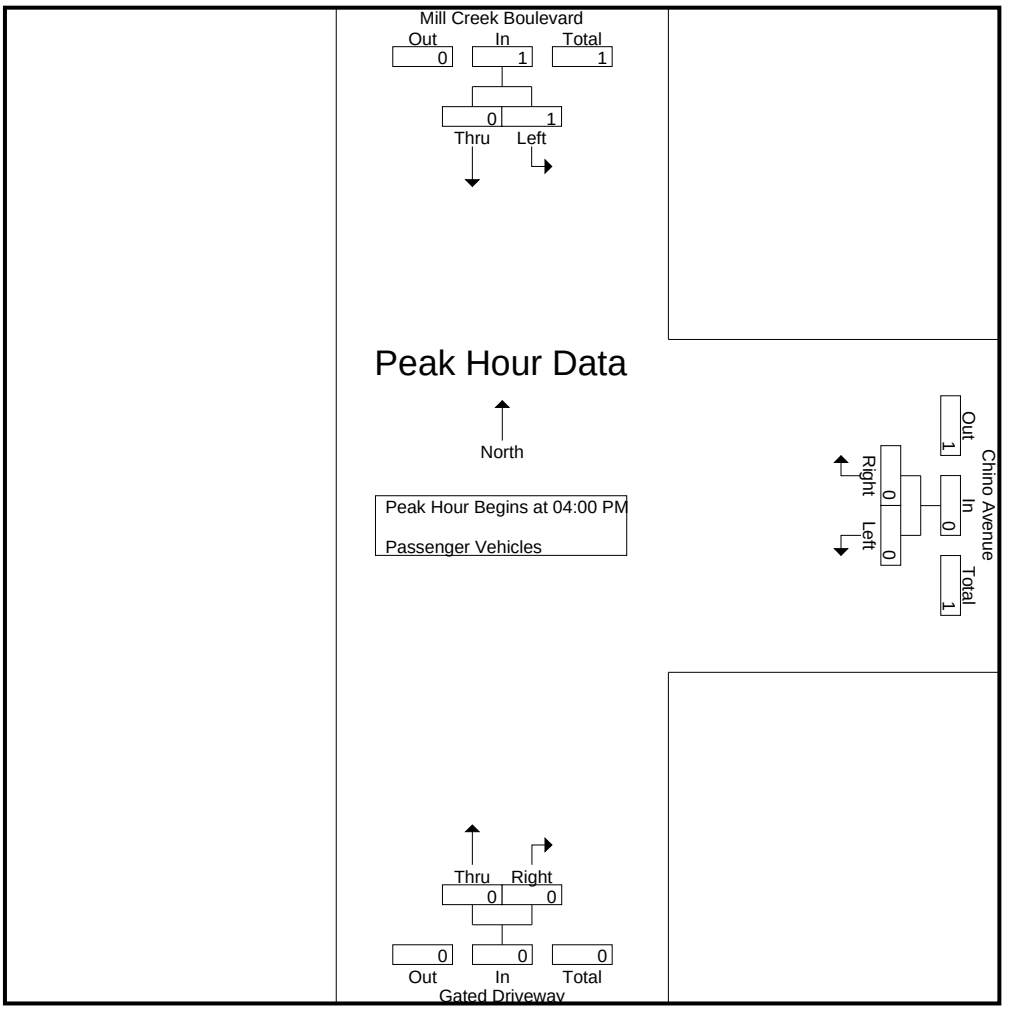
	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	0	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	1	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	0	0	0	1
Grand Total	1	0	1	0	1	1	0	0	0	2
Apprch %	100	0		0	100		0	0		
Total %	50	0	50	0	50	50	0	0	0	

	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	**1**	0	**1**	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0	1
% App. Total	100	0		0	0		0	0		
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250

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File Name : 03_ONT_MC_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	**1**	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000

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City of Ontario
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Weather: Clear

File Name : 03_ONT_MC_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

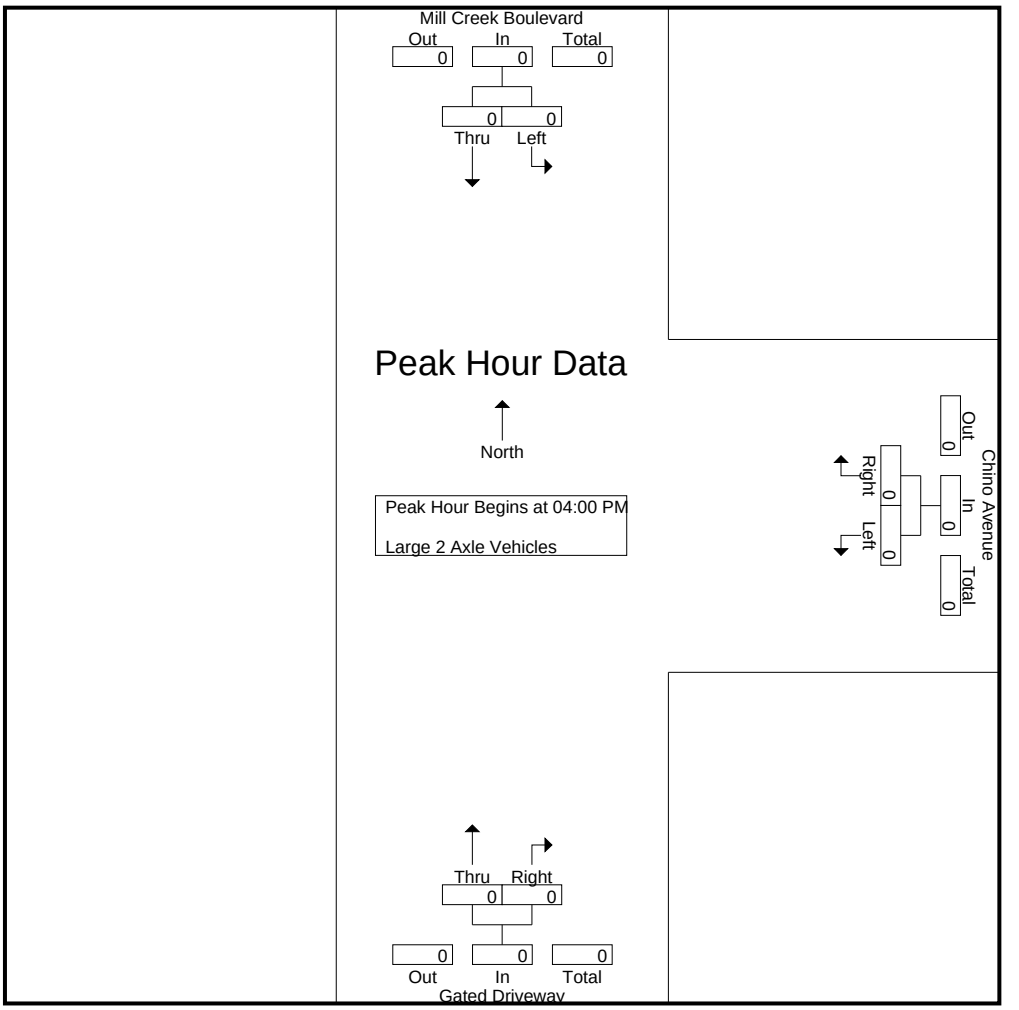
	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : 03_ONT_MC_Chino PM
Site Code : 05122421
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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E/W: Chino Avenue
Weather: Clear

File Name : 03_ONT_MC_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

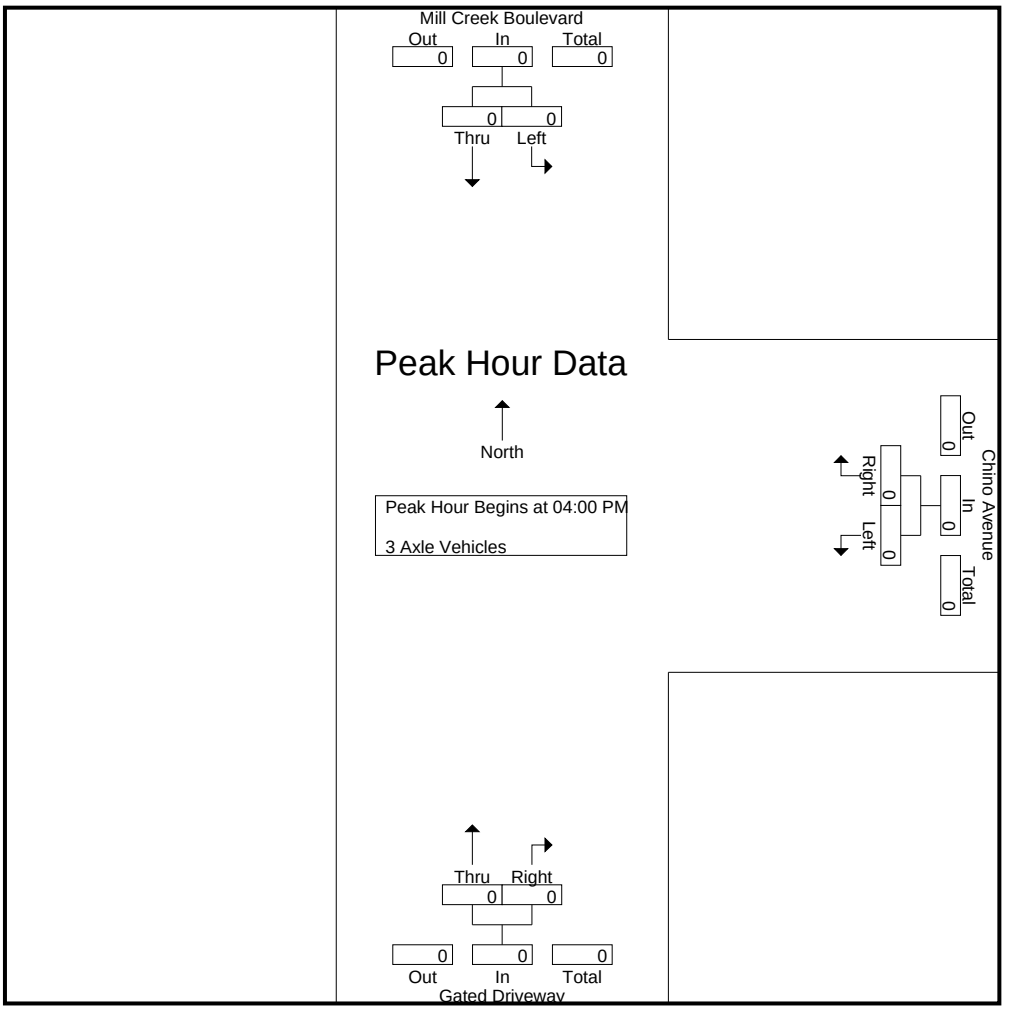
	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Site Code : 05122421
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : 03_ONT_MC_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

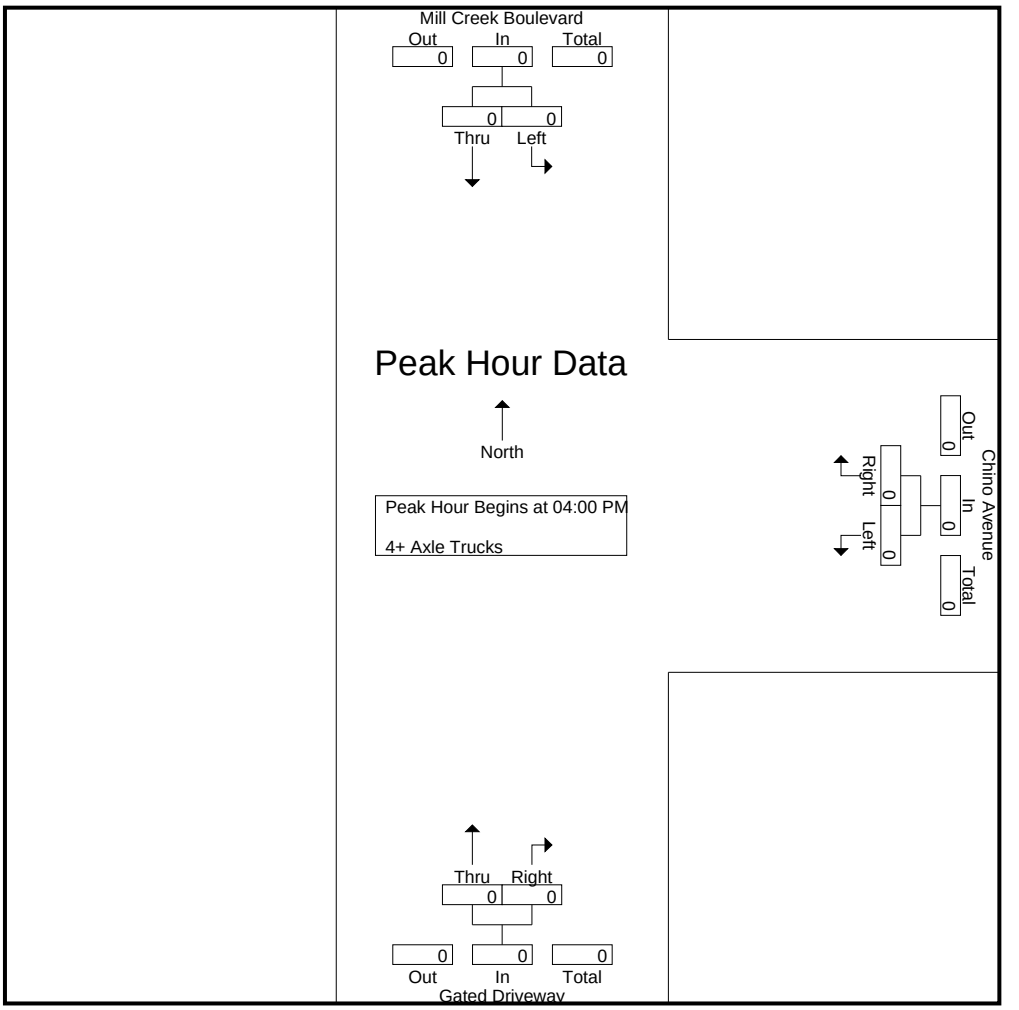
	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Mill Creek Boulevard Southbound			Chino Avenue Westbound			Gated Driveway Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue
Weather: Clear

File Name : 03_ONT_MC_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue



Date: 5/10/2022
Day: Tuesday

PEDESTRIANS

	North Leg Mill Creek Boulevard	East Leg Chino Avenue	South Leg Gated Driveway	West Leg Dead End	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Mill Creek Boulevard	East Leg Chino Avenue	South Leg Gated Driveway	West Leg Dead End	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	2	0	0	2
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	2

Location: Ontario
N/S: Mill Creek Boulevard
E/W: Chino Avenue

Date: 5/10/2022
Day: Tuesday

BICYCLES

	Southbound Mill Creek Boulevard			Westbound Chino Avenue			Northbound Gated Driveway			Eastbound Dead End			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	1	0	0	0	0	0	0	1

	Southbound Mill Creek Boulevard			Westbound Chino Avenue			Northbound Gated Driveway			Eastbound Dead End			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	0	0	0	0	0	0	0	0	1

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Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

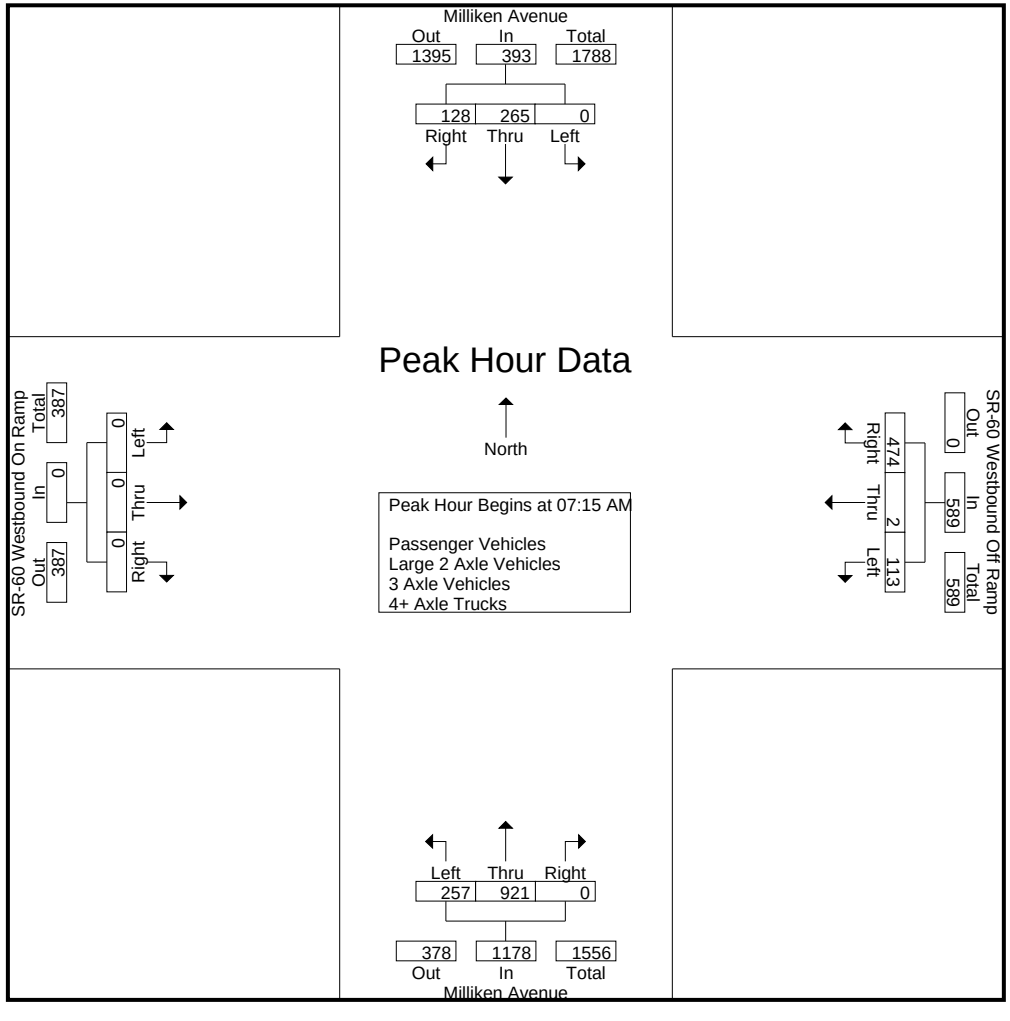
	Milliken Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Milliken Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	65	37	12	102	28	1	111	52	140	49	147	0	0	196	0	0	0	0	0	64	438	502
07:15 AM	0	63	31	8	94	33	1	128	67	162	75	195	0	0	270	0	0	0	0	0	75	526	601
07:30 AM	0	52	34	10	86	31	1	131	31	163	51	238	0	0	289	0	0	0	0	0	41	538	579
07:45 AM	0	70	32	10	102	24	0	121	38	145	55	249	0	0	304	0	0	0	0	0	48	551	599
Total	0	250	134	40	384	116	3	491	188	610	230	829	0	0	1059	0	0	0	0	0	228	2053	2281
08:00 AM	0	80	31	10	111	25	0	94	31	119	76	239	0	0	315	0	0	0	0	0	41	545	586
08:15 AM	0	51	40	15	91	19	0	72	33	91	84	219	0	0	303	0	0	0	0	0	48	485	533
08:30 AM	0	63	33	8	96	22	0	72	29	94	76	207	0	0	283	0	0	0	0	0	37	473	510
08:45 AM	0	55	41	16	96	15	1	89	43	105	57	202	0	0	259	0	0	0	0	0	59	460	519
Total	0	249	145	49	394	81	1	327	136	409	293	867	0	0	1160	0	0	0	0	0	185	1963	2148
Grand Total	0	499	279	89	778	197	4	818	324	1019	523	1696	0	0	2219	0	0	0	0	0	413	4016	4429
Apprch %	0	64.1	35.9			19.3	0.4	80.3			23.6	76.4	0			0	0	0					
Total %	0	12.4	6.9		19.4	4.9	0.1	20.4		25.4	13	42.2	0		55.3	0	0	0		0	9.3	90.7	
Passenger Vehicles	0	368	114		519	177	3	752		1234	386	1452	0		1838	0	0	0		0	0	0	3591
% Passenger Vehicles	0	73.7	40.9	41.6	59.9	89.8	75	91.9	93.2	91.9	73.8	85.6	0	0	82.8	0	0	0	0	0	0	0	81.1
Large 2 Axle Vehicles	0	23	15		45	9	0	12		27	24	51	0		75	0	0	0		0	0	0	147
% Large 2 Axle Vehicles	0	4.6	5.4	7.9	5.2	4.6	0	1.5	1.9	2	4.6	3	0	0	3.4	0	0	0	0	0	0	0	3.3
3 Axle Vehicles	0	30	26		61	1	0	12		19	17	22	0		39	0	0	0		0	0	0	119
% 3 Axle Vehicles	0	6	9.3	5.6	7	0.5	0	1.5	1.9	1.4	3.3	1.3	0	0	1.8	0	0	0	0	0	0	0	2.7
4+ Axle Trucks	0	78	124		242	10	1	42		63	96	171	0		267	0	0	0		0	0	0	572
% 4+ Axle Trucks	0	15.6	44.4	44.9	27.9	5.1	25	5.1	3.1	4.7	18.4	10.1	0	0	12	0	0	0	0	0	0	0	12.9

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	63	31	94	**33**	**1**	128	162	75	195	0	270	0	0	0	0	526
07:30 AM	0	52	**34**	86	31	1	**131**	**163**	51	238	0	289	0	0	0	0	538
07:45 AM	0	70	32	102	24	0	121	145	55	**249**	0	304	0	0	0	0	**551**
08:00 AM	0	**80**	31	**111**	25	0	94	119	**76**	239	0	**315**	0	0	0	0	545
Total Volume	0	265	128	393	113	2	474	589	257	921	0	1178	0	0	0	0	2160
% App. Total	0	67.4	32.6		19.2	0.3	80.5		21.8	78.2	0		0	0	0		
PHF	.000	.828	.941	.885	.856	.500	.905	.903	.845	.925	.000	.935	.000	.000	.000	.000	.980

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W AM
Site Code : 05122421
Start Date : 5/10/2022
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	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:00 AM				07:30 AM				07:00 AM				
+0 mins.	0	70	32	102	28	**1**	111	140	51	238	0	289	0	0	0	0	
+15 mins.	0	**80**	31	**111**	**33**	1	128	162	55	**249**	0	304	0	0	0	0	
+30 mins.	0	51	**40**	91	31	1	**131**	**163**	76	239	0	**315**	0	0	0	0	
+45 mins.	0	63	33	96	24	0	121	145	**84**	219	0	303	0	0	0	0	
Total Volume	0	264	136	400	116	3	491	610	266	945	0	1211	0	0	0	0	
% App. Total	0	66	34		19	0.5	80.5		22	78	0		0	0	0		
PHF	.000	.825	.850	.901	.879	.750	.937	.936	.792	.949	.000	.961	.000	.000	.000	.000	

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Groups Printed- Passenger Vehicles

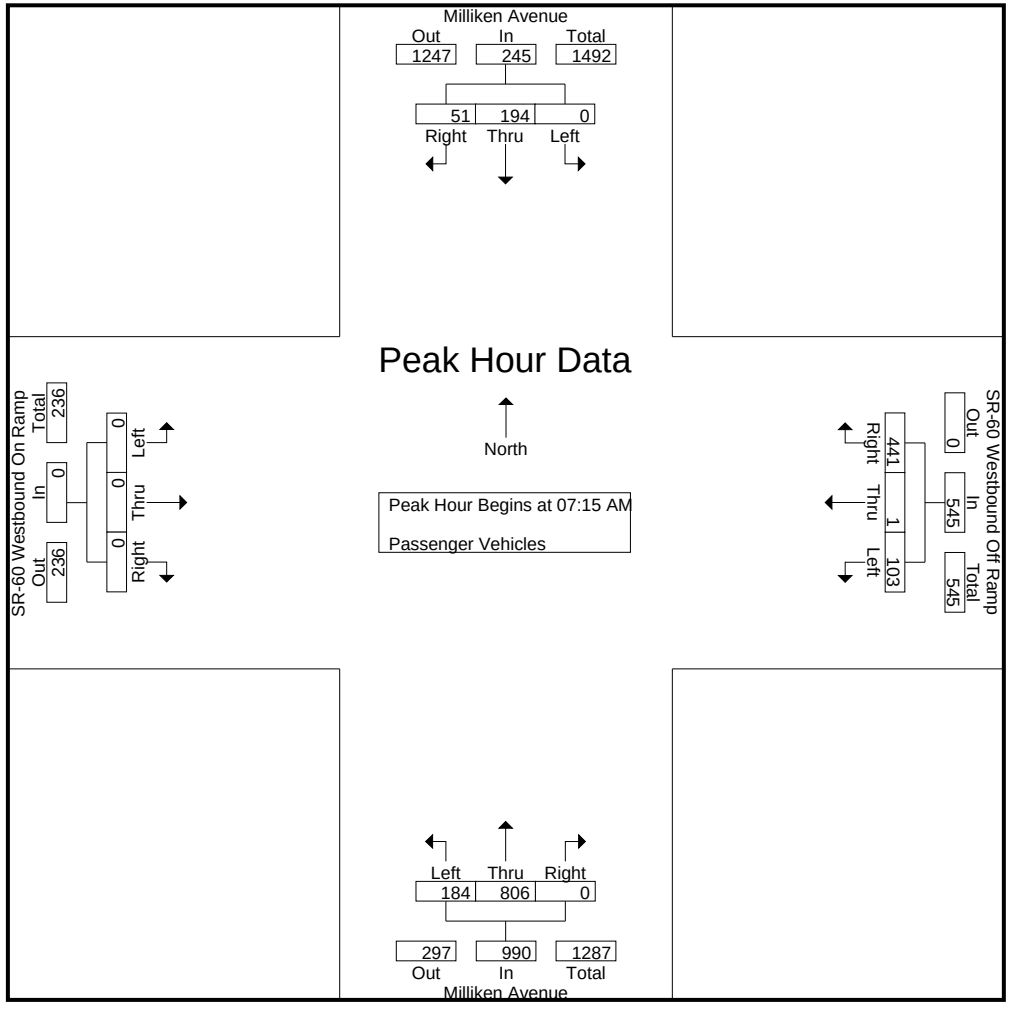
	Milliken Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Milliken Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	47	21	6	68	26	1	105	48	132	41	124	0	0	165	0	0	0	0	0	54	365	419
07:15 AM	0	47	13	3	60	32	0	122	63	154	49	162	0	0	211	0	0	0	0	0	66	425	491
07:30 AM	0	38	16	3	54	28	1	120	29	149	37	214	0	0	251	0	0	0	0	0	32	454	486
07:45 AM	0	52	10	2	62	20	0	114	36	134	36	221	0	0	257	0	0	0	0	0	38	453	491
Total	0	184	60	14	244	106	2	461	176	569	163	721	0	0	884	0	0	0	0	0	190	1697	1887
08:00 AM	0	57	12	6	69	23	0	85	30	108	62	209	0	0	271	0	0	0	0	0	36	448	484
08:15 AM	0	39	15	6	54	17	0	64	30	81	60	182	0	0	242	0	0	0	0	0	36	377	413
08:30 AM	0	50	14	5	64	16	0	64	26	80	55	175	0	0	230	0	0	0	0	0	31	374	405
08:45 AM	0	38	13	6	51	15	1	78	40	94	46	165	0	0	211	0	0	0	0	0	46	356	402
Total	0	184	54	23	238	71	1	291	126	363	223	731	0	0	954	0	0	0	0	0	149	1555	1704
Grand Total	0	368	114	37	482	177	3	752	302	932	386	1452	0	0	1838	0	0	0	0	0	339	3252	3591
Apprch %	0	76.3	23.7			19	0.3	80.7			21	79	0			0	0	0					
Total %	0	11.3	3.5		14.8	5.4	0.1	23.1		28.7	11.9	44.6	0		56.5	0	0	0		0	9.4	90.6	

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	47	13	60	**32**	0	**122**	**154**	49	162	0	211	0	0	0	0	425
07:30 AM	0	38	**16**	54	28	**1**	120	149	37	214	0	251	0	0	0	0	**454**
07:45 AM	0	52	10	62	20	0	114	134	36	**221**	0	257	0	0	0	0	453
08:00 AM	0	**57**	12	**69**	23	0	85	108	**62**	209	0	**271**	0	0	0	0	448
Total Volume	0	194	51	245	103	1	441	545	184	806	0	990	0	0	0	0	1780
% App. Total	0	79.2	20.8		18.9	0.2	80.9		18.6	81.4	0		0	0	0		
PHF	.000	.851	.797	.888	.805	.250	.904	.885	.742	.912	.000	.913	.000	.000	.000	.000	.980

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City of Ontario
N/S: Milliken Avenue
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File Name : 01_ONT_Mil_60W AM
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	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	47	13	60	**32**	0	**122**	**154**	49	162	0	211	0	0	0	0	
+15 mins.	0	38	**16**	54	28	**1**	120	149	37	214	0	251	0	0	0	0	
+30 mins.	0	52	10	62	20	0	114	134	36	**221**	0	257	0	0	0	0	
+45 mins.	0	**57**	12	**69**	23	0	85	108	**62**	209	0	**271**	0	0	0	0	
Total Volume	0	194	51	245	103	1	441	545	184	806	0	990	0	0	0	0	
% App. Total	0	79.2	20.8		18.9	0.2	80.9		18.6	81.4	0		0	0	0		
PHF	.000	.851	.797	.888	.805	.250	.904	.885	.742	.912	.000	.913	.000	.000	.000	.000	

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Site Code : 05122421
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Groups Printed- Large 2 Axle Vehicles

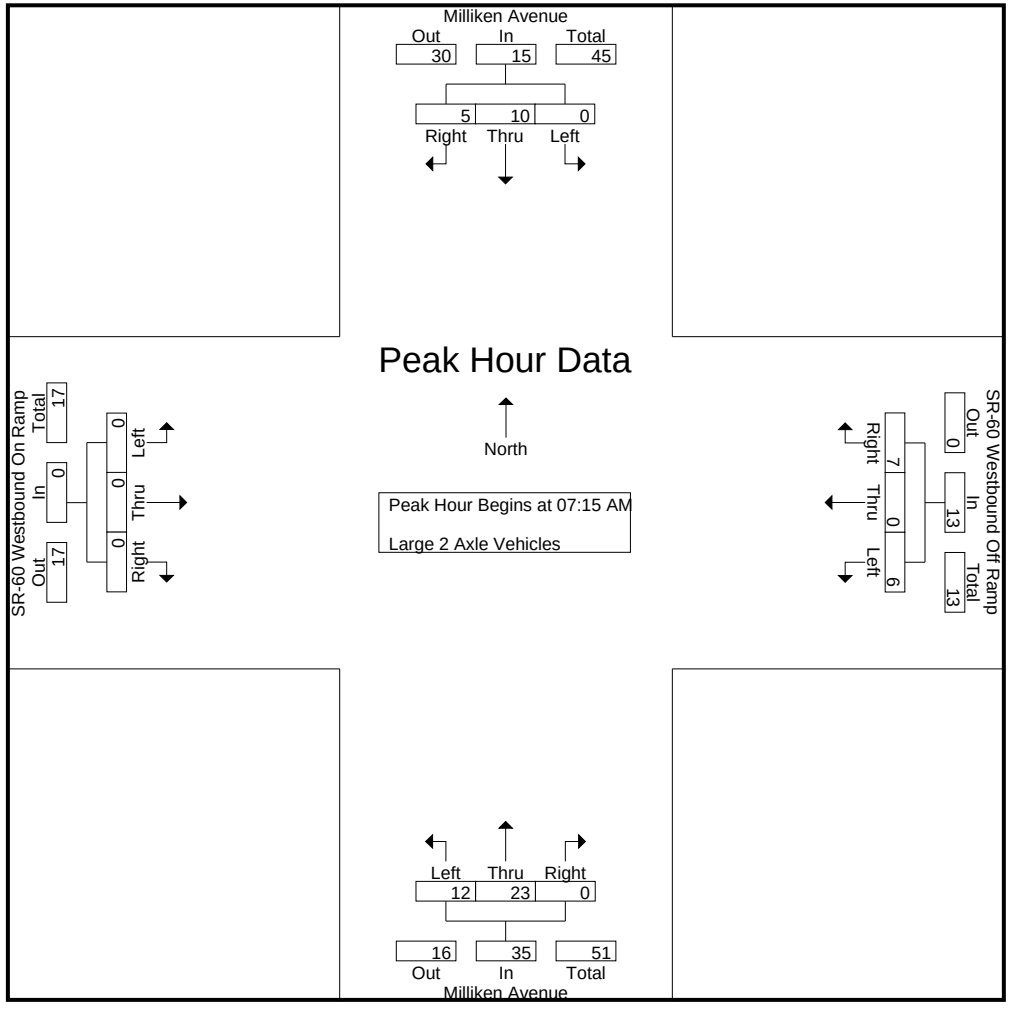
	Milliken Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Milliken Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	7	3	1	10	1	0	2	2	3	3	3	0	0	6	0	0	0	0	0	3	19	22
07:15 AM	0	1	4	2	5	0	0	2	1	2	5	9	0	0	14	0	0	0	0	0	3	21	24
07:30 AM	0	0	0	0	0	2	0	2	0	4	1	4	0	0	5	0	0	0	0	0	0	9	9
07:45 AM	0	6	0	0	6	3	0	2	1	5	4	6	0	0	10	0	0	0	0	0	1	21	22
Total	0	14	7	3	21	6	0	8	4	14	13	22	0	0	35	0	0	0	0	0	7	70	77
08:00 AM	0	3	1	0	4	1	0	1	0	2	2	4	0	0	6	0	0	0	0	0	0	12	12
08:15 AM	0	1	3	3	4	0	0	1	1	1	6	8	0	0	14	0	0	0	0	0	4	19	23
08:30 AM	0	4	2	0	6	2	0	2	1	4	2	7	0	0	9	0	0	0	0	0	1	19	20
08:45 AM	0	1	2	1	3	0	0	0	0	0	1	10	0	0	11	0	0	0	0	0	1	14	15
Total	0	9	8	4	17	3	0	4	2	7	11	29	0	0	40	0	0	0	0	0	6	64	70
Grand Total	0	23	15	7	38	9	0	12	6	21	24	51	0	0	75	0	0	0	0	0	13	134	147
Apprch %	0	60.5	39.5			42.9	0	57.1			32	68	0			0	0	0					
Total %	0	17.2	11.2		28.4	6.7	0	9		15.7	17.9	38.1	0		56	0	0	0		0	8.8	91.2	

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	1	**4**	5	0	0	**2**	2	**5**	**9**	0	**14**	0	0	0	0	**21**
07:30 AM	0	0	0	0	2	0	2	4	1	4	0	5	0	0	0	0	9
07:45 AM	0	**6**	0	**6**	**3**	0	2	**5**	4	6	0	10	0	0	0	0	21
08:00 AM	0	3	1	4	1	0	1	2	2	4	0	6	0	0	0	0	12
Total Volume	0	10	5	15	6	0	7	13	12	23	0	35	0	0	0	0	63
% App. Total	0	66.7	33.3		46.2	0	53.8		34.3	65.7	0		0	0	0		
PHF	.000	.417	.313	.625	.500	.000	.875	.650	.600	.639	.000	.625	.000	.000	.000	.000	.750

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City of Ontario
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	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	1	**4**	5	0	0	**2**	2	**5**	**9**	0	**14**	0	0	0	0	
+15 mins.	0	0	0	0	2	0	2	4	1	4	0	5	0	0	0	0	
+30 mins.	0	**6**	0	**6**	**3**	0	2	**5**	4	6	0	10	0	0	0	0	
+45 mins.	0	3	1	4	1	0	1	2	2	4	0	6	0	0	0	0	
Total Volume	0	10	5	15	6	0	7	13	12	23	0	35	0	0	0	0	
% App. Total	0	66.7	33.3		46.2	0	53.8		34.3	65.7	0		0	0	0		
PHF	.000	.417	.313	.625	.500	.000	.875	.650	.600	.639	.000	.625	.000	.000	.000	.000	

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W AM
Site Code : 05122421
Start Date : 5/10/2022

Groups Printed- 3 Axle Vehicles

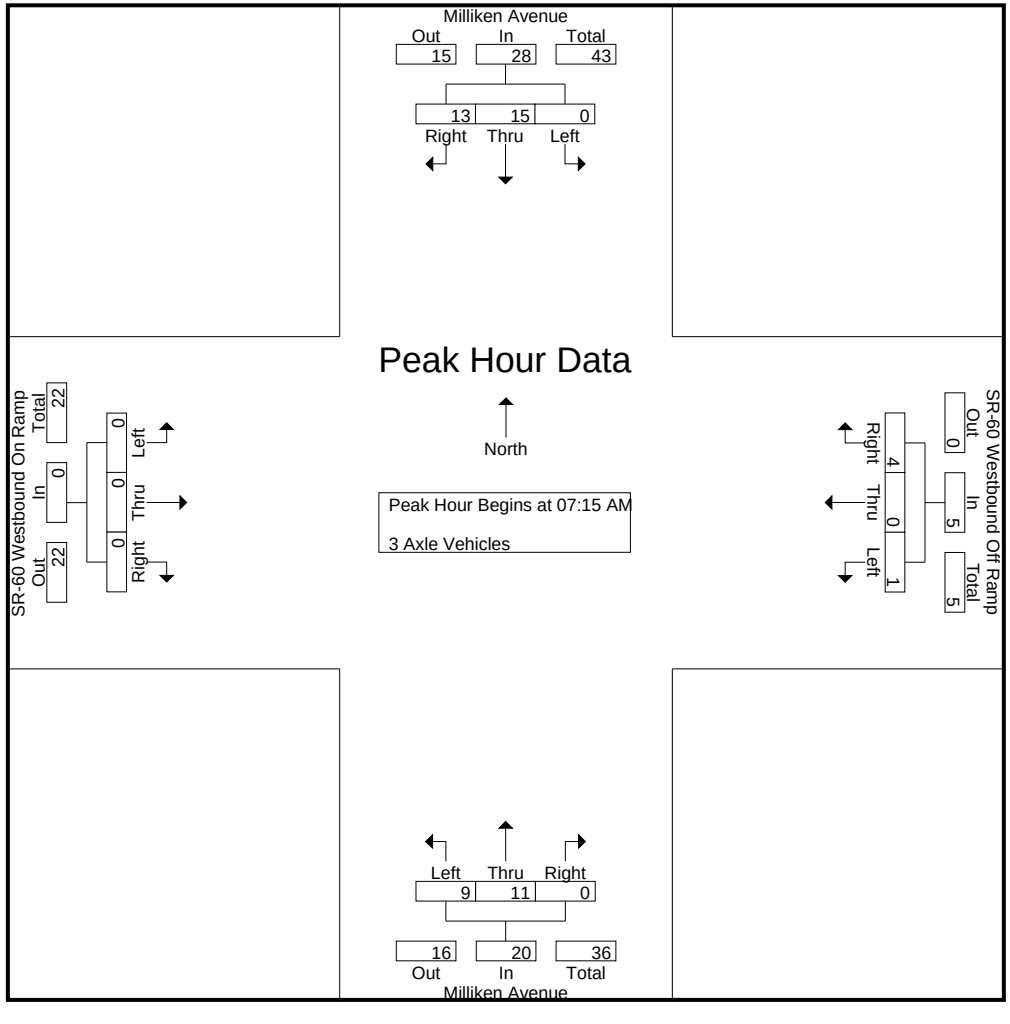
	Milliken Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Milliken Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	4	0	0	4	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	7	7
07:15 AM	0	3	3	0	6	1	0	1	1	2	5	5	0	0	10	0	0	0	0	0	1	18	19
07:30 AM	0	5	0	0	5	0	0	2	0	2	1	2	0	0	3	0	0	0	0	0	0	10	10
07:45 AM	0	4	6	0	10	0	0	1	1	1	2	3	0	0	5	0	0	0	0	0	1	16	17
Total	0	16	9	0	25	1	0	5	2	6	9	11	0	0	20	0	0	0	0	0	2	51	53
08:00 AM	0	3	4	0	7	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	9	9
08:15 AM	0	4	4	1	8	0	0	2	1	2	4	1	0	0	5	0	0	0	0	0	2	15	17
08:30 AM	0	3	4	1	7	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	1	11	12
08:45 AM	0	4	5	3	9	0	0	4	3	4	2	7	0	0	9	0	0	0	0	0	6	22	28
Total	0	14	17	5	31	0	0	7	4	7	8	11	0	0	19	0	0	0	0	0	9	57	66
Grand Total	0	30	26	5	56	1	0	12	6	13	17	22	0	0	39	0	0	0	0	0	11	108	119
Apprch %	0	53.6	46.4			7.7	0	92.3			43.6	56.4	0			0	0	0					
Total %	0	27.8	24.1		51.9	0.9	0	11.1		12	15.7	20.4	0		36.1	0	0	0		0	9.2	90.8	

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	3	3	6	**1**	0	1	**2**	**5**	**5**	0	**10**	0	0	0	0	**18**
07:30 AM	0	**5**	0	5	0	0	**2**	2	1	2	0	3	0	0	0	0	10
07:45 AM	0	4	**6**	**10**	0	0	1	1	2	3	0	5	0	0	0	0	16
08:00 AM	0	3	4	7	0	0	0	0	1	1	0	2	0	0	0	0	9
Total Volume	0	15	13	28	1	0	4	5	9	11	0	20	0	0	0	0	53
% App. Total	0	53.6	46.4		20	0	80		45	55	0		0	0	0		
PHF	.000	.750	.542	.700	.250	.000	.500	.625	.450	.550	.000	.500	.000	.000	.000	.000	.736

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W AM
Site Code : 05122421
Start Date : 5/10/2022

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	3	3	6	**1**	0	1	**2**	**5**	**5**	0	**10**	0	0	0	0	
+15 mins.	0	**5**	0	5	0	0	**2**	2	1	2	0	3	0	0	0	0	
+30 mins.	0	4	**6**	**10**	0	0	1	1	2	3	0	5	0	0	0	0	
+45 mins.	0	3	4	7	0	0	0	0	1	1	0	2	0	0	0	0	
Total Volume	0	15	13	28	1	0	4	5	9	11	0	20	0	0	0	0	
% App. Total	0	53.6	46.4		20	0	80		45	55	0		0	0	0		
PHF	.000	.750	.542	.700	.250	.000	.500	.625	.450	.550	.000	.500	.000	.000	.000	.000	

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City of Ontario
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Weather: Clear

File Name : 01_ONT_Mil_60W AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

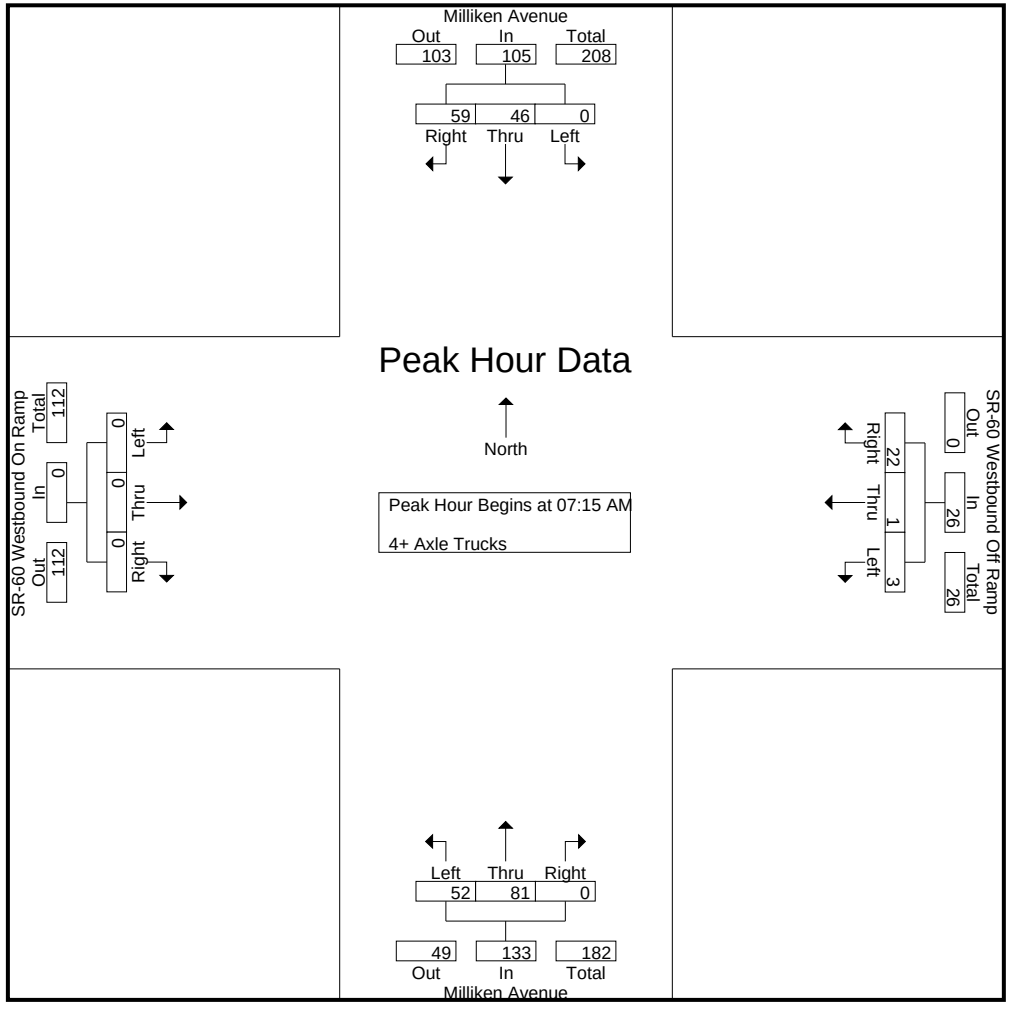
	Milliken Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Milliken Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	7	13	5	20	1	0	3	2	4	4	19	0	0	23	0	0	0	0	0	7	47	54
07:15 AM	0	12	11	3	23	0	1	3	2	4	16	19	0	0	35	0	0	0	0	0	5	62	67
07:30 AM	0	9	18	7	27	1	0	7	2	8	12	18	0	0	30	0	0	0	0	0	9	65	74
07:45 AM	0	8	16	8	24	1	0	4	0	5	13	19	0	0	32	0	0	0	0	0	8	61	69
Total	0	36	58	23	94	3	1	17	6	21	45	75	0	0	120	0	0	0	0	0	29	235	264
08:00 AM	0	17	14	4	31	1	0	8	1	9	11	25	0	0	36	0	0	0	0	0	5	76	81
08:15 AM	0	7	18	5	25	2	0	5	1	7	14	28	0	0	42	0	0	0	0	0	6	74	80
08:30 AM	0	6	13	2	19	4	0	5	2	9	18	23	0	0	41	0	0	0	0	0	4	69	73
08:45 AM	0	12	21	6	33	0	0	7	0	7	8	20	0	0	28	0	0	0	0	0	6	68	74
Total	0	42	66	17	108	7	0	25	4	32	51	96	0	0	147	0	0	0	0	0	21	287	308
Grand Total	0	78	124	40	202	10	1	42	10	53	96	171	0	0	267	0	0	0	0	0	50	522	572
Apprch %	0	38.6	61.4			18.9	1.9	79.2			36	64	0			0	0	0					
Total %	0	14.9	23.8		38.7	1.9	0.2	8		10.2	18.4	32.8	0		51.1	0	0	0		0	8.7	91.3	

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	12	11	23	0	**1**	3	4	**16**	19	0	35	0	0	0	0	62
07:30 AM	0	9	**18**	27	**1**	0	7	8	12	18	0	30	0	0	0	0	65
07:45 AM	0	8	16	24	1	0	4	5	13	19	0	32	0	0	0	0	61
08:00 AM	0	**17**	14	**31**	1	0	**8**	**9**	11	**25**	0	**36**	0	0	0	0	**76**
Total Volume	0	46	59	105	3	1	22	26	52	81	0	133	0	0	0	0	264
% App. Total	0	43.8	56.2		11.5	3.8	84.6		39.1	60.9	0		0	0	0		
PHF	.000	.676	.819	.847	.750	.250	.688	.722	.813	.810	.000	.924	.000	.000	.000	.000	.868

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
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File Name : 01_ONT_Mil_60W AM
Site Code : 05122421
Start Date : 5/10/2022

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	12	11	23	0	**1**	3	4	**16**	19	0	35	0	0	0	0	
+15 mins.	0	9	**18**	27	**1**	0	7	8	12	18	0	30	0	0	0	0	
+30 mins.	0	8	16	24	1	0	4	5	13	19	0	32	0	0	0	0	
+45 mins.	0	**17**	14	**31**	1	0	**8**	**9**	11	**25**	0	**36**	0	0	0	0	
Total Volume	0	46	59	105	3	1	22	26	52	81	0	133	0	0	0	0	
% App. Total	0	43.8	56.2		11.5	3.8	84.6		39.1	60.9	0		0	0	0		
PHF	.000	.676	.819	.847	.750	.250	.688	.722	.813	.810	.000	.924	.000	.000	.000	.000	

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File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Milliken Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Milliken Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	166	111	25	277	18	0	61	37	79	80	140	0	0	220	0	0	0	0	0	62	576	638
04:15 PM	0	147	91	20	238	12	0	60	43	72	54	124	0	0	178	0	0	0	0	0	63	488	551
04:30 PM	0	184	113	24	297	14	0	64	47	78	76	134	0	0	210	0	0	0	0	0	71	585	656
04:45 PM	0	204	102	20	306	22	1	59	37	82	50	123	0	0	173	0	0	0	0	0	57	561	618
Total	0	701	417	89	1118	66	1	244	164	311	260	521	0	0	781	0	0	0	0	0	253	2210	2463
05:00 PM	0	192	84	17	276	15	0	65	36	80	50	123	0	0	173	0	0	0	0	0	53	529	582
05:15 PM	0	238	101	20	339	16	1	74	49	91	36	125	0	0	161	0	0	0	0	0	69	591	660
05:30 PM	0	197	73	10	270	16	0	73	32	89	44	131	0	0	175	0	0	0	0	0	42	534	576
05:45 PM	0	180	68	17	248	20	0	50	28	70	57	110	0	0	167	0	0	0	0	0	45	485	530
Total	0	807	326	64	1133	67	1	262	145	330	187	489	0	0	676	0	0	0	0	0	209	2139	2348
Grand Total	0	1508	743	153	2251	133	2	506	309	641	447	1010	0	0	1457	0	0	0	0	0	462	4349	4811
Apprch %	0	67	33			20.7	0.3	78.9			30.7	69.3	0			0	0	0					
Total %	0	34.7	17.1		51.8	3.1	0	11.6		14.7	10.3	23.2	0		33.5	0	0	0		0	9.6	90.4	
Passenger Vehicles	0	1408	620		2152	115	1	430		818	369	758	0		1127	0	0	0		0	0	0	4097
% Passenger Vehicles	0	93.4	83.4	81	89.5	86.5	50	85	88	86.1	82.6	75	0	0	77.4	0	0	0	0	0	0	0	85.2
Large 2 Axle Vehicles	0	15	10		29	3	0	19		32	10	42	0		52	0	0	0		0	0	0	113
% Large 2 Axle Vehicles	0	1	1.3	2.6	1.2	2.3	0	3.8	3.2	3.4	2.2	4.2	0	0	3.6	0	0	0	0	0	0	0	2.3
3 Axle Vehicles	0	21	12		34	7	0	10		21	7	44	0		51	0	0	0		0	0	0	106
% 3 Axle Vehicles	0	1.4	1.6	0.7	1.4	5.3	0	2	1.3	2.2	1.6	4.4	0	0	3.5	0	0	0	0	0	0	0	2.2
4+ Axle Trucks	0	64	101		189	8	1	47		79	61	166	0		227	0	0	0		0	0	0	495
% 4+ Axle Trucks	0	4.2	13.6	15.7	7.9	6	50	9.3	7.4	8.3	13.6	16.4	0	0	15.6	0	0	0	0	0	0	0	10.3

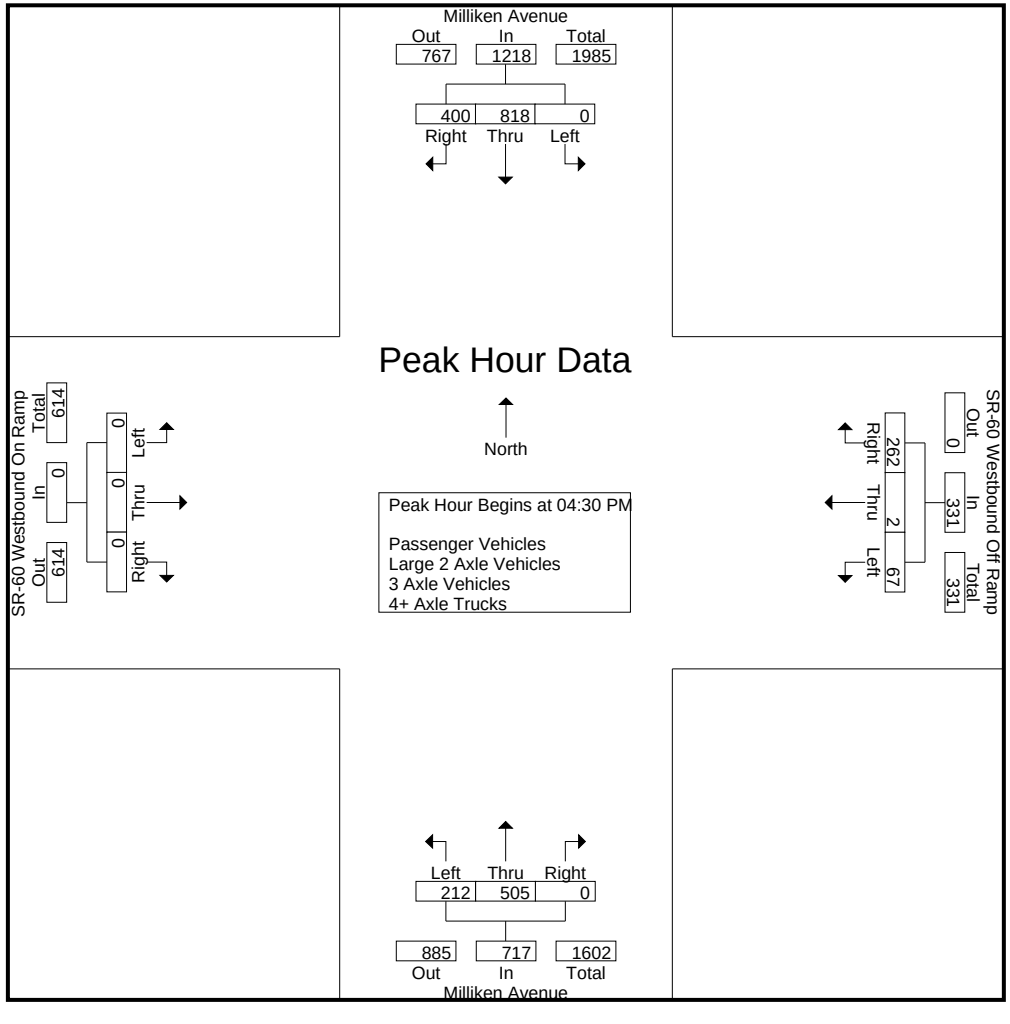
	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	184	**113**	297	14	0	64	78	**76**	**134**	0	**210**	0	0	0	0	585
04:45 PM	0	204	102	306	**22**	**1**	59	82	50	123	0	173	0	0	0	0	561
05:00 PM	0	192	84	276	15	0	65	80	50	123	0	173	0	0	0	0	529
05:15 PM	0	**238**	101	**339**	16	1	**74**	**91**	36	125	0	161	0	0	0	0	**591**
Total Volume	0	818	400	1218	67	2	262	331	212	505	0	717	0	0	0	0	2266
% App. Total	0	67.2	32.8		20.2	0.6	79.2		29.6	70.4	0		0	0	0		
PHF	.000	.859	.885	.898	.761	.500	.885	.909	.697	.942	.000	.854	.000	.000	.000	.000	.959

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City of Ontario
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File Name : 01_ONT_Mil_60W PM
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File Name : 01_ONT_Mil_60W PM
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Page No : 3

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:45 PM				04:00 PM				04:00 PM				
+0 mins.	0	184	**113**	297	**22**	**1**	59	82	**80**	**140**	0	**220**	0	0	0	0	
+15 mins.	0	204	102	306	15	0	65	80	54	124	0	178	0	0	0	0	
+30 mins.	0	192	84	276	16	1	**74**	**91**	76	134	0	210	0	0	0	0	
+45 mins.	0	**238**	101	**339**	16	0	73	89	50	123	0	173	0	0	0	0	
Total Volume	0	818	400	1218	69	2	271	342	260	521	0	781	0	0	0	0	
% App. Total	0	67.2	32.8		20.2	0.6	79.2		33.3	66.7	0		0	0	0		
PHF	.000	.859	.885	.898	.784	.500	.916	.940	.813	.930	.000	.888	.000	.000	.000	.000	

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File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles

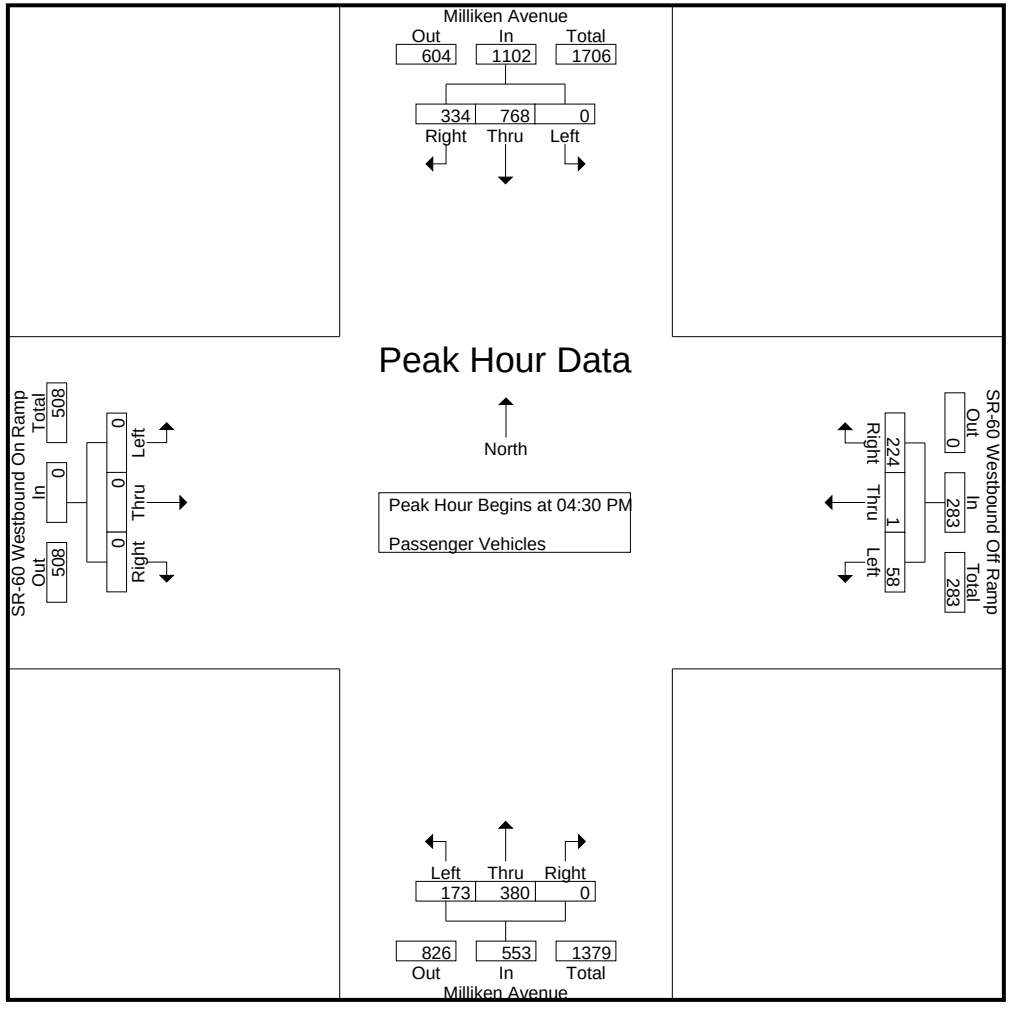
	Milliken Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Milliken Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	152	100	23	252	15	0	46	29	61	65	104	0	0	169	0	0	0	0	0	52	482	534
04:15 PM	0	138	73	12	211	10	0	50	36	60	48	88	0	0	136	0	0	0	0	0	48	407	455
04:30 PM	0	169	91	19	260	12	0	52	38	64	64	100	0	0	164	0	0	0	0	0	57	488	545
04:45 PM	0	187	86	15	273	17	1	54	35	72	42	88	0	0	130	0	0	0	0	0	50	475	525
Total	0	646	350	69	996	54	1	202	138	257	219	380	0	0	599	0	0	0	0	0	207	1852	2059
05:00 PM	0	183	72	15	255	15	0	57	35	72	41	97	0	0	138	0	0	0	0	0	50	465	515
05:15 PM	0	229	85	19	314	14	0	61	43	75	26	95	0	0	121	0	0	0	0	0	62	510	572
05:30 PM	0	186	59	8	245	14	0	65	29	79	38	96	0	0	134	0	0	0	0	0	37	458	495
05:45 PM	0	164	54	13	218	18	0	45	27	63	45	90	0	0	135	0	0	0	0	0	40	416	456
Total	0	762	270	55	1032	61	0	228	134	289	150	378	0	0	528	0	0	0	0	0	189	1849	2038
Grand Total	0	1408	620	124	2028	115	1	430	272	546	369	758	0	0	1127	0	0	0	0	0	396	3701	4097
Apprch %	0	69.4	30.6			21.1	0.2	78.8			32.7	67.3	0			0	0	0					
Total %	0	38	16.8		54.8	3.1	0	11.6		14.8	10	20.5	0		30.5	0	0	0		0	9.7	90.3	

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	169	**91**	260	12	0	52	64	**64**	**100**	0	**164**	0	0	0	0	488
04:45 PM	0	187	86	273	**17**	**1**	54	72	42	88	0	130	0	0	0	0	475
05:00 PM	0	183	72	255	15	0	57	72	41	97	0	138	0	0	0	0	465
05:15 PM	0	**229**	85	**314**	14	0	**61**	**75**	26	95	0	121	0	0	0	0	**510**
Total Volume	0	768	334	1102	58	1	224	283	173	380	0	553	0	0	0	0	1938
% App. Total	0	69.7	30.3		20.5	0.4	79.2		31.3	68.7	0		0	0	0		
PHF	.000	.838	.918	.877	.853	.250	.918	.943	.676	.950	.000	.843	.000	.000	.000	.000	.950

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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Corona, CA 92878
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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	169	**91**	260	12	0	52	64	**64**	**100**	0	**164**	0	0	0	0	
+15 mins.	0	187	86	273	**17**	**1**	54	72	42	88	0	130	0	0	0	0	
+30 mins.	0	183	72	255	15	0	57	72	41	97	0	138	0	0	0	0	
+45 mins.	0	**229**	85	**314**	14	0	**61**	**75**	26	95	0	121	0	0	0	0	
Total Volume	0	768	334	1102	58	1	224	283	173	380	0	553	0	0	0	0	
% App. Total	0	69.7	30.3		20.5	0.4	79.2		31.3	68.7	0		0	0	0		
PHF	.000	.838	.918	.877	.853	.250	.918	.943	.676	.950	.000	.843	.000	.000	.000	.000	

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

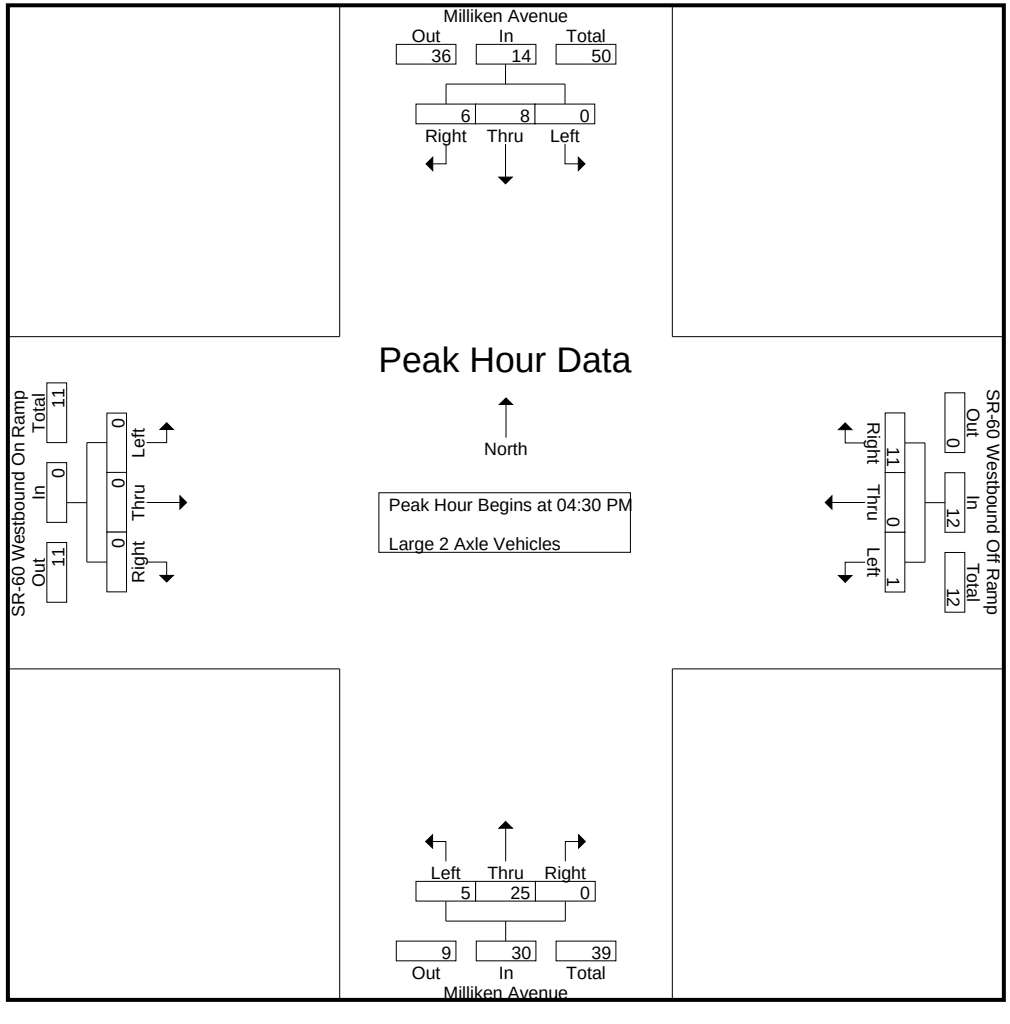
	Milliken Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Milliken Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	3	1	0	4	1	0	3	3	4	2	5	0	0	7	0	0	0	0	0	3	15	18
04:15 PM	0	3	1	1	4	1	0	3	2	4	0	4	0	0	4	0	0	0	0	0	3	12	15
04:30 PM	0	3	2	0	5	1	0	4	3	5	2	7	0	0	9	0	0	0	0	0	3	19	22
04:45 PM	0	2	2	1	4	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	1	13	14
Total	0	11	6	2	17	3	0	10	8	13	4	25	0	0	29	0	0	0	0	0	10	59	69
05:00 PM	0	3	1	0	4	0	0	4	1	4	2	1	0	0	3	0	0	0	0	0	1	11	12
05:15 PM	0	0	1	1	1	0	0	3	1	3	1	8	0	0	9	0	0	0	0	0	2	13	15
05:30 PM	0	0	1	1	1	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	1	6	7
05:45 PM	0	1	1	0	2	0	0	1	0	1	2	5	0	0	7	0	0	0	0	0	0	10	10
Total	0	4	4	2	8	0	0	9	2	9	6	17	0	0	23	0	0	0	0	0	4	40	44
Grand Total	0	15	10	4	25	3	0	19	10	22	10	42	0	0	52	0	0	0	0	0	14	99	113
Apprch %	0	60	40			13.6	0	86.4			19.2	80.8	0			0	0	0					
Total %	0	15.2	10.1		25.3	3	0	19.2		22.2	10.1	42.4	0		52.5	0	0	0		0	12.4	87.6	

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**3**	**2**	**5**	**1**	0	**4**	**5**	**2**	7	0	**9**	0	0	0	0	**19**
04:45 PM	0	2	2	4	0	0	0	0	0	**9**	0	9	0	0	0	0	13
05:00 PM	0	3	1	4	0	0	4	4	2	1	0	3	0	0	0	0	11
05:15 PM	0	0	1	1	0	0	3	3	1	8	0	9	0	0	0	0	13
Total Volume	0	8	6	14	1	0	11	12	5	25	0	30	0	0	0	0	56
% App. Total	0	57.1	42.9		8.3	0	91.7		16.7	83.3	0		0	0	0		
PHF	.000	.667	.750	.700	.250	.000	.688	.600	.625	.694	.000	.833	.000	.000	.000	.000	.737

Counts Unlimited, Inc.
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(951)268-6268

City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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(951)268-6268

City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	**3**	**2**	**5**	**1**	0	**4**	**5**	**2**	7	0	**9**	0	0	0	0	
+15 mins.	0	2	2	4	0	0	0	0	0	**9**	0	9	0	0	0	0	
+30 mins.	0	3	1	4	0	0	4	4	2	1	0	3	0	0	0	0	
+45 mins.	0	0	1	1	0	0	3	3	1	8	0	9	0	0	0	0	
Total Volume	0	8	6	14	1	0	11	12	5	25	0	30	0	0	0	0	
% App. Total	0	57.1	42.9		8.3	0	91.7		16.7	83.3	0		0	0	0		
PHF	.000	.667	.750	.700	.250	.000	.688	.600	.625	.694	.000	.833	.000	.000	.000	.000	

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

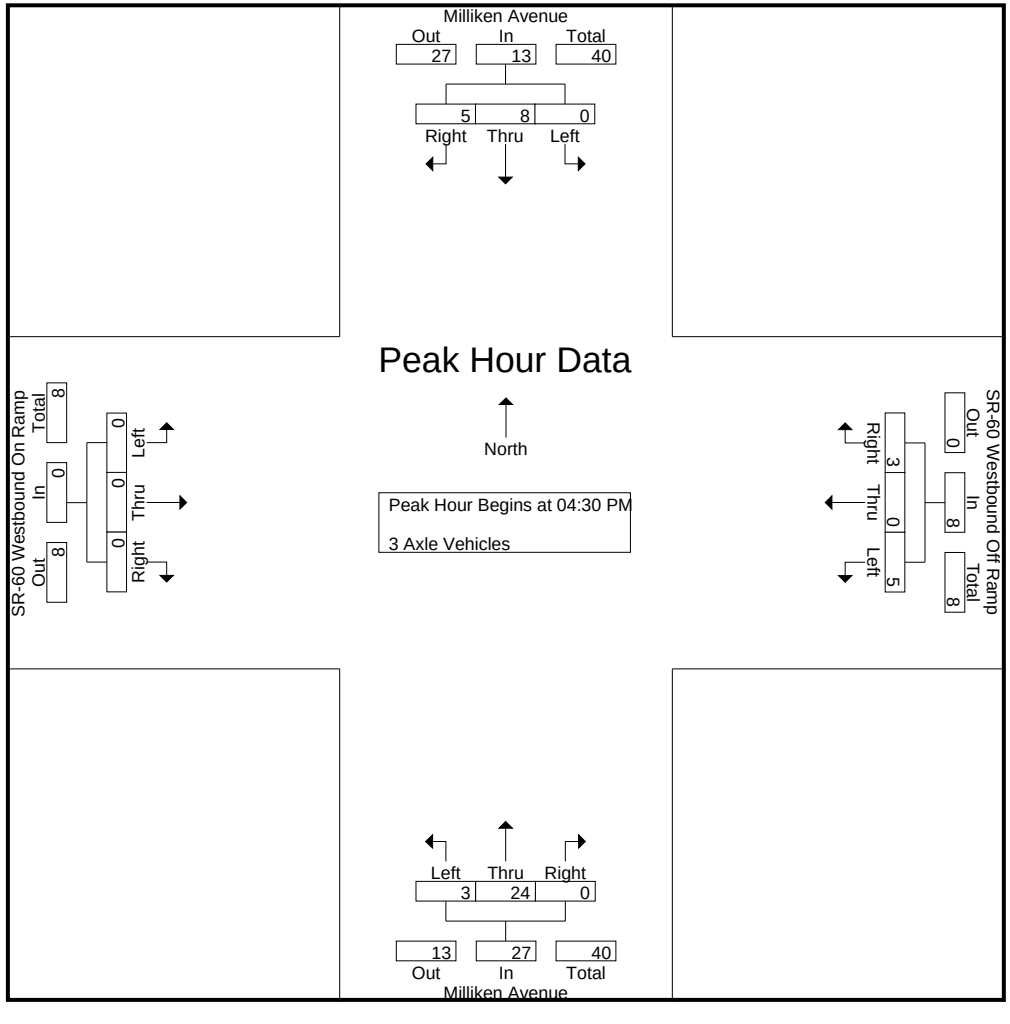
	Milliken Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Milliken Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	2	2	0	4	1	0	3	1	4	3	4	0	0	7	0	0	0	0	0	1	15	16
04:15 PM	0	3	2	0	5	0	0	1	1	1	0	4	0	0	4	0	0	0	0	0	1	10	11
04:30 PM	0	3	1	0	4	1	0	1	1	2	1	6	0	0	7	0	0	0	0	0	1	13	14
04:45 PM	0	3	1	0	4	4	0	0	0	4	0	4	0	0	4	0	0	0	0	0	0	12	12
Total	0	11	6	0	17	6	0	5	3	11	4	18	0	0	22	0	0	0	0	0	3	50	53
05:00 PM	0	1	1	1	2	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	1	8	9
05:15 PM	0	1	2	0	3	0	0	1	0	1	2	9	0	0	11	0	0	0	0	0	0	15	15
05:30 PM	0	3	1	0	4	1	0	1	1	2	0	8	0	0	8	0	0	0	0	0	1	14	15
05:45 PM	0	5	2	0	7	0	0	2	0	2	1	4	0	0	5	0	0	0	0	0	0	14	14
Total	0	10	6	1	16	1	0	5	1	6	3	26	0	0	29	0	0	0	0	0	2	51	53
Grand Total	0	21	12	1	33	7	0	10	4	17	7	44	0	0	51	0	0	0	0	0	5	101	106
Apprch %	0	63.6	36.4			41.2	0	58.8			13.7	86.3	0			0	0	0					
Total %	0	20.8	11.9		32.7	6.9	0	9.9		16.8	6.9	43.6	0		50.5	0	0	0		0	4.7	95.3	

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**3**	1	**4**	1	0	**1**	2	1	6	0	7	0	0	0	0	13
04:45 PM	0	3	1	4	**4**	0	0	**4**	0	4	0	4	0	0	0	0	12
05:00 PM	0	1	1	2	0	0	1	1	0	5	0	5	0	0	0	0	8
05:15 PM	0	1	**2**	3	0	0	1	1	**2**	**9**	0	**11**	0	0	0	0	**15**
Total Volume	0	8	5	13	5	0	3	8	3	24	0	27	0	0	0	0	48
% App. Total	0	61.5	38.5		62.5	0	37.5		11.1	88.9	0		0	0	0		
PHF	.000	.667	.625	.813	.313	.000	.750	.500	.375	.667	.000	.614	.000	.000	.000	.000	.800

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 3

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	**3**	1	**4**	1	0	**1**	2	1	6	0	7	0	0	0	0	
+15 mins.	0	3	1	4	**4**	0	0	**4**	0	4	0	4	0	0	0	0	
+30 mins.	0	1	1	2	0	0	1	1	0	5	0	5	0	0	0	0	
+45 mins.	0	1	**2**	3	0	0	1	1	**2**	**9**	0	**11**	0	0	0	0	
Total Volume	0	8	5	13	5	0	3	8	3	24	0	27	0	0	0	0	
% App. Total	0	61.5	38.5		62.5	0	37.5		11.1	88.9	0		0	0	0		
PHF	.000	.667	.625	.813	.313	.000	.750	.500	.375	.667	.000	.614	.000	.000	.000	.000	

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

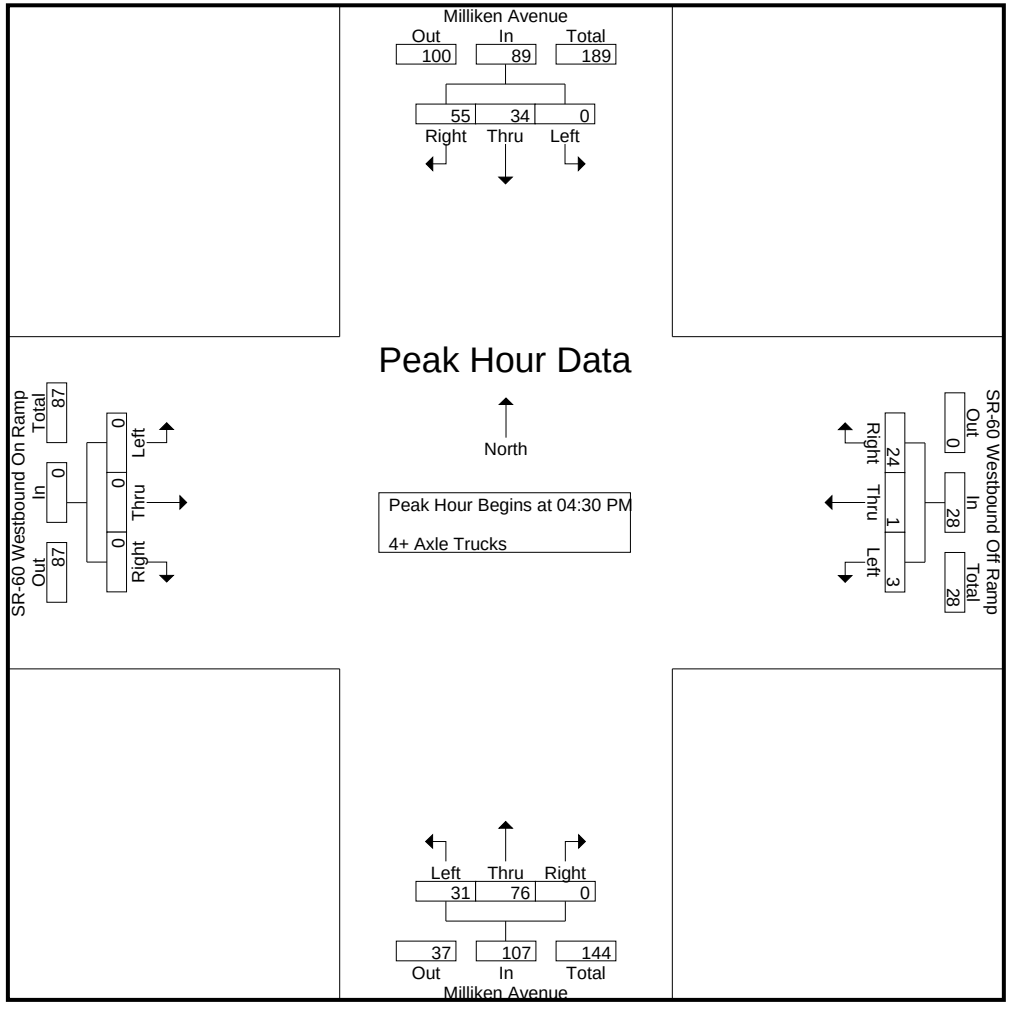
	Milliken Avenue Southbound					SR-60 Westbound Off Ramp Westbound					Milliken Avenue Northbound					SR-60 Westbound On Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	9	8	2	17	1	0	9	4	10	10	27	0	0	37	0	0	0	0	0	6	64	70
04:15 PM	0	3	15	7	18	1	0	6	4	7	6	28	0	0	34	0	0	0	0	0	11	59	70
04:30 PM	0	9	19	5	28	0	0	7	5	7	9	21	0	0	30	0	0	0	0	0	10	65	75
04:45 PM	0	12	13	4	25	1	0	5	2	6	8	22	0	0	30	0	0	0	0	0	6	61	67
Total	0	33	55	18	88	3	0	27	15	30	33	98	0	0	131	0	0	0	0	0	33	249	282
05:00 PM	0	5	10	1	15	0	0	3	0	3	7	20	0	0	27	0	0	0	0	0	1	45	46
05:15 PM	0	8	13	0	21	2	1	9	5	12	7	13	0	0	20	0	0	0	0	0	5	53	58
05:30 PM	0	8	12	1	20	1	0	6	2	7	5	24	0	0	29	0	0	0	0	0	3	56	59
05:45 PM	0	10	11	4	21	2	0	2	1	4	9	11	0	0	20	0	0	0	0	0	5	45	50
Total	0	31	46	6	77	5	1	20	8	26	28	68	0	0	96	0	0	0	0	0	14	199	213
Grand Total	0	64	101	24	165	8	1	47	23	56	61	166	0	0	227	0	0	0	0	0	47	448	495
Apprch %	0	38.8	61.2			14.3	1.8	83.9			26.9	73.1	0			0	0	0					
Total %	0	14.3	22.5		36.8	1.8	0.2	10.5		12.5	13.6	37.1	0		50.7	0	0	0		0	9.5	90.5	

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	9	**19**	**28**	0	0	7	7	**9**	21	0	**30**	0	0	0	0	**65**
04:45 PM	0	**12**	13	25	1	0	5	6	8	**22**	0	30	0	0	0	0	61
05:00 PM	0	5	10	15	0	0	3	3	7	20	0	27	0	0	0	0	45
05:15 PM	0	8	13	21	**2**	**1**	**9**	**12**	7	13	0	20	0	0	0	0	53
Total Volume	0	34	55	89	3	1	24	28	31	76	0	107	0	0	0	0	224
% App. Total	0	38.2	61.8		10.7	3.6	85.7		29	71	0		0	0	0		
PHF	.000	.708	.724	.795	.375	.250	.667	.583	.861	.864	.000	.892	.000	.000	.000	.000	.862

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Westbound Ramps
Weather: Clear

File Name : 01_ONT_Mil_60W PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 3

	Milliken Avenue Southbound				SR-60 Westbound Off Ramp Westbound				Milliken Avenue Northbound				SR-60 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	9	**19**	**28**	0	0	7	7	**9**	21	0	**30**	0	0	0	0	
+15 mins.	0	**12**	13	25	1	0	5	6	8	**22**	0	30	0	0	0	0	
+30 mins.	0	5	10	15	0	0	3	3	7	20	0	27	0	0	0	0	
+45 mins.	0	8	13	21	**2**	**1**	**9**	**12**	7	13	0	20	0	0	0	0	
Total Volume	0	34	55	89	3	1	24	28	31	76	0	107	0	0	0	0	
% App. Total	0	38.2	61.8		10.7	3.6	85.7		29	71	0		0	0	0		
PHF	.000	.708	.724	.795	.375	.250	.667	.583	.861	.864	.000	.892	.000	.000	.000	.000	

Location: Ontario
N/S: Milliken Avenue
E/W: SR-60 WB Ramps



Date: 5/10/2022
Day: Tuesday

PEDESTRIANS

	North Leg Milliken Avenue	East Leg SR-60 WB Ramps	South Leg Milliken Avenue	West Leg SR-60 WB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Milliken Avenue	East Leg SR-60 WB Ramps	South Leg Milliken Avenue	West Leg SR-60 WB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1
TOTAL VOLUMES:	0	2	0	0	2

Location: Ontario
N/S: Milliken Avenue
E/W: SR-60 WB Ramps



Date: 5/10/2022
Day: Tuesday

BICYCLES

	Southbound Milliken Avenue			Westbound SR-60 WB Ramps			Northbound Milliken Avenue			Eastbound SR-60 WB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Milliken Avenue			Westbound SR-60 WB Ramps			Northbound Milliken Avenue			Eastbound SR-60 WB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	0	0	0	0	0	0	0	0	0	3

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Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

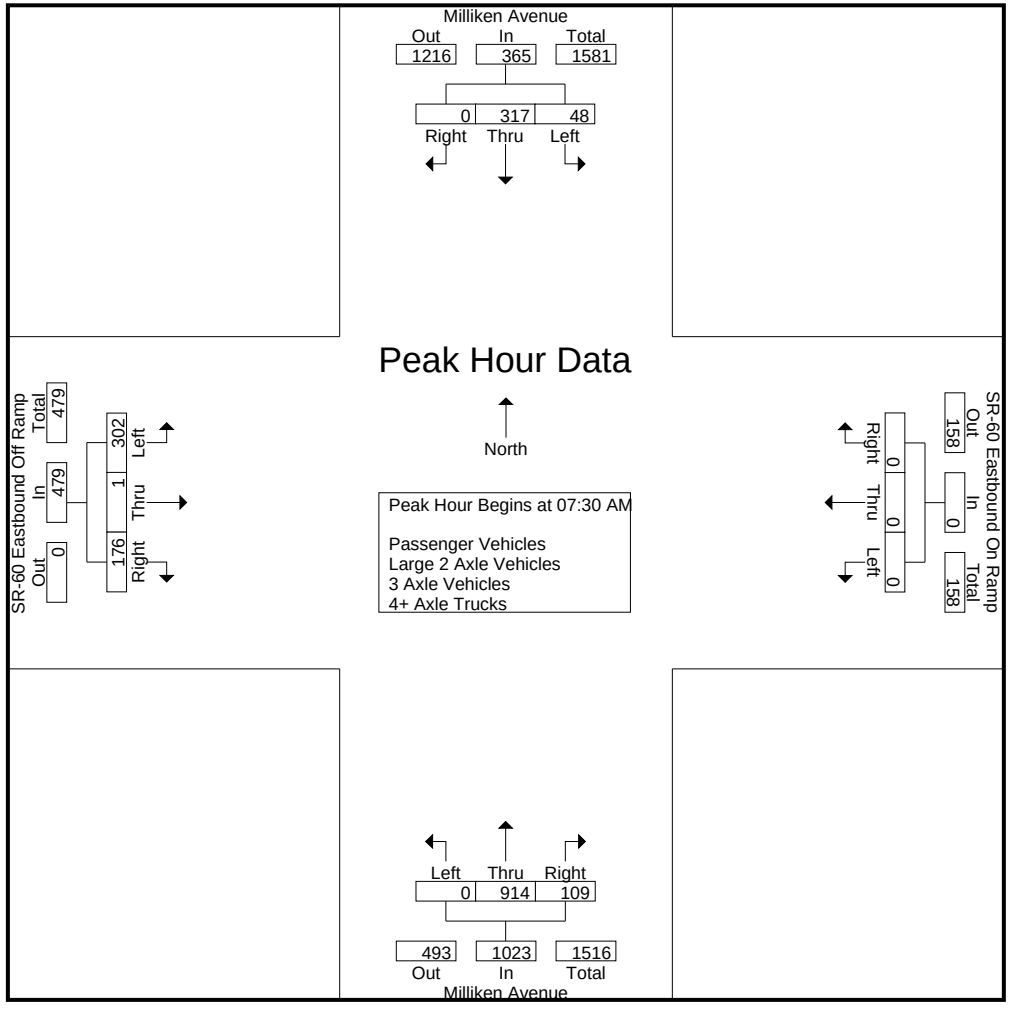
	Milliken Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Milliken Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	82	0	0	91	0	0	0	0	0	0	148	26	12	174	49	0	53	10	102	22	367	389
07:15 AM	9	86	0	0	95	0	0	0	0	0	0	202	33	10	235	58	1	50	13	109	23	439	462
07:30 AM	10	82	0	0	92	0	0	0	0	0	0	227	19	5	246	72	1	32	15	105	20	443	463
07:45 AM	16	81	0	0	97	0	0	0	0	0	0	234	38	4	272	67	0	46	18	113	22	482	504
Total	44	331	0	0	375	0	0	0	0	0	0	811	116	31	927	246	2	181	56	429	87	1731	1818
08:00 AM	14	85	0	0	99	0	0	0	0	0	0	238	33	10	271	74	0	37	6	111	16	481	497
08:15 AM	8	69	0	0	77	0	0	0	0	0	0	215	19	4	234	89	0	61	21	150	25	461	486
08:30 AM	19	71	0	0	90	0	0	0	0	0	0	191	20	3	211	81	0	50	12	131	15	432	447
08:45 AM	12	58	0	0	70	0	0	0	0	0	0	170	22	3	192	82	0	50	19	132	22	394	416
Total	53	283	0	0	336	0	0	0	0	0	0	814	94	20	908	326	0	198	58	524	78	1768	1846
Grand Total	97	614	0	0	711	0	0	0	0	0	0	1625	210	51	1835	572	2	379	114	953	165	3499	3664
Apprch %	13.6	86.4	0			0	0	0			0	88.6	11.4			60	0.2	39.8					
Total %	2.8	17.5	0		20.3	0	0	0		0	0	46.4	6		52.4	16.3	0.1	10.8		27.2	4.5	95.5	
Passenger Vehicles	53	499	0		552	0	0	0		0	0	1388	181		1616	426	1	252		750	0	0	2918
% Passenger Vehicles	54.6	81.3	0	0	77.6	0	0	0	0	0	0	85.4	86.2	92.2	85.7	74.5	50	66.5	62.3	70.3	0	0	79.6
Large 2 Axle Vehicles	12	32	0		44	0	0	0		0	0	59	7		66	23	0	16		43	0	0	153
% Large 2 Axle Vehicles	12.4	5.2	0	0	6.2	0	0	0	0	0	0	3.6	3.3	0	3.5	4	0	4.2	3.5	4	0	0	4.2
3 Axle Vehicles	10	20	0		30	0	0	0		0	0	28	2		30	11	0	11		27	0	0	87
% 3 Axle Vehicles	10.3	3.3	0	0	4.2	0	0	0	0	0	0	1.7	1	0	1.6	1.9	0	2.9	4.4	2.5	0	0	2.4
4+ Axle Trucks	22	63	0		85	0	0	0		0	0	150	20		174	112	1	100		247	0	0	506
% 4+ Axle Trucks	22.7	10.3	0	0	12	0	0	0	0	0	0	9.2	9.5	7.8	9.2	19.6	50	26.4	29.8	23.1	0	0	13.8

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	10	82	0	92	0	0	0	0	0	227	19	246	72	**1**	32	105	443
07:45 AM	**16**	81	0	97	0	0	0	0	0	234	**38**	**272**	67	0	46	113	**482**
08:00 AM	14	**85**	0	**99**	0	0	0	0	0	**238**	33	271	74	0	37	111	481
08:15 AM	8	69	0	77	0	0	0	0	0	215	19	234	**89**	0	**61**	**150**	461
Total Volume	48	317	0	365	0	0	0	0	0	914	109	1023	302	1	176	479	1867
% App. Total	13.2	86.8	0		0	0	0		0	89.3	10.7		63	0.2	36.7		
PHF	.750	.932	.000	.922	.000	.000	.000	.000	.000	.960	.717	.940	.848	.250	.721	.798	.968

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E AM
Site Code : 05122421
Start Date : 5/10/2022
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	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:00 AM				07:15 AM				08:00 AM				
+0 mins.	9	**86**	0	95	0	0	0	0	0	202	33	235	74	0	37	111	
+15 mins.	10	82	0	92	0	0	0	0	0	227	19	246	**89**	0	**61**	**150**	
+30 mins.	**16**	81	0	97	0	0	0	0	0	234	**38**	**272**	81	0	50	131	
+45 mins.	14	85	0	**99**	0	0	0	0	0	**238**	33	271	82	0	50	132	
Total Volume	49	334	0	383	0	0	0	0	0	901	123	1024	326	0	198	524	
% App. Total	12.8	87.2	0		0	0	0		0	88	12		62.2	0	37.8		
PHF	.766	.971	.000	.967	.000	.000	.000	.000	.000	.946	.809	.941	.916	.000	.811	.873	

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Groups Printed- Passenger Vehicles

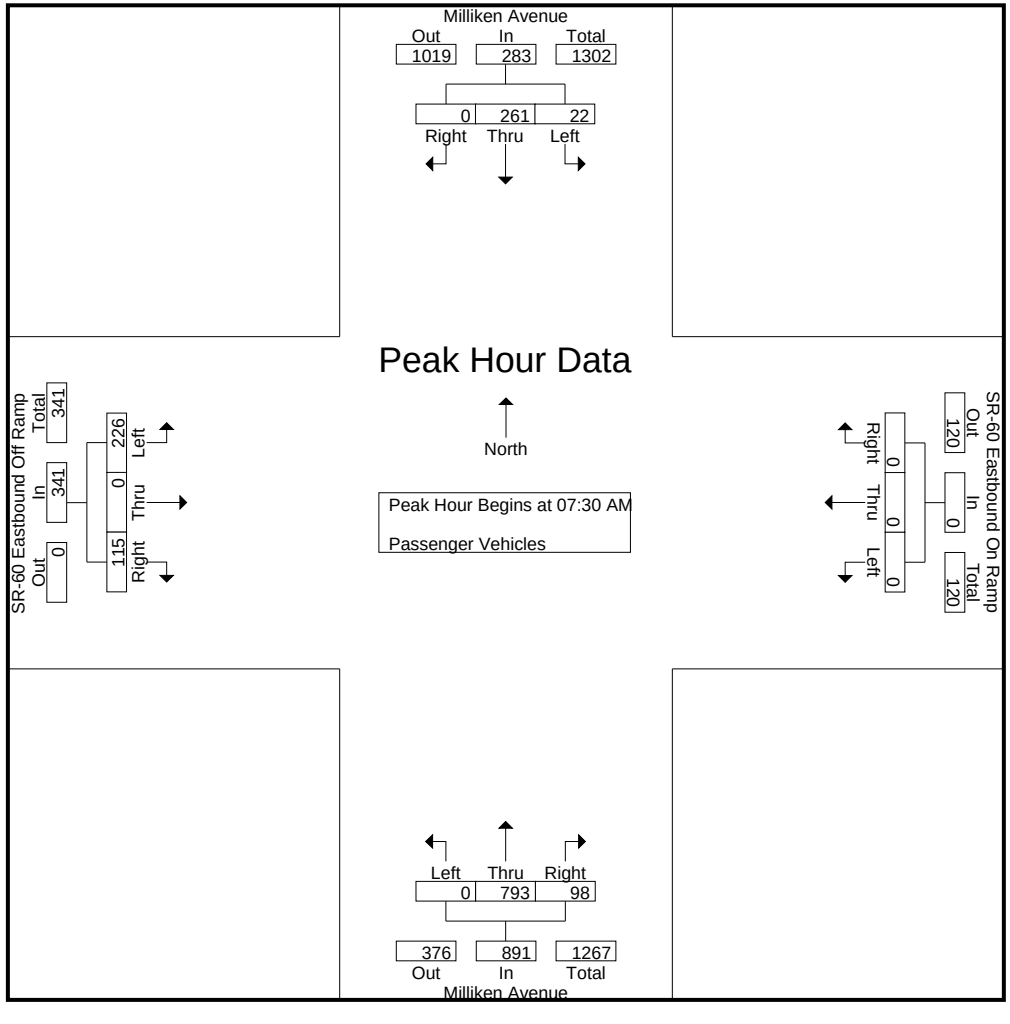
	Milliken Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Milliken Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	68	0	0	70	0	0	0	0	0	0	132	23	12	155	32	0	39	8	71	20	296	316
07:15 AM	6	75	0	0	81	0	0	0	0	0	0	162	25	10	187	40	1	34	8	75	18	343	361
07:30 AM	3	67	0	0	70	0	0	0	0	0	0	203	14	4	217	57	0	22	10	79	14	366	380
07:45 AM	10	66	0	0	76	0	0	0	0	0	0	203	36	4	239	50	0	32	12	82	16	397	413
Total	21	276	0	0	297	0	0	0	0	0	0	700	98	30	798	179	1	127	38	307	68	1402	1470
08:00 AM	4	70	0	0	74	0	0	0	0	0	0	216	30	9	246	52	0	24	4	76	13	396	409
08:15 AM	5	58	0	0	63	0	0	0	0	0	0	171	18	4	189	67	0	37	11	104	15	356	371
08:30 AM	15	53	0	0	68	0	0	0	0	0	0	162	18	3	180	62	0	36	9	98	12	346	358
08:45 AM	8	42	0	0	50	0	0	0	0	0	0	139	17	1	156	66	0	28	9	94	10	300	310
Total	32	223	0	0	255	0	0	0	0	0	0	688	83	17	771	247	0	125	33	372	50	1398	1448
Grand Total	53	499	0	0	552	0	0	0	0	0	0	1388	181	47	1569	426	1	252	71	679	118	2800	2918
Apprch %	9.6	90.4	0			0	0	0			0	88.5	11.5			62.7	0.1	37.1					
Total %	1.9	17.8	0		19.7	0	0	0		0	0	49.6	6.5		56	15.2	0	9		24.2	4	96	

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	3	67	0	70	0	0	0	0	0	203	14	217	57	0	22	79	366
07:45 AM	**10**	66	0	**76**	0	0	0	0	0	203	**36**	239	50	0	32	82	**397**
08:00 AM	4	**70**	0	74	0	0	0	0	0	**216**	30	**246**	52	0	24	76	396
08:15 AM	5	58	0	63	0	0	0	0	0	171	18	189	**67**	0	**37**	**104**	356
Total Volume	22	261	0	283	0	0	0	0	0	793	98	891	226	0	115	341	1515
% App. Total	7.8	92.2	0		0	0	0		0	89	11		66.3	0	33.7		
PHF	.550	.932	.000	.931	.000	.000	.000	.000	.000	.918	.681	.905	.843	.000	.777	.820	.954

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E AM
Site Code : 05122421
Start Date : 5/10/2022
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	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	3	67	0	70	0	0	0	0	0	203	14	217	57	0	22	79	
+15 mins.	**10**	66	0	**76**	0	0	0	0	0	203	**36**	239	50	0	32	82	
+30 mins.	4	**70**	0	74	0	0	0	0	0	**216**	30	**246**	52	0	24	76	
+45 mins.	5	58	0	63	0	0	0	0	0	171	18	189	**67**	0	**37**	**104**	
Total Volume	22	261	0	283	0	0	0	0	0	793	98	891	226	0	115	341	
% App. Total	7.8	92.2	0		0	0	0		0	89	11		66.3	0	33.7		
PHF	.550	.932	.000	.931	.000	.000	.000	.000	.000	.918	.681	.905	.843	.000	.777	.820	

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File Name : 02_ONT_Mil_60E AM
Site Code : 05122421
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Groups Printed- Large 2 Axle Vehicles

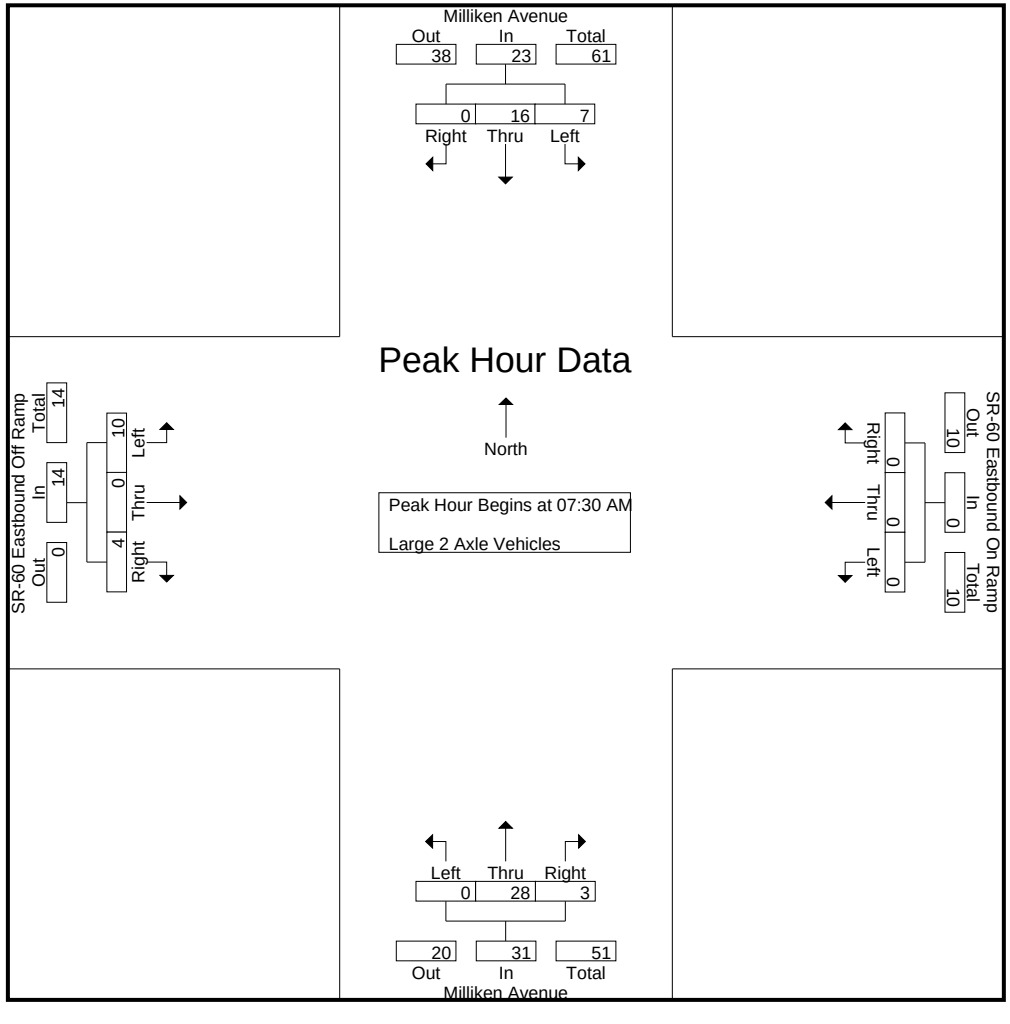
	Milliken Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Milliken Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	3	6	0	0	9	0	0	0	0	0	0	6	2	0	8	2	0	2	0	4	0	21	21
07:15 AM	0	1	0	0	1	0	0	0	0	0	0	12	1	0	13	3	0	5	1	8	1	22	23
07:30 AM	0	4	0	0	4	0	0	0	0	0	0	3	1	0	4	2	0	0	0	2	0	10	10
07:45 AM	3	7	0	0	10	0	0	0	0	0	0	7	0	0	7	3	0	2	1	5	1	22	23
Total	6	18	0	0	24	0	0	0	0	0	0	28	4	0	32	10	0	9	2	19	2	75	77
08:00 AM	3	3	0	0	6	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	14	14
08:15 AM	1	2	0	0	3	0	0	0	0	0	0	12	1	0	13	4	0	2	1	6	1	22	23
08:30 AM	2	5	0	0	7	0	0	0	0	0	0	6	1	0	7	3	0	4	0	7	0	21	21
08:45 AM	0	4	0	0	4	0	0	0	0	0	0	7	0	0	7	5	0	1	1	6	1	17	18
Total	6	14	0	0	20	0	0	0	0	0	0	31	3	0	34	13	0	7	2	20	2	74	76
Grand Total	12	32	0	0	44	0	0	0	0	0	0	59	7	0	66	23	0	16	4	39	4	149	153
Apprch %	27.3	72.7	0			0	0	0			0	89.4	10.6			59	0	41					
Total %	8.1	21.5	0		29.5	0	0	0		0	0	39.6	4.7		44.3	15.4	0	10.7		26.2	2.6	97.4	

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	4	0	4	0	0	0	0	0	3	**1**	4	2	0	0	2	10
07:45 AM	**3**	**7**	0	**10**	0	0	0	0	0	7	0	7	3	0	**2**	5	**22**
08:00 AM	3	3	0	6	0	0	0	0	0	6	1	7	1	0	0	1	14
08:15 AM	1	2	0	3	0	0	0	0	0	**12**	1	**13**	**4**	0	2	**6**	22
Total Volume	7	16	0	23	0	0	0	0	0	28	3	31	10	0	4	14	68
% App. Total	30.4	69.6	0		0	0	0		0	90.3	9.7		71.4	0	28.6		
PHF	.583	.571	.000	.575	.000	.000	.000	.000	.000	.583	.750	.596	.625	.000	.500	.583	.773

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E AM
Site Code : 05122421
Start Date : 5/10/2022
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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E AM
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Start Date : 5/10/2022

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	4	0	4	0	0	0	0	0	3	**1**	4	2	0	0	2	
+15 mins.	**3**	**7**	0	**10**	0	0	0	0	0	7	0	7	3	0	**2**	5	
+30 mins.	3	3	0	6	0	0	0	0	0	6	1	7	1	0	0	1	
+45 mins.	1	2	0	3	0	0	0	0	0	**12**	1	**13**	**4**	0	2	**6**	
Total Volume	7	16	0	23	0	0	0	0	0	28	3	31	10	0	4	14	
% App. Total	30.4	69.6	0		0	0	0		0	90.3	9.7		71.4	0	28.6		
PHF	.583	.571	.000	.575	.000	.000	.000	.000	.000	.583	.750	.596	.625	.000	.500	.583	

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

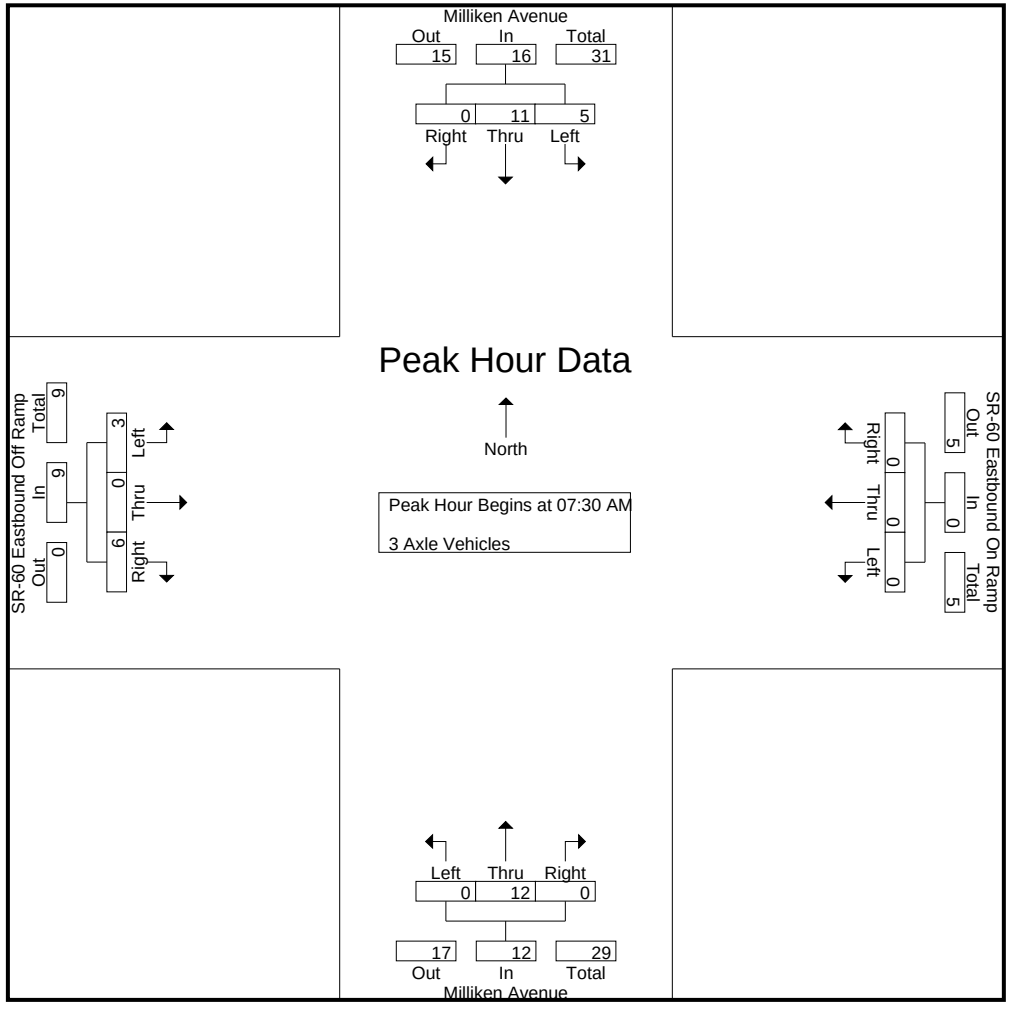
	Milliken Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Milliken Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	2	0	0	4	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	6	6
07:15 AM	1	2	0	0	3	0	0	0	0	0	0	7	2	0	9	3	0	0	0	3	0	15	15
07:30 AM	3	4	0	0	7	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	10	10
07:45 AM	1	2	0	0	3	0	0	0	0	0	0	4	0	0	4	1	0	2	1	3	1	10	11
Total	7	10	0	0	17	0	0	0	0	0	0	14	2	0	16	6	0	2	1	8	1	41	42
08:00 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	3	1	3	1	8	9
08:15 AM	1	2	0	0	3	0	0	0	0	0	0	4	0	0	4	1	0	1	1	2	1	9	10
08:30 AM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	0	7	7
08:45 AM	2	2	0	0	4	0	0	0	0	0	0	5	0	0	5	4	0	4	2	8	2	17	19
Total	3	10	0	0	13	0	0	0	0	0	0	14	0	0	14	5	0	9	4	14	4	41	45
Grand Total	10	20	0	0	30	0	0	0	0	0	0	28	2	0	30	11	0	11	5	22	5	82	87
Apprch %	33.3	66.7	0			0	0	0			0	93.3	6.7			50	0	50					
Total %	12.2	24.4	0		36.6	0	0	0		0	0	34.1	2.4		36.6	13.4	0	13.4		26.8	5.7	94.3	

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**3**	**4**	0	**7**	0	0	0	0	0	2	0	2	**1**	0	0	1	**10**
07:45 AM	1	2	0	3	0	0	0	0	0	**4**	0	**4**	1	0	2	**3**	10
08:00 AM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	**3**	3	8
08:15 AM	1	2	0	3	0	0	0	0	0	4	0	4	1	0	1	2	9
Total Volume	5	11	0	16	0	0	0	0	0	12	0	12	3	0	6	9	37
% App. Total	31.2	68.8	0		0	0	0		0	100	0		33.3	0	66.7		
PHF	.417	.688	.000	.571	.000	.000	.000	.000	.000	.750	.000	.750	.750	.000	.500	.750	.925

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Milliken Avenue
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File Name : 02_ONT_Mil_60E AM
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	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	**3**	**4**	0	**7**	0	0	0	0	0	2	0	2	**1**	0	0	1	
+15 mins.	1	2	0	3	0	0	0	0	0	**4**	0	**4**	1	0	2	**3**	
+30 mins.	0	3	0	3	0	0	0	0	0	2	0	2	0	0	**3**	3	
+45 mins.	1	2	0	3	0	0	0	0	0	4	0	4	1	0	1	2	
Total Volume	5	11	0	16	0	0	0	0	0	12	0	12	3	0	6	9	
% App. Total	31.2	68.8	0		0	0	0		0	100	0		33.3	0	66.7		
PHF	.417	.688	.000	.571	.000	.000	.000	.000	.000	.750	.000	.750	.750	.000	.500	.750	

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File Name : 02_ONT_Mil_60E AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

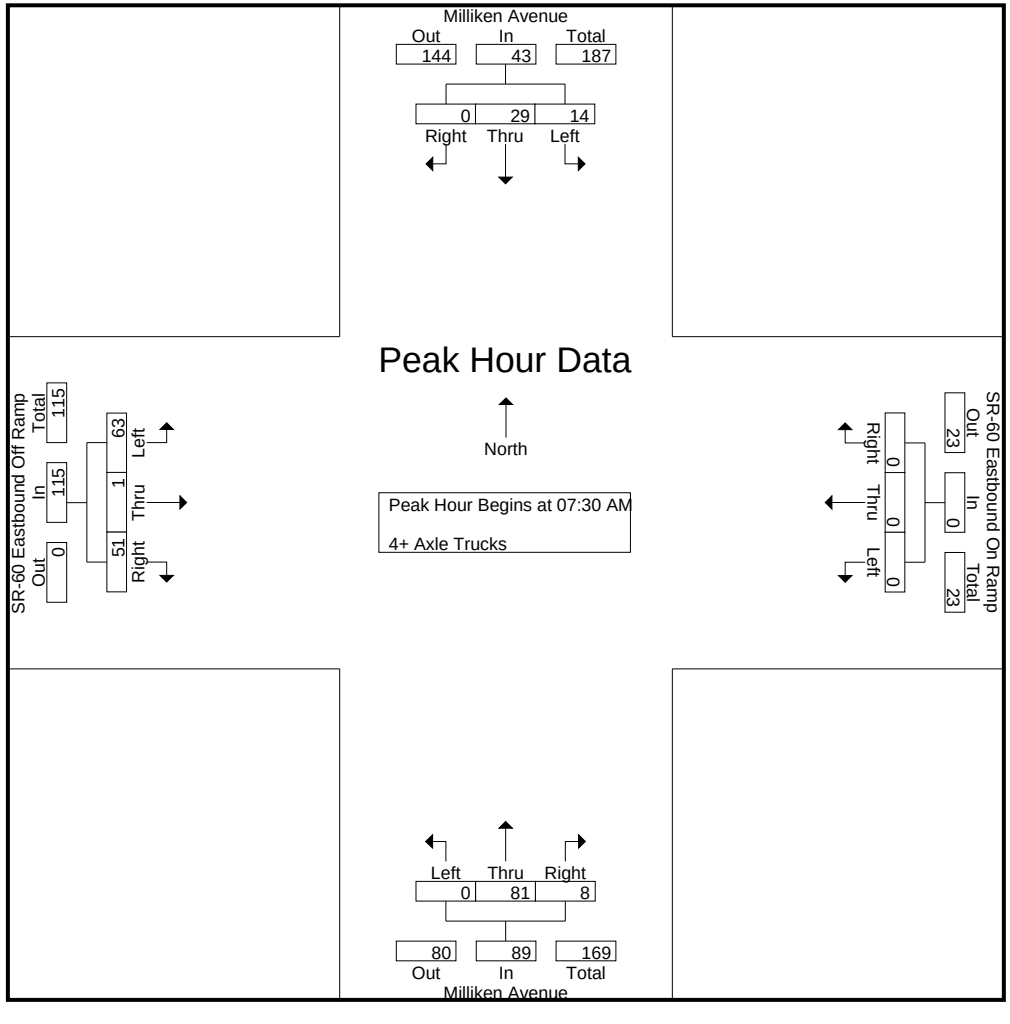
	Milliken Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Milliken Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	6	0	0	8	0	0	0	0	0	0	9	1	0	10	14	0	12	2	26	2	44	46
07:15 AM	2	8	0	0	10	0	0	0	0	0	0	21	5	0	26	12	0	11	4	23	4	59	63
07:30 AM	4	7	0	0	11	0	0	0	0	0	0	19	4	1	23	12	1	10	5	23	6	57	63
07:45 AM	2	6	0	0	8	0	0	0	0	0	0	20	2	0	22	13	0	10	4	23	4	53	57
Total	10	27	0	0	37	0	0	0	0	0	0	69	12	1	81	51	1	43	15	95	16	213	229
08:00 AM	7	9	0	0	16	0	0	0	0	0	0	14	2	1	16	21	0	10	1	31	2	63	65
08:15 AM	1	7	0	0	8	0	0	0	0	0	0	28	0	0	28	17	0	21	8	38	8	74	82
08:30 AM	2	10	0	0	12	0	0	0	0	0	0	20	1	0	21	16	0	9	3	25	3	58	61
08:45 AM	2	10	0	0	12	0	0	0	0	0	0	19	5	2	24	7	0	17	7	24	9	60	69
Total	12	36	0	0	48	0	0	0	0	0	0	81	8	3	89	61	0	57	19	118	22	255	277
Grand Total	22	63	0	0	85	0	0	0	0	0	0	150	20	4	170	112	1	100	34	213	38	468	506
Apprch %	25.9	74.1	0			0	0	0			0	88.2	11.8			52.6	0.5	46.9					
Total %	4.7	13.5	0		18.2	0	0	0		0	0	32.1	4.3		36.3	23.9	0.2	21.4		45.5	7.5	92.5	

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	4	7	0	11	0	0	0	0	0	19	**4**	23	12	**1**	10	23	57
07:45 AM	2	6	0	8	0	0	0	0	0	20	2	22	13	0	10	23	53
08:00 AM	**7**	**9**	0	**16**	0	0	0	0	0	14	2	16	**21**	0	10	31	63
08:15 AM	1	7	0	8	0	0	0	0	0	**28**	0	**28**	17	0	**21**	**38**	**74**
Total Volume	14	29	0	43	0	0	0	0	0	81	8	89	63	1	51	115	247
% App. Total	32.6	67.4	0		0	0	0		0	91	9		54.8	0.9	44.3		
PHF	.500	.806	.000	.672	.000	.000	.000	.000	.000	.723	.500	.795	.750	.250	.607	.757	.834

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E AM
Site Code : 05122421
Start Date : 5/10/2022
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City of Ontario
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File Name : 02_ONT_Mil_60E AM
Site Code : 05122421
Start Date : 5/10/2022

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	4	7	0	11	0	0	0	0	0	19	**4**	23	12	**1**	10	23	
+15 mins.	2	6	0	8	0	0	0	0	0	20	2	22	13	0	10	23	
+30 mins.	**7**	**9**	0	**16**	0	0	0	0	0	14	2	16	**21**	0	10	31	
+45 mins.	1	7	0	8	0	0	0	0	0	**28**	0	**28**	17	0	**21**	**38**	
Total Volume	14	29	0	43	0	0	0	0	0	81	8	89	63	1	51	115	
% App. Total	32.6	67.4	0		0	0	0		0	91	9		54.8	0.9	44.3		
PHF	.500	.806	.000	.672	.000	.000	.000	.000	.000	.723	.500	.795	.750	.250	.607	.757	

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File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

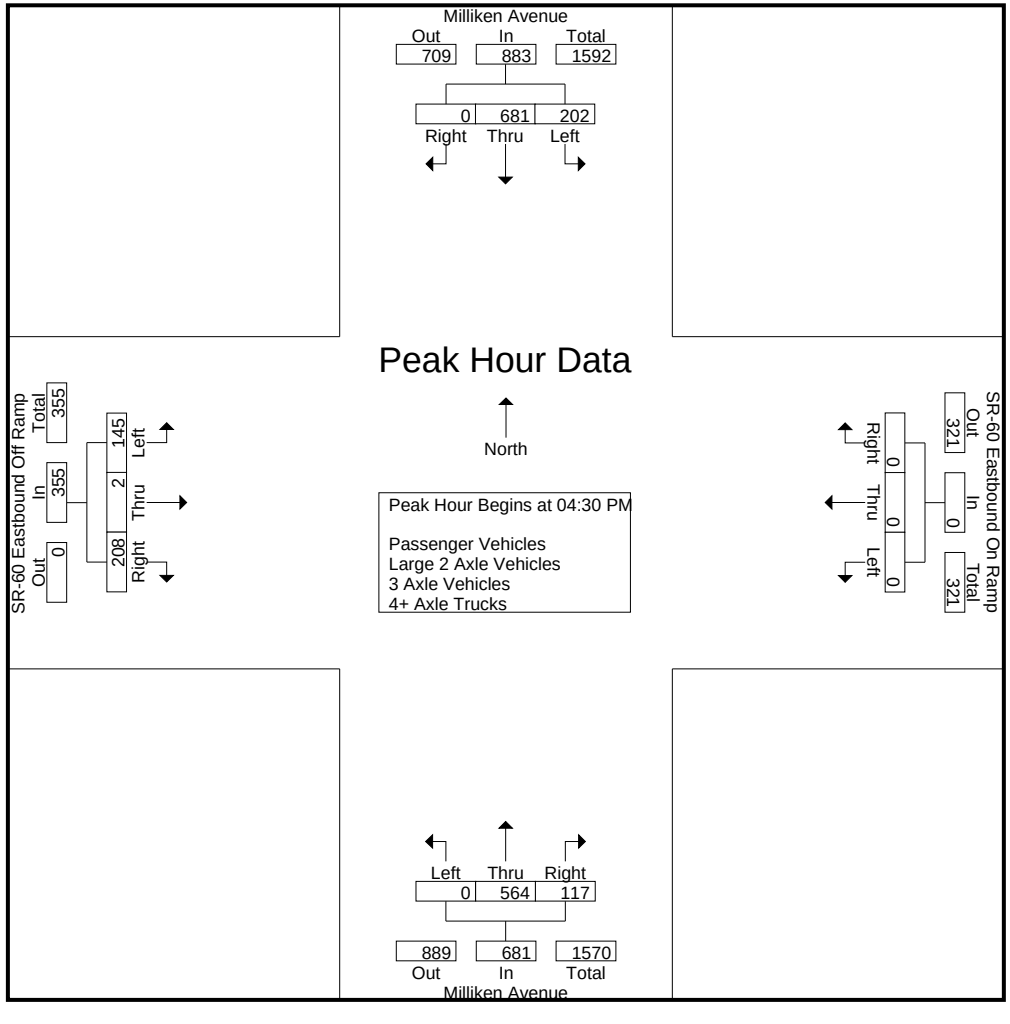
	Milliken Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Milliken Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	46	135	0	0	181	0	0	0	0	0	0	177	39	11	216	41	0	33	4	74	15	471	486
04:15 PM	38	122	0	0	160	0	0	0	0	0	0	139	27	2	166	36	1	46	14	83	16	409	425
04:30 PM	51	149	0	0	200	0	0	0	0	0	0	170	33	10	203	38	1	50	22	89	32	492	524
04:45 PM	32	189	0	0	221	0	0	0	0	0	0	131	25	6	156	39	0	65	18	104	24	481	505
Total	167	595	0	0	762	0	0	0	0	0	0	617	124	29	741	154	2	194	58	350	87	1853	1940
05:00 PM	62	155	0	0	217	0	0	0	0	0	0	137	38	7	175	33	0	50	22	83	29	475	504
05:15 PM	57	188	0	0	245	0	0	0	0	0	0	126	21	5	147	35	1	43	8	79	13	471	484
05:30 PM	44	179	0	0	223	0	0	0	0	0	0	135	32	9	167	41	0	52	10	93	19	483	502
05:45 PM	33	168	0	0	201	0	0	0	0	0	0	124	23	2	147	40	0	60	18	100	20	448	468
Total	196	690	0	0	886	0	0	0	0	0	0	522	114	23	636	149	1	205	58	355	81	1877	1958
Grand Total	363	1285	0	0	1648	0	0	0	0	0	0	1139	238	52	1377	303	3	399	116	705	168	3730	3898
Apprch %	22	78	0			0	0	0			0	82.7	17.3			43	0.4	56.6					
Total %	9.7	34.5	0		44.2	0	0	0		0	0	30.5	6.4		36.9	8.1	0.1	10.7		18.9	4.3	95.7	
Passenger Vehicles	338	1190	0		1528	0	0	0		0	0	960	223		1231	151	2	294		538	0	0	3297
% Passenger Vehicles	93.1	92.6	0	0	92.7	0	0	0	0	0	0	84.3	93.7	92.3	86.1	49.8	66.7	73.7	78.4	65.5	0	0	84.6
Large 2 Axle Vehicles	4	18	0		22	0	0	0		0	0	28	8		39	23	0	14		37	0	0	98
% Large 2 Axle Vehicles	1.1	1.4	0	0	1.3	0	0	0	0	0	0	2.5	3.4	5.8	2.7	7.6	0	3.5	0	4.5	0	0	2.5
3 Axle Vehicles	5	21	0		26	0	0	0		0	0	33	2		35	16	0	8		24	0	0	85
% 3 Axle Vehicles	1.4	1.6	0	0	1.6	0	0	0	0	0	0	2.9	0.8	0	2.4	5.3	0	2	0	2.9	0	0	2.2
4+ Axle Trucks	16	56	0		72	0	0	0		0	0	118	5		124	113	1	83		222	0	0	418
% 4+ Axle Trucks	4.4	4.4	0	0	4.4	0	0	0	0	0	0	10.4	2.1	1.9	8.7	37.3	33.3	20.8	21.6	27	0	0	10.7

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	51	149	0	200	0	0	0	0	0	**170**	33	**203**	38	**1**	50	89	**492**
04:45 PM	32	**189**	0	221	0	0	0	0	0	131	25	156	**39**	0	**65**	**104**	481
05:00 PM	**62**	155	0	217	0	0	0	0	0	137	**38**	175	33	0	50	83	475
05:15 PM	57	188	0	**245**	0	0	0	0	0	126	21	147	35	1	43	79	471
Total Volume	202	681	0	883	0	0	0	0	0	564	117	681	145	2	208	355	1919
% App. Total	22.9	77.1	0		0	0	0		0	82.8	17.2		40.8	0.6	58.6		
PHF	.815	.901	.000	.901	.000	.000	.000	.000	.000	.829	.770	.839	.929	.500	.800	.853	.975

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City of Ontario
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File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
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City of Ontario
N/S: Milliken Avenue
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Weather: Clear

File Name : 02_ONT_Mil_60E PM
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	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:00 PM				04:00 PM				04:15 PM				
+0 mins.	32	**189**	0	221	0	0	0	0	0	**177**	**39**	**216**	36	**1**	46	83	
+15 mins.	**62**	155	0	217	0	0	0	0	0	139	27	166	38	1	50	89	
+30 mins.	57	188	0	**245**	0	0	0	0	0	170	33	203	**39**	0	**65**	**104**	
+45 mins.	44	179	0	223	0	0	0	0	0	131	25	156	33	0	50	83	
Total Volume	195	711	0	906	0	0	0	0	0	617	124	741	146	2	211	359	
% App. Total	21.5	78.5	0		0	0	0		0	83.3	16.7		40.7	0.6	58.8		
PHF	.786	.940	.000	.924	.000	.000	.000	.000	.000	.871	.795	.858	.936	.500	.812	.863	

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File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022

Groups Printed- Passenger Vehicles

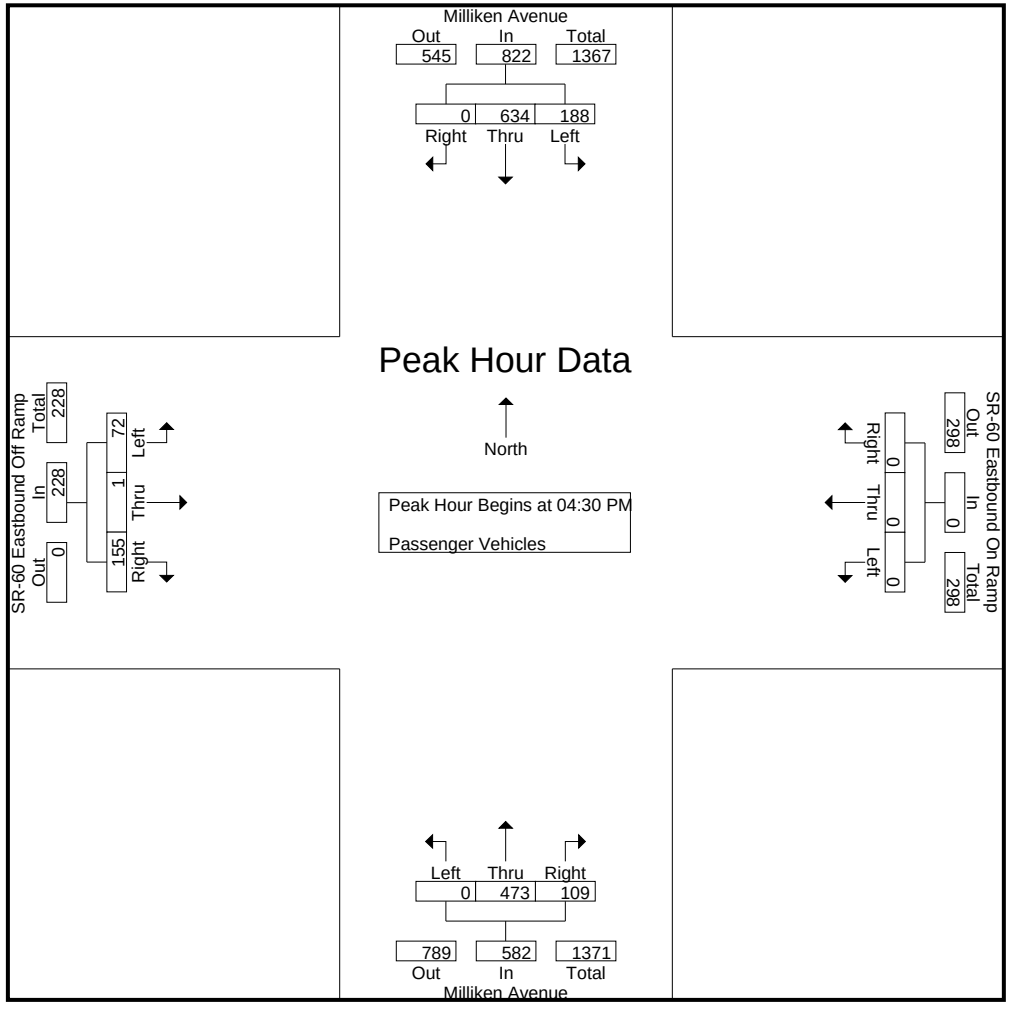
	Milliken Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Milliken Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	42	124	0	0	166	0	0	0	0	0	0	151	35	9	186	19	0	25	4	44	13	396	409
04:15 PM	35	115	0	0	150	0	0	0	0	0	0	115	25	2	140	15	1	32	9	48	11	338	349
04:30 PM	43	136	0	0	179	0	0	0	0	0	0	146	31	10	177	17	1	38	16	56	26	412	438
04:45 PM	31	169	0	0	200	0	0	0	0	0	0	110	24	5	134	15	0	48	15	63	20	397	417
Total	151	544	0	0	695	0	0	0	0	0	0	522	115	26	637	66	2	143	44	211	70	1543	1613
05:00 PM	58	148	0	0	206	0	0	0	0	0	0	118	34	6	152	20	0	37	19	57	25	415	440
05:15 PM	56	181	0	0	237	0	0	0	0	0	0	99	20	5	119	20	0	32	7	52	12	408	420
05:30 PM	42	165	0	0	207	0	0	0	0	0	0	113	31	9	144	21	0	38	7	59	16	410	426
05:45 PM	31	152	0	0	183	0	0	0	0	0	0	108	23	2	131	24	0	44	14	68	16	382	398
Total	187	646	0	0	833	0	0	0	0	0	0	438	108	22	546	85	0	151	47	236	69	1615	1684
Grand Total	338	1190	0	0	1528	0	0	0	0	0	0	960	223	48	1183	151	2	294	91	447	139	3158	3297
Apprch %	22.1	77.9	0			0	0	0			0	81.1	18.9			33.8	0.4	65.8					
Total %	10.7	37.7	0		48.4	0	0	0		0	0	30.4	7.1		37.5	4.8	0.1	9.3		14.2	4.2	95.8	

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	43	136	0	179	0	0	0	0	0	**146**	31	**177**	17	**1**	38	56	412
04:45 PM	31	169	0	200	0	0	0	0	0	110	24	134	15	0	**48**	**63**	397
05:00 PM	**58**	148	0	206	0	0	0	0	0	118	**34**	152	**20**	0	37	57	**415**
05:15 PM	56	**181**	0	**237**	0	0	0	0	0	99	20	119	20	0	32	52	408
Total Volume	188	634	0	822	0	0	0	0	0	473	109	582	72	1	155	228	1632
% App. Total	22.9	77.1	0		0	0	0		0	81.3	18.7		31.6	0.4	68		
PHF	.810	.876	.000	.867	.000	.000	.000	.000	.000	.810	.801	.822	.900	.250	.807	.905	.983

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	43	136	0	179	0	0	0	0	0	**146**	31	**177**	17	**1**	38	56	
+15 mins.	31	169	0	200	0	0	0	0	0	110	24	134	15	0	**48**	**63**	
+30 mins.	**58**	148	0	206	0	0	0	0	0	118	**34**	152	**20**	0	37	57	
+45 mins.	56	**181**	0	**237**	0	0	0	0	0	99	20	119	20	0	32	52	
Total Volume	188	634	0	822	0	0	0	0	0	473	109	582	72	1	155	228	
% App. Total	22.9	77.1	0		0	0	0		0	81.3	18.7		31.6	0.4	68		
PHF	.810	.876	.000	.867	.000	.000	.000	.000	.000	.810	.801	.822	.900	.250	.807	.905	

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

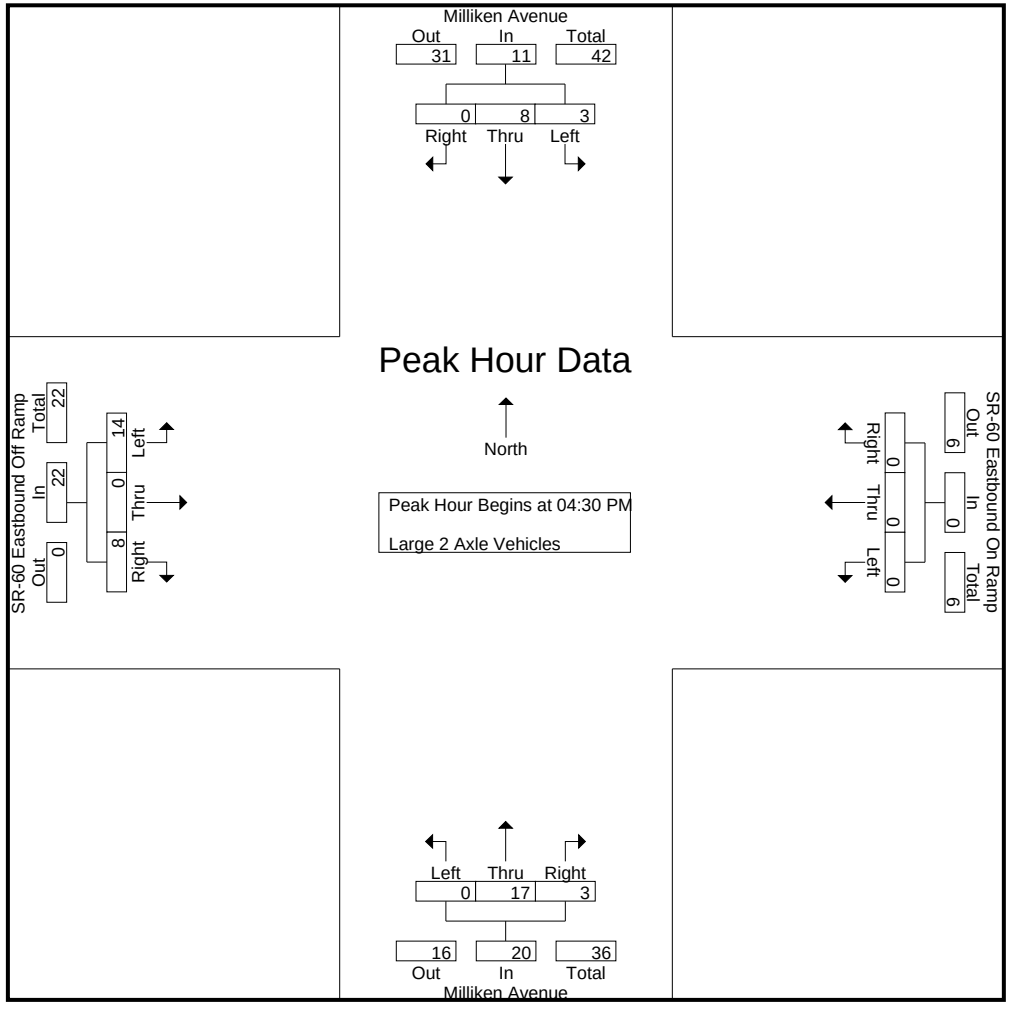
	Milliken Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Milliken Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	3	0	0	3	0	0	0	0	0	0	2	3	2	5	1	0	1	0	2	2	10	12
04:15 PM	1	4	0	0	5	0	0	0	0	0	0	3	1	0	4	2	0	1	0	3	0	12	12
04:30 PM	2	3	0	0	5	0	0	0	0	0	0	7	1	0	8	3	0	2	0	5	0	18	18
04:45 PM	0	3	0	0	3	0	0	0	0	0	0	2	1	1	3	7	0	3	0	10	1	16	17
Total	3	13	0	0	16	0	0	0	0	0	0	14	6	3	20	13	0	7	0	20	3	56	59
05:00 PM	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	1	0	2	0	3	0	7	7
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	3	0	1	0	4	0	12	12
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	1	0	2	0	3	0	9	9
05:45 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5	0	2	0	7	0	11	11
Total	1	5	0	0	6	0	0	0	0	0	0	14	2	0	16	10	0	7	0	17	0	39	39
Grand Total	4	18	0	0	22	0	0	0	0	0	0	28	8	3	36	23	0	14	0	37	3	95	98
Apprch %	18.2	81.8	0			0	0	0			0	77.8	22.2			62.2	0	37.8					
Total %	4.2	18.9	0		23.2	0	0	0		0	0	29.5	8.4		37.9	24.2	0	14.7		38.9	3.1	96.9	

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**2**	**3**	0	**5**	0	0	0	0	0	**7**	**1**	**8**	3	0	2	5	**18**
04:45 PM	0	3	0	3	0	0	0	0	0	2	1	3	**7**	0	**3**	**10**	16
05:00 PM	1	2	0	3	0	0	0	0	0	1	0	1	1	0	2	3	7
05:15 PM	0	0	0	0	0	0	0	0	0	7	1	8	3	0	1	4	12
Total Volume	3	8	0	11	0	0	0	0	0	17	3	20	14	0	8	22	53
% App. Total	27.3	72.7	0		0	0	0		0	85	15		63.6	0	36.4		
PHF	.375	.667	.000	.550	.000	.000	.000	.000	.000	.607	.750	.625	.500	.000	.667	.550	.736

Counts Unlimited, Inc.
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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	**2**	**3**	0	**5**	0	0	0	0	0	**7**	**1**	**8**	3	0	2	5	
+15 mins.	0	3	0	3	0	0	0	0	0	2	1	3	**7**	0	**3**	**10**	
+30 mins.	1	2	0	3	0	0	0	0	0	1	0	1	1	0	2	3	
+45 mins.	0	0	0	0	0	0	0	0	0	7	1	8	3	0	1	4	
Total Volume	3	8	0	11	0	0	0	0	0	17	3	20	14	0	8	22	
% App. Total	27.3	72.7	0		0	0	0		0	85	15		63.6	0	36.4		
PHF	.375	.667	.000	.550	.000	.000	.000	.000	.000	.607	.750	.625	.500	.000	.667	.550	

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

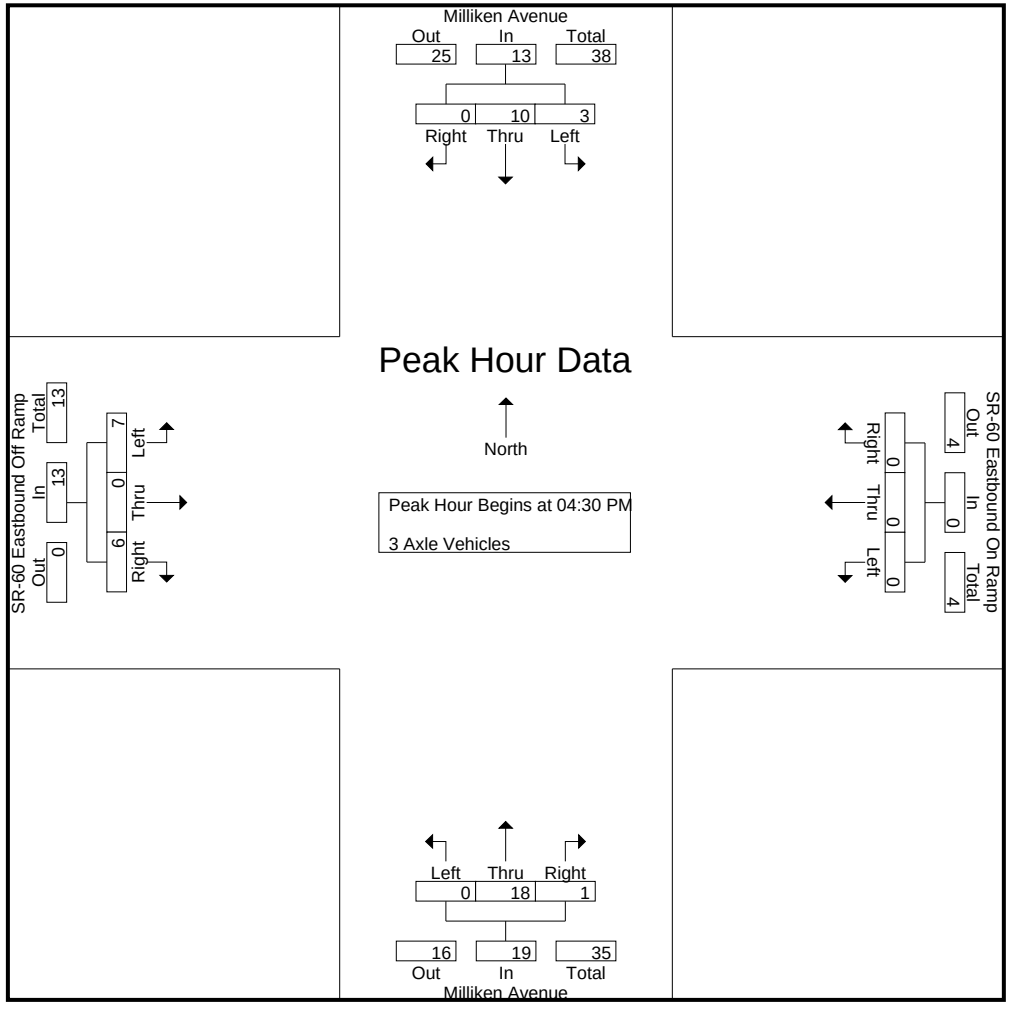
	Milliken Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Milliken Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	2	0	0	3	0	0	0	0	0	0	7	1	0	8	1	0	1	0	2	0	13	13
04:15 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3	0	0	0	3	0	6	6
04:30 PM	2	3	0	0	5	0	0	0	0	0	0	4	0	0	4	3	0	0	0	3	0	12	12
04:45 PM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	2	0	0	0	2	0	9	9
Total	3	12	0	0	15	0	0	0	0	0	0	14	1	0	15	9	0	1	0	10	0	40	40
05:00 PM	1	1	0	0	2	0	0	0	0	0	0	5	1	0	6	0	0	3	0	3	0	11	11
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	7	0	0	7	2	0	3	0	5	0	13	13
05:30 PM	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	2	0	0	0	2	0	11	11
05:45 PM	1	4	0	0	5	0	0	0	0	0	0	1	0	0	1	3	0	1	0	4	0	10	10
Total	2	9	0	0	11	0	0	0	0	0	0	19	1	0	20	7	0	7	0	14	0	45	45
Grand Total	5	21	0	0	26	0	0	0	0	0	0	33	2	0	35	16	0	8	0	24	0	85	85
Apprch %	19.2	80.8	0			0	0	0			0	94.3	5.7			66.7	0	33.3					
Total %	5.9	24.7	0		30.6	0	0	0		0	0	38.8	2.4		41.2	18.8	0	9.4		28.2	0	100	

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**2**	3	0	**5**	0	0	0	0	0	4	0	4	**3**	0	0	3	12
04:45 PM	0	**5**	0	5	0	0	0	0	0	2	0	2	2	0	0	2	9
05:00 PM	1	1	0	2	0	0	0	0	0	5	**1**	6	0	0	**3**	3	11
05:15 PM	0	1	0	1	0	0	0	0	0	**7**	0	**7**	2	0	3	**5**	**13**
Total Volume	3	10	0	13	0	0	0	0	0	18	1	19	7	0	6	13	45
% App. Total	23.1	76.9	0		0	0	0		0	94.7	5.3		53.8	0	46.2		
PHF	.375	.500	.000	.650	.000	.000	.000	.000	.000	.643	.250	.679	.583	.000	.500	.650	.865

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(951)268-6268

City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	**2**	3	0	**5**	0	0	0	0	0	4	0	4	**3**	0	0	3	
+15 mins.	0	**5**	0	5	0	0	0	0	0	2	0	2	2	0	0	2	
+30 mins.	1	1	0	2	0	0	0	0	0	5	**1**	6	0	0	**3**	3	
+45 mins.	0	1	0	1	0	0	0	0	0	**7**	0	**7**	2	0	3	**5**	
Total Volume	3	10	0	13	0	0	0	0	0	18	1	19	7	0	6	13	
% App. Total	23.1	76.9	0		0	0	0		0	94.7	5.3		53.8	0	46.2		
PHF	.375	.500	.000	.650	.000	.000	.000	.000	.000	.643	.250	.679	.583	.000	.500	.650	

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

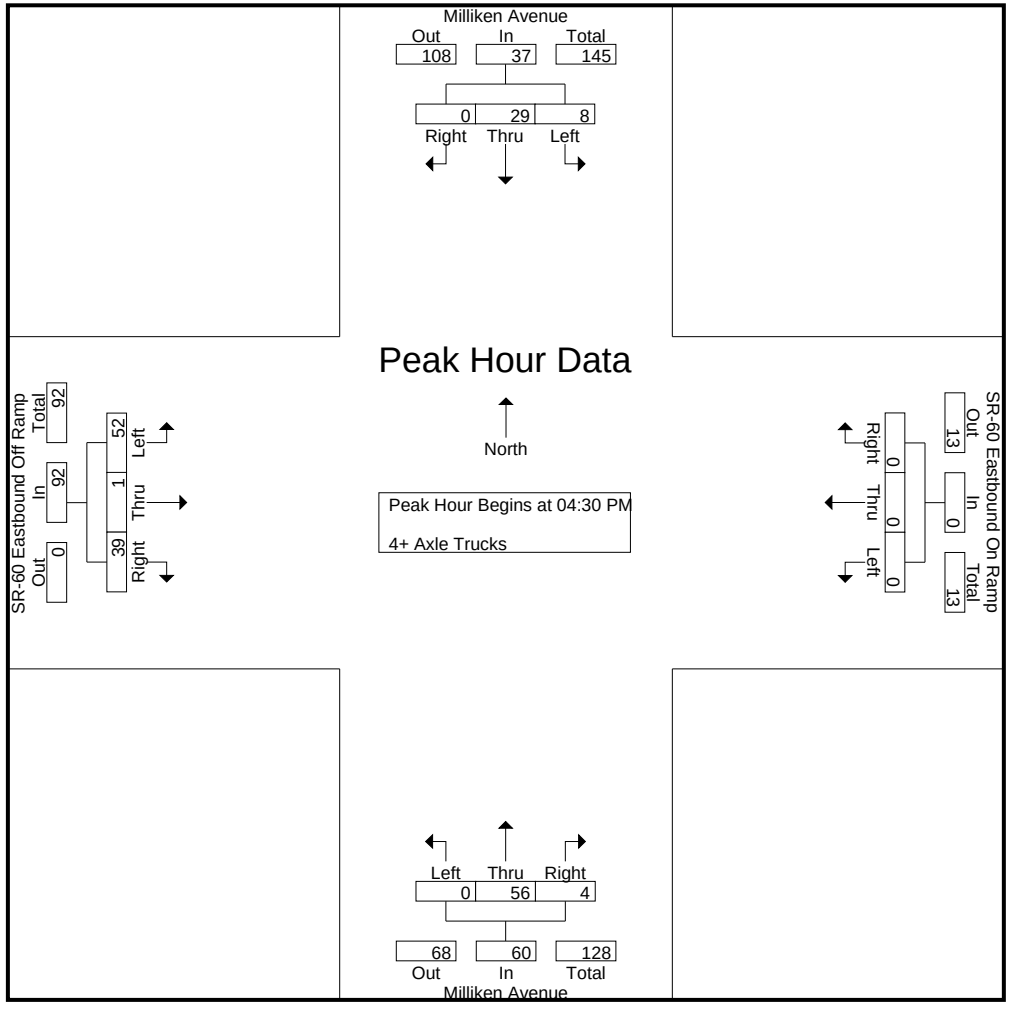
	Milliken Avenue Southbound					SR-60 Eastbound On Ramp Westbound					Milliken Avenue Northbound					SR-60 Eastbound Off Ramp Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	3	6	0	0	9	0	0	0	0	0	0	17	0	0	17	20	0	6	0	26	0	52	52
04:15 PM	2	1	0	0	3	0	0	0	0	0	0	20	1	0	21	16	0	13	5	29	5	53	58
04:30 PM	4	7	0	0	11	0	0	0	0	0	0	13	1	0	14	15	0	10	6	25	6	50	56
04:45 PM	1	12	0	0	13	0	0	0	0	0	0	17	0	0	17	15	0	14	3	29	3	59	62
Total	10	26	0	0	36	0	0	0	0	0	0	67	2	0	69	66	0	43	14	109	14	214	228
05:00 PM	2	4	0	0	6	0	0	0	0	0	0	13	3	1	16	12	0	8	3	20	4	42	46
05:15 PM	1	6	0	0	7	0	0	0	0	0	0	13	0	0	13	10	1	7	1	18	1	38	39
05:30 PM	2	10	0	0	12	0	0	0	0	0	0	12	0	0	12	17	0	12	3	29	3	53	56
05:45 PM	1	10	0	0	11	0	0	0	0	0	0	13	0	0	13	8	0	13	4	21	4	45	49
Total	6	30	0	0	36	0	0	0	0	0	0	51	3	1	54	47	1	40	11	88	12	178	190
Grand Total	16	56	0	0	72	0	0	0	0	0	0	118	5	1	123	113	1	83	25	197	26	392	418
Apprch %	22.2	77.8	0			0	0	0			0	95.9	4.1			57.4	0.5	42.1					
Total %	4.1	14.3	0		18.4	0	0	0		0	0	30.1	1.3		31.4	28.8	0.3	21.2		50.3	6.2	93.8	

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**4**	7	0	11	0	0	0	0	0	13	1	14	**15**	0	10	25	50
04:45 PM	1	**12**	0	**13**	0	0	0	0	0	**17**	0	**17**	15	0	**14**	**29**	**59**
05:00 PM	2	4	0	6	0	0	0	0	0	13	**3**	16	12	0	8	20	42
05:15 PM	1	6	0	7	0	0	0	0	0	13	0	13	10	**1**	7	18	38
Total Volume	8	29	0	37	0	0	0	0	0	56	4	60	52	1	39	92	189
% App. Total	21.6	78.4	0		0	0	0		0	93.3	6.7		56.5	1.1	42.4		
PHF	.500	.604	.000	.712	.000	.000	.000	.000	.000	.824	.333	.882	.867	.250	.696	.793	.801

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



2143

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City of Ontario
N/S: Milliken Avenue
E/W: SR-60 Eastbound Ramps
Weather: Clear

File Name : 02_ONT_Mil_60E PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 3

	Milliken Avenue Southbound				SR-60 Eastbound On Ramp Westbound				Milliken Avenue Northbound				SR-60 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	**4**	7	0	11	0	0	0	0	0	13	1	14	**15**	0	10	25	
+15 mins.	1	**12**	0	**13**	0	0	0	0	0	**17**	0	**17**	15	0	**14**	**29**	
+30 mins.	2	4	0	6	0	0	0	0	0	13	**3**	16	12	0	8	20	
+45 mins.	1	6	0	7	0	0	0	0	0	13	0	13	10	**1**	7	18	
Total Volume	8	29	0	37	0	0	0	0	0	56	4	60	52	1	39	92	
% App. Total	21.6	78.4	0		0	0	0		0	93.3	6.7		56.5	1.1	42.4		
PHF	.500	.604	.000	.712	.000	.000	.000	.000	.000	.824	.333	.882	.867	.250	.696	.793	

Location: Ontario
N/S: Milliken Avenue
E/W: SR-60 EB Ramps



Date: 5/10/2022
Day: Tuesday

PEDESTRIANS

	North Leg Milliken Avenue	East Leg SR-60 EB Ramps	South Leg Milliken Avenue	West Leg SR-60 EB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Milliken Avenue	East Leg SR-60 EB Ramps	South Leg Milliken Avenue	West Leg SR-60 EB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	2	3
TOTAL VOLUMES:	0	2	0	2	4

Location: Ontario
N/S: Milliken Avenue
E/W: SR-60 EB Ramps



Date: 5/10/2022
Day: Tuesday

BICYCLES

	Southbound Milliken Avenue			Westbound SR-60 EB Ramps			Northbound Milliken Avenue			Eastbound SR-60 EB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

	Southbound Milliken Avenue			Westbound SR-60 EB Ramps			Northbound Milliken Avenue			Eastbound SR-60 EB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	0	0	0	0	0	0	0	0	0	3

INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22	LOCATION:	Ontario	PROJECT #: SC3418
	NORTH & SOUTH:	Milliken	LOCATION #: 12
	EAST & WEST:	Riverside	CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Milliken - Hamner			SOUTHBOUND Milliken - Hamner			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	20	145	6	33	90	26	17	1	22	4	17	20	401
AM	7:15 AM	26	164	3	35	52	37	27	11	18	6	16	31	426
AM	7:30 AM	24	181	2	25	55	26	32	14	22	4	17	28	430
AM	7:45 AM	48	218	12	40	61	35	25	14	40	6	13	32	544
AM	8:00 AM	31	172	7	27	54	26	33	14	38	5	14	21	442
AM	8:15 AM	37	162	12	33	66	30	37	13	38	1	19	29	477
AM	8:30 AM	17	169	4	36	62	16	22	5	24	10	17	34	416
AM	8:45 AM	25	115	12	31	59	8	12	8	22	9	7	24	332
AM	VOLUMES	228	1,326	58	260	499	204	205	80	224	45	120	219	3,468
AM	APPROACH %	14%	82%	4%	27%	52%	21%	40%	16%	44%	12%	31%	57%	
AM	APP/DEPART	1,612	/ 1,750		963	/ 768		509	/ 398		384	/ 552		0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	140	733	33	125	236	117	127	55	138	16	63	110	1,893
AM	APPROACH %	15%	81%	4%	26%	49%	24%	40%	17%	43%	8%	33%	58%	
AM	PEAK HR FACTOR		0.815			0.879			0.909			0.926		0.870
AM	APP/DEPART	906	/ 970		478	/ 390		320	/ 213		189	/ 320		0
PM	4:00 PM	35	152	5	23	123	24	24	21	44	13	10	44	518
PM	4:15 PM	37	97	8	25	105	33	22	28	37	13	15	33	453
PM	4:30 PM	34	125	7	36	134	34	25	22	30	11	21	33	512
PM	4:45 PM	35	109	12	44	166	36	26	19	33	9	18	21	528
PM	5:00 PM	32	96	6	26	147	37	29	18	18	24	25	30	488
PM	5:15 PM	39	90	6	20	164	43	32	25	46	9	15	22	511
PM	5:30 PM	39	118	2	26	161	48	21	20	48	19	19	23	544
PM	5:45 PM	46	106	8	36	154	48	18	22	32	6	16	22	514
PM	VOLUMES	297	893	54	236	1,154	303	197	175	288	104	139	228	4,068
PM	APPROACH %	24%	72%	4%	14%	68%	18%	30%	27%	44%	22%	30%	48%	
PM	APP/DEPART	1,244	/ 1,319		1,693	/ 1,547		660	/ 464		471	/ 738		0
PM	BEGIN PEAK HR		4:45 PM											
PM	VOLUMES	145	413	26	116	638	164	108	82	145	61	77	96	2,071
PM	APPROACH %	25%	71%	4%	13%	69%	18%	32%	24%	43%	26%	33%	41%	
PM	PEAK HR FACTOR		0.918			0.933			0.813			0.741		0.952
PM	APP/DEPART	584	/ 618		918	/ 844		335	/ 223		234	/ 386		0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	2

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
3	6	11	6
3	5	12	4
1	4	9	5
2	2	13	12
2	4	10	6
5	9	14	7
0	0	14	13
0	1	12	4
16	31	95	57
10	19	46	30
2	5	20	8
1	2	13	13
1	5	10	9
2	3	14	9
0	2	5	8
3	4	10	10
0	4	10	9
0	8	10	12
9	33	92	78
5	13	39	36

Milliken

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

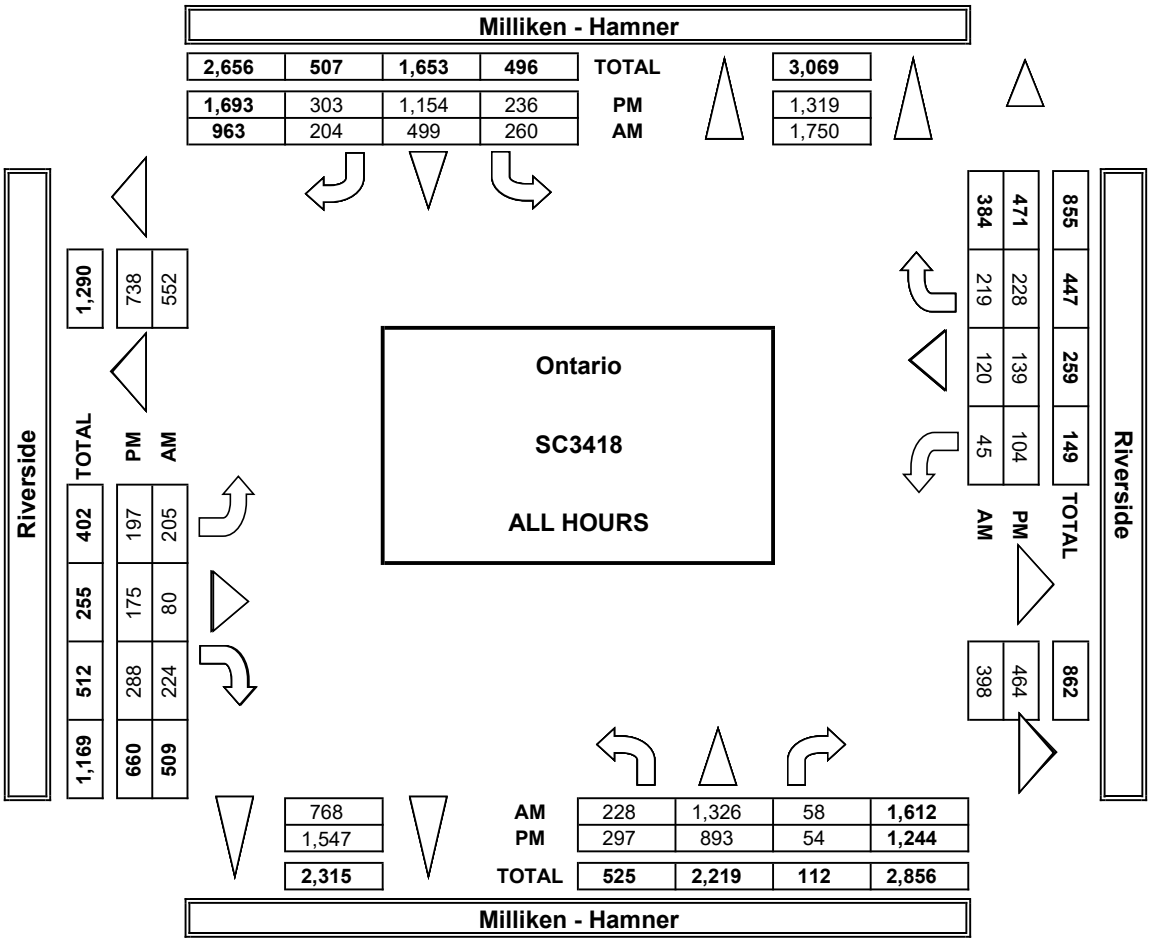
SOUTH SIDE

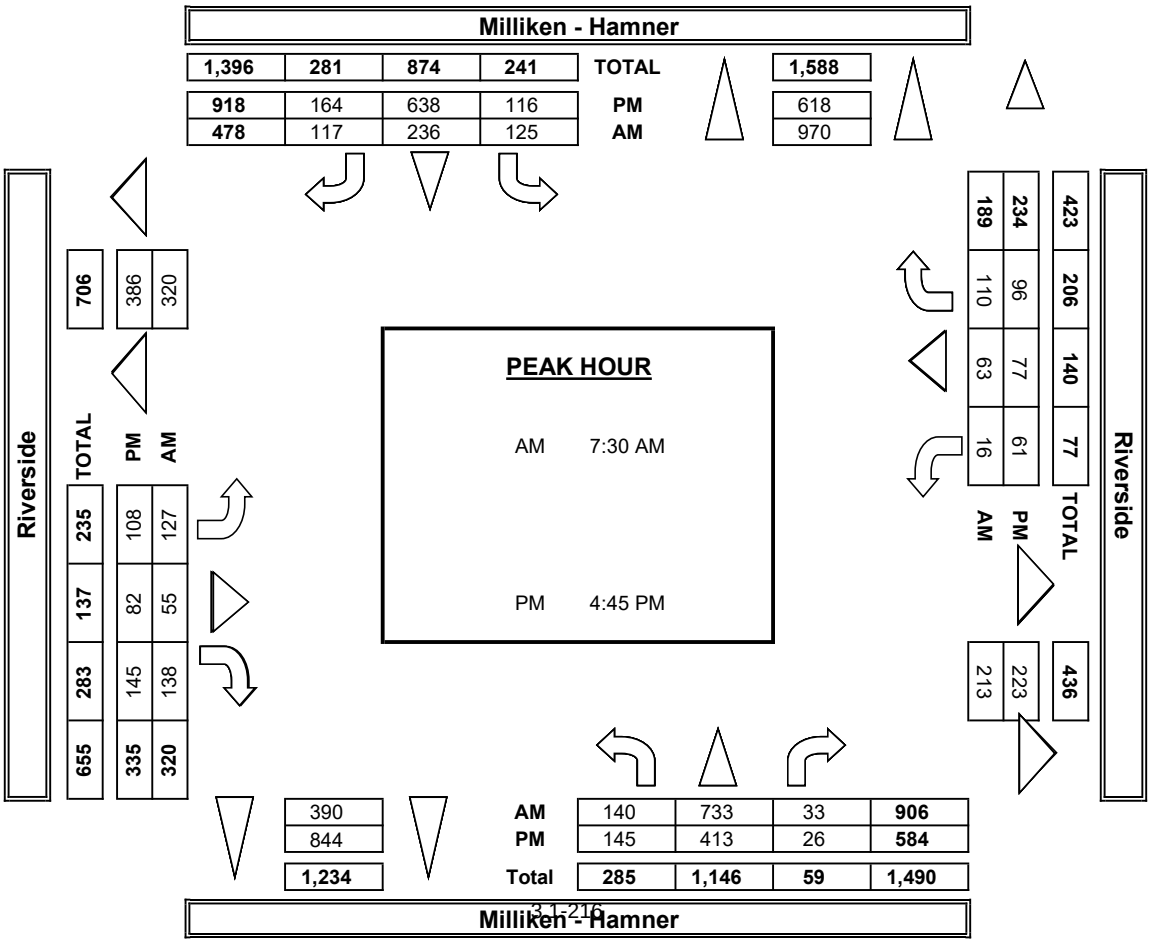
Milliken

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:30 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
AM	8:45 AM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
AM	TOTAL	3	0	1	0	4	2	0	0	0	2	1	0	1	0	2
PM	4:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
PM	4:15 PM	1	0	1	0	2	1	0	1	0	2	0	0	0	0	0
PM	4:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
PM	4:45 PM	0	0	5	0	5	0	0	5	0	5	0	0	0	0	0
PM	5:00 PM	0	0	4	0	4	0	0	4	0	4	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:30 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
PM	5:45 PM	1	1	2	0	4	1	1	2	0	4	0	0	0	0	0
	TOTAL	4	1	13	0	18	3	1	13	0	17	1	0	0	0	1

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Milliken	LOCATION #:	12
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 1: PASSENGER VEHICLES

NOTES:

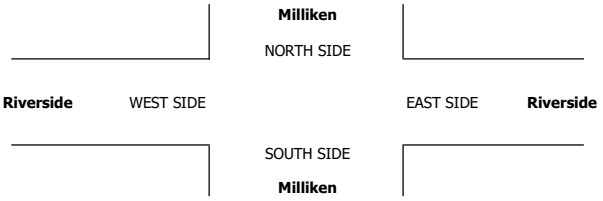
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Milliken)			SOUTHBOUND (Milliken)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	19	130	4	14	71	24	16	1	22	2	15	6	324
	7:15 AM	25	140	3	19	39	35	27	10	16	4	14	6	338
	7:30 AM	23	166	1	11	46	22	30	13	22	1	15	12	362
	7:45 AM	44	205	7	21	47	33	25	14	38	4	13	8	459
	8:00 AM	31	150	2	12	38	25	32	12	37	4	14	8	365
	8:15 AM	36	145	9	13	46	30	33	12	35	1	15	5	380
	8:30 AM	16	152	2	23	39	14	21	5	23	5	16	9	325
	8:45 AM	23	93	7	15	34	7	11	6	20	2	5	11	234
	VOLUMES	217	1,181	35	128	360	190	195	73	213	23	107	65	2,787
	APPROACH %	15%	82%	2%	19%	53%	28%	41%	15%	44%	12%	55%	33%	
	APP/DEPART	1,433	/	1,441	678	/	596	481	/	236	195	/	514	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	134	666	19	57	177	110	120	51	132	10	57	33	1,566
	APPROACH %	16%	81%	2%	17%	51%	32%	40%	17%	44%	10%	57%	33%	
	PEAK HR FACTOR		0.800			0.851			0.935			0.893		0.853
	APP/DEPART	819	/	819	344	/	319	303	/	127	100	/	301	0
PM	4:00 PM	33	129	4	12	107	24	23	17	42	11	9	27	438
	4:15 PM	37	81	2	13	98	33	18	23	37	11	15	19	387
	4:30 PM	33	109	2	20	123	32	23	18	27	7	17	25	436
	4:45 PM	35	93	6	20	153	36	25	18	31	6	18	15	456
	5:00 PM	31	82	2	13	138	37	27	18	18	20	25	14	425
	5:15 PM	38	77	2	11	155	43	29	25	45	7	15	15	462
	5:30 PM	37	101	2	14	150	45	20	19	48	15	18	16	485
	5:45 PM	46	97	3	20	137	45	17	20	31	5	16	11	448
	VOLUMES	290	769	23	123	1,061	295	182	158	279	82	133	142	3,537
	APPROACH %	27%	71%	2%	8%	72%	20%	29%	26%	45%	23%	37%	40%	
	APP/DEPART	1,082	/	1,094	1,479	/	1,423	619	/	303	357	/	717	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	141	353	12	57	596	161	101	80	142	48	76	60	1,828
	APPROACH %	28%	70%	2%	7%	73%	20%	31%	25%	44%	26%	41%	33%	
	PEAK HR FACTOR		0.904			0.975			0.816			0.780		0.942
	APP/DEPART	506	/	515	815	/	786	323	/	149	184	/	378	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	2

NRR	SRR	ERR	WRR
0	0	0	0
2	5	11	2
3	5	10	0
1	4	9	2
1	2	12	3
0	4	9	4
4	9	12	2
0	0	13	2
0	1	11	1
11	30	87	16
6	19	42	11
2	5	19	7
1	2	13	8
0	4	8	8
2	3	13	8
0	2	5	4
0	4	10	7
0	3	10	6
0	8	10	6
5	31	88	54
2	12	38	25



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Milliken	LOCATION #:	12
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Milliken			SOUTHBOUND Milliken			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	1	9	0	5	5	2	0	0	0	1	0	4	27
	7:15 AM	1	14	0	5	5	2	0	0	2	1	1	3	34
	7:30 AM	1	6	0	0	3	3	1	1	0	0	1	2	18
	7:45 AM	3	7	1	3	5	2	0	0	1	0	0	4	26
	8:00 AM	0	12	1	1	5	0	1	2	0	0	0	1	23
	8:15 AM	1	10	0	2	4	0	2	1	1	0	2	3	26
	8:30 AM	1	4	0	2	9	2	1	0	0	2	1	2	24
	8:45 AM	1	11	2	2	4	1	1	2	2	3	2	3	34
	VOLUMES	9	73	4	20	40	12	6	6	6	7	7	22	212
	APPROACH %	10%	85%	5%	28%	56%	17%	33%	33%	33%	19%	19%	61%	
	APP/DEPART	86	/	101	72	/	53	18	/	30	36	/	28	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	5	35	2	6	17	5	4	4	2	0	3	10	93
	APPROACH %	12%	83%	5%	21%	61%	18%	40%	40%	20%	0%	23%	77%	
	PEAK HR FACTOR		0.808			0.700			0.625			0.650		0.894
	APP/DEPART	42	/	49	28	/	19	10	/	12	13	/	13	0
PM	4:00 PM	2	11	0	1	8	0	1	2	2	0	0	2	29
	4:15 PM	0	9	0	0	3	0	4	5	0	0	0	0	21
	4:30 PM	1	8	0	1	7	2	2	2	2	0	2	0	27
	4:45 PM	0	5	1	4	5	0	1	1	1	1	0	0	19
	5:00 PM	1	4	0	0	5	0	2	0	0	2	0	0	14
	5:15 PM	1	8	2	0	1	0	2	0	1	0	0	0	15
	5:30 PM	1	6	0	4	2	0	1	1	0	1	1	1	18
	5:45 PM	0	7	0	1	5	2	1	1	1	0	0	0	18
	VOLUMES	6	58	3	11	36	4	14	12	7	4	3	3	161
	APPROACH %	9%	87%	4%	22%	71%	8%	42%	36%	21%	40%	30%	30%	
	APP/DEPART	67	/	75	51	/	47	33	/	26	10	/	13	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	3	23	3	8	13	0	6	2	2	4	1	1	66
	APPROACH %	10%	79%	10%	38%	62%	0%	60%	20%	20%	67%	17%	17%	
	PEAK HR FACTOR		0.659			0.583			0.833			0.500		0.868
	APP/DEPART	29	/	30	21	/	19	10	/	13	6	/	4	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	1	0	1
0	0	2	0
0	0	0	0
0	0	1	0
0	0	0	1
0	0	1	1
0	0	0	1
0	0	1	1
0	1	5	5
0	0	2	2
0	0	1	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
1	1	3	0
1	0	1	0

Milliken

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Milliken

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Milliken	LOCATION #:	12
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND (Milliken)			SOUTHBOUND (Milliken)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	0	2	0	0	4	0	1	0	0	0	2	0	9
	7:15 AM	0	4	0	0	2	0	0	0	0	0	0	4	10
	7:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	5
	7:45 AM	1	0	0	4	2	0	0	0	0	0	0	1	8
	8:00 AM	0	2	0	4	3	0	0	0	0	0	0	1	10
	8:15 AM	0	0	0	0	4	0	1	0	1	0	1	3	10
	8:30 AM	0	3	0	1	3	0	0	0	0	1	0	6	14
	8:45 AM	0	2	1	0	5	0	0	0	0	1	0	0	9
	VOLUMES	1	15	1	9	25	0	2	0	1	2	3	16	75
	APPROACH %	6%	88%	6%	26%	74%	0%	67%	0%	33%	10%	14%	76%	
	APP/DEPART	17	/	33	34	/	28	3	/	10	21	/	4	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	1	4	0	8	11	0	1	0	1	0	1	6	33
	APPROACH %	20%	80%	0%	42%	58%	0%	50%	0%	50%	0%	14%	86%	
	PEAK HR FACTOR		0.625			0.679			0.250			0.438		0.825
	APP/DEPART	5	/	11	19	/	12	2	/	8	7	/	2	0
PM	4:00 PM	0	5	0	1	2	0	0	1	0	0	1	1	11
	4:15 PM	0	3	0	2	1	0	0	0	0	1	0	1	8
	4:30 PM	0	1	2	2	0	0	0	0	0	1	1	1	8
	4:45 PM	0	3	0	2	2	0	0	0	0	1	0	1	9
	5:00 PM	0	4	0	4	0	0	0	0	0	0	0	3	11
	5:15 PM	0	3	1	2	3	0	0	0	0	0	0	2	11
	5:30 PM	0	5	0	0	0	2	0	0	0	0	0	1	8
	5:45 PM	0	0	0	2	2	0	0	0	0	1	0	0	5
	VOLUMES	0	24	3	15	10	2	0	1	0	4	2	10	71
	APPROACH %	0%	89%	11%	56%	37%	7%	0%	100%	0%	25%	13%	63%	
	APP/DEPART	27	/	34	27	/	14	1	/	19	16	/	4	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	0	15	1	8	5	2	0	0	0	1	0	7	39
	APPROACH %	0%	94%	6%	53%	33%	13%	0%	0%	0%	13%	0%	88%	
	PEAK HR FACTOR		0.800			0.750			0.000			0.667		0.886
	APP/DEPART	16	/	22	15	/	6	0	/	9	8	/	2	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	1
0	0	0	1
0	0	0	0
0	0	0	1
0	0	0	0
0	0	0	3
0	0	0	2
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
0	1	0	0
0	0	0	0
1	1	0	0
1	1	0	0

Milliken

NORTH SIDE

Riverside WEST SIDE — EAST SIDE **Riverside**

SOUTH SIDE

Milliken

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Milliken	LOCATION #:	12
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

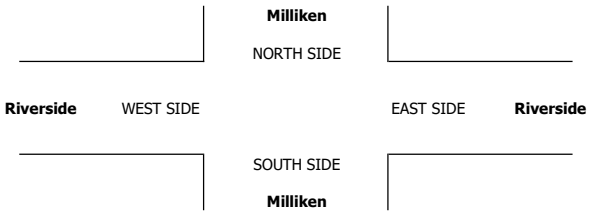
CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Milliken			SOUTHBOUND Milliken			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	0	4	2	14	10	0	0	0	0	1	0	10	41
	7:15 AM	0	6	0	11	6	0	0	1	0	1	1	18	44
	7:30 AM	0	7	1	14	4	1	1	0	0	3	1	13	45
	7:45 AM	0	6	4	12	7	0	0	0	1	2	0	19	51
	8:00 AM	0	8	4	10	8	1	0	0	1	1	0	11	44
	8:15 AM	0	7	3	18	12	0	0	0	0	0	1	18	59
	8:30 AM	0	9	2	10	11	0	0	0	1	2	0	17	52
	8:45 AM	1	9	2	14	16	0	0	0	0	3	0	10	55
	VOLUMES	1	56	18	103	74	2	1	1	3	13	3	116	391
	APPROACH %	1%	75%	24%	58%	41%	1%	20%	20%	60%	10%	2%	88%	
	APP/DEPART	75	/	173	179	/	90	5	/	122	132	/	6	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	28	12	54	31	2	1	0	2	6	2	61	199
	APPROACH %	0%	70%	30%	62%	36%	2%	33%	0%	67%	9%	3%	88%	
	PEAK HR FACTOR		0.833			0.725			0.750			0.821		0.843
	APP/DEPART	40	/	90	87	/	39	3	/	66	69	/	4	0
PM	4:00 PM	0	7	1	9	6	0	0	1	0	2	0	14	40
	4:15 PM	0	4	6	10	3	0	0	0	0	1	0	13	37
	4:30 PM	0	7	3	13	4	0	0	2	1	3	1	7	41
	4:45 PM	0	8	5	18	6	0	0	0	1	1	0	5	44
	5:00 PM	0	6	4	9	4	0	0	0	0	2	0	13	38
	5:15 PM	0	2	1	7	5	0	1	0	0	2	0	5	23
	5:30 PM	1	6	0	8	9	1	0	0	0	3	0	5	33
	5:45 PM	0	2	5	13	10	1	0	1	0	0	0	11	43
	VOLUMES	1	42	25	87	47	2	1	4	2	14	1	73	299
	APPROACH %	1%	62%	37%	64%	35%	1%	14%	57%	29%	16%	1%	83%	
	APP/DEPART	68	/	116	136	/	63	7	/	116	88	/	4	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	1	22	10	42	24	1	1	0	1	8	0	28	138
	APPROACH %	3%	67%	30%	63%	36%	1%	50%	0%	50%	22%	0%	78%	
	PEAK HR FACTOR		0.635			0.698			0.500			0.600		0.784
	APP/DEPART	33	/	51	67	/	33	2	/	52	36	/	2	0

U-TURNS					RTOR			
NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	0	0	3
0	0	0	0	0	0	0	0	4
0	0	0	0	0	0	0	0	3
0	0	0	0	0	1	0	0	8
0	0	0	0	0	2	0	1	0
0	0	0	0	0	1	0	0	4
0	0	0	0	0	0	0	1	9
0	0	0	0	0	0	0	0	2
0	0	0	0	0	5	0	2	33
					4	0	1	15
0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	5
0	0	0	0	0	1	0	1	1
0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	4
0	0	0	0	0	1	0	0	3
0	0	0	0	0	0	0	0	3
0	0	0	0	0	0	0	0	6
0	0	0	0	0	2	0	1	24
					1	0	0	11



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Milliken	LOCATION #:	12
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 5: RV

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

		NORTHBOUND Milliken			SOUTHBOUND Milliken			EASTBOUND Riverside			WESTBOUND Riverside			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	1	0	0	0	0	0	0	0	0	0	0	1
	APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	1	/	1	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Milliken

NORTH SIDE

Riverside WEST SIDE EAST SIDE **Riverside**

SOUTH SIDE

Milliken

2153

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Ontario	PROJECT #:	SC3418
5/10/22	NORTH & SOUTH:	Milliken	LOCATION #:	12
TUESDAY	EAST & WEST:	Riverside	CONTROL:	SIGNAL

CLASS 6: BUSES

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

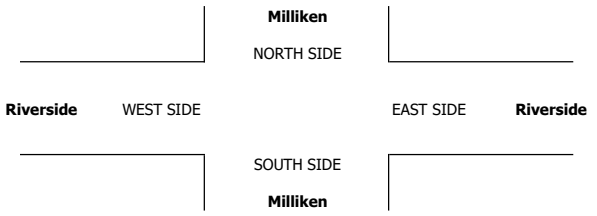
		NORTHBOUND (Milliken)			SOUTHBOUND (Milliken)			EASTBOUND (Riverside)			WESTBOUND (Riverside)			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 1	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	1	0	1	0	0	0	2
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	1	0	1	0	0	0	2
	APPROACH %	0%	0%	0%	0%	0%	0%	50%	0%	50%	0%	0%	0%	
	APP/DEPART	0	/	1	0	/	1	2	/	0	0	/	0	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	0	0	0	0	0	1	0	1	0	0	0	2
	APPROACH %	0%	0%	0%	0%	0%	0%	50%	0%	50%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.250			0.000		0.250
	APP/DEPART	0	/	1	0	/	1	2	/	0	0	/	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	1	0
0	0	1	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Hamner Avenue
E/W: Chino Avenue
Weather: Clear

File Name : 04_ONT_Ham_Chino AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

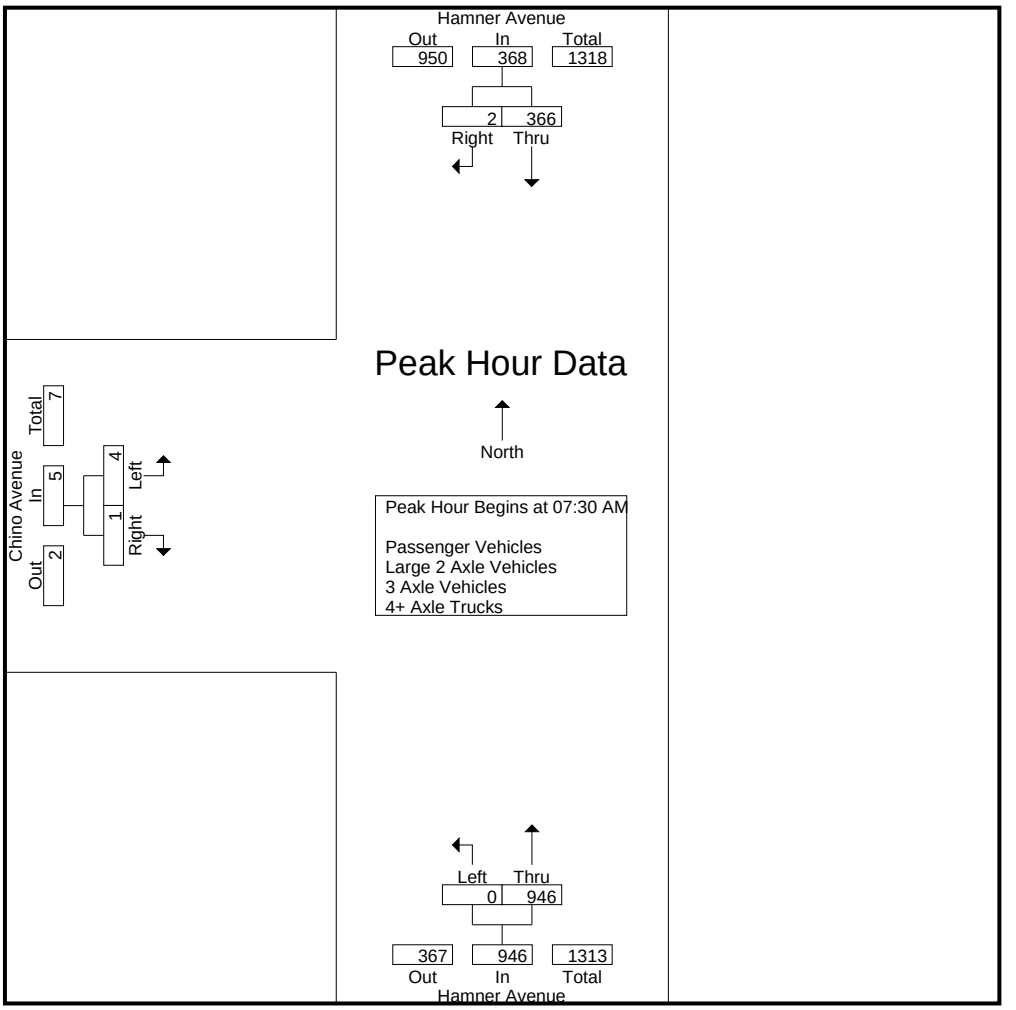
	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	110	0	110	1	169	170	1	0	1	281
07:15 AM	75	0	75	1	195	196	1	0	1	272
07:30 AM	82	2	84	0	231	231	0	0	0	315
07:45 AM	94	0	94	0	276	276	3	1	4	374
Total	361	2	363	2	871	873	5	1	6	1242
08:00 AM	102	0	102	0	219	219	1	0	1	322
08:15 AM	88	0	88	0	220	220	0	0	0	308
08:30 AM	101	0	101	0	210	210	0	0	0	311
08:45 AM	88	0	88	0	146	146	0	0	0	234
Total	379	0	379	0	795	795	1	0	1	1175
Grand Total	740	2	742	2	1666	1668	6	1	7	2417
Apprch %	99.7	0.3		0.1	99.9		85.7	14.3		
Total %	30.6	0.1	30.7	0.1	68.9	69	0.2	0	0.3	
Passenger Vehicles	624	1	625	2	1559	1561	4	0	4	2190
% Passenger Vehicles	84.3	50	84.2	100	93.6	93.6	66.7	0	57.1	90.6
Large 2 Axle Vehicles	27	1	28	0	38	38	1	1	2	68
% Large 2 Axle Vehicles	3.6	50	3.8	0	2.3	2.3	16.7	100	28.6	2.8
3 Axle Vehicles	23	0	23	0	18	18	1	0	1	42
% 3 Axle Vehicles	3.1	0	3.1	0	1.1	1.1	16.7	0	14.3	1.7
4+ Axle Trucks	66	0	66	0	51	51	0	0	0	117
% 4+ Axle Trucks	8.9	0	8.9	0	3.1	3.1	0	0	0	4.8

	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	82	**2**	84	0	231	231	0	0	0	315
07:45 AM	94	0	94	0	**276**	**276**	**3**	**1**	**4**	**374**
08:00 AM	**102**	0	**102**	0	219	219	1	0	1	322
08:15 AM	88	0	88	0	220	220	0	0	0	308
Total Volume	366	2	368	0	946	946	4	1	5	1319
% App. Total	99.5	0.5		0	100		80	20		
PHF	.897	.250	.902	.000	.857	.857	.333	.250	.313	.882

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Hamner Avenue
E/W: Chino Avenue
Weather: Clear

File Name : 04_ONT_Ham_Chino AM
Site Code : 05122421
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:30 AM			07:00 AM		
+0 mins.	94	0	94	0	231	231	1	0	1
+15 mins.	**102**	0	**102**	0	**276**	**276**	1	0	1
+30 mins.	88	0	88	0	219	219	0	0	0
+45 mins.	101	0	101	0	220	220	**3**	**1**	**4**
Total Volume	385	0	385	0	946	946	5	1	6
% App. Total	100	0		0	100		83.3	16.7	
PHF	.944	.000	.944	.000	.857	.857	.417	.250	.375

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City of Ontario
N/S: Hamner Avenue
E/W: Chino Avenue
Weather: Clear

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Groups Printed- Passenger Vehicles

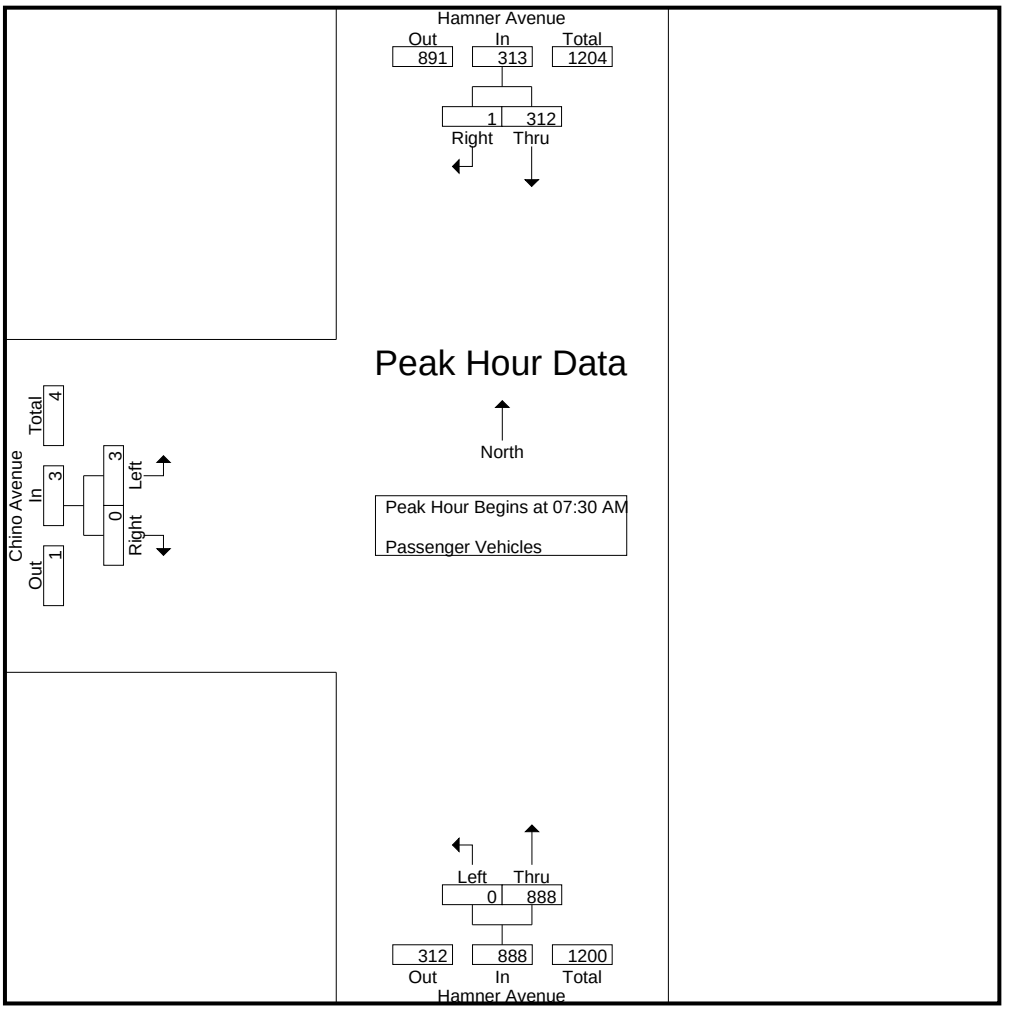
	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	97	0	97	1	158	159	1	0	1	257
07:15 AM	64	0	64	1	182	183	0	0	0	247
07:30 AM	73	1	74	0	219	219	0	0	0	293
07:45 AM	77	0	77	0	265	265	3	0	3	345
Total	311	1	312	2	824	826	4	0	4	1142
08:00 AM	90	0	90	0	204	204	0	0	0	294
08:15 AM	72	0	72	0	200	200	0	0	0	272
08:30 AM	86	0	86	0	194	194	0	0	0	280
08:45 AM	65	0	65	0	137	137	0	0	0	202
Total	313	0	313	0	735	735	0	0	0	1048
Grand Total	624	1	625	2	1559	1561	4	0	4	2190
Apprch %	99.8	0.2		0.1	99.9		100	0		
Total %	28.5	0	28.5	0.1	71.2	71.3	0.2	0	0.2	

	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	73	**1**	74	0	219	219	0	0	0	293
07:45 AM	77	0	77	0	**265**	**265**	**3**	0	**3**	**345**
08:00 AM	**90**	0	**90**	0	204	204	0	0	0	294
08:15 AM	72	0	72	0	200	200	0	0	0	272
Total Volume	312	1	313	0	888	888	3	0	3	1204
% App. Total	99.7	0.3		0	100		100	0		
PHF	.867	.250	.869	.000	.838	.838	.250	.000	.250	.872

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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	73	**1**	74	0	219	219	0	0	0
+15 mins.	77	0	77	0	**265**	**265**	**3**	0	**3**
+30 mins.	**90**	0	**90**	0	204	204	0	0	0
+45 mins.	72	0	72	0	200	200	0	0	0
Total Volume	312	1	313	0	888	888	3	0	3
% App. Total	99.7	0.3		0	100		100	0	
PHF	.867	.250	.869	.000	.838	.838	.250	.000	.250

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Groups Printed- Large 2 Axle Vehicles

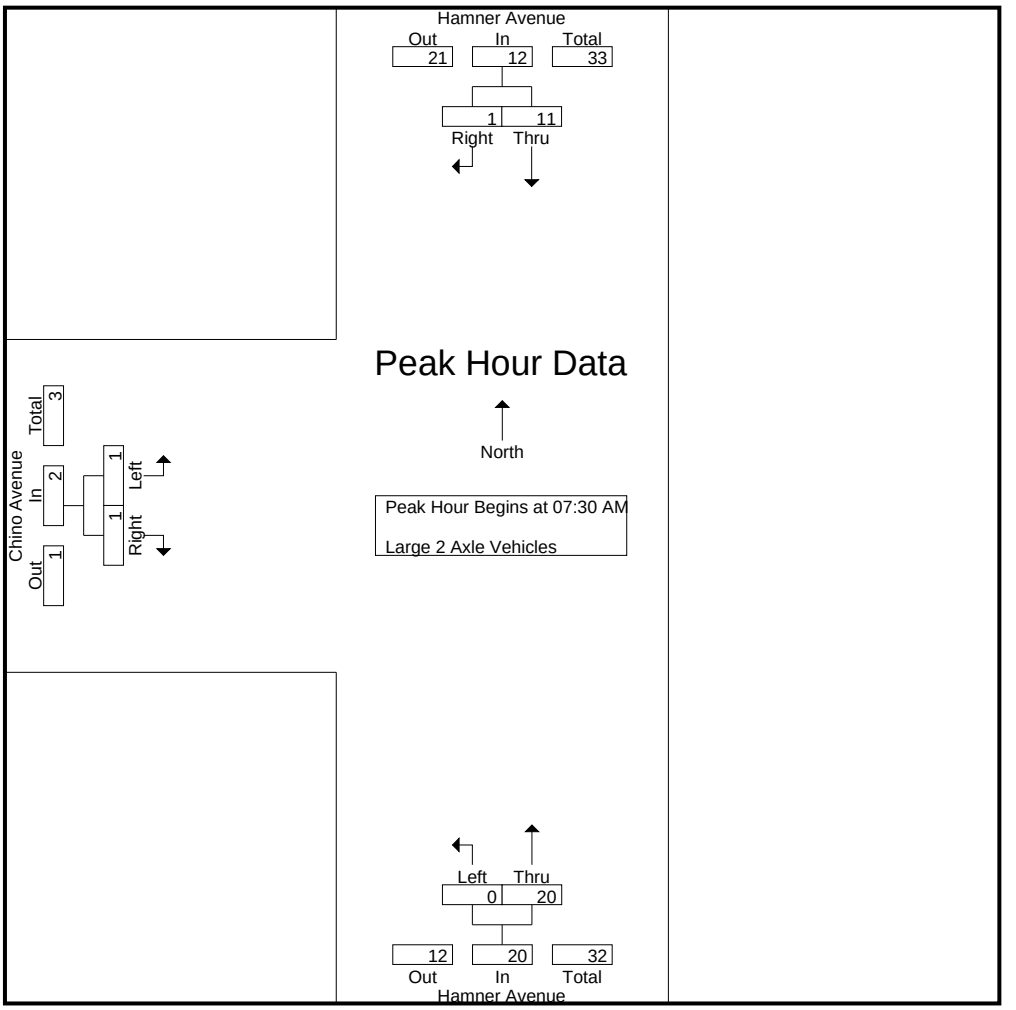
	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	3	0	3	0	4	4	0	0	0	7
07:15 AM	3	0	3	0	9	9	0	0	0	12
07:30 AM	1	1	2	0	2	2	0	0	0	4
07:45 AM	5	0	5	0	7	7	0	1	1	13
Total	12	1	13	0	22	22	0	1	1	36
08:00 AM	1	0	1	0	4	4	1	0	1	6
08:15 AM	4	0	4	0	7	7	0	0	0	11
08:30 AM	4	0	4	0	3	3	0	0	0	7
08:45 AM	6	0	6	0	2	2	0	0	0	8
Total	15	0	15	0	16	16	1	0	1	32
Grand Total	27	1	28	0	38	38	1	1	2	68
Apprch %	96.4	3.6		0	100		50	50		
Total %	39.7	1.5	41.2	0	55.9	55.9	1.5	1.5	2.9	

	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	1	**1**	2	0	2	2	0	0	0	4
07:45 AM	**5**	0	**5**	0	**7**	**7**	0	**1**	**1**	**13**
08:00 AM	1	0	1	0	4	4	**1**	0	1	6
08:15 AM	4	0	4	0	7	7	0	0	0	11
Total Volume	11	1	12	0	20	20	1	1	2	34
% App. Total	91.7	8.3		0	100		50	50		
PHF	.550	.250	.600	.000	.714	.714	.250	.250	.500	.654

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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	1	**1**	2	0	2	2	0	0	0
+15 mins.	**5**	0	**5**	0	**7**	**7**	0	**1**	**1**
+30 mins.	1	0	1	0	4	4	**1**	0	1
+45 mins.	4	0	4	0	7	7	0	0	0
Total Volume	11	1	12	0	20	20	1	1	2
% App. Total	91.7	8.3		0	100		50	50	
PHF	.550	.250	.600	.000	.714	.714	.250	.250	.500

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Groups Printed- 3 Axle Vehicles

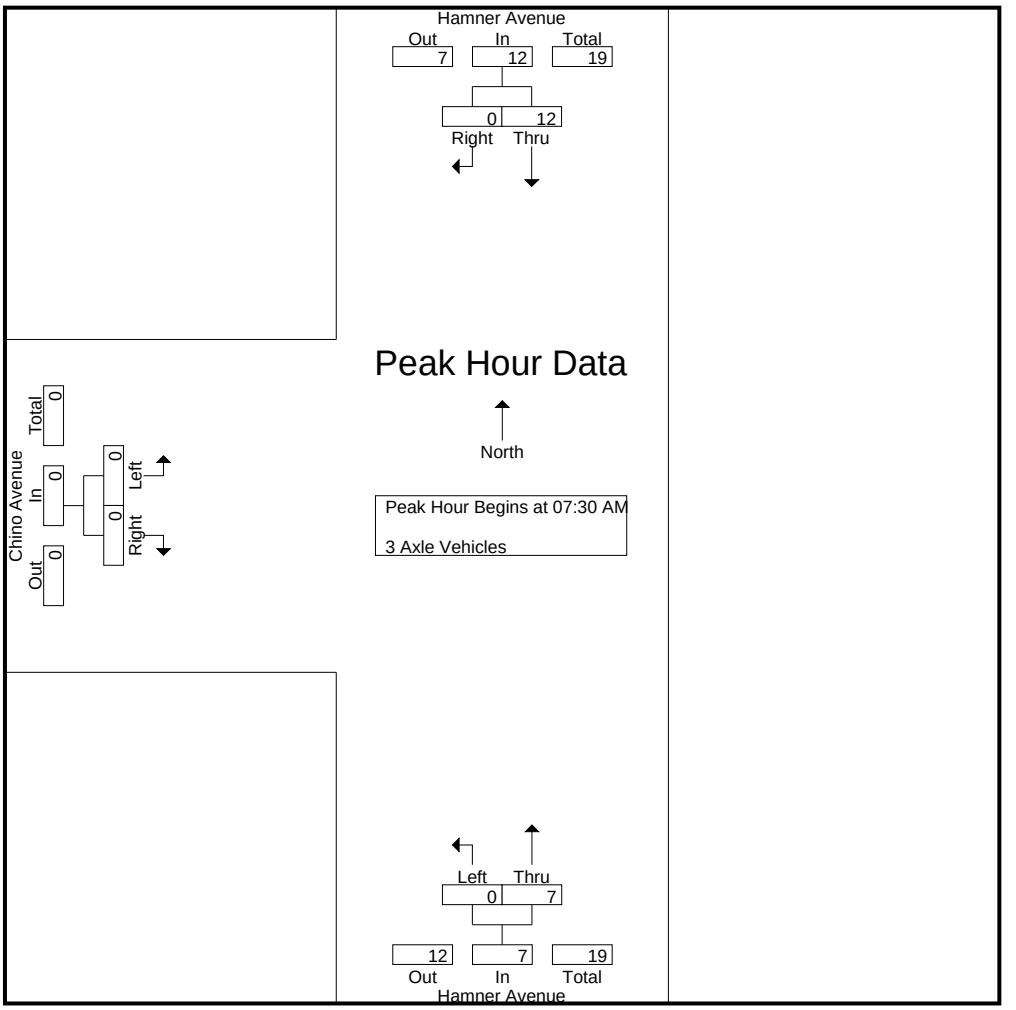
	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	2	0	2	0	2	2	0	0	0	4
07:15 AM	1	0	1	0	3	3	1	0	1	5
07:30 AM	2	0	2	0	2	2	0	0	0	4
07:45 AM	2	0	2	0	0	0	0	0	0	2
Total	7	0	7	0	7	7	1	0	1	15
08:00 AM	4	0	4	0	2	2	0	0	0	6
08:15 AM	4	0	4	0	3	3	0	0	0	7
08:30 AM	3	0	3	0	4	4	0	0	0	7
08:45 AM	5	0	5	0	2	2	0	0	0	7
Total	16	0	16	0	11	11	0	0	0	27
Grand Total	23	0	23	0	18	18	1	0	1	42
Apprch %	100	0		0	100		100	0		
Total %	54.8	0	54.8	0	42.9	42.9	2.4	0	2.4	

	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	2	0	2	0	2	2	0	0	0	4
07:45 AM	2	0	2	0	0	0	0	0	0	2
08:00 AM	**4**	0	**4**	0	2	2	0	0	0	6
08:15 AM	4	0	4	0	**3**	**3**	0	0	0	**7**
Total Volume	12	0	12	0	7	7	0	0	0	19
% App. Total	100	0		0	100		0	0		
PHF	.750	.000	.750	.000	.583	.583	.000	.000	.000	.679

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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	2	0	2	0	2	2	0	0	0
+15 mins.	2	0	2	0	0	0	0	0	0
+30 mins.	**4**	0	**4**	0	2	2	0	0	0
+45 mins.	4	0	4	0	**3**	**3**	0	0	0
Total Volume	12	0	12	0	7	7	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.750	.000	.750	.000	.583	.583	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

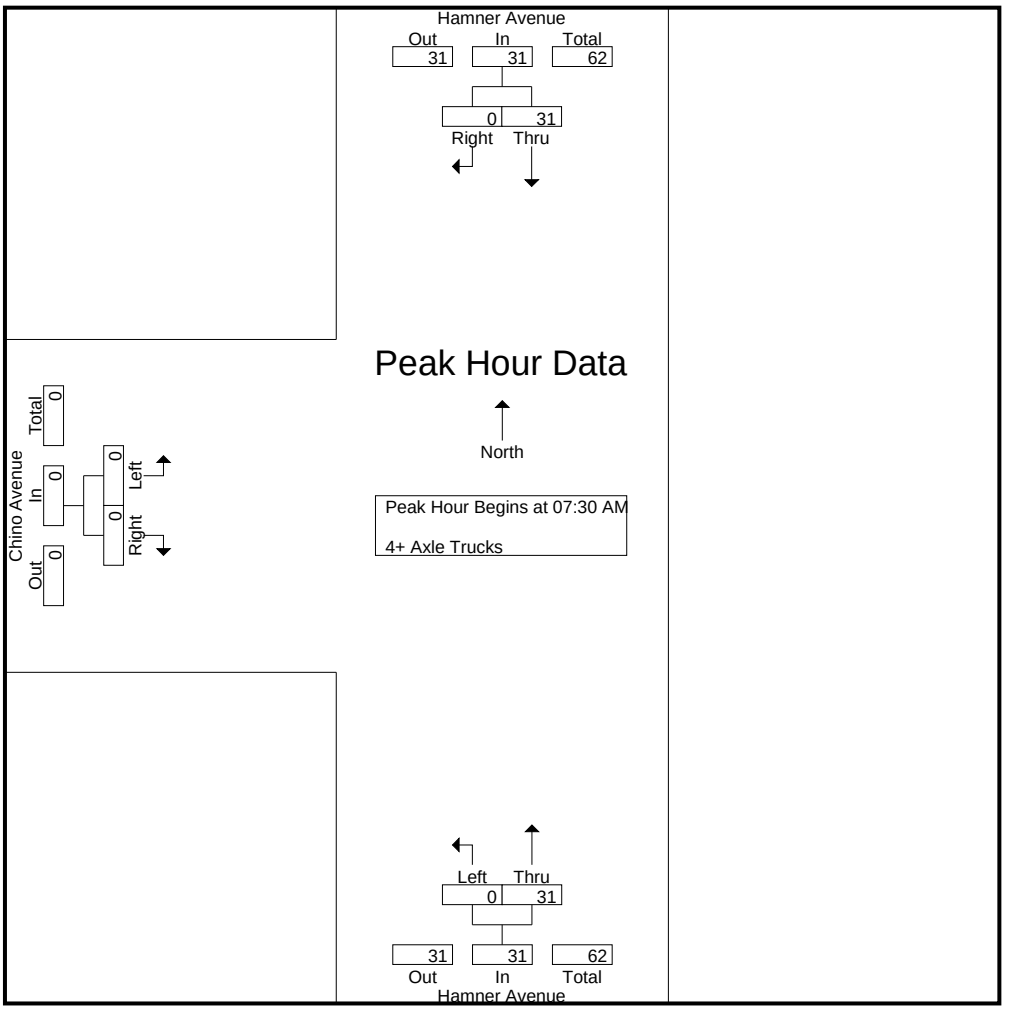
	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	8	0	8	0	5	5	0	0	0	13
07:15 AM	7	0	7	0	1	1	0	0	0	8
07:30 AM	6	0	6	0	8	8	0	0	0	14
07:45 AM	10	0	10	0	4	4	0	0	0	14
Total	31	0	31	0	18	18	0	0	0	49
08:00 AM	7	0	7	0	9	9	0	0	0	16
08:15 AM	8	0	8	0	10	10	0	0	0	18
08:30 AM	8	0	8	0	9	9	0	0	0	17
08:45 AM	12	0	12	0	5	5	0	0	0	17
Total	35	0	35	0	33	33	0	0	0	68
Grand Total	66	0	66	0	51	51	0	0	0	117
Apprch %	100	0		0	100		0	0		
Total %	56.4	0	56.4	0	43.6	43.6	0	0	0	

	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	6	0	6	0	8	8	0	0	0	14
07:45 AM	**10**	0	**10**	0	4	4	0	0	0	14
08:00 AM	7	0	7	0	9	9	0	0	0	16
08:15 AM	8	0	8	0	**10**	**10**	0	0	0	**18**
Total Volume	31	0	31	0	31	31	0	0	0	62
% App. Total	100	0		0	100		0	0		
PHF	.775	.000	.775	.000	.775	.775	.000	.000	.000	.861

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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	6	0	6	0	8	8	0	0	0
+15 mins.	**10**	0	**10**	0	4	4	0	0	0
+30 mins.	7	0	7	0	9	9	0	0	0
+45 mins.	8	0	8	0	**10**	**10**	0	0	0
Total Volume	31	0	31	0	31	31	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.775	.000	.775	.000	.775	.775	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

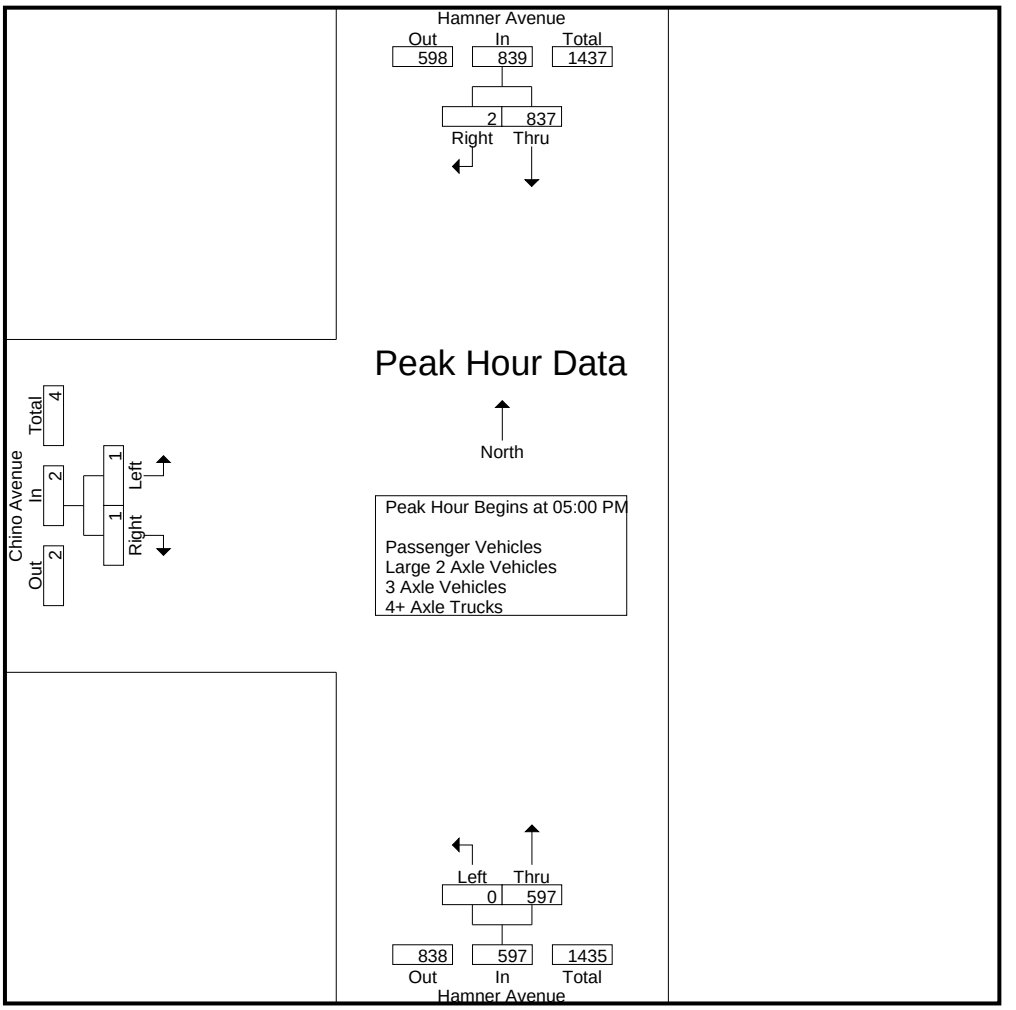
	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	165	1	166	1	180	181	3	2	5	352
04:15 PM	163	0	163	0	139	139	0	1	1	303
04:30 PM	178	1	179	0	174	174	1	1	2	355
04:45 PM	189	0	189	0	139	139	0	0	0	328
Total	695	2	697	1	632	633	4	4	8	1338
05:00 PM	199	1	200	0	139	139	0	0	0	339
05:15 PM	218	1	219	0	137	137	1	0	1	357
05:30 PM	214	0	214	0	180	180	0	1	1	395
05:45 PM	206	0	206	0	141	141	0	0	0	347
Total	837	2	839	0	597	597	1	1	2	1438
Grand Total	1532	4	1536	1	1229	1230	5	5	10	2776
Apprch %	99.7	0.3		0.1	99.9		50	50		
Total %	55.2	0.1	55.3	0	44.3	44.3	0.2	0.2	0.4	
Passenger Vehicles	1451	4	1455	1	1123	1124	5	5	10	2589
% Passenger Vehicles	94.7	100	94.7	100	91.4	91.4	100	100	100	93.3
Large 2 Axle Vehicles	22	0	22	0	26	26	0	0	0	48
% Large 2 Axle Vehicles	1.4	0	1.4	0	2.1	2.1	0	0	0	1.7
3 Axle Vehicles	11	0	11	0	27	27	0	0	0	38
% 3 Axle Vehicles	0.7	0	0.7	0	2.2	2.2	0	0	0	1.4
4+ Axle Trucks	48	0	48	0	53	53	0	0	0	101
% 4+ Axle Trucks	3.1	0	3.1	0	4.3	4.3	0	0	0	3.6

	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	199	**1**	200	0	139	139	0	0	0	339
05:15 PM	**218**	1	**219**	0	137	137	**1**	0	**1**	357
05:30 PM	214	0	214	0	**180**	**180**	0	**1**	1	**395**
05:45 PM	206	0	206	0	141	141	0	0	0	347
Total Volume	837	2	839	0	597	597	1	1	2	1438
% App. Total	99.8	0.2		0	100		50	50		
PHF	.960	.500	.958	.000	.829	.829	.250	.250	.500	.910

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:00 PM			04:00 PM		
+0 mins.	199	**1**	200	**1**	**180**	**181**	**3**	**2**	**5**
+15 mins.	**218**	1	**219**	0	139	139	0	1	1
+30 mins.	214	0	214	0	174	174	1	1	2
+45 mins.	206	0	206	0	139	139	0	0	0
Total Volume	837	2	839	1	632	633	4	4	8
% App. Total	99.8	0.2		0.2	99.8		50	50	
PHF	.960	.500	.958	.250	.878	.874	.333	.500	.400

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Groups Printed- Passenger Vehicles

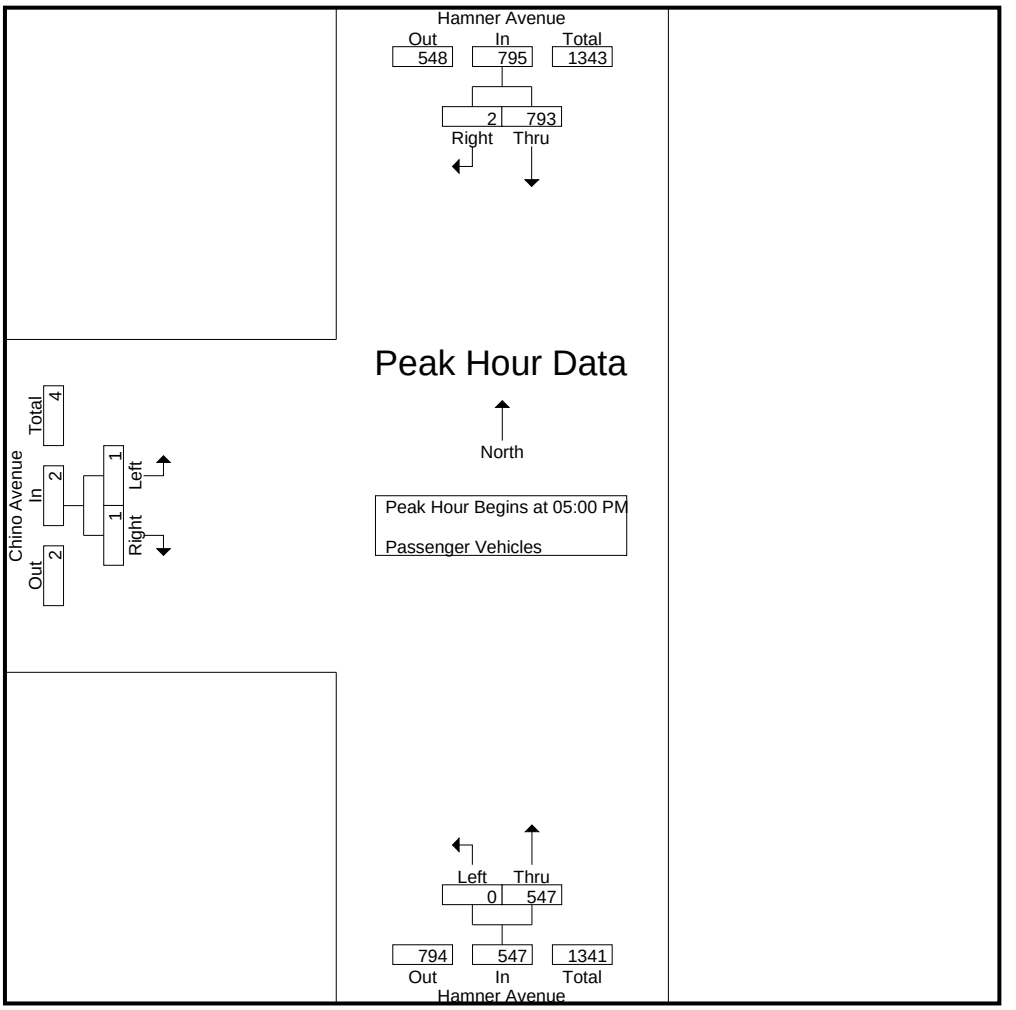
	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	153	1	154	1	167	168	3	2	5	327
04:15 PM	157	0	157	0	125	125	0	1	1	283
04:30 PM	170	1	171	0	158	158	1	1	2	331
04:45 PM	178	0	178	0	126	126	0	0	0	304
Total	658	2	660	1	576	577	4	4	8	1245
05:00 PM	189	1	190	0	123	123	0	0	0	313
05:15 PM	209	1	210	0	125	125	1	0	1	336
05:30 PM	202	0	202	0	168	168	0	1	1	371
05:45 PM	193	0	193	0	131	131	0	0	0	324
Total	793	2	795	0	547	547	1	1	2	1344
Grand Total	1451	4	1455	1	1123	1124	5	5	10	2589
Apprch %	99.7	0.3		0.1	99.9		50	50		
Total %	56	0.2	56.2	0	43.4	43.4	0.2	0.2	0.4	

	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	189	**1**	190	0	123	123	0	0	0	313
05:15 PM	**209**	1	**210**	0	125	125	**1**	0	**1**	336
05:30 PM	202	0	202	0	**168**	**168**	0	**1**	1	**371**
05:45 PM	193	0	193	0	131	131	0	0	0	324
Total Volume	793	2	795	0	547	547	1	1	2	1344
% App. Total	99.7	0.3		0	100		50	50		
PHF	.949	.500	.946	.000	.814	.814	.250	.250	.500	.906

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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	189	**1**	190	0	123	123	0	0	0
+15 mins.	**209**	1	**210**	0	125	125	**1**	0	**1**
+30 mins.	202	0	202	0	**168**	**168**	0	**1**	1
+45 mins.	193	0	193	0	131	131	0	0	0
Total Volume	793	2	795	0	547	547	1	1	2
% App. Total	99.7	0.3		0	100		50	50	
PHF	.949	.500	.946	.000	.814	.814	.250	.250	.500

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City of Ontario
N/S: Hamner Avenue
E/W: Chino Avenue
Weather: Clear

File Name : 04_ONT_Ham_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

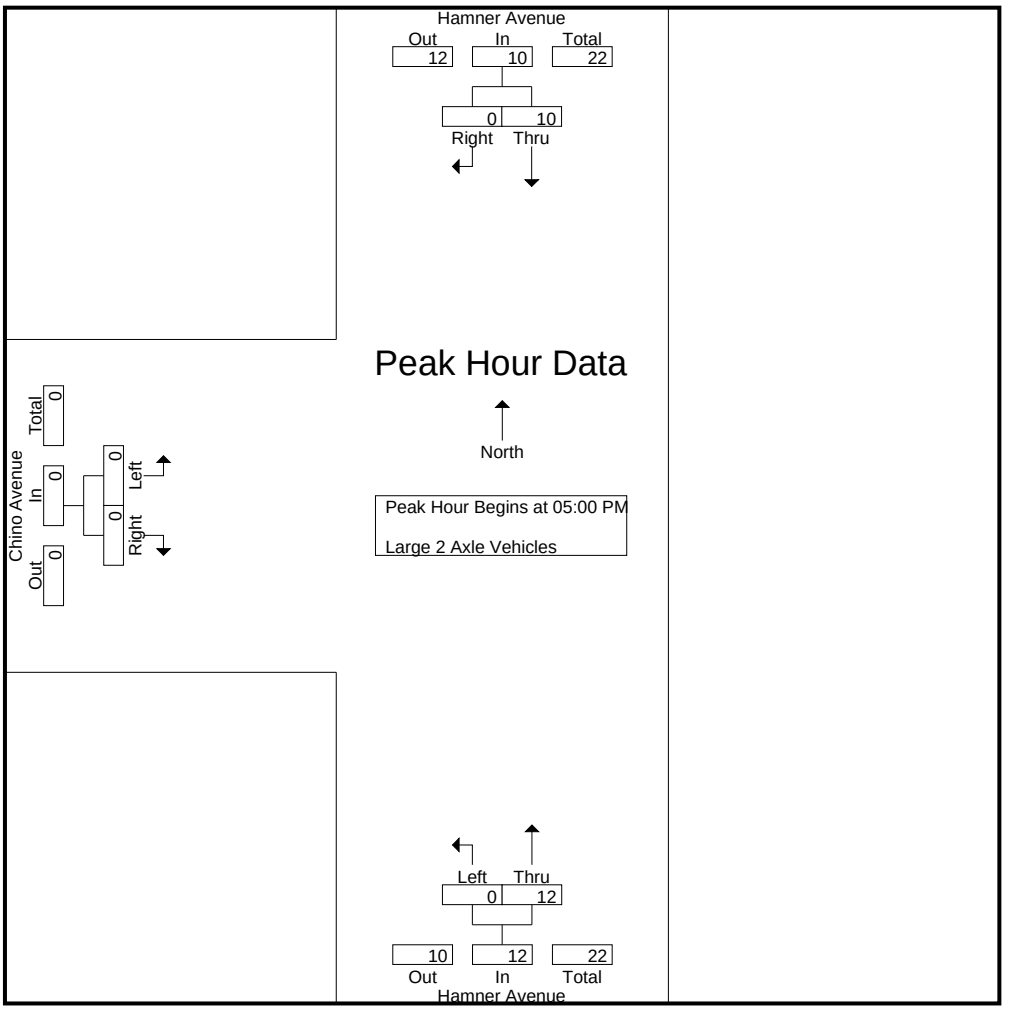
	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	4	0	4	0	3	3	0	0	0	7
04:15 PM	2	0	2	0	4	4	0	0	0	6
04:30 PM	2	0	2	0	5	5	0	0	0	7
04:45 PM	4	0	4	0	2	2	0	0	0	6
Total	12	0	12	0	14	14	0	0	0	26
05:00 PM	4	0	4	0	1	1	0	0	0	5
05:15 PM	1	0	1	0	4	4	0	0	0	5
05:30 PM	3	0	3	0	4	4	0	0	0	7
05:45 PM	2	0	2	0	3	3	0	0	0	5
Total	10	0	10	0	12	12	0	0	0	22
Grand Total	22	0	22	0	26	26	0	0	0	48
Apprch %	100	0		0	100		0	0		
Total %	45.8	0	45.8	0	54.2	54.2	0	0	0	

	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**4**	0	**4**	0	1	1	0	0	0	5
05:15 PM	1	0	1	0	**4**	**4**	0	0	0	5
05:30 PM	3	0	3	0	4	4	0	0	0	**7**
05:45 PM	2	0	2	0	3	3	0	0	0	5
Total Volume	10	0	10	0	12	12	0	0	0	22
% App. Total	100	0		0	100		0	0		
PHF	.625	.000	.625	.000	.750	.750	.000	.000	.000	.786

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City of Ontario
N/S: Hamner Avenue
E/W: Chino Avenue
Weather: Clear

File Name : 04_ONT_Ham_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	**4**	0	**4**	0	1	1	0	0	0
+15 mins.	1	0	1	0	**4**	**4**	0	0	0
+30 mins.	3	0	3	0	4	4	0	0	0
+45 mins.	2	0	2	0	3	3	0	0	0
Total Volume	10	0	10	0	12	12	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.625	.000	.625	.000	.750	.750	.000	.000	.000

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City of Ontario
N/S: Hamner Avenue
E/W: Chino Avenue
Weather: Clear

File Name : 04_ONT_Ham_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

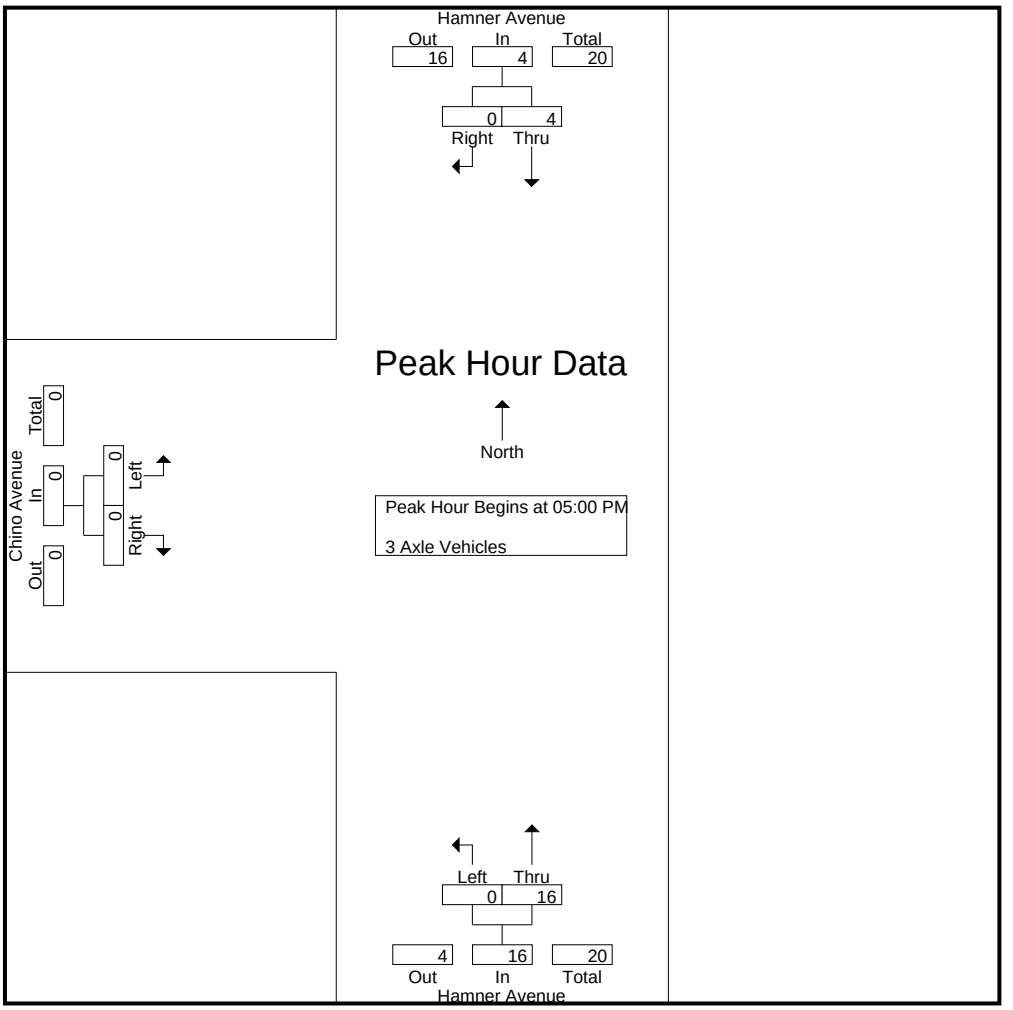
	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	1	0	1	0	5	5	0	0	0	6
04:15 PM	2	0	2	0	1	1	0	0	0	3
04:30 PM	2	0	2	0	4	4	0	0	0	6
04:45 PM	2	0	2	0	1	1	0	0	0	3
Total	7	0	7	0	11	11	0	0	0	18
05:00 PM	0	0	0	0	5	5	0	0	0	5
05:15 PM	2	0	2	0	5	5	0	0	0	7
05:30 PM	0	0	0	0	4	4	0	0	0	4
05:45 PM	2	0	2	0	2	2	0	0	0	4
Total	4	0	4	0	16	16	0	0	0	20
Grand Total	11	0	11	0	27	27	0	0	0	38
Apprch %	100	0		0	100		0	0		
Total %	28.9	0	28.9	0	71.1	71.1	0	0	0	

	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	**5**	**5**	0	0	0	5
05:15 PM	**2**	0	**2**	0	5	5	0	0	0	**7**
05:30 PM	0	0	0	0	4	4	0	0	0	4
05:45 PM	2	0	2	0	2	2	0	0	0	4
Total Volume	4	0	4	0	16	16	0	0	0	20
% App. Total	100	0		0	100		0	0		
PHF	.500	.000	.500	.000	.800	.800	.000	.000	.000	.714

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City of Ontario
N/S: Hamner Avenue
E/W: Chino Avenue
Weather: Clear

File Name : 04_ONT_Ham_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	**5**	**5**	0	0	0
+15 mins.	**2**	0	**2**	0	5	5	0	0	0
+30 mins.	0	0	0	0	4	4	0	0	0
+45 mins.	2	0	2	0	2	2	0	0	0
Total Volume	4	0	4	0	16	16	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.500	.000	.500	.000	.800	.800	.000	.000	.000

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City of Ontario
N/S: Hamner Avenue
E/W: Chino Avenue
Weather: Clear

File Name : 04_ONT_Ham_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

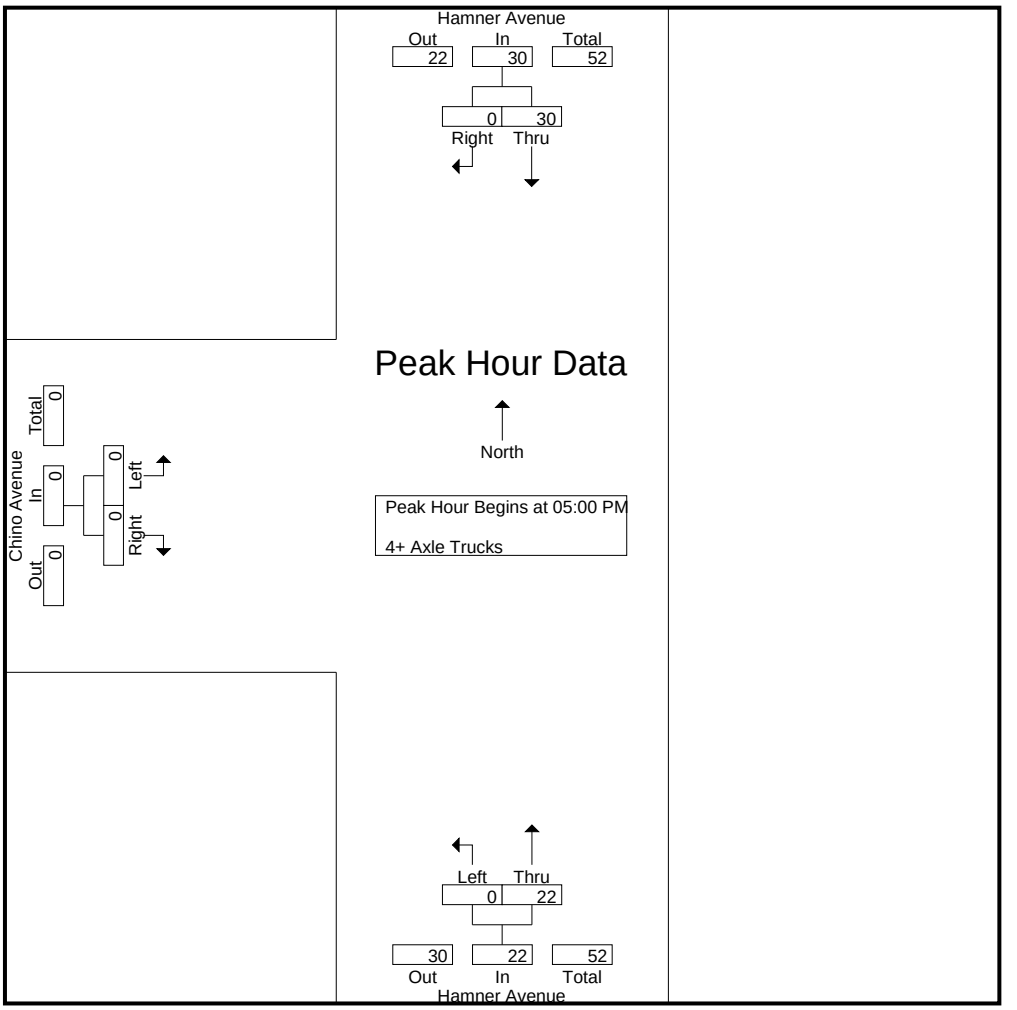
	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	7	0	7	0	5	5	0	0	0	12
04:15 PM	2	0	2	0	9	9	0	0	0	11
04:30 PM	4	0	4	0	7	7	0	0	0	11
04:45 PM	5	0	5	0	10	10	0	0	0	15
Total	18	0	18	0	31	31	0	0	0	49
05:00 PM	6	0	6	0	10	10	0	0	0	16
05:15 PM	6	0	6	0	3	3	0	0	0	9
05:30 PM	9	0	9	0	4	4	0	0	0	13
05:45 PM	9	0	9	0	5	5	0	0	0	14
Total	30	0	30	0	22	22	0	0	0	52
Grand Total	48	0	48	0	53	53	0	0	0	101
Apprch %	100	0		0	100		0	0		
Total %	47.5	0	47.5	0	52.5	52.5	0	0	0	

	Hamner Avenue Southbound			Hamner Avenue Northbound			Chino Avenue Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	6	0	6	0	**10**	**10**	0	0	0	**16**
05:15 PM	6	0	6	0	3	3	0	0	0	9
05:30 PM	**9**	0	**9**	0	4	4	0	0	0	13
05:45 PM	9	0	9	0	5	5	0	0	0	14
Total Volume	30	0	30	0	22	22	0	0	0	52
% App. Total	100	0		0	100		0	0		
PHF	.833	.000	.833	.000	.550	.550	.000	.000	.000	.813

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City of Ontario
N/S: Hamner Avenue
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Weather: Clear

File Name : 04_ONT_Ham_Chino PM
Site Code : 05122421
Start Date : 5/10/2022
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	6	0	6	0	**10**	**10**	0	0	0
+15 mins.	6	0	6	0	3	3	0	0	0
+30 mins.	**9**	0	**9**	0	4	4	0	0	0
+45 mins.	9	0	9	0	5	5	0	0	0
Total Volume	30	0	30	0	22	22	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.833	.000	.833	.000	.550	.550	.000	.000	.000

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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

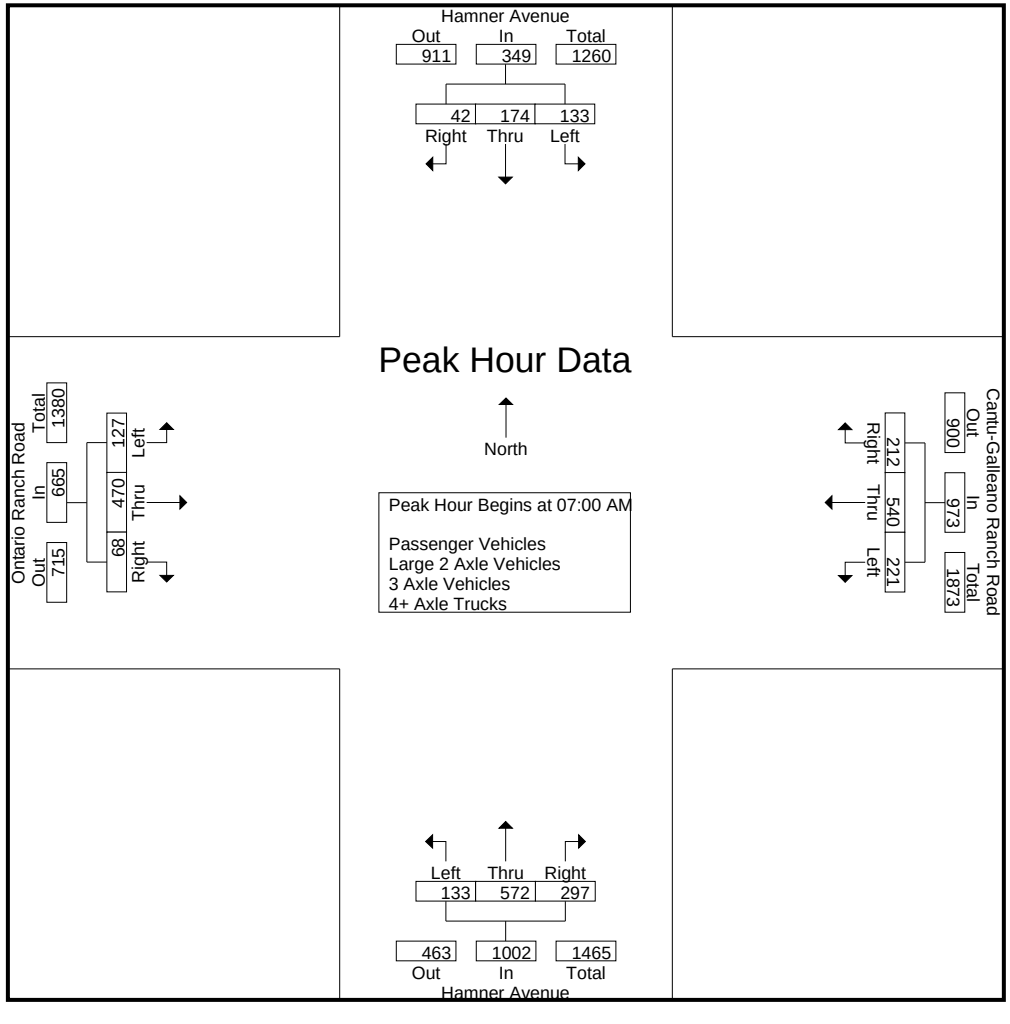
	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	42	65	14	5	121	53	146	48	21	247	34	134	80	33	248	15	106	14	2	135	61	751	812
07:15 AM	41	27	5	3	73	53	129	59	13	241	22	114	67	23	203	19	134	17	1	170	40	687	727
07:30 AM	24	42	10	7	76	57	143	45	10	245	43	152	84	35	279	53	110	14	7	177	59	777	836
07:45 AM	26	40	13	1	79	58	122	60	24	240	34	172	66	27	272	40	120	23	2	183	54	774	828
Total	133	174	42	16	349	221	540	212	68	973	133	572	297	118	1002	127	470	68	12	665	214	2989	3203
08:00 AM	25	69	7	0	101	73	93	60	30	226	35	157	47	18	239	34	105	36	9	175	57	741	798
08:15 AM	22	48	9	7	79	59	131	66	23	256	29	131	51	24	211	39	96	14	1	149	55	695	750
08:30 AM	31	51	15	6	97	56	115	58	15	229	38	155	67	27	260	28	87	29	8	144	56	730	786
08:45 AM	13	44	10	5	67	68	97	54	16	219	39	95	58	21	192	19	61	24	6	104	48	582	630
Total	91	212	41	18	344	256	436	238	84	930	141	538	223	90	902	120	349	103	24	572	216	2748	2964
Grand Total	224	386	83	34	693	477	976	450	152	1903	274	1110	520	208	1904	247	819	171	36	1237	430	5737	6167
Apprch %	32.3	55.7	12			25.1	51.3	23.6			14.4	58.3	27.3			20	66.2	13.8					
Total %	3.9	6.7	1.4		12.1	8.3	17	7.8		33.2	4.8	19.3	9.1		33.2	4.3	14.3	3		21.6	7	93	
Passenger Vehicles	182	357	51		609	434	802	394		1765	256	1073	504		2035	224	674	164		1098	0	0	5507
% Passenger Vehicles	81.2	92.5	61.4	55.9	83.8	91	82.2	87.6	88.8	85.9	93.4	96.7	96.9	97.1	96.4	90.7	82.3	95.9	100	86.3	0	0	89.3
Large 2 Axle Vehicles	6	14	7		33	24	55	12		97	7	19	3		31	7	25	5		37	0	0	198
% Large 2 Axle Vehicles	2.7	3.6	8.4	17.6	4.5	5	5.6	2.7	3.9	4.7	2.6	1.7	0.6	1	1.5	2.8	3.1	2.9	0	2.9	0	0	3.2
3 Axle Vehicles	8	9	6		28	12	42	6		61	2	10	6		20	3	31	1		35	0	0	144
% 3 Axle Vehicles	3.6	2.3	7.2	14.7	3.9	2.5	4.3	1.3	0.7	3	0.7	0.9	1.2	1	0.9	1.2	3.8	0.6	0	2.7	0	0	2.3
4+ Axle Trucks	28	6	19		57	7	77	38		132	9	8	7		26	13	89	1		103	0	0	318
% 4+ Axle Trucks	12.5	1.6	22.9	11.8	7.8	1.5	7.9	8.4	6.6	6.4	3.3	0.7	1.3	1	1.2	5.3	10.9	0.6	0	8.1	0	0	5.2

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**42**	**65**	**14**	**121**	53	**146**	48	**247**	34	134	80	248	15	106	14	135	751
07:15 AM	41	27	5	73	53	129	59	241	22	114	67	203	19	**134**	17	170	687
07:30 AM	24	42	10	76	57	143	45	245	**43**	152	**84**	**279**	**53**	110	14	177	**777**
07:45 AM	26	40	13	79	**58**	122	**60**	240	34	**172**	66	272	40	120	**23**	**183**	774
Total Volume	133	174	42	349	221	540	212	973	133	572	297	1002	127	470	68	665	2989
% App. Total	38.1	49.9	12		22.7	55.5	21.8		13.3	57.1	29.6		19.1	70.7	10.2		
PHF	.792	.669	.750	.721	.953	.925	.883	.985	.773	.831	.884	.898	.599	.877	.739	.908	.962

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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:00 AM				07:00 AM				07:15 AM				
+0 mins.	26	40	13	79	53	**146**	48	**247**	34	134	80	248	19	**134**	17	170	
+15 mins.	25	**69**	7	**101**	53	129	59	241	22	114	67	203	**53**	110	14	177	
+30 mins.	22	48	9	79	57	143	45	245	**43**	152	**84**	**279**	40	120	23	**183**	
+45 mins.	**31**	51	**15**	97	**58**	122	**60**	240	34	**172**	66	272	34	105	**36**	175	
Total Volume	104	208	44	356	221	540	212	973	133	572	297	1002	146	469	90	705	
% App. Total	29.2	58.4	12.4		22.7	55.5	21.8		13.3	57.1	29.6		20.7	66.5	12.8		
PHF	.839	.754	.733	.881	.953	.925	.883	.985	.773	.831	.884	.898	.689	.875	.625	.963	

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City of Ontario
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Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles

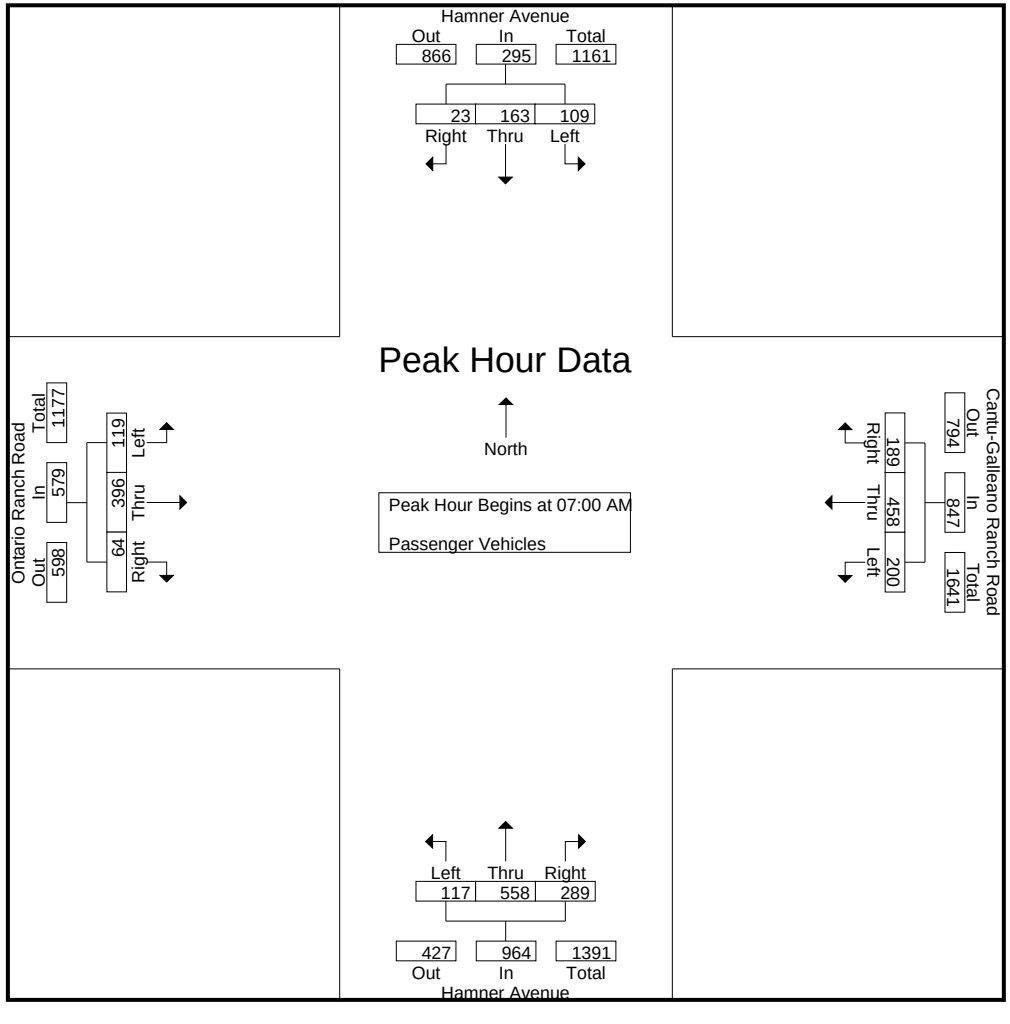
	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	32	62	10	3	104	45	128	43	19	216	33	128	79	33	240	13	94	13	2	120	57	680	737
07:15 AM	35	25	2	1	62	44	110	53	10	207	21	112	65	23	198	18	110	16	1	144	35	611	646
07:30 AM	22	40	5	3	67	55	121	39	7	215	41	148	81	34	270	49	89	13	7	151	51	703	754
07:45 AM	20	36	6	0	62	56	99	54	22	209	22	170	64	27	256	39	103	22	2	164	51	691	742
Total	109	163	23	7	295	200	458	189	58	847	117	558	289	117	964	119	396	64	12	579	194	2685	2879
08:00 AM	22	66	6	0	94	65	75	51	28	191	35	152	46	18	233	30	88	35	9	153	55	671	726
08:15 AM	17	42	7	6	66	56	111	57	21	224	29	123	48	22	200	34	70	14	1	118	50	608	658
08:30 AM	22	47	11	4	80	51	83	50	13	184	37	151	65	25	253	26	71	28	8	125	50	642	692
08:45 AM	12	39	4	2	55	62	75	47	15	184	38	89	56	20	183	15	49	23	6	87	43	509	552
Total	73	194	28	12	295	234	344	205	77	783	139	515	215	85	869	105	278	100	24	483	198	2430	2628
Grand Total	182	357	51	19	590	434	802	394	135	1630	256	1073	504	202	1833	224	674	164	36	1062	392	5115	5507
Apprch %	30.8	60.5	8.6			26.6	49.2	24.2			14	58.5	27.5			21.1	63.5	15.4					
Total %	3.6	7	1		11.5	8.5	15.7	7.7		31.9	5	21	9.9		35.8	4.4	13.2	3.2		20.8	7.1	92.9	

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	32	**62**	**10**	**104**	45	**128**	43	**216**	33	128	79	240	13	94	13	120	680
07:15 AM	**35**	25	2	62	44	110	53	207	21	112	65	198	18	**110**	16	144	611
07:30 AM	22	40	5	67	55	121	39	215	**41**	148	**81**	**270**	**49**	89	13	151	**703**
07:45 AM	20	36	6	62	**56**	99	**54**	209	22	**170**	64	256	39	103	**22**	**164**	691
Total Volume	109	163	23	295	200	458	189	847	117	558	289	964	119	396	64	579	2685
% App. Total	36.9	55.3	7.8		23.6	54.1	22.3		12.1	57.9	30		20.6	68.4	11.1		
PHF	.779	.657	.575	.709	.893	.895	.875	.980	.713	.821	.892	.893	.607	.900	.727	.883	.955

Counts Unlimited, Inc.
PO Box 1178
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(951)268-6268

City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	32	**62**	**10**	**104**	45	**128**	43	**216**	33	128	79	240	13	94	13	120	
+15 mins.	**35**	25	2	62	44	110	53	207	21	112	65	198	18	**110**	16	144	
+30 mins.	22	40	5	67	55	121	39	215	**41**	148	**81**	**270**	**49**	89	13	151	
+45 mins.	20	36	6	62	**56**	99	**54**	209	22	**170**	64	256	39	103	**22**	**164**	
Total Volume	109	163	23	295	200	458	189	847	117	558	289	964	119	396	64	579	
% App. Total	36.9	55.3	7.8		23.6	54.1	22.3		12.1	57.9	30		20.6	68.4	11.1		
PHF	.779	.657	.575	.709	.893	.895	.875	.980	.713	.821	.892	.893	.607	.900	.727	.883	

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City of Ontario
N/S: Hamner Avenue
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Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

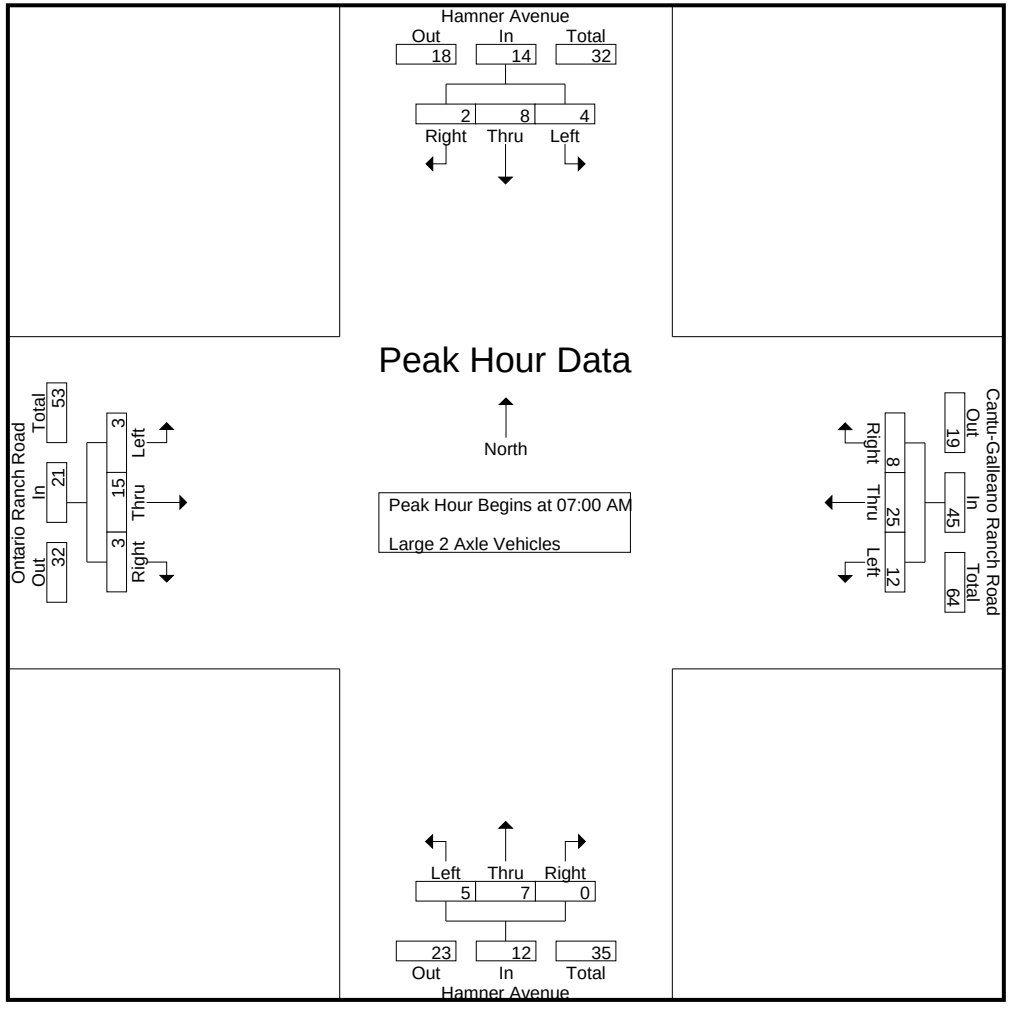
	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	2	1	1	4	6	5	2	2	13	0	4	0	0	4	0	0	1	0	1	3	22	25
07:15 AM	0	1	0	0	1	2	4	4	2	10	1	1	0	0	2	1	7	1	0	9	2	22	24
07:30 AM	0	2	0	0	2	2	8	0	0	10	2	1	0	0	3	1	5	1	0	7	0	22	22
07:45 AM	3	3	1	1	7	2	8	2	0	12	2	1	0	0	3	1	3	0	0	4	1	26	27
Total	4	8	2	2	14	12	25	8	4	45	5	7	0	0	12	3	15	3	0	21	6	92	98
08:00 AM	0	1	0	0	1	4	7	1	0	12	0	4	1	0	5	1	2	0	0	3	0	21	21
08:15 AM	0	2	0	0	2	1	8	2	1	11	0	3	0	0	3	1	1	0	0	2	1	18	19
08:30 AM	2	2	1	1	5	2	8	1	1	11	1	2	1	1	4	0	4	1	0	5	3	25	28
08:45 AM	0	1	4	3	5	5	7	0	0	12	1	3	1	1	5	2	3	1	0	6	4	28	32
Total	2	6	5	4	13	12	30	4	2	46	2	12	3	2	17	4	10	2	0	16	8	92	100
Grand Total	6	14	7	6	27	24	55	12	6	91	7	19	3	2	29	7	25	5	0	37	14	184	198
Apprch %	22.2	51.9	25.9			26.4	60.4	13.2			24.1	65.5	10.3			18.9	67.6	13.5					
Total %	3.3	7.6	3.8		14.7	13	29.9	6.5		49.5	3.8	10.3	1.6		15.8	3.8	13.6	2.7		20.1	7.1	92.9	

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	2	**1**	4	**6**	5	2	**13**	0	**4**	0	**4**	0	0	**1**	1	22
07:15 AM	0	1	0	1	2	4	**4**	10	1	1	0	2	**1**	**7**	1	**9**	22
07:30 AM	0	2	0	2	2	**8**	0	10	**2**	1	0	3	1	5	1	7	22
07:45 AM	**3**	**3**	1	**7**	2	8	2	12	2	1	0	3	1	3	0	4	**26**
Total Volume	4	8	2	14	12	25	8	45	5	7	0	12	3	15	3	21	92
% App. Total	28.6	57.1	14.3		26.7	55.6	17.8		41.7	58.3	0		14.3	71.4	14.3		
PHF	.333	.667	.500	.500	.500	.781	.500	.865	.625	.438	.000	.750	.750	.536	.750	.583	.885

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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



2182

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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	1	2	**1**	4	**6**	5	2	**13**	0	**4**	0	**4**	0	0	**1**	1	
+15 mins.	0	1	0	1	2	4	**4**	10	1	1	0	2	**1**	**7**	1	**9**	
+30 mins.	0	2	0	2	2	**8**	0	10	**2**	1	0	3	1	5	1	7	
+45 mins.	**3**	**3**	1	**7**	2	8	2	12	2	1	0	3	1	3	0	4	
Total Volume	4	8	2	14	12	25	8	45	5	7	0	12	3	15	3	21	
% App. Total	28.6	57.1	14.3		26.7	55.6	17.8		41.7	58.3	0		14.3	71.4	14.3		
PHF	.333	.667	.500	.500	.500	.781	.500	.865	.625	.438	.000	.750	.750	.536	.750	.583	

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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

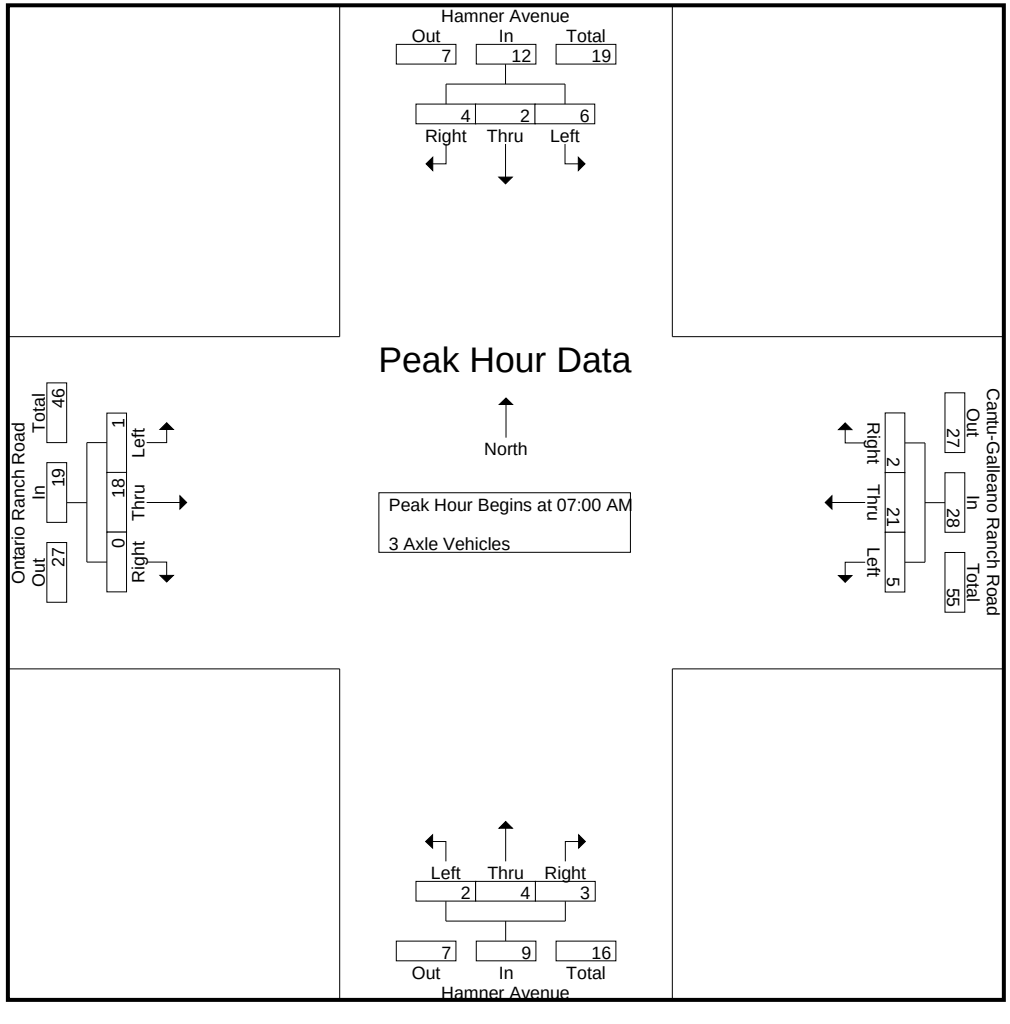
	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	5	1	1	1	7	1	8	0	0	9	1	2	1	0	4	0	4	0	0	4	1	24	25
07:15 AM	1	0	0	0	1	4	2	1	0	7	0	1	0	0	1	0	5	0	0	5	0	14	14
07:30 AM	0	0	2	2	2	0	3	1	1	4	0	1	0	0	1	1	5	0	0	6	3	13	16
07:45 AM	0	1	1	0	2	0	8	0	0	8	1	0	2	0	3	0	4	0	0	4	0	17	17
Total	6	2	4	3	12	5	21	2	1	28	2	4	3	0	9	1	18	0	0	19	4	68	72
08:00 AM	0	1	0	0	1	3	4	1	0	8	0	1	0	0	1	0	2	1	0	3	0	13	13
08:15 AM	0	3	1	1	4	1	4	2	0	7	0	3	1	1	4	0	6	0	0	6	2	21	23
08:30 AM	2	0	1	1	3	3	9	0	0	12	0	0	1	1	1	1	3	0	0	4	2	20	22
08:45 AM	0	3	0	0	3	0	4	1	0	5	0	2	1	0	3	1	2	0	0	3	0	14	14
Total	2	7	2	2	11	7	21	4	0	32	0	6	3	2	9	2	13	1	0	16	4	68	72
Grand Total	8	9	6	5	23	12	42	6	1	60	2	10	6	2	18	3	31	1	0	35	8	136	144
Apprch %	34.8	39.1	26.1			20	70	10			11.1	55.6	33.3			8.6	88.6	2.9					
Total %	5.9	6.6	4.4		16.9	8.8	30.9	4.4		44.1	1.5	7.4	4.4		13.2	2.2	22.8	0.7		25.7	5.6	94.4	

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**5**	**1**	1	**7**	1	**8**	0	**9**	**1**	**2**	1	**4**	0	4	0	4	**24**
07:15 AM	1	0	0	1	**4**	2	**1**	7	0	1	0	1	0	**5**	0	5	14
07:30 AM	0	0	**2**	2	0	3	1	4	0	1	0	1	**1**	5	0	**6**	13
07:45 AM	0	1	1	2	0	8	0	8	1	0	**2**	3	0	4	0	4	17
Total Volume	6	2	4	12	5	21	2	28	2	4	3	9	1	18	0	19	68
% App. Total	50	16.7	33.3		17.9	75	7.1		22.2	44.4	33.3		5.3	94.7	0		
PHF	.300	.500	.500	.429	.313	.656	.500	.778	.500	.500	.375	.563	.250	.900	.000	.792	.708

Counts Unlimited, Inc.
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(951)268-6268

City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**5**	**1**	1	**7**	1	**8**	0	**9**	**1**	**2**	1	**4**	0	4	0	4	
+15 mins.	1	0	0	1	**4**	2	**1**	7	0	1	0	1	0	**5**	0	5	
+30 mins.	0	0	**2**	2	0	3	1	4	0	1	0	1	**1**	5	0	**6**	
+45 mins.	0	1	1	2	0	8	0	8	1	0	**2**	3	0	4	0	4	
Total Volume	6	2	4	12	5	21	2	28	2	4	3	9	1	18	0	19	
% App. Total	50	16.7	33.3		17.9	75	7.1		22.2	44.4	33.3		5.3	94.7	0		
PHF	.300	.500	.500	.429	.313	.656	.500	.778	.500	.500	.375	.563	.250	.900	.000	.792	

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City of Ontario
N/S: Hamner Avenue
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File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

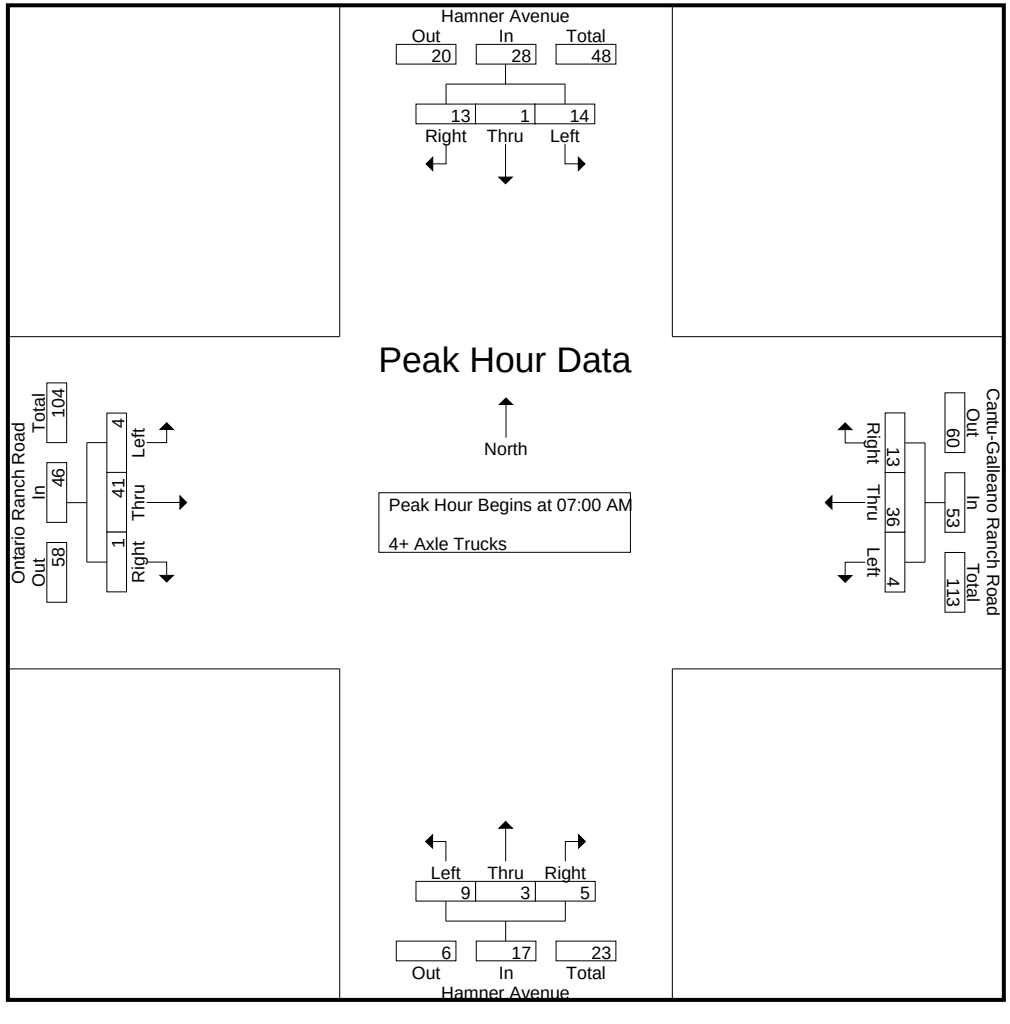
	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	4	0	2	0	6	1	5	3	0	9	0	0	0	0	0	2	8	0	0	10	0	25	25
07:15 AM	5	1	3	2	9	3	13	1	1	17	0	0	2	0	2	0	12	0	0	12	3	40	43
07:30 AM	2	0	3	2	5	0	11	5	2	16	0	2	3	1	5	2	11	0	0	13	5	39	44
07:45 AM	3	0	5	0	8	0	7	4	2	11	9	1	0	0	10	0	10	1	0	11	2	40	42
Total	14	1	13	4	28	4	36	13	5	53	9	3	5	1	17	4	41	1	0	46	10	144	154
08:00 AM	3	1	1	0	5	1	7	7	2	15	0	0	0	0	0	3	13	0	0	16	2	36	38
08:15 AM	5	1	1	0	7	1	8	5	1	14	0	2	2	1	4	4	19	0	0	23	2	48	50
08:30 AM	5	2	2	0	9	0	15	7	1	22	0	2	0	0	2	1	9	0	0	10	1	43	44
08:45 AM	1	1	2	0	4	1	11	6	1	18	0	1	0	0	1	1	7	0	0	8	1	31	32
Total	14	5	6	0	25	3	41	25	5	69	0	5	2	1	7	9	48	0	0	57	6	158	164
Grand Total	28	6	19	4	53	7	77	38	10	122	9	8	7	2	24	13	89	1	0	103	16	302	318
Apprch %	52.8	11.3	35.8			5.7	63.1	31.1			37.5	33.3	29.2			12.6	86.4	1					
Total %	9.3	2	6.3		17.5	2.3	25.5	12.6		40.4	3	2.6	2.3		7.9	4.3	29.5	0.3		34.1	5	95	

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	4	0	2	6	1	5	3	9	0	0	0	0	**2**	8	0	10	25
07:15 AM	**5**	**1**	3	**9**	**3**	**13**	1	**17**	0	0	2	2	0	**12**	0	12	**40**
07:30 AM	2	0	3	5	0	11	**5**	16	0	**2**	**3**	5	2	11	0	**13**	39
07:45 AM	3	0	**5**	8	0	7	4	11	**9**	1	0	**10**	0	10	**1**	11	40
Total Volume	14	1	13	28	4	36	13	53	9	3	5	17	4	41	1	46	144
% App. Total	50	3.6	46.4		7.5	67.9	24.5		52.9	17.6	29.4		8.7	89.1	2.2		
PHF	.700	.250	.650	.778	.333	.692	.650	.779	.250	.375	.417	.425	.500	.854	.250	.885	.900

Counts Unlimited, Inc.
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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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Weather: Clear

File Name : 05_ONT_Ham_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	4	0	2	6	1	5	3	9	0	0	0	0	**2**	8	0	10	
+15 mins.	**5**	**1**	3	**9**	**3**	**13**	1	**17**	0	0	2	2	0	**12**	0	12	
+30 mins.	2	0	3	5	0	11	**5**	16	0	**2**	**3**	5	2	11	0	**13**	
+45 mins.	3	0	**5**	8	0	7	4	11	**9**	1	0	**10**	0	10	**1**	11	
Total Volume	14	1	13	28	4	36	13	53	9	3	5	17	4	41	1	46	
% App. Total	50	3.6	46.4		7.5	67.9	24.5		52.9	17.6	29.4		8.7	89.1	2.2		
PHF	.700	.250	.650	.778	.333	.692	.650	.779	.250	.375	.417	.425	.500	.854	.250	.885	

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Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	55	96	14	0	165	72	82	40	18	194	64	123	53	21	240	19	172	43	3	234	42	833	875
04:15 PM	40	102	8	2	150	103	111	32	17	246	64	84	62	13	210	16	128	55	7	199	39	805	844
04:30 PM	57	124	14	4	195	87	90	33	12	210	72	119	68	17	259	21	119	41	9	181	42	845	887
04:45 PM	62	107	14	4	183	94	147	35	13	276	82	91	83	21	256	21	156	78	22	255	60	970	1030
Total	214	429	50	10	693	356	430	140	60	926	282	417	266	72	965	77	575	217	41	869	183	3453	3636
05:00 PM	46	120	27	10	193	78	140	29	14	247	60	62	77	25	199	28	147	51	10	226	59	865	924
05:15 PM	56	158	20	11	234	100	134	17	8	251	84	93	72	15	249	13	133	57	9	203	43	937	980
05:30 PM	58	111	16	14	185	94	144	43	28	281	70	99	57	19	226	24	153	65	13	242	74	934	1008
05:45 PM	57	156	36	11	249	100	149	20	5	269	54	98	54	22	206	14	146	72	15	232	53	956	1009
Total	217	545	99	46	861	372	567	109	55	1048	268	352	260	81	880	79	579	245	47	903	229	3692	3921
Grand Total	431	974	149	56	1554	728	997	249	115	1974	550	769	526	153	1845	156	1154	462	88	1772	412	7145	7557
Apprch %	27.7	62.7	9.6			36.9	50.5	12.6			29.8	41.7	28.5			8.8	65.1	26.1					
Total %	6	13.6	2.1		21.7	10.2	14	3.5		27.6	7.7	10.8	7.4		25.8	2.2	16.2	6.5		24.8	5.5	94.5	
Passenger Vehicles	402	963	129		1541	715	875	211		1902	543	750	514		1957	102	1070	456		1715	0	0	7115
% Passenger Vehicles	93.3	98.9	86.6	83.9	95.7	98.2	87.8	84.7	87.8	91	98.7	97.5	97.7	98	97.9	65.4	92.7	98.7	98.9	92.2	0	0	94.2
Large 2 Axle Vehicles	8	8	6		24	7	18	10		39	5	11	5		22	9	25	5		40	0	0	125
% Large 2 Axle Vehicles	1.9	0.8	4	3.6	1.5	1	1.8	4	3.5	1.9	0.9	1.4	1	0.7	1.1	5.8	2.2	1.1	1.1	2.2	0	0	1.7
3 Axle Vehicles	5	1	1		7	2	13	7		23	1	3	3		9	13	24	0		37	0	0	76
% 3 Axle Vehicles	1.2	0.1	0.7	0	0.4	0.3	1.3	2.8	0.9	1.1	0.2	0.4	0.6	1.3	0.5	8.3	2.1	0	0	2	0	0	1
4+ Axle Trucks	16	2	13		38	4	91	21		125	1	5	4		10	32	35	1		68	0	0	241
% 4+ Axle Trucks	3.7	0.2	8.7	12.5	2.4	0.5	9.1	8.4	7.8	6	0.2	0.7	0.8	0	0.5	20.5	3	0.2	0	3.7	0	0	3.2

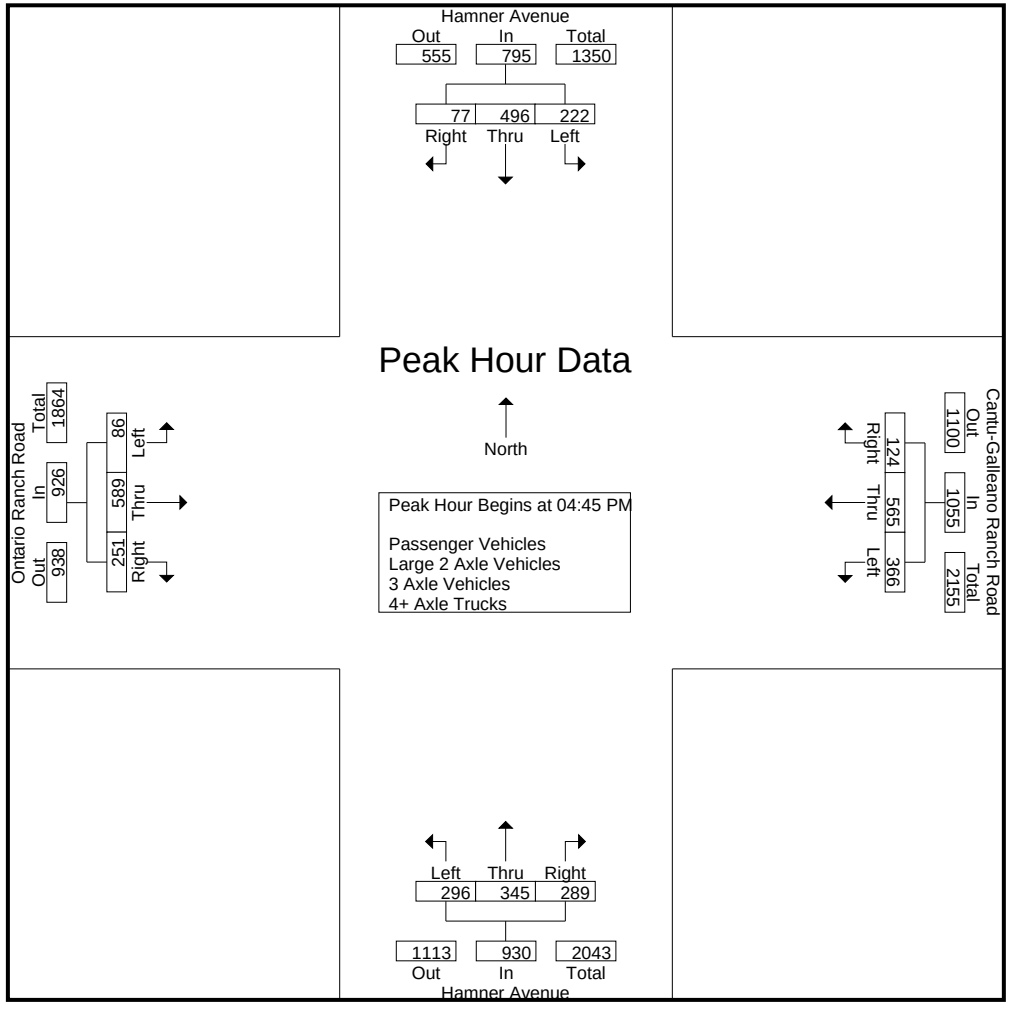
	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**62**	107	14	183	94	**147**	35	276	82	91	**83**	**256**	21	**156**	**78**	**255**	**970**
05:00 PM	46	120	**27**	193	78	140	29	247	60	62	77	199	**28**	147	51	226	865
05:15 PM	56	**158**	20	**234**	**100**	134	17	251	**84**	93	72	249	13	133	57	203	937
05:30 PM	58	111	16	185	94	144	**43**	**281**	70	**99**	57	226	24	153	65	242	934
Total Volume	222	496	77	795	366	565	124	1055	296	345	289	930	86	589	251	926	3706
% App. Total	27.9	62.4	9.7		34.7	53.6	11.8		31.8	37.1	31.1		9.3	63.6	27.1		
PHF	.895	.785	.713	.849	.915	.961	.721	.939	.881	.871	.870	.908	.768	.944	.804	.908	.955

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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 3

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	05:00 PM				04:45 PM				04:00 PM				04:45 PM				
+0 mins.	46	120	27	193	94	**147**	35	276	64	**123**	53	240	21	**156**	**78**	**255**	
+15 mins.	56	**158**	20	234	78	140	29	247	64	84	62	210	**28**	147	51	226	
+30 mins.	**58**	111	16	185	**100**	134	17	251	72	119	68	**259**	13	133	57	203	
+45 mins.	57	156	**36**	**249**	94	144	**43**	**281**	**82**	91	**83**	256	24	153	65	242	
Total Volume	217	545	99	861	366	565	124	1055	282	417	266	965	86	589	251	926	
% App. Total	25.2	63.3	11.5		34.7	53.6	11.8		29.2	43.2	27.6		9.3	63.6	27.1		
PHF	.935	.862	.688	.864	.915	.961	.721	.939	.860	.848	.801	.931	.768	.944	.804	.908	

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Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles

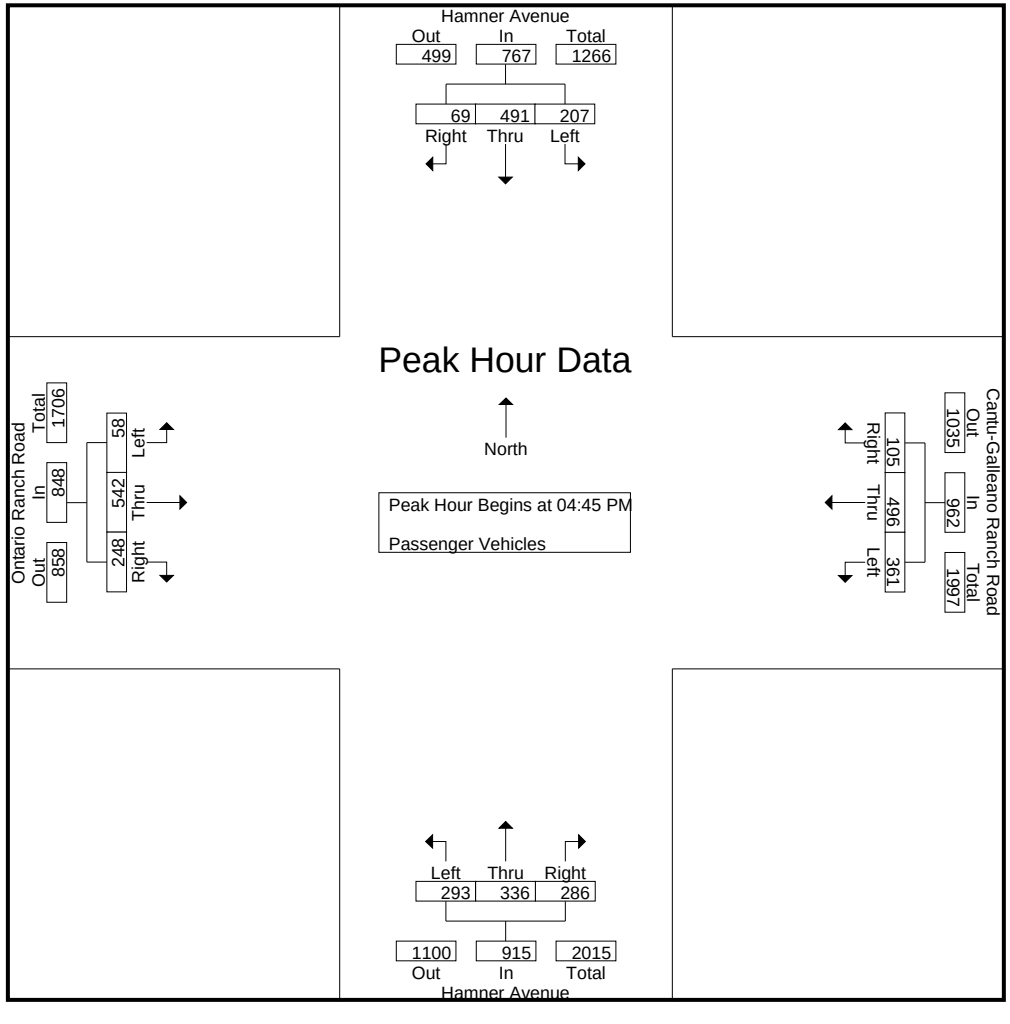
	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	51	94	11	0	156	72	70	33	17	175	62	121	53	21	236	14	162	43	3	219	41	786	827
04:15 PM	38	100	6	1	144	100	93	27	13	220	63	83	56	12	202	8	120	54	7	182	33	748	781
04:30 PM	53	124	12	3	189	84	77	29	11	190	72	115	67	16	254	13	107	40	9	160	39	793	832
04:45 PM	57	105	12	3	174	92	123	32	12	247	81	90	83	21	254	13	147	77	21	237	57	912	969
Total	199	423	41	7	663	348	363	121	53	832	278	409	259	70	946	48	536	214	40	798	170	3239	3409
05:00 PM	45	119	23	7	187	78	127	19	11	224	60	59	75	24	194	21	133	51	10	205	52	810	862
05:15 PM	52	156	19	10	227	99	118	15	7	232	82	91	72	15	245	8	120	55	9	183	41	887	928
05:30 PM	53	111	15	13	179	92	128	39	26	259	70	96	56	19	222	16	142	65	13	223	71	883	954
05:45 PM	53	154	31	10	238	98	139	17	4	254	53	95	52	22	200	9	139	71	15	219	51	911	962
Total	203	540	88	40	831	367	512	90	48	969	265	341	255	80	861	54	534	242	47	830	215	3491	3706
Grand Total	402	963	129	47	1494	715	875	211	101	1801	543	750	514	150	1807	102	1070	456	87	1628	385	6730	7115
Apprch %	26.9	64.5	8.6			39.7	48.6	11.7			30	41.5	28.4			6.3	65.7	28					
Total %	6	14.3	1.9		22.2	10.6	13	3.1		26.8	8.1	11.1	7.6		26.8	1.5	15.9	6.8		24.2	5.4	94.6	

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**57**	105	12	174	92	123	32	247	81	90	**83**	**254**	13	**147**	**77**	**237**	**912**
05:00 PM	45	119	**23**	187	78	127	19	224	60	59	75	194	**21**	133	51	205	810
05:15 PM	52	**156**	19	**227**	**99**	118	15	232	**82**	91	72	245	8	120	55	183	887
05:30 PM	53	111	15	179	92	**128**	**39**	**259**	70	**96**	56	222	16	142	65	223	883
Total Volume	207	491	69	767	361	496	105	962	293	336	286	915	58	542	248	848	3492
% App. Total	27	64	9		37.5	51.6	10.9		32	36.7	31.3		6.8	63.9	29.2		
PHF	.908	.787	.750	.845	.912	.969	.673	.929	.893	.875	.861	.901	.690	.922	.805	.895	.957

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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 3

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	**57**	105	12	174	92	123	32	247	81	90	**83**	**254**	13	**147**	**77**	**237**	
+15 mins.	45	119	**23**	187	78	127	19	224	60	59	75	194	**21**	133	51	205	
+30 mins.	52	**156**	19	**227**	**99**	118	15	232	**82**	91	72	245	8	120	55	183	
+45 mins.	53	111	15	179	92	**128**	**39**	**259**	70	**96**	56	222	16	142	65	223	
Total Volume	207	491	69	767	361	496	105	962	293	336	286	915	58	542	248	848	
% App. Total	27	64	9		37.5	51.6	10.9		32	36.7	31.3		6.8	63.9	29.2		
PHF	.908	.787	.750	.845	.912	.969	.673	.929	.893	.875	.861	.901	.690	.922	.805	.895	

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City of Ontario
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Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

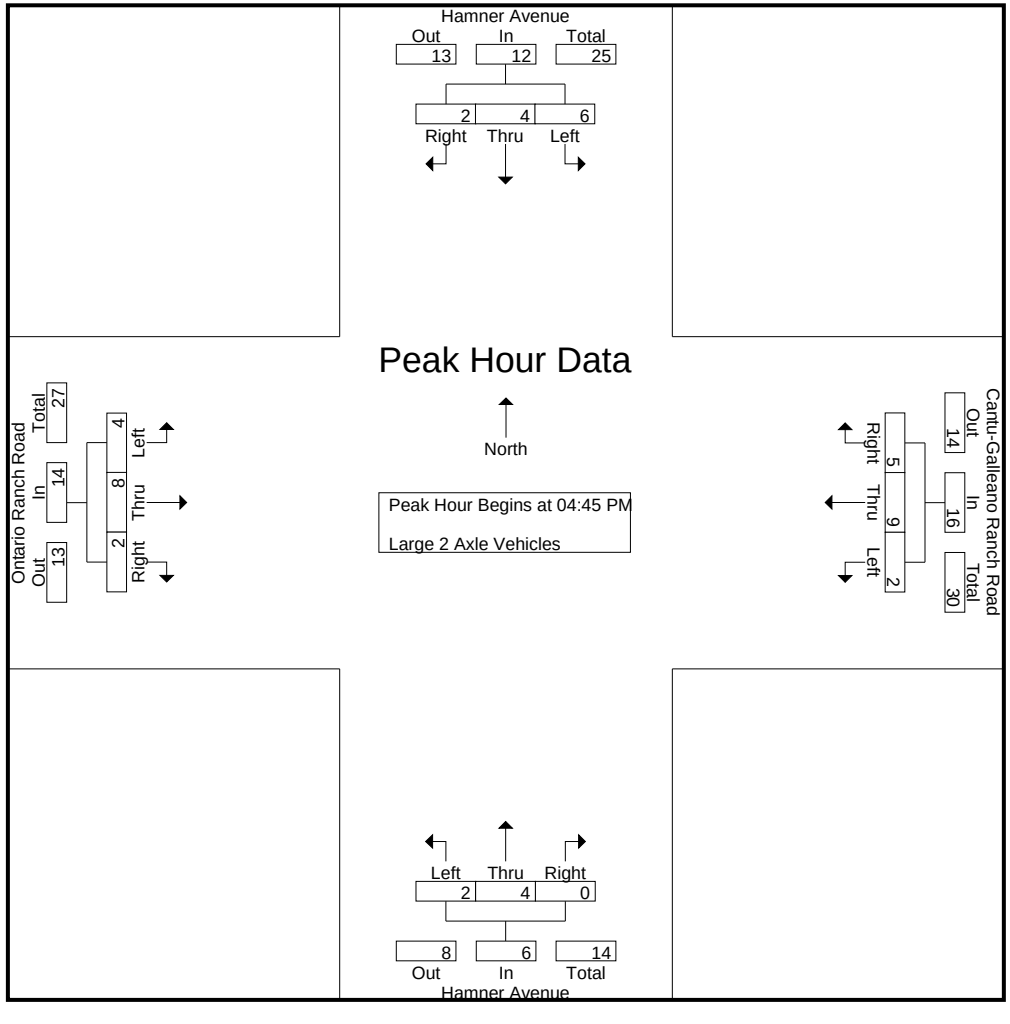
	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	1	0	2	0	2	0	0	2	2	1	0	0	3	2	6	0	0	8	0	15	15
04:15 PM	0	2	1	1	3	3	3	2	2	8	1	1	3	0	5	1	2	1	0	4	3	20	23
04:30 PM	1	0	1	0	2	1	3	2	0	6	0	3	1	1	4	1	7	1	0	9	1	21	22
04:45 PM	2	2	1	0	5	1	2	1	0	4	1	0	0	0	1	0	3	1	1	4	1	14	15
Total	3	5	4	1	12	5	10	5	2	20	4	5	4	1	13	4	18	3	1	25	5	70	75
05:00 PM	1	1	1	1	3	0	2	2	1	4	0	1	0	0	1	2	2	0	0	4	2	12	14
05:15 PM	0	1	0	0	1	1	3	1	1	5	1	1	0	0	2	1	1	1	0	3	1	11	12
05:30 PM	3	0	0	0	3	0	2	1	0	3	0	2	0	0	2	1	2	0	0	3	0	11	11
05:45 PM	1	1	1	0	3	1	1	1	0	3	0	2	1	0	3	1	2	1	0	4	0	13	13
Total	5	3	2	1	10	2	8	5	2	15	1	6	1	0	8	5	7	2	0	14	3	47	50
Grand Total	8	8	6	2	22	7	18	10	4	35	5	11	5	1	21	9	25	5	1	39	8	117	125
Apprch %	36.4	36.4	27.3			20	51.4	28.6			23.8	52.4	23.8			23.1	64.1	12.8					
Total %	6.8	6.8	5.1		18.8	6	15.4	8.5		29.9	4.3	9.4	4.3		17.9	7.7	21.4	4.3		33.3	6.4	93.6	

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	2	**2**	**1**	**5**	**1**	2	1	4	**1**	0	0	1	0	**3**	**1**	**4**	**14**
05:00 PM	1	1	1	3	0	2	**2**	4	0	1	0	1	**2**	2	0	4	12
05:15 PM	0	1	0	1	1	**3**	1	**5**	1	1	0	**2**	1	1	1	3	11
05:30 PM	**3**	0	0	3	0	2	1	3	0	**2**	0	2	1	2	0	3	11
Total Volume	6	4	2	12	2	9	5	16	2	4	0	6	4	8	2	14	48
% App. Total	50	33.3	16.7		12.5	56.2	31.2		33.3	66.7	0		28.6	57.1	14.3		
PHF	.500	.500	.500	.600	.500	.750	.625	.800	.500	.500	.000	.750	.500	.667	.500	.875	.857

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City of Ontario
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Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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N/S: Hamner Avenue
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File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	2	**2**	**1**	**5**	**1**	2	1	4	**1**	0	0	1	0	**3**	**1**	**4**	
+15 mins.	1	1	1	3	0	2	**2**	4	0	1	0	1	**2**	2	0	4	
+30 mins.	0	1	0	1	1	**3**	1	**5**	1	1	0	**2**	1	1	1	3	
+45 mins.	**3**	0	0	3	0	2	1	3	0	**2**	0	2	1	2	0	3	
Total Volume	6	4	2	12	2	9	5	16	2	4	0	6	4	8	2	14	
% App. Total	50	33.3	16.7		12.5	56.2	31.2		33.3	66.7	0		28.6	57.1	14.3		
PHF	.500	.500	.500	.600	.500	.750	.625	.800	.500	.500	.000	.750	.500	.667	.500	.875	

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City of Ontario
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Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

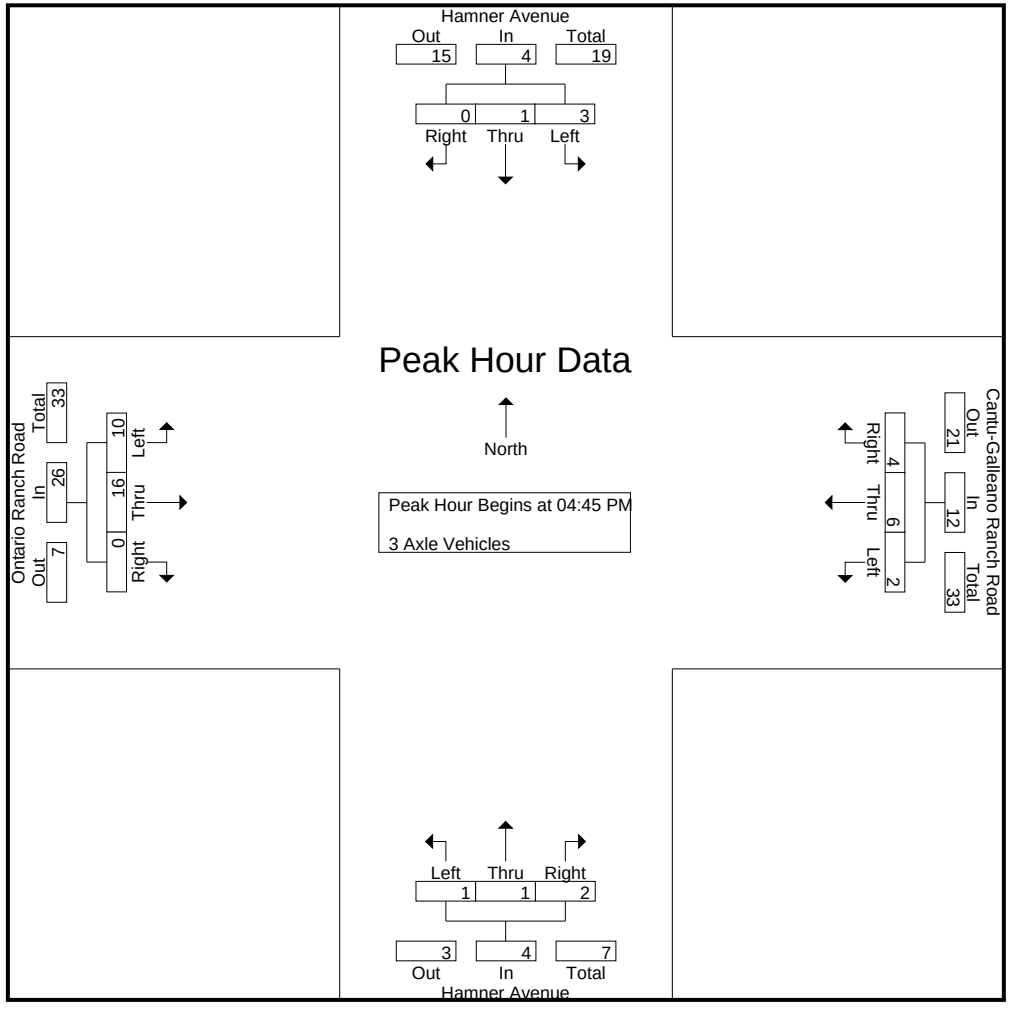
	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	0	0	1	0	1	3	0	4	0	0	0	0	0	2	2	0	0	4	0	9	9
04:15 PM	0	0	1	0	1	0	2	0	0	2	0	0	1	1	1	0	2	0	0	2	1	6	7
04:30 PM	1	0	0	0	1	0	2	0	0	2	0	1	0	0	1	1	2	0	0	3	0	7	7
04:45 PM	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	2	2	0	0	4	0	8	8
Total	4	0	1	0	5	0	7	3	0	10	0	1	1	1	2	5	8	0	0	13	1	30	31
05:00 PM	0	0	0	0	0	0	1	3	0	4	0	1	2	1	3	2	4	0	0	6	1	13	14
05:15 PM	1	1	0	0	2	0	0	0	0	0	1	0	0	0	1	3	4	0	0	7	0	10	10
05:30 PM	0	0	0	0	0	2	3	1	1	6	0	0	0	0	0	3	6	0	0	9	1	15	16
05:45 PM	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	0	5	5
Total	1	1	0	0	2	2	6	4	1	12	1	2	2	1	5	8	16	0	0	24	2	43	45
Grand Total	5	1	1	0	7	2	13	7	1	22	1	3	3	2	7	13	24	0	0	37	3	73	76
Apprch %	71.4	14.3	14.3			9.1	59.1	31.8			14.3	42.9	42.9			35.1	64.9	0					
Total %	6.8	1.4	1.4		9.6	2.7	17.8	9.6		30.1	1.4	4.1	4.1		9.6	17.8	32.9	0		50.7	3.9	96.1	

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**2**	0	0	**2**	0	2	0	2	0	0	0	0	2	2	0	4	8
05:00 PM	0	0	0	0	0	1	**3**	4	0	**1**	**2**	**3**	2	4	0	6	13
05:15 PM	1	**1**	0	2	0	0	0	0	**1**	0	0	1	**3**	4	0	7	10
05:30 PM	0	0	0	0	**2**	**3**	1	**6**	0	0	0	0	3	**6**	0	**9**	**15**
Total Volume	3	1	0	4	2	6	4	12	1	1	2	4	10	16	0	26	46
% App. Total	75	25	0		16.7	50	33.3		25	25	50		38.5	61.5	0		
PHF	.375	.250	.000	.500	.250	.500	.333	.500	.250	.250	.250	.333	.833	.667	.000	.722	.767

Counts Unlimited, Inc.
PO Box 1178
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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	**2**	0	0	**2**	0	2	0	2	0	0	0	0	2	2	0	4	
+15 mins.	0	0	0	0	0	1	**3**	4	0	**1**	**2**	**3**	2	4	0	6	
+30 mins.	1	**1**	0	2	0	0	0	0	**1**	0	0	1	**3**	4	0	7	
+45 mins.	0	0	0	0	**2**	**3**	1	**6**	0	0	0	0	3	**6**	0	**9**	
Total Volume	3	1	0	4	2	6	4	12	1	1	2	4	10	16	0	26	
% App. Total	75	25	0		16.7	50	33.3		25	25	50		38.5	61.5	0		
PHF	.375	.250	.000	.500	.250	.500	.333	.500	.250	.250	.250	.333	.833	.667	.000	.722	

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City of Ontario
N/S: Hamner Avenue
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Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

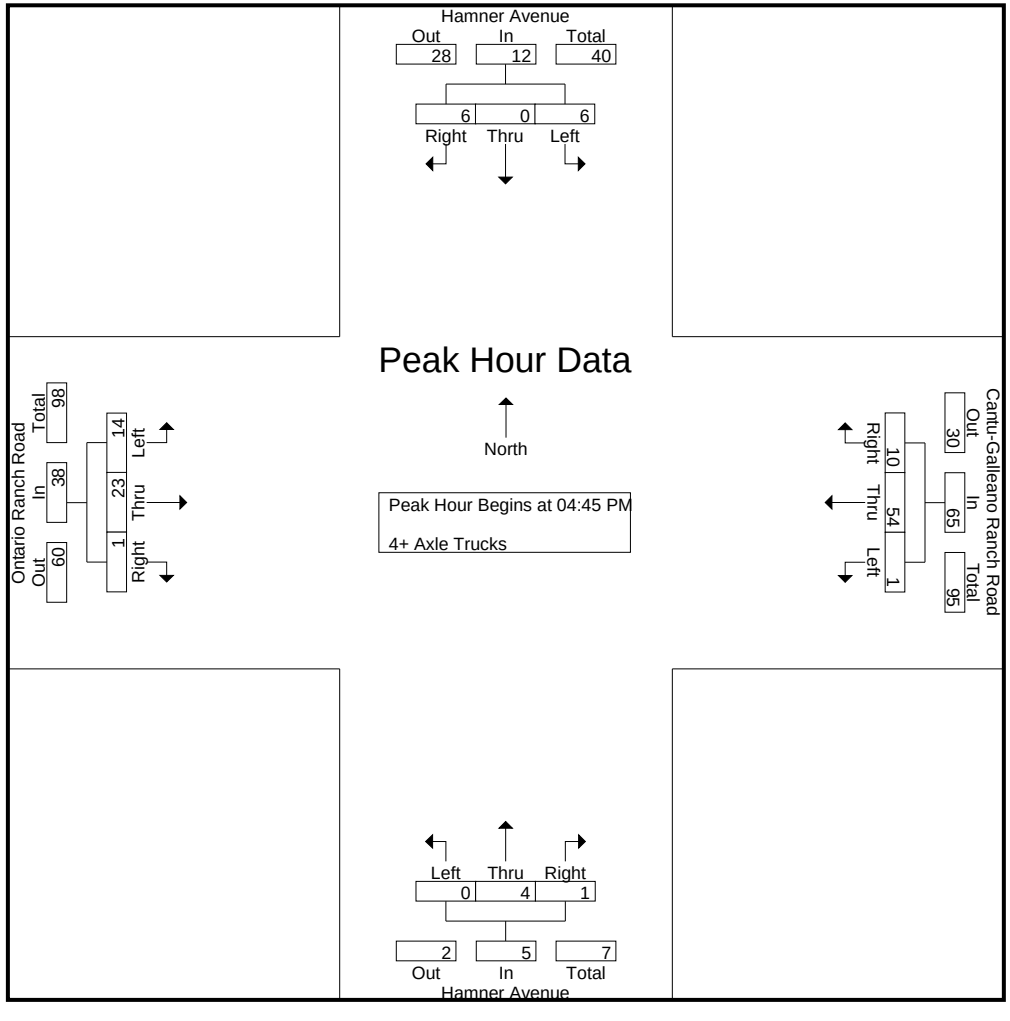
	Hamner Avenue Southbound					Cantu-Galleano Ranch Road Westbound					Hamner Avenue Northbound					Ontario Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	3	1	2	0	6	0	9	4	1	13	0	1	0	0	1	1	2	0	0	3	1	23	24
04:15 PM	2	0	0	0	2	0	13	3	2	16	0	0	2	0	2	7	4	0	0	11	2	31	33
04:30 PM	2	0	1	1	3	2	8	2	1	12	0	0	0	0	0	6	3	0	0	9	2	24	26
04:45 PM	1	0	1	1	2	1	20	2	1	23	0	1	0	0	1	6	4	0	0	10	2	36	38
Total	8	1	4	2	13	3	50	11	5	64	0	2	2	0	4	20	13	0	0	33	7	114	121
05:00 PM	0	0	3	2	3	0	10	5	2	15	0	1	0	0	1	3	8	0	0	11	4	30	34
05:15 PM	3	0	1	1	4	0	13	1	0	14	0	1	0	0	1	1	8	1	0	10	1	29	30
05:30 PM	2	0	1	1	3	0	11	2	1	13	0	1	1	0	2	4	3	0	0	7	2	25	27
05:45 PM	3	1	4	1	8	1	7	2	1	10	1	0	1	0	2	4	3	0	0	7	2	27	29
Total	8	1	9	5	18	1	41	10	4	52	1	3	2	0	6	12	22	1	0	35	9	111	120
Grand Total	16	2	13	7	31	4	91	21	9	116	1	5	4	0	10	32	35	1	0	68	16	225	241
Apprch %	51.6	6.5	41.9			3.4	78.4	18.1			10	50	40			47.1	51.5	1.5					
Total %	7.1	0.9	5.8		13.8	1.8	40.4	9.3		51.6	0.4	2.2	1.8		4.4	14.2	15.6	0.4		30.2	6.6	93.4	

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	1	0	1	2	**1**	**20**	2	**23**	0	**1**	0	1	**6**	4	0	10	**36**
05:00 PM	0	0	**3**	3	0	10	**5**	15	0	1	0	1	3	**8**	0	**11**	30
05:15 PM	**3**	0	1	**4**	0	13	1	14	0	1	0	1	1	8	**1**	10	29
05:30 PM	2	0	1	3	0	11	2	13	0	1	**1**	**2**	4	3	0	7	25
Total Volume	6	0	6	12	1	54	10	65	0	4	1	5	14	23	1	38	120
% App. Total	50	0	50		1.5	83.1	15.4		0	80	20		36.8	60.5	2.6		
PHF	.500	.000	.500	.750	.250	.675	.500	.707	.000	1.00	.250	.625	.583	.719	.250	.864	.833

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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Hamner Avenue
E/W: Ontario Rnch Rd/Cantu-Galleano Rnch
Weather: Clear

File Name : 05_ONT_Ham_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

	Hamner Avenue Southbound				Cantu-Galleano Ranch Road Westbound				Hamner Avenue Northbound				Ontario Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	1	0	1	2	**1**	**20**	2	**23**	0	**1**	0	1	**6**	4	0	10	
+15 mins.	0	0	**3**	3	0	10	**5**	15	0	1	0	1	3	**8**	0	**11**	
+30 mins.	**3**	0	1	**4**	0	13	1	14	0	1	0	1	1	8	**1**	10	
+45 mins.	2	0	1	3	0	11	2	13	0	1	**1**	**2**	4	3	0	7	
Total Volume	6	0	6	12	1	54	10	65	0	4	1	5	14	23	1	38	
% App. Total	50	0	50		1.5	83.1	15.4		0	80	20		36.8	60.5	2.6		
PHF	.500	.000	.500	.750	.250	.675	.500	.707	.000	1.000	.250	.625	.583	.719	.250	.864	

Location: Ontario
N/S: Hamner Avenue
E/W: Cantu-Galleano Ranch Rd



Date: 5/10/2022
Day: Tuesday

PEDESTRIANS

	North Leg Hamner Avenue	East Leg Cantu-Galleano Ranch Rd	South Leg Hamner Avenue	West Leg Ontario Ranch Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	0	1	0	0	1

	North Leg Hamner Avenue	East Leg Cantu-Galleano Ranch Rd	South Leg Hamner Avenue	West Leg Ontario Ranch Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Ontario
N/S: Hamner Avenue
E/W: Cantu-Galleano Ranch Rd

Date: 5/10/2022
Day: Tuesday

BICYCLES

	Southbound Hamner Avenue			Westbound Cantu-Galleano Ranch Rd			Northbound Hamner Avenue			Eastbound Ontario Ranch Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	1	0	0	0	0	2	0	0	0	0	3

	Southbound Hamner Avenue			Westbound Cantu-Galleano Ranch Rd			Northbound Hamner Avenue			Eastbound Ontario Ranch Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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(951)268-6268

City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

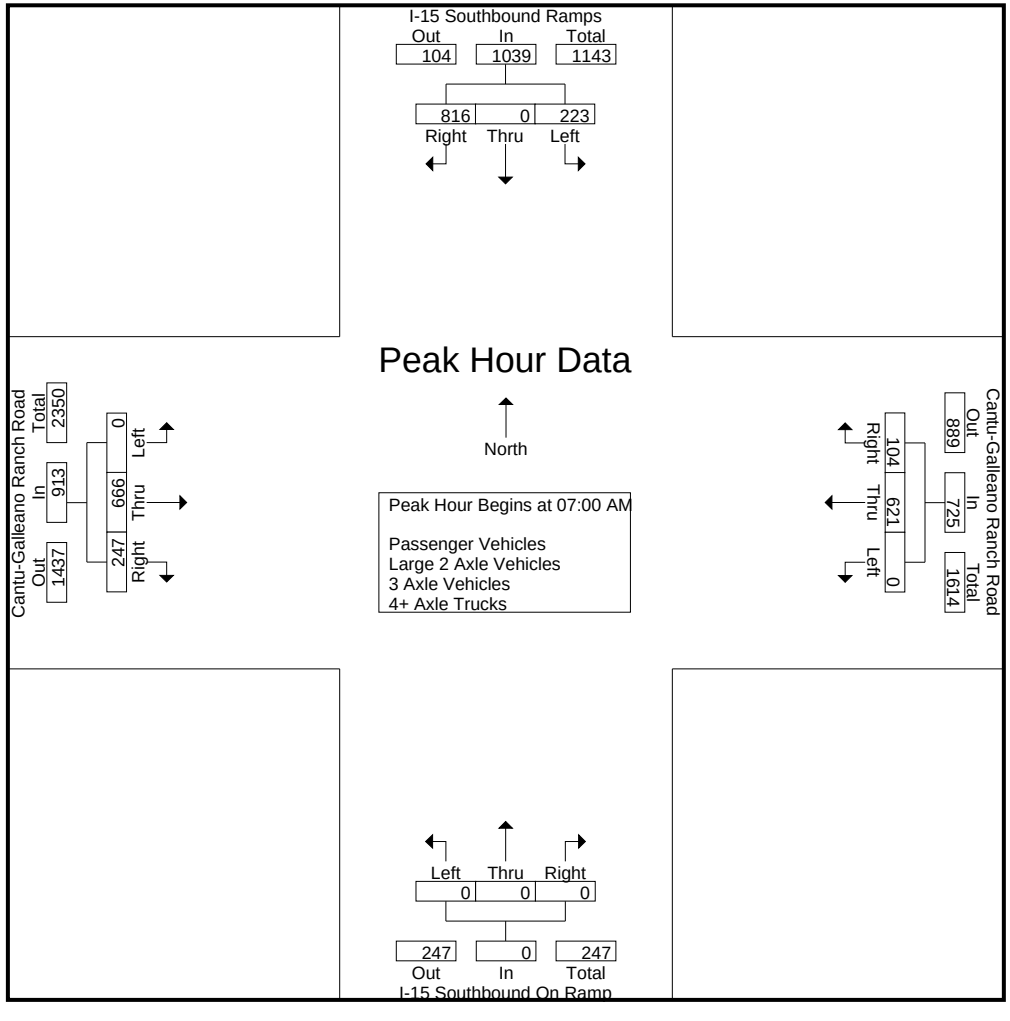
	I-15 Southbound Ramps Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	49	0	244	72	293	0	179	27	0	206	0	0	0	0	0	0	159	52	0	211	72	710	782
07:15 AM	54	0	238	65	292	0	158	34	0	192	0	0	0	0	0	0	171	79	0	250	65	734	799
07:30 AM	49	0	174	61	223	0	127	22	0	149	0	0	0	0	0	0	186	51	0	237	61	609	670
07:45 AM	71	0	160	51	231	0	157	21	0	178	0	0	0	0	0	0	150	65	0	215	51	624	675
Total	223	0	816	249	1039	0	621	104	0	725	0	0	0	0	0	0	666	247	0	913	249	2677	2926
08:00 AM	80	0	203	73	283	0	125	22	0	147	0	0	0	0	0	0	131	56	0	187	73	617	690
08:15 AM	62	0	164	65	226	0	128	24	0	152	0	0	0	0	0	0	140	59	0	199	65	577	642
08:30 AM	47	0	204	71	251	0	109	22	0	131	0	0	0	0	0	0	132	54	0	186	71	568	639
08:45 AM	55	0	166	45	221	0	95	15	0	110	0	0	0	0	0	0	113	46	0	159	45	490	535
Total	244	0	737	254	981	0	457	83	0	540	0	0	0	0	0	0	516	215	0	731	254	2252	2506
Grand Total	467	0	1553	503	2020	0	1078	187	0	1265	0	0	0	0	0	0	1182	462	0	1644	503	4929	5432
Apprch %	23.1	0	76.9			0	85.2	14.8			0	0	0			0	71.9	28.1					
Total %	9.5	0	31.5		41	0	21.9	3.8		25.7	0	0	0		0	0	24	9.4		33.4	9.3	90.7	
Passenger Vehicles	414	0	1356		2222	0	981	113		1094	0	0	0		0	0	1028	369		1397	0	0	4713
% Passenger Vehicles	88.7	0	87.3	89.9	88.1	0	91	60.4	0	86.5	0	0	0	0	0	0	87	79.9	0	85	0	0	86.8
Large 2 Axle Vehicles	17	0	44		76	0	24	11		35	0	0	0		0	0	29	25		54	0	0	165
% Large 2 Axle Vehicles	3.6	0	2.8	3	3	0	2.2	5.9	0	2.8	0	0	0	0	0	0	2.5	5.4	0	3.3	0	0	3
3 Axle Vehicles	7	0	50		71	0	16	10		26	0	0	0		0	0	42	20		62	0	0	159
% 3 Axle Vehicles	1.5	0	3.2	2.8	2.8	0	1.5	5.3	0	2.1	0	0	0	0	0	0	3.6	4.3	0	3.8	0	0	2.9
4+ Axle Trucks	29	0	103		154	0	57	53		110	0	0	0		0	0	83	48		131	0	0	395
% 4+ Axle Trucks	6.2	0	6.6	4.4	6.1	0	5.3	28.3	0	8.7	0	0	0	0	0	0	7	10.4	0	8	0	0	7.3

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	49	0	**244**	**293**	0	**179**	27	**206**	0	0	0	0	0	159	52	211	710
07:15 AM	54	0	238	292	0	158	**34**	192	0	0	0	0	0	171	**79**	**250**	**734**
07:30 AM	49	0	174	223	0	127	22	149	0	0	0	0	0	**186**	51	237	609
07:45 AM	**71**	0	160	231	0	157	21	178	0	0	0	0	0	150	65	215	624
Total Volume	223	0	816	1039	0	621	104	725	0	0	0	0	0	666	247	913	2677
% App. Total	21.5	0	78.5		0	85.7	14.3		0	0	0		0	72.9	27.1		
PHF	.785	.000	.836	.887	.000	.867	.765	.880	.000	.000	.000	.000	.000	.895	.782	.913	.912

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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 3

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	49	0	**244**	**293**	0	**179**	27	**206**	0	0	0	0	0	159	52	211	
+15 mins.	54	0	238	292	0	158	**34**	192	0	0	0	0	0	171	**79**	**250**	
+30 mins.	49	0	174	223	0	127	22	149	0	0	0	0	0	**186**	51	237	
+45 mins.	**71**	0	160	231	0	157	21	178	0	0	0	0	0	150	65	215	
Total Volume	223	0	816	1039	0	621	104	725	0	0	0	0	0	666	247	913	
% App. Total	21.5	0	78.5		0	85.7	14.3		0	0	0		0	72.9	27.1		
PHF	.785	.000	.836	.887	.000	.867	.765	.880	.000	.000	.000	.000	.000	.895	.782	.913	

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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

Groups Printed- Passenger Vehicles

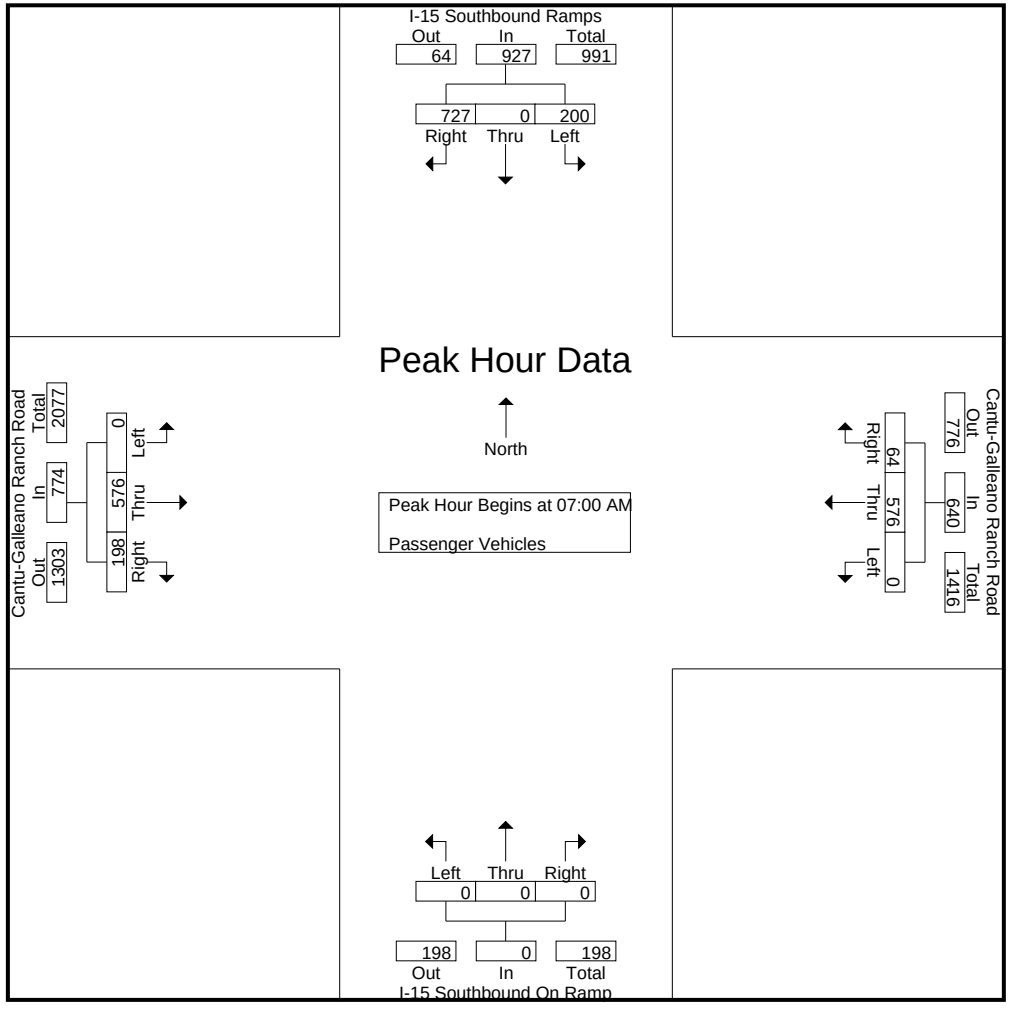
	I-15 Southbound Ramps Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	44	0	222	67	266	0	168	17	0	185	0	0	0	0	0	0	137	39	0	176	67	627	694
07:15 AM	46	0	211	58	257	0	150	24	0	174	0	0	0	0	0	0	143	63	0	206	58	637	695
07:30 AM	43	0	151	54	194	0	116	11	0	127	0	0	0	0	0	0	164	42	0	206	54	527	581
07:45 AM	67	0	143	47	210	0	142	12	0	154	0	0	0	0	0	0	132	54	0	186	47	550	597
Total	200	0	727	226	927	0	576	64	0	640	0	0	0	0	0	0	576	198	0	774	226	2341	2567
08:00 AM	77	0	175	64	252	0	110	12	0	122	0	0	0	0	0	0	116	47	0	163	64	537	601
08:15 AM	51	0	141	58	192	0	119	16	0	135	0	0	0	0	0	0	120	43	0	163	58	490	548
08:30 AM	38	0	174	63	212	0	90	14	0	104	0	0	0	0	0	0	111	44	0	155	63	471	534
08:45 AM	48	0	139	41	187	0	86	7	0	93	0	0	0	0	0	0	105	37	0	142	41	422	463
Total	214	0	629	226	843	0	405	49	0	454	0	0	0	0	0	0	452	171	0	623	226	1920	2146
Grand Total	414	0	1356	452	1770	0	981	113	0	1094	0	0	0	0	0	0	1028	369	0	1397	452	4261	4713
Apprch %	23.4	0	76.6			0	89.7	10.3			0	0	0			0	73.6	26.4					
Total %	9.7	0	31.8		41.5	0	23	2.7		25.7	0	0	0		0	0	24.1	8.7		32.8	9.6	90.4	

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	44	0	**222**	**266**	0	**168**	17	**185**	0	0	0	0	0	137	39	176	627
07:15 AM	46	0	211	257	0	150	**24**	174	0	0	0	0	0	143	**63**	**206**	**637**
07:30 AM	43	0	151	194	0	116	11	127	0	0	0	0	0	**164**	42	206	527
07:45 AM	**67**	0	143	210	0	142	12	154	0	0	0	0	0	132	54	186	550
Total Volume	200	0	727	927	0	576	64	640	0	0	0	0	0	576	198	774	2341
% App. Total	21.6	0	78.4		0	90	10		0	0	0		0	74.4	25.6		
PHF	.746	.000	.819	.871	.000	.857	.667	.865	.000	.000	.000	.000	.000	.878	.786	.939	.919

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Counts Unlimited, Inc.
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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	44	0	**222**	**266**	0	**168**	17	**185**	0	0	0	0	0	137	39	176	
+15 mins.	46	0	211	257	0	150	**24**	174	0	0	0	0	0	143	**63**	**206**	
+30 mins.	43	0	151	194	0	116	11	127	0	0	0	0	0	**164**	42	206	
+45 mins.	**67**	0	143	210	0	142	12	154	0	0	0	0	0	132	54	186	
Total Volume	200	0	727	927	0	576	64	640	0	0	0	0	0	576	198	774	
% App. Total	21.6	0	78.4		0	90	10		0	0	0		0	74.4	25.6		
PHF	.746	.000	.819	.871	.000	.857	.667	.865	.000	.000	.000	.000	.000	.878	.786	.939	

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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

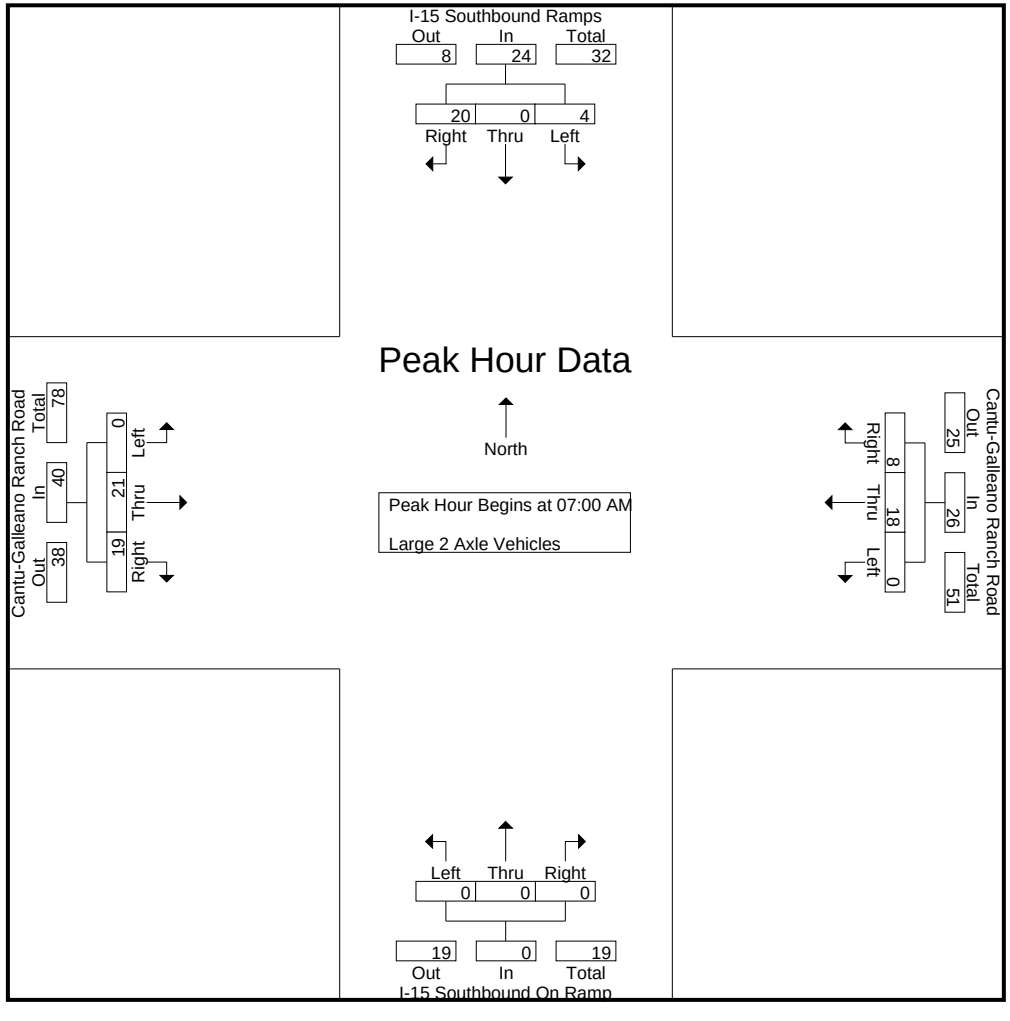
	I-15 Southbound Ramps Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	0	7	3	8	0	5	3	0	8	0	0	0	0	0	0	6	5	0	11	3	27	30
07:15 AM	1	0	5	2	6	0	4	1	0	5	0	0	0	0	0	0	7	6	0	13	2	24	26
07:30 AM	1	0	4	1	5	0	5	2	0	7	0	0	0	0	0	0	5	4	0	9	1	21	22
07:45 AM	1	0	4	1	5	0	4	2	0	6	0	0	0	0	0	0	3	4	0	7	1	18	19
Total	4	0	20	7	24	0	18	8	0	26	0	0	0	0	0	0	21	19	0	40	7	90	97
08:00 AM	2	0	7	2	9	0	2	1	0	3	0	0	0	0	0	0	2	1	0	3	2	15	17
08:15 AM	3	0	6	2	9	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	11	13
08:30 AM	7	0	6	4	13	0	2	1	0	3	0	0	0	0	0	0	3	2	0	5	4	21	25
08:45 AM	1	0	5	0	6	0	1	1	0	2	0	0	0	0	0	0	2	3	0	5	0	13	13
Total	13	0	24	8	37	0	6	3	0	9	0	0	0	0	0	0	8	6	0	14	8	60	68
Grand Total	17	0	44	15	61	0	24	11	0	35	0	0	0	0	0	0	29	25	0	54	15	150	165
Apprch %	27.9	0	72.1			0	68.6	31.4			0	0	0			0	53.7	46.3					
Total %	11.3	0	29.3		40.7	0	16	7.3		23.3	0	0	0		0	0	19.3	16.7		36	9.1	90.9	

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**1**	0	**7**	**8**	0	**5**	**3**	**8**	0	0	0	0	0	6	5	11	**27**
07:15 AM	1	0	5	6	0	4	1	5	0	0	0	0	0	**7**	**6**	**13**	24
07:30 AM	1	0	4	5	0	5	2	7	0	0	0	0	0	5	4	9	21
07:45 AM	1	0	4	5	0	4	2	6	0	0	0	0	0	3	4	7	18
Total Volume	4	0	20	24	0	18	8	26	0	0	0	0	0	21	19	40	90
% App. Total	16.7	0	83.3		0	69.2	30.8		0	0	0		0	52.5	47.5		
PHF	1.00	.000	.714	.750	.000	.900	.667	.813	.000	.000	.000	.000	.000	.750	.792	.769	.833

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**1**	0	**7**	**8**	0	**5**	**3**	**8**	0	0	0	0	0	6	5	11	
+15 mins.	1	0	5	6	0	4	1	5	0	0	0	0	0	**7**	**6**	**13**	
+30 mins.	1	0	4	5	0	5	2	7	0	0	0	0	0	5	4	9	
+45 mins.	1	0	4	5	0	4	2	6	0	0	0	0	0	3	4	7	
Total Volume	4	0	20	24	0	18	8	26	0	0	0	0	0	21	19	40	
% App. Total	16.7	0	83.3		0	69.2	30.8		0	0	0		0	52.5	47.5		
PHF	1.000	.000	.714	.750	.000	.900	.667	.813	.000	.000	.000	.000	.000	.750	.792	.769	

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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

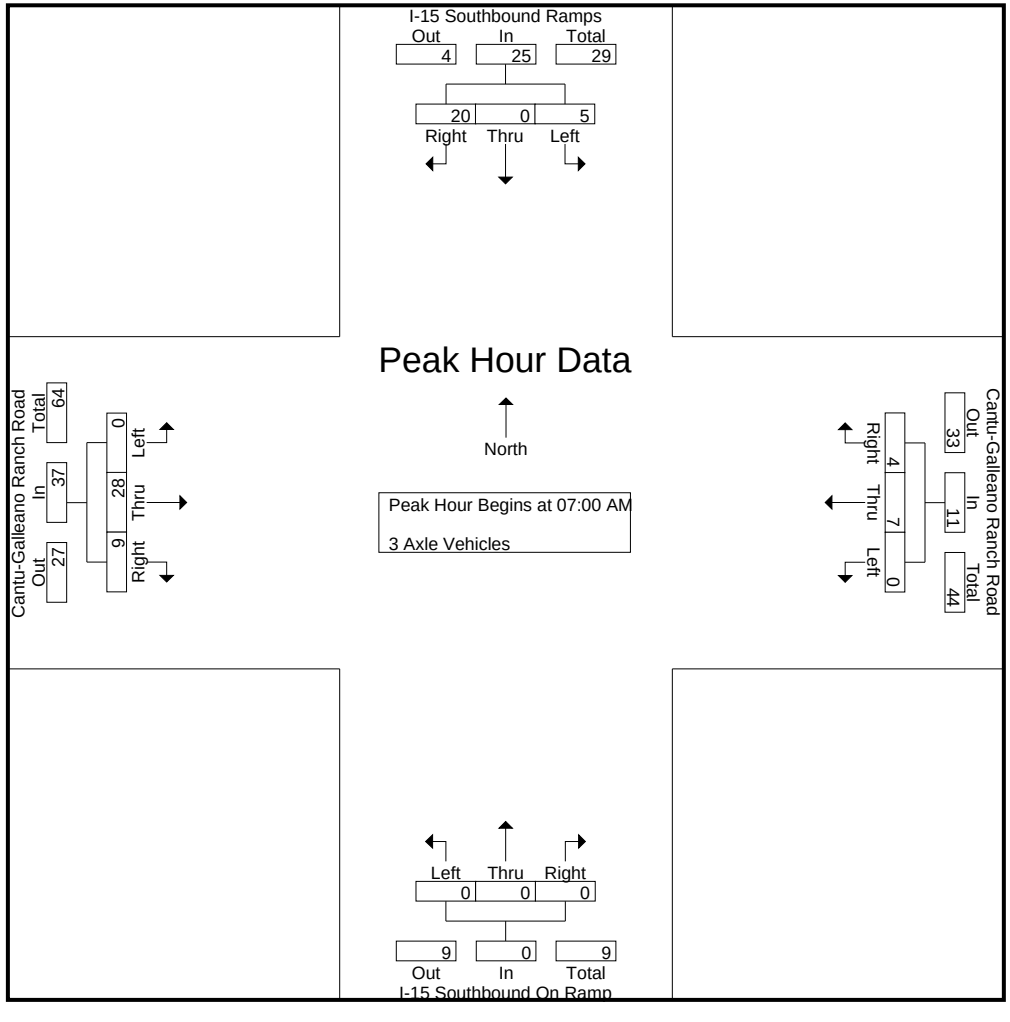
	I-15 Southbound Ramps Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	0	7	1	8	0	0	1	0	1	0	0	0	0	0	0	7	5	0	12	1	21	22
07:15 AM	2	0	6	1	8	0	0	0	0	0	0	0	0	0	0	0	9	3	0	12	1	20	21
07:30 AM	1	0	4	1	5	0	1	1	0	2	0	0	0	0	0	0	6	1	0	7	1	14	15
07:45 AM	1	0	3	3	4	0	6	2	0	8	0	0	0	0	0	0	6	0	0	6	3	18	21
Total	5	0	20	6	25	0	7	4	0	11	0	0	0	0	0	0	28	9	0	37	6	73	79
08:00 AM	0	0	7	5	7	0	4	0	0	4	0	0	0	0	0	0	2	2	0	4	5	15	20
08:15 AM	1	0	8	1	9	0	1	3	0	4	0	0	0	0	0	0	4	2	0	6	1	19	20
08:30 AM	0	0	11	2	11	0	3	3	0	6	0	0	0	0	0	0	7	3	0	10	2	27	29
08:45 AM	1	0	4	0	5	0	1	0	0	1	0	0	0	0	0	0	1	4	0	5	0	11	11
Total	2	0	30	8	32	0	9	6	0	15	0	0	0	0	0	0	14	11	0	25	8	72	80
Grand Total	7	0	50	14	57	0	16	10	0	26	0	0	0	0	0	0	42	20	0	62	14	145	159
Apprch %	12.3	0	87.7			0	61.5	38.5			0	0	0			0	67.7	32.3					
Total %	4.8	0	34.5		39.3	0	11	6.9		17.9	0	0	0		0	0	29	13.8		42.8	8.8	91.2	

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	0	**7**	**8**	0	0	1	1	0	0	0	0	0	7	**5**	**12**	**21**
07:15 AM	**2**	0	6	8	0	0	0	0	0	0	0	0	0	**9**	3	12	20
07:30 AM	1	0	4	5	0	1	1	2	0	0	0	0	0	6	1	7	14
07:45 AM	1	0	3	4	0	**6**	**2**	**8**	0	0	0	0	0	6	0	6	18
Total Volume	5	0	20	25	0	7	4	11	0	0	0	0	0	28	9	37	73
% App. Total	20	0	80		0	63.6	36.4		0	0	0		0	75.7	24.3		
PHF	.625	.000	.714	.781	.000	.292	.500	.344	.000	.000	.000	.000	.000	.778	.450	.771	.869

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 3

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	1	0	**7**	**8**	0	0	1	1	0	0	0	0	0	7	**5**	**12**	
+15 mins.	**2**	0	6	8	0	0	0	0	0	0	0	0	0	**9**	3	12	
+30 mins.	1	0	4	5	0	1	1	2	0	0	0	0	0	6	1	7	
+45 mins.	1	0	3	4	0	**6**	**2**	**8**	0	0	0	0	0	6	0	6	
Total Volume	5	0	20	25	0	7	4	11	0	0	0	0	0	28	9	37	
% App. Total	20	0	80		0	63.6	36.4		0	0	0		0	75.7	24.3		
PHF	.625	.000	.714	.781	.000	.292	.500	.344	.000	.000	.000	.000	.000	.778	.450	.771	

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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

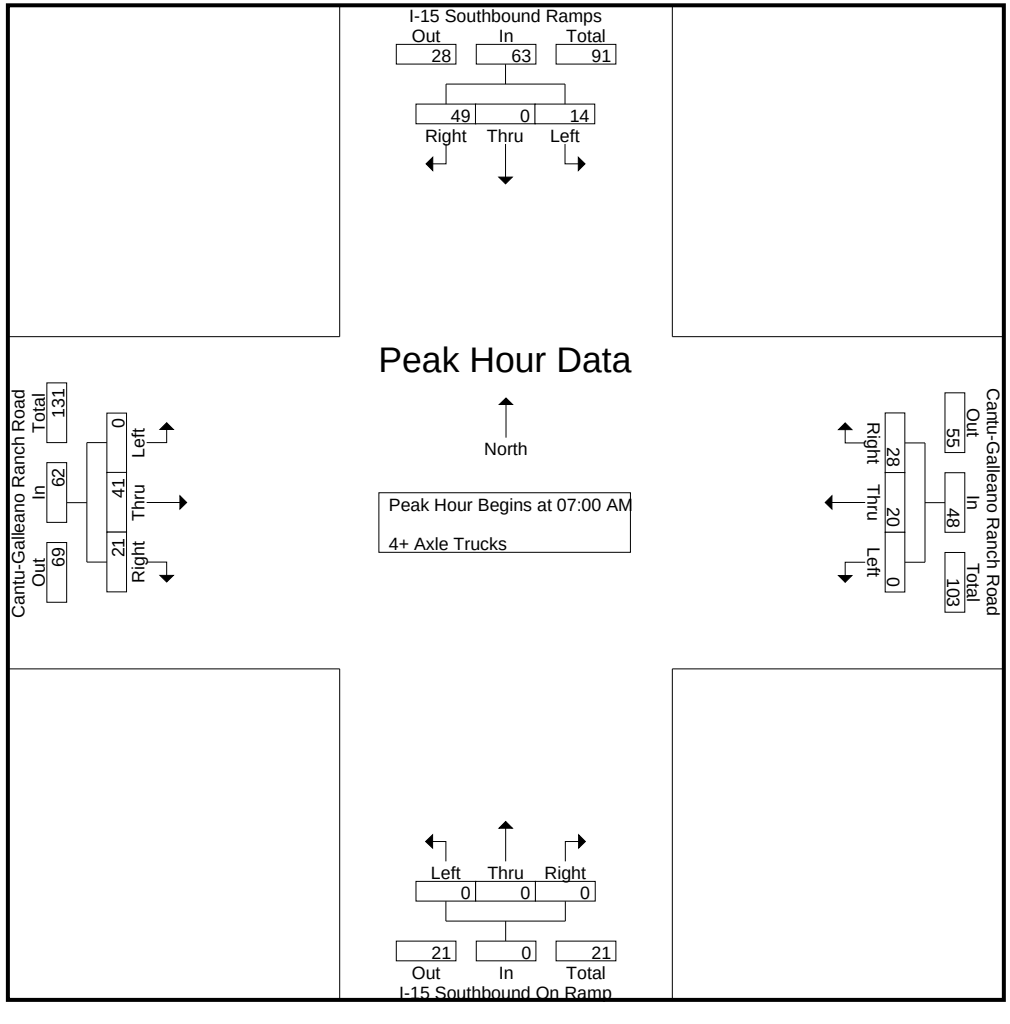
	I-15 Southbound Ramps Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	3	0	8	1	11	0	6	6	0	12	0	0	0	0	0	0	9	3	0	12	1	35	36
07:15 AM	5	0	16	4	21	0	4	9	0	13	0	0	0	0	0	0	12	7	0	19	4	53	57
07:30 AM	4	0	15	5	19	0	5	8	0	13	0	0	0	0	0	0	11	4	0	15	5	47	52
07:45 AM	2	0	10	0	12	0	5	5	0	10	0	0	0	0	0	0	9	7	0	16	0	38	38
Total	14	0	49	10	63	0	20	28	0	48	0	0	0	0	0	0	41	21	0	62	10	173	183
08:00 AM	1	0	14	2	15	0	9	9	0	18	0	0	0	0	0	0	11	6	0	17	2	50	52
08:15 AM	7	0	9	4	16	0	7	5	0	12	0	0	0	0	0	0	15	14	0	29	4	57	61
08:30 AM	2	0	13	2	15	0	14	4	0	18	0	0	0	0	0	0	11	5	0	16	2	49	51
08:45 AM	5	0	18	4	23	0	7	7	0	14	0	0	0	0	0	0	5	2	0	7	4	44	48
Total	15	0	54	12	69	0	37	25	0	62	0	0	0	0	0	0	42	27	0	69	12	200	212
Grand Total	29	0	103	22	132	0	57	53	0	110	0	0	0	0	0	0	83	48	0	131	22	373	395
Apprch %	22	0	78			0	51.8	48.2			0	0	0			0	63.4	36.6					
Total %	7.8	0	27.6		35.4	0	15.3	14.2		29.5	0	0	0		0	0	22.3	12.9		35.1	5.6	94.4	

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	3	0	8	11	0	**6**	6	12	0	0	0	0	0	9	3	12	35
07:15 AM	**5**	0	**16**	**21**	0	4	**9**	**13**	0	0	0	0	0	**12**	**7**	**19**	**53**
07:30 AM	4	0	15	19	0	5	8	13	0	0	0	0	0	11	4	15	47
07:45 AM	2	0	10	12	0	5	5	10	0	0	0	0	0	9	7	16	38
Total Volume	14	0	49	63	0	20	28	48	0	0	0	0	0	41	21	62	173
% App. Total	22.2	0	77.8		0	41.7	58.3		0	0	0		0	66.1	33.9		
PHF	.700	.000	.766	.750	.000	.833	.778	.923	.000	.000	.000	.000	.000	.854	.750	.816	.816

Counts Unlimited, Inc.
PO Box 1178
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(951)268-6268

City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	3	0	8	11	0	**6**	6	12	0	0	0	0	0	9	3	12	
+15 mins.	**5**	0	**16**	**21**	0	4	**9**	**13**	0	0	0	0	0	**12**	**7**	**19**	
+30 mins.	4	0	15	19	0	5	8	13	0	0	0	0	0	11	4	15	
+45 mins.	2	0	10	12	0	5	5	10	0	0	0	0	0	9	7	16	
Total Volume	14	0	49	63	0	20	28	48	0	0	0	0	0	41	21	62	
% App. Total	22.2	0	77.8		0	41.7	58.3		0	0	0		0	66.1	33.9		
PHF	.700	.000	.766	.750	.000	.833	.778	.923	.000	.000	.000	.000	.000	.854	.750	.816	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-15 Southbound Ramps Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	62	0	159	46	221	0	113	26	0	139	0	0	0	0	0	0	238	83	0	321	46	681	727
04:15 PM	80	0	212	64	292	0	83	23	0	106	0	0	0	0	0	0	202	54	0	256	64	654	718
04:30 PM	84	0	191	64	275	0	125	32	0	157	0	0	0	0	0	0	227	88	0	315	64	747	811
04:45 PM	77	0	257	75	334	0	118	19	0	137	0	0	0	0	0	0	249	43	0	292	75	763	838
Total	303	0	819	249	1122	0	439	100	0	539	0	0	0	0	0	0	916	268	0	1184	249	2845	3094
05:00 PM	58	0	231	49	289	0	126	45	0	171	0	0	0	0	0	0	243	72	0	315	49	775	824
05:15 PM	80	1	242	86	323	0	148	34	0	182	0	0	0	0	0	0	257	57	0	314	86	819	905
05:30 PM	55	0	286	72	341	0	143	22	0	165	0	0	0	0	0	0	253	119	0	372	72	878	950
05:45 PM	70	0	296	86	366	0	133	10	0	143	0	0	0	0	0	0	246	73	0	319	86	828	914
Total	263	1	1055	293	1319	0	550	111	0	661	0	0	0	0	0	0	999	321	0	1320	293	3300	3593
Grand Total	566	1	1874	542	2441	0	989	211	0	1200	0	0	0	0	0	0	1915	589	0	2504	542	6145	6687
Apprch %	23.2	0	76.8			0	82.4	17.6			0	0	0			0	76.5	23.5					
Total %	9.2	0	30.5		39.7	0	16.1	3.4		19.5	0	0	0		0	0	31.2	9.6		40.7	8.1	91.9	
Passenger Vehicles	518	1	1716		2749	0	924	176		1100	0	0	0		0	0	1785	576		2361	0	0	6210
% Passenger Vehicles	91.5	100	91.6	94.8	92.2	0	93.4	83.4	0	91.7	0	0	0	0	0	0	93.2	97.8	0	94.3	0	0	92.9
Large 2 Axle Vehicles	13	0	28		50	0	18	6		24	0	0	0		0	0	24	8		32	0	0	106
% Large 2 Axle Vehicles	2.3	0	1.5	1.7	1.7	0	1.8	2.8	0	2	0	0	0	0	0	0	1.3	1.4	0	1.3	0	0	1.6
3 Axle Vehicles	5	0	30		39	0	12	1		13	0	0	0		0	0	45	0		45	0	0	97
% 3 Axle Vehicles	0.9	0	1.6	0.7	1.3	0	1.2	0.5	0	1.1	0	0	0	0	0	0	2.3	0	0	1.8	0	0	1.5
4+ Axle Trucks	30	0	100		145	0	35	28		63	0	0	0		0	0	61	5		66	0	0	274
% 4+ Axle Trucks	5.3	0	5.3	2.8	4.9	0	3.5	13.3	0	5.2	0	0	0	0	0	0	3.2	0.8	0	2.6	0	0	4.1

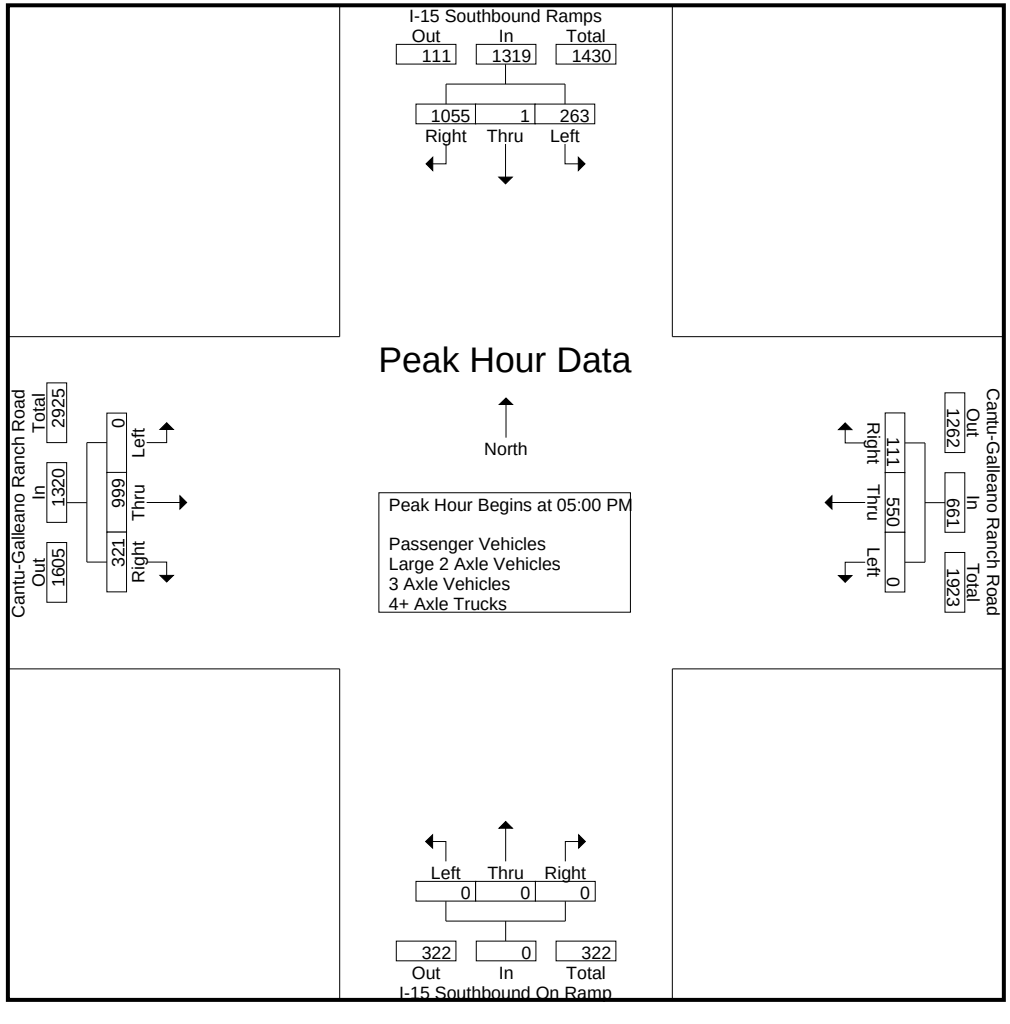
	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	58	0	231	289	0	126	**45**	171	0	0	0	0	0	243	72	315	775
05:15 PM	**80**	**1**	242	323	0	**148**	34	**182**	0	0	0	0	0	**257**	57	314	819
05:30 PM	55	0	286	341	0	143	22	165	0	0	0	0	0	253	**119**	**372**	**878**
05:45 PM	70	0	**296**	**366**	0	133	10	143	0	0	0	0	0	246	73	319	828
Total Volume	263	1	1055	1319	0	550	111	661	0	0	0	0	0	999	321	1320	3300
% App. Total	19.9	0.1	80		0	83.2	16.8		0	0	0		0	75.7	24.3		
PHF	.822	.250	.891	.901	.000	.929	.617	.908	.000	.000	.000	.000	.000	.972	.674	.887	.940

2222

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PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
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	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	05:00 PM				05:00 PM				04:00 PM				05:00 PM				
+0 mins.	58	0	231	289	0	126	**45**	171	0	0	0	0	0	243	72	315	
+15 mins.	**80**	**1**	242	323	0	**148**	34	**182**	0	0	0	0	0	**257**	57	314	
+30 mins.	55	0	286	341	0	143	22	165	0	0	0	0	0	253	**119**	**372**	
+45 mins.	70	0	**296**	**366**	0	133	10	143	0	0	0	0	0	246	73	319	
Total Volume	263	1	1055	1319	0	550	111	661	0	0	0	0	0	999	321	1320	
% App. Total	19.9	0.1	80		0	83.2	16.8		0	0	0		0	75.7	24.3		
PHF	.822	.250	.891	.901	.000	.929	.617	.908	.000	.000	.000	.000	.000	.972	.674	.887	

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Groups Printed- Passenger Vehicles

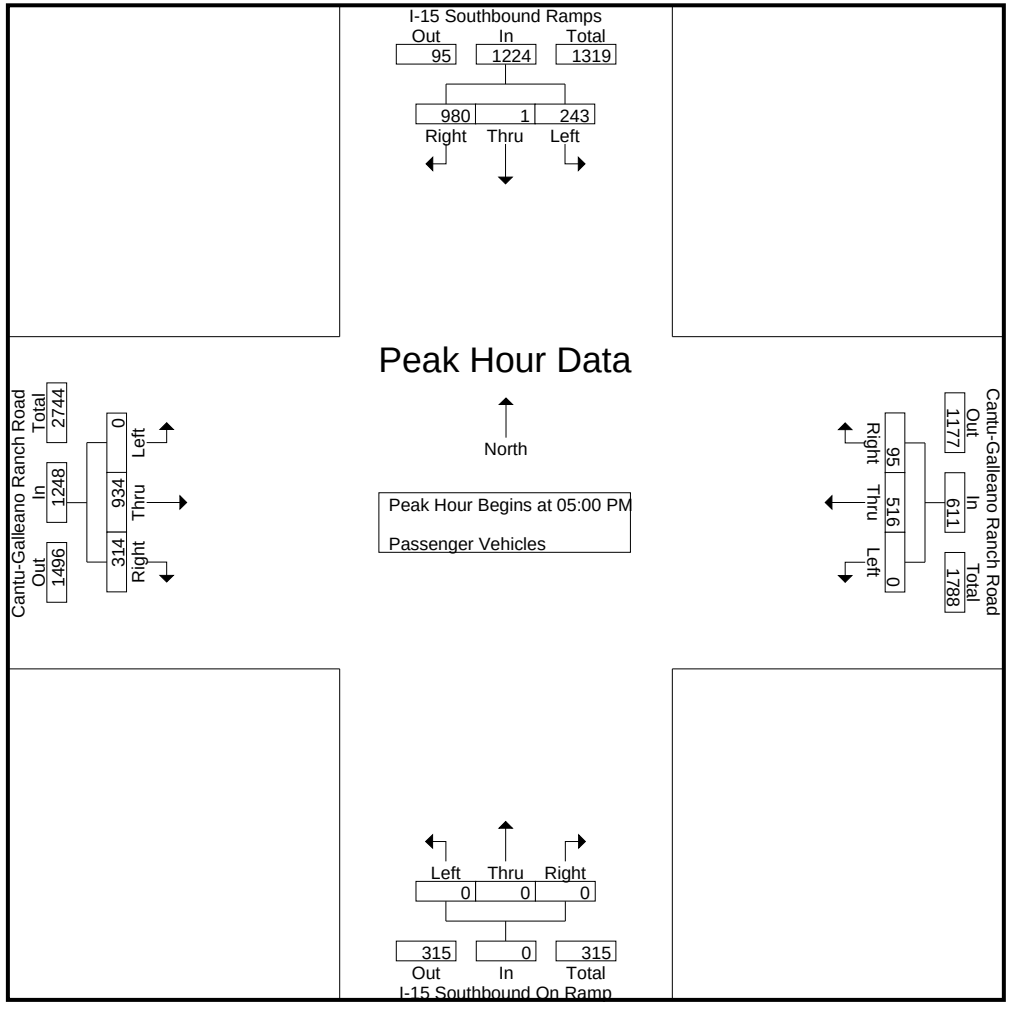
	I-15 Southbound Ramps Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	56	0	135	44	191	0	106	20	0	126	0	0	0	0	0	0	221	82	0	303	44	620	664
04:15 PM	73	0	199	62	272	0	74	15	0	89	0	0	0	0	0	0	185	53	0	238	62	599	661
04:30 PM	76	0	172	61	248	0	116	28	0	144	0	0	0	0	0	0	208	86	0	294	61	686	747
04:45 PM	70	0	230	70	300	0	112	18	0	130	0	0	0	0	0	0	237	41	0	278	70	708	778
Total	275	0	736	237	1011	0	408	81	0	489	0	0	0	0	0	0	851	262	0	1113	237	2613	2850
05:00 PM	55	0	213	42	268	0	113	41	0	154	0	0	0	0	0	0	230	71	0	301	42	723	765
05:15 PM	72	1	228	84	301	0	140	30	0	170	0	0	0	0	0	0	238	55	0	293	84	764	848
05:30 PM	52	0	258	68	310	0	139	17	0	156	0	0	0	0	0	0	237	115	0	352	68	818	886
05:45 PM	64	0	281	83	345	0	124	7	0	131	0	0	0	0	0	0	229	73	0	302	83	778	861
Total	243	1	980	277	1224	0	516	95	0	611	0	0	0	0	0	0	934	314	0	1248	277	3083	3360
Grand Total	518	1	1716	514	2235	0	924	176	0	1100	0	0	0	0	0	0	1785	576	0	2361	514	5696	6210
Apprch %	23.2	0	76.8			0	84	16			0	0	0			0	75.6	24.4					
Total %	9.1	0	30.1		39.2	0	16.2	3.1		19.3	0	0	0		0	0	31.3	10.1		41.5	8.3	91.7	

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	55	0	213	268	0	113	**41**	154	0	0	0	0	0	230	71	301	723
05:15 PM	**72**	**1**	228	301	0	**140**	30	**170**	0	0	0	0	0	**238**	55	293	764
05:30 PM	52	0	258	310	0	139	17	156	0	0	0	0	0	237	**115**	**352**	**818**
05:45 PM	64	0	**281**	**345**	0	124	7	131	0	0	0	0	0	229	73	302	778
Total Volume	243	1	980	1224	0	516	95	611	0	0	0	0	0	934	314	1248	3083
% App. Total	19.9	0.1	80.1		0	84.5	15.5		0	0	0		0	74.8	25.2		
PHF	.844	.250	.872	.887	.000	.921	.579	.899	.000	.000	.000	.000	.000	.981	.683	.886	.942

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: I-15 Southbound Ramps
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	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	05:00 PM				05:00 PM				05:00 PM				05:00 PM				
+0 mins.	55	0	213	268	0	113	**41**	154	0	0	0	0	0	230	71	301	
+15 mins.	**72**	**1**	228	301	0	**140**	30	**170**	0	0	0	0	0	**238**	55	293	
+30 mins.	52	0	258	310	0	139	17	156	0	0	0	0	0	237	**115**	**352**	
+45 mins.	64	0	**281**	**345**	0	124	7	131	0	0	0	0	0	229	73	302	
Total Volume	243	1	980	1224	0	516	95	611	0	0	0	0	0	934	314	1248	
% App. Total	19.9	0.1	80.1		0	84.5	15.5		0	0	0		0	74.8	25.2		
PHF	.844	.250	.872	.887	.000	.921	.579	.899	.000	.000	.000	.000	.000	.981	.683	.886	

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Groups Printed- Large 2 Axle Vehicles

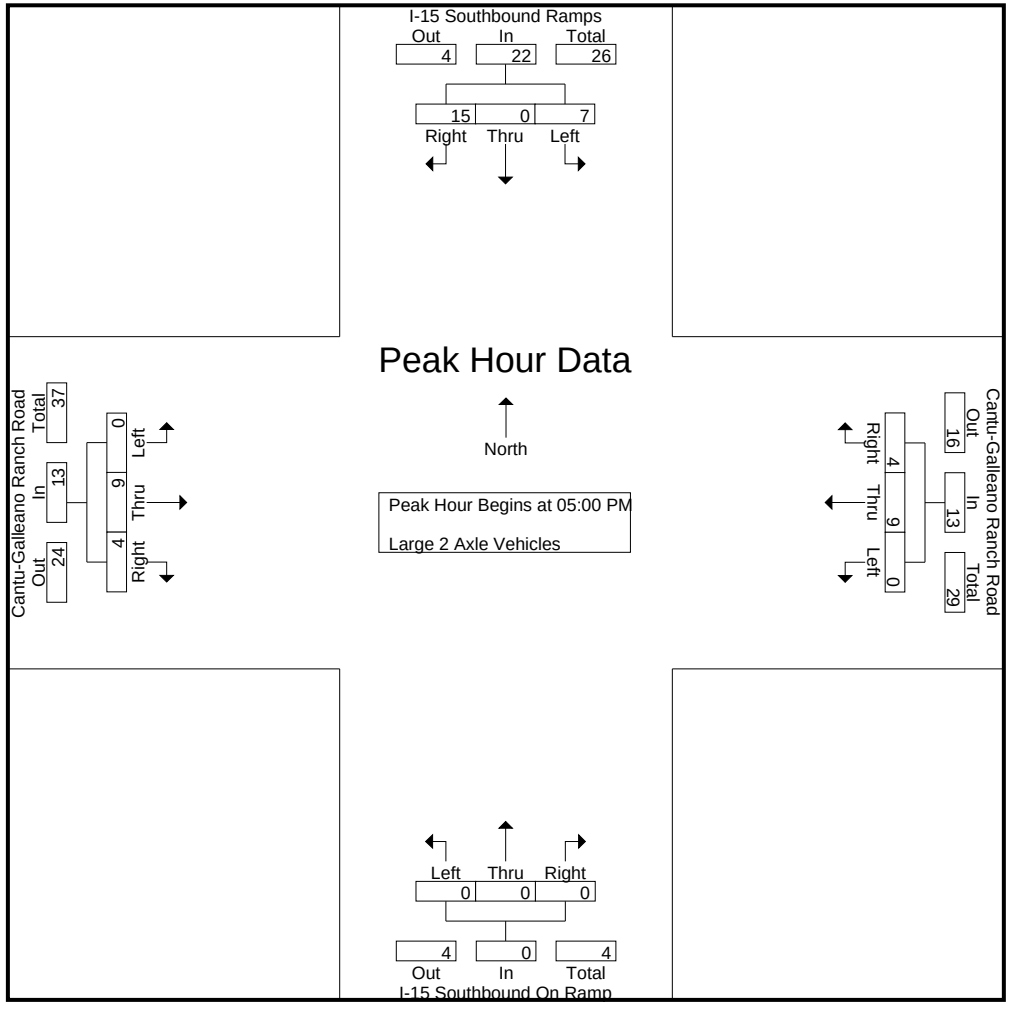
	I-15 Southbound Ramps Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	4	0	4	0	2	1	0	3	0	0	0	0	0	0	3	0	0	3	0	10	10
04:15 PM	2	0	4	1	6	0	4	1	0	5	0	0	0	0	0	0	2	1	0	3	1	14	15
04:30 PM	2	0	4	2	6	0	3	0	0	3	0	0	0	0	0	0	6	2	0	8	2	17	19
04:45 PM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	0	8	8
Total	6	0	13	3	19	0	9	2	0	11	0	0	0	0	0	0	15	4	0	19	3	49	52
05:00 PM	1	0	2	2	3	0	3	3	0	6	0	0	0	0	0	0	1	0	0	1	2	10	12
05:15 PM	2	0	4	1	6	0	3	1	0	4	0	0	0	0	0	0	1	1	0	2	1	12	13
05:30 PM	3	0	5	1	8	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5	1	13	14
05:45 PM	1	0	4	2	5	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	2	13	15
Total	7	0	15	6	22	0	9	4	0	13	0	0	0	0	0	0	9	4	0	13	6	48	54
Grand Total	13	0	28	9	41	0	18	6	0	24	0	0	0	0	0	0	24	8	0	32	9	97	106
Apprch %	31.7	0	68.3			0	75	25			0	0	0			0	75	25					
Total %	13.4	0	28.9		42.3	0	18.6	6.2		24.7	0	0	0		0	0	24.7	8.2		33	8.5	91.5	

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	0	2	3	0	**3**	**3**	**6**	0	0	0	0	0	1	0	1	10
05:15 PM	2	0	4	6	0	3	1	4	0	0	0	0	0	1	1	2	12
05:30 PM	**3**	0	**5**	**8**	0	0	0	0	0	0	0	0	0	2	**3**	**5**	**13**
05:45 PM	1	0	4	5	0	3	0	3	0	0	0	0	0	**5**	0	5	13
Total Volume	7	0	15	22	0	9	4	13	0	0	0	0	0	9	4	13	48
% App. Total	31.8	0	68.2		0	69.2	30.8		0	0	0		0	69.2	30.8		
PHF	.583	.000	.750	.688	.000	.750	.333	.542	.000	.000	.000	.000	.000	.450	.333	.650	.923

Counts Unlimited, Inc.
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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	05:00 PM				05:00 PM				05:00 PM				05:00 PM				
+0 mins.	1	0	2	3	0	**3**	**3**	**6**	0	0	0	0	0	1	0	1	
+15 mins.	2	0	4	6	0	3	1	4	0	0	0	0	0	1	1	2	
+30 mins.	**3**	0	**5**	**8**	0	0	0	0	0	0	0	0	0	2	**3**	**5**	
+45 mins.	1	0	4	5	0	3	0	3	0	0	0	0	0	**5**	0	5	
Total Volume	7	0	15	22	0	9	4	13	0	0	0	0	0	9	4	13	
% App. Total	31.8	0	68.2		0	69.2	30.8		0	0	0		0	69.2	30.8		
PHF	.583	.000	.750	.688	.000	.750	.333	.542	.000	.000	.000	.000	.000	.450	.333	.650	

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City of Ontario
N/S: I-15 Southbound Ramps
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File Name : 06_ONT_15S_CGR PM
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Groups Printed- 3 Axle Vehicles

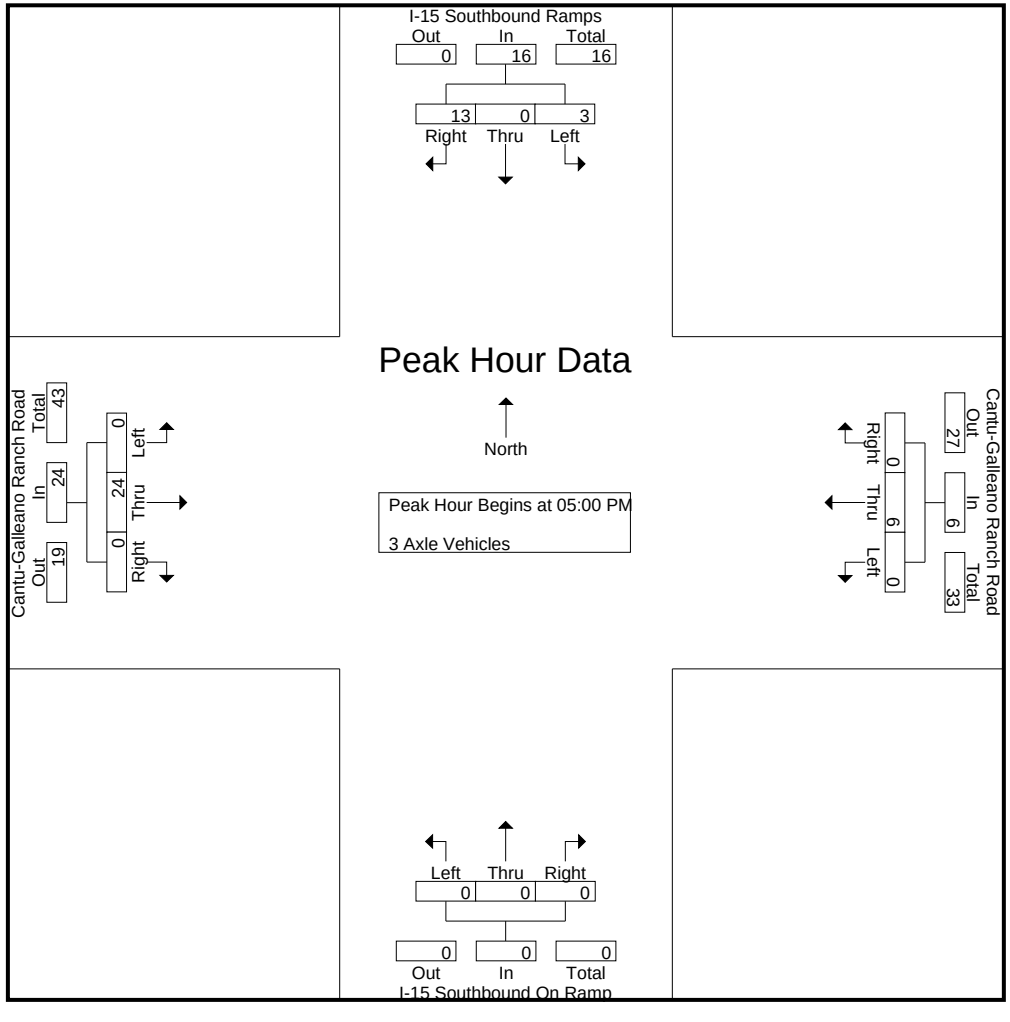
	I-15 Southbound Ramps Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	4	0	5	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	13	13
04:15 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	5	0	0	5	0	7	7
04:30 PM	1	0	5	1	6	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	1	14	15
04:45 PM	0	0	8	1	8	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	1	13	14
Total	2	0	17	2	19	0	6	1	0	7	0	0	0	0	0	0	21	0	0	21	2	47	49
05:00 PM	0	0	4	2	4	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	2	9	11
05:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	10	10
05:30 PM	0	0	6	0	6	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	15	15
05:45 PM	1	0	3	0	4	0	1	0	0	1	0	0	0	0	0	0	7	0	0	7	0	12	12
Total	3	0	13	2	16	0	6	0	0	6	0	0	0	0	0	0	24	0	0	24	2	46	48
Grand Total	5	0	30	4	35	0	12	1	0	13	0	0	0	0	0	0	45	0	0	45	4	93	97
Apprch %	14.3	0	85.7			0	92.3	7.7			0	0	0			0	100	0					
Total %	5.4	0	32.3		37.6	0	12.9	1.1		14	0	0	0		0	0	48.4	0		48.4	4.1	95.9	

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	4	4	0	2	0	2	0	0	0	0	0	3	0	3	9
05:15 PM	**2**	0	0	2	0	0	0	0	0	0	0	0	0	**8**	0	**8**	10
05:30 PM	0	0	**6**	**6**	0	**3**	0	**3**	0	0	0	0	0	6	0	6	**15**
05:45 PM	1	0	3	4	0	1	0	1	0	0	0	0	0	7	0	7	12
Total Volume	3	0	13	16	0	6	0	6	0	0	0	0	0	24	0	24	46
% App. Total	18.8	0	81.2		0	100	0		0	0	0		0	100	0		
PHF	.375	.000	.542	.667	.000	.500	.000	.500	.000	.000	.000	.000	.000	.750	.000	.750	.767

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	05:00 PM				05:00 PM				05:00 PM				05:00 PM				
+0 mins.	0	0	4	4	0	2	0	2	0	0	0	0	0	3	0	3	
+15 mins.	**2**	0	0	2	0	0	0	0	0	0	0	0	0	**8**	0	**8**	
+30 mins.	0	0	**6**	**6**	0	**3**	0	**3**	0	0	0	0	0	6	0	6	
+45 mins.	1	0	3	4	0	1	0	1	0	0	0	0	0	7	0	7	
Total Volume	3	0	13	16	0	6	0	6	0	0	0	0	0	24	0	24	
% App. Total	18.8	0	81.2		0	100	0		0	0	0		0	100	0		
PHF	.375	.000	.542	.667	.000	.500	.000	.500	.000	.000	.000	.000	.000	.750	.000	.750	

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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

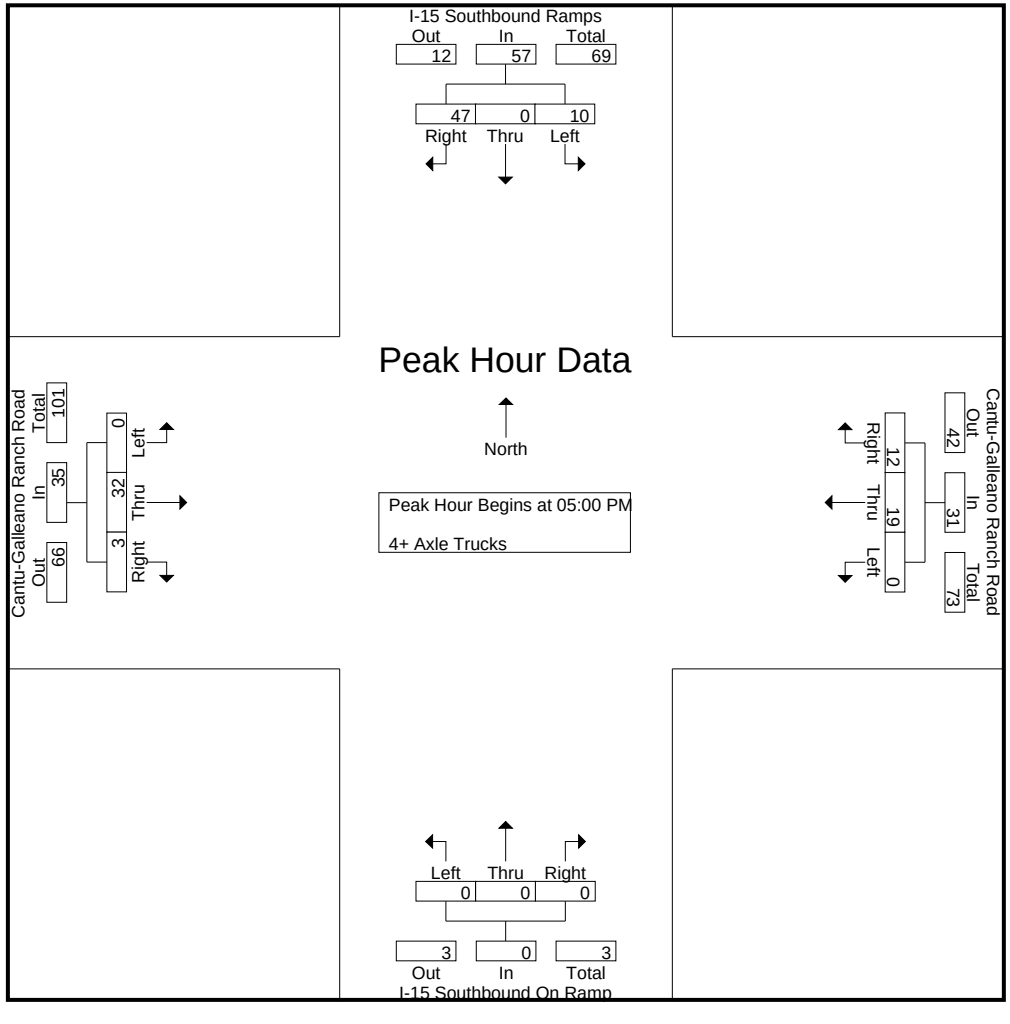
	I-15 Southbound Ramps Southbound					Cantu-Galleano Ranch Road Westbound					I-15 Southbound On Ramp Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	5	0	16	2	21	0	3	5	0	8	0	0	0	0	0	0	8	1	0	9	2	38	40
04:15 PM	5	0	9	1	14	0	4	6	0	10	0	0	0	0	0	0	10	0	0	10	1	34	35
04:30 PM	5	0	10	0	15	0	3	4	0	7	0	0	0	0	0	0	8	0	0	8	0	30	30
04:45 PM	5	0	18	4	23	0	6	1	0	7	0	0	0	0	0	0	3	1	0	4	4	34	38
Total	20	0	53	7	73	0	16	16	0	32	0	0	0	0	0	0	29	2	0	31	7	136	143
05:00 PM	2	0	12	3	14	0	8	1	0	9	0	0	0	0	0	0	9	1	0	10	3	33	36
05:15 PM	4	0	10	1	14	0	5	3	0	8	0	0	0	0	0	0	10	1	0	11	1	33	34
05:30 PM	0	0	17	3	17	0	1	5	0	6	0	0	0	0	0	0	8	1	0	9	3	32	35
05:45 PM	4	0	8	1	12	0	5	3	0	8	0	0	0	0	0	0	5	0	0	5	1	25	26
Total	10	0	47	8	57	0	19	12	0	31	0	0	0	0	0	0	32	3	0	35	8	123	131
Grand Total	30	0	100	15	130	0	35	28	0	63	0	0	0	0	0	0	61	5	0	66	15	259	274
Apprch %	23.1	0	76.9			0	55.6	44.4			0	0	0			0	92.4	7.6					
Total %	11.6	0	38.6		50.2	0	13.5	10.8		24.3	0	0	0		0	0	23.6	1.9		25.5	5.5	94.5	

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	2	0	12	14	0	**8**	1	**9**	0	0	0	0	0	9	**1**	10	**33**
05:15 PM	**4**	0	10	14	0	5	3	8	0	0	0	0	0	**10**	1	**11**	33
05:30 PM	0	0	**17**	**17**	0	1	**5**	6	0	0	0	0	0	8	1	9	32
05:45 PM	4	0	8	12	0	5	3	8	0	0	0	0	0	5	0	5	25
Total Volume	10	0	47	57	0	19	12	31	0	0	0	0	0	32	3	35	123
% App. Total	17.5	0	82.5		0	61.3	38.7		0	0	0		0	91.4	8.6		
PHF	.625	.000	.691	.838	.000	.594	.600	.861	.000	.000	.000	.000	.000	.800	.750	.795	.932

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City of Ontario
N/S: I-15 Southbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 06_ONT_15S_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: I-15 Southbound Ramps
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Weather: Clear

File Name : 06_ONT_15S_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 3

	I-15 Southbound Ramps Southbound				Cantu-Galleano Ranch Road Westbound				I-15 Southbound On Ramp Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	05:00 PM				05:00 PM				05:00 PM				05:00 PM				
+0 mins.	2	0	12	14	0	**8**	1	**9**	0	0	0	0	0	9	**1**	10	
+15 mins.	**4**	0	10	14	0	5	3	8	0	0	0	0	0	**10**	1	**11**	
+30 mins.	0	0	**17**	**17**	0	1	**5**	6	0	0	0	0	0	8	1	9	
+45 mins.	4	0	8	12	0	5	3	8	0	0	0	0	0	5	0	5	
Total Volume	10	0	47	57	0	19	12	31	0	0	0	0	0	32	3	35	
% App. Total	17.5	0	82.5		0	61.3	38.7		0	0	0		0	91.4	8.6		
PHF	.625	.000	.691	.838	.000	.594	.600	.861	.000	.000	.000	.000	.000	.800	.750	.795	

Location: Ontario
N/S: I-15 SB Ramps
E/W: Cantu-Galleano Ranch Rd



Date: 5/10/2022
Day: Tuesday

PEDESTRIANS

	North Leg I-15 SB Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 SB Ramps	West Leg Cantu-Galleano Ranch Rd	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-15 SB Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 SB Ramps	West Leg Cantu-Galleano Ranch Rd	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Ontario
N/S: I-15 SB Ramps
E/W: Cantu-Galleano Ranch Rd

Date: 5/10/2022
Day: Tuesday

BICYCLES

	Southbound I-15 SB Ramps			Westbound Cantu-Galleano Ranch Rd			Northbound I-15 SB Ramps			Eastbound Cantu-Galleano Ranch Rd			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	2	0	2

	Southbound I-15 SB Ramps			Westbound Cantu-Galleano Ranch Rd			Northbound I-15 SB Ramps			Eastbound Cantu-Galleano Ranch Rd			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	1	0	2

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

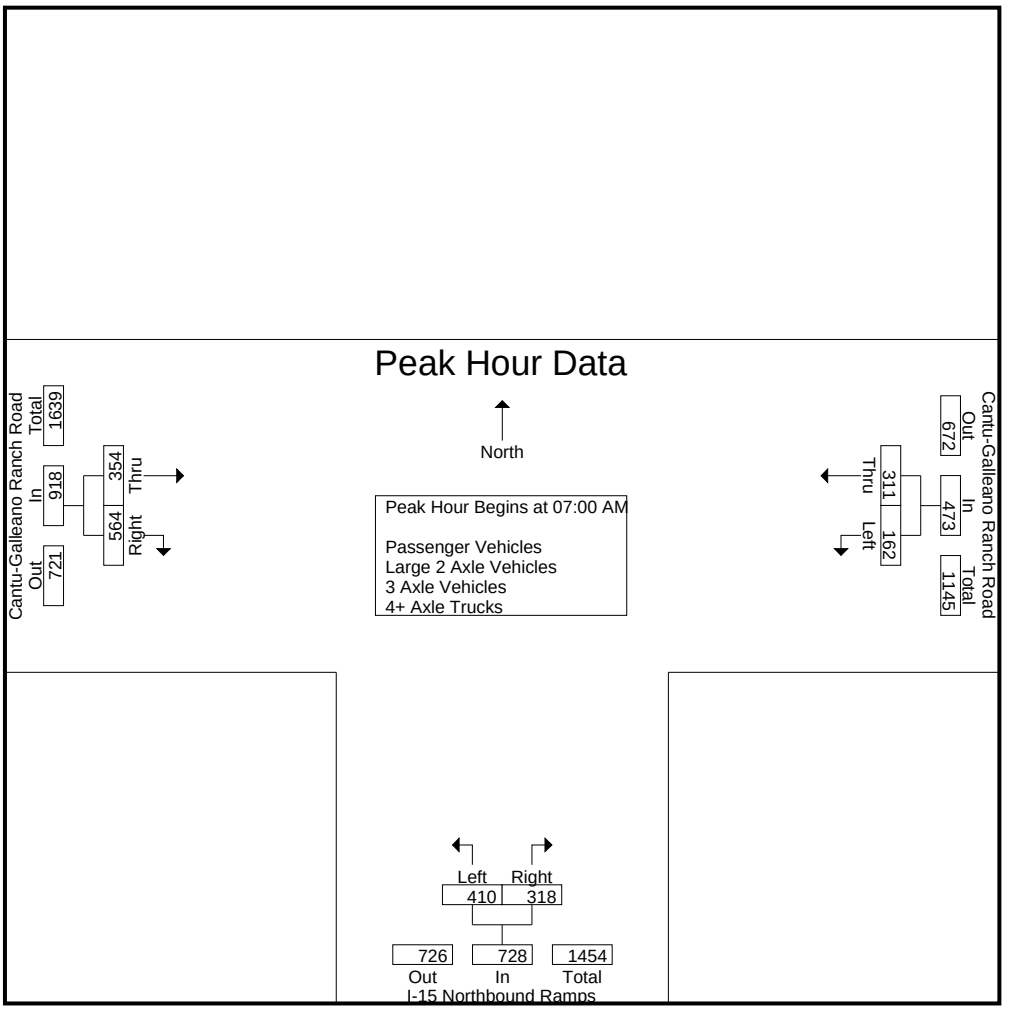
	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound						
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	43	81	0	124	121	54	27	175	69	144	69	213	96	512	608
07:15 AM	42	81	0	123	119	64	31	183	72	156	93	228	124	534	658
07:30 AM	46	63	0	109	88	93	54	181	91	157	70	248	124	538	662
07:45 AM	31	86	0	117	82	107	43	189	122	107	55	229	98	535	633
Total	162	311	0	473	410	318	155	728	354	564	287	918	442	2119	2561
08:00 AM	37	63	0	100	81	100	54	181	112	99	25	211	79	492	571
08:15 AM	32	79	0	111	77	85	44	162	105	101	35	206	79	479	558
08:30 AM	39	62	0	101	65	61	31	126	78	105	32	183	63	410	473
08:45 AM	35	66	0	101	54	30	21	84	80	93	31	173	52	358	410
Total	143	270	0	413	277	276	150	553	375	398	123	773	273	1739	2012
Grand Total	305	581	0	886	687	594	305	1281	729	962	410	1691	715	3858	4573
Apprch %	34.4	65.6			53.6	46.4			43.1	56.9					
Total %	7.9	15.1		23	17.8	15.4		33.2	18.9	24.9		43.8	15.6	84.4	
Passenger Vehicles	262	467		729	619	512		1412	650	822		1836	0	0	3977
% Passenger Vehicles	85.9	80.4	0	82.3	90.1	86.2	92.1	89	89.2	85.4	88.8	87.4	0	0	87
Large 2 Axle Vehicles	12	25		37	22	14		43	23	34		70	0	0	150
% Large 2 Axle Vehicles	3.9	4.3	0	4.2	3.2	2.4	2.3	2.7	3.2	3.5	3.2	3.3	0	0	3.3
3 Axle Vehicles	2	14		16	11	8		19	16	34		57	0	0	92
% 3 Axle Vehicles	0.7	2.4	0	1.8	1.6	1.3	0	1.2	2.2	3.5	1.7	2.7	0	0	2
4+ Axle Trucks	29	75		104	35	60		112	40	72		138	0	0	354
% 4+ Axle Trucks	9.5	12.9	0	11.7	5.1	10.1	5.6	7.1	5.5	7.5	6.3	6.6	0	0	7.7

	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	43	81	**124**	**121**	54	175	69	144	213	512
07:15 AM	42	81	123	119	64	183	72	156	228	534
07:30 AM	**46**	63	109	88	93	181	91	**157**	**248**	**538**
07:45 AM	31	**86**	117	82	**107**	**189**	**122**	107	229	535
Total Volume	162	311	473	410	318	728	354	564	918	2119
% App. Total	34.2	65.8		56.3	43.7		38.6	61.4		
PHF	.880	.904	.954	.847	.743	.963	.725	.898	.925	.985

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:15 AM			07:00 AM		
+0 mins.	43	81	**124**	**119**	64	183	69	144	213
+15 mins.	42	81	123	88	93	181	72	156	228
+30 mins.	**46**	63	109	82	**107**	**189**	91	**157**	**248**
+45 mins.	31	**86**	117	81	100	181	**122**	107	229
Total Volume	162	311	473	370	364	734	354	564	918
% App. Total	34.2	65.8		50.4	49.6		38.6	61.4	
PHF	.880	.904	.954	.777	.850	.971	.725	.898	.925

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City of Ontario
N/S: I-15 Northbound Ramps
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File Name : 07_ONT_15N_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles

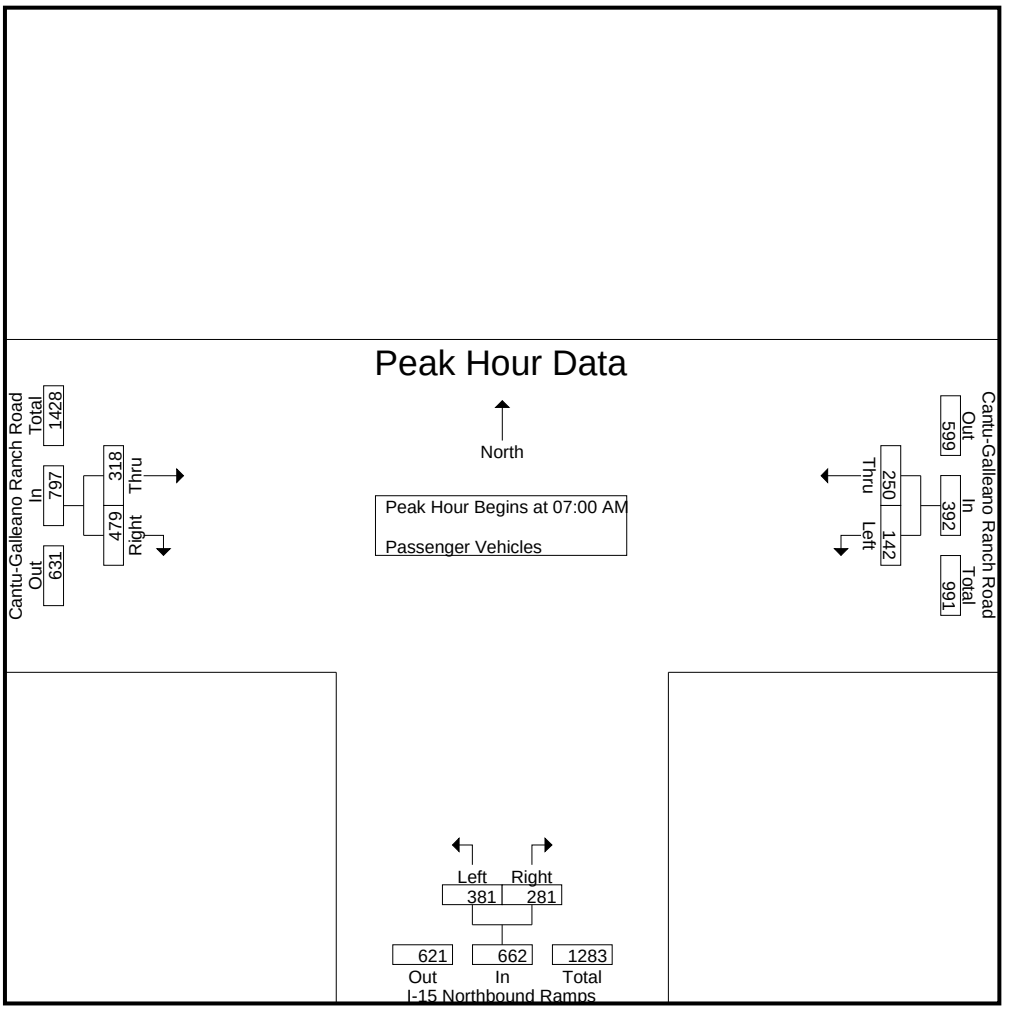
	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound						
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	38	68	0	106	113	45	23	158	62	123	66	185	89	449	538
07:15 AM	38	67	0	105	114	55	29	169	59	134	84	193	113	467	580
07:30 AM	39	45	0	84	80	84	52	164	81	133	62	214	114	462	576
07:45 AM	27	70	0	97	74	97	42	171	116	89	46	205	88	473	561
Total	142	250	0	392	381	281	146	662	318	479	258	797	404	1851	2255
08:00 AM	29	48	0	77	71	96	52	167	107	89	23	196	75	440	515
08:15 AM	29	65	0	94	68	67	38	135	89	84	29	173	67	402	469
08:30 AM	31	51	0	82	52	44	27	96	61	91	29	152	56	330	386
08:45 AM	31	53	0	84	47	24	18	71	75	79	25	154	43	309	352
Total	120	217	0	337	238	231	135	469	332	343	106	675	241	1481	1722
Grand Total	262	467	0	729	619	512	281	1131	650	822	364	1472	645	3332	3977
Apprch %	35.9	64.1			54.7	45.3			44.2	55.8					
Total %	7.9	14		21.9	18.6	15.4		33.9	19.5	24.7		44.2	16.2	83.8	

	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	38	68	**106**	113	45	158	62	123	185	449
07:15 AM	38	67	105	**114**	55	169	59	**134**	193	467
07:30 AM	**39**	45	84	80	84	164	81	133	**214**	462
07:45 AM	27	**70**	97	74	**97**	**171**	**116**	89	205	**473**
Total Volume	142	250	392	381	281	662	318	479	797	1851
% App. Total	36.2	63.8		57.6	42.4		39.9	60.1		
PHF	.910	.893	.925	.836	.724	.968	.685	.894	.931	.978

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(951)268-6268

City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	38	68	**106**	113	45	158	62	123	185
+15 mins.	38	67	105	**114**	55	169	59	**134**	193
+30 mins.	**39**	45	84	80	84	164	81	133	**214**
+45 mins.	27	**70**	97	74	**97**	**171**	**116**	89	205
Total Volume	142	250	392	381	281	662	318	479	797
% App. Total	36.2	63.8		57.6	42.4		39.9	60.1	
PHF	.910	.893	.925	.836	.724	.968	.685	.894	.931

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

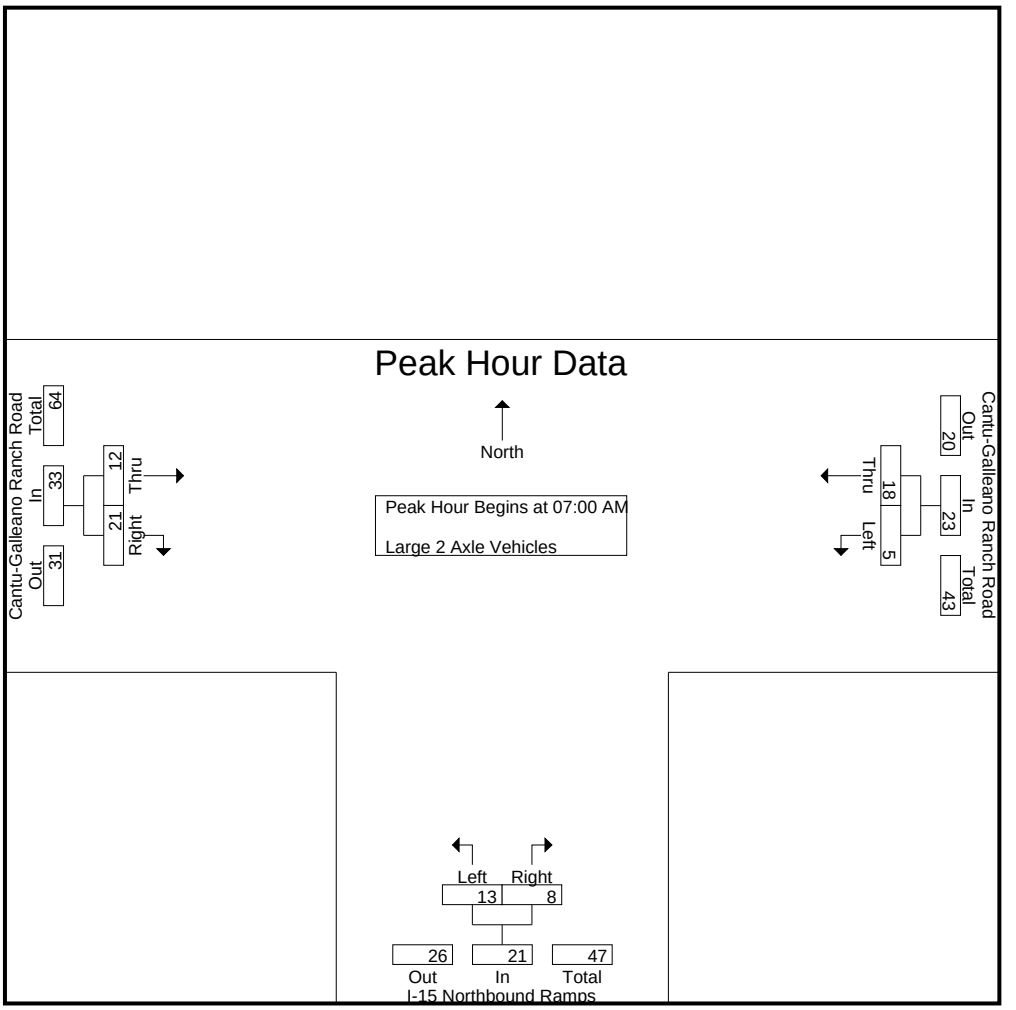
	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound						
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	3	4	0	7	4	3	2	7	2	6	3	8	5	22	27
07:15 AM	0	5	0	5	2	1	0	3	6	6	2	12	2	20	22
07:30 AM	2	7	0	9	3	3	0	6	2	5	1	7	1	22	23
07:45 AM	0	2	0	2	4	1	1	5	2	4	3	6	4	13	17
Total	5	18	0	23	13	8	3	21	12	21	9	33	12	77	89
08:00 AM	2	2	0	4	3	0	0	3	3	1	0	4	0	11	11
08:15 AM	1	3	0	4	1	5	4	6	1	2	2	3	6	13	19
08:30 AM	2	0	0	2	4	1	0	5	7	4	0	11	0	18	18
08:45 AM	2	2	0	4	1	0	0	1	0	6	2	6	2	11	13
Total	7	7	0	14	9	6	4	15	11	13	4	24	8	53	61
Grand Total	12	25	0	37	22	14	7	36	23	34	13	57	20	130	150
Apprch %	32.4	67.6			61.1	38.9			40.4	59.6					
Total %	9.2	19.2		28.5	16.9	10.8		27.7	17.7	26.2		43.8	13.3	86.7	

	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**3**	4	7	**4**	**3**	**7**	2	**6**	8	**22**
07:15 AM	0	5	5	2	1	3	**6**	6	**12**	20
07:30 AM	2	**7**	**9**	3	3	6	2	5	7	22
07:45 AM	0	2	2	4	1	5	2	4	6	13
Total Volume	5	18	23	13	8	21	12	21	33	77
% App. Total	21.7	78.3		61.9	38.1		36.4	63.6		
PHF	.417	.643	.639	.813	.667	.750	.500	.875	.688	.875

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**3**	4	7	**4**	**3**	**7**	2	**6**	8
+15 mins.	0	5	5	2	1	3	**6**	6	**12**
+30 mins.	2	**7**	**9**	3	3	6	2	5	7
+45 mins.	0	2	2	4	1	5	2	4	6
Total Volume	5	18	23	13	8	21	12	21	33
% App. Total	21.7	78.3		61.9	38.1		36.4	63.6	
PHF	.417	.643	.639	.813	.667	.750	.500	.875	.688

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

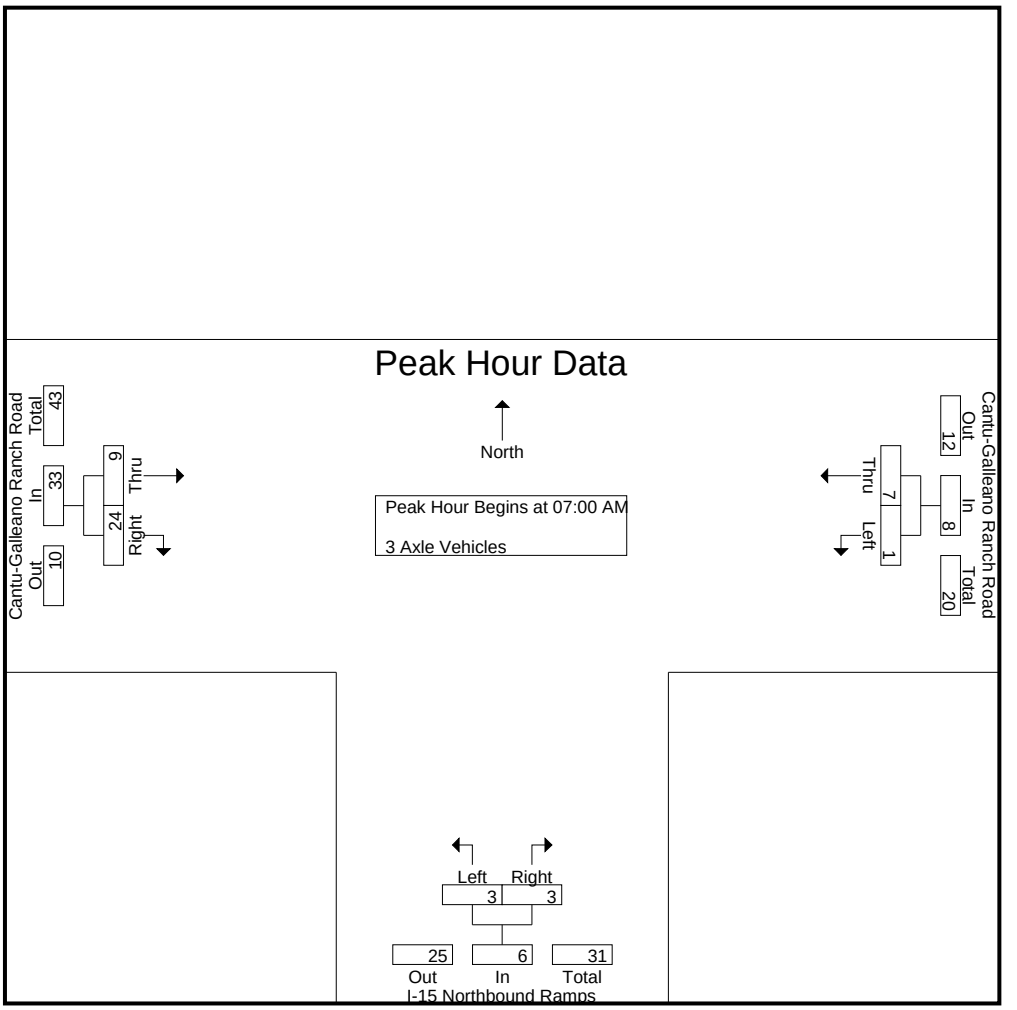
	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound						
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	1	0	1	0	1	2	6	0	8	0	10	10
07:15 AM	0	0	0	0	0	0	0	0	2	6	1	8	1	8	9
07:30 AM	1	1	0	2	1	0	0	1	4	6	2	10	2	13	15
07:45 AM	0	5	0	5	2	2	0	4	1	6	2	7	2	16	18
Total	1	7	0	8	3	3	0	6	9	24	5	33	5	47	52
08:00 AM	1	1	0	2	3	0	0	3	0	2	1	2	1	7	8
08:15 AM	0	3	0	3	1	1	0	2	2	3	0	5	0	10	10
08:30 AM	0	3	0	3	2	4	0	6	5	3	1	8	1	17	18
08:45 AM	0	0	0	0	2	0	0	2	0	2	0	2	0	4	4
Total	1	7	0	8	8	5	0	13	7	10	2	17	2	38	40
Grand Total	2	14	0	16	11	8	0	19	16	34	7	50	7	85	92
Apprch %	12.5	87.5			57.9	42.1			32	68					
Total %	2.4	16.5		18.8	12.9	9.4		22.4	18.8	40		58.8	7.6	92.4	

	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	1	1	0	1	1	2	**6**	8	10
07:15 AM	0	0	0	0	0	0	2	6	8	8
07:30 AM	**1**	1	2	1	0	1	**4**	6	**10**	13
07:45 AM	0	**5**	**5**	**2**	**2**	**4**	1	6	7	**16**
Total Volume	1	7	8	3	3	6	9	24	33	47
% App. Total	12.5	87.5		50	50		27.3	72.7		
PHF	.250	.350	.400	.375	.375	.375	.563	1.00	.825	.734

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	1	1	0	1	1	2	**6**	8
+15 mins.	0	0	0	0	0	0	2	6	8
+30 mins.	**1**	1	2	1	0	1	**4**	6	**10**
+45 mins.	0	**5**	**5**	**2**	**2**	**4**	1	6	7
Total Volume	1	7	8	3	3	6	9	24	33
% App. Total	12.5	87.5		50	50		27.3	72.7	
PHF	.250	.350	.400	.375	.375	.375	.563	1.000	.825

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

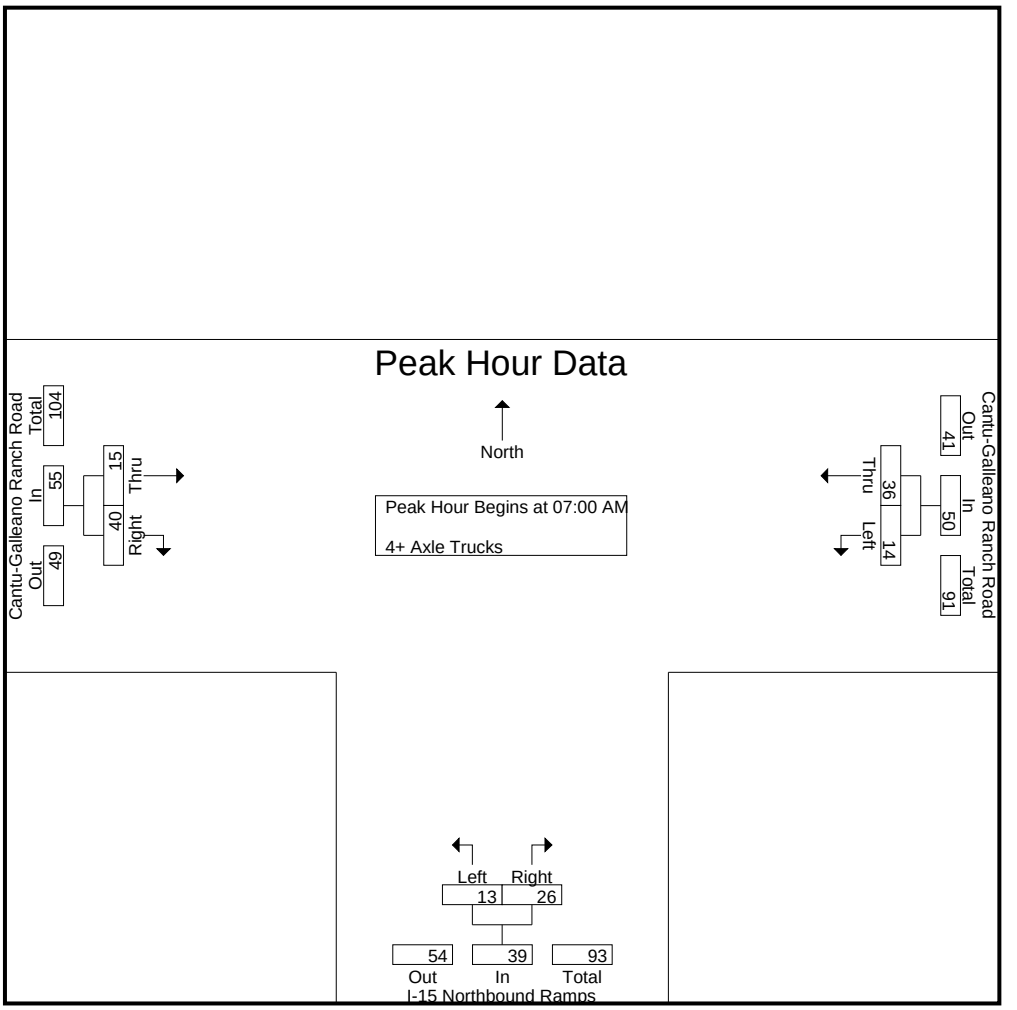
	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound						
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	8	0	10	4	5	2	9	3	9	0	12	2	31	33
07:15 AM	4	9	0	13	3	8	2	11	5	10	6	15	8	39	47
07:30 AM	4	10	0	14	4	6	2	10	4	13	5	17	7	41	48
07:45 AM	4	9	0	13	2	7	0	9	3	8	4	11	4	33	37
Total	14	36	0	50	13	26	6	39	15	40	15	55	21	144	165
08:00 AM	5	12	0	17	4	4	2	8	2	7	1	9	3	34	37
08:15 AM	2	8	0	10	7	12	2	19	13	12	4	25	6	54	60
08:30 AM	6	8	0	14	7	12	4	19	5	7	2	12	6	45	51
08:45 AM	2	11	0	13	4	6	3	10	5	6	4	11	7	34	41
Total	15	39	0	54	22	34	11	56	25	32	11	57	22	167	189
Grand Total	29	75	0	104	35	60	17	95	40	72	26	112	43	311	354
Apprch %	27.9	72.1			36.8	63.2			35.7	64.3					
Total %	9.3	24.1		33.4	11.3	19.3		30.5	12.9	23.2		36	12.1	87.9	

	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	2	8	10	**4**	5	9	3	9	12	31
07:15 AM	**4**	9	13	3	**8**	**11**	**5**	10	15	39
07:30 AM	4	**10**	**14**	4	6	10	4	**13**	**17**	**41**
07:45 AM	4	9	13	2	7	9	3	8	11	33
Total Volume	14	36	50	13	26	39	15	40	55	144
% App. Total	28	72		33.3	66.7		27.3	72.7		
PHF	.875	.900	.893	.813	.813	.886	.750	.769	.809	.878

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	2	8	10	**4**	5	9	3	9	12
+15 mins.	**4**	9	13	3	**8**	**11**	**5**	10	15
+30 mins.	4	**10**	**14**	4	6	10	4	**13**	**17**
+45 mins.	4	9	13	2	7	9	3	8	11
Total Volume	14	36	50	13	26	39	15	40	55
% App. Total	28	72		33.3	66.7		27.3	72.7	
PHF	.875	.900	.893	.813	.813	.886	.750	.769	.809

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound						
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	55	82	0	137	75	41	22	116	143	163	68	306	90	559	649
04:15 PM	33	56	0	89	51	49	21	100	173	120	34	293	55	482	537
04:30 PM	44	89	0	133	64	35	15	99	159	163	64	322	79	554	633
04:45 PM	58	72	0	130	69	33	13	102	165	170	50	335	63	567	630
Total	190	299	0	489	259	158	71	417	640	616	216	1256	287	2162	2449
05:00 PM	49	94	0	143	71	22	12	93	144	162	61	306	73	542	615
05:15 PM	39	75	0	114	102	30	13	132	180	160	83	340	96	586	682
05:30 PM	51	63	0	114	89	18	11	107	155	164	76	319	87	540	627
05:45 PM	32	52	0	84	102	35	17	137	162	165	36	327	53	548	601
Total	171	284	0	455	364	105	53	469	641	651	256	1292	309	2216	2525
Grand Total	361	583	0	944	623	263	124	886	1281	1267	472	2548	596	4378	4974
Apprch %	38.2	61.8			70.3	29.7			50.3	49.7					
Total %	8.2	13.3		21.6	14.2	6		20.2	29.3	28.9		58.2	12	88	
Passenger Vehicles	329	509		838	584	209		900	1204	1154		2795	0	0	4533
% Passenger Vehicles	91.1	87.3	0	88.8	93.7	79.5	86.3	89.1	94	91.1	92.6	92.5	0	0	91.1
Large 2 Axle Vehicles	7	15		22	16	10		29	24	23		53	0	0	104
% Large 2 Axle Vehicles	1.9	2.6	0	2.3	2.6	3.8	2.4	2.9	1.9	1.8	1.3	1.8	0	0	2.1
3 Axle Vehicles	3	9		12	4	7		15	12	38		62	0	0	89
% 3 Axle Vehicles	0.8	1.5	0	1.3	0.6	2.7	3.2	1.5	0.9	3	2.5	2.1	0	0	1.8
4+ Axle Trucks	22	50		72	19	37		66	41	52		110	0	0	248
% 4+ Axle Trucks	6.1	8.6	0	7.6	3	14.1	8.1	6.5	3.2	4.1	3.6	3.6	0	0	5

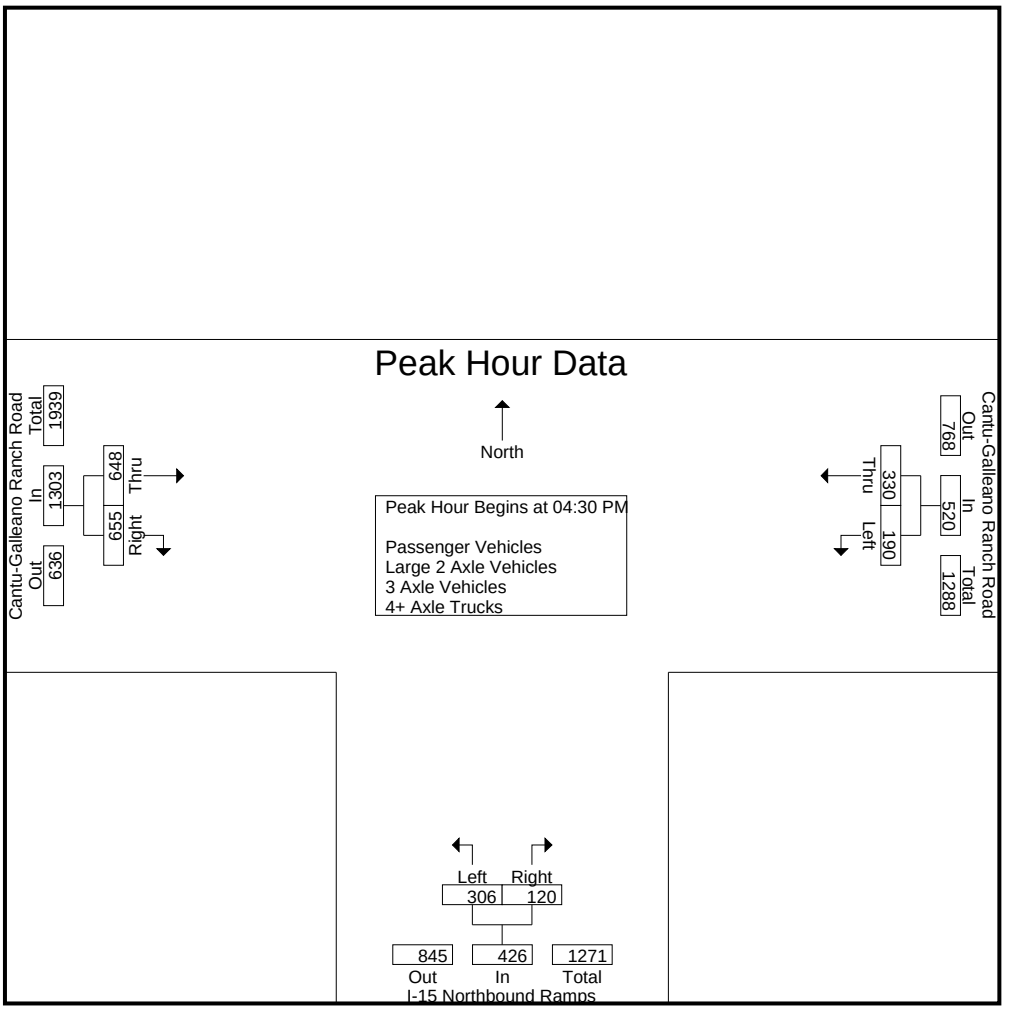
	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	44	89	133	64	**35**	99	159	163	322	554
04:45 PM	**58**	72	130	69	33	102	165	**170**	335	567
05:00 PM	49	**94**	**143**	71	22	93	144	162	306	542
05:15 PM	39	75	114	**102**	30	**132**	**180**	160	**340**	**586**
Total Volume	190	330	520	306	120	426	648	655	1303	2249
% App. Total	36.5	63.5		71.8	28.2		49.7	50.3		
PHF	.819	.878	.909	.750	.857	.807	.900	.963	.958	.959

2249

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			05:00 PM			04:30 PM		
+0 mins.	44	89	133	71	22	93	159	163	322
+15 mins.	**58**	72	130	**102**	30	132	165	**170**	335
+30 mins.	49	**94**	**143**	89	18	107	144	162	306
+45 mins.	39	75	114	102	**35**	**137**	**180**	160	**340**
Total Volume	190	330	520	364	105	469	648	655	1303
% App. Total	36.5	63.5		77.6	22.4		49.7	50.3	
PHF	.819	.878	.909	.892	.750	.856	.900	.963	.958

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

Groups Printed- Passenger Vehicles

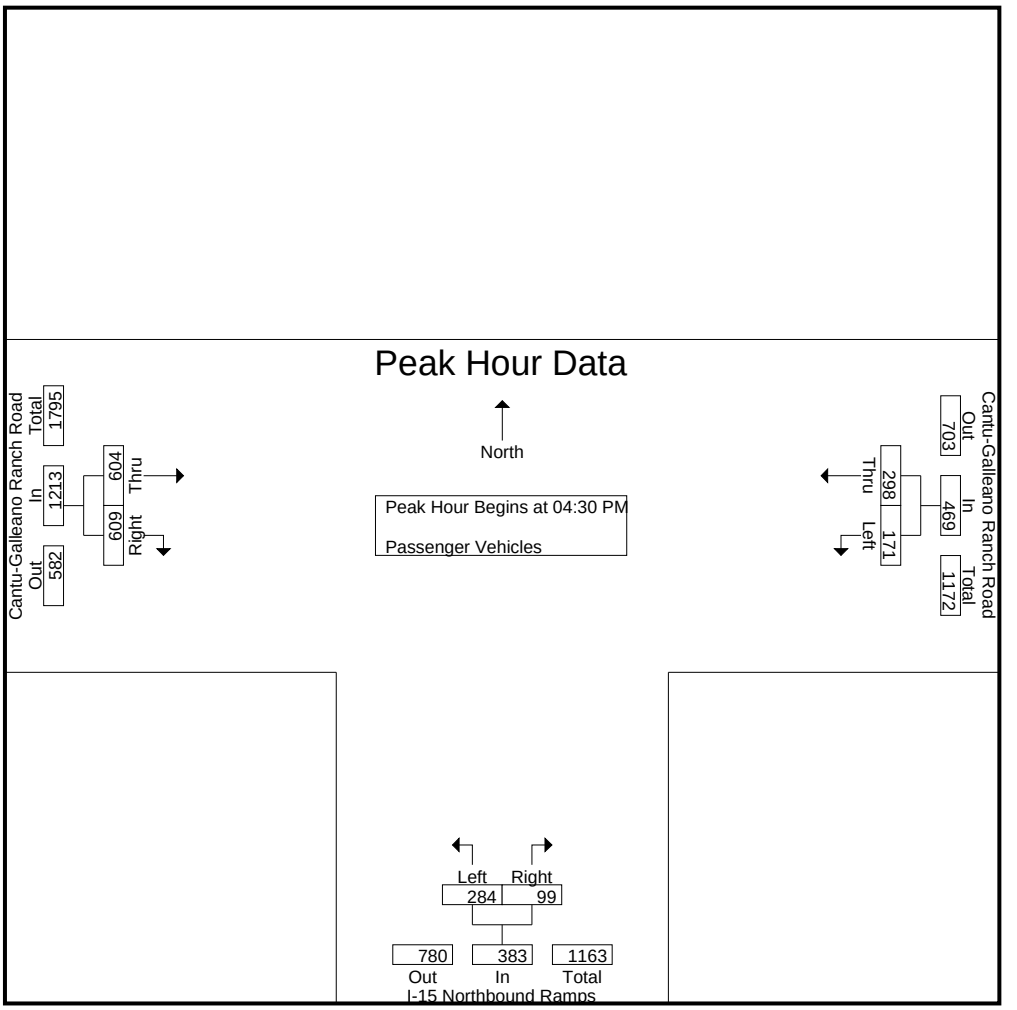
	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound						
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	51	68	0	119	68	33	18	101	134	147	65	281	83	501	584
04:15 PM	30	43	0	73	46	34	17	80	161	103	29	264	46	417	463
04:30 PM	35	78	0	113	60	27	13	87	140	152	63	292	76	492	568
04:45 PM	55	67	0	122	65	25	11	90	155	159	47	314	58	526	584
Total	171	256	0	427	239	119	59	358	590	561	204	1151	263	1936	2199
05:00 PM	44	86	0	130	61	18	10	79	138	151	60	289	70	498	568
05:15 PM	37	67	0	104	98	29	12	127	171	147	76	318	88	549	637
05:30 PM	47	55	0	102	88	16	10	104	152	144	64	296	74	502	576
05:45 PM	30	45	0	75	98	27	16	125	153	151	33	304	49	504	553
Total	158	253	0	411	345	90	48	435	614	593	233	1207	281	2053	2334
Grand Total	329	509	0	838	584	209	107	793	1204	1154	437	2358	544	3989	4533
Apprch %	39.3	60.7			73.6	26.4			51.1	48.9					
Total %	8.2	12.8		21	14.6	5.2		19.9	30.2	28.9		59.1	12	88	

	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	35	78	113	60	27	87	140	152	292	492
04:45 PM	**55**	67	122	65	25	90	155	**159**	314	526
05:00 PM	44	**86**	**130**	61	18	79	138	151	289	498
05:15 PM	37	67	104	**98**	**29**	**127**	**171**	147	**318**	**549**
Total Volume	171	298	469	284	99	383	604	609	1213	2065
% App. Total	36.5	63.5		74.2	25.8		49.8	50.2		
PHF	.777	.866	.902	.724	.853	.754	.883	.958	.954	.940

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	35	78	113	60	27	87	140	152	292
+15 mins.	**55**	67	122	65	25	90	155	**159**	314
+30 mins.	44	**86**	**130**	61	18	79	138	151	289
+45 mins.	37	67	104	**98**	**29**	**127**	**171**	147	**318**
Total Volume	171	298	469	284	99	383	604	609	1213
% App. Total	36.5	63.5		74.2	25.8		49.8	50.2	
PHF	.777	.866	.902	.724	.853	.754	.883	.958	.954

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

Groups Printed- Large 2 Axle Vehicles

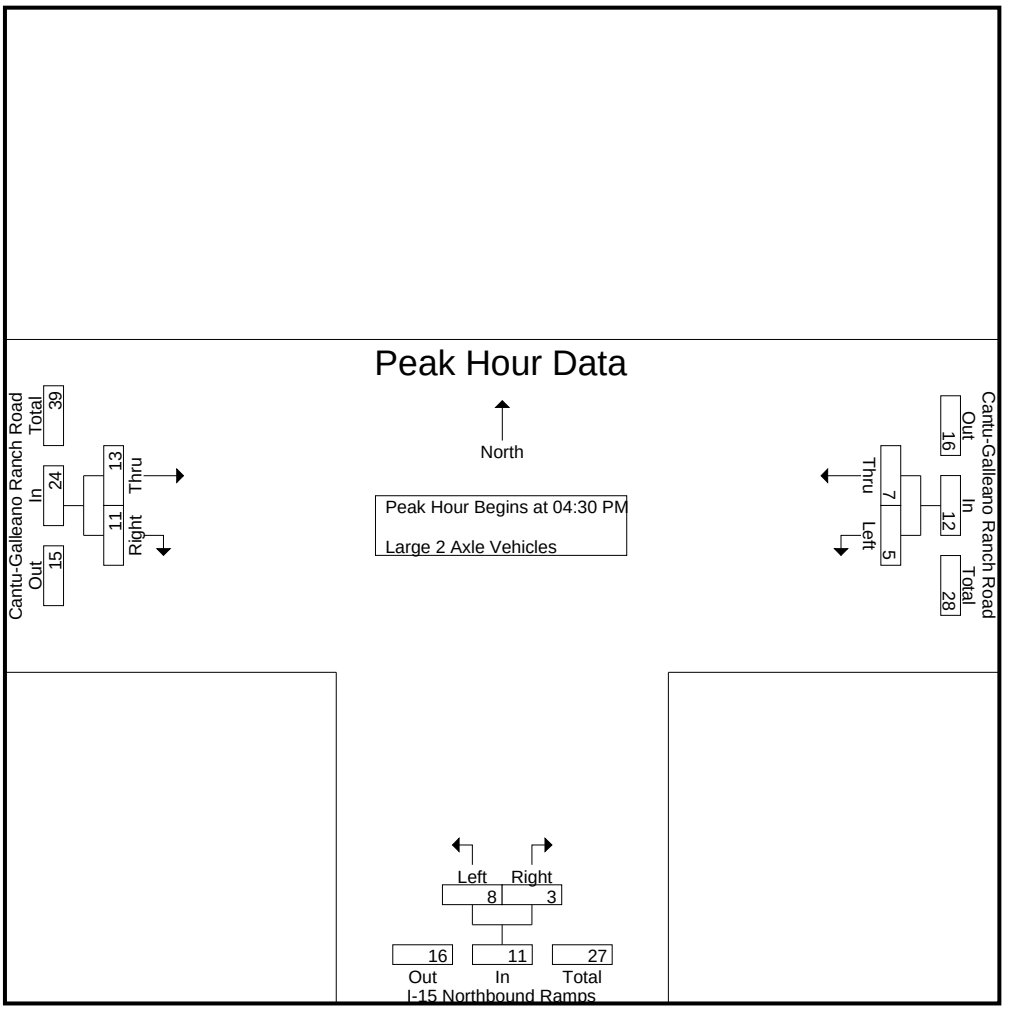
	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound						
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	5	0	6	4	2	1	6	2	1	0	3	1	15	16
04:15 PM	0	2	0	2	3	4	2	7	5	4	1	9	3	18	21
04:30 PM	3	1	0	4	2	3	0	5	8	4	1	12	1	21	22
04:45 PM	0	1	0	1	0	0	0	0	3	5	1	8	1	9	10
Total	4	9	0	13	9	9	3	18	18	14	3	32	6	63	69
05:00 PM	1	3	0	4	4	0	0	4	1	1	0	2	0	10	10
05:15 PM	1	2	0	3	2	0	0	2	1	1	1	2	1	7	8
05:30 PM	1	0	0	1	0	0	0	0	2	3	1	5	1	6	7
05:45 PM	0	1	0	1	1	1	0	2	2	4	1	6	1	9	10
Total	3	6	0	9	7	1	0	8	6	9	3	15	3	32	35
Grand Total	7	15	0	22	16	10	3	26	24	23	6	47	9	95	104
Apprch %	31.8	68.2			61.5	38.5			51.1	48.9					
Total %	7.4	15.8		23.2	16.8	10.5		27.4	25.3	24.2		49.5	8.7	91.3	

	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**3**	1	**4**	2	**3**	**5**	**8**	4	**12**	**21**
04:45 PM	0	1	1	0	0	0	3	**5**	8	9
05:00 PM	1	**3**	4	**4**	0	4	1	1	2	10
05:15 PM	1	2	3	2	0	2	1	1	2	7
Total Volume	5	7	12	8	3	11	13	11	24	47
% App. Total	41.7	58.3		72.7	27.3		54.2	45.8		
PHF	.417	.583	.750	.500	.250	.550	.406	.550	.500	.560

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	**3**	1	**4**	2	**3**	**5**	**8**	4	**12**
+15 mins.	0	1	1	0	0	0	3	**5**	8
+30 mins.	1	**3**	4	**4**	0	4	1	1	2
+45 mins.	1	2	3	2	0	2	1	1	2
Total Volume	5	7	12	8	3	11	13	11	24
% App. Total	41.7	58.3		72.7	27.3		54.2	45.8	
PHF	.417	.583	.750	.500	.250	.550	.406	.550	.500

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

Groups Printed- 3 Axle Vehicles

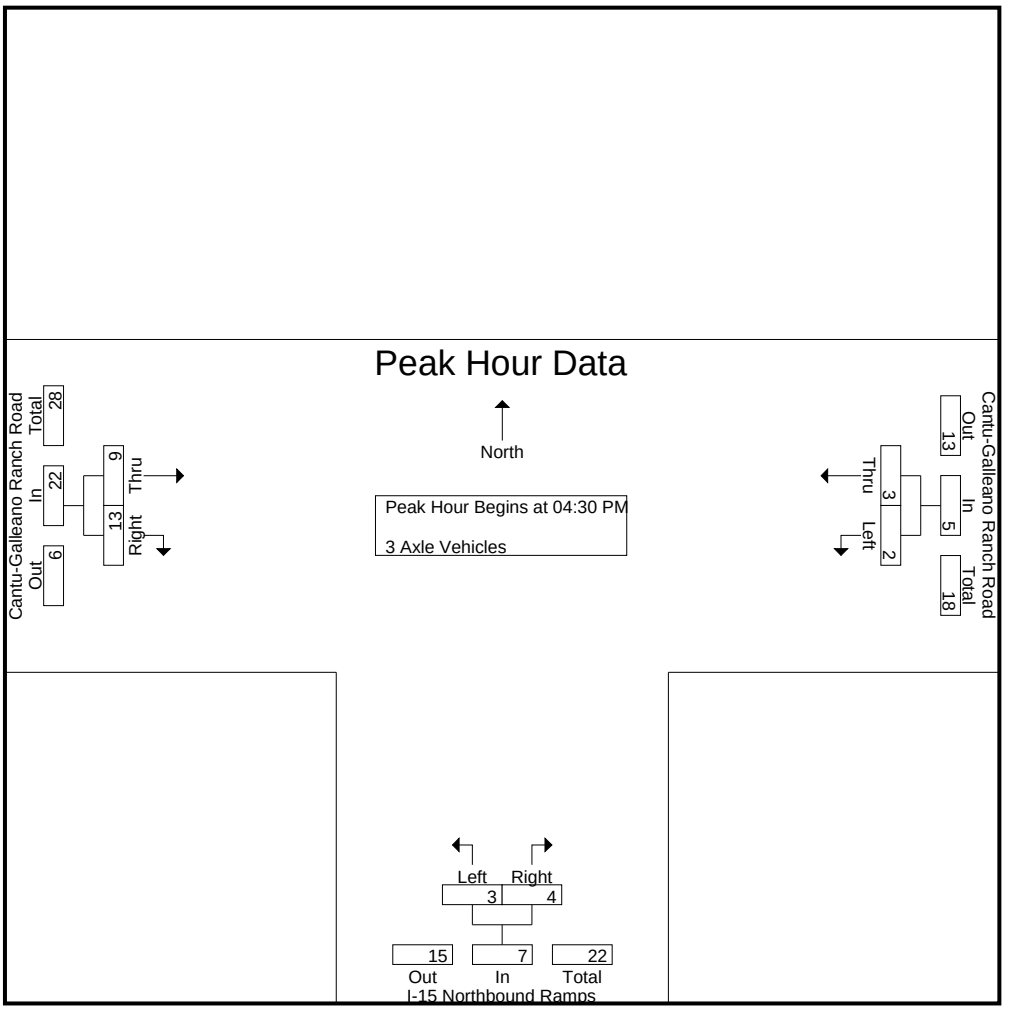
	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound						
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	0	1	1	1	0	2	0	6	1	6	1	9	10
04:15 PM	0	2	0	2	0	1	1	1	1	4	2	5	3	8	11
04:30 PM	0	3	0	3	1	1	1	2	3	4	0	7	1	12	13
04:45 PM	1	0	0	1	0	2	1	2	2	3	1	5	2	8	10
Total	2	5	0	7	2	5	3	7	6	17	4	23	7	37	44
05:00 PM	1	0	0	1	2	0	0	2	1	3	0	4	0	7	7
05:15 PM	0	0	0	0	0	1	1	1	3	3	1	6	2	7	9
05:30 PM	0	3	0	3	0	0	0	0	0	9	6	9	6	12	18
05:45 PM	0	1	0	1	0	1	0	1	2	6	1	8	1	10	11
Total	1	4	0	5	2	2	1	4	6	21	8	27	9	36	45
Grand Total	3	9	0	12	4	7	4	11	12	38	12	50	16	73	89
Apprch %	25	75			36.4	63.6			24	76					
Total %	4.1	12.3		16.4	5.5	9.6		15.1	16.4	52.1		68.5	18	82	

	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	**3**	**3**	1	1	**2**	**3**	**4**	**7**	**12**
04:45 PM	**1**	0	1	0	**2**	2	2	3	5	8
05:00 PM	1	0	1	**2**	0	2	1	3	4	7
05:15 PM	0	0	0	0	1	1	3	3	6	7
Total Volume	2	3	5	3	4	7	9	13	22	34
% App. Total	40	60		42.9	57.1		40.9	59.1		
PHF	.500	.250	.417	.375	.500	.875	.750	.813	.786	.708

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	**3**	**3**	1	1	**2**	**3**	**4**	**7**
+15 mins.	**1**	0	1	0	**2**	2	2	3	5
+30 mins.	1	0	1	**2**	0	2	1	3	4
+45 mins.	0	0	0	0	1	1	3	3	6
Total Volume	2	3	5	3	4	7	9	13	22
% App. Total	40	60		42.9	57.1		40.9	59.1	
PHF	.500	.250	.417	.375	.500	.875	.750	.813	.786

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

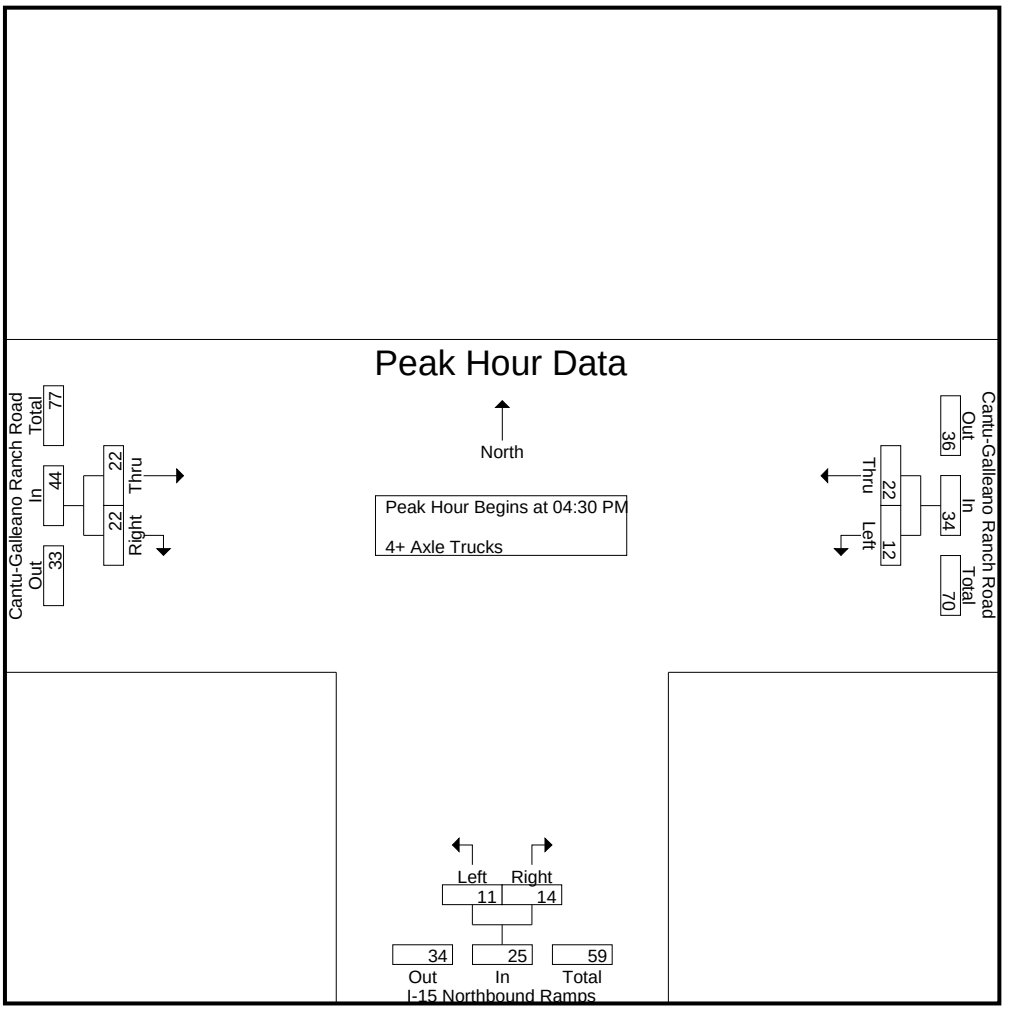
	Cantu-Galleano Ranch Road Westbound				I-15 Northbound Ramps Northbound				Cantu-Galleano Ranch Road Eastbound						
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	2	9	0	11	2	5	3	7	7	9	2	16	5	34	39
04:15 PM	3	9	0	12	2	10	1	12	6	9	2	15	3	39	42
04:30 PM	6	7	0	13	1	4	1	5	8	3	0	11	1	29	30
04:45 PM	2	4	0	6	4	6	1	10	5	3	1	8	2	24	26
Total	13	29	0	42	9	25	6	34	26	24	5	50	11	126	137
05:00 PM	3	5	0	8	4	4	2	8	4	7	1	11	3	27	30
05:15 PM	1	6	0	7	2	0	0	2	5	9	5	14	5	23	28
05:30 PM	3	5	0	8	1	2	1	3	1	8	5	9	6	20	26
05:45 PM	2	5	0	7	3	6	1	9	5	4	1	9	2	25	27
Total	9	21	0	30	10	12	4	22	15	28	12	43	16	95	111
Grand Total	22	50	0	72	19	37	10	56	41	52	17	93	27	221	248
Apprch %	30.6	69.4			33.9	66.1			44.1	55.9					
Total %	10	22.6		32.6	8.6	16.7		25.3	18.6	23.5		42.1	10.9	89.1	

	Cantu-Galleano Ranch Road Westbound			I-15 Northbound Ramps Northbound			Cantu-Galleano Ranch Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**6**	**7**	**13**	1	4	5	**8**	3	11	**29**
04:45 PM	2	4	6	**4**	**6**	**10**	5	3	8	24
05:00 PM	3	5	8	4	4	8	4	7	11	27
05:15 PM	1	6	7	2	0	2	5	**9**	**14**	23
Total Volume	12	22	34	11	14	25	22	22	44	103
% App. Total	35.3	64.7		44	56		50	50		
PHF	.500	.786	.654	.688	.583	.625	.688	.611	.786	.888

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City of Ontario
N/S: I-15 Northbound Ramps
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 07_ONT_15N_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	**6**	**7**	**13**	1	4	5	**8**	3	11
+15 mins.	2	4	6	**4**	**6**	**10**	5	3	8
+30 mins.	3	5	8	4	4	8	4	7	11
+45 mins.	1	6	7	2	0	2	5	**9**	**14**
Total Volume	12	22	34	11	14	25	22	22	44
% App. Total	35.3	64.7		44	56		50	50	
PHF	.500	.786	.654	.688	.583	.625	.688	.611	.786

Location: Ontario
N/S: I-15 NB Ramps
E/W: Cantu-Galleano Ranch Rd



Date: 5/10/2022
Day: Tuesday

PEDESTRIANS

	North Leg I-15 NB Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 NB Ramps	West Leg Cantu-Galleano Ranch Rd	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	1	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	0	0	2	0	2

	North Leg I-15 NB Ramps	East Leg Cantu-Galleano Ranch Rd	South Leg I-15 NB Ramps	West Leg Cantu-Galleano Ranch Rd	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Ontario
N/S: I-15 NB Ramps
E/W: Cantu-Galleano Ranch Rd

Date: 5/10/2022
Day: Tuesday

BICYCLES

	Southbound I-15 NB Ramps			Westbound Cantu-Galleano Ranch Rd			Northbound I-15 NB Ramps			Eastbound Cantu-Galleano Ranch Rd			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	2	0	2

	Southbound I-15 NB Ramps			Westbound Cantu-Galleano Ranch Rd			Northbound I-15 NB Ramps			Eastbound Cantu-Galleano Ranch Rd			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	1	0	2

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City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Wineville Road Southbound					Cantu-Galleano Ranch Road Westbound					Wineville Road Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	4	8	8	13	4	54	15	3	73	53	55	7	2	115	38	48	23	10	109	23	310	333
07:15 AM	1	16	15	7	32	5	53	18	7	76	44	53	4	2	101	62	38	37	22	137	38	346	384
07:30 AM	5	11	8	3	24	5	45	11	7	61	60	67	4	2	131	74	41	47	9	162	21	378	399
07:45 AM	4	14	12	5	30	6	41	9	4	56	59	88	3	0	150	92	54	80	44	226	53	462	515
Total	11	45	43	23	99	20	193	53	21	266	216	263	18	6	497	266	181	187	85	634	135	1496	1631
08:00 AM	3	16	14	9	33	5	29	7	5	41	46	69	6	4	121	80	64	56	23	200	41	395	436
08:15 AM	3	11	14	8	28	3	40	11	2	54	54	50	3	3	107	62	67	49	25	178	38	367	405
08:30 AM	2	7	12	4	21	3	44	4	2	51	48	42	6	2	96	50	40	40	15	130	23	298	321
08:45 AM	0	7	12	2	19	2	39	6	3	47	37	22	3	0	62	24	33	45	17	102	22	230	252
Total	8	41	52	23	101	13	152	28	12	193	185	183	18	9	386	216	204	190	80	610	124	1290	1414
Grand Total	19	86	95	46	200	33	345	81	33	459	401	446	36	15	883	482	385	377	165	1244	259	2786	3045
Apprch %	9.5	43	47.5			7.2	75.2	17.6			45.4	50.5	4.1			38.7	30.9	30.3					
Total %	0.7	3.1	3.4		7.2	1.2	12.4	2.9		16.5	14.4	16	1.3		31.7	17.3	13.8	13.5		44.7	8.5	91.5	
Passenger Vehicles	16	79	29		142	27	300	72		431	378	436	31		859	419	337	348		1264	0	0	2696
% Passenger Vehicles	84.2	91.9	30.5	39.1	57.7	81.8	87	88.9	97	87.6	94.3	97.8	86.1	93.3	95.7	86.9	87.5	92.3	97	89.7	0	0	88.5
Large 2 Axle Vehicles	1	6	7		18	0	14	1		15	2	4	1		7	12	10	10		34	0	0	74
% Large 2 Axle Vehicles	5.3	7	7.4	8.7	7.3	0	4.1	1.2	0	3	0.5	0.9	2.8	0	0.8	2.5	2.6	2.7	1.2	2.4	0	0	2.4
3 Axle Vehicles	0	0	7		9	0	3	1		4	4	1	1		6	8	10	3		21	0	0	40
% 3 Axle Vehicles	0	0	7.4	4.3	3.7	0	0.9	1.2	0	0.8	1	0.2	2.8	0	0.7	1.7	2.6	0.8	0	1.5	0	0	1.3
4+ Axle Trucks	2	1	52		77	6	28	7		42	17	5	3		26	43	28	16		90	0	0	235
% 4+ Axle Trucks	10.5	1.2	54.7	47.8	31.3	18.2	8.1	8.6	3	8.5	4.2	1.1	8.3	6.7	2.9	8.9	7.3	4.2	1.8	6.4	0	0	7.7

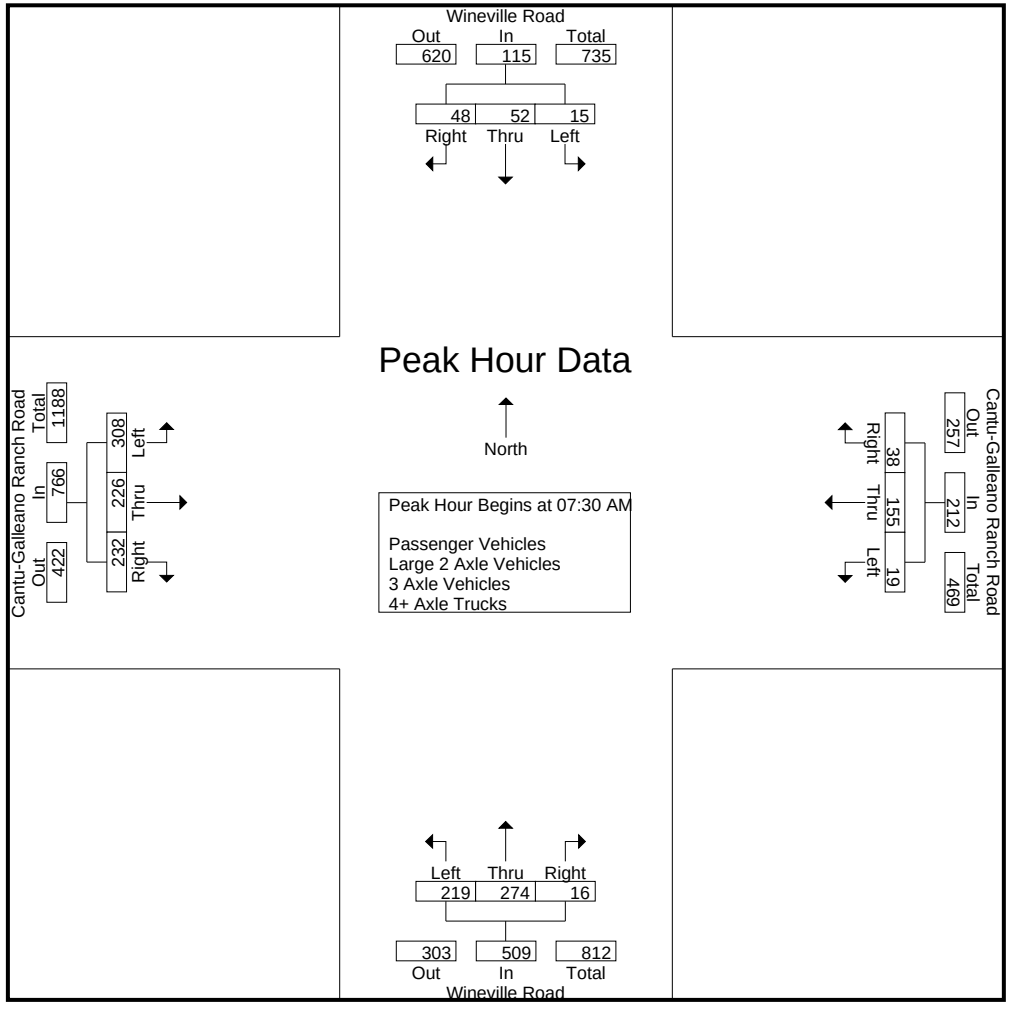
	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**5**	11	8	24	5	**45**	**11**	**61**	**60**	67	4	131	74	41	47	162	378
07:45 AM	4	14	12	30	**6**	41	9	56	59	**88**	3	**150**	**92**	54	**80**	**226**	**462**
08:00 AM	3	**16**	**14**	**33**	5	29	7	41	46	69	**6**	121	80	64	56	200	395
08:15 AM	3	11	14	28	3	40	11	54	54	50	3	107	62	**67**	49	178	367
Total Volume	15	52	48	115	19	155	38	212	219	274	16	509	308	226	232	766	1602
% App. Total	13	45.2	41.7		9	73.1	17.9		43	53.8	3.1		40.2	29.5	30.3		
PHF	.750	.813	.857	.871	.792	.861	.864	.869	.913	.778	.667	.848	.837	.843	.725	.847	.867

2261

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Counts Unlimited, Inc.
PO Box 1178
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City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 3

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:00 AM				07:30 AM				07:30 AM				
+0 mins.	1	**16**	**15**	32	4	**54**	15	73	**60**	67	4	131	74	41	47	162	
+15 mins.	**5**	11	8	24	5	53	**18**	**76**	59	**88**	3	**150**	**92**	54	**80**	**226**	
+30 mins.	4	14	12	30	5	45	11	61	46	69	**6**	121	80	64	56	200	
+45 mins.	3	16	14	**33**	**6**	41	9	56	54	50	3	107	62	**67**	49	178	
Total Volume	13	57	49	119	20	193	53	266	219	274	16	509	308	226	232	766	
% App. Total	10.9	47.9	41.2		7.5	72.6	19.9		43	53.8	3.1		40.2	29.5	30.3		
PHF	.650	.891	.817	.902	.833	.894	.736	.875	.913	.778	.667	.848	.837	.843	.725	.847	

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City of Ontario
N/S: Wineville Road
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Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Passenger Vehicles

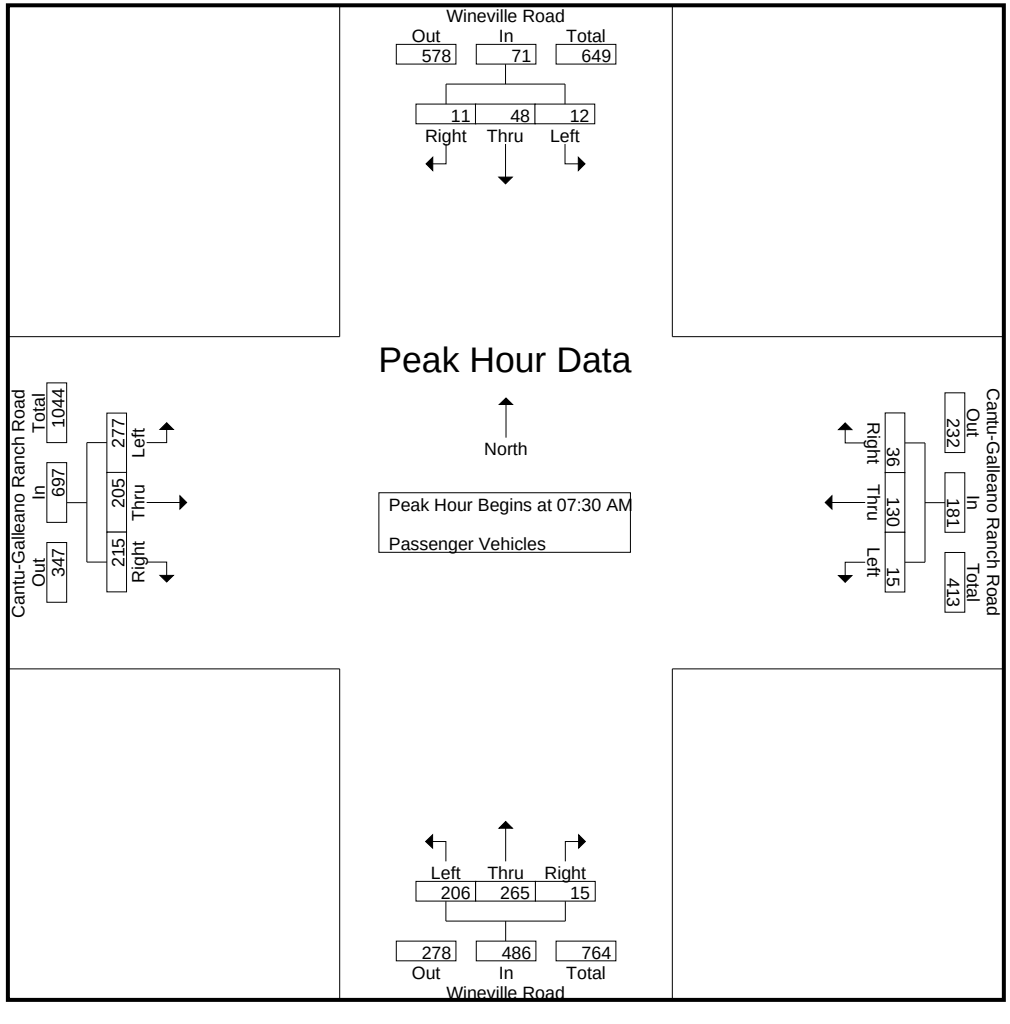
	Wineville Road Southbound					Cantu-Galleano Ranch Road Westbound					Wineville Road Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	4	4	4	9	3	53	13	3	69	47	55	6	1	108	32	41	22	9	95	17	281	298
07:15 AM	1	13	7	4	21	5	45	17	7	67	43	53	4	2	100	51	33	36	22	120	35	308	343
07:30 AM	4	9	2	1	15	5	36	11	7	52	57	66	4	2	127	68	33	45	7	146	17	340	357
07:45 AM	3	12	2	0	17	4	30	7	4	41	55	85	3	0	143	86	51	74	44	211	48	412	460
Total	9	38	15	9	62	17	164	48	21	229	202	259	17	5	478	237	158	177	82	572	117	1341	1458
08:00 AM	2	16	2	2	20	4	28	7	5	39	42	67	5	4	114	76	63	53	22	192	33	365	398
08:15 AM	3	11	5	4	19	2	36	11	2	49	52	47	3	3	102	47	58	43	25	148	34	318	352
08:30 AM	2	7	3	2	12	2	36	3	2	41	45	42	4	2	91	36	28	35	15	99	21	243	264
08:45 AM	0	7	4	1	11	2	36	3	2	41	37	21	2	0	60	23	30	40	16	93	19	205	224
Total	7	41	14	9	62	10	136	24	11	170	176	177	14	9	367	182	179	171	78	532	107	1131	1238
Grand Total	16	79	29	18	124	27	300	72	32	399	378	436	31	14	845	419	337	348	160	1104	224	2472	2696
Apprch %	12.9	63.7	23.4			6.8	75.2	18			44.7	51.6	3.7			38	30.5	31.5					
Total %	0.6	3.2	1.2		5	1.1	12.1	2.9		16.1	15.3	17.6	1.3		34.2	16.9	13.6	14.1		44.7	8.3	91.7	

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**4**	9	2	15	**5**	**36**	**11**	**52**	**57**	66	4	127	68	33	45	146	340
07:45 AM	3	12	2	17	4	30	7	41	55	**85**	3	**143**	**86**	51	**74**	**211**	**412**
08:00 AM	2	**16**	2	**20**	4	28	7	39	42	67	**5**	114	76	**63**	53	192	365
08:15 AM	3	11	**5**	19	2	36	11	49	52	47	3	102	47	58	43	148	318
Total Volume	12	48	11	71	15	130	36	181	206	265	15	486	277	205	215	697	1435
% App. Total	16.9	67.6	15.5		8.3	71.8	19.9		42.4	54.5	3.1		39.7	29.4	30.8		
PHF	.750	.750	.550	.888	.750	.903	.818	.870	.904	.779	.750	.850	.805	.813	.726	.826	.871

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(951)268-6268

City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Counts Unlimited, Inc.
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City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	**4**	9	2	15	**5**	**36**	**11**	**52**	**57**	66	4	127	68	33	45	146	
+15 mins.	3	12	2	17	4	30	7	41	55	**85**	3	**143**	**86**	51	**74**	**211**	
+30 mins.	2	**16**	2	**20**	4	28	7	39	42	67	**5**	114	76	**63**	53	192	
+45 mins.	3	11	**5**	19	2	36	11	49	52	47	3	102	47	58	43	148	
Total Volume	12	48	11	71	15	130	36	181	206	265	15	486	277	205	215	697	
% App. Total	16.9	67.6	15.5		8.3	71.8	19.9		42.4	54.5	3.1		39.7	29.4	30.8		
PHF	.750	.750	.550	.888	.750	.903	.818	.870	.904	.779	.750	.850	.805	.813	.726	.826	

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City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

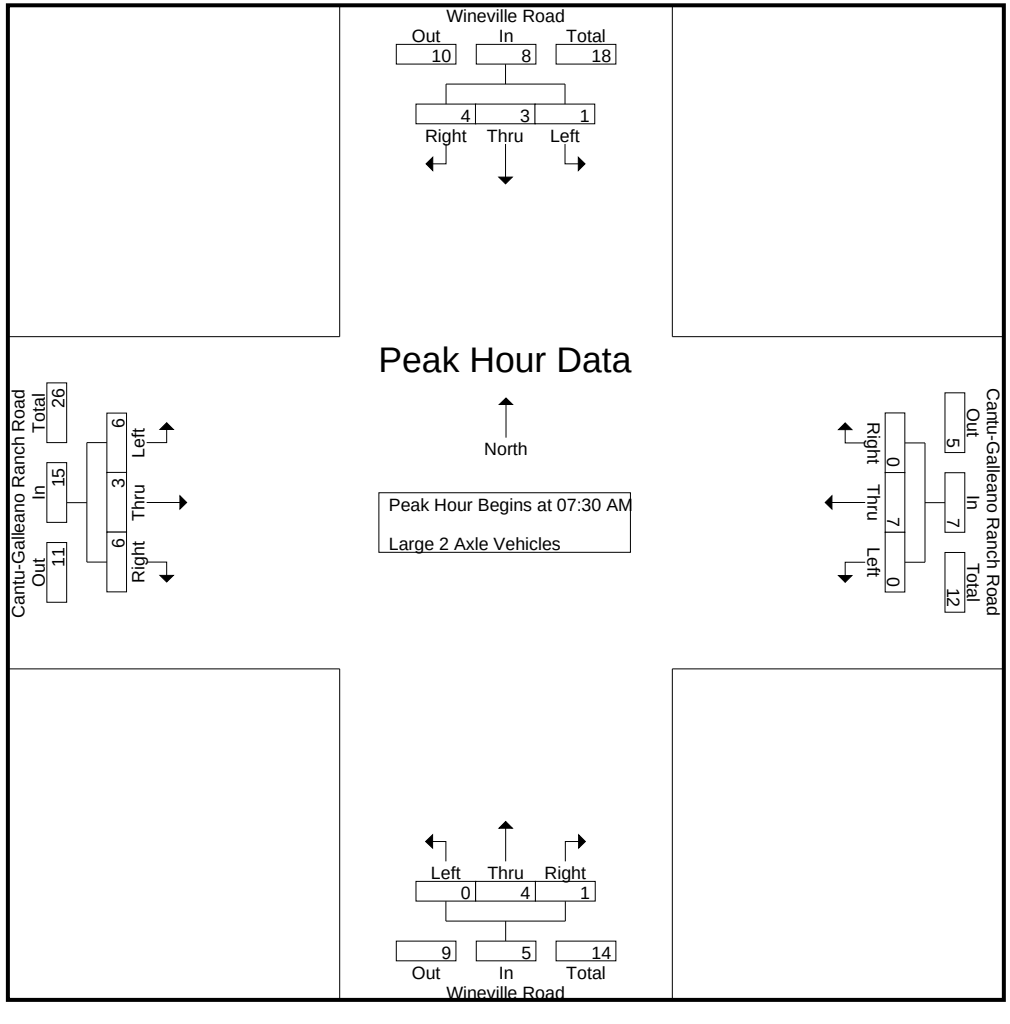
	Wineville Road Southbound					Cantu-Galleano Ranch Road Westbound					Wineville Road Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	1	1	1	0	0	0	0	0	1	0	0	0	1	2	2	0	0	4	1	6	7
07:15 AM	0	3	0	0	3	0	5	0	0	5	0	0	0	0	0	2	3	1	0	6	0	14	14
07:30 AM	0	2	0	0	2	0	3	0	0	3	0	1	0	0	1	2	2	1	1	5	1	11	12
07:45 AM	0	1	1	0	2	0	3	0	0	3	0	2	0	0	2	1	0	1	0	2	0	9	9
Total	0	6	2	1	8	0	11	0	0	11	1	3	0	0	4	7	7	3	1	17	2	40	42
08:00 AM	1	0	2	2	3	0	0	0	0	0	0	1	1	0	2	0	0	2	1	2	3	7	10
08:15 AM	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	3	1	2	0	6	1	8	9
08:30 AM	0	0	1	0	1	0	1	0	0	1	1	0	0	0	1	2	2	3	0	7	0	10	10
08:45 AM	0	0	1	0	1	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	3
Total	1	0	5	3	6	0	3	1	0	4	1	1	1	0	3	5	3	7	1	15	4	28	32
Grand Total	1	6	7	4	14	0	14	1	0	15	2	4	1	0	7	12	10	10	2	32	6	68	74
Apprch %	7.1	42.9	50			0	93.3	6.7			28.6	57.1	14.3			37.5	31.2	31.2					
Total %	1.5	8.8	10.3		20.6	0	20.6	1.5		22.1	2.9	5.9	1.5		10.3	17.6	14.7	14.7		47.1	8.1	91.9	

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**2**	0	2	0	**3**	0	**3**	0	1	0	1	2	**2**	1	5	**11**
07:45 AM	0	1	1	2	0	3	0	3	0	**2**	0	**2**	1	0	1	2	9
08:00 AM	**1**	0	**2**	**3**	0	0	0	0	0	1	**1**	2	0	0	**2**	2	7
08:15 AM	0	0	1	1	0	1	0	1	0	0	0	0	**3**	1	2	**6**	8
Total Volume	1	3	4	8	0	7	0	7	0	4	1	5	6	3	6	15	35
% App. Total	12.5	37.5	50		0	100	0		0	80	20		40	20	40		
PHF	.250	.375	.500	.667	.000	.583	.000	.583	.000	.500	.250	.625	.500	.375	.750	.625	.795

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	**2**	0	2	0	**3**	0	**3**	0	1	0	1	2	**2**	1	5	
+15 mins.	0	1	1	2	0	3	0	3	0	**2**	0	**2**	1	0	1	2	
+30 mins.	**1**	0	**2**	**3**	0	0	0	0	0	1	**1**	2	0	0	**2**	2	
+45 mins.	0	0	1	1	0	1	0	1	0	0	0	0	**3**	1	2	**6**	
Total Volume	1	3	4	8	0	7	0	7	0	4	1	5	6	3	6	15	
% App. Total	12.5	37.5	50		0	100	0		0	80	20		40	20	40		
PHF	.250	.375	.500	.667	.000	.583	.000	.583	.000	.500	.250	.625	.500	.375	.750	.625	

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City of Ontario
N/S: Wineville Road
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Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

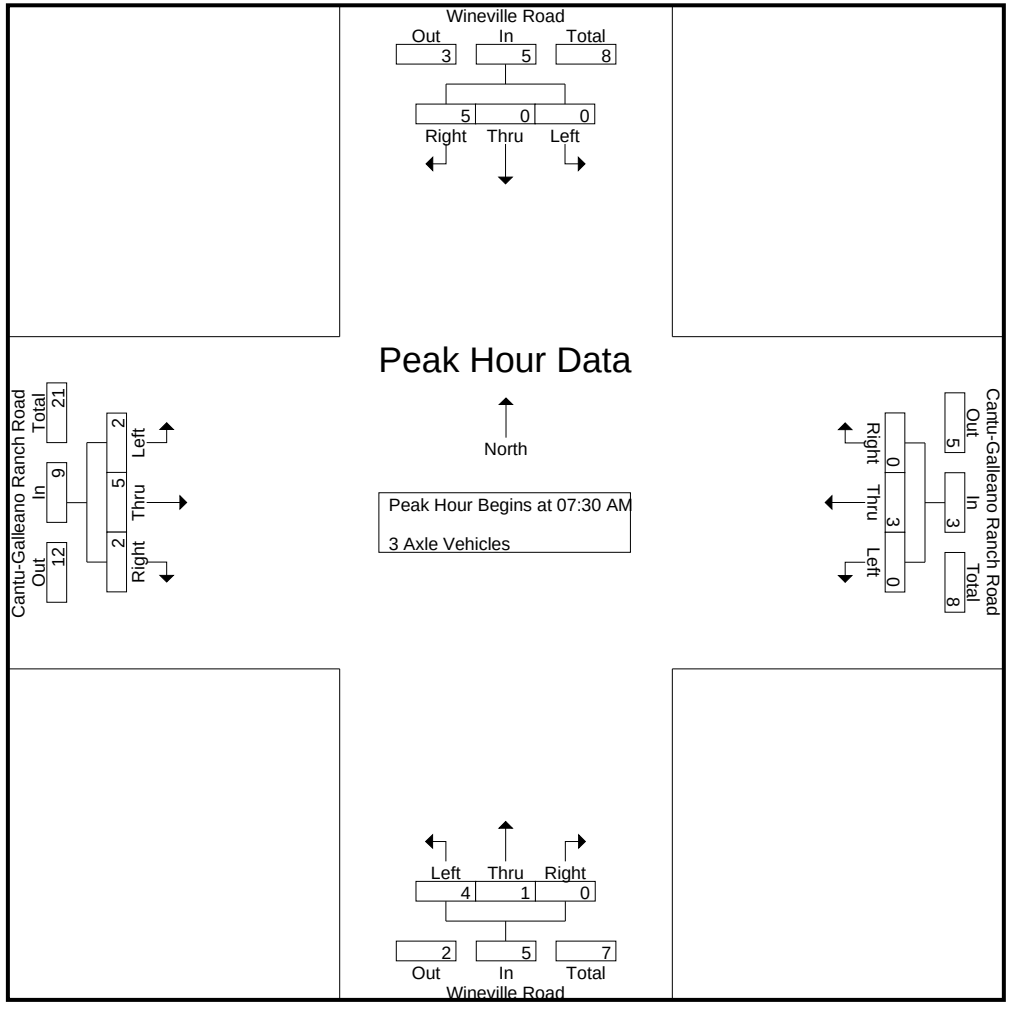
	Wineville Road Southbound					Cantu-Galleano Ranch Road Westbound					Wineville Road Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	2	2
07:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	2	2
07:30 AM	0	0	1	1	1	0	1	0	0	1	1	0	0	0	1	0	3	0	0	3	1	6	7
07:45 AM	0	0	1	1	1	0	1	0	0	1	2	0	0	0	2	1	0	2	0	3	1	7	8
Total	0	0	2	2	2	0	2	1	0	3	3	0	0	0	3	3	4	2	0	9	2	17	19
08:00 AM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
08:15 AM	0	0	2	0	2	0	1	0	0	1	0	1	0	0	1	1	2	0	0	3	0	7	7
08:30 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	4	4	1	0	9	0	11	11
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1
Total	0	0	5	0	5	0	1	0	0	1	1	1	1	0	3	5	6	1	0	12	0	21	21
Grand Total	0	0	7	2	7	0	3	1	0	4	4	1	1	0	6	8	10	3	0	21	2	38	40
Apprch %	0	0	100			0	75	25			66.7	16.7	16.7			38.1	47.6	14.3					
Total %	0	0	18.4		18.4	0	7.9	2.6		10.5	10.5	2.6	2.6		15.8	21.1	26.3	7.9		55.3	5	95	

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	1	1	0	**1**	0	**1**	1	0	0	1	0	**3**	0	**3**	6
07:45 AM	0	0	1	1	0	1	0	1	**2**	0	0	**2**	**1**	0	**2**	3	**7**
08:00 AM	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	2
08:15 AM	0	0	**2**	**2**	0	1	0	1	0	**1**	0	1	1	2	0	3	7
Total Volume	0	0	5	5	0	3	0	3	4	1	0	5	2	5	2	9	22
% App. Total	0	0	100		0	100	0		80	20	0		22.2	55.6	22.2		
PHF	.000	.000	.625	.625	.000	.750	.000	.750	.500	.250	.000	.625	.500	.417	.250	.750	.786

Counts Unlimited, Inc.
PO Box 1178
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(951)268-6268

City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



Counts Unlimited, Inc.
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City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	0	1	1	0	**1**	0	**1**	1	0	0	1	0	**3**	0	**3**	
+15 mins.	0	0	1	1	0	1	0	1	**2**	0	0	**2**	**1**	0	**2**	3	
+30 mins.	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	
+45 mins.	0	0	**2**	**2**	0	1	0	1	0	**1**	0	1	1	2	0	3	
Total Volume	0	0	5	5	0	3	0	3	4	1	0	5	2	5	2	9	
% App. Total	0	0	100		0	100	0		80	20	0		22.2	55.6	22.2		
PHF	.000	.000	.625	.625	.000	.750	.000	.750	.500	.250	.000	.625	.500	.417	.250	.750	

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City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR AM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

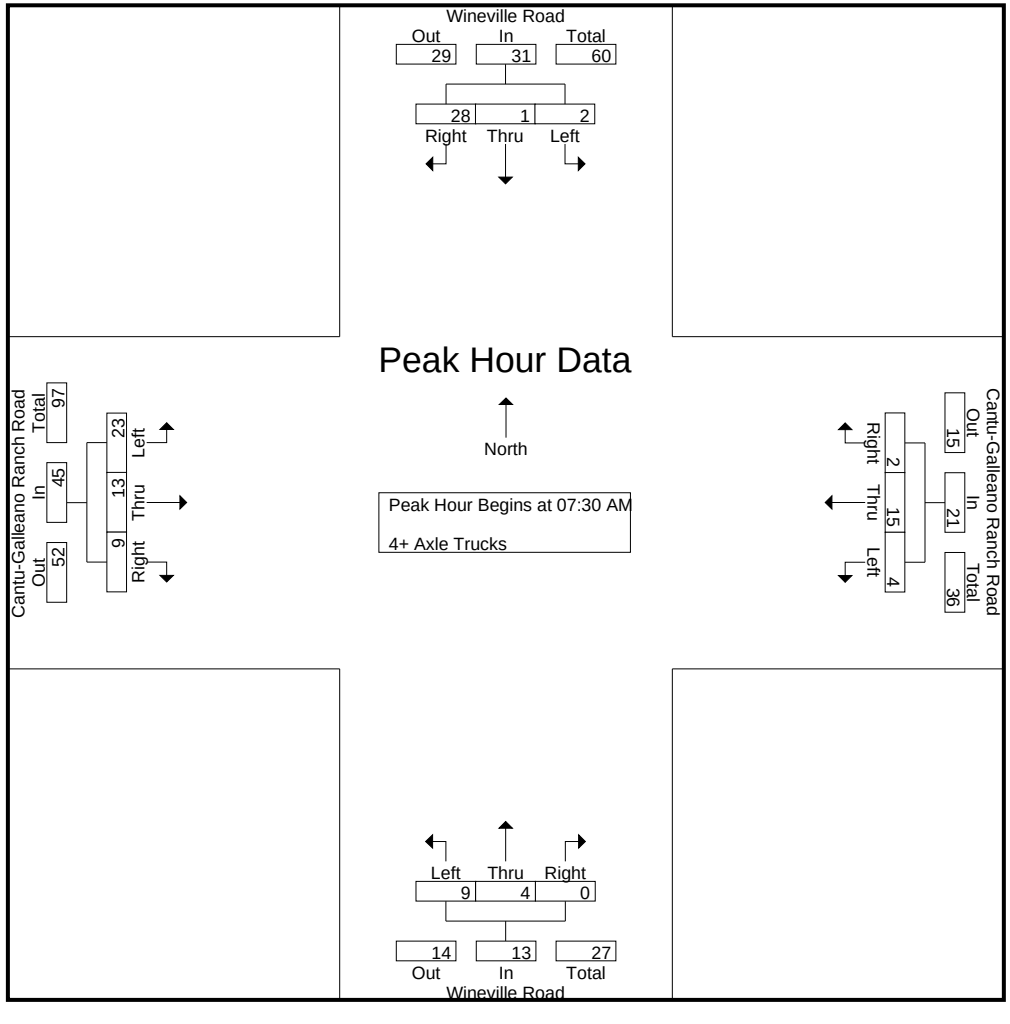
	Wineville Road Southbound					Cantu-Galleano Ranch Road Westbound					Wineville Road Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	3	3	3	1	1	2	0	4	5	0	1	1	6	3	4	1	1	8	5	21	26
07:15 AM	0	0	8	3	8	0	3	0	0	3	1	0	0	0	1	8	2	0	0	10	3	22	25
07:30 AM	1	0	5	1	6	0	5	0	0	5	2	0	0	0	2	4	3	1	1	8	2	21	23
07:45 AM	1	1	8	4	10	2	7	2	0	11	2	1	0	0	3	4	3	3	0	10	4	34	38
Total	2	1	24	11	27	3	16	4	0	23	10	1	1	1	12	19	12	5	2	36	14	98	112
08:00 AM	0	0	9	5	9	1	1	0	0	2	3	1	0	0	4	4	1	1	0	6	5	21	26
08:15 AM	0	0	6	3	6	1	2	0	0	3	2	2	0	0	4	11	6	4	0	21	3	34	37
08:30 AM	0	0	6	2	6	1	7	1	0	9	2	0	2	0	4	8	6	1	0	15	2	34	36
08:45 AM	0	0	7	1	7	0	2	2	1	4	0	1	0	0	1	1	3	5	1	9	3	21	24
Total	0	0	28	11	28	3	12	3	1	18	7	4	2	0	13	24	16	11	1	51	13	110	123
Grand Total	2	1	52	22	55	6	28	7	1	41	17	5	3	1	25	43	28	16	3	87	27	208	235
Apprch %	3.6	1.8	94.5			14.6	68.3	17.1			68	20	12			49.4	32.2	18.4					
Total %	1	0.5	25		26.4	2.9	13.5	3.4		19.7	8.2	2.4	1.4		12	20.7	13.5	7.7		41.8	11.5	88.5	

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**1**	0	5	6	0	5	0	5	2	0	0	2	4	3	1	8	21
07:45 AM	1	**1**	8	**10**	**2**	**7**	**2**	**11**	2	1	0	3	4	3	3	10	**34**
08:00 AM	0	0	**9**	9	1	1	0	2	**3**	1	0	**4**	4	1	1	6	21
08:15 AM	0	0	6	6	1	2	0	3	2	**2**	0	4	**11**	**6**	**4**	**21**	34
Total Volume	2	1	28	31	4	15	2	21	9	4	0	13	23	13	9	45	110
% App. Total	6.5	3.2	90.3		19	71.4	9.5		69.2	30.8	0		51.1	28.9	20		
PHF	.500	.250	.778	.775	.500	.536	.250	.477	.750	.500	.000	.813	.523	.542	.563	.536	.809

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City of Ontario
N/S: Wineville Road
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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	**1**	0	5	6	0	5	0	5	2	0	0	2	4	3	1	8	
+15 mins.	1	**1**	8	**10**	**2**	**7**	**2**	**11**	2	1	0	3	4	3	3	10	
+30 mins.	0	0	**9**	9	1	1	0	2	**3**	1	0	**4**	4	1	1	6	
+45 mins.	0	0	6	6	1	2	0	3	2	**2**	0	4	**11**	**6**	**4**	**21**	
Total Volume	2	1	28	31	4	15	2	21	9	4	0	13	23	13	9	45	
% App. Total	6.5	3.2	90.3		19	71.4	9.5		69.2	30.8	0		51.1	28.9	20		
PHF	.500	.250	.778	.775	.500	.536	.250	.477	.750	.500	.000	.813	.523	.542	.563	.536	

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Wineville Road Southbound					Cantu-Galleano Ranch Road Westbound					Wineville Road Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	7	26	32	14	65	3	52	4	1	59	31	29	8	6	68	25	77	69	34	171	55	363	418
04:15 PM	3	39	17	6	59	6	43	5	1	54	32	7	4	2	43	22	79	94	24	195	33	351	384
04:30 PM	7	31	37	20	75	8	46	2	1	56	47	27	9	5	83	19	87	70	37	176	63	390	453
04:45 PM	3	46	21	9	70	5	49	8	4	62	55	17	14	9	86	17	84	71	25	172	47	390	437
Total	20	142	107	49	269	22	190	19	7	231	165	80	35	22	280	83	327	304	120	714	198	1494	1692
05:00 PM	4	31	31	16	66	5	58	5	2	68	42	22	7	4	71	14	67	71	31	152	53	357	410
05:15 PM	13	47	32	15	92	4	60	3	2	67	38	16	11	6	65	9	85	89	34	183	57	407	464
05:30 PM	7	41	25	15	73	6	49	3	0	58	31	20	8	5	59	6	74	72	46	152	66	342	408
05:45 PM	7	34	16	13	57	1	31	4	4	36	36	16	9	4	61	17	81	75	12	173	33	327	360
Total	31	153	104	59	288	16	198	15	8	229	147	74	35	19	256	46	307	307	123	660	209	1433	1642
Grand Total	51	295	211	108	557	38	388	34	15	460	312	154	70	41	536	129	634	611	243	1374	407	2927	3334
Apprch %	9.2	53	37.9			8.3	84.3	7.4			58.2	28.7	13.1			9.4	46.1	44.5					
Total %	1.7	10.1	7.2		19	1.3	13.3	1.2		15.7	10.7	5.3	2.4		18.3	4.4	21.7	20.9		46.9	12.2	87.8	
Passenger Vehicles	48	276	155		559	30	358	28		429	292	137	63		527	80	607	577		1492	0	0	3007
% Passenger Vehicles	94.1	93.6	73.5	74.1	84.1	78.9	92.3	82.4	86.7	90.3	93.6	89	90	85.4	91.3	62	95.7	94.4	93.8	92.3	0	0	90.2
Large 2 Axle Vehicles	2	8	6		22	3	6	3		12	6	7	3		18	7	9	10		29	0	0	81
% Large 2 Axle Vehicles	3.9	2.7	2.8	5.6	3.3	7.9	1.5	8.8	0	2.5	1.9	4.5	4.3	4.9	3.1	5.4	1.4	1.6	1.2	1.8	0	0	2.4
3 Axle Vehicles	0	6	4		14	4	10	0		14	0	3	2		7	7	5	6		21	0	0	56
% 3 Axle Vehicles	0	2	1.9	3.7	2.1	10.5	2.6	0	0	2.9	0	1.9	2.9	4.9	1.2	5.4	0.8	1	1.2	1.3	0	0	1.7
4+ Axle Trucks	1	5	46		70	1	14	3		20	14	7	2		25	35	13	18		75	0	0	190
% 4+ Axle Trucks	2	1.7	21.8	16.7	10.5	2.6	3.6	8.8	13.3	4.2	4.5	4.5	2.9	4.9	4.3	27.1	2.1	2.9	3.7	4.6	0	0	5.7

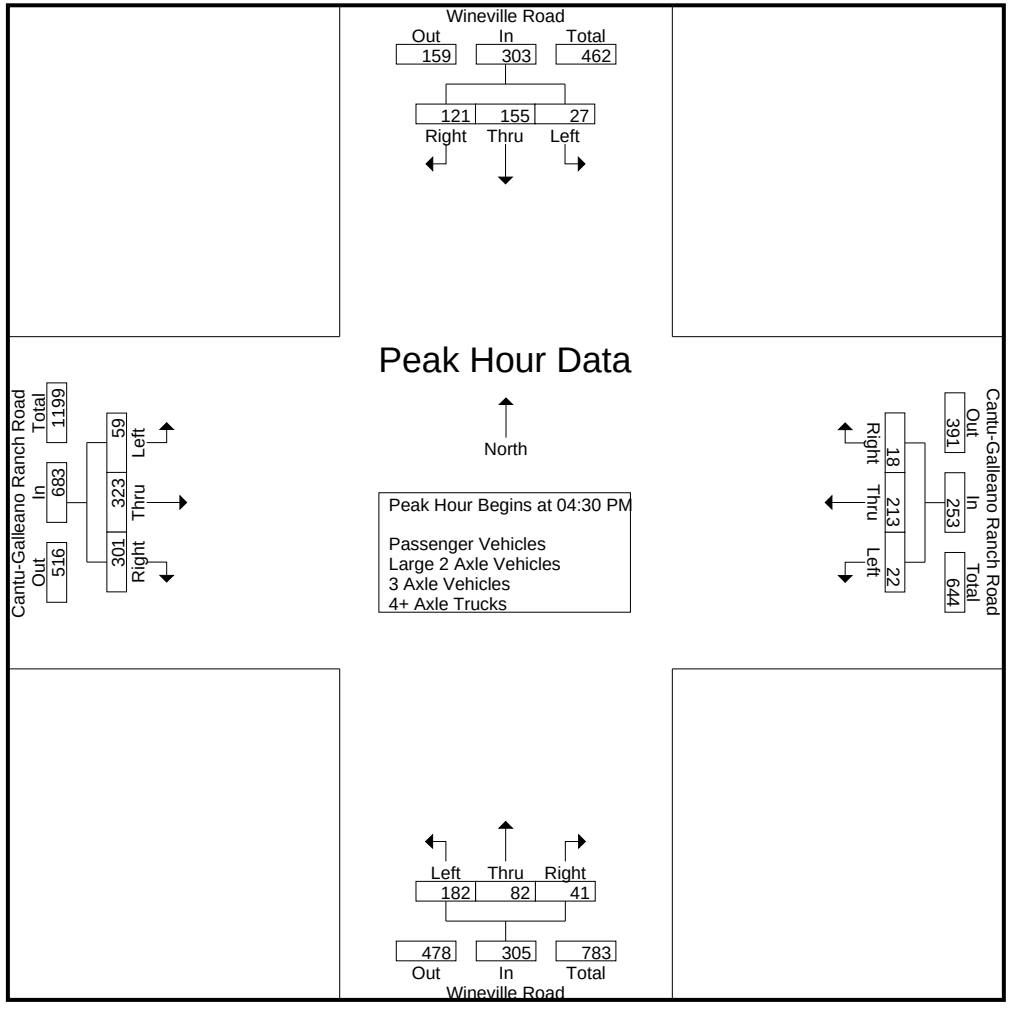
	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	7	31	**37**	75	**8**	46	2	56	47	**27**	9	83	**19**	**87**	70	176	390
04:45 PM	3	46	21	70	5	49	**8**	62	**55**	17	**14**	**86**	17	84	71	172	390
05:00 PM	4	31	31	66	5	58	5	**68**	42	22	7	71	14	67	71	152	357
05:15 PM	**13**	**47**	32	**92**	4	**60**	3	67	38	16	11	65	9	85	**89**	**183**	**407**
Total Volume	27	155	121	303	22	213	18	253	182	82	41	305	59	323	301	683	1544
% App. Total	8.9	51.2	39.9		8.7	84.2	7.1		59.7	26.9	13.4		8.6	47.3	44.1		
PHF	.519	.824	.818	.823	.688	.888	.563	.930	.827	.759	.732	.887	.776	.928	.846	.933	.948

2276

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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:45 PM				04:30 PM				04:00 PM				
+0 mins.	7	31	**37**	75	5	49	**8**	62	47	**27**	9	83	**25**	77	69	171	
+15 mins.	3	46	21	70	5	58	5	**68**	**55**	17	**14**	**86**	22	79	**94**	**195**	
+30 mins.	4	31	31	66	4	**60**	3	67	42	22	7	71	19	**87**	70	176	
+45 mins.	**13**	**47**	32	**92**	**6**	49	3	58	38	16	11	65	17	84	71	172	
Total Volume	27	155	121	303	20	216	19	255	182	82	41	305	83	327	304	714	
% App. Total	8.9	51.2	39.9		7.8	84.7	7.5		59.7	26.9	13.4		11.6	45.8	42.6		
PHF	.519	.824	.818	.823	.833	.900	.594	.938	.827	.759	.732	.887	.830	.940	.809	.915	

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Groups Printed- Passenger Vehicles

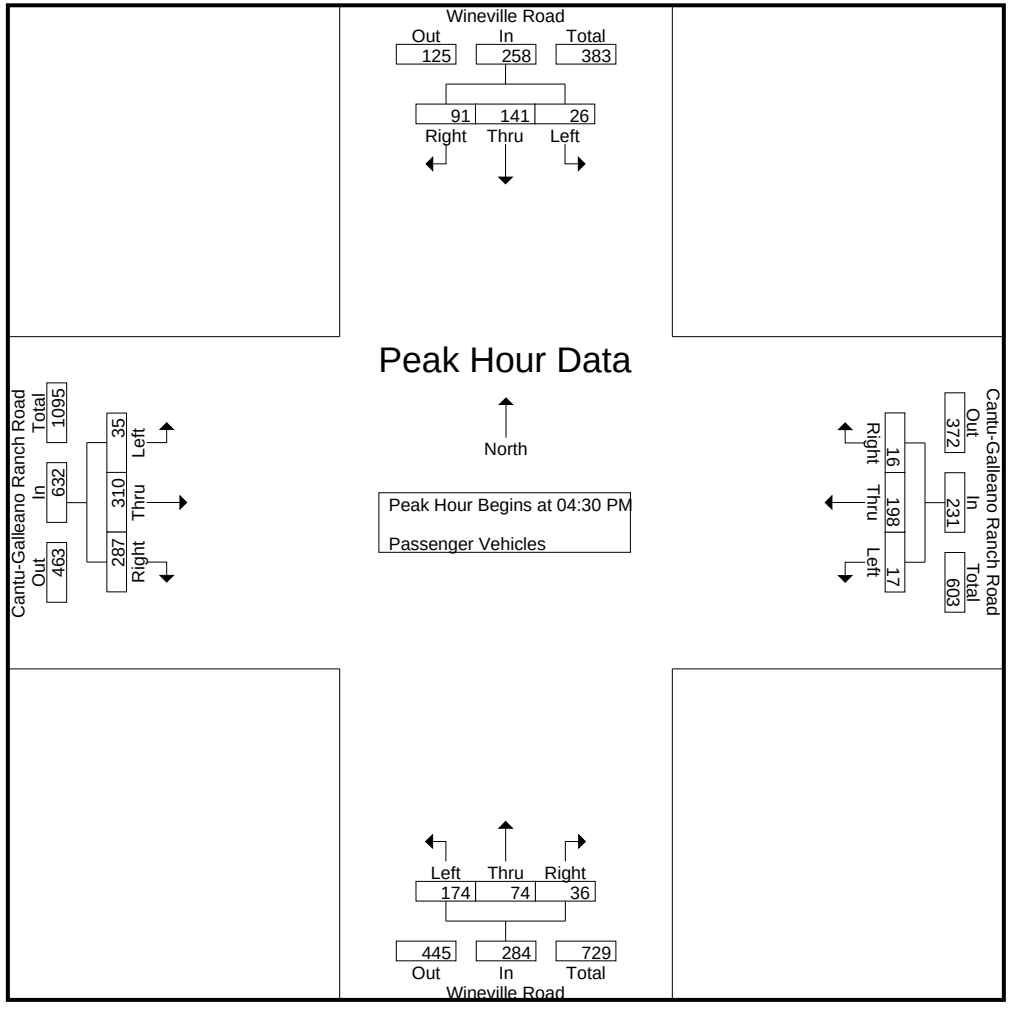
	Wineville Road Southbound					Cantu-Galleano Ranch Road Westbound					Wineville Road Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	6	26	25	11	57	3	45	3	1	51	30	26	8	6	64	18	72	64	32	154	50	326	376
04:15 PM	3	37	11	4	51	5	39	3	1	47	25	6	4	2	35	13	76	85	19	174	26	307	333
04:30 PM	7	28	29	18	64	7	39	2	1	48	44	22	8	4	74	9	80	65	35	154	58	340	398
04:45 PM	3	42	14	6	59	2	48	6	3	56	55	15	12	7	82	9	82	69	24	160	40	357	397
Total	19	133	79	39	231	17	171	14	6	202	154	69	32	19	255	49	310	283	110	642	174	1330	1504
05:00 PM	3	29	27	15	59	5	55	5	2	65	38	21	6	3	65	9	65	68	29	142	49	331	380
05:15 PM	13	42	21	9	76	3	56	3	2	62	37	16	10	6	63	8	83	85	32	176	49	377	426
05:30 PM	7	39	16	8	62	4	47	3	0	54	31	18	6	3	55	5	72	70	45	147	56	318	374
05:45 PM	6	33	12	9	51	1	29	3	3	33	32	13	9	4	54	9	77	71	12	157	28	295	323
Total	29	143	76	41	248	13	187	14	7	214	138	68	31	16	237	31	297	294	118	622	182	1321	1503
Grand Total	48	276	155	80	479	30	358	28	13	416	292	137	63	35	492	80	607	577	228	1264	356	2651	3007
Apprch %	10	57.6	32.4			7.2	86.1	6.7			59.3	27.8	12.8			6.3	48	45.6					
Total %	1.8	10.4	5.8		18.1	1.1	13.5	1.1		15.7	11	5.2	2.4		18.6	3	22.9	21.8		47.7	11.8	88.2	

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	7	28	**29**	64	**7**	39	2	48	44	**22**	8	74	**9**	80	65	154	340
04:45 PM	3	**42**	14	59	2	48	**6**	56	**55**	15	**12**	**82**	9	82	69	160	357
05:00 PM	3	29	27	59	5	55	5	**65**	38	21	6	65	9	65	68	142	331
05:15 PM	**13**	42	21	**76**	3	**56**	3	62	37	16	10	63	8	**83**	**85**	**176**	**377**
Total Volume	26	141	91	258	17	198	16	231	174	74	36	284	35	310	287	632	1405
% App. Total	10.1	54.7	35.3		7.4	85.7	6.9		61.3	26.1	12.7		5.5	49.1	45.4		
PHF	.500	.839	.784	.849	.607	.884	.667	.888	.791	.841	.750	.866	.972	.934	.844	.898	.932

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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	7	28	**29**	64	**7**	39	2	48	44	**22**	8	74	**9**	80	65	154	
+15 mins.	3	**42**	14	59	2	48	**6**	56	**55**	15	**12**	**82**	9	82	69	160	
+30 mins.	3	29	27	59	5	55	5	**65**	38	21	6	65	9	65	68	142	
+45 mins.	**13**	42	21	**76**	3	**56**	3	62	37	16	10	63	8	**83**	**85**	**176**	
Total Volume	26	141	91	258	17	198	16	231	174	74	36	284	35	310	287	632	
% App. Total	10.1	54.7	35.3		7.4	85.7	6.9		61.3	26.1	12.7		5.5	49.1	45.4		
PHF	.500	.839	.784	.849	.607	.884	.667	.888	.791	.841	.750	.866	.972	.934	.844	.898	

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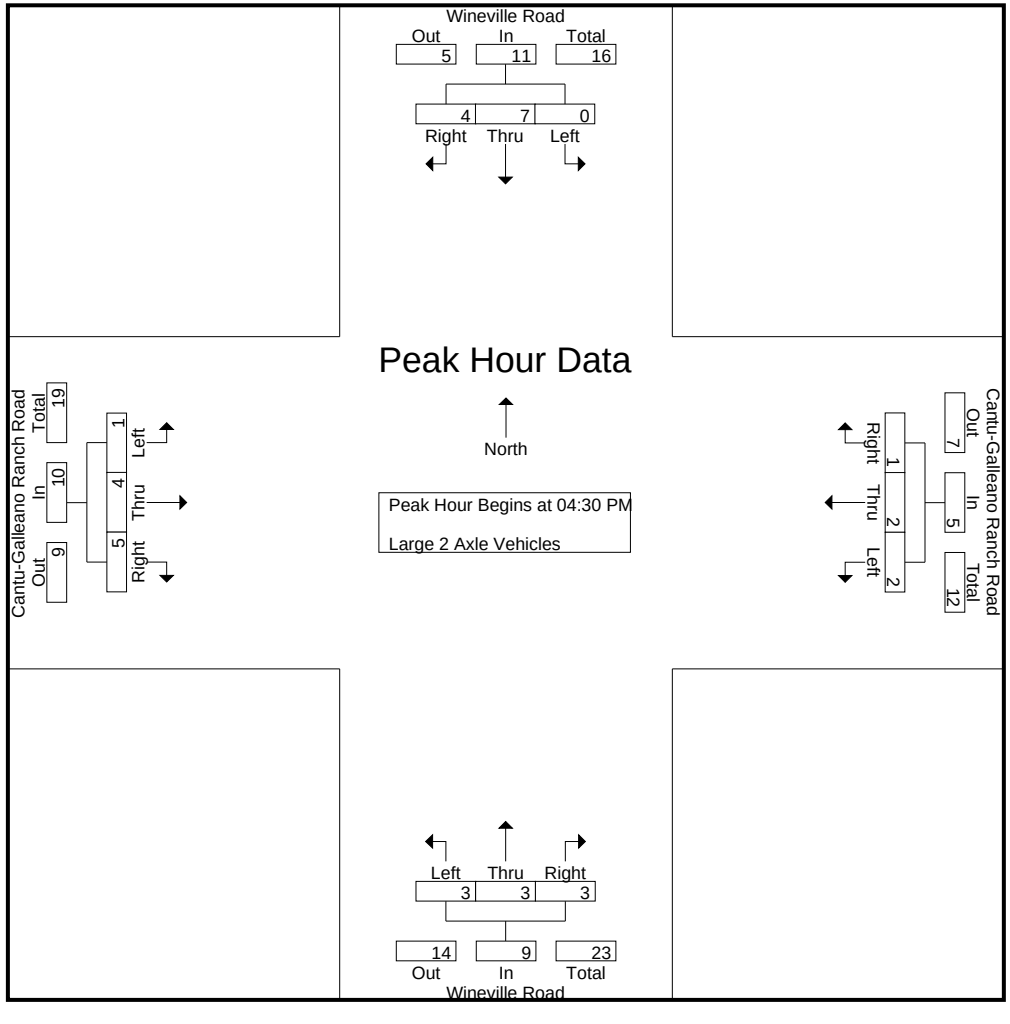
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04:00 PM	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	2	1	1	0	4	0	9	9
04:15 PM	0	0	0	0	0	0	0	2	0	2	2	1	0	0	3	2	1	2	0	5	0	10	10
04:30 PM	0	1	1	1	2	0	1	0	0	1	1	3	0	0	4	1	3	3	1	7	2	14	16
04:45 PM	0	4	1	1	5	1	0	1	0	2	0	0	1	1	1	0	0	2	1	2	3	10	13
Total	1	5	2	2	8	1	5	3	0	9	3	4	1	1	8	5	5	8	2	18	5	43	48
05:00 PM	0	1	0	0	1	0	0	0	0	0	2	0	1	1	3	0	1	0	0	1	1	5	6
05:15 PM	0	1	2	2	3	1	1	0	0	2	0	0	1	0	1	0	0	0	0	0	2	6	8
05:30 PM	0	1	1	1	2	1	0	0	0	1	0	2	0	0	2	1	1	1	1	3	2	8	10
05:45 PM	1	0	1	1	2	0	0	0	0	0	1	1	0	0	2	1	2	1	0	4	1	8	9
Total	1	3	4	4	8	2	1	0	0	3	3	3	2	1	8	2	4	2	1	8	6	27	33
Grand Total	2	8	6	6	16	3	6	3	0	12	6	7	3	2	16	7	9	10	3	26	11	70	81
Apprch %	12.5	50	37.5			25	50	25			37.5	43.8	18.8			26.9	34.6	38.5					
Total %	2.9	11.4	8.6		22.9	4.3	8.6	4.3		17.1	8.6	10	4.3		22.9	10	12.9	14.3		37.1	13.6	86.4	

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	1	1	2	0	**1**	0	1	1	**3**	0	**4**	**1**	**3**	**3**	**7**	**14**
04:45 PM	0	**4**	1	**5**	**1**	0	**1**	**2**	0	0	**1**	1	0	0	2	2	10
05:00 PM	0	1	0	1	0	0	0	0	**2**	0	1	3	0	1	0	1	5
05:15 PM	0	1	**2**	3	1	1	0	2	0	0	1	1	0	0	0	0	6
Total Volume	0	7	4	11	2	2	1	5	3	3	3	9	1	4	5	10	35
% App. Total	0	63.6	36.4		40	40	20		33.3	33.3	33.3		10	40	50		
PHF	.000	.438	.500	.550	.500	.500	.250	.625	.375	.250	.750	.563	.250	.333	.417	.357	.625

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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(951)268-6268

City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	1	1	2	0	**1**	0	1	1	**3**	0	**4**	**1**	**3**	**3**	**7**	
+15 mins.	0	**4**	1	**5**	**1**	0	**1**	**2**	0	0	**1**	1	0	0	2	2	
+30 mins.	0	1	0	1	0	0	0	0	**2**	0	1	3	0	1	0	1	
+45 mins.	0	1	**2**	3	1	1	0	2	0	0	1	1	0	0	0	0	
Total Volume	0	7	4	11	2	2	1	5	3	3	3	9	1	4	5	10	
% App. Total	0	63.6	36.4		40	40	20		33.3	33.3	33.3		10	40	50		
PHF	.000	.438	.500	.550	.500	.500	.250	.625	.375	.250	.750	.563	.250	.333	.417	.357	

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City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

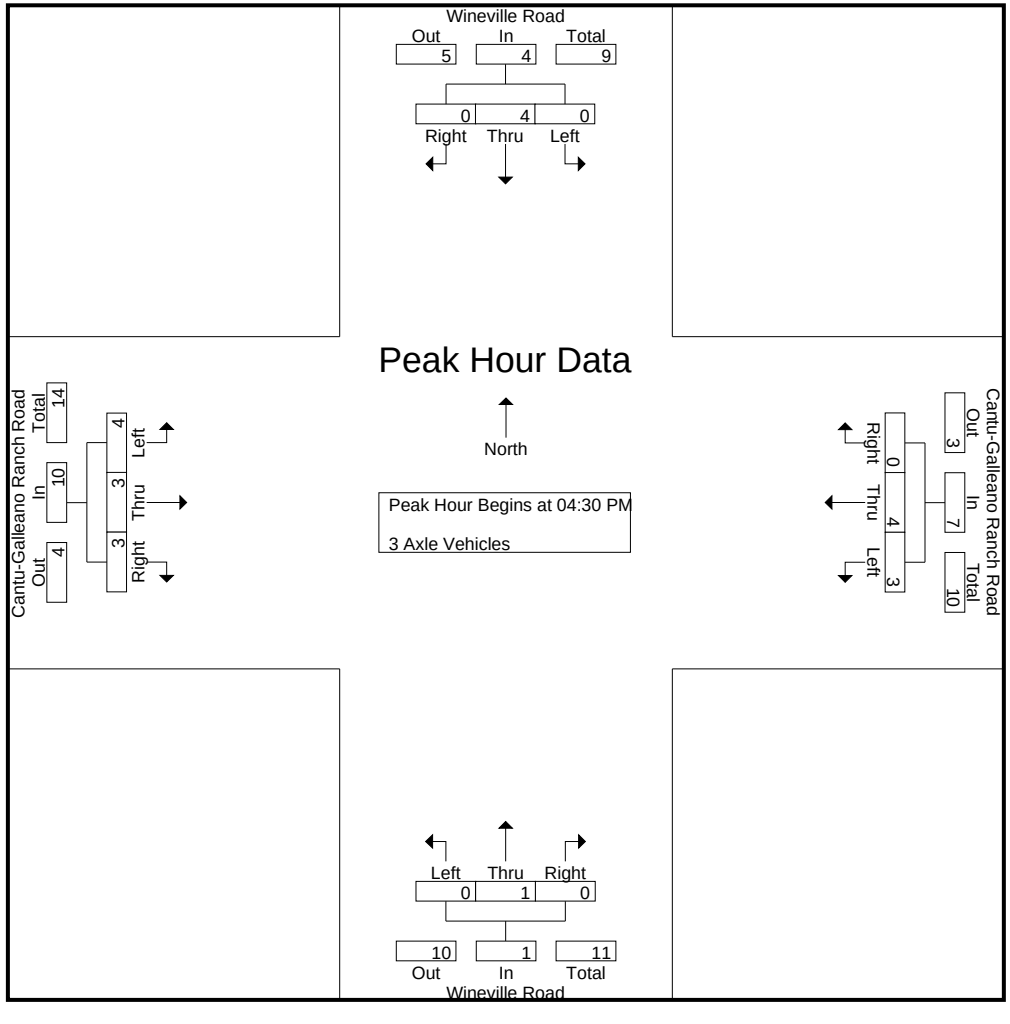
	Wineville Road Southbound					Cantu-Galleano Ranch Road Westbound					Wineville Road Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	1	0	0	2	0	4	4
04:15 PM	0	0	1	1	1	1	2	0	0	3	0	0	0	0	0	1	0	1	1	2	2	6	8
04:30 PM	0	1	0	0	1	1	2	0	0	3	0	1	0	0	1	1	0	1	1	2	1	7	8
04:45 PM	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	2	1	0	0	3	0	6	6
Total	0	1	1	1	2	4	7	0	0	11	0	1	0	0	1	5	2	2	2	9	3	23	26
05:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	3	3
05:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	2	1	4	1	6	7
05:30 PM	0	1	2	2	3	0	1	0	0	1	0	0	2	2	2	0	0	0	0	0	4	6	10
05:45 PM	0	1	1	1	2	0	1	0	0	1	0	2	0	0	2	1	1	2	0	4	1	9	10
Total	0	5	3	3	8	0	3	0	0	3	0	2	2	2	4	2	3	4	1	9	6	24	30
Grand Total	0	6	4	4	10	4	10	0	0	14	0	3	2	2	5	7	5	6	3	18	9	47	56
Apprch %	0	60	40			28.6	71.4	0			0	60	40			38.9	27.8	33.3					
Total %	0	12.8	8.5		21.3	8.5	21.3	0		29.8	0	6.4	4.3		10.6	14.9	10.6	12.8		38.3	16.1	83.9	

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	1	0	1	1	**2**	0	**3**	0	**1**	0	**1**	1	0	1	2	**7**
04:45 PM	0	0	0	0	**2**	1	0	3	0	0	0	0	**2**	**1**	0	3	6
05:00 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	1	0	1	3
05:15 PM	0	**2**	0	**2**	0	0	0	0	0	0	0	0	1	1	**2**	**4**	6
Total Volume	0	4	0	4	3	4	0	7	0	1	0	1	4	3	3	10	22
% App. Total	0	100	0		42.9	57.1	0		0	100	0		40	30	30		
PHF	.000	.500	.000	.500	.375	.500	.000	.583	.000	.250	.000	.250	.500	.750	.375	.625	.786

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Wineville Road
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Weather: Clear

File Name : 08_ONT_Wine_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	1	0	1	1	**2**	0	**3**	0	**1**	0	**1**	1	0	1	2	
+15 mins.	0	0	0	0	**2**	1	0	3	0	0	0	0	**2**	**1**	0	3	
+30 mins.	0	1	0	1	0	1	0	1	0	0	0	0	0	1	0	1	
+45 mins.	0	**2**	0	**2**	0	0	0	0	0	0	0	0	1	1	**2**	**4**	
Total Volume	0	4	0	4	3	4	0	7	0	1	0	1	4	3	3	10	
% App. Total	0	100	0		42.9	57.1	0		0	100	0		40	30	30		
PHF	.000	.500	.000	.500	.375	.500	.000	.583	.000	.250	.000	.250	.500	.750	.375	.625	

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City of Ontario
N/S: Wineville Road
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File Name : 08_ONT_Wine_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

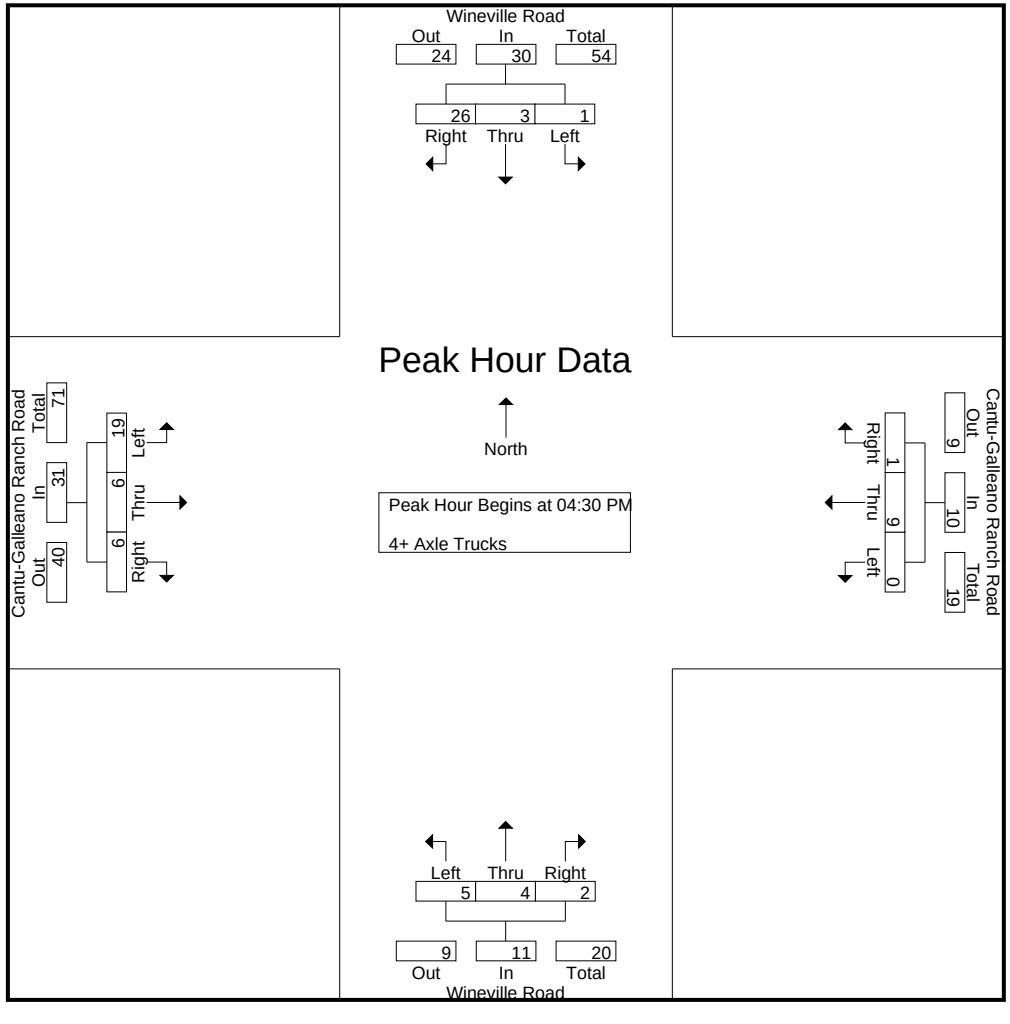
	Wineville Road Southbound					Cantu-Galleano Ranch Road Westbound					Wineville Road Northbound					Cantu-Galleano Ranch Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	7	3	7	0	1	1	0	2	1	3	0	0	4	4	3	4	2	11	5	24	29
04:15 PM	0	2	5	1	7	0	2	0	0	2	5	0	0	0	5	6	2	6	4	14	5	28	33
04:30 PM	0	1	7	1	8	0	4	0	0	4	2	1	1	1	4	8	4	1	0	13	2	29	31
04:45 PM	0	0	6	2	6	0	0	1	1	1	0	2	1	1	3	6	1	0	0	7	4	17	21
Total	0	3	25	7	28	0	7	2	1	9	8	6	2	2	16	24	10	11	6	45	16	98	114
05:00 PM	1	0	4	1	5	0	2	0	0	2	2	1	0	0	3	5	0	3	2	8	3	18	21
05:15 PM	0	2	9	4	11	0	3	0	0	3	1	0	0	0	1	0	1	2	1	3	5	18	23
05:30 PM	0	0	6	4	6	1	1	0	0	2	0	0	0	0	0	0	1	1	0	2	4	10	14
05:45 PM	0	0	2	2	2	0	1	1	1	2	3	0	0	0	3	6	1	1	0	8	3	15	18
Total	1	2	21	11	24	1	7	1	1	9	6	1	0	0	7	11	3	7	3	21	15	61	76
Grand Total	1	5	46	18	52	1	14	3	2	18	14	7	2	2	23	35	13	18	9	66	31	159	190
Apprch %	1.9	9.6	88.5			5.6	77.8	16.7			60.9	30.4	8.7			53	19.7	27.3					
Total %	0.6	3.1	28.9		32.7	0.6	8.8	1.9		11.3	8.8	4.4	1.3		14.5	22	8.2	11.3		41.5	16.3	83.7	

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	1	7	8	0	**4**	0	**4**	**2**	1	**1**	**4**	**8**	**4**	1	**13**	**29**
04:45 PM	0	0	6	6	0	0	**1**	1	0	**2**	1	3	6	1	0	7	17
05:00 PM	**1**	0	4	5	0	2	0	2	2	1	0	3	5	0	**3**	8	18
05:15 PM	0	**2**	**9**	**11**	0	3	0	3	1	0	0	1	0	1	2	3	18
Total Volume	1	3	26	30	0	9	1	10	5	4	2	11	19	6	6	31	82
% App. Total	3.3	10	86.7		0	90	10		45.5	36.4	18.2		61.3	19.4	19.4		
PHF	.250	.375	.722	.682	.000	.563	.250	.625	.625	.500	.500	.688	.594	.375	.500	.596	.707

Counts Unlimited, Inc.
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City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR PM
Site Code : 05122421
Start Date : 5/10/2022
Page No : 2



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City of Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Road
Weather: Clear

File Name : 08_ONT_Wine_CGR PM
Site Code : 05122421
Start Date : 5/10/2022

	Wineville Road Southbound				Cantu-Galleano Ranch Road Westbound				Wineville Road Northbound				Cantu-Galleano Ranch Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	1	7	8	0	**4**	0	**4**	**2**	1	**1**	**4**	**8**	**4**	1	**13**	
+15 mins.	0	0	6	6	0	0	**1**	1	0	**2**	1	3	6	1	0	7	
+30 mins.	**1**	0	4	5	0	2	0	2	2	1	0	3	5	0	**3**	8	
+45 mins.	0	**2**	**9**	**11**	0	3	0	3	1	0	0	1	0	1	2	3	
Total Volume	1	3	26	30	0	9	1	10	5	4	2	11	19	6	6	31	
% App. Total	3.3	10	86.7		0	90	10		45.5	36.4	18.2		61.3	19.4	19.4		
PHF	.250	.375	.722	.682	.000	.563	.250	.625	.625	.500	.500	.688	.594	.375	.500	.596	

Location: Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Rd



Date: 5/10/2022
Day: Tuesday

PEDESTRIANS

	North Leg Wineville Road	East Leg Cantu-Galleano Ranch Rd	South Leg Wineville Road	West Leg Cantu-Galleano Ranch Rd	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	1	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

	North Leg Wineville Road	East Leg Cantu-Galleano Ranch Rd	South Leg Wineville Road	West Leg Cantu-Galleano Ranch Rd	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	4	0	0	4
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	4	0	0	4

Location: Ontario
N/S: Wineville Road
E/W: Cantu-Galleano Ranch Rd



Date: 5/10/2022
Day: Tuesday

BICYCLES

	Southbound Wineville Road			Westbound Cantu-Galleano Ranch Rd			Northbound Wineville Road			Eastbound Cantu-Galleano Ranch Rd			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	2	0	0	0	2
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	2	0	2	0	4

	Southbound Wineville Road			Westbound Cantu-Galleano Ranch Rd			Northbound Wineville Road			Eastbound Cantu-Galleano Ranch Rd			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	1	0	2

A42621

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, May 10, 2022 **CITY#** Ontario

JOB #: SC3418 CLASS1 Chino west of Haven

AM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
0:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2
3:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
3:45	0	1	2	0	0	0	0	0	0	0	0	0	0	3
4:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:15	0	3	1	0	0	0	0	0	0	0	0	0	0	4
4:30	0	2	2	0	0	0	0	0	0	0	0	0	0	4
4:45	0	2	3	0	0	0	0	0	0	0	0	0	0	5
5:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
5:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2
5:30	0	2	3	0	0	1	0	0	0	0	0	0	0	6
5:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
6:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
6:15	0	10	3	0	0	0	0	0	0	0	0	0	0	13
6:30	0	9	3	0	1	0	0	0	0	0	0	0	0	13
6:45	0	10	1	0	0	0	0	0	0	0	0	0	0	11
7:00	0	15	4	0	0	0	0	0	0	0	0	0	0	19
7:15	0	23	3	0	0	0	0	0	0	0	0	0	0	26
7:30	0	17	2	0	0	0	0	0	1	0	0	0	0	20
7:45	0	23	4	0	2	0	0	0	0	0	0	0	0	29
8:00	0	33	6	0	0	0	0	0	0	0	0	0	0	39
8:15	0	10	2	0	0	0	0	0	0	0	0	0	0	12
8:30	0	13	3	0	0	0	0	0	0	0	0	0	0	16
8:45	0	7	3	0	1	0	0	0	0	0	0	0	0	11
9:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
9:15	0	10	2	0	2	0	0	0	0	0	0	0	0	14
9:30	0	8	7	0	1	0	0	0	0	0	0	0	0	16
9:45	0	9	1	0	2	1	0	0	0	0	0	0	0	13
10:00	0	13	3	0	1	1	0	0	0	0	0	0	0	18
10:15	0	8	2	0	3	0	0	0	0	0	0	0	0	13
10:30	0	12	5	0	0	0	0	0	0	0	0	0	0	17
10:45	0	10	6	0	1	0	0	0	0	0	0	0	0	17
11:00	0	12	3	0	1	0	0	0	0	0	0	0	0	16
11:15	0	12	5	0	0	0	0	0	0	0	0	0	0	17
11:30	0	5	3	0	1	0	0	0	0	0	0	0	0	9
11:45	0	7	2	0	1	1	0	0	0	0	0	0	0	11
TOTAL	0	329	88	0	17	4	0	0	1	0	0	0	0	439

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	114

PM	EASTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	6	2	0	1	1	0	0	0	0	0	0	0	10
12:15	0	8	8	0	1	1	0	0	0	0	0	0	0	18
12:30	0	5	7	0	0	1	0	0	0	0	0	0	0	13
12:45	0	7	5	0	1	0	0	0	0	0	0	0	0	13
13:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
13:15	0	8	2	0	1	1	0	0	0	0	0	0	0	12
13:30	0	8	0	0	0	0	0	0	0	0	0	0	0	8
13:45	0	8	2	0	0	0	0	0	0	0	0	0	0	10
14:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
14:15	1	11	7	0	1	0	0	0	0	0	0	0	0	20
14:30	0	28	9	0	1	0	0	0	0	0	0	0	0	38
14:45	0	22	4	0	1	0	0	0	1	0	0	0	0	28
15:00	0	15	5	0	0	0	0	0	0	0	0	0	0	20
15:15	0	31	3	0	0	0	0	0	0	0	0	0	0	34
15:30	0	20	8	0	0	0	0	0	0	0	0	0	0	28
15:45	0	25	8	0	0	0	0	0	0	0	0	0	0	33
16:00	0	15	9	0	0	0	0	0	0	0	0	0	0	24
16:15	0	9	4	0	1	0	0	0	0	0	0	0	0	14
16:30	1	16	3	0	0	0	0	0	0	0	0	0	0	20
16:45	1	24	2	0	1	0	0	0	0	0	0	0	0	28
17:00	0	16	6	0	1	0	0	0	0	0	0	0	0	23
17:15	0	25	2	0	1	0	0	0	0	0	0	0	0	28
17:30	0	19	3	0	2	0	0	0	0	0	0	0	0	24
17:45	0	24	6	0	3	0	0	0	0	0	0	0	0	33
18:00	0	19	4	0	1	0	0	0	0	0	0	0	0	24
18:15	0	19	2	0	1	0	0	0	0	0	0	0	0	22
18:30	0	13	4	0	0	0	0	0	0	0	0	0	0	17
18:45	0	10	4	0	0	0	0	0	0	0	0	0	0	14
19:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
19:15	0	13	3	0	0	0	0	0	0	0	0	0	0	16
19:30	0	7	1	0	1	0	0	0	0	0	0	0	0	9
19:45	0	8	3	0	0	0	0	0	0	0	0	0	0	11
20:00	0	11	3	0	0	0	0	0	0	0	0	0	0	14
20:15	0	6	3	0	0	0	0	0	0	0	0	0	0	9
20:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
20:45	0	8	0	0	0	0	0	0	0	0	0	0	0	8
21:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
21:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8
21:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
21:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
22:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
22:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2
22:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5
22:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL	3	538	142	0	19	4	0	0	1	0	0	0	0	707

PM PEAK HOUR	2:30 PM
PM PEAK VOLUME	120

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: AM+PM	3	867	230	0	36	8	0	0	2	0	0	0	0	1,146
% OF TOTAL	0.3%	75.7%	20.1%	0.0%	3.1%	0.7%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	4	2,004	467	0	74	19	0	0	5	0	0	0	0	2,573
% OF TOTAL	0.2%	77.9%	18.2%	0.0%	2.9%	0.7%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, May 10, 2022
JOB #: SC3418

CITY# Ontario
CLASS1 Chino west of Haven

AM	WESTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
0:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
0:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
1:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	0	2	1	0	0	0	0	0	0	0	0	0	0	3
4:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5
5:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
5:15	0	3	2	0	1	0	0	0	0	0	0	0	0	6
5:30	0	2	2	0	0	0	0	0	0	0	0	0	0	4
5:45	0	3	2	0	0	0	0	0	0	0	0	0	0	5
6:00	0	2	4	0	1	0	0	0	0	0	0	0	0	7
6:15	0	7	2	0	0	0	0	0	0	0	0	0	0	9
6:30	0	10	2	0	0	0	0	0	0	0	0	0	0	12
6:45	0	11	4	0	0	0	0	0	0	0	0	0	0	15
7:00	0	18	1	0	1	0	0	0	0	0	0	0	0	20
7:15	0	37	5	0	0	0	0	0	1	0	0	0	0	43
7:30	0	58	5	0	0	0	0	0	0	0	0	0	0	63
7:45	0	39	6	0	1	0	0	0	0	0	0	0	0	46
8:00	0	23	3	0	1	0	0	0	0	0	0	0	0	27
8:15	0	26	4	0	0	1	0	0	0	0	0	0	0	31
8:30	0	23	7	0	0	0	0	0	0	0	0	0	0	30
8:45	0	14	3	0	5	1	0	0	0	0	0	0	0	23
9:00	0	15	5	0	2	0	0	0	0	0	0	0	0	22
9:15	0	9	4	0	0	0	0	0	0	0	0	0	0	13
9:30	0	9	2	0	1	1	0	0	0	0	0	0	0	13
9:45	0	4	2	0	1	1	0	0	0	0	0	0	0	8
10:00	0	7	6	0	0	0	0	0	0	0	0	0	0	13
10:15	0	11	2	0	0	0	0	0	0	0	0	0	0	13
10:30	0	7	8	0	1	0	0	0	0	0	0	0	0	16
10:45	0	11	1	0	1	0	0	0	0	0	0	0	0	13
11:00	0	15	3	0	2	0	0	0	0	0	0	0	0	20
11:15	0	15	3	0	1	0	0	0	0	0	0	0	0	19
11:30	0	9	1	0	2	1	0	0	1	0	0	0	0	14
11:45	0	9	0	0	0	0	0	0	0	0	0	0	0	9
TOTAL	0	418	94	0	21	5	0	0	2	0	0	0	0	540

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	179

PM	WESTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	10	4	0	0	0	0	0	0	0	0	0	0	14
12:15	0	13	3	0	2	0	0	0	0	0	0	0	0	18
12:30	0	14	3	0	0	0	0	0	0	0	0	0	0	17
12:45	0	9	2	0	0	2	0	0	0	0	0	0	0	13
13:00	0	10	4	0	0	1	0	0	0	0	0	0	0	15
13:15	0	8	6	0	3	0	0	0	0	0	0	0	0	17
13:30	0	11	4	0	1	0	0	0	0	0	0	0	0	16
13:45	0	10	6	0	1	2	0	0	0	0	0	0	0	19
14:00	0	20	4	0	0	1	0	0	0	0	0	0	0	25
14:15	0	27	10	0	0	0	0	0	0	0	0	0	0	37
14:30	0	29	2	0	0	0	0	0	0	0	0	0	0	31
14:45	0	25	8	0	0	0	0	0	0	0	0	0	0	33
15:00	0	21	9	0	1	0	0	0	0	0	0	0	0	31
15:15	0	30	5	0	0	0	0	0	0	0	0	0	0	35
15:30	0	31	4	0	2	0	0	0	0	0	0	0	0	37
15:45	0	18	1	0	0	0	0	0	0	0	0	0	0	19
16:00	1	25	5	0	0	0	0	0	0	0	0	0	0	31
16:15	0	29	2	0	1	0	0	0	1	0	0	0	0	33
16:30	0	24	4	0	1	0	0	0	0	0	0	0	0	29
16:45	0	24	4	0	0	0	0	0	0	0	0	0	0	28
17:00	0	20	6	0	1	0	0	0	0	0	0	0	0	27
17:15	0	26	3	0	2	0	0	0	0	0	0	0	0	31
17:30	0	14	1	0	1	0	0	0	0	0	0	0	0	16
17:45	0	19	0	0	1	0	0	0	0	0	0	0	0	20
18:00	0	20	6	0	0	0	0	0	0	0	0	0	0	26
18:15	0	19	1	0	0	0	0	0	0	0	0	0	0	20
18:30	0	16	2	0	0	0	0	0	0	0	0	0	0	18
18:45	0	15	2	0	0	0	0	0	0	0	0	0	0	17
19:00	0	17	7	0	0	0	0	0	0	0	0	0	0	24
19:15	0	12	2	0	0	0	0	0	0	0	0	0	0	14
19:30	0	17	3	0	0	0	0	0	0	0	0	0	0	20
19:45	0	14	2	0	0	0	0	0	0	0	0	0	0	16
20:00	0	8	5	0	0	0	0	0	0	0	0	0	0	13
20:15	0	17	2	0	0	0	0	0	0	0	0	0	0	19
20:30	0	14	1	0	0	0	0	0	0	0	0	0	0	15
20:45	0	11	1	0	0	0	0	0	0	0	0	0	0	12
21:00	0	12	3	0	0	0	0	0	0	0	0	0	0	15
21:15	0	10	1	0	0	0	0	0	0	0	0	0	0	11
21:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9
21:45	0	11	0	0	0	0	0	0	0	0	0	0	0	11
22:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
22:15	0	2	2	0	0	0	0	0	0	0	0	0	0	4
22:30	0	2	1	0	0	0	0	0	0	0	0	0	0	3
22:45	0	2	1	0	0	0	0	0	0	0	0	0	0	3
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
23:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
23:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:45	0	5	1	0	0	0	0	0	0	0	0	0	0	6
TOTAL	1	719	143	0	17	6	0	0	1	0	0	0	0	887

PM PEAK HOUR	2:45 PM
PM PEAK VOLUME	136

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	1	1,137	237	0	38	11	0	0	3	0	0	0	0	1,427
% OF TOTAL	0.1%	79.7%	16.6%	0.0%	2.7%	0.8%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**

A42621

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, May 10, 2022 **CITY#** Ontario

JOB #: SC3418 CLASS2 Haven north of Chino

AM	NORTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
0:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0:30	0	6	1	0	0	0	0	0	0	0	0	0	0	7
0:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
1:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
1:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
1:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2
1:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2
2:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
2:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
2:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
3:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8
3:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5
3:45	0	7	1	0	0	0	0	0	0	0	0	0	0	8
4:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
4:15	0	12	6	0	0	0	0	0	0	0	0	0	0	18
4:30	0	18	3	0	0	0	0	0	0	0	0	0	0	21
4:45	0	22	5	0	0	0	0	0	0	0	0	0	0	27
5:00	0	35	2	0	0	0	0	0	0	0	0	0	0	37
5:15	0	27	7	0	0	0	0	0	0	0	0	0	0	34
5:30	0	41	7	0	0	1	0	0	0	0	0	0	0	49
5:45	0	57	9	0	1	0	0	0	0	0	0	0	0	67
6:00	0	59	7	0	0	0	0	0	0	0	0	0	0	66
6:15	0	51	6	0	1	0	0	0	0	0	0	0	0	58
6:30	0	86	15	0	1	0	0	0	0	0	0	0	0	102
6:45	0	94	12	0	1	1	0	0	0	0	0	0	0	108
7:00	0	78	15	0	4	0	0	0	0	0	0	0	0	97
7:15	0	99	6	0	1	0	0	0	0	0	0	0	0	106
7:30	0	93	16	0	0	0	0	0	1	0	0	0	0	110
7:45	0	79	11	0	1	0	0	0	0	0	0	0	0	91
8:00	0	87	5	2	2	0	0	0	0	0	0	0	0	96
8:15	0	83	13	1	1	1	0	0	0	0	0	0	0	99
8:30	0	73	5	0	0	0	0	0	0	0	0	0	0	78
8:45	0	62	5	0	2	0	0	0	0	0	0	0	0	69
9:00	0	78	10	0	0	1	0	0	0	0	0	0	0	89
9:15	0	45	12	0	5	0	0	0	0	0	0	0	0	62
9:30	0	58	12	0	3	0	0	0	0	0	0	0	0	73
9:45	0	58	7	0	2	1	0	0	0	0	0	0	0	68
10:00	0	61	12	0	2	1	0	0	0	0	0	0	0	76
10:15	0	43	6	0	3	1	0	0	0	0	0	0	0	53
10:30	0	65	10	0	1	1	0	0	0	0	0	0	0	77
10:45	0	60	12	0	3	1	0	0	0	0	0	0	0	76
11:00	0	52	9	0	2	1	0	0	0	0	0	0	0	64
11:15	0	54	14	1	2	1	0	0	0	0	0	0	0	72
11:30	0	54	7	0	3	0	0	0	1	0	0	0	0	65
11:45	0	59	5	0	1	0	0	0	0	0	0	0	0	65
TOTAL	0	1,917	277	4	42	11	0	0	2	0	0	0	0	2,253

PM	NORTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	70	12	0	6	0	0	0	0	0	0	0	0	88
12:15	0	51	15	0	3	0	0	0	0	0	0	0	0	69
12:30	0	54	14	0	2	1	0	0	0	0	0	0	0	71
12:45	0	64	7	0	1	1	0	0	0	0	0	0	0	73
13:00	0	49	6	0	2	0	0	0	1	0	0	0	0	58
13:15	0	67	6	0	4	0	0	0	0	0	0	0	0	77
13:30	0	74	8	0	2	0	0	0	0	0	0	0	0	84
13:45	0	44	12	1	1	0	0	0	0	0	0	0	0	58
14:00	0	84	20	0	8	1	0	0	0	0	0	0	0	113
14:15	0	78	13	1	4	0	0	0	0	0	0	0	0	96
14:30	0	68	16	0	4	0	0	0	0	0	0	0	0	88
14:45	1	75	18	1	3	0	0	0	1	0	0	0	0	99
15:00	0	76	10	0	2	0	0	0	0	0	0	0	0	88
15:15	0	90	15	0	1	0	0	0	0	0	0	0	0	106
15:30	1	74	18	0	5	0	0	0	0	0	0	0	0	98
15:45	0	62	15	0	2	0	0	0	0	0	0	0	0	79
16:00	0	59	11	0	2	0	0	0	0	0	0	0	0	72
16:15	1	71	10	0	7	1	0	0	1	0	0	0	0	91
16:30	0	64	7	0	3	0	0	0	0	0	0	0	0	74
16:45	3	86	7	0	0	0	0	0	0	0	0	0	0	96
17:00	0	62	7	0	4	0	0	0	0	0	0	0	0	73
17:15	1	84	10	0	2	0	0	0	0	0	0	0	0	97
17:30	0	76	13	0	3	0	0	0	0	0	0	0	0	92
17:45	0	69	9	0	4	0	0	0	0	0	0	0	0	82
18:00	0	65	4	0	1	0	0	0	0	0	0	0	0	70
18:15	0	68	1	0	1	0	0	0	0	0	0	0	0	70
18:30	0	73	4	0	0	0	0	0	0	0	0	0	0	77
18:45	0	47	2	0	0	0	0	0	0	0	0	0	0	49
19:00	0	58	5	0	1	0	0	0	0	0	0	0	0	64
19:15	0	56	4	1	2	0	0	0	0	0	0	0	0	63
19:30	0	42	3	0	1	0	0	0	0	0	0	0	0	46
19:45	1	21	2	0	0	0	0	0	0	0	0	0	0	24
20:00	0	35	1	0	1	0	0	0	0	0	0	0	0	37
20:15	0	38	2	0	0	0	0	0	0	0	0	0	0	40
20:30	0	21	5	0	0	0	0	0	0	0	0	0	0	26
20:45	0	38	1	0	1	0	0	0	0	0	0	0	0	40
21:00	0	24	4	0	1	0	0	0	0	0	0	0	0	29
21:15	0	39	4	0	1	0	0	0	0	0	0	0	0	44
21:30	0	19	4	0	0	0	0	0	0	0	0	0	0	23
21:45	0	16	2	0	0	0	0	0	0	0	0	0	0	18
22:00	0	19	0	0	0	0	0	0	0	0	0	0	0	19
22:15	0	18	3	0	0	0	0	0	0	0	0	0	0	21
22:30	0	16	1	0	0	0	0	0	0	0	0	0	0	17
22:45	0	9	1	0	0	1	0	0	0	0	0	0	0	11
23:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
23:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6
23:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9
23:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
TOTAL	8	2,406	333	4	85	5	0	0	3	0	0	0	0	2,844

AM PEAK HOUR	6:45 AM
AM PEAK VOLUME	421

PM PEAK HOUR	2:00 PM
PM PEAK VOLUME	396

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	8	4,323	610	8	127	16	0	0	5	0	0	0	0	5,097
% OF TOTAL	0.2%	84.8%	12.0%	0.2%	2.5%	0.3%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	
TOTAL: ALL	18	8,404	1,165	20	227	31	0	1	9	0	0	0	0	9,875
% OF TOTAL	0.2%	85.1%	11.8%	0.2%	2.3%	0.3%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, May 10, 2022
JOB #: SC3418

CITY# Ontario
CLASS2 Haven north of Chino

AM	SOUTHBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
0:15	0	11	0	0	0	0	0	0	0	0	0	0	0	11
0:30	0	11	0	0	0	0	0	0	0	0	0	0	0	11
0:45	0	20	0	0	0	0	0	0	0	0	0	0	0	20
1:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
1:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6
1:30	0	7	0	0	0	0	0	0	0	0	0	0	0	7
1:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
2:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4
2:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2
2:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8
3:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
4:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
4:15	0	3	0	0	1	0	0	0	0	0	0	0	0	4
4:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9
4:45	0	6	4	0	0	0	0	0	0	0	0	0	0	10
5:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
5:15	0	13	1	0	1	0	0	0	0	0	0	0	0	15
5:30	0	16	3	0	0	0	0	0	0	0	0	0	0	19
5:45	1	20	9	0	2	0	0	0	0	0	0	0	0	32
6:00	0	13	7	0	2	1	0	0	0	0	0	0	0	23
6:15	0	23	9	0	1	0	0	0	0	0	0	0	0	33
6:30	0	23	10	0	1	1	0	0	0	0	0	0	0	35
6:45	0	27	9	0	1	1	0	0	0	0	0	0	0	38
7:00	0	31	6	1	4	0	0	0	0	0	0	0	0	42
7:15	0	36	7	2	2	0	0	0	1	0	0	0	0	48
7:30	0	37	9	0	0	0	0	0	0	0	0	0	0	46
7:45	0	53	10	0	2	0	0	0	0	0	0	0	0	65
8:00	0	62	7	2	3	0	0	0	0	0	0	0	0	74
8:15	0	81	5	0	1	0	0	0	0	0	0	0	0	87
8:30	0	51	7	0	3	0	0	0	0	0	0	0	0	61
8:45	0	40	9	0	6	2	0	0	0	0	0	0	0	57
9:00	0	36	6	0	3	0	0	0	0	0	0	0	0	45
9:15	0	32	8	0	0	1	0	0	0	0	0	0	0	41
9:30	0	22	5	1	3	0	0	0	0	0	0	0	0	31
9:45	0	38	6	0	1	1	0	0	0	0	0	0	0	46
10:00	0	37	11	0	1	0	0	0	0	0	0	0	0	49
10:15	0	36	8	0	1	1	0	0	0	0	0	0	0	46
10:30	0	42	11	0	2	1	0	0	0	0	0	0	0	56
10:45	0	35	9	0	2	0	0	0	0	0	0	0	0	46
11:00	0	41	10	0	4	0	0	0	0	0	0	0	0	55
11:15	0	62	6	0	1	0	0	1	0	0	0	0	0	70
11:30	0	46	11	0	1	0	0	0	0	0	0	0	0	58
11:45	0	54	10	1	3	1	0	0	0	0	0	0	0	69
TOTAL	1	1,152	217	7	52	10	0	1	1	0	0	0	0	1,441

AM PEAK HOUR	7:45 AM
AM PEAK VOLUME	287

PM	SOUTHBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	44	12	1	2	0	0	0	0	0	0	0	0	59
12:15	0	57	7	0	4	0	0	0	1	0	0	0	0	69
12:30	0	49	10	0	1	0	0	0	0	0	0	0	0	60
12:45	0	61	9	0	1	1	0	0	0	0	0	0	0	72
13:00	1	51	10	0	1	1	0	0	0	0	0	0	0	64
13:15	0	49	12	0	2	0	0	0	0	0	0	0	0	63
13:30	1	55	8	0	1	0	0	0	0	0	0	0	0	65
13:45	0	38	9	0	1	0	0	0	0	0	0	0	0	48
14:00	0	55	6	0	4	1	0	0	0	0	0	0	0	66
14:15	0	57	10	0	4	0	0	0	0	0	0	0	0	71
14:30	0	88	5	1	1	1	0	0	0	0	0	0	0	96
14:45	0	94	19	0	1	0	0	0	0	0	0	0	0	114
15:00	0	61	11	1	1	0	0	0	0	0	0	0	0	74
15:15	0	100	9	1	2	0	0	0	0	0	0	0	0	112
15:30	1	111	14	0	1	0	0	0	0	0	0	0	0	127
15:45	1	94	14	1	2	0	0	0	0	0	0	0	0	112
16:00	0	74	8	0	0	0	0	0	0	0	0	0	0	82
16:15	0	83	11	0	1	0	0	0	0	0	0	0	0	95
16:30	1	77	12	0	3	0	0	0	0	0	0	0	0	93
16:45	0	85	11	0	0	0	0	0	1	0	0	0	0	97
17:00	2	95	11	0	1	0	0	0	0	0	0	0	0	109
17:15	0	95	9	0	4	0	0	0	0	0	0	0	0	108
17:30	0	102	9	0	0	0	0	0	1	0	0	0	0	112
17:45	1	106	7	0	1	0	0	0	0	0	0	0	0	115
18:00	0	116	9	0	0	0	0	0	0	0	0	0	0	125
18:15	0	84	6	0	0	0	0	0	0	0	0	0	0	90
18:30	0	83	15	0	2	0	0	0	0	0	0	0	0	100
18:45	0	68	7	0	2	0	0	0	0	0	0	0	0	77
19:00	0	81	9	0	0	0	0	0	0	0	0	0	0	90
19:15	0	78	9	0	1	0	0	0	0	0	0	0	0	88
19:30	0	72	7	0	1	0	0	0	0	0	0	0	0	80
19:45	0	42	5	0	0	0	0	0	0	0	0	0	0	47
20:00	0	45	6	0	0	0	0	0	0	0	0	0	0	51
20:15	0	53	1	0	0	0	0	0	0	0	0	0	0	54
20:30	0	44	2	0	0	0	0	0	0	0	0	0	0	46
20:45	0	46	4	0	1	0	0	0	0	0	0	0	0	51
21:00	0	32	3	0	0	0	0	0	0	0	0	0	0	35
21:15	0	62	2	0	0	0	0	0	0	0	0	0	0	64
21:30	1	26	1	0	0	0	0	0	0	0	0	0	0	28
21:45	0	45	2	0	0	0	0	0	0	0	0	0	0	47
22:00	0	30	2	0	1	0	0	0	0	0	0	0	0	33
22:15	0	32	2	0	1	0	0	0	0	0	0	0	0	35
22:30	0	18	0	0	0	0	0	0	0	0	0	0	0	18
22:45	0	23	0	0	0	0	0	0	0	0	0	0	0	23
23:00	0	16	0	0	0	0	0	0	0	0	0	0	0	16
23:15	0	23	2	0	0	1	0	0	0	0	0	0	0	26
23:30	0	13	0	0	0	0	0	0	0	0	0	0	0	13
23:45	0	16	1	0	0	0	0	0	0	0	0	0	0	17
TOTAL	9	2,929	338	5	48	5	0	0	3	0	0	0	0	3,337

PM PEAK HOUR	5:15 PM
PM PEAK VOLUME	460

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	10	4,081	555	12	100	15	0	1	4	0	0	0	0	4,778
% OF TOTAL	0.2%	85.4%	11.6%	0.3%	2.1%	0.3%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**

A816

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, May 10, 2022
JOB #: SC3418

CITY: Ontario
LOCATION: CLASS3 Schaefer west of Turner

AM	EASTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:45	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
2:45	0	1	1	0	0	0	0	0	0	0	0	0	0	2
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30	0	2	1	0	0	0	0	0	0	0	0	0	0	3
5:45	0	1	1	0	0	0	0	0	0	0	0	0	0	2
6:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
6:15	0	2	1	0	1	0	0	0	0	0	0	0	0	4
6:30	0	5	2	0	0	0	0	0	0	0	0	0	0	7
6:45	0	7	2	0	0	0	0	0	0	0	0	0	0	9
7:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
7:15	0	9	1	0	0	0	0	0	0	0	0	0	0	10
7:30	0	10	2	0	1	0	0	0	0	0	0	0	0	13
7:45	0	18	1	1	0	0	0	0	0	0	0	0	0	20
8:00	0	12	0	1	1	0	0	0	0	0	0	0	0	14
8:15	0	8	0	0	0	0	0	0	0	0	0	0	0	8
8:30	0	6	3	0	0	0	0	0	0	0	0	0	0	9
8:45	0	8	1	0	0	0	0	0	0	0	0	0	0	9
9:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
9:15	0	6	2	0	0	0	0	0	0	0	0	0	0	8
9:30	0	7	0	0	0	0	0	0	0	0	0	0	0	7
9:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
10:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
10:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10:30	0	6	2	0	0	0	0	0	0	0	0	0	0	8
10:45	0	2	1	0	1	0	0	0	0	0	0	0	0	4
11:00	0	5	3	0	0	0	0	0	0	0	0	0	0	8
11:15	0	2	2	0	0	0	0	0	0	0	0	0	0	4
11:30	0	4	1	0	1	0	0	0	0	0	0	0	0	6
11:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5
TOTAL	0	153	34	2	6	0	0	0	0	0	0	0	0	195

AM PEAK HOUR	7:15 AM
AM PEAK VOLUME	57

PM	EASTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
12:15	0	5	4	0	0	0	0	0	0	0	0	0	0	9
12:30	0	6	0	0	1	0	0	0	0	0	0	0	0	7
12:45	0	12	0	0	0	0	0	0	1	0	0	0	0	13
13:00	0	8	3	0	1	0	0	0	0	0	0	0	0	12
13:15	0	9	0	0	1	0	0	0	0	0	0	0	0	10
13:30	0	10	0	0	0	0	0	0	0	0	0	0	0	10
13:45	0	7	0	0	1	0	0	0	0	0	0	0	0	8
14:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
14:15	0	7	4	0	1	0	0	0	0	0	0	0	0	12
14:30	0	18	0	0	0	0	0	0	0	0	0	0	0	18
14:45	0	17	4	0	2	0	0	0	0	0	0	0	0	23
15:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
15:15	0	10	1	0	0	0	0	0	0	0	0	0	0	11
15:30	0	11	3	0	0	0	0	0	0	0	0	0	0	14
15:45	0	9	3	0	0	0	0	0	0	0	0	0	0	12
16:00	0	10	3	0	0	0	0	0	0	0	0	0	0	13
16:15	0	7	1	0	0	1	0	0	0	0	0	0	0	9
16:30	0	14	3	0	1	0	0	0	0	0	0	0	0	18
16:45	0	15	2	0	0	0	0	0	0	0	0	0	0	17
17:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
17:15	0	14	1	0	0	0	0	0	0	0	0	0	0	15
17:30	0	15	1	0	0	0	0	0	0	0	0	0	0	16
17:45	0	16	1	0	0	0	0	0	0	0	0	0	0	17
18:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
18:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9
18:30	0	12	0	0	1	0	0	0	0	0	0	0	0	13
18:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
19:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
19:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9
19:30	0	8	1	0	0	0	0	0	0	0	0	0	0	9
19:45	0	9	0	0	0	0	0	0	0	0	0	0	0	9
20:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
20:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5
20:30	0	6	3	0	0	0	0	0	0	0	0	0	0	9
20:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
21:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
21:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6
21:30	0	4	1	0	1	0	0	0	0	0	0	0	0	6
21:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
22:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	3	2	0	0	0	0	0	0	0	0	0	0	5
23:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	380	56	0	10	1	0	0	1	0	0	0	0	448

PM PEAK HOUR	2:15 PM
PM PEAK VOLUME	63

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: AM+PM	0	533	90	2	16	1	0	0	1	0	0	0	0	643
% OF TOTAL	0.0%	82.9%	14.0%	0.3%	2.5%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	0	1,145	181	9	34	1	0	0	3	0	0	0	0	1,373
% OF TOTAL	0.0%	178.1%	28.1%	1.4%	5.3%	0.2%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, May 10, 2022
JOB #: SC3418

CITY: Ontario
LOCATION: CLASS3 Schaefer west of Turner

AM	WESTBOUND													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
0:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
0:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	0	5	1	0	0	0	0	0	0	0	0	0	0	6
4:45	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
5:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
5:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2
5:45	0	2	1	0	0	0	0	0	0	0	0	0	0	3
6:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
6:15	0	13	0	0	0	0	0	0	0	0	0	0	0	13
6:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9
6:45	0	15	1	1	0	0	0	0	0	0	0	0	0	17
7:00	0	16	3	0	0	0	0	0	0	0	0	0	0	19
7:15	0	27	1	0	2	0	0	0	0	0	0	0	0	30
7:30	0	20	5	0	1	0	0	0	0	0	0	0	0	26
7:45	0	28	5	0	0	0	0	0	0	0	0	0	0	33
8:00	0	12	2	1	1	0	0	0	0	0	0	0	0	16
8:15	0	14	1	1	0	0	0	0	0	0	0	0	0	16
8:30	0	4	1	0	1	0	0	0	0	0	0	0	0	6
8:45	0	10	4	0	0	0	0	0	0	0	0	0	0	14
9:00	0	11	3	0	1	0	0	0	0	0	0	0	0	15
9:15	0	10	0	0	1	0	0	0	0	0	0	0	0	11
9:30	0	2	2	0	0	0	0	0	0	0	0	0	0	4
9:45	0	6	1	0	0	0	0	0	0	0	0	0	0	7
10:00	0	14	0	0	0	0	0	0	0	0	0	0	0	14
10:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5
10:30	0	5	0	0	2	0	0	0	0	0	0	0	0	7
10:45	0	2	0	0	1	0	0	0	0	0	0	0	0	3
11:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
11:15	0	8	2	0	1	0	0	0	0	0	0	0	0	11
11:30	0	7	0	0	0	0	0	0	0	0	0	0	0	7
11:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6
TOTAL	0	278	42	3	11	0	0	0	0	0	0	0	0	334

AM PEAK HOUR	7:00 AM
AM PEAK VOLUME	108

PM	WESTBOUND													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00	0	1	3	1	1	0	0	0	0	0	0	0	0	6
12:15	0	13	1	0	1	0	0	0	0	0	0	0	0	15
12:30	0	10	2	0	0	0	0	0	0	0	0	0	0	12
12:45	0	9	0	0	0	0	0	0	0	0	0	0	0	9
13:00	0	9	0	0	1	0	0	0	0	0	0	0	0	10
13:15	0	10	0	0	0	0	0	0	1	0	0	0	0	11
13:30	0	6	2	1	0	0	0	0	0	0	0	0	0	9
13:45	0	5	2	0	0	0	0	0	0	0	0	0	0	7
14:00	0	14	3	0	0	0	0	0	0	0	0	0	0	17
14:15	0	8	1	0	0	0	0	0	0	0	0	0	0	9
14:30	0	10	2	1	1	0	0	0	0	0	0	0	0	14
14:45	0	14	4	0	2	0	0	0	0	0	0	0	0	20
15:00	0	6	0	1	0	0	0	0	0	0	0	0	0	7
15:15	0	11	0	0	0	0	0	0	0	0	0	0	0	11
15:30	0	6	2	0	0	0	0	0	0	0	0	0	0	8
15:45	0	8	1	0	0	0	0	0	0	0	0	0	0	9
16:00	0	8	4	0	1	0	0	0	0	0	0	0	0	13
16:15	0	12	0	0	0	0	0	0	1	0	0	0	0	13
16:30	0	10	1	0	0	0	0	0	0	0	0	0	0	11
16:45	0	6	1	0	0	0	0	0	0	0	0	0	0	7
17:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
17:15	0	14	1	0	0	0	0	0	0	0	0	0	0	15
17:30	0	11	0	0	0	0	0	0	0	0	0	0	0	11
17:45	0	8	3	0	0	0	0	0	0	0	0	0	0	11
18:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
18:15	0	8	0	0	0	0	0	0	0	0	0	0	0	8
18:30	0	8	1	0	0	0	0	0	0	0	0	0	0	9
18:45	0	12	1	0	0	0	0	0	0	0	0	0	0	13
19:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
19:15	0	2	1	0	0	0	0	0	0	0	0	0	0	3
19:30	0	10	2	0	0	0	0	0	0	0	0	0	0	12
19:45	0	11	3	0	0	0	0	0	0	0	0	0	0	14
20:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
20:15	0	8	0	0	0	0	0	0	0	0	0	0	0	8
20:30	0	3	1	0	0	0	0	0	0	0	0	0	0	4
20:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
21:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
21:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6
21:30	0	2	1	0	0	0	0	0	0	0	0	0	0	3
21:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2
22:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL	0	334	49	4	7	0	0	0	2	0	0	0	0	396

PM PEAK HOUR	2:00 PM
PM PEAK VOLUME	60

TOTAL: AM+PM	0	612	91	7	18	0	0	0	2	0	0	0	0	730
% OF TOTAL	0.0%	83.8%	12.5%	1.0%	2.5%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

CLASS 1	Class 1 — Motorcycles	**CLASS 8**	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	**CLASS 9**	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	**CLASS 10**	6 or More Axles, Single Trailer
CLASS 4	Buses	**CLASS 11**	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	**CLASS 12**	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	**CLASS 13**	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Ontario
Chino Avenue
E/ Mill Creek Avenue
24 Hour Directional Classification Count

ONT001
Site Code: 051-22421

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	**1**	0	0	0	0	0	0	0	0	0	0	0	**1**
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	**1**	0	0	0	0	0	0	0	0	0	0	1
08:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 PM	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	**2**
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
15:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	5	3	0	0	0	0	0	0	0	0	0	0	8
Percent	0.0%	62.5%	37.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		04:00	07:00											04:00
Vol.		1	1											1
PM Peak		12:00	12:00											12:00
Vol.		1	1											2
Grand Total	0	5	3	0	0	0	0	0	0	0	0	0	0	8
Percent	0.0%	62.5%	37.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Ontario
Chino Avenue
E/ Mill Creek Avenue
24 Hour Directional Classification Count

ONT001
Site Code: 051-22421

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	**1**	0	0	0	0	0	0	0	0	0	0	0	**1**
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 PM	0	**1**	0	0	0	0	0	0	0	0	0	0	0	**1**
13:00	0	0	**1**	0	0	0	0	0	0	0	0	0	0	1
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	5	1	0	0	0	0	0	0	0	0	0	0	6
Percent	0.0%	83.3%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		04:00												04:00
Vol.		1												1
PM Peak		12:00	13:00											12:00
Vol.		1	1											1
Grand Total	0	5	1	0	0	0	0	0	0	0	0	0	0	6
Percent	0.0%	83.3%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Ontario
Chino Avenue
E/ Mill Creek Avenue
24 Hour Directional Classification Count

ONT001
Site Code: 051-22421

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	**2**	0	0	0	0	0	0	0	0	0	0	0	**2**
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	**1**	0	0	0	0	0	0	0	0	0	0	1
08:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
09:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 PM	0	**2**	**1**	0	0	0	0	0	0	0	0	0	0	**3**
13:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
14:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
15:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	10	4	0	0	0	0	0	0	0	0	0	0	14
Percent	0.0%	71.4%	28.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		04:00	07:00											04:00
Vol.		2	1											2
PM Peak		12:00	12:00											12:00
Vol.		2	1											3
Grand Total	0	10	4	0	0	0	0	0	0	0	0	0	0	14
Percent	0.0%	71.4%	28.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Ontario
Hamner Avenue
N/ Ontario Ranch Road
24 Hour Directional Classification Count

ONT003
Site Code: 051-22421

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/22	0	42	0	0	0	3	0	0	5	0	**3**	0	0	53
01:00	0	48	8	0	1	3	0	0	2	0	1	0	0	63
02:00	0	45	12	0	0	1	0	0	4	0	3	0	0	65
03:00	1	118	17	0	0	1	0	0	3	0	0	0	0	140
04:00	2	276	33	0	3	4	0	0	11	**2**	0	0	0	331
05:00	2	345	61	0	13	7	2	0	8	2	0	0	0	440
06:00	**3**	407	66	0	14	5	0	0	12	1	2	0	0	510
07:00	2	**783**	**94**	0	12	4	**3**	2	19	0	0	0	0	**919**
08:00	1	732	94	0	**15**	10	3	2	34	1	0	**1**	0	893
09:00	0	385	61	0	13	9	0	4	**37**	0	0	0	0	509
10:00	0	312	58	**1**	9	**11**	1	**5**	27	0	0	0	0	424
11:00	0	329	68	0	13	8	3	5	30	1	0	0	0	457
12 PM	0	396	43	0	15	**15**	1	3	25	0	0	0	0	498
13:00	**2**	416	60	0	12	10	1	6	**26**	0	0	0	0	533
14:00	1	450	62	**1**	**20**	9	0	16	20	0	0	0	0	579
15:00	0	**530**	**101**	1	15	13	0	11	20	0	0	0	0	**691**
16:00	0	480	76	0	13	6	**2**	**17**	19	**1**	0	0	0	614
17:00	0	432	65	0	12	12	0	13	13	0	0	0	0	547
18:00	0	392	47	0	1	14	0	12	14	0	2	0	0	482
19:00	1	261	21	0	6	6	0	7	11	0	0	0	0	313
20:00	1	242	19	0	1	3	0	4	9	0	1	0	0	280
21:00	0	162	8	0	2	5	1	1	8	0	2	0	0	189
22:00	0	111	3	0	3	4	0	2	10	0	1	0	0	134
23:00	1	47	5	0	1	2	0	0	6	0	**3**	0	0	65
Total	17	7741	1082	3	194	165	17	110	373	8	18	1	0	9729
Percent	0.2%	79.6%	11.1%	0.0%	2.0%	1.7%	0.2%	1.1%	3.8%	0.1%	0.2%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00	10:00	08:00	10:00	07:00	10:00	09:00	04:00	00:00	08:00		07:00
Vol.	3	783	94	1	15	11	3	5	37	2	3	1		919
PM Peak	13:00	15:00	15:00	14:00	14:00	12:00	16:00	16:00	13:00	16:00	23:00			15:00
Vol.	2	530	101	1	20	15	2	17	26	1	3			691
Grand Total	17	7741	1082	3	194	165	17	110	373	8	18	1	0	9729
Percent	0.2%	79.6%	11.1%	0.0%	2.0%	1.7%	0.2%	1.1%	3.8%	0.1%	0.2%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
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City of Ontario
Hamner Avenue
N/ Ontario Ranch Road
24 Hour Directional Classification Count

ONT003
Site Code: 051-22421

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/22	**1**	68	3	0	0	3	0	0	7	0	0	0	0	82
01:00	0	51	2	0	2	2	**2**	2	4	0	**4**	0	0	69
02:00	0	48	2	0	1	1	0	0	6	0	3	0	0	61
03:00	0	49	0	0	0	5	0	2	10	0	1	0	0	67
04:00	0	57	8	0	5	4	0	5	9	0	0	0	0	88
05:00	0	66	10	0	3	6	0	2	6	0	1	0	0	94
06:00	0	152	32	0	9	8	0	0	21	0	3	0	0	225
07:00	0	250	45	**1**	9	10	0	2	27	0	1	0	0	345
08:00	1	248	48	1	6	10	0	2	23	0	1	0	0	340
09:00	0	206	36	0	**21**	**12**	0	6	**29**	0	0	0	0	310
10:00	0	249	41	1	6	7	0	**9**	21	0	0	0	0	334
11:00	1	**267**	**56**	0	12	8	1	3	17	0	0	0	0	**365**
12 PM	1	365	73	0	**12**	**10**	0	5	13	0	0	0	0	479
13:00	0	338	77	0	7	5	0	7	16	0	0	0	0	450
14:00	**5**	430	98	0	6	8	0	**10**	17	0	0	0	0	574
15:00	4	617	**117**	0	11	9	0	6	**25**	0	0	0	0	789
16:00	3	573	92	0	9	7	0	3	10	0	0	0	0	697
17:00	2	**729**	108	0	4	2	0	4	14	0	0	0	0	**863**
18:00	1	550	80	0	8	6	0	4	11	0	0	0	0	660
19:00	0	357	48	0	1	7	0	4	13	0	0	0	0	430
20:00	1	265	18	0	1	6	0	4	7	0	0	0	0	302
21:00	0	226	19	0	0	4	0	2	7	0	0	0	0	258
22:00	0	157	2	0	1	2	0	1	8	0	**4**	0	0	175
23:00	1	86	4	0	0	2	0	1	9	0	1	0	0	104
Total	21	6404	1019	3	134	144	3	84	330	0	19	0	0	8161
Percent	0.3%	78.5%	12.5%	0.0%	1.6%	1.8%	0.0%	1.0%	4.0%	0.0%	0.2%	0.0%	0.0%	
AM Peak	00:00	11:00	11:00	07:00	09:00	09:00	01:00	10:00	09:00		01:00			11:00
Vol.	1	267	56	1	21	12	2	9	29		4			365
PM Peak	14:00	17:00	15:00		12:00	12:00		14:00	15:00		22:00			17:00
Vol.	5	729	117		12	10		10	25		4			863
Grand Total	21	6404	1019	3	134	144	3	84	330	0	19	0	0	8161
Percent	0.3%	78.5%	12.5%	0.0%	1.6%	1.8%	0.0%	1.0%	4.0%	0.0%	0.2%	0.0%	0.0%	

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PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Ontario
Hamner Avenue
N/ Ontario Ranch Road
24 Hour Directional Classification Count
Northbound, Southbound

ONT003
Site Code: 051-22421

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/22	1	110	3	0	0	6	0	0	12	0	3	0	0	135
01:00	0	99	10	0	3	5	2	2	6	0	5	0	0	132
02:00	0	93	14	0	1	2	0	0	10	0	**6**	0	0	126
03:00	1	167	17	0	0	6	0	2	13	0	1	0	0	207
04:00	2	333	41	0	8	8	0	5	20	**2**	0	0	0	419
05:00	2	411	71	0	16	13	2	2	14	2	1	0	0	534
06:00	**3**	559	98	0	23	13	0	0	33	1	5	0	0	735
07:00	2	**1033**	139	1	21	14	3	4	46	0	1	0	0	**1264**
08:00	2	980	**142**	1	21	20	3	4	57	1	1	**1**	0	1233
09:00	0	591	97	0	**34**	**21**	0	10	**66**	0	0	0	0	819
10:00	0	561	99	**2**	15	18	1	**14**	48	0	0	0	0	758
11:00	1	596	124	0	25	16	**4**	8	47	1	0	0	0	822
12 PM	1	761	116	0	**27**	**25**	1	8	38	0	0	0	0	977
13:00	2	754	137	0	19	15	1	13	42	0	0	0	0	983
14:00	**6**	880	160	**1**	26	17	0	**26**	37	0	0	0	0	1153
15:00	4	1147	**218**	1	26	22	0	17	**45**	0	0	0	0	**1480**
16:00	3	1053	168	0	22	13	**2**	20	29	**1**	0	0	0	1311
17:00	2	**1161**	173	0	16	14	0	17	27	0	0	0	0	1410
18:00	1	942	127	0	9	20	0	16	25	0	2	0	0	1142
19:00	1	618	69	0	7	13	0	11	24	0	0	0	0	743
20:00	2	507	37	0	2	9	0	8	16	0	1	0	0	582
21:00	0	388	27	0	2	9	1	3	15	0	2	0	0	447
22:00	0	268	5	0	4	6	0	3	18	0	**5**	0	0	309
23:00	2	133	9	0	1	4	0	1	15	0	4	0	0	169
Total	38	14145	2101	6	328	309	20	194	703	8	37	1	0	17890
Percent	0.2%	79.1%	11.7%	0.0%	1.8%	1.7%	0.1%	1.1%	3.9%	0.0%	0.2%	0.0%	0.0%	
AM Peak	06:00	07:00	08:00	10:00	09:00	09:00	11:00	10:00	09:00	04:00	02:00	08:00		07:00
Vol.	3	1033	142	2	34	21	4	14	66	2	6	1		1264
PM Peak	14:00	17:00	15:00	14:00	12:00	12:00	16:00	14:00	15:00	16:00	22:00			15:00
Vol.	6	1161	218	1	27	25	2	26	45	1	5			1480
Grand Total	38	14145	2101	6	328	309	20	194	703	8	37	1	0	17890
Percent	0.2%	79.1%	11.7%	0.0%	1.8%	1.7%	0.1%	1.1%	3.9%	0.0%	0.2%	0.0%	0.0%	

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PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Ontario
Ontario Ranch Road
W/ Hamner Avenue
24 Hour Directional Classification Count

ONT002
Site Code: 051-22421

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/22	0	47	3	0	0	3	0	2	6	0	0	0	0	61
01:00	0	34	4	0	2	2	0	0	10	0	1	0	0	53
02:00	0	28	1	0	1	5	0	1	6	1	3	0	0	46
03:00	0	55	3	0	1	5	0	**3**	9	0	2	0	0	78
04:00	0	104	8	0	2	4	0	0	19	1	7	0	0	145
05:00	1	177	29	0	7	11	1	1	34	2	7	0	0	270
06:00	0	268	55	1	9	12	**6**	1	39	3	5	0	0	399
07:00	3	**502**	58	1	10	17	2	1	41	1	2	0	0	**638**
08:00	0	425	50	0	15	11	4	2	38	3	**14**	2	**1**	565
09:00	**4**	396	58	1	14	18	2	2	39	1	5	1	0	541
10:00	0	381	**67**	1	**21**	19	3	1	43	0	10	2	0	548
11:00	1	362	67	**3**	12	**26**	1	3	**49**	**4**	13	**4**	0	545
12 PM	0	361	72	**1**	19	21	0	3	**48**	0	5	0	**1**	531
13:00	2	435	82	1	28	**25**	1	5	40	0	**8**	1	0	628
14:00	1	579	157	1	**33**	23	**2**	7	34	0	7	1	0	845
15:00	**3**	640	**193**	1	15	20	0	10	25	0	3	**2**	0	**912**
16:00	3	638	136	1	25	12	0	**13**	24	0	0	0	0	852
17:00	2	**706**	112	1	14	23	0	8	24	0	1	0	0	891
18:00	0	617	74	1	3	25	0	6	20	0	0	0	0	746
19:00	1	358	57	1	2	11	1	5	12	0	0	0	0	448
20:00	0	268	24	1	3	11	0	4	11	0	0	0	0	322
21:00	0	203	9	1	2	4	0	2	11	0	0	0	0	232
22:00	0	123	8	0	2	10	0	4	13	0	0	1	0	161
23:00	0	97	1	0	1	5	0	0	11	0	0	0	0	115
Total	21	7804	1328	17	241	323	23	84	606	16	93	14	2	10572
Percent	0.2%	73.8%	12.6%	0.2%	2.3%	3.1%	0.2%	0.8%	5.7%	0.2%	0.9%	0.1%	0.0%	
AM Peak	09:00	07:00	10:00	11:00	10:00	11:00	06:00	03:00	11:00	11:00	08:00	11:00	08:00	07:00
Vol.	4	502	67	3	21	26	6	3	49	4	14	4	1	638
PM Peak	15:00	17:00	15:00	12:00	14:00	13:00	14:00	16:00	12:00		13:00	15:00	12:00	15:00
Vol.	3	706	193	1	33	25	2	13	48		8	2	1	912
Grand Total	21	7804	1328	17	241	323	23	84	606	16	93	14	2	10572
Percent	0.2%	73.8%	12.6%	0.2%	2.3%	3.1%	0.2%	0.8%	5.7%	0.2%	0.9%	0.1%	0.0%	

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City of Ontario
Ontario Ranch Road
W/ Hamner Avenue
24 Hour Directional Classification Count

ONT002
Site Code: 051-22421

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/22	0	78	4	0	1	6	0	1	16	0	0	0	0	106
01:00	0	41	4	0	2	6	2	5	13	**1**	0	0	0	74
02:00	0	43	4	0	3	5	0	2	14	0	0	0	0	71
03:00	0	89	14	0	1	14	0	1	9	0	5	1	0	134
04:00	**4**	244	45	1	2	7	0	3	15	0	4	1	0	326
05:00	0	535	128	1	13	25	1	3	18	1	4	0	0	729
06:00	2	**561**	**241**	1	25	**40**	0	3	34	1	2	0	0	**910**
07:00	3	457	142	1	24	24	1	1	44	0	**14**	2	0	713
08:00	0	413	111	1	26	23	0	2	41	0	5	0	0	622
09:00	0	316	65	**3**	**30**	27	2	6	39	0	14	2	0	504
10:00	0	298	73	1	18	20	0	**11**	**48**	0	7	1	0	477
11:00	1	344	75	1	15	20	**3**	5	34	1	11	**3**	0	513
12 PM	1	422	68	**1**	**22**	17	3	8	52	0	10	**3**	0	607
13:00	1	407	79	1	10	**20**	**5**	4	48	3	3	1	0	582
14:00	2	432	81	1	21	11	2	11	**53**	0	**12**	0	0	626
15:00	2	564	82	0	17	15	0	**12**	49	4	2	0	0	747
16:00	**3**	578	**89**	1	12	10	0	4	43	7	0	0	0	747
17:00	2	**720**	88	1	9	7	0	2	39	**10**	0	0	0	**878**
18:00	2	615	60	1	9	12	0	7	26	2	1	0	0	735
19:00	2	448	59	1	4	12	0	4	17	0	0	0	0	547
20:00	0	482	40	1	1	7	0	6	17	0	0	0	0	554
21:00	0	326	17	1	1	8	0	3	9	0	0	0	0	365
22:00	0	195	3	1	1	10	0	1	19	0	1	0	0	231
23:00	0	126	5	0	0	3	0	2	16	0	0	0	0	152
Total	25	8734	1577	20	267	349	19	107	713	30	95	14	0	11950
Percent	0.2%	73.1%	13.2%	0.2%	2.2%	2.9%	0.2%	0.9%	6.0%	0.3%	0.8%	0.1%	0.0%	
AM Peak	04:00	06:00	06:00	09:00	09:00	06:00	11:00	10:00	10:00	01:00	07:00	11:00		06:00
Vol.	4	561	241	3	30	40	3	11	48	1	14	3		910
PM Peak	16:00	17:00	16:00	12:00	12:00	13:00	13:00	15:00	14:00	17:00	14:00	12:00		17:00
Vol.	3	720	89	1	22	20	5	12	53	10	12	3		878
Grand Total	25	8734	1577	20	267	349	19	107	713	30	95	14	0	11950
Percent	0.2%	73.1%	13.2%	0.2%	2.2%	2.9%	0.2%	0.9%	6.0%	0.3%	0.8%	0.1%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Ontario
Ontario Ranch Road
W/ Hamner Avenue
24 Hour Directional Classification Count

ONT002
Site Code: 051-22421

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/10/22	0	125	7	0	1	9	0	3	22	0	0	0	0	167
01:00	0	75	8	0	4	8	2	5	23	1	1	0	0	127
02:00	0	71	5	0	4	10	0	3	20	1	3	0	0	117
03:00	0	144	17	0	2	19	0	4	18	0	7	1	0	212
04:00	4	348	53	1	4	11	0	3	34	1	11	1	0	471
05:00	1	712	157	1	20	36	2	4	52	3	11	0	0	999
06:00	2	829	**296**	2	34	**52**	**6**	4	73	4	7	0	0	1309
07:00	**6**	**959**	200	2	34	41	3	2	85	1	16	2	0	**1351**
08:00	0	838	161	1	41	34	4	4	79	3	19	2	**1**	1187
09:00	4	712	123	**4**	**44**	45	4	8	78	1	19	3	0	1045
10:00	0	679	140	2	39	39	3	**12**	**91**	0	17	3	0	1025
11:00	2	706	142	4	27	46	4	8	83	**5**	**24**	**7**	0	1058
12 PM	1	783	140	**2**	41	38	3	11	**100**	0	15	**3**	**1**	1138
13:00	3	842	161	2	38	**45**	**6**	9	88	3	11	2	0	1210
14:00	3	1011	238	2	**54**	34	4	18	87	0	**19**	1	0	1471
15:00	5	1204	**275**	1	32	35	0	**22**	74	4	5	2	0	1659
16:00	**6**	1216	225	2	37	22	0	17	67	7	0	0	0	1599
17:00	4	**1426**	200	2	23	30	0	10	63	**10**	1	0	0	**1769**
18:00	2	1232	134	2	12	37	0	13	46	2	1	0	0	1481
19:00	3	806	116	2	6	23	1	9	29	0	0	0	0	995
20:00	0	750	64	2	4	18	0	10	28	0	0	0	0	876
21:00	0	529	26	2	3	12	0	5	20	0	0	0	0	597
22:00	0	318	11	1	3	20	0	5	32	0	1	1	0	392
23:00	0	223	6	0	1	8	0	2	27	0	0	0	0	267
Total	46	16538	2905	37	508	672	42	191	1319	46	188	28	2	22522
Percent	0.2%	73.4%	12.9%	0.2%	2.3%	3.0%	0.2%	0.8%	5.9%	0.2%	0.8%	0.1%	0.0%	
AM Peak	07:00	07:00	06:00	09:00	09:00	06:00	06:00	10:00	10:00	11:00	11:00	11:00	08:00	07:00
Vol.	6	959	296	4	44	52	6	12	91	5	24	7	1	1351
PM Peak	16:00	17:00	15:00	12:00	14:00	13:00	13:00	15:00	12:00	17:00	14:00	12:00	12:00	17:00
Vol.	6	1426	275	2	54	45	6	22	100	10	19	3	1	1769
Grand Total	46	16538	2905	37	508	672	42	191	1319	46	188	28	2	22522
Percent	0.2%	73.4%	12.9%	0.2%	2.3%	3.0%	0.2%	0.8%	5.9%	0.2%	0.8%	0.1%	0.0%	

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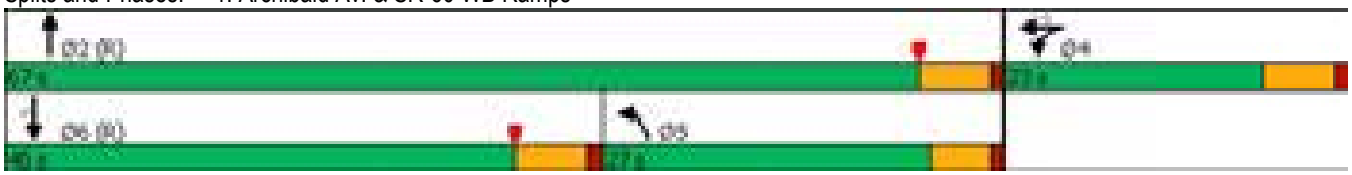
APPENDIX 3.2: EXISTING (2022) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	336	8	442	761	953	397	160
Future Volume (vph)	336	8	442	761	953	397	160
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	23.0	23.0	23.0	27.0	67.0	40.0	40.0
Total Split (%)	25.6%	25.6%	25.6%	30.0%	74.4%	44.4%	44.4%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	20.1	20.1	20.1	24.0	58.3	29.3	29.3
Actuated g/C Ratio	0.22	0.22	0.22	0.27	0.65	0.33	0.33
v/c Ratio	0.74	0.62	0.56	0.85	0.30	0.19	0.26
Control Delay	46.2	22.5	16.4	36.7	4.0	23.0	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	22.5	16.4	36.7	4.0	23.0	4.9
LOS	D	C	B	D	A	C	A
Approach Delay		28.8			18.5	17.8	
Approach LOS		C			B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 21.0	Intersection LOS: C
Intersection Capacity Utilization 65.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	336	8	442	761	953	0	0	397	160
Future Volume (veh/h)	0	0	0	336	8	442	761	953	0	0	397	160
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				488	0	268	777	972	0	0	405	66
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				673	0	299	1747	3484	0	0	722	178
Arrive On Green				0.19	0.00	0.19	1.00	1.00	0.00	0.00	0.11	0.11
Sat Flow, veh/h				3563	0	1583	3456	5274	0	0	6696	1585
Grp Volume(v), veh/h				488	0	268	777	972	0	0	405	66
Grp Sat Flow(s),veh/h/ln				1781	0	1583	1728	1702	0	0	1609	1585
Q Serve(g_s), s				11.6	0.0	14.9	0.0	0.0	0.0	0.0	5.4	3.5
Cycle Q Clear(g_c), s				11.6	0.0	14.9	0.0	0.0	0.0	0.0	5.4	3.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				673	0	299	1747	3484	0	0	722	178
V/C Ratio(X)				0.73	0.00	0.90	0.44	0.28	0.00	0.00	0.56	0.37
Avail Cap(c_a), veh/h				681	0	302	1747	3484	0	0	2445	602
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.86	0.86	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				34.3	0.0	35.6	0.0	0.0	0.0	0.0	37.8	37.0
Incr Delay (d2), s/veh				3.8	0.0	27.1	0.1	0.2	0.0	0.0	3.1	5.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.1	0.0	14.4	0.0	0.1	0.0	0.0	2.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.1	0.0	62.7	0.1	0.2	0.0	0.0	41.0	42.9
LnGrp LOS				D	A	E	A	A	A	A	D	D
Approach Vol, veh/h					756			1749			471	
Approach Delay, s/veh					46.8			0.1			41.2	
Approach LOS					D			A			D	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	67.2	22.8	51.3	15.9
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	61.2	17.2	22.0	* 34
Max Q Clear Time (g_c+I1), s	2.0	16.9	2.0	7.4
Green Ext Time (p_c), s	7.7	0.1	1.4	2.7

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

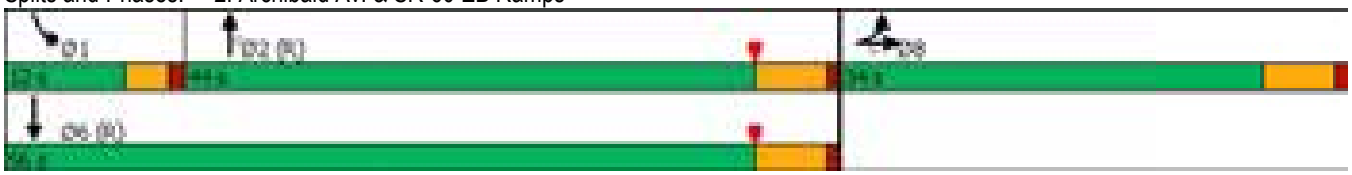
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	350	5	425	1359	554	151	603
Future Volume (vph)	350	5	425	1359	554	151	603
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	34.0	34.0	34.0	44.0	44.0	12.0	56.0
Total Split (%)	37.8%	37.8%	37.8%	48.9%	48.9%	13.3%	62.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	21.7	21.7	21.7	44.7	44.7	8.0	56.7
Actuated g/C Ratio	0.24	0.24	0.24	0.50	0.50	0.09	0.63
v/c Ratio	0.71	0.62	0.50	0.46	0.55	0.53	0.20
Control Delay	40.7	22.1	8.5	16.4	3.7	53.4	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	22.1	8.5	16.4	3.7	53.4	4.0
LOS	D	C	A	B	A	D	A
Approach Delay		24.2		12.7			13.9
Approach LOS		C		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 15.5	Intersection LOS: B
Intersection Capacity Utilization 65.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	5	425	0	0	0	0	1359	554	151	603	0
Future Volume (veh/h)	350	5	425	0	0	0	0	1359	554	151	603	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	454	0	164				0	1461	416	162	648	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	590	0	258				0	3826	922	230	3603	0
Arrive On Green	0.17	0.00	0.17				0.00	0.59	0.59	0.13	1.00	0.00
Sat Flow, veh/h	3563	0	1561				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	454	0	164				0	1461	416	162	648	0
Grp Sat Flow(s),veh/h/ln	1781	0	1561				0	1609	1551	1728	1702	0
Q Serve(g_s), s	11.0	0.0	8.8				0.0	10.7	13.4	4.0	0.0	0.0
Cycle Q Clear(g_c), s	11.0	0.0	8.8				0.0	10.7	13.4	4.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	590	0	258				0	3826	922	230	3603	0
V/C Ratio(X)	0.77	0.00	0.63				0.00	0.38	0.45	0.71	0.18	0.00
Avail Cap(c_a), veh/h	1116	0	489				0	3826	922	307	3603	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	35.9	0.0	35.0				0.0	9.6	10.1	38.2	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	2.6				0.0	0.3	1.6	2.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	3.4				0.0	3.1	4.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	0.0	37.6				0.0	9.9	11.7	40.4	0.1	0.0
LnGrp LOS	D	A	D				A	A	B	D	A	A
Approach Vol, veh/h		618						1877			810	
Approach Delay, s/veh		37.9						10.3			8.2	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	10.0	59.3				69.3		20.7				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	8.0	38.2				50.2		28.2				
Max Q Clear Time (g_c+I1), s	6.0	15.4				2.0		13.0				
Green Ext Time (p_c), s	0.0	12.2				4.4		1.9				

Intersection Summary												
HCM 6th Ctrl Delay			14.9									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	149	321	137	86	443	211	260	1267	173	513
Future Volume (vph)	149	321	137	86	443	211	260	1267	173	513
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	18.0	41.5	41.5	14.7	38.2	38.2	29.0	42.0	21.8	34.8
Total Split (%)	15.0%	34.6%	34.6%	12.3%	31.8%	31.8%	24.2%	35.0%	18.2%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.9	25.4	25.4	9.1	21.5	21.5	21.5	35.7	15.2	29.3
Actuated g/C Ratio	0.12	0.24	0.24	0.08	0.20	0.20	0.20	0.33	0.14	0.27
v/c Ratio	0.82	0.42	0.30	0.67	0.68	0.47	0.85	0.88	0.80	0.54
Control Delay	79.4	36.5	4.6	74.5	45.3	8.1	66.8	42.2	71.7	33.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.4	36.5	4.6	74.5	45.3	8.1	66.8	42.2	71.7	33.1
LOS	E	D	A	E	D	A	E	D	E	C
Approach Delay		39.8			38.1			46.2		40.9
Approach LOS		D			D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 107.1	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 42.4	Intersection LOS: D
Intersection Capacity Utilization 80.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	321	137	86	443	211	260	1267	78	173	513	174
Future Volume (veh/h)	149	321	137	86	443	211	260	1267	78	173	513	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	155	334	85	90	461	156	271	1320	78	180	534	141
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	790	346	111	639	279	300	1545	91	208	1107	284
Arrive On Green	0.11	0.23	0.23	0.07	0.19	0.19	0.19	0.33	0.33	0.13	0.29	0.29
Sat Flow, veh/h	1594	3367	1477	1594	3367	1471	1594	4666	276	1594	3822	982
Grp Volume(v), veh/h	155	334	85	90	461	156	271	912	486	180	448	227
Grp Sat Flow(s),veh/h/ln	1594	1683	1477	1594	1683	1471	1594	1612	1717	1594	1612	1579
Q Serve(g_s), s	9.5	8.4	4.6	5.5	12.7	6.5	16.5	26.2	26.2	11.0	11.4	11.8
Cycle Q Clear(g_c), s	9.5	8.4	4.6	5.5	12.7	6.5	16.5	26.2	26.2	11.0	11.4	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		0.62
Lane Grp Cap(c), veh/h	182	790	346	111	639	279	300	1068	568	208	934	457
V/C Ratio(X)	0.85	0.42	0.25	0.81	0.72	0.56	0.90	0.85	0.85	0.86	0.48	0.50
Avail Cap(c_a), veh/h	215	1198	526	162	1086	475	392	1164	620	276	934	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	32.3	30.8	45.5	37.7	17.0	39.4	30.9	30.9	42.2	29.1	29.2
Incr Delay (d2), s/veh	20.8	0.4	0.4	11.1	1.6	1.7	17.3	6.0	10.6	15.6	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	3.2	1.6	2.4	5.1	3.2	7.5	10.2	11.6	5.0	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	32.6	31.2	56.6	39.3	18.8	56.6	36.9	41.5	57.9	29.4	30.1
LnGrp LOS	E	C	C	E	D	B	E	D	D	E	C	C
Approach Vol, veh/h		574			707			1669			855	
Approach Delay, s/veh		40.9			36.9			41.5			35.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	39.0	11.5	29.5	23.3	34.9	15.9	25.0
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.2	* 36	10.1	35.3	24.4	28.6	13.4	32.0
Max Q Clear Time (g_c+I1), s	13.0	28.2	7.5	10.4	18.5	13.8	11.5	14.7
Green Ext Time (p_c), s	0.1	4.7	0.0	2.1	0.2	3.4	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

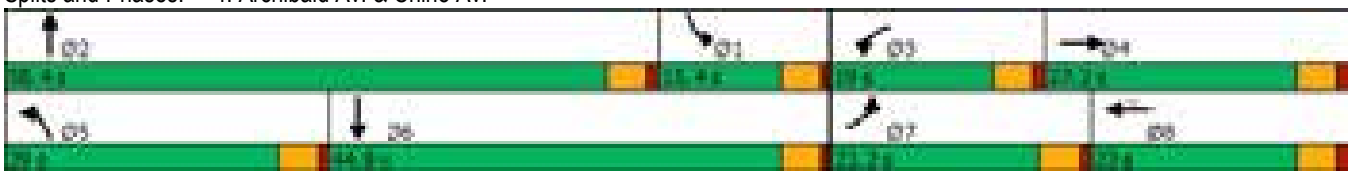
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	112	70	80	100	171	155	1210	51	587
Future Volume (vph)	112	70	80	100	171	155	1210	51	587
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	23.2	27.2	19.0	23.0	23.0	29.0	58.4	15.4	44.8
Total Split (%)	19.3%	22.7%	15.8%	19.2%	19.2%	24.2%	48.7%	12.8%	37.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.0	17.5	10.7	11.9	11.9	16.0	38.7	8.9	28.5
Actuated g/C Ratio	0.15	0.20	0.12	0.13	0.13	0.18	0.44	0.10	0.32
v/c Ratio	0.57	0.40	0.49	0.50	0.54	0.64	0.67	0.38	0.69
Control Delay	50.3	35.0	51.6	48.2	12.1	48.2	23.0	50.9	30.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.3	35.0	51.6	48.2	12.1	48.2	23.0	50.9	30.7
LOS	D	D	D	D	B	D	C	D	C
Approach Delay		42.5		31.4			25.7		32.2
Approach LOS		D		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 88.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 29.5	Intersection LOS: C
Intersection Capacity Utilization 56.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	70	48	80	100	171	155	1210	86	51	587	71
Future Volume (veh/h)	112	70	48	80	100	171	155	1210	86	51	587	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	132	82	48	94	118	107	182	1424	93	60	691	76
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	144	84	118	188	160	227	2195	143	82	1109	122
Arrive On Green	0.10	0.14	0.14	0.07	0.11	0.11	0.14	0.45	0.45	0.05	0.35	0.35
Sat Flow, veh/h	1594	1048	613	1594	1772	1502	1594	4931	322	1594	3129	344
Grp Volume(v), veh/h	132	0	130	94	118	107	182	1023	494	60	391	376
Grp Sat Flow(s),veh/h/ln	1594	0	1661	1594	1772	1502	1594	1772	1709	1594	1772	1701
Q Serve(g_s), s	5.1	0.0	4.6	3.7	4.0	3.4	7.0	14.2	14.2	2.3	11.5	11.5
Cycle Q Clear(g_c), s	5.1	0.0	4.6	3.7	4.0	3.4	7.0	14.2	14.2	2.3	11.5	11.5
Prop In Lane	1.00		0.37	1.00		1.00	1.00		0.19	1.00		0.20
Lane Grp Cap(c), veh/h	167	0	228	118	188	160	227	1577	761	82	628	603
V/C Ratio(X)	0.79	0.00	0.57	0.80	0.63	0.67	0.80	0.65	0.65	0.73	0.62	0.62
Avail Cap(c_a), veh/h	471	0	596	365	518	439	618	3028	1461	273	1131	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	25.4	28.7	26.9	16.4	26.1	13.6	13.6	29.4	16.8	16.8
Incr Delay (d2), s/veh	8.1	0.0	2.2	11.6	3.4	4.8	6.5	0.5	0.9	11.6	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	1.8	1.7	1.7	1.6	2.7	4.2	4.1	1.1	3.9	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	0.0	27.7	40.2	30.3	21.2	32.6	14.1	14.6	41.1	17.8	17.9
LnGrp LOS	D	A	C	D	C	C	C	B	B	D	B	B
Approach Vol, veh/h		262			319			1699			827	
Approach Delay, s/veh		31.7			30.2			16.2			19.6	
Approach LOS		C			C			B			B	

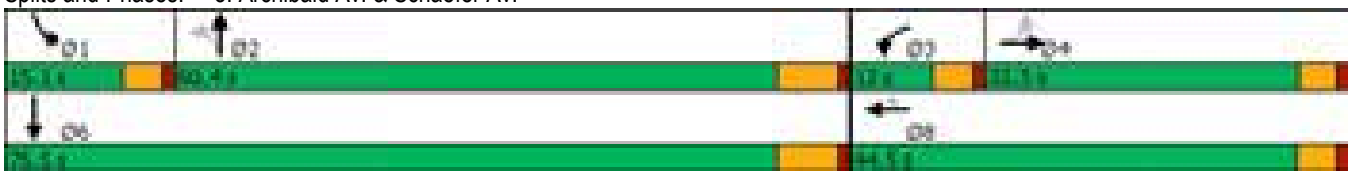
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	32.6	9.3	13.2	13.6	26.9	11.2	11.3
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	10.8	53.8	14.4	22.6	24.4	40.2	18.6	18.4
Max Q Clear Time (g_c+I1), s	4.3	16.2	5.7	6.6	9.0	13.5	7.1	6.0
Green Ext Time (p_c), s	0.0	11.8	0.1	0.5	0.4	4.4	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	19.8
HCM 6th LOS	B

Lane Group	WBL	WBR	NBT	SBL	SBT	Ø4
Lane Configurations						
Traffic Volume (vph)	28	62	1290	46	754	
Future Volume (vph)	28	62	1290	46	754	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	3		2	1	6	4
Permitted Phases		8				
Detector Phase	3	8	2	1	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	32.6	37.5	9.6	23.5	32.5
Total Split (s)	12.0	44.5	60.4	15.1	75.5	32.5
Total Split (%)	10.0%	37.1%	50.3%	12.6%	62.9%	27%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag	Lead		Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	9.9	10.2	35.6	8.6	41.9	
Actuated g/C Ratio	0.17	0.18	0.62	0.15	0.73	
v/c Ratio	0.12	0.18	0.52	0.23	0.37	
Control Delay	27.9	1.0	11.8	34.8	5.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.9	1.0	11.8	34.8	5.5	
LOS	C	A	B	C	A	
Approach Delay			11.8		7.2	
Approach LOS			B		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 57.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 10.0	Intersection LOS: B
Intersection Capacity Utilization 63.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	28	0	62	0	1290	20	46	754	0
Future Volume (veh/h)	0	0	0	28	0	62	0	1290	20	46	754	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	0	0	0	33	0	74	0	1536	12	55	898	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	135	0	57	341	270	126	2384	19	81	2065	0
Arrive On Green	0.00	0.00	0.00	0.04	0.00	0.19	0.00	0.48	0.48	0.05	0.61	0.00
Sat Flow, veh/h	1186	1772	0	1594	1772	1403	555	4950	39	1594	3455	0
Grp Volume(v), veh/h	0	0	0	33	0	74	0	1001	547	55	898	0
Grp Sat Flow(s),veh/h/ln	1186	1772	0	1594	1772	1403	555	1612	1764	1594	1683	0
Q Serve(g_s), s	0.0	0.0	0.0	1.2	0.0	2.6	0.0	13.3	13.3	1.9	8.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.2	0.0	2.6	0.0	13.3	13.3	1.9	8.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	126	135	0	57	341	270	126	1553	850	81	2065	0
V/C Ratio(X)	0.00	0.00	0.00	0.58	0.00	0.27	0.00	0.64	0.64	0.68	0.43	0.00
Avail Cap(c_a), veh/h	618	870	0	207	1239	981	383	3047	1666	293	4072	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	27.1	0.0	19.7	0.0	11.1	11.1	26.6	5.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.4	0.0	0.5	0.0	0.5	0.8	3.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.4	0.0	0.8	0.0	3.1	3.5	0.7	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	30.5	0.0	20.2	0.0	11.6	11.9	30.2	6.0	0.0
LnGrp LOS	A	A	A	C	A	C	A	B	B	C	A	A
Approach Vol, veh/h		0			107			1548			953	
Approach Delay, s/veh		0.0			23.4			11.7			7.4	
Approach LOS					C			B			A	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	7.5	34.0	6.6	8.9		41.5		15.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6		6.5		4.6				
Max Green Setting (Gmax), s	10.5	53.9	7.4	* 28		69.0		39.9				
Max Q Clear Time (g_c+I1), s	3.9	15.3	3.2	0.0		10.0		4.6				
Green Ext Time (p_c), s	0.0	12.1	0.0	0.0		6.4		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	129	65	242	312	106	167	1045	280	90	499	62
Future Volume (vph)	35	129	65	242	312	106	167	1045	280	90	499	62
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	40.4		15.4	46.2	46.2	17.7	50.0		14.2	46.5	46.5
Total Split (%)	8.0%	33.7%		12.8%	38.5%	38.5%	14.8%	41.7%		11.8%	38.8%	38.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.1	18.5	98.8	11.1	29.2	29.2	13.4	37.5	98.8	9.2	33.3	33.3
Actuated g/C Ratio	0.05	0.19	1.00	0.11	0.30	0.30	0.14	0.38	1.00	0.09	0.34	0.34
v/c Ratio	0.25	0.21	0.05	0.80	0.66	0.22	0.86	0.86	0.21	0.67	0.46	0.11
Control Delay	55.1	34.7	0.1	64.1	39.3	6.6	79.4	36.7	0.3	70.3	27.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	34.7	0.1	64.1	39.3	6.6	79.4	36.7	0.3	70.3	27.8	0.4
LOS	E	C	A	E	D	A	E	D	A	E	C	A
Approach Delay		28.0			43.2			34.6			31.1	
Approach LOS		C			D			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 98.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 35.2	Intersection LOS: D
Intersection Capacity Utilization 75.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	129	65	242	312	106	167	1045	280	90	499	62
Future Volume (veh/h)	35	129	65	242	312	106	167	1045	280	90	499	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	38	142	0	266	343	93	184	1148	0	99	548	57
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	554		333	412	344	216	1398		122	1191	493
Arrive On Green	0.04	0.16	0.00	0.11	0.23	0.23	0.14	0.39	0.00	0.08	0.34	0.34
Sat Flow, veh/h	3000	3544	1502	3000	1772	1482	1594	3544	1502	1594	3544	1468
Grp Volume(v), veh/h	38	142	0	266	343	93	184	1148	0	99	548	57
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1482	1594	1772	1502	1594	1772	1468
Q Serve(g_s), s	1.0	3.0	0.0	7.2	15.4	4.3	9.5	24.3	0.0	5.1	10.2	2.2
Cycle Q Clear(g_c), s	1.0	3.0	0.0	7.2	15.4	4.3	9.5	24.3	0.0	5.1	10.2	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	554		333	412	344	216	1398		122	1191	493
V/C Ratio(X)	0.36	0.26		0.80	0.83	0.27	0.85	0.82		0.81	0.46	0.12
Avail Cap(c_a), veh/h	179	1446		387	846	707	249	1839		183	1691	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	31.1	0.0	36.3	30.6	26.4	35.4	22.7	0.0	38.1	21.9	19.2
Incr Delay (d2), s/veh	0.8	0.2	0.0	8.3	4.5	0.4	19.5	2.4	0.0	8.9	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.2	0.0	2.8	6.5	1.4	4.5	9.0	0.0	2.1	3.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	31.3	0.0	44.7	35.1	26.8	54.9	25.1	0.0	47.0	22.1	19.3
LnGrp LOS	D	C		D	D	C	D	C		D	C	B
Approach Vol, veh/h		180	A		702			1332	A		704	
Approach Delay, s/veh		33.2			37.6			29.2			25.4	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	39.6	13.9	19.3	15.9	34.7	7.5	25.7
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	9.6	43.5	10.8	34.2	13.1	40.0	5.0	40.0
Max Q Clear Time (g_c+I1), s	7.1	26.3	9.2	5.0	11.5	12.2	3.0	17.4
Green Ext Time (p_c), s	0.0	6.8	0.1	0.7	0.0	3.4	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	119	356	85	456	237	208	111	161
Future Volume (vph)	119	356	85	456	237	208	111	161
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	20.4	39.0	18.0	36.6	33.2	38.7	24.3	29.8
Total Split (%)	17.0%	32.5%	15.0%	30.5%	27.7%	32.3%	20.3%	24.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.3	29.6	10.6	27.0	22.9	23.8	13.3	14.2
Actuated g/C Ratio	0.13	0.30	0.11	0.27	0.23	0.24	0.13	0.14
v/c Ratio	0.72	0.61	0.64	0.83	0.82	0.61	0.67	0.62
Control Delay	63.7	32.6	63.8	43.1	56.9	23.5	59.2	31.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	32.6	63.8	43.1	56.9	23.5	59.2	31.8
LOS	E	C	E	D	E	C	E	C
Approach Delay		38.9		45.7		35.4		39.8
Approach LOS		D		D		D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 99.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 40.0	Intersection LOS: D
Intersection Capacity Utilization 69.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	356	113	85	456	129	237	208	219	111	161	110
Future Volume (veh/h)	119	356	113	85	456	129	237	208	219	111	161	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.94	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	151	451	82	108	577	105	300	263	243	141	204	117
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	797	144	133	713	129	336	461	388	172	357	195
Arrive On Green	0.11	0.28	0.28	0.08	0.25	0.25	0.21	0.27	0.27	0.11	0.17	0.17
Sat Flow, veh/h	1594	2831	511	1594	2839	515	1594	1683	1416	1594	2085	1139
Grp Volume(v), veh/h	151	267	266	108	341	341	300	263	243	141	163	158
Grp Sat Flow(s),veh/h/ln	1594	1683	1658	1594	1683	1670	1594	1683	1416	1594	1683	1540
Q Serve(g_s), s	7.8	11.3	11.5	5.6	16.0	16.1	15.3	11.3	12.6	7.3	7.4	7.9
Cycle Q Clear(g_c), s	7.8	11.3	11.5	5.6	16.0	16.1	15.3	11.3	12.6	7.3	7.4	7.9
Prop In Lane	1.00		0.31	1.00		0.31	1.00		1.00	1.00		0.74
Lane Grp Cap(c), veh/h	182	474	467	133	423	419	336	461	388	172	288	264
V/C Ratio(X)	0.83	0.56	0.57	0.81	0.81	0.81	0.89	0.57	0.63	0.82	0.56	0.60
Avail Cap(c_a), veh/h	301	659	649	255	611	606	544	661	556	375	482	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	25.7	25.8	37.7	29.5	29.5	32.2	26.2	26.6	36.6	31.9	32.1
Incr Delay (d2), s/veh	3.9	1.1	1.1	4.4	5.2	5.4	6.9	1.1	1.7	3.7	1.7	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.2	4.2	2.2	6.5	6.5	6.1	4.3	4.1	2.8	3.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	26.7	26.9	42.1	34.7	35.0	39.1	27.3	28.3	40.3	33.6	34.3
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		684			790			806			462	
Approach Delay, s/veh		29.8			35.8			32.0			35.9	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	28.8	11.6	29.8	22.2	20.1	14.2	27.2
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	19.7	32.9	13.4	32.8	28.6	24.0	15.8	30.4
Max Q Clear Time (g_c+I1), s	9.3	14.6	7.6	13.5	17.3	9.9	9.8	18.1
Green Ext Time (p_c), s	0.1	2.7	0.1	2.7	0.3	1.4	0.1	3.0

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	21.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	61	97	11	103	76	129	396	16	34	186	74
Future Vol, veh/h	97	61	97	11	103	76	129	396	16	34	186	74
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	131	82	131	15	139	103	174	535	22	46	251	100
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	16.2	16	27.3	17.2
HCM LOS	C	C	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	89%	0%	100%	17%	0%	100%	31%	0%	100%	46%
Vol Right, %	0%	0%	11%	0%	0%	83%	0%	0%	69%	0%	0%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	129	264	148	97	41	117	11	69	110	34	124	136
LT Vol	129	0	0	97	0	0	11	0	0	34	0	0
Through Vol	0	264	132	0	41	20	0	69	34	0	124	62
RT Vol	0	0	16	0	0	97	0	0	76	0	0	74
Lane Flow Rate	174	357	200	131	55	159	15	93	149	46	168	184
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.421	0.812	0.451	0.349	0.139	0.375	0.041	0.241	0.368	0.12	0.414	0.434
Departure Headway (Hd)	8.69	8.19	8.115	9.591	9.091	8.512	9.859	9.359	8.877	9.388	8.888	8.507
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	417	446	446	375	394	422	363	383	406	382	406	423
Service Time	6.39	5.89	5.815	7.35	6.85	6.271	7.62	7.12	6.638	7.146	6.646	6.265
HCM Lane V/C Ratio	0.417	0.8	0.448	0.349	0.14	0.377	0.041	0.243	0.367	0.12	0.414	0.435
HCM Control Delay	17.6	37.7	17.3	17.4	13.3	16.3	13	15.1	16.8	13.4	17.8	17.7
HCM Lane LOS	C	E	C	C	B	C	B	C	C	B	C	C
HCM 95th-tile Q	2	7.5	2.3	1.5	0.5	1.7	0.1	0.9	1.7	0.4	2	2.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	32	471	15	52	686	24	34	129	53	64
Future Volume (vph)	32	471	15	52	686	24	34	129	53	64
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	15.0	49.0	49.0	18.0	52.0	52.0	15.0	35.0	18.0	38.0
Total Split (%)	12.5%	40.8%	40.8%	15.0%	43.3%	43.3%	12.5%	29.2%	15.0%	31.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	7.1	21.4	21.4	7.9	22.0	22.0	7.1	13.2	7.9	13.8
Actuated g/C Ratio	0.12	0.35	0.35	0.13	0.36	0.36	0.12	0.22	0.13	0.23
v/c Ratio	0.18	0.42	0.03	0.25	0.60	0.04	0.18	0.45	0.26	0.22
Control Delay	36.5	19.3	0.1	35.6	20.7	0.1	36.5	29.1	35.5	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	19.3	0.1	35.6	20.7	0.1	36.5	29.1	35.5	24.0
LOS	D	B	A	D	C	A	D	C	D	C
Approach Delay		19.8			21.0			30.4		28.5
Approach LOS		B			C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 60.9	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 22.4	Intersection LOS: C
Intersection Capacity Utilization 53.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	471	15	52	686	24	34	129	34	53	64	19
Future Volume (veh/h)	32	471	15	52	686	24	34	129	34	53	64	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	523	13	58	762	19	38	143	32	59	71	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	1117	498	99	1175	524	73	220	49	100	263	37
Arrive On Green	0.04	0.31	0.31	0.06	0.33	0.33	0.04	0.15	0.15	0.06	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1480	331	1781	1604	226
Grp Volume(v), veh/h	36	523	13	58	762	19	38	0	175	59	0	81
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1811	1781	0	1830
Q Serve(g_s), s	1.0	5.8	0.3	1.6	8.9	0.4	1.0	0.0	4.5	1.6	0.0	1.9
Cycle Q Clear(g_c), s	1.0	5.8	0.3	1.6	8.9	0.4	1.0	0.0	4.5	1.6	0.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		0.12
Lane Grp Cap(c), veh/h	70	1117	498	99	1175	524	73	0	269	100	0	300
V/C Ratio(X)	0.51	0.47	0.03	0.58	0.65	0.04	0.52	0.00	0.65	0.59	0.00	0.27
Avail Cap(c_a), veh/h	378	3136	1399	488	3354	1496	378	0	1080	488	0	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.0	13.5	11.6	22.6	14.0	11.1	23.0	0.0	19.6	22.5	0.0	17.9
Incr Delay (d2), s/veh	2.1	0.3	0.0	2.0	0.6	0.0	2.1	0.0	2.6	2.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.7	0.1	0.6	2.7	0.1	0.4	0.0	1.7	0.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	13.8	11.6	24.6	14.6	11.1	25.1	0.0	22.3	24.6	0.0	18.4
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	A	B
Approach Vol, veh/h		572			839			213			140	
Approach Delay, s/veh		14.5			15.2			22.8			21.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	13.1	7.3	21.2	6.6	13.8	6.5	22.0
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	13.4	29.2	13.4	43.2	10.4	32.2	10.4	46.2
Max Q Clear Time (g_c+I1), s	3.6	6.5	3.6	7.8	3.0	3.9	3.0	10.9
Green Ext Time (p_c), s	0.0	0.8	0.0	3.3	0.0	0.3	0.0	5.2

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	186	4	716	303	1445	734	407
Future Volume (vph)	186	4	716	303	1445	734	407
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	30.2	30.2		16.0	44.8	28.8	28.8
Total Split (%)	40.3%	40.3%		21.3%	59.7%	38.4%	38.4%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	21.0	21.0	75.0	10.2	42.0	26.8	26.8
Actuated g/C Ratio	0.28	0.28	1.00	0.14	0.56	0.36	0.36
v/c Ratio	0.79	0.80	0.47	0.68	0.53	0.42	0.51
Control Delay	37.3	37.7	1.0	34.3	11.6	20.2	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	37.7	1.0	34.3	11.6	20.2	4.8
LOS	D	D	A	C	B	C	A
Approach Delay		19.3			15.5	14.7	
Approach LOS		B			B	B	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 45 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 16.5	Intersection LOS: B
Intersection Capacity Utilization 70.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	186	4	716	303	1445	0	0	734	407
Future Volume (veh/h)	0	0	0	186	4	716	303	1445	0	0	734	407
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				747	0	0	316	1505	0	0	765	356
Peak Hour Factor				0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				890	0		397	3014	0	0	2086	639
Arrive On Green				0.25	0.00	0.00	0.23	1.00	0.00	0.00	0.41	0.41
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1564
Grp Volume(v), veh/h				747	0	0	316	1505	0	0	765	356
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1564
Q Serve(g_s), s				14.9	0.0	0.0	6.5	0.0	0.0	0.0	7.8	13.1
Cycle Q Clear(g_c), s				14.9	0.0	0.0	6.5	0.0	0.0	0.0	7.8	13.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				890	0		397	3014	0	0	2086	639
V/C Ratio(X)				0.84	0.00		0.80	0.50	0.00	0.00	0.37	0.56
Avail Cap(c_a), veh/h				1159	0		507	3014	0	0	2086	639
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.58	0.58	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				26.7	0.0	0.0	28.1	0.0	0.0	0.0	15.4	17.0
Incr Delay (d2), s/veh				4.4	0.0	0.0	3.0	0.3	0.0	0.0	0.5	3.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.3	0.0	0.0	2.4	0.1	0.0	0.0	2.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				31.1	0.0	0.0	31.1	0.3	0.0	0.0	15.9	20.5
LnGrp LOS				C	A		C	A	A	A	B	C
Approach Vol, veh/h					747	A		1821			1121	
Approach Delay, s/veh					31.1			5.7			17.4	
Approach LOS					C			A			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	50.5		13.6	36.8		24.5						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	38.6		11.0	22.6		24.4						
Max Q Clear Time (g_c+I1), s	2.0		8.5	15.1		16.9						
Green Ext Time (p_c), s	8.2		0.2	2.5		1.8						

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

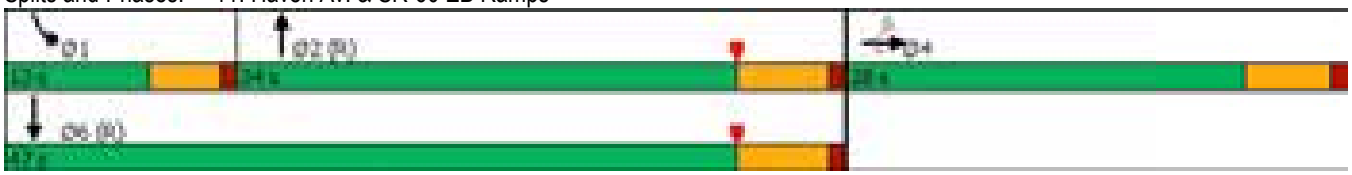
Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	718	5	166	1014	324	624
Future Volume (vph)	718	5	166	1014	324	624
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	28.0	28.0	28.0	34.0	13.0	47.0
Total Split (%)	37.3%	37.3%	37.3%	45.3%	17.3%	62.7%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	20.4	20.4	20.4	28.6	9.0	42.6
Actuated g/C Ratio	0.27	0.27	0.27	0.38	0.12	0.57
v/c Ratio	0.83	0.83	0.31	0.72	0.83	0.23
Control Delay	42.1	42.7	5.2	20.8	50.4	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	42.7	5.2	20.8	50.4	8.6
LOS	D	D	A	C	D	A
Approach Delay		35.4		20.8		22.8
Approach LOS		D		C		C

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 48 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 25.5	Intersection LOS: C
Intersection Capacity Utilization 70.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	718	5	166	0	0	0	0	1014	321	324	624	0
Future Volume (veh/h)	718	5	166	0	0	0	0	1014	321	324	624	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	760	0	69				0	1067	257	341	657	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	892	0	397				0	1705	410	369	3011	0
Arrive On Green	0.25	0.00	0.25				0.00	0.42	0.42	0.21	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4263	986	3456	5274	0
Grp Volume(v), veh/h	760	0	69				0	887	437	341	657	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1677	1728	1702	0
Q Serve(g_s), s	15.2	0.0	2.6				0.0	15.4	15.4	7.3	0.0	0.0
Cycle Q Clear(g_c), s	15.2	0.0	2.6				0.0	15.4	15.4	7.3	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.59	1.00		0.00
Lane Grp Cap(c), veh/h	892	0	397				0	1417	698	369	3011	0
V/C Ratio(X)	0.85	0.00	0.17				0.00	0.63	0.63	0.93	0.22	0.00
Avail Cap(c_a), veh/h	1055	0	469				0	1417	698	369	3011	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	26.8	0.0	22.0				0.0	17.3	17.3	29.2	0.0	0.0
Incr Delay (d2), s/veh	6.0	0.0	0.2				0.0	2.1	4.2	25.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	0.9				0.0	5.6	5.9	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	0.0	22.2				0.0	19.4	21.5	54.2	0.1	0.0
LnGrp LOS	C	A	C				A	B	C	D	A	A
Approach Vol, veh/h		829						1324			998	
Approach Delay, s/veh		31.9						20.1			18.6	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.0	37.4		24.6		50.4
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	8.0	27.8		22.2		40.8
Max Q Clear Time (g_c+I1), s	9.3	17.4		17.2		2.0
Green Ext Time (p_c), s	0.0	4.2		1.5		2.8

Intersection Summary		
HCM 6th Ctrl Delay		22.7
HCM 6th LOS		C

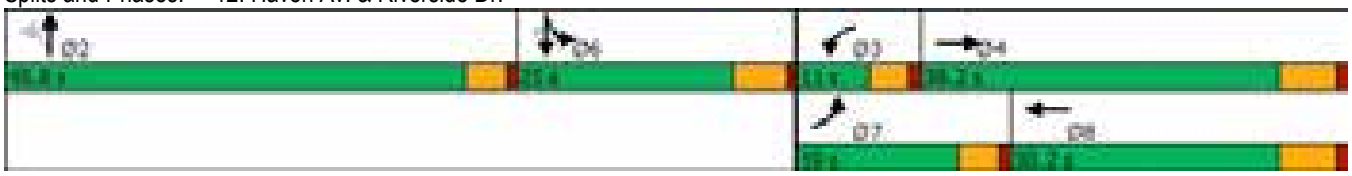
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	323	442	100	343	20	297	262	184	229
Future Volume (vph)	323	442	100	343	20	297	262	184	229
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	19.0	38.2	11.0	30.2	45.8	45.8	25.0	25.0	25.0
Total Split (%)	15.8%	31.8%	9.2%	25.2%	38.2%	38.2%	20.8%	20.8%	20.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	14.4	32.0	6.4	24.0		41.1	19.2	19.2	19.2
Actuated g/C Ratio	0.12	0.27	0.05	0.20		0.34	0.16	0.16	0.16
v/c Ratio	1.82	1.08	1.26	0.81		1.86	1.10	0.70	0.56
Control Delay	419.9	107.4	229.7	50.7		429.8	133.6	61.6	10.9
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	419.9	107.4	229.7	50.7		429.8	133.6	61.6	10.9
LOS	F	F	F	D		F	F	E	B
Approach Delay		234.4		79.5		429.8		72.4	
Approach LOS		F		E		F		E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.86	
Intersection Signal Delay: 184.1	Intersection LOS: F
Intersection Capacity Utilization 96.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	323	442	30	100	343	177	20	297	91	262	184	229
Future Volume (veh/h)	323	442	30	100	343	177	20	297	91	262	184	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	344	470	29	106	365	152	21	316	80	279	196	68
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	484	30	94	508	207	23	354	90	281	313	260
Arrive On Green	0.13	0.29	0.29	0.06	0.22	0.22	0.27	0.27	0.27	0.18	0.18	0.18
Sat Flow, veh/h	1594	1643	101	1594	2299	938	86	1290	326	1594	1772	1471
Grp Volume(v), veh/h	344	0	499	106	265	252	417	0	0	279	196	68
Grp Sat Flow(s),veh/h/ln	1594	0	1744	1594	1683	1554	1702	0	0	1594	1772	1471
Q Serve(g_s), s	14.4	0.0	30.7	6.4	15.8	16.4	25.6	0.0	0.0	19.0	11.1	4.3
Cycle Q Clear(g_c), s	14.4	0.0	30.7	6.4	15.8	16.4	25.6	0.0	0.0	19.0	11.1	4.3
Prop In Lane	1.00		0.06	1.00		0.60	0.05		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	211	0	513	94	372	343	467	0	0	281	313	260
V/C Ratio(X)	1.63	0.00	0.97	1.13	0.71	0.73	0.89	0.00	0.00	0.99	0.63	0.26
Avail Cap(c_a), veh/h	211	0	513	94	372	343	643	0	0	281	313	260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	0.0	37.9	51.2	39.2	39.4	37.9	0.0	0.0	44.7	41.4	38.6
Incr Delay (d2), s/veh	303.8	0.0	32.5	132.1	6.3	7.9	11.7	0.0	0.0	51.1	3.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.3	0.0	16.9	5.9	6.9	6.7	12.0	0.0	0.0	11.2	5.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	351.0	0.0	70.4	183.3	45.5	47.3	49.6	0.0	0.0	95.7	45.3	39.2
LnGrp LOS	F	A	E	F	D	D	D	A	A	F	D	D
Approach Vol, veh/h		843			623			417			543	
Approach Delay, s/veh		184.9			69.7			49.6			70.5	
Approach LOS		F			E			D			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.5	11.0	38.2		25.0	19.0	30.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 41	6.4	32.0		19.2	14.4	24.0				
Max Q Clear Time (g_c+I1), s		27.6	8.4	32.7		21.0	16.4	18.4				
Green Ext Time (p_c), s		2.2	0.0	0.0		0.0	0.0	1.4				

Intersection Summary	
HCM 6th Ctrl Delay	106.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	68	144	370	207	45
Future Vol, veh/h	52	68	144	370	207	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	72	153	394	220	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	944	244	268	0	-	0
Stage 1	244	-	-	-	-	-
Stage 2	700	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	291	795	1296	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	493	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	257	795	1296	-	-	-
Mov Cap-2 Maneuver	375	-	-	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	493	-	-	-	-	-

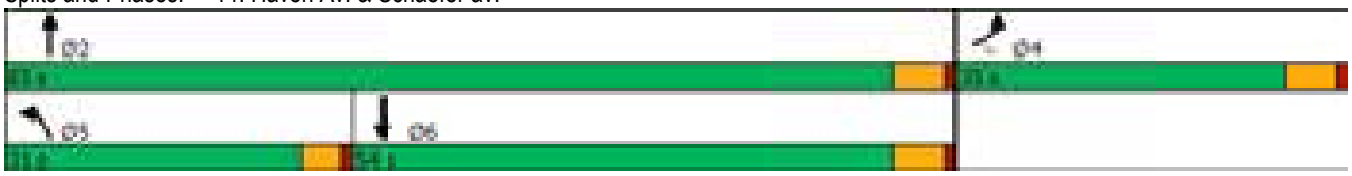
Approach	EB	NB	SB
HCM Control Delay, s	12.7	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1296	-	375	795	-	-
HCM Lane V/C Ratio	0.118	-	0.148	0.091	-	-
HCM Control Delay (s)	8.2	-	16.3	10	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.5	0.3	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	39	78	97	451	273
Future Volume (vph)	39	78	97	451	273
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	35.0	35.0	31.0	85.0	54.0
Total Split (%)	29.2%	29.2%	25.8%	70.8%	45.0%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.4	12.4	8.1	29.2	19.2
Actuated g/C Ratio	0.26	0.26	0.17	0.61	0.40
v/c Ratio	0.10	0.19	0.39	0.45	0.24
Control Delay	17.1	6.2	25.6	9.5	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	6.2	25.6	9.5	15.3
LOS	B	A	C	A	B
Approach Delay	9.8			12.4	15.3
Approach LOS	A			B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 47.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 13.0	Intersection LOS: B
Intersection Capacity Utilization 43.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	78	97	451	273	22
Future Volume (veh/h)	39	78	97	451	273	22
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	42	31	105	490	297	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	233	219	147	917	930	65
Arrive On Green	0.15	0.15	0.09	0.52	0.29	0.29
Sat Flow, veh/h	1594	1502	1594	1772	3273	224
Grp Volume(v), veh/h	42	31	105	490	156	162
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1683	1725
Q Serve(g_s), s	0.8	0.6	2.2	6.4	2.5	2.5
Cycle Q Clear(g_c), s	0.8	0.6	2.2	6.4	2.5	2.5
Prop In Lane	1.00	1.00	1.00			0.13
Lane Grp Cap(c), veh/h	233	219	147	917	492	504
V/C Ratio(X)	0.18	0.14	0.72	0.53	0.32	0.32
Avail Cap(c_a), veh/h	1350	1272	1221	4072	2354	2412
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.9	12.8	15.2	5.5	9.5	9.5
Incr Delay (d2), s/veh	0.4	0.3	2.4	0.5	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.6	0.7	0.8	0.6	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.3	13.1	17.7	6.0	9.9	9.9
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h	73			595	318	
Approach Delay, s/veh	13.2			8.1	9.9	
Approach LOS	B			A	A	

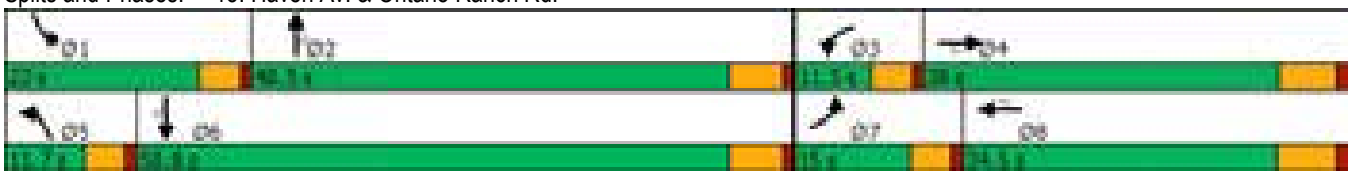
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		23.6		10.8	7.8	15.9
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		79.2		29.2	26.4	48.2
Max Q Clear Time (g_c+I1), s		8.4		2.8	4.2	4.5
Green Ext Time (p_c), s		3.1		0.2	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	552	17	74	512	151	36	288	113	195	184	52
Future Volume (vph)	113	552	17	74	512	151	36	288	113	195	184	52
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	15.0	38.0	38.0	11.5	34.5	34.5	11.7	48.5	48.5	22.0	58.8	58.8
Total Split (%)	12.5%	31.7%	31.7%	9.6%	28.8%	28.8%	9.8%	40.4%	40.4%	18.3%	49.0%	49.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	10.3	34.7	34.7	6.4	28.3	28.3	6.4	24.2	24.2	16.7	39.0	39.0
Actuated g/C Ratio	0.10	0.34	0.34	0.06	0.28	0.28	0.06	0.24	0.24	0.17	0.39	0.39
v/c Ratio	0.76	0.36	0.03	0.44	0.32	0.30	0.39	0.73	0.26	0.80	0.29	0.09
Control Delay	76.3	28.3	0.1	56.5	31.1	7.1	61.0	45.9	3.2	66.0	23.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.3	28.3	0.1	56.5	31.1	7.1	61.0	45.9	3.2	66.0	23.6	0.3
LOS	E	C	A	E	C	A	E	D	A	E	C	A
Approach Delay		35.6			28.7			36.1			40.0	
Approach LOS		D			C			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.2	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 34.3	Intersection LOS: C
Intersection Capacity Utilization 69.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	552	17	74	512	151	36	288	113	195	184	52
Future Volume (veh/h)	113	552	17	74	512	151	36	288	113	195	184	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	122	594	7	80	551	110	39	310	71	210	198	33
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	1677	520	137	1834	452	54	398	337	240	605	510
Arrive On Green	0.09	0.35	0.35	0.05	0.30	0.30	0.03	0.22	0.22	0.15	0.34	0.34
Sat Flow, veh/h	1594	4837	1500	2910	6095	1502	1594	1772	1500	1594	1772	1495
Grp Volume(v), veh/h	122	594	7	80	551	110	39	310	71	210	198	33
Grp Sat Flow(s),veh/h/ln	1594	1612	1500	1455	1524	1502	1594	1772	1500	1594	1772	1495
Q Serve(g_s), s	7.0	8.5	0.3	2.5	6.5	5.1	2.3	15.3	3.6	12.0	7.7	1.4
Cycle Q Clear(g_c), s	7.0	8.5	0.3	2.5	6.5	5.1	2.3	15.3	3.6	12.0	7.7	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	148	1677	520	137	1834	452	54	398	337	240	605	510
V/C Ratio(X)	0.83	0.35	0.01	0.59	0.30	0.24	0.72	0.78	0.21	0.87	0.33	0.06
Avail Cap(c_a), veh/h	178	1677	520	216	1834	452	122	813	688	298	1009	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	22.6	20.0	43.5	25.0	24.5	44.5	33.9	29.4	38.7	22.7	20.7
Incr Delay (d2), s/veh	19.4	0.6	0.0	1.5	0.4	1.3	6.4	3.3	0.3	18.0	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	3.0	0.1	0.9	2.2	1.8	1.0	6.6	1.2	5.6	3.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.9	23.2	20.0	44.9	25.4	25.8	50.9	37.2	29.7	56.7	23.0	20.7
LnGrp LOS	E	C	B	D	C	C	D	D	C	E	C	C
Approach Vol, veh/h		723			741			420			441	
Approach Delay, s/veh		29.5			27.6			37.2			38.9	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.6	26.7	9.0	38.8	7.8	37.5	13.2	34.5
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	17.4	42.7	6.9	* 32	7.1	53.0	10.4	28.0
Max Q Clear Time (g_c+I1), s	14.0	17.3	4.5	10.5	4.3	9.7	9.0	8.5
Green Ext Time (p_c), s	0.1	1.9	0.0	3.5	0.0	1.2	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

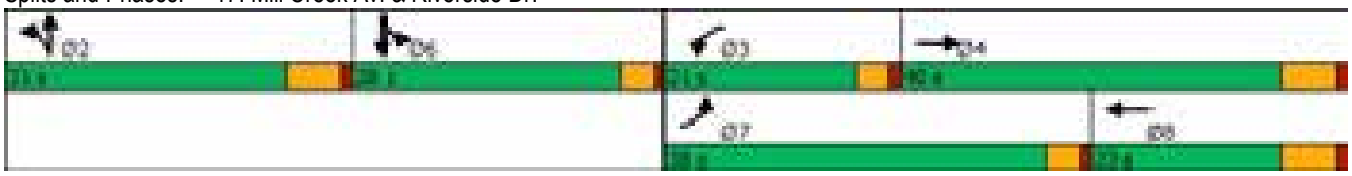
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	297	169	99	194	191	75	73	83	155
Future Volume (vph)	297	169	99	194	191	75	73	83	155
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	38.0	40.0	21.0	23.0	31.0	31.0	31.0	28.0	28.0
Total Split (%)	31.7%	33.3%	17.5%	19.2%	25.8%	25.8%	25.8%	23.3%	23.3%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	28.7	31.0	12.6	14.9	20.7	20.7	20.7	21.4	21.4
Actuated g/C Ratio	0.27	0.29	0.12	0.14	0.20	0.20	0.20	0.20	0.20
v/c Ratio	0.88	0.47	0.67	0.74	0.79	0.28	0.23	0.33	0.84
Control Delay	61.0	14.8	65.6	49.1	61.2	41.3	3.4	42.7	62.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	14.8	65.6	49.1	61.2	41.3	3.4	42.7	62.4
LOS	E	B	E	D	E	D	A	D	E
Approach Delay		34.4		53.4		44.4			57.1
Approach LOS		C		D		D			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 106.1	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 44.6	Intersection LOS: D
Intersection Capacity Utilization 75.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	169	235	99	194	90	191	75	73	83	155	70
Future Volume (veh/h)	297	169	235	99	194	90	191	75	73	83	155	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.99	1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	376	214	220	125	246	85	242	95	46	105	196	73
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	407	499	440	152	335	112	288	321	270	351	263	98
Arrive On Green	0.26	0.30	0.30	0.10	0.14	0.14	0.18	0.18	0.18	0.22	0.22	0.22
Sat Flow, veh/h	1594	1683	1486	1594	2457	824	1594	1772	1492	1594	1191	444
Grp Volume(v), veh/h	376	214	220	125	166	165	242	95	46	105	0	269
Grp Sat Flow(s),veh/h/ln	1594	1683	1486	1594	1683	1598	1594	1772	1492	1594	0	1634
Q Serve(g_s), s	22.0	9.8	11.7	7.4	9.0	9.5	14.0	4.4	2.5	5.3	0.0	14.7
Cycle Q Clear(g_c), s	22.0	9.8	11.7	7.4	9.0	9.5	14.0	4.4	2.5	5.3	0.0	14.7
Prop In Lane	1.00		1.00	1.00		0.52	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	407	499	440	152	230	218	288	321	270	351	0	360
V/C Ratio(X)	0.92	0.43	0.50	0.82	0.72	0.76	0.84	0.30	0.17	0.30	0.00	0.75
Avail Cap(c_a), veh/h	567	599	529	284	299	284	420	467	393	400	0	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.7	27.1	27.8	42.5	39.5	39.7	37.8	33.9	33.1	31.1	0.0	34.8
Incr Delay (d2), s/veh	14.5	0.6	0.9	4.2	5.9	8.1	9.6	0.5	0.3	0.5	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	3.7	4.0	2.9	3.9	4.0	6.0	1.9	0.9	2.0	0.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	27.7	28.7	46.7	45.5	47.9	47.4	34.4	33.4	31.6	0.0	41.2
LnGrp LOS	D	C	C	D	D	D	D	C	C	C	A	D
Approach Vol, veh/h		810			456			383			374	
Approach Delay, s/veh		37.9			46.7			42.5			38.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.1	13.1	34.3		25.1	28.4	19.0				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		25.2	17.0	34.0		24.0	34.0	17.0				
Max Q Clear Time (g_c+I1), s		16.0	9.4	13.7		16.7	24.0	11.5				
Green Ext Time (p_c), s		0.9	0.1	2.2		1.1	0.4	0.8				

Intersection Summary												
HCM 6th Ctrl Delay			40.9									
HCM 6th LOS			D									

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	3	2
Future Vol, veh/h	0	0	0	0	3	2
Peak Hour Factor	0.50	0.50	0.50	0.50	0.50	0.50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	6	4
Number of Lanes	0	1	1	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	0	0	7.1
HCM LOS	-	-	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	60%
Vol Thru, %	100%	100%	40%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	5
LT Vol	0	0	3
Through Vol	0	0	2
RT Vol	0	0	0
Lane Flow Rate	0	0	10
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0.011
Departure Headway (Hd)	3.941	3.952	4.054
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	888
Service Time	1.943	1.956	2.054
HCM Lane V/C Ratio	0	0	0.011
HCM Control Delay	6.9	7	7.1
HCM Lane LOS	N	N	A
HCM 95th-tile Q	0	0	0

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	526	376	1106	377	262
Future Volume (vph)	4	526	376	1106	377	262
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5	11.2	22.5	22.5	22.5
Total Split (s)	37.0	37.0	28.0	53.0	25.0	25.0
Total Split (%)	41.1%	41.1%	31.1%	58.9%	27.8%	27.8%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	27.4	27.4	20.4	39.7	14.5	14.5
Actuated g/C Ratio	0.34	0.34	0.26	0.50	0.18	0.18
v/c Ratio	0.21	0.89	0.85	0.61	0.57	0.53
Control Delay	21.0	40.0	48.3	16.3	34.4	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	40.0	48.3	16.3	34.4	8.3
LOS	C	D	D	B	C	A
Approach Delay	36.3			24.4	23.7	
Approach LOS	D			C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 79.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 27.1	Intersection LOS: C
Intersection Capacity Utilization 74.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	123	4	526	376	1106	0	0	377	262
Future Volume (veh/h)	0	0	0	123	4	526	376	1106	0	0	377	262
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				126	4	367	384	1129	0	0	385	228
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				481	15	441	438	1945	0	0	745	316
Arrive On Green				0.28	0.28	0.28	0.25	0.52	0.00	0.00	0.20	0.20
Sat Flow, veh/h				1729	55	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				130	0	367	384	1129	0	0	385	228
Grp Sat Flow(s),veh/h/ln				1784	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				3.5	0.0	13.4	12.7	12.7	0.0	0.0	5.6	8.3
Cycle Q Clear(g_c), s				3.5	0.0	13.4	12.7	12.7	0.0	0.0	5.6	8.3
Prop In Lane				0.97		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				496	0	441	438	1945	0	0	745	316
V/C Ratio(X)				0.26	0.00	0.83	0.88	0.58	0.00	0.00	0.52	0.72
Avail Cap(c_a), veh/h				895	0	795	679	2852	0	0	1146	485
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				17.3	0.0	20.8	22.3	10.1	0.0	0.0	21.9	23.0
Incr Delay (d2), s/veh				0.3	0.0	4.2	5.4	0.3	0.0	0.0	0.6	3.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.3	0.0	4.7	5.1	3.6	0.0	0.0	2.2	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				17.5	0.0	25.0	27.6	10.4	0.0	0.0	22.5	26.1
LnGrp LOS				B	A	C	C	B	A	A	C	C
Approach Vol, veh/h					497			1513			613	
Approach Delay, s/veh					23.0			14.8			23.8	
Approach LOS					C			B			C	

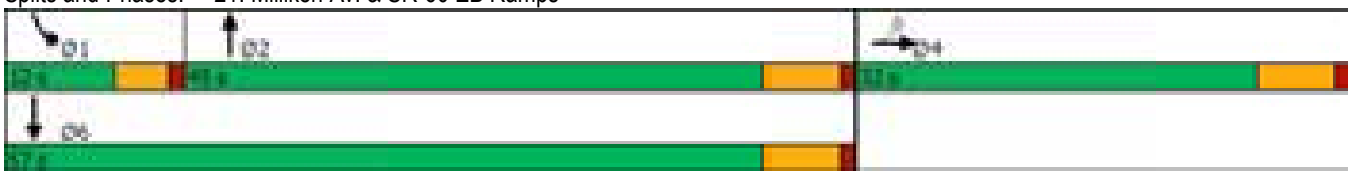
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		38.1			19.7	18.4		23.3				
Change Period (Y+Rc), s		6.2			4.6	6.2		6.2				
Max Green Setting (Gmax), s		46.8			23.4	18.8		30.8				
Max Q Clear Time (g_c+I1), s		14.7			14.7	10.3		15.4				
Green Ext Time (p_c), s		8.6			0.4	2.0		1.7				

Intersection Summary												
HCM 6th Ctrl Delay			18.5									
HCM 6th LOS			B									

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	436	3	1102	85	394
Future Volume (vph)	436	3	1102	85	394
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	22.5	9.6	22.5
Total Split (s)	33.0	33.0	45.0	12.0	57.0
Total Split (%)	36.7%	36.7%	50.0%	13.3%	63.3%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	22.2	22.2	33.3	7.1	41.9
Actuated g/C Ratio	0.29	0.29	0.43	0.09	0.54
v/c Ratio	0.77	0.54	0.80	0.54	0.20
Control Delay	38.9	10.2	24.7	52.5	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.9	10.2	24.7	52.5	9.4
LOS	D	B	C	D	A
Approach Delay		25.2	24.7		17.1
Approach LOS		C	C		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 77.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 23.3	Intersection LOS: C
Intersection Capacity Utilization 74.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	436	3	286	0	0	0	0	1102	127	85	394	0
Future Volume (veh/h)	436	3	286	0	0	0	0	1102	127	85	394	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	343	152	233				0	1136	107	88	406	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	492	184	282				0	1413	133	113	2051	0
Arrive On Green	0.28	0.28	0.28				0.00	0.42	0.42	0.06	0.55	0.00
Sat Flow, veh/h	1781	666	1021				0	3367	317	1781	3741	0
Grp Volume(v), veh/h	343	0	385				0	630	613	88	406	0
Grp Sat Flow(s),veh/h/ln	1781	0	1687				0	1870	1813	1781	1870	0
Q Serve(g_s), s	12.2	0.0	15.1				0.0	20.9	20.9	3.4	3.9	0.0
Cycle Q Clear(g_c), s	12.2	0.0	15.1				0.0	20.9	20.9	3.4	3.9	0.0
Prop In Lane	1.00		0.61				0.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	492	0	466				0	785	761	113	2051	0
V/C Ratio(X)	0.70	0.00	0.83				0.00	0.80	0.80	0.78	0.20	0.00
Avail Cap(c_a), veh/h	675	0	639				0	1027	995	186	2688	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.9	0.0	24.0				0.0	18.0	18.0	32.6	8.1	0.0
Incr Delay (d2), s/veh	1.9	0.0	6.4				0.0	3.5	3.7	4.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	6.1				0.0	8.0	7.8	1.5	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	0.0	30.4				0.0	21.5	21.7	36.9	8.1	0.0
LnGrp LOS	C	A	C				A	C	C	D	A	A
Approach Vol, veh/h		728						1243			494	
Approach Delay, s/veh		27.8						21.6			13.3	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.1	35.9		25.7		45.0
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	7.4	38.8		26.8		50.8
Max Q Clear Time (g_c+I1), s	5.4	22.9		17.1		5.9
Green Ext Time (p_c), s	0.0	6.7		2.4		2.5

Intersection Summary		
HCM 6th Ctrl Delay		21.7
HCM 6th LOS		C

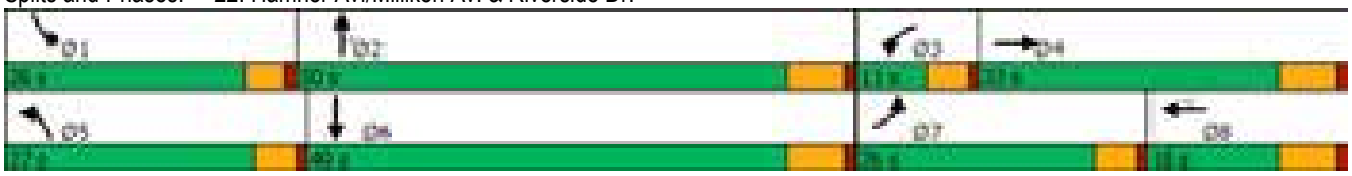
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	132	57	28	70	243	144	811	58	244	318
Future Volume (vph)	132	57	28	70	243	144	811	58	244	318
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	26.0	33.0	11.0	18.0	18.0	27.0	50.0	50.0	26.0	49.0
Total Split (%)	21.7%	27.5%	9.2%	15.0%	15.0%	22.5%	41.7%	41.7%	21.7%	40.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	14.3	23.7	5.9	10.8	10.8	15.2	34.9	34.9	21.7	41.4
Actuated g/C Ratio	0.14	0.23	0.06	0.10	0.10	0.15	0.34	0.34	0.21	0.40
v/c Ratio	0.70	0.53	0.36	0.43	0.69	0.72	0.83	0.11	0.85	0.39
Control Delay	61.1	27.2	62.9	55.4	15.5	61.1	39.0	0.4	65.4	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	27.2	62.9	55.4	15.5	61.1	39.0	0.4	65.4	22.1
LOS	E	C	E	E	B	E	D	A	E	C
Approach Delay		40.6		27.5			39.9			37.5
Approach LOS		D		C			D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 103.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 37.5	Intersection LOS: D
Intersection Capacity Utilization 73.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	57	144	28	70	243	144	811	58	244	318	124
Future Volume (veh/h)	132	57	144	28	70	243	144	811	58	244	318	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	152	66	113	32	80	245	166	932	56	280	366	121
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	123	210	48	223	189	196	1132	505	310	1017	332
Arrive On Green	0.11	0.21	0.21	0.03	0.13	0.13	0.12	0.34	0.34	0.19	0.41	0.41
Sat Flow, veh/h	1594	587	1004	1594	1772	1502	1594	3367	1502	1594	2495	813
Grp Volume(v), veh/h	152	0	179	32	80	245	166	932	56	280	245	242
Grp Sat Flow(s),veh/h/ln	1594	0	1591	1594	1772	1502	1594	1683	1502	1594	1683	1625
Q Serve(g_s), s	8.8	0.0	9.4	1.9	3.9	11.8	9.6	23.9	2.4	16.1	9.5	9.7
Cycle Q Clear(g_c), s	8.8	0.0	9.4	1.9	3.9	11.8	9.6	23.9	2.4	16.1	9.5	9.7
Prop In Lane	1.00		0.63	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	181	0	333	48	223	189	196	1132	505	310	686	662
V/C Ratio(X)	0.84	0.00	0.54	0.67	0.36	1.30	0.85	0.82	0.11	0.90	0.36	0.36
Avail Cap(c_a), veh/h	363	0	454	109	223	189	380	1570	700	363	767	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	0.0	33.1	45.1	37.6	41.1	40.3	28.6	21.5	37.0	19.3	19.4
Incr Delay (d2), s/veh	3.9	0.0	1.3	5.8	1.0	167.8	3.8	2.6	0.1	21.3	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	3.5	0.8	1.7	12.9	3.7	9.1	0.8	7.7	3.4	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	0.0	34.4	50.9	38.6	208.9	44.1	31.2	21.6	58.3	19.6	19.7
LnGrp LOS	D	A	C	D	D	F	D	C	C	E	B	B
Approach Vol, veh/h		331			357			1154			767	
Approach Delay, s/veh		39.1			156.5			32.6			33.8	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.9	37.8	7.4	25.9	16.2	44.5	15.3	18.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	43.8	6.4	26.8	22.4	42.8	21.4	11.8
Max Q Clear Time (g_c+I1), s	18.1	25.9	3.9	11.4	11.6	11.7	10.8	13.8
Green Ext Time (p_c), s	0.1	5.7	0.0	0.7	0.1	2.7	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2	0	1025	446	3
Future Vol, veh/h	5	2	0	1025	446	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	2	0	1165	507	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1092	509	510	0	-	0
Stage 1	509	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	223	563	1053	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	223	563	1053	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	522	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1053	-	455	-	-
HCM Lane V/C Ratio	-	-	0.017	-	-
HCM Control Delay (s)	0	-	13.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	138	578	240	646	244	156	586	310	169	182	73
Future Volume (vph)	138	578	240	646	244	156	586	310	169	182	73
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	12.0	48.5	13.9	50.4	50.4	11.3	46.2	46.2	11.4	46.3	46.3
Total Split (%)	10.0%	40.4%	11.6%	42.0%	42.0%	9.4%	38.5%	38.5%	9.5%	38.6%	38.6%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.2	21.0	9.7	23.5	23.5	7.1	19.3	19.3	7.2	19.4	19.4
Actuated g/C Ratio	0.09	0.26	0.12	0.29	0.29	0.09	0.24	0.24	0.09	0.24	0.24
v/c Ratio	0.47	0.41	0.60	0.65	0.41	0.54	0.50	0.58	0.58	0.22	0.16
Control Delay	44.9	23.9	44.3	28.2	7.7	47.1	27.9	13.2	47.8	25.6	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	23.9	44.3	28.2	7.7	47.1	27.9	13.2	47.8	25.6	2.4
LOS	D	C	D	C	A	D	C	B	D	C	A
Approach Delay		27.6		27.2			26.4			30.5	
Approach LOS		C		C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 80.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 27.5	Intersection LOS: C
Intersection Capacity Utilization 56.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	578	72	240	646	244	156	586	310	169	182	73
Future Volume (veh/h)	138	578	72	240	646	244	156	586	310	169	182	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	144	602	63	250	673	183	162	610	200	176	190	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1489	153	355	990	442	260	1120	348	271	790	353
Arrive On Green	0.07	0.25	0.25	0.10	0.28	0.28	0.08	0.22	0.22	0.08	0.22	0.22
Sat Flow, veh/h	3456	5973	612	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	144	484	181	250	673	183	162	610	200	176	190	5
Grp Sat Flow(s),veh/h/ln	1728	1609	1760	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	2.5	5.2	5.4	4.4	10.5	5.9	2.8	6.6	7.0	3.1	2.7	0.2
Cycle Q Clear(g_c), s	2.5	5.2	5.4	4.4	10.5	5.9	2.8	6.6	7.0	3.1	2.7	0.2
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	1203	439	355	990	442	260	1120	348	271	790	353
V/C Ratio(X)	0.57	0.40	0.41	0.70	0.68	0.41	0.62	0.54	0.58	0.65	0.24	0.01
Avail Cap(c_a), veh/h	409	3242	1183	514	2496	1113	370	3268	1014	376	2280	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	19.6	19.6	27.1	20.1	18.4	28.0	21.6	21.8	28.0	20.0	19.0
Incr Delay (d2), s/veh	0.7	0.2	0.6	1.0	0.8	0.6	0.9	0.4	1.5	1.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.6	1.9	1.6	3.6	1.8	1.1	2.3	2.3	1.2	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	19.8	20.3	28.1	20.9	19.0	29.0	22.1	23.3	29.0	20.1	19.0
LnGrp LOS	C	B	C	C	C	B	C	C	C	C	C	B
Approach Vol, veh/h		809			1106			972			371	
Approach Delay, s/veh		21.5			22.2			23.5			24.3	
Approach LOS		C			C			C			C	

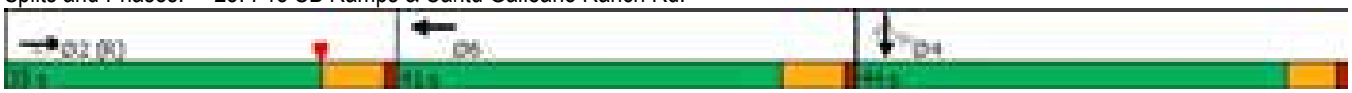
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	19.9	11.0	22.1	9.3	20.1	9.2	23.9
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.8	40.0	9.3	42.0	6.7	40.1	7.4	43.9
Max Q Clear Time (g_c+I1), s	5.1	9.0	6.4	7.4	4.8	4.7	4.5	12.5
Green Ext Time (p_c), s	0.0	4.7	0.1	4.0	0.0	1.1	0.1	4.9

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	787	308	677	168	258	0	944
Future Volume (vph)	787	308	677	168	258	0	944
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	35.0	35.0	41.0		44.0	44.0	44.0
Total Split (%)	29.2%	29.2%	34.2%		36.7%	36.7%	36.7%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	Min		Min	Min	Min
Act Effct Green (s)	42.5	42.5	30.2	120.0	28.2	28.2	28.2
Actuated g/C Ratio	0.35	0.35	0.25	1.00	0.24	0.24	0.24
v/c Ratio	0.47	0.43	0.83	0.07	0.64	0.73	0.70
Control Delay	33.5	5.8	40.0	0.0	47.7	10.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	5.8	40.0	0.0	47.7	10.5	8.9
LOS	C	A	D	A	D	B	A
Approach Delay	25.7		32.1			17.1	
Approach LOS	C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 24.1	Intersection LOS: C
Intersection Capacity Utilization 67.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	787	308	0	677	168	0	0	0	258	0	944
Future Volume (veh/h)	0	787	308	0	677	168	0	0	0	258	0	944
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	855	0	0	736	0				187	0	651
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	3373		0	2348					422	0	751
Arrive On Green	0.00	0.66	0.00	0.00	0.22	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	855	0	0	736	0				187	0	651
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	8.2	0.0	0.0	20.9	0.0				10.7	0.0	23.7
Cycle Q Clear(g_c), s	0.0	8.2	0.0	0.0	20.9	0.0				10.7	0.0	23.7
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3373		0	2348					422	0	751
V/C Ratio(X)	0.00	0.25		0.00	0.31					0.44	0.00	0.87
Avail Cap(c_a), veh/h	0	3373		0	2348					571	0	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.87	0.00	0.00	0.85	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.3	0.0	0.0	24.1	0.0				39.0	0.0	44.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.1	0.0				0.7	0.0	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.6	0.0	0.0	9.8	0.0				4.7	0.0	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.5	0.0	0.0	24.1	0.0				39.8	0.0	50.2
LnGrp LOS	A	A		A	C					D	A	D
Approach Vol, veh/h		855	A		736	A					838	
Approach Delay, s/veh		8.5			24.1						47.8	
Approach LOS		A			C						D	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		86.1		33.9		86.1						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		28.2		38.5		34.2						
Max Q Clear Time (g_c+I1), s		10.2		25.7		22.9						
Green Ext Time (p_c), s		4.9		2.8		3.3						

Intersection Summary		
HCM 6th Ctrl Delay		26.8
HCM 6th LOS		C

Notes

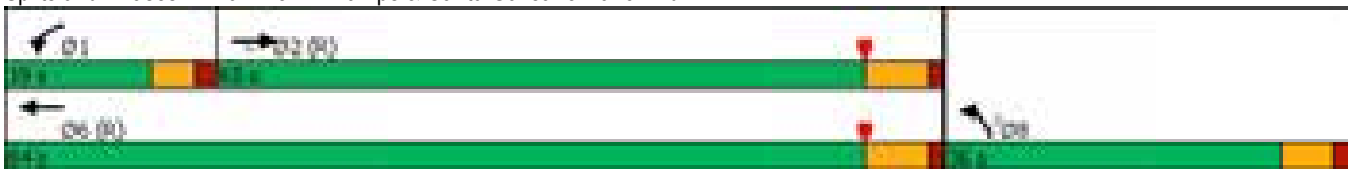
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	399	679	194	399	446	377
Future Volume (vph)	399	679	194	399	446	377
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.5	22.5	22.5	22.5
Total Split (s)	65.0	65.0	19.0	84.0	36.0	36.0
Total Split (%)	54.2%	54.2%	15.8%	70.0%	30.0%	30.0%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	61.8	61.8	12.1	79.9	26.8	26.8
Actuated g/C Ratio	0.52	0.52	0.10	0.67	0.22	0.22
v/c Ratio	0.17	0.63	0.61	0.13	0.79	0.52
Control Delay	26.1	21.3	59.5	8.0	49.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.1	21.3	59.5	8.0	49.5	7.7
LOS	C	C	E	A	D	A
Approach Delay	23.1			24.8	36.3	
Approach LOS	C			C	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 27.9	Intersection LOS: C
Intersection Capacity Utilization 58.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	399	679	194	399	446	377
Future Volume (veh/h)	399	679	194	399	446	377
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	434	426	211	434	485	242
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2962	919	271	3617	644	287
Arrive On Green	0.19	0.19	0.08	0.71	0.18	0.18
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	434	426	211	434	485	242
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	8.5	28.6	7.2	3.3	15.5	17.7
Cycle Q Clear(g_c), s	8.5	28.6	7.2	3.3	15.5	17.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2962	919	271	3617	644	287
V/C Ratio(X)	0.15	0.46	0.78	0.12	0.75	0.84
Avail Cap(c_a), veh/h	2962	919	374	3617	891	396
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	23.8	31.9	54.3	5.6	46.6	47.5
Incr Delay (d2), s/veh	0.1	1.4	6.3	0.1	2.4	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	12.3	3.2	0.9	6.9	7.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.9	33.4	60.6	5.6	49.0	59.0
LnGrp LOS	C	C	E	A	D	E
Approach Vol, veh/h	860			645	727	
Approach Delay, s/veh	28.6			23.6	52.3	
Approach LOS	C			C	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	15.4	76.9				92.3	27.7
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	13.0	57.7				76.7	30.0
Max Q Clear Time (g_c+I1), s	9.2	30.6				5.3	19.7
Green Ext Time (p_c), s	0.2	4.2				2.7	2.0

Intersection Summary			
HCM 6th Ctrl Delay		34.9	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	359	259	255	27	192	241	285	17	20	56	111
Future Volume (vph)	359	259	255	27	192	241	285	17	20	56	111
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	17.0	47.9	47.9	9.6	40.5	13.0	52.2	52.2	10.3	49.5	49.5
Total Split (%)	14.2%	39.9%	39.9%	8.0%	33.8%	10.8%	43.5%	43.5%	8.6%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.5	26.5	26.5	5.4	11.4	9.2	24.6	24.6	5.7	11.6	11.6
Actuated g/C Ratio	0.19	0.38	0.38	0.08	0.16	0.13	0.35	0.35	0.08	0.17	0.17
v/c Ratio	0.59	0.12	0.36	0.11	0.30	0.58	0.25	0.03	0.15	0.20	0.31
Control Delay	33.8	16.8	4.6	39.1	22.4	38.6	17.7	0.1	41.1	25.9	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	16.8	4.6	39.1	22.4	38.6	17.7	0.1	41.1	25.9	4.3
LOS	C	B	A	D	C	D	B	A	D	C	A
Approach Delay		20.2			24.2		26.5			14.7	
Approach LOS		C			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 69.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 22.0	Intersection LOS: C
Intersection Capacity Utilization 45.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	359	259	255	27	192	42	241	285	17	20	56	111
Future Volume (veh/h)	359	259	255	27	192	42	241	285	17	20	56	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	390	282	167	29	209	26	262	310	8	22	61	94
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	550	1546	381	117	531	64	401	721	322	48	213	180
Arrive On Green	0.16	0.24	0.24	0.03	0.11	0.11	0.12	0.20	0.20	0.03	0.11	0.11
Sat Flow, veh/h	3456	6434	1585	3456	4616	558	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	390	282	167	29	153	82	262	310	8	22	61	94
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1770	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	4.8	1.6	4.0	0.4	1.9	1.9	3.2	3.4	0.2	0.5	1.3	2.5
Cycle Q Clear(g_c), s	4.8	1.6	4.0	0.4	1.9	1.9	3.2	3.4	0.2	0.5	1.3	2.5
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	550	1546	381	117	391	203	401	721	322	48	213	180
V/C Ratio(X)	0.71	0.18	0.44	0.25	0.39	0.41	0.65	0.43	0.02	0.46	0.29	0.52
Avail Cap(c_a), veh/h	958	5955	1467	386	2587	1345	649	3631	1619	227	1798	1524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	13.5	14.4	21.1	18.3	18.4	18.9	15.6	14.3	21.5	18.2	18.7
Incr Delay (d2), s/veh	0.6	0.1	0.8	0.4	0.6	1.3	0.7	0.4	0.0	2.6	0.7	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.4	1.1	0.1	0.6	0.7	1.1	1.1	0.1	0.2	0.5	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	13.6	15.2	21.5	19.0	19.7	19.6	16.0	14.3	24.0	18.9	21.0
LnGrp LOS	B	B	B	C	B	B	B	B	B	C	B	C
Approach Vol, veh/h		839			264			580			177	
Approach Delay, s/veh		16.2			19.5			17.6			20.7	
Approach LOS		B			B			B			C	

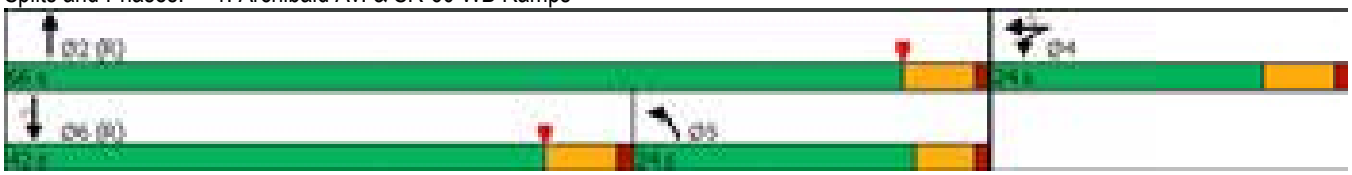
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	15.6	6.1	17.2	9.8	11.6	11.7	11.6
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	5.7	45.7	5.0	41.4	8.4	43.0	12.4	34.0
Max Q Clear Time (g_c+I1), s	2.5	5.4	2.4	6.0	5.2	4.5	6.8	3.9
Green Ext Time (p_c), s	0.0	2.0	0.0	2.2	0.2	0.6	0.4	1.2

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	380	1	176	493	467	1180	321
Future Volume (vph)	380	1	176	493	467	1180	321
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	24.0	24.0	24.0	24.0	66.0	42.0	42.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	73.3%	46.7%	46.7%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	15.7	15.7	15.7	16.8	62.7	40.9	40.9
Actuated g/C Ratio	0.17	0.17	0.17	0.19	0.70	0.45	0.45
v/c Ratio	0.70	0.71	0.41	0.79	0.13	0.41	0.37
Control Delay	47.9	47.9	8.5	39.6	1.5	17.9	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	47.9	8.5	39.6	1.5	17.9	3.5
LOS	D	D	A	D	A	B	A
Approach Delay		36.7			21.1	14.8	
Approach LOS		D			C	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 67.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	380	1	176	493	467	0	0	1180	321
Future Volume (veh/h)	0	0	0	380	1	176	493	467	0	0	1180	321
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				411	0	48	503	477	0	0	1204	228
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				512	0	228	1308	3714	0	0	1831	439
Arrive On Green				0.14	0.00	0.14	0.12	0.24	0.00	0.00	0.28	0.28
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	6696	1542
Grp Volume(v), veh/h				411	0	48	503	477	0	0	1204	228
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1609	1542
Q Serve(g_s), s				10.0	0.0	2.4	12.0	6.6	0.0	0.0	14.8	11.2
Cycle Q Clear(g_c), s				10.0	0.0	2.4	12.0	6.6	0.0	0.0	14.8	11.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				512	0	228	1308	3714	0	0	1831	439
V/C Ratio(X)				0.80	0.00	0.21	0.38	0.13	0.00	0.00	0.66	0.52
Avail Cap(c_a), veh/h				720	0	321	1308	3714	0	0	2588	620
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.97	0.97	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.3	0.0	34.0	29.7	11.8	0.0	0.0	28.3	27.0
Incr Delay (d2), s/veh				4.4	0.0	0.5	0.1	0.1	0.0	0.0	1.9	4.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.5	0.0	2.3	5.4	2.0	0.0	0.0	5.5	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.7	0.0	34.5	29.8	11.9	0.0	0.0	30.2	31.4
LnGrp LOS				D	A	C	C	B	A	A	C	C
Approach Vol, veh/h					459			980			1432	
Approach Delay, s/veh					41.0			21.1			30.4	
Approach LOS					D			C			C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	71.3	18.7	39.9	31.4
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	60.2	18.2	19.0	* 36
Max Q Clear Time (g_c+I1), s	8.6	12.0	14.0	16.8
Green Ext Time (p_c), s	3.2	0.9	0.5	8.7

Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C

Notes

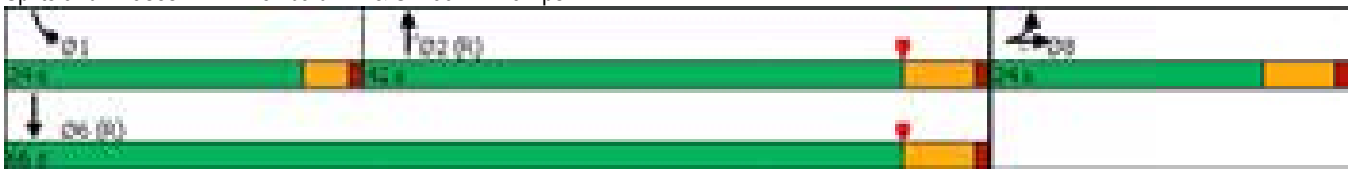
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	112	1	426	850	505	477	1083
Future Volume (vph)	112	1	426	850	505	477	1083
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	24.0	24.0	24.0	42.0	42.0	24.0	66.0
Total Split (%)	26.7%	26.7%	26.7%	46.7%	46.7%	26.7%	73.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	12.3	12.3	12.3	45.5	45.5	16.6	66.1
Actuated g/C Ratio	0.14	0.14	0.14	0.51	0.51	0.18	0.73
v/c Ratio	0.44	0.73	0.70	0.27	0.49	0.76	0.29
Control Delay	40.4	30.0	27.7	14.2	3.5	52.4	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	30.0	27.7	14.2	3.5	52.4	0.9
LOS	D	C	C	B	A	D	A
Approach Delay		31.0		10.2			16.7
Approach LOS		C		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 16.4	Intersection LOS: B
Intersection Capacity Utilization 67.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1	426	0	0	0	0	850	505	477	1083	0
Future Volume (veh/h)	112	1	426	0	0	0	0	850	505	477	1083	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	76	0	236				0	859	334	482	1094	0
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	183	0	326				0	3629	875	552	3923	0
Arrive On Green	0.10	0.00	0.10				0.00	0.56	0.56	0.32	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	76	0	236				0	859	334	482	1094	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1551	1728	1702	0
Q Serve(g_s), s	3.6	0.0	6.5				0.0	6.0	10.8	11.8	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	6.5				0.0	6.0	10.8	11.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	183	0	326				0	3629	875	552	3923	0
V/C Ratio(X)	0.42	0.00	0.72				0.00	0.24	0.38	0.87	0.28	0.00
Avail Cap(c_a), veh/h	360	0	641				0	3629	875	768	3923	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	37.8	0.0	39.1				0.0	9.9	10.9	29.7	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	3.1				0.0	0.2	1.3	5.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	2.5				0.0	1.8	3.3	4.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	0.0	42.2				0.0	10.0	12.2	35.4	0.2	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		312						1193			1576	
Approach Delay, s/veh		41.5						10.6			10.9	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	18.4	56.6				74.9		15.1				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	20.0	36.2				60.2		18.2				
Max Q Clear Time (g_c+I1), s	13.8	12.8				2.0		8.5				
Green Ext Time (p_c), s	0.5	6.9				8.7		0.8				

Intersection Summary			
HCM 6th Ctrl Delay			13.9
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	166	506	277	113	369	137	227	807	242	781
Future Volume (vph)	166	506	277	113	369	137	227	807	242	781
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	21.0	42.2	42.2	17.0	38.2	38.2	27.0	32.8	28.0	33.8
Total Split (%)	17.5%	35.2%	35.2%	14.2%	31.8%	31.8%	22.5%	27.3%	23.3%	28.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.3	23.1	23.1	10.8	19.6	19.6	18.5	24.1	20.3	25.9
Actuated g/C Ratio	0.14	0.23	0.23	0.11	0.20	0.20	0.18	0.24	0.20	0.26
v/c Ratio	0.75	0.67	0.51	0.68	0.58	0.35	0.80	0.78	0.77	0.81
Control Delay	65.5	40.4	7.4	67.1	41.1	8.6	61.8	42.0	57.5	40.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.5	40.4	7.4	67.1	41.1	8.6	61.8	42.0	57.5	40.8
LOS	E	D	A	E	D	A	E	D	E	D
Approach Delay		35.1			38.6			46.1		44.1
Approach LOS		D			D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.4	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 41.6	Intersection LOS: D
Intersection Capacity Utilization 78.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	506	277	113	369	137	227	807	70	242	781	196
Future Volume (veh/h)	166	506	277	113	369	137	227	807	70	242	781	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	169	516	214	115	377	91	232	823	64	247	797	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	775	337	141	650	288	265	1103	85	280	1077	224
Arrive On Green	0.13	0.23	0.23	0.09	0.19	0.19	0.17	0.24	0.24	0.18	0.27	0.27
Sat Flow, veh/h	1594	3367	1463	1594	3367	1492	1594	4572	354	1594	4004	832
Grp Volume(v), veh/h	169	516	214	115	377	91	232	579	308	247	641	323
Grp Sat Flow(s),veh/h/ln	1594	1683	1463	1594	1683	1492	1594	1612	1701	1594	1612	1611
Q Serve(g_s), s	9.1	12.2	11.6	6.2	8.9	2.8	12.5	14.6	14.7	13.3	15.9	16.1
Cycle Q Clear(g_c), s	9.1	12.2	11.6	6.2	8.9	2.8	12.5	14.6	14.7	13.3	15.9	16.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.52
Lane Grp Cap(c), veh/h	200	775	337	141	650	288	265	778	410	280	867	433
V/C Ratio(X)	0.84	0.67	0.64	0.82	0.58	0.32	0.87	0.75	0.75	0.88	0.74	0.75
Avail Cap(c_a), veh/h	298	1381	600	225	1227	544	407	977	515	425	1014	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	30.7	30.5	39.3	32.2	11.2	35.7	30.8	30.8	35.3	29.3	29.3
Incr Delay (d2), s/veh	8.9	1.0	2.0	5.3	0.8	0.6	8.6	2.4	4.6	9.3	2.4	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	4.7	3.9	2.5	3.4	1.5	5.1	5.5	6.1	5.5	5.9	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	31.7	32.5	44.6	33.0	11.8	44.3	33.2	35.5	44.6	31.7	34.4
LnGrp LOS	D	C	C	D	C	B	D	C	D	D	C	C
Approach Vol, veh/h		899			583			1119			1211	
Approach Delay, s/veh		34.7			32.0			36.1			35.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.6	27.4	12.4	26.4	19.2	29.8	15.6	23.1
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	23.4	* 27	12.4	36.0	22.4	27.6	16.4	32.0
Max Q Clear Time (g_c+I1), s	15.3	16.7	8.2	14.2	14.5	18.1	11.1	10.9
Green Ext Time (p_c), s	0.2	3.6	0.0	3.7	0.2	3.9	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	161	231	10	52	58	92	945	68	919
Future Volume (vph)	161	231	10	52	58	92	945	68	919
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	27.4	41.0	9.7	23.3	23.3	18.0	53.1	16.2	51.3
Total Split (%)	22.8%	34.2%	8.1%	19.4%	19.4%	15.0%	44.3%	13.5%	42.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	17.5	27.1	5.8	9.7	9.7	11.0	28.0	16.4	33.7
Actuated g/C Ratio	0.21	0.32	0.07	0.12	0.12	0.13	0.33	0.19	0.40
v/c Ratio	0.51	0.68	0.09	0.27	0.18	0.47	0.57	0.23	0.73
Control Delay	43.3	33.8	51.5	44.3	1.2	49.8	28.2	35.8	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	33.8	51.5	44.3	1.2	49.8	28.2	35.8	27.5
LOS	D	C	D	D	A	D	C	D	C
Approach Delay		36.7		24.0			30.0		28.0
Approach LOS		D		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 84.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 30.3	Intersection LOS: C
Intersection Capacity Utilization 67.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	231	128	10	52	58	92	945	21	68	919	64
Future Volume (veh/h)	161	231	128	10	52	58	92	945	21	68	919	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	168	241	108	10	54	28	96	984	21	71	957	63
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	295	132	20	244	206	120	1518	32	259	1250	82
Arrive On Green	0.13	0.26	0.26	0.01	0.14	0.14	0.08	0.29	0.29	0.16	0.38	0.38
Sat Flow, veh/h	1594	1153	517	1594	1772	1502	1594	5183	111	1594	3288	216
Grp Volume(v), veh/h	168	0	349	10	54	28	96	673	332	71	516	504
Grp Sat Flow(s),veh/h/ln	1594	0	1670	1594	1772	1502	1594	1772	1750	1594	1772	1733
Q Serve(g_s), s	6.8	0.0	13.1	0.4	1.8	0.7	4.0	11.1	11.1	2.6	17.0	17.0
Cycle Q Clear(g_c), s	6.8	0.0	13.1	0.4	1.8	0.7	4.0	11.1	11.1	2.6	17.0	17.0
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.06	1.00		0.12
Lane Grp Cap(c), veh/h	209	0	428	20	244	206	120	1038	512	259	674	659
V/C Ratio(X)	0.80	0.00	0.82	0.49	0.22	0.14	0.80	0.65	0.65	0.27	0.77	0.77
Avail Cap(c_a), veh/h	544	0	910	122	496	421	320	2574	1271	277	1239	1212
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	23.3	32.7	25.6	10.7	30.4	20.6	20.6	24.5	18.1	18.1
Incr Delay (d2), s/veh	7.0	0.0	3.9	17.5	0.5	0.3	11.4	0.7	1.4	0.6	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	5.1	0.2	0.7	0.4	1.7	3.9	3.9	0.9	5.9	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	0.0	27.2	50.3	26.1	11.0	41.8	21.3	22.0	25.1	19.9	20.0
LnGrp LOS	D	A	C	D	C	B	D	C	C	C	B	B
Approach Vol, veh/h		517			92			1101			1091	
Approach Delay, s/veh		29.8			24.1			23.3			20.3	
Approach LOS		C			C			C			C	

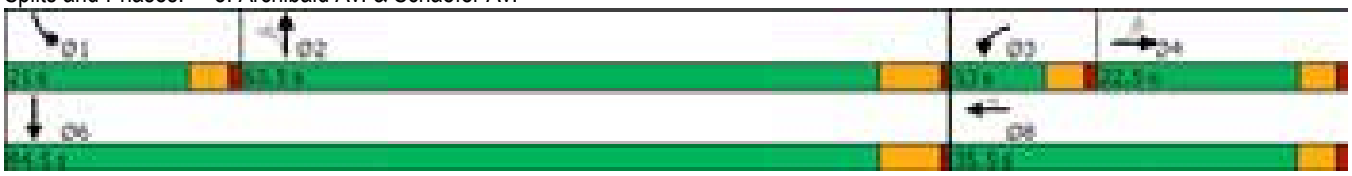
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	24.1	5.4	21.7	9.6	30.0	13.4	13.8
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	11.6	48.5	5.1	36.4	13.4	46.7	22.8	18.7
Max Q Clear Time (g_c+I1), s	4.6	13.1	2.4	15.1	6.0	19.0	8.8	3.8
Green Ext Time (p_c), s	0.1	6.5	0.0	2.0	0.1	6.4	0.3	0.2

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Lane Group	WBL	WBR	NBT	SBL	SBT	Ø4
Lane Configurations						
Traffic Volume (vph)	10	15	980	45	1020	
Future Volume (vph)	10	15	980	45	1020	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	3		2	1	6	4
Permitted Phases		8				
Detector Phase	3	8	2	1	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	32.6	37.5	9.6	23.5	22.5
Total Split (s)	13.0	35.5	63.5	21.0	84.5	22.5
Total Split (%)	10.8%	29.6%	52.9%	17.5%	70.4%	19%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag	Lead		Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	9.0	9.6	27.7	8.1	32.4	
Actuated g/C Ratio	0.25	0.27	0.78	0.23	0.91	
v/c Ratio	0.03	0.03	0.28	0.13	0.36	
Control Delay	15.6	0.1	7.5	21.4	4.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.6	0.1	7.5	21.4	4.2	
LOS	B	A	A	C	A	
Approach Delay			7.5		5.0	
Approach LOS			A		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 35.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.36	
Intersection Signal Delay: 6.2	Intersection LOS: A
Intersection Capacity Utilization 58.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	15	0	980	11	45	1020	0
Future Volume (veh/h)	0	0	0	10	0	15	0	980	11	45	1020	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	0	0	0	11	0	10	0	1043	10	48	1085	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	5	0	23	87	73	215	2117	20	86	2086	0
Arrive On Green	0.00	0.00	0.00	0.01	0.00	0.05	0.00	0.43	0.43	0.05	0.62	0.00
Sat Flow, veh/h	1257	1772	0	1594	1772	1484	465	4940	47	1594	3455	0
Grp Volume(v), veh/h	0	0	0	11	0	10	0	681	372	48	1085	0
Grp Sat Flow(s),veh/h/ln	1257	1772	0	1594	1772	1484	465	1612	1762	1594	1683	0
Q Serve(g_s), s	0.0	0.0	0.0	0.2	0.0	0.2	0.0	5.1	5.1	1.0	6.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.2	0.0	0.2	0.0	5.1	5.1	1.0	6.1	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h	215	5	0	23	87	73	215	1382	755	86	2086	0
V/C Ratio(X)	0.00	0.00	0.00	0.48	0.00	0.14	0.00	0.49	0.49	0.56	0.52	0.00
Avail Cap(c_a), veh/h	1019	952	0	399	1634	1368	807	5485	2997	780	7836	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.4	0.0	15.3	0.0	6.9	6.9	15.5	3.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	5.5	0.0	0.8	0.0	0.3	0.5	2.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.6	0.7	0.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	21.9	0.0	16.1	0.0	7.2	7.4	17.6	3.8	0.0
LnGrp LOS	A	A	A	C	A	B	A	A	A	B	A	A
Approach Vol, veh/h		0			21			1053			1133	
Approach Delay, s/veh		0.0			19.1			7.3			4.4	
Approach LOS					B			A			A	

Timer - Assigned Phs	1	2	3	4	6	8
Phs Duration (G+Y+Rc), s	6.4	20.9	5.1	1.2	27.3	6.2
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6	6.5	4.6
Max Green Setting (Gmax), s	16.4	57.0	8.4	* 18	78.0	30.9
Max Q Clear Time (g_c+I1), s	3.0	7.1	2.2	0.0	8.1	2.2
Green Ext Time (p_c), s	0.0	7.1	0.0	0.0	8.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.9
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	508	265	243	176	106	95	744	293	147	753	60
Future Volume (vph)	95	508	265	243	176	106	95	744	293	147	753	60
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	10.2	40.4		16.0	46.2	46.2	16.0	42.6		21.0	47.6	47.6
Total Split (%)	8.5%	33.7%		13.3%	38.5%	38.5%	13.3%	35.5%		17.5%	39.7%	39.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.8	21.4	95.8	11.3	27.0	27.0	9.8	27.1	95.8	13.3	30.6	30.6
Actuated g/C Ratio	0.06	0.22	1.00	0.12	0.28	0.28	0.10	0.28	1.00	0.14	0.32	0.32
v/c Ratio	0.56	0.68	0.19	0.73	0.37	0.21	0.62	0.79	0.21	0.70	0.70	0.11
Control Delay	61.4	39.4	0.3	56.9	31.2	2.4	62.9	38.9	0.3	60.4	33.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	39.4	0.3	56.9	31.2	2.4	62.9	38.9	0.3	60.4	33.0	0.4
LOS	E	D	A	E	C	A	E	D	A	E	C	A
Approach Delay		29.9			37.3			30.9			35.1	
Approach LOS		C			D			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 95.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 32.8	Intersection LOS: C
Intersection Capacity Utilization 72.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	508	265	243	176	106	95	744	293	147	753	60
Future Volume (veh/h)	95	508	265	243	176	106	95	744	293	147	753	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	100	535	0	256	185	70	100	783	0	155	793	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	737		330	463	392	124	1009		188	1150	487
Arrive On Green	0.06	0.21	0.00	0.11	0.26	0.26	0.08	0.28	0.00	0.12	0.32	0.32
Sat Flow, veh/h	3000	3544	1502	3000	1772	1500	1594	3544	1502	1594	3544	1502
Grp Volume(v), veh/h	100	535	0	256	185	70	100	783	0	155	793	44
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	2.5	11.0	0.0	6.5	6.7	2.8	4.8	15.9	0.0	7.4	15.2	1.6
Cycle Q Clear(g_c), s	2.5	11.0	0.0	6.5	6.7	2.8	4.8	15.9	0.0	7.4	15.2	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	737		330	463	392	124	1009		188	1150	487
V/C Ratio(X)	0.59	0.73		0.78	0.40	0.18	0.81	0.78		0.83	0.69	0.09
Avail Cap(c_a), veh/h	215	1548		437	905	766	232	1634		334	1860	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	28.9	0.0	33.9	23.9	22.4	35.5	25.7	0.0	33.8	23.0	18.4
Incr Delay (d2), s/veh	1.2	1.4	0.0	4.3	0.6	0.2	4.6	1.3	0.0	3.5	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.4	0.0	2.4	2.6	0.9	1.9	6.0	0.0	2.8	5.6	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	30.3	0.0	38.2	24.4	22.6	40.1	27.0	0.0	37.3	23.7	18.5
LnGrp LOS	D	C		D	C	C	D	C		D	C	B
Approach Vol, veh/h		635	A		511			883	A		992	
Approach Delay, s/veh		31.4			31.1			28.5			25.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	28.8	13.2	22.5	10.7	31.9	9.0	26.7
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	16.4	36.1	11.4	34.2	11.4	41.1	5.6	40.0
Max Q Clear Time (g_c+I1), s	9.4	17.9	8.5	13.0	6.8	17.2	4.5	8.7
Green Ext Time (p_c), s	0.1	4.4	0.1	3.1	0.0	5.0	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	87	468	115	562	134	45	23	40
Future Volume (vph)	87	468	115	562	134	45	23	40
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	19.0	41.0	23.0	45.0	25.0	45.0	11.0	31.0
Total Split (%)	15.8%	34.2%	19.2%	37.5%	20.8%	37.5%	9.2%	25.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.3	22.4	11.0	26.8	12.1	25.7	5.9	12.4
Actuated g/C Ratio	0.12	0.28	0.14	0.33	0.15	0.32	0.07	0.15
v/c Ratio	0.49	0.73	0.55	0.55	0.58	0.18	0.21	0.19
Control Delay	47.6	30.6	46.3	26.0	45.5	8.9	47.9	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	30.6	46.3	26.0	45.5	8.9	47.9	18.9
LOS	D	C	D	C	D	A	D	B
Approach Delay		32.6		29.3		24.8		24.7
Approach LOS		C		C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 80.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 29.6	Intersection LOS: C
Intersection Capacity Utilization 62.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	468	186	115	562	35	134	45	131	23	40	53
Future Volume (veh/h)	87	468	186	115	562	35	134	45	131	23	40	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	90	482	136	119	579	23	138	46	110	24	41	47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	691	193	149	960	38	172	434	384	44	299	262
Arrive On Green	0.07	0.27	0.27	0.09	0.29	0.29	0.11	0.26	0.26	0.03	0.18	0.18
Sat Flow, veh/h	1594	2579	722	1594	3298	131	1594	1683	1487	1594	1683	1474
Grp Volume(v), veh/h	90	313	305	119	295	307	138	46	110	24	41	47
Grp Sat Flow(s),veh/h/ln	1594	1683	1618	1594	1683	1746	1594	1683	1487	1594	1683	1474
Q Serve(g_s), s	3.3	10.0	10.2	4.4	9.0	9.1	5.1	1.3	3.6	0.9	1.2	1.6
Cycle Q Clear(g_c), s	3.3	10.0	10.2	4.4	9.0	9.1	5.1	1.3	3.6	0.9	1.2	1.6
Prop In Lane	1.00		0.45	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	451	433	149	490	508	172	434	384	44	299	262
V/C Ratio(X)	0.81	0.70	0.70	0.80	0.60	0.60	0.80	0.11	0.29	0.55	0.14	0.18
Avail Cap(c_a), veh/h	383	977	939	489	1089	1129	542	1100	972	170	707	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	19.8	19.8	26.6	18.3	18.3	26.1	17.0	17.8	28.8	20.8	21.0
Incr Delay (d2), s/veh	5.2	1.9	2.1	3.8	1.2	1.2	3.3	0.1	0.4	3.9	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.5	3.4	1.6	3.0	3.1	1.9	0.4	1.1	0.4	0.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	21.7	21.9	30.4	19.5	19.4	29.4	17.1	18.2	32.7	21.0	21.3
LnGrp LOS	C	C	C	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		708			721			294			112	
Approach Delay, s/veh		23.2			21.3			23.3			23.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	21.3	10.2	22.3	11.1	16.4	8.8	23.7
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.4	39.2	18.4	34.8	20.4	25.2	14.4	38.8
Max Q Clear Time (g_c+I1), s	2.9	5.6	6.4	12.2	7.1	3.6	5.3	11.1
Green Ext Time (p_c), s	0.0	0.9	0.1	3.3	0.1	0.3	0.1	3.3

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	91	54	12	48	30	20	120	8	13	186	43
Future Vol, veh/h	94	91	54	12	48	30	20	120	8	13	186	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	99	59	13	52	33	22	130	9	14	202	47
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

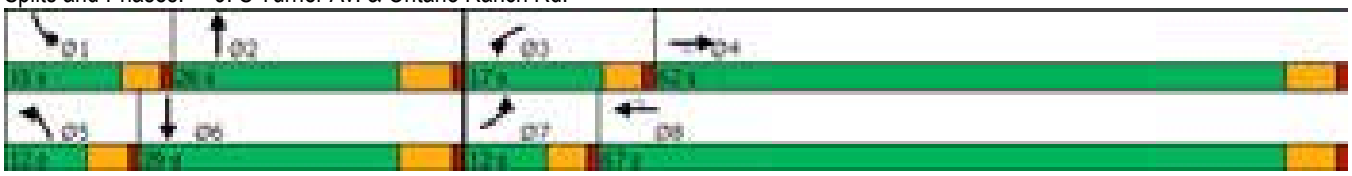
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	9.9	9.4	9.8	10
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	83%	0%	100%	36%	0%	100%	35%	0%	100%	59%
Vol Right, %	0%	0%	17%	0%	0%	64%	0%	0%	65%	0%	0%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	80	48	94	61	84	12	32	46	13	124	105
LT Vol	20	0	0	94	0	0	12	0	0	13	0	0
Through Vol	0	80	40	0	61	30	0	32	16	0	124	62
RT Vol	0	0	8	0	0	54	0	0	30	0	0	43
Lane Flow Rate	22	87	52	102	66	92	13	35	50	14	135	114
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.04	0.149	0.088	0.185	0.11	0.142	0.025	0.061	0.082	0.025	0.224	0.181
Departure Headway (Hd)	6.681	6.181	6.064	6.517	6.017	5.569	6.86	6.36	5.904	6.486	5.986	5.7
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	537	581	591	552	597	644	522	563	607	553	601	630
Service Time	4.413	3.913	3.796	4.245	3.745	3.297	4.594	4.094	3.637	4.214	3.714	3.427
HCM Lane V/C Ratio	0.041	0.15	0.088	0.185	0.111	0.143	0.025	0.062	0.082	0.025	0.225	0.181
HCM Control Delay	9.7	10	9.4	10.7	9.5	9.2	9.8	9.5	9.2	9.4	10.4	9.7
HCM Lane LOS	A	A	A	B	A	A	A	A	A	A	B	A
HCM 95th-tile Q	0.1	0.5	0.3	0.7	0.4	0.5	0.1	0.2	0.3	0.1	0.9	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	16	929	44	55	629	25	16	11	41	28
Future Volume (vph)	16	929	44	55	629	25	16	11	41	28
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	12.0	62.0	62.0	17.0	67.0	67.0	12.0	26.0	15.0	29.0
Total Split (%)	10.0%	51.7%	51.7%	14.2%	55.8%	55.8%	10.0%	21.7%	12.5%	24.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.5	28.3	28.3	8.0	33.2	33.2	6.5	8.6	7.4	13.1
Actuated g/C Ratio	0.10	0.45	0.45	0.13	0.53	0.53	0.10	0.14	0.12	0.21
v/c Ratio	0.09	0.63	0.06	0.26	0.36	0.03	0.09	0.16	0.21	0.11
Control Delay	39.8	18.0	0.1	37.7	10.8	0.1	39.8	19.4	38.2	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	18.0	0.1	37.7	10.8	0.1	39.8	19.4	38.2	22.8
LOS	D	B	A	D	B	A	D	B	D	C
Approach Delay		17.6			12.5			25.4		30.9
Approach LOS		B			B			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 63.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 16.4	Intersection LOS: B
Intersection Capacity Utilization 52.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	929	44	55	629	25	16	11	27	41	28	9
Future Volume (veh/h)	16	929	44	55	629	25	16	11	27	41	28	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	999	47	59	676	27	17	12	29	44	30	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	1483	661	97	1603	715	37	45	110	80	158	53
Arrive On Green	0.02	0.42	0.42	0.05	0.45	0.45	0.02	0.09	0.09	0.04	0.12	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	486	1174	1781	1342	447
Grp Volume(v), veh/h	17	999	47	59	676	27	17	0	41	44	0	40
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1659	1781	0	1790
Q Serve(g_s), s	0.5	12.2	1.0	1.7	6.9	0.5	0.5	0.0	1.2	1.3	0.0	1.1
Cycle Q Clear(g_c), s	0.5	12.2	1.0	1.7	6.9	0.5	0.5	0.0	1.2	1.3	0.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		0.25
Lane Grp Cap(c), veh/h	37	1483	661	97	1603	715	37	0	155	80	0	211
V/C Ratio(X)	0.46	0.67	0.07	0.61	0.42	0.04	0.46	0.00	0.26	0.55	0.00	0.19
Avail Cap(c_a), veh/h	247	3741	1669	414	4074	1817	247	0	628	347	0	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.8	12.6	9.3	24.7	9.9	8.2	25.8	0.0	22.5	25.0	0.0	21.3
Incr Delay (d2), s/veh	3.2	0.5	0.0	2.3	0.2	0.0	3.2	0.0	0.9	2.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.6	0.3	0.7	2.0	0.1	0.2	0.0	0.5	0.5	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	13.2	9.4	26.9	10.1	8.2	29.1	0.0	23.4	27.2	0.0	21.7
LnGrp LOS	C	B	A	C	B	A	C	A	C	C	A	C
Approach Vol, veh/h		1063			762			58			84	
Approach Delay, s/veh		13.2			11.3			25.0			24.6	
Approach LOS		B			B			C			C	

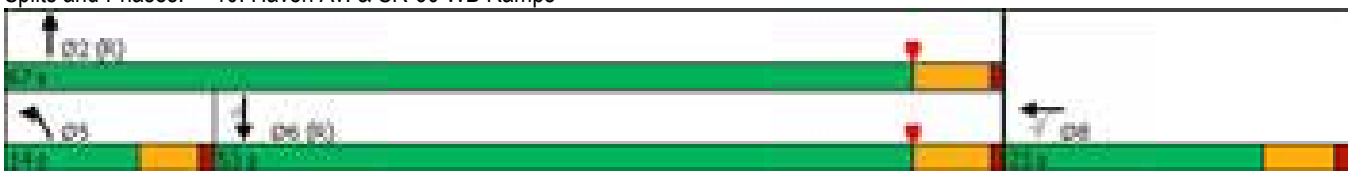
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	10.8	7.5	28.1	5.7	12.1	5.7	29.9
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	10.4	20.2	12.4	56.2	7.4	23.2	7.4	61.2
Max Q Clear Time (g_c+I1), s	3.3	3.2	3.7	14.2	2.5	3.1	2.5	8.9
Green Ext Time (p_c), s	0.0	0.1	0.0	8.1	0.0	0.1	0.0	4.9

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	272	10	562	142	829	1367	695
Future Volume (vph)	272	10	562	142	829	1367	695
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	23.0	23.0		14.0	67.0	53.0	53.0
Total Split (%)	25.6%	25.6%		15.6%	74.4%	58.9%	58.9%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	13.3	13.3	90.0	7.9	64.7	51.8	51.8
Actuated g/C Ratio	0.15	0.15	1.00	0.09	0.72	0.58	0.58
v/c Ratio	0.59	0.59	0.37	0.49	0.24	0.49	0.60
Control Delay	45.4	45.1	0.7	35.3	5.0	12.5	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	45.1	0.7	35.3	5.0	12.5	3.3
LOS	D	D	A	D	A	B	A
Approach Delay		15.5			9.4	9.4	
Approach LOS		B			A	A	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 10.8	Intersection LOS: B
Intersection Capacity Utilization 69.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	272	10	562	142	829	0	0	1367	695
Future Volume (veh/h)	0	0	0	272	10	562	142	829	0	0	1367	695
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				290	0	0	148	864	0	0	1424	576
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				396	0		216	3858	0	0	3256	998
Arrive On Green				0.11	0.00	0.00	0.12	1.00	0.00	0.00	0.64	0.64
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1565
Grp Volume(v), veh/h				290	0	0	148	864	0	0	1424	576
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1565
Q Serve(g_s), s				7.1	0.0	0.0	3.7	0.0	0.0	0.0	12.6	19.0
Cycle Q Clear(g_c), s				7.1	0.0	0.0	3.7	0.0	0.0	0.0	12.6	19.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				396	0		216	3858	0	0	3256	998
V/C Ratio(X)				0.73	0.00		0.69	0.22	0.00	0.00	0.44	0.58
Avail Cap(c_a), veh/h				681	0		346	3858	0	0	3256	998
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.89	0.89	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.7	0.0	0.0	38.5	0.0	0.0	0.0	8.2	9.3
Incr Delay (d2), s/veh				2.6	0.0	0.0	1.3	0.1	0.0	0.0	0.4	2.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.1	0.0	0.0	1.5	0.0	0.0	0.0	3.8	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.4	0.0	0.0	39.8	0.1	0.0	0.0	8.6	11.8
LnGrp LOS				D	A		D	A	A	A	A	B
Approach Vol, veh/h					290	A		1012			2000	
Approach Delay, s/veh					41.4			5.9			9.5	
Approach LOS					D			A			A	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	74.2		10.6	63.6		15.8						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	60.8		9.0	46.8		17.2						
Max Q Clear Time (g_c+I1), s	2.0		5.7	21.0		9.1						
Green Ext Time (p_c), s	3.9		0.1	8.7		0.6						

Intersection Summary		
HCM 6th Ctrl Delay	11.2	
HCM 6th LOS	B	

Notes

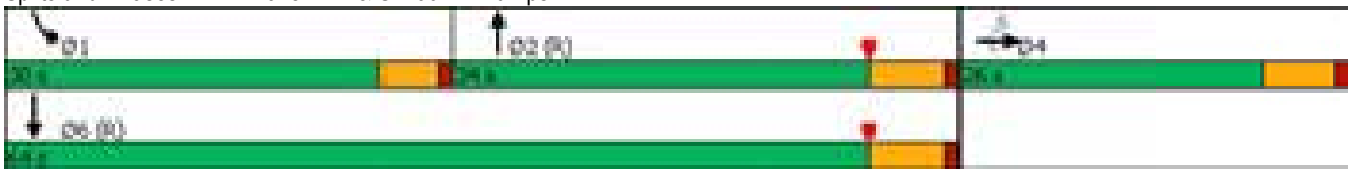
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	349	2	212	614	609	1048
Future Volume (vph)	349	2	212	614	609	1048
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	26.0	26.0	26.0	34.0	30.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	37.8%	33.3%	71.1%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	15.3	15.3	15.3	36.4	21.3	62.7
Actuated g/C Ratio	0.17	0.17	0.17	0.40	0.24	0.70
v/c Ratio	0.64	0.65	0.61	0.41	0.78	0.31
Control Delay	44.6	44.8	23.4	19.1	53.3	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	44.8	23.4	19.1	53.3	4.2
LOS	D	D	C	B	D	A
Approach Delay		36.7		19.1		22.2
Approach LOS		D		B		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 24.1	Intersection LOS: C
Intersection Capacity Utilization 69.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	2	212	0	0	0	0	614	179	609	1048	0
Future Volume (veh/h)	349	2	212	0	0	0	0	614	179	609	1048	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	365	0	107				0	640	128	634	1092	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	477	0	212				0	2006	395	720	3742	0
Arrive On Green	0.13	0.00	0.13				0.00	0.47	0.47	0.42	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4447	843	3456	5274	0
Grp Volume(v), veh/h	365	0	107				0	507	261	634	1092	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1718	1728	1702	0
Q Serve(g_s), s	8.9	0.0	5.6				0.0	8.4	8.6	15.2	0.0	0.0
Cycle Q Clear(g_c), s	8.9	0.0	5.6				0.0	8.4	8.6	15.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.49	1.00		0.00
Lane Grp Cap(c), veh/h	477	0	212				0	1596	806	720	3742	0
V/C Ratio(X)	0.77	0.00	0.50				0.00	0.32	0.32	0.88	0.29	0.00
Avail Cap(c_a), veh/h	800	0	356				0	1596	806	960	3742	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.86	0.86	0.00
Uniform Delay (d), s/veh	37.6	0.0	36.2				0.0	14.9	15.0	25.2	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	1.8				0.0	0.5	1.1	6.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	2.2				0.0	3.0	3.2	5.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	0.0	38.0				0.0	15.4	16.0	31.8	0.2	0.0
LnGrp LOS	D	A	D				A	B	B	C	A	A
Approach Vol, veh/h		472						768			1726	
Approach Delay, s/veh		39.7						15.6			11.8	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.7	48.4		17.9		72.1
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	25.0	27.8		20.2		57.8
Max Q Clear Time (g_c+I1), s	17.2	10.6		10.9		2.0
Green Ext Time (p_c), s	1.5	2.8		1.2		5.3

Intersection Summary	
HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

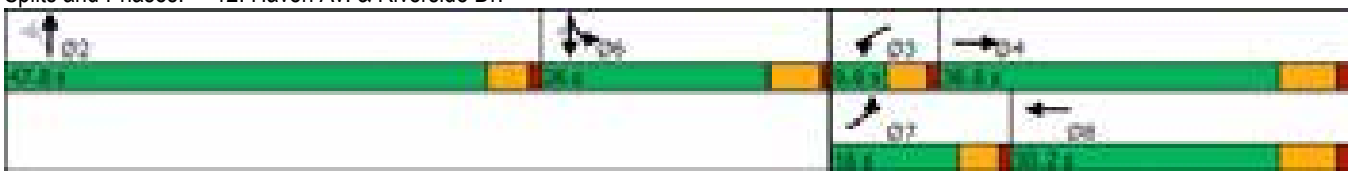
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	291	301	53	267	29	305	123	346	334
Future Volume (vph)	291	301	53	267	29	305	123	346	334
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	16.0	36.6	9.6	30.2	47.8	47.8	26.0	26.0	26.0
Total Split (%)	13.3%	30.5%	8.0%	25.2%	39.8%	39.8%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	11.4	27.5	5.0	21.1		43.2	20.2	20.2	20.2
Actuated g/C Ratio	0.10	0.23	0.04	0.18		0.37	0.17	0.17	0.17
v/c Ratio	1.97	0.89	0.82	0.60		1.94	0.47	1.18	0.64
Control Delay	487.7	67.1	125.2	44.7		463.5	51.0	153.5	10.7
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	487.7	67.1	125.2	44.7		463.5	51.0	153.5	10.7
LOS	F	E	F	D		F	D	F	B
Approach Delay		258.4		55.4		463.5		78.3	
Approach LOS		F		E		F		E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.97	
Intersection Signal Delay: 192.8	Intersection LOS: F
Intersection Capacity Utilization 89.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	301	47	53	267	79	29	305	53	123	346	334
Future Volume (veh/h)	291	301	47	53	267	79	29	305	53	123	346	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	303	314	48	55	278	62	30	318	49	128	360	122
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	357	55	67	428	94	35	370	57	351	390	329
Arrive On Green	0.12	0.24	0.24	0.04	0.16	0.16	0.27	0.27	0.27	0.22	0.22	0.22
Sat Flow, veh/h	1594	1493	228	1594	2731	598	131	1383	213	1594	1772	1498
Grp Volume(v), veh/h	303	0	362	55	169	171	397	0	0	128	360	122
Grp Sat Flow(s),veh/h/ln	1594	0	1722	1594	1683	1645	1727	0	0	1594	1772	1498
Q Serve(g_s), s	11.4	0.0	18.6	3.1	8.7	9.0	20.1	0.0	0.0	6.3	18.3	6.4
Cycle Q Clear(g_c), s	11.4	0.0	18.6	3.1	8.7	9.0	20.1	0.0	0.0	6.3	18.3	6.4
Prop In Lane	1.00		0.13	1.00		0.36	0.08		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	198	0	411	67	264	258	461	0	0	351	390	329
V/C Ratio(X)	1.53	0.00	0.88	0.82	0.64	0.66	0.86	0.00	0.00	0.37	0.92	0.37
Avail Cap(c_a), veh/h	198	0	570	87	440	430	810	0	0	351	390	329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	0.0	33.7	43.6	36.3	36.4	32.0	0.0	0.0	30.4	35.1	30.4
Incr Delay (d2), s/veh	263.1	0.0	11.4	28.9	2.6	2.9	4.8	0.0	0.0	0.6	27.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.6	0.0	8.5	1.7	3.5	3.6	8.8	0.0	0.0	2.3	10.3	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	303.4	0.0	45.1	72.5	38.9	39.3	36.8	0.0	0.0	31.0	62.5	31.1
LnGrp LOS	F	A	D	E	D	D	D	A	A	C	E	C
Approach Vol, veh/h		665			395			397			610	
Approach Delay, s/veh		162.8			43.7			36.8			49.6	
Approach LOS		F			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.2	8.5	28.1		26.0	16.0	20.6				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 43	5.0	30.4		20.2	11.4	24.0				
Max Q Clear Time (g_c+I1), s		22.1	5.1	20.6		20.3	13.4	11.0				
Green Ext Time (p_c), s		2.5	0.0	1.3		0.0	0.0	1.4				

Intersection Summary		
HCM 6th Ctrl Delay		82.4
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	69	74	314	428	28
Future Vol, veh/h	40	69	74	314	428	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	73	78	331	451	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	953	466	480	0	-	0
Stage 1	466	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	287	597	1082	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	266	597	1082	-	-	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	586	-	-	-	-	-
Stage 2	618	-	-	-	-	-

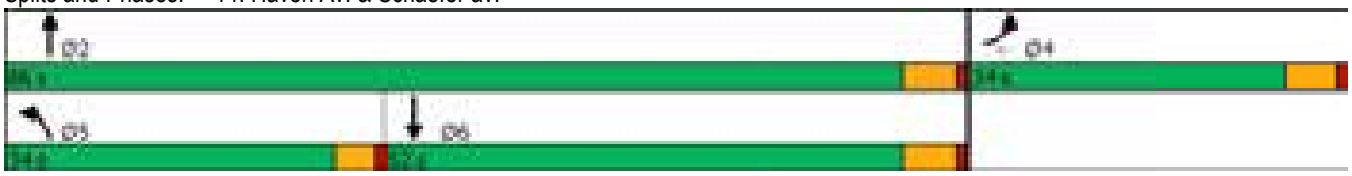
Approach	EB	NB	SB
HCM Control Delay, s	13.1	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1082	-	396	597	-	-
HCM Lane V/C Ratio	0.072	-	0.106	0.122	-	-
HCM Control Delay (s)	8.6	-	15.2	11.9	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	0.4	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	22	76	116	367	472
Future Volume (vph)	22	76	116	367	472
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	34.0	34.0	34.0	86.0	52.0
Total Split (%)	28.3%	28.3%	28.3%	71.7%	43.3%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.5	12.5	9.8	33.9	22.7
Actuated g/C Ratio	0.24	0.24	0.19	0.65	0.44
v/c Ratio	0.07	0.21	0.45	0.37	0.39
Control Delay	19.5	6.8	27.5	8.0	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	6.8	27.5	8.0	16.8
LOS	B	A	C	A	B
Approach Delay	9.7			12.7	16.8
Approach LOS	A			B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 51.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 14.3	Intersection LOS: B
Intersection Capacity Utilization 43.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	76	116	367	472	20
Future Volume (veh/h)	22	76	116	367	472	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	26	19	135	427	549	23
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	163	154	171	971	993	42
Arrive On Green	0.10	0.10	0.11	0.55	0.30	0.30
Sat Flow, veh/h	1594	1502	1594	1772	3381	138
Grp Volume(v), veh/h	26	19	135	427	280	292
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1683	1747
Q Serve(g_s), s	0.5	0.4	2.7	4.8	4.6	4.6
Cycle Q Clear(g_c), s	0.5	0.4	2.7	4.8	4.6	4.6
Prop In Lane	1.00	1.00	1.00			0.08
Lane Grp Cap(c), veh/h	163	154	171	971	508	527
V/C Ratio(X)	0.16	0.12	0.79	0.44	0.55	0.55
Avail Cap(c_a), veh/h	1356	1277	1413	4287	2346	2435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	13.5	14.4	4.5	9.7	9.7
Incr Delay (d2), s/veh	0.5	0.4	3.1	0.3	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.8	0.4	1.1	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.0	13.9	17.5	4.8	10.6	10.6
LnGrp LOS	B	B	B	A	B	B
Approach Vol, veh/h	45			562	572	
Approach Delay, s/veh	14.0			7.8	10.6	
Approach LOS	B			A	B	

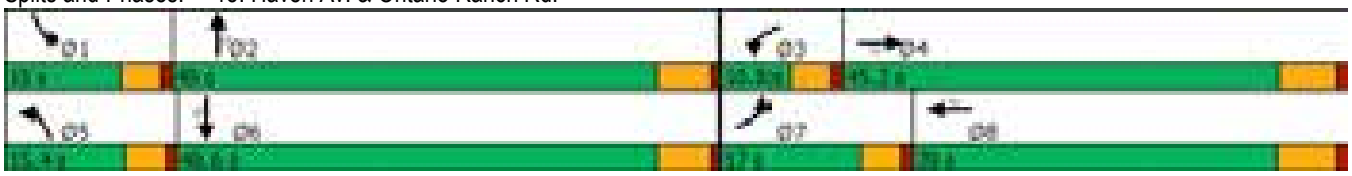
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.0		9.2	8.2	15.8
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		80.2		28.2	29.4	46.2
Max Q Clear Time (g_c+I1), s		6.8		2.5	4.7	6.6
Green Ext Time (p_c), s		2.6		0.1	0.2	3.3

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	787	35	221	611	192	18	179	68	196	306	47
Future Volume (vph)	143	787	35	221	611	192	18	179	68	196	306	47
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	17.0	45.2	45.2	10.8	39.0	39.0	15.4	49.0	49.0	15.0	48.6	48.6
Total Split (%)	14.2%	37.7%	37.7%	9.0%	32.5%	32.5%	12.8%	40.8%	40.8%	12.5%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	12.3	39.5	39.5	6.3	33.2	33.2	6.0	19.4	19.4	10.5	30.4	30.4
Actuated g/C Ratio	0.13	0.41	0.41	0.06	0.34	0.34	0.06	0.20	0.20	0.11	0.31	0.31
v/c Ratio	0.76	0.43	0.05	1.26	0.31	0.32	0.20	0.54	0.17	1.22	0.59	0.09
Control Delay	67.6	23.2	0.1	192.4	25.8	5.8	52.3	39.4	0.9	180.2	33.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	23.2	0.1	192.4	25.8	5.8	52.3	39.4	0.9	180.2	33.7	0.3
LOS	E	C	A	F	C	A	D	D	A	F	C	A
Approach Delay		28.9			58.0			30.4			83.2	
Approach LOS		C			E			C			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.2	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.26	
Intersection Signal Delay: 50.3	Intersection LOS: D
Intersection Capacity Utilization 63.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	787	35	221	611	192	18	179	68	196	306	47
Future Volume (veh/h)	143	787	35	221	611	192	18	179	68	196	306	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	152	837	24	235	650	159	19	190	22	209	326	17
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	2110	655	202	2390	589	34	244	207	185	413	350
Arrive On Green	0.11	0.44	0.44	0.07	0.39	0.39	0.02	0.14	0.14	0.12	0.23	0.23
Sat Flow, veh/h	1594	4837	1502	2910	6095	1502	1594	1772	1502	1594	1772	1502
Grp Volume(v), veh/h	152	837	24	235	650	159	19	190	22	209	326	17
Grp Sat Flow(s),veh/h/ln	1594	1612	1502	1455	1524	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	8.4	10.5	0.8	6.2	6.5	6.4	1.1	9.3	1.1	10.4	15.5	0.8
Cycle Q Clear(g_c), s	8.4	10.5	0.8	6.2	6.5	6.4	1.1	9.3	1.1	10.4	15.5	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	181	2110	655	202	2390	589	34	244	207	185	413	350
V/C Ratio(X)	0.84	0.40	0.04	1.16	0.27	0.27	0.57	0.78	0.11	1.13	0.79	0.05
Avail Cap(c_a), veh/h	221	2110	655	202	2390	589	193	856	726	185	848	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	17.2	14.4	41.6	18.5	18.5	43.4	37.2	33.7	39.5	32.2	26.6
Incr Delay (d2), s/veh	17.8	0.6	0.1	114.7	0.3	1.1	5.5	5.4	0.2	104.4	3.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	3.6	0.3	5.3	2.1	2.2	0.5	4.2	0.4	9.2	6.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	17.7	14.5	156.3	18.8	19.6	48.8	42.6	34.0	143.9	35.7	26.7
LnGrp LOS	E	B	B	F	B	B	D	D	C	F	D	C
Approach Vol, veh/h		1013			1044			231			552	
Approach Delay, s/veh		23.5			49.9			42.3			76.4	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	18.1	10.8	45.5	6.5	26.6	14.8	41.5
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	10.4	43.2	6.2	* 39	10.8	42.8	12.4	32.5
Max Q Clear Time (g_c+I1), s	12.4	11.3	8.2	12.5	3.1	17.5	10.4	8.5
Green Ext Time (p_c), s	0.0	1.0	0.0	5.6	0.0	1.8	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

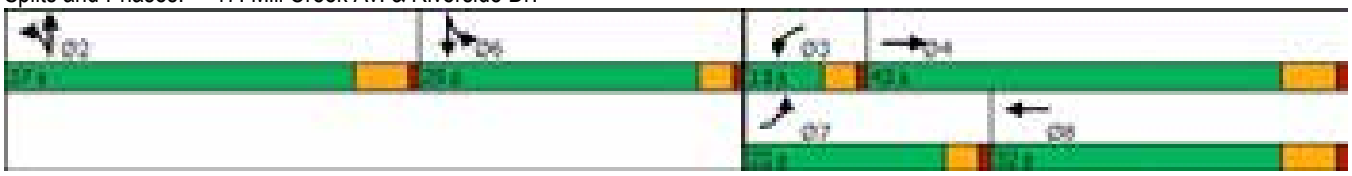
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	88	260	13	270	58	18	21	58	14
Future Volume (vph)	88	260	13	270	58	18	21	58	14
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	22.0	43.0	11.0	32.0	37.0	37.0	37.0	29.0	29.0
Total Split (%)	18.3%	35.8%	9.2%	26.7%	30.8%	30.8%	30.8%	24.2%	24.2%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	8.9	22.9	5.8	13.8	12.5	12.5	12.5	12.4	12.4
Actuated g/C Ratio	0.13	0.35	0.09	0.21	0.19	0.19	0.19	0.19	0.19
v/c Ratio	0.44	0.34	0.10	0.58	0.21	0.06	0.06	0.21	0.19
Control Delay	37.4	16.3	37.7	26.4	28.3	27.1	0.3	28.7	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	16.3	37.7	26.4	28.3	27.1	0.3	28.7	13.9
LOS	D	B	D	C	C	C	A	C	B
Approach Delay		20.5		26.7		22.1			21.3
Approach LOS		C		C		C			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 66.2	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 23.1	Intersection LOS: C
Intersection Capacity Utilization 41.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	260	100	13	270	113	58	18	21	58	14	44
Future Volume (veh/h)	88	260	100	13	270	113	58	18	21	58	14	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	94	277	86	14	287	91	62	19	9	62	15	27
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	613	186	28	470	146	295	328	277	309	108	195
Arrive On Green	0.07	0.24	0.24	0.02	0.19	0.19	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	1594	2539	772	1594	2528	786	1594	1772	1499	1594	558	1005
Grp Volume(v), veh/h	94	182	181	14	189	189	62	19	9	62	0	42
Grp Sat Flow(s),veh/h/ln	1594	1683	1627	1594	1683	1630	1594	1772	1499	1594	0	1563
Q Serve(g_s), s	3.2	5.0	5.2	0.5	5.6	5.8	1.8	0.5	0.3	1.8	0.0	1.2
Cycle Q Clear(g_c), s	3.2	5.0	5.2	0.5	5.6	5.8	1.8	0.5	0.3	1.8	0.0	1.2
Prop In Lane	1.00		0.47	1.00		0.48	1.00		1.00	1.00		0.64
Lane Grp Cap(c), veh/h	116	406	393	28	313	303	295	328	277	309	0	303
V/C Ratio(X)	0.81	0.45	0.46	0.50	0.60	0.62	0.21	0.06	0.03	0.20	0.00	0.14
Avail Cap(c_a), veh/h	525	1140	1102	204	801	776	910	1012	856	729	0	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	17.6	17.7	26.6	20.4	20.5	18.9	18.3	18.3	18.5	0.0	18.2
Incr Delay (d2), s/veh	5.0	0.8	0.8	5.1	1.9	2.1	0.4	0.1	0.0	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.7	1.7	0.2	2.0	2.0	0.6	0.2	0.1	0.6	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	18.4	18.5	31.7	22.3	22.6	19.2	18.4	18.3	18.8	0.0	18.5
LnGrp LOS	C	B	B	C	C	C	B	B	B	B	A	B
Approach Vol, veh/h		457			392			90			104	
Approach Delay, s/veh		20.8			22.8			19.0			18.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.9	5.0	19.2		14.6	8.0	16.2				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		31.2	7.0	37.0		25.0	18.0	26.0				
Max Q Clear Time (g_c+I1), s		3.8	2.5	7.2		3.8	5.2	7.8				
Green Ext Time (p_c), s		0.2	0.0	1.9		0.3	0.1	1.8				

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1	0
Future Vol, veh/h	0	0	0	0	1	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	4	0
Number of Lanes	0	1	1	0	1	0

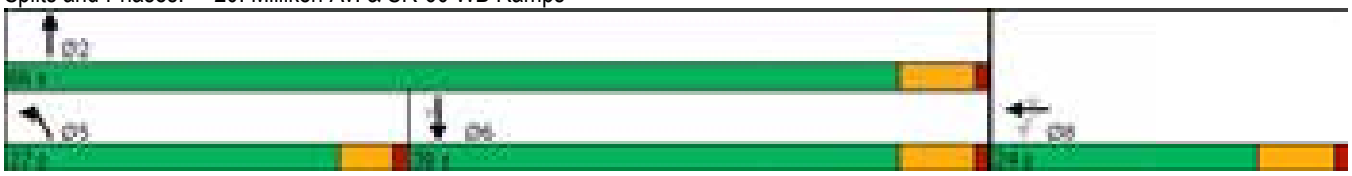
Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	0	0	7.2
HCM LOS	-	-	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	100%	0%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	1
LT Vol	0	0	1
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	4
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0.005
Departure Headway (Hd)	3.937	3.942	4.134
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	871
Service Time	1.938	1.944	2.134
HCM Lane V/C Ratio	0	0	0.005
HCM Control Delay	6.9	6.9	7.2
HCM Lane LOS	N	N	A
HCM 95th-tile Q	0	0	0

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	319	280	694	898	518
Future Volume (vph)	4	319	280	694	898	518
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	9.6	16.2	16.2	16.2
Total Split (s)	24.0	24.0	27.0	66.0	39.0	39.0
Total Split (%)	26.7%	26.7%	30.0%	73.3%	43.3%	43.3%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	12.2	12.2	16.1	47.7	26.8	26.8
Actuated g/C Ratio	0.17	0.17	0.22	0.66	0.37	0.37
v/c Ratio	0.29	0.68	0.75	0.30	0.68	0.58
Control Delay	32.4	16.1	40.3	5.6	22.9	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	16.1	40.3	5.6	22.9	4.8
LOS	C	B	D	A	C	A
Approach Delay	19.4			15.6	16.3	
Approach LOS	B			B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 72.7	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 16.5	Intersection LOS: B
Intersection Capacity Utilization 70.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	79	4	319	280	694	0	0	898	518
Future Volume (veh/h)	0	0	0	79	4	319	280	694	0	0	898	518
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				82	4	156	292	723	0	0	935	456
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				264	13	246	344	2431	0	0	1438	610
Arrive On Green				0.16	0.16	0.16	0.19	0.65	0.00	0.00	0.38	0.38
Sat Flow, veh/h				1702	83	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				86	0	156	292	723	0	0	935	456
Grp Sat Flow(s),veh/h/ln				1785	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				2.7	0.0	5.9	10.1	5.3	0.0	0.0	13.0	15.8
Cycle Q Clear(g_c), s				2.7	0.0	5.9	10.1	5.3	0.0	0.0	13.0	15.8
Prop In Lane				0.95		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				277	0	246	344	2431	0	0	1438	610
V/C Ratio(X)				0.31	0.00	0.63	0.85	0.30	0.00	0.00	0.65	0.75
Avail Cap(c_a), veh/h				500	0	444	627	3517	0	0	1929	817
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				23.9	0.0	25.2	24.8	4.8	0.0	0.0	16.1	16.9
Incr Delay (d2), s/veh				0.6	0.0	2.7	2.3	0.1	0.0	0.0	0.5	2.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.1	0.0	2.1	3.9	1.1	0.0	0.0	4.5	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				24.5	0.0	27.9	27.0	4.9	0.0	0.0	16.6	19.5
LnGrp LOS				C	A	C	C	A	A	A	B	B
Approach Vol, veh/h					242			1015			1391	
Approach Delay, s/veh					26.7			11.3			17.5	
Approach LOS					C			B			B	

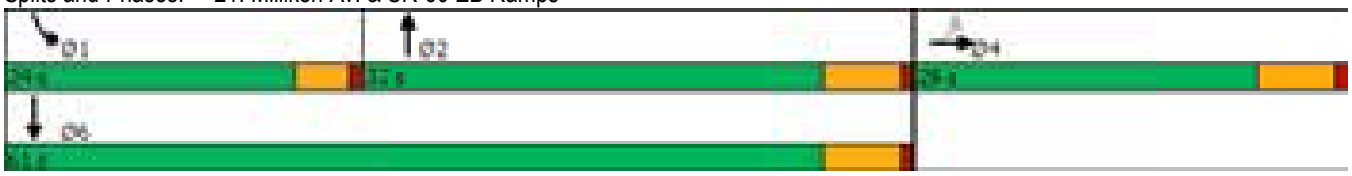
Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	47.5		16.9	30.7		16.1						
Change Period (Y+Rc), s	6.2		4.6	6.2		6.2						
Max Green Setting (Gmax), s	59.8		22.4	32.8		17.8						
Max Q Clear Time (g_c+I1), s	7.3		12.1	17.8		7.9						
Green Ext Time (p_c), s	5.0		0.3	6.6		0.6						

Intersection Summary		
HCM 6th Ctrl Delay		16.0
HCM 6th LOS		B

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	263	4	703	223	753
Future Volume (vph)	263	4	703	223	753
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	16.2	23.2	9.6	16.2
Total Split (s)	29.0	29.0	37.0	24.0	61.0
Total Split (%)	32.2%	32.2%	41.1%	26.7%	67.8%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	16.1	16.1	22.9	13.6	41.3
Actuated g/C Ratio	0.23	0.23	0.33	0.19	0.59
v/c Ratio	0.61	0.65	0.72	0.68	0.36
Control Delay	33.6	17.9	25.0	39.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	17.9	25.0	39.4	8.2
LOS	C	B	C	D	A
Approach Delay		24.5	25.0		15.3
Approach LOS		C	C		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 70.4	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 20.9	Intersection LOS: C
Intersection Capacity Utilization 70.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	4	296	0	0	0	0	703	128	223	753	0
Future Volume (veh/h)	263	4	296	0	0	0	0	703	128	223	753	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	257	28	235				0	732	104	232	784	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	393	38	317				0	1012	144	286	2090	0
Arrive On Green	0.22	0.22	0.22				0.00	0.32	0.32	0.16	0.56	0.00
Sat Flow, veh/h	1781	172	1440				0	3204	455	1781	3741	0
Grp Volume(v), veh/h	257	0	263				0	427	409	232	784	0
Grp Sat Flow(s),veh/h/ln	1781	0	1611				0	1870	1788	1781	1870	0
Q Serve(g_s), s	7.4	0.0	8.5				0.0	11.4	11.4	7.1	6.6	0.0
Cycle Q Clear(g_c), s	7.4	0.0	8.5				0.0	11.4	11.4	7.1	6.6	0.0
Prop In Lane	1.00		0.89				0.00		0.25	1.00		0.00
Lane Grp Cap(c), veh/h	393	0	355				0	591	565	286	2090	0
V/C Ratio(X)	0.65	0.00	0.74				0.00	0.72	0.72	0.81	0.38	0.00
Avail Cap(c_a), veh/h	724	0	655				0	1027	982	616	3654	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.9	0.0	20.4				0.0	17.0	17.0	22.7	6.9	0.0
Incr Delay (d2), s/veh	1.9	0.0	3.0				0.0	1.7	1.8	2.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	3.0				0.0	4.1	3.9	2.6	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	23.4				0.0	18.7	18.8	24.8	7.0	0.0
LnGrp LOS	C	A	C				A	B	B	C	A	A
Approach Vol, veh/h		520						836			1016	
Approach Delay, s/veh		22.6						18.8			11.1	
Approach LOS		C						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.6	23.9		18.6		37.5
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	19.4	30.8		22.8		54.8
Max Q Clear Time (g_c+I1), s	9.1	13.4		10.5		8.6
Green Ext Time (p_c), s	0.2	4.3		1.8		5.5

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

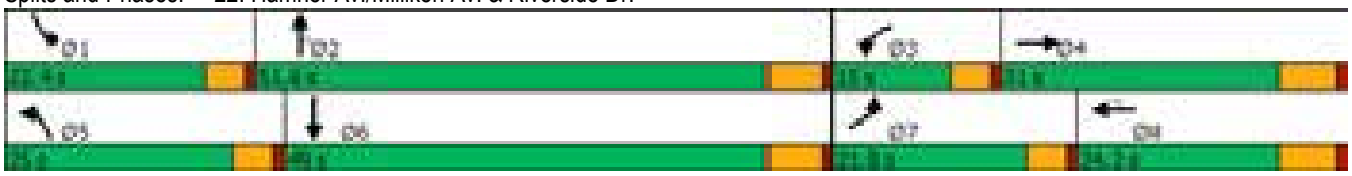
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	113	83	80	78	160	149	484	49	212	698
Future Volume (vph)	113	83	80	78	160	149	484	49	212	698
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	21.8	31.0	15.0	24.2	24.2	25.0	51.6	51.6	22.4	49.0
Total Split (%)	18.2%	25.8%	12.5%	20.2%	20.2%	20.8%	43.0%	43.0%	18.7%	40.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	11.7	20.2	8.9	14.3	14.3	14.0	28.8	28.8	17.7	32.5
Actuated g/C Ratio	0.12	0.21	0.09	0.15	0.15	0.15	0.30	0.30	0.19	0.34
v/c Ratio	0.61	0.63	0.57	0.31	0.46	0.68	0.50	0.09	0.76	0.81
Control Delay	57.8	36.4	63.2	44.7	11.3	57.0	28.7	0.3	59.2	35.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.8	36.4	63.2	44.7	11.3	57.0	28.7	0.3	59.2	35.1
LOS	E	D	E	D	B	E	C	A	E	D
Approach Delay		43.4		32.6			32.8			39.9
Approach LOS		D		C			C			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 95.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 37.4	Intersection LOS: D
Intersection Capacity Utilization 72.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	83	148	80	78	160	149	484	49	212	698	168
Future Volume (veh/h)	113	83	148	80	78	160	149	484	49	212	698	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	119	87	115	84	82	130	157	509	47	223	735	163
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	115	152	104	248	210	192	1011	450	262	939	208
Arrive On Green	0.09	0.17	0.17	0.07	0.14	0.14	0.12	0.30	0.30	0.16	0.34	0.34
Sat Flow, veh/h	1594	685	905	1594	1772	1502	1594	3367	1499	1594	2731	605
Grp Volume(v), veh/h	119	0	202	84	82	130	157	509	47	223	453	445
Grp Sat Flow(s),veh/h/ln	1594	0	1590	1594	1772	1502	1594	1683	1499	1594	1683	1653
Q Serve(g_s), s	5.2	0.0	8.6	3.7	3.0	5.8	6.9	8.9	1.6	9.7	17.2	17.2
Cycle Q Clear(g_c), s	5.2	0.0	8.6	3.7	3.0	5.8	6.9	8.9	1.6	9.7	17.2	17.2
Prop In Lane	1.00		0.57	1.00		1.00	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	148	0	267	104	248	210	192	1011	450	262	579	569
V/C Ratio(X)	0.80	0.00	0.76	0.81	0.33	0.62	0.82	0.50	0.10	0.85	0.78	0.78
Avail Cap(c_a), veh/h	384	0	553	232	447	379	456	2142	954	398	1010	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	28.3	32.9	27.7	28.9	30.6	20.6	18.0	29.0	21.0	21.0
Incr Delay (d2), s/veh	3.9	0.0	4.4	5.5	0.8	2.9	3.2	0.4	0.1	6.9	2.4	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	3.3	1.5	1.2	2.1	2.5	3.1	0.5	3.8	6.1	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	0.0	32.7	38.4	28.4	31.8	33.9	21.0	18.1	35.9	23.4	23.4
LnGrp LOS	D	A	C	D	C	C	C	C	B	D	C	C
Approach Vol, veh/h		321			296			713			1121	
Approach Delay, s/veh		33.8			32.7			23.6			25.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	27.6	9.3	18.2	13.2	30.7	11.2	16.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.8	45.4	10.4	24.8	20.4	42.8	17.2	18.0
Max Q Clear Time (g_c+I1), s	11.7	10.9	5.7	10.6	8.9	19.2	7.2	7.8
Green Ext Time (p_c), s	0.2	3.3	0.0	0.8	0.1	5.3	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	0	663	906	2
Future Vol, veh/h	1	0	0	663	906	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	0	729	996	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1362	997	998	0	-	0
Stage 1	997	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	151	295	691	-	-	-
Stage 1	356	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	151	295	691	-	-	-
Mov Cap-2 Maneuver	319	-	-	-	-	-
Stage 1	356	-	-	-	-	-
Stage 2	674	-	-	-	-	-

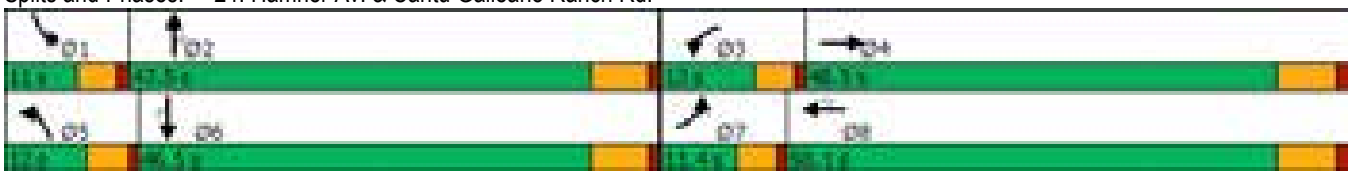
Approach	EB	NB	SB
HCM Control Delay, s	16.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	691	-	319	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	0	-	16.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	126	655	371	684	151	298	356	293	240	499	90
Future Volume (vph)	126	655	371	684	151	298	356	293	240	499	90
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	11.4	48.5	13.0	50.1	50.1	12.0	47.5	47.5	11.0	46.5	46.5
Total Split (%)	9.5%	40.4%	10.8%	41.8%	41.8%	10.0%	39.6%	39.6%	9.2%	38.8%	38.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.8	22.4	8.8	24.4	24.4	7.8	21.0	21.0	6.7	20.0	20.0
Actuated g/C Ratio	0.08	0.27	0.11	0.30	0.30	0.10	0.26	0.26	0.08	0.24	0.24
v/c Ratio	0.46	0.54	1.05	0.68	0.27	0.95	0.28	0.55	0.89	0.60	0.20
Control Delay	46.3	23.9	98.4	29.1	5.4	80.5	25.1	14.1	73.1	30.7	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	23.9	98.4	29.1	5.4	80.5	25.1	14.1	73.1	30.7	4.6
LOS	D	C	F	C	A	F	C	B	E	C	A
Approach Delay		26.6		47.4			39.1			40.2	
Approach LOS		C		D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 81.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 38.6	Intersection LOS: D
Intersection Capacity Utilization 64.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	655	254	371	684	151	298	356	293	240	499	90
Future Volume (veh/h)	126	655	254	371	684	151	298	356	293	240	499	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	131	682	209	386	712	91	310	371	222	250	520	53
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	1191	350	422	1048	467	372	1160	360	321	756	337
Arrive On Green	0.07	0.24	0.24	0.12	0.29	0.29	0.11	0.23	0.23	0.09	0.21	0.21
Sat Flow, veh/h	3456	4971	1462	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	131	661	230	386	712	91	310	371	222	250	520	53
Grp Sat Flow(s),veh/h/ln	1728	1609	1607	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	2.5	8.3	8.7	7.6	12.2	3.0	6.1	4.2	8.7	4.9	9.3	1.9
Cycle Q Clear(g_c), s	2.5	8.3	8.7	7.6	12.2	3.0	6.1	4.2	8.7	4.9	9.3	1.9
Prop In Lane	1.00		0.91	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	1156	385	422	1048	467	372	1160	360	321	756	337
V/C Ratio(X)	0.57	0.57	0.60	0.92	0.68	0.19	0.83	0.32	0.62	0.78	0.69	0.16
Avail Cap(c_a), veh/h	341	2944	981	422	2251	1004	372	3064	951	321	2081	928
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	23.1	23.2	29.9	21.4	18.2	30.1	22.2	23.9	30.5	25.0	22.1
Incr Delay (d2), s/veh	0.8	0.4	1.5	23.9	0.8	0.2	14.3	0.2	1.7	10.5	1.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.7	3.0	4.2	4.3	0.9	3.0	1.5	2.9	2.3	3.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	23.5	24.7	53.8	22.2	18.4	44.4	22.3	25.6	41.0	26.1	22.3
LnGrp LOS	C	C	C	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		1022			1189			903			823	
Approach Delay, s/veh		24.9			32.1			30.7			30.4	
Approach LOS		C			C			C			C	

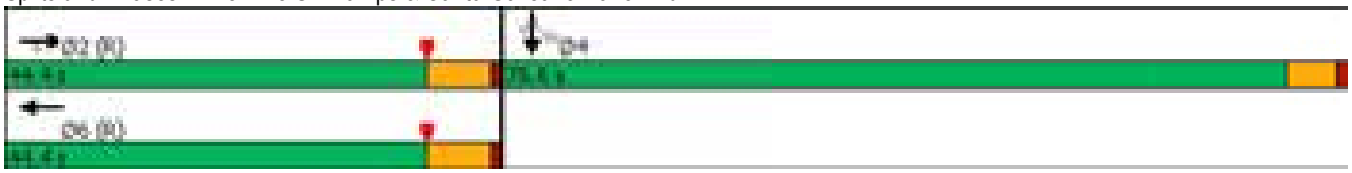
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	21.8	13.0	23.0	12.0	20.8	9.2	26.8
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.4	41.3	8.4	42.0	7.4	40.3	6.8	43.6
Max Q Clear Time (g_c+I1), s	6.9	10.7	9.6	10.7	8.1	11.3	4.5	14.2
Green Ext Time (p_c), s	0.0	3.0	0.0	5.8	0.0	3.4	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1092	329	599	137	290	1	1170
Future Volume (vph)	1092	329	599	137	290	1	1170
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	44.4	44.4	44.4		75.6	75.6	75.6
Total Split (%)	37.0%	37.0%	37.0%		63.0%	63.0%	63.0%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min		Min	Min	Min
Act Effct Green (s)	45.3	45.3	45.3	120.0	62.4	62.4	62.4
Actuated g/C Ratio	0.38	0.38	0.38	1.00	0.52	0.52	0.52
v/c Ratio	0.62	0.44	0.49	0.05	0.32	0.83	0.80
Control Delay	33.5	4.9	31.9	0.0	16.7	31.2	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	4.9	31.9	0.0	16.7	31.2	28.3
LOS	C	A	C	A	B	C	C
Approach Delay	26.9		25.9			27.4	
Approach LOS	C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 113.2 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 26.9	Intersection LOS: C
Intersection Capacity Utilization 75.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1092	329	0	599	137	0	0	0	290	1	1170
Future Volume (veh/h)	0	1092	329	0	599	137	0	0	0	290	1	1170
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1187	0	0	651	0				210	0	1066
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2641		0	1838					677	0	1205
Arrive On Green	0.00	0.52	0.00	0.00	0.69	0.00				0.38	0.00	0.38
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	1187	0	0	651	0				210	0	1066
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	17.5	0.0	0.0	9.1	0.0				9.9	0.0	37.7
Cycle Q Clear(g_c), s	0.0	17.5	0.0	0.0	9.1	0.0				9.9	0.0	37.7
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2641		0	1838					677	0	1205
V/C Ratio(X)	0.00	0.45		0.00	0.35					0.31	0.00	0.88
Avail Cap(c_a), veh/h	0	2641		0	1838					1041	0	1852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.77	0.00	0.00	0.92	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.2	0.0	0.0	10.4	0.0				26.1	0.0	34.7
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.5	0.0				0.3	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.3	0.0	0.0	3.0	0.0				4.1	0.0	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.6	0.0	0.0	10.9	0.0				26.4	0.0	38.3
LnGrp LOS	A	B		A	B					C	A	D
Approach Vol, veh/h		1187	A		651	A					1276	
Approach Delay, s/veh		18.6			10.9						36.3	
Approach LOS		B			B						D	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		68.9		51.1		68.9						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		37.6		70.1		37.6						
Max Q Clear Time (g_c+I1), s		19.5		39.7		11.1						
Green Ext Time (p_c), s		7.0		5.9		3.9						

Intersection Summary	
HCM 6th Ctrl Delay	24.3
HCM 6th LOS	C

Notes

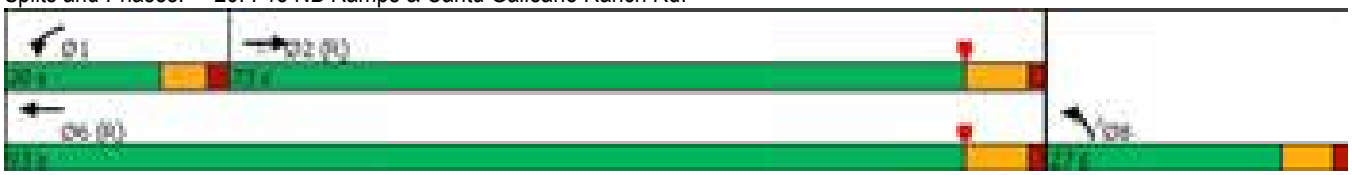
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	708	718	219	381	335	154
Future Volume (vph)	708	718	219	381	335	154
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.0	22.5	22.5	22.5
Total Split (s)	73.0	73.0	20.0	93.0	27.0	27.0
Total Split (%)	60.8%	60.8%	16.7%	77.5%	22.5%	22.5%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	68.6	68.6	13.6	88.2	18.5	18.5
Actuated g/C Ratio	0.57	0.57	0.11	0.74	0.15	0.15
v/c Ratio	0.26	0.65	0.61	0.11	0.72	0.43
Control Delay	24.8	24.1	57.4	5.0	55.5	10.6
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	24.8	24.2	57.4	5.0	55.5	10.6
LOS	C	C	E	A	E	B
Approach Delay	24.5			24.1	42.8	
Approach LOS	C			C	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 28.0	Intersection LOS: C
Intersection Capacity Utilization 61.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	708	718	219	381	335	154
Future Volume (veh/h)	708	718	219	381	335	154
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	770	500	238	414	364	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3208	996	299	3904	444	197
Arrive On Green	1.00	1.00	0.09	0.76	0.12	0.12
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	770	500	238	414	364	109
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	0.0	0.0	8.1	2.5	12.0	7.8
Cycle Q Clear(g_c), s	0.0	0.0	8.1	2.5	12.0	7.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	3208	996	299	3904	444	197
V/C Ratio(X)	0.24	0.50	0.80	0.11	0.82	0.55
Avail Cap(c_a), veh/h	3208	996	403	3904	623	277
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.94	0.94	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	53.8	3.6	51.2	49.4
Incr Delay (d2), s/veh	0.1	1.5	7.4	0.1	6.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	3.7	0.6	5.6	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.1	1.5	61.1	3.7	57.2	51.8
LnGrp LOS	A	A	E	A	E	D
Approach Vol, veh/h	1270			652	473	
Approach Delay, s/veh	0.7			24.6	56.0	
Approach LOS	A			C	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	16.4	82.7				99.1	20.9
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	14.0	65.7				85.7	21.0
Max Q Clear Time (g_c+I1), s	10.1	2.0				4.5	14.0
Green Ext Time (p_c), s	0.3	7.8				2.6	1.0

Intersection Summary			
HCM 6th Ctrl Delay		18.1	
HCM 6th LOS		B	

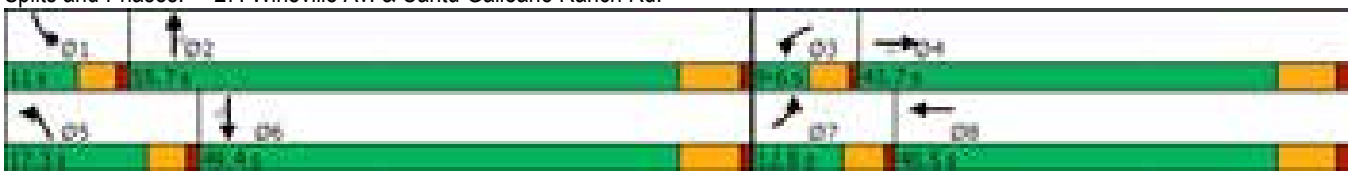
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	102	340	319	26	236	194	93	47	29	169	175
Future Volume (vph)	102	340	319	26	236	194	93	47	29	169	175
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	12.8	43.7	43.7	9.6	40.5	17.3	55.7	55.7	11.0	49.4	49.4
Total Split (%)	10.7%	36.4%	36.4%	8.0%	33.8%	14.4%	46.4%	46.4%	9.2%	41.2%	41.2%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.1	18.1	18.1	5.7	12.2	9.1	26.1	26.1	6.3	15.2	15.2
Actuated g/C Ratio	0.11	0.28	0.28	0.09	0.19	0.14	0.40	0.40	0.10	0.23	0.23
v/c Ratio	0.30	0.21	0.51	0.09	0.30	0.44	0.07	0.07	0.19	0.43	0.37
Control Delay	36.9	20.4	6.1	39.3	24.6	34.8	16.6	0.2	40.4	26.4	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	20.4	6.1	39.3	24.6	34.8	16.6	0.2	40.4	26.4	6.3
LOS	D	C	A	D	C	C	B	A	D	C	A
Approach Delay		16.6			25.9		24.9			18.1	
Approach LOS		B			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 65.8	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 20.0	Intersection LOS: C
Intersection Capacity Utilization 47.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	340	319	26	236	21	194	93	47	29	169	175
Future Volume (veh/h)	102	340	319	26	236	21	194	93	47	29	169	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	370	209	28	257	13	211	101	25	32	184	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	1435	354	113	865	43	348	811	362	65	307	260
Arrive On Green	0.08	0.22	0.22	0.03	0.17	0.17	0.10	0.23	0.23	0.04	0.16	0.16
Sat Flow, veh/h	3456	6434	1585	3456	4980	249	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	111	370	209	28	175	95	211	101	25	32	184	125
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1826	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	1.4	2.2	5.5	0.4	2.1	2.1	2.7	1.0	0.6	0.8	4.2	3.3
Cycle Q Clear(g_c), s	1.4	2.2	5.5	0.4	2.1	2.1	2.7	1.0	0.6	0.8	4.2	3.3
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	1435	354	113	591	317	348	811	362	65	307	260
V/C Ratio(X)	0.39	0.26	0.59	0.25	0.30	0.30	0.61	0.12	0.07	0.49	0.60	0.48
Avail Cap(c_a), veh/h	612	5170	1274	373	2500	1341	948	3777	1685	246	1733	1469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	14.8	16.1	21.8	16.7	16.7	19.9	14.2	14.0	21.9	17.9	17.6
Incr Delay (d2), s/veh	0.3	0.1	1.6	0.4	0.3	0.5	0.6	0.1	0.1	2.1	1.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.6	1.6	0.1	0.6	0.7	0.9	0.3	0.2	0.3	1.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	14.9	17.7	22.3	16.9	17.2	20.6	14.3	14.1	24.0	19.8	18.9
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		690			298			337			341	
Approach Delay, s/veh		16.6			17.5			18.2			19.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	17.1	6.1	16.8	9.3	14.1	8.4	14.5
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	6.4	49.2	5.0	37.2	12.7	42.9	8.2	34.0
Max Q Clear Time (g_c+I1), s	2.8	3.0	2.4	7.5	4.7	6.2	3.4	4.1
Green Ext Time (p_c), s	0.0	0.7	0.0	2.9	0.2	1.4	0.1	1.4

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

APPENDIX 3.3: EXISTING (2022) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

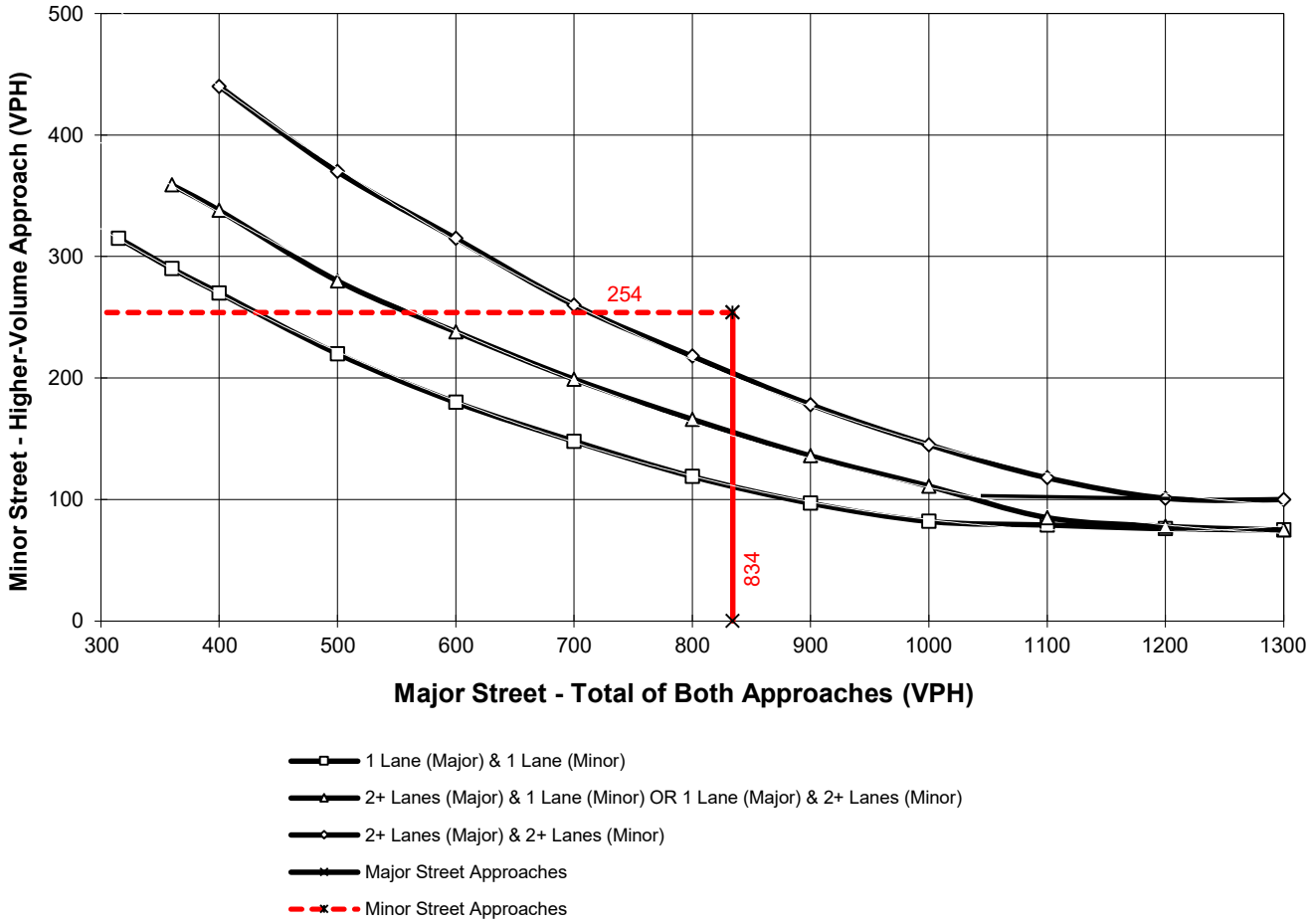
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2022) Conditions - Weekday AM Peak Hour**

Major Street Name = **Turner Av.**
Total of Both Approaches (VPH) = **834**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Chino Av.**
High Volume Approach (VPH) = **254**
Number of Approach Lanes Minor Street = **2**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

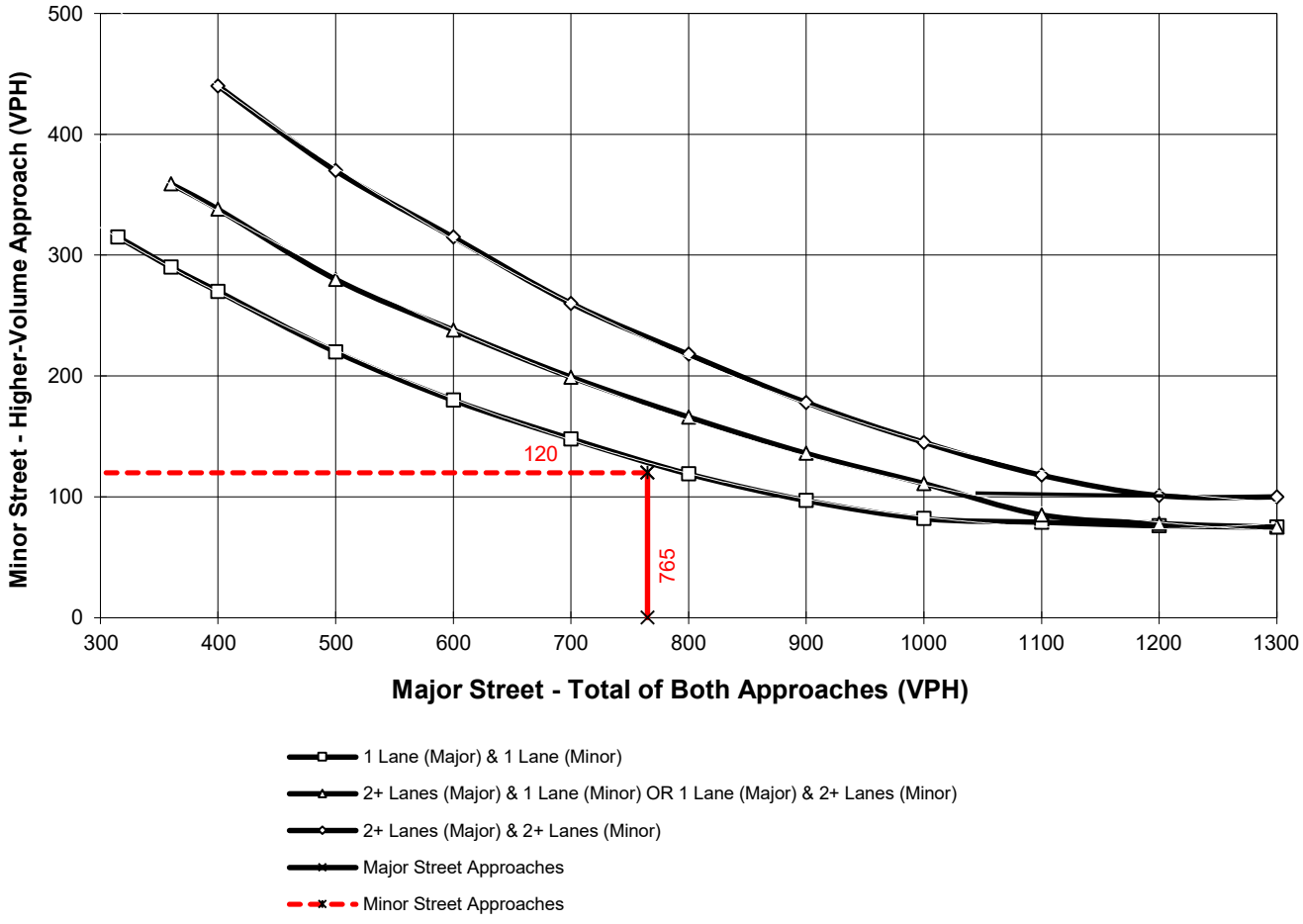
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2022) Conditions - Weekday AM Peak Hour**

Major Street Name = **Haven Av.**
Total of Both Approaches (VPH) = **765**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Chino Av.**
High Volume Approach (VPH) = **120**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

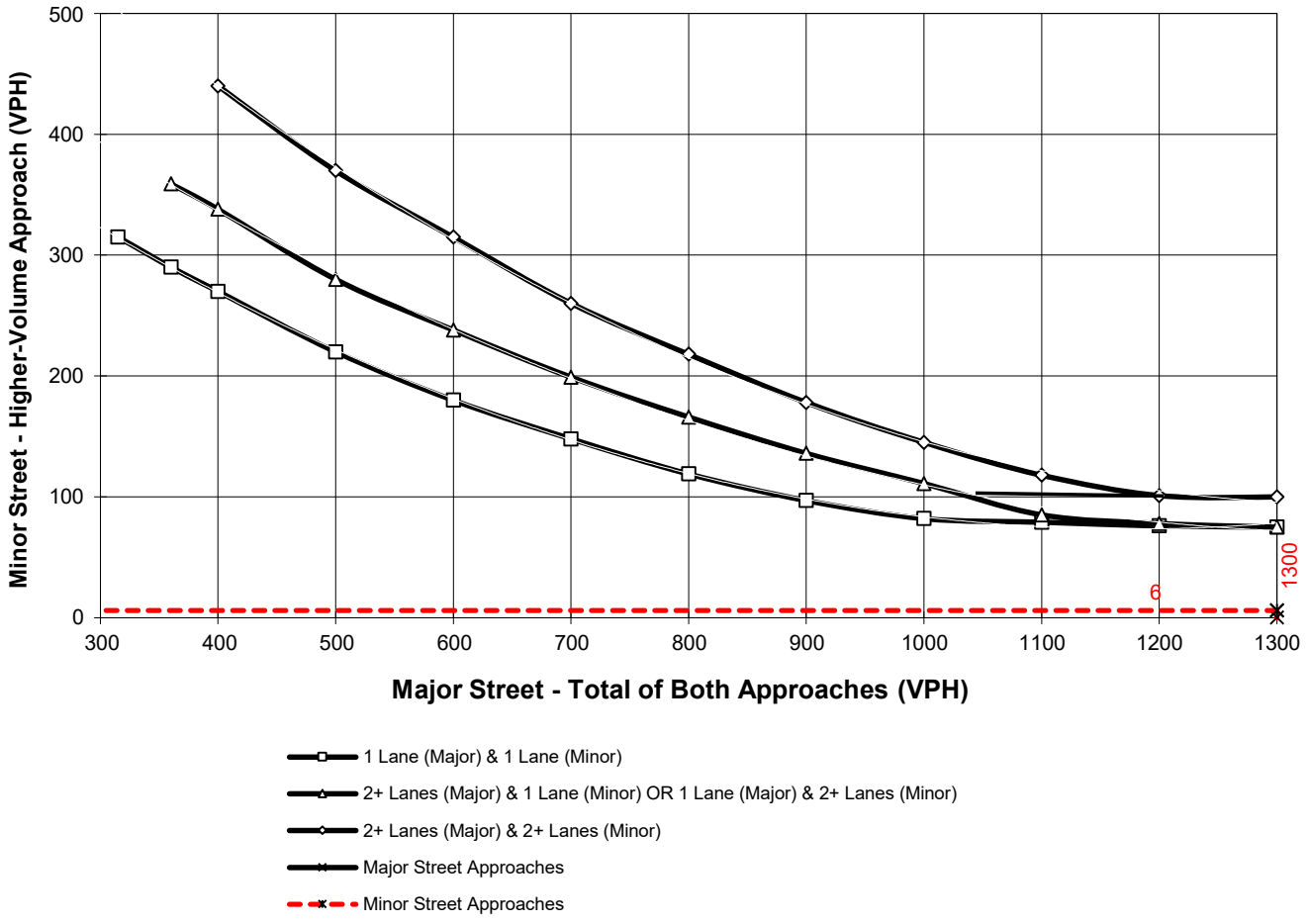
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2022) Conditions - Weekday AM Peak Hour**

Major Street Name = **Hamner Av.**
Total of Both Approaches (VPH) = **1473**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Chino Av.**
High Volume Approach (VPH) = **6**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 3.4: EXISTING (2022) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	278	267	257	777	972	405	163
v/c Ratio	0.74	0.62	0.56	0.85	0.30	0.19	0.26
Control Delay	46.2	22.5	16.4	36.7	4.0	23.0	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	22.5	16.4	36.7	4.0	23.0	4.9
Queue Length 50th (ft)	148	70	43	222	42	51	0
Queue Length 95th (ft)	#308	#178	131	#323	19	62	39
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	384	439	468	928	3485	2493	715
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.61	0.55	0.84	0.28	0.16	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	290	278	270	1461	596	162	648
v/c Ratio	0.71	0.62	0.50	0.46	0.55	0.53	0.20
Control Delay	40.7	22.1	8.5	16.4	3.7	53.4	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	22.1	8.5	16.4	3.7	53.4	4.0
Queue Length 50th (ft)	157	84	14	155	0	47	53
Queue Length 95th (ft)	228	160	74	209	60	m63	13
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	526	548	628	3182	1075	323	3201
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.51	0.43	0.46	0.55	0.50	0.20

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	372	376	746	316	1505	765	424
v/c Ratio	0.79	0.80	0.47	0.68	0.53	0.42	0.51
Control Delay	37.3	37.7	1.0	34.3	11.6	20.2	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	37.7	1.0	34.3	11.6	20.2	4.8
Queue Length 50th (ft)	162	164	0	81	160	102	0
Queue Length 95th (ft)	52	256	0	m112	216	141	61
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	546	548	1583	505	2845	1817	830
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.69	0.47	0.63	0.53	0.42	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	378	383	175	1405	341	657
v/c Ratio	0.83	0.83	0.31	0.72	0.83	0.23
Control Delay	42.1	42.7	5.2	20.8	50.4	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	42.7	5.2	20.8	50.4	8.6
Queue Length 50th (ft)	167	169	0	186	91	65
Queue Length 95th (ft)	#302	#307	42	239	#167	80
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	497	499	591	1938	410	2887
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.77	0.30	0.72	0.83	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	130	537	384	1129	385	267
v/c Ratio	0.21	0.89	0.85	0.64	0.59	0.52
Control Delay	21.2	40.5	48.8	17.0	35.0	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	40.5	48.8	17.0	35.0	8.2
Queue Length 50th (ft)	49	225	195	225	103	0
Queue Length 95th (ft)	95	#439	#357	290	148	62
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	701	682	530	2121	852	583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.79	0.72	0.53	0.45	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	391	356	1267	88	406
v/c Ratio	0.80	0.55	0.83	0.56	0.21
Control Delay	41.9	10.5	26.9	54.3	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	10.5	26.9	54.3	9.6
Queue Length 50th (ft)	212	35	324	49	55
Queue Length 95th (ft)	#361	120	415	#113	79
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	604	729	1822	175	2351
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	0.49	0.70	0.50	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	855	335	736	183	252	531	523
v/c Ratio	0.47	0.43	0.83	0.07	0.64	0.73	0.70
Control Delay	33.5	5.8	40.0	0.0	47.7	10.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	5.8	40.0	0.0	47.7	10.5	8.9
Queue Length 50th (ft)	189	0	305	0	185	18	7
Queue Length 95th (ft)	273	76	221	m0	249	130	102
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1800	776	1008	2787	539	806	829
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.43	0.73	0.07	0.47	0.66	0.63

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	434	738	211	434	612	283
v/c Ratio	0.17	0.63	0.61	0.13	0.79	0.52
Control Delay	26.1	21.3	59.5	8.0	49.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.1	21.3	59.5	8.0	49.5	7.7
Queue Length 50th (ft)	101	380	81	41	222	0
Queue Length 95th (ft)	67	353	122	65	268	74
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2653	1178	379	3413	881	579
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.63	0.56	0.13	0.69	0.49

Intersection Summary



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	206	201	162	503	477	1204	328
v/c Ratio	0.70	0.71	0.41	0.79	0.13	0.41	0.37
Control Delay	47.9	47.9	8.5	39.6	1.5	17.9	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	47.9	8.5	39.6	1.5	17.9	3.5
Queue Length 50th (ft)	114	114	0	153	12	134	0
Queue Length 95th (ft)	190	193	53	197	1	174	50
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	344	332	437	726	3557	2934	892
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.61	0.37	0.69	0.13	0.41	0.37

Intersection Summary



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	102	223	219	859	510	482	1094
v/c Ratio	0.44	0.73	0.70	0.27	0.49	0.76	0.29
Control Delay	40.4	30.0	27.7	14.2	3.5	52.4	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	30.0	27.7	14.2	3.5	52.4	0.9
Queue Length 50th (ft)	56	57	52	77	0	131	0
Queue Length 95th (ft)	101	132	123	120	60	171	16
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	339	393	404	3239	1042	762	3733
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.57	0.54	0.27	0.49	0.63	0.29

Intersection Summary



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	147	146	585	148	864	1424	724
v/c Ratio	0.59	0.59	0.37	0.49	0.24	0.49	0.60
Control Delay	45.4	45.1	0.7	35.3	5.0	12.5	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	45.1	0.7	35.3	5.0	12.5	3.3
Queue Length 50th (ft)	83	83	0	43	82	162	0
Queue Length 95th (ft)	141	140	0	77	101	228	53
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	321	322	1583	345	3655	2928	1206
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.45	0.37	0.43	0.24	0.49	0.60

Intersection Summary



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	182	184	221	826	634	1092
v/c Ratio	0.64	0.65	0.61	0.41	0.78	0.31
Control Delay	44.6	44.8	23.4	19.1	53.3	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	44.8	23.4	19.1	53.3	4.2
Queue Length 50th (ft)	101	103	54	108	188	61
Queue Length 95th (ft)	163	165	120	165	224	73
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	377	378	444	2031	953	3544
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.49	0.50	0.41	0.67	0.31

Intersection Summary



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	86	332	292	723	935	540
v/c Ratio	0.29	0.69	0.75	0.31	0.71	0.58
Control Delay	32.7	16.2	40.7	5.7	23.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	16.2	40.7	5.7	23.7	4.7
Queue Length 50th (ft)	36	28	123	54	175	0
Queue Length 95th (ft)	83	118	238	107	310	65
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	445	595	558	2915	1635	1022
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.56	0.52	0.25	0.57	0.53

Intersection Summary



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	247	339	865	232	784
v/c Ratio	0.64	0.67	0.75	0.69	0.38
Control Delay	35.5	18.9	26.2	40.5	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	18.9	26.2	40.5	8.5
Queue Length 50th (ft)	106	54	173	98	86
Queue Length 95th (ft)	212	167	287	196	142
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	559	641	1569	501	2757
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.53	0.55	0.46	0.28

Intersection Summary



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1187	358	651	149	283	656	649
v/c Ratio	0.62	0.44	0.49	0.05	0.32	0.83	0.80
Control Delay	33.5	4.9	31.9	0.0	16.7	31.2	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	4.9	31.9	0.0	16.7	31.2	28.3
Queue Length 50th (ft)	283	0	138	0	120	390	355
Queue Length 95th (ft)	356	67	318	0	164	537	484
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1920	820	1336	2787	981	875	906
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.44	0.49	0.05	0.29	0.75	0.72

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	770	780	238	414	381	150
v/c Ratio	0.26	0.65	0.61	0.11	0.72	0.43
Control Delay	24.8	24.1	57.4	5.0	55.5	10.6
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	24.8	24.2	57.4	5.0	55.5	10.6
Queue Length 50th (ft)	207	463	91	29	145	0
Queue Length 95th (ft)	126	387	130	47	188	61
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2960	1206	425	3759	617	381
Starvation Cap Reductn	0	57	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.68	0.56	0.11	0.62	0.39

Intersection Summary

APPENDIX 4.1: TRIP GENERATION SUMMARY

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Trip Generation Rates

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates									
Industrial Park[3]	TSF	130	0.275	0.065	0.340	0.075	0.265	0.340	3.370
Passenger Cars			0.243	0.057	0.300	0.066	0.234	0.300	2.800
2-Axle Trucks			0.005	0.001	0.007	0.001	0.005	0.007	0.095
3-Axle Trucks			0.007	0.002	0.008	0.002	0.006	0.008	0.118
4+-Axle Trucks			0.020	0.005	0.025	0.006	0.020	0.025	0.357
High-Cube Transload Warehouse[3]	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars			0.052	0.008	0.060	0.023	0.067	0.090	1.180
2-Axle Trucks			0.002	0.001	0.003	0.001	0.001	0.002	0.037
3-Axle Trucks			0.002	0.002	0.004	0.001	0.001	0.002	0.046
4+-Axle Trucks			0.006	0.007	0.013	0.003	0.003	0.006	0.138
High-Cube Fulfillment Center (Sort)[3]	TSF	155	0.705	0.165	0.870	0.468	0.732	1.200	6.440
Passenger Cars			0.695	0.155	0.850	0.458	0.722	1.180	6.250
2-Axle Trucks			0.002	0.001	0.003	0.002	0.001	0.003	0.032
3-Axle Trucks			0.002	0.002	0.004	0.002	0.002	0.004	0.039
4+-Axle Trucks			0.006	0.007	0.013	0.006	0.007	0.013	0.119
High-Cube Cold Storage Warehouse[3]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.065	0.090	1.370
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.407
High-Cube Fulfillment Center Warehouse[4]	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+-Axle Trucks			0.008	0.003	0.011	0.003	0.007	0.010	0.217

Trip Generation Rates

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Single Family Detached Residential	DU	210	0.18	0.52	0.70	0.59	0.35	0.94	9.43
Multifamily (Low-Rise) Housing	DU	220	0.10	0.30	0.40	0.32	0.19	0.51	6.74
Public Park	AC	411	0.01	0.01	0.02	0.06	0.05	0.11	0.78
General Office	TSF	710	1.34	0.18	1.52	0.24	1.20	1.44	10.84
Shopping Center (>150,000 SF)	TSF	820	0.52	0.32	0.84	1.63	1.77	3.40	37.01
Shopping Center (40,000-150,000 SF)	TSF	821	1.07	0.66	1.73	2.54	2.65	5.19	67.52
Strip Retail (<40,000 SF)	TSF	822	1.42	0.94	2.36	3.30	3.29	6.59	54.45
High Turnover Restaurant	TSF	932	5.26	4.31	9.57	5.52	3.53	9.05	107.20
Fast-Food Restaurant With Drive-Thru Window	TSF	934	22.75	21.86	44.61	17.18	15.85	33.03	467.48
Gas Station (4,000-5,500 SF Convenience)	VFP	945	13.52	13.52	27.04	11.38	11.38	22.76	257.13

[1] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet; DU = Dwelling Units; AC = Acres; VFP = Vehicle Fueling Position

[3] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

[4] Vehicle Mix Source: High Cube Warehouse Trip Generation Study, WSP, January 29, 2019.

Inbound and outbound split source: ITE Trip Generation Manual, Eleventh Edition (2021) for ITE Land Use Code 154.

Trip Generation Summary (PCE)

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Existing Uses:									
PA 3A: Multifamily (Low-Rise) Residential	106	DU	19	55	74	63	37	100	1,000
PA 3A: Single Family Detached Residential	58	DU	11	30	41	34	20	54	548
PA 4A: Single Family Detached Residential	70	DU	13	36	49	41	24	65	660
PA 4A: Multifamily (Low-Rise) Residential	246	DU	24	75	99	79	46	125	1,658
PA 3A, 4A Subtotal			**67**	**196**	**263**	**217**	**127**	**344**	**3,866**
Phase 1:									
PA 2C, 3C, 5A: Business Park (20%)	316.725	TSF							
Passenger Cars			77	18	95	21	74	95	888
Trucks (PCE)			26	6	32	7	25	32	460
PA 2C, 3C, 5A: High-Cube Cold Storage (10%)	158.362	TSF							
Passenger Cars			10	3	13	4	10	14	218
Trucks (PCE)			3	8	11	6	6	12	282
PA 2C, 3C, 5A: High-Cube Fulfillment (70%)	1,108.536	TSF							
Passenger Cars			88	26	114	45	115	160	1,940
Trucks (PCE)			42	12	54	16	42	58	1,082
Internal Capture (1% AM, 2% PM/Daily)			-2	0	-2	-1	-4	-5	-62
PA 2B: Multifamily (Low-Rise) Residential	190	DU	18	58	76	61	36	97	1,282
PA 2A: Public Park	1.3	AC	0	0	0	0	0	0	2
PA 3A: Single Family Detached Residential	100	DU	18	52	70	59	35	94	944
PA 3A: Multifamily (Low-Rise) Residential	4	DU	0	1	1	1	1	2	28
PA 3A: Single Family Detached Residential	42	DU	8	22	30	25	15	40	396
PA 3A: Multifamily (Low-Rise) Residential	250	DU	24	76	100	80	47	127	1,686
PA 3B: Multifamily (Low-Rise) Residential	190	DU	18	58	76	61	36	97	1,282
PA 4A: Single Family Detached Residential	230	DU	42	119	161	136	80	216	2,170
PA 4A: Multifamily (Low-Rise) Residential	553	DU	53	168	221	178	104	282	3,728
Internal Capture (4% AM, 12% PM/Daily)			-7	-22	-29	-72	-42	-114	-1,382
PA 5C: Strip Retail	7.500	TSF	11	7	18	25	25	50	408
Internal Capture (3% AM, 19% PM/Daily)			0	0	0	-5	-5	-10	-78
PA 5C: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 2, 3, 4, & 5 Subtotal			**479**	**662**	**1,141**	**684**	**637**	**1,321**	**16,106**
PA 6A: High-Cube Transload (50%)	591.763	TSF							
Passenger Cars			31	5	36	14	40	54	698
Trucks (PCE)			15	15	30	7	8	15	332
PA 6A: High-Cube Fulfillment Center (25%)	295.881	TSF							
Passenger Cars			206	46	252	136	214	350	1,850
Trucks (PCE)			7	8	15	7	8	15	144
PA 6A: High-Cube Cold Storage (25%)	295.881	TSF							
Passenger Cars			18	5	23	7	19	26	406
Trucks (PCE)			6	15	21	11	11	22	526
Internal Capture (1% AM, 2% PM/Daily)			-3	-1	-4	-3	-5	-8	-60
PA 6 Subtotal			**280**	**93**	**373**	**179**	**295**	**474**	**3,896**
PA 7, 8, 9: Single Family Detached Residential	300	DU	55	155	210	178	104	282	2,829
PA 7, 8, 9: Multifamily (Low-Rise) Residential	552	DU	53	168	221	177	104	281	3,720
PA 10A, 10B: Multifamily (Low-Rise) Residential	550	DU	53	167	220	177	104	281	3,707
Internal Capture (4% AM, 12% PM/Daily)			-6	-20	-26	-64	-37	-101	-1,232
PA 10A, 10B: Shopping Center (75%)	37.500	TSF	40	25	65	95	99	194	2,532
Internal Capture (3% AM, 19% PM/Daily)			-1	-1	-2	-18	-19	-37	-482
Pass-by (40% PM/Daily)			0	0	0	-32	-32	-64	-820
PA 10A, 10B: High Turnover Restaurant (15%)	7.500	TSF	39	32	71	41	26	67	804
Internal Capture (8% AM, 17% PM/Daily)			-3	-3	-6	-7	-4	-11	-130
Pass-by (43% PM/Daily)			0	0	0	-9	-9	-18	-290
PA 10A, 10B: Fast-Food Restaurant w/ Drive-Throu	5.000	TSF	114	109	223	86	79	165	2,338
Internal Capture (8% AM, 17% PM/Daily)			-9	-9	-18	-15	-13	-28	-374
Pass-by (50% AM, 55% PM/Daily)			-50	-50	-100	-34	-34	-68	-1,022
PA 10A, 10B: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 7, 8, 9, & 10 Subtotal			**335**	**623**	**958**	**612**	**405**	**1,017**	**12,412**

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
PA 4B: Single Family Detached Residential	150	DU	27	78	105	89	52	141	1,416
PA 4B: Multifamily (Low-Rise) Residential	1,000	DU	96	304	400	321	189	510	6,740
Internal Capture (4% AM, 12% PM/Daily)			-5	-15	-20	-49	-29	-78	-980
PA 4B: Shopping Center (75%)	124.637	TSF	134	82	216	317	330	647	8,416
Internal Capture (3% AM, 19% PM/Daily)			-4	-2	-6	-60	-63	-123	-1,600
Pass-by (40% PM/Daily)			0	0	0	-107	-107	-214	-2,726
PA 4B: High Turnover Restaurant (15%)	24.927	TSF	131	107	238	138	88	226	2,672

Trip Generation Summary (PCE)

Internal Capture (8% AM, 17% PM/Daily)			-10	-9	-19	-23	-15	-38	-428
Pass-by (43% PM/Daily)			0	0	0	-31	-31	-62	-966
PA 4B: Fast-Food Restaurant w/ Drive-Through (10	16.618	TSF	378	363	741	285	263	548	7,770
Internal Capture (8% AM, 17% PM/Daily)			-30	-29	-59	-48	-45	-93	-1,244
Pass-by (50% AM, 55% PM/Daily)			-167	-167	-334	-113	-113	-226	-3,394
PA 4B: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 4B Subtotal			**600**	**762**	**1,362**	**756**	**556**	**1,312**	**16,508**
Phase 1 Total (Actual Vehicles)			**1,694**	**2,140**	**3,834**	**2,231**	**1,893**	**4,124**	**48,922**
Phase 2:									
PA 1A: Single Family Detached Residential	128	DU	23	66	89	76	45	121	1,208
PA 1B: Single Family Detached Residential	94	DU	17	49	66	56	33	89	886
PA 1B: Multifamily (Low-Rise) Residential	200	DU	19	61	80	64	38	102	1,348
PA 1C: Single Family Detached Residential	231	DU	42	120	162	137	80	217	2,178
PA 1C: Multifamily (Low-Rise) Residential	800	DU	77	243	320	257	151	408	5,392
Internal Capture (4% AM, 12% PM/Daily)			-7	-22	-29	-71	-42	-113	-1,322
PA 1 Subtotal			**171**	**517**	**688**	**519**	**305**	**824**	**9,690**
Public Park	27.0	AC	0	0	0	2	1	3	22
PA 3 Subtotal			**0**	**0**	**0**	**2**	**1**	**3**	**22**
PA 6B: Shopping Center (75%)	225.000	TSF	117	72	189	367	398	765	8,328
Internal Capture (3% AM, 19% PM/Daily)			-4	-2	-6	-70	-76	-146	-1,582
Pass-by (40% PM/Daily)			0	0	0	-129	-129	-258	-2,698
PA 6B: High Turnover Restaurant (15%)	45.000	TSF	237	194	431	248	159	407	4,824
Internal Capture (8% AM, 17% PM/Daily)			-19	-16	-35	-42	-27	-69	-772
Pass-by (43% PM/Daily)			0	0	0	-57	-57	-114	-1,742
PA 6B: Fast-Food Restaurant w/ Drive-Through (10	30.000	TSF	683	656	1,339	515	476	991	14,024
Internal Capture (8% AM, 17% PM/Daily)			-55	-52	-107	-88	-81	-169	-2,244
Pass-by (50% AM, 55% PM/Daily)			-302	-302	-604	-205	-205	-410	-6,126
PA 6B: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 6 Subtotal			**707**	**600**	**1,307**	**576**	**495**	**1,071**	**12,844**
PA 7, 8, 9: Shopping Center (75%)	243.750	TSF	127	78	205	398	431	829	9,022
Internal Capture (3% AM, 19% PM/Daily)			-4	-2	-6	-76	-82	-158	-1,714
Pass-by (40% PM/Daily)			0	0	0	-140	-140	-280	-2,924
PA 7, 8, 9: High Turnover Restaurant (15%)	48.750	TSF	257	210	467	269	172	441	5,226
Internal Capture (8% AM, 17% PM/Daily)			-21	-17	-38	-46	-29	-75	-836
Pass-by (43% PM/Daily)			0	0	0	-61	-61	-122	-1,888
PA 7, 8, 9: Fast-Food Restaurant w/ Drive-Through	32.500	TSF	739	710	1,449	558	515	1,073	15,194
Internal Capture (8% AM, 17% PM/Daily)			-59	-57	-116	-95	-88	-183	-2,432
Pass-by (50% AM, 55% PM/Daily)			-327	-327	-654	-222	-222	-444	-6,636
PA 7, 8, 9: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 7, 8, 9 Subtotal			**762**	**645**	**1,407**	**622**	**533**	**1,155**	**13,844**
PA 5B: Single Family Detached Residential	150	DU	27	78	105	89	52	141	1,416
PA 5B: Multifamily (Low-Rise) Residential	1,000	DU	96	304	400	321	189	510	6,740
Internal Capture (4% AM, 12% PM/Daily)			-5	-15	-20	-49	-29	-78	-980
PA 5A, 5B: Shopping Center (75%)	57.240	TSF	61	38	99	146	152	298	3,865
Internal Capture (3% AM, 19% PM/Daily)			-2	-1	-3	-28	-29	-57	-734
Pass-by (40% PM/Daily)			0	0	0	-49	-49	-98	-1,252
PA 5A, 5B: High Turnover Restaurant (15%)	11.448	TSF	60	49	109	63	40	103	1,227
Internal Capture (8% AM, 17% PM/Daily)			-5	-4	-9	-11	-7	-18	-196
Pass-by (43% PM/Daily)			0	0	0	-14	-14	-28	-444
PA 5A, 5B: Fast-Food Restaurant w/ Drive-Through	7.632	TSF	174	167	341	131	121	252	3,568
Internal Capture (8% AM, 17% PM/Daily)			-14	-13	-27	-22	-21	-43	-572
Pass-by (50% AM, 55% PM/Daily)			-77	-77	-154	-52	-52	-104	-1,558
PA 5A, 5B: Gas Station	16	VFP	216	216	432	182	182	364	4,114
Internal Capture (3% AM, 19% PM/Daily)			-6	-6	-12	-35	-35	-70	-782
Pass-by (76% AM, 75% PM/Daily)			-160	-160	-320	-110	-110	-220	-2,500
PA 5 Subtotal			**365**	**576**	**941**	**562**	**390**	**952**	**11,912**
Phase 2 Total Trips			**2,005**	**2,338**	**4,343**	**2,281**	**1,724**	**4,005**	**48,312**
Project Buildout Total Trips (PCE)			**3,699**	**4,478**	**8,177**	**4,512**	**3,617**	**8,129**	**97,234**

[1] DU = dwelling units; TSF = thousand square feet; AC = acres

APPENDIX 4.2: POST PROCESSING WORKSHEETS

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Archibald Av. & SR-60 WB Ramps
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	719	714	-5	-1%	461	399	-62	-13%
	Through	839	1,568	729	87%	381	440	59	15%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	1,558	2,282	724	46%	842	839	-3	0%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	328	482	154	47%	1,091	1,901	810	74%
	Right	95	127	32	34%	266	321	55	21%
	SB Total	423	609	186	44%	1,357	2,222	865	64%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	270	239	-31	-11%	316	381	65	21%
	Through	7	6	-1	-14%	1	1	0	0%
	Right	385	585	200	52%	151	168	17	11%
	WB Total	662	830	168	25%	468	550	82	18%
TOTAL ENTERING VOLUME		2,643	3,721	1078	41%	2,667	3,611	944	35%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	609	2,222			
North Leg	Outbound	2,153	608			
North Leg	**TOTAL**	**2,762**	**2,830**	**6%**	**6%**	**45,251**
South Leg	Inbound	2,282	839			
South Leg	Outbound	721	2,282			
South Leg	**TOTAL**	**3,003**	**3,121**	**7%**	**8%**	**40,316**
East Leg	Inbound	830	550			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**830**	**550**	**11%**	**7%**	**7,837**
West Leg	Inbound	0	0			
West Leg	Outbound	847	721			
West Leg	**TOTAL**	**847**	**721**	**17%**	**15%**	**4,935**
OVERALL TOTAL		***7,442***	***7,222***	***8%***	***7%***	***98,339***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Archibald Av. & SR-60 EB Ramps
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,271	1,827	556	44%	779	793	14	2%
	Right	417	456	39	9%	453	436	-17	-4%
	NB Total	1,688	2,283	595	35%	1,232	1,229	-3	0%
SOUTH BOUND	Left	101	149	48	48%	453	662	209	46%
	Through	502	543	41	8%	954	1,589	635	67%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	603	692	89	15%	1,407	2,251	844	60%
EAST BOUND	Left	273	433	160	59%	65	53	-12	-18%
	Through	4	5	1	25%	1	1	0	0%
	Right	380	337	-43	-11%	391	346	-45	-12%
	EB Total	657	775	118	18%	457	400	-57	-12%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		2,948	3,750	802	27%	3,096	3,880	784	25%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	692	2,251			
North Leg	Outbound	2,260	846			
North Leg	**TOTAL**	**2,952**	**3,097**	**7%**	**7%**	**45,251**
South Leg	Inbound	2,283	1,229			
South Leg	Outbound	880	1,935			
South Leg	**TOTAL**	**3,163**	**3,164**	**8%**	**8%**	**40,316**
East Leg	Inbound	0	0			
East Leg	Outbound	610	1,099			
East Leg	**TOTAL**	**610**	**1,099**	**8%**	**14%**	**7,837**
West Leg	Inbound	775	400			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**775**	**400**	**16%**	**8%**	**4,935**
OVERALL TOTAL		***7,500***	***7,760***	***8%***	***8%***	***98,339***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Archibald Av. & Riverside Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	255	409	154	60%	226	379	153	68%
	Through	1,082	1,561	479	44%	719	668	-51	-7%
	Right	75	161	86	115%	67	82	15	22%
	NB Total	1,412	2,131	719	51%	1,012	1,129	117	12%
SOUTH BOUND	Left	160	170	10	6%	238	277	39	16%
	Through	413	470	57	14%	677	1,106	429	63%
	Right	164	130	-34	-21%	193	307	114	59%
	SB Total	737	770	33	4%	1,108	1,690	582	53%
EAST BOUND	Left	132	203	71	54%	159	223	64	40%
	Through	314	718	404	129%	493	913	420	85%
	Right	125	306	181	145%	271	705	434	160%
	EB Total	571	1,227	656	115%	923	1,841	918	99%
WEST BOUND	Left	85	174	89	105%	112	244	132	118%
	Through	434	621	187	43%	362	769	407	112%
	Right	207	266	59	29%	133	157	24	18%
	WB Total	726	1,061	335	46%	607	1,170	563	93%
TOTAL ENTERING VOLUME		3,446	5,189	1743	51%	3,650	5,830	2180	60%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	770	1,690			
North Leg	Outbound	2,030	1,048			
North Leg	**TOTAL**	**2,800**	**2,738**	**11%**	**11%**	**25,567**
South Leg	Inbound	2,131	1,129			
South Leg	Outbound	950	2,055			
South Leg	**TOTAL**	**3,081**	**3,184**	**10%**	**11%**	**29,855**
East Leg	Inbound	1,061	1,170			
East Leg	Outbound	1,049	1,272			
East Leg	**TOTAL**	**2,110**	**2,442**	**7%**	**8%**	**31,890**
West Leg	Inbound	1,227	1,841			
West Leg	Outbound	1,160	1,455			
West Leg	**TOTAL**	**2,387**	**3,296**	**9%**	**12%**	**27,324**
OVERALL TOTAL		***10,378***	***11,660***	**9%**	***10%***	***114,636***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Archibald Av. & Chino Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	143	293	150	105%	85	230	145	171%
	Through	1,061	1,765	704	66%	848	927	79	9%
	Right	85	119	34	40%	18	23	5	28%
	NB Total	1,289	2,177	888	69%	951	1,180	229	24%
SOUTH BOUND	Left	48	85	37	77%	68	93	25	37%
	Through	494	677	183	37%	802	1,614	812	101%
	Right	47	121	74	157%	46	134	88	191%
	SB Total	589	883	294	50%	916	1,841	925	101%
EAST BOUND	Left	65	148	83	128%	136	185	49	36%
	Through	66	127	61	92%	220	347	127	58%
	Right	43	64	21	49%	120	279	159	133%
	EB Total	174	339	165	95%	476	811	335	70%
WEST BOUND	Left	79	54	-25	-32%	9	22	13	144%
	Through	96	123	27	28%	49	170	121	247%
	Right	167	173	6	4%	55	77	22	40%
	WB Total	342	350	8	2%	113	269	156	138%
TOTAL ENTERING VOLUME		2,394	3,749	1355	57%	2,456	4,101	1645	67%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	883	1,841			
North Leg	Outbound	2,086	1,189			
North Leg	**TOTAL**	**2,969**	**3,030**	**10%**	**10%**	**29,855**
South Leg	Inbound	2,177	1,180			
South Leg	Outbound	795	1,915			
South Leg	**TOTAL**	**2,972**	**3,095**	**10%**	**11%**	**28,330**
East Leg	Inbound	350	269			
East Leg	Outbound	331	463			
East Leg	**TOTAL**	**681**	**732**	**7%**	**8%**	**9,585**
West Leg	Inbound	339	811			
West Leg	Outbound	537	534			
West Leg	**TOTAL**	**876**	**1,345**	**6%**	**9%**	**15,185**
OVERALL TOTAL		***7,498***	***8,202***	**9%**	***10%***	***82,955***

Z:\Shared\UcJobs_14600-15000_14800\14822\02_LOS\Post Processing\[04_Archibald & Chino.xls]Output (3)

Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Archibald Av. & Schaefer Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,128	1,822	694	62%	883	1,133	250	28%
	Right	19	28	9	47%	11	12	1	9%
	NB Total	1,147	1,850	703	61%	894	1,145	251	28%
SOUTH BOUND	Left	42	82	40	95%	44	242	198	450%
	Through	636	761	125	20%	902	1,567	665	74%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	678	843	165	24%	946	1,809	863	91%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	26	59	33	127%	9	12	3	33%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	61	248	187	307%	15	74	59	393%
	WB Total	87	307	220	253%	24	86	62	258%
TOTAL ENTERING VOLUME		1,912	3,000	1088	57%	1,864	3,040	1176	63%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	843	1,809			
North Leg	Outbound	2,070	1,207			
North Leg	**TOTAL**	**2,913**	**3,016**	**10%**	**11%**	**28,330**
South Leg	Inbound	1,850	1,145			
South Leg	Outbound	820	1,579			
South Leg	**TOTAL**	**2,670**	**2,724**	**11%**	**11%**	**24,202**
East Leg	Inbound	307	86			
East Leg	Outbound	110	254			
East Leg	**TOTAL**	**417**	**340**	**6%**	**5%**	**7,317**
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**0**	**0**	**0%**	**0%**	**1,031**
OVERALL TOTAL		***6,000***	***6,080***	**10%**	***10%***	***60,880***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Archibald Av. & Merrill Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	161	690	529	329%	87	305	218	251%
	Through	937	1,637	700	75%	673	1,220	547	81%
	Right	198	288	90	45%	249	341	92	37%
	NB Total	1,296	2,615	1,319	102%	1,009	1,866	857	85%
SOUTH BOUND	Left	75	57	-18	-24%	140	181	41	29%
	Through	431	943	512	119%	670	1,716	1,046	156%
	Right	45	101	56	124%	38	126	88	232%
	SB Total	551	1,101	550	100%	848	2,023	1,175	139%
EAST BOUND	Left	21	43	22	105%	77	178	101	131%
	Through	99	168	69	70%	458	800	342	75%
	Right	60	292	232	387%	253	874	621	245%
	EB Total	180	503	323	179%	788	1,852	1,064	135%
WEST BOUND	Left	176	304	128	73%	176	225	49	28%
	Through	258	457	199	77%	139	230	91	65%
	Right	98	71	-27	-28%	99	85	-14	-14%
	WB Total	532	832	300	56%	414	540	126	30%
TOTAL ENTERING VOLUME		2,559	5,051	2492	97%	3,059	6,281	3222	105%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,101	2,023			
North Leg	Outbound	1,751	1,483			
North Leg	**TOTAL**	**2,852**	**3,506**	**7%**	**9%**	**38,374**
South Leg	Inbound	2,615	1,866			
South Leg	Outbound	1,539	2,815			
South Leg	**TOTAL**	**4,154**	**4,681**	**9%**	**10%**	**46,176**
East Leg	Inbound	832	540			
East Leg	Outbound	513	1,322			
East Leg	**TOTAL**	**1,345**	**1,862**	**13%**	**18%**	**10,348**
West Leg	Inbound	503	1,852			
West Leg	Outbound	1,248	661			
West Leg	**TOTAL**	**1,751**	**2,513**	**9%**	**13%**	**19,885**
OVERALL TOTAL		***10,102***	***12,562***	**9%**	***11%***	***114,783***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Turner Av. & Riverside Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	236	315	79	33%	133	107	-26	-20%
	Through	207	161	-46	-22%	44	25	-19	-43%
	Right	218	271	53	24%	128	163	35	27%
	NB Total	661	747	86	13%	305	295	-10	-3%
SOUTH BOUND	Left	110	134	24	22%	21	36	15	71%
	Through	159	111	-48	-30%	36	19	-17	-47%
	Right	109	143	34	31%	53	57	4	8%
	SB Total	378	388	10	3%	110	112	2	2%
EAST BOUND	Left	114	171	57	50%	86	86	0	0%
	Through	340	815	475	140%	458	1,011	553	121%
	Right	109	149	40	37%	182	122	-60	-33%
	EB Total	563	1,135	572	102%	726	1,219	493	68%
WEST BOUND	Left	83	70	-13	-16%	113	109	-4	-4%
	Through	430	682	252	59%	546	1,095	549	101%
	Right	128	118	-10	-8%	34	49	15	44%
	WB Total	641	870	229	36%	693	1,253	560	81%
TOTAL ENTERING VOLUME		2,243	3,140	897	40%	1,834	2,879	1045	57%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	388	112			
North Leg	Outbound	450	160			
North Leg	**TOTAL**	**838**	**272**	**#DIV/0!**	**#DIV/0!**	**-**
South Leg	Inbound	747	295			
South Leg	Outbound	330	250			
South Leg	**TOTAL**	**1,077**	**545**	**27%**	**13%**	**4,047**
East Leg	Inbound	870	1,253			
East Leg	Outbound	1,220	1,210			
East Leg	**TOTAL**	**2,090**	**2,463**	**6%**	**8%**	**32,504**
West Leg	Inbound	1,135	1,219			
West Leg	Outbound	1,140	1,259			
West Leg	**TOTAL**	**2,275**	**2,478**	**7%**	**8%**	**31,884**
OVERALL TOTAL		***6,280***	***5,758***	**9%**	***8%***	***68,435***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Turner Av. & Chino Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	129	97	-32	-25%	18	17	-1	-6%
	Through	396	417	21	5%	119	89	-30	-25%
	Right	15	19	4	27%	8	4	-4	-50%
	NB Total	540	533	-7	-1%	145	110	-35	-24%
SOUTH BOUND	Left	33	85	52	158%	13	11	-2	-15%
	Through	182	202	20	11%	184	159	-25	-14%
	Right	73	109	36	49%	41	69	28	68%
	SB Total	288	396	108	38%	238	239	1	0%
EAST BOUND	Left	96	170	74	77%	92	192	100	109%
	Through	58	126	68	117%	89	124	35	39%
	Right	96	90	-6	-6%	53	74	21	40%
	EB Total	250	386	136	54%	234	390	156	67%
WEST BOUND	Left	11	8	-3	-27%	11	13	2	18%
	Through	96	94	-2	-2%	41	95	54	132%
	Right	75	103	28	37%	29	52	23	79%
	WB Total	182	205	23	13%	81	160	79	98%
TOTAL ENTERING VOLUME		1,260	1,520	260	21%	698	899	201	29%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	396	239			
North Leg	Outbound	690	333			
North Leg	**TOTAL**	**1,086**	**572**	**17%**	**9%**	**6,520**
South Leg	Inbound	533	110			
South Leg	Outbound	300	246			
South Leg	**TOTAL**	**833**	**356**	**74%**	**31%**	**1,131**
East Leg	Inbound	205	160			
East Leg	Outbound	230	139			
East Leg	**TOTAL**	**435**	**299**	**4%**	**3%**	**10,598**
West Leg	Inbound	386	390			
West Leg	Outbound	300	181			
West Leg	**TOTAL**	**686**	**571**	**9%**	**8%**	**7,497**
OVERALL TOTAL		***3,040***	***1,798***	**12%**	***7%***	***25,746***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Turner Av. & Ontario Ranch Rd.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	33	46	13	39%	16	18	2	13%
	Through	128	124	-4	-3%	11	19	8	73%
	Right	34	29	-5	-15%	27	13	-14	-52%
	NB Total	195	199	4	2%	54	50	-4	-7%
SOUTH BOUND	Left	51	220	169	331%	41	160	119	290%
	Through	63	77	14	22%	25	38	13	52%
	Right	19	131	112	589%	8	70	62	775%
	SB Total	133	428	295	222%	74	268	194	262%
EAST BOUND	Left	31	150	119	384%	16	158	142	888%
	Through	331	1,424	1,093	330%	809	2,207	1,398	173%
	Right	15	18	3	20%	43	45	2	5%
	EB Total	377	1,592	1,215	322%	868	2,410	1,542	178%
WEST BOUND	Left	31	16	-15	-48%	54	37	-17	-31%
	Through	538	1,526	988	184%	476	1,892	1,416	297%
	Right	24	48	24	100%	24	153	129	538%
	WB Total	593	1,590	997	168%	554	2,082	1,528	276%
TOTAL ENTERING VOLUME		1,298	3,809	2511	193%	1,550	4,810	3260	210%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	428	268			
North Leg	Outbound	322	330			
North Leg	**TOTAL**	**750**	**598**	**9%**	**7%**	**8,022**
South Leg	Inbound	199	50			
South Leg	Outbound	111	120			
South Leg	**TOTAL**	**310**	**170**	**#DIV/0!**	**#DIV/0!**	**-**
East Leg	Inbound	1,590	2,082			
East Leg	Outbound	1,673	2,380			
East Leg	**TOTAL**	**3,263**	**4,462**	**6%**	**8%**	**54,034**
West Leg	Inbound	1,592	2,410			
West Leg	Outbound	1,703	1,980			
West Leg	**TOTAL**	**3,295**	**4,390**	**6%**	**8%**	**55,735**
OVERALL TOTAL		***7,618***	***9,620***	**6%**	***8%***	***117,791***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Haven Av. & SR-60 WB Ramps
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	297	286	-11	-4%	141	177	36	26%
	Through	1,309	2,197	888	68%	718	1,224	506	70%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	1,606	2,483	877	55%	859	1,401	542	63%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	656	1,184	528	80%	1,314	2,179	865	66%
	Right	301	322	21	7%	594	690	96	16%
	SB Total	957	1,506	549	57%	1,908	2,869	961	50%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	162	186	24	15%	257	344	87	34%
	Through	3	2	-1	-33%	9	8	-1	-11%
	Right	617	733	116	19%	491	628	137	28%
	WB Total	782	921	139	18%	757	980	223	29%
TOTAL ENTERING VOLUME		3,345	4,910	1565	47%	3,524	5,250	1726	49%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,506	2,869			
North Leg	Outbound	2,930	1,852			
North Leg	**TOTAL**	**4,436**	**4,721**	**8%**	**8%**	**58,300**
South Leg	Inbound	2,483	1,401			
South Leg	Outbound	1,370	2,523			
South Leg	**TOTAL**	**3,853**	**3,924**	**7%**	**8%**	**51,505**
East Leg	Inbound	921	980			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**921**	**980**	**8%**	**9%**	**11,439**
West Leg	Inbound	0	0			
West Leg	Outbound	610	875			
West Leg	**TOTAL**	**610**	**875**	**10%**	**14%**	**6,120**
OVERALL TOTAL		***9,820***	***10,500***	***8%***	***8%***	***127,364***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Haven Av. & SR-60 EB Ramps
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,002	1,767	765	76%	600	1,164	564	94%
	Right	313	395	82	26%	175	229	54	31%
	NB Total	1,315	2,162	847	64%	775	1,393	618	80%
SOUTH BOUND	Left	241	336	95	39%	560	610	50	9%
	Through	599	1,051	452	75%	1,030	1,939	909	88%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	840	1,387	547	65%	1,590	2,549	959	60%
EAST BOUND	Left	602	714	112	19%	260	236	-24	-9%
	Through	3	3	0	0%	1	1	0	0%
	Right	163	174	11	7%	209	221	12	6%
	EB Total	768	891	123	16%	470	458	-12	-3%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		2,923	4,440	1517	52%	2,835	4,400	1565	55%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,387	2,549			
North Leg	Outbound	2,481	1,400			
North Leg	**TOTAL**	**3,868**	**3,949**	**7%**	**8%**	**51,604**
South Leg	Inbound	2,162	1,393			
South Leg	Outbound	1,225	2,160			
South Leg	**TOTAL**	**3,387**	**3,553**	**7%**	**8%**	**45,411**
East Leg	Inbound	0	0			
East Leg	Outbound	734	840			
East Leg	**TOTAL**	**734**	**840**	**7%**	**8%**	**10,529**
West Leg	Inbound	891	458			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**891**	**458**	**16%**	**8%**	**5,559**
OVERALL TOTAL		***8,880***	***8,800***	***8%***	***8%***	***113,103***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Haven Av. & Riverside Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	17	19	2	12%	28	65	37	132%
	Through	283	505	222	78%	295	642	347	118%
	Right	89	159	70	79%	50	153	103	206%
	NB Total	389	683	294	76%	373	860	487	131%
SOUTH BOUND	Left	260	478	218	84%	119	274	155	130%
	Through	174	412	238	137%	338	756	418	124%
	Right	223	255	32	14%	330	571	241	73%
	SB Total	657	1,145	488	74%	787	1,601	814	103%
EAST BOUND	Left	311	546	235	76%	276	462	186	67%
	Through	433	763	330	76%	290	683	393	136%
	Right	25	57	32	128%	46	105	59	128%
	EB Total	769	1,366	597	78%	612	1,250	638	104%
WEST BOUND	Left	99	321	222	224%	51	136	85	167%
	Through	336	526	190	57%	260	535	275	106%
	Right	175	439	264	151%	77	150	73	95%
	WB Total	610	1,286	676	111%	388	821	433	112%
TOTAL ENTERING VOLUME		2,425	4,480	2055	85%	2,160	4,532	2372	110%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,145	1,601			
North Leg	Outbound	1,490	1,254			
North Leg	**TOTAL**	**2,635**	**2,855**	**8%**	**8%**	**33,655**
South Leg	Inbound	683	860			
South Leg	Outbound	790	997			
South Leg	**TOTAL**	**1,473**	**1,857**	**5%**	**7%**	**27,969**
East Leg	Inbound	1,286	821			
East Leg	Outbound	1,400	1,110			
East Leg	**TOTAL**	**2,686**	**1,931**	**8%**	**6%**	**32,661**
West Leg	Inbound	1,366	1,250			
West Leg	Outbound	800	1,171			
West Leg	**TOTAL**	**2,166**	**2,421**	**7%**	**7%**	**32,504**
OVERALL TOTAL		***8,960***	***9,064***	***7%***	***7%***	***126,789***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Haven Av. & Chino Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	143	158	15	10%	68	184	116	171%
	Through	364	685	321	88%	305	704	399	131%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	507	843	336	66%	373	888	515	138%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	197	611	414	210%	419	735	316	75%
	Right	37	106	69	186%	27	356	329	1219%
	SB Total	234	717	483	206%	446	1,091	645	145%
EAST BOUND	Left	49	252	203	414%	38	126	88	232%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	64	208	144	225%	67	35	-32	-48%
	EB Total	113	460	347	307%	105	161	56	53%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		854	2,020	1166	137%	924	2,140	1216	132%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	717	1,091			
North Leg	Outbound	937	830			
North Leg	**TOTAL**	**1,654**	**1,921**	**6%**	**7%**	**27,969**
South Leg	Inbound	843	888			
South Leg	Outbound	819	770			
South Leg	**TOTAL**	**1,662**	**1,658**	**7%**	**7%**	**23,274**
East Leg	Inbound	0	0			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**0**	**0**	**0%**	**0%**	**5,314**
West Leg	Inbound	460	161			
West Leg	Outbound	264	540			
West Leg	**TOTAL**	**724**	**701**	**5%**	**5%**	**14,592**
OVERALL TOTAL		***4,040***	***4,280***	**6%**	***6%***	***71,149***

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Project: Rich Haven SP
Scenario: Horizon Year (2040)

Job #: 14822
Analyst: CP
Date: 9/28/22

LOCATION: Haven Av. & Schaefer Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	56	55	5500%	1	30	29	2900%
	Through	2	458	456	22800%	2	351	349	17450%
	Right	1	146	145	14500%	1	369	368	36800%
	NB Total	4	660	656	16400%	4	750	746	18650%
SOUTH BOUND	Left	1	5	4	400%	1	311	310	31000%
	Through	2	32	30	1500%	2	513	511	25550%
	Right	1	2	1	100%	1	25	24	2400%
	SB Total	4	39	35	875%	4	849	845	21125%
EAST BOUND	Left	1	73	72	7200%	1	40	39	3900%
	Through	2	210	208	10400%	2	380	378	18900%
	Right	1	137	136	13600%	1	70	69	6900%
	EB Total	4	420	416	10400%	4	490	486	12150%
WEST BOUND	Left	1	553	552	55200%	1	257	256	25600%
	Through	2	323	321	16050%	2	114	112	5600%
	Right	1	293	292	29200%	1	148	147	14700%
	WB Total	4	1,169	1,165	29125%	4	519	515	12875%
TOTAL ENTERING VOLUME		16	2,288	2272	14200%	16	2,608	2592	16200%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	39	849			
North Leg	Outbound	824	539			
North Leg	**TOTAL**	**863**	**1,388**	**4%**	**6%**	**23,273**
South Leg	Inbound	660	750			
South Leg	Outbound	722	840			
South Leg	**TOTAL**	**1,382**	**1,590**	**6%**	**7%**	**23,691**
East Leg	Inbound	1,169	519			
East Leg	Outbound	361	1,060			
East Leg	**TOTAL**	**1,530**	**1,579**	**6%**	**6%**	**24,345**
West Leg	Inbound	420	490			
West Leg	Outbound	381	169			
West Leg	**TOTAL**	**801**	**659**	**14%**	**11%**	**5,763**
OVERALL TOTAL		***4,576***	***5,216***	**6%**	***7%***	***77,072***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Haven Av. & Ontario Ranch Rd.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	31	75	44	142%	17	93	76	447%
	Through	275	323	48	17%	176	399	223	127%
	Right	109	192	83	76%	65	117	52	80%
	NB Total	415	590	175	42%	258	609	351	136%
SOUTH BOUND	Left	187	489	302	161%	192	250	58	30%
	Through	176	419	243	138%	302	421	119	39%
	Right	48	172	124	258%	46	181	135	293%
	SB Total	411	1,080	669	163%	540	852	312	58%
EAST BOUND	Left	99	230	131	132%	141	462	321	228%
	Through	432	1,503	1,071	248%	685	1,778	1,093	160%
	Right	17	54	37	218%	34	95	61	179%
	EB Total	548	1,787	1,239	226%	860	2,335	1,475	172%
WEST BOUND	Left	69	127	58	84%	216	270	54	25%
	Through	396	1,092	696	176%	494	1,749	1,255	254%
	Right	138	186	48	35%	188	277	89	47%
	WB Total	603	1,405	802	133%	898	2,296	1,398	156%
TOTAL ENTERING VOLUME		1,977	4,862	2885	146%	2,556	6,092	3536	138%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,080	852			
North Leg	Outbound	739	1,138			
North Leg	**TOTAL**	**1,819**	**1,990**	**8%**	**8%**	**23,691**
South Leg	Inbound	590	609			
South Leg	Outbound	600	786			
South Leg	**TOTAL**	**1,190**	**1,395**	**13%**	**15%**	**9,052**
East Leg	Inbound	1,405	2,296			
East Leg	Outbound	2,184	2,145			
East Leg	**TOTAL**	**3,589**	**4,441**	**8%**	**9%**	**47,309**
West Leg	Inbound	1,787	2,335			
West Leg	Outbound	1,339	2,023			
West Leg	**TOTAL**	**3,126**	**4,358**	**6%**	**8%**	**54,034**
OVERALL TOTAL		***9,724***	***12,184***	***7%***	***9%***	***134,086***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2040)	Analyst:	CP
		Date:	9/28/22

LOCATION: Mill Creek Av. & Riverside Dr.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	104	103	10300%	1	0	-1	-100%
	Through	2	0	-2	-100%	2	0	-2	-100%
	Right	1	251	250	25000%	1	0	-1	-100%
	NB Total	4	355	351	8775%	4	0	-4	-100%
SOUTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	2	0	-2	-100%	2	0	-2	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	SB Total	4	0	-4	-100%	4	0	-4	-100%
EAST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	2	779	777	38850%	2	1,340	1,338	66900%
	Right	1	27	26	2600%	1	86	85	8500%
	EB Total	4	806	802	20050%	4	1,426	1,422	35550%
WEST BOUND	Left	1	83	82	8200%	1	294	293	29300%
	Through	2	986	984	49200%	2	1,030	1,028	51400%
	Right	1	0	-1	-100%	1	0	-1	-100%
	WB Total	4	1,069	1,065	26625%	4	1,324	1,320	33000%
TOTAL ENTERING VOLUME		16	2,230	2214	13838%	16	2,750	2734	17088%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	0	0			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
South Leg	Inbound	355	0			
South Leg	Outbound	110	380			
South Leg	**TOTAL**	**465**	**380**	**8%**	**6%**	**6,155**
East Leg	Inbound	1,069	1,324			
East Leg	Outbound	1,030	1,340			
East Leg	**TOTAL**	**2,099**	**2,664**	**6%**	**8%**	**34,226**
West Leg	Inbound	806	1,426			
West Leg	Outbound	1,090	1,030			
West Leg	**TOTAL**	**1,896**	**2,456**	**6%**	**8%**	**29,243**
OVERALL TOTAL		***4,460***	***5,500***	**6%**	***8%***	***69,624***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2040)	Analyst:	CP
		Date:	9/28/22

LOCATION: Mill Creek Av. & Chino Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	33	32	3200%	1	8	7	700%
	Through	2	62	60	3000%	2	0	-2	-100%
	Right	1	5	4	400%	1	2	1	100%
	NB Total	4	100	96	2400%	4	10	6	150%
SOUTH BOUND	Left	1	13	12	1200%	1	70	69	6900%
	Through	2	4	2	100%	2	78	76	3800%
	Right	1	95	94	9400%	1	236	235	23500%
	SB Total	4	112	108	2700%	4	384	380	9500%
EAST BOUND	Left	1	268	267	26700%	1	0	-1	-100%
	Through	2	182	180	9000%	2	488	486	24300%
	Right	1	6	5	500%	1	61	60	6000%
	EB Total	4	456	452	11300%	4	549	545	13625%
WEST BOUND	Left	1	0	-1	-100%	1	11	10	1000%
	Through	2	92	90	4500%	2	296	294	14700%
	Right	1	19	18	1800%	1	0	-1	-100%
	WB Total	4	111	107	2675%	4	307	303	7575%
TOTAL ENTERING VOLUME		16	779	763	4769%	16	1,250	1234	7713%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	112	384			
North Leg	Outbound	349	0			
North Leg	**TOTAL**	**461**	**384**	**7%**	**6%**	**6,155**
South Leg	Inbound	100	10			
South Leg	Outbound	10	150			
South Leg	**TOTAL**	**110**	**160**	**8%**	**12%**	**1,385**
East Leg	Inbound	111	307			
East Leg	Outbound	200	560			
East Leg	**TOTAL**	**311**	**867**	**4%**	**11%**	**7,869**
West Leg	Inbound	456	549			
West Leg	Outbound	220	540			
West Leg	**TOTAL**	**676**	**1,089**	**5%**	**8%**	**12,867**
OVERALL TOTAL		***1,558***	***2,500***	**6%**	***9%***	***28,276***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2040)	Analyst:	CP
		Date:	9/28/22

LOCATION: Mill Creek Av. & Ontario Ranch Rd.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	47	46	4600%	1	14	13	1300%
	Through	2	19	17	850%	2	1	-1	-50%
	Right	1	128	127	12700%	1	36	35	3500%
	NB Total	4	194	190	4750%	4	51	47	1175%
SOUTH BOUND	Left	1	0	-1	-100%	1	99	98	9800%
	Through	2	0	-2	-100%	2	14	12	600%
	Right	1	0	-1	-100%	1	39	38	3800%
	SB Total	4	0	-4	-100%	4	152	148	3700%
EAST BOUND	Left	1	24	23	2300%	1	3	2	200%
	Through	3	1,462	1,459	48633%	3	1,785	1,782	59400%
	Right	1	12	11	1100%	1	27	26	2600%
	EB Total	5	1,498	1,493	29860%	5	1,815	1,810	36200%
WEST BOUND	Left	1	28	27	2700%	1	59	58	5800%
	Through	3	1,273	1,270	42333%	3	1,526	1,523	50767%
	Right	1	57	56	5600%	1	6	5	500%
	WB Total	5	1,358	1,353	27060%	5	1,591	1,586	31720%
TOTAL ENTERING VOLUME		18	3,050	3032	16844%	18	3,609	3591	19950%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	0	152			
North Leg	Outbound	100	10			
North Leg	**TOTAL**	**100**	**162**	**8%**	**12%**	**1,301**
South Leg	Inbound	194	51			
South Leg	Outbound	40	100			
South Leg	**TOTAL**	**234**	**151**	**8%**	**5%**	**3,058**
East Leg	Inbound	1,358	1,591			
East Leg	Outbound	1,590	1,920			
East Leg	**TOTAL**	**2,948**	**3,511**	**5%**	**6%**	**55,493**
West Leg	Inbound	1,498	1,815			
West Leg	Outbound	1,320	1,579			
West Leg	**TOTAL**	**2,818**	**3,394**	**6%**	**7%**	**47,309**
OVERALL TOTAL		***6,100***	***7,218***	**6%**	***7%***	***107,161***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Milliken & SR-60 WB Ramps
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	257	142	-115	-45%	212	383	171	81%
	Through	921	1,588	667	72%	505	1,374	869	172%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	1,178	1,730	552	47%	717	1,757	1,040	145%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	265	915	650	245%	818	1,559	741	91%
	Right	128	182	54	42%	400	266	-134	-34%
	SB Total	393	1,097	704	179%	1,218	1,825	607	50%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	113	125	12	11%	67	267	200	299%
	Through	2	1	-1	-50%	2	3	1	50%
	Right	474	677	203	43%	262	548	286	109%
	WB Total	589	803	214	36%	331	818	487	147%
TOTAL ENTERING VOLUME		2,160	3,630	1470	68%	2,266	4,400	2134	94%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,097	1,825			
North Leg	Outbound	2,265	1,922			
North Leg	**TOTAL**	**3,362**	**3,747**	**8%**	**9%**	**44,068**
South Leg	Inbound	1,730	1,757			
South Leg	Outbound	1,040	1,826			
South Leg	**TOTAL**	**2,770**	**3,583**	**6%**	**7%**	**47,911**
East Leg	Inbound	803	818			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**803**	**818**	**8%**	**8%**	**10,444**
West Leg	Inbound	0	0			
West Leg	Outbound	325	652			
West Leg	**TOTAL**	**325**	**652**	**8%**	**17%**	**3,949**
OVERALL TOTAL		***7,260***	***8,800***	***7%***	***8%***	***106,372***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Milliken & SR-60 EB Ramps
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	914	1,568	654	72%	564	1,722	1,158	205%
	Right	109	391	282	259%	117	352	235	201%
	NB Total	1,023	1,959	936	91%	681	2,074	1,393	205%
SOUTH BOUND	Left	48	68	20	42%	202	99	-103	-51%
	Through	317	928	611	193%	681	1,698	1,017	149%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	365	996	631	173%	883	1,797	914	104%
EAST BOUND	Left	302	192	-110	-36%	145	46	-99	-68%
	Through	1	1	0	0%	2	1	-1	-50%
	Right	176	482	306	174%	208	332	124	60%
	EB Total	479	675	196	41%	355	379	24	7%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		1,867	3,630	1763	94%	1,919	4,250	2331	121%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	996	1,797			
North Leg	Outbound	1,760	1,768			
North Leg	**TOTAL**	**2,756**	**3,565**	**6%**	**7%**	**47,911**
South Leg	Inbound	1,959	2,074			
South Leg	Outbound	1,410	2,030			
South Leg	**TOTAL**	**3,369**	**4,104**	**6%**	**8%**	**53,883**
East Leg	Inbound	0	0			
East Leg	Outbound	460	452			
East Leg	**TOTAL**	**460**	**452**	**4%**	**4%**	**11,111**
West Leg	Inbound	675	379			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**675**	**379**	**12%**	**7%**	**5,538**
OVERALL TOTAL		***7,260***	***8,500***	**6%**	***7%***	***118,443***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Milliken & Riverside Dr.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	140	263	123	88%	145	482	337	232%
	Through	733	1,368	635	87%	413	1,443	1,030	249%
	Right	33	62	29	88%	26	40	14	54%
	NB Total	906	1,693	787	87%	584	1,965	1,381	236%
SOUTH BOUND	Left	125	287	162	130%	116	164	48	41%
	Through	236	828	592	251%	638	1,418	780	122%
	Right	117	270	153	131%	164	504	340	207%
	SB Total	478	1,385	907	190%	918	2,086	1,168	127%
EAST BOUND	Left	127	371	244	192%	108	328	220	204%
	Through	55	161	106	193%	82	109	27	33%
	Right	138	619	481	349%	145	303	158	109%
	EB Total	320	1,151	831	260%	335	740	405	121%
WEST BOUND	Left	16	34	18	113%	61	109	48	79%
	Through	63	87	24	38%	77	191	114	148%
	Right	110	151	41	37%	96	250	154	160%
	WB Total	189	272	83	44%	234	550	316	135%
TOTAL ENTERING VOLUME		1,893	4,501	2608	138%	2,071	5,341	3270	158%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,385	2,086			
North Leg	Outbound	1,890	2,021			
North Leg	**TOTAL**	**3,275**	**4,107**	**6%**	**8%**	**53,883**
South Leg	Inbound	1,693	1,965			
South Leg	Outbound	1,481	1,830			
South Leg	**TOTAL**	**3,174**	**3,795**	**7%**	**9%**	**43,331**
East Leg	Inbound	272	550			
East Leg	Outbound	510	313			
East Leg	**TOTAL**	**782**	**863**	**5%**	**6%**	**14,843**
West Leg	Inbound	1,151	740			
West Leg	Outbound	620	1,177			
West Leg	**TOTAL**	**1,771**	**1,917**	**5%**	**6%**	**34,226**
OVERALL TOTAL		***9,002***	***10,682***	**6%**	***7%***	***146,283***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Hamner Av. & Chino Av.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	946	1,686	740	78%	597	1,905	1,308	219%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	946	1,686	740	78%	597	1,905	1,308	219%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	366	1,600	1,234	337%	837	1,855	1,018	122%
	Right	2	0	-2	-100%	2	10	8	400%
	SB Total	368	1,600	1,232	335%	839	1,865	1,026	122%
EAST BOUND	Left	4	24	20	500%	1	0	-1	-100%
	Through	0	0	0	#DIV/0!	1	0	-1	-100%
	Right	1	10	9	900%	0	0	0	#DIV/0!
	EB Total	5	34	29	580%	2	0	-2	-100%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		1,319	3,320	2001	152%	1,438	3,770	2332	162%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,600	1,865			
North Leg	Outbound	1,710	1,905			
North Leg	**TOTAL**	**3,310**	**3,770**	**8%**	**9%**	**41,423**
South Leg	Inbound	1,686	1,905			
South Leg	Outbound	1,610	1,855			
South Leg	**TOTAL**	**3,296**	**3,760**	**7%**	**8%**	**45,013**
East Leg	Inbound	0	0			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
West Leg	Inbound	34	0			
West Leg	Outbound	0	10			
West Leg	**TOTAL**	**34**	**10**	**0%**	**0%**	**7,869**
OVERALL TOTAL		***6,640***	***7,540***	***7%***	***8%***	***94,305***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Hamner Av. & Ontario Ranch Rd.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	133	314	181	136%	296	332	36	12%
	Through	572	749	177	31%	345	379	34	10%
	Right	297	187	-110	-37%	289	89	-200	-69%
	NB Total	1,002	1,250	248	25%	930	800	-130	-14%
SOUTH BOUND	Left	133	373	240	180%	222	611	389	175%
	Through	174	207	33	19%	496	826	330	67%
	Right	42	441	399	950%	77	774	697	905%
	SB Total	349	1,021	672	193%	795	2,211	1,416	178%
EAST BOUND	Left	127	850	723	569%	86	831	745	866%
	Through	470	1,509	1,039	221%	589	1,593	1,004	170%
	Right	68	93	25	37%	251	410	159	63%
	EB Total	665	2,452	1,787	269%	926	2,834	1,908	206%
WEST BOUND	Left	221	65	-156	-71%	366	176	-190	-52%
	Through	540	1,405	865	160%	565	1,637	1,072	190%
	Right	212	307	95	45%	124	352	228	184%
	WB Total	973	1,777	804	83%	1,055	2,165	1,110	105%
TOTAL ENTERING VOLUME		2,989	6,500	3511	117%	3,706	8,010	4304	116%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,021	2,211			
North Leg	Outbound	1,906	1,562			
North Leg	**TOTAL**	**2,927**	**3,773**	**6%**	**8%**	**48,295**
South Leg	Inbound	1,250	800			
South Leg	Outbound	365	1,412			
South Leg	**TOTAL**	**1,615**	**2,212**	**10%**	**14%**	**16,276**
East Leg	Inbound	1,777	2,165			
East Leg	Outbound	2,069	2,293			
East Leg	**TOTAL**	**3,846**	**4,458**	**7%**	**8%**	**53,422**
West Leg	Inbound	2,452	2,834			
West Leg	Outbound	2,160	2,743			
West Leg	**TOTAL**	**4,612**	**5,577**	**8%**	**10%**	**55,493**
OVERALL TOTAL		***13,000***	***16,020***	***7%***	***9%***	***173,486***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: I-15 SB Ramps & Cantu Galleano Rd.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	223	141	-82	-37%	263	284	21	8%
	Through	0	0	0	#DIV/0!	1	1	0	0%
	Right	816	1,539	723	89%	1,055	1,493	438	42%
	SB Total	1,039	1,680	641	62%	1,319	1,778	459	35%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	666	1,409	743	112%	999	1,901	902	90%
	Right	247	250	3	1%	321	322	1	0%
	EB Total	913	1,659	746	82%	1,320	2,223	903	68%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	621	701	80	13%	550	1,236	686	125%
	Right	104	360	256	246%	111	504	393	354%
	WB Total	725	1,061	336	46%	661	1,740	1,079	163%
TOTAL ENTERING VOLUME		2,677	4,400	1723	64%	3,300	5,741	2441	74%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,680	1,778			
North Leg	Outbound	360	504			
North Leg	**TOTAL**	**2,040**	**2,282**	**14%**	**16%**	**14,507**
South Leg	Inbound	0	0			
South Leg	Outbound	250	323			
South Leg	**TOTAL**	**250**	**323**	**#DIV/0!**	**#DIV/0!**	**-**
East Leg	Inbound	1,061	1,740			
East Leg	Outbound	1,550	2,185			
East Leg	**TOTAL**	**2,611**	**3,925**	**8%**	**12%**	**33,451**
West Leg	Inbound	1,659	2,223			
West Leg	Outbound	2,240	2,729			
West Leg	**TOTAL**	**3,899**	**4,952**	**8%**	**11%**	**45,895**
OVERALL TOTAL		***8,800***	***11,482***	**9%**	***12%***	***93,853***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: I-15 NB Ramps & Cantu Galleano Rd.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	410	622	212	52%	306	998	692	226%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	318	481	163	51%	120	126	6	5%
	NB Total	728	1,103	375	52%	426	1,124	698	164%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	354	529	175	49%	648	764	116	18%
	Right	564	1,057	493	87%	655	1,424	769	117%
	EB Total	918	1,586	668	73%	1,303	2,188	885	68%
WEST BOUND	Left	162	253	91	56%	190	236	46	24%
	Through	311	388	77	25%	330	692	362	110%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	473	641	168	36%	520	928	408	78%
TOTAL ENTERING VOLUME		2,119	3,330	1211	57%	2,249	4,240	1991	89%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	0	0			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
South Leg	Inbound	1,103	1,124			
South Leg	Outbound	1,310	1,660			
South Leg	**TOTAL**	**2,413**	**2,784**	**8%**	**10%**	**28,937**
East Leg	Inbound	641	928			
East Leg	Outbound	1,010	890			
East Leg	**TOTAL**	**1,651**	**1,818**	**14%**	**16%**	**11,644**
West Leg	Inbound	1,586	2,188			
West Leg	Outbound	1,010	1,690			
West Leg	**TOTAL**	**2,596**	**3,878**	**8%**	**11%**	**34,283**
OVERALL TOTAL		***6,660***	***8,480***	**9%**	***11%***	***74,864***

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Project:	Rich Haven SP	Job #:	14822
Scenario:	Horizon Year (2050) Without Project	Analyst:	CP
		Date:	9/28/22

LOCATION: Wineville Av. & Cantu Galleano Rd.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	219	209	-10	-5%	182	205	23	13%
	Through	274	250	-24	-9%	82	85	3	4%
	Right	16	11	-5	-31%	41	23	-18	-44%
	NB Total	509	470	-39	-8%	305	313	8	3%
SOUTH BOUND	Left	15	23	8	53%	27	29	2	7%
	Through	52	60	8	15%	155	120	-35	-23%
	Right	48	106	58	121%	121	266	145	120%
	SB Total	115	189	74	64%	303	415	112	37%
EAST BOUND	Left	308	568	260	84%	59	140	81	137%
	Through	226	307	81	36%	323	408	85	26%
	Right	232	233	1	0%	301	274	-27	-9%
	EB Total	766	1,108	342	45%	683	822	139	20%
WEST BOUND	Left	19	18	-1	-5%	22	16	-6	-27%
	Through	155	277	122	79%	213	449	236	111%
	Right	38	65	27	71%	18	35	17	94%
	WB Total	212	360	148	70%	253	500	247	98%
TOTAL ENTERING VOLUME		1,602	2,127	525	33%	1,544	2,050	506	33%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	189	415			
North Leg	Outbound	883	260			
North Leg	**TOTAL**	**1,072**	**675**	**11%**	**7%**	**9,658**
South Leg	Inbound	470	313			
South Leg	Outbound	311	410			
South Leg	**TOTAL**	**781**	**723**	**14%**	**13%**	**5,466**
East Leg	Inbound	360	500			
East Leg	Outbound	341	460			
East Leg	**TOTAL**	**701**	**960**	**18%**	**24%**	**3,987**
West Leg	Inbound	1,108	822			
West Leg	Outbound	592	920			
West Leg	**TOTAL**	**1,700**	**1,742**	**15%**	**15%**	**11,643**
OVERALL TOTAL		***4,254***	***4,100***	**14%**	***13%***	***30,754***

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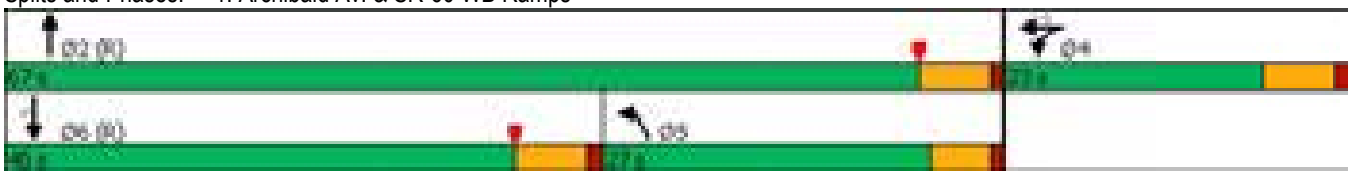
APPENDIX 5.1: E+P (PHASE 1) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	336	8	442	761	1014	424	160
Future Volume (vph)	336	8	442	761	1014	424	160
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	23.0	23.0	23.0	27.0	67.0	40.0	40.0
Total Split (%)	25.6%	25.6%	25.6%	30.0%	74.4%	44.4%	44.4%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	20.1	20.1	20.1	24.0	58.3	29.3	29.3
Actuated g/C Ratio	0.22	0.22	0.22	0.27	0.65	0.33	0.33
v/c Ratio	0.74	0.62	0.58	0.85	0.31	0.21	0.26
Control Delay	46.2	22.5	19.0	36.4	4.0	23.1	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	22.5	19.0	36.4	4.0	23.1	4.9
LOS	D	C	B	D	A	C	A
Approach Delay		29.6			17.9	18.1	
Approach LOS		C			B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 65.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	336	8	442	761	1014	0	0	424	160
Future Volume (veh/h)	0	0	0	336	8	442	761	1014	0	0	424	160
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				488	0	268	777	1035	0	0	433	66
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				673	0	299	1726	3484	0	0	761	187
Arrive On Green				0.19	0.00	0.19	1.00	1.00	0.00	0.00	0.12	0.12
Sat Flow, veh/h				3563	0	1583	3456	5274	0	0	6696	1585
Grp Volume(v), veh/h				488	0	268	777	1035	0	0	433	66
Grp Sat Flow(s),veh/h/ln				1781	0	1583	1728	1702	0	0	1609	1585
Q Serve(g_s), s				11.6	0.0	14.9	0.0	0.0	0.0	0.0	5.7	3.4
Cycle Q Clear(g_c), s				11.6	0.0	14.9	0.0	0.0	0.0	0.0	5.7	3.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				673	0	299	1726	3484	0	0	761	187
V/C Ratio(X)				0.73	0.00	0.90	0.45	0.30	0.00	0.00	0.57	0.35
Avail Cap(c_a), veh/h				681	0	302	1726	3484	0	0	2445	602
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.84	0.84	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				34.3	0.0	35.6	0.0	0.0	0.0	0.0	37.5	36.5
Incr Delay (d2), s/veh				3.8	0.0	27.1	0.1	0.2	0.0	0.0	3.1	5.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.1	0.0	14.4	0.0	0.1	0.0	0.0	2.3	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.1	0.0	62.7	0.1	0.2	0.0	0.0	40.6	41.6
LnGrp LOS				D	A	E	A	A	A	A	D	D
Approach Vol, veh/h					756			1812			499	
Approach Delay, s/veh					46.8			0.1			40.7	
Approach LOS					D			A			D	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	67.2	22.8	50.8	16.4
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	61.2	17.2	22.0	* 34
Max Q Clear Time (g_c+I1), s	2.0	16.9	2.0	7.7
Green Ext Time (p_c), s	8.4	0.1	1.4	2.9

Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

Notes

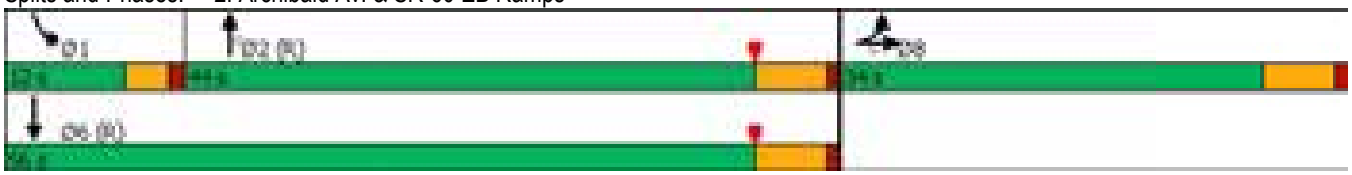
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	350	5	425	1420	554	151	630
Future Volume (vph)	350	5	425	1420	554	151	630
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	34.0	34.0	34.0	44.0	44.0	12.0	56.0
Total Split (%)	37.8%	37.8%	37.8%	48.9%	48.9%	13.3%	62.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	21.7	21.7	21.7	44.7	44.7	8.0	56.7
Actuated g/C Ratio	0.24	0.24	0.24	0.50	0.50	0.09	0.63
v/c Ratio	0.71	0.62	0.51	0.48	0.55	0.53	0.21
Control Delay	40.7	22.1	9.7	16.6	3.7	54.0	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	22.1	9.7	16.6	3.7	54.0	3.8
LOS	D	C	A	B	A	D	A
Approach Delay		24.6		13.0			13.5
Approach LOS		C		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 15.7	Intersection LOS: B
Intersection Capacity Utilization 65.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	5	425	0	0	0	0	1420	554	151	630	0
Future Volume (veh/h)	350	5	425	0	0	0	0	1420	554	151	630	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	454	0	164				0	1527	416	162	677	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	590	0	258				0	3826	922	230	3603	0
Arrive On Green	0.17	0.00	0.17				0.00	0.59	0.59	0.13	1.00	0.00
Sat Flow, veh/h	3563	0	1561				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	454	0	164				0	1527	416	162	677	0
Grp Sat Flow(s),veh/h/ln	1781	0	1561				0	1609	1551	1728	1702	0
Q Serve(g_s), s	11.0	0.0	8.8				0.0	11.4	13.4	4.0	0.0	0.0
Cycle Q Clear(g_c), s	11.0	0.0	8.8				0.0	11.4	13.4	4.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	590	0	258				0	3826	922	230	3603	0
V/C Ratio(X)	0.77	0.00	0.63				0.00	0.40	0.45	0.71	0.19	0.00
Avail Cap(c_a), veh/h	1116	0	489				0	3826	922	307	3603	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	35.9	0.0	35.0				0.0	9.7	10.1	38.2	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	2.6				0.0	0.3	1.6	2.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	3.4				0.0	3.3	4.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	0.0	37.6				0.0	10.0	11.7	40.4	0.1	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		618						1943			839	
Approach Delay, s/veh		37.9						10.4			7.9	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	10.0	59.3				69.3		20.7				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	8.0	38.2				50.2		28.2				
Max Q Clear Time (g_c+I1), s	6.0	15.4				2.0		13.0				
Green Ext Time (p_c), s	0.0	12.7				4.6		1.9				

Intersection Summary			
HCM 6th Ctrl Delay			14.8
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	149	371	156	86	505	211	286	1328	175	538
Future Volume (vph)	149	371	156	86	505	211	286	1328	175	538
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	18.0	41.5	41.5	14.7	38.2	38.2	29.0	42.0	21.8	34.8
Total Split (%)	15.0%	34.6%	34.6%	12.3%	31.8%	31.8%	24.2%	35.0%	18.2%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.9	27.2	27.2	9.1	23.4	23.4	23.2	36.0	15.4	28.2
Actuated g/C Ratio	0.12	0.25	0.25	0.08	0.21	0.21	0.21	0.33	0.14	0.26
v/c Ratio	0.83	0.46	0.33	0.69	0.73	0.45	0.89	0.93	0.82	0.60
Control Delay	83.4	37.0	6.4	77.0	46.8	7.8	71.2	47.7	75.0	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.4	37.0	6.4	77.0	46.8	7.8	71.2	47.7	75.0	35.8
LOS	F	D	A	E	D	A	E	D	E	D
Approach Delay		40.1			39.8			51.7		43.5
Approach LOS		D			D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.5	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 45.6	Intersection LOS: D
Intersection Capacity Utilization 83.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	371	156	86	505	211	286	1328	78	175	538	174
Future Volume (veh/h)	149	371	156	86	505	211	286	1328	78	175	538	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	155	386	104	90	526	156	298	1383	78	182	560	141
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	839	368	111	691	302	324	1540	87	209	1049	258
Arrive On Green	0.11	0.25	0.25	0.07	0.21	0.21	0.20	0.33	0.33	0.13	0.27	0.27
Sat Flow, veh/h	1594	3367	1477	1594	3367	1472	1594	4680	264	1594	3861	949
Grp Volume(v), veh/h	155	386	104	90	526	156	298	953	508	182	465	236
Grp Sat Flow(s),veh/h/ln	1594	1683	1477	1594	1683	1472	1594	1612	1720	1594	1612	1585
Q Serve(g_s), s	10.0	10.2	6.0	5.8	15.4	6.8	19.2	29.5	29.5	11.8	12.9	13.3
Cycle Q Clear(g_c), s	10.0	10.2	6.0	5.8	15.4	6.8	19.2	29.5	29.5	11.8	12.9	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		0.60
Lane Grp Cap(c), veh/h	181	839	368	111	691	302	324	1061	566	209	876	431
V/C Ratio(X)	0.86	0.46	0.28	0.81	0.76	0.52	0.92	0.90	0.90	0.87	0.53	0.55
Avail Cap(c_a), veh/h	204	1133	497	153	1027	449	371	1100	587	261	879	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	33.4	31.8	48.1	39.3	17.5	40.9	33.5	33.5	44.7	32.5	32.7
Incr Delay (d2), s/veh	24.2	0.4	0.4	14.4	1.9	1.4	24.1	9.8	16.4	19.3	0.6	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	4.0	2.1	2.7	6.2	3.4	9.3	12.1	13.9	5.5	4.8	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.9	33.8	32.2	62.6	41.2	18.8	65.0	43.3	49.9	64.0	33.1	34.1
LnGrp LOS	E	C	C	E	D	B	E	D	D	E	C	C
Approach Vol, veh/h		645			772			1759			883	
Approach Delay, s/veh		42.2			39.2			48.9			39.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	40.7	11.9	32.4	26.0	34.7	16.5	27.7
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.2	* 36	10.1	35.3	24.4	28.6	13.4	32.0
Max Q Clear Time (g_c+I1), s	13.8	31.5	7.8	12.2	21.2	15.3	12.0	17.4
Green Ext Time (p_c), s	0.1	3.0	0.0	2.5	0.1	3.4	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

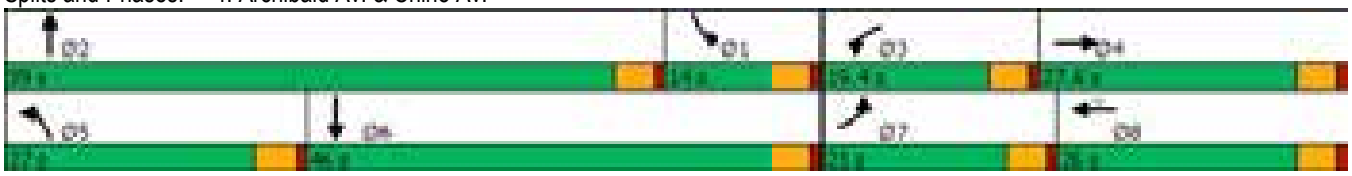
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	112	99	88	170	171	161	1297	51	631
Future Volume (vph)	112	99	88	170	171	161	1297	51	631
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	21.0	27.6	19.4	26.0	26.0	27.0	59.0	14.0	46.0
Total Split (%)	17.5%	23.0%	16.2%	21.7%	21.7%	22.5%	49.2%	11.7%	38.3%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.0	21.1	11.5	16.1	16.1	16.7	43.0	8.4	31.5
Actuated g/C Ratio	0.13	0.22	0.12	0.17	0.17	0.17	0.44	0.09	0.33
v/c Ratio	0.62	0.48	0.55	0.68	0.48	0.69	0.70	0.44	0.73
Control Delay	57.6	39.1	56.9	53.6	10.2	55.0	24.8	59.0	33.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	39.1	56.9	53.6	10.2	55.0	24.8	59.0	33.5
LOS	E	D	E	D	B	D	C	E	C
Approach Delay		46.9		37.0			27.9		35.3
Approach LOS		D		D			C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 96.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 32.7	Intersection LOS: C
Intersection Capacity Utilization 64.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	99	55	88	170	171	161	1297	94	51	631	71
Future Volume (veh/h)	112	99	55	88	170	171	161	1297	94	51	631	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	132	116	57	104	200	107	189	1526	103	60	742	76
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	191	94	131	265	224	230	2210	149	77	1114	114
Arrive On Green	0.10	0.17	0.17	0.08	0.15	0.15	0.14	0.45	0.45	0.05	0.35	0.35
Sat Flow, veh/h	1594	1122	551	1594	1772	1502	1594	4919	332	1594	3155	323
Grp Volume(v), veh/h	132	0	173	104	200	107	189	1099	530	60	417	401
Grp Sat Flow(s),veh/h/ln	1594	0	1673	1594	1772	1502	1594	1772	1707	1594	1772	1706
Q Serve(g_s), s	6.0	0.0	7.0	4.7	8.0	3.8	8.5	18.2	18.2	2.7	14.6	14.6
Cycle Q Clear(g_c), s	6.0	0.0	7.0	4.7	8.0	3.8	8.5	18.2	18.2	2.7	14.6	14.6
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.19	1.00		0.19
Lane Grp Cap(c), veh/h	165	0	286	131	265	224	230	1592	767	77	626	602
V/C Ratio(X)	0.80	0.00	0.61	0.80	0.76	0.48	0.82	0.69	0.69	0.78	0.67	0.67
Avail Cap(c_a), veh/h	355	0	523	321	515	437	485	2621	1262	204	997	960
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	28.2	33.2	30.0	18.2	30.6	16.2	16.2	34.6	20.1	20.1
Incr Delay (d2), s/veh	8.7	0.0	2.1	10.5	4.4	1.6	7.2	0.5	1.1	15.8	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.8	2.1	3.5	1.7	3.3	5.9	5.8	1.3	5.3	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.0	0.0	30.3	43.7	34.4	19.8	37.8	16.7	17.3	50.5	21.3	21.4
LnGrp LOS	D	A	C	D	C	B	D	B	B	D	C	C
Approach Vol, veh/h		305			411			1818			878	
Approach Delay, s/veh		34.9			32.9			19.1			23.4	
Approach LOS		C			C			B			C	

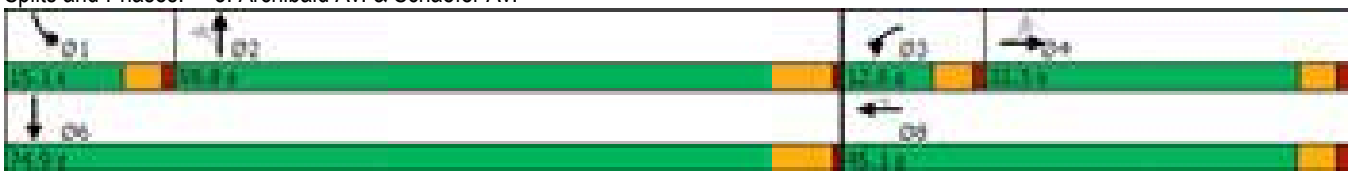
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	37.6	10.6	17.2	15.2	30.6	12.2	15.6
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	9.4	54.4	14.8	23.0	22.4	41.4	16.4	21.4
Max Q Clear Time (g_c+I1), s	4.7	20.2	6.7	9.0	10.5	16.6	8.0	10.0
Green Ext Time (p_c), s	0.0	12.8	0.1	0.7	0.4	4.7	0.2	1.0

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Lane Group	WBL	WBR	NBT	SBL	SBT	Ø4
Lane Configurations						
Traffic Volume (vph)	35	62	1389	46	813	
Future Volume (vph)	35	62	1389	46	813	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	3		2	1	6	4
Permitted Phases		8				
Detector Phase	3	8	2	1	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	32.6	37.5	9.6	23.5	32.5
Total Split (s)	12.6	45.1	59.8	15.1	74.9	32.5
Total Split (%)	10.5%	37.6%	49.8%	12.6%	62.4%	27%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag	Lead		Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	10.2	10.5	38.7	8.6	45.0	
Actuated g/C Ratio	0.17	0.17	0.64	0.14	0.74	
v/c Ratio	0.16	0.19	0.55	0.25	0.39	
Control Delay	29.7	1.0	12.1	37.0	5.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	29.7	1.0	12.1	37.0	5.6	
LOS	C	A	B	D	A	
Approach Delay			12.1		7.3	
Approach LOS			B		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 60.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 10.3	Intersection LOS: B
Intersection Capacity Utilization 65.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	0	62	0	1389	26	46	813	0
Future Volume (veh/h)	0	0	0	35	0	62	0	1389	26	46	813	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	0	0	0	42	0	74	0	1654	19	55	968	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	127	0	67	335	265	118	2484	29	79	2118	0
Arrive On Green	0.00	0.00	0.00	0.04	0.00	0.19	0.00	0.50	0.50	0.05	0.63	0.00
Sat Flow, veh/h	1186	1772	0	1594	1772	1401	519	4928	57	1594	3455	0
Grp Volume(v), veh/h	0	0	0	42	0	74	0	1082	591	55	968	0
Grp Sat Flow(s),veh/h/ln	1186	1772	0	1594	1772	1401	519	1612	1760	1594	1683	0
Q Serve(g_s), s	0.0	0.0	0.0	1.6	0.0	2.8	0.0	15.3	15.3	2.1	9.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.6	0.0	2.8	0.0	15.3	15.3	2.1	9.1	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h	118	127	0	67	335	265	118	1625	887	79	2118	0
V/C Ratio(X)	0.00	0.00	0.00	0.63	0.00	0.28	0.00	0.67	0.67	0.69	0.46	0.00
Avail Cap(c_a), veh/h	578	814	0	209	1177	931	311	2820	1539	275	3778	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	28.7	0.0	21.2	0.0	11.3	11.3	28.5	5.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.6	0.0	0.6	0.0	0.5	0.9	4.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.6	0.0	0.8	0.0	3.7	4.1	0.8	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	32.4	0.0	21.7	0.0	11.8	12.2	32.5	6.0	0.0
LnGrp LOS	A	A	A	C	A	C	A	B	B	C	A	A
Approach Vol, veh/h		0			116			1673			1023	
Approach Delay, s/veh		0.0			25.6			11.9			7.5	
Approach LOS					C			B			A	

Timer - Assigned Phs	1	2	3	4	6	8
Phs Duration (G+Y+Rc), s	7.6	37.2	7.1	9.0	44.8	16.1
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6	6.5	4.6
Max Green Setting (Gmax), s	10.5	53.3	8.0	* 28	68.4	40.5
Max Q Clear Time (g_c+I1), s	4.1	17.3	3.6	0.0	11.1	4.8
Green Ext Time (p_c), s	0.0	13.4	0.0	0.0	7.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	10.9
HCM 6th LOS	B

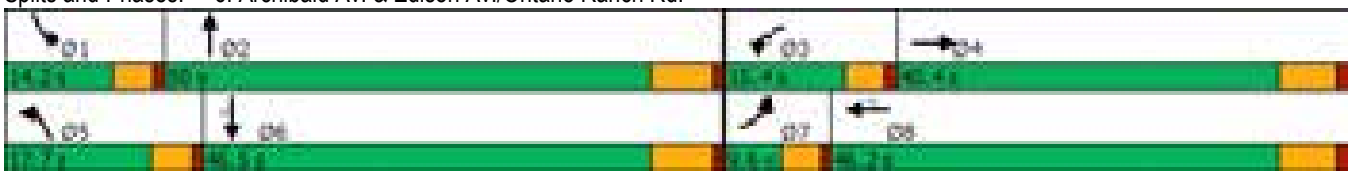
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	260	65	357	456	211	167	1045	352	156	499	62
Future Volume (vph)	35	260	65	357	456	211	167	1045	352	156	499	62
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	40.4		15.4	46.2	46.2	17.7	50.0		14.2	46.5	46.5
Total Split (%)	8.0%	33.7%		12.8%	38.5%	38.5%	14.8%	41.7%		11.8%	38.8%	38.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.1	24.7	107.3	11.1	35.4	35.4	13.4	39.1	107.3	9.9	35.6	35.6
Actuated g/C Ratio	0.05	0.23	1.00	0.10	0.33	0.33	0.12	0.36	1.00	0.09	0.33	0.33
v/c Ratio	0.27	0.35	0.05	1.27	0.86	0.36	0.93	0.89	0.26	1.18	0.47	0.12
Control Delay	59.6	35.2	0.1	186.9	51.0	5.6	98.6	43.0	0.4	176.6	30.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	35.2	0.1	186.9	51.0	5.6	98.6	43.0	0.4	176.6	30.8	0.4
LOS	E	D	A	F	D	A	F	D	A	F	C	A
Approach Delay		31.2			89.0			39.4			59.9	
Approach LOS		C			F			D			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 107.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.27	
Intersection Signal Delay: 56.4	Intersection LOS: E
Intersection Capacity Utilization 87.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	260	65	357	456	211	167	1045	352	156	499	62
Future Volume (veh/h)	35	260	65	357	456	211	167	1045	352	156	499	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	38	286	0	392	501	209	184	1148	0	171	548	57
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	861		301	552	462	194	1292		142	1177	487
Arrive On Green	0.03	0.24	0.00	0.10	0.31	0.31	0.12	0.36	0.00	0.09	0.33	0.33
Sat Flow, veh/h	3000	3544	1502	3000	1772	1483	1594	3544	1502	1594	3544	1468
Grp Volume(v), veh/h	38	286	0	392	501	209	184	1148	0	171	548	57
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1483	1594	1772	1502	1594	1772	1468
Q Serve(g_s), s	1.3	7.2	0.0	10.8	29.2	12.2	12.4	32.8	0.0	9.6	13.2	2.9
Cycle Q Clear(g_c), s	1.3	7.2	0.0	10.8	29.2	12.2	12.4	32.8	0.0	9.6	13.2	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	861		301	552	462	194	1292		142	1177	487
V/C Ratio(X)	0.40	0.33		1.30	0.91	0.45	0.95	0.89		1.20	0.47	0.12
Avail Cap(c_a), veh/h	139	1124		301	658	550	194	1430		142	1315	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	33.6	0.0	48.5	35.6	29.7	47.0	32.2	0.0	49.1	28.4	25.0
Incr Delay (d2), s/veh	1.0	0.2	0.0	159.0	14.7	0.7	49.8	6.8	0.0	140.9	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.0	0.0	10.5	14.0	4.2	7.3	14.0	0.0	9.2	5.2	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	33.8	0.0	207.5	50.3	30.4	96.9	39.0	0.0	190.0	28.7	25.1
LnGrp LOS	D	C		F	D	C	F	D		F	C	C
Approach Vol, veh/h		324	A		1102			1332	A		776	
Approach Delay, s/veh		36.0			102.4			47.0			64.0	
Approach LOS		D			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	45.8	15.4	32.4	17.7	42.3	8.0	39.8
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	9.6	43.5	10.8	34.2	13.1	40.0	5.0	40.0
Max Q Clear Time (g_c+I1), s	11.6	34.8	12.8	9.2	14.4	15.2	3.3	31.2
Green Ext Time (p_c), s	0.0	4.5	0.0	1.6	0.0	3.4	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	67.0
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	119	408	85	519	237	208	111	161
Future Volume (vph)	119	408	85	519	237	208	111	161
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	19.0	40.2	16.8	38.0	31.0	38.7	24.3	32.0
Total Split (%)	15.8%	33.5%	14.0%	31.7%	25.8%	32.3%	20.3%	26.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.0	32.5	10.5	29.9	23.2	24.0	13.4	14.1
Actuated g/C Ratio	0.13	0.32	0.10	0.29	0.23	0.24	0.13	0.14
v/c Ratio	0.75	0.63	0.66	0.85	0.83	0.62	0.68	0.63
Control Delay	68.3	32.8	66.8	43.5	59.2	24.2	60.6	32.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.3	32.8	66.8	43.5	59.2	24.2	60.6	32.1
LOS	E	C	E	D	E	C	E	C
Approach Delay		39.4		46.2		36.7		40.4
Approach LOS		D		D		D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.9	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 40.9	Intersection LOS: D
Intersection Capacity Utilization 71.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	408	113	85	519	129	237	208	219	111	161	110
Future Volume (veh/h)	119	408	113	85	519	129	237	208	219	111	161	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.94	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	151	516	82	108	657	105	300	263	243	141	204	117
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	873	138	133	788	126	333	454	382	171	350	191
Arrive On Green	0.11	0.30	0.30	0.08	0.27	0.27	0.21	0.27	0.27	0.11	0.17	0.17
Sat Flow, veh/h	1594	2896	458	1594	2901	463	1594	1683	1415	1594	2085	1139
Grp Volume(v), veh/h	151	299	299	108	381	381	300	263	243	141	163	158
Grp Sat Flow(s),veh/h/ln	1594	1683	1671	1594	1683	1681	1594	1683	1415	1594	1683	1540
Q Serve(g_s), s	8.3	13.4	13.5	5.9	18.9	19.0	16.3	12.0	13.5	7.7	7.9	8.5
Cycle Q Clear(g_c), s	8.3	13.4	13.5	5.9	18.9	19.0	16.3	12.0	13.5	7.7	7.9	8.5
Prop In Lane	1.00		0.27	1.00		0.28	1.00		1.00	1.00		0.74
Lane Grp Cap(c), veh/h	180	507	504	133	457	456	333	454	382	171	283	259
V/C Ratio(X)	0.84	0.59	0.59	0.81	0.83	0.84	0.90	0.58	0.64	0.83	0.58	0.61
Avail Cap(c_a), veh/h	258	644	639	219	602	601	473	623	524	353	496	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	26.4	26.4	40.1	30.5	30.5	34.3	28.1	28.6	38.9	34.1	34.3
Incr Delay (d2), s/veh	10.6	1.1	1.1	4.5	7.6	7.7	12.5	1.2	1.8	3.8	1.9	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	5.0	5.1	2.3	7.9	8.0	7.1	4.7	4.4	3.0	3.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	27.5	27.6	44.6	38.1	38.2	46.8	29.3	30.4	42.7	35.9	36.6
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	D	D
Approach Vol, veh/h		749			870			806			462	
Approach Delay, s/veh		31.9			38.9			36.1			38.2	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	29.8	12.0	33.0	23.2	20.7	14.7	30.3
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	19.7	32.9	12.2	34.0	26.4	26.2	14.4	31.8
Max Q Clear Time (g_c+I1), s	9.7	15.5	7.9	15.5	18.3	10.5	10.3	21.0
Green Ext Time (p_c), s	0.1	2.7	0.0	3.0	0.3	1.5	0.1	3.1

Intersection Summary	
HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D

Intersection	
Intersection Delay, s/veh	26.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	92	97	26	174	90	129	396	24	40	186	74
Future Vol, veh/h	97	92	97	26	174	90	129	396	24	40	186	74
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	131	124	131	35	235	122	174	535	32	54	251	100
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	18.9	20.9	36.6	20.2
HCM LOS	C	C	E	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	85%	0%	100%	24%	0%	100%	39%	0%	100%	46%
Vol Right, %	0%	0%	15%	0%	0%	76%	0%	0%	61%	0%	0%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	129	264	156	97	61	128	26	116	148	40	124	136
LT Vol	129	0	0	97	0	0	26	0	0	40	0	0
Through Vol	0	264	132	0	61	31	0	116	58	0	124	62
RT Vol	0	0	24	0	0	97	0	0	90	0	0	74
Lane Flow Rate	174	357	211	131	83	173	35	157	200	54	168	184
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.462	0.897	0.524	0.381	0.229	0.452	0.102	0.433	0.529	0.156	0.46	0.485
Departure Headway (Hd)	9.551	9.051	8.944	10.467	9.967	9.435	10.454	9.954	9.528	10.386	9.886	9.505
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	377	400	403	343	360	381	342	361	378	344	364	379
Service Time	7.324	6.824	6.716	8.251	7.751	7.22	8.237	7.737	7.312	8.172	7.672	7.291
HCM Lane V/C Ratio	0.462	0.892	0.524	0.382	0.231	0.454	0.102	0.435	0.529	0.157	0.462	0.485
HCM Control Delay	20.3	53.6	21.2	19.6	15.7	19.8	14.4	20.2	22.6	15.1	20.9	21
HCM Lane LOS	C	F	C	C	C	C	B	C	C	C	C	C
HCM 95th-tile Q	2.4	9.3	2.9	1.7	0.9	2.3	0.3	2.1	3	0.5	2.3	2.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	32	746	15	80	1055	58	34	129	71	64
Future Volume (vph)	32	746	15	80	1055	58	34	129	71	64
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	15.0	49.0	49.0	18.0	52.0	52.0	15.0	35.0	18.0	38.0
Total Split (%)	12.5%	40.8%	40.8%	15.0%	43.3%	43.3%	12.5%	29.2%	15.0%	31.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	7.3	31.9	31.9	9.5	36.5	36.5	7.3	15.2	9.1	19.4
Actuated g/C Ratio	0.09	0.39	0.39	0.12	0.45	0.45	0.09	0.19	0.11	0.24
v/c Ratio	0.23	0.60	0.02	0.43	0.74	0.08	0.24	0.56	0.40	0.21
Control Delay	48.2	24.2	0.1	48.5	24.5	1.0	48.2	40.5	48.1	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	24.2	0.1	48.5	24.5	1.0	48.2	40.5	48.1	29.6
LOS	D	C	A	D	C	A	D	D	D	C
Approach Delay		24.7			24.9			41.8		38.1
Approach LOS		C			C			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 81.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 27.2	Intersection LOS: C
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	746	15	80	1055	58	34	129	45	71	64	19
Future Volume (veh/h)	32	746	15	80	1055	58	34	129	45	71	64	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	829	13	89	1172	56	38	143	44	79	71	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1468	655	115	1567	699	68	197	61	104	263	37
Arrive On Green	0.04	0.41	0.41	0.06	0.44	0.44	0.04	0.14	0.14	0.06	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1372	422	1781	1604	226
Grp Volume(v), veh/h	36	829	13	89	1172	56	38	0	187	79	0	81
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1794	1781	0	1830
Q Serve(g_s), s	1.3	11.6	0.3	3.2	17.9	1.3	1.4	0.0	6.5	2.8	0.0	2.5
Cycle Q Clear(g_c), s	1.3	11.6	0.3	3.2	17.9	1.3	1.4	0.0	6.5	2.8	0.0	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		0.12
Lane Grp Cap(c), veh/h	66	1468	655	115	1567	699	68	0	258	104	0	300
V/C Ratio(X)	0.55	0.56	0.02	0.77	0.75	0.08	0.56	0.00	0.73	0.76	0.00	0.27
Avail Cap(c_a), veh/h	285	2363	1054	367	2527	1127	285	0	807	367	0	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.8	14.6	11.3	29.9	15.2	10.5	30.7	0.0	26.6	30.1	0.0	23.8
Incr Delay (d2), s/veh	2.7	0.3	0.0	4.1	0.7	0.0	2.6	0.0	3.9	4.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.7	0.1	1.4	5.7	0.4	0.6	0.0	2.8	1.2	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	14.9	11.3	34.1	15.9	10.6	33.4	0.0	30.4	34.3	0.0	24.2
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	A	C
Approach Vol, veh/h		878			1317			225			160	
Approach Delay, s/veh		15.6			16.9			30.9			29.2	
Approach LOS		B			B			C			C	

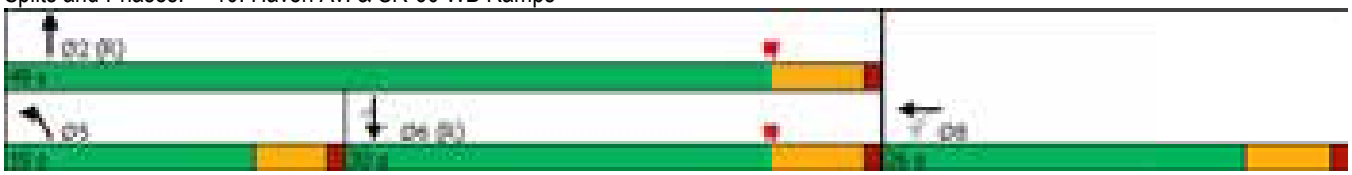
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	15.1	8.8	32.6	7.1	16.5	7.0	34.4
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	13.4	29.2	13.4	43.2	10.4	32.2	10.4	46.2
Max Q Clear Time (g_c+I1), s	4.8	8.5	5.2	13.6	3.4	4.5	3.3	19.9
Green Ext Time (p_c), s	0.0	0.9	0.0	5.6	0.0	0.3	0.0	8.8

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	186	4	716	574	1551	822	407
Future Volume (vph)	186	4	716	574	1551	822	407
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	26.0	26.0		19.0	49.0	30.0	30.0
Total Split (%)	34.7%	34.7%		25.3%	65.3%	40.0%	40.0%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	19.3	19.3	75.0	14.1	43.7	24.6	24.6
Actuated g/C Ratio	0.26	0.26	1.00	0.19	0.58	0.33	0.33
v/c Ratio	0.86	0.87	0.47	0.93	0.55	0.51	0.53
Control Delay	47.9	48.6	1.0	44.4	12.5	21.9	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	48.6	1.0	44.4	12.5	21.9	5.0
LOS	D	D	A	D	B	C	A
Approach Delay		24.7			21.1	16.3	
Approach LOS		C			C	B	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 45 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 20.9	Intersection LOS: C
Intersection Capacity Utilization 77.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	186	4	716	574	1551	0	0	822	407
Future Volume (veh/h)	0	0	0	186	4	716	574	1551	0	0	822	407
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				747	0	0	598	1616	0	0	856	268
Peak Hour Factor				0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				858	0		645	3059	0	0	1765	541
Arrive On Green				0.24	0.00	0.00	0.37	1.00	0.00	0.00	0.35	0.35
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1564
Grp Volume(v), veh/h				747	0	0	598	1616	0	0	856	268
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1564
Q Serve(g_s), s				15.1	0.0	0.0	12.4	0.0	0.0	0.0	9.9	10.1
Cycle Q Clear(g_c), s				15.1	0.0	0.0	12.4	0.0	0.0	0.0	9.9	10.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				858	0		645	3059	0	0	1765	541
V/C Ratio(X)				0.87	0.00		0.93	0.53	0.00	0.00	0.48	0.50
Avail Cap(c_a), veh/h				960	0		645	3059	0	0	1765	541
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.28	0.28	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				27.3	0.0	0.0	23.0	0.0	0.0	0.0	19.3	19.4
Incr Delay (d2), s/veh				8.1	0.0	0.0	7.1	0.2	0.0	0.0	1.0	3.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.8	0.0	0.0	4.2	0.1	0.0	0.0	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				35.4	0.0	0.0	30.1	0.2	0.0	0.0	20.2	22.6
LnGrp LOS				D	A		C	A	A	A	C	C
Approach Vol, veh/h					747	A		2214			1124	
Approach Delay, s/veh					35.4			8.3			20.8	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	51.1		19.0	32.1		23.9						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	42.8		14.0	23.8		20.2						
Max Q Clear Time (g_c+I1), s	2.0		14.4	12.1		17.1						
Green Ext Time (p_c), s	9.3		0.0	3.4		1.0						

Intersection Summary		
HCM 6th Ctrl Delay	16.7	
HCM 6th LOS	B	

Notes

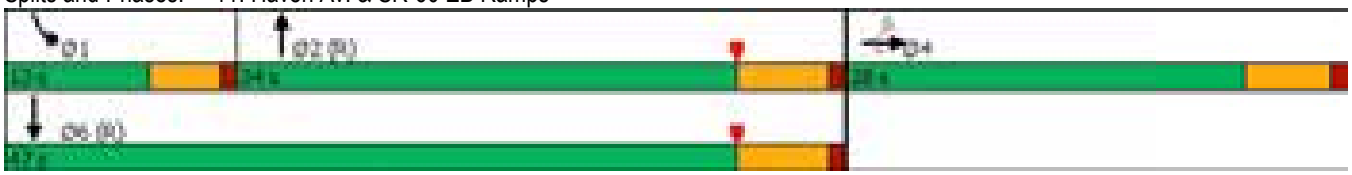
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	718	5	309	1391	324	712
Future Volume (vph)	718	5	309	1391	324	712
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	28.0	28.0	28.0	34.0	13.0	47.0
Total Split (%)	37.3%	37.3%	37.3%	45.3%	17.3%	62.7%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	20.7	20.7	20.7	28.5	8.8	42.3
Actuated g/C Ratio	0.28	0.28	0.28	0.38	0.12	0.56
v/c Ratio	0.81	0.82	0.57	0.94	0.85	0.26
Control Delay	40.7	41.3	14.5	33.2	50.9	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	41.3	14.5	33.2	50.9	8.8
LOS	D	D	B	C	D	A
Approach Delay		33.0		33.2		22.0
Approach LOS		C		C		C

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 48 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 30.1	Intersection LOS: C
Intersection Capacity Utilization 77.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	718	5	309	0	0	0	0	1391	321	324	712	0
Future Volume (veh/h)	718	5	309	0	0	0	0	1391	321	324	712	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	760	0	167				0	1464	180	341	749	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	899	0	400				0	1906	234	369	3001	0
Arrive On Green	0.25	0.00	0.25				0.00	0.41	0.41	0.21	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4767	565	3456	5274	0
Grp Volume(v), veh/h	760	0	167				0	1083	561	341	749	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1759	1728	1702	0
Q Serve(g_s), s	15.2	0.0	6.6				0.0	20.5	20.5	7.3	0.0	0.0
Cycle Q Clear(g_c), s	15.2	0.0	6.6				0.0	20.5	20.5	7.3	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.32	1.00		0.00
Lane Grp Cap(c), veh/h	899	0	400				0	1411	729	369	3001	0
V/C Ratio(X)	0.85	0.00	0.42				0.00	0.77	0.77	0.93	0.25	0.00
Avail Cap(c_a), veh/h	1055	0	469				0	1411	729	369	3001	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.75	0.75	0.00
Uniform Delay (d), s/veh	26.7	0.0	23.4				0.0	18.9	18.9	29.2	0.0	0.0
Incr Delay (d2), s/veh	5.7	0.0	0.7				0.0	4.1	7.6	23.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.0	2.3				0.0	7.7	8.6	3.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	0.0	24.1				0.0	22.9	26.5	52.7	0.1	0.0
LnGrp LOS	C	A	C				A	C	C	D	A	A
Approach Vol, veh/h		927						1644			1090	
Approach Delay, s/veh		30.9						24.2			16.6	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.0	37.3		24.7		50.3
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	8.0	27.8		22.2		40.8
Max Q Clear Time (g_c+I1), s	9.3	22.5		17.2		2.0
Green Ext Time (p_c), s	0.0	3.2		1.7		3.3

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

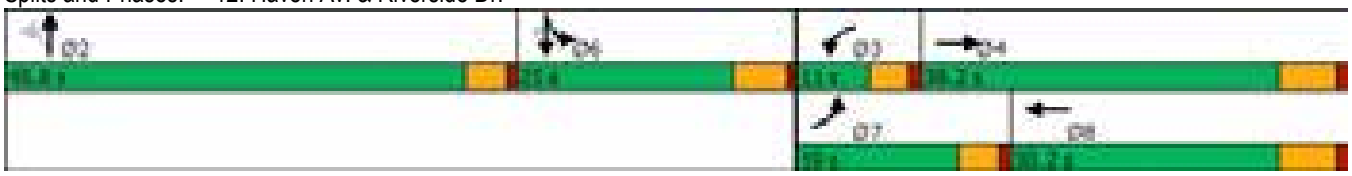
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	323	485	114	378	47	672	293	392	229
Future Volume (vph)	323	485	114	378	47	672	293	392	229
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	19.0	38.2	11.0	30.2	45.8	45.8	25.0	25.0	25.0
Total Split (%)	15.8%	31.8%	9.2%	25.2%	38.2%	38.2%	20.8%	20.8%	20.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	14.4	32.0	6.4	24.0		41.1	19.2	19.2	19.2
Actuated g/C Ratio	0.12	0.27	0.05	0.20		0.34	0.16	0.16	0.16
v/c Ratio	1.82	1.20	1.44	0.88		7.48	1.23	1.48	0.57
Control Delay	419.9	149.1	293.3	57.6		2940.6	176.7	269.8	13.0
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	419.9	149.1	293.3	57.6		2940.6	176.7	269.8	13.0
LOS	F	F	F	E		F	F	F	B
Approach Delay		252.5		97.2		2940.6		175.5	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 7.48	
Intersection Signal Delay: 876.7	Intersection LOS: F
Intersection Capacity Utilization 125.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	323	485	39	114	378	185	47	672	103	293	392	229
Future Volume (veh/h)	323	485	39	114	378	185	47	672	103	293	392	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	344	516	38	121	402	161	50	715	93	312	417	68
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	432	32	85	465	183	35	494	64	255	284	235
Arrive On Green	0.12	0.27	0.27	0.05	0.20	0.20	0.34	0.34	0.34	0.16	0.16	0.16
Sat Flow, veh/h	1594	1619	119	1594	2323	916	101	1442	188	1594	1772	1468
Grp Volume(v), veh/h	344	0	554	121	290	273	858	0	0	312	417	68
Grp Sat Flow(s),veh/h/ln	1594	0	1738	1594	1683	1556	1730	0	0	1594	1772	1468
Q Serve(g_s), s	14.4	0.0	32.0	6.4	19.9	20.5	41.1	0.0	0.0	19.2	19.2	4.9
Cycle Q Clear(g_c), s	14.4	0.0	32.0	6.4	19.9	20.5	41.1	0.0	0.0	19.2	19.2	4.9
Prop In Lane	1.00		0.07	1.00		0.59	0.06		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	464	85	337	311	592	0	0	255	284	235
V/C Ratio(X)	1.80	0.00	1.20	1.42	0.86	0.88	1.45	0.00	0.00	1.22	1.47	0.29
Avail Cap(c_a), veh/h	191	0	464	85	337	311	592	0	0	255	284	235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	0.0	44.0	56.8	46.4	46.6	39.5	0.0	0.0	50.4	50.4	44.4
Incr Delay (d2), s/veh	379.5	0.0	107.3	245.8	19.6	23.7	211.1	0.0	0.0	130.4	230.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.7	0.0	26.9	8.3	9.8	9.6	51.9	0.0	0.0	16.6	26.4	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	432.3	0.0	151.3	302.6	65.9	70.3	250.5	0.0	0.0	180.8	280.5	45.1
LnGrp LOS	F	A	F	F	E	E	F	A	A	F	F	D
Approach Vol, veh/h		898			684			858			797	
Approach Delay, s/veh		258.9			109.5			250.5			221.4	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	45.8	11.0	38.2	25.0	19.0	30.2
Change Period (Y+Rc), s	* 4.7	4.6	6.2	5.8	4.6	6.2
Max Green Setting (Gmax), s	* 41	6.4	32.0	19.2	14.4	24.0
Max Q Clear Time (g_c+I1), s	43.1	8.4	34.0	21.2	16.4	22.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	215.9
HCM 6th LOS	F

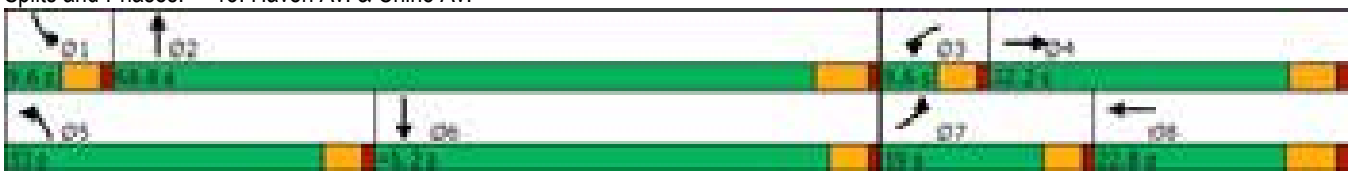
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	65	27	81	45	164	771	434	
Future Volume (vph)	65	27	81	45	164	771	434	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	19.0	32.2	9.6	22.8	33.0	68.6	45.2	9.6
Total Split (%)	15.8%	26.8%	8.0%	19.0%	27.5%	57.2%	37.7%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	8.8	15.3	5.0	13.2	15.2	63.9	45.2	
Actuated g/C Ratio	0.09	0.15	0.05	0.13	0.15	0.64	0.45	
v/c Ratio	0.50	0.35	1.00	0.20	0.72	1.00	0.71	
Control Delay	57.0	15.9	145.5	43.7	58.0	47.1	30.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.0	15.9	145.5	43.7	58.0	47.1	30.5	
LOS	E	B	F	D	E	D	C	
Approach Delay		31.4		109.1		48.6	30.5	
Approach LOS		C		F		D	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.1	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 46.3	Intersection LOS: D
Intersection Capacity Utilization 87.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	27	80	81	45	0	164	771	250	0	434	86
Future Volume (veh/h)	65	27	80	81	45	0	164	771	250	0	434	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	69	29	85	88	49	0	174	820	272	0	462	91
Peak Hour Factor	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	45	133	96	202	0	205	844	280	2	696	137
Arrive On Green	0.05	0.11	0.11	0.05	0.11	0.00	0.13	0.66	0.66	0.00	0.48	0.48
Sat Flow, veh/h	1594	419	1230	1781	1870	0	1594	1273	422	1781	1438	283
Grp Volume(v), veh/h	69	0	114	88	49	0	174	0	1092	0	0	553
Grp Sat Flow(s),veh/h/ln	1594	0	1649	1781	1870	0	1594	0	1696	1781	0	1721
Q Serve(g_s), s	4.0	0.0	6.1	4.5	2.2	0.0	9.9	0.0	56.4	0.0	0.0	22.6
Cycle Q Clear(g_c), s	4.0	0.0	6.1	4.5	2.2	0.0	9.9	0.0	56.4	0.0	0.0	22.6
Prop In Lane	1.00		0.75	1.00		0.00	1.00		0.25	1.00		0.16
Lane Grp Cap(c), veh/h	86	0	178	96	202	0	205	0	1124	2	0	833
V/C Ratio(X)	0.80	0.00	0.64	0.91	0.24	0.00	0.85	0.00	0.97	0.00	0.00	0.66
Avail Cap(c_a), veh/h	248	0	478	96	344	0	489	0	1152	96	0	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	43.3	0.0	39.5	43.5	37.8	0.0	39.4	0.0	14.8	0.0	0.0	18.1
Incr Delay (d2), s/veh	6.5	0.0	3.8	63.3	0.6	0.0	3.7	0.0	19.7	0.0	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	2.6	3.6	1.0	0.0	3.9	0.0	21.8	0.0	0.0	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	0.0	43.3	106.8	38.4	0.0	43.1	0.0	34.5	0.0	0.0	20.1
LnGrp LOS	D	A	D	F	D	A	D	A	C	A	A	C
Approach Vol, veh/h		183			137			1266			553	
Approach Delay, s/veh		45.8			82.3			35.7			20.1	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	67.1	9.6	15.8	16.5	50.6	9.6	15.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	62.8	5.0	* 27	28.4	* 41	14.4	17.0
Max Q Clear Time (g_c+I1), s	0.0	58.4	6.5	8.1	11.9	24.6	6.0	4.2
Green Ext Time (p_c), s	0.0	2.9	0.0	0.5	0.2	3.4	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

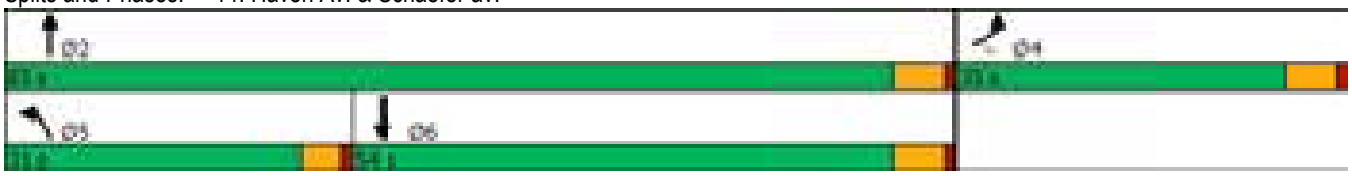
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	39	85	103	1118	592
Future Volume (vph)	39	85	103	1118	592
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	35.0	35.0	31.0	85.0	54.0
Total Split (%)	29.2%	29.2%	25.8%	70.8%	45.0%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.2	12.2	11.6	83.6	66.2
Actuated g/C Ratio	0.12	0.12	0.11	0.81	0.64
v/c Ratio	0.22	0.36	0.63	0.85	0.30
Control Delay	43.5	12.5	59.4	16.8	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	12.5	59.4	16.8	10.5
LOS	D	B	E	B	B
Approach Delay	22.2			20.4	10.5
Approach LOS	C			C	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 103	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 17.4	Intersection LOS: B
Intersection Capacity Utilization 80.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	85	103	1118	592	22
Future Volume (veh/h)	39	85	103	1118	592	22
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	42	38	112	1215	643	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	167	158	140	1325	2051	67
Arrive On Green	0.10	0.10	0.09	0.75	0.60	0.60
Sat Flow, veh/h	1594	1502	1594	1772	3410	111
Grp Volume(v), veh/h	42	38	112	1215	334	330
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1772	1749
Q Serve(g_s), s	1.9	1.8	5.4	43.3	7.3	7.3
Cycle Q Clear(g_c), s	1.9	1.8	5.4	43.3	7.3	7.3
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	167	158	140	1325	1066	1052
V/C Ratio(X)	0.25	0.24	0.80	0.92	0.31	0.31
Avail Cap(c_a), veh/h	591	557	535	1783	1085	1071
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	32.3	35.2	8.0	7.7	7.7
Incr Delay (d2), s/veh	0.8	0.8	4.0	6.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.6	2.1	10.0	2.2	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.1	33.1	39.3	14.4	7.9	7.9
LnGrp LOS	C	C	D	B	A	A
Approach Vol, veh/h	80			1327	664	
Approach Delay, s/veh	33.1			16.5	7.9	
Approach LOS	C			B	A	

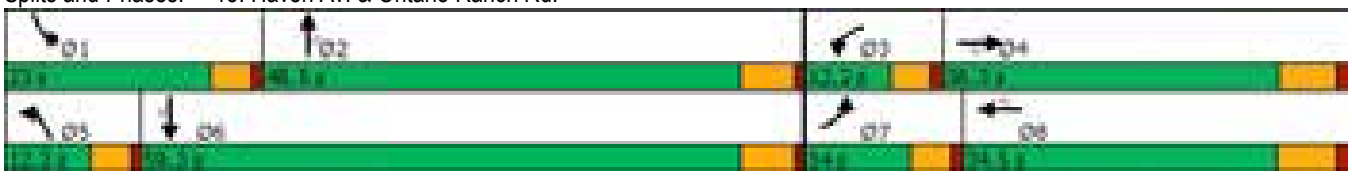
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		64.6		14.1	11.5	53.1
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		79.2		29.2	26.4	48.2
Max Q Clear Time (g_c+I1), s		45.3		3.9	7.4	9.3
Green Ext Time (p_c), s		13.5		0.2	0.1	4.0

Intersection Summary		
HCM 6th Ctrl Delay		14.4
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	800	17	75	797	366	36	434	118	366	240	201
Future Volume (vph)	172	800	17	75	797	366	36	434	118	366	240	201
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	14.0	36.3	36.3	12.2	34.5	34.5	12.2	48.5	48.5	23.0	59.3	59.3
Total Split (%)	11.7%	30.3%	30.3%	10.2%	28.8%	28.8%	10.2%	40.4%	40.4%	19.2%	49.4%	49.4%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	9.4	33.2	33.2	6.8	28.1	28.1	6.6	33.8	33.8	18.5	50.0	50.0
Actuated g/C Ratio	0.08	0.30	0.30	0.06	0.25	0.25	0.06	0.30	0.30	0.17	0.45	0.45
v/c Ratio	1.38	0.54	0.03	0.45	0.48	0.60	0.41	0.87	0.23	1.50	0.33	0.28
Control Delay	250.9	36.3	0.1	60.3	37.4	9.5	66.3	54.5	3.1	279.6	22.1	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	250.9	36.3	0.1	60.3	37.4	9.5	66.3	54.5	3.1	279.6	22.1	3.6
LOS	F	D	A	E	D	A	E	D	A	F	C	A
Approach Delay		73.0			30.5			44.9			134.4	
Approach LOS		E			C			D			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.50	
Intersection Signal Delay: 67.6	Intersection LOS: E
Intersection Capacity Utilization 88.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	800	17	75	797	366	36	434	118	366	240	201
Future Volume (veh/h)	172	800	17	75	797	366	36	434	118	366	240	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	185	860	7	81	857	211	39	467	68	394	258	125
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	1583	447	125	1801	382	50	529	448	266	769	649
Arrive On Green	0.09	0.30	0.30	0.04	0.25	0.25	0.03	0.30	0.30	0.17	0.43	0.43
Sat Flow, veh/h	1594	5316	1500	3000	7088	1502	1594	1772	1500	1594	1772	1496
Grp Volume(v), veh/h	185	860	7	81	857	211	39	467	68	394	258	125
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1500	1772	1502	1594	1772	1500	1594	1772	1496
Q Serve(g_s), s	9.4	14.9	0.4	2.9	11.3	13.4	2.7	27.7	3.7	18.4	10.6	5.7
Cycle Q Clear(g_c), s	9.4	14.9	0.4	2.9	11.3	13.4	2.7	27.7	3.7	18.4	10.6	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	136	1583	447	125	1801	382	50	529	448	266	769	649
V/C Ratio(X)	1.36	0.54	0.02	0.65	0.48	0.55	0.77	0.88	0.15	1.48	0.34	0.19
Avail Cap(c_a), veh/h	136	1583	447	207	1801	382	110	687	581	266	860	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	32.4	27.3	52.0	34.9	35.7	53.0	36.8	28.4	45.9	20.7	19.3
Incr Delay (d2), s/veh	202.4	1.3	0.1	2.1	0.9	5.7	9.0	10.6	0.2	235.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	6.3	0.1	1.1	4.7	5.2	1.2	12.9	1.3	24.4	4.2	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	252.8	33.8	27.4	54.1	35.8	41.3	62.0	47.4	28.6	281.3	20.9	19.4
LnGrp LOS	F	C	C	D	D	D	E	D	C	F	C	B
Approach Vol, veh/h		1052			1149			574			777	
Approach Delay, s/veh		72.2			38.1			46.2			152.7	
Approach LOS		E			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	38.7	9.2	39.3	8.1	53.6	14.0	34.5
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	18.4	42.7	7.6	* 30	7.6	53.5	9.4	28.0
Max Q Clear Time (g_c+I1), s	20.4	29.7	4.9	16.9	4.7	12.6	11.4	15.4
Green Ext Time (p_c), s	0.0	2.3	0.0	4.4	0.0	1.8	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	74.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	4.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	301	102	0	74
Demand Flow Rate, veh/h	307	104	0	76
Vehicles Circulating, veh/h	30	14	337	94
Vehicles Exiting, veh/h	140	323	0	24
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.7	3.3	0.0	3.4
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	307	104	0	76
Cap Entry Lane, veh/h	1338	1360	979	1254
Entry HV Adj Factor	0.981	0.982	1.000	0.974
Flow Entry, veh/h	301	102	0	74
Cap Entry, veh/h	1313	1336	979	1221
V/C Ratio	0.229	0.076	0.000	0.061
Control Delay, s/veh	4.7	3.3	3.7	3.4
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	303	189	191	206	207	75	273	83	155
Future Volume (vph)	303	189	191	206	207	75	273	83	155
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	37.0	33.0	27.0	23.0	33.0	33.0	33.0	27.0	27.0
Total Split (%)	30.8%	27.5%	22.5%	19.2%	27.5%	27.5%	27.5%	22.5%	22.5%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	29.4	24.5	19.9	15.0	22.7	22.7	22.7	21.9	21.9
Actuated g/C Ratio	0.27	0.22	0.18	0.14	0.21	0.21	0.21	0.20	0.20
v/c Ratio	0.90	0.66	0.84	0.75	0.80	0.26	0.60	0.33	0.87
Control Delay	65.3	22.9	70.1	50.1	61.0	39.9	8.8	43.9	67.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	22.9	70.1	50.1	61.0	39.9	8.8	43.9	67.8
LOS	E	C	E	D	E	D	A	D	E
Approach Delay		39.1		58.0		32.4			61.5
Approach LOS		D		E		C			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.2	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 44.9	Intersection LOS: D
Intersection Capacity Utilization 77.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	303	189	300	191	206	90	207	75	273	83	155	77
Future Volume (veh/h)	303	189	300	191	206	90	207	75	273	83	155	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.99	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	384	239	303	242	261	85	262	95	300	105	196	81
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	409	400	335	268	352	111	354	394	332	323	232	96
Arrive On Green	0.26	0.23	0.23	0.17	0.14	0.14	0.22	0.22	0.22	0.20	0.20	0.20
Sat Flow, veh/h	1594	1772	1482	1594	2562	811	1594	1772	1494	1594	1146	473
Grp Volume(v), veh/h	384	239	303	242	178	168	262	95	300	105	0	277
Grp Sat Flow(s),veh/h/ln	1594	1772	1482	1594	1772	1601	1594	1772	1494	1594	0	1619
Q Serve(g_s), s	25.9	13.2	21.8	16.3	10.6	11.1	16.8	4.8	21.4	6.2	0.0	18.0
Cycle Q Clear(g_c), s	25.9	13.2	21.8	16.3	10.6	11.1	16.8	4.8	21.4	6.2	0.0	18.0
Prop In Lane	1.00		1.00	1.00		0.51	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	409	400	335	268	243	220	354	394	332	323	0	328
V/C Ratio(X)	0.94	0.60	0.91	0.90	0.73	0.76	0.74	0.24	0.90	0.32	0.00	0.84
Avail Cap(c_a), veh/h	480	437	365	334	275	248	396	440	371	334	0	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	38.0	41.3	44.7	45.3	45.5	39.7	35.0	41.5	37.3	0.0	42.0
Incr Delay (d2), s/veh	23.1	1.9	24.1	20.7	8.5	11.7	6.4	0.3	23.2	0.6	0.0	16.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	5.7	9.8	7.7	5.0	4.9	6.9	2.1	9.6	2.5	0.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	39.9	65.4	65.4	53.8	57.2	46.1	35.3	64.7	37.9	0.0	58.9
LnGrp LOS	E	D	E	E	D	E	D	D	E	D	A	E
Approach Vol, veh/h		926			588			657			382	
Approach Delay, s/veh		57.8			59.5			53.0			53.1	
Approach LOS		E			E			D			D	

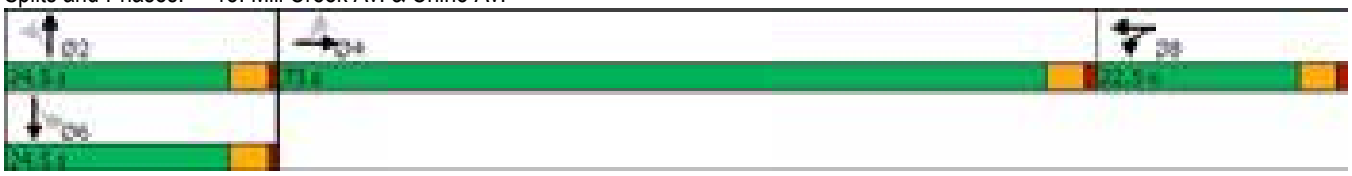
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.2	22.4	30.8		26.2	32.1	21.1				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		27.2	23.0	27.0		23.0	33.0	17.0				
Max Q Clear Time (g_c+I1), s		23.4	18.3	23.8		20.0	27.9	13.1				
Green Ext Time (p_c), s		0.9	0.1	0.9		0.6	0.3	0.6				

Intersection Summary												
HCM 6th Ctrl Delay			56.3									
HCM 6th LOS			E									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	123	151	14	49	5	65	17	110
Future Volume (vph)	123	151	14	49	5	65	17	110
Turn Type	Perm	NA	Split	NA	Perm	NA	Perm	NA
Protected Phases		4	8	8		2		6
Permitted Phases	4				2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	73.0	73.0	22.5	22.5	24.5	24.5	24.5	24.5
Total Split (%)	60.8%	60.8%	18.8%	18.8%	20.4%	20.4%	20.4%	20.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	68.8	68.8	9.8	9.8	20.1	20.1	20.1	20.1
Actuated g/C Ratio	0.63	0.63	0.09	0.09	0.18	0.18	0.18	0.18
v/c Ratio	2.00	0.16	0.18	0.37	0.05	0.41	0.18	0.78
Control Delay	519.2	9.7	48.9	50.5	42.4	45.1	43.4	60.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	519.2	9.7	48.9	50.5	42.4	45.1	43.4	60.2
LOS	F	A	D	D	D	D	D	E
Approach Delay		225.8		50.0		45.0		58.3
Approach LOS		F		D		D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.9	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.00	
Intersection Signal Delay: 117.8	Intersection LOS: F
Intersection Capacity Utilization 29.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 18: Mill Creek Av. & Chino Av.



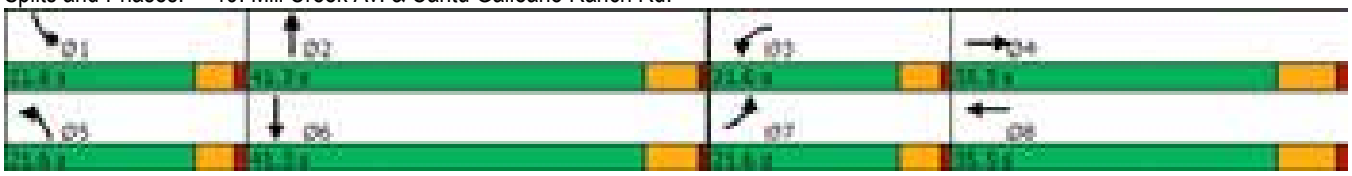


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	151	17	14	49	4	5	65	4	17	110	40
Future Volume (veh/h)	123	151	17	14	49	4	5	65	4	17	110	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	164	9	28	53	4	5	130	4	34	220	23
Peak Hour Factor	0.92	0.92	0.92	0.50	0.92	0.50	0.92	0.50	0.50	0.50	0.50	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	329	325	18	155	150	11	395	418	13	481	386	40
Arrive On Green	0.18	0.18	0.18	0.09	0.09	0.09	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	1757	96	1781	1717	130	1137	1805	56	1256	1665	174
Grp Volume(v), veh/h	134	0	173	28	0	57	5	0	134	34	0	243
Grp Sat Flow(s),veh/h/ln	1781	0	1853	1781	0	1847	1137	0	1860	1256	0	1839
Q Serve(g_s), s	1.8	0.0	2.3	0.4	0.0	0.8	0.1	0.0	1.6	0.6	0.0	3.2
Cycle Q Clear(g_c), s	1.8	0.0	2.3	0.4	0.0	0.8	3.3	0.0	1.6	2.2	0.0	3.2
Prop In Lane	1.00		0.05	1.00		0.07	1.00		0.03	1.00		0.09
Lane Grp Cap(c), veh/h	329	0	342	155	0	161	395	0	431	481	0	426
V/C Ratio(X)	0.41	0.00	0.51	0.18	0.00	0.35	0.01	0.00	0.31	0.07	0.00	0.57
Avail Cap(c_a), veh/h	4486	0	4667	1179	0	1222	968	0	1368	1113	0	1352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.8	0.0	10.0	11.5	0.0	11.7	10.7	0.0	8.6	9.6	0.0	9.2
Incr Delay (d2), s/veh	0.8	0.0	1.2	0.6	0.0	1.3	0.0	0.0	0.4	0.1	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.6	0.1	0.0	0.3	0.0	0.0	0.4	0.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.6	0.0	11.1	12.1	0.0	13.0	10.7	0.0	9.1	9.6	0.0	10.4
LnGrp LOS	B	A	B	B	A	B	B	A	A	A	A	B
Approach Vol, veh/h		307			85			139			277	
Approach Delay, s/veh		10.9			12.7			9.1			10.4	
Approach LOS		B			B			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.8		9.5		10.8		6.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.0		68.5		20.0		18.0				
Max Q Clear Time (g_c+I1), s		5.3		4.3		5.2		2.8				
Green Ext Time (p_c), s		0.5		1.3		1.1		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			10.6									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	75	343	94	197	215	41	88	13
Future Volume (vph)	75	343	94	197	215	41	88	13
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	9.6	23.5	9.6	27.8	9.6	27.8
Total Split (s)	21.6	35.5	21.6	35.5	21.6	41.3	21.6	41.3
Total Split (%)	18.0%	29.6%	18.0%	29.6%	18.0%	34.4%	18.0%	34.4%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	7.9	12.6	8.7	13.2	15.9	22.4	8.5	12.2
Actuated g/C Ratio	0.11	0.18	0.13	0.19	0.23	0.33	0.12	0.18
v/c Ratio	0.40	0.54	0.46	0.45	0.57	0.26	0.44	0.19
Control Delay	37.9	25.5	38.0	13.4	33.4	10.4	37.9	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	25.5	38.0	13.4	33.4	10.4	37.9	13.0
LOS	D	C	D	B	C	B	D	B
Approach Delay		27.2		17.6		24.0		28.1
Approach LOS		C		B		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 68.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 52.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 19: Mill Creek Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	343	130	94	197	268	215	41	106	88	13	45
Future Volume (veh/h)	75	343	130	94	197	268	215	41	106	88	13	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	373	98	102	214	150	234	45	61	96	14	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	747	189	132	656	306	289	198	269	125	91	215
Arrive On Green	0.07	0.18	0.18	0.07	0.19	0.19	0.16	0.28	0.28	0.07	0.18	0.18
Sat Flow, veh/h	1781	4063	1027	1781	3404	1585	1781	719	975	1781	495	1166
Grp Volume(v), veh/h	82	310	161	102	214	150	234	0	106	96	0	47
Grp Sat Flow(s),veh/h/ln	1781	1702	1686	1781	1702	1585	1781	0	1695	1781	0	1661
Q Serve(g_s), s	2.5	4.4	4.7	3.1	2.9	4.6	6.9	0.0	2.6	2.9	0.0	1.3
Cycle Q Clear(g_c), s	2.5	4.4	4.7	3.1	2.9	4.6	6.9	0.0	2.6	2.9	0.0	1.3
Prop In Lane	1.00		0.61	1.00		1.00	1.00		0.58	1.00		0.70
Lane Grp Cap(c), veh/h	116	626	310	132	656	306	289	0	468	125	0	306
V/C Ratio(X)	0.70	0.50	0.52	0.77	0.33	0.49	0.81	0.00	0.23	0.77	0.00	0.15
Avail Cap(c_a), veh/h	557	1816	899	557	1816	846	557	0	1107	557	0	1085
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	19.9	20.0	24.7	18.9	19.6	22.0	0.0	15.2	24.8	0.0	18.6
Incr Delay (d2), s/veh	2.9	0.6	1.3	3.6	0.3	1.2	2.1	0.0	0.2	3.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.5	1.6	1.2	1.0	1.5	2.6	0.0	0.9	1.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	20.5	21.3	28.3	19.2	20.8	24.0	0.0	15.4	28.5	0.0	18.9
LnGrp LOS	C	C	C	C	B	C	C	A	B	C	A	B
Approach Vol, veh/h		553			466			340			143	
Approach Delay, s/veh		21.8			21.7			21.4			25.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	20.8	8.6	16.5	13.4	15.8	8.2	17.0
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	17.0	35.5	17.0	29.0	17.0	35.5	17.0	29.0
Max Q Clear Time (g_c+I1), s	4.9	4.6	5.1	6.7	8.9	3.3	4.5	6.6
Green Ext Time (p_c), s	0.1	0.5	0.1	2.5	0.2	0.2	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	526	403	1258	463	262
Future Volume (vph)	4	526	403	1258	463	262
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5	11.2	22.5	22.5	22.5
Total Split (s)	37.0	37.0	28.0	53.0	25.0	25.0
Total Split (%)	41.1%	41.1%	31.1%	58.9%	27.8%	27.8%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	27.9	27.9	21.7	42.4	16.0	16.0
Actuated g/C Ratio	0.34	0.34	0.26	0.51	0.19	0.19
v/c Ratio	0.41	0.90	0.89	0.67	0.66	0.51
Control Delay	24.4	43.0	53.7	17.5	36.6	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	43.0	53.7	17.5	36.6	8.0
LOS	C	D	D	B	D	A
Approach Delay	37.1			26.3	26.2	
Approach LOS	D			C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 82.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 28.9	Intersection LOS: C
Intersection Capacity Utilization 86.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	237	4	526	403	1258	0	0	463	262
Future Volume (veh/h)	0	0	0	237	4	526	403	1258	0	0	463	262
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				242	4	367	411	1284	0	0	472	228
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				495	8	447	461	1976	0	0	745	316
Arrive On Green				0.28	0.28	0.28	0.26	0.53	0.00	0.00	0.20	0.20
Sat Flow, veh/h				1754	29	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				246	0	367	411	1284	0	0	472	228
Grp Sat Flow(s),veh/h/ln				1783	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				7.5	0.0	14.1	14.5	16.1	0.0	0.0	7.6	8.8
Cycle Q Clear(g_c), s				7.5	0.0	14.1	14.5	16.1	0.0	0.0	7.6	8.8
Prop In Lane				0.98		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				503	0	447	461	1976	0	0	745	316
V/C Ratio(X)				0.49	0.00	0.82	0.89	0.65	0.00	0.00	0.63	0.72
Avail Cap(c_a), veh/h				840	0	747	638	2679	0	0	1076	456
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.5	0.0	21.9	23.4	11.1	0.0	0.0	24.0	24.5
Incr Delay (d2), s/veh				0.7	0.0	3.8	9.4	0.4	0.0	0.0	0.9	3.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	0.0	5.0	6.4	4.8	0.0	0.0	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.3	0.0	25.7	32.7	11.4	0.0	0.0	24.9	27.6
LnGrp LOS				C	A	C	C	B	A	A	C	C
Approach Vol, veh/h					613			1695			700	
Approach Delay, s/veh					23.5			16.6			25.8	
Approach LOS					C			B			C	

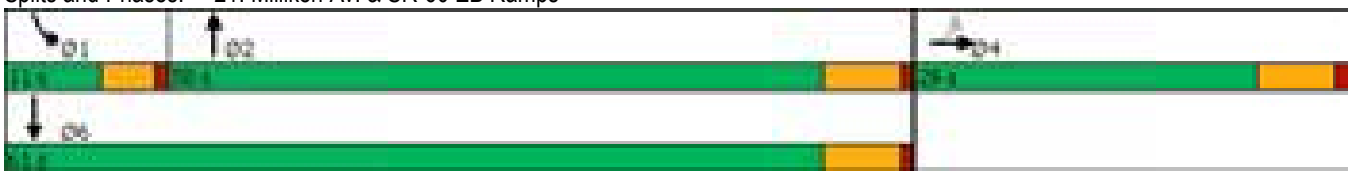
Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	40.7		21.5	19.2		24.6						
Change Period (Y+Rc), s	6.2		4.6	6.2		6.2						
Max Green Setting (Gmax), s	46.8		23.4	18.8		30.8						
Max Q Clear Time (g_c+I1), s	18.1		16.5	10.8		16.1						
Green Ext Time (p_c), s	10.0		0.4	2.2		2.3						

Intersection Summary		
HCM 6th Ctrl Delay	20.1	
HCM 6th LOS	C	

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	436	3	1281	85	594
Future Volume (vph)	436	3	1281	85	594
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	22.5	9.6	22.5
Total Split (s)	29.0	29.0	50.0	11.0	61.0
Total Split (%)	32.2%	32.2%	55.6%	12.2%	67.8%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	21.7	21.7	41.2	6.3	49.4
Actuated g/C Ratio	0.26	0.26	0.49	0.08	0.59
v/c Ratio	0.88	0.66	0.89	0.66	0.28
Control Delay	54.2	15.0	27.6	66.1	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	15.0	27.6	66.1	8.7
LOS	D	B	C	E	A
Approach Delay		34.2	27.6		15.9
Approach LOS		C	C		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 83.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 26.7	Intersection LOS: C
Intersection Capacity Utilization 86.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	436	3	361	0	0	0	0	1281	282	85	594	0
Future Volume (veh/h)	436	3	361	0	0	0	0	1281	282	85	594	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	319	185	186				0	1321	157	88	612	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	443	213	214				0	1560	184	113	2230	0
Arrive On Green	0.25	0.25	0.25				0.00	0.48	0.48	0.06	0.60	0.00
Sat Flow, veh/h	1781	855	860				0	3283	388	1781	3741	0
Grp Volume(v), veh/h	319	0	371				0	749	729	88	612	0
Grp Sat Flow(s),veh/h/ln	1781	0	1716				0	1870	1801	1781	1870	0
Q Serve(g_s), s	13.1	0.0	16.6				0.0	28.0	28.5	3.9	6.3	0.0
Cycle Q Clear(g_c), s	13.1	0.0	16.6				0.0	28.0	28.5	3.9	6.3	0.0
Prop In Lane	1.00		0.50				0.00		0.22	1.00		0.00
Lane Grp Cap(c), veh/h	443	0	427				0	889	856	113	2230	0
V/C Ratio(X)	0.72	0.00	0.87				0.00	0.84	0.85	0.78	0.27	0.00
Avail Cap(c_a), veh/h	508	0	490				0	1025	987	143	2566	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.5	0.0	28.8				0.0	18.4	18.5	36.9	7.8	0.0
Incr Delay (d2), s/veh	4.2	0.0	14.1				0.0	5.8	6.5	14.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.0	7.9				0.0	11.3	11.2	2.0	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	0.0	42.8				0.0	24.2	25.0	51.4	7.9	0.0
LnGrp LOS	C	A	D				A	C	C	D	A	A
Approach Vol, veh/h		690						1478			700	
Approach Delay, s/veh		37.7						24.6			13.3	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.7	44.2		26.1		53.8
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	6.4	43.8		22.8		54.8
Max Q Clear Time (g_c+I1), s	5.9	30.5		18.6		8.3
Green Ext Time (p_c), s	0.0	7.5		1.3		4.0

Intersection Summary		
HCM 6th Ctrl Delay		25.0
HCM 6th LOS		C

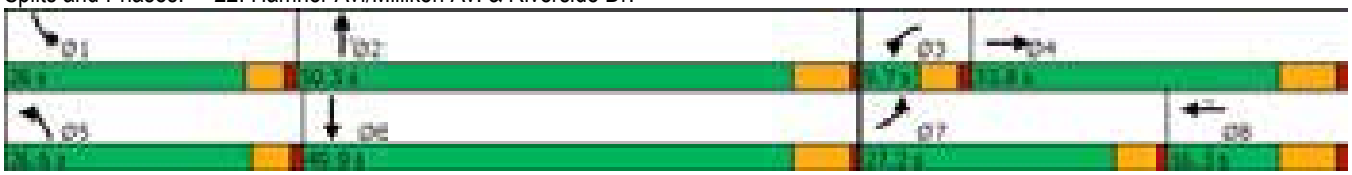
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	261	148	28	113	243	144	1016	58	244	532
Future Volume (vph)	261	148	28	113	243	144	1016	58	244	532
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	27.2	33.8	9.7	16.3	16.3	26.6	50.5	50.5	26.0	49.9
Total Split (%)	22.7%	28.2%	8.1%	13.6%	13.6%	22.2%	42.1%	42.1%	21.7%	41.6%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	22.6	31.5	5.1	10.1	10.1	16.5	43.6	43.6	21.4	48.5
Actuated g/C Ratio	0.19	0.26	0.04	0.08	0.08	0.14	0.37	0.37	0.18	0.41
v/c Ratio	1.00	0.73	0.48	0.87	0.73	0.76	0.95	0.10	0.99	0.62
Control Delay	101.1	47.3	79.3	100.7	18.2	70.8	54.1	0.3	99.6	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.1	47.3	79.3	100.7	18.2	70.8	54.1	0.3	99.6	29.6
LOS	F	D	E	F	B	E	D	A	F	C
Approach Delay		72.7		46.9			53.5			47.3
Approach LOS		E		D			D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.3	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 54.2	Intersection LOS: D
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	148	144	28	113	243	144	1016	58	244	532	185
Future Volume (veh/h)	261	148	144	28	113	243	144	1016	58	244	532	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	300	170	86	32	130	141	166	1168	38	280	611	110
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	274	138	44	150	127	191	1231	549	286	1213	218
Arrive On Green	0.19	0.25	0.25	0.03	0.08	0.08	0.12	0.37	0.37	0.18	0.43	0.43
Sat Flow, veh/h	1594	1110	561	1594	1772	1502	1594	3367	1502	1594	2851	512
Grp Volume(v), veh/h	300	0	256	32	130	141	166	1168	38	280	360	361
Grp Sat Flow(s),veh/h/ln	1594	0	1671	1594	1772	1502	1594	1683	1502	1594	1683	1680
Q Serve(g_s), s	22.4	0.0	16.3	2.4	8.6	10.1	12.2	40.2	2.0	20.9	18.7	18.8
Cycle Q Clear(g_c), s	22.4	0.0	16.3	2.4	8.6	10.1	12.2	40.2	2.0	20.9	18.7	18.8
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	302	0	412	44	150	127	191	1231	549	286	716	714
V/C Ratio(X)	0.99	0.00	0.62	0.73	0.87	1.11	0.87	0.95	0.07	0.98	0.50	0.50
Avail Cap(c_a), veh/h	302	0	412	68	150	127	294	1250	557	286	716	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	0.0	40.0	57.6	53.9	54.6	51.6	36.8	24.6	48.7	25.1	25.1
Incr Delay (d2), s/veh	50.0	0.0	2.9	8.5	37.9	112.2	10.7	14.8	0.1	47.3	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	0.0	6.7	1.0	5.3	7.6	5.3	17.9	0.7	11.7	7.1	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.3	0.0	42.8	66.1	91.8	166.8	62.3	51.6	24.7	96.0	25.6	25.7
LnGrp LOS	F	A	D	E	F	F	E	D	C	F	C	C
Approach Vol, veh/h		556			303			1372			1001	
Approach Delay, s/veh		72.7			124.0			52.2			45.3	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	49.8	7.9	35.6	18.9	56.9	27.2	16.3
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	44.3	5.1	27.6	22.0	43.7	22.6	10.1
Max Q Clear Time (g_c+I1), s	22.9	42.2	4.4	18.3	14.2	20.8	24.4	12.1
Green Ext Time (p_c), s	0.0	1.4	0.0	0.8	0.1	4.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	60.3
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	105	78	28	1131	615	48
Future Vol, veh/h	105	78	28	1131	615	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	119	89	32	1285	699	55

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1434	727	754	0	-	0
Stage 1	727	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	136	423	854	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 118	423	854	-	-	-
Mov Cap-2 Maneuver	310	-	-	-	-	-
Stage 1	415	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.3	0.8	0
HCM LOS	D		

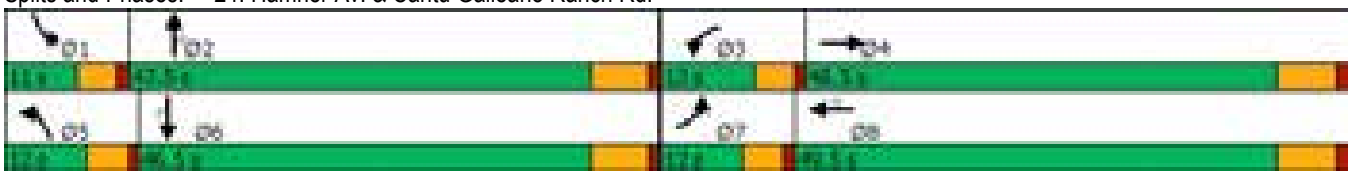
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	854	-	350	-	-
HCM Lane V/C Ratio	0.037	-	0.594	-	-
HCM Control Delay (s)	9.4	0.6	29.3	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	3.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	235	992	268	1113	281	233	599	363	212	223	199
Future Volume (vph)	235	992	268	1113	281	233	599	363	212	223	199
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	12.0	48.5	13.0	49.5	49.5	12.0	47.5	47.5	11.0	46.5	46.5
Total Split (%)	10.0%	40.4%	10.8%	41.3%	41.3%	10.0%	39.6%	39.6%	9.2%	38.8%	38.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.6	37.8	8.6	38.8	38.8	7.6	24.1	24.1	6.5	23.1	23.1
Actuated g/C Ratio	0.08	0.38	0.09	0.39	0.39	0.08	0.24	0.24	0.07	0.23	0.23
v/c Ratio	0.94	0.48	0.94	0.84	0.39	0.93	0.51	0.75	0.98	0.28	0.43
Control Delay	91.3	24.2	88.0	35.1	9.5	89.8	33.6	29.4	105.2	31.9	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.3	24.2	88.0	35.1	9.5	89.8	33.6	29.4	105.2	31.9	12.0
LOS	F	C	F	D	A	F	C	C	F	C	B
Approach Delay		35.9		39.3			43.3			50.2	
Approach LOS		D		D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 99.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 40.7	Intersection LOS: D
Intersection Capacity Utilization 73.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	992	130	268	1113	281	233	599	363	212	223	199
Future Volume (veh/h)	235	992	130	268	1113	281	233	599	363	212	223	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	245	1033	83	279	1159	158	243	624	217	221	232	113
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	2339	187	328	1398	624	289	1036	322	250	681	304
Arrive On Green	0.08	0.38	0.38	0.09	0.39	0.39	0.08	0.20	0.20	0.07	0.19	0.19
Sat Flow, veh/h	3456	6120	488	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	245	813	303	279	1159	158	243	624	217	221	232	113
Grp Sat Flow(s),veh/h/ln	1728	1609	1782	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	6.2	11.1	11.2	7.0	26.0	5.9	6.1	9.8	11.2	5.6	5.0	5.5
Cycle Q Clear(g_c), s	6.2	11.1	11.2	7.0	26.0	5.9	6.1	9.8	11.2	5.6	5.0	5.5
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	289	1844	681	328	1398	624	289	1036	322	250	681	304
V/C Ratio(X)	0.85	0.44	0.44	0.85	0.83	0.25	0.84	0.60	0.67	0.88	0.34	0.37
Avail Cap(c_a), veh/h	289	2291	846	328	1728	771	289	2384	740	250	1619	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	20.3	20.3	39.4	24.1	18.1	39.9	32.0	32.6	40.7	30.9	31.1
Incr Delay (d2), s/veh	19.4	0.2	0.5	17.8	2.9	0.2	18.4	0.6	2.5	28.0	0.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.7	4.2	3.6	9.9	1.9	3.2	3.8	4.1	3.2	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	20.5	20.8	57.2	27.0	18.3	58.4	32.6	35.0	68.7	31.2	31.9
LnGrp LOS	E	C	C	E	C	B	E	C	D	E	C	C
Approach Vol, veh/h		1361			1596			1084			566	
Approach Delay, s/veh		27.5			31.5			38.9			46.0	
Approach LOS		C			C			D			D	

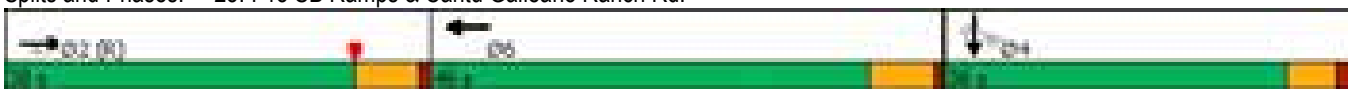
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	24.1	13.0	40.3	12.0	23.1	12.0	41.3
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.4	41.3	8.4	42.0	7.4	40.3	7.4	43.0
Max Q Clear Time (g_c+I1), s	7.6	13.2	9.0	13.2	8.1	7.5	8.2	28.0
Green Ext Time (p_c), s	0.0	4.8	0.0	7.3	0.0	1.7	0.0	6.8

Intersection Summary	
HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1065	540	989	168	258	0	1165
Future Volume (vph)	1065	540	989	168	258	0	1165
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	38.0	38.0	46.0		36.0	36.0	36.0
Total Split (%)	31.7%	31.7%	38.3%		30.0%	30.0%	30.0%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	Min		Min	Min	Min
Act Effct Green (s)	35.0	35.0	38.8	120.0	27.1	27.1	27.1
Actuated g/C Ratio	0.29	0.29	0.32	1.00	0.23	0.23	0.23
v/c Ratio	0.78	0.67	0.94	0.07	0.66	0.92	0.90
Control Delay	44.3	7.2	45.2	0.0	50.7	30.1	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	7.2	45.2	0.0	50.7	30.1	27.4
LOS	D	A	D	A	D	C	C
Approach Delay	31.8		38.7			32.3	
Approach LOS	C		D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 33.9	Intersection LOS: C
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1065	540	0	989	168	0	0	0	258	0	1165
Future Volume (veh/h)	0	1065	540	0	989	168	0	0	0	258	0	1165
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1158	0	0	1075	0				187	0	736
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	3314		0	2306					443	0	788
Arrive On Green	0.00	0.65	0.00	0.00	0.21	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	1158	0	0	1075	0				187	0	736
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	12.4	0.0	0.0	31.7	0.0				10.6	0.0	27.3
Cycle Q Clear(g_c), s	0.0	12.4	0.0	0.0	31.7	0.0				10.6	0.0	27.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3314		0	2306					443	0	788
V/C Ratio(X)	0.00	0.35		0.00	0.47					0.42	0.00	0.93
Avail Cap(c_a), veh/h	0	3314		0	2306					453	0	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.77	0.00	0.00	0.77	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.6	0.0	0.0	29.0	0.0				37.9	0.0	44.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.1	0.0				0.6	0.0	17.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.9	0.0	0.0	14.9	0.0				4.6	0.0	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.8	0.0	0.0	29.1	0.0				38.5	0.0	61.7
LnGrp LOS	A	A		A	C					D	A	E
Approach Vol, veh/h		1158	A		1075	A					923	
Approach Delay, s/veh		9.8			29.1						57.0	
Approach LOS		A			C						E	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		84.7		35.3		84.7						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		31.2		30.5		39.2						
Max Q Clear Time (g_c+I1), s		14.4		29.3		33.7						
Green Ext Time (p_c), s		6.6		0.5		3.0						

Intersection Summary		
HCM 6th Ctrl Delay	30.2	
HCM 6th LOS	C	

Notes

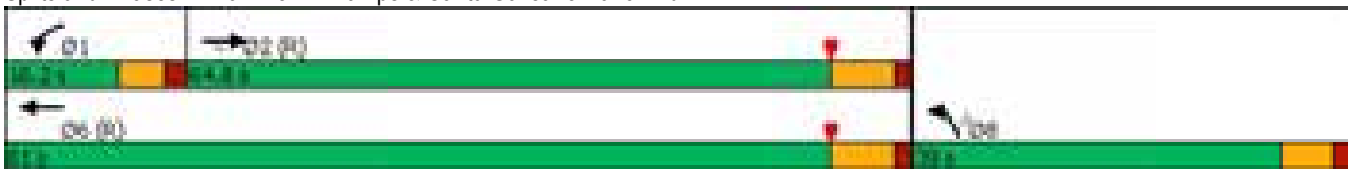
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	456	886	194	445	712	377
Future Volume (vph)	456	886	194	445	712	377
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.5	22.5	22.5	22.5
Total Split (s)	64.8	64.8	16.2	81.0	39.0	39.0
Total Split (%)	54.0%	54.0%	13.5%	67.5%	32.5%	32.5%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	55.8	55.8	11.6	73.4	33.3	33.3
Actuated g/C Ratio	0.46	0.46	0.10	0.61	0.28	0.28
v/c Ratio	0.21	0.81	0.64	0.16	0.86	0.55
Control Delay	31.4	32.0	61.4	10.4	50.8	6.8
Queue Delay	0.0	7.9	0.0	0.0	0.0	0.0
Total Delay	31.4	39.8	61.4	10.4	50.8	6.8
LOS	C	D	E	B	D	A
Approach Delay	37.0			25.9	37.2	
Approach LOS	D			C	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 34.8	Intersection LOS: C
Intersection Capacity Utilization 71.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	456	886	194	445	712	377
Future Volume (veh/h)	456	886	194	445	712	377
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	496	517	211	484	774	225
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2647	822	267	3296	868	386
Arrive On Green	0.17	0.17	0.08	0.65	0.24	0.24
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	496	517	211	484	774	225
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	10.0	36.4	7.2	4.5	25.2	15.0
Cycle Q Clear(g_c), s	10.0	36.4	7.2	4.5	25.2	15.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2647	822	267	3296	868	386
V/C Ratio(X)	0.19	0.63	0.79	0.15	0.89	0.58
Avail Cap(c_a), veh/h	2647	822	294	3296	980	436
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.90	0.90	1.00	1.00
Uniform Delay (d), s/veh	28.1	39.0	54.4	8.3	43.9	40.0
Incr Delay (d2), s/veh	0.1	2.1	11.5	0.1	9.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	15.7	3.4	1.4	11.9	5.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.2	41.1	65.9	8.4	53.4	41.6
LnGrp LOS	C	D	E	A	D	D
Approach Vol, veh/h	1013			695	999	
Approach Delay, s/veh	34.8			25.9	50.8	
Approach LOS	C			C	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	15.3	69.5				84.8	35.2
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	10.2	57.5				73.7	33.0
Max Q Clear Time (g_c+I1), s	9.2	38.4				6.5	27.2
Green Ext Time (p_c), s	0.1	4.6				3.1	2.0

Intersection Summary			
HCM 6th Ctrl Delay		38.4	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	379	282	269	27	220	247	285	17	20	56	123
Future Volume (vph)	379	282	269	27	220	247	285	17	20	56	123
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	17.0	47.9	47.9	9.6	40.5	13.0	52.2	52.2	10.3	49.5	49.5
Total Split (%)	14.2%	39.9%	39.9%	8.0%	33.8%	10.8%	43.5%	43.5%	8.6%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.5	26.9	26.9	5.4	11.8	9.1	24.5	24.5	5.7	11.6	11.6
Actuated g/C Ratio	0.19	0.38	0.38	0.08	0.17	0.13	0.35	0.35	0.08	0.17	0.17
v/c Ratio	0.63	0.12	0.37	0.11	0.33	0.60	0.25	0.03	0.15	0.20	0.34
Control Delay	34.8	16.7	4.6	39.3	23.7	39.2	17.9	0.1	41.3	26.1	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	16.7	4.6	39.3	23.7	39.2	17.9	0.1	41.3	26.1	5.7
LOS	C	B	A	D	C	D	B	A	D	C	A
Approach Delay		20.5			25.2		26.9			15.0	
Approach LOS		C			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 70.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 22.4	Intersection LOS: C
Intersection Capacity Utilization 46.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	379	282	269	27	220	42	247	285	17	20	56	123
Future Volume (veh/h)	379	282	269	27	220	42	247	285	17	20	56	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	412	307	182	29	239	26	268	310	8	22	61	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	566	1617	398	116	568	60	403	748	334	47	225	191
Arrive On Green	0.16	0.25	0.25	0.03	0.12	0.12	0.12	0.21	0.21	0.03	0.12	0.12
Sat Flow, veh/h	3456	6434	1585	3456	4687	498	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	412	307	182	29	172	93	268	310	8	22	61	107
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1781	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	5.3	1.7	4.5	0.4	2.2	2.2	3.4	3.5	0.2	0.6	1.4	3.0
Cycle Q Clear(g_c), s	5.3	1.7	4.5	0.4	2.2	2.2	3.4	3.5	0.2	0.6	1.4	3.0
Prop In Lane	1.00		1.00	1.00		0.28	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	566	1617	398	116	412	216	403	748	334	47	225	191
V/C Ratio(X)	0.73	0.19	0.46	0.25	0.42	0.43	0.66	0.41	0.02	0.46	0.27	0.56
Avail Cap(c_a), veh/h	923	5735	1413	372	2492	1304	625	3497	1560	219	1732	1468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	13.7	14.7	21.9	18.9	18.9	19.6	15.9	14.6	22.3	18.6	19.3
Incr Delay (d2), s/veh	0.7	0.1	0.8	0.4	0.7	1.4	0.7	0.4	0.0	2.6	0.6	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.5	1.2	0.1	0.7	0.8	1.2	1.2	0.1	0.2	0.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	13.7	15.5	22.3	19.6	20.3	20.3	16.2	14.6	24.9	19.2	21.8
LnGrp LOS	B	B	B	C	B	C	C	B	B	C	B	C
Approach Vol, veh/h		901			294			586			190	
Approach Delay, s/veh		16.5			20.1			18.1			21.4	
Approach LOS		B			C			B			C	

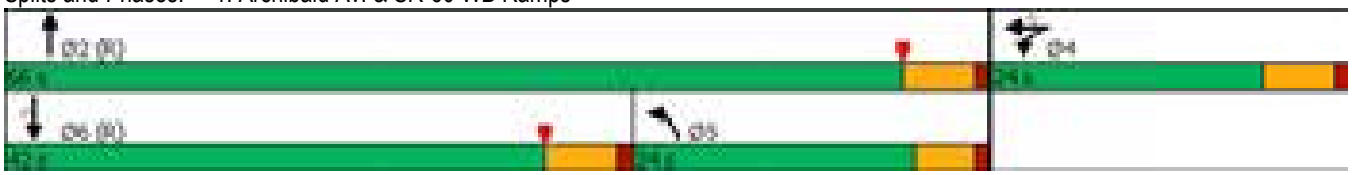
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	16.3	6.2	18.2	10.0	12.1	12.2	12.1
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	5.7	45.7	5.0	41.4	8.4	43.0	12.4	34.0
Max Q Clear Time (g_c+I1), s	2.6	5.5	2.4	6.5	5.4	5.0	7.3	4.2
Green Ext Time (p_c), s	0.0	2.0	0.0	2.4	0.1	0.6	0.4	1.4

Intersection Summary	
HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	380	1	176	493	506	1241	321
Future Volume (vph)	380	1	176	493	506	1241	321
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	24.0	24.0	24.0	24.0	66.0	42.0	42.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	73.3%	46.7%	46.7%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	15.7	15.7	15.7	16.8	62.7	40.9	40.9
Actuated g/C Ratio	0.17	0.17	0.17	0.19	0.70	0.45	0.45
v/c Ratio	0.70	0.71	0.41	0.79	0.15	0.43	0.37
Control Delay	47.9	47.9	8.5	39.6	1.4	18.2	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	47.9	8.5	39.6	1.4	18.2	3.5
LOS	D	D	A	D	A	B	A
Approach Delay		36.7			20.2	15.1	
Approach LOS		D			C	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 20.6	Intersection LOS: C
Intersection Capacity Utilization 67.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	380	1	176	493	506	0	0	1241	321
Future Volume (veh/h)	0	0	0	380	1	176	493	506	0	0	1241	321
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				411	0	48	503	516	0	0	1266	228
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				512	0	228	1270	3714	0	0	1900	456
Arrive On Green				0.14	0.00	0.14	0.12	0.24	0.00	0.00	0.30	0.30
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	6696	1543
Grp Volume(v), veh/h				411	0	48	503	516	0	0	1266	228
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1609	1543
Q Serve(g_s), s				10.0	0.0	2.4	12.1	7.2	0.0	0.0	15.5	11.0
Cycle Q Clear(g_c), s				10.0	0.0	2.4	12.1	7.2	0.0	0.0	15.5	11.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				512	0	228	1270	3714	0	0	1900	456
V/C Ratio(X)				0.80	0.00	0.21	0.40	0.14	0.00	0.00	0.67	0.50
Avail Cap(c_a), veh/h				720	0	321	1270	3714	0	0	2588	621
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.97	0.97	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.3	0.0	34.0	30.3	12.0	0.0	0.0	27.8	26.2
Incr Delay (d2), s/veh				4.4	0.0	0.5	0.1	0.1	0.0	0.0	1.9	3.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.5	0.0	2.3	5.4	2.2	0.0	0.0	5.8	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.7	0.0	34.5	30.4	12.1	0.0	0.0	29.7	30.1
LnGrp LOS				D	A	C	C	B	A	A	C	C
Approach Vol, veh/h					459			1019			1494	
Approach Delay, s/veh					41.0			21.1			29.7	
Approach LOS					D			C			C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	71.3	18.7	38.9	32.4
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	60.2	18.2	19.0	* 36
Max Q Clear Time (g_c+I1), s	9.2	12.0	14.1	17.5
Green Ext Time (p_c), s	3.5	0.9	0.5	9.0

Intersection Summary	
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

Notes

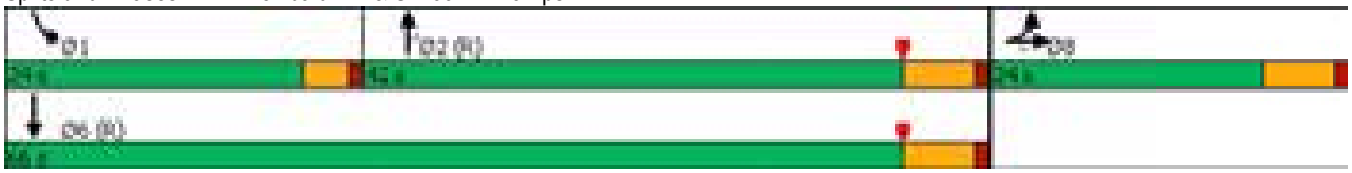
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	112	1	426	889	505	477	1144
Future Volume (vph)	112	1	426	889	505	477	1144
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	24.0	24.0	24.0	42.0	42.0	24.0	66.0
Total Split (%)	26.7%	26.7%	26.7%	46.7%	46.7%	26.7%	73.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	12.8	12.8	12.8	45.0	45.0	16.6	65.6
Actuated g/C Ratio	0.14	0.14	0.14	0.50	0.50	0.18	0.73
v/c Ratio	0.43	0.74	0.71	0.28	0.49	0.76	0.31
Control Delay	39.3	33.1	30.5	14.5	3.5	52.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	33.1	30.5	14.5	3.5	52.5	1.0
LOS	D	C	C	B	A	D	A
Approach Delay		33.2		10.6			16.2
Approach LOS		C		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 16.5	Intersection LOS: B
Intersection Capacity Utilization 67.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1	426	0	0	0	0	889	505	477	1144	0
Future Volume (veh/h)	112	1	426	0	0	0	0	889	505	477	1144	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	76	0	236				0	898	334	482	1156	0
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	183	0	326				0	3629	875	552	3923	0
Arrive On Green	0.10	0.00	0.10				0.00	0.56	0.56	0.32	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	76	0	236				0	898	334	482	1156	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1551	1728	1702	0
Q Serve(g_s), s	3.6	0.0	6.5				0.0	6.4	10.8	11.8	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	6.5				0.0	6.4	10.8	11.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	183	0	326				0	3629	875	552	3923	0
V/C Ratio(X)	0.42	0.00	0.72				0.00	0.25	0.38	0.87	0.29	0.00
Avail Cap(c_a), veh/h	360	0	641				0	3629	875	768	3923	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.88	0.88	0.00
Uniform Delay (d), s/veh	37.8	0.0	39.1				0.0	9.9	10.9	29.7	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	3.1				0.0	0.2	1.3	5.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	2.5				0.0	1.9	3.3	4.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	0.0	42.2				0.0	10.1	12.2	35.4	0.2	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		312						1232			1638	
Approach Delay, s/veh		41.5						10.7			10.5	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	18.4	56.6				74.9		15.1				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	20.0	36.2				60.2		18.2				
Max Q Clear Time (g_c+I1), s	13.8	12.8				2.0		8.5				
Green Ext Time (p_c), s	0.5	7.2				9.4		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	166	578	303	113	436	139	246	844	243	841
Future Volume (vph)	166	578	303	113	436	139	246	844	243	841
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	21.0	42.2	42.2	17.0	38.2	38.2	27.0	32.8	28.0	33.8
Total Split (%)	17.5%	35.2%	35.2%	14.2%	31.8%	31.8%	22.5%	27.3%	23.3%	28.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.4	26.0	26.0	10.9	22.4	22.4	20.0	24.9	22.2	27.1
Actuated g/C Ratio	0.14	0.25	0.25	0.10	0.21	0.21	0.19	0.24	0.21	0.26
v/c Ratio	0.79	0.72	0.52	0.71	0.63	0.34	0.84	0.83	0.75	0.86
Control Delay	71.3	42.3	7.1	72.4	42.6	8.1	67.5	46.2	56.5	46.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.3	42.3	7.1	72.4	42.6	8.1	67.5	46.2	56.5	46.0
LOS	E	D	A	E	D	A	E	D	E	D
Approach Delay		36.7			40.5			50.8		47.9
Approach LOS		D			D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 105.9	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 44.7	Intersection LOS: D
Intersection Capacity Utilization 82.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	578	303	113	436	139	246	844	70	243	841	196
Future Volume (veh/h)	166	578	303	113	436	139	246	844	70	243	841	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	169	590	240	115	445	93	251	861	64	248	858	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	826	359	140	703	312	282	1099	81	288	1058	205
Arrive On Green	0.12	0.25	0.25	0.09	0.21	0.21	0.18	0.24	0.24	0.18	0.26	0.26
Sat Flow, veh/h	1594	3367	1464	1594	3367	1493	1594	4589	340	1594	4059	785
Grp Volume(v), veh/h	169	590	240	115	445	93	251	604	321	248	681	344
Grp Sat Flow(s),veh/h/ln	1594	1683	1464	1594	1683	1493	1594	1612	1704	1594	1612	1620
Q Serve(g_s), s	9.8	15.1	13.9	6.7	11.3	3.0	14.5	16.5	16.6	14.2	18.6	18.8
Cycle Q Clear(g_c), s	9.8	15.1	13.9	6.7	11.3	3.0	14.5	16.5	16.6	14.2	18.6	18.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.48
Lane Grp Cap(c), veh/h	198	826	359	140	703	312	282	772	408	288	841	422
V/C Ratio(X)	0.85	0.71	0.67	0.82	0.63	0.30	0.89	0.78	0.79	0.86	0.81	0.82
Avail Cap(c_a), veh/h	278	1287	560	210	1144	507	379	911	481	396	945	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	32.5	32.1	42.2	34.0	11.5	37.9	33.5	33.5	37.4	32.6	32.7
Incr Delay (d2), s/veh	12.4	1.2	2.2	8.9	0.9	0.5	15.1	3.8	7.2	10.3	4.8	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	5.8	4.8	2.8	4.4	1.7	6.5	6.4	7.2	6.0	7.3	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	33.7	34.2	51.1	34.9	12.0	53.0	37.3	40.8	47.7	37.5	42.3
LnGrp LOS	D	C	C	D	C	B	D	D	D	D	D	D
Approach Vol, veh/h		999			653			1176			1273	
Approach Delay, s/veh		37.0			34.5			41.6			40.8	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.2	28.8	12.9	29.3	21.2	30.7	16.3	25.9
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	23.4	* 27	12.4	36.0	22.4	27.6	16.4	32.0
Max Q Clear Time (g_c+I1), s	16.2	18.6	8.7	17.1	16.5	20.8	11.8	13.3
Green Ext Time (p_c), s	0.2	3.3	0.0	4.2	0.2	3.3	0.1	2.7

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

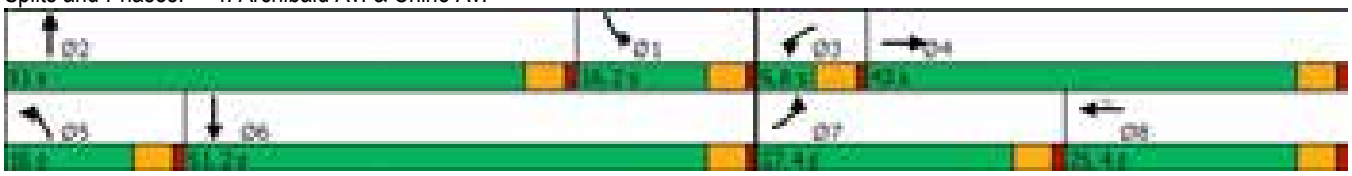
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	161	302	18	100	58	97	1001	68	1005
Future Volume (vph)	161	302	18	100	58	97	1001	68	1005
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	27.4	43.0	9.8	25.4	25.4	16.0	51.0	16.2	51.2
Total Split (%)	22.8%	35.8%	8.2%	21.2%	21.2%	13.3%	42.5%	13.5%	42.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	16.1	31.3	5.5	13.6	13.6	10.5	34.0	17.2	37.6
Actuated g/C Ratio	0.17	0.32	0.06	0.14	0.14	0.11	0.35	0.18	0.39
v/c Ratio	0.64	0.82	0.21	0.42	0.16	0.59	0.58	0.25	0.82
Control Delay	53.1	44.7	58.8	46.9	1.0	62.5	30.6	41.4	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	44.7	58.8	46.9	1.0	62.5	30.6	41.4	33.6
LOS	D	D	E	D	A	E	C	D	C
Approach Delay		46.9		33.1			33.4		34.1
Approach LOS		D		C			C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 36.3	Intersection LOS: D
Intersection Capacity Utilization 74.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	302	134	18	100	58	97	1001	27	68	1005	64
Future Volume (veh/h)	161	302	134	18	100	58	97	1001	27	68	1005	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	168	315	115	19	104	28	101	1043	27	71	1047	63
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	362	132	34	332	281	125	1476	38	285	1279	77
Arrive On Green	0.13	0.29	0.29	0.02	0.19	0.19	0.08	0.29	0.29	0.18	0.39	0.39
Sat Flow, veh/h	1594	1233	450	1594	1772	1502	1594	5156	133	1594	3309	199
Grp Volume(v), veh/h	168	0	430	19	104	28	101	717	353	71	561	549
Grp Sat Flow(s),veh/h/ln	1594	0	1683	1594	1772	1502	1594	1772	1745	1594	1772	1736
Q Serve(g_s), s	8.6	0.0	20.3	1.0	4.2	0.8	5.2	15.1	15.2	3.2	23.8	23.8
Cycle Q Clear(g_c), s	8.6	0.0	20.3	1.0	4.2	0.8	5.2	15.1	15.2	3.2	23.8	23.8
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.08	1.00		0.11
Lane Grp Cap(c), veh/h	204	0	494	34	332	281	125	1015	500	285	685	671
V/C Ratio(X)	0.82	0.00	0.87	0.56	0.31	0.10	0.80	0.71	0.71	0.25	0.82	0.82
Avail Cap(c_a), veh/h	434	0	772	99	440	373	217	1965	967	285	987	967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	0.0	28.0	40.6	29.4	11.7	37.9	26.7	26.7	29.5	23.0	23.0
Incr Delay (d2), s/veh	8.1	0.0	6.7	13.6	0.5	0.2	11.3	0.9	1.9	0.5	3.7	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	8.5	0.5	1.8	0.5	2.3	5.8	5.8	1.2	9.3	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	0.0	34.7	54.1	29.9	11.9	49.3	27.6	28.6	30.0	26.7	26.8
LnGrp LOS	D	A	C	D	C	B	D	C	C	C	C	C
Approach Vol, veh/h		598			151			1171			1181	
Approach Delay, s/veh		37.2			29.6			29.8			26.9	
Approach LOS		D			C			C			C	

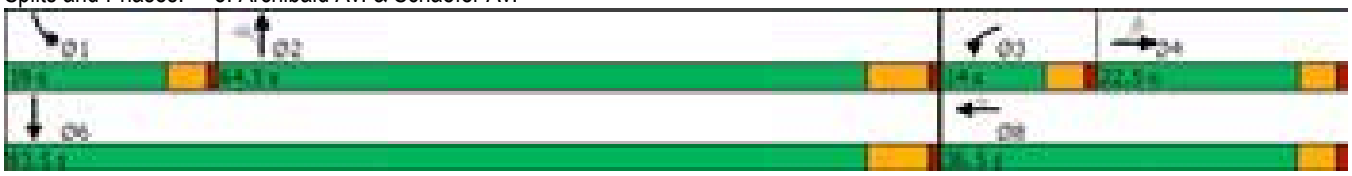
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.6	28.6	6.4	29.2	11.2	36.9	15.3	20.3
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	11.6	46.4	5.2	38.4	11.4	46.6	22.8	20.8
Max Q Clear Time (g_c+I1), s	5.2	17.2	3.0	22.3	7.2	25.8	10.6	6.2
Green Ext Time (p_c), s	0.1	6.8	0.0	2.3	0.1	6.6	0.3	0.4

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Lane Group	WBL	WBR	NBT	SBL	SBT	Ø4
Lane Configurations						
Traffic Volume (vph)	16	15	1047	45	1118	
Future Volume (vph)	16	15	1047	45	1118	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	3		2	1	6	4
Permitted Phases		8				
Detector Phase	3	8	2	1	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	32.6	37.5	9.6	23.5	22.5
Total Split (s)	14.0	36.5	64.5	19.0	83.5	22.5
Total Split (%)	11.7%	30.4%	53.8%	15.8%	69.6%	19%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag	Lead		Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	9.1	9.6	29.2	8.1	33.9	
Actuated g/C Ratio	0.24	0.26	0.78	0.22	0.91	
v/c Ratio	0.04	0.03	0.30	0.14	0.39	
Control Delay	16.4	0.1	7.5	22.3	4.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	16.4	0.1	7.5	22.3	4.4	
LOS	B	A	A	C	A	
Approach Delay			7.5		5.1	
Approach LOS			A		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 37.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 6.2	Intersection LOS: A
Intersection Capacity Utilization 58.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	16	0	15	0	1047	16	45	1118	0
Future Volume (veh/h)	0	0	0	16	0	15	0	1047	16	45	1118	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	0	0	0	17	0	10	0	1114	15	48	1189	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	5	0	35	98	82	204	2191	29	85	2119	0
Arrive On Green	0.00	0.00	0.00	0.02	0.00	0.06	0.00	0.45	0.45	0.05	0.63	0.00
Sat Flow, veh/h	1257	1772	0	1594	1772	1483	421	4917	66	1594	3455	0
Grp Volume(v), veh/h	0	0	0	17	0	10	0	731	398	48	1189	0
Grp Sat Flow(s),veh/h/ln	1257	1772	0	1594	1772	1483	421	1612	1758	1594	1683	0
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.2	0.0	5.7	5.7	1.0	7.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.4	0.0	0.2	0.0	5.7	5.7	1.0	7.1	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	204	5	0	35	98	82	204	1437	783	85	2119	0
V/C Ratio(X)	0.00	0.00	0.00	0.49	0.00	0.12	0.00	0.51	0.51	0.57	0.56	0.00
Avail Cap(c_a), veh/h	969	906	0	425	1605	1343	711	5311	2895	652	7360	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	17.0	0.0	15.8	0.0	7.0	7.0	16.3	3.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.9	0.0	0.7	0.0	0.3	0.5	2.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.7	0.8	0.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	21.0	0.0	16.5	0.0	7.3	7.5	18.5	4.0	0.0
LnGrp LOS	A	A	A	C	A	B	A	A	A	B	A	A
Approach Vol, veh/h		0			27			1129			1237	
Approach Delay, s/veh		0.0			19.3			7.4			4.5	
Approach LOS					B			A			A	

Timer - Assigned Phs	1	2	3	4	6	8
Phs Duration (G+Y+Rc), s	6.5	22.2	5.4	1.2	28.7	6.6
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6	6.5	4.6
Max Green Setting (Gmax), s	14.4	58.0	9.4	* 18	77.0	31.9
Max Q Clear Time (g_c+I1), s	3.0	7.7	2.4	0.0	9.1	2.2
Green Ext Time (p_c), s	0.0	7.8	0.0	0.0	9.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	655	265	327	307	178	95	744	408	251	753	60
Future Volume (vph)	95	655	265	327	307	178	95	744	408	251	753	60
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	10.2	40.4		16.0	46.2	46.2	16.0	42.6		21.0	47.6	47.6
Total Split (%)	8.5%	33.7%		13.3%	38.5%	38.5%	13.3%	35.5%		17.5%	39.7%	39.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.7	26.3	105.3	11.5	32.1	32.1	9.9	28.7	105.3	16.6	35.4	35.4
Actuated g/C Ratio	0.05	0.25	1.00	0.11	0.30	0.30	0.09	0.27	1.00	0.16	0.34	0.34
v/c Ratio	0.62	0.78	0.19	1.06	0.60	0.32	0.67	0.81	0.29	1.06	0.67	0.10
Control Delay	69.5	44.2	0.3	111.8	37.0	5.7	71.0	43.7	0.5	118.5	33.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.5	44.2	0.3	111.8	37.0	5.7	71.0	43.7	0.5	118.5	33.9	0.3
LOS	E	D	A	F	D	A	E	D	A	F	C	A
Approach Delay		35.1			60.3			31.6			51.9	
Approach LOS		D			E			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 105.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 43.3	Intersection LOS: D
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	655	265	327	307	178	95	744	408	251	753	60
Future Volume (veh/h)	95	655	265	327	307	178	95	744	408	251	753	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	100	689	0	344	323	145	100	783	0	264	793	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	848		340	537	455	123	943		260	1249	529
Arrive On Green	0.05	0.24	0.00	0.11	0.30	0.30	0.08	0.27	0.00	0.16	0.35	0.35
Sat Flow, veh/h	3000	3544	1502	3000	1772	1500	1594	3544	1502	1594	3544	1502
Grp Volume(v), veh/h	100	689	0	344	323	145	100	783	0	264	793	44
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	3.3	18.5	0.0	11.4	15.6	7.5	6.2	20.9	0.0	16.4	18.8	2.0
Cycle Q Clear(g_c), s	3.3	18.5	0.0	11.4	15.6	7.5	6.2	20.9	0.0	16.4	18.8	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	148	848		340	537	455	123	943		260	1249	529
V/C Ratio(X)	0.67	0.81		1.01	0.60	0.32	0.82	0.83		1.02	0.64	0.08
Avail Cap(c_a), veh/h	167	1206		340	705	597	181	1273		260	1449	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	36.1	0.0	44.6	29.8	27.0	45.7	34.7	0.0	42.1	27.2	21.7
Incr Delay (d2), s/veh	6.3	2.9	0.0	51.6	1.1	0.4	10.3	3.5	0.0	59.8	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	7.8	0.0	6.5	6.3	2.6	2.7	8.7	0.0	10.3	7.3	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	39.0	0.0	96.2	30.9	27.4	56.0	38.3	0.0	101.8	27.9	21.8
LnGrp LOS	D	D		F	C	C	E	D		F	C	C
Approach Vol, veh/h		789	A		812			883	A		1101	
Approach Delay, s/veh		40.8			57.9			40.3			45.4	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	33.3	16.0	30.3	12.3	41.9	9.6	36.7
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	16.4	36.1	11.4	34.2	11.4	41.1	5.6	40.0
Max Q Clear Time (g_c+I1), s	18.4	22.9	13.4	20.5	8.2	20.8	5.3	17.6
Green Ext Time (p_c), s	0.0	3.8	0.0	3.5	0.0	4.8	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	87	541	115	631	134	45	23	40
Future Volume (vph)	87	541	115	631	134	45	23	40
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	18.8	42.6	22.2	46.0	24.6	44.0	11.2	30.6
Total Split (%)	15.7%	35.5%	18.5%	38.3%	20.5%	36.7%	9.3%	25.5%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.5	24.8	11.1	29.2	12.2	25.8	6.0	12.4
Actuated g/C Ratio	0.11	0.30	0.13	0.35	0.15	0.31	0.07	0.15
v/c Ratio	0.50	0.76	0.56	0.59	0.59	0.18	0.21	0.19
Control Delay	49.4	31.7	48.4	26.2	47.4	9.3	49.0	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	31.7	48.4	26.2	47.4	9.3	49.0	19.5
LOS	D	C	D	C	D	A	D	B
Approach Delay		33.6		29.5		25.8		25.4
Approach LOS		C		C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 82.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 30.3	Intersection LOS: C
Intersection Capacity Utilization 64.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	541	186	115	631	35	134	45	131	23	40	53
Future Volume (veh/h)	87	541	186	115	631	35	134	45	131	23	40	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	90	558	136	119	651	23	138	46	110	24	41	47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	769	187	148	1031	36	172	424	374	43	288	252
Arrive On Green	0.07	0.29	0.29	0.09	0.31	0.31	0.11	0.25	0.25	0.03	0.17	0.17
Sat Flow, veh/h	1594	2670	648	1594	3315	117	1594	1683	1487	1594	1683	1473
Grp Volume(v), veh/h	90	351	343	119	330	344	138	46	110	24	41	47
Grp Sat Flow(s),veh/h/ln	1594	1683	1635	1594	1683	1749	1594	1683	1487	1594	1683	1473
Q Serve(g_s), s	3.5	11.7	11.8	4.6	10.5	10.5	5.3	1.3	3.7	0.9	1.3	1.7
Cycle Q Clear(g_c), s	3.5	11.7	11.8	4.6	10.5	10.5	5.3	1.3	3.7	0.9	1.3	1.7
Prop In Lane	1.00		0.40	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	485	471	148	524	544	172	424	374	43	288	252
V/C Ratio(X)	0.81	0.72	0.73	0.80	0.63	0.63	0.80	0.11	0.29	0.55	0.14	0.19
Avail Cap(c_a), veh/h	363	983	954	450	1075	1116	511	1031	911	169	670	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	20.0	20.0	27.7	18.4	18.4	27.2	17.9	18.9	29.9	22.0	22.1
Incr Delay (d2), s/veh	5.1	2.1	2.2	3.8	1.3	1.2	3.3	0.1	0.4	4.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.1	4.0	1.7	3.5	3.7	2.0	0.5	1.2	0.4	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	22.0	22.2	31.5	19.7	19.6	30.5	18.1	19.3	34.0	22.2	22.5
LnGrp LOS	C	C	C	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		784			793			294			112	
Approach Delay, s/veh		23.4			21.4			24.3			24.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	21.5	10.4	24.2	11.3	16.5	9.0	25.6
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.6	38.2	17.6	36.4	20.0	24.8	14.2	39.8
Max Q Clear Time (g_c+I1), s	2.9	5.7	6.6	13.8	7.3	3.7	5.5	12.5
Green Ext Time (p_c), s	0.0	0.8	0.1	3.8	0.1	0.3	0.1	3.7

Intersection Summary	
HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	162	54	24	98	40	20	120	23	27	186	43
Future Vol, veh/h	94	162	54	24	98	40	20	120	23	27	186	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	176	59	26	107	43	22	130	25	29	202	47
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

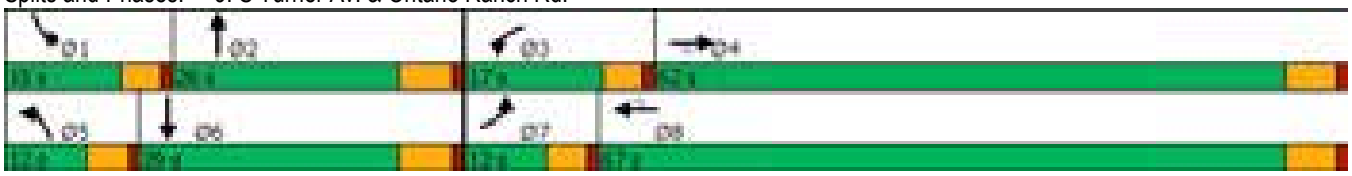
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	10.8	10.3	10.5	10.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	63%	0%	100%	50%	0%	100%	45%	0%	100%	59%
Vol Right, %	0%	0%	37%	0%	0%	50%	0%	0%	55%	0%	0%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	80	63	94	108	108	24	65	73	27	124	105
LT Vol	20	0	0	94	0	0	24	0	0	27	0	0
Through Vol	0	80	40	0	108	54	0	65	33	0	124	62
RT Vol	0	0	23	0	0	54	0	0	40	0	0	43
Lane Flow Rate	22	87	68	102	117	117	26	71	79	29	135	114
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.044	0.162	0.123	0.195	0.208	0.197	0.052	0.132	0.139	0.057	0.244	0.197
Departure Headway (Hd)	7.226	6.726	6.47	6.88	6.38	6.03	7.212	6.712	6.327	7.015	6.515	6.228
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	532	553	521	561	594	495	533	565	510	550	574
Service Time	4.986	4.486	4.23	4.633	4.133	3.783	4.974	4.474	4.089	4.77	4.27	3.984
HCM Lane V/C Ratio	0.045	0.164	0.123	0.196	0.209	0.197	0.053	0.133	0.14	0.057	0.245	0.199
HCM Control Delay	10.3	10.8	10.1	11.3	10.8	10.3	10.4	10.5	10.1	10.2	11.4	10.5
HCM Lane LOS	B	B	B	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.1	0.6	0.4	0.7	0.8	0.7	0.2	0.5	0.5	0.2	1	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	16	1300	44	73	922	48	16	11	75	28
Future Volume (vph)	16	1300	44	73	922	48	16	11	75	28
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	12.0	62.0	62.0	17.0	67.0	67.0	12.0	26.0	15.0	29.0
Total Split (%)	10.0%	51.7%	51.7%	14.2%	55.8%	55.8%	10.0%	21.7%	12.5%	24.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.6	42.3	42.3	9.1	48.8	48.8	6.6	8.8	8.8	15.1
Actuated g/C Ratio	0.08	0.50	0.50	0.11	0.58	0.58	0.08	0.10	0.10	0.18
v/c Ratio	0.12	0.79	0.05	0.41	0.49	0.05	0.12	0.32	0.44	0.12
Control Delay	50.0	23.5	0.1	50.6	12.9	0.1	50.0	19.5	52.3	31.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	23.5	0.1	50.6	12.9	0.1	50.0	19.5	52.3	31.3
LOS	D	C	A	D	B	A	D	B	D	C
Approach Delay		23.0			14.9			25.4		45.4
Approach LOS		C			B			C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 84.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	1300	44	73	922	48	16	11	55	75	28	9
Future Volume (veh/h)	16	1300	44	73	922	48	16	11	55	75	28	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	1398	47	78	991	52	17	12	59	81	30	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	1837	819	101	1966	877	36	20	100	104	151	50
Arrive On Green	0.02	0.52	0.52	0.06	0.55	0.55	0.02	0.07	0.07	0.06	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	275	1352	1781	1342	447
Grp Volume(v), veh/h	17	1398	47	78	991	52	17	0	71	81	0	40
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1627	1781	0	1790
Q Serve(g_s), s	0.7	22.1	1.0	3.1	12.2	1.1	0.7	0.0	3.0	3.2	0.0	1.4
Cycle Q Clear(g_c), s	0.7	22.1	1.0	3.1	12.2	1.1	0.7	0.0	3.0	3.2	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		0.25
Lane Grp Cap(c), veh/h	36	1837	819	101	1966	877	36	0	120	104	0	201
V/C Ratio(X)	0.48	0.76	0.06	0.78	0.50	0.06	0.48	0.00	0.59	0.78	0.00	0.20
Avail Cap(c_a), veh/h	187	2827	1261	313	3079	1373	187	0	465	262	0	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.2	13.6	8.5	32.9	9.8	7.3	34.2	0.0	31.7	32.8	0.0	28.5
Incr Delay (d2), s/veh	3.6	0.7	0.0	4.7	0.2	0.0	3.6	0.0	4.6	4.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.0	0.3	1.4	3.6	0.3	0.3	0.0	1.2	1.4	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	14.3	8.5	37.6	10.0	7.3	37.9	0.0	36.3	37.4	0.0	29.0
LnGrp LOS	D	B	A	D	A	A	D	A	D	D	A	C
Approach Vol, veh/h		1462			1121			88			121	
Approach Delay, s/veh		14.4			11.8			36.6			34.6	
Approach LOS		B			B			D			C	

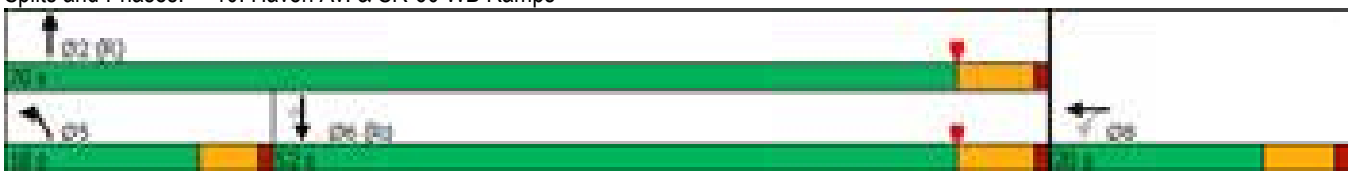
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	11.0	8.6	42.3	6.0	13.7	6.0	44.9
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	10.4	20.2	12.4	56.2	7.4	23.2	7.4	61.2
Max Q Clear Time (g_c+I1), s	5.2	5.0	5.1	24.1	2.7	3.4	2.7	14.2
Green Ext Time (p_c), s	0.0	0.2	0.0	12.4	0.0	0.1	0.0	8.1

Intersection Summary	
HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	272	10	562	328	928	1479	695
Future Volume (vph)	272	10	562	328	928	1479	695
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	20.0	20.0		18.0	70.0	52.0	52.0
Total Split (%)	22.2%	22.2%		20.0%	77.8%	57.8%	57.8%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	12.5	12.5	90.0	12.1	65.5	48.4	48.4
Actuated g/C Ratio	0.14	0.14	1.00	0.13	0.73	0.54	0.54
v/c Ratio	0.63	0.62	0.37	0.75	0.26	0.56	0.66
Control Delay	48.9	48.5	0.7	40.1	4.6	15.2	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	48.5	0.7	40.1	4.6	15.2	7.0
LOS	D	D	A	D	A	B	A
Approach Delay		16.7			13.9	12.6	
Approach LOS		B			B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 13.8	Intersection LOS: B
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	272	10	562	328	928	0	0	1479	695
Future Volume (veh/h)	0	0	0	272	10	562	328	928	0	0	1479	695
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				290	0	0	342	967	0	0	1541	412
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				396	0		409	3858	0	0	2970	910
Arrive On Green				0.11	0.00	0.00	0.24	1.00	0.00	0.00	0.58	0.58
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1565
Grp Volume(v), veh/h				290	0	0	342	967	0	0	1541	412
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1565
Q Serve(g_s), s				7.1	0.0	0.0	8.5	0.0	0.0	0.0	16.3	13.5
Cycle Q Clear(g_c), s				7.1	0.0	0.0	8.5	0.0	0.0	0.0	16.3	13.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				396	0		409	3858	0	0	2970	910
V/C Ratio(X)				0.73	0.00		0.84	0.25	0.00	0.00	0.52	0.45
Avail Cap(c_a), veh/h				562	0		499	3858	0	0	2970	910
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.75	0.75	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.7	0.0	0.0	33.5	0.0	0.0	0.0	11.3	10.7
Incr Delay (d2), s/veh				2.9	0.0	0.0	6.5	0.1	0.0	0.0	0.7	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.1	0.0	0.0	3.4	0.0	0.0	0.0	5.3	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.7	0.0	0.0	40.0	0.1	0.0	0.0	11.9	12.3
LnGrp LOS				D	A		D	A	A	A	B	B
Approach Vol, veh/h					290	A		1309			1953	
Approach Delay, s/veh					41.7			10.5			12.0	
Approach LOS					D			B			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	74.2		15.7	58.5		15.8						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	63.8		13.0	45.8		14.2						
Max Q Clear Time (g_c+I1), s	2.0		10.5	18.3		9.1						
Green Ext Time (p_c), s	4.5		0.2	9.2		0.4						

Intersection Summary		
HCM 6th Ctrl Delay	13.9	
HCM 6th LOS	B	

Notes

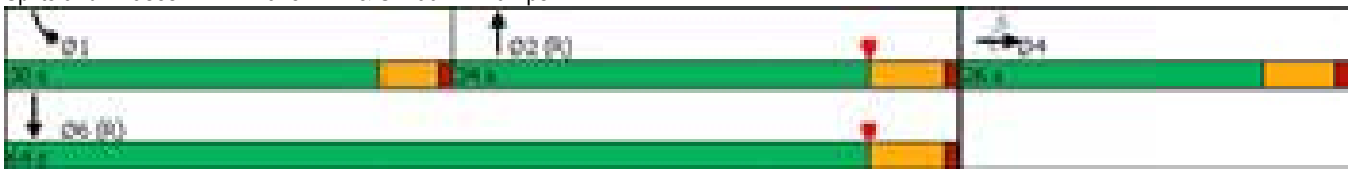
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	349	2	482	899	609	1160
Future Volume (vph)	349	2	482	899	609	1160
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	26.0	26.0	26.0	34.0	30.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	37.8%	33.3%	71.1%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	20.2	20.2	20.2	31.5	21.3	57.8
Actuated g/C Ratio	0.22	0.22	0.22	0.35	0.24	0.64
v/c Ratio	0.48	0.49	1.16	0.64	0.78	0.37
Control Delay	35.4	35.5	123.5	25.9	54.2	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	35.5	123.5	25.9	54.2	5.2
LOS	D	D	F	C	D	A
Approach Delay		86.4		25.9		22.1
Approach LOS		F		C		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	2	482	0	0	0	0	899	179	609	1160	0
Future Volume (veh/h)	349	2	482	0	0	0	0	899	179	609	1160	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	365	0	294				0	936	124	634	1208	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	743	0	331				0	1799	238	720	3360	0
Arrive On Green	0.21	0.00	0.21				0.00	0.39	0.39	0.42	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4731	603	3456	5274	0
Grp Volume(v), veh/h	365	0	294				0	698	362	634	1208	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1761	1728	1702	0
Q Serve(g_s), s	8.1	0.0	16.2				0.0	14.1	14.1	15.2	0.0	0.0
Cycle Q Clear(g_c), s	8.1	0.0	16.2				0.0	14.1	14.1	15.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.34	1.00		0.00
Lane Grp Cap(c), veh/h	743	0	331				0	1342	694	720	3360	0
V/C Ratio(X)	0.49	0.00	0.89				0.00	0.52	0.52	0.88	0.36	0.00
Avail Cap(c_a), veh/h	800	0	356				0	1342	694	960	3360	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.80	0.80	0.00
Uniform Delay (d), s/veh	31.4	0.0	34.6				0.0	20.8	20.8	25.2	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	22.0				0.0	1.4	2.8	6.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	7.9				0.0	5.3	5.8	5.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	0.0	56.6				0.0	22.2	23.6	31.4	0.2	0.0
LnGrp LOS	C	A	E				A	C	C	C	A	A
Approach Vol, veh/h		659						1060			1842	
Approach Delay, s/veh		42.9						22.7			11.0	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.7	41.7		24.6		65.4
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	25.0	27.8		20.2		57.8
Max Q Clear Time (g_c+I1), s	17.2	16.1		18.2		2.0
Green Ext Time (p_c), s	1.5	3.4		0.6		6.1

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

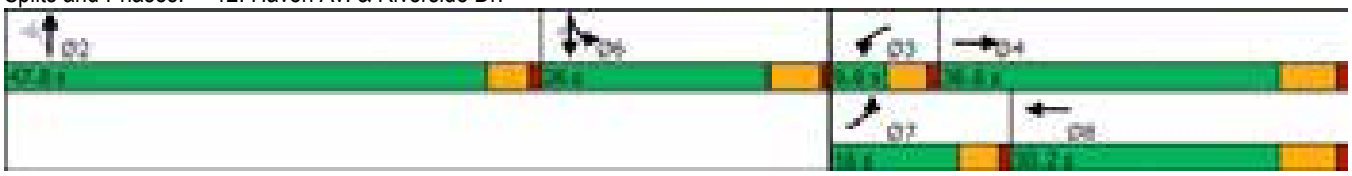
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	291	347	65	320	45	561	135	722	334
Future Volume (vph)	291	347	65	320	45	561	135	722	334
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	16.0	36.6	9.6	30.2	47.8	47.8	26.0	26.0	26.0
Total Split (%)	13.3%	30.5%	8.0%	25.2%	39.8%	39.8%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	11.4	30.4	5.0	24.0		43.1	20.2	20.2	20.2
Actuated g/C Ratio	0.10	0.25	0.04	0.20		0.36	0.17	0.17	0.17
v/c Ratio	2.02	1.00	1.05	0.67		5.17	0.53	2.53	0.87
Control Delay	509.9	86.7	180.4	46.2		1903.8	53.7	721.4	44.9
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	509.9	86.7	180.4	46.2		1903.8	53.7	721.4	44.9
LOS	F	F	F	D		F	D	F	D
Approach Delay		259.8		63.8		1903.8		455.8	
Approach LOS		F		E		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 5.17	
Intersection Signal Delay: 662.6	Intersection LOS: F
Intersection Capacity Utilization 120.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	347	74	65	320	114	45	561	64	135	722	334
Future Volume (veh/h)	291	347	74	65	320	114	45	561	64	135	722	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	303	361	76	68	333	99	47	584	61	141	752	122
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	357	75	66	511	149	42	527	55	268	298	252
Arrive On Green	0.09	0.25	0.25	0.04	0.20	0.20	0.36	0.36	0.36	0.17	0.17	0.17
Sat Flow, veh/h	1594	1410	297	1594	2554	746	118	1467	153	1594	1772	1496
Grp Volume(v), veh/h	303	0	437	68	217	215	692	0	0	141	752	122
Grp Sat Flow(s),veh/h/ln	1594	0	1707	1594	1683	1617	1738	0	0	1594	1772	1496
Q Serve(g_s), s	11.4	0.0	30.4	5.0	14.2	14.7	43.1	0.0	0.0	9.7	20.2	8.9
Cycle Q Clear(g_c), s	11.4	0.0	30.4	5.0	14.2	14.7	43.1	0.0	0.0	9.7	20.2	8.9
Prop In Lane	1.00		0.17	1.00		0.46	0.07		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	151	0	432	66	337	323	624	0	0	268	298	252
V/C Ratio(X)	2.00	0.00	1.01	1.02	0.65	0.66	1.11	0.00	0.00	0.53	2.52	0.48
Avail Cap(c_a), veh/h	151	0	432	66	337	323	624	0	0	268	298	252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	0.0	44.8	57.5	44.1	44.3	38.5	0.0	0.0	45.5	49.9	45.2
Incr Delay (d2), s/veh	473.2	0.0	46.0	117.3	4.2	5.0	69.4	0.0	0.0	1.9	694.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.3	0.0	17.8	4.1	6.1	6.1	30.0	0.0	0.0	3.9	66.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	527.5	0.0	90.8	174.8	48.3	49.3	107.9	0.0	0.0	47.4	744.3	46.6
LnGrp LOS	F	A	F	F	D	D	F	A	A	D	F	D
Approach Vol, veh/h		740			500			692			1015	
Approach Delay, s/veh		269.6			65.9			107.9			563.6	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	47.8	9.6	36.6	26.0	16.0	30.2
Change Period (Y+Rc), s	* 4.7	4.6	6.2	5.8	4.6	6.2
Max Green Setting (Gmax), s	* 43	5.0	30.4	20.2	11.4	24.0
Max Q Clear Time (g_c+I1), s	45.1	7.0	32.4	22.2	13.4	16.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	298.3
HCM 6th LOS	F

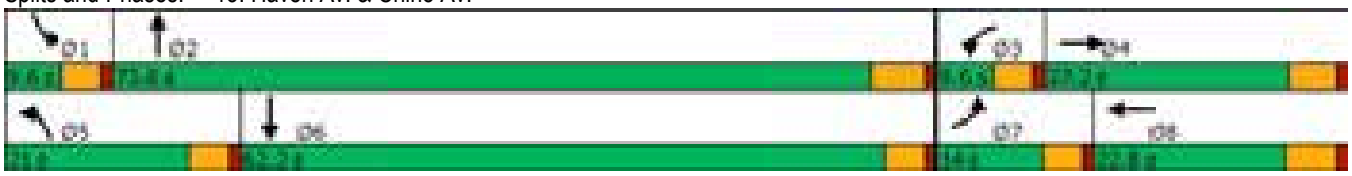
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	81	46	248	40	87	588	830	
Future Volume (vph)	81	46	248	40	87	588	830	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	14.0	27.2	9.6	22.8	21.0	73.6	62.2	9.6
Total Split (%)	11.7%	22.7%	8.0%	19.0%	17.5%	61.3%	51.8%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	11.0	14.0	5.1	13.5	10.6	69.7	58.2	
Actuated g/C Ratio	0.10	0.13	0.05	0.13	0.10	0.67	0.56	
v/c Ratio	0.52	0.51	3.18	0.18	0.58	0.68	0.96	
Control Delay	59.7	30.0	1027.2	47.3	61.3	14.7	45.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.7	30.0	1027.2	47.3	61.3	14.7	45.4	
LOS	E	C	F	D	E	B	D	
Approach Delay		41.0		892.6		19.6	45.4	
Approach LOS		D		F		B	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 104.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.18	
Intersection Signal Delay: 148.7	Intersection LOS: F
Intersection Capacity Utilization 93.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	46	89	248	40	0	87	588	145	0	830	52
Future Volume (veh/h)	81	46	89	248	40	0	87	588	145	0	830	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	85	50	94	270	43	0	92	619	158	0	874	55
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	67	127	89	188	0	114	914	233	2	913	57
Arrive On Green	0.07	0.12	0.12	0.05	0.10	0.00	0.07	0.67	0.67	0.00	0.55	0.55
Sat Flow, veh/h	1594	581	1093	1781	1870	0	1594	1362	348	1781	1649	104
Grp Volume(v), veh/h	85	0	144	270	43	0	92	0	777	0	0	929
Grp Sat Flow(s),veh/h/ln	1594	0	1674	1781	1870	0	1594	0	1709	1781	0	1753
Q Serve(g_s), s	5.2	0.0	8.3	5.0	2.1	0.0	5.7	0.0	27.3	0.0	0.0	50.2
Cycle Q Clear(g_c), s	5.2	0.0	8.3	5.0	2.1	0.0	5.7	0.0	27.3	0.0	0.0	50.2
Prop In Lane	1.00		0.65	1.00		0.00	1.00		0.20	1.00		0.06
Lane Grp Cap(c), veh/h	105	0	194	89	188	0	114	0	1148	2	0	971
V/C Ratio(X)	0.81	0.00	0.74	3.02	0.23	0.00	0.81	0.00	0.68	0.00	0.00	0.96
Avail Cap(c_a), veh/h	150	0	366	89	319	0	262	0	1162	89	0	1011
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	45.9	0.0	42.6	47.4	41.3	0.0	45.6	0.0	9.9	0.0	0.0	21.1
Incr Delay (d2), s/veh	12.7	0.0	5.5	939.3	0.6	0.0	5.0	0.0	1.6	0.0	0.0	18.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.6	25.4	1.0	0.0	2.3	0.0	8.4	0.0	0.0	23.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	0.0	48.1	986.7	41.9	0.0	50.7	0.0	11.4	0.0	0.0	39.5
LnGrp LOS	E	A	D	F	D	A	D	A	B	A	A	D
Approach Vol, veh/h		229			313			869			929	
Approach Delay, s/veh		52.0			856.9			15.6			39.5	
Approach LOS		D			F			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	72.7	9.6	17.4	11.7	61.0	11.2	15.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	67.8	5.0	* 22	16.4	* 58	9.4	17.0
Max Q Clear Time (g_c+I1), s	0.0	29.3	7.0	10.3	7.7	52.2	7.2	4.1
Green Ext Time (p_c), s	0.0	6.1	0.0	0.5	0.1	3.1	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	141.2
HCM 6th LOS	F

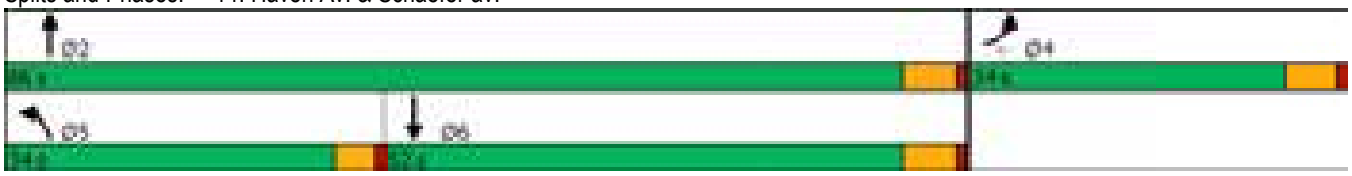
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	22	82	121	798	1138
Future Volume (vph)	22	82	121	798	1138
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	34.0	34.0	34.0	86.0	52.0
Total Split (%)	28.3%	28.3%	28.3%	71.7%	43.3%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.1	12.1	12.4	65.6	47.1
Actuated g/C Ratio	0.14	0.14	0.15	0.78	0.56
v/c Ratio	0.11	0.32	0.61	0.67	0.68
Control Delay	35.6	11.2	47.1	10.1	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	11.2	47.1	10.1	18.3
LOS	D	B	D	B	B
Approach Delay	16.5			15.0	18.3
Approach LOS	B			B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 84.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 63.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	82	121	798	1138	20
Future Volume (veh/h)	22	82	121	798	1138	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	26	26	141	928	1323	23
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	157	148	177	1239	1764	31
Arrive On Green	0.10	0.10	0.11	0.70	0.51	0.51
Sat Flow, veh/h	1594	1502	1594	1772	3473	60
Grp Volume(v), veh/h	26	26	141	928	675	671
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1772	1761
Q Serve(g_s), s	0.9	0.9	4.9	18.9	17.3	17.4
Cycle Q Clear(g_c), s	0.9	0.9	4.9	18.9	17.3	17.4
Prop In Lane	1.00	1.00	1.00			0.03
Lane Grp Cap(c), veh/h	157	148	177	1239	900	895
V/C Ratio(X)	0.17	0.18	0.80	0.75	0.75	0.75
Avail Cap(c_a), veh/h	785	739	818	2481	1429	1420
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	23.7	24.8	5.4	11.2	11.2
Incr Delay (d2), s/veh	0.5	0.6	3.1	0.9	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.8	2.7	5.0	4.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.2	24.3	28.0	6.4	12.5	12.5
LnGrp LOS	C	C	C	A	B	B
Approach Vol, veh/h	52			1069	1346	
Approach Delay, s/veh	24.2			9.2	12.5	
Approach LOS	C			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		45.9		11.4	10.9	34.9
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		80.2		28.2	29.4	46.2
Max Q Clear Time (g_c+I1), s		20.9		2.9	6.9	19.4
Green Ext Time (p_c), s		8.3		0.1	0.2	9.8

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	1075	35	227	857	360	18	267	70	414	451	138
Future Volume (vph)	291	1075	35	227	857	360	18	267	70	414	451	138
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	16.0	35.2	35.2	15.3	34.5	34.5	10.7	49.5	49.5	20.0	58.8	58.8
Total Split (%)	13.3%	29.3%	29.3%	12.8%	28.8%	28.8%	8.9%	41.3%	41.3%	16.7%	49.0%	49.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	11.5	29.4	29.4	10.6	28.3	28.3	5.6	23.7	23.7	15.5	40.0	40.0
Actuated g/C Ratio	0.11	0.29	0.29	0.11	0.28	0.28	0.06	0.24	0.24	0.15	0.40	0.40
v/c Ratio	1.71	0.74	0.07	0.77	0.46	0.55	0.22	0.69	0.16	1.80	0.69	0.22
Control Delay	374.5	37.0	0.2	62.2	32.0	6.9	55.6	43.2	0.7	405.1	31.6	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	374.5	37.0	0.2	62.2	32.0	6.9	55.6	43.2	0.7	405.1	31.6	4.3
LOS	F	D	A	E	C	A	E	D	A	F	C	A
Approach Delay		106.3			30.5			35.5			181.8	
Approach LOS		F			C			D			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.80	
Intersection Signal Delay: 92.3	Intersection LOS: F
Intersection Capacity Utilization 89.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	1075	35	227	857	360	18	267	70	414	451	138
Future Volume (veh/h)	291	1075	35	227	857	360	18	267	70	414	451	138
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	310	1144	20	241	912	192	19	284	24	440	480	78
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	1697	479	298	2109	447	33	335	284	261	588	498
Arrive On Green	0.18	0.48	0.48	0.15	0.45	0.45	0.03	0.28	0.28	0.25	0.50	0.50
Sat Flow, veh/h	1594	5316	1502	3000	7088	1502	1594	1772	1502	1594	1772	1502
Grp Volume(v), veh/h	310	1144	20	241	912	192	19	284	24	440	480	78
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1500	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	11.4	15.6	0.7	7.3	8.3	8.2	1.1	14.2	1.1	15.4	21.6	2.7
Cycle Q Clear(g_c), s	11.4	15.6	0.7	7.3	8.3	8.2	1.1	14.2	1.1	15.4	21.6	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	193	1697	479	298	2109	447	33	335	284	261	588	498
V/C Ratio(X)	1.61	0.67	0.04	0.81	0.43	0.43	0.57	0.85	0.08	1.69	0.82	0.16
Avail Cap(c_a), veh/h	193	1697	479	341	2109	447	103	823	697	261	998	846
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	20.7	16.9	39.2	20.6	20.6	45.2	32.4	27.7	35.5	21.2	16.4
Incr Delay (d2), s/veh	295.2	2.2	0.2	10.4	0.6	3.0	5.7	5.9	0.1	325.2	2.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.7	5.2	0.2	2.8	3.0	2.8	0.5	5.7	0.4	28.6	6.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	333.7	22.9	17.0	49.6	21.2	23.6	50.8	38.4	27.9	360.7	24.0	16.6
LnGrp LOS	F	C	B	D	C	C	D	D	C	F	C	B
Approach Vol, veh/h		1474			1345			327			998	
Approach Delay, s/veh		88.2			26.6			38.3			171.9	
Approach LOS		F			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	23.6	14.0	36.5	6.6	37.0	16.0	34.5
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	15.4	43.7	10.7	* 29	6.1	53.0	11.4	28.0
Max Q Clear Time (g_c+I1), s	17.4	16.2	9.3	17.6	3.1	23.6	13.4	10.3
Green Ext Time (p_c), s	0.0	1.6	0.1	5.4	0.0	3.1	0.0	5.8

Intersection Summary	
HCM 6th Ctrl Delay	84.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	4.5
Intersection LOS	A

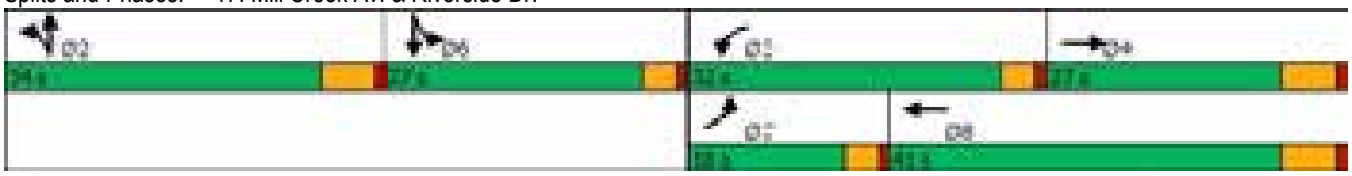
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	209	316	0	43
Demand Flow Rate, veh/h	213	323	0	44
Vehicles Circulating, veh/h	17	46	230	293
Vehicles Exiting, veh/h	320	184	0	76
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.0	4.9	0.0	4.0
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	213	323	0	44
Cap Entry Lane, veh/h	1356	1317	1091	1023
Entry HV Adj Factor	0.980	0.979	1.000	0.977
Flow Entry, veh/h	209	316	0	43
Cap Entry, veh/h	1329	1289	1091	1000
V/C Ratio	0.157	0.245	0.000	0.043
Control Delay, s/veh	4.0	4.9	3.3	4.0
LOS	A	A	A	A
95th %tile Queue, veh	1	1	0	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	93	273	215	290	130	18	166	58	14
Future Volume (vph)	93	273	215	290	130	18	166	58	14
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	18.0	27.0	32.0	41.0	34.0	34.0	34.0	27.0	27.0
Total Split (%)	15.0%	22.5%	26.7%	34.2%	28.3%	28.3%	28.3%	22.5%	22.5%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	9.5	14.6	16.3	23.9	13.9	13.9	13.9	12.4	12.4
Actuated g/C Ratio	0.12	0.19	0.21	0.31	0.18	0.18	0.18	0.16	0.16
v/c Ratio	0.51	0.64	0.69	0.40	0.49	0.06	0.43	0.25	0.24
Control Delay	46.7	31.2	42.3	21.9	38.4	31.9	9.3	35.9	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	31.2	42.3	21.9	38.4	31.9	9.3	35.9	16.2
LOS	D	C	D	C	D	C	A	D	B
Approach Delay		34.1		29.0		22.6			25.6
Approach LOS		C		C		C			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 78.1	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 29.1	Intersection LOS: C
Intersection Capacity Utilization 54.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	273	131	215	290	113	130	18	166	58	14	50
Future Volume (veh/h)	93	273	131	215	290	113	130	18	166	58	14	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	99	290	86	229	309	72	138	19	103	62	15	32
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	440	128	274	731	168	263	292	247	277	86	183
Arrive On Green	0.08	0.17	0.17	0.17	0.26	0.26	0.16	0.16	0.16	0.17	0.17	0.17
Sat Flow, veh/h	1594	2633	765	1594	2789	640	1594	1772	1499	1594	495	1056
Grp Volume(v), veh/h	99	193	183	229	195	186	138	19	103	62	0	47
Grp Sat Flow(s),veh/h/ln	1594	1772	1626	1594	1772	1657	1594	1772	1499	1594	0	1550
Q Serve(g_s), s	3.8	6.3	6.5	8.5	5.6	5.7	4.9	0.6	3.8	2.1	0.0	1.6
Cycle Q Clear(g_c), s	3.8	6.3	6.5	8.5	5.6	5.7	4.9	0.6	3.8	2.1	0.0	1.6
Prop In Lane	1.00		0.47	1.00		0.39	1.00		1.00	1.00		0.68
Lane Grp Cap(c), veh/h	123	296	272	274	464	434	263	292	247	277	0	269
V/C Ratio(X)	0.81	0.65	0.67	0.83	0.42	0.43	0.53	0.07	0.42	0.22	0.00	0.17
Avail Cap(c_a), veh/h	363	606	556	727	1010	944	732	814	688	597	0	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.9	23.9	24.0	24.6	18.8	18.8	23.4	21.7	23.0	21.8	0.0	21.6
Incr Delay (d2), s/veh	4.6	2.4	2.9	2.6	0.6	0.7	1.6	0.1	1.1	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.5	2.4	3.0	2.0	1.9	1.7	0.2	1.2	0.8	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	26.3	26.9	27.1	19.4	19.5	25.1	21.7	24.1	22.2	0.0	21.9
LnGrp LOS	C	C	C	C	B	B	C	C	C	C	A	C
Approach Vol, veh/h		475			610			260			109	
Approach Delay, s/veh		27.8			22.3			24.5			22.1	
Approach LOS		C			C			C			C	

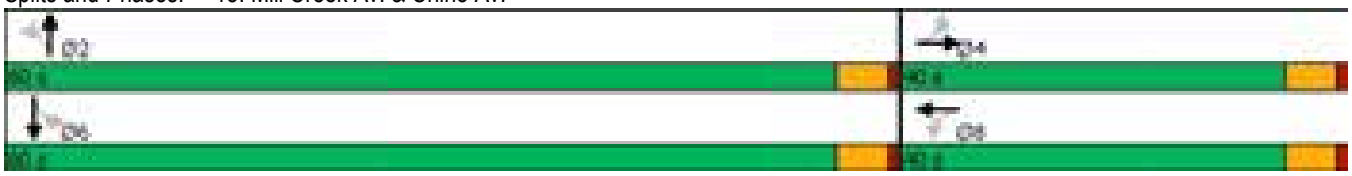
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.9	14.6	16.3		14.7	8.7	22.1				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		28.2	28.0	21.0		23.0	14.0	35.0				
Max Q Clear Time (g_c+I1), s		6.9	10.5	8.5		4.1	5.8	7.7				
Green Ext Time (p_c), s		0.7	0.3	1.5		0.3	0.1	2.0				

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	72	88	6	149	20	129	9	84
Future Volume (vph)	72	88	6	149	20	129	9	84
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
Total Split (s)	40.0	40.0	40.0	40.0	80.0	80.0	80.0	80.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	66.7%	66.7%	66.7%	66.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	11.5	11.5	11.5	11.5	21.7	21.7	21.7	21.7
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.48	0.48	0.48	0.48
v/c Ratio	0.27	0.22	0.07	0.47	0.06	0.66	0.12	0.54
Control Delay	17.9	15.9	15.7	18.3	7.2	13.3	8.1	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	15.9	15.7	18.3	7.2	13.3	8.1	10.6
LOS	B	B	B	B	A	B	A	B
Approach Delay		16.8		18.0		13.0		10.4
Approach LOS		B		B		B		B

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 45.4		
Natural Cycle: 55		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.66		
Intersection Signal Delay: 13.4	Intersection LOS: B	
Intersection Capacity Utilization 44.0%	ICU Level of Service A	
Analysis Period (min) 15		

Splits and Phases: 18: Mill Creek Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	88	7	6	149	14	20	129	16	9	84	122
Future Volume (veh/h)	72	88	7	6	149	14	20	129	16	9	84	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	96	5	24	162	32	22	516	36	36	336	57
Peak Hour Factor	0.92	0.92	0.92	0.25	0.92	0.25	0.92	0.25	0.25	0.25	0.25	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	379	403	21	455	347	69	477	729	51	367	657	112
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1189	1762	92	1294	1517	300	991	1728	121	856	1558	264
Grp Volume(v), veh/h	78	0	101	24	0	194	22	0	552	36	0	393
Grp Sat Flow(s),veh/h/ln	1189	0	1854	1294	0	1816	991	0	1849	856	0	1823
Q Serve(g_s), s	2.0	0.0	1.5	0.5	0.0	3.1	0.6	0.0	8.2	1.2	0.0	5.3
Cycle Q Clear(g_c), s	5.1	0.0	1.5	2.0	0.0	3.1	5.8	0.0	8.2	9.4	0.0	5.3
Prop In Lane	1.00		0.05	1.00		0.16	1.00		0.07	1.00		0.15
Lane Grp Cap(c), veh/h	379	0	424	455	0	416	477	0	780	367	0	769
V/C Ratio(X)	0.21	0.00	0.24	0.05	0.00	0.47	0.05	0.00	0.71	0.10	0.00	0.51
Avail Cap(c_a), veh/h	1331	0	1908	1491	0	1870	2273	0	4129	1918	0	4071
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	10.4	11.3	0.0	11.1	9.2	0.0	7.9	11.8	0.0	7.1
Incr Delay (d2), s/veh	0.3	0.0	0.3	0.0	0.0	0.8	0.0	0.0	1.2	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.4	0.1	0.0	0.9	0.1	0.0	1.7	0.2	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.5	0.0	10.7	11.3	0.0	11.9	9.3	0.0	9.1	11.9	0.0	7.6
LnGrp LOS	B	A	B	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		179			218			574			429	
Approach Delay, s/veh		11.9			11.8			9.1			8.0	
Approach LOS		B			B			A			A	

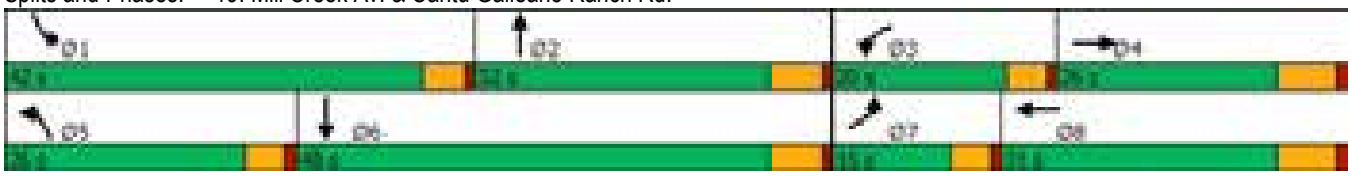
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.8		13.4		19.8		13.4				
Change Period (Y+Rc), s		5.8		5.8		5.8		5.8				
Max Green Setting (Gmax), s		74.2		34.2		74.2		34.2				
Max Q Clear Time (g_c+I1), s		10.2		7.1		11.4		5.1				
Green Ext Time (p_c), s		3.8		0.7		2.6		1.1				

Intersection Summary												
HCM 6th Ctrl Delay			9.5									
HCM 6th LOS			A									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	45	250	90	316	139	24	275	41
Future Volume (vph)	45	250	90	316	139	24	275	41
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	9.6	23.5	9.6	27.8	9.6	27.8
Total Split (s)	15.0	26.0	20.0	31.0	26.0	32.0	42.0	48.0
Total Split (%)	12.5%	21.7%	16.7%	25.8%	21.7%	26.7%	35.0%	40.0%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	7.0	12.4	9.0	16.5	11.2	12.3	17.4	18.5
Actuated g/C Ratio	0.10	0.17	0.13	0.23	0.16	0.17	0.25	0.26
v/c Ratio	0.28	0.52	0.44	0.42	0.54	0.30	0.69	0.27
Control Delay	39.8	22.8	39.8	22.5	38.9	14.4	35.5	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	22.8	39.8	22.5	38.9	14.4	35.5	11.7
LOS	D	C	D	C	D	B	D	B
Approach Delay		24.4		25.3		28.8		28.2
Approach LOS		C		C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 71	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 26.2	Intersection LOS: C
Intersection Capacity Utilization 55.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 19: Mill Creek Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	250	198	90	316	150	139	24	74	275	41	81
Future Volume (veh/h)	45	250	198	90	316	150	139	24	74	275	41	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	272	128	98	343	98	151	26	53	299	45	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	611	266	127	794	217	195	96	196	358	192	261
Arrive On Green	0.05	0.18	0.18	0.07	0.20	0.20	0.11	0.18	0.18	0.20	0.27	0.27
Sat Flow, veh/h	1781	3485	1517	1781	3988	1090	1781	549	1120	1781	719	975
Grp Volume(v), veh/h	49	265	135	98	290	151	151	0	79	299	0	106
Grp Sat Flow(s),veh/h/ln	1781	1702	1597	1781	1702	1674	1781	0	1669	1781	0	1695
Q Serve(g_s), s	1.5	4.0	4.3	3.1	4.3	4.5	4.7	0.0	2.3	9.2	0.0	2.8
Cycle Q Clear(g_c), s	1.5	4.0	4.3	3.1	4.3	4.5	4.7	0.0	2.3	9.2	0.0	2.8
Prop In Lane	1.00		0.95	1.00		0.65	1.00		0.67	1.00		0.58
Lane Grp Cap(c), veh/h	84	597	280	127	678	333	195	0	293	358	0	453
V/C Ratio(X)	0.58	0.44	0.48	0.77	0.43	0.45	0.78	0.00	0.27	0.83	0.00	0.23
Avail Cap(c_a), veh/h	325	1164	546	481	1462	719	668	0	767	1168	0	1254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	21.0	21.2	26.0	20.0	20.1	24.7	0.0	20.4	21.9	0.0	16.3
Incr Delay (d2), s/veh	2.3	0.5	1.3	3.7	0.4	1.0	2.5	0.0	0.5	2.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.3	1.4	1.2	1.4	1.5	1.9	0.0	0.8	3.5	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	21.6	22.5	29.8	20.4	21.1	27.2	0.0	20.8	23.8	0.0	16.6
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	A	B
Approach Vol, veh/h		449			539			230			405	
Approach Delay, s/veh		22.6			22.3			25.0			21.9	
Approach LOS		C			C			C			C	

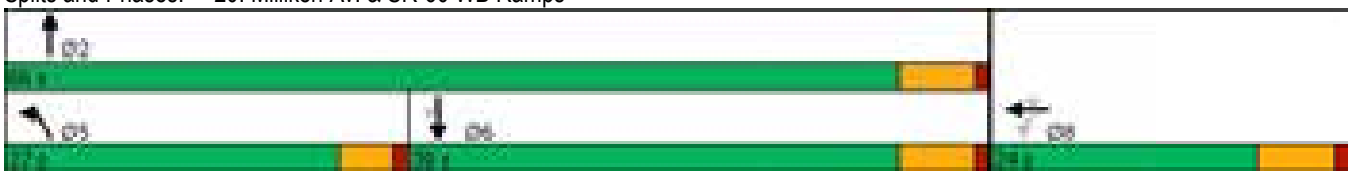
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	15.8	8.7	16.5	10.8	21.0	7.3	17.9
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	37.4	26.2	15.4	19.5	21.4	42.2	10.4	24.5
Max Q Clear Time (g_c+I1), s	11.2	4.3	5.1	6.3	6.7	4.8	3.5	6.5
Green Ext Time (p_c), s	0.4	0.3	0.1	1.7	0.1	0.6	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	319	359	807	1051	518
Future Volume (vph)	4	319	359	807	1051	518
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	9.6	16.2	16.2	16.2
Total Split (s)	24.0	24.0	27.0	66.0	39.0	39.0
Total Split (%)	26.7%	26.7%	30.0%	73.3%	43.3%	43.3%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	15.6	15.6	20.3	55.7	30.7	30.7
Actuated g/C Ratio	0.19	0.19	0.24	0.66	0.37	0.37
v/c Ratio	0.75	0.72	0.88	0.34	0.80	0.59
Control Delay	49.1	22.6	54.2	6.7	29.9	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	22.6	54.2	6.7	29.9	4.9
LOS	D	C	D	A	C	A
Approach Delay	34.0			21.3	21.6	
Approach LOS	C			C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 83.9	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 23.6	Intersection LOS: C
Intersection Capacity Utilization 79.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	235	4	319	359	807	0	0	1051	518
Future Volume (veh/h)	0	0	0	235	4	319	359	807	0	0	1051	518
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				245	4	156	374	841	0	0	1095	456
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				303	5	274	416	2483	0	0	1383	586
Arrive On Green				0.17	0.17	0.17	0.23	0.66	0.00	0.00	0.37	0.37
Sat Flow, veh/h				1754	29	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				249	0	156	374	841	0	0	1095	456
Grp Sat Flow(s),veh/h/ln				1783	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				10.2	0.0	6.8	15.4	7.4	0.0	0.0	19.8	19.3
Cycle Q Clear(g_c), s				10.2	0.0	6.8	15.4	7.4	0.0	0.0	19.8	19.3
Prop In Lane				0.98		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				308	0	274	416	2483	0	0	1383	586
V/C Ratio(X)				0.81	0.00	0.57	0.90	0.34	0.00	0.00	0.79	0.78
Avail Cap(c_a), veh/h				418	0	372	526	2950	0	0	1618	686
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				30.2	0.0	28.8	28.2	5.5	0.0	0.0	21.3	21.2
Incr Delay (d2), s/veh				8.3	0.0	1.9	13.8	0.1	0.0	0.0	2.4	4.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.7	0.0	2.5	7.4	1.8	0.0	0.0	7.8	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.4	0.0	30.7	42.0	5.6	0.0	0.0	23.7	26.0
LnGrp LOS				D	A	C	D	A	A	A	C	C
Approach Vol, veh/h					405			1215			1551	
Approach Delay, s/veh					35.4			16.8			24.4	
Approach LOS					D			B			C	

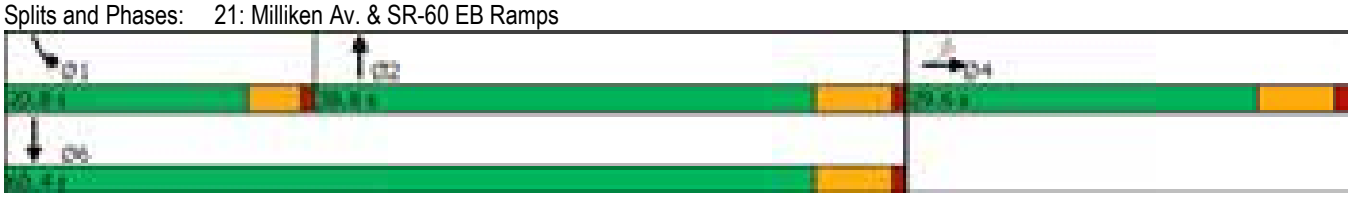
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		56.5			22.3	34.2		19.3				
Change Period (Y+Rc), s		6.2			4.6	6.2		6.2				
Max Green Setting (Gmax), s		59.8			22.4	32.8		17.8				
Max Q Clear Time (g_c+I1), s		9.4			17.4	21.8		12.2				
Green Ext Time (p_c), s		6.1			0.3	6.2		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			22.9									
HCM 6th LOS			C									

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	263	4	894	223	1062
Future Volume (vph)	263	4	894	223	1062
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	16.2	23.2	9.6	16.2
Total Split (s)	29.6	29.6	39.6	20.8	60.4
Total Split (%)	32.9%	32.9%	44.0%	23.1%	67.1%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	19.8	19.8	30.5	14.0	49.2
Actuated g/C Ratio	0.24	0.24	0.37	0.17	0.60
v/c Ratio	0.58	0.84	0.87	0.77	0.49
Control Delay	34.2	40.4	31.6	51.8	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	40.4	31.6	51.8	10.4
LOS	C	D	C	D	B
Approach Delay		38.0	31.6		17.6
Approach LOS		D	C		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 81.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 26.9	Intersection LOS: C
Intersection Capacity Utilization 79.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	4	340	0	0	0	0	894	251	223	1062	0
Future Volume (veh/h)	263	4	340	0	0	0	0	894	251	223	1062	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	233	62	187				0	931	136	232	1106	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	357	82	248				0	1197	175	281	2263	0
Arrive On Green	0.20	0.20	0.20				0.00	0.38	0.38	0.16	0.60	0.00
Sat Flow, veh/h	1781	410	1237				0	3191	466	1781	3741	0
Grp Volume(v), veh/h	233	0	249				0	546	521	232	1106	0
Grp Sat Flow(s),veh/h/ln	1781	0	1648				0	1870	1786	1781	1870	0
Q Serve(g_s), s	7.7	0.0	9.1				0.0	16.4	16.4	8.0	10.6	0.0
Cycle Q Clear(g_c), s	7.7	0.0	9.1				0.0	16.4	16.4	8.0	10.6	0.0
Prop In Lane	1.00		0.75				0.00		0.26	1.00		0.00
Lane Grp Cap(c), veh/h	357	0	330				0	702	670	281	2263	0
V/C Ratio(X)	0.65	0.00	0.76				0.00	0.78	0.78	0.83	0.49	0.00
Avail Cap(c_a), veh/h	655	0	606				0	982	938	454	3187	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.4	0.0	24.0				0.0	17.5	17.5	26.0	7.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	3.5				0.0	2.7	2.8	3.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	3.4				0.0	6.1	5.8	3.2	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	0.0	27.5				0.0	20.2	20.3	28.9	7.2	0.0
LnGrp LOS	C	A	C				A	C	C	C	A	A
Approach Vol, veh/h		482						1067			1338	
Approach Delay, s/veh		26.5						20.3			11.0	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.6	30.1		18.9		44.7
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	16.2	33.4		23.4		54.2
Max Q Clear Time (g_c+I1), s	10.0	18.4		11.1		12.6
Green Ext Time (p_c), s	0.2	5.5		1.7		8.8

Intersection Summary		
HCM 6th Ctrl Delay		17.0
HCM 6th LOS		B

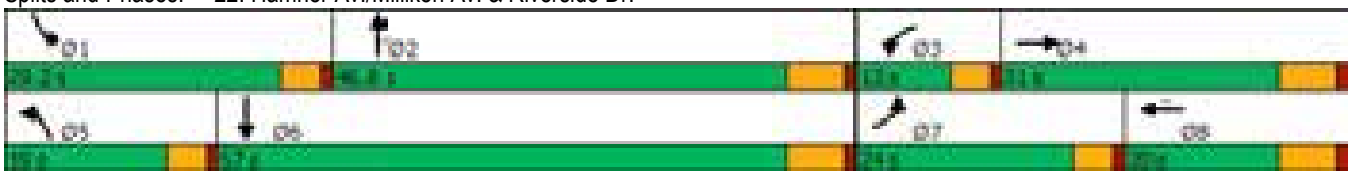
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	208	146	80	169	160	149	703	49	212	920
Future Volume (vph)	208	146	80	169	160	149	703	49	212	920
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	24.0	31.0	13.0	20.0	20.0	19.0	46.8	46.8	29.2	57.0
Total Split (%)	20.0%	25.8%	10.8%	16.7%	16.7%	15.8%	39.0%	39.0%	24.3%	47.5%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	18.2	23.6	8.1	13.5	13.5	13.5	42.1	42.1	19.9	48.4
Actuated g/C Ratio	0.16	0.20	0.07	0.12	0.12	0.12	0.36	0.36	0.17	0.42
v/c Ratio	0.88	0.87	0.76	0.86	0.48	0.85	0.61	0.08	0.82	0.93
Control Delay	82.2	63.6	94.3	87.4	9.0	87.5	33.4	0.2	70.1	44.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	63.6	94.3	87.4	9.0	87.5	33.4	0.2	70.1	44.2
LOS	F	E	F	F	A	F	C	A	E	D
Approach Delay		71.3		58.1			40.5			48.0
Approach LOS		E		E			D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 50.8	Intersection LOS: D
Intersection Capacity Utilization 87.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	146	148	80	169	160	149	703	49	212	920	299
Future Volume (veh/h)	208	146	148	80	169	160	149	703	49	212	920	299
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	219	154	82	84	178	89	157	740	31	223	968	168
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	228	121	104	213	181	184	1182	526	252	1127	195
Arrive On Green	0.16	0.21	0.21	0.07	0.12	0.12	0.12	0.35	0.35	0.16	0.39	0.39
Sat Flow, veh/h	1594	1082	576	1594	1772	1502	1594	3367	1499	1594	2862	496
Grp Volume(v), veh/h	219	0	236	84	178	89	157	740	31	223	569	567
Grp Sat Flow(s),veh/h/ln	1594	0	1658	1594	1772	1502	1594	1683	1499	1594	1683	1675
Q Serve(g_s), s	13.5	0.0	13.2	5.2	9.9	5.6	9.7	18.4	1.4	13.8	31.1	31.2
Cycle Q Clear(g_c), s	13.5	0.0	13.2	5.2	9.9	5.6	9.7	18.4	1.4	13.8	31.1	31.2
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	247	0	349	104	213	181	184	1182	526	252	663	660
V/C Ratio(X)	0.89	0.00	0.68	0.81	0.84	0.49	0.85	0.63	0.06	0.88	0.86	0.86
Avail Cap(c_a), veh/h	308	0	409	133	243	206	228	1361	606	390	851	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	36.5	46.3	43.2	41.3	43.6	27.1	21.6	41.4	27.9	27.9
Incr Delay (d2), s/veh	19.2	0.0	3.5	19.3	19.6	2.1	18.7	0.7	0.0	9.6	7.1	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	5.4	2.5	5.3	2.1	4.6	6.9	0.5	5.8	12.6	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	0.0	40.1	65.6	62.8	43.4	62.3	27.8	21.6	51.0	35.0	35.1
LnGrp LOS	E	A	D	E	E	D	E	C	C	D	C	D
Approach Vol, veh/h		455			351			928			1359	
Approach Delay, s/veh		50.0			58.6			33.5			37.7	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.5	41.5	11.1	27.3	16.2	45.8	20.2	18.3
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	24.6	40.6	8.4	24.8	14.4	50.8	19.4	13.8
Max Q Clear Time (g_c+I1), s	15.8	20.4	7.2	15.2	11.7	33.2	15.5	11.9
Green Ext Time (p_c), s	0.2	4.5	0.0	0.8	0.0	6.4	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	73	46	73	811	1028	103
Future Vol, veh/h	73	46	73	811	1028	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	51	80	891	1130	113

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1793	1187	1243	0	-	0
Stage 1	1187	-	-	-	-	-
Stage 2	606	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	~ 80	229	558	-	-	-
Stage 1	289	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 57	229	558	-	-	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	207	-	-	-	-	-
Stage 2	508	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	51.2	2.4	0
HCM LOS	F		

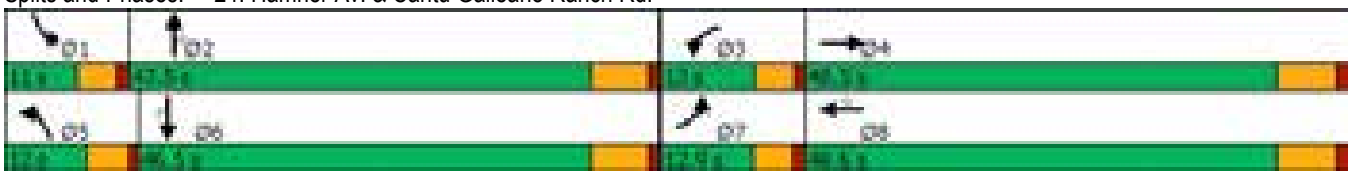
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	558	-	201	-	-
HCM Lane V/C Ratio	0.144	-	0.651	-	-
HCM Control Delay (s)	12.5	1.5	51.2	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.5	-	3.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	224	1135	424	1148	198	356	397	328	286	523	187
Future Volume (vph)	224	1135	424	1148	198	356	397	328	286	523	187
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	12.9	48.5	13.0	48.6	48.6	12.0	47.5	47.5	11.0	46.5	46.5
Total Split (%)	10.8%	40.4%	10.8%	40.5%	40.5%	10.0%	39.6%	39.6%	9.2%	38.8%	38.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	8.4	40.3	8.5	40.4	40.4	7.5	24.6	24.6	6.5	23.6	23.6
Actuated g/C Ratio	0.08	0.40	0.08	0.40	0.40	0.07	0.24	0.24	0.06	0.23	0.23
v/c Ratio	0.83	0.61	1.55	0.85	0.28	1.48	0.34	0.67	1.37	0.67	0.39
Control Delay	71.8	25.4	297.3	36.3	7.2	269.4	32.3	24.0	231.5	39.6	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	25.4	297.3	36.3	7.2	269.4	32.3	24.0	231.5	39.6	9.5
LOS	E	C	F	D	A	F	C	C	F	D	A
Approach Delay		31.6		95.6			107.8			89.0	
Approach LOS		C		F			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.55	
Intersection Signal Delay: 77.4	Intersection LOS: E
Intersection Capacity Utilization 81.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	1135	315	424	1148	198	356	397	328	286	523	187
Future Volume (veh/h)	224	1135	315	424	1148	198	356	397	328	286	523	187
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	233	1182	172	442	1196	128	371	414	186	298	545	112
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	2231	323	312	1397	623	275	1100	341	238	727	324
Arrive On Green	0.09	0.39	0.39	0.09	0.39	0.39	0.08	0.22	0.22	0.07	0.20	0.20
Sat Flow, veh/h	3456	5720	827	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	233	996	358	442	1196	128	371	414	186	298	545	112
Grp Sat Flow(s),veh/h/ln	1728	1609	1721	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	6.1	14.8	14.9	8.4	28.6	5.0	7.4	6.4	9.7	6.4	13.4	5.6
Cycle Q Clear(g_c), s	6.1	14.8	14.9	8.4	28.6	5.0	7.4	6.4	9.7	6.4	13.4	5.6
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	302	1882	671	312	1397	623	275	1100	341	238	727	324
V/C Ratio(X)	0.77	0.53	0.53	1.42	0.86	0.21	1.35	0.38	0.54	1.25	0.75	0.35
Avail Cap(c_a), veh/h	308	2179	777	312	1608	717	275	2267	704	238	1540	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	21.8	21.8	42.3	25.8	18.6	42.8	31.2	32.4	43.3	34.7	31.7
Incr Delay (d2), s/veh	10.1	0.2	0.7	205.3	4.3	0.2	179.5	0.2	1.4	143.7	1.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	5.0	5.4	12.2	11.4	1.6	9.8	2.5	3.6	7.3	5.5	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	22.0	22.5	247.6	30.1	18.8	222.3	31.4	33.8	187.0	36.3	32.3
LnGrp LOS	D	C	C	F	C	B	F	C	C	F	D	C
Approach Vol, veh/h		1587			1766			971			955	
Approach Delay, s/veh		26.5			83.7			104.8			82.9	
Approach LOS		C			F			F			F	

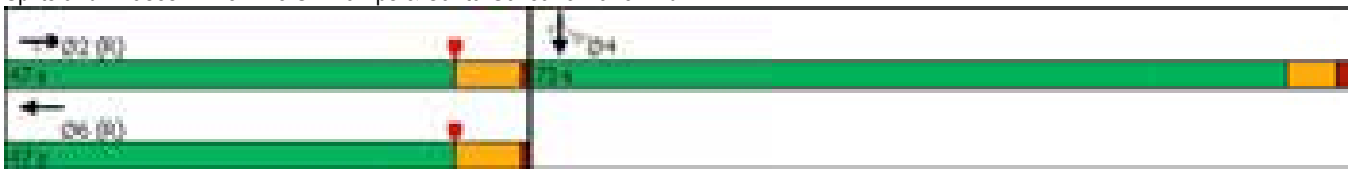
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	26.2	13.0	42.8	12.0	25.2	12.7	43.1
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.4	41.3	8.4	42.0	7.4	40.3	8.3	42.1
Max Q Clear Time (g_c+I1), s	8.4	11.7	10.4	16.9	9.4	15.4	8.1	30.6
Green Ext Time (p_c), s	0.0	3.2	0.0	9.0	0.0	3.6	0.0	5.9

Intersection Summary	
HCM 6th Ctrl Delay	70.2
HCM 6th LOS	E

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1385	596	920	137	290	1	1413
Future Volume (vph)	1385	596	920	137	290	1	1413
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	47.0	47.0	47.0		73.0	73.0	73.0
Total Split (%)	39.2%	39.2%	39.2%		60.8%	60.8%	60.8%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min		Min	Min	Min
Act Effct Green (s)	40.7	40.7	40.7	120.0	67.0	67.0	67.0
Actuated g/C Ratio	0.34	0.34	0.34	1.00	0.56	0.56	0.56
v/c Ratio	0.87	0.70	0.83	0.05	0.30	0.96	0.92
Control Delay	44.1	8.9	50.2	0.0	15.1	49.4	40.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	8.9	50.2	0.0	15.1	49.4	40.0
LOS	D	A	D	A	B	D	D
Approach Delay	33.5		43.7			40.1	
Approach LOS	C		D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 113.2 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 38.2	Intersection LOS: D
Intersection Capacity Utilization 94.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1385	596	0	920	137	0	0	0	290	1	1413
Future Volume (veh/h)	0	1385	596	0	920	137	0	0	0	290	1	1413
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1505	0	0	1000	0				210	0	1323
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2232		0	1553					820	0	1460
Arrive On Green	0.00	0.44	0.00	0.00	0.87	0.00				0.46	0.00	0.46
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	1505	0	0	1000	0				210	0	1323
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	28.2	0.0	0.0	9.7	0.0				8.7	0.0	46.4
Cycle Q Clear(g_c), s	0.0	28.2	0.0	0.0	9.7	0.0				8.7	0.0	46.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2232		0	1553					820	0	1460
V/C Ratio(X)	0.00	0.67		0.00	0.64					0.26	0.00	0.91
Avail Cap(c_a), veh/h	0	2232		0	1553					1002	0	1783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.62	0.00	0.00	0.80	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.0	0.0	0.0	4.9	0.0				19.8	0.0	30.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	1.7	0.0				0.2	0.0	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.7	0.0	0.0	2.1	0.0				3.5	0.0	17.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	28.0	0.0	0.0	6.5	0.0				20.0	0.0	36.2
LnGrp LOS	A	C		A	A					B	A	D
Approach Vol, veh/h		1505	A		1000	A					1533	
Approach Delay, s/veh		28.0			6.5						34.0	
Approach LOS		C			A						C	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		59.2		60.8		59.2						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		40.2		67.5		40.2						
Max Q Clear Time (g_c+I1), s		30.2		48.4		11.7						
Green Ext Time (p_c), s		6.2		6.9		6.8						

Intersection Summary		
HCM 6th Ctrl Delay	24.9	
HCM 6th LOS	C	

Notes

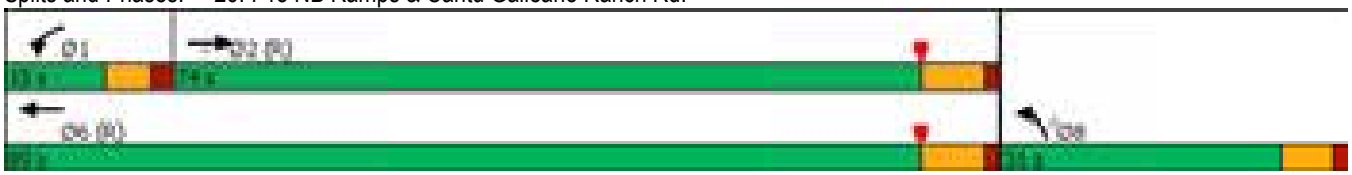
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	762	950	219	443	593	154
Future Volume (vph)	762	950	219	443	593	154
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.0	22.5	22.5	22.5
Total Split (s)	74.0	74.0	15.0	89.0	31.0	31.0
Total Split (%)	61.7%	61.7%	12.5%	74.2%	25.8%	25.8%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	62.5	62.5	11.6	80.2	26.5	26.5
Actuated g/C Ratio	0.52	0.52	0.10	0.67	0.22	0.22
v/c Ratio	0.31	0.85	0.72	0.14	0.87	0.34
Control Delay	23.1	33.8	65.8	7.5	58.2	8.5
Queue Delay	0.0	2.2	0.0	0.0	0.0	0.0
Total Delay	23.1	36.0	65.8	7.5	58.2	8.5
LOS	C	D	E	A	E	A
Approach Delay	30.3			26.8	49.0	
Approach LOS	C			C	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 34.0	Intersection LOS: C
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	762	950	219	443	593	154
Future Volume (veh/h)	762	950	219	443	593	154
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	828	598	238	482	645	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2888	897	259	3526	707	315
Arrive On Green	0.94	0.94	0.08	0.69	0.20	0.20
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	828	598	238	482	645	85
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	1.5	6.8	8.2	3.9	21.3	5.4
Cycle Q Clear(g_c), s	1.5	6.8	8.2	3.9	21.3	5.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2888	897	259	3526	707	315
V/C Ratio(X)	0.29	0.67	0.92	0.14	0.91	0.27
Avail Cap(c_a), veh/h	2888	897	259	3526	742	330
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.93	0.93	1.00	1.00
Uniform Delay (d), s/veh	1.5	1.6	55.1	6.3	47.1	40.7
Incr Delay (d2), s/veh	0.1	2.1	33.2	0.1	15.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.4	4.6	1.1	10.6	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.6	3.7	88.4	6.4	62.2	41.2
LnGrp LOS	A	A	F	A	E	D
Approach Vol, veh/h	1426			720	730	
Approach Delay, s/veh	2.5			33.5	59.7	
Approach LOS	A			C	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	15.0	75.2				90.2	29.8
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	9.0	66.7				81.7	25.0
Max Q Clear Time (g_c+I1), s	10.2	8.8				5.9	23.3
Green Ext Time (p_c), s	0.0	9.1				3.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

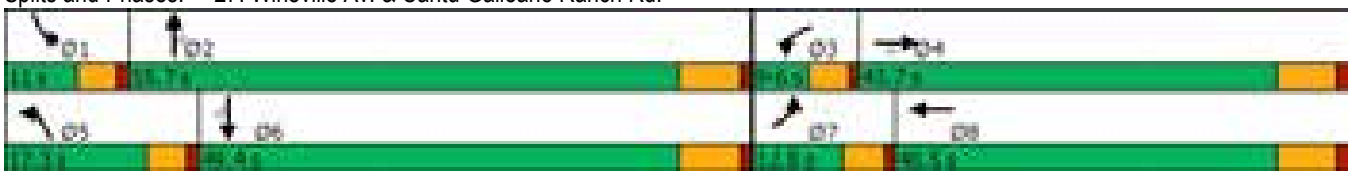
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	115	371	329	26	265	208	93	47	29	169	195
Future Volume (vph)	115	371	329	26	265	208	93	47	29	169	195
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	12.8	43.7	43.7	9.6	40.5	17.3	55.7	55.7	11.0	49.4	49.4
Total Split (%)	10.7%	36.4%	36.4%	8.0%	33.8%	14.4%	46.4%	46.4%	9.2%	41.2%	41.2%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.3	18.7	18.7	5.7	12.6	9.4	26.4	26.4	6.3	15.3	15.3
Actuated g/C Ratio	0.11	0.28	0.28	0.09	0.19	0.14	0.40	0.40	0.09	0.23	0.23
v/c Ratio	0.33	0.22	0.51	0.10	0.32	0.47	0.07	0.07	0.19	0.43	0.40
Control Delay	37.4	20.4	6.1	39.7	25.0	35.2	16.7	0.2	40.9	26.8	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	20.4	6.1	39.7	25.0	35.2	16.7	0.2	40.9	26.8	6.3
LOS	D	C	A	D	C	D	B	A	D	C	A
Approach Delay		17.0			26.2		25.6			17.7	
Approach LOS		B			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 66.6	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 20.3	Intersection LOS: C
Intersection Capacity Utilization 48.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	371	329	26	265	21	208	93	47	29	169	195
Future Volume (veh/h)	115	371	329	26	265	21	208	93	47	29	169	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	403	220	28	288	13	226	101	25	32	184	147
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	1491	367	112	897	40	360	823	367	65	306	260
Arrive On Green	0.09	0.23	0.23	0.03	0.18	0.18	0.10	0.23	0.23	0.04	0.16	0.16
Sat Flow, veh/h	3456	6434	1585	3456	5010	224	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	125	403	220	28	195	106	226	101	25	32	184	147
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1830	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	1.6	2.4	5.9	0.4	2.4	2.4	3.0	1.1	0.6	0.8	4.3	4.1
Cycle Q Clear(g_c), s	1.6	2.4	5.9	0.4	2.4	2.4	3.0	1.1	0.6	0.8	4.3	4.1
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	1491	367	112	610	328	360	823	367	65	306	260
V/C Ratio(X)	0.43	0.27	0.60	0.25	0.32	0.32	0.63	0.12	0.07	0.50	0.60	0.57
Avail Cap(c_a), veh/h	597	5044	1243	364	2439	1311	925	3685	1643	240	1691	1433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	14.9	16.3	22.4	17.0	17.0	20.4	14.4	14.2	22.4	18.4	18.3
Incr Delay (d2), s/veh	0.4	0.1	1.6	0.4	0.3	0.6	0.7	0.1	0.1	2.2	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.7	1.7	0.1	0.7	0.8	1.0	0.3	0.2	0.3	1.7	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	15.0	17.8	22.8	17.3	17.5	21.0	14.5	14.3	24.6	20.3	20.2
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		748			329			352			363	
Approach Delay, s/veh		16.9			17.8			18.7			20.6	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	17.5	6.1	17.5	9.5	14.3	8.6	15.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	6.4	49.2	5.0	37.2	12.7	42.9	8.2	34.0
Max Q Clear Time (g_c+I1), s	2.8	3.1	2.4	7.9	5.0	6.3	3.6	4.4
Green Ext Time (p_c), s	0.0	0.7	0.0	3.1	0.2	1.4	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

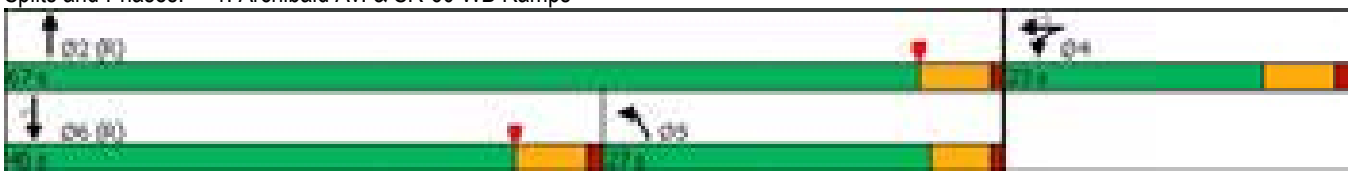
APPENDIX 5.2: E+P (BUILDOUT) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	336	8	442	761	1064	453	160
Future Volume (vph)	336	8	442	761	1064	453	160
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	23.0	23.0	23.0	27.0	67.0	40.0	40.0
Total Split (%)	25.6%	25.6%	25.6%	30.0%	74.4%	44.4%	44.4%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	20.1	20.1	20.1	24.0	58.3	29.3	29.3
Actuated g/C Ratio	0.22	0.22	0.22	0.27	0.65	0.33	0.33
v/c Ratio	0.74	0.62	0.59	0.85	0.33	0.22	0.26
Control Delay	46.2	22.5	20.9	36.2	3.9	23.2	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	22.5	20.9	36.2	3.9	23.2	4.9
LOS	D	C	C	D	A	C	A
Approach Delay		30.2			17.4	18.4	
Approach LOS		C			B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 20.7	Intersection LOS: C
Intersection Capacity Utilization 65.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	336	8	442	761	1064	0	0	453	160
Future Volume (veh/h)	0	0	0	336	8	442	761	1064	0	0	453	160
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				488	0	268	777	1086	0	0	462	66
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				673	0	299	1705	3484	0	0	801	197
Arrive On Green				0.19	0.00	0.19	0.99	1.00	0.00	0.00	0.12	0.12
Sat Flow, veh/h				3563	0	1583	3456	5274	0	0	6696	1585
Grp Volume(v), veh/h				488	0	268	777	1086	0	0	462	66
Grp Sat Flow(s),veh/h/ln				1781	0	1583	1728	1702	0	0	1609	1585
Q Serve(g_s), s				11.6	0.0	14.9	0.5	0.0	0.0	0.0	6.1	3.4
Cycle Q Clear(g_c), s				11.6	0.0	14.9	0.5	0.0	0.0	0.0	6.1	3.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				673	0	299	1705	3484	0	0	801	197
V/C Ratio(X)				0.73	0.00	0.90	0.46	0.31	0.00	0.00	0.58	0.33
Avail Cap(c_a), veh/h				681	0	302	1705	3484	0	0	2445	602
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.83	0.83	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				34.3	0.0	35.6	0.3	0.0	0.0	0.0	37.2	36.0
Incr Delay (d2), s/veh				3.8	0.0	27.1	0.1	0.2	0.0	0.0	3.0	4.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.1	0.0	14.4	0.1	0.1	0.0	0.0	2.4	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.1	0.0	62.7	0.4	0.2	0.0	0.0	40.2	40.5
LnGrp LOS				D	A	E	A	A	A	A	D	D
Approach Vol, veh/h					756			1863			528	
Approach Delay, s/veh					46.8			0.3			40.2	
Approach LOS					D			A			D	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	67.2	22.8	50.2	17.0
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	61.2	17.2	22.0	* 34
Max Q Clear Time (g_c+I1), s	2.0	16.9	2.5	8.1
Green Ext Time (p_c), s	9.0	0.1	1.4	3.1

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Notes

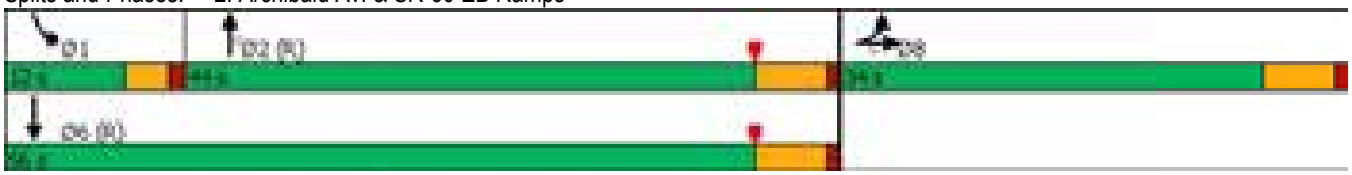
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	350	5	425	1470	554	151	659
Future Volume (vph)	350	5	425	1470	554	151	659
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	34.0	34.0	34.0	44.0	44.0	12.0	56.0
Total Split (%)	37.8%	37.8%	37.8%	48.9%	48.9%	13.3%	62.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	21.7	21.7	21.7	44.7	44.7	8.0	56.7
Actuated g/C Ratio	0.24	0.24	0.24	0.50	0.50	0.09	0.63
v/c Ratio	0.71	0.62	0.53	0.50	0.55	0.53	0.22
Control Delay	40.7	22.1	11.1	16.8	3.7	54.5	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	22.1	11.1	16.8	3.7	54.5	3.7
LOS	D	C	B	B	A	D	A
Approach Delay		25.0		13.2			13.1
Approach LOS		C		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 15.8	Intersection LOS: B
Intersection Capacity Utilization 65.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	5	425	0	0	0	0	1470	554	151	659	0
Future Volume (veh/h)	350	5	425	0	0	0	0	1470	554	151	659	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	454	0	164				0	1581	416	162	709	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	590	0	258				0	3826	922	230	3603	0
Arrive On Green	0.17	0.00	0.17				0.00	0.59	0.59	0.13	1.00	0.00
Sat Flow, veh/h	3563	0	1561				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	454	0	164				0	1581	416	162	709	0
Grp Sat Flow(s),veh/h/ln	1781	0	1561				0	1609	1551	1728	1702	0
Q Serve(g_s), s	11.0	0.0	8.8				0.0	11.9	13.4	4.0	0.0	0.0
Cycle Q Clear(g_c), s	11.0	0.0	8.8				0.0	11.9	13.4	4.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	590	0	258				0	3826	922	230	3603	0
V/C Ratio(X)	0.77	0.00	0.63				0.00	0.41	0.45	0.71	0.20	0.00
Avail Cap(c_a), veh/h	1116	0	489				0	3826	922	307	3603	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	35.9	0.0	35.0				0.0	9.8	10.1	38.2	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	2.6				0.0	0.3	1.6	2.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	3.4				0.0	3.4	4.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	0.0	37.6				0.0	10.1	11.7	40.4	0.1	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		618						1997			871	
Approach Delay, s/veh		37.9						10.5			7.6	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	10.0	59.3				69.3		20.7				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	8.0	38.2				50.2		28.2				
Max Q Clear Time (g_c+I1), s	6.0	15.4				2.0		13.0				
Green Ext Time (p_c), s	0.0	13.2				4.9		1.9				

Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	149	383	193	86	541	211	324	1378	175	567
Future Volume (vph)	149	383	193	86	541	211	324	1378	175	567
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	18.0	41.5	41.5	14.7	38.2	38.2	29.0	42.0	21.8	34.8
Total Split (%)	15.0%	34.6%	34.6%	12.3%	31.8%	31.8%	24.2%	35.0%	18.2%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.9	28.5	28.5	9.1	24.7	24.7	24.5	36.0	15.4	26.9
Actuated g/C Ratio	0.12	0.26	0.26	0.08	0.22	0.22	0.22	0.32	0.14	0.24
v/c Ratio	0.84	0.46	0.38	0.69	0.75	0.44	0.97	0.97	0.83	0.66
Control Delay	85.6	36.7	6.7	78.5	47.2	7.5	84.9	55.4	76.7	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.6	36.7	6.7	78.5	47.2	7.5	84.9	55.4	76.7	38.4
LOS	F	D	A	E	D	A	F	E	E	D
Approach Delay		38.7			40.5			60.8		45.7
Approach LOS		D			D			E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 49.8	Intersection LOS: D
Intersection Capacity Utilization 85.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	383	193	86	541	211	324	1378	78	175	567	174
Future Volume (veh/h)	149	383	193	86	541	211	324	1378	78	175	567	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	155	399	143	90	564	156	338	1435	78	182	591	141
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	868	381	111	720	315	360	1537	84	208	965	225
Arrive On Green	0.11	0.26	0.26	0.07	0.21	0.21	0.23	0.33	0.33	0.13	0.25	0.25
Sat Flow, veh/h	1594	3367	1478	1594	3367	1472	1594	4691	255	1594	3905	912
Grp Volume(v), veh/h	155	399	143	90	564	156	338	986	527	182	486	246
Grp Sat Flow(s),veh/h/ln	1594	1683	1478	1594	1683	1472	1594	1612	1721	1594	1612	1592
Q Serve(g_s), s	10.3	10.8	8.6	6.0	17.1	6.9	22.5	32.0	32.0	12.1	14.4	14.9
Cycle Q Clear(g_c), s	10.3	10.8	8.6	6.0	17.1	6.9	22.5	32.0	32.0	12.1	14.4	14.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		0.57
Lane Grp Cap(c), veh/h	180	868	381	111	720	315	360	1056	564	208	797	394
V/C Ratio(X)	0.86	0.46	0.38	0.81	0.78	0.50	0.94	0.93	0.93	0.87	0.61	0.63
Avail Cap(c_a), veh/h	198	1100	483	149	997	436	360	1069	570	254	854	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	33.8	33.0	49.6	40.1	17.7	41.1	35.2	35.2	46.1	36.0	36.2
Incr Delay (d2), s/veh	26.1	0.4	0.6	16.2	2.8	1.2	31.7	14.3	22.6	21.0	1.1	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	4.2	3.0	2.8	7.0	3.4	11.5	13.7	16.0	5.8	5.5	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.1	34.1	33.6	65.8	42.9	18.9	72.8	49.5	57.8	67.1	37.2	38.8
LnGrp LOS	E	C	C	E	D	B	E	D	E	E	D	D
Approach Vol, veh/h		697			810			1851			914	
Approach Delay, s/veh		42.7			40.8			56.1			43.6	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.3	41.6	12.1	34.0	29.0	32.9	16.8	29.3
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.2	* 36	10.1	35.3	24.4	28.6	13.4	32.0
Max Q Clear Time (g_c+I1), s	14.1	34.0	8.0	12.8	24.5	16.9	12.3	19.1
Green Ext Time (p_c), s	0.1	1.4	0.0	2.7	0.0	3.3	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	48.3
HCM 6th LOS	D

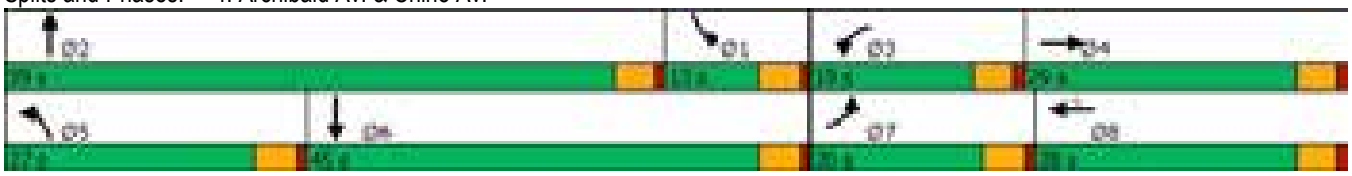
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	112	114	105	215	171	176	1384	51	697
Future Volume (vph)	112	114	105	215	171	176	1384	51	697
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	20.0	29.0	19.0	28.0	28.0	27.0	59.0	13.0	45.0
Total Split (%)	16.7%	24.2%	15.8%	23.3%	23.3%	22.5%	49.2%	10.8%	37.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.0	19.9	12.4	19.3	19.3	18.1	47.1	7.9	33.8
Actuated g/C Ratio	0.13	0.19	0.12	0.19	0.19	0.18	0.46	0.08	0.33
v/c Ratio	0.67	0.65	0.65	0.77	0.47	0.75	0.73	0.50	0.79
Control Delay	63.9	46.1	64.5	58.7	11.3	60.7	26.3	66.5	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	46.1	64.5	58.7	11.3	60.7	26.3	66.5	38.0
LOS	E	D	E	E	B	E	C	E	D
Approach Delay		52.8		43.4			29.9		39.8
Approach LOS		D		D			C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 103.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 36.5	Intersection LOS: D
Intersection Capacity Utilization 69.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	114	72	105	215	171	176	1384	108	51	697	71
Future Volume (veh/h)	112	114	72	105	215	171	176	1384	108	51	697	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	132	134	77	124	253	107	207	1628	119	60	820	76
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	191	110	153	311	263	244	2231	163	74	1113	103
Arrive On Green	0.10	0.18	0.18	0.10	0.18	0.18	0.15	0.46	0.46	0.05	0.35	0.35
Sat Flow, veh/h	1594	1056	607	1594	1772	1502	1594	4889	357	1594	3188	295
Grp Volume(v), veh/h	132	0	211	124	253	107	207	1180	567	60	456	440
Grp Sat Flow(s),veh/h/ln	1594	0	1663	1594	1772	1502	1594	1772	1702	1594	1772	1711
Q Serve(g_s), s	6.8	0.0	10.0	6.4	11.5	4.3	10.6	22.7	22.7	3.1	18.8	18.8
Cycle Q Clear(g_c), s	6.8	0.0	10.0	6.4	11.5	4.3	10.6	22.7	22.7	3.1	18.8	18.8
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.21	1.00		0.17
Lane Grp Cap(c), veh/h	162	0	301	153	311	263	244	1617	777	74	619	598
V/C Ratio(X)	0.81	0.00	0.70	0.81	0.81	0.41	0.85	0.73	0.73	0.81	0.74	0.74
Avail Cap(c_a), veh/h	294	0	485	274	496	420	427	2305	1107	160	856	827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	0.0	32.1	37.0	33.2	20.1	34.4	18.5	18.5	39.5	23.8	23.8
Incr Delay (d2), s/veh	9.4	0.0	2.9	9.7	5.5	1.0	7.9	0.7	1.5	18.8	2.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	4.0	2.8	5.1	1.9	4.3	7.8	7.6	1.5	7.3	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	0.0	35.0	46.8	38.7	21.1	42.3	19.2	20.0	58.4	26.0	26.0
LnGrp LOS	D	A	D	D	D	C	D	B	B	E	C	C
Approach Vol, veh/h		343			484			1954			956	
Approach Delay, s/veh		39.3			36.9			21.9			28.0	
Approach LOS		D			D			C			C	

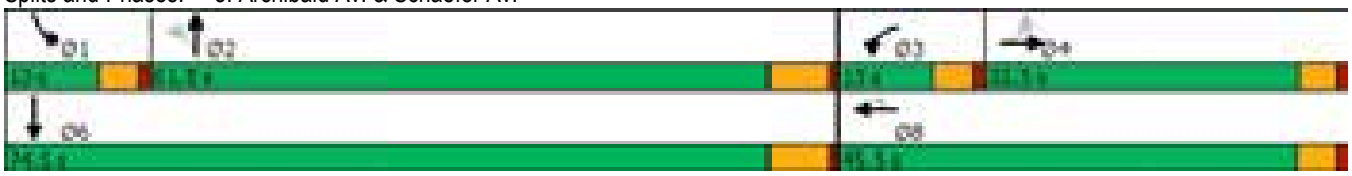
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	42.8	12.6	19.8	17.4	33.8	13.1	19.3
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	8.4	54.4	14.4	24.4	22.4	40.4	15.4	23.4
Max Q Clear Time (g_c+I1), s	5.1	24.7	8.4	12.0	12.6	20.8	8.8	13.5
Green Ext Time (p_c), s	0.0	13.4	0.1	0.8	0.4	4.9	0.2	1.2

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Lane Group	WBL	WBR	NBT	SBL	SBT	Ø4
Lane Configurations						
Traffic Volume (vph)	52	62	1506	46	913	
Future Volume (vph)	52	62	1506	46	913	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	3		2	1	6	4
Permitted Phases		8				
Detector Phase	3	8	2	1	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	32.6	37.5	9.6	23.5	32.5
Total Split (s)	13.0	45.5	61.5	13.0	74.5	32.5
Total Split (%)	10.8%	37.9%	51.3%	10.8%	62.1%	27%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag	Lead		Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	10.8	11.1	42.6	8.2	51.3	
Actuated g/C Ratio	0.16	0.16	0.63	0.12	0.76	
v/c Ratio	0.24	0.21	0.61	0.29	0.43	
Control Delay	32.5	1.3	13.3	41.0	5.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.5	1.3	13.3	41.0	5.9	
LOS	C	A	B	D	A	
Approach Delay			13.3		7.5	
Approach LOS			B		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 67.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 11.3	Intersection LOS: B
Intersection Capacity Utilization 68.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	52	0	62	0	1506	41	46	913	0
Future Volume (veh/h)	0	0	0	52	0	62	0	1506	41	46	913	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	0	0	0	62	0	74	0	1793	37	55	1087	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	117	0	82	330	261	108	2589	53	76	2181	0
Arrive On Green	0.00	0.00	0.00	0.05	0.00	0.19	0.00	0.53	0.53	0.05	0.65	0.00
Sat Flow, veh/h	1186	1772	0	1594	1772	1400	464	4875	101	1594	3455	0
Grp Volume(v), veh/h	0	0	0	62	0	74	0	1186	644	55	1087	0
Grp Sat Flow(s),veh/h/ln	1186	1772	0	1594	1772	1400	464	1612	1751	1594	1683	0
Q Serve(g_s), s	0.0	0.0	0.0	2.6	0.0	3.0	0.0	18.2	18.2	2.3	11.2	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.6	0.0	3.0	0.0	18.2	18.2	2.3	11.2	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h	108	117	0	82	330	261	108	1713	930	76	2181	0
V/C Ratio(X)	0.00	0.00	0.00	0.76	0.00	0.28	0.00	0.69	0.69	0.72	0.50	0.00
Avail Cap(c_a), veh/h	527	743	0	200	1085	857	243	2655	1442	200	3427	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	31.3	0.0	23.4	0.0	11.6	11.6	31.4	6.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	5.4	0.0	0.6	0.0	0.5	0.9	4.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.0	0.0	0.9	0.0	4.5	5.0	0.9	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	36.6	0.0	24.0	0.0	12.1	12.6	36.1	6.3	0.0
LnGrp LOS	A	A	A	D	A	C	A	B	B	D	A	A
Approach Vol, veh/h		0			136			1830			1142	
Approach Delay, s/veh		0.0			29.7			12.3			7.7	
Approach LOS					C			B			A	

Timer - Assigned Phs	1	2	3	4	6	8
Phs Duration (G+Y+Rc), s	7.8	42.0	8.0	9.0	49.8	17.0
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6	6.5	4.6
Max Green Setting (Gmax), s	8.4	55.0	8.4	* 28	68.0	40.9
Max Q Clear Time (g_c+I1), s	4.3	20.2	4.6	0.0	13.2	5.0
Green Ext Time (p_c), s	0.0	15.2	0.0	0.0	8.4	0.2

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

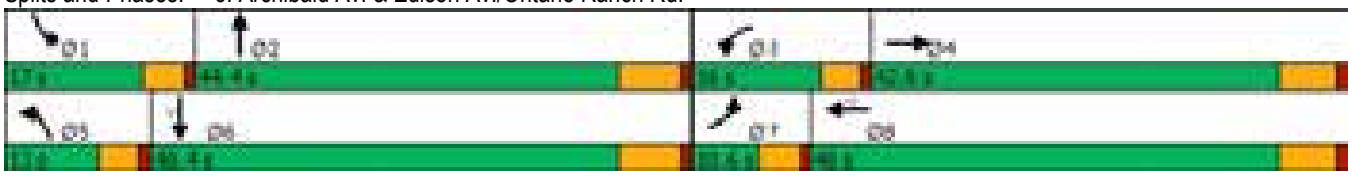
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	446	65	482	645	342	167	1045	455	273	499	62
Future Volume (vph)	35	446	65	482	645	342	167	1045	455	273	499	62
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	10.6	42.6		16.0	48.0	48.0	13.0	44.4		17.0	48.4	48.4
Total Split (%)	8.8%	35.5%		13.3%	40.0%	40.0%	10.8%	37.0%		14.2%	40.3%	40.3%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.6	32.0	115.8	11.4	41.9	41.9	8.4	38.0	115.8	12.4	42.0	42.0
Actuated g/C Ratio	0.05	0.28	1.00	0.10	0.36	0.36	0.07	0.33	1.00	0.11	0.36	0.36
v/c Ratio	0.26	0.50	0.05	1.80	1.11	0.55	1.61	0.99	0.34	1.78	0.43	0.11
Control Delay	59.1	36.9	0.1	405.8	105.9	15.0	345.4	64.1	0.6	401.0	29.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	36.9	0.1	405.8	105.9	15.0	345.4	64.1	0.6	401.0	29.7	0.3
LOS	E	D	A	F	F	B	F	E	A	F	C	A
Approach Delay		33.9			183.2			75.1			149.2	
Approach LOS		C			F			E			F	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 115.8		
Natural Cycle: 115		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 1.80		
Intersection Signal Delay: 119.0	Intersection LOS: F	
Intersection Capacity Utilization 105.6%	ICU Level of Service G	
Analysis Period (min) 15		

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	446	65	482	645	342	167	1045	455	273	499	62
Future Volume (veh/h)	35	446	65	482	645	342	167	1045	455	273	499	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	38	490	0	530	709	200	184	1148	0	300	548	35
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	1024		291	630	527	114	1143		168	1263	523
Arrive On Green	0.05	0.43	0.00	0.15	0.53	0.53	0.11	0.48	0.00	0.16	0.53	0.53
Sat Flow, veh/h	3000	3544	1502	3000	1772	1483	1594	3544	1502	1594	3544	1468
Grp Volume(v), veh/h	38	490	0	530	709	200	184	1148	0	300	548	35
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1483	1594	1772	1502	1594	1772	1468
Q Serve(g_s), s	1.4	11.6	0.0	11.4	41.8	9.3	8.4	37.9	0.0	12.4	11.0	1.4
Cycle Q Clear(g_c), s	1.4	11.6	0.0	11.4	41.8	9.3	8.4	37.9	0.0	12.4	11.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	91	1024		291	630	527	114	1143		168	1263	523
V/C Ratio(X)	0.42	0.48		1.82	1.13	0.38	1.62	1.00		1.78	0.43	0.07
Avail Cap(c_a), veh/h	153	1097		291	630	527	114	1143		168	1263	523
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	27.0	0.0	50.2	27.4	19.8	52.5	30.4	0.0	49.5	20.2	17.9
Incr Delay (d2), s/veh	1.1	0.3	0.0	383.0	75.5	0.5	313.7	27.8	0.0	375.9	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.3	0.0	19.4	26.1	2.8	13.0	16.4	0.0	22.0	3.8	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	27.3	0.0	433.2	103.0	20.3	366.2	58.1	0.0	425.4	20.4	18.0
LnGrp LOS	E	C		F	F	C	F	F		F	C	B
Approach Vol, veh/h		528	A		1439			1332	A		883	
Approach Delay, s/veh		29.4			213.1			100.7			157.9	
Approach LOS		C			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	44.4	16.0	40.2	13.0	48.4	8.2	48.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	12.4	37.9	11.4	36.4	8.4	41.9	6.0	41.8
Max Q Clear Time (g_c+I1), s	14.4	39.9	13.4	13.6	10.4	13.0	3.4	43.8
Green Ext Time (p_c), s	0.0	0.0	0.0	2.8	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	142.5
HCM 6th LOS	F

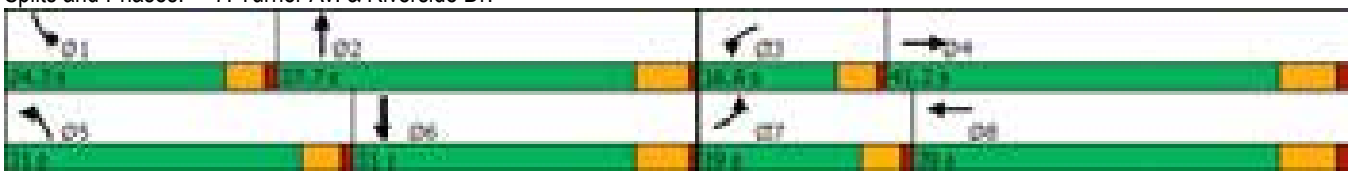
Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	119	419	85	554	237	208	111	161
Future Volume (vph)	119	419	85	554	237	208	111	161
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	19.0	41.2	16.8	39.0	31.0	37.7	24.3	31.0
Total Split (%)	15.8%	34.3%	14.0%	32.5%	25.8%	31.4%	20.3%	25.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.0	34.1	10.5	31.6	23.4	24.1	13.5	14.2
Actuated g/C Ratio	0.13	0.33	0.10	0.30	0.23	0.23	0.13	0.14
v/c Ratio	0.76	0.63	0.68	0.86	0.84	0.63	0.69	0.64
Control Delay	70.4	32.5	68.7	44.5	61.1	25.0	61.9	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.4	32.5	68.7	44.5	61.1	25.0	61.9	32.9
LOS	E	C	E	D	E	C	E	C
Approach Delay		39.4		47.2		37.9		41.3
Approach LOS		D		D		D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 103.7	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 41.7	Intersection LOS: D
Intersection Capacity Utilization 72.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	419	113	85	554	129	237	208	219	111	161	110
Future Volume (veh/h)	119	419	113	85	554	129	237	208	219	111	161	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.94	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	151	530	82	108	701	105	300	263	243	141	204	117
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	908	140	133	828	124	332	449	378	170	345	188
Arrive On Green	0.11	0.31	0.31	0.08	0.28	0.28	0.21	0.27	0.27	0.11	0.17	0.17
Sat Flow, veh/h	1594	2909	448	1594	2931	439	1594	1683	1415	1594	2084	1139
Grp Volume(v), veh/h	151	306	306	108	402	404	300	263	243	141	163	158
Grp Sat Flow(s),veh/h/ln	1594	1683	1674	1594	1683	1686	1594	1683	1415	1594	1683	1540
Q Serve(g_s), s	8.5	14.0	14.1	6.1	20.7	20.7	16.9	12.5	14.0	8.0	8.2	8.8
Cycle Q Clear(g_c), s	8.5	14.0	14.1	6.1	20.7	20.7	16.9	12.5	14.0	8.0	8.2	8.8
Prop In Lane	1.00		0.27	1.00		0.26	1.00		1.00	1.00		0.74
Lane Grp Cap(c), veh/h	180	526	523	133	476	476	332	449	378	170	279	255
V/C Ratio(X)	0.84	0.58	0.59	0.81	0.85	0.85	0.90	0.59	0.64	0.83	0.58	0.62
Avail Cap(c_a), veh/h	250	642	638	212	601	602	458	585	492	342	462	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	26.5	26.6	41.4	31.0	31.1	35.5	29.2	29.8	40.2	35.4	35.6
Incr Delay (d2), s/veh	12.2	1.0	1.0	5.5	8.9	8.9	14.1	1.2	1.8	3.9	1.9	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	5.3	5.3	2.5	8.8	8.9	7.4	4.9	4.6	3.2	3.3	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	27.6	27.6	46.9	39.9	40.0	49.5	30.4	31.6	44.1	37.3	38.1
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	D	D
Approach Vol, veh/h		763			914			806			462	
Approach Delay, s/veh		32.4			40.8			37.9			39.7	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	30.3	12.2	34.9	23.7	21.0	15.0	32.1
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	19.7	31.9	12.2	35.0	26.4	25.2	14.4	32.8
Max Q Clear Time (g_c+I1), s	10.0	16.0	8.1	16.1	18.9	10.8	10.5	22.7
Green Ext Time (p_c), s	0.1	2.6	0.0	3.1	0.3	1.4	0.1	3.2

Intersection Summary	
HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

Intersection	
Intersection Delay, s/veh	31.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	106	97	34	218	99	129	396	27	43	186	74
Future Vol, veh/h	97	106	97	34	218	99	129	396	27	43	186	74
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	131	143	131	46	295	134	174	535	36	58	251	100
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	20.9	26.4	45.4	22.3
HCM LOS	C	D	E	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	83%	0%	100%	27%	0%	100%	42%	0%	100%	46%
Vol Right, %	0%	0%	17%	0%	0%	73%	0%	0%	58%	0%	0%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	129	264	159	97	71	132	34	145	172	43	124	136
LT Vol	129	0	0	97	0	0	34	0	0	43	0	0
Through Vol	0	264	132	0	71	35	0	145	73	0	124	62
RT Vol	0	0	27	0	0	97	0	0	99	0	0	74
Lane Flow Rate	174	357	215	131	95	179	46	196	232	58	168	184
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.494	0.962	0.572	0.404	0.281	0.501	0.139	0.566	0.643	0.179	0.492	0.52
Departure Headway (Hd)	10.211	9.711	9.592	11.089	10.589	10.076	10.884	10.384	9.98	11.063	10.563	10.182
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	356	375	378	325	340	358	329	348	362	324	342	355
Service Time	7.911	7.411	7.292	8.849	8.349	7.836	8.644	8.144	7.74	8.823	8.323	7.942
HCM Lane V/C Ratio	0.489	0.952	0.569	0.403	0.279	0.5	0.14	0.563	0.641	0.179	0.491	0.518
HCM Control Delay	22.5	69.3	24.4	21.2	17.5	22.6	15.4	25.9	29.1	16.2	23.2	23.5
HCM Lane LOS	C	F	C	C	C	C	C	D	D	C	C	C
HCM 95th-tile Q	2.6	10.7	3.4	1.9	1.1	2.7	0.5	3.3	4.3	0.6	2.6	2.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	32	1170	15	98	1517	90	34	129	94	64
Future Volume (vph)	32	1170	15	98	1517	90	34	129	94	64
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	15.0	49.0	49.0	18.0	52.0	52.0	15.0	35.0	18.0	38.0
Total Split (%)	12.5%	40.8%	40.8%	15.0%	43.3%	43.3%	12.5%	29.2%	15.0%	31.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.7	43.6	43.6	10.2	51.5	51.5	6.8	15.7	9.9	23.3
Actuated g/C Ratio	0.07	0.43	0.43	0.10	0.51	0.51	0.07	0.16	0.10	0.23
v/c Ratio	0.31	0.85	0.02	0.61	0.93	0.12	0.32	0.68	0.59	0.22
Control Delay	54.4	33.7	0.1	59.9	36.3	3.6	54.6	49.6	59.4	30.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	33.7	0.1	59.9	36.3	3.6	54.6	49.6	59.4	30.8
LOS	D	C	A	E	D	A	D	D	E	C
Approach Delay		33.8			35.9			50.4		46.0
Approach LOS		C			D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 36.6	Intersection LOS: D
Intersection Capacity Utilization 78.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	1170	15	98	1517	90	34	129	50	94	64	19
Future Volume (veh/h)	32	1170	15	98	1517	90	34	129	50	94	64	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	1300	13	109	1686	92	38	143	50	104	71	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	1675	747	138	1833	818	62	182	64	133	284	40
Arrive On Green	0.03	0.47	0.47	0.08	0.52	0.52	0.03	0.14	0.14	0.07	0.18	0.18
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1324	463	1781	1604	226
Grp Volume(v), veh/h	36	1300	13	109	1686	92	38	0	193	104	0	81
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1787	1781	0	1830
Q Serve(g_s), s	1.7	26.5	0.4	5.2	38.0	2.6	1.8	0.0	9.1	5.0	0.0	3.3
Cycle Q Clear(g_c), s	1.7	26.5	0.4	5.2	38.0	2.6	1.8	0.0	9.1	5.0	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.26	1.00		0.12
Lane Grp Cap(c), veh/h	59	1675	747	138	1833	818	62	0	245	133	0	324
V/C Ratio(X)	0.61	0.78	0.02	0.79	0.92	0.11	0.62	0.00	0.79	0.78	0.00	0.25
Avail Cap(c_a), veh/h	213	1765	787	274	1888	842	213	0	600	274	0	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.5	19.2	12.2	39.4	19.4	10.8	41.4	0.0	36.3	39.6	0.0	30.8
Incr Delay (d2), s/veh	3.6	2.1	0.0	3.7	7.7	0.1	3.7	0.0	5.5	3.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	9.7	0.1	2.3	14.7	0.8	0.8	0.0	4.1	2.2	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	21.3	12.3	43.1	27.1	10.9	45.1	0.0	41.8	43.4	0.0	31.2
LnGrp LOS	D	C	B	D	C	B	D	A	D	D	A	C
Approach Vol, veh/h		1349			1887			231			185	
Approach Delay, s/veh		21.8			27.3			42.4			38.1	
Approach LOS		C			C			D			D	

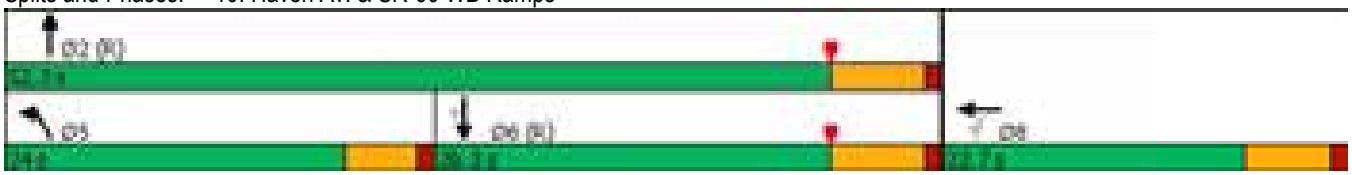
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	17.7	11.4	46.8	7.6	21.2	7.5	50.7
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	13.4	29.2	13.4	43.2	10.4	32.2	10.4	46.2
Max Q Clear Time (g_c+I1), s	7.0	11.1	7.2	28.5	3.8	5.3	3.7	40.0
Green Ext Time (p_c), s	0.1	0.9	0.1	7.4	0.0	0.3	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	186	4	716	832	1668	923	407
Future Volume (vph)	186	4	716	832	1668	923	407
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	22.7	22.7		24.0	52.3	28.3	28.3
Total Split (%)	30.3%	30.3%		32.0%	69.7%	37.7%	37.7%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	16.9	16.9	75.0	19.0	46.1	22.1	22.1
Actuated g/C Ratio	0.23	0.23	1.00	0.25	0.61	0.29	0.29
v/c Ratio	0.98	0.99	0.47	1.00	0.56	0.64	0.56
Control Delay	74.7	76.6	1.0	42.2	12.1	25.4	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.7	76.6	1.0	42.2	12.1	25.4	5.6
LOS	E	E	A	D	B	C	A
Approach Delay		38.4			22.1	19.3	
Approach LOS		D			C	B	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 45 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 25.8	Intersection LOS: C
Intersection Capacity Utilization 84.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	186	4	716	832	1668	0	0	923	407
Future Volume (veh/h)	0	0	0	186	4	716	832	1668	0	0	923	407
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				747	0	0	867	1738	0	0	961	216
Peak Hour Factor				0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				803	0		875	3139	0	0	1505	461
Arrive On Green				0.23	0.00	0.00	0.51	1.00	0.00	0.00	0.29	0.29
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1563
Grp Volume(v), veh/h				747	0	0	867	1738	0	0	961	216
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1563
Q Serve(g_s), s				15.4	0.0	0.0	18.6	0.0	0.0	0.0	12.3	8.5
Cycle Q Clear(g_c), s				15.4	0.0	0.0	18.6	0.0	0.0	0.0	12.3	8.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				803	0		875	3139	0	0	1505	461
V/C Ratio(X)				0.93	0.00		0.99	0.55	0.00	0.00	0.64	0.47
Avail Cap(c_a), veh/h				803	0		875	3139	0	0	1505	461
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.5	0.0	0.0	18.4	0.0	0.0	0.0	23.0	21.6
Incr Delay (d2), s/veh				17.2	0.0	0.0	7.1	0.1	0.0	0.0	2.1	3.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.9	0.0	0.0	5.0	0.0	0.0	0.0	4.7	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				45.7	0.0	0.0	25.5	0.1	0.0	0.0	25.1	25.0
LnGrp LOS				D	A		C	A	A	A	C	C
Approach Vol, veh/h					747	A		2605			1177	
Approach Delay, s/veh					45.7			8.5			25.1	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	52.3		24.0	28.3		22.7						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	46.1		19.0	22.1		16.9						
Max Q Clear Time (g_c+I1), s	2.0		20.6	14.3		17.4						
Green Ext Time (p_c), s	10.7		0.0	3.0		0.0						

Intersection Summary		
HCM 6th Ctrl Delay	19.0	
HCM 6th LOS	B	

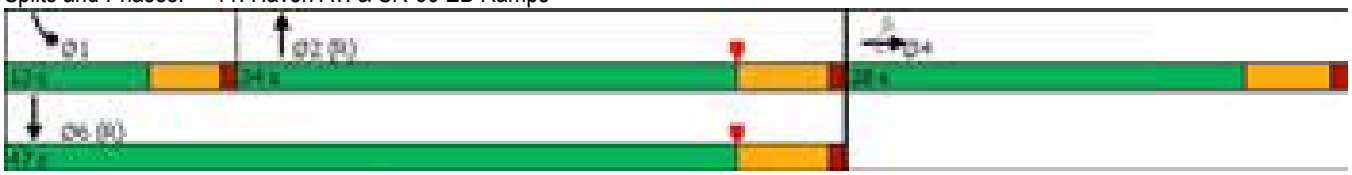
Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	718	5	493	1766	324	813
Future Volume (vph)	718	5	493	1766	324	813
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	28.0	28.0	28.0	34.0	13.0	47.0
Total Split (%)	37.3%	37.3%	37.3%	45.3%	17.3%	62.7%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	21.6	21.6	21.6	27.8	8.6	41.4
Actuated g/C Ratio	0.29	0.29	0.29	0.37	0.11	0.55
v/c Ratio	0.78	0.79	0.94	1.17	0.87	0.31
Control Delay	37.5	38.0	47.1	108.5	50.5	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	38.0	47.1	108.5	50.5	9.4
LOS	D	D	D	F	D	A
Approach Delay		41.6		108.5		21.1
Approach LOS		D		F		C

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 48 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 67.8	Intersection LOS: E
Intersection Capacity Utilization 84.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	718	5	493	0	0	0	0	1766	321	324	813	0
Future Volume (veh/h)	718	5	493	0	0	0	0	1766	321	324	813	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	760	0	308				0	1859	180	341	856	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	909	0	404				0	1947	187	369	2987	0
Arrive On Green	0.26	0.00	0.26				0.00	0.41	0.41	0.14	0.78	0.00
Sat Flow, veh/h	3563	0	1585				0	4898	455	3456	5274	0
Grp Volume(v), veh/h	760	0	308				0	1335	704	341	856	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1781	1728	1702	0
Q Serve(g_s), s	15.2	0.0	13.5				0.0	28.5	28.8	7.3	3.6	0.0
Cycle Q Clear(g_c), s	15.2	0.0	13.5				0.0	28.5	28.8	7.3	3.6	0.0
Prop In Lane	1.00		1.00				0.00		0.26	1.00		0.00
Lane Grp Cap(c), veh/h	909	0	404				0	1401	733	369	2987	0
V/C Ratio(X)	0.84	0.00	0.76				0.00	0.95	0.96	0.93	0.29	0.00
Avail Cap(c_a), veh/h	1055	0	469				0	1401	733	369	2987	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.60	0.60	0.00
Uniform Delay (d), s/veh	26.5	0.0	25.8				0.0	21.4	21.5	31.9	3.9	0.0
Incr Delay (d2), s/veh	5.3	0.0	6.2				0.0	15.2	24.8	20.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	5.3				0.0	12.5	15.2	3.7	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	0.0	32.0				0.0	36.5	46.3	51.9	4.0	0.0
LnGrp LOS	C	A	C				A	D	D	D	A	A
Approach Vol, veh/h		1068						2039			1197	
Approach Delay, s/veh		31.8						39.9			17.7	
Approach LOS		C						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.0	37.1		24.9		50.1
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	8.0	27.8		22.2		40.8
Max Q Clear Time (g_c+I1), s	9.3	30.8		17.2		5.6
Green Ext Time (p_c), s	0.0	0.0		2.0		3.8

Intersection Summary	
HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

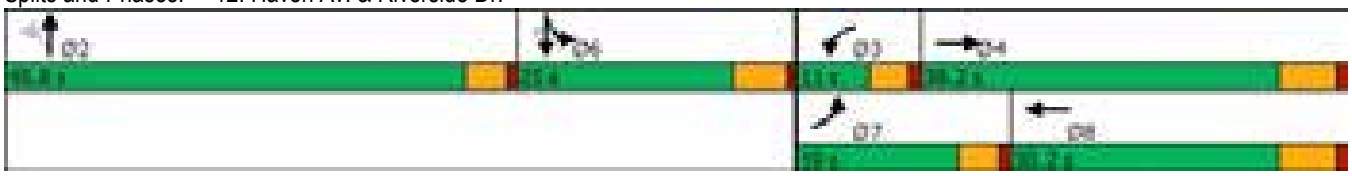
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	323	491	149	396	65	1061	293	693	229
Future Volume (vph)	323	491	149	396	65	1061	293	693	229
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	19.0	38.2	11.0	30.2	45.8	45.8	25.0	25.0	25.0
Total Split (%)	15.8%	31.8%	9.2%	25.2%	38.2%	38.2%	20.8%	20.8%	20.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	14.4	32.0	6.4	24.0		41.1	19.2	19.2	19.2
Actuated g/C Ratio	0.12	0.27	0.05	0.20		0.34	0.16	0.16	0.16
v/c Ratio	1.82	1.23	1.89	0.92		18.08	1.23	2.61	0.67
Control Delay	419.9	160.7	473.8	62.1		7715.4	176.7	757.8	27.9
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	419.9	160.7	473.8	62.1		7715.4	176.7	757.8	27.9
LOS	F	F	F	E		F	F	F	C
Approach Delay		258.2		146.3		7715.4		479.9	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 18.08	
Intersection Signal Delay: 2613.0	Intersection LOS: F
Intersection Capacity Utilization 167.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	323	491	45	149	396	185	65	1061	132	293	693	229
Future Volume (veh/h)	323	491	45	149	396	185	65	1061	132	293	693	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	344	522	45	159	421	161	69	1129	123	312	737	68
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	425	37	85	471	178	31	508	55	255	284	235
Arrive On Green	0.12	0.27	0.27	0.05	0.20	0.20	0.34	0.34	0.34	0.16	0.16	0.16
Sat Flow, veh/h	1594	1596	138	1594	2357	889	91	1483	162	1594	1772	1468
Grp Volume(v), veh/h	344	0	567	159	299	283	1321	0	0	312	737	68
Grp Sat Flow(s),veh/h/ln	1594	0	1733	1594	1683	1562	1735	0	0	1594	1772	1468
Q Serve(g_s), s	14.4	0.0	32.0	6.4	20.7	21.2	41.1	0.0	0.0	19.2	19.2	4.9
Cycle Q Clear(g_c), s	14.4	0.0	32.0	6.4	20.7	21.2	41.1	0.0	0.0	19.2	19.2	4.9
Prop In Lane	1.00		0.08	1.00		0.57	0.05		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	462	85	337	312	594	0	0	255	284	235
V/C Ratio(X)	1.80	0.00	1.23	1.87	0.89	0.91	2.22	0.00	0.00	1.22	2.60	0.29
Avail Cap(c_a), veh/h	191	0	462	85	337	312	594	0	0	255	284	235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	0.0	44.0	56.8	46.7	46.9	39.5	0.0	0.0	50.4	50.4	44.4
Incr Delay (d2), s/veh	379.5	0.0	120.0	432.9	23.8	28.3	555.5	0.0	0.0	130.4	730.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.7	0.0	28.4	12.7	10.6	10.4	108.9	0.0	0.0	16.6	65.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	432.3	0.0	164.0	489.7	70.5	75.2	595.0	0.0	0.0	180.8	780.4	45.1
LnGrp LOS	F	A	F	F	E	E	F	A	A	F	F	D
Approach Vol, veh/h		911			741			1321			1117	
Approach Delay, s/veh		265.3			162.2			595.0			568.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		45.8	11.0	38.2		25.0	19.0	30.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 41	6.4	32.0		19.2	14.4	24.0				
Max Q Clear Time (g_c+I1), s		43.1	8.4	34.0		21.2	16.4	23.2				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	0.3				

Intersection Summary	
HCM 6th Ctrl Delay	435.8
HCM 6th LOS	F

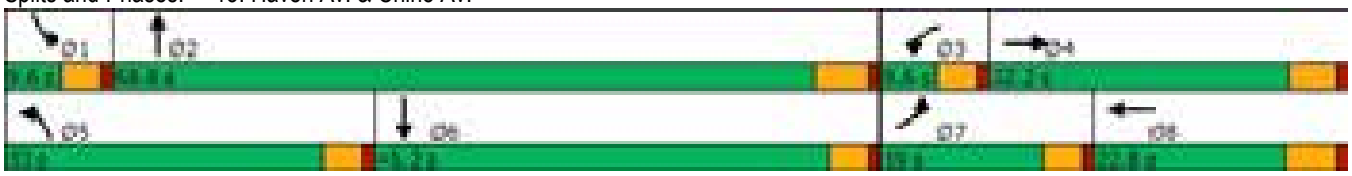
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	74	36	133	71	187	1198	772	
Future Volume (vph)	74	36	133	71	187	1198	772	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	19.0	32.2	9.6	22.8	33.0	68.6	45.2	9.6
Total Split (%)	15.8%	26.8%	8.0%	19.0%	27.5%	57.2%	37.7%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	9.4	16.1	5.0	13.5	17.1	64.7	44.1	
Actuated g/C Ratio	0.09	0.16	0.05	0.13	0.17	0.64	0.43	
v/c Ratio	0.54	0.41	1.67	0.31	0.75	1.58	1.25	
Control Delay	59.1	16.4	375.5	46.7	58.3	287.4	150.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.1	16.4	375.5	46.7	58.3	287.4	150.4	
LOS	E	B	F	D	E	F	F	
Approach Delay		31.5		261.4		263.7	150.4	
Approach LOS		C		F		F	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.67	
Intersection Signal Delay: 215.5	Intersection LOS: F
Intersection Capacity Utilization 129.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	36	100	133	71	0	187	1198	409	0	772	113
Future Volume (veh/h)	74	36	100	133	71	0	187	1198	409	0	772	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	79	39	106	145	77	0	199	1274	445	0	821	120
Peak Hour Factor	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	51	138	94	197	0	230	831	290	2	709	104
Arrive On Green	0.06	0.11	0.11	0.05	0.11	0.00	0.14	0.66	0.66	0.00	0.47	0.47
Sat Flow, veh/h	1594	445	1208	1781	1870	0	1594	1255	438	1781	1511	221
Grp Volume(v), veh/h	79	0	145	145	77	0	199	0	1719	0	0	941
Grp Sat Flow(s),veh/h/ln	1594	0	1653	1781	1870	0	1594	0	1693	1781	0	1732
Q Serve(g_s), s	4.6	0.0	8.1	5.0	3.6	0.0	11.6	0.0	62.8	0.0	0.0	44.5
Cycle Q Clear(g_c), s	4.6	0.0	8.1	5.0	3.6	0.0	11.6	0.0	62.8	0.0	0.0	44.5
Prop In Lane	1.00		0.73	1.00		0.00	1.00		0.26	1.00		0.13
Lane Grp Cap(c), veh/h	98	0	189	94	197	0	230	0	1121	2	0	812
V/C Ratio(X)	0.80	0.00	0.77	1.54	0.39	0.00	0.86	0.00	1.53	0.00	0.00	1.16
Avail Cap(c_a), veh/h	242	0	467	94	335	0	477	0	1121	94	0	812
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	43.9	0.0	40.8	44.9	39.6	0.0	39.7	0.0	16.0	0.0	0.0	25.2
Incr Delay (d2), s/veh	5.7	0.0	6.4	290.7	1.3	0.0	3.7	0.0	244.6	0.0	0.0	84.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	3.5	9.7	1.7	0.0	4.6	0.0	93.9	0.0	0.0	36.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	0.0	47.2	335.6	40.8	0.0	43.4	0.0	260.6	0.0	0.0	110.0
LnGrp LOS	D	A	D	F	D	A	D	A	F	A	A	F
Approach Vol, veh/h		224			222			1918			941	
Approach Delay, s/veh		48.0			233.4			238.1			110.0	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	68.6	9.6	16.6	18.3	50.3	10.4	15.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	62.8	5.0	* 27	28.4	* 41	14.4	17.0
Max Q Clear Time (g_c+I1), s	0.0	64.8	7.0	10.1	13.6	46.5	6.6	5.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6	0.2	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	188.4
HCM 6th LOS	F

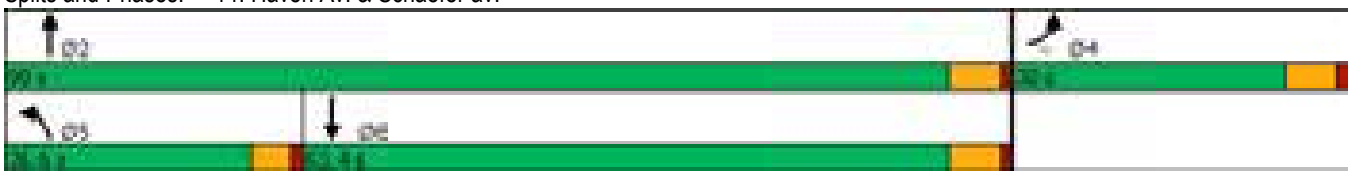
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	39	102	118	1728	1002
Future Volume (vph)	39	102	118	1728	1002
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	30.0	30.0	26.6	90.0	63.4
Total Split (%)	25.0%	25.0%	22.2%	75.0%	52.8%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.3	12.3	13.1	85.9	68.2
Actuated g/C Ratio	0.11	0.11	0.12	0.78	0.62
v/c Ratio	0.24	0.42	0.68	1.36	0.51
Control Delay	46.5	13.0	63.5	185.1	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	13.0	63.5	185.1	13.9
LOS	D	B	E	F	B
Approach Delay	22.2			177.3	13.9
Approach LOS	C			F	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.36	
Intersection Signal Delay: 114.5	Intersection LOS: F
Intersection Capacity Utilization 114.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	102	118	1728	1002	22
Future Volume (veh/h)	39	102	118	1728	1002	22
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	42	57	128	1878	1089	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	145	137	152	1411	2295	27
Arrive On Green	0.14	0.14	0.14	1.00	0.99	0.99
Sat Flow, veh/h	1594	1502	1594	1772	3494	42
Grp Volume(v), veh/h	42	57	128	1878	552	550
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1772	1763
Q Serve(g_s), s	2.4	3.6	8.1	82.2	0.9	0.9
Cycle Q Clear(g_c), s	2.4	3.6	8.1	82.2	0.9	0.9
Prop In Lane	1.00	1.00	1.00			0.02
Lane Grp Cap(c), veh/h	145	137	152	1411	1164	1158
V/C Ratio(X)	0.29	0.42	0.84	1.33	0.47	0.47
Avail Cap(c_a), veh/h	374	352	340	1446	1164	1158
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	42.0	43.5	0.0	0.3	0.3
Incr Delay (d2), s/veh	1.1	2.0	4.8	153.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.1	3.1	60.3	0.2	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.6	44.0	48.3	153.8	0.6	0.6
LnGrp LOS	D	D	D	F	A	A
Approach Vol, veh/h	99			2006	1102	
Approach Delay, s/veh	43.4			147.0	0.6	
Approach LOS	D			F	A	

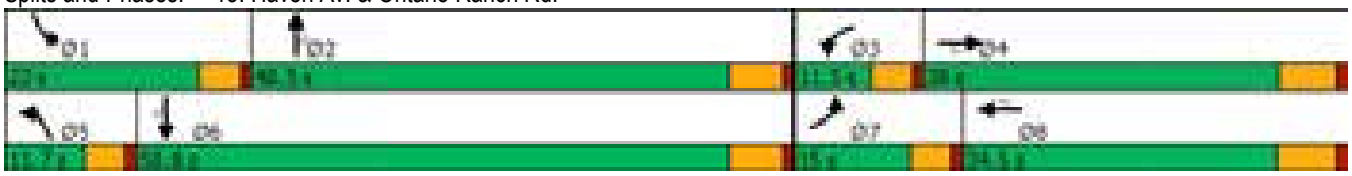
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		89.0		15.2	14.5	74.5
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		84.2		24.2	22.0	57.6
Max Q Clear Time (g_c+I1), s		84.2		5.6	10.1	2.9
Green Ext Time (p_c), s		0.0		0.2	0.1	8.1

Intersection Summary		
HCM 6th Ctrl Delay		93.5
HCM 6th LOS		F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	1198	17	75	1198	684	36	544	118	681	294	318
Future Volume (vph)	235	1198	17	75	1198	684	36	544	118	681	294	318
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	15.0	38.0	38.0	11.5	34.5	34.5	11.7	48.5	48.5	22.0	58.8	58.8
Total Split (%)	12.5%	31.7%	31.7%	9.6%	28.8%	28.8%	9.8%	40.4%	40.4%	18.3%	49.0%	49.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	10.4	34.3	34.3	6.5	28.0	28.0	6.4	41.1	41.1	17.4	56.2	56.2
Actuated g/C Ratio	0.09	0.29	0.29	0.05	0.24	0.24	0.05	0.35	0.35	0.15	0.47	0.47
v/c Ratio	1.82	0.84	0.03	0.50	0.77	1.24	0.45	0.96	0.21	3.16	0.38	0.41
Control Delay	428.1	46.5	0.1	65.7	46.1	146.1	71.8	65.2	2.8	997.9	22.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	428.1	46.5	0.1	65.7	46.1	146.1	71.8	65.2	2.8	997.9	22.7	7.2
LOS	F	D	A	E	D	F	E	E	A	F	C	A
Approach Delay		107.9			81.8			55.0			532.4	
Approach LOS		F			F			E			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.16	
Intersection Signal Delay: 193.3	Intersection LOS: F
Intersection Capacity Utilization 123.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	1198	17	75	1198	684	36	544	118	681	294	318
Future Volume (veh/h)	235	1198	17	75	1198	684	36	544	118	681	294	318
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	253	1288	7	81	1288	683	39	585	76	732	316	319
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	1507	425	122	1675	355	49	616	521	234	822	694
Arrive On Green	0.09	0.28	0.28	0.04	0.24	0.24	0.03	0.35	0.35	0.15	0.46	0.46
Sat Flow, veh/h	1594	5316	1500	3000	7088	1502	1594	1772	1500	1594	1772	1497
Grp Volume(v), veh/h	253	1288	7	81	1288	683	39	585	76	732	316	319
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1500	1772	1502	1594	1772	1500	1594	1772	1497
Q Serve(g_s), s	10.4	27.1	0.4	3.2	20.1	28.0	2.9	38.1	4.1	17.4	13.8	17.2
Cycle Q Clear(g_c), s	10.4	27.1	0.4	3.2	20.1	28.0	2.9	38.1	4.1	17.4	13.8	17.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	1507	425	122	1675	355	49	616	521	234	822	694
V/C Ratio(X)	1.81	0.85	0.02	0.67	0.77	1.92	0.80	0.95	0.15	3.13	0.38	0.46
Avail Cap(c_a), veh/h	140	1507	425	175	1675	355	96	639	541	234	822	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	40.1	30.5	56.0	42.2	45.2	57.1	37.7	26.6	50.5	20.7	21.6
Incr Delay (d2), s/veh	390.5	6.4	0.1	2.3	3.5	426.3	10.7	23.6	0.1	968.3	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.2	12.1	0.1	1.2	8.7	51.8	1.3	19.6	1.4	69.7	5.5	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	444.5	46.5	30.6	58.4	45.7	471.5	67.8	61.2	26.7	1018.8	21.0	22.1
LnGrp LOS	F	D	C	E	D	F	E	E	C	F	C	C
Approach Vol, veh/h		1548			2052			700			1367	
Approach Delay, s/veh		111.5			187.9			57.8			555.6	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	47.0	9.4	40.1	8.2	60.7	15.0	34.5
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	17.4	42.7	6.9	* 32	7.1	53.0	10.4	28.0
Max Q Clear Time (g_c+I1), s	19.4	40.1	5.2	29.1	4.9	19.2	12.4	30.0
Green Ext Time (p_c), s	0.0	1.0	0.0	1.8	0.0	2.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	239.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	5.4
Intersection LOS	A

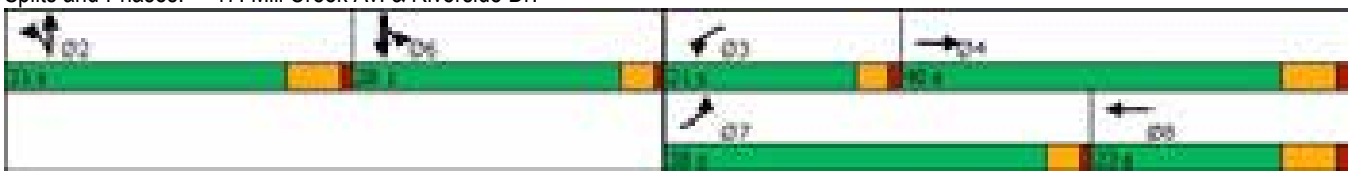
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	484	165	0	123
Demand Flow Rate, veh/h	493	168	0	125
Vehicles Circulating, veh/h	50	24	543	152
Vehicles Exiting, veh/h	227	519	0	40
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.4	3.7	0.0	4.0
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	493	168	0	125
Cap Entry Lane, veh/h	1311	1346	793	1182
Entry HV Adj Factor	0.981	0.982	1.000	0.984
Flow Entry, veh/h	484	165	0	123
Cap Entry, veh/h	1287	1323	793	1163
V/C Ratio	0.376	0.125	0.000	0.106
Control Delay, s/veh	6.4	3.7	4.5	4.0
LOS	A	A	A	A
95th %tile Queue, veh	2	0	0	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	318	212	231	226	207	75	396	83	155
Future Volume (vph)	318	212	231	226	207	75	396	83	155
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	38.0	40.0	21.0	23.0	31.0	31.0	31.0	28.0	28.0
Total Split (%)	31.7%	33.3%	17.5%	19.2%	25.8%	25.8%	25.8%	23.3%	23.3%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	31.1	29.5	17.2	15.6	22.4	22.4	22.4	23.2	23.2
Actuated g/C Ratio	0.28	0.26	0.15	0.14	0.20	0.20	0.20	0.21	0.21
v/c Ratio	0.92	0.62	1.21	0.80	0.83	0.27	0.72	0.32	0.91
Control Delay	68.4	21.7	166.9	55.0	66.9	41.7	10.3	43.5	73.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.4	21.7	166.9	55.0	66.9	41.7	10.3	43.5	73.1
LOS	E	C	F	D	E	D	B	D	E
Approach Delay		39.6		102.2		31.0			65.7
Approach LOS		D		F		C			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 112.4	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.21	
Intersection Signal Delay: 55.1	Intersection LOS: E
Intersection Capacity Utilization 79.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	318	212	300	231	226	90	207	75	396	83	155	94
Future Volume (veh/h)	318	212	300	231	226	90	207	75	396	83	155	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.99	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	403	268	228	292	286	63	262	95	273	105	196	68
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	429	432	353	256	371	80	330	367	309	327	249	86
Arrive On Green	0.27	0.24	0.24	0.16	0.13	0.13	0.21	0.21	0.21	0.20	0.20	0.20
Sat Flow, veh/h	1594	1792	1466	1594	2808	607	1594	1772	1493	1594	1215	422
Grp Volume(v), veh/h	403	265	231	292	178	171	262	95	273	105	0	264
Grp Sat Flow(s),veh/h/ln	1594	1772	1486	1594	1772	1643	1594	1772	1493	1594	0	1637
Q Serve(g_s), s	26.2	14.1	14.8	17.0	10.3	10.7	16.5	4.8	18.8	5.9	0.0	16.2
Cycle Q Clear(g_c), s	26.2	14.1	14.8	17.0	10.3	10.7	16.5	4.8	18.8	5.9	0.0	16.2
Prop In Lane	1.00		0.99	1.00		0.37	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	429	427	358	256	234	217	330	367	309	327	0	335
V/C Ratio(X)	0.94	0.62	0.65	1.14	0.76	0.79	0.79	0.26	0.88	0.32	0.00	0.79
Avail Cap(c_a), veh/h	511	568	477	256	284	264	379	421	355	361	0	371
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.9	35.9	36.2	44.5	44.4	44.5	39.9	35.2	40.8	35.9	0.0	39.9
Incr Delay (d2), s/veh	21.9	1.5	2.0	100.1	9.5	12.1	9.8	0.4	20.3	0.6	0.0	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	6.0	5.3	13.5	4.9	4.9	7.1	2.0	8.3	2.4	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	37.4	38.1	144.6	53.9	56.7	49.7	35.6	61.1	36.4	0.0	49.8
LnGrp LOS	E	D	D	F	D	E	D	D	E	D	A	D
Approach Vol, veh/h		899			641			630			369	
Approach Delay, s/veh		47.6			96.0			52.5			46.0	
Approach LOS		D			F			D			D	

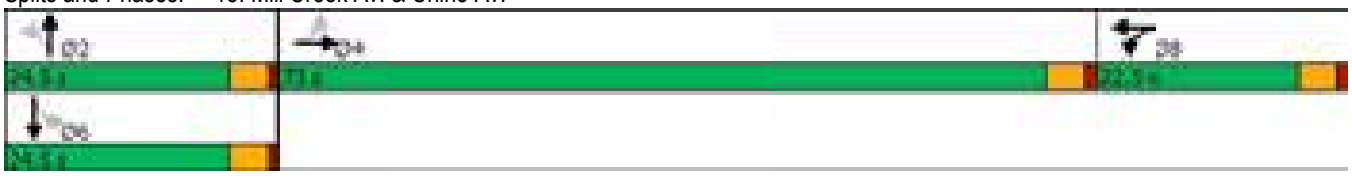
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.7	21.0	31.5		25.7	32.5	20.0				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		25.2	17.0	34.0		24.0	34.0	17.0				
Max Q Clear Time (g_c+I1), s		20.8	19.0	16.8		18.2	28.2	12.7				
Green Ext Time (p_c), s		1.0	0.0	2.5		0.9	0.3	0.7				

Intersection Summary												
HCM 6th Ctrl Delay			60.8									
HCM 6th LOS			E									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	203	248	14	81	5	92	26	118
Future Volume (vph)	203	248	14	81	5	92	26	118
Turn Type	Perm	NA	Split	NA	Perm	NA	Perm	NA
Protected Phases		4	8	8		2		6
Permitted Phases	4				2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	73.0	73.0	22.5	22.5	24.5	24.5	24.5	24.5
Total Split (%)	60.8%	60.8%	18.8%	18.8%	20.4%	20.4%	20.4%	20.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	68.6	68.6	11.7	11.7	20.0	20.0	20.0	20.0
Actuated g/C Ratio	0.60	0.60	0.10	0.10	0.18	0.18	0.18	0.18
v/c Ratio	3.40	0.26	0.15	0.53	0.08	0.59	0.38	0.95
Control Delay	1141.8	11.7	47.6	55.5	44.6	51.6	51.8	84.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1141.8	11.7	47.6	55.5	44.6	51.6	51.8	84.1
LOS	F	B	D	E	D	D	D	F
Approach Delay		502.4		53.8		51.4		79.4
Approach LOS		F		D		D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.40	
Intersection Signal Delay: 252.0	Intersection LOS: F
Intersection Capacity Utilization 35.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 18: Mill Creek Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	248	17	14	81	7	5	92	4	26	118	66
Future Volume (veh/h)	203	248	17	14	81	7	5	92	4	26	118	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	270	9	28	88	8	5	184	4	52	236	39
Peak Hour Factor	0.92	0.92	0.92	0.50	0.92	0.50	0.92	0.50	0.50	0.50	0.50	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	455	459	15	183	173	16	327	430	9	396	369	61
Arrive On Green	0.26	0.26	0.26	0.10	0.10	0.10	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	1800	60	1781	1689	154	1104	1824	40	1195	1565	259
Grp Volume(v), veh/h	221	0	279	28	0	96	5	0	188	52	0	275
Grp Sat Flow(s),veh/h/ln	1781	0	1860	1781	0	1843	1104	0	1863	1195	0	1824
Q Serve(g_s), s	3.5	0.0	4.4	0.5	0.0	1.6	0.1	0.0	2.8	1.3	0.0	4.5
Cycle Q Clear(g_c), s	3.5	0.0	4.4	0.5	0.0	1.6	4.6	0.0	2.8	4.1	0.0	4.5
Prop In Lane	1.00		0.03	1.00		0.08	1.00		0.02	1.00		0.14
Lane Grp Cap(c), veh/h	455	0	474	183	0	189	327	0	439	396	0	430
V/C Ratio(X)	0.49	0.00	0.59	0.15	0.00	0.51	0.02	0.00	0.43	0.13	0.00	0.64
Avail Cap(c_a), veh/h	3676	0	3837	966	0	999	732	0	1123	835	0	1099
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.5	0.0	10.8	13.6	0.0	14.1	13.5	0.0	10.8	12.5	0.0	11.4
Incr Delay (d2), s/veh	0.8	0.0	1.2	0.4	0.0	2.1	0.0	0.0	0.7	0.1	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.2	0.2	0.0	0.6	0.0	0.0	0.8	0.3	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	0.0	12.0	14.0	0.0	16.2	13.5	0.0	11.4	12.7	0.0	13.0
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		500			124			193			327	
Approach Delay, s/veh		11.7			15.7			11.5			13.0	
Approach LOS		B			B			B			B	

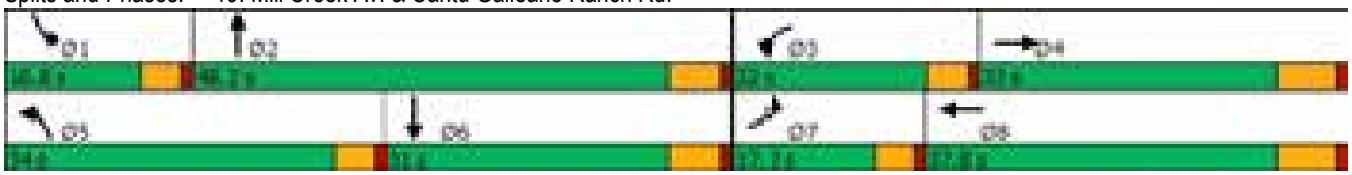
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.3		13.0		12.3		7.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.0		68.5		20.0		18.0				
Max Q Clear Time (g_c+I1), s		6.6		6.4		6.5		3.6				
Green Ext Time (p_c), s		0.7		2.2		1.3		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			12.5									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	121	877	274	610	462	67	115	22
Future Volume (vph)	121	877	274	610	462	67	115	22
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	9.6	23.5	9.6	27.8	9.6	27.8
Total Split (s)	17.2	33.0	22.0	37.8	34.0	48.2	16.8	31.0
Total Split (%)	14.3%	27.5%	18.3%	31.5%	28.3%	40.2%	14.0%	25.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	11.3	26.5	17.4	32.7	29.5	30.8	10.8	12.2
Actuated g/C Ratio	0.11	0.25	0.16	0.31	0.28	0.29	0.10	0.11
v/c Ratio	0.71	1.04	1.04	0.65	1.03	0.62	0.70	0.47
Control Delay	68.1	74.7	108.3	31.7	88.9	20.6	68.0	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	74.7	108.3	31.7	88.9	20.6	68.0	17.8
LOS	E	E	F	C	F	C	E	B
Approach Delay		74.1		49.3		59.5		42.3
Approach LOS		E		D		E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 107.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 60.4	Intersection LOS: E
Intersection Capacity Utilization 91.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 19: Mill Creek Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	877	333	274	610	308	462	67	282	115	22	98
Future Volume (veh/h)	121	877	333	274	610	308	462	67	282	115	22	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	953	199	298	663	172	502	73	166	125	24	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	1052	219	297	1318	337	503	148	337	153	43	115
Arrive On Green	0.09	0.25	0.25	0.17	0.33	0.33	0.28	0.29	0.29	0.09	0.10	0.10
Sat Flow, veh/h	1781	4234	881	1781	4053	1035	1781	508	1155	1781	451	1203
Grp Volume(v), veh/h	132	766	386	298	555	280	502	0	239	125	0	88
Grp Sat Flow(s),veh/h/ln	1781	1702	1712	1781	1702	1684	1781	0	1663	1781	0	1654
Q Serve(g_s), s	7.6	22.7	22.8	17.4	13.7	14.0	29.4	0.0	12.4	7.2	0.0	5.3
Cycle Q Clear(g_c), s	7.6	22.7	22.8	17.4	13.7	14.0	29.4	0.0	12.4	7.2	0.0	5.3
Prop In Lane	1.00		0.51	1.00		0.61	1.00		0.69	1.00		0.73
Lane Grp Cap(c), veh/h	161	846	425	297	1107	548	503	0	485	153	0	159
V/C Ratio(X)	0.82	0.90	0.91	1.00	0.50	0.51	1.00	0.00	0.49	0.81	0.00	0.55
Avail Cap(c_a), veh/h	215	866	435	297	1107	548	503	0	677	209	0	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.6	38.0	38.0	43.4	28.3	28.5	37.4	0.0	30.5	46.8	0.0	45.0
Incr Delay (d2), s/veh	12.7	12.8	22.4	52.6	0.4	0.8	39.8	0.0	0.8	11.9	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	10.3	11.5	11.5	5.2	5.3	17.6	0.0	4.8	3.6	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	50.7	60.4	96.0	28.7	29.2	77.2	0.0	31.3	58.7	0.0	48.0
LnGrp LOS	E	D	E	F	C	C	E	A	C	E	A	D
Approach Vol, veh/h		1284			1133			741			213	
Approach Delay, s/veh		54.5			46.5			62.4			54.2	
Approach LOS		D			D			E			D	

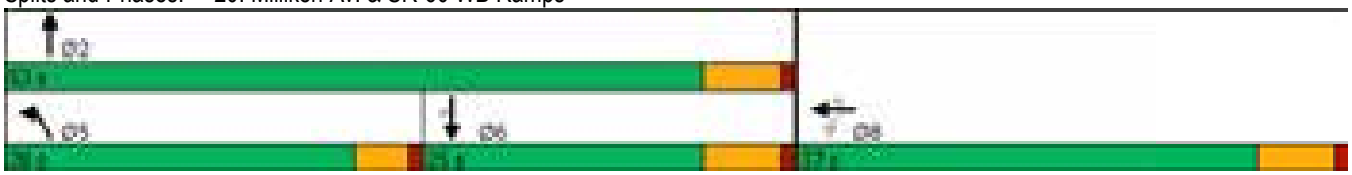
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	36.2	22.0	32.4	34.0	15.8	14.0	40.4
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	12.2	42.4	17.4	26.5	29.4	25.2	12.6	31.3
Max Q Clear Time (g_c+I1), s	9.2	14.4	19.4	24.8	31.4	7.3	9.6	16.0
Green Ext Time (p_c), s	0.0	1.4	0.0	1.1	0.0	0.3	0.0	4.2

Intersection Summary	
HCM 6th Ctrl Delay	53.5
HCM 6th LOS	D

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	526	403	1396	558	262
Future Volume (vph)	4	526	403	1396	558	262
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5	11.2	22.5	22.5	22.5
Total Split (s)	37.0	37.0	28.0	53.0	25.0	25.0
Total Split (%)	41.1%	41.1%	31.1%	58.9%	27.8%	27.8%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	28.5	28.5	21.9	43.7	17.2	17.2
Actuated g/C Ratio	0.34	0.34	0.26	0.52	0.20	0.20
v/c Ratio	0.71	0.90	0.90	0.74	0.76	0.50
Control Delay	32.7	43.4	56.3	19.3	39.7	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	43.4	56.3	19.3	39.7	7.7
LOS	C	D	E	B	D	A
Approach Delay	38.7			27.6	29.5	
Approach LOS	D			C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 84.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 31.0	Intersection LOS: C
Intersection Capacity Utilization 96.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	411	4	526	403	1396	0	0	558	262
Future Volume (veh/h)	0	0	0	411	4	526	403	1396	0	0	558	262
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				419	4	367	411	1424	0	0	569	228
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				519	5	466	457	1974	0	0	768	325
Arrive On Green				0.29	0.29	0.29	0.26	0.53	0.00	0.00	0.21	0.21
Sat Flow, veh/h				1765	17	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				423	0	367	411	1424	0	0	569	228
Grp Sat Flow(s),veh/h/ln				1782	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				15.3	0.0	14.8	15.5	20.2	0.0	0.0	9.9	9.3
Cycle Q Clear(g_c), s				15.3	0.0	14.8	15.5	20.2	0.0	0.0	9.9	9.3
Prop In Lane				0.99		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				524	0	466	457	1974	0	0	768	325
V/C Ratio(X)				0.81	0.00	0.79	0.90	0.72	0.00	0.00	0.74	0.70
Avail Cap(c_a), veh/h				788	0	701	598	2513	0	0	1010	428
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				22.8	0.0	22.6	25.0	12.5	0.0	0.0	25.9	25.7
Incr Delay (d2), s/veh				3.8	0.0	3.5	11.8	0.8	0.0	0.0	2.1	3.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.1	0.0	5.3	7.2	6.3	0.0	0.0	4.1	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				26.5	0.0	26.1	36.8	13.3	0.0	0.0	28.0	29.1
LnGrp LOS				C	A	C	D	B	A	A	C	C
Approach Vol, veh/h					790			1835			797	
Approach Delay, s/veh					26.3			18.6			28.3	
Approach LOS					C			B			C	

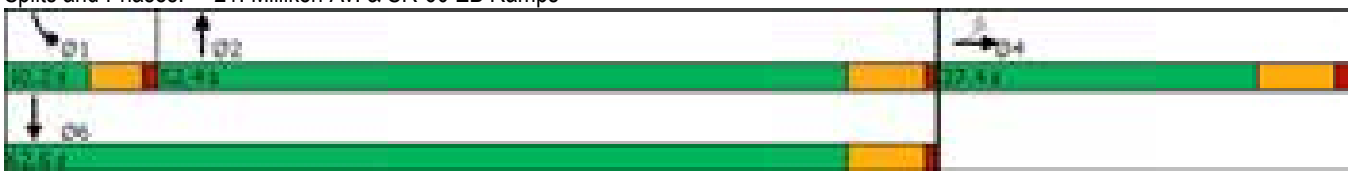
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.0			22.5	20.5		26.7				
Change Period (Y+Rc), s		6.2			4.6	6.2		6.2				
Max Green Setting (Gmax), s		46.8			23.4	18.8		30.8				
Max Q Clear Time (g_c+I1), s		22.2			17.5	11.9		17.3				
Green Ext Time (p_c), s		10.8			0.3	2.4		3.2				

Intersection Summary												
HCM 6th Ctrl Delay			22.6									
HCM 6th LOS			C									

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	436	3	1419	85	863
Future Volume (vph)	436	3	1419	85	863
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	22.5	9.6	22.5
Total Split (s)	27.4	27.4	52.4	10.2	62.6
Total Split (%)	30.4%	30.4%	58.2%	11.3%	69.6%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	21.2	21.2	46.2	5.6	56.4
Actuated g/C Ratio	0.24	0.24	0.51	0.06	0.63
v/c Ratio	0.97	0.83	1.04	0.80	0.38
Control Delay	73.6	34.9	53.9	88.4	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	73.6	34.9	53.9	88.4	8.8
LOS	E	C	D	F	A
Approach Delay		53.9	53.9		16.0
Approach LOS		D	D		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 44.0	Intersection LOS: D
Intersection Capacity Utilization 96.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	436	3	361	0	0	0	0	1419	475	85	863	0
Future Volume (veh/h)	436	3	361	0	0	0	0	1419	475	85	863	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	319	185	186				0	1463	253	88	890	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	419	201	203				0	1590	270	112	2338	0
Arrive On Green	0.24	0.24	0.24				0.00	0.51	0.51	0.06	0.62	0.00
Sat Flow, veh/h	1781	855	860				0	3116	529	1781	3741	0
Grp Volume(v), veh/h	319	0	371				0	867	849	88	890	0
Grp Sat Flow(s),veh/h/ln	1781	0	1716				0	1870	1775	1781	1870	0
Q Serve(g_s), s	14.8	0.0	18.7				0.0	37.6	39.8	4.3	10.4	0.0
Cycle Q Clear(g_c), s	14.8	0.0	18.7				0.0	37.6	39.8	4.3	10.4	0.0
Prop In Lane	1.00		0.50				0.00		0.30	1.00		0.00
Lane Grp Cap(c), veh/h	419	0	404				0	954	905	112	2338	0
V/C Ratio(X)	0.76	0.00	0.92				0.00	0.91	0.94	0.78	0.38	0.00
Avail Cap(c_a), veh/h	425	0	409				0	973	923	112	2375	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.6	0.0	33.1				0.0	19.9	20.4	41.0	8.2	0.0
Incr Delay (d2), s/veh	7.7	0.0	25.3				0.0	12.1	16.4	27.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	10.1				0.0	16.7	17.6	2.6	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	0.0	58.4				0.0	32.0	36.8	68.3	8.3	0.0
LnGrp LOS	D	A	E				A	C	D	E	A	A
Approach Vol, veh/h		690						1716			978	
Approach Delay, s/veh		49.6						34.4			13.7	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.2	51.5		27.1		61.7
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	5.6	46.2		21.2		56.4
Max Q Clear Time (g_c+I1), s	6.3	41.8		20.7		12.4
Green Ext Time (p_c), s	0.0	3.5		0.2		6.5

Intersection Summary	
HCM 6th Ctrl Delay	31.5
HCM 6th LOS	C

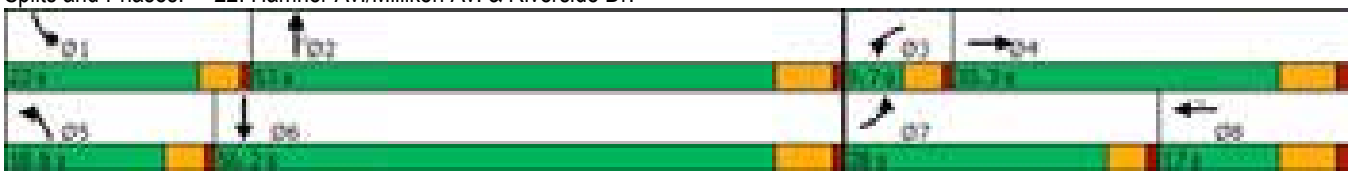
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	340	215	28	147	243	144	1267	58	244	776
Future Volume (vph)	340	215	28	147	243	144	1267	58	244	776
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	28.0	35.3	9.7	17.0	17.0	18.8	53.0	53.0	22.0	56.2
Total Split (%)	23.3%	29.4%	8.1%	14.2%	14.2%	15.7%	44.2%	44.2%	18.3%	46.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	23.4	33.0	5.1	10.8	10.8	13.9	46.8	46.8	17.4	50.3
Actuated g/C Ratio	0.20	0.28	0.04	0.09	0.09	0.12	0.39	0.39	0.14	0.42
v/c Ratio	1.27	0.87	0.48	1.07	0.85	0.91	1.11	0.10	1.22	0.82
Control Delay	184.4	59.5	79.6	143.0	37.2	99.4	97.4	0.3	176.1	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	184.4	59.5	79.6	143.0	37.2	99.4	97.4	0.3	176.1	36.0
LOS	F	E	E	F	D	F	F	A	F	D
Approach Delay		120.2		77.3			93.7			63.7
Approach LOS		F		E			F			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.27	
Intersection Signal Delay: 87.1	Intersection LOS: F
Intersection Capacity Utilization 99.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	215	144	28	147	243	144	1267	58	244	776	211
Future Volume (veh/h)	340	215	144	28	147	243	144	1267	58	244	776	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	391	247	86	32	169	141	166	1456	38	280	892	128
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	311	324	113	44	159	135	189	1313	586	231	1231	177
Arrive On Green	0.20	0.26	0.26	0.03	0.09	0.09	0.12	0.39	0.39	0.14	0.42	0.42
Sat Flow, veh/h	1594	1256	437	1594	1772	1502	1594	3367	1502	1594	2955	424
Grp Volume(v), veh/h	391	0	333	32	169	141	166	1456	38	280	508	512
Grp Sat Flow(s),veh/h/ln	1594	0	1693	1594	1772	1502	1594	1683	1502	1594	1683	1696
Q Serve(g_s), s	23.4	0.0	21.8	2.4	10.8	10.8	12.3	46.8	1.9	17.4	30.3	30.3
Cycle Q Clear(g_c), s	23.4	0.0	21.8	2.4	10.8	10.8	12.3	46.8	1.9	17.4	30.3	30.3
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	311	0	436	44	159	135	189	1313	586	231	701	707
V/C Ratio(X)	1.26	0.00	0.76	0.73	1.06	1.04	0.88	1.11	0.06	1.21	0.72	0.72
Avail Cap(c_a), veh/h	311	0	436	68	159	135	189	1313	586	231	701	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	0.0	41.2	57.9	54.6	54.6	52.1	36.6	22.9	51.3	29.2	29.2
Incr Delay (d2), s/veh	139.6	0.0	7.8	8.6	88.0	89.4	33.7	60.3	0.0	128.3	3.7	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.9	0.0	9.6	1.0	8.6	7.3	6.5	28.8	0.7	14.9	12.1	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	187.9	0.0	49.0	66.5	142.6	144.0	85.7	96.9	23.0	179.6	33.0	32.9
LnGrp LOS	F	A	D	E	F	F	F	F	C	F	C	C
Approach Vol, veh/h		724			342			1660			1300	
Approach Delay, s/veh		124.0			136.1			94.1			64.5	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	53.0	7.9	37.1	18.8	56.2	28.0	17.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.4	46.8	5.1	29.1	14.2	50.0	23.4	10.8
Max Q Clear Time (g_c+I1), s	19.4	48.8	4.4	23.8	14.3	32.3	25.4	12.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	5.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	93.5
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	59.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	166	139	57	1320	838	68
Future Vol, veh/h	166	139	57	1320	838	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	189	158	65	1500	952	77

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1871	991	1029	0	-	0
Stage 1	991	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	~ 71	298	673	-	-	-
Stage 1	358	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 30	298	673	-	-	-
Mov Cap-2 Maneuver	~ 133	-	-	-	-	-
Stage 1	~ 151	-	-	-	-	-
Stage 2	367	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s$	489.6	3.2	0
HCM LOS	F		

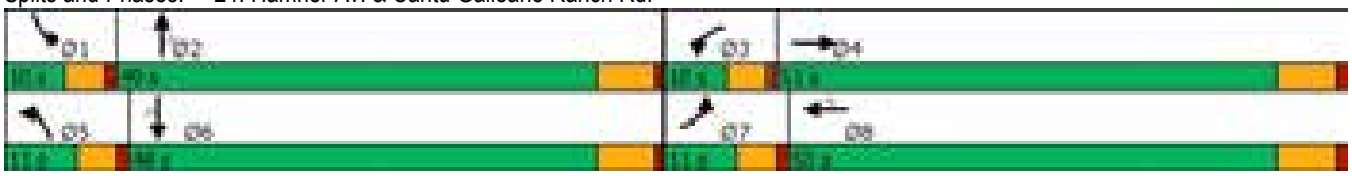
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	673	-	178	-	-
HCM Lane V/C Ratio	0.096	-	1.947	-	-
HCM Control Delay (s)	10.9	2.9	$ 489.6	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.3	-	26.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	453	1494	311	1600	287	388	608	419	230	250	457
Future Volume (vph)	453	1494	311	1600	287	388	608	419	230	250	457
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	11.0	51.0	10.0	50.0	50.0	11.0	49.0	49.0	10.0	48.0	48.0
Total Split (%)	9.2%	42.5%	8.3%	41.7%	41.7%	9.2%	40.8%	40.8%	8.3%	40.0%	40.0%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	44.8	5.4	43.8	43.8	6.4	32.7	32.7	5.4	31.7	31.7
Actuated g/C Ratio	0.06	0.41	0.05	0.40	0.40	0.06	0.30	0.30	0.05	0.29	0.29
v/c Ratio	2.36	0.71	1.92	1.19	0.41	2.02	0.42	0.79	1.42	0.26	0.89
Control Delay	652.2	29.7	464.0	123.9	12.5	504.7	31.5	36.8	259.5	30.1	47.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	652.2	29.7	464.0	123.9	12.5	504.7	31.5	36.8	259.5	30.1	47.4
LOS	F	C	F	F	B	F	C	D	F	C	D
Approach Delay		157.4		157.4			162.9			95.0	
Approach LOS		F		F			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.36	
Intersection Signal Delay: 149.9	Intersection LOS: F
Intersection Capacity Utilization 98.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	453	1494	261	311	1600	287	388	608	419	230	250	457
Future Volume (veh/h)	453	1494	261	311	1600	287	388	608	419	230	250	457
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	472	1556	147	324	1667	164	404	633	306	240	260	257
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	216	2612	247	182	1506	672	216	1265	393	182	846	377
Arrive On Green	0.06	0.43	0.43	0.05	0.42	0.42	0.06	0.25	0.25	0.05	0.24	0.24
Sat Flow, veh/h	3456	6025	569	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	472	1246	457	324	1667	164	404	633	306	240	260	257
Grp Sat Flow(s),veh/h/ln	1728	1609	1768	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	6.4	20.2	20.3	5.4	43.5	6.8	6.4	10.9	18.5	5.4	6.2	15.1
Cycle Q Clear(g_c), s	6.4	20.2	20.3	5.4	43.5	6.8	6.4	10.9	18.5	5.4	6.2	15.1
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	2092	767	182	1506	672	216	1265	393	182	846	377
V/C Ratio(X)	2.19	0.60	0.60	1.78	1.11	0.24	1.87	0.50	0.78	1.32	0.31	0.68
Avail Cap(c_a), veh/h	216	2092	767	182	1506	672	216	2129	661	182	1447	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	22.2	22.2	48.6	29.6	19.0	48.1	33.1	36.0	48.6	32.1	35.6
Incr Delay (d2), s/veh	550.5	0.5	1.3	373.1	58.2	0.2	410.7	0.3	3.4	177.1	0.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	6.9	7.7	11.6	28.4	2.3	14.9	4.3	7.0	6.7	2.5	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	598.6	22.7	23.5	421.7	87.8	19.2	458.9	33.5	39.4	225.8	32.3	37.7
LnGrp LOS	F	C	C	F	F	B	F	C	D	F	C	D
Approach Vol, veh/h		2175			2155			1343			757	
Approach Delay, s/veh		147.8			132.8			162.8			95.5	
Approach LOS		F			F			F			F	

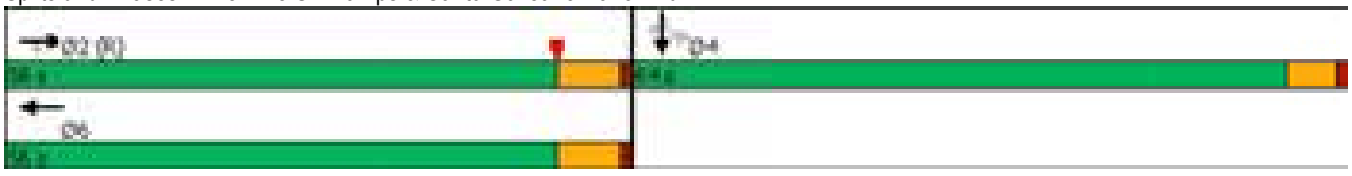
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	31.6	10.0	51.0	11.0	30.6	11.0	50.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	5.4	42.8	5.4	44.5	6.4	41.8	6.4	43.5
Max Q Clear Time (g_c+I1), s	7.4	20.5	7.4	22.3	8.4	17.1	8.4	45.5
Green Ext Time (p_c), s	0.0	5.0	0.0	11.2	0.0	2.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	139.7
HCM 6th LOS	F

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1346	835	1327	168	258	0	1362
Future Volume (vph)	1346	835	1327	168	258	0	1362
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	56.0	56.0	56.0		64.0	64.0	64.0
Total Split (%)	46.7%	46.7%	46.7%		53.3%	53.3%	53.3%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	Min		Min	Min	Min
Act Effct Green (s)	49.2	49.2	49.2	120.0	58.5	58.5	58.5
Actuated g/C Ratio	0.41	0.41	0.41	1.00	0.49	0.49	0.49
v/c Ratio	0.70	0.77	0.99	0.07	0.31	1.04	1.01
Control Delay	31.6	6.7	65.5	0.0	19.8	74.5	64.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	6.7	65.5	0.0	19.8	74.5	64.2
LOS	C	A	E	A	B	E	E
Approach Delay	22.0		58.1			62.2	
Approach LOS	C		E			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 44.5	Intersection LOS: D
Intersection Capacity Utilization 103.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1346	835	0	1327	168	0	0	0	258	0	1362
Future Volume (veh/h)	0	1346	835	0	1327	168	0	0	0	258	0	1362
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1463	0	0	1442	0				187	0	1105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2601		0	1810					691	0	1231
Arrive On Green	0.00	0.51	0.00	0.00	1.00	0.00				0.39	0.00	0.39
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	1463	0	0	1442	0				187	0	1105
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	23.6	0.0	0.0	0.0	0.0				8.6	0.0	39.3
Cycle Q Clear(g_c), s	0.0	23.6	0.0	0.0	0.0	0.0				8.6	0.0	39.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2601		0	1810					691	0	1231
V/C Ratio(X)	0.00	0.56		0.00	0.80					0.27	0.00	0.90
Avail Cap(c_a), veh/h	0	2601		0	1810					868	0	1545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.51	0.00	0.00	0.56	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.2	0.0	0.0	0.0	0.0				25.1	0.0	34.5
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	1.5	0.0				0.2	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.5	0.0	0.0	0.4	0.0				3.6	0.0	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.7	0.0	0.0	1.5	0.0				25.3	0.0	40.7
LnGrp LOS	A	C		A	A					C	A	D
Approach Vol, veh/h		1463	A		1442	A					1292	
Approach Delay, s/veh		20.7			1.5						38.5	
Approach LOS		C			A						D	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		67.9		52.1		67.9						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		49.2		58.5		49.2						
Max Q Clear Time (g_c+I1), s		25.6		41.3		2.0						
Green Ext Time (p_c), s		10.2		5.3		13.1						

Intersection Summary		
HCM 6th Ctrl Delay		19.6
HCM 6th LOS		B

Notes

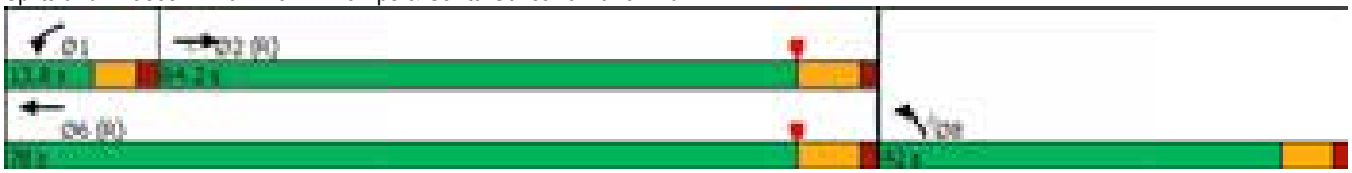
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	512	1102	194	488	1007	377
Future Volume (vph)	512	1102	194	488	1007	377
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.5	22.5	22.5	22.5
Total Split (s)	64.2	64.2	13.8	78.0	42.0	42.0
Total Split (%)	53.5%	53.5%	11.5%	65.0%	35.0%	35.0%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	54.5	54.5	7.8	68.3	38.4	38.4
Actuated g/C Ratio	0.45	0.45	0.06	0.57	0.32	0.32
v/c Ratio	0.24	0.99	0.95	0.18	1.03	0.54
Control Delay	10.4	48.4	103.9	12.3	76.5	9.3
Queue Delay	0.0	16.2	0.0	0.0	0.0	0.0
Total Delay	10.4	64.6	103.9	12.3	76.5	9.3
LOS	B	E	F	B	E	A
Approach Delay	47.4			38.4	60.0	
Approach LOS	D			D	E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 50.5	Intersection LOS: D
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	512	1102	194	488	1007	377
Future Volume (veh/h)	512	1102	194	488	1007	377
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	557	655	211	530	1095	225
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2421	752	225	3008	1069	476
Arrive On Green	0.79	0.79	0.07	0.59	0.30	0.30
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	557	655	211	530	1095	225
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	3.3	33.3	7.3	5.7	36.0	13.9
Cycle Q Clear(g_c), s	3.3	33.3	7.3	5.7	36.0	13.9
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2421	752	225	3008	1069	476
V/C Ratio(X)	0.23	0.87	0.94	0.18	1.02	0.47
Avail Cap(c_a), veh/h	2421	752	225	3008	1069	476
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.89	0.89	1.00	1.00
Uniform Delay (d), s/veh	6.9	10.0	55.9	11.3	42.0	34.3
Incr Delay (d2), s/veh	0.2	10.0	40.3	0.1	33.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	6.3	4.3	1.9	20.1	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.1	20.0	96.2	11.4	75.9	35.0
LnGrp LOS	A	C	F	B	F	C
Approach Vol, veh/h	1212			741	1320	
Approach Delay, s/veh	14.1			35.6	69.0	
Approach LOS	B			D	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	13.8	64.2				78.0	42.0
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	7.8	56.9				70.7	36.0
Max Q Clear Time (g_c+I1), s	9.3	35.3				7.7	38.0
Green Ext Time (p_c), s	0.0	6.0				3.4	0.0

Intersection Summary			
HCM 6th Ctrl Delay		41.1	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	402	306	278	27	240	250	285	17	20	56	143
Future Volume (vph)	402	306	278	27	240	250	285	17	20	56	143
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	17.0	47.9	47.9	9.6	40.5	13.0	52.2	52.2	10.3	49.5	49.5
Total Split (%)	14.2%	39.9%	39.9%	8.0%	33.8%	10.8%	43.5%	43.5%	8.6%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.5	27.2	27.2	5.4	12.1	9.1	24.5	24.5	5.7	11.6	11.6
Actuated g/C Ratio	0.19	0.39	0.39	0.08	0.17	0.13	0.35	0.35	0.08	0.16	0.16
v/c Ratio	0.67	0.13	0.38	0.11	0.35	0.61	0.25	0.03	0.15	0.20	0.40
Control Delay	35.8	16.7	4.6	39.4	24.4	39.7	18.0	0.1	41.3	26.2	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	16.7	4.6	39.4	24.4	39.7	18.0	0.1	41.3	26.2	7.6
LOS	D	B	A	D	C	D	B	A	D	C	A
Approach Delay		21.1			25.7		27.3			15.5	
Approach LOS		C			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 70.4	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 22.8	Intersection LOS: C
Intersection Capacity Utilization 47.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	402	306	278	27	240	42	250	285	17	20	56	143
Future Volume (veh/h)	402	306	278	27	240	42	250	285	17	20	56	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	437	333	192	29	261	26	272	310	8	22	61	128
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	585	1674	412	115	589	57	403	789	352	47	247	209
Arrive On Green	0.17	0.26	0.26	0.03	0.12	0.12	0.12	0.22	0.22	0.03	0.13	0.13
Sat Flow, veh/h	3456	6434	1585	3456	4730	461	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	437	333	192	29	186	101	272	310	8	22	61	128
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1787	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	5.8	2.0	4.9	0.4	2.5	2.5	3.7	3.6	0.2	0.6	1.4	3.7
Cycle Q Clear(g_c), s	5.8	2.0	4.9	0.4	2.5	2.5	3.7	3.6	0.2	0.6	1.4	3.7
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	585	1674	412	115	424	222	403	789	352	47	247	209
V/C Ratio(X)	0.75	0.20	0.47	0.25	0.44	0.45	0.67	0.39	0.02	0.47	0.25	0.61
Avail Cap(c_a), veh/h	884	5494	1353	356	2387	1253	599	3350	1494	209	1659	1406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.2	14.0	15.1	22.8	19.7	19.7	20.5	16.1	14.7	23.3	18.9	19.9
Incr Delay (d2), s/veh	0.7	0.1	0.8	0.4	0.7	1.4	0.7	0.3	0.0	2.7	0.5	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.5	1.4	0.1	0.8	0.9	1.3	1.2	0.1	0.2	0.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	14.0	15.9	23.3	20.4	21.1	21.3	16.4	14.8	25.9	19.4	22.8
LnGrp LOS	B	B	B	C	C	C	C	B	B	C	B	C
Approach Vol, veh/h		962			316			590			211	
Approach Delay, s/veh		17.1			20.9			18.6			22.1	
Approach LOS		B			C			B			C	

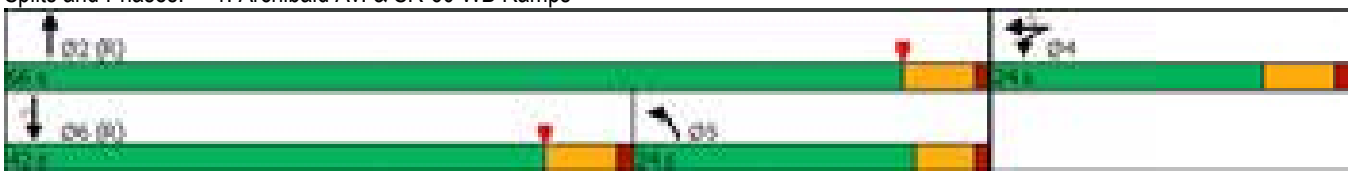
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	17.3	6.2	19.1	10.3	12.9	12.8	12.5
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	5.7	45.7	5.0	41.4	8.4	43.0	12.4	34.0
Max Q Clear Time (g_c+I1), s	2.6	5.6	2.4	6.9	5.7	5.7	7.8	4.5
Green Ext Time (p_c), s	0.0	2.0	0.0	2.6	0.1	0.7	0.4	1.5

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	380	1	176	493	539	1290	321
Future Volume (vph)	380	1	176	493	539	1290	321
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	24.0	24.0	24.0	24.0	66.0	42.0	42.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	73.3%	46.7%	46.7%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	15.6	15.6	15.6	16.8	62.8	41.0	41.0
Actuated g/C Ratio	0.17	0.17	0.17	0.19	0.70	0.46	0.46
v/c Ratio	0.71	0.72	0.41	0.79	0.16	0.45	0.37
Control Delay	48.3	48.2	8.6	39.5	1.2	18.3	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	48.2	8.6	39.5	1.2	18.3	3.5
LOS	D	D	A	D	A	B	A
Approach Delay		36.9			19.5	15.3	
Approach LOS		D			B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 20.4	Intersection LOS: C
Intersection Capacity Utilization 67.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	380	1	176	493	539	0	0	1290	321
Future Volume (veh/h)	0	0	0	380	1	176	493	539	0	0	1290	321
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				411	0	48	503	550	0	0	1316	228
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				512	0	228	1241	3714	0	0	1955	469
Arrive On Green				0.14	0.00	0.14	0.12	0.24	0.00	0.00	0.30	0.30
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	6696	1543
Grp Volume(v), veh/h				411	0	48	503	550	0	0	1316	228
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1609	1543
Q Serve(g_s), s				10.0	0.0	2.4	12.1	7.6	0.0	0.0	16.1	10.9
Cycle Q Clear(g_c), s				10.0	0.0	2.4	12.1	7.6	0.0	0.0	16.1	10.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				512	0	228	1241	3714	0	0	1955	469
V/C Ratio(X)				0.80	0.00	0.21	0.41	0.15	0.00	0.00	0.67	0.49
Avail Cap(c_a), veh/h				720	0	321	1241	3714	0	0	2588	621
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.96	0.96	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.3	0.0	34.0	30.8	12.2	0.0	0.0	27.4	25.6
Incr Delay (d2), s/veh				4.4	0.0	0.5	0.1	0.1	0.0	0.0	1.9	3.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.5	0.0	2.3	5.4	2.4	0.0	0.0	6.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.7	0.0	34.5	30.8	12.3	0.0	0.0	29.3	29.2
LnGrp LOS				D	A	C	C	B	A	A	C	C
Approach Vol, veh/h					459			1053			1544	
Approach Delay, s/veh					41.0			21.2			29.3	
Approach LOS					D			C			C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	71.3	18.7	38.1	33.1
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	60.2	18.2	19.0	* 36
Max Q Clear Time (g_c+I1), s	9.6	12.0	14.1	18.1
Green Ext Time (p_c), s	3.8	0.9	0.5	9.2

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

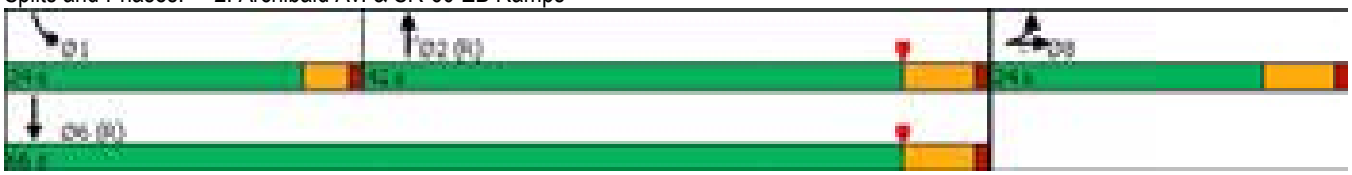
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	112	1	426	922	505	477	1193
Future Volume (vph)	112	1	426	922	505	477	1193
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	24.0	24.0	24.0	42.0	42.0	24.0	66.0
Total Split (%)	26.7%	26.7%	26.7%	46.7%	46.7%	26.7%	73.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	13.2	13.2	13.2	44.7	44.7	16.6	65.2
Actuated g/C Ratio	0.15	0.15	0.15	0.50	0.50	0.18	0.72
v/c Ratio	0.42	0.75	0.72	0.29	0.49	0.76	0.33
Control Delay	38.6	35.2	32.4	14.9	3.6	53.2	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	35.2	32.4	14.9	3.6	53.2	1.1
LOS	D	D	C	B	A	D	A
Approach Delay		34.7		10.9			16.0
Approach LOS		C		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 67.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1	426	0	0	0	0	922	505	477	1193	0
Future Volume (veh/h)	112	1	426	0	0	0	0	922	505	477	1193	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	76	0	236				0	931	334	482	1205	0
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	183	0	326				0	3629	875	552	3923	0
Arrive On Green	0.10	0.00	0.10				0.00	0.56	0.56	0.32	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	76	0	236				0	931	334	482	1205	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1551	1728	1702	0
Q Serve(g_s), s	3.6	0.0	6.5				0.0	6.6	10.8	11.8	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	6.5				0.0	6.6	10.8	11.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	183	0	326				0	3629	875	552	3923	0
V/C Ratio(X)	0.42	0.00	0.72				0.00	0.26	0.38	0.87	0.31	0.00
Avail Cap(c_a), veh/h	360	0	641				0	3629	875	768	3923	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.87	0.87	0.00
Uniform Delay (d), s/veh	37.8	0.0	39.1				0.0	10.0	10.9	29.7	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	3.1				0.0	0.2	1.3	5.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	2.5				0.0	2.0	3.3	4.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	0.0	42.2				0.0	10.2	12.2	35.3	0.2	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		312						1265			1687	
Approach Delay, s/veh		41.5						10.7			10.2	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	18.4	56.6				74.9		15.1				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	20.0	36.2				60.2		18.2				
Max Q Clear Time (g_c+I1), s	13.8	12.8				2.0		8.5				
Green Ext Time (p_c), s	0.5	7.5				10.0		0.8				

Intersection Summary		
HCM 6th Ctrl Delay		13.4
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	166	614	339	113	456	139	275	877	243	891
Future Volume (vph)	166	614	339	113	456	139	275	877	243	891
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	21.0	42.2	42.2	17.0	38.2	38.2	27.0	32.8	28.0	33.8
Total Split (%)	17.5%	35.2%	35.2%	14.2%	31.8%	31.8%	22.5%	27.3%	23.3%	28.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.5	27.7	27.7	10.9	24.1	24.1	21.7	25.6	23.9	27.8
Actuated g/C Ratio	0.13	0.25	0.25	0.10	0.22	0.22	0.20	0.23	0.22	0.25
v/c Ratio	0.81	0.74	0.55	0.73	0.63	0.33	0.90	0.87	0.72	0.92
Control Delay	75.7	43.7	7.0	76.1	43.1	7.9	75.8	50.1	55.2	52.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.7	43.7	7.0	76.1	43.1	7.9	75.8	50.1	55.2	52.3
LOS	E	D	A	E	D	A	E	D	E	D
Approach Delay		37.3			41.4			55.9		52.8
Approach LOS		D			D			E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 47.9	Intersection LOS: D
Intersection Capacity Utilization 85.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	614	339	113	456	139	275	877	70	243	891	196
Future Volume (veh/h)	166	614	339	113	456	139	275	877	70	243	891	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	169	627	277	115	465	93	281	895	64	248	909	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	845	367	139	724	321	308	1083	77	316	1051	192
Arrive On Green	0.12	0.25	0.25	0.09	0.21	0.21	0.19	0.24	0.24	0.20	0.26	0.26
Sat Flow, veh/h	1594	3367	1465	1594	3367	1493	1594	4603	328	1594	4101	750
Grp Volume(v), veh/h	169	627	277	115	465	93	281	626	333	248	714	362
Grp Sat Flow(s),veh/h/ln	1594	1683	1465	1594	1683	1493	1594	1612	1706	1594	1612	1626
Q Serve(g_s), s	10.6	17.5	17.8	7.2	12.8	3.1	17.6	18.8	18.9	15.0	21.5	21.7
Cycle Q Clear(g_c), s	10.6	17.5	17.8	7.2	12.8	3.1	17.6	18.8	18.9	15.0	21.5	21.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.46
Lane Grp Cap(c), veh/h	197	845	367	139	724	321	308	759	402	316	826	417
V/C Ratio(X)	0.86	0.74	0.75	0.83	0.64	0.29	0.91	0.83	0.83	0.78	0.86	0.87
Avail Cap(c_a), veh/h	257	1190	518	194	1058	469	351	843	446	366	874	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	35.1	35.2	45.7	36.4	11.7	40.2	36.9	37.0	38.7	36.2	36.2
Incr Delay (d2), s/veh	16.6	1.6	3.9	13.1	1.0	0.5	23.9	6.2	11.4	7.8	8.7	16.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	6.9	6.3	3.2	5.1	1.8	8.5	7.6	8.6	6.2	8.9	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	36.7	39.2	58.8	37.4	12.2	64.1	43.1	48.4	46.5	44.8	52.4
LnGrp LOS	E	D	D	E	D	B	E	D	D	D	D	D
Approach Vol, veh/h		1073			673			1240			1324	
Approach Delay, s/veh		41.0			37.5			49.3			47.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.4	30.2	13.5	31.7	24.3	32.3	17.2	28.1
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	23.4	* 27	12.4	36.0	22.4	27.6	16.4	32.0
Max Q Clear Time (g_c+I1), s	17.0	20.9	9.2	19.8	19.6	23.7	12.6	14.8
Green Ext Time (p_c), s	0.2	2.7	0.0	4.3	0.1	2.2	0.1	2.7

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

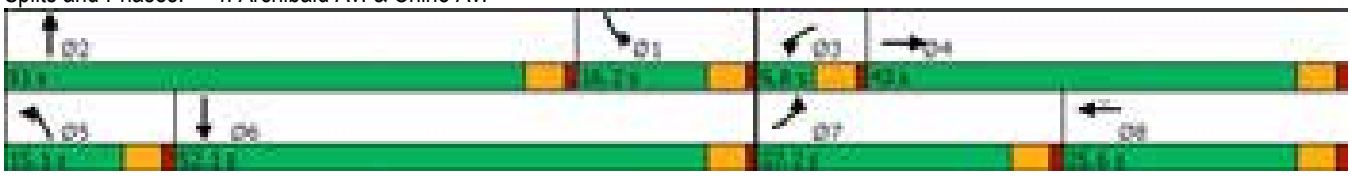
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	161	346	32	126	58	109	1063	68	1091
Future Volume (vph)	161	346	32	126	58	109	1063	68	1091
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	27.2	43.0	9.8	25.6	25.6	15.1	51.0	16.2	52.1
Total Split (%)	22.7%	35.8%	8.2%	21.3%	21.3%	12.6%	42.5%	13.5%	43.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	16.7	35.8	5.3	19.7	19.7	10.4	38.4	17.5	42.6
Actuated g/C Ratio	0.15	0.33	0.05	0.18	0.18	0.10	0.35	0.16	0.39
v/c Ratio	0.69	0.91	0.43	0.41	0.14	0.75	0.61	0.28	0.87
Control Delay	60.2	56.4	72.3	45.7	0.7	81.1	33.4	45.7	39.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	56.4	72.3	45.7	0.7	81.1	33.4	45.7	39.0
LOS	E	E	E	D	A	F	C	D	D
Approach Delay		57.3		37.5			37.7		39.3
Approach LOS		E		D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 42.2	Intersection LOS: D
Intersection Capacity Utilization 89.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	346	148	32	126	58	109	1063	39	68	1091	64
Future Volume (veh/h)	161	346	148	32	126	58	109	1063	39	68	1091	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	168	360	129	33	131	28	114	1107	40	71	1136	63
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	392	140	47	392	332	138	1455	53	305	1299	72
Arrive On Green	0.12	0.32	0.32	0.03	0.22	0.22	0.09	0.29	0.29	0.19	0.39	0.39
Sat Flow, veh/h	1594	1240	444	1594	1772	1502	1594	5095	184	1594	3326	184
Grp Volume(v), veh/h	168	0	489	33	131	28	114	770	377	71	605	594
Grp Sat Flow(s),veh/h/ln	1594	0	1684	1594	1772	1502	1594	1772	1735	1594	1772	1739
Q Serve(g_s), s	10.7	0.0	29.0	2.1	6.4	1.0	7.3	20.6	20.6	3.9	32.8	32.8
Cycle Q Clear(g_c), s	10.7	0.0	29.0	2.1	6.4	1.0	7.3	20.6	20.6	3.9	32.8	32.8
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.11	1.00		0.11
Lane Grp Cap(c), veh/h	198	0	532	47	392	332	138	1012	496	305	692	679
V/C Ratio(X)	0.85	0.00	0.92	0.70	0.33	0.08	0.83	0.76	0.76	0.23	0.87	0.88
Avail Cap(c_a), veh/h	347	0	624	80	392	332	161	1586	776	305	812	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	34.2	49.9	34.0	13.1	46.6	33.8	33.8	35.5	29.2	29.3
Incr Delay (d2), s/veh	9.6	0.0	17.2	17.1	0.5	0.1	25.3	1.2	2.4	0.4	9.3	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	13.8	1.1	2.8	0.5	3.7	8.3	8.3	1.5	14.4	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.1	0.0	51.4	66.9	34.4	13.2	71.9	35.0	36.3	35.9	38.6	38.8
LnGrp LOS	D	A	D	E	C	B	E	D	D	D	D	D
Approach Vol, veh/h		657			192			1261			1270	
Approach Delay, s/veh		52.1			36.9			38.7			38.5	
Approach LOS		D			D			D			D	

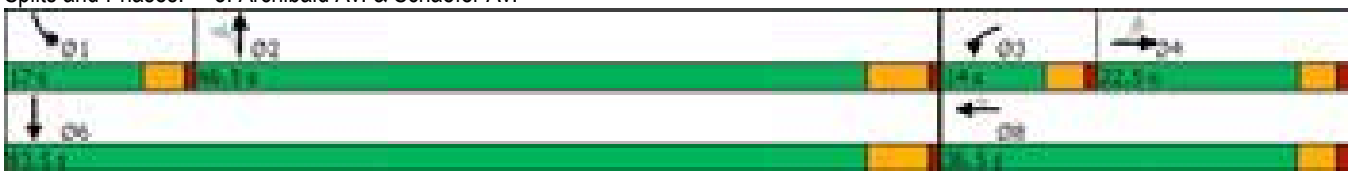
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.4	34.2	7.7	37.4	13.6	45.1	17.5	27.5
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	11.6	46.4	5.2	38.4	10.5	47.5	22.6	21.0
Max Q Clear Time (g_c+I1), s	5.9	22.6	4.1	31.0	9.3	34.8	12.7	8.4
Green Ext Time (p_c), s	0.1	7.0	0.0	1.7	0.0	5.7	0.3	0.5

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Lane Group	WBL	WBR	NBT	SBL	SBT	Ø4
Lane Configurations						
Traffic Volume (vph)	30	15	1133	45	1232	
Future Volume (vph)	30	15	1133	45	1232	
Turn Type	Prot	Perm	NA	Prot	NA	
Protected Phases	3		2	1	6	4
Permitted Phases		8				
Detector Phase	3	8	2	1	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	32.6	37.5	9.6	23.5	22.5
Total Split (s)	14.0	36.5	66.5	17.0	83.5	22.5
Total Split (%)	11.7%	30.4%	55.4%	14.2%	69.6%	19%
Yellow Time (s)	3.6	3.6	5.5	3.6	5.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	4.6	6.5	4.6	6.5	
Lead/Lag	Lead		Lag	Lead		Lag
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	9.5	9.9	30.5	8.1	37.9	
Actuated g/C Ratio	0.21	0.22	0.68	0.18	0.85	
v/c Ratio	0.10	0.03	0.38	0.17	0.46	
Control Delay	20.9	0.1	9.8	27.5	5.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	20.9	0.1	9.8	27.5	5.8	
LOS	C	A	A	C	A	
Approach Delay			9.8		6.5	
Approach LOS			A		A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 44.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay: 8.2	Intersection LOS: A
Intersection Capacity Utilization 58.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	30	0	15	0	1133	28	45	1232	0
Future Volume (veh/h)	0	0	0	30	0	15	0	1133	28	45	1232	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	0	0	0	32	0	10	0	1205	28	48	1311	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	5	0	60	122	102	189	2268	53	83	2154	0
Arrive On Green	0.00	0.00	0.00	0.04	0.00	0.07	0.00	0.47	0.47	0.05	0.64	0.00
Sat Flow, veh/h	1257	1772	0	1594	1772	1481	375	4860	113	1594	3455	0
Grp Volume(v), veh/h	0	0	0	32	0	10	0	799	434	48	1311	0
Grp Sat Flow(s),veh/h/ln	1257	1772	0	1594	1772	1481	375	1612	1748	1594	1683	0
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.2	0.0	6.7	6.7	1.1	8.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.8	0.0	0.2	0.0	6.7	6.7	1.1	8.8	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h	189	5	0	60	122	102	189	1505	816	83	2154	0
V/C Ratio(X)	0.00	0.00	0.00	0.53	0.00	0.10	0.00	0.53	0.53	0.58	0.61	0.00
Avail Cap(c_a), veh/h	895	837	0	393	1483	1240	605	5078	2753	519	6803	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	18.0	0.0	16.6	0.0	7.2	7.2	17.6	4.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.7	0.0	0.4	0.0	0.3	0.5	2.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.9	1.1	0.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	20.7	0.0	17.0	0.0	7.5	7.7	20.0	4.3	0.0
LnGrp LOS	A	A	A	C	A	B	A	A	A	B	A	A
Approach Vol, veh/h		0			42			1233			1359	
Approach Delay, s/veh		0.0			19.8			7.6			4.9	
Approach LOS					B			A			A	

Timer - Assigned Phs	1	2	3	4	6	8
Phs Duration (G+Y+Rc), s	6.6	24.3	6.0	1.2	30.9	7.2
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6	6.5	4.6
Max Green Setting (Gmax), s	12.4	60.0	9.4	* 18	77.0	31.9
Max Q Clear Time (g_c+I1), s	3.1	8.7	2.8	0.0	10.8	2.2
Green Ext Time (p_c), s	0.0	8.9	0.0	0.0	11.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	839	265	419	454	276	95	744	531	379	753	60
Future Volume (vph)	95	839	265	419	454	276	95	744	531	379	753	60
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	10.2	40.4		16.0	46.2	46.2	16.0	42.6		21.0	47.6	47.6
Total Split (%)	8.5%	33.7%		13.3%	38.5%	38.5%	13.3%	35.5%		17.5%	39.7%	39.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.6	31.8	112.0	11.5	37.6	37.6	10.0	30.2	112.0	16.5	36.6	36.6
Actuated g/C Ratio	0.05	0.28	1.00	0.10	0.34	0.34	0.09	0.27	1.00	0.15	0.33	0.33
v/c Ratio	0.67	0.88	0.19	1.45	0.81	0.43	0.71	0.82	0.37	1.71	0.69	0.11
Control Delay	76.1	50.2	0.3	255.2	46.5	6.7	77.5	46.7	0.7	369.6	36.7	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.1	50.2	0.3	255.2	46.5	6.7	77.5	46.7	0.7	369.6	36.7	0.4
LOS	E	D	A	F	D	A	E	D	A	F	D	A
Approach Delay		41.2			113.0			31.0			140.7	
Approach LOS		D			F			C			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 112	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.71	
Intersection Signal Delay: 79.3	Intersection LOS: E
Intersection Capacity Utilization 102.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	839	265	419	454	276	95	744	531	379	753	60
Future Volume (veh/h)	95	839	265	419	454	276	95	744	531	379	753	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	100	883	0	441	478	249	100	783	0	399	793	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	1001		314	600	508	122	923		240	1187	503
Arrive On Green	0.05	0.28	0.00	0.10	0.34	0.34	0.08	0.26	0.00	0.15	0.33	0.33
Sat Flow, veh/h	3000	3544	1502	3000	1772	1500	1594	3544	1502	1594	3544	1502
Grp Volume(v), veh/h	100	883	0	441	478	249	100	783	0	399	793	44
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	3.6	25.9	0.0	11.4	26.6	14.3	6.7	22.8	0.0	16.4	20.9	2.2
Cycle Q Clear(g_c), s	3.6	25.9	0.0	11.4	26.6	14.3	6.7	22.8	0.0	16.4	20.9	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	1001		314	600	508	122	923		240	1187	503
V/C Ratio(X)	0.68	0.88		1.40	0.80	0.49	0.82	0.85		1.66	0.67	0.09
Avail Cap(c_a), veh/h	154	1114		314	652	552	167	1176		240	1339	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	37.3	0.0	48.7	32.6	28.5	49.5	38.2	0.0	46.2	31.0	24.8
Incr Delay (d2), s/veh	8.8	7.9	0.0	199.3	6.4	0.7	14.9	4.8	0.0	315.0	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	11.6	0.0	12.8	11.7	4.9	3.1	9.8	0.0	27.1	8.4	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	45.2	0.0	248.0	39.0	29.3	64.4	43.0	0.0	361.2	32.1	24.9
LnGrp LOS	E	D		F	D	C	E	D		F	C	C
Approach Vol, veh/h		983	A		1168			883	A		1236	
Approach Delay, s/veh		46.7			115.8			45.4			138.1	
Approach LOS		D			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	34.8	16.0	36.9	12.9	42.9	9.9	43.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	16.4	36.1	11.4	34.2	11.4	41.1	5.6	40.0
Max Q Clear Time (g_c+I1), s	18.4	24.8	13.4	27.9	8.7	22.9	5.6	28.6
Green Ext Time (p_c), s	0.0	3.5	0.0	2.8	0.0	4.6	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	91.8
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	87	576	115	651	134	45	23	40
Future Volume (vph)	87	576	115	651	134	45	23	40
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	18.8	44.2	22.2	47.6	24.4	42.4	11.2	29.2
Total Split (%)	15.7%	36.8%	18.5%	39.7%	20.3%	35.3%	9.3%	24.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.5	26.4	11.2	30.9	12.3	25.8	6.0	12.4
Actuated g/C Ratio	0.11	0.31	0.13	0.37	0.15	0.30	0.07	0.15
v/c Ratio	0.51	0.77	0.57	0.58	0.60	0.18	0.22	0.20
Control Delay	50.8	31.8	49.6	25.9	48.8	9.5	50.1	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.8	31.8	49.6	25.9	48.8	9.5	50.1	19.9
LOS	D	C	D	C	D	A	D	B
Approach Delay		33.7		29.3		26.5		26.0
Approach LOS		C		C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 84.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 30.5	Intersection LOS: C
Intersection Capacity Utilization 65.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	576	186	115	651	35	134	45	131	23	40	53
Future Volume (veh/h)	87	576	186	115	651	35	134	45	131	23	40	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	90	594	110	119	671	23	138	46	83	24	41	29
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	818	151	148	1038	36	172	423	373	43	335	212
Arrive On Green	0.07	0.29	0.29	0.09	0.31	0.31	0.11	0.25	0.25	0.03	0.17	0.17
Sat Flow, veh/h	1594	2824	521	1594	3319	114	1594	1683	1487	1594	1962	1242
Grp Volume(v), veh/h	90	353	351	119	340	354	138	46	83	24	35	35
Grp Sat Flow(s),veh/h/ln	1594	1683	1662	1594	1683	1749	1594	1683	1487	1594	1683	1520
Q Serve(g_s), s	3.5	11.8	11.9	4.6	10.9	10.9	5.3	1.3	2.8	0.9	1.1	1.2
Cycle Q Clear(g_c), s	3.5	11.8	11.9	4.6	10.9	10.9	5.3	1.3	2.8	0.9	1.1	1.2
Prop In Lane	1.00		0.31	1.00		0.07	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	111	488	481	148	527	547	172	423	373	43	287	259
V/C Ratio(X)	0.81	0.72	0.73	0.80	0.65	0.65	0.80	0.11	0.22	0.55	0.12	0.14
Avail Cap(c_a), veh/h	362	1022	1009	448	1114	1157	504	985	870	168	630	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	20.0	20.0	27.8	18.5	18.5	27.3	18.0	18.6	30.1	22.0	22.0
Incr Delay (d2), s/veh	5.1	2.1	2.1	3.8	1.3	1.3	3.3	0.1	0.3	4.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.1	4.1	1.7	3.7	3.8	2.0	0.5	0.9	0.4	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	22.0	22.1	31.6	19.8	19.8	30.6	18.2	18.9	34.1	22.2	22.3
LnGrp LOS	C	C	C	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		794			813			267			94	
Approach Delay, s/veh		23.4			21.5			24.8			25.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	21.5	10.4	24.3	11.3	16.5	9.0	25.8
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.6	36.6	17.6	38.0	19.8	23.4	14.2	41.4
Max Q Clear Time (g_c+I1), s	2.9	4.8	6.6	13.9	7.3	3.2	5.5	12.9
Green Ext Time (p_c), s	0.0	0.7	0.1	3.9	0.1	0.2	0.1	3.9

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	206	54	29	124	45	20	120	32	36	186	43
Future Vol, veh/h	94	206	54	29	124	45	20	120	32	36	186	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	102	224	59	32	135	49	22	130	35	39	202	47
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

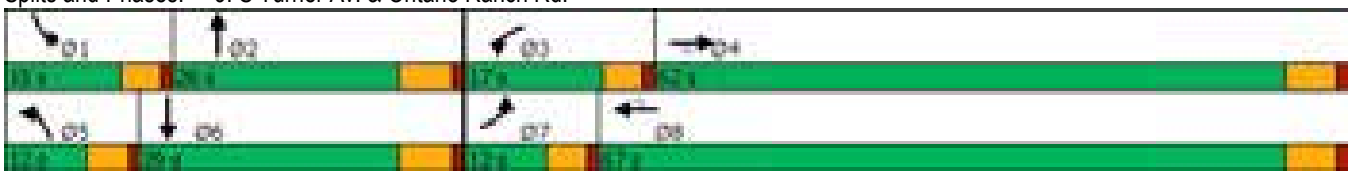
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	11.5	10.9	11	11.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	56%	0%	100%	56%	0%	100%	48%	0%	100%	59%
Vol Right, %	0%	0%	44%	0%	0%	44%	0%	0%	52%	0%	0%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	80	72	94	137	123	29	83	86	36	124	105
LT Vol	20	0	0	94	0	0	29	0	0	36	0	0
Through Vol	0	80	40	0	137	69	0	83	41	0	124	62
RT Vol	0	0	32	0	0	54	0	0	45	0	0	43
Lane Flow Rate	22	87	78	102	149	133	32	90	94	39	135	114
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.045	0.17	0.146	0.201	0.273	0.232	0.065	0.173	0.171	0.079	0.255	0.207
Departure Headway (Hd)	7.534	7.034	6.722	7.084	6.584	6.276	7.431	6.931	6.566	7.312	6.812	6.525
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	507	531	505	543	569	480	515	543	488	524	547
Service Time	5.315	4.815	4.504	4.854	4.354	4.046	5.21	4.71	4.345	5.087	4.587	4.301
HCM Lane V/C Ratio	0.047	0.172	0.147	0.202	0.274	0.234	0.067	0.175	0.173	0.08	0.258	0.208
HCM Control Delay	10.7	11.3	10.7	11.6	11.8	11	10.7	11.2	10.7	10.7	11.9	11
HCM Lane LOS	B	B	B	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.1	0.6	0.5	0.7	1.1	0.9	0.2	0.6	0.6	0.3	1	0.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	16	1749	44	83	1270	71	16	11	106	28
Future Volume (vph)	16	1749	44	83	1270	71	16	11	106	28
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	12.0	62.0	62.0	17.0	67.0	67.0	12.0	26.0	15.0	29.0
Total Split (%)	10.0%	51.7%	51.7%	14.2%	55.8%	55.8%	10.0%	21.7%	12.5%	24.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	5.8	56.8	56.8	9.2	64.1	64.1	5.8	8.4	9.5	18.4
Actuated g/C Ratio	0.06	0.55	0.55	0.09	0.63	0.63	0.06	0.08	0.09	0.18
v/c Ratio	0.17	0.96	0.05	0.56	0.62	0.07	0.17	0.44	0.70	0.12
Control Delay	53.8	36.9	0.1	61.0	15.2	1.2	53.8	20.6	69.7	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	36.9	0.1	61.0	15.2	1.2	53.8	20.6	69.7	32.8
LOS	D	D	A	E	B	A	D	C	E	C
Approach Delay		36.2			17.1			26.0		60.1
Approach LOS		D			B			C		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102.5	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 29.1	Intersection LOS: C
Intersection Capacity Utilization 79.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	1749	44	83	1270	71	16	11	72	106	28	9
Future Volume (veh/h)	16	1749	44	83	1270	71	16	11	72	106	28	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	1881	47	89	1366	76	17	12	77	114	30	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	2010	897	114	2170	968	34	17	108	142	185	62
Arrive On Green	0.02	0.57	0.57	0.06	0.61	0.61	0.02	0.08	0.08	0.08	0.14	0.14
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	218	1400	1781	1342	447
Grp Volume(v), veh/h	17	1881	47	89	1366	76	17	0	89	114	0	40
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1618	1781	0	1790
Q Serve(g_s), s	0.9	47.6	1.3	4.8	23.7	1.9	0.9	0.0	5.2	6.1	0.0	1.9
Cycle Q Clear(g_c), s	0.9	47.6	1.3	4.8	23.7	1.9	0.9	0.0	5.2	6.1	0.0	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.87	1.00		0.25
Lane Grp Cap(c), veh/h	34	2010	897	114	2170	968	34	0	125	142	0	247
V/C Ratio(X)	0.50	0.94	0.05	0.78	0.63	0.08	0.50	0.00	0.71	0.80	0.00	0.16
Avail Cap(c_a), veh/h	135	2051	915	227	2233	996	135	0	336	190	0	426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.3	19.5	9.5	44.9	12.0	7.8	47.3	0.0	43.9	44.0	0.0	37.0
Incr Delay (d2), s/veh	4.3	8.7	0.0	4.4	0.5	0.0	4.3	0.0	7.4	11.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	18.8	0.4	2.2	7.9	0.6	0.4	0.0	2.3	3.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	28.2	9.5	49.3	12.5	7.8	51.6	0.0	51.3	55.9	0.0	37.3
LnGrp LOS	D	C	A	D	B	A	D	A	D	E	A	D
Approach Vol, veh/h		1945			1531			106			154	
Approach Delay, s/veh		28.0			14.4			51.3			51.1	
Approach LOS		C			B			D			D	

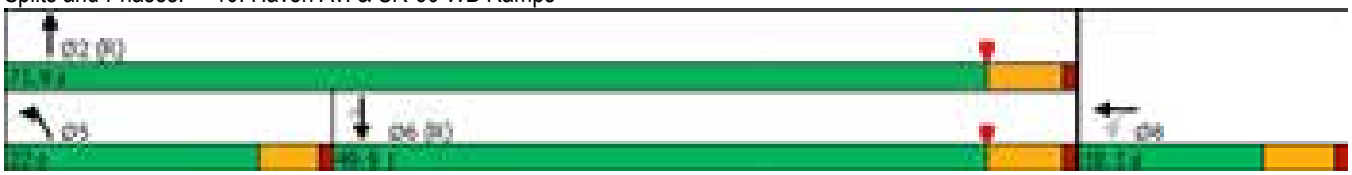
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	13.3	10.8	60.9	6.4	19.2	6.4	65.3
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	10.4	20.2	12.4	56.2	7.4	23.2	7.4	61.2
Max Q Clear Time (g_c+I1), s	8.1	7.2	6.8	49.6	2.9	3.9	2.9	25.7
Green Ext Time (p_c), s	0.0	0.3	0.0	5.5	0.0	0.1	0.0	12.5

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	272	10	562	507	1015	1593	695
Future Volume (vph)	272	10	562	507	1015	1593	695
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	18.1	18.1		22.0	71.9	49.9	49.9
Total Split (%)	20.1%	20.1%		24.4%	79.9%	55.4%	55.4%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	11.6	11.6	90.0	16.2	66.4	45.1	45.1
Actuated g/C Ratio	0.13	0.13	1.00	0.18	0.74	0.50	0.50
v/c Ratio	0.68	0.67	0.37	0.85	0.28	0.65	0.73
Control Delay	54.0	53.4	0.7	43.4	5.3	18.4	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	53.4	0.7	43.4	5.3	18.4	11.8
LOS	D	D	A	D	A	B	B
Approach Delay		18.4			18.0	16.4	
Approach LOS		B			B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 17.3	Intersection LOS: B
Intersection Capacity Utilization 80.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	272	10	562	507	1015	0	0	1593	695
Future Volume (veh/h)	0	0	0	272	10	562	507	1015	0	0	1593	695
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				290	0	0	528	1057	0	0	1659	412
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				396	0		589	3858	0	0	2705	829
Arrive On Green				0.11	0.00	0.00	0.34	1.00	0.00	0.00	0.53	0.53
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1564
Grp Volume(v), veh/h				290	0	0	528	1057	0	0	1659	412
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1564
Q Serve(g_s), s				7.1	0.0	0.0	13.1	0.0	0.0	0.0	20.4	15.1
Cycle Q Clear(g_c), s				7.1	0.0	0.0	13.1	0.0	0.0	0.0	20.4	15.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				396	0		589	3858	0	0	2705	829
V/C Ratio(X)				0.73	0.00		0.90	0.27	0.00	0.00	0.61	0.50
Avail Cap(c_a), veh/h				487	0		653	3858	0	0	2705	829
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.57	0.57	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.7	0.0	0.0	28.9	0.0	0.0	0.0	14.7	13.5
Incr Delay (d2), s/veh				4.4	0.0	0.0	8.4	0.1	0.0	0.0	1.0	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.2	0.0	0.0	4.8	0.0	0.0	0.0	7.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				43.1	0.0	0.0	37.3	0.1	0.0	0.0	15.8	15.6
LnGrp LOS				D	A		D	A	A	A	B	B
Approach Vol, veh/h					290	A		1585			2071	
Approach Delay, s/veh					43.1			12.5			15.8	
Approach LOS					D			B			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	74.2		20.3	53.9		15.8						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	65.7		17.0	43.7		12.3						
Max Q Clear Time (g_c+I1), s	2.0		15.1	22.4		9.1						
Green Ext Time (p_c), s	5.1		0.3	9.2		0.3						

Intersection Summary		
HCM 6th Ctrl Delay	16.5	
HCM 6th LOS	B	

Notes

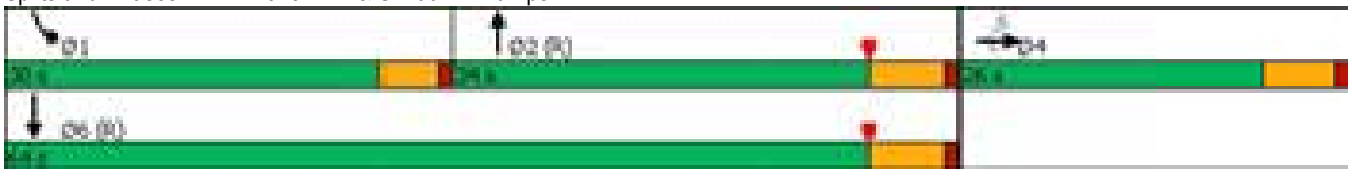
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	349	2	736	1165	609	1274
Future Volume (vph)	349	2	736	1165	609	1274
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	26.0	26.0	26.0	34.0	30.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	37.8%	33.3%	71.1%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	20.2	20.2	20.2	31.5	21.3	57.8
Actuated g/C Ratio	0.22	0.22	0.22	0.35	0.24	0.64
v/c Ratio	0.48	0.49	1.78	0.80	0.78	0.41
Control Delay	35.4	35.5	381.5	30.7	58.1	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	35.5	381.5	30.7	58.1	5.2
LOS	D	D	F	C	E	A
Approach Delay		269.7		30.7		22.3
Approach LOS		F		C		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.78	
Intersection Signal Delay: 87.3	Intersection LOS: F
Intersection Capacity Utilization 80.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	2	736	0	0	0	0	1165	179	609	1274	0
Future Volume (veh/h)	349	2	736	0	0	0	0	1165	179	609	1274	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	365	0	507				0	1214	124	634	1327	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	800	0	356				0	1781	182	720	3279	0
Arrive On Green	0.22	0.00	0.22				0.00	0.38	0.38	0.42	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4875	481	3456	5274	0
Grp Volume(v), veh/h	365	0	507				0	878	460	634	1327	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1783	1728	1702	0
Q Serve(g_s), s	8.0	0.0	20.2				0.0	19.4	19.5	15.2	0.0	0.0
Cycle Q Clear(g_c), s	8.0	0.0	20.2				0.0	19.4	19.5	15.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.27	1.00		0.00
Lane Grp Cap(c), veh/h	800	0	356				0	1288	675	720	3279	0
V/C Ratio(X)	0.46	0.00	1.43				0.00	0.68	0.68	0.88	0.40	0.00
Avail Cap(c_a), veh/h	800	0	356				0	1288	675	960	3279	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.71	0.71	0.00
Uniform Delay (d), s/veh	30.2	0.0	34.9				0.0	23.4	23.4	25.2	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	207.0				0.0	2.9	5.5	5.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	27.7				0.0	7.6	8.5	4.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	0.0	241.9				0.0	26.4	28.9	30.8	0.3	0.0
LnGrp LOS	C	A	F				A	C	C	C	A	A
Approach Vol, veh/h		872						1338			1961	
Approach Delay, s/veh		153.4						27.2			10.1	
Approach LOS		F						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.7	40.3		26.0		64.0
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	25.0	27.8		20.2		57.8
Max Q Clear Time (g_c+I1), s	17.2	21.5		22.2		2.0
Green Ext Time (p_c), s	1.5	3.1		0.0		7.0

Intersection Summary	
HCM 6th Ctrl Delay	45.6
HCM 6th LOS	D

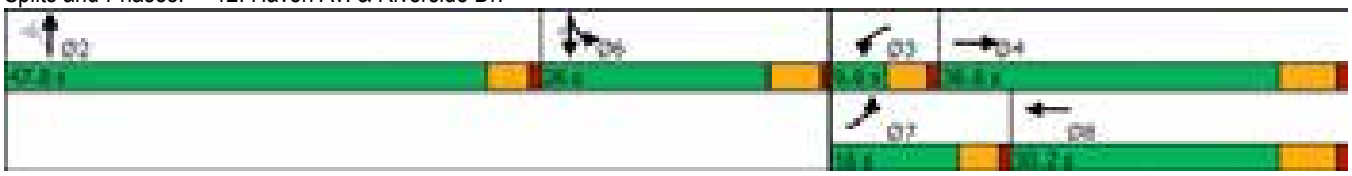
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	291	365	93	330	55	838	135	1103	334
Future Volume (vph)	291	365	93	330	55	838	135	1103	334
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	16.0	36.6	9.6	30.2	47.8	47.8	26.0	26.0	26.0
Total Split (%)	13.3%	30.5%	8.0%	25.2%	39.8%	39.8%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	11.4	30.4	5.0	24.0		43.1	20.2	20.2	20.2
Actuated g/C Ratio	0.10	0.25	0.04	0.20		0.36	0.17	0.17	0.17
v/c Ratio	2.02	1.09	1.49	0.69		9.55	0.53	3.87	0.92
Control Delay	509.9	110.9	325.6	47.2		3872.9	53.7	1313.9	58.2
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	509.9	110.9	325.6	47.2		3872.9	53.7	1313.9	58.2
LOS	F	F	F	D		F	D	F	E
Approach Delay		266.1		95.4		3872.9		938.6	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 9.55	
Intersection Signal Delay: 1439.4	Intersection LOS: F
Intersection Capacity Utilization 146.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	365	92	93	330	114	55	838	88	135	1103	334
Future Volume (veh/h)	291	365	92	93	330	114	55	838	88	135	1103	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	303	380	95	97	344	99	57	873	86	141	1149	122
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	344	86	66	515	146	35	537	53	268	298	252
Arrive On Green	0.09	0.25	0.25	0.04	0.20	0.20	0.36	0.36	0.36	0.17	0.17	0.17
Sat Flow, veh/h	1594	1358	340	1594	2575	729	98	1496	147	1594	1772	1496
Grp Volume(v), veh/h	303	0	475	97	223	220	1016	0	0	141	1149	122
Grp Sat Flow(s),veh/h/ln	1594	0	1698	1594	1683	1620	1741	0	0	1594	1772	1496
Q Serve(g_s), s	11.4	0.0	30.4	5.0	14.6	15.1	43.1	0.0	0.0	9.7	20.2	8.9
Cycle Q Clear(g_c), s	11.4	0.0	30.4	5.0	14.6	15.1	43.1	0.0	0.0	9.7	20.2	8.9
Prop In Lane	1.00		0.20	1.00		0.45	0.06		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	151	0	430	66	337	324	625	0	0	268	298	252
V/C Ratio(X)	2.00	0.00	1.10	1.46	0.66	0.68	1.63	0.00	0.00	0.53	3.85	0.48
Avail Cap(c_a), veh/h	151	0	430	66	337	324	625	0	0	268	298	252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	0.0	44.8	57.5	44.3	44.4	38.5	0.0	0.0	45.5	49.9	45.2
Incr Delay (d2), s/veh	473.2	0.0	74.8	272.6	4.8	5.6	288.7	0.0	0.0	1.9	1291.6	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.3	0.0	21.1	7.0	6.3	6.3	68.1	0.0	0.0	3.9	115.7	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	527.5	0.0	119.6	330.1	49.0	50.1	327.1	0.0	0.0	47.4	1341.5	46.6
LnGrp LOS	F	A	F	F	D	D	F	A	A	D	F	D
Approach Vol, veh/h		778			540			1016			1412	
Approach Delay, s/veh		278.5			99.9			327.1			1100.4	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.8	9.6	36.6		26.0	16.0	30.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 43	5.0	30.4		20.2	11.4	24.0				
Max Q Clear Time (g_c+I1), s		45.1	7.0	32.4		22.2	13.4	17.1				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	1.3				

Intersection Summary		
HCM 6th Ctrl Delay		575.7
HCM 6th LOS		F

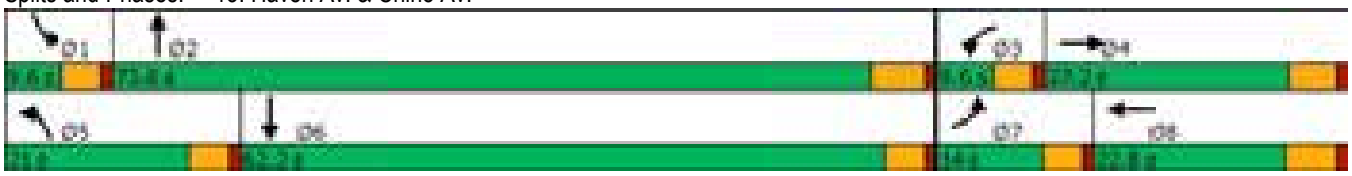
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	107	73	407	55	105	895	1248	
Future Volume (vph)	107	73	407	55	105	895	1248	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	14.0	27.2	9.6	22.8	21.0	73.6	62.2	9.6
Total Split (%)	11.7%	22.7%	8.0%	19.0%	17.5%	61.3%	51.8%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	11.9	15.6	5.0	11.9	11.7	73.0	57.8	
Actuated g/C Ratio	0.11	0.14	0.05	0.11	0.11	0.67	0.53	
v/c Ratio	0.66	0.68	5.46	0.30	0.66	1.05	1.50	
Control Delay	69.5	44.8	2055.4	50.2	66.4	60.7	254.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	69.5	44.8	2055.4	50.2	66.4	60.7	254.9	
LOS	E	D	F	D	E	E	F	
Approach Delay		53.8		1815.7		61.2	254.9	
Approach LOS		D		F		E	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.5	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 5.46	
Intersection Signal Delay: 388.1	Intersection LOS: F
Intersection Capacity Utilization 129.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	73	111	407	55	0	105	895	238	0	1248	68
Future Volume (veh/h)	107	73	111	407	55	0	105	895	238	0	1248	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	113	79	117	442	60	0	111	942	259	0	1314	72
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	93	138	83	184	0	135	889	245	2	894	49
Arrive On Green	0.09	0.14	0.14	0.05	0.10	0.00	0.08	0.66	0.66	0.00	0.54	0.54
Sat Flow, veh/h	1594	681	1008	1781	1870	0	1594	1338	368	1781	1664	91
Grp Volume(v), veh/h	113	0	196	442	60	0	111	0	1201	0	0	1386
Grp Sat Flow(s),veh/h/ln	1594	0	1689	1781	1870	0	1594	0	1706	1781	0	1756
Q Serve(g_s), s	7.5	0.0	12.1	5.0	3.2	0.0	7.3	0.0	71.2	0.0	0.0	57.5
Cycle Q Clear(g_c), s	7.5	0.0	12.1	5.0	3.2	0.0	7.3	0.0	71.2	0.0	0.0	57.5
Prop In Lane	1.00		0.60	1.00		0.00	1.00		0.22	1.00		0.05
Lane Grp Cap(c), veh/h	136	0	232	83	184	0	135	0	1134	2	0	943
V/C Ratio(X)	0.83	0.00	0.85	5.31	0.33	0.00	0.82	0.00	1.06	0.00	0.00	1.47
Avail Cap(c_a), veh/h	140	0	344	83	297	0	244	0	1134	83	0	943
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	45.1	51.0	44.9	0.0	48.2	0.0	17.9	0.0	0.0	24.8
Incr Delay (d2), s/veh	30.0	0.0	11.8	1966.8	1.0	0.0	4.7	0.0	43.9	0.0	0.0	217.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	5.7	47.6	1.5	0.0	3.0	0.0	35.5	0.0	0.0	79.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.2	0.0	56.9	2017.8	45.9	0.0	52.9	0.0	61.9	0.0	0.0	242.0
LnGrp LOS	E	A	E	F	D	A	D	A	F	A	A	F
Approach Vol, veh/h		309			502			1312			1386	
Approach Delay, s/veh		64.7			1782.2			61.1			242.0	
Approach LOS		E			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	77.0	9.6	20.5	13.7	63.3	13.7	16.4
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	67.8	5.0	* 22	16.4	* 58	9.4	17.0
Max Q Clear Time (g_c+I1), s	0.0	73.2	7.0	14.1	9.3	59.5	9.5	5.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6	0.1	0.0	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	379.1
HCM 6th LOS	F

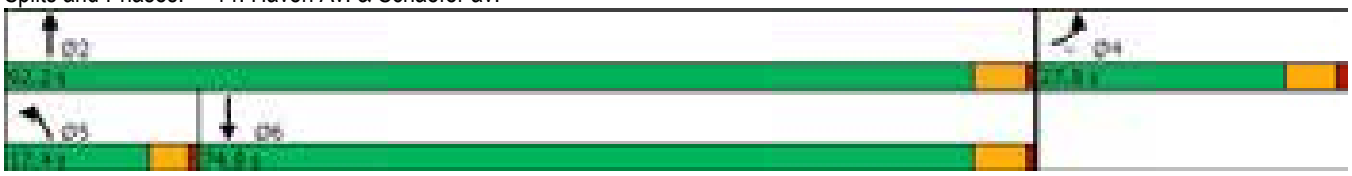
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	22	96	133	1216	1737
Future Volume (vph)	22	96	133	1216	1737
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	27.8	27.8	17.4	92.2	74.8
Total Split (%)	23.2%	23.2%	14.5%	76.8%	62.3%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.2	12.2	12.7	86.9	69.6
Actuated g/C Ratio	0.11	0.11	0.11	0.78	0.63
v/c Ratio	0.15	0.43	0.86	1.02	0.92
Control Delay	45.5	13.3	86.7	43.6	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.5	13.3	86.7	43.6	27.3
LOS	D	B	F	D	C
Approach Delay	19.3			47.9	27.3
Approach LOS	B			D	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 35.6	Intersection LOS: D
Intersection Capacity Utilization 85.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	96	133	1216	1737	20
Future Volume (veh/h)	22	96	133	1216	1737	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	26	43	155	1414	2020	11
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	131	123	181	1433	2296	12
Arrive On Green	0.08	0.08	0.11	0.81	0.65	0.65
Sat Flow, veh/h	1594	1502	1594	1772	3521	19
Grp Volume(v), veh/h	26	43	155	1414	1015	1016
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1772	1768
Q Serve(g_s), s	1.6	2.9	10.1	80.2	49.5	49.8
Cycle Q Clear(g_c), s	1.6	2.9	10.1	80.2	49.5	49.8
Prop In Lane	1.00	1.00	1.00			0.01
Lane Grp Cap(c), veh/h	131	123	181	1433	1155	1153
V/C Ratio(X)	0.20	0.35	0.86	0.99	0.88	0.88
Avail Cap(c_a), veh/h	331	312	192	1444	1155	1153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	46.0	46.2	9.6	15.0	15.1
Incr Delay (d2), s/veh	0.7	1.7	27.2	20.5	8.0	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1	5.2	22.7	18.5	18.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.2	47.7	73.3	30.1	23.1	23.2
LnGrp LOS	D	D	E	C	C	C
Approach Vol, veh/h	69			1569	2031	
Approach Delay, s/veh	47.1			34.3	23.1	
Approach LOS	D			C	C	

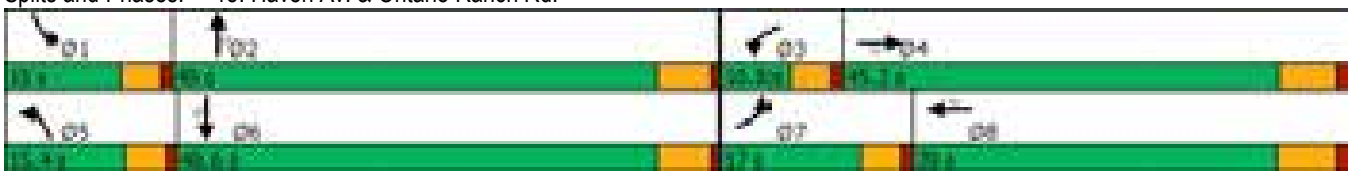
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		91.5		14.5	16.6	74.9
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		86.4		22.0	12.8	69.0
Max Q Clear Time (g_c+I1), s		82.2		4.9	12.1	51.8
Green Ext Time (p_c), s		3.6		0.1	0.0	12.9

Intersection Summary		
HCM 6th Ctrl Delay		28.4
HCM 6th LOS		C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	407	1464	35	227	1168	606	18	337	70	722	560	213
Future Volume (vph)	407	1464	35	227	1168	606	18	337	70	722	560	213
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	17.0	45.2	45.2	10.8	39.0	39.0	15.4	49.0	49.0	15.0	48.6	48.6
Total Split (%)	14.2%	37.7%	37.7%	9.0%	32.5%	32.5%	12.8%	40.8%	40.8%	12.5%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	12.5	39.3	39.3	6.2	32.8	32.8	6.1	29.8	29.8	10.5	40.5	40.5
Actuated g/C Ratio	0.12	0.37	0.37	0.06	0.31	0.31	0.06	0.28	0.28	0.10	0.38	0.38
v/c Ratio	2.35	0.80	0.06	1.39	0.58	0.88	0.21	0.73	0.14	4.99	0.89	0.33
Control Delay	648.6	35.6	0.2	246.1	33.7	29.3	57.0	43.8	0.6	1817.3	49.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	648.6	35.6	0.2	246.1	33.7	29.3	57.0	43.8	0.6	1817.3	49.5	6.7
LOS	F	D	A	F	C	C	E	D	A	F	D	A
Approach Delay		165.9			56.4			37.3			896.7	
Approach LOS		F			E			D			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 107.2	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.99	
Intersection Signal Delay: 306.5	Intersection LOS: F
Intersection Capacity Utilization 124.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	407	1464	35	227	1168	606	18	337	70	722	560	213
Future Volume (veh/h)	407	1464	35	227	1168	606	18	337	70	722	560	213
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	433	1557	24	241	1243	600	19	359	24	768	596	194
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1921	543	172	2154	456	32	506	429	154	641	543
Arrive On Green	0.11	0.36	0.36	0.06	0.30	0.30	0.02	0.29	0.29	0.10	0.36	0.36
Sat Flow, veh/h	1594	5316	1502	3000	7088	1502	1594	1772	1502	1594	1772	1502
Grp Volume(v), veh/h	433	1557	24	241	1243	600	19	359	24	768	596	194
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1500	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	12.4	28.6	1.1	6.2	16.0	32.8	1.3	19.6	1.3	10.4	34.9	10.2
Cycle Q Clear(g_c), s	12.4	28.6	1.1	6.2	16.0	32.8	1.3	19.6	1.3	10.4	34.9	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	1921	543	172	2154	456	32	506	429	154	641	543
V/C Ratio(X)	2.36	0.81	0.04	1.40	0.58	1.31	0.59	0.71	0.06	5.00	0.93	0.36
Avail Cap(c_a), veh/h	183	1921	543	172	2154	456	159	709	601	154	703	595
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	31.1	22.4	50.9	31.7	37.6	52.4	34.5	28.0	48.8	33.1	25.2
Incr Delay (d2), s/veh	630.8	3.8	0.2	210.5	1.1	156.6	6.3	1.9	0.1	1815.0	18.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.8	12.0	0.4	7.3	6.5	30.9	0.6	8.3	0.4	81.4	17.2	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	678.5	35.0	22.5	261.4	32.8	194.2	58.8	36.5	28.0	1863.8	51.1	25.6
LnGrp LOS	F	C	C	F	C	F	E	D	C	F	D	C
Approach Vol, veh/h		2014			2084			402			1558	
Approach Delay, s/veh		173.2			105.7			37.0			941.5	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	36.6	10.8	45.5	6.8	44.9	17.0	39.3
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	10.4	43.2	6.2	* 39	10.8	42.8	12.4	32.5
Max Q Clear Time (g_c+I1), s	12.4	21.6	8.2	30.6	3.3	36.9	14.4	34.8
Green Ext Time (p_c), s	0.0	1.9	0.0	5.7	0.0	2.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	338.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	6.0
Intersection LOS	A

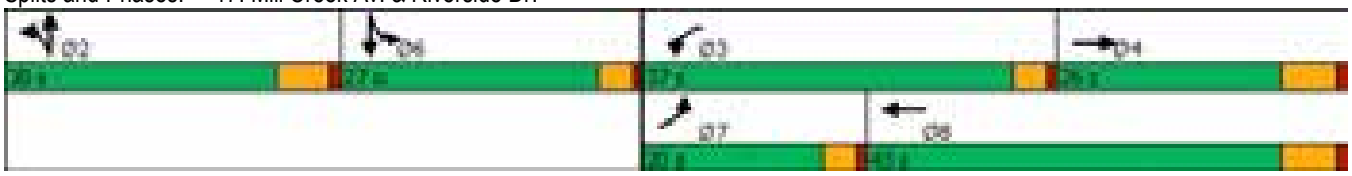
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	338	509	0	71
Demand Flow Rate, veh/h	344	519	0	73
Vehicles Circulating, veh/h	29	74	373	469
Vehicles Exiting, veh/h	513	299	0	124
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.0	6.8	0.0	5.2
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	344	519	0	73
Cap Entry Lane, veh/h	1340	1280	943	855
Entry HV Adj Factor	0.982	0.980	1.000	0.973
Flow Entry, veh/h	338	509	0	71
Cap Entry, veh/h	1315	1254	943	832
V/C Ratio	0.257	0.406	0.000	0.085
Control Delay, s/veh	5.0	6.8	3.8	5.2
LOS	A	A	A	A
95th %tile Queue, veh	1	2	0	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	105	291	338	312	130	18	239	58	14
Future Volume (vph)	105	291	338	312	130	18	239	58	14
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	20.0	26.0	37.0	43.0	30.0	30.0	30.0	27.0	27.0
Total Split (%)	16.7%	21.7%	30.8%	35.8%	25.0%	25.0%	25.0%	22.5%	22.5%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	10.8	15.8	24.7	29.7	14.5	14.5	14.5	12.5	12.5
Actuated g/C Ratio	0.12	0.18	0.28	0.34	0.16	0.16	0.16	0.14	0.14
v/c Ratio	0.58	0.70	0.81	0.39	0.53	0.07	0.56	0.28	0.30
Control Delay	53.1	37.8	46.7	22.0	44.7	36.2	10.2	41.6	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	37.8	46.7	22.0	44.7	36.2	10.2	41.6	16.9
LOS	D	D	D	C	D	D	B	D	B
Approach Delay		40.9		33.0		23.0			27.4
Approach LOS		D		C		C			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 88.2	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 32.7	Intersection LOS: C
Intersection Capacity Utilization 62.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	291	131	338	312	113	130	18	239	58	14	64
Future Volume (veh/h)	105	291	131	338	312	113	130	18	239	58	14	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	112	310	86	360	332	72	138	19	137	62	15	41
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	441	120	403	933	200	231	257	218	245	63	173
Arrive On Green	0.09	0.16	0.16	0.25	0.33	0.33	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1594	2676	729	1594	2829	606	1594	1772	1499	1594	411	1123
Grp Volume(v), veh/h	112	203	193	360	206	198	138	19	137	62	0	56
Grp Sat Flow(s),veh/h/ln	1594	1772	1633	1594	1772	1663	1594	1772	1499	1594	0	1534
Q Serve(g_s), s	4.8	7.6	7.8	15.2	6.2	6.3	5.7	0.6	6.0	2.4	0.0	2.2
Cycle Q Clear(g_c), s	4.8	7.6	7.8	15.2	6.2	6.3	5.7	0.6	6.0	2.4	0.0	2.2
Prop In Lane	1.00		0.45	1.00		0.36	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	139	292	269	403	585	549	231	257	218	245	0	236
V/C Ratio(X)	0.80	0.70	0.72	0.89	0.35	0.36	0.60	0.07	0.63	0.25	0.00	0.24
Avail Cap(c_a), veh/h	365	508	468	753	939	881	552	614	519	525	0	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.3	27.5	27.6	25.2	17.7	17.8	27.9	25.8	28.1	26.0	0.0	25.9
Incr Delay (d2), s/veh	4.1	3.0	3.6	2.9	0.4	0.4	2.5	0.1	3.0	0.5	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.1	3.0	5.3	2.2	2.1	2.1	0.3	2.1	0.9	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	30.5	31.2	28.0	18.1	18.2	30.4	25.9	31.1	26.5	0.0	26.5
LnGrp LOS	D	C	C	C	B	B	C	C	C	C	A	C
Approach Vol, veh/h		508			764			294			118	
Approach Delay, s/veh		31.8			22.8			30.4			26.5	
Approach LOS		C			C			C			C	

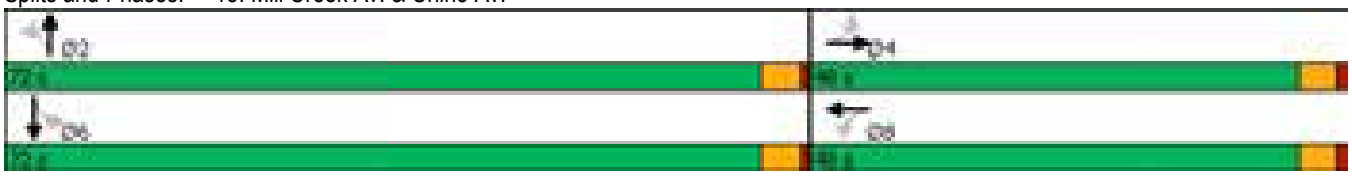
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.9	21.6	17.5		14.7	10.1	29.0				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		24.2	33.0	20.0		23.0	16.0	37.0				
Max Q Clear Time (g_c+I1), s		8.0	17.2	9.8		4.4	6.8	8.3				
Green Ext Time (p_c), s		0.8	0.4	1.4		0.4	0.1	2.1				

Intersection Summary												
HCM 6th Ctrl Delay			27.1									
HCM 6th LOS			C									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	119	145	6	246	20	144	14	110
Future Volume (vph)	119	145	6	246	20	144	14	110
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	48.0	48.0	48.0	48.0	72.0	72.0	72.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	60.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	19.3	19.3	19.3	19.3	29.5	29.5	29.5	29.5
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.50	0.50	0.50	0.50
v/c Ratio	0.52	0.27	0.06	0.59	0.10	0.69	0.23	0.73
Control Delay	27.9	18.2	17.7	22.3	10.3	16.3	12.3	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.9	18.2	17.7	22.3	10.3	16.3	12.3	17.1
LOS	C	B	B	C	B	B	B	B
Approach Delay		22.4		22.0		16.1		16.7
Approach LOS		C		C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 59.1	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 50.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 18: Mill Creek Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	145	7	6	246	22	20	144	16	14	110	202
Future Volume (veh/h)	119	145	7	6	246	22	20	144	16	14	110	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	158	5	24	267	48	22	576	40	56	440	138
Peak Hour Factor	0.92	0.92	0.92	0.25	0.92	0.25	0.92	0.25	0.25	0.25	0.25	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	592	19	485	507	91	343	811	56	326	641	201
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1065	1803	57	1223	1543	277	836	1729	120	807	1365	428
Grp Volume(v), veh/h	129	0	163	24	0	315	22	0	616	56	0	578
Grp Sat Flow(s),veh/h/ln	1065	0	1860	1223	0	1820	836	0	1849	807	0	1793
Q Serve(g_s), s	5.0	0.0	2.9	0.7	0.0	6.3	0.9	0.0	11.8	2.6	0.0	11.2
Cycle Q Clear(g_c), s	11.2	0.0	2.9	3.5	0.0	6.3	12.2	0.0	11.8	14.4	0.0	11.2
Prop In Lane	1.00		0.03	1.00		0.15	1.00		0.06	1.00		0.24
Lane Grp Cap(c), veh/h	362	0	611	485	0	598	343	0	867	326	0	841
V/C Ratio(X)	0.36	0.00	0.27	0.05	0.00	0.53	0.06	0.00	0.71	0.17	0.00	0.69
Avail Cap(c_a), veh/h	1053	0	1819	1279	0	1780	1219	0	2805	1172	0	2721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	11.0	12.3	0.0	12.1	14.0	0.0	9.4	15.1	0.0	9.2
Incr Delay (d2), s/veh	0.6	0.0	0.2	0.0	0.0	0.7	0.1	0.0	1.1	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	0.1	0.0	1.9	0.1	0.0	3.0	0.4	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	0.0	11.2	12.3	0.0	12.9	14.1	0.0	10.5	15.4	0.0	10.3
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		292			339			638			634	
Approach Delay, s/veh		13.9			12.8			10.6			10.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.4		19.1		25.4		19.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		67.5		43.5		67.5		43.5				
Max Q Clear Time (g_c+I1), s		14.2		13.2		16.4		8.3				
Green Ext Time (p_c), s		4.4		1.4		4.4		1.9				

Intersection Summary												
HCM 6th Ctrl Delay			11.5									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	630	279	688	351	39	299	67
Future Volume (vph)	85	630	279	688	351	39	299	67
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	9.6	23.5	9.6	27.8	9.6	27.8
Total Split (s)	17.4	33.6	26.4	42.6	31.8	30.9	29.1	28.2
Total Split (%)	14.5%	28.0%	22.0%	35.5%	26.5%	25.8%	24.3%	23.5%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.8	27.2	21.2	41.0	26.3	18.9	22.9	15.5
Actuated g/C Ratio	0.09	0.24	0.19	0.37	0.24	0.17	0.20	0.14
v/c Ratio	0.60	1.02dr	0.90	0.52	0.92	0.65	0.90	0.73
Control Delay	66.2	51.3	75.7	29.0	70.5	17.8	71.7	45.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.2	51.3	75.7	29.0	70.5	17.8	71.7	45.7
LOS	E	D	E	C	E	B	E	D
Approach Delay		52.4		40.3		47.0		61.4
Approach LOS		D		D		D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.8	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 48.6	Intersection LOS: D
Intersection Capacity Utilization 89.6%	ICU Level of Service E
Analysis Period (min) 15	
dr Defacto Right Lane. Recode with 1 though lane as a right lane.	

Splits and Phases: 19: Mill Creek Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	630	459	279	688	189	351	39	246	299	67	130
Future Volume (veh/h)	85	630	459	279	688	189	351	39	246	299	67	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	685	282	303	748	107	382	42	158	325	73	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	850	345	336	1631	231	415	51	193	359	92	109
Arrive On Green	0.07	0.24	0.24	0.19	0.36	0.36	0.23	0.15	0.15	0.20	0.12	0.12
Sat Flow, veh/h	1781	3568	1446	1781	4518	641	1781	344	1294	1781	777	926
Grp Volume(v), veh/h	92	653	314	303	562	293	382	0	200	325	0	160
Grp Sat Flow(s),veh/h/ln	1781	1702	1610	1781	1702	1755	1781	0	1638	1781	0	1704
Q Serve(g_s), s	4.9	17.5	17.8	16.1	12.2	12.4	20.3	0.0	11.4	17.2	0.0	8.8
Cycle Q Clear(g_c), s	4.9	17.5	17.8	16.1	12.2	12.4	20.3	0.0	11.4	17.2	0.0	8.8
Prop In Lane	1.00		0.90	1.00		0.37	1.00		0.79	1.00		0.54
Lane Grp Cap(c), veh/h	117	811	384	336	1229	634	415	0	245	359	0	201
V/C Ratio(X)	0.78	0.81	0.82	0.90	0.46	0.46	0.92	0.00	0.82	0.91	0.00	0.80
Avail Cap(c_a), veh/h	236	954	451	401	1270	655	501	0	425	451	0	394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.5	34.7	34.9	38.4	23.7	23.7	36.2	0.0	39.9	37.7	0.0	41.6
Incr Delay (d2), s/veh	4.3	4.4	9.8	18.9	0.3	0.5	18.6	0.0	6.6	16.8	0.0	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.1	7.5	8.3	4.5	4.7	10.4	0.0	4.8	8.8	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	39.1	44.7	57.3	23.9	24.2	54.8	0.0	46.4	54.6	0.0	48.6
LnGrp LOS	D	D	D	E	C	C	D	A	D	D	A	D
Approach Vol, veh/h		1059			1158			582			485	
Approach Delay, s/veh		41.6			32.7			51.9			52.6	
Approach LOS		D			C			D			D	

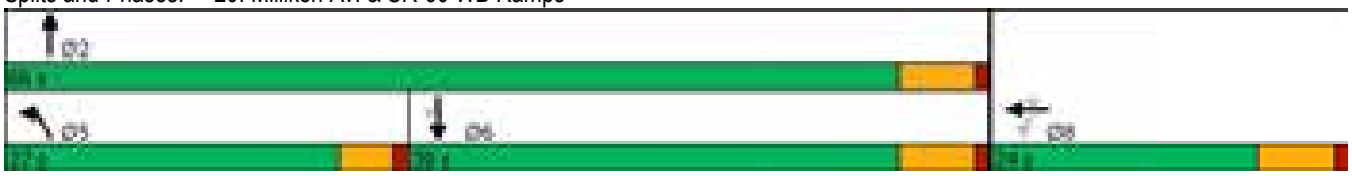
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.1	20.3	22.8	29.6	27.1	17.2	11.0	41.4
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	24.5	25.1	21.8	27.1	27.2	22.4	12.8	36.1
Max Q Clear Time (g_c+I1), s	19.2	13.4	18.1	19.8	22.3	10.8	6.9	14.4
Green Ext Time (p_c), s	0.2	0.8	0.2	3.2	0.3	0.5	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	319	359	902	1186	518
Future Volume (vph)	4	319	359	902	1186	518
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	9.6	16.2	16.2	16.2
Total Split (s)	24.0	24.0	27.0	66.0	39.0	39.0
Total Split (%)	26.7%	26.7%	30.0%	73.3%	43.3%	43.3%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	17.8	17.8	20.8	57.7	32.3	32.3
Actuated g/C Ratio	0.20	0.20	0.24	0.66	0.37	0.37
v/c Ratio	1.24	0.73	0.89	0.38	0.90	0.59
Control Delay	160.9	26.8	58.1	7.4	37.3	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	160.9	26.8	58.1	7.4	37.3	4.8
LOS	F	C	E	A	D	A
Approach Delay	103.5			21.9	27.4	
Approach LOS	F			C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 88	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.24	
Intersection Signal Delay: 40.8	Intersection LOS: D
Intersection Capacity Utilization 90.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	422	4	319	359	902	0	0	1186	518
Future Volume (veh/h)	0	0	0	422	4	319	359	902	0	0	1186	518
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				440	4	156	374	940	0	0	1235	456
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				363	3	326	409	2435	0	0	1376	583
Arrive On Green				0.21	0.21	0.21	0.23	0.65	0.00	0.00	0.37	0.37
Sat Flow, veh/h				1766	16	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				444	0	156	374	940	0	0	1235	456
Grp Sat Flow(s),veh/h/ln				1782	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				17.8	0.0	7.5	17.7	10.1	0.0	0.0	27.0	22.1
Cycle Q Clear(g_c), s				17.8	0.0	7.5	17.7	10.1	0.0	0.0	27.0	22.1
Prop In Lane				0.99		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				367	0	326	409	2435	0	0	1376	583
V/C Ratio(X)				1.21	0.00	0.48	0.91	0.39	0.00	0.00	0.90	0.78
Avail Cap(c_a), veh/h				367	0	326	461	2585	0	0	1418	601
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				34.4	0.0	30.3	32.5	7.0	0.0	0.0	25.8	24.3
Incr Delay (d2), s/veh				117.7	0.0	1.1	20.0	0.1	0.0	0.0	7.8	6.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				19.2	0.0	2.8	9.2	2.9	0.0	0.0	12.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				152.1	0.0	31.4	52.5	7.1	0.0	0.0	33.6	30.7
LnGrp LOS				F	A	C	D	A	A	A	C	C
Approach Vol, veh/h					600			1314			1691	
Approach Delay, s/veh					120.7			20.1			32.8	
Approach LOS					F			C			C	

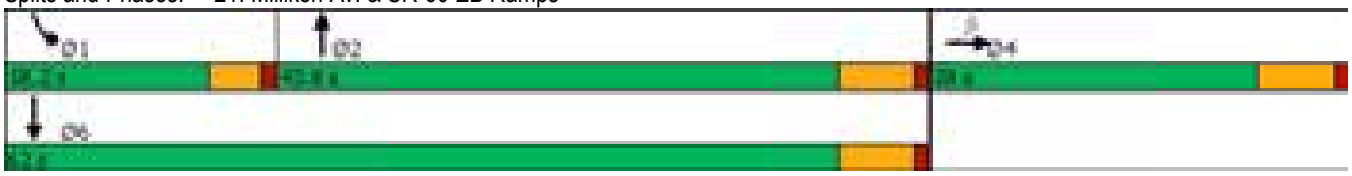
Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	62.5		24.5	38.0		24.0						
Change Period (Y+Rc), s	6.2		4.6	6.2		6.2						
Max Green Setting (Gmax), s	59.8		22.4	32.8		17.8						
Max Q Clear Time (g_c+I1), s	12.1		19.7	29.0		19.8						
Green Ext Time (p_c), s	7.0		0.2	2.9		0.0						

Intersection Summary		
HCM 6th Ctrl Delay	42.8	
HCM 6th LOS	D	

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	263	4	989	223	1385
Future Volume (vph)	263	4	989	223	1385
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	16.2	23.2	9.6	16.2
Total Split (s)	28.0	28.0	43.8	18.2	62.0
Total Split (%)	31.1%	31.1%	48.7%	20.2%	68.9%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	20.9	20.9	36.8	13.1	54.5
Actuated g/C Ratio	0.24	0.24	0.42	0.15	0.62
v/c Ratio	0.59	0.92	0.93	0.88	0.62
Control Delay	36.4	58.7	35.7	70.6	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.4	58.7	35.7	70.6	11.9
LOS	D	E	D	E	B
Approach Delay		50.0	35.7		20.1
Approach LOS		D	D		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 87.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 31.1	Intersection LOS: C
Intersection Capacity Utilization 90.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	4	340	0	0	0	0	989	396	223	1385	0
Future Volume (veh/h)	263	4	340	0	0	0	0	989	396	223	1385	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	233	62	187				0	1030	225	232	1443	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	341	79	237				0	1253	273	274	2387	0
Arrive On Green	0.19	0.19	0.19				0.00	0.42	0.42	0.15	0.64	0.00
Sat Flow, veh/h	1781	410	1237				0	2976	648	1781	3741	0
Grp Volume(v), veh/h	233	0	249				0	646	609	232	1443	0
Grp Sat Flow(s),veh/h/ln	1781	0	1648				0	1870	1754	1781	1870	0
Q Serve(g_s), s	8.9	0.0	10.5				0.0	22.2	22.4	9.2	16.5	0.0
Cycle Q Clear(g_c), s	8.9	0.0	10.5				0.0	22.2	22.4	9.2	16.5	0.0
Prop In Lane	1.00		0.75				0.00		0.37	1.00		0.00
Lane Grp Cap(c), veh/h	341	0	315				0	787	738	274	2387	0
V/C Ratio(X)	0.68	0.00	0.79				0.00	0.82	0.82	0.85	0.60	0.00
Avail Cap(c_a), veh/h	534	0	494				0	967	906	333	2869	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.4	0.0	28.0				0.0	18.6	18.7	29.9	7.8	0.0
Incr Delay (d2), s/veh	2.4	0.0	4.5				0.0	4.7	5.2	13.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	4.1				0.0	8.8	8.5	4.6	4.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	0.0	32.6				0.0	23.4	23.9	43.3	8.0	0.0
LnGrp LOS	C	A	C				A	C	C	D	A	A
Approach Vol, veh/h		482						1255			1675	
Approach Delay, s/veh		31.2						23.6			12.9	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.8	36.8		20.1		52.6
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	13.6	37.6		21.8		55.8
Max Q Clear Time (g_c+I1), s	11.2	24.4		12.5		18.5
Green Ext Time (p_c), s	0.1	6.2		1.5		12.9

Intersection Summary		
HCM 6th Ctrl Delay		19.4
HCM 6th LOS		B

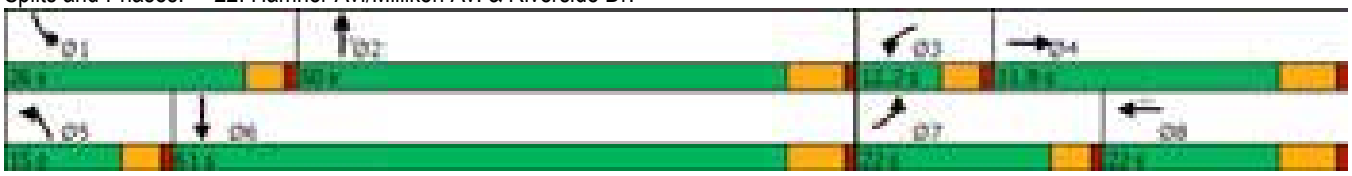
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	255	189	80	236	160	149	896	49	212	1164
Future Volume (vph)	255	189	80	236	160	149	896	49	212	1164
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	22.0	31.8	12.2	22.0	22.0	15.0	50.0	50.0	26.0	61.0
Total Split (%)	18.3%	26.5%	10.2%	18.3%	18.3%	12.5%	41.7%	41.7%	21.7%	50.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	17.4	25.6	7.6	15.8	15.8	10.4	45.8	45.8	19.4	54.8
Actuated g/C Ratio	0.14	0.21	0.06	0.13	0.13	0.09	0.38	0.38	0.16	0.46
v/c Ratio	1.17	0.96	0.84	1.07	0.46	1.15	0.74	0.08	0.87	1.09
Control Delay	158.3	80.8	111.0	128.0	8.1	170.1	36.7	0.2	79.9	81.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	158.3	80.8	111.0	128.0	8.1	170.1	36.7	0.2	79.9	81.4
LOS	F	F	F	F	A	F	D	A	E	F
Approach Delay		114.1		84.9			53.2			81.3
Approach LOS		F		F			D			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 78.8	Intersection LOS: E
Intersection Capacity Utilization 102.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	255	189	148	80	236	160	149	896	49	212	1164	378
Future Volume (veh/h)	255	189	148	80	236	160	149	896	49	212	1164	378
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	268	199	82	84	248	89	157	943	31	223	1225	209
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	255	105	102	235	200	139	1294	576	247	1298	220
Arrive On Green	0.15	0.22	0.22	0.06	0.13	0.13	0.09	0.38	0.38	0.15	0.45	0.45
Sat Flow, veh/h	1594	1187	489	1594	1772	1502	1594	3367	1500	1594	2873	487
Grp Volume(v), veh/h	268	0	281	84	248	89	157	943	31	223	714	720
Grp Sat Flow(s),veh/h/ln	1594	0	1676	1594	1772	1502	1594	1683	1500	1594	1683	1677
Q Serve(g_s), s	17.4	0.0	18.8	6.2	15.8	6.5	10.4	28.5	1.5	16.3	48.0	49.1
Cycle Q Clear(g_c), s	17.4	0.0	18.8	6.2	15.8	6.5	10.4	28.5	1.5	16.3	48.0	49.1
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	233	0	361	102	235	200	139	1294	576	247	760	757
V/C Ratio(X)	1.15	0.00	0.78	0.82	1.05	0.45	1.13	0.73	0.05	0.90	0.94	0.95
Avail Cap(c_a), veh/h	233	0	361	102	235	200	139	1294	576	287	776	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	0.0	44.0	55.0	51.6	47.5	54.3	31.3	23.0	49.4	31.0	31.3
Incr Delay (d2), s/veh	105.1	0.0	10.4	38.0	73.4	1.6	114.2	2.1	0.0	25.3	18.9	21.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	0.0	8.5	3.5	11.5	2.4	8.4	11.2	0.5	8.0	21.8	22.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	155.9	0.0	54.4	93.0	125.0	49.1	168.5	33.4	23.1	74.7	49.9	52.3
LnGrp LOS	F	A	D	F	F	D	F	C	C	E	D	D
Approach Vol, veh/h		549			421			1131			1657	
Approach Delay, s/veh		103.9			102.6			51.9			54.3	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	51.9	12.2	31.8	15.0	59.9	22.0	22.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	43.8	7.6	25.6	10.4	54.8	17.4	15.8
Max Q Clear Time (g_c+I1), s	18.3	30.5	8.2	20.8	12.4	51.1	19.4	17.8
Green Ext Time (p_c), s	0.1	5.0	0.0	0.6	0.0	2.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	66.2
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	86.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	109	86	129	967	1210	164
Future Vol, veh/h	109	86	129	967	1210	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	95	142	1063	1330	180

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2236	1420	1510	0	-	0
Stage 1	1420	-	-	-	-	-
Stage 2	816	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	~ 41	167	441	-	-	-
Stage 1	222	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 9	167	441	-	-	-
Mov Cap-2 Maneuver	~ 45	-	-	-	-	-
Stage 1	~ 48	-	-	-	-	-
Stage 2	396	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $	1144.1	6.7	0
HCM LOS	F		

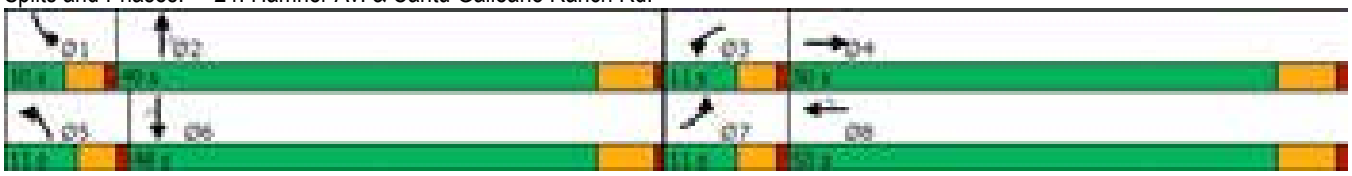
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	441	-	66	-	-
HCM Lane V/C Ratio	0.321	-	3.247	-	-
HCM Control Delay (s)	17	5.3	$ 1144.1	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	1.4	-	22.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	405	1521	478	1635	216	482	423	367	296	539	397
Future Volume (vph)	405	1521	478	1635	216	482	423	367	296	539	397
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	11.0	50.0	11.0	50.0	50.0	11.0	49.0	49.0	10.0	48.0	48.0
Total Split (%)	9.2%	41.7%	9.2%	41.7%	41.7%	9.2%	40.8%	40.8%	8.3%	40.0%	40.0%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	43.8	6.4	43.8	43.8	6.4	29.2	29.2	5.4	28.2	28.2
Actuated g/C Ratio	0.06	0.41	0.06	0.41	0.41	0.06	0.27	0.27	0.05	0.26	0.26
v/c Ratio	2.05	0.79	2.42	1.18	0.31	2.44	0.32	0.73	1.77	0.60	0.81
Control Delay	513.4	30.4	673.4	117.2	11.6	681.9	30.8	31.0	398.9	36.6	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	513.4	30.4	673.4	117.2	11.6	681.9	30.8	31.0	398.9	36.6	37.8
LOS	F	C	F	F	B	F	C	C	F	D	D
Approach Delay		113.7		221.6			277.5			124.0	
Approach LOS		F		F			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 106.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.44	
Intersection Signal Delay: 179.4	Intersection LOS: F
Intersection Capacity Utilization 103.6%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	1521	424	478	1635	216	482	423	367	296	539	397
Future Volume (veh/h)	405	1521	424	478	1635	216	482	423	367	296	539	397
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	422	1584	234	498	1703	121	502	441	226	308	561	258
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	2488	367	222	1551	692	222	1152	358	187	766	342
Arrive On Green	0.06	0.44	0.44	0.06	0.44	0.44	0.06	0.23	0.23	0.05	0.22	0.22
Sat Flow, veh/h	3456	5702	842	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	422	1340	478	498	1703	121	502	441	226	308	561	258
Grp Sat Flow(s),veh/h/ln	1728	1609	1719	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	6.4	21.6	21.6	6.4	43.5	4.6	6.4	7.3	12.8	5.4	14.7	15.2
Cycle Q Clear(g_c), s	6.4	21.6	21.6	6.4	43.5	4.6	6.4	7.3	12.8	5.4	14.7	15.2
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	2105	750	222	1551	692	222	1152	358	187	766	342
V/C Ratio(X)	1.90	0.64	0.64	2.24	1.10	0.17	2.26	0.38	0.63	1.65	0.73	0.75
Avail Cap(c_a), veh/h	222	2105	750	222	1551	692	222	2192	680	187	1490	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	21.9	21.9	46.6	28.1	17.1	46.6	32.7	34.9	47.1	36.4	36.6
Incr Delay (d2), s/veh	422.5	0.6	1.8	574.5	54.7	0.1	582.5	0.2	1.8	313.2	1.4	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	7.3	8.0	20.3	27.7	1.5	20.6	2.9	4.8	10.4	6.1	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	469.1	22.6	23.7	621.1	82.8	17.3	629.1	32.9	36.7	360.4	37.8	40.0
LnGrp LOS	F	C	C	F	F	B	F	C	D	F	D	D
Approach Vol, veh/h		2240			2322			1169			1127	
Approach Delay, s/veh		106.9			194.9			289.7			126.5	
Approach LOS		F			F			F			F	

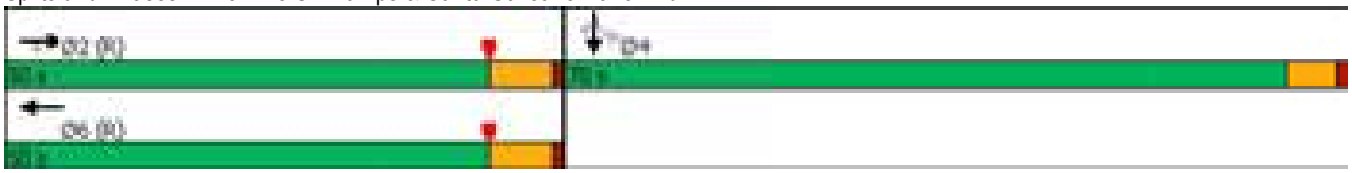
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	28.7	11.0	50.0	11.0	27.7	11.0	50.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	5.4	42.8	6.4	43.5	6.4	41.8	6.4	43.5
Max Q Clear Time (g_c+I1), s	7.4	14.8	8.4	23.6	8.4	17.2	8.4	45.5
Green Ext Time (p_c), s	0.0	3.5	0.0	11.3	0.0	4.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	171.1
HCM 6th LOS	F

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1592	825	1260	137	290	1	1632
Future Volume (vph)	1592	825	1260	137	290	1	1632
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	50.0	50.0	50.0		70.0	70.0	70.0
Total Split (%)	41.7%	41.7%	41.7%		58.3%	58.3%	58.3%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min		Min	Min	Min
Act Effct Green (s)	43.2	43.2	43.2	120.0	64.5	64.5	64.5
Actuated g/C Ratio	0.36	0.36	0.36	1.00	0.54	0.54	0.54
v/c Ratio	0.95	0.86	1.08	0.05	0.31	1.16	1.10
Control Delay	49.1	16.8	89.5	0.0	16.6	112.3	88.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	16.8	89.5	0.0	16.6	112.3	88.9
LOS	D	B	F	A	B	F	F
Approach Delay	38.1		80.7			89.2	
Approach LOS	D		F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 113.2 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 65.6	Intersection LOS: E
Intersection Capacity Utilization 112.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1592	825	0	1260	137	0	0	0	290	1	1632
Future Volume (veh/h)	0	1592	825	0	1260	137	0	0	0	290	1	1632
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1730	0	0	1370	0				210	0	1398
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2138		0	1488					853	0	1518
Arrive On Green	0.00	0.42	0.00	0.00	0.84	0.00				0.48	0.00	0.48
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	1730	0	0	1370	0				210	0	1398
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	35.7	0.0	0.0	32.9	0.0				8.4	0.0	49.3
Cycle Q Clear(g_c), s	0.0	35.7	0.0	0.0	32.9	0.0				8.4	0.0	49.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2138		0	1488					853	0	1518
V/C Ratio(X)	0.00	0.81		0.00	0.92					0.25	0.00	0.92
Avail Cap(c_a), veh/h	0	2138		0	1488					957	0	1704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.33	0.00	0.00	0.63	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.7	0.0	0.0	8.4	0.0				18.5	0.0	29.1
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	7.4	0.0				0.1	0.0	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.6	0.0	0.0	4.8	0.0				3.3	0.0	19.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.8	0.0	0.0	15.7	0.0				18.6	0.0	37.2
LnGrp LOS	A	C		A	B					B	A	D
Approach Vol, veh/h		1730	A		1370	A					1608	
Approach Delay, s/veh		31.8			15.7						34.8	
Approach LOS		C			B						C	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		57.0		63.0		57.0						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		43.2		64.5		43.2						
Max Q Clear Time (g_c+I1), s		37.7		51.3		34.9						
Green Ext Time (p_c), s		4.2		6.1		5.1						

Intersection Summary		
HCM 6th Ctrl Delay	28.2	
HCM 6th LOS	C	

Notes

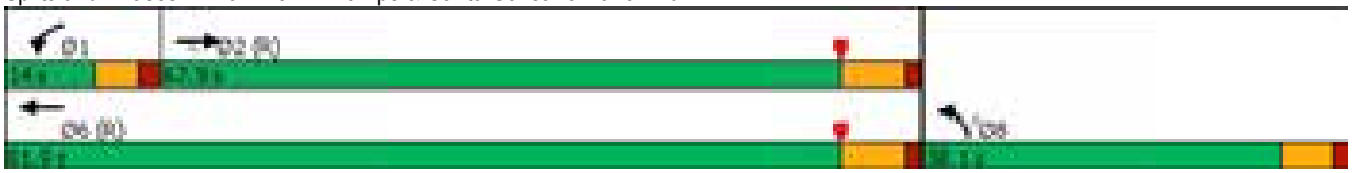
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	802	1112	219	498	879	154
Future Volume (vph)	802	1112	219	498	879	154
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.0	22.5	22.5	22.5
Total Split (s)	67.9	67.9	14.0	81.9	38.1	38.1
Total Split (%)	56.6%	56.6%	11.7%	68.3%	31.8%	31.8%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	59.1	59.1	8.0	73.1	33.6	33.6
Actuated g/C Ratio	0.49	0.49	0.07	0.61	0.28	0.28
v/c Ratio	0.35	0.99	1.04	0.17	1.01	0.30
Control Delay	9.2	43.1	125.5	10.2	75.1	8.4
Queue Delay	0.0	23.2	0.0	0.0	0.0	0.0
Total Delay	9.2	66.3	125.5	10.2	75.1	8.4
LOS	A	E	F	B	E	A
Approach Delay	42.4			45.4	66.2	
Approach LOS	D			D	E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 49.7	Intersection LOS: D
Intersection Capacity Utilization 86.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	802	1112	219	498	879	154
Future Volume (veh/h)	802	1112	219	498	879	154
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	872	666	238	541	955	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2579	800	230	3174	953	424
Arrive On Green	0.84	0.84	0.07	0.62	0.27	0.27
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	872	666	238	541	955	85
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	4.5	26.5	8.0	5.4	32.1	5.0
Cycle Q Clear(g_c), s	4.5	26.5	8.0	5.4	32.1	5.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2579	800	230	3174	953	424
V/C Ratio(X)	0.34	0.83	1.03	0.17	1.00	0.20
Avail Cap(c_a), veh/h	2579	800	230	3174	953	424
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.40	0.40	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	5.0	6.7	56.0	9.6	44.0	34.0
Incr Delay (d2), s/veh	0.1	4.2	65.4	0.1	29.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.0	5.4	1.8	17.5	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.1	10.9	121.4	9.7	73.6	34.2
LnGrp LOS	A	B	F	A	F	C
Approach Vol, veh/h	1538			779	1040	
Approach Delay, s/veh	7.7			43.8	70.4	
Approach LOS	A			D	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	14.0	67.9				81.9	38.1
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	8.0	60.6				74.6	32.1
Max Q Clear Time (g_c+I1), s	10.0	28.5				7.4	34.1
Green Ext Time (p_c), s	0.0	9.5				3.5	0.0

Intersection Summary		
HCM 6th Ctrl Delay		35.5
HCM 6th LOS		D

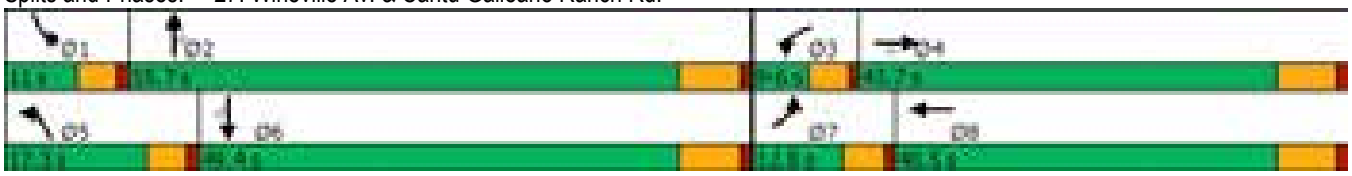
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	133	388	334	26	287	217	93	47	29	169	217
Future Volume (vph)	133	388	334	26	287	217	93	47	29	169	217
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	12.8	43.7	43.7	9.6	40.5	17.3	55.7	55.7	11.0	49.4	49.4
Total Split (%)	10.7%	36.4%	36.4%	8.0%	33.8%	14.4%	46.4%	46.4%	9.2%	41.2%	41.2%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.5	22.2	22.2	5.5	12.8	9.4	26.1	26.1	6.1	15.3	15.3
Actuated g/C Ratio	0.11	0.32	0.32	0.08	0.18	0.14	0.38	0.38	0.09	0.22	0.22
v/c Ratio	0.39	0.21	0.48	0.10	0.36	0.51	0.08	0.08	0.21	0.45	0.44
Control Delay	37.9	20.0	5.6	40.0	25.7	36.2	17.0	0.2	41.7	27.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	20.0	5.6	40.0	25.7	36.2	17.0	0.2	41.7	27.5	6.4
LOS	D	B	A	D	C	D	B	A	D	C	A
Approach Delay		17.2			26.8		26.5			17.5	
Approach LOS		B			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 69.4	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 20.6	Intersection LOS: C
Intersection Capacity Utilization 48.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	388	334	26	287	21	217	93	47	29	169	217
Future Volume (veh/h)	133	388	334	26	287	21	217	93	47	29	169	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	145	422	225	28	312	13	236	101	25	32	184	171
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	1507	371	112	898	37	369	864	385	64	322	273
Arrive On Green	0.09	0.23	0.23	0.03	0.18	0.18	0.11	0.24	0.24	0.04	0.17	0.17
Sat Flow, veh/h	3456	6434	1585	3456	5029	208	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	145	422	225	28	210	115	236	101	25	32	184	171
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1833	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	2.0	2.6	6.2	0.4	2.6	2.7	3.2	1.1	0.6	0.9	4.4	4.9
Cycle Q Clear(g_c), s	2.0	2.6	6.2	0.4	2.6	2.7	3.2	1.1	0.6	0.9	4.4	4.9
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	304	1507	371	112	608	327	369	864	385	64	322	273
V/C Ratio(X)	0.48	0.28	0.61	0.25	0.35	0.35	0.64	0.12	0.06	0.50	0.57	0.63
Avail Cap(c_a), veh/h	580	4898	1207	354	2368	1275	898	3578	1596	233	1642	1391
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	15.3	16.7	23.1	17.6	17.6	20.9	14.4	14.2	23.1	18.6	18.8
Incr Delay (d2), s/veh	0.4	0.1	1.6	0.4	0.3	0.6	0.7	0.1	0.1	2.2	1.6	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.7	1.8	0.1	0.8	0.9	1.1	0.4	0.2	0.4	1.7	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	15.4	18.3	23.5	17.9	18.2	21.6	14.5	14.3	25.3	20.2	21.1
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		792			353			362			387	
Approach Delay, s/veh		17.4			18.5			19.1			21.0	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	18.4	6.2	17.9	9.8	14.9	8.9	15.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	6.4	49.2	5.0	37.2	12.7	42.9	8.2	34.0
Max Q Clear Time (g_c+I1), s	2.9	3.1	2.4	8.2	5.2	6.9	4.0	4.7
Green Ext Time (p_c), s	0.0	0.7	0.0	3.3	0.2	1.5	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

APPENDIX 5.3: E+P (PHASE 1) CONDITIONS TRAFFIC SIGNAL WARRANT OPERATIONS ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

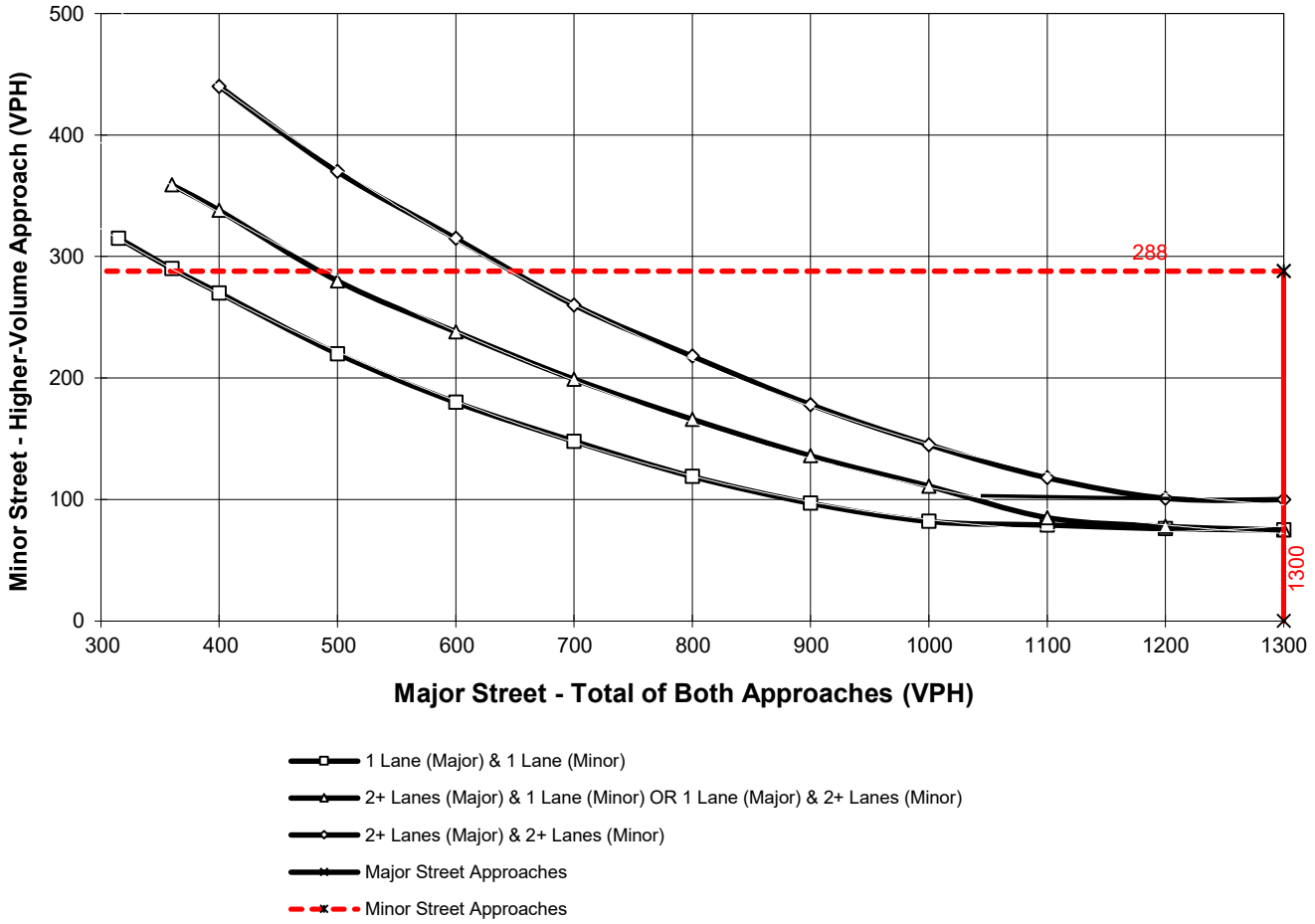
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P (Phase 1) Conditions - Weekday PM Peak Hour**

Major Street Name = **Haven Av.**
Total of Both Approaches (VPH) = **1702**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Chino Av.**
High Volume Approach (VPH) = **288**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM	TRAFFIC CONDITIONS	E+P (Phase 1)
				CALC JB	DATE 09/13/22
Jurisdiction: City of Ontario				CHK JB	DATE 09/13/22
Major Street: #REF!				Critical Approach Speed (Major)	55 mph
Minor Street: Mill Creek Av.				Critical Approach Speed (Minor)	45 mph

Major Street Approach Lanes = **2** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **12,136** vpd Minor Street Future ADT = **6,569** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [√]

or **RURAL (R)**

In built up area of isolated community of < 10,000 population ..... [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
	XX				
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied				
XX					
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1	*1*	8,000	5,600	2,400	1,680
2 + **12,136**	*1* **6,569**	9,600	6,720 *	2,400	1,680 *
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied				
XX					
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1	*1*	12,000	8,400	1,200	850
2 + **12,136**	*1* **6,569**	14,400	10,080 *	1,200	850 *
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied				
XX					
No one condition satisfied, but following conditions fulfilled 80% of more	A 100% B 100%	2 CONDITIONS 80%		2 CONDITIONS 80%	

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

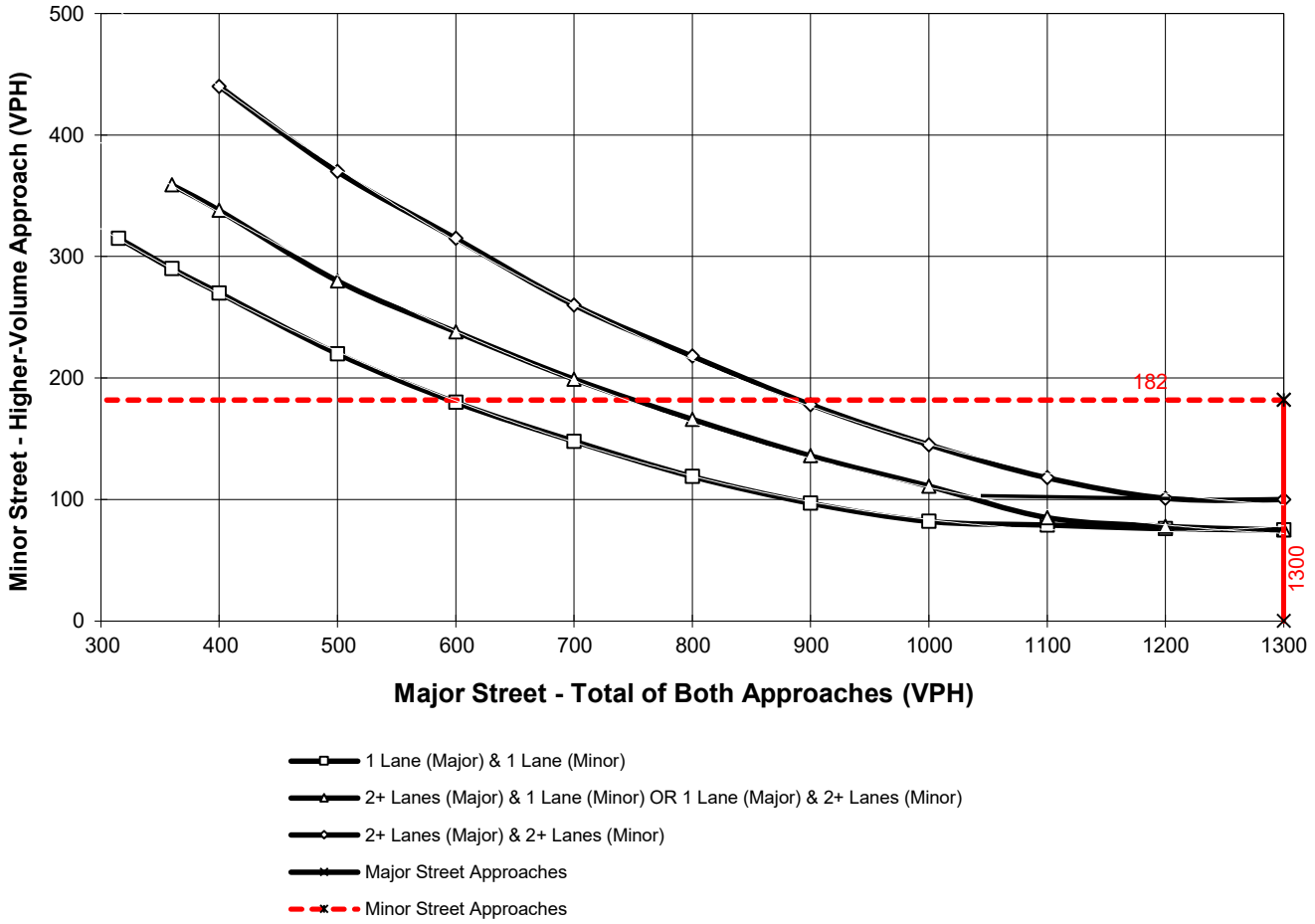
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P (Phase 1) Conditions - Weekday AM Peak Hour**

Major Street Name = **Hamner Av.**
Total of Both Approaches (VPH) = **1821**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Chino Av.**
High Volume Approach (VPH) = **182**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 5.4: E+P (PHASE 1) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	278	267	257	777	1035	433	163
v/c Ratio	0.74	0.62	0.58	0.85	0.31	0.21	0.26
Control Delay	46.2	22.5	19.0	36.4	4.0	23.1	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	22.5	19.0	36.4	4.0	23.1	4.9
Queue Length 50th (ft)	148	70	52	223	43	55	0
Queue Length 95th (ft)	#308	#178	146	#322	20	66	39
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	384	439	453	928	3485	2493	715
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.61	0.57	0.84	0.30	0.17	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	290	278	270	1527	596	162	677
v/c Ratio	0.71	0.62	0.51	0.48	0.55	0.53	0.21
Control Delay	40.7	22.1	9.7	16.6	3.7	54.0	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	22.1	9.7	16.6	3.7	54.0	3.8
Queue Length 50th (ft)	157	84	22	164	0	47	52
Queue Length 95th (ft)	228	160	84	221	60	m64	13
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	526	548	617	3182	1075	323	3201
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.51	0.44	0.48	0.55	0.50	0.21

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	372	376	746	598	1616	856	424
v/c Ratio	0.79	0.80	0.47	0.91	0.57	0.56	0.55
Control Delay	37.3	37.7	1.0	46.4	13.9	23.7	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	37.7	1.0	46.4	13.9	23.7	5.4
Queue Length 50th (ft)	162	164	0	~162	189	121	0
Queue Length 95th (ft)	52	256	0	m#233	m213	160	61
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	546	548	1583	657	2845	1532	766
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.69	0.47	0.91	0.57	0.56	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	378	383	325	1802	341	749
v/c Ratio	0.81	0.82	0.57	0.94	0.85	0.26
Control Delay	40.7	41.3	14.5	33.2	50.7	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	41.3	14.5	33.2	50.7	8.5
Queue Length 50th (ft)	167	169	53	282	91	71
Queue Length 95th (ft)	#302	#307	129	#396	#167	87
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	497	499	593	1920	402	2865
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.77	0.55	0.94	0.85	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	246	537	411	1284	472	267
v/c Ratio	0.41	0.91	0.89	0.71	0.68	0.51
Control Delay	24.6	43.4	54.1	18.4	37.5	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	43.4	54.1	18.4	37.5	7.9
Queue Length 50th (ft)	104	236	222	273	130	0
Queue Length 95th (ft)	172	#439	#394	350	182	62
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	670	656	507	2030	815	570
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.82	0.81	0.63	0.58	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	404	420	1612	88	612
v/c Ratio	0.86	0.68	1.00	0.61	0.30
Control Delay	48.5	16.3	47.1	59.0	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	16.3	47.1	59.0	10.2
Queue Length 50th (ft)	222	72	~535	49	90
Queue Length 95th (ft)	#380	184	#673	#113	122
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	538	670	1617	156	2149
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.63	1.00	0.56	0.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1158	587	1075	183	252	648	646
v/c Ratio	0.67	0.64	1.37	0.07	0.54	0.84	0.82
Control Delay	37.9	7.6	207.1	0.0	39.4	17.8	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	7.6	207.1	0.0	39.4	17.8	16.3
Queue Length 50th (ft)	267	8	~596	0	181	109	100
Queue Length 95th (ft)	#480	136	#694	m0	209	239	218
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1739	916	784	2787	707	908	931
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.64	1.37	0.07	0.36	0.71	0.69

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	496	963	211	484	819	365
v/c Ratio	0.21	0.83	0.63	0.16	0.86	0.55
Control Delay	31.1	36.5	60.4	10.2	51.4	7.1
Queue Delay	0.0	13.3	0.0	0.0	0.0	0.0
Total Delay	31.1	49.8	60.4	10.2	51.4	7.1
Queue Length 50th (ft)	88	369	81	59	296	0
Queue Length 95th (ft)	91	625	122	66	#447	89
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2476	1174	371	3250	951	662
Starvation Cap Reductn	0	209	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	1.00	0.57	0.15	0.86	0.55

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	206	201	162	503	516	1266	328
v/c Ratio	0.70	0.71	0.41	0.79	0.15	0.43	0.37
Control Delay	47.9	47.9	8.5	39.6	1.4	18.2	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	47.9	8.5	39.6	1.4	18.2	3.5
Queue Length 50th (ft)	114	114	0	151	10	143	0
Queue Length 95th (ft)	190	193	53	198	1	184	50
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	344	332	437	726	3557	2934	892
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.61	0.37	0.69	0.15	0.43	0.37

Intersection Summary



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	102	223	219	898	510	482	1156
v/c Ratio	0.43	0.74	0.71	0.28	0.49	0.76	0.31
Control Delay	39.3	33.1	30.5	14.5	3.5	52.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	33.1	30.5	14.5	3.5	52.5	1.0
Queue Length 50th (ft)	56	65	60	82	0	129	0
Queue Length 95th (ft)	101	143	133	126	60	173	17
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	339	381	392	3206	1036	762	3707
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.59	0.56	0.28	0.49	0.63	0.31

Intersection Summary



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	147	146	585	342	967	1541	724
v/c Ratio	0.59	0.59	0.37	0.74	0.26	0.57	0.63
Control Delay	45.4	45.1	0.7	42.7	5.1	15.5	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	45.1	0.7	42.7	5.1	15.5	4.4
Queue Length 50th (ft)	83	83	0	107	71	209	13
Queue Length 95th (ft)	141	140	0	#198	118	253	75
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	321	322	1583	462	3655	2688	1143
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.45	0.37	0.74	0.26	0.57	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	182	184	502	1122	634	1208
v/c Ratio	0.48	0.49	1.16	0.64	0.78	0.37
Control Delay	35.4	35.5	123.5	25.9	55.6	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	35.5	123.5	25.9	55.6	5.2
Queue Length 50th (ft)	94	96	~296	186	193	67
Queue Length 95th (ft)	163	165	#491	247	226	78
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	377	378	432	1761	953	3265
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.49	1.16	0.64	0.67	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	249	332	374	841	1095	540
v/c Ratio	0.76	0.72	0.88	0.36	0.84	0.58
Control Delay	49.3	22.6	54.6	6.8	32.1	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	22.6	54.6	6.8	32.1	4.8
Queue Length 50th (ft)	133	62	203	97	296	0
Queue Length 95th (ft)	#235	159	#356	128	#385	65
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	380	502	476	2545	1396	951
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.66	0.79	0.33	0.78	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	247	385	1192	232	1106
v/c Ratio	0.61	0.88	0.91	0.74	0.51
Control Delay	35.7	45.0	37.1	47.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.7	45.0	37.1	47.7	10.6
Queue Length 50th (ft)	121	154	316	120	172
Queue Length 95th (ft)	212	#332	#494	196	221
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	466	493	1311	418	2363
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.78	0.91	0.56	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1505	648	1000	149	283	786	783
v/c Ratio	0.97	0.75	0.92	0.05	0.28	0.92	0.87
Control Delay	57.6	12.6	62.7	0.0	12.7	38.2	31.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	12.6	62.7	0.0	12.7	38.2	31.3
Queue Length 50th (ft)	~434	58	425	0	103	537	470
Queue Length 95th (ft)	#545	217	#553	m0	154	#875	#734
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1558	865	1084	2787	1015	878	922
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.75	0.92	0.05	0.28	0.90	0.85

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	828	1033	238	482	662	150
v/c Ratio	0.32	0.91	0.65	0.14	0.86	0.34
Control Delay	21.2	39.3	60.3	7.3	57.6	9.1
Queue Delay	0.0	2.1	0.0	0.0	0.0	0.0
Total Delay	21.2	41.3	60.3	7.3	57.6	9.1
Queue Length 50th (ft)	81	462	91	42	262	0
Queue Length 95th (ft)	m64	m489	134	50	#420	63
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2784	1175	400	3631	774	440
Starvation Cap Reductn	0	59	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.93	0.59	0.13	0.86	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 5.5: E+P (BUILDOUT) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	278	267	257	777	1086	462	163
v/c Ratio	0.74	0.62	0.59	0.85	0.33	0.22	0.26
Control Delay	46.2	22.5	20.9	36.2	3.9	23.2	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	22.5	20.9	36.2	3.9	23.2	4.9
Queue Length 50th (ft)	148	70	60	224	44	59	0
Queue Length 95th (ft)	#308	#178	155	#323	20	70	39
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	384	439	442	928	3485	2493	715
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.61	0.58	0.84	0.31	0.19	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	290	278	270	1581	596	162	709
v/c Ratio	0.71	0.62	0.53	0.50	0.55	0.53	0.22
Control Delay	40.7	22.1	11.1	16.8	3.7	54.5	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	22.1	11.1	16.8	3.7	54.5	3.7
Queue Length 50th (ft)	157	84	30	172	0	47	51
Queue Length 95th (ft)	228	160	94	230	60	m65	14
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	526	548	606	3182	1075	323	3201
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.51	0.45	0.50	0.55	0.50	0.22

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	372	376	746	867	1738	961	424
v/c Ratio	0.79	0.80	0.47	1.32	0.61	0.63	0.55
Control Delay	37.3	37.7	1.0	176.6	14.9	24.8	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	37.7	1.0	176.6	14.9	24.8	5.4
Queue Length 50th (ft)	162	164	0	~307	198	139	0
Queue Length 95th (ft)	52	256	0	m#315	m186	182	61
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	546	548	1583	657	2845	1532	766
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.69	0.47	1.32	0.61	0.63	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	378	383	519	2197	341	856
v/c Ratio	0.78	0.79	0.94	1.17	0.87	0.31
Control Delay	37.5	38.0	47.1	108.5	53.5	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	38.0	47.1	108.5	53.5	8.7
Queue Length 50th (ft)	167	169	177	~452	91	78
Queue Length 95th (ft)	#302	#307	#367	#549	#168	96
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	497	499	564	1872	392	2805
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.77	0.92	1.17	0.87	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	423	537	411	1424	569	267
v/c Ratio	0.71	0.90	0.91	0.78	0.78	0.50
Control Delay	32.9	43.7	57.1	20.6	41.5	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	43.7	57.1	20.6	41.5	7.6
Queue Length 50th (ft)	205	241	225	324	161	0
Queue Length 95th (ft)	313	#439	#394	413	221	62
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	651	640	493	1972	792	561
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.84	0.83	0.72	0.72	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	404	420	1953	88	890
v/c Ratio	0.86	0.80	1.21	0.61	0.44
Control Delay	48.5	32.0	125.2	59.0	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	32.0	125.2	59.0	11.6
Queue Length 50th (ft)	222	155	~750	49	144
Queue Length 95th (ft)	#380	#308	#891	#113	188
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	538	581	1614	156	2149
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.72	1.21	0.56	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1463	908	1442	183	252	753	755
v/c Ratio	0.70	0.77	0.99	0.07	0.31	1.04	1.01
Control Delay	31.6	6.7	62.0	0.0	19.8	74.5	64.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	6.7	62.0	0.0	19.8	74.5	64.2
Queue Length 50th (ft)	338	0	620	0	120	~676	~591
Queue Length 95th (ft)	394	96	m531	m0	183	#941	#883
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	2084	1184	1450	2787	819	723	751
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.77	0.99	0.07	0.31	1.04	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	557	1198	211	530	1136	369
v/c Ratio	0.22	1.02	0.63	0.16	1.32	0.63
Control Delay	9.2	55.6	60.4	8.9	189.9	14.0
Queue Delay	0.0	10.5	0.0	0.0	0.0	0.0
Total Delay	9.2	66.1	60.4	8.9	189.9	14.0
Queue Length 50th (ft)	36	~658	81	56	~589	48
Queue Length 95th (ft)	m46	m#876	122	72	#724	163
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2496	1177	371	3250	859	583
Starvation Cap Reductn	0	35	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	1.05	0.57	0.16	1.32	0.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	206	201	162	503	550	1316	328
v/c Ratio	0.71	0.72	0.41	0.79	0.16	0.45	0.37
Control Delay	48.3	48.2	8.6	39.5	1.2	18.3	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	48.2	8.6	39.5	1.2	18.3	3.5
Queue Length 50th (ft)	114	114	0	147	7	150	0
Queue Length 95th (ft)	190	193	53	200	2	193	50
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	342	330	436	726	3557	2934	892
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.61	0.37	0.69	0.15	0.45	0.37

Intersection Summary



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	102	223	219	931	510	482	1205
v/c Ratio	0.42	0.75	0.72	0.29	0.49	0.76	0.33
Control Delay	38.6	35.2	32.4	14.9	3.6	53.2	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	35.2	32.4	14.9	3.6	53.2	1.1
Queue Length 50th (ft)	55	72	66	87	0	126	0
Queue Length 95th (ft)	101	151	141	131	60	173	17
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	339	373	383	3179	1032	762	3686
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.60	0.57	0.29	0.49	0.63	0.33

Intersection Summary



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	147	146	585	528	1057	1659	724
v/c Ratio	0.59	0.59	0.37	1.08	0.29	0.63	0.64
Control Delay	45.4	45.1	0.7	91.8	6.2	16.7	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	45.1	0.7	91.8	6.2	16.7	4.5
Queue Length 50th (ft)	83	83	0	~178	70	233	14
Queue Length 95th (ft)	141	140	0	m#320	136	281	77
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	321	322	1583	491	3655	2644	1134
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.45	0.37	1.08	0.29	0.63	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	182	184	767	1400	634	1327
v/c Ratio	0.48	0.49	1.78	0.80	0.78	0.41
Control Delay	35.4	35.5	381.5	30.7	55.6	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	35.5	381.5	30.7	55.6	5.2
Queue Length 50th (ft)	94	96	~620	255	194	70
Queue Length 95th (ft)	163	165	#843	#358	228	82
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	377	378	432	1761	953	3265
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.49	1.78	0.80	0.67	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	444	332	374	940	1235	540
v/c Ratio	1.24	0.73	0.90	0.40	0.94	0.58
Control Delay	164.2	27.0	58.9	7.6	42.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	164.2	27.0	58.9	7.6	42.5	4.8
Queue Length 50th (ft)	~321	85	203	113	355	0
Queue Length 95th (ft)	#504	#208	#356	147	#501	65
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	357	454	448	2393	1312	927
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.24	0.73	0.83	0.39	0.94	0.58

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	247	385	1443	232	1443
v/c Ratio	0.57	0.91	1.12	0.75	0.69
Control Delay	34.1	54.7	93.6	48.8	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	54.7	93.6	48.8	13.9
Queue Length 50th (ft)	121	188	~476	120	260
Queue Length 95th (ft)	212	#384	#651	196	331
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	454	444	1283	407	2300
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.87	1.12	0.57	0.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1730	897	1370	149	283	902	905
v/c Ratio	1.16	0.96	1.32	0.05	0.28	1.03	0.98
Control Delay	118.6	33.5	187.4	0.0	12.2	63.6	48.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	4.1	0.0
Total Delay	118.6	33.5	187.4	0.0	12.2	67.7	48.7
Queue Length 50th (ft)	~580	235	~740	0	103	~823	660
Queue Length 95th (ft)	#678	#556	m#506	m0	154	#1101	#1004
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1491	931	1038	2787	1015	874	922
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	12	10	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.96	1.32	0.05	0.28	1.04	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	872	1209	238	541	972	150
v/c Ratio	0.31	1.02	0.65	0.15	1.62	0.42
Control Delay	9.4	47.4	60.3	5.6	318.5	15.3
Queue Delay	0.0	17.5	0.0	0.0	0.0	0.0
Total Delay	9.4	64.9	60.3	5.6	318.5	15.3
Queue Length 50th (ft)	60	~635	91	43	~562	18
Queue Length 95th (ft)	m55	m500	134	56	#694	86
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2838	1185	400	3631	601	354
Starvation Cap Reductn	0	54	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	1.07	0.59	0.15	1.62	0.42

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 5.6: E+P (PHASE 1) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

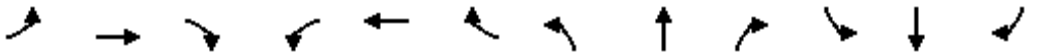
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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	323	485	114	378	47	672	103	293	392	229
Future Volume (vph)	323	485	114	378	47	672	103	293	392	229
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	7	4	3	8		2		6	6	
Permitted Phases					2		2			6
Detector Phase	7	4	3	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	23.7	24.8	24.8	24.8
Total Split (s)	19.0	35.4	13.8	30.2	39.8	39.8	39.8	31.0	31.0	31.0
Total Split (%)	15.8%	29.5%	11.5%	25.2%	33.2%	33.2%	33.2%	25.8%	25.8%	25.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.7	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	14.1	28.0	8.2	22.1	33.0	33.0	33.0	24.7	24.7	24.7
Actuated g/C Ratio	0.12	0.24	0.07	0.19	0.29	0.29	0.29	0.21	0.21	0.21
v/c Ratio	0.89	0.66	0.54	0.87	0.86	0.71	0.21	0.92	0.55	0.49
Control Delay	76.4	43.6	62.4	54.0	129.3	41.5	1.9	78.8	44.4	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.4	43.6	62.4	54.0	129.3	41.5	1.9	78.8	44.4	8.5
LOS	E	D	E	D	F	D	A	E	D	A
Approach Delay		56.1		55.4		41.6			46.5	
Approach LOS		E		E		D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 49.6	Intersection LOS: D
Intersection Capacity Utilization 84.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	323	485	39	114	378	185	47	672	103	293	392	229
Future Volume (veh/h)	323	485	39	114	378	185	47	672	103	293	392	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	344	516	25	121	402	133	50	715	67	312	417	68
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	400	925	45	175	521	170	397	883	370	350	777	324
Arrive On Green	0.13	0.28	0.28	0.05	0.21	0.21	0.25	0.25	0.25	0.22	0.22	0.22
Sat Flow, veh/h	3188	3344	162	3188	2527	823	1594	3544	1484	1594	3544	1477
Grp Volume(v), veh/h	344	273	268	121	280	255	50	715	67	312	417	68
Grp Sat Flow(s),veh/h/ln	1594	1772	1734	1594	1772	1579	1594	1772	1484	1594	1772	1477
Q Serve(g_s), s	11.3	14.0	14.1	4.0	15.9	16.3	2.6	20.2	3.8	20.3	11.1	4.0
Cycle Q Clear(g_c), s	11.3	14.0	14.1	4.0	15.9	16.3	2.6	20.2	3.8	20.3	11.1	4.0
Prop In Lane	1.00		0.09	1.00		0.52	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	400	490	480	175	365	326	397	883	370	350	777	324
V/C Ratio(X)	0.86	0.56	0.56	0.69	0.77	0.78	0.13	0.81	0.18	0.89	0.54	0.21
Avail Cap(c_a), veh/h	430	490	480	275	399	355	525	1166	488	377	837	349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	33.0	33.0	49.5	39.9	40.1	31.0	37.6	31.5	40.4	36.8	34.1
Incr Delay (d2), s/veh	14.3	1.4	1.5	1.8	8.0	10.1	0.1	3.3	0.2	21.6	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	5.9	5.8	1.6	7.4	6.9	1.0	9.1	1.3	9.7	4.7	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	34.4	34.5	51.3	47.9	50.2	31.2	40.9	31.7	62.0	37.4	34.4
LnGrp LOS	E	C	C	D	D	D	C	D	C	E	D	C
Approach Vol, veh/h		885			656			832			797	
Approach Delay, s/veh		44.4			49.4			39.6			46.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.3	10.5	35.7		29.2	18.0	28.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 35	9.2	29.2		25.2	14.4	24.0				
Max Q Clear Time (g_c+I1), s		22.2	6.0	16.1		22.3	13.3	18.3				
Green Ext Time (p_c), s		4.3	0.0	2.3		1.1	0.1	1.4				

Intersection Summary												
HCM 6th Ctrl Delay			44.8									
HCM 6th LOS			D									

Notes

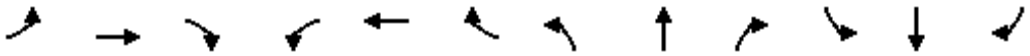
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	65	27	81	45	164	771	434	
Future Volume (vph)	65	27	81	45	164	771	434	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	19.0	32.2	9.6	22.8	33.0	68.6	45.2	9.6
Total Split (%)	15.8%	26.8%	8.0%	19.0%	27.5%	57.2%	37.7%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	11.3	14.3	7.3	11.7	12.9	35.2	18.5	
Actuated g/C Ratio	0.16	0.21	0.11	0.17	0.19	0.51	0.27	
v/c Ratio	0.27	0.28	0.47	0.15	0.59	0.62	0.62	
Control Delay	34.9	12.3	48.1	31.5	37.5	13.6	26.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	34.9	12.3	48.1	31.5	37.5	13.6	26.2	
LOS	C	B	D	C	D	B	C	
Approach Delay		20.8		42.2		16.9	26.2	
Approach LOS		C		D		B	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 68.9	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 21.2	Intersection LOS: C
Intersection Capacity Utilization 59.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	27	80	81	45	0	164	771	250	0	434	86
Future Volume (veh/h)	65	27	80	81	45	0	164	771	250	0	434	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	69	29	85	88	49	0	174	820	272	0	462	91
Peak Hour Factor	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	73	214	119	341	0	216	1193	396	3	703	138
Arrive On Green	0.06	0.17	0.17	0.07	0.18	0.00	0.14	0.47	0.47	0.00	0.25	0.25
Sat Flow, veh/h	1594	419	1230	1781	1870	0	1594	2548	844	1781	2807	549
Grp Volume(v), veh/h	69	0	114	88	49	0	174	570	522	0	276	277
Grp Sat Flow(s),veh/h/ln	1594	0	1649	1781	1870	0	1594	1772	1620	1781	1683	1673
Q Serve(g_s), s	2.4	0.0	3.4	2.7	1.2	0.0	5.9	14.1	14.1	0.0	8.2	8.3
Cycle Q Clear(g_c), s	2.4	0.0	3.4	2.7	1.2	0.0	5.9	14.1	14.1	0.0	8.2	8.3
Prop In Lane	1.00		0.75	1.00		0.00	1.00		0.52	1.00		0.33
Lane Grp Cap(c), veh/h	94	0	288	119	341	0	216	830	759	3	422	419
V/C Ratio(X)	0.74	0.00	0.40	0.74	0.14	0.00	0.81	0.69	0.69	0.00	0.65	0.66
Avail Cap(c_a), veh/h	411	0	792	160	570	0	812	1995	1824	160	1222	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	0.0	20.4	25.6	19.2	0.0	23.4	11.6	11.6	0.0	18.7	18.8
Incr Delay (d2), s/veh	4.1	0.0	0.9	7.1	0.2	0.0	2.7	1.0	1.1	0.0	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.2	1.2	0.5	0.0	2.1	4.2	3.8	0.0	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	0.0	21.3	32.7	19.3	0.0	26.1	12.6	12.7	0.0	20.5	20.6
LnGrp LOS	C	A	C	C	B	A	C	B	B	A	C	C
Approach Vol, veh/h		183			137			1266			553	
Approach Delay, s/veh		24.6			27.9			14.5			20.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	31.9	8.3	15.5	12.2	19.8	7.9	16.0
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	62.8	5.0	* 27	28.4	* 41	14.4	17.0
Max Q Clear Time (g_c+I1), s	0.0	16.1	4.7	5.4	7.9	10.3	4.4	3.2
Green Ext Time (p_c), s	0.0	8.3	0.0	0.5	0.2	3.7	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

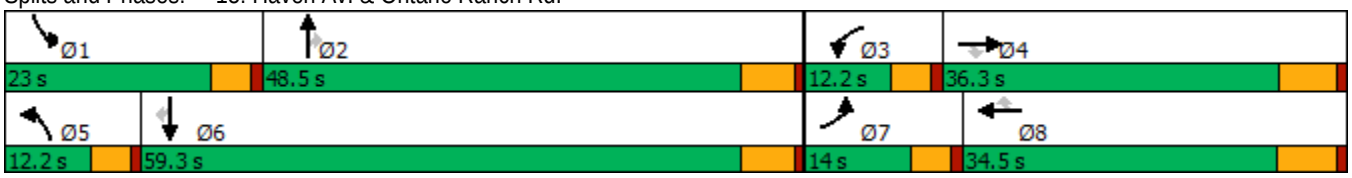
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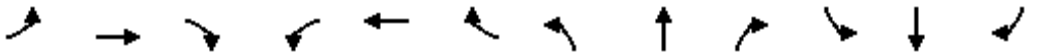
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	800	17	75	797	366	36	434	118	366	240	201
Future Volume (vph)	172	800	17	75	797	366	36	434	118	366	240	201
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	14.0	36.3	36.3	12.2	34.5	34.5	12.2	48.5	48.5	23.0	59.3	59.3
Total Split (%)	11.7%	30.3%	30.3%	10.2%	28.8%	28.8%	10.2%	40.4%	40.4%	19.2%	49.4%	49.4%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	8.9	33.3	33.3	6.7	28.5	28.5	6.5	21.0	21.0	15.7	34.7	34.7
Actuated g/C Ratio	0.09	0.35	0.35	0.07	0.30	0.30	0.07	0.22	0.22	0.16	0.36	0.36
v/c Ratio	0.63	0.47	0.03	0.39	0.41	0.56	0.36	0.60	0.28	0.76	0.20	0.32
Control Delay	54.7	28.4	0.1	52.0	29.5	8.2	56.9	36.7	4.0	50.1	22.0	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	28.4	0.1	52.0	29.5	8.2	56.9	36.7	4.0	50.1	22.0	4.3
LOS	D	C	A	D	C	A	E	D	A	D	C	A
Approach Delay		32.5			24.6			31.4			30.4	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 96	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 29.1	Intersection LOS: C
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	800	17	75	797	366	36	434	118	366	240	201
Future Volume (veh/h)	172	800	17	75	797	366	36	434	118	366	240	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	185	860	7	81	857	211	39	467	68	394	258	125
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1875	529	148	2286	484	56	716	303	472	1117	471
Arrive On Green	0.08	0.35	0.35	0.05	0.32	0.32	0.04	0.20	0.20	0.15	0.32	0.32
Sat Flow, veh/h	3188	5316	1500	3000	7088	1502	1594	3544	1499	3188	3544	1494
Grp Volume(v), veh/h	185	860	7	81	857	211	39	467	68	394	258	125
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1500	1772	1502	1594	1772	1499	1594	1772	1494
Q Serve(g_s), s	4.9	10.8	0.3	2.3	8.1	9.6	2.1	10.5	3.3	10.4	4.7	5.4
Cycle Q Clear(g_c), s	4.9	10.8	0.3	2.3	8.1	9.6	2.1	10.5	3.3	10.4	4.7	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	1875	529	148	2286	484	56	716	303	472	1117	471
V/C Ratio(X)	0.73	0.46	0.01	0.55	0.37	0.44	0.70	0.65	0.22	0.83	0.23	0.27
Avail Cap(c_a), veh/h	345	1875	529	263	2286	484	140	1743	737	676	2184	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	21.7	18.3	40.3	22.7	23.2	41.4	31.8	28.9	36.0	22.0	22.2
Incr Delay (d2), s/veh	2.7	0.8	0.0	1.2	0.5	2.8	5.7	1.0	0.4	4.3	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	4.2	0.1	0.8	3.1	0.4	0.9	4.3	1.1	4.1	1.8	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	22.5	18.3	41.5	23.1	26.0	47.1	32.8	29.3	40.2	22.1	22.5
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1052			1149			574			777	
Approach Delay, s/veh		25.9			25.0			33.4			31.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	23.3	8.9	37.1	7.6	33.2	11.5	34.5
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	18.4	42.7	7.6	* 30	7.6	53.5	9.4	28.0
Max Q Clear Time (g_c+I1), s	12.4	12.5	4.3	12.8	4.1	7.4	6.9	11.6
Green Ext Time (p_c), s	0.4	3.2	0.0	5.0	0.0	2.0	0.1	5.4

Intersection Summary	
HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

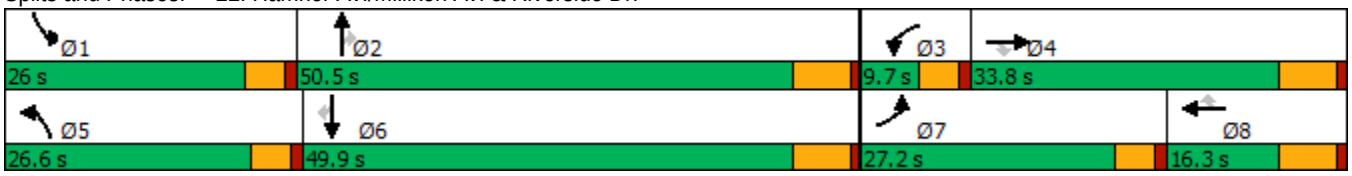
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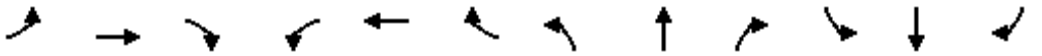
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	261	148	144	28	113	243	144	1016	58	244	532	185
Future Volume (vph)	261	148	144	28	113	243	144	1016	58	244	532	185
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	27.2	33.8	33.8	9.7	16.3	16.3	26.6	50.5	50.5	26.0	49.9	49.9
Total Split (%)	22.7%	28.2%	28.2%	8.1%	13.6%	13.6%	22.2%	42.1%	42.1%	21.7%	41.6%	41.6%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.1	23.7	23.7	5.2	10.3	10.3	9.8	39.2	39.2	13.4	42.8	42.8
Actuated g/C Ratio	0.14	0.24	0.24	0.05	0.10	0.10	0.10	0.40	0.40	0.14	0.43	0.43
v/c Ratio	0.67	0.40	0.34	0.39	0.71	0.69	0.53	0.84	0.10	0.65	0.40	0.28
Control Delay	49.2	38.9	8.0	64.3	68.3	15.6	50.7	33.9	0.3	49.5	20.5	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	38.9	8.0	64.3	68.3	15.6	50.7	33.9	0.3	49.5	20.5	3.6
LOS	D	D	A	E	E	B	D	C	A	D	C	A
Approach Delay		35.7			34.7			34.3			24.6	
Approach LOS		D			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 98.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 31.6	Intersection LOS: C
Intersection Capacity Utilization 72.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	148	144	28	113	243	144	1016	58	244	532	185
Future Volume (veh/h)	261	148	144	28	113	243	144	1016	58	244	532	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	300	170	86	32	130	141	166	1168	38	280	611	110
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	362	307	49	206	174	240	1420	602	360	1554	659
Arrive On Green	0.12	0.20	0.20	0.03	0.12	0.12	0.08	0.40	0.40	0.11	0.44	0.44
Sat Flow, veh/h	3188	1772	1502	1594	1772	1502	3188	3544	1502	3188	3544	1502
Grp Volume(v), veh/h	300	170	86	32	130	141	166	1168	38	280	611	110
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1594	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	7.9	7.3	4.2	1.7	6.0	7.9	4.4	25.4	1.3	7.4	10.1	3.8
Cycle Q Clear(g_c), s	7.9	7.3	4.2	1.7	6.0	7.9	4.4	25.4	1.3	7.4	10.1	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	381	362	307	49	206	174	240	1420	602	360	1554	659
V/C Ratio(X)	0.79	0.47	0.28	0.65	0.63	0.81	0.69	0.82	0.06	0.78	0.39	0.17
Avail Cap(c_a), veh/h	836	568	481	94	208	176	814	1822	772	792	1797	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	30.2	28.9	41.3	36.3	37.2	38.9	23.1	15.9	37.2	16.4	14.7
Incr Delay (d2), s/veh	1.4	0.9	0.5	5.2	6.0	23.6	1.3	2.5	0.0	1.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.0	1.4	0.7	2.8	3.8	1.6	9.7	0.4	2.7	3.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.3	31.1	29.4	46.4	42.3	60.8	40.2	25.6	15.9	38.6	16.6	14.8
LnGrp LOS	D	C	C	D	D	E	D	C	B	D	B	B
Approach Vol, veh/h		556			303			1372			1001	
Approach Delay, s/veh		34.7			51.3			27.1			22.5	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	40.7	7.3	23.8	11.1	44.0	14.9	16.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	44.3	5.1	27.6	22.0	43.7	22.6	10.1
Max Q Clear Time (g_c+I1), s	9.4	27.4	3.7	9.3	6.4	12.1	9.9	9.9
Green Ext Time (p_c), s	0.4	7.2	0.0	1.0	0.2	4.3	0.4	0.0

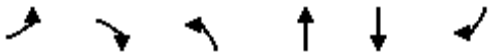
Intersection Summary	
HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	105	28	1131	615
Future Volume (vph)	105	28	1131	615
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	35.0	85.0	85.0	85.0
Total Split (%)	29.2%	70.8%	70.8%	70.8%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Min	Min	Min
Act Effct Green (s)	11.9		33.4	33.4
Actuated g/C Ratio	0.22		0.61	0.61
v/c Ratio	0.53		0.62	0.35
Control Delay	21.8		8.6	5.9
Queue Delay	0.0		0.0	0.0
Total Delay	21.8		8.6	5.9
LOS	C		A	A
Approach Delay	21.8		8.6	5.9
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 54.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 8.9	Intersection LOS: A
Intersection Capacity Utilization 69.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	78	28	1131	615	48
Future Volume (veh/h)	105	78	28	1131	615	48
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	89	32	1285	699	55
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	159	119	122	2062	1977	155
Arrive On Green	0.17	0.17	0.59	0.59	0.59	0.59
Sat Flow, veh/h	964	721	34	3482	3431	262
Grp Volume(v), veh/h	209	0	682	635	372	382
Grp Sat Flow(s),veh/h/ln	1692	0	1814	1702	1777	1823
Q Serve(g_s), s	4.4	0.0	0.0	9.0	4.0	4.0
Cycle Q Clear(g_c), s	4.4	0.0	8.7	9.0	4.0	4.0
Prop In Lane	0.57	0.43	0.05			0.14
Lane Grp Cap(c), veh/h	280	0	1176	1008	1052	1080
V/C Ratio(X)	0.75	0.00	0.58	0.63	0.35	0.35
Avail Cap(c_a), veh/h	1390	0	3914	3691	3853	3953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	4.9	4.9	3.9	3.9
Incr Delay (d2), s/veh	4.0	0.0	0.5	0.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.6	0.6	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.7	0.0	5.3	5.6	4.1	4.1
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	209			1317	754	
Approach Delay, s/veh	18.7			5.4	4.1	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		26.5		10.6		26.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		80.5		30.5		80.5
Max Q Clear Time (g_c+I1), s		11.0		6.4		6.0
Green Ext Time (p_c), s		11.0		0.6		4.6

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

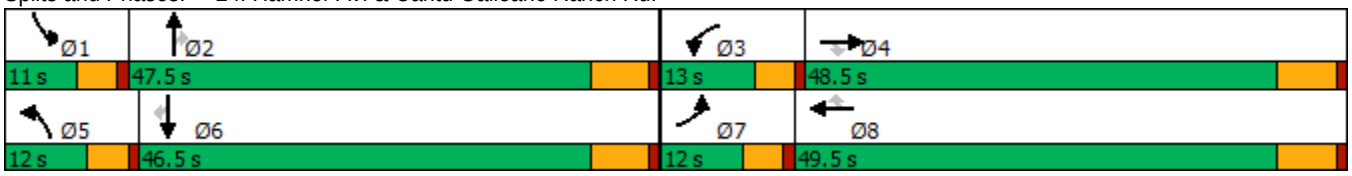
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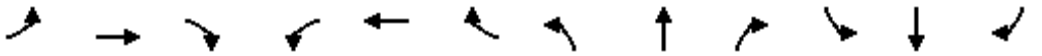
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	992	130	268	1113	281	233	599	363	212	223	199
Future Volume (vph)	235	992	130	268	1113	281	233	599	363	212	223	199
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	12.0	48.5	48.5	13.0	49.5	49.5	12.0	47.5	47.5	11.0	46.5	46.5
Total Split (%)	10.0%	40.4%	40.4%	10.8%	41.3%	41.3%	10.0%	39.6%	39.6%	9.2%	38.8%	38.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.8	23.7	23.7	8.8	24.7	24.7	7.8	21.6	21.6	6.7	20.6	20.6
Actuated g/C Ratio	0.09	0.28	0.28	0.11	0.29	0.29	0.09	0.26	0.26	0.08	0.25	0.25
v/c Ratio	0.75	0.49	0.25	0.75	0.53	0.48	0.74	0.43	0.72	0.78	0.13	0.22
Control Delay	55.9	25.9	5.9	53.6	25.7	11.2	55.5	26.7	24.4	61.3	24.7	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	25.9	5.9	53.6	25.7	11.2	55.5	26.7	24.4	61.3	24.7	4.5
LOS	E	C	A	D	C	B	E	C	C	E	C	A
Approach Delay		29.2			27.7			31.6			30.6	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 83.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 29.5	Intersection LOS: C
Intersection Capacity Utilization 58.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	992	130	268	1113	281	233	599	363	212	223	199
Future Volume (veh/h)	235	992	130	268	1113	281	233	599	363	212	223	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	245	1033	83	279	1159	158	243	624	217	221	232	113
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	338	2075	440	373	2149	455	336	1236	349	312	1598	677
Arrive On Green	0.09	0.28	0.28	0.10	0.29	0.29	0.09	0.22	0.22	0.09	0.21	0.21
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	245	1033	83	279	1159	158	243	624	217	221	232	113
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.7	8.2	2.8	5.4	9.2	5.6	4.7	6.9	8.7	4.3	1.8	2.1
Cycle Q Clear(g_c), s	4.7	8.2	2.8	5.4	9.2	5.6	4.7	6.9	8.7	4.3	1.8	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	338	2075	440	373	2149	455	336	1236	349	312	1598	677
V/C Ratio(X)	0.73	0.50	0.19	0.75	0.54	0.35	0.72	0.50	0.62	0.71	0.15	0.17
Avail Cap(c_a), veh/h	373	4448	942	424	4553	965	373	3280	927	323	4268	1808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	21.4	19.5	30.7	21.2	19.9	31.1	24.2	24.9	31.4	22.5	22.7
Incr Delay (d2), s/veh	5.0	0.2	0.2	5.1	0.2	0.5	4.8	0.3	1.8	5.6	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.1	0.9	2.3	3.4	1.8	2.0	2.7	3.0	1.9	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	21.6	19.7	35.8	21.4	20.4	35.9	24.5	26.7	37.0	22.6	22.8
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1361			1596			1084			566	
Approach Delay, s/veh		24.1			23.8			27.5			28.3	
Approach LOS		C			C			C			C	

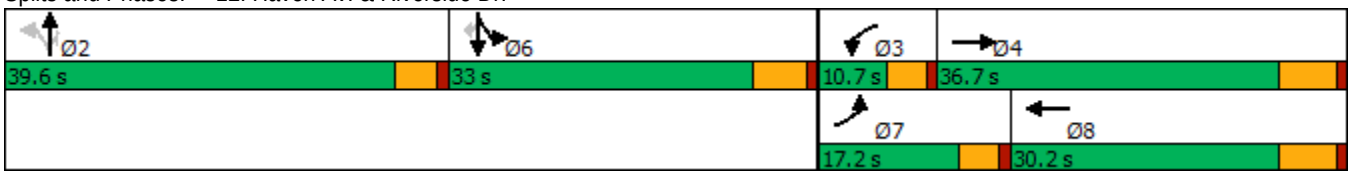
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	21.8	12.0	26.1	11.3	21.3	11.3	26.8
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.4	41.3	8.4	42.0	7.4	40.3	7.4	43.0
Max Q Clear Time (g_c+I1), s	6.3	10.7	7.4	10.2	6.7	4.1	6.7	11.2
Green Ext Time (p_c), s	0.0	4.8	0.1	7.5	0.0	1.8	0.0	9.1

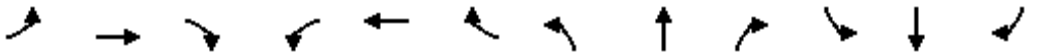
Intersection Summary	
HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	291	347	65	320	45	561	64	135	722	334
Future Volume (vph)	291	347	65	320	45	561	64	135	722	334
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	7	4	3	8		2		6	6	
Permitted Phases					2		2			6
Detector Phase	7	4	3	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	23.7	24.8	24.8	24.8
Total Split (s)	17.2	36.7	10.7	30.2	39.6	39.6	39.6	33.0	33.0	33.0
Total Split (%)	14.3%	30.6%	8.9%	25.2%	33.0%	33.0%	33.0%	27.5%	27.5%	27.5%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.7	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	12.4	27.7	5.9	18.7	31.4	31.4	31.4	26.6	26.6	26.6
Actuated g/C Ratio	0.11	0.25	0.05	0.17	0.28	0.28	0.28	0.24	0.24	0.24
v/c Ratio	0.85	0.50	0.40	0.75	0.78	0.58	0.12	0.37	0.89	0.56
Control Delay	72.5	37.7	61.5	48.5	108.7	36.9	0.5	40.7	55.6	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.5	37.7	61.5	48.5	108.7	36.9	0.5	40.7	55.6	7.9
LOS	E	D	E	D	F	D	A	D	E	A
Approach Delay		51.9		50.2		38.3			40.6	
Approach LOS		D		D		D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 44.3	Intersection LOS: D
Intersection Capacity Utilization 71.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	347	74	65	320	114	45	561	64	135	722	334
Future Volume (veh/h)	291	347	74	65	320	114	45	561	64	135	722	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	303	361	46	68	333	67	47	584	36	141	752	122
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	728	92	145	474	94	353	786	333	411	914	387
Arrive On Green	0.12	0.24	0.24	0.05	0.17	0.17	0.22	0.22	0.22	0.26	0.26	0.26
Sat Flow, veh/h	3188	3076	389	3188	2858	567	1594	3544	1502	1594	3544	1498
Grp Volume(v), veh/h	303	207	200	68	205	195	47	584	36	141	752	122
Grp Sat Flow(s),veh/h/ln	1594	1772	1693	1594	1772	1653	1594	1772	1502	1594	1772	1498
Q Serve(g_s), s	8.3	9.0	9.2	1.9	9.8	10.0	2.1	13.7	1.7	6.4	17.9	5.9
Cycle Q Clear(g_c), s	8.3	9.0	9.2	1.9	9.8	10.0	2.1	13.7	1.7	6.4	17.9	5.9
Prop In Lane	1.00		0.23	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	372	420	401	145	294	274	353	786	333	411	914	387
V/C Ratio(X)	0.81	0.49	0.50	0.47	0.70	0.71	0.13	0.74	0.11	0.34	0.82	0.32
Avail Cap(c_a), veh/h	449	604	577	217	475	443	621	1382	585	484	1077	455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	29.5	29.6	41.7	35.2	35.3	27.9	32.5	27.8	27.0	31.3	26.8
Incr Delay (d2), s/veh	7.8	0.9	1.0	0.9	3.0	3.4	0.2	1.4	0.1	0.5	4.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	3.7	3.6	0.7	4.2	4.0	0.8	5.9	0.6	2.4	7.7	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	30.4	30.5	42.5	38.2	38.8	28.1	33.9	27.9	27.5	35.8	27.3
LnGrp LOS	D	C	C	D	D	D	C	C	C	C	D	C
Approach Vol, veh/h		710			468			667			1015	
Approach Delay, s/veh		37.3			39.1			33.2			33.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.5	8.7	27.4		28.9	15.0	21.0				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 35	6.1	30.5		27.2	12.6	24.0				
Max Q Clear Time (g_c+I1), s		15.7	3.9	11.2		19.9	10.3	12.0				
Green Ext Time (p_c), s		4.1	0.0	1.9		3.2	0.1	1.6				

Intersection Summary	
HCM 6th Ctrl Delay	35.3
HCM 6th LOS	D

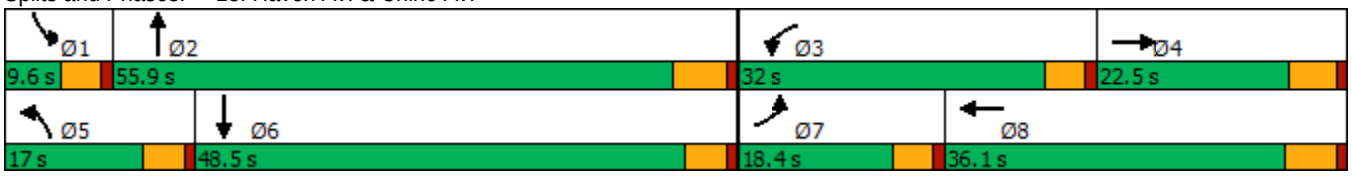
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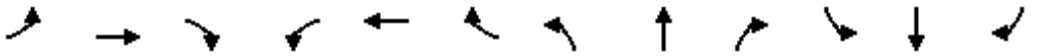
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	81	46	248	40	87	588	830	
Future Volume (vph)	81	46	248	40	87	588	830	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	18.4	22.5	32.0	36.1	17.0	55.9	48.5	9.6
Total Split (%)	15.3%	18.8%	26.7%	30.1%	14.2%	46.6%	40.4%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	14.9	12.4	19.2	23.1	9.7	44.2	34.1	
Actuated g/C Ratio	0.16	0.13	0.21	0.25	0.10	0.48	0.37	
v/c Ratio	0.33	0.51	0.74	0.09	0.56	0.47	0.76	
Control Delay	46.9	32.4	50.3	34.2	59.4	16.5	31.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.9	32.4	50.3	34.2	59.4	16.5	31.8	
LOS	D	C	D	C	E	B	C	
Approach Delay		37.8		48.1		21.0	31.8	
Approach LOS		D		D		C	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 92.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 30.5	Intersection LOS: C
Intersection Capacity Utilization 69.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	46	89	248	40	0	87	588	145	0	830	52
Future Volume (veh/h)	81	46	89	248	40	0	87	588	145	0	830	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	85	50	52	270	43	0	92	619	158	0	874	55
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	109	113	315	448	0	114	1317	336	2	1131	71
Arrive On Green	0.07	0.13	0.13	0.18	0.24	0.00	0.07	0.48	0.48	0.00	0.35	0.35
Sat Flow, veh/h	1594	840	873	1781	1870	0	1594	2725	694	1781	3216	202
Grp Volume(v), veh/h	85	0	102	270	43	0	92	402	375	0	457	472
Grp Sat Flow(s),veh/h/ln	1594	0	1713	1781	1870	0	1594	1772	1647	1781	1683	1735
Q Serve(g_s), s	4.0	0.0	4.2	11.3	1.4	0.0	4.4	11.7	11.7	0.0	18.6	18.6
Cycle Q Clear(g_c), s	4.0	0.0	4.2	11.3	1.4	0.0	4.4	11.7	11.7	0.0	18.6	18.6
Prop In Lane	1.00		0.51	1.00		0.00	1.00		0.42	1.00		0.12
Lane Grp Cap(c), veh/h	106	0	221	315	448	0	114	856	796	2	592	610
V/C Ratio(X)	0.80	0.00	0.46	0.86	0.10	0.00	0.80	0.47	0.47	0.00	0.77	0.77
Avail Cap(c_a), veh/h	286	0	381	635	738	0	257	1156	1074	116	960	990
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	0.0	31.0	30.7	22.7	0.0	35.1	13.3	13.3	0.0	22.2	22.2
Incr Delay (d2), s/veh	5.3	0.0	1.5	2.7	0.1	0.0	4.9	0.4	0.4	0.0	2.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.7	4.7	0.6	0.0	1.7	4.0	3.7	0.0	7.2	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	0.0	32.5	33.4	22.8	0.0	40.1	13.7	13.7	0.0	24.3	24.3
LnGrp LOS	D	A	C	C	C	A	D	B	B	A	C	C
Approach Vol, veh/h		187			313			869			929	
Approach Delay, s/veh		36.2			31.9			16.5			24.3	
Approach LOS		D			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	42.9	18.2	15.7	10.1	32.8	9.7	24.2
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	50.1	27.4	* 17	12.4	* 44	13.8	30.3
Max Q Clear Time (g_c+I1), s	0.0	13.7	13.3	6.2	6.4	20.6	6.0	3.4
Green Ext Time (p_c), s	0.0	5.0	0.3	0.3	0.0	6.4	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

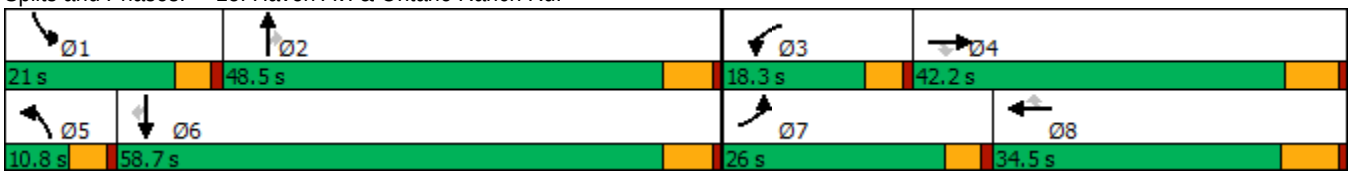
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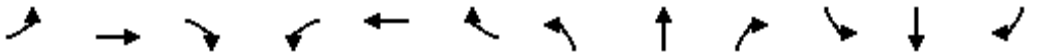
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	1075	35	227	857	360	18	267	70	414	451	138
Future Volume (vph)	291	1075	35	227	857	360	18	267	70	414	451	138
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	26.0	42.2	42.2	18.3	34.5	34.5	10.8	48.5	48.5	21.0	58.7	58.7
Total Split (%)	20.0%	32.5%	32.5%	14.1%	26.5%	26.5%	8.3%	37.3%	37.3%	16.2%	45.2%	45.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	14.3	36.5	36.5	12.0	33.9	33.9	5.6	17.3	17.3	16.6	34.7	34.7
Actuated g/C Ratio	0.14	0.35	0.35	0.12	0.33	0.33	0.05	0.17	0.17	0.16	0.33	0.33
v/c Ratio	0.71	0.62	0.06	0.70	0.40	0.51	0.22	0.48	0.18	0.87	0.41	0.25
Control Delay	53.3	31.4	0.2	57.3	30.0	6.4	58.2	41.1	1.0	62.4	28.4	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	31.4	0.2	57.3	30.0	6.4	58.2	41.1	1.0	62.4	28.4	5.4
LOS	D	C	A	E	C	A	E	D	A	E	C	A
Approach Delay		35.2			28.4			34.1			39.3	
Approach LOS		D			C			C			D	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 104	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 33.7	Intersection LOS: C
Intersection Capacity Utilization 68.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	1075	35	227	857	360	18	267	70	414	451	138
Future Volume (veh/h)	291	1075	35	227	857	360	18	267	70	414	451	138
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	310	1144	20	241	912	192	19	284	24	440	480	78
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	2081	588	303	2643	560	33	412	175	501	896	380
Arrive On Green	0.18	0.59	0.59	0.15	0.56	0.56	0.03	0.17	0.17	0.24	0.38	0.38
Sat Flow, veh/h	3188	5316	1502	3000	7088	1502	1594	3544	1502	3188	3544	1502
Grp Volume(v), veh/h	310	1144	20	241	912	192	19	284	24	440	480	78
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1500	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	8.6	12.1	0.5	7.1	6.5	6.4	1.1	6.9	1.2	12.2	9.7	3.2
Cycle Q Clear(g_c), s	8.6	12.1	0.5	7.1	6.5	6.4	1.1	6.9	1.2	12.2	9.7	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	381	2081	588	303	2643	560	33	412	175	501	896	380
V/C Ratio(X)	0.81	0.55	0.03	0.80	0.35	0.34	0.57	0.69	0.14	0.88	0.54	0.21
Avail Cap(c_a), veh/h	742	2081	588	447	2643	560	107	1646	697	569	2039	864
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	14.0	11.7	38.1	14.1	14.1	44.1	36.4	34.0	34.3	24.3	22.3
Incr Delay (d2), s/veh	1.6	1.1	0.1	3.4	0.4	1.7	5.6	2.1	0.4	12.3	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.8	0.2	2.5	2.2	2.0	0.5	2.8	0.4	4.9	3.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.3	15.1	11.8	41.5	14.5	15.8	49.7	38.4	34.4	46.6	24.8	22.6
LnGrp LOS	D	B	B	D	B	B	D	D	C	D	C	C
Approach Vol, veh/h		1474			1345			327			998	
Approach Delay, s/veh		19.9			19.5			38.8			34.2	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.1	16.5	13.9	42.5	6.5	29.0	15.6	40.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	16.4	42.7	13.7	* 36	6.2	52.9	21.4	28.0
Max Q Clear Time (g_c+I1), s	14.2	8.9	9.1	14.1	3.1	11.7	10.6	8.5
Green Ext Time (p_c), s	0.2	1.8	0.2	7.6	0.0	3.4	0.4	6.1

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

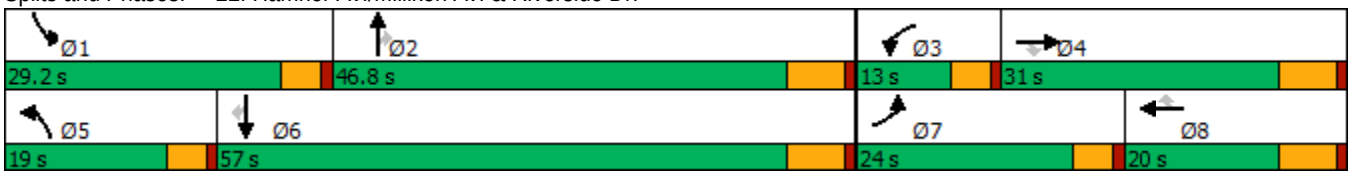
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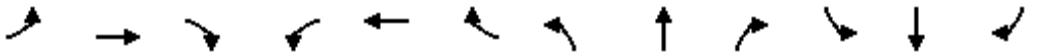
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	146	148	80	169	160	149	703	49	212	920	299
Future Volume (vph)	208	146	148	80	169	160	149	703	49	212	920	299
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	24.0	31.0	31.0	13.0	20.0	20.0	19.0	46.8	46.8	29.2	57.0	57.0
Total Split (%)	20.0%	25.8%	25.8%	10.8%	16.7%	16.7%	15.8%	39.0%	39.0%	24.3%	47.5%	47.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	10.9	16.3	16.3	8.1	13.5	13.5	9.2	31.5	31.5	11.1	33.5	33.5
Actuated g/C Ratio	0.12	0.18	0.18	0.09	0.15	0.15	0.10	0.35	0.35	0.12	0.38	0.38
v/c Ratio	0.56	0.48	0.39	0.59	0.67	0.43	0.48	0.59	0.08	0.57	0.73	0.42
Control Delay	45.2	41.0	9.5	61.5	53.2	7.7	46.0	26.0	0.2	45.0	27.8	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	41.0	9.5	61.5	53.2	7.7	46.0	26.0	0.2	45.0	27.8	4.1
LOS	D	D	A	E	D	A	D	C	A	D	C	A
Approach Delay		33.4			37.0			27.9			25.4	
Approach LOS		C			D			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 89.3	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 28.8	Intersection LOS: C
Intersection Capacity Utilization 65.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	146	148	80	169	160	149	703	49	212	920	299
Future Volume (veh/h)	208	146	148	80	169	160	149	703	49	212	920	299
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	219	154	82	84	178	89	157	740	31	223	968	168
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	312	262	104	254	215	239	1239	524	318	1326	554
Arrive On Green	0.10	0.18	0.18	0.07	0.14	0.14	0.08	0.35	0.35	0.10	0.37	0.37
Sat Flow, veh/h	3188	1772	1486	1594	1772	1502	3188	3544	1500	3188	3544	1482
Grp Volume(v), veh/h	219	154	82	84	178	89	157	740	31	223	968	168
Grp Sat Flow(s),veh/h/ln	1594	1772	1486	1594	1772	1502	1594	1772	1500	1594	1772	1482
Q Serve(g_s), s	4.6	5.5	3.4	3.6	6.7	3.8	3.3	12.0	1.0	4.7	16.4	5.6
Cycle Q Clear(g_c), s	4.6	5.5	3.4	3.6	6.7	3.8	3.3	12.0	1.0	4.7	16.4	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	312	262	104	254	215	239	1239	524	318	1326	554
V/C Ratio(X)	0.70	0.49	0.31	0.81	0.70	0.41	0.66	0.60	0.06	0.70	0.73	0.30
Avail Cap(c_a), veh/h	886	630	528	192	350	297	658	2062	873	1124	2580	1078
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	25.9	25.1	32.2	28.5	27.2	31.4	18.7	15.1	30.4	18.8	15.4
Incr Delay (d2), s/veh	1.1	1.2	0.7	5.6	3.7	1.3	1.1	0.5	0.0	1.1	0.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.2	1.1	1.4	2.8	1.3	1.2	4.2	0.3	1.7	5.7	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	27.1	25.7	37.8	32.2	28.5	32.5	19.1	15.1	31.5	19.6	15.7
LnGrp LOS	C	C	C	D	C	C	C	B	B	C	B	B
Approach Vol, veh/h		455			351			928			1359	
Approach Delay, s/veh		29.0			32.6			21.3			21.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	30.6	9.1	18.5	9.8	32.3	11.4	16.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	24.6	40.6	8.4	24.8	14.4	50.8	19.4	13.8
Max Q Clear Time (g_c+I1), s	6.7	14.0	5.6	7.5	5.3	18.4	6.6	8.7
Green Ext Time (p_c), s	0.3	4.9	0.0	0.8	0.2	7.7	0.3	0.5

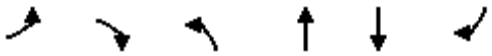
Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	73	73	811	1028
Future Volume (vph)	73	73	811	1028
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	23.8	23.8	23.8	23.8
Total Split (s)	30.0	90.0	90.0	90.0
Total Split (%)	25.0%	75.0%	75.0%	75.0%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.8		5.8	5.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Min	Min	Min
Act Effct Green (s)	10.1		34.4	34.4
Actuated g/C Ratio	0.18		0.61	0.61
v/c Ratio	0.40		0.57	0.58
Control Delay	20.8		8.8	8.4
Queue Delay	0.0		0.0	0.0
Total Delay	20.8		8.8	8.4
LOS	C		A	A
Approach Delay	20.8		8.8	8.4
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 56.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 77.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	73	46	73	811	1028	103
Future Volume (veh/h)	73	46	73	811	1028	103
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	51	80	891	1130	113
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	106	68	192	1692	1845	184
Arrive On Green	0.10	0.10	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1031	657	125	2992	3356	326
Grp Volume(v), veh/h	132	0	453	518	615	628
Grp Sat Flow(s),veh/h/ln	1701	0	1415	1702	1777	1812
Q Serve(g_s), s	2.6	0.0	0.4	6.7	8.0	8.1
Cycle Q Clear(g_c), s	2.6	0.0	8.4	6.7	8.0	8.1
Prop In Lane	0.61	0.39	0.18			0.18
Lane Grp Cap(c), veh/h	176	0	921	962	1005	1024
V/C Ratio(X)	0.75	0.00	0.49	0.54	0.61	0.61
Avail Cap(c_a), veh/h	1175	0	3125	4093	4273	4357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.3	0.0	4.4	4.8	5.1	5.1
Incr Delay (d2), s/veh	6.3	0.0	0.4	0.5	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.4	0.5	0.6	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.6	0.0	4.8	5.2	5.7	5.7
LnGrp LOS	C	A	A	A	A	A
Approach Vol, veh/h	132			971	1243	
Approach Delay, s/veh	21.6			5.0	5.7	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		25.6		9.4		25.6
Change Period (Y+Rc), s		5.8		5.8		5.8
Max Green Setting (Gmax), s		84.2		24.2		84.2
Max Q Clear Time (g_c+I1), s		10.4		4.6		10.1
Green Ext Time (p_c), s		8.1		0.3		9.7

Intersection Summary		
HCM 6th Ctrl Delay		6.3
HCM 6th LOS		A

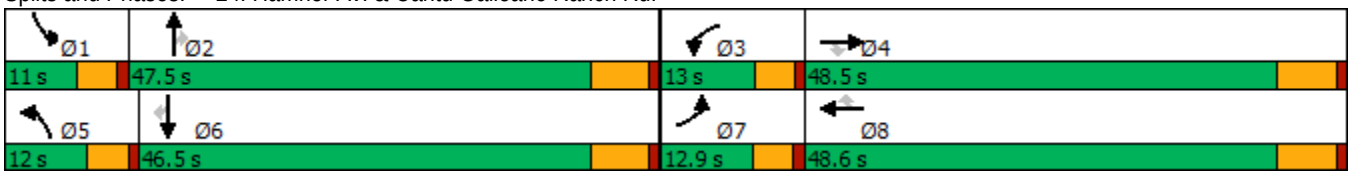
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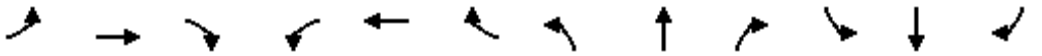
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	1135	315	424	1148	198	356	397	328	286	523	187
Future Volume (vph)	224	1135	315	424	1148	198	356	397	328	286	523	187
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	12.9	48.5	48.5	13.0	48.6	48.6	12.0	47.5	47.5	11.0	46.5	46.5
Total Split (%)	10.8%	40.4%	40.4%	10.8%	40.5%	40.5%	10.0%	39.6%	39.6%	9.2%	38.8%	38.8%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	8.7	24.8	24.8	8.8	24.9	24.9	7.8	18.6	18.6	6.7	17.6	17.6
Actuated g/C Ratio	0.11	0.30	0.30	0.11	0.30	0.30	0.10	0.23	0.23	0.08	0.21	0.21
v/c Ratio	0.62	0.53	0.52	1.16	0.53	0.33	1.11	0.33	0.70	1.03	0.34	0.23
Control Delay	47.0	24.8	11.7	133.5	24.8	5.2	119.0	26.8	22.7	101.0	27.4	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	24.8	11.7	133.5	24.8	5.2	119.0	26.8	22.7	101.0	27.4	4.8
LOS	D	C	B	F	C	A	F	C	C	F	C	A
Approach Delay		25.3			48.7			55.9			44.3	
Approach LOS		C			D			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 82	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 42.2	Intersection LOS: D
Intersection Capacity Utilization 64.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	1135	315	424	1148	198	356	397	328	286	523	187
Future Volume (veh/h)	224	1135	315	424	1148	198	356	397	328	286	523	187
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	233	1182	172	442	1196	128	371	414	186	298	545	112
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	2196	465	427	2403	509	376	1025	290	325	1260	534
Arrive On Green	0.09	0.29	0.29	0.12	0.32	0.32	0.11	0.18	0.18	0.09	0.17	0.17
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	233	1182	172	442	1196	128	371	414	186	298	545	112
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.5	9.3	6.0	8.4	9.1	4.2	7.3	4.6	7.6	5.8	4.6	2.1
Cycle Q Clear(g_c), s	4.5	9.3	6.0	8.4	9.1	4.2	7.3	4.6	7.6	5.8	4.6	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	328	2196	465	427	2403	509	376	1025	290	325	1260	534
V/C Ratio(X)	0.71	0.54	0.37	1.03	0.50	0.25	0.99	0.40	0.64	0.92	0.43	0.21
Avail Cap(c_a), veh/h	422	4484	950	427	4495	952	376	3307	934	325	4303	1823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	20.8	19.6	30.8	19.2	17.6	31.3	25.3	26.5	31.6	26.1	25.1
Incr Delay (d2), s/veh	2.3	0.2	0.5	52.9	0.2	0.3	42.5	0.3	2.4	28.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.5	1.9	6.3	3.3	1.3	5.0	1.8	2.7	3.6	1.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	21.0	20.1	83.7	19.4	17.8	73.7	25.5	28.9	60.4	26.4	25.3
LnGrp LOS	C	C	C	F	B	B	E	C	C	E	C	C
Approach Vol, veh/h		1587			1766			971			955	
Approach Delay, s/veh		22.7			35.4			44.6			36.9	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	19.0	13.0	27.1	12.0	18.0	11.1	29.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.4	41.3	8.4	42.0	7.4	40.3	8.3	42.1
Max Q Clear Time (g_c+I1), s	7.8	9.6	10.4	11.3	9.3	6.6	6.5	11.1
Green Ext Time (p_c), s	0.0	3.2	0.0	9.3	0.0	4.0	0.1	9.2

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

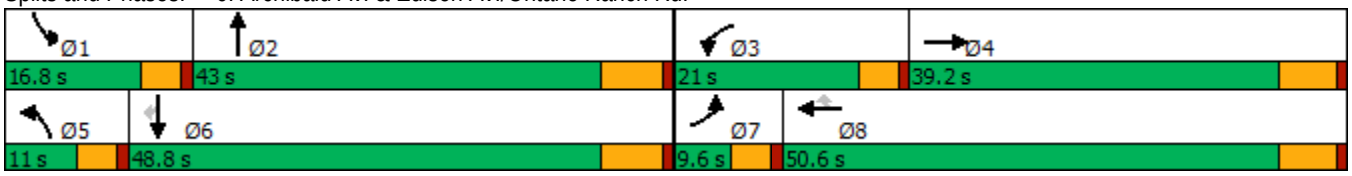
APPENDIX 5.7: E+P (BUILDOUT) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	446	65	482	645	342	167	1045	455	273	499	62
Future Volume (vph)	35	446	65	482	645	342	167	1045	455	273	499	62
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.2		21.0	50.6	50.6	11.0	43.0		16.8	48.8	48.8
Total Split (%)	8.0%	32.7%		17.5%	42.2%	42.2%	9.2%	35.8%		14.0%	40.7%	40.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.0	21.2	108.5	16.5	36.7	36.7	6.4	36.6	108.5	12.2	42.4	42.4
Actuated g/C Ratio	0.05	0.20	1.00	0.15	0.34	0.34	0.06	0.34	1.00	0.11	0.39	0.39
v/c Ratio	0.28	0.71	0.05	1.18	0.59	0.59	1.98	0.96	0.34	0.87	0.40	0.10
Control Delay	57.5	46.5	0.1	140.8	32.6	17.3	504.5	55.2	0.6	72.8	25.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	46.5	0.1	140.8	32.6	17.3	504.5	55.2	0.6	72.8	25.8	0.3
LOS	E	D	A	F	C	B	F	E	A	E	C	A
Approach Delay		41.7			64.6			85.4			39.3	
Approach LOS		D			E			F			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.5	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.98	
Intersection Signal Delay: 64.8	Intersection LOS: E
Intersection Capacity Utilization 86.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	446	65	482	645	342	167	1045	455	273	499	62
Future Volume (veh/h)	35	446	65	482	645	342	167	1045	455	273	499	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	38	490	0	530	709	200	184	1148	0	300	548	35
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	615		475	1063	445	99	1214		352	1398	585
Arrive On Green	0.05	0.26	0.00	0.24	0.45	0.45	0.09	0.51	0.00	0.17	0.59	0.59
Sat Flow, veh/h	3000	3544	1502	3000	3544	1482	1594	3544	1502	3092	3544	1482
Grp Volume(v), veh/h	38	490	0	530	709	200	184	1148	0	300	548	35
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1482	1594	1772	1502	1546	1772	1482
Q Serve(g_s), s	1.3	13.4	0.0	16.4	16.3	9.6	6.4	31.7	0.0	9.7	8.5	1.0
Cycle Q Clear(g_c), s	1.3	13.4	0.0	16.4	16.3	9.6	6.4	31.7	0.0	9.7	8.5	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	615		475	1063	445	99	1214		352	1398	585
V/C Ratio(X)	0.39	0.80		1.12	0.67	0.45	1.87	0.95		0.85	0.39	0.06
Avail Cap(c_a), veh/h	145	1130		475	1520	636	99	1249		364	1448	606
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	36.6	0.0	39.5	24.4	22.6	47.0	24.2	0.0	42.1	14.5	13.0
Incr Delay (d2), s/veh	1.0	2.4	0.0	76.6	0.7	0.7	426.3	14.2	0.0	16.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.2	0.0	10.2	5.5	3.0	14.0	11.3	0.0	4.1	2.8	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	39.0	0.0	116.1	25.1	23.3	473.3	38.4	0.0	58.2	14.7	13.0
LnGrp LOS	D	D		F	C	C	F	D		E	B	B
Approach Vol, veh/h		528			1439			1332			883	
Approach Delay, s/veh		39.7			58.4			98.5			29.4	
Approach LOS		D			E			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	42.0	21.0	24.2	11.0	47.3	7.9	37.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	12.2	36.5	16.4	33.0	6.4	42.3	5.0	44.4
Max Q Clear Time (g_c+I1), s	11.7	33.7	18.4	15.4	8.4	10.5	3.3	18.3
Green Ext Time (p_c), s	0.0	1.8	0.0	2.6	0.0	3.4	0.0	5.3

Intersection Summary	
HCM 6th Ctrl Delay	62.7
HCM 6th LOS	E

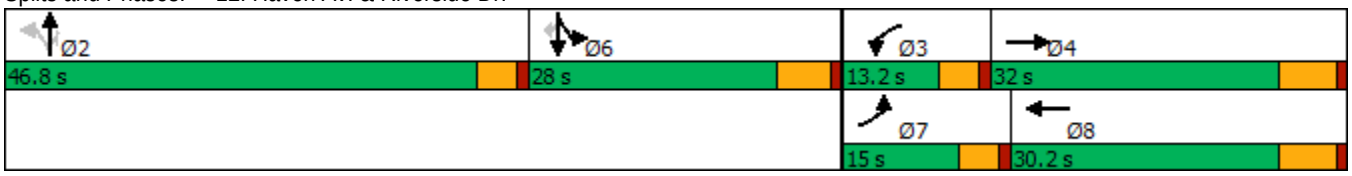
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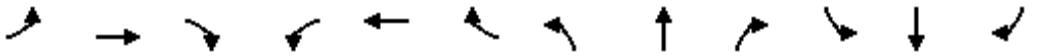
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	323	491	149	396	65	1061	132	293	693	229
Future Volume (vph)	323	491	149	396	65	1061	132	293	693	229
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	7	4	3	8		2		6	6	
Permitted Phases					2		2			6
Detector Phase	7	4	3	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	23.7	24.8	24.8	24.8
Total Split (s)	15.0	32.0	13.2	30.2	46.8	46.8	46.8	28.0	28.0	28.0
Total Split (%)	12.5%	26.7%	11.0%	25.2%	39.0%	39.0%	39.0%	23.3%	23.3%	23.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.7	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	10.4	25.0	8.3	22.9	42.1	42.1	42.1	22.2	22.2	22.2
Actuated g/C Ratio	0.09	0.21	0.07	0.19	0.35	0.35	0.35	0.19	0.19	0.19
v/c Ratio	1.25	0.78	0.72	0.90	1.25	0.90	0.23	1.06	1.12	0.52
Control Delay	181.3	52.0	73.1	58.5	237.6	47.9	7.0	115.2	117.1	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	181.3	52.0	73.1	58.5	237.6	47.9	7.0	115.2	117.1	9.6
LOS	F	D	E	E	F	D	A	F	F	A
Approach Delay		100.7		61.5		53.4			96.4	
Approach LOS		F		E		D			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.9	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.25	
Intersection Signal Delay: 77.7	Intersection LOS: E
Intersection Capacity Utilization 96.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	323	491	45	149	396	185	65	1061	132	293	693	229
Future Volume (veh/h)	323	491	45	149	396	185	65	1061	132	293	693	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	344	522	27	159	421	133	69	1129	76	312	737	138
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	281	727	38	210	501	156	552	1228	516	300	668	278
Arrive On Green	0.09	0.22	0.22	0.07	0.20	0.20	0.35	0.35	0.35	0.19	0.19	0.19
Sat Flow, veh/h	3188	3329	172	3188	2558	797	1594	3544	1489	1594	3544	1473
Grp Volume(v), veh/h	344	277	272	159	290	264	69	1129	76	312	737	138
Grp Sat Flow(s),veh/h/ln	1594	1772	1729	1594	1772	1583	1594	1772	1489	1594	1772	1473
Q Serve(g_s), s	10.4	17.1	17.2	5.8	18.5	19.0	3.5	36.0	4.1	22.2	22.2	9.9
Cycle Q Clear(g_c), s	10.4	17.1	17.2	5.8	18.5	19.0	3.5	36.0	4.1	22.2	22.2	9.9
Prop In Lane	1.00		0.10	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	281	387	378	210	347	310	552	1228	516	300	668	278
V/C Ratio(X)	1.22	0.72	0.72	0.76	0.83	0.85	0.12	0.92	0.15	1.04	1.10	0.50
Avail Cap(c_a), veh/h	281	388	379	233	361	323	570	1267	532	300	668	278
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	42.6	42.7	54.1	45.5	45.7	26.3	36.9	26.5	47.8	47.8	42.8
Incr Delay (d2), s/veh	127.5	6.2	6.5	10.2	15.1	18.7	0.1	10.7	0.1	62.3	66.6	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	7.8	7.7	2.5	9.2	8.7	1.3	17.2	1.4	13.7	15.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	181.2	48.8	49.2	64.3	60.6	64.3	26.4	47.7	26.6	110.1	114.3	44.2
LnGrp LOS	F	D	D	E	E	E	C	D	C	F	F	D
Approach Vol, veh/h		893			713			1274			1187	
Approach Delay, s/veh		99.9			62.8			45.2			105.1	
Approach LOS		F			E			D			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		45.5	12.4	31.9		28.0	15.0	29.3				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 42	8.6	25.8		22.2	10.4	24.0				
Max Q Clear Time (g_c+I1), s		38.0	7.8	19.2		24.2	12.4	21.0				
Green Ext Time (p_c), s		2.8	0.0	1.6		0.0	0.0	0.9				

Intersection Summary	
HCM 6th Ctrl Delay	77.8
HCM 6th LOS	E

Notes

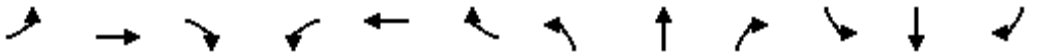
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	74	36	133	71	187	1198	772	
Future Volume (vph)	74	36	133	71	187	1198	772	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	14.2	22.5	17.0	25.3	27.8	70.9	52.7	9.6
Total Split (%)	11.8%	18.8%	14.2%	21.1%	23.2%	59.1%	43.9%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	8.5	11.6	11.5	16.9	16.7	57.8	37.5	
Actuated g/C Ratio	0.09	0.12	0.12	0.17	0.17	0.60	0.39	
v/c Ratio	0.57	0.52	0.69	0.24	0.73	0.84	0.74	
Control Delay	63.7	24.8	62.3	43.1	56.4	19.7	29.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.7	24.8	62.3	43.1	56.4	19.7	29.7	
LOS	E	C	E	D	E	B	C	
Approach Delay		38.5		55.7		23.5	29.7	
Approach LOS		D		E		C	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.1	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 28.5	Intersection LOS: C
Intersection Capacity Utilization 85.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	36	100	133	71	0	187	1198	409	0	772	113
Future Volume (veh/h)	74	36	100	133	71	0	187	1198	409	0	772	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	79	39	106	145	77	0	199	1274	287	0	821	120
Peak Hour Factor	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	56	152	180	311	0	235	1595	354	2	1068	156
Arrive On Green	0.06	0.13	0.13	0.10	0.17	0.00	0.15	0.57	0.57	0.00	0.36	0.36
Sat Flow, veh/h	1594	445	1208	1781	1870	0	1594	2808	623	1781	2947	431
Grp Volume(v), veh/h	79	0	145	145	77	0	199	797	764	0	469	472
Grp Sat Flow(s),veh/h/ln	1594	0	1653	1781	1870	0	1594	1772	1660	1781	1683	1694
Q Serve(g_s), s	3.9	0.0	6.7	6.3	2.8	0.0	9.6	28.0	29.2	0.0	19.5	19.5
Cycle Q Clear(g_c), s	3.9	0.0	6.7	6.3	2.8	0.0	9.6	28.0	29.2	0.0	19.5	19.5
Prop In Lane	1.00		0.73	1.00		0.00	1.00		0.38	1.00		0.25
Lane Grp Cap(c), veh/h	98	0	208	180	311	0	235	1006	943	2	610	614
V/C Ratio(X)	0.81	0.00	0.70	0.80	0.25	0.00	0.85	0.79	0.81	0.00	0.77	0.77
Avail Cap(c_a), veh/h	193	0	357	279	461	0	467	1457	1364	112	1020	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	0.0	33.1	34.8	28.7	0.0	32.9	13.4	13.7	0.0	22.3	22.3
Incr Delay (d2), s/veh	5.8	0.0	4.1	4.5	0.4	0.0	3.2	1.9	2.5	0.0	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	2.8	2.8	1.2	0.0	3.7	9.2	9.1	0.0	7.6	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	0.0	37.3	39.3	29.1	0.0	36.1	15.4	16.2	0.0	24.4	24.4
LnGrp LOS	D	A	D	D	C	A	D	B	B	A	C	C
Approach Vol, veh/h		224			222			1760			941	
Approach Delay, s/veh		39.1			35.8			18.1			24.4	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	50.8	12.6	15.8	16.3	34.5	9.5	18.9
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	65.1	12.4	* 17	23.2	* 48	9.6	19.5
Max Q Clear Time (g_c+I1), s	0.0	31.2	8.3	8.7	11.6	21.5	5.9	4.8
Green Ext Time (p_c), s	0.0	13.8	0.1	0.4	0.2	6.9	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Notes

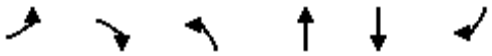
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	39	102	118	1728	1002
Future Volume (vph)	39	102	118	1728	1002
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	30.0	30.0	26.6	90.0	63.4
Total Split (%)	25.0%	25.0%	22.2%	75.0%	52.8%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.1	12.1	11.9	55.4	38.6
Actuated g/C Ratio	0.15	0.15	0.15	0.70	0.48
v/c Ratio	0.17	0.35	0.54	0.81	0.65
Control Delay	35.6	11.0	43.0	11.8	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	11.0	43.0	11.8	18.0
LOS	D	B	D	B	B
Approach Delay	17.8			13.8	18.0
Approach LOS	B			B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 79.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 15.4	Intersection LOS: B
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	102	118	1728	1002	22
Future Volume (veh/h)	39	102	118	1728	1002	22
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	42	57	128	1878	1089	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	227	214	159	2169	1607	19
Arrive On Green	0.21	0.21	0.15	0.97	0.69	0.69
Sat Flow, veh/h	1594	1502	1594	3455	3493	42
Grp Volume(v), veh/h	42	57	128	1878	552	550
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1683	1772	1763
Q Serve(g_s), s	1.2	1.7	4.2	6.2	9.9	9.9
Cycle Q Clear(g_c), s	1.2	1.7	4.2	6.2	9.9	9.9
Prop In Lane	1.00	1.00	1.00			0.02
Lane Grp Cap(c), veh/h	227	214	159	2169	815	811
V/C Ratio(X)	0.18	0.27	0.80	0.87	0.68	0.68
Avail Cap(c_a), veh/h	709	668	644	5208	1875	1866
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	19.0	22.6	0.4	6.1	6.1
Incr Delay (d2), s/veh	0.4	0.7	3.6	1.1	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.5	0.5	2.0	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.2	19.7	26.2	1.6	7.1	7.1
LnGrp LOS	B	B	C	A	A	A
Approach Vol, veh/h	99			2006	1102	
Approach Delay, s/veh	19.5			3.1	7.1	
Approach LOS	B			A	A	

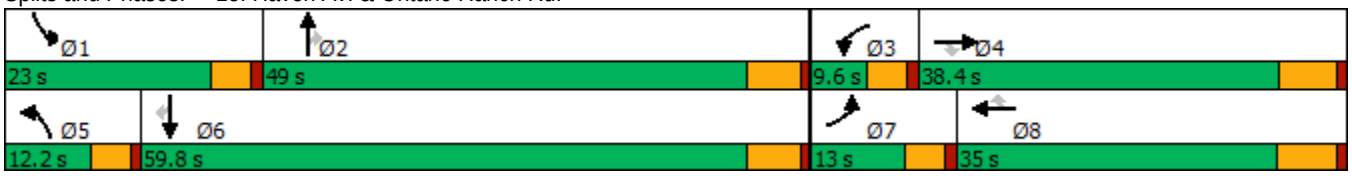
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		40.9		13.6	10.0	30.8
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		84.2		24.2	22.0	57.6
Max Q Clear Time (g_c+I1), s		8.2		3.7	6.2	11.9
Green Ext Time (p_c), s		26.8		0.2	0.1	8.0

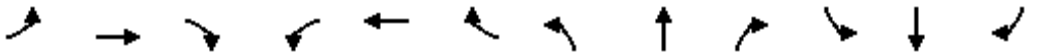
Intersection Summary	
HCM 6th Ctrl Delay	5.0
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	1198	17	75	1198	684	36	544	118	681	294	318
Future Volume (vph)	235	1198	17	75	1198	684	36	544	118	681	294	318
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	13.0	38.4	38.4	9.6	35.0	35.0	12.2	49.0	49.0	23.0	59.8	59.8
Total Split (%)	10.8%	32.0%	32.0%	8.0%	29.2%	29.2%	10.2%	40.8%	40.8%	19.2%	49.8%	49.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	8.5	34.5	34.5	5.0	28.7	28.7	6.5	24.6	24.6	18.5	40.9	40.9
Actuated g/C Ratio	0.08	0.34	0.34	0.05	0.28	0.28	0.06	0.24	0.24	0.18	0.40	0.40
v/c Ratio	0.97	0.72	0.03	0.55	0.65	1.11	0.39	0.69	0.27	1.27	0.22	0.47
Control Delay	95.9	34.1	0.1	64.5	35.0	91.1	59.8	39.1	3.7	172.0	21.2	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.9	34.1	0.1	64.5	35.0	91.1	59.8	39.1	3.7	172.0	21.2	10.3
LOS	F	C	A	E	C	F	E	D	A	F	C	B
Approach Delay		43.7			55.7			34.1			97.9	
Approach LOS		D			E			C			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.27	
Intersection Signal Delay: 59.8	Intersection LOS: E
Intersection Capacity Utilization 84.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	1198	17	75	1198	684	36	544	118	681	294	318
Future Volume (veh/h)	235	1198	17	75	1198	684	36	544	118	681	294	318
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	253	1288	7	81	1288	369	39	585	68	732	316	175
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	269	1731	488	135	2028	430	53	812	344	589	1349	569
Arrive On Green	0.08	0.33	0.33	0.04	0.29	0.29	0.03	0.23	0.23	0.18	0.38	0.38
Sat Flow, veh/h	3188	5316	1500	3000	7088	1502	1594	3544	1500	3188	3544	1496
Grp Volume(v), veh/h	253	1288	7	81	1288	369	39	585	68	732	316	175
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1500	1772	1502	1594	1772	1500	1594	1772	1496
Q Serve(g_s), s	7.9	21.5	0.3	2.6	15.8	23.2	2.4	15.2	3.6	18.4	6.0	8.2
Cycle Q Clear(g_c), s	7.9	21.5	0.3	2.6	15.8	23.2	2.4	15.2	3.6	18.4	6.0	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	1731	488	135	2028	430	53	812	344	589	1349	569
V/C Ratio(X)	0.94	0.74	0.01	0.60	0.64	0.86	0.74	0.72	0.20	1.24	0.23	0.31
Avail Cap(c_a), veh/h	269	1731	488	151	2028	430	122	1537	650	589	1921	811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	29.9	22.8	46.7	31.0	33.7	47.7	35.5	31.0	40.6	21.0	21.6
Incr Delay (d2), s/veh	38.8	3.0	0.1	3.0	1.5	19.5	7.3	1.2	0.3	123.4	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	8.9	0.1	1.0	6.4	10.0	1.0	6.4	1.3	16.9	2.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	32.9	22.8	49.7	32.6	53.2	55.0	36.7	31.3	164.0	21.1	21.9
LnGrp LOS	F	C	C	D	C	D	E	D	C	F	C	C
Approach Vol, veh/h		1548			1738			692			1223	
Approach Delay, s/veh		41.2			37.7			37.2			106.7	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	28.6	9.1	38.9	7.9	43.7	13.0	35.0
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	18.4	43.2	5.0	* 32	7.6	54.0	8.4	28.5
Max Q Clear Time (g_c+I1), s	20.4	17.2	4.6	23.5	4.4	10.2	9.9	25.2
Green Ext Time (p_c), s	0.0	3.9	0.0	5.0	0.0	2.6	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	54.9
HCM 6th LOS	D

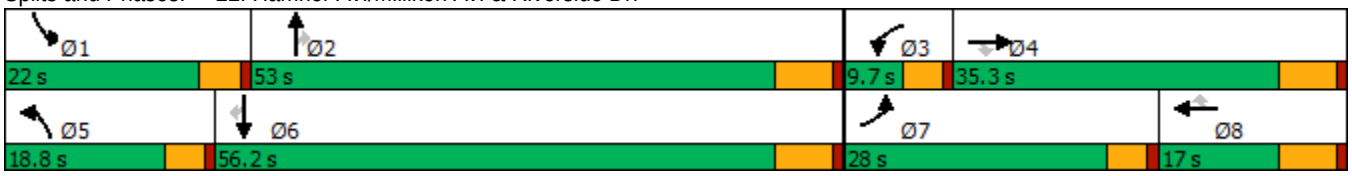
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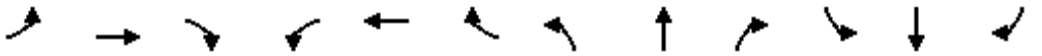
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	215	144	28	147	243	144	1267	58	244	776	211
Future Volume (vph)	340	215	144	28	147	243	144	1267	58	244	776	211
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	28.0	35.3	35.3	9.7	17.0	17.0	18.8	53.0	53.0	22.0	56.2	56.2
Total Split (%)	23.3%	29.4%	29.4%	8.1%	14.2%	14.2%	15.7%	44.2%	44.2%	18.3%	46.8%	46.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	17.8	27.7	27.7	5.1	10.8	10.8	10.2	47.0	47.0	13.8	50.5	50.5
Actuated g/C Ratio	0.16	0.25	0.25	0.05	0.10	0.10	0.09	0.42	0.42	0.12	0.45	0.45
v/c Ratio	0.77	0.56	0.33	0.44	0.98	0.82	0.57	0.98	0.09	0.71	0.56	0.30
Control Delay	55.7	43.7	7.5	73.4	116.5	33.9	57.0	51.1	0.3	57.8	24.6	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.7	43.7	7.5	73.4	116.5	33.9	57.0	51.1	0.3	57.8	24.6	3.7
LOS	E	D	A	E	F	C	E	D	A	E	C	A
Approach Delay		42.1			65.6			49.7			27.6	
Approach LOS		D			E			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 42.9	Intersection LOS: D
Intersection Capacity Utilization 81.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	215	144	28	147	243	144	1267	58	244	776	211
Future Volume (veh/h)	340	215	144	28	147	243	144	1267	58	244	776	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	391	247	86	32	169	141	166	1456	38	280	892	128
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	458	387	328	46	183	155	226	1554	658	343	1684	714
Arrive On Green	0.14	0.22	0.22	0.03	0.10	0.10	0.07	0.44	0.44	0.11	0.48	0.48
Sat Flow, veh/h	3188	1772	1502	1594	1772	1502	3188	3544	1502	3188	3544	1502
Grp Volume(v), veh/h	391	247	86	32	169	141	166	1456	38	280	892	128
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1594	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	12.5	13.2	5.0	2.1	9.9	9.7	5.3	40.9	1.5	9.0	18.4	5.1
Cycle Q Clear(g_c), s	12.5	13.2	5.0	2.1	9.9	9.7	5.3	40.9	1.5	9.0	18.4	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	458	387	328	46	183	155	226	1554	658	343	1684	714
V/C Ratio(X)	0.85	0.64	0.26	0.69	0.92	0.91	0.73	0.94	0.06	0.82	0.53	0.18
Avail Cap(c_a), veh/h	714	494	418	78	183	155	433	1588	673	531	1696	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	37.1	33.9	50.3	46.4	46.3	47.6	28.0	16.9	45.6	19.2	15.7
Incr Delay (d2), s/veh	3.6	1.8	0.4	6.8	44.9	46.3	1.7	10.9	0.0	2.9	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	5.6	1.8	0.9	6.4	5.5	2.1	17.8	0.5	3.5	6.9	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	38.9	34.3	57.0	91.3	92.7	49.3	38.8	16.9	48.5	19.5	15.8
LnGrp LOS	D	D	C	E	F	F	D	D	B	D	B	B
Approach Vol, veh/h		724			342			1660			1300	
Approach Delay, s/veh		42.9			88.7			39.4			25.4	
Approach LOS		D			F			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.8	52.0	7.6	29.0	12.0	55.8	19.6	17.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.4	46.8	5.1	29.1	14.2	50.0	23.4	10.8
Max Q Clear Time (g_c+I1), s	11.0	42.9	4.1	15.2	7.3	20.4	14.5	11.9
Green Ext Time (p_c), s	0.3	2.9	0.0	1.2	0.1	6.6	0.5	0.0

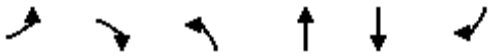
Intersection Summary	
HCM 6th Ctrl Delay	39.7
HCM 6th LOS	D

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	166	57	1320	838
Future Volume (vph)	166	57	1320	838
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	38.6	81.4	81.4	81.4
Total Split (%)	32.2%	67.8%	67.8%	67.8%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Min	Min	Min
Act Effct Green (s)	22.5		53.9	53.9
Actuated g/C Ratio	0.26		0.63	0.63
v/c Ratio	0.74		0.79	0.47
Control Delay	38.7		16.2	9.5
Queue Delay	0.0		0.0	0.0
Total Delay	38.7		16.2	9.5
LOS	D		B	A
Approach Delay	38.7		16.2	9.5
Approach LOS	D		B	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 86.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 16.5	Intersection LOS: B
Intersection Capacity Utilization 92.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	166	139	57	1320	838	68
Future Volume (veh/h)	166	139	57	1320	838	68
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	158	65	1500	952	77
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	224	187	115	2006	2037	165
Arrive On Green	0.24	0.24	0.61	0.61	0.61	0.61
Sat Flow, veh/h	916	766	86	3279	3423	269
Grp Volume(v), veh/h	348	0	791	774	508	521
Grp Sat Flow(s),veh/h/ln	1687	0	1663	1702	1777	1822
Q Serve(g_s), s	12.3	0.0	7.2	20.2	9.7	9.7
Cycle Q Clear(g_c), s	12.3	0.0	19.9	20.2	9.7	9.7
Prop In Lane	0.54	0.45	0.08			0.15
Lane Grp Cap(c), veh/h	412	0	1080	1041	1087	1115
V/C Ratio(X)	0.84	0.00	0.73	0.74	0.47	0.47
Avail Cap(c_a), veh/h	921	0	2046	2095	2187	2243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	0.0	8.3	8.6	6.6	6.6
Incr Delay (d2), s/veh	4.8	0.0	1.0	1.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	4.3	4.5	2.2	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.3	0.0	9.3	9.7	6.9	6.9
LnGrp LOS	C	A	A	A	A	A
Approach Vol, veh/h	348			1565	1029	
Approach Delay, s/veh	27.3			9.5	6.9	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		42.7		19.8		42.7
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		76.9		34.1		76.9
Max Q Clear Time (g_c+I1), s		22.2		14.3		11.7
Green Ext Time (p_c), s		16.0		1.0		7.1

Intersection Summary		
HCM 6th Ctrl Delay		10.7
HCM 6th LOS		B

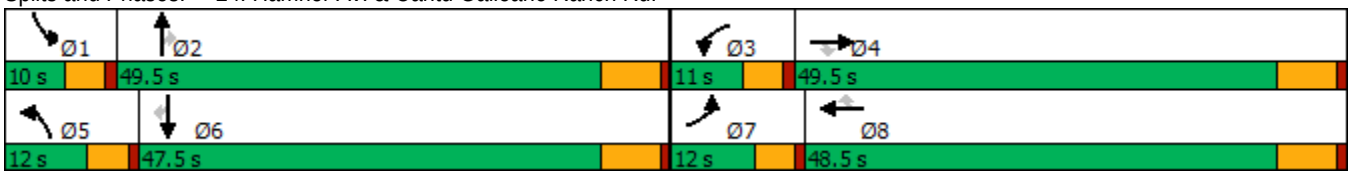
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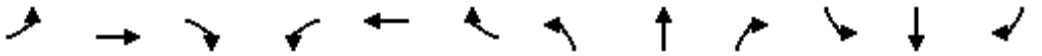
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	453	1494	261	311	1600	287	388	608	419	230	250	457
Future Volume (vph)	453	1494	261	311	1600	287	388	608	419	230	250	457
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	12.0	49.5	49.5	11.0	48.5	48.5	12.0	49.5	49.5	10.0	47.5	47.5
Total Split (%)	10.0%	41.3%	41.3%	9.2%	40.4%	40.4%	10.0%	41.3%	41.3%	8.3%	39.6%	39.6%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.6	36.4	36.4	6.6	35.4	35.4	7.6	28.3	28.3	5.6	26.2	26.2
Actuated g/C Ratio	0.08	0.37	0.37	0.07	0.36	0.36	0.08	0.28	0.28	0.06	0.26	0.26
v/c Ratio	1.74	0.57	0.36	1.38	0.63	0.43	1.49	0.40	0.80	1.21	0.13	0.46
Control Delay	378.4	26.7	4.6	233.8	28.3	11.6	273.6	29.1	34.6	176.1	27.7	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	378.4	26.7	4.6	233.8	28.3	11.6	273.6	29.1	34.6	176.1	27.7	14.4
LOS	F	C	A	F	C	B	F	C	C	F	C	B
Approach Delay		96.3			55.2			97.8			57.7	
Approach LOS		F			E			F			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 99.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.74	
Intersection Signal Delay: 77.9	Intersection LOS: E
Intersection Capacity Utilization 72.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	453	1494	261	311	1600	287	388	608	419	230	250	457
Future Volume (veh/h)	453	1494	261	311	1600	287	388	608	419	230	250	457
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	472	1556	147	324	1667	164	404	633	306	240	260	257
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	297	2709	574	257	2624	556	297	1447	409	217	1760	746
Arrive On Green	0.08	0.36	0.36	0.07	0.35	0.35	0.08	0.26	0.26	0.06	0.24	0.24
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	472	1556	147	324	1667	164	404	633	306	240	260	257
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.4	14.9	5.8	6.4	16.5	6.6	7.4	8.4	15.7	5.4	2.4	6.0
Cycle Q Clear(g_c), s	7.4	14.9	5.8	6.4	16.5	6.6	7.4	8.4	15.7	5.4	2.4	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	297	2709	574	257	2624	556	297	1447	409	217	1760	746
V/C Ratio(X)	1.59	0.57	0.26	1.26	0.64	0.29	1.36	0.44	0.75	1.11	0.15	0.34
Avail Cap(c_a), veh/h	297	3629	769	257	3544	751	297	2740	774	217	3485	1477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	22.8	19.9	41.1	24.0	20.8	40.6	27.5	30.3	41.6	26.9	28.2
Incr Delay (d2), s/veh	279.8	0.2	0.2	144.4	0.3	0.3	181.8	0.2	2.8	92.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	5.8	1.9	7.8	6.5	2.2	10.6	3.5	5.7	5.0	1.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	320.4	23.0	20.1	185.5	24.3	21.1	222.4	27.7	33.0	134.0	26.9	28.5
LnGrp LOS	F	C	C	F	C	C	F	C	C	F	C	C
Approach Vol, veh/h		2175			2155			1343			757	
Approach Delay, s/veh		87.3			48.3			87.5			61.4	
Approach LOS		F			D			F			E	

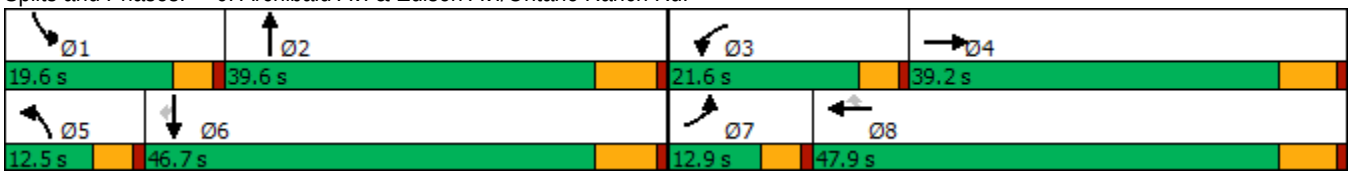
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	29.1	11.0	38.6	12.0	27.1	12.0	37.6
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	5.4	43.3	6.4	43.0	7.4	41.3	7.4	42.0
Max Q Clear Time (g_c+I1), s	7.4	17.7	8.4	16.9	9.4	8.0	9.4	18.5
Green Ext Time (p_c), s	0.0	5.1	0.0	12.2	0.0	2.6	0.0	12.6

Intersection Summary	
HCM 6th Ctrl Delay	71.2
HCM 6th LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	839	265	419	454	276	95	744	531	379	753	60
Future Volume (vph)	95	839	265	419	454	276	95	744	531	379	753	60
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	12.9	39.2		21.6	47.9	47.9	12.5	39.6		19.6	46.7	46.7
Total Split (%)	10.8%	32.7%		18.0%	39.9%	39.9%	10.4%	33.0%		16.3%	38.9%	38.9%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	7.5	31.7	115.6	17.1	41.3	41.3	7.9	29.8	115.6	15.0	36.9	36.9
Actuated g/C Ratio	0.06	0.27	1.00	0.15	0.36	0.36	0.07	0.26	1.00	0.13	0.32	0.32
v/c Ratio	0.52	0.91	0.19	1.00	0.38	0.42	0.93	0.86	0.37	1.00	0.70	0.11
Control Delay	63.3	55.4	0.3	94.1	29.3	7.0	123.4	51.7	0.7	96.0	38.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	55.4	0.3	94.1	29.3	7.0	123.4	51.7	0.7	96.0	38.5	0.4
LOS	E	E	A	F	C	A	F	D	A	F	D	A
Approach Delay		43.8			47.5			36.9			54.9	
Approach LOS		D			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 45.4	Intersection LOS: D
Intersection Capacity Utilization 90.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	839	265	419	454	276	95	744	531	379	753	60
Future Volume (veh/h)	95	839	265	419	454	276	95	744	531	379	753	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	100	883	0	441	478	249	100	783	0	399	793	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	972		448	1329	563	111	895		407	1115	473
Arrive On Green	0.05	0.27	0.00	0.15	0.38	0.38	0.07	0.25	0.00	0.13	0.31	0.31
Sat Flow, veh/h	3000	3544	1502	3000	3544	1500	1594	3544	1502	3092	3544	1502
Grp Volume(v), veh/h	100	883	0	441	478	249	100	783	0	399	793	44
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1546	1772	1502
Q Serve(g_s), s	3.7	27.4	0.0	16.7	11.1	14.2	7.1	24.1	0.0	14.6	22.5	2.4
Cycle Q Clear(g_c), s	3.7	27.4	0.0	16.7	11.1	14.2	7.1	24.1	0.0	14.6	22.5	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	972		448	1329	563	111	895		407	1115	473
V/C Ratio(X)	0.69	0.91		0.98	0.36	0.44	0.90	0.88		0.98	0.71	0.09
Avail Cap(c_a), veh/h	219	1027		448	1329	563	111	1030		407	1251	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	39.9	0.0	48.3	25.7	26.7	52.6	40.8	0.0	49.3	34.4	27.5
Incr Delay (d2), s/veh	2.2	11.3	0.0	38.3	0.2	0.5	55.5	7.7	0.0	39.0	1.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	12.8	0.0	8.4	4.4	4.9	4.4	10.8	0.0	7.6	9.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	51.2	0.0	86.6	25.9	27.2	108.1	48.6	0.0	88.3	36.1	27.6
LnGrp LOS	E	D		F	C	C	F	D		F	D	C
Approach Vol, veh/h		983			1168			883			1236	
Approach Delay, s/veh		51.6			49.1			55.3			52.6	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.6	35.2	21.6	37.4	12.5	42.3	10.1	48.9
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	15.0	33.1	17.0	33.0	7.9	40.2	8.3	41.7
Max Q Clear Time (g_c+I1), s	16.6	26.1	18.7	29.4	9.1	24.5	5.7	16.2
Green Ext Time (p_c), s	0.0	2.6	0.0	1.8	0.0	4.3	0.0	3.7

Intersection Summary	
HCM 6th Ctrl Delay	52.0
HCM 6th LOS	D

Notes

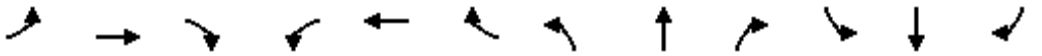
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	291	365	93	330	55	838	88	135	1103	334
Future Volume (vph)	291	365	93	330	55	838	88	135	1103	334
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	Split	NA	Perm
Protected Phases	7	4	3	8		2		6	6	
Permitted Phases					2		2			6
Detector Phase	7	4	3	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	23.7	24.8	24.8	24.8
Total Split (s)	15.0	36.0	9.6	30.6	33.4	33.4	33.4	41.0	41.0	41.0
Total Split (%)	12.5%	30.0%	8.0%	25.5%	27.8%	27.8%	27.8%	34.2%	34.2%	34.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.7	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	10.4	24.9	5.0	19.5	28.7	28.7	28.7	35.2	35.2	35.2
Actuated g/C Ratio	0.09	0.22	0.04	0.17	0.25	0.25	0.25	0.31	0.31	0.31
v/c Ratio	1.06	0.63	0.71	0.77	1.00	0.99	0.18	0.29	1.06	0.54
Control Delay	120.6	42.4	82.0	50.6	165.6	72.3	0.8	33.3	85.4	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	120.6	42.4	82.0	50.6	165.6	72.3	0.8	33.3	85.4	10.7
LOS	F	D	F	D	F	E	A	C	F	B
Approach Delay		72.8		56.1		71.1			65.0	
Approach LOS		E		E		E			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 66.8	Intersection LOS: E
Intersection Capacity Utilization 82.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	365	92	93	330	114	55	838	88	135	1103	334
Future Volume (veh/h)	291	365	92	93	330	114	55	838	88	135	1103	334
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	303	380	54	97	344	67	57	873	50	141	1149	122
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	618	87	141	449	86	404	898	380	495	1101	466
Arrive On Green	0.09	0.20	0.20	0.04	0.16	0.16	0.25	0.25	0.25	0.31	0.31	0.31
Sat Flow, veh/h	3188	3030	427	3188	2875	552	1594	3544	1502	1594	3544	1499
Grp Volume(v), veh/h	303	221	213	97	210	201	57	873	50	141	1149	122
Grp Sat Flow(s),veh/h/ln	1594	1772	1684	1594	1772	1655	1594	1772	1502	1594	1772	1499
Q Serve(g_s), s	10.4	12.8	13.1	3.4	12.9	13.2	3.1	27.7	2.9	7.6	35.2	6.9
Cycle Q Clear(g_c), s	10.4	12.8	13.1	3.4	12.9	13.2	3.1	27.7	2.9	7.6	35.2	6.9
Prop In Lane	1.00		0.25	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	293	361	343	141	277	259	404	898	380	495	1101	466
V/C Ratio(X)	1.04	0.61	0.62	0.69	0.76	0.78	0.14	0.97	0.13	0.28	1.04	0.26
Avail Cap(c_a), veh/h	293	466	443	141	382	356	404	898	380	495	1101	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	41.0	41.1	53.4	45.8	45.9	32.8	41.9	32.7	29.5	39.1	29.3
Incr Delay (d2), s/veh	62.2	1.7	1.8	11.3	5.8	7.1	0.2	23.5	0.2	0.3	39.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	5.5	5.4	1.5	5.9	5.7	1.2	14.9	1.0	2.8	20.5	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.6	42.7	42.9	64.7	51.5	53.0	32.9	65.4	32.8	29.8	78.3	29.6
LnGrp LOS	F	D	D	E	D	D	C	E	C	C	F	C
Approach Vol, veh/h		737			508			980			1412	
Approach Delay, s/veh		71.9			54.6			61.8			69.2	
Approach LOS		E			D			E			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.4	9.6	29.3		41.0	15.0	23.9				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 29	5.0	29.8		35.2	10.4	24.4				
Max Q Clear Time (g_c+I1), s		29.7	5.4	15.1		37.2	12.4	15.2				
Green Ext Time (p_c), s		0.0	0.0	1.9		0.0	0.0	1.4				

Intersection Summary		
HCM 6th Ctrl Delay		65.7
HCM 6th LOS		E

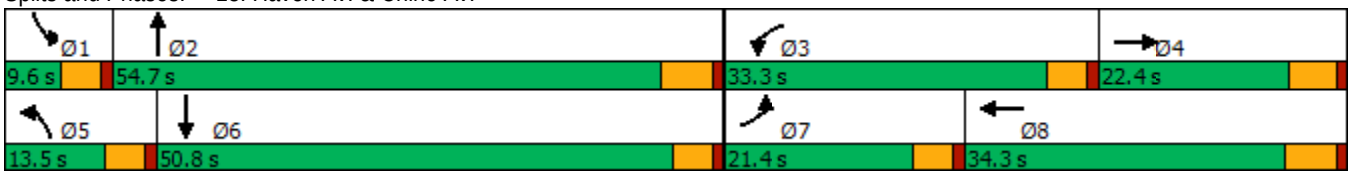
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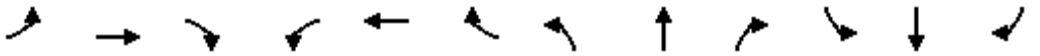
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	107	73	407	55	105	895	1248	
Future Volume (vph)	107	73	407	55	105	895	1248	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	21.4	22.4	33.3	34.3	13.5	54.7	50.8	9.6
Total Split (%)	17.8%	18.7%	27.8%	28.6%	11.3%	45.6%	42.3%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	20.1	14.5	28.7	26.0	8.9	58.5	46.1	
Actuated g/C Ratio	0.17	0.12	0.24	0.22	0.08	0.50	0.39	
v/c Ratio	0.42	0.77	1.02	0.15	0.93	0.70	1.06	
Control Delay	53.3	56.9	93.8	36.1	120.3	24.9	77.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.3	56.9	93.8	36.1	120.3	24.9	77.5	
LOS	D	E	F	D	F	C	E	
Approach Delay		55.6		86.9		33.0	77.5	
Approach LOS		E		F		C	E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.5	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 60.3	Intersection LOS: E
Intersection Capacity Utilization 94.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	73	111	407	55	0	105	895	238	0	1248	68
Future Volume (veh/h)	107	73	111	407	55	0	105	895	238	0	1248	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	113	79	117	442	60	0	111	942	123	0	1314	72
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	90	133	425	533	0	118	1521	199	1	1243	68
Arrive On Green	0.08	0.13	0.13	0.24	0.29	0.00	0.07	0.50	0.50	0.00	0.38	0.38
Sat Flow, veh/h	1594	681	1008	1781	1870	0	1594	3071	401	1781	3246	178
Grp Volume(v), veh/h	113	0	196	442	60	0	111	543	522	0	680	706
Grp Sat Flow(s),veh/h/ln	1594	0	1689	1781	1870	0	1594	1772	1700	1781	1683	1740
Q Serve(g_s), s	8.4	0.0	13.7	28.7	2.9	0.0	8.3	26.9	26.9	0.0	46.1	46.1
Cycle Q Clear(g_c), s	8.4	0.0	13.7	28.7	2.9	0.0	8.3	26.9	26.9	0.0	46.1	46.1
Prop In Lane	1.00		0.60	1.00		0.00	1.00		0.24	1.00		0.10
Lane Grp Cap(c), veh/h	135	0	222	425	533	0	118	878	842	1	645	667
V/C Ratio(X)	0.83	0.00	0.88	1.04	0.11	0.00	0.94	0.62	0.62	0.00	1.06	1.06
Avail Cap(c_a), veh/h	222	0	239	425	533	0	118	878	842	74	645	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	0.0	51.3	45.8	31.8	0.0	55.5	22.1	22.1	0.0	37.1	37.1
Incr Delay (d2), s/veh	5.9	0.0	28.3	54.6	0.1	0.0	64.0	1.3	1.4	0.0	50.9	51.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	7.4	18.7	1.3	0.0	5.4	10.8	10.3	0.0	27.7	28.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.1	0.0	79.7	100.4	31.9	0.0	119.5	23.4	23.5	0.0	88.0	88.5
LnGrp LOS	E	A	E	F	C	A	F	C	C	A	F	F
Approach Vol, veh/h		309			502			1176			1386	
Approach Delay, s/veh		72.5			92.2			32.5			88.3	
Approach LOS		E			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	65.4	33.3	21.6	13.5	51.9	14.8	40.1
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	48.9	28.7	* 17	8.9	* 46	16.8	28.5
Max Q Clear Time (g_c+I1), s	0.0	28.9	30.7	15.7	10.3	48.1	10.4	4.9
Green Ext Time (p_c), s	0.0	6.4	0.0	0.1	0.0	0.0	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	68.0
HCM 6th LOS	E

Notes

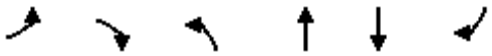
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	22	96	133	1216	1737
Future Volume (vph)	22	96	133	1216	1737
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	27.8	27.8	17.4	92.2	74.8
Total Split (%)	23.2%	23.2%	14.5%	76.8%	62.3%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.2	12.2	12.7	86.8	69.5
Actuated g/C Ratio	0.11	0.11	0.11	0.78	0.63
v/c Ratio	0.15	0.43	0.86	0.54	0.92
Control Delay	45.5	13.2	86.9	5.8	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.5	13.2	86.9	5.8	27.3
LOS	D	B	F	A	C
Approach Delay	19.3			13.8	27.3
Approach LOS	B			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 81.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	96	133	1216	1737	20
Future Volume (veh/h)	22	96	133	1216	1737	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	26	43	155	1414	2020	11
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	135	128	182	2692	2253	12
Arrive On Green	0.08	0.08	0.11	0.80	0.64	0.64
Sat Flow, veh/h	1594	1502	1594	3455	3521	19
Grp Volume(v), veh/h	26	43	155	1414	1015	1016
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1683	1772	1768
Q Serve(g_s), s	1.5	2.7	9.6	14.6	48.6	48.8
Cycle Q Clear(g_c), s	1.5	2.7	9.6	14.6	48.6	48.8
Prop In Lane	1.00	1.00	1.00			0.01
Lane Grp Cap(c), veh/h	135	128	182	2692	1134	1131
V/C Ratio(X)	0.19	0.34	0.85	0.53	0.90	0.90
Avail Cap(c_a), veh/h	349	329	203	2894	1216	1214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	43.3	43.7	3.5	15.3	15.3
Incr Delay (d2), s/veh	0.7	1.5	23.8	0.2	8.6	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1	4.8	2.5	18.2	18.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.5	44.9	67.5	3.6	23.8	24.0
LnGrp LOS	D	D	E	A	C	C
Approach Vol, veh/h	69			1569	2031	
Approach Delay, s/veh	44.3			10.0	23.9	
Approach LOS	D			A	C	

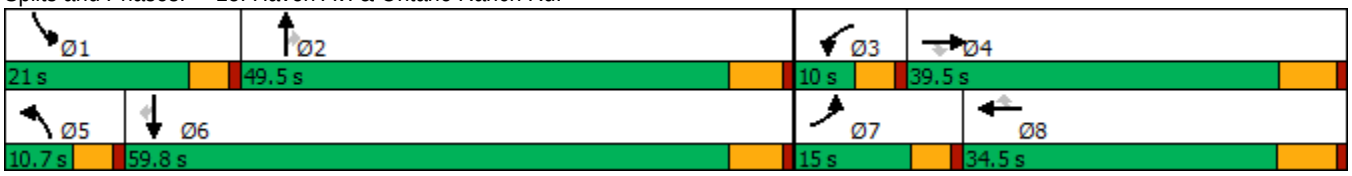
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.2		14.3	16.1	70.1
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		86.4		22.0	12.8	69.0
Max Q Clear Time (g_c+I1), s		16.6		4.7	11.6	50.8
Green Ext Time (p_c), s		14.6		0.1	0.0	13.5

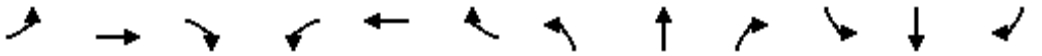
Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	407	1464	35	227	1168	606	18	337	70	722	560	213
Future Volume (vph)	407	1464	35	227	1168	606	18	337	70	722	560	213
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	15.0	39.5	39.5	10.0	34.5	34.5	10.7	49.5	49.5	21.0	59.8	59.8
Total Split (%)	12.5%	32.9%	32.9%	8.3%	28.8%	28.8%	8.9%	41.3%	41.3%	17.5%	49.8%	49.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	10.5	33.7	33.7	5.5	28.4	28.4	5.6	18.2	18.2	16.6	35.6	35.6
Actuated g/C Ratio	0.11	0.35	0.35	0.06	0.30	0.30	0.06	0.19	0.19	0.17	0.37	0.37
v/c Ratio	1.24	0.83	0.06	1.42	0.59	0.87	0.21	0.53	0.17	1.40	0.45	0.32
Control Delay	167.7	34.4	0.2	253.3	31.3	25.1	52.5	36.7	0.8	221.0	24.2	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	167.7	34.4	0.2	253.3	31.3	25.1	52.5	36.7	0.8	221.0	24.2	4.2
LOS	F	C	A	F	C	C	D	D	A	F	C	A
Approach Delay		62.3			54.6			31.5			116.4	
Approach LOS		E			D			C			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 95.5	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.42	
Intersection Signal Delay: 71.3	Intersection LOS: E
Intersection Capacity Utilization 88.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	407	1464	35	227	1168	606	18	337	70	722	560	213
Future Volume (veh/h)	407	1464	35	227	1168	606	18	337	70	722	560	213
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	433	1557	24	241	1243	600	19	359	24	768	596	194
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	370	1977	559	181	2240	475	34	512	217	584	1086	460
Arrive On Green	0.12	0.37	0.37	0.06	0.32	0.32	0.02	0.14	0.14	0.18	0.31	0.31
Sat Flow, veh/h	3188	5316	1502	3000	7088	1502	1594	3544	1502	3188	3544	1502
Grp Volume(v), veh/h	433	1557	24	241	1243	600	19	359	24	768	596	194
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1500	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	10.4	23.3	0.9	5.4	13.0	28.3	1.1	8.6	1.2	16.4	12.6	9.2
Cycle Q Clear(g_c), s	10.4	23.3	0.9	5.4	13.0	28.3	1.1	8.6	1.2	16.4	12.6	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	370	1977	559	181	2240	475	34	512	217	584	1086	460
V/C Ratio(X)	1.17	0.79	0.04	1.33	0.55	1.26	0.57	0.70	0.11	1.32	0.55	0.42
Avail Cap(c_a), veh/h	370	1977	559	181	2240	475	109	1730	733	584	2138	906
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	25.0	17.9	42.1	25.4	30.6	43.4	36.5	33.3	36.6	25.9	24.7
Incr Delay (d2), s/veh	101.4	3.3	0.1	182.1	1.0	134.8	5.5	1.8	0.2	153.7	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	9.3	0.3	6.4	5.0	26.8	0.5	3.7	0.4	18.5	5.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	141.0	28.2	18.1	224.1	26.4	165.4	48.9	38.2	33.5	190.3	26.3	25.3
LnGrp LOS	F	C	B	F	C	F	D	D	C	F	C	C
Approach Vol, veh/h		2014			2084			402			1558	
Approach Delay, s/veh		52.4			89.3			38.5			107.0	
Approach LOS		D			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	18.7	10.0	39.8	6.5	33.2	15.0	34.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	16.4	43.7	5.4	* 33	6.1	54.0	10.4	28.0
Max Q Clear Time (g_c+I1), s	18.4	10.6	7.4	25.3	3.1	14.6	12.4	30.3
Green Ext Time (p_c), s	0.0	2.3	0.0	5.5	0.0	4.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	78.2
HCM 6th LOS	E

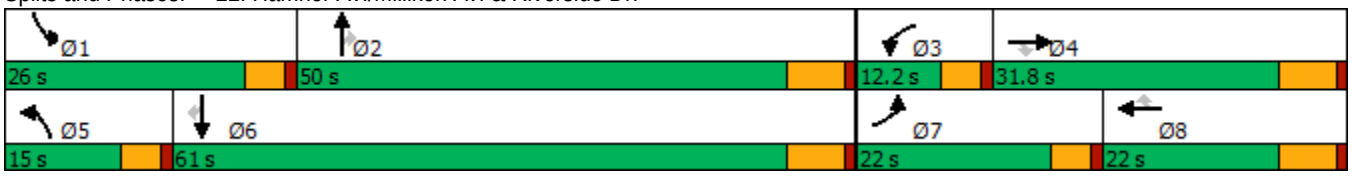
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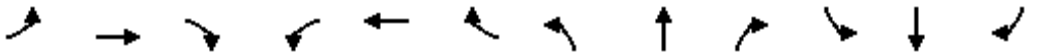
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	189	148	80	236	160	149	896	49	212	1164	378
Future Volume (vph)	255	189	148	80	236	160	149	896	49	212	1164	378
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	22.0	31.8	31.8	12.2	22.0	22.0	15.0	50.0	50.0	26.0	61.0	61.0
Total Split (%)	18.3%	26.5%	26.5%	10.2%	18.3%	18.3%	12.5%	41.7%	41.7%	21.7%	50.8%	50.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.3	21.7	21.7	7.6	16.1	16.1	9.0	42.9	42.9	12.0	45.9	45.9
Actuated g/C Ratio	0.13	0.20	0.20	0.07	0.15	0.15	0.08	0.40	0.40	0.11	0.43	0.43
v/c Ratio	0.68	0.55	0.37	0.74	0.93	0.43	0.59	0.66	0.07	0.62	0.80	0.46
Control Delay	55.0	46.3	8.9	88.3	87.7	7.5	58.6	28.7	0.2	54.6	31.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	46.3	8.9	88.3	87.7	7.5	58.6	28.7	0.2	54.6	31.1	3.9
LOS	D	D	A	F	F	A	E	C	A	D	C	A
Approach Delay		40.7			60.9			31.5			28.1	
Approach LOS		D			E			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 106.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 34.9	Intersection LOS: C
Intersection Capacity Utilization 78.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	255	189	148	80	236	160	149	896	49	212	1164	378
Future Volume (veh/h)	255	189	148	80	236	160	149	896	49	212	1164	378
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	268	199	82	84	248	89	157	943	31	223	1225	209
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	340	358	301	104	284	241	222	1439	609	296	1521	636
Arrive On Green	0.11	0.20	0.20	0.07	0.16	0.16	0.07	0.41	0.41	0.09	0.43	0.43
Sat Flow, veh/h	3188	1772	1488	1594	1772	1502	3188	3544	1501	3188	3544	1482
Grp Volume(v), veh/h	268	199	82	84	248	89	157	943	31	223	1225	209
Grp Sat Flow(s),veh/h/ln	1594	1772	1488	1594	1772	1502	1594	1772	1501	1594	1772	1482
Q Serve(g_s), s	7.6	9.3	4.3	4.8	12.6	4.9	4.4	19.9	1.2	6.3	27.8	8.6
Cycle Q Clear(g_c), s	7.6	9.3	4.3	4.8	12.6	4.9	4.4	19.9	1.2	6.3	27.8	8.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	340	358	301	104	284	241	222	1439	609	296	1521	636
V/C Ratio(X)	0.79	0.56	0.27	0.81	0.87	0.37	0.71	0.66	0.05	0.75	0.81	0.33
Avail Cap(c_a), veh/h	601	492	413	131	303	257	359	1682	712	739	2104	880
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	33.1	31.1	42.6	37.8	34.6	42.0	22.2	16.6	40.8	23.0	17.5
Incr Delay (d2), s/veh	1.5	1.4	0.5	20.1	22.3	0.9	1.6	0.7	0.0	1.5	1.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.9	1.5	2.4	6.9	1.7	1.7	7.5	0.4	2.4	10.5	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	34.5	31.6	62.6	60.1	35.5	43.6	22.9	16.7	42.3	24.6	17.8
LnGrp LOS	D	C	C	E	E	D	D	C	B	D	C	B
Approach Vol, veh/h		549			421			1131			1657	
Approach Delay, s/veh		37.6			55.4			25.6			26.1	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	43.7	10.6	24.8	11.0	45.8	14.5	21.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	43.8	7.6	25.6	10.4	54.8	17.4	15.8
Max Q Clear Time (g_c+I1), s	8.3	21.9	6.8	11.3	6.4	29.8	9.6	14.6
Green Ext Time (p_c), s	0.3	6.2	0.0	1.0	0.1	9.8	0.3	0.2

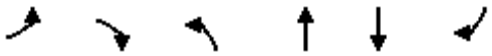
Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	109	129	967	1210
Future Volume (vph)	109	129	967	1210
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	26.0	94.0	94.0	94.0
Total Split (%)	21.7%	78.3%	78.3%	78.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Min	Min	Min
Act Effct Green (s)	14.8		60.4	60.4
Actuated g/C Ratio	0.17		0.71	0.71
v/c Ratio	0.67		0.80	0.61
Control Delay	42.5		13.4	7.2
Queue Delay	0.0		0.0	0.0
Total Delay	42.5		13.4	7.2
LOS	D		B	A
Approach Delay	42.5		13.4	7.2
Approach LOS	D		B	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 84.8	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 12.3	Intersection LOS: B
Intersection Capacity Utilization 91.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	109	86	129	967	1210	164
Future Volume (veh/h)	109	86	129	967	1210	164
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	95	142	1063	1330	180
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	145	115	200	1575	2282	307
Arrive On Green	0.15	0.15	0.72	0.72	0.72	0.72
Sat Flow, veh/h	939	743	186	2173	3242	423
Grp Volume(v), veh/h	216	0	404	801	747	763
Grp Sat Flow(s),veh/h/ln	1690	0	656	1702	1777	1794
Q Serve(g_s), s	9.3	0.0	22.8	18.3	14.9	15.2
Cycle Q Clear(g_c), s	9.3	0.0	38.0	18.3	14.9	15.2
Prop In Lane	0.56	0.44	0.35			0.24
Lane Grp Cap(c), veh/h	261	0	541	1234	1288	1301
V/C Ratio(X)	0.83	0.00	0.75	0.65	0.58	0.59
Avail Cap(c_a), veh/h	486	0	889	2039	2129	2150
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	0.0	8.4	5.3	4.9	4.9
Incr Delay (d2), s/veh	6.5	0.0	2.1	0.6	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	1.6	3.1	2.6	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.2	0.0	10.5	5.9	5.3	5.3
LnGrp LOS	D	A	B	A	A	A
Approach Vol, veh/h	216			1205	1510	
Approach Delay, s/veh	37.2			7.4	5.3	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		58.6		16.1		58.6
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		89.5		21.5		89.5
Max Q Clear Time (g_c+I1), s		40.0		11.3		17.2
Green Ext Time (p_c), s		14.1		0.4		14.3

Intersection Summary	
HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

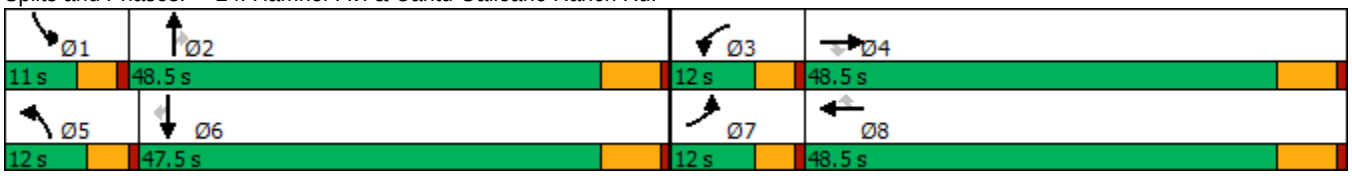
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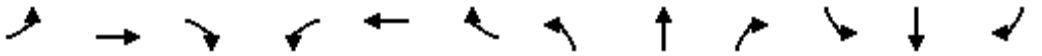
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	405	1521	424	478	1635	216	482	423	367	296	539	397
Future Volume (vph)	405	1521	424	478	1635	216	482	423	367	296	539	397
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	12.0	48.5	48.5	12.0	48.5	48.5	12.0	48.5	48.5	11.0	47.5	47.5
Total Split (%)	10.0%	40.4%	40.4%	10.0%	40.4%	40.4%	10.0%	40.4%	40.4%	9.2%	39.6%	39.6%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.6	34.8	34.8	7.6	34.8	34.8	7.6	23.1	23.1	6.6	22.1	22.1
Actuated g/C Ratio	0.08	0.37	0.37	0.08	0.37	0.37	0.08	0.24	0.24	0.07	0.23	0.23
v/c Ratio	1.48	0.58	0.61	1.75	0.62	0.31	1.76	0.32	0.77	1.25	0.32	0.43
Control Delay	268.5	25.6	16.5	380.3	26.3	4.6	386.3	29.7	31.2	181.5	30.2	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	268.5	25.6	16.5	380.3	26.3	4.6	386.3	29.7	31.2	181.5	30.2	10.6
LOS	F	C	B	F	C	A	F	C	C	F	C	B
Approach Delay		65.8			97.0			165.3			60.2	
Approach LOS		E			F			F			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 94.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.76	
Intersection Signal Delay: 92.6	Intersection LOS: F
Intersection Capacity Utilization 75.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	1521	424	478	1635	216	482	423	367	296	539	397
Future Volume (veh/h)	405	1521	424	478	1635	216	482	423	367	296	539	397
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	422	1584	234	498	1703	121	502	441	189	308	561	258
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	2805	594	330	2805	594	330	1002	283	285	1242	526
Arrive On Green	0.09	0.37	0.37	0.09	0.37	0.37	0.09	0.18	0.18	0.08	0.17	0.17
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	422	1584	234	498	1703	121	502	441	189	308	561	258
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.4	13.4	8.7	7.4	14.7	4.1	7.4	5.6	8.9	6.4	5.4	5.9
Cycle Q Clear(g_c), s	7.4	13.4	8.7	7.4	14.7	4.1	7.4	5.6	8.9	6.4	5.4	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	330	2805	594	330	2805	594	330	1002	283	285	1242	526
V/C Ratio(X)	1.28	0.56	0.39	1.51	0.61	0.20	1.52	0.44	0.67	1.08	0.45	0.49
Avail Cap(c_a), veh/h	330	3930	833	330	3930	833	330	2969	839	285	3865	1638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	19.8	18.3	36.3	20.2	16.9	36.3	29.3	30.6	36.8	30.1	30.3
Incr Delay (d2), s/veh	147.3	0.2	0.4	244.8	0.2	0.2	250.0	0.3	2.7	76.2	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	5.0	2.8	14.1	5.5	1.3	14.4	2.3	3.3	5.6	2.3	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	183.5	20.0	18.7	281.1	20.4	17.1	286.3	29.6	33.3	113.0	30.3	31.0
LnGrp LOS	F	B	B	F	C	B	F	C	C	F	C	C
Approach Vol, veh/h		2240			2322			1132			1127	
Approach Delay, s/veh		50.7			76.2			144.1			53.1	
Approach LOS		D			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	20.5	12.0	36.5	12.0	19.5	12.0	36.5
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.4	42.3	7.4	42.0	7.4	41.3	7.4	42.0
Max Q Clear Time (g_c+I1), s	8.4	10.9	9.4	15.4	9.4	7.9	9.4	16.7
Green Ext Time (p_c), s	0.0	3.4	0.0	13.0	0.0	4.8	0.0	13.2

Intersection Summary	
HCM 6th Ctrl Delay	75.2
HCM 6th LOS	E

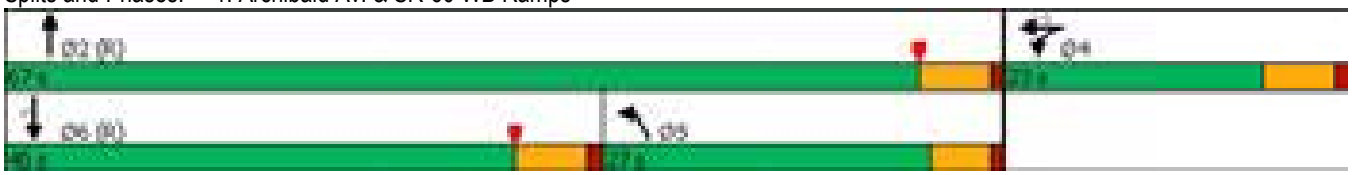
APPENDIX 6.1: OPENING YEAR CUMULATIVE (2027) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	416	8	488	889	1188	513	176
Future Volume (vph)	416	8	488	889	1188	513	176
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	23.0	23.0	23.0	27.0	67.0	40.0	40.0
Total Split (%)	25.6%	25.6%	25.6%	30.0%	74.4%	44.4%	44.4%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	24.4	24.4	24.4	30.0	54.0	19.1	19.1
Actuated g/C Ratio	0.27	0.27	0.27	0.33	0.60	0.21	0.21
v/c Ratio	0.71	0.66	0.63	0.79	0.40	0.39	0.38
Control Delay	41.0	29.5	26.4	30.7	4.8	30.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	29.5	26.4	30.7	4.8	30.7	6.2
LOS	D	C	C	C	A	C	A
Approach Delay		32.5			15.9	24.4	
Approach LOS		C			B	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 21.6	Intersection LOS: C
Intersection Capacity Utilization 73.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	416	8	488	889	1188	0	0	513	176
Future Volume (veh/h)	0	0	0	416	8	488	889	1188	0	0	513	176
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				578	0	305	907	1212	0	0	523	83
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				681	0	302	1649	3472	0	0	890	219
Arrive On Green				0.19	0.00	0.19	0.95	1.00	0.00	0.00	0.14	0.14
Sat Flow, veh/h				3563	0	1583	3456	5274	0	0	6696	1585
Grp Volume(v), veh/h				578	0	305	907	1212	0	0	523	83
Grp Sat Flow(s),veh/h/ln				1781	0	1583	1728	1702	0	0	1609	1585
Q Serve(g_s), s				14.1	0.0	17.2	2.3	0.0	0.0	0.0	6.9	4.3
Cycle Q Clear(g_c), s				14.1	0.0	17.2	2.3	0.0	0.0	0.0	6.9	4.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				681	0	302	1649	3472	0	0	890	219
V/C Ratio(X)				0.85	0.00	1.01	0.55	0.35	0.00	0.00	0.59	0.38
Avail Cap(c_a), veh/h				681	0	302	1649	3472	0	0	2445	602
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.75	0.75	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.1	0.0	36.4	1.1	0.0	0.0	0.0	36.4	35.3
Incr Delay (d2), s/veh				9.9	0.0	53.9	0.2	0.2	0.0	0.0	2.8	4.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.7	0.0	18.2	0.4	0.1	0.0	0.0	2.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				45.0	0.0	90.3	1.3	0.2	0.0	0.0	39.2	40.2
LnGrp LOS				D	A	F	A	A	A	A	D	D
Approach Vol, veh/h					883			2119			606	
Approach Delay, s/veh					60.7			0.7			39.3	
Approach LOS					E			A			D	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	67.0	23.0	48.8	18.2
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	61.2	17.2	22.0	* 34
Max Q Clear Time (g_c+I1), s	2.0	19.2	4.3	8.9
Green Ext Time (p_c), s	10.6	0.0	1.7	3.6

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

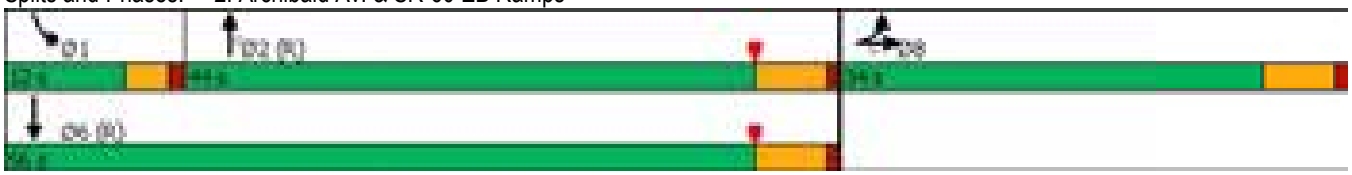
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	386	5	509	1685	637	166	785
Future Volume (vph)	386	5	509	1685	637	166	785
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	34.0	34.0	34.0	44.0	44.0	12.0	56.0
Total Split (%)	37.8%	37.8%	37.8%	48.9%	48.9%	13.3%	62.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	23.7	23.7	23.7	42.8	42.8	7.8	54.7
Actuated g/C Ratio	0.26	0.26	0.26	0.48	0.48	0.09	0.61
v/c Ratio	0.76	0.64	0.62	0.59	0.62	0.60	0.27
Control Delay	41.5	20.8	19.9	19.1	4.3	53.4	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	20.8	19.9	19.1	4.3	53.4	2.4
LOS	D	C	B	B	A	D	A
Approach Delay		27.7		15.1			11.3
Approach LOS		C		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 16.9	Intersection LOS: B
Intersection Capacity Utilization 73.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	386	5	509	0	0	0	0	1685	637	166	785	0
Future Volume (veh/h)	386	5	509	0	0	0	0	1685	637	166	785	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	521	0	224				0	1812	505	178	844	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	666	0	292				0	3658	882	246	3493	0
Arrive On Green	0.19	0.00	0.19				0.00	0.57	0.57	0.14	1.00	0.00
Sat Flow, veh/h	3563	0	1562				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	521	0	224				0	1812	505	178	844	0
Grp Sat Flow(s),veh/h/ln	1781	0	1562				0	1609	1551	1728	1702	0
Q Serve(g_s), s	12.5	0.0	12.3				0.0	15.2	18.7	4.4	0.0	0.0
Cycle Q Clear(g_c), s	12.5	0.0	12.3				0.0	15.2	18.7	4.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	666	0	292				0	3658	882	246	3493	0
V/C Ratio(X)	0.78	0.00	0.77				0.00	0.50	0.57	0.72	0.24	0.00
Avail Cap(c_a), veh/h	1116	0	489				0	3658	882	307	3493	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.85	0.85	0.00
Uniform Delay (d), s/veh	34.8	0.0	34.7				0.0	11.7	12.4	37.8	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	4.2				0.0	0.5	2.7	3.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	4.7				0.0	4.6	5.9	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	0.0	38.9				0.0	12.1	15.1	41.3	0.1	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		745						2317			1022	
Approach Delay, s/veh		37.5						12.8			7.3	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	10.4	57.0				67.4		22.6				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	8.0	38.2				50.2		28.2				
Max Q Clear Time (g_c+I1), s	6.4	20.7				2.0		14.5				
Green Ext Time (p_c), s	0.0	12.7				6.0		2.3				

Intersection Summary			
HCM 6th Ctrl Delay			15.9
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	164	377	154	131	514	289	288	1551	242	676
Future Volume (vph)	164	377	154	131	514	289	288	1551	242	676
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	18.0	41.5	41.5	14.7	38.2	38.2	29.0	42.0	21.8	34.8
Total Split (%)	15.0%	34.6%	34.6%	12.3%	31.8%	31.8%	24.2%	35.0%	18.2%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.4	27.7	27.7	10.1	24.4	24.4	23.5	35.9	17.2	29.6
Actuated g/C Ratio	0.12	0.25	0.25	0.09	0.22	0.22	0.21	0.32	0.15	0.26
v/c Ratio	0.91	0.48	0.33	0.96	0.74	0.54	0.91	1.18	1.04	0.72
Control Delay	95.8	38.0	6.1	118.2	47.5	7.9	75.6	123.7	116.7	39.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.8	38.0	6.1	118.2	47.5	7.9	75.6	123.7	116.7	39.9
LOS	F	D	A	F	D	A	E	F	F	D
Approach Delay		44.6			45.1			116.8		56.7
Approach LOS		D			D			F		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 112.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 78.1	Intersection LOS: E
Intersection Capacity Utilization 95.3%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	377	154	131	514	289	288	1551	173	242	676	192
Future Volume (veh/h)	164	377	154	131	514	289	288	1551	173	242	676	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	171	393	102	136	535	237	300	1616	177	252	704	160
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	789	346	143	690	302	324	1403	153	243	1108	248
Arrive On Green	0.12	0.23	0.23	0.09	0.21	0.21	0.20	0.32	0.32	0.15	0.28	0.28
Sat Flow, veh/h	1594	3367	1477	1594	3367	1472	1594	4418	483	1594	3940	883
Grp Volume(v), veh/h	171	393	102	136	535	237	300	1179	614	252	575	289
Grp Sat Flow(s),veh/h/ln	1594	1683	1477	1594	1683	1472	1594	1612	1676	1594	1612	1598
Q Serve(g_s), s	11.9	11.4	6.4	9.6	16.9	11.5	20.8	35.8	35.8	17.2	17.6	17.9
Cycle Q Clear(g_c), s	11.9	11.4	6.4	9.6	16.9	11.5	20.8	35.8	35.8	17.2	17.6	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.29	1.00		0.55
Lane Grp Cap(c), veh/h	189	789	346	143	690	302	324	1024	532	243	907	449
V/C Ratio(X)	0.90	0.50	0.29	0.95	0.78	0.79	0.93	1.15	1.15	1.04	0.63	0.64
Avail Cap(c_a), veh/h	189	1054	463	143	956	418	345	1024	532	243	907	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	37.4	35.5	51.1	42.3	19.0	44.1	38.5	38.5	47.8	35.4	35.6
Incr Delay (d2), s/veh	38.4	0.5	0.5	60.3	2.7	6.6	28.5	79.3	89.0	67.4	1.4	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	4.5	2.3	6.1	7.0	4.2	10.4	24.5	26.9	11.1	6.7	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.5	37.9	36.0	111.3	45.1	25.6	72.6	117.7	127.5	115.2	36.9	38.7
LnGrp LOS	F	D	D	F	D	C	E	F	F	F	D	D
Approach Vol, veh/h		666			908			2093			1116	
Approach Delay, s/veh		50.3			49.9			114.1			55.0	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.4	42.0	14.7	32.6	27.5	37.9	18.0	29.3
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.2	* 36	10.1	35.3	24.4	28.6	13.4	32.0
Max Q Clear Time (g_c+I1), s	19.2	37.8	11.6	13.4	22.8	19.9	13.9	18.9
Green Ext Time (p_c), s	0.0	0.0	0.0	2.5	0.1	3.3	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	79.3
HCM 6th LOS	E

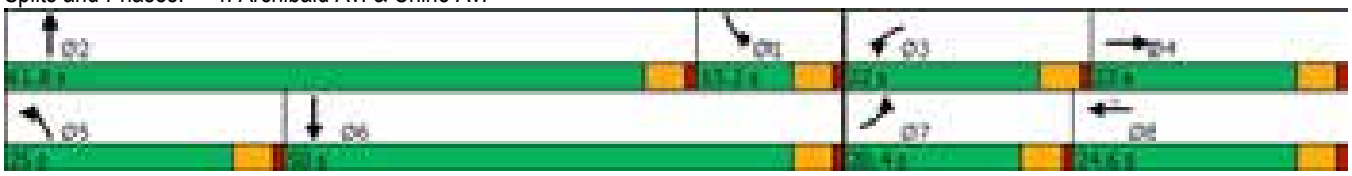
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	124	106	139	142	195	171	1571	62	791
Future Volume (vph)	124	106	139	142	195	171	1571	62	791
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	20.4	23.0	22.0	24.6	24.6	25.0	61.8	13.2	50.0
Total Split (%)	17.0%	19.2%	18.3%	20.5%	20.5%	20.8%	51.5%	11.0%	41.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.9	15.3	15.2	16.6	16.6	17.7	52.6	8.3	40.0
Actuated g/C Ratio	0.13	0.14	0.14	0.15	0.15	0.17	0.49	0.08	0.37
v/c Ratio	0.72	0.73	0.74	0.61	0.60	0.77	0.79	0.60	0.79
Control Delay	68.1	60.1	67.1	55.2	19.5	65.7	26.4	73.6	35.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	60.1	67.1	55.2	19.5	65.7	26.4	73.6	35.2
LOS	E	E	E	E	B	E	C	E	D
Approach Delay		63.6		44.1			30.0		37.7
Approach LOS		E		D			C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 107.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 36.5	Intersection LOS: D
Intersection Capacity Utilization 72.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	106	52	139	142	195	171	1571	147	62	791	78
Future Volume (veh/h)	124	106	52	139	142	195	171	1571	147	62	791	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	146	125	53	164	167	135	201	1848	165	73	931	84
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	152	65	195	250	212	234	2387	212	91	1301	117
Arrive On Green	0.11	0.13	0.13	0.12	0.14	0.14	0.15	0.50	0.50	0.06	0.41	0.41
Sat Flow, veh/h	1594	1181	501	1594	1772	1502	1594	4806	427	1594	3196	288
Grp Volume(v), veh/h	146	0	178	164	167	135	201	1360	653	73	516	499
Grp Sat Flow(s),veh/h/ln	1594	0	1682	1594	1772	1502	1594	1772	1689	1594	1772	1713
Q Serve(g_s), s	8.5	0.0	9.7	9.5	8.4	6.6	11.6	29.5	29.9	4.3	23.0	23.0
Cycle Q Clear(g_c), s	8.5	0.0	9.7	9.5	8.4	6.6	11.6	29.5	29.9	4.3	23.0	23.0
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.25	1.00		0.17
Lane Grp Cap(c), veh/h	175	0	217	195	250	212	234	1760	839	91	721	697
V/C Ratio(X)	0.83	0.00	0.82	0.84	0.67	0.64	0.86	0.77	0.78	0.81	0.72	0.72
Avail Cap(c_a), veh/h	267	0	328	294	376	319	345	2151	1025	145	854	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0	40.0	40.5	38.4	25.7	39.3	19.4	19.5	43.9	23.4	23.4
Incr Delay (d2), s/veh	12.6	0.0	9.6	12.7	3.1	3.2	13.5	1.5	3.1	15.3	2.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	4.4	4.3	3.7	3.0	5.1	10.5	10.5	2.0	9.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	0.0	49.6	53.2	41.4	28.8	52.8	20.8	22.6	59.2	25.7	25.8
LnGrp LOS	D	A	D	D	D	C	D	C	C	E	C	C
Approach Vol, veh/h		324			466			2214			1088	
Approach Delay, s/veh		51.4			41.9			24.3			28.0	
Approach LOS		D			D			C			C	

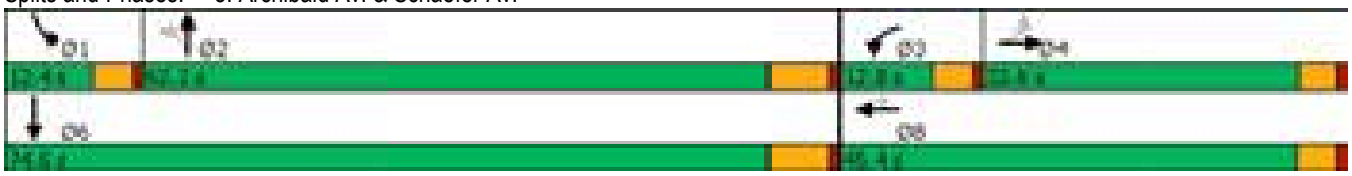
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	51.4	16.1	16.7	18.4	42.9	15.0	17.9
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	8.6	57.2	17.4	18.4	20.4	45.4	15.8	20.0
Max Q Clear Time (g_c+I1), s	6.3	31.9	11.5	11.7	13.6	25.0	10.5	10.4
Green Ext Time (p_c), s	0.0	14.9	0.2	0.4	0.3	5.8	0.2	0.9

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	23	55	25	68	1693	50	1007
Future Volume (vph)	17	23	55	25	68	1693	50	1007
Turn Type	Perm	NA	Prot	NA	Perm	NA	Prot	NA
Protected Phases		4	3	8		2	1	6
Permitted Phases	4				8			
Detector Phase	4	4	3	8	8	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	32.5	32.5	9.6	32.6	32.6	37.5	9.6	23.5
Total Split (s)	32.6	32.6	12.8	45.4	45.4	62.2	12.4	74.6
Total Split (%)	27.2%	27.2%	10.7%	37.8%	37.8%	51.8%	10.3%	62.2%
Yellow Time (s)	3.5	3.5	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	9.3	9.3	8.4	15.6	15.6	52.4	8.1	60.9
Actuated g/C Ratio	0.11	0.11	0.10	0.19	0.19	0.65	0.10	0.75
v/c Ratio	0.13	0.13	0.40	0.09	0.24	0.67	0.38	0.49
Control Delay	43.4	42.8	52.0	31.8	9.4	16.3	51.9	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	42.8	52.0	31.8	9.4	16.3	51.9	7.9
LOS	D	D	D	C	A	B	D	A
Approach Delay		43.1		28.9		16.3		10.0
Approach LOS		D		C		B		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 81.2	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 15.0	Intersection LOS: B
Intersection Capacity Utilization 73.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	23	0	55	25	68	0	1693	45	50	1007	19
Future Volume (veh/h)	17	23	0	55	25	68	0	1693	45	50	1007	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.86		1.00	1.00		0.93	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	20	27	0	65	30	81	0	2015	42	60	1199	23
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	133	0	80	329	260	95	2728	57	75	2255	43
Arrive On Green	0.08	0.08	0.00	0.05	0.19	0.19	0.00	0.56	0.56	0.05	0.67	0.67
Sat Flow, veh/h	982	1772	0	1594	1772	1400	408	4874	101	1594	3377	65
Grp Volume(v), veh/h	20	27	0	65	30	81	0	1332	725	60	597	625
Grp Sat Flow(s),veh/h/ln	982	1772	0	1594	1772	1400	408	1612	1751	1594	1683	1759
Q Serve(g_s), s	1.5	1.1	0.0	3.1	1.1	3.8	0.0	23.5	23.6	2.8	13.8	13.9
Cycle Q Clear(g_c), s	1.5	1.1	0.0	3.1	1.1	3.8	0.0	23.5	23.6	2.8	13.8	13.9
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.06	1.00		0.04
Lane Grp Cap(c), veh/h	169	133	0	80	329	260	95	1805	980	75	1124	1174
V/C Ratio(X)	0.12	0.20	0.00	0.82	0.09	0.31	0.00	0.74	0.74	0.80	0.53	0.53
Avail Cap(c_a), veh/h	459	657	0	173	955	754	167	2372	1288	164	1514	1581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	32.9	0.0	35.6	25.5	26.7	0.0	12.5	12.5	35.7	6.5	6.5
Incr Delay (d2), s/veh	0.3	0.7	0.0	7.4	0.1	0.7	0.0	0.9	1.6	6.9	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.5	0.0	1.3	0.4	1.2	0.0	6.2	6.9	1.1	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	33.6	0.0	43.1	25.7	27.3	0.0	13.4	14.1	42.6	6.9	6.9
LnGrp LOS	C	C	A	D	C	C	A	B	B	D	A	A
Approach Vol, veh/h		47			176			2057			1282	
Approach Delay, s/veh		33.5			32.9			13.7			8.5	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	8.2	48.9	8.4	10.3		57.1		18.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6		6.5		4.6				
Max Green Setting (Gmax), s	7.8	55.7	8.2	* 28		68.1		40.8				
Max Q Clear Time (g_c+I1), s	4.8	25.6	5.1	3.5		15.9		5.8				
Green Ext Time (p_c), s	0.0	16.8	0.0	0.1		8.7		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

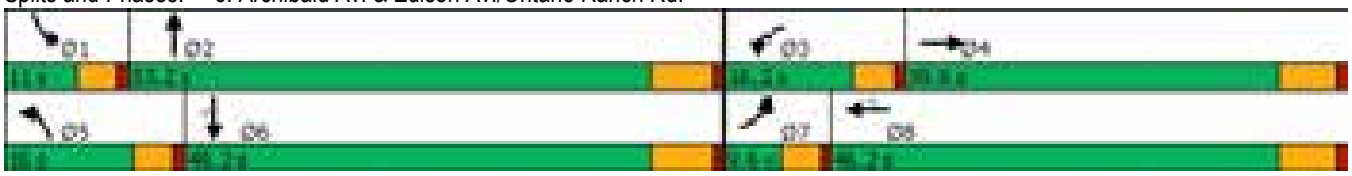
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	233	72	267	454	117	184	1400	309	99	700	68
Future Volume (vph)	38	233	72	267	454	117	184	1400	309	99	700	68
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.6		16.2	46.2	46.2	16.0	53.2		11.0	48.2	48.2
Total Split (%)	8.0%	33.0%		13.5%	38.5%	38.5%	13.3%	44.3%		9.2%	40.2%	40.2%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.0	26.9	114.1	11.7	35.8	35.8	11.5	47.0	114.1	6.4	42.0	42.0
Actuated g/C Ratio	0.04	0.24	1.00	0.10	0.31	0.31	0.10	0.41	1.00	0.06	0.37	0.37
v/c Ratio	0.32	0.31	0.05	0.96	0.90	0.23	1.27	1.06	0.23	1.22	0.59	0.11
Control Delay	62.3	36.0	0.1	95.2	58.5	3.4	205.0	74.6	0.4	214.9	32.7	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	36.0	0.1	95.2	58.5	3.4	205.0	74.6	0.4	214.9	32.7	0.4
LOS	E	D	A	F	E	A	F	E	A	F	C	A
Approach Delay		31.4			62.5			75.1			51.0	
Approach LOS		C			E			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.1	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.27	
Intersection Signal Delay: 63.3	Intersection LOS: E
Intersection Capacity Utilization 94.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	233	72	267	454	117	184	1400	309	99	700	68
Future Volume (veh/h)	38	233	72	267	454	117	184	1400	309	99	700	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	42	256	0	293	499	74	202	1538	0	109	769	42
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	819		309	534	447	161	1470		91	1312	544
Arrive On Green	0.05	0.35	0.00	0.15	0.45	0.45	0.15	0.62	0.00	0.09	0.56	0.56
Sat Flow, veh/h	3000	3544	1502	3000	1772	1483	1594	3544	1502	1594	3544	1469
Grp Volume(v), veh/h	42	256	0	293	499	74	202	1538	0	109	769	42
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1483	1594	1772	1502	1594	1772	1469
Q Serve(g_s), s	1.5	6.0	0.0	10.9	30.1	3.3	11.4	46.7	0.0	6.4	16.1	1.5
Cycle Q Clear(g_c), s	1.5	6.0	0.0	10.9	30.1	3.3	11.4	46.7	0.0	6.4	16.1	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	97	819		309	534	447	161	1470		91	1312	544
V/C Ratio(X)	0.43	0.31		0.95	0.93	0.17	1.25	1.05		1.20	0.59	0.08
Avail Cap(c_a), veh/h	133	1051		309	629	527	161	1470		91	1312	544
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	30.2	0.0	47.3	29.8	22.5	47.8	21.3	0.0	51.5	19.3	16.1
Incr Delay (d2), s/veh	1.1	0.2	0.0	37.1	19.5	0.2	154.2	36.7	0.0	159.1	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.4	0.0	5.3	12.8	1.1	11.0	18.8	0.0	6.4	5.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	30.5	0.0	84.5	49.2	22.6	201.9	57.9	0.0	210.6	20.0	16.2
LnGrp LOS	D	C		F	D	C	F	F		F	C	B
Approach Vol, veh/h		298	A		866			1740	A		920	
Approach Delay, s/veh		33.7			58.9			74.7			42.4	
Approach LOS		C			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	53.2	16.2	32.2	16.0	48.2	8.3	40.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	6.4	46.7	11.6	33.4	11.4	41.7	5.0	40.0
Max Q Clear Time (g_c+I1), s	8.4	48.7	12.9	8.0	13.4	18.1	3.5	32.1
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	4.8	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	60.1
HCM 6th LOS	E

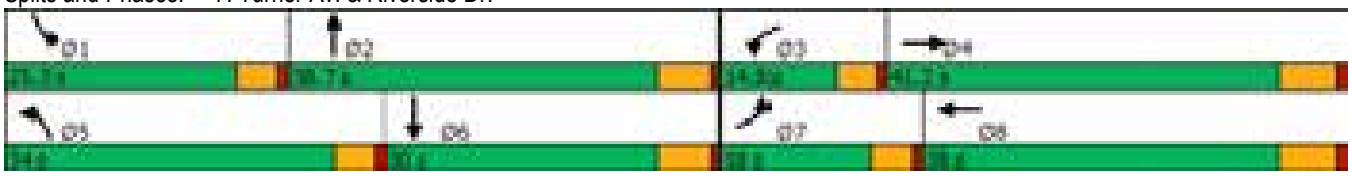
Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	131	513	93	577	305	246	122	187
Future Volume (vph)	131	513	93	577	305	246	122	187
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	18.0	41.2	14.8	38.0	34.0	38.7	25.3	30.0
Total Split (%)	15.0%	34.3%	12.3%	31.7%	28.3%	32.3%	21.1%	25.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.4	35.2	10.0	31.8	29.4	30.4	14.8	15.8
Actuated g/C Ratio	0.12	0.32	0.09	0.28	0.26	0.27	0.13	0.14
v/c Ratio	0.88	0.83	0.83	0.97	0.93	0.64	0.73	0.73
Control Delay	89.9	43.0	92.6	62.1	70.6	27.4	66.9	40.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.9	43.0	92.6	62.1	70.6	27.4	66.9	40.7
LOS	F	D	F	E	E	C	E	D
Approach Delay		50.6		65.6		44.0		48.1
Approach LOS		D		E		D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 52.7	Intersection LOS: D
Intersection Capacity Utilization 79.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	513	165	93	577	142	305	246	242	122	187	121
Future Volume (veh/h)	131	513	165	93	577	142	305	246	242	122	187	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.95	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	166	649	148	118	730	122	386	311	272	154	237	131
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	190	824	188	141	788	132	408	514	434	180	341	181
Arrive On Green	0.12	0.30	0.30	0.09	0.27	0.27	0.26	0.31	0.31	0.11	0.16	0.16
Sat Flow, veh/h	1594	2704	616	1594	2880	481	1594	1683	1422	1594	2108	1119
Grp Volume(v), veh/h	166	404	393	118	427	425	386	311	272	154	187	181
Grp Sat Flow(s),veh/h/ln	1594	1683	1636	1594	1683	1678	1594	1683	1422	1594	1683	1543
Q Serve(g_s), s	11.5	24.6	24.7	8.2	27.7	27.7	26.7	17.7	18.4	10.7	11.8	12.5
Cycle Q Clear(g_c), s	11.5	24.6	24.7	8.2	27.7	27.7	26.7	17.7	18.4	10.7	11.8	12.5
Prop In Lane	1.00		0.38	1.00		0.29	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	190	513	498	141	461	459	408	514	434	180	273	250
V/C Ratio(X)	0.87	0.79	0.79	0.84	0.93	0.93	0.95	0.61	0.63	0.86	0.69	0.72
Avail Cap(c_a), veh/h	190	525	510	145	477	475	417	514	434	294	363	333
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	35.7	35.7	50.4	39.7	39.7	41.0	33.2	33.5	48.9	44.3	44.6
Incr Delay (d2), s/veh	31.8	7.7	8.0	30.6	23.8	24.0	29.8	2.0	2.8	6.7	3.4	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	10.6	10.4	4.3	13.8	13.8	13.4	7.2	6.4	4.4	5.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.4	43.4	43.7	80.9	63.4	63.7	70.8	35.2	36.3	55.6	47.8	49.8
LnGrp LOS	F	D	D	F	E	E	E	D	D	E	D	D
Approach Vol, veh/h		963			970			969			522	
Approach Delay, s/veh		49.9			65.7			49.7			50.8	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	40.1	14.5	40.4	33.3	24.0	18.0	36.9
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	20.7	32.9	10.2	35.0	29.4	24.2	13.4	31.8
Max Q Clear Time (g_c+I1), s	12.7	20.4	10.2	26.7	28.7	14.5	13.5	29.7
Green Ext Time (p_c), s	0.1	2.7	0.0	2.8	0.1	1.4	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D

Intersection	
Intersection Delay, s/veh	54.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	107	154	107	44	203	134	142	448	46	84	209	82
Future Vol, veh/h	107	154	107	44	203	134	142	448	46	84	209	82
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	145	208	145	59	274	181	192	605	62	114	282	111
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	29.1	41	92.9	30.1
HCM LOS	D	E	F	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	76%	0%	100%	32%	0%	100%	34%	0%	100%	46%
Vol Right, %	0%	0%	24%	0%	0%	68%	0%	0%	66%	0%	0%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	142	299	195	107	103	158	44	135	202	84	139	152
LT Vol	142	0	0	107	0	0	44	0	0	84	0	0
Through Vol	0	299	149	0	103	51	0	135	68	0	139	70
RT Vol	0	0	46	0	0	107	0	0	134	0	0	82
Lane Flow Rate	192	404	264	145	139	214	59	183	273	114	188	205
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.606	1.219	0.785	0.486	0.448	0.664	0.199	0.588	0.842	0.383	0.61	0.643
Departure Headway (Hd)	11.374	10.874	10.709	12.454	11.954	11.481	12.387	11.887	11.422	12.417	11.917	11.538
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	317	335	338	291	304	317	291	305	319	292	305	316
Service Time	9.174	8.674	8.509	10.154	9.654	9.181	10.087	9.587	9.122	10.117	9.617	9.238
HCM Lane V/C Ratio	0.606	1.206	0.781	0.498	0.457	0.675	0.203	0.6	0.856	0.39	0.616	0.649
HCM Control Delay	30.3	154.9	43.6	26.4	24	34.2	18.1	30.2	53.3	22.6	31.6	32.9
HCM Lane LOS	D	F	E	D	C	D	C	D	F	C	D	D
HCM 95th-tile Q	3.7	17.5	6.4	2.5	2.2	4.4	0.7	3.5	7.3	1.7	3.7	4.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	35	610	17	57	866	26	37	142	59	70
Future Volume (vph)	35	610	17	57	866	26	37	142	59	70
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	15.0	49.0	49.0	18.0	52.0	52.0	15.0	35.0	18.0	38.0
Total Split (%)	12.5%	40.8%	40.8%	15.0%	43.3%	43.3%	12.5%	29.2%	15.0%	31.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	7.4	26.8	26.8	8.3	30.2	30.2	7.4	15.0	8.4	18.4
Actuated g/C Ratio	0.10	0.36	0.36	0.11	0.40	0.40	0.10	0.20	0.11	0.25
v/c Ratio	0.22	0.53	0.03	0.32	0.67	0.04	0.23	0.54	0.33	0.22
Control Delay	44.1	22.6	0.1	43.8	23.0	0.1	44.2	36.7	43.8	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	22.6	0.1	43.8	23.0	0.1	44.2	36.7	43.8	27.8
LOS	D	C	A	D	C	A	D	D	D	C
Approach Delay		23.1			23.6			38.0		34.1
Approach LOS		C			C			D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 74.6	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 25.8	Intersection LOS: C
Intersection Capacity Utilization 59.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	610	17	57	866	26	37	142	38	59	70	21
Future Volume (veh/h)	35	610	17	57	866	26	37	142	38	59	70	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	678	15	63	962	21	41	158	36	66	78	12
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	1315	587	99	1369	610	75	225	51	101	265	41
Arrive On Green	0.04	0.37	0.37	0.06	0.39	0.39	0.04	0.15	0.15	0.06	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1474	336	1781	1583	244
Grp Volume(v), veh/h	39	678	15	63	962	21	41	0	194	66	0	90
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1810	1781	0	1827
Q Serve(g_s), s	1.2	8.5	0.3	2.0	13.0	0.5	1.3	0.0	5.8	2.1	0.0	2.5
Cycle Q Clear(g_c), s	1.2	8.5	0.3	2.0	13.0	0.5	1.3	0.0	5.8	2.1	0.0	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.13
Lane Grp Cap(c), veh/h	72	1315	587	99	1369	610	75	0	276	101	0	306
V/C Ratio(X)	0.54	0.52	0.03	0.64	0.70	0.03	0.55	0.00	0.70	0.65	0.00	0.29
Avail Cap(c_a), veh/h	325	2693	1201	419	2880	1285	325	0	927	419	0	1032
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.8	14.0	11.4	26.4	14.8	10.9	26.8	0.0	22.9	26.3	0.0	20.8
Incr Delay (d2), s/veh	2.3	0.3	0.0	2.5	0.7	0.0	2.3	0.0	3.2	2.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.6	0.1	0.8	4.0	0.1	0.5	0.0	2.4	0.9	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	14.3	11.4	28.9	15.4	10.9	29.1	0.0	26.2	29.0	0.0	21.3
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	A	C
Approach Vol, veh/h		732			1046			235			156	
Approach Delay, s/veh		15.0			16.2			26.7			24.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	14.5	7.8	26.9	7.0	15.4	6.9	27.8
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	13.4	29.2	13.4	43.2	10.4	32.2	10.4	46.2
Max Q Clear Time (g_c+I1), s	4.1	7.8	4.0	10.5	3.3	4.5	3.2	15.0
Green Ext Time (p_c), s	0.0	0.9	0.0	4.5	0.0	0.4	0.0	6.9

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	251	4	790	335	1724	910	449
Future Volume (vph)	251	4	790	335	1724	910	449
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	30.2	30.2		16.0	44.8	28.8	28.8
Total Split (%)	40.3%	40.3%		21.3%	59.7%	38.4%	38.4%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	24.1	24.1	75.0	10.4	38.9	23.5	23.5
Actuated g/C Ratio	0.32	0.32	1.00	0.14	0.52	0.31	0.31
v/c Ratio	0.93	0.94	0.52	0.73	0.68	0.59	0.58
Control Delay	51.8	52.5	1.2	35.4	16.1	23.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	52.5	1.2	35.4	16.1	23.8	5.5
LOS	D	D	A	D	B	C	A
Approach Delay		29.3			19.2	17.8	
Approach LOS		C			B	B	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 45 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 22.3	Intersection LOS: C
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	251	4	790	335	1724	0	0	910	449
Future Volume (veh/h)	0	0	0	251	4	790	335	1724	0	0	910	449
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1007	0	0	349	1796	0	0	948	400
Peak Hour Factor				0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1107	0		428	2703	0	0	1730	530
Arrive On Green				0.31	0.00	0.00	0.25	1.00	0.00	0.00	0.34	0.34
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1564
Grp Volume(v), veh/h				1007	0	0	349	1796	0	0	948	400
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1564
Q Serve(g_s), s				20.4	0.0	0.0	7.1	0.0	0.0	0.0	11.3	17.0
Cycle Q Clear(g_c), s				20.4	0.0	0.0	7.1	0.0	0.0	0.0	11.3	17.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1107	0		428	2703	0	0	1730	530
V/C Ratio(X)				0.91	0.00		0.82	0.66	0.00	0.00	0.55	0.75
Avail Cap(c_a), veh/h				1159	0		507	2703	0	0	1730	530
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.28	0.28	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.8	0.0	0.0	27.4	0.0	0.0	0.0	20.1	22.0
Incr Delay (d2), s/veh				10.4	0.0	0.0	2.2	0.4	0.0	0.0	1.3	9.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.2	0.0	0.0	2.5	0.1	0.0	0.0	4.2	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				35.2	0.0	0.0	29.6	0.4	0.0	0.0	21.4	31.6
LnGrp LOS				D	A		C	A	A	A	C	C
Approach Vol, veh/h					1007	A		2145			1348	
Approach Delay, s/veh					35.2			5.1			24.4	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	45.9		14.3	31.6		29.1						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	38.6		11.0	22.6		24.4						
Max Q Clear Time (g_c+I1), s	2.0		9.1	19.0		22.4						
Green Ext Time (p_c), s	10.9		0.1	1.8		0.9						

Intersection Summary		
HCM 6th Ctrl Delay	17.6	
HCM 6th LOS	B	

Notes

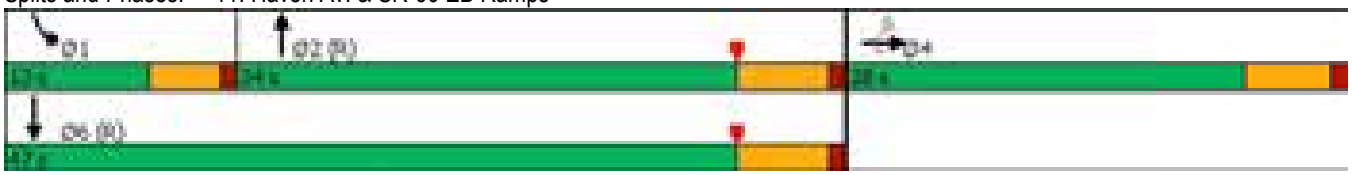
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	792	5	183	1249	357	835
Future Volume (vph)	792	5	183	1249	357	835
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	28.0	28.0	28.0	34.0	13.0	47.0
Total Split (%)	37.3%	37.3%	37.3%	45.3%	17.3%	62.7%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	21.2	21.2	21.2	27.8	9.0	41.8
Actuated g/C Ratio	0.28	0.28	0.28	0.37	0.12	0.56
v/c Ratio	0.88	0.88	0.36	0.92	0.92	0.31
Control Delay	46.9	47.8	9.9	30.9	54.1	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	47.8	9.9	30.9	54.1	8.8
LOS	D	D	A	C	D	A
Approach Delay		40.3		30.9		22.4
Approach LOS		D		C		C

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 48 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 30.7	Intersection LOS: C
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	792	5	183	0	0	0	0	1249	405	357	835	0
Future Volume (veh/h)	792	5	183	0	0	0	0	1249	405	357	835	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	838	0	87				0	1315	345	376	879	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	957	0	426				0	1599	419	369	2918	0
Arrive On Green	0.27	0.00	0.27				0.00	0.40	0.40	0.21	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4184	1052	3456	5274	0
Grp Volume(v), veh/h	838	0	87				0	1114	546	376	879	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1664	1728	1702	0
Q Serve(g_s), s	16.9	0.0	3.2				0.0	22.0	22.0	8.0	0.0	0.0
Cycle Q Clear(g_c), s	16.9	0.0	3.2				0.0	22.0	22.0	8.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.63	1.00		0.00
Lane Grp Cap(c), veh/h	957	0	426				0	1355	662	369	2918	0
V/C Ratio(X)	0.88	0.00	0.20				0.00	0.82	0.82	1.02	0.30	0.00
Avail Cap(c_a), veh/h	1055	0	469				0	1355	662	369	2918	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.63	0.63	0.00
Uniform Delay (d), s/veh	26.2	0.0	21.2				0.0	20.2	20.2	29.5	0.0	0.0
Incr Delay (d2), s/veh	7.9	0.0	0.2				0.0	5.7	11.2	42.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.0	1.1				0.0	8.5	9.4	4.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	0.0	21.5				0.0	25.9	31.4	71.9	0.2	0.0
LnGrp LOS	C	A	C				A	C	C	F	A	A
Approach Vol, veh/h		925						1660			1255	
Approach Delay, s/veh		32.9						27.7			21.6	
Approach LOS		C						C			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.0	36.1		25.9		49.1
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	8.0	27.8		22.2		40.8
Max Q Clear Time (g_c+I1), s	10.0	24.0		18.9		2.0
Green Ext Time (p_c), s	0.0	2.5		1.3		4.0

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

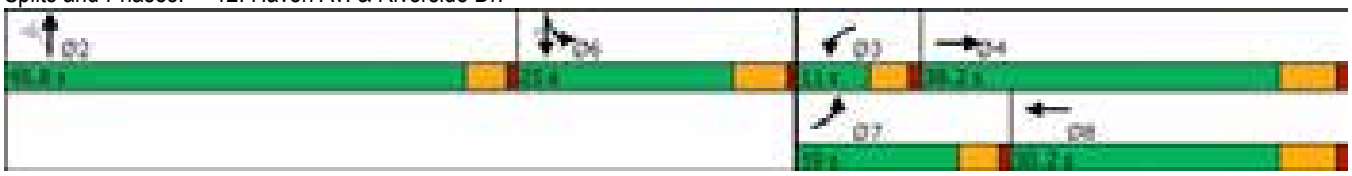
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	388	575	202	414	22	481	289	326	281
Future Volume (vph)	388	575	202	414	22	481	289	326	281
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	19.0	38.2	11.0	30.2	45.8	45.8	25.0	25.0	25.0
Total Split (%)	15.8%	31.8%	9.2%	25.2%	38.2%	38.2%	20.8%	20.8%	20.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	14.4	32.0	6.4	24.0		41.1	19.2	19.2	19.2
Actuated g/C Ratio	0.12	0.27	0.05	0.20		0.34	0.16	0.16	0.16
v/c Ratio	2.19	1.39	2.56	0.96		3.36	1.21	1.23	0.62
Control Delay	576.3	223.7	758.3	69.4		1088.6	169.7	173.2	11.2
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	576.3	223.7	758.3	69.4		1088.6	169.7	173.2	11.2
LOS	F	F	F	E		F	F	F	B
Approach Delay		361.1		241.2		1088.6		121.3	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.36	
Intersection Signal Delay: 419.9	Intersection LOS: F
Intersection Capacity Utilization 123.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	575	33	202	414	195	22	481	201	289	326	281
Future Volume (veh/h)	388	575	33	202	414	195	22	481	201	289	326	281
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	413	612	32	215	440	171	23	512	197	307	347	123
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	443	23	85	469	180	18	402	155	255	284	235
Arrive On Green	0.12	0.27	0.27	0.05	0.20	0.20	0.34	0.34	0.34	0.16	0.16	0.16
Sat Flow, veh/h	1594	1661	87	1594	2343	900	53	1175	452	1594	1772	1468
Grp Volume(v), veh/h	413	0	644	215	315	296	732	0	0	307	347	123
Grp Sat Flow(s),veh/h/ln	1594	0	1747	1594	1683	1559	1680	0	0	1594	1772	1468
Q Serve(g_s), s	14.4	0.0	32.0	6.4	22.1	22.5	41.1	0.0	0.0	19.2	19.2	9.2
Cycle Q Clear(g_c), s	14.4	0.0	32.0	6.4	22.1	22.5	41.1	0.0	0.0	19.2	19.2	9.2
Prop In Lane	1.00		0.05	1.00		0.58	0.03		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	466	85	337	312	575	0	0	255	284	235
V/C Ratio(X)	2.16	0.00	1.38	2.53	0.93	0.95	1.27	0.00	0.00	1.20	1.22	0.52
Avail Cap(c_a), veh/h	191	0	466	85	337	312	575	0	0	255	284	235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	0.0	44.0	56.8	47.2	47.4	39.5	0.0	0.0	50.4	50.4	46.2
Incr Delay (d2), s/veh	538.7	0.0	184.9	721.6	32.5	37.8	135.7	0.0	0.0	122.9	128.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	34.2	0.0	37.1	19.5	11.9	11.6	38.3	0.0	0.0	16.1	18.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	591.5	0.0	228.9	778.4	79.8	85.2	175.1	0.0	0.0	173.3	178.5	48.3
LnGrp LOS	F	A	F	F	E	F	F	A	A	F	F	D
Approach Vol, veh/h		1057			826			732			777	
Approach Delay, s/veh		370.6			263.6			175.1			155.8	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		45.8	11.0	38.2		25.0	19.0	30.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 41	6.4	32.0		19.2	14.4	24.0				
Max Q Clear Time (g_c+I1), s		43.1	8.4	34.0		21.2	16.4	24.5				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		253.1
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	152	75	158	569	357	135
Future Vol, veh/h	152	75	158	569	357	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	162	80	168	605	380	144

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1393	452	524	0	-	0
Stage 1	452	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 156	608	1043	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	380	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 131	608	1043	-	-	-
Mov Cap-2 Maneuver	261	-	-	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	380	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.9	2	0
HCM LOS	D		

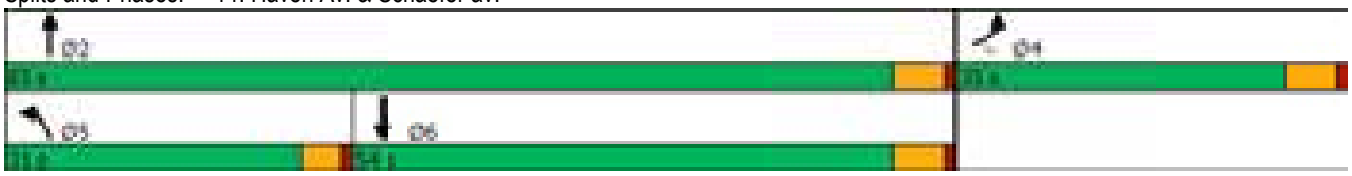
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1043	-	261	608	-	-
HCM Lane V/C Ratio	0.161	-	0.62	0.131	-	-
HCM Control Delay (s)	9.1	-	38.9	11.8	-	-
HCM Lane LOS	A	-	E	B	-	-
HCM 95th %tile Q(veh)	0.6	-	3.8	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	81	118	136	577	366
Future Volume (vph)	81	118	136	577	366
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	35.0	35.0	31.0	85.0	54.0
Total Split (%)	29.2%	29.2%	25.8%	70.8%	45.0%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.1	12.1	9.8	28.2	16.3
Actuated g/C Ratio	0.23	0.23	0.19	0.54	0.31
v/c Ratio	0.24	0.29	0.50	0.66	0.45
Control Delay	20.5	6.6	27.8	12.9	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	6.6	27.8	12.9	17.6
LOS	C	A	C	B	B
Approach Delay	12.3			15.8	17.6
Approach LOS	B			B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 52.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 15.8	Intersection LOS: B
Intersection Capacity Utilization 50.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	118	136	577	366	58
Future Volume (veh/h)	81	118	136	577	366	58
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	88	74	148	627	398	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	337	318	186	871	754	113
Arrive On Green	0.21	0.21	0.12	0.49	0.26	0.26
Sat Flow, veh/h	1594	1502	1594	1772	3015	437
Grp Volume(v), veh/h	88	74	148	627	228	230
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1683	1680
Q Serve(g_s), s	1.8	1.6	3.5	10.9	4.5	4.6
Cycle Q Clear(g_c), s	1.8	1.6	3.5	10.9	4.5	4.6
Prop In Lane	1.00	1.00	1.00			0.26
Lane Grp Cap(c), veh/h	337	318	186	871	434	433
V/C Ratio(X)	0.26	0.23	0.80	0.72	0.52	0.53
Avail Cap(c_a), veh/h	1190	1121	1076	3588	2074	2070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.9	12.8	16.8	7.8	12.5	12.5
Incr Delay (d2), s/veh	0.4	0.4	2.9	1.1	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.1	2.2	1.3	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.3	13.2	19.8	9.0	13.5	13.5
LnGrp LOS	B	B	B	A	B	B
Approach Vol, veh/h	162			775	458	
Approach Delay, s/veh	13.2			11.0	13.5	
Approach LOS	B			B	B	

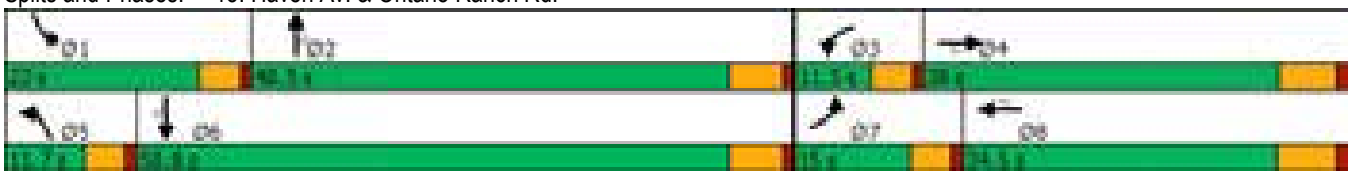
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		25.0		14.1	9.2	15.9
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		79.2		29.2	26.4	48.2
Max Q Clear Time (g_c+I1), s		12.9		3.8	5.5	6.6
Green Ext Time (p_c), s		4.3		0.4	0.2	2.6

Intersection Summary		
HCM 6th Ctrl Delay		12.1
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	665	19	82	660	190	40	329	125	240	216	116
Future Volume (vph)	198	665	19	82	660	190	40	329	125	240	216	116
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	15.0	38.0	38.0	11.5	34.5	34.5	11.7	48.5	48.5	22.0	58.8	58.8
Total Split (%)	12.5%	31.7%	31.7%	9.6%	28.8%	28.8%	9.8%	40.4%	40.4%	18.3%	49.0%	49.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	10.5	34.6	34.6	6.5	28.2	28.2	6.4	26.8	26.8	17.5	42.2	42.2
Actuated g/C Ratio	0.10	0.33	0.33	0.06	0.27	0.27	0.06	0.26	0.26	0.17	0.40	0.40
v/c Ratio	1.35	0.45	0.03	0.49	0.43	0.37	0.44	0.78	0.27	0.98	0.33	0.19
Control Delay	231.2	30.7	0.1	59.4	33.7	7.0	64.7	48.4	4.2	95.4	23.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	231.2	30.7	0.1	59.4	33.7	7.0	64.7	48.4	4.2	95.4	23.7	4.4
LOS	F	C	A	E	C	A	E	D	A	F	C	A
Approach Delay		75.1			30.5			38.6			49.8	
Approach LOS		E			C			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 104.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.35	
Intersection Signal Delay: 49.4	Intersection LOS: D
Intersection Capacity Utilization 74.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	665	19	82	660	190	40	329	125	240	216	116
Future Volume (veh/h)	198	665	19	82	660	190	40	329	125	240	216	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	213	715	9	88	710	152	43	354	83	258	232	102
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	1597	495	132	1669	411	55	432	366	271	673	568
Arrive On Green	0.10	0.33	0.33	0.05	0.27	0.27	0.03	0.24	0.24	0.17	0.38	0.38
Sat Flow, veh/h	1594	4837	1500	2910	6095	1502	1594	1772	1500	1594	1772	1496
Grp Volume(v), veh/h	213	715	9	88	710	152	43	354	83	258	232	102
Grp Sat Flow(s),veh/h/ln	1594	1612	1500	1455	1524	1502	1594	1772	1500	1594	1772	1496
Q Serve(g_s), s	10.4	11.9	0.4	3.0	9.8	8.4	2.7	19.3	4.5	16.4	9.6	4.6
Cycle Q Clear(g_c), s	10.4	11.9	0.4	3.0	9.8	8.4	2.7	19.3	4.5	16.4	9.6	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	162	1597	495	132	1669	411	55	432	366	271	673	568
V/C Ratio(X)	1.31	0.45	0.02	0.67	0.43	0.37	0.78	0.82	0.23	0.95	0.34	0.18
Avail Cap(c_a), veh/h	162	1597	495	196	1669	411	111	740	626	271	918	775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	26.9	23.1	48.0	30.5	30.0	49.0	36.5	30.9	42.0	22.6	21.1
Incr Delay (d2), s/veh	178.1	0.9	0.1	2.1	0.8	2.5	8.7	3.9	0.3	41.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	4.4	0.1	1.1	3.4	3.1	1.2	8.4	1.6	9.2	3.8	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	224.1	27.8	23.1	50.2	31.3	32.5	57.7	40.4	31.2	83.1	22.9	21.3
LnGrp LOS	F	C	C	D	C	C	E	D	C	F	C	C
Approach Vol, veh/h		937			950			480			592	
Approach Delay, s/veh		72.4			33.3			40.4			48.9	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	30.7	9.2	40.3	8.1	44.6	15.0	34.5
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	17.4	42.7	6.9	* 32	7.1	53.0	10.4	28.0
Max Q Clear Time (g_c+I1), s	18.4	21.3	5.0	13.9	4.7	11.6	12.4	11.8
Green Ext Time (p_c), s	0.0	2.1	0.0	4.1	0.0	1.6	0.0	4.3

Intersection Summary	
HCM 6th Ctrl Delay	49.9
HCM 6th LOS	D

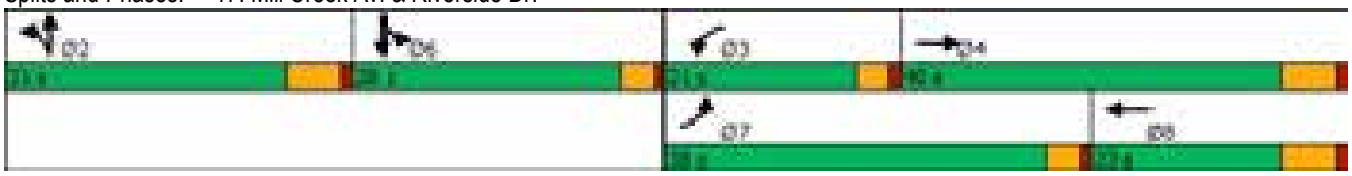
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	353	349	109	319	210	83	81	91	171
Future Volume (vph)	353	349	109	319	210	83	81	91	171
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	38.0	40.0	21.0	23.0	31.0	31.0	31.0	28.0	28.0
Total Split (%)	31.7%	33.3%	17.5%	19.2%	25.8%	25.8%	25.8%	23.3%	23.3%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	34.0	37.3	13.7	17.0	22.8	22.8	22.8	24.0	24.0
Actuated g/C Ratio	0.29	0.32	0.12	0.14	0.19	0.19	0.19	0.20	0.20
v/c Ratio	0.98	0.71	0.75	1.09	0.87	0.31	0.26	0.36	1.01
Control Delay	79.4	33.1	74.4	110.8	73.1	43.0	4.5	44.7	94.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.4	33.1	74.4	110.8	73.1	43.0	4.5	44.7	94.5
LOS	E	C	E	F	E	D	A	D	F
Approach Delay		50.1		103.3		51.5			82.0
Approach LOS		D		F		D			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 68.1	Intersection LOS: E
Intersection Capacity Utilization 83.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	349	259	109	319	99	210	83	81	91	171	100
Future Volume (veh/h)	353	349	259	109	319	99	210	83	81	91	171	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	447	442	176	138	404	74	266	105	57	115	216	76
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	467	798	315	162	420	76	299	332	280	317	240	85
Arrive On Green	0.29	0.34	0.34	0.10	0.15	0.15	0.19	0.19	0.19	0.20	0.20	0.20
Sat Flow, veh/h	1594	2351	927	1594	2834	514	1594	1772	1492	1594	1208	425
Grp Volume(v), veh/h	447	315	303	138	238	240	266	105	57	115	0	292
Grp Sat Flow(s),veh/h/ln	1594	1683	1595	1594	1683	1665	1594	1772	1492	1594	0	1633
Q Serve(g_s), s	31.6	17.5	17.8	9.8	16.1	16.4	18.7	5.9	3.7	7.2	0.0	20.0
Cycle Q Clear(g_c), s	31.6	17.5	17.8	9.8	16.1	16.4	18.7	5.9	3.7	7.2	0.0	20.0
Prop In Lane	1.00		0.58	1.00		0.31	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	467	571	541	162	249	246	299	332	280	317	0	325
V/C Ratio(X)	0.96	0.55	0.56	0.85	0.96	0.97	0.89	0.32	0.20	0.36	0.00	0.90
Avail Cap(c_a), veh/h	472	571	541	236	249	246	350	389	327	333	0	341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.9	30.8	30.9	50.7	48.5	48.7	45.5	40.3	39.4	39.7	0.0	44.9
Incr Delay (d2), s/veh	30.1	1.1	1.3	12.5	45.0	49.3	21.4	0.5	0.4	0.7	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	6.9	6.6	4.3	9.6	9.9	8.9	2.5	1.3	2.9	0.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	32.0	32.2	63.2	93.5	98.0	66.9	40.8	39.8	40.4	0.0	69.6
LnGrp LOS	E	C	C	E	F	F	E	D	D	D	A	E
Approach Vol, veh/h		1065			616			428			407	
Approach Delay, s/veh		48.0			88.5			56.9			61.3	
Approach LOS		D			F			E			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.3	15.7	45.0		26.8	37.7	23.0				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		25.2	17.0	34.0		24.0	34.0	17.0				
Max Q Clear Time (g_c+I1), s		20.7	11.8	19.8		22.0	33.6	18.4				
Green Ext Time (p_c), s		0.7	0.1	2.9		0.4	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			61.6									
HCM 6th LOS			E									

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	3	2
Future Vol, veh/h	0	0	0	0	3	2
Peak Hour Factor	0.50	0.50	0.50	0.50	0.50	0.50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	6	4
Number of Lanes	0	1	1	0	1	0

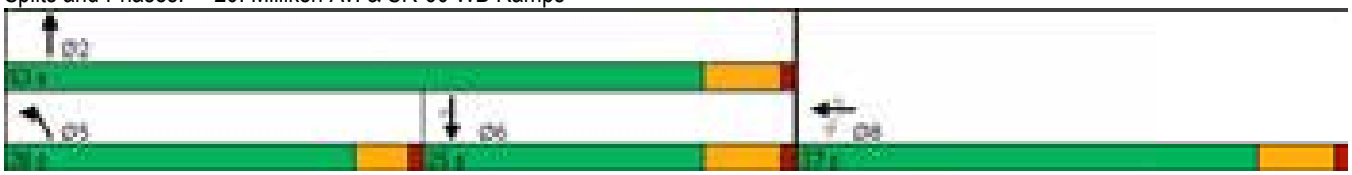
Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	0	0	7.1
HCM LOS	-	-	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	60%
Vol Thru, %	100%	100%	40%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	5
LT Vol	0	0	3
Through Vol	0	0	2
RT Vol	0	0	0
Lane Flow Rate	0	0	10
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0.011
Departure Headway (Hd)	3.941	3.952	4.054
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	888
Service Time	1.943	1.956	2.054
HCM Lane V/C Ratio	0	0	0.011
HCM Control Delay	6.9	7	7.1
HCM Lane LOS	N	N	A
HCM 95th-tile Q	0	0	0

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	580	415	1287	445	289
Future Volume (vph)	4	580	415	1287	445	289
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5	11.2	22.5	22.5	22.5
Total Split (s)	37.0	37.0	28.0	53.0	25.0	25.0
Total Split (%)	41.1%	41.1%	31.1%	58.9%	27.8%	27.8%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	30.7	30.7	22.4	43.0	16.0	16.0
Actuated g/C Ratio	0.36	0.36	0.26	0.50	0.19	0.19
v/c Ratio	0.23	0.95	0.92	0.71	0.66	0.55
Control Delay	21.7	50.6	59.0	19.0	37.6	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	50.6	59.0	19.0	37.6	8.2
LOS	C	D	E	B	D	A
Approach Delay	44.9			28.8	26.0	
Approach LOS	D			C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 86.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 31.8	Intersection LOS: C
Intersection Capacity Utilization 82.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	136	4	580	415	1287	0	0	445	289
Future Volume (veh/h)	0	0	0	136	4	580	415	1287	0	0	445	289
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				139	4	337	423	1313	0	0	454	152
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				454	13	415	478	1982	0	0	689	292
Arrive On Green				0.26	0.26	0.26	0.27	0.53	0.00	0.00	0.18	0.18
Sat Flow, veh/h				1734	50	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				143	0	337	423	1313	0	0	454	152
Grp Sat Flow(s),veh/h/ln				1784	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				3.8	0.0	11.9	13.6	15.1	0.0	0.0	6.7	5.1
Cycle Q Clear(g_c), s				3.8	0.0	11.9	13.6	15.1	0.0	0.0	6.7	5.1
Prop In Lane				0.97		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				467	0	415	478	1982	0	0	689	292
V/C Ratio(X)				0.31	0.00	0.81	0.89	0.66	0.00	0.00	0.66	0.52
Avail Cap(c_a), veh/h				923	0	820	700	2942	0	0	1182	501
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				17.6	0.0	20.6	20.9	10.1	0.0	0.0	22.5	21.9
Incr Delay (d2), s/veh				0.4	0.0	3.9	6.9	0.4	0.0	0.0	1.1	1.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.4	0.0	4.1	5.5	4.1	0.0	0.0	2.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.0	0.0	24.5	27.8	10.5	0.0	0.0	23.6	23.3
LnGrp LOS				B	A	C	C	B	A	A	C	C
Approach Vol, veh/h					480			1736			606	
Approach Delay, s/veh					22.5			14.7			23.5	
Approach LOS					C			B			C	

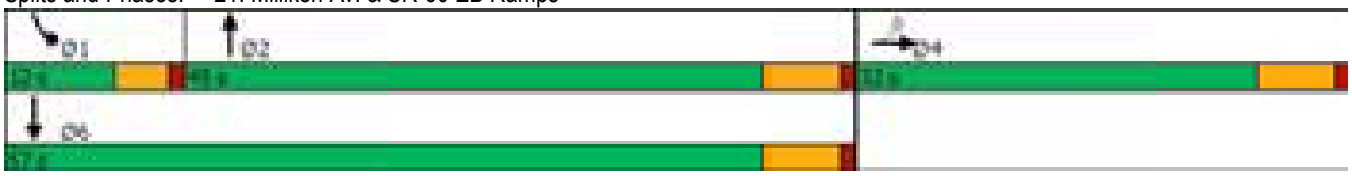
Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	37.7		20.6	17.2		21.8						
Change Period (Y+Rc), s	6.2		4.6	6.2		6.2						
Max Green Setting (Gmax), s	46.8		23.4	18.8		30.8						
Max Q Clear Time (g_c+I1), s	17.1		15.6	8.7		13.9						
Green Ext Time (p_c), s	10.4		0.4	2.3		1.7						

Intersection Summary		
HCM 6th Ctrl Delay		18.0
HCM 6th LOS		B

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	481	3	1283	93	464
Future Volume (vph)	481	3	1283	93	464
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	22.5	9.6	22.5
Total Split (s)	33.0	33.0	45.0	12.0	57.0
Total Split (%)	36.7%	36.7%	50.0%	13.3%	63.3%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	24.0	24.0	36.7	7.1	45.5
Actuated g/C Ratio	0.29	0.29	0.45	0.09	0.55
v/c Ratio	0.84	0.59	0.89	0.63	0.23
Control Delay	44.8	12.3	30.8	60.0	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	12.3	30.8	60.0	9.8
LOS	D	B	C	E	A
Approach Delay		29.4	30.8		18.2
Approach LOS		C	C		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 82.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 27.9	Intersection LOS: C
Intersection Capacity Utilization 82.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	481	3	316	0	0	0	0	1283	140	93	464	0
Future Volume (veh/h)	481	3	316	0	0	0	0	1283	140	93	464	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	335	228	171				0	1323	77	96	478	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	482	269	202				0	1546	90	123	2131	0
Arrive On Green	0.27	0.27	0.27				0.00	0.44	0.44	0.07	0.57	0.00
Sat Flow, veh/h	1781	992	744				0	3501	203	1781	3741	0
Grp Volume(v), veh/h	335	0	399				0	706	694	96	478	0
Grp Sat Flow(s),veh/h/ln	1781	0	1736				0	1870	1834	1781	1870	0
Q Serve(g_s), s	13.1	0.0	16.9				0.0	26.3	26.5	4.1	4.9	0.0
Cycle Q Clear(g_c), s	13.1	0.0	16.9				0.0	26.3	26.5	4.1	4.9	0.0
Prop In Lane	1.00		0.43				0.00		0.11	1.00		0.00
Lane Grp Cap(c), veh/h	482	0	470				0	826	810	123	2131	0
V/C Ratio(X)	0.69	0.00	0.85				0.00	0.85	0.86	0.78	0.22	0.00
Avail Cap(c_a), veh/h	614	0	598				0	933	914	169	2442	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.5	0.0	26.9				0.0	19.5	19.5	35.6	8.3	0.0
Incr Delay (d2), s/veh	2.4	0.0	9.0				0.0	7.1	7.5	9.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	7.5				0.0	11.0	10.9	2.0	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	35.9				0.0	26.6	27.0	45.3	8.3	0.0
LnGrp LOS	C	A	D				A	C	C	D	A	A
Approach Vol, veh/h		734						1400			574	
Approach Delay, s/veh		32.2						26.8			14.5	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.0	40.6		27.3		50.5
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	7.4	38.8		26.8		50.8
Max Q Clear Time (g_c+I1), s	6.1	28.5		18.9		6.9
Green Ext Time (p_c), s	0.0	5.9		2.1		3.0

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

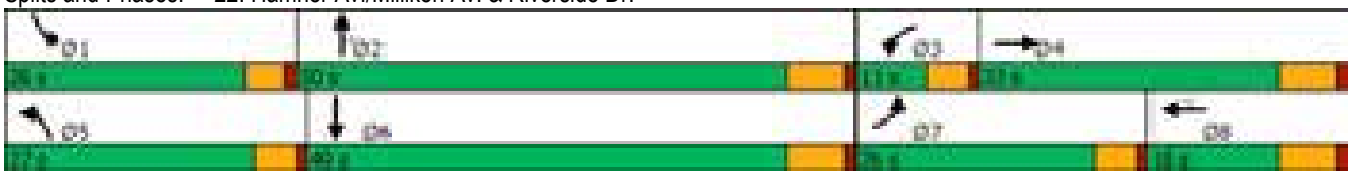
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	212	136	31	128	268	181	895	64	269	351
Future Volume (vph)	212	136	31	128	268	181	895	64	269	351
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	26.0	33.0	11.0	18.0	18.0	27.0	50.0	50.0	26.0	49.0
Total Split (%)	21.7%	27.5%	9.2%	15.0%	15.0%	22.5%	41.7%	41.7%	21.7%	40.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	19.9	29.7	6.0	11.6	11.6	18.5	40.1	40.1	21.5	43.2
Actuated g/C Ratio	0.17	0.26	0.05	0.10	0.10	0.16	0.35	0.35	0.19	0.38
v/c Ratio	0.89	0.80	0.44	0.83	0.72	0.82	0.88	0.12	1.04	0.48
Control Delay	80.3	50.7	71.6	86.8	16.1	71.9	44.9	0.4	110.5	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.3	50.7	71.6	86.8	16.1	71.9	44.9	0.4	110.5	25.9
LOS	F	D	E	F	B	E	D	A	F	C
Approach Delay		62.5		41.3			46.6			54.9
Approach LOS		E		D			D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 51.0	Intersection LOS: D
Intersection Capacity Utilization 84.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	136	184	31	128	268	181	895	64	269	351	165
Future Volume (veh/h)	212	136	184	31	128	268	181	895	64	269	351	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	244	156	158	36	147	274	208	1029	63	309	403	168
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	269	196	199	48	185	157	234	1162	518	303	903	372
Arrive On Green	0.17	0.24	0.24	0.03	0.10	0.10	0.15	0.35	0.35	0.19	0.39	0.39
Sat Flow, veh/h	1594	807	818	1594	1772	1502	1594	3367	1502	1594	2325	958
Grp Volume(v), veh/h	244	0	314	36	147	274	208	1029	63	309	290	281
Grp Sat Flow(s),veh/h/ln	1594	0	1625	1594	1772	1502	1594	1683	1502	1594	1683	1600
Q Serve(g_s), s	16.9	0.0	20.4	2.5	9.1	11.8	14.4	32.5	3.2	21.4	14.4	14.7
Cycle Q Clear(g_c), s	16.9	0.0	20.4	2.5	9.1	11.8	14.4	32.5	3.2	21.4	14.4	14.7
Prop In Lane	1.00		0.50	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	269	0	395	48	185	157	234	1162	518	303	654	621
V/C Ratio(X)	0.91	0.00	0.79	0.75	0.79	1.74	0.89	0.89	0.12	1.02	0.44	0.45
Avail Cap(c_a), veh/h	303	0	395	90	185	157	317	1308	583	303	654	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	0.0	40.0	54.3	49.3	50.5	47.2	34.8	25.2	45.7	25.5	25.6
Incr Delay (d2), s/veh	26.0	0.0	10.7	8.6	20.5	359.5	17.0	7.0	0.1	57.3	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	8.9	1.1	4.9	20.0	6.6	13.5	1.1	12.9	5.5	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	0.0	50.7	62.8	69.8	410.0	64.2	41.8	25.3	103.0	26.0	26.1
LnGrp LOS	E	A	D	E	E	F	E	D	C	F	C	C
Approach Vol, veh/h		558			457			1300			880	
Approach Delay, s/veh		60.0			273.2			44.6			53.1	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	45.1	8.0	33.6	21.2	50.0	23.6	18.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	43.8	6.4	26.8	22.4	42.8	21.4	11.8
Max Q Clear Time (g_c+I1), s	23.4	34.5	4.5	22.4	16.4	16.7	18.9	13.8
Green Ext Time (p_c), s	0.0	4.4	0.0	0.6	0.1	3.2	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	82.3
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2	0	1155	517	3
Future Vol, veh/h	5	2	0	1155	517	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	2	0	1313	588	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1247	590	591	0	-	0
Stage 1	590	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	178	507	983	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	178	507	983	-	-	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	478	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	983	-	408	-	-
HCM Lane V/C Ratio	-	-	0.019	-	-
HCM Control Delay (s)	0	-	14	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	156	805	265	1131	269	173	675	342	187	230	93
Future Volume (vph)	156	805	265	1131	269	173	675	342	187	230	93
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	11.3	48.5	13.0	50.2	50.2	11.0	47.5	47.5	11.0	47.5	47.5
Total Split (%)	9.4%	40.4%	10.8%	41.8%	41.8%	9.2%	39.6%	39.6%	9.2%	39.6%	39.6%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.8	37.6	8.6	39.4	39.4	6.5	23.7	23.7	6.5	23.7	23.7
Actuated g/C Ratio	0.07	0.38	0.09	0.40	0.40	0.07	0.24	0.24	0.07	0.24	0.24
v/c Ratio	0.69	0.38	0.93	0.84	0.38	0.80	0.58	0.70	0.86	0.28	0.21
Control Delay	63.6	22.7	84.8	34.0	9.6	73.3	34.8	25.7	81.5	31.3	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.6	22.7	84.8	34.0	9.6	73.3	34.8	25.7	81.5	31.3	4.8
LOS	E	C	F	C	A	E	C	C	F	C	A
Approach Delay		28.9		38.1			37.8			44.9	
Approach LOS		C		D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 98.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 36.6	Intersection LOS: D
Intersection Capacity Utilization 72.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	805	79	265	1131	269	173	675	342	187	230	93
Future Volume (veh/h)	156	805	79	265	1131	269	173	675	342	187	230	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	839	46	276	1178	152	180	703	200	195	240	26
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	2344	128	331	1424	635	252	1069	332	252	745	332
Arrive On Green	0.07	0.37	0.37	0.10	0.40	0.40	0.07	0.21	0.21	0.07	0.21	0.21
Sat Flow, veh/h	3456	6292	342	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	162	642	243	276	1178	152	180	703	200	195	240	26
Grp Sat Flow(s),veh/h/ln	1728	1609	1809	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	4.0	8.5	8.5	6.9	26.1	5.6	4.5	11.1	10.0	4.9	5.0	1.2
Cycle Q Clear(g_c), s	4.0	8.5	8.5	6.9	26.1	5.6	4.5	11.1	10.0	4.9	5.0	1.2
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	1798	674	331	1424	635	252	1069	332	252	745	332
V/C Ratio(X)	0.69	0.36	0.36	0.83	0.83	0.24	0.72	0.66	0.60	0.77	0.32	0.08
Avail Cap(c_a), veh/h	264	2309	865	331	1769	789	252	2402	746	252	1672	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	19.9	20.0	39.0	23.6	17.4	39.8	31.8	31.4	40.0	29.4	27.9
Incr Delay (d2), s/veh	4.9	0.1	0.3	15.8	2.8	0.2	8.0	0.7	1.8	12.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.8	3.2	3.4	9.9	1.8	2.1	4.3	3.7	2.4	2.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	20.1	20.3	54.8	26.4	17.6	47.8	32.5	33.2	52.7	29.7	28.0
LnGrp LOS	D	C	C	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		1047			1606			1083			461	
Approach Delay, s/veh		24.0			30.4			35.2			39.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	24.6	13.0	39.2	11.0	24.6	10.5	41.7
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.4	41.3	8.4	42.0	6.4	41.3	6.7	43.7
Max Q Clear Time (g_c+I1), s	6.9	13.1	8.9	10.5	6.5	7.0	6.0	28.1
Green Ext Time (p_c), s	0.0	5.3	0.0	5.5	0.0	1.5	0.0	7.1

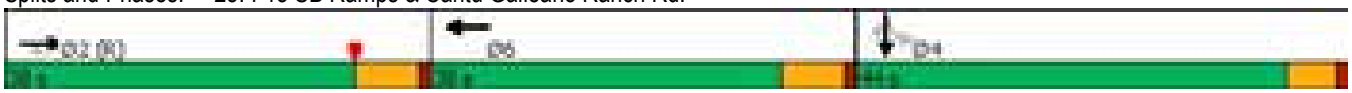
Intersection Summary	
HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1035	340	796	185	285	0	1411
Future Volume (vph)	1035	340	796	185	285	0	1411
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	38.0	38.0	38.0		44.0	44.0	44.0
Total Split (%)	31.7%	31.7%	31.7%		36.7%	36.7%	36.7%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	Min		Min	Min	Min
Act Effct Green (s)	34.4	34.4	31.0	120.0	35.5	35.5	35.5
Actuated g/C Ratio	0.29	0.29	0.26	1.00	0.30	0.30	0.30
v/c Ratio	0.77	0.52	0.95	0.07	0.56	0.96	0.94
Control Delay	44.4	6.4	57.0	0.0	39.8	35.6	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	6.4	57.0	0.0	39.8	35.6	31.7
LOS	D	A	E	A	D	D	C
Approach Delay	35.0		46.3			34.6	
Approach LOS	C		D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 37.6	Intersection LOS: D
Intersection Capacity Utilization 90.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1035	340	0	796	185	0	0	0	285	0	1411
Future Volume (veh/h)	0	1035	340	0	796	185	0	0	0	285	0	1411
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1125	0	0	865	0				207	0	884
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	3041		0	2116					538	0	957
Arrive On Green	0.00	0.60	0.00	0.00	0.20	0.00				0.30	0.00	0.30
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	1125	0	0	865	0				207	0	884
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	13.7	0.0	0.0	25.5	0.0				11.0	0.0	32.4
Cycle Q Clear(g_c), s	0.0	13.7	0.0	0.0	25.5	0.0				11.0	0.0	32.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3041		0	2116					538	0	957
V/C Ratio(X)	0.00	0.37		0.00	0.41					0.38	0.00	0.92
Avail Cap(c_a), veh/h	0	3041		0	2116					571	0	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.00	0.00	0.82	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.6	0.0	0.0	29.7	0.0				33.1	0.0	40.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.1	0.0				0.5	0.0	13.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.6	0.0	0.0	12.0	0.0				4.7	0.0	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.9	0.0	0.0	29.9	0.0				33.5	0.0	53.6
LnGrp LOS	A	B		A	C					C	A	D
Approach Vol, veh/h		1125	A		865	A					1091	
Approach Delay, s/veh		12.9			29.9						49.8	
Approach LOS		B			C						D	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		78.3		41.7		78.3						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		31.2		38.5		31.2						
Max Q Clear Time (g_c+I1), s		15.7		34.4		27.5						
Green Ext Time (p_c), s		6.1		1.8		1.8						

Intersection Summary		
HCM 6th Ctrl Delay		30.7
HCM 6th LOS		C

Notes

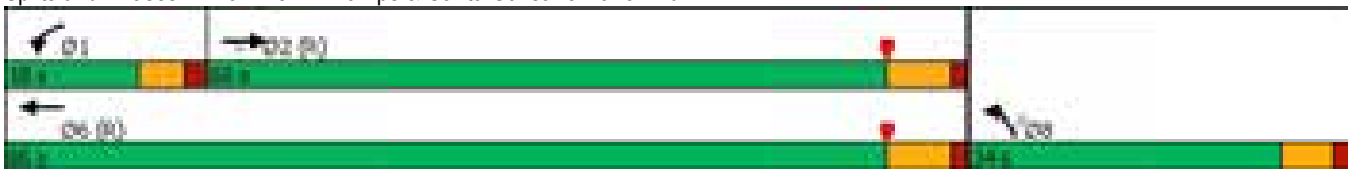
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	507	850	214	490	492	416
Future Volume (vph)	507	850	214	490	492	416
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.5	22.5	22.5	22.5
Total Split (s)	68.0	68.0	18.0	86.0	34.0	34.0
Total Split (%)	56.7%	56.7%	15.0%	71.7%	28.3%	28.3%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	60.5	60.5	12.4	78.9	27.8	27.8
Actuated g/C Ratio	0.50	0.50	0.10	0.66	0.23	0.23
v/c Ratio	0.21	0.78	0.66	0.16	0.84	0.54
Control Delay	28.2	29.9	61.1	8.2	52.8	7.9
Queue Delay	0.0	2.1	0.0	0.0	0.0	0.0
Total Delay	28.2	32.0	61.1	8.2	52.8	7.9
LOS	C	C	E	A	D	A
Approach Delay	30.6			24.3	38.6	
Approach LOS	C			C	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 31.6	Intersection LOS: C
Intersection Capacity Utilization 69.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	507	850	214	490	492	416
Future Volume (veh/h)	507	850	214	490	492	416
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	551	489	233	533	535	235
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2946	915	291	3631	634	282
Arrive On Green	0.19	0.19	0.08	0.71	0.18	0.18
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	551	489	233	533	535	235
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	10.9	33.4	7.9	4.0	17.4	17.2
Cycle Q Clear(g_c), s	10.9	33.4	7.9	4.0	17.4	17.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2946	915	291	3631	634	282
V/C Ratio(X)	0.19	0.53	0.80	0.15	0.84	0.83
Avail Cap(c_a), veh/h	2946	915	346	3631	831	370
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.88	0.88	1.00	1.00
Uniform Delay (d), s/veh	24.9	34.1	54.0	5.6	47.7	47.6
Incr Delay (d2), s/veh	0.1	1.4	9.7	0.1	6.2	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	14.3	3.7	1.1	8.1	7.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.0	35.4	63.7	5.7	53.9	59.4
LnGrp LOS	C	D	E	A	D	E
Approach Vol, veh/h	1040			766	770	
Approach Delay, s/veh	29.9			23.3	55.6	
Approach LOS	C			C	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	16.1	76.5				92.6	27.4
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	12.0	60.7				78.7	28.0
Max Q Clear Time (g_c+I1), s	9.9	35.4				6.0	19.4
Green Ext Time (p_c), s	0.1	5.2				3.4	1.9

Intersection Summary			
HCM 6th Ctrl Delay		35.6	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	396	351	282	30	260	266	315	18	22	61	123
Future Volume (vph)	396	351	282	30	260	266	315	18	22	61	123
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	17.0	47.9	47.9	9.6	40.5	13.0	52.2	52.2	10.3	49.5	49.5
Total Split (%)	14.2%	39.9%	39.9%	8.0%	33.8%	10.8%	43.5%	43.5%	8.6%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.4	27.5	27.5	5.4	12.4	9.1	24.7	24.7	5.7	11.8	11.8
Actuated g/C Ratio	0.19	0.39	0.39	0.08	0.18	0.13	0.35	0.35	0.08	0.17	0.17
v/c Ratio	0.66	0.15	0.38	0.13	0.37	0.66	0.28	0.03	0.17	0.21	0.34
Control Delay	35.9	16.7	4.5	39.7	24.7	41.1	18.3	0.1	41.6	26.5	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	16.7	4.5	39.7	24.7	41.1	18.3	0.1	41.6	26.5	5.6
LOS	D	B	A	D	C	D	B	A	D	C	A
Approach Delay		20.7			26.1		27.9			15.6	
Approach LOS		C			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 70.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 23.0	Intersection LOS: C
Intersection Capacity Utilization 48.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	396	351	282	30	260	46	266	315	18	22	61	123
Future Volume (veh/h)	396	351	282	30	260	46	266	315	18	22	61	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	430	382	197	33	283	30	289	342	10	24	66	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	578	1690	416	128	622	65	422	754	336	51	222	188
Arrive On Green	0.17	0.26	0.26	0.04	0.13	0.13	0.12	0.21	0.21	0.03	0.12	0.12
Sat Flow, veh/h	3456	6434	1585	3456	4699	488	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	430	382	197	33	203	110	289	342	10	24	66	107
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1783	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	5.7	2.2	5.1	0.4	2.7	2.7	3.9	4.1	0.2	0.6	1.6	3.1
Cycle Q Clear(g_c), s	5.7	2.2	5.1	0.4	2.7	2.7	3.9	4.1	0.2	0.6	1.6	3.1
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	578	1690	416	128	451	236	422	754	336	51	222	188
V/C Ratio(X)	0.74	0.23	0.47	0.26	0.45	0.46	0.69	0.45	0.03	0.47	0.30	0.57
Avail Cap(c_a), veh/h	887	5514	1358	358	2396	1255	601	3362	1500	210	1665	1411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.1	14.0	15.0	22.6	19.3	19.4	20.3	16.6	15.1	23.1	19.4	20.1
Incr Delay (d2), s/veh	0.7	0.1	0.8	0.4	0.7	1.4	0.7	0.4	0.0	2.5	0.7	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.6	1.4	0.2	0.9	1.0	1.3	1.4	0.1	0.3	0.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	14.0	15.8	23.0	20.0	20.8	21.1	17.0	15.1	25.6	20.2	22.8
LnGrp LOS	B	B	B	C	C	C	C	B	B	C	C	C
Approach Vol, veh/h		1009			346			641			197	
Approach Delay, s/veh		16.9			20.6			18.8			22.3	
Approach LOS		B			C			B			C	

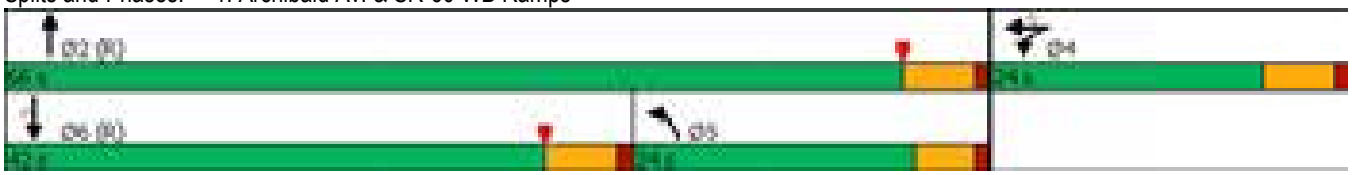
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	16.8	6.4	19.2	10.5	12.2	12.7	12.9
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	5.7	45.7	5.0	41.4	8.4	43.0	12.4	34.0
Max Q Clear Time (g_c+I1), s	2.6	6.1	2.4	7.1	5.9	5.1	7.7	4.7
Green Ext Time (p_c), s	0.0	2.2	0.0	2.9	0.1	0.7	0.4	1.6

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	450	1	194	592	623	1449	354
Future Volume (vph)	450	1	194	592	623	1449	354
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	24.0	24.0	24.0	24.0	66.0	42.0	42.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	73.3%	46.7%	46.7%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	16.5	16.5	16.5	18.3	61.9	38.6	38.6
Actuated g/C Ratio	0.18	0.18	0.18	0.20	0.69	0.43	0.43
v/c Ratio	0.79	0.80	0.42	0.87	0.18	0.54	0.42
Control Delay	54.1	54.8	8.3	43.3	0.6	20.5	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	54.8	8.3	43.3	0.6	20.5	4.4
LOS	D	D	A	D	A	C	A
Approach Delay		42.0			21.4	17.3	
Approach LOS		D			C	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 23.0	Intersection LOS: C
Intersection Capacity Utilization 74.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	450	1	194	592	623	0	0	1449	354
Future Volume (veh/h)	0	0	0	450	1	194	592	623	0	0	1449	354
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				487	0	60	604	636	0	0	1479	261
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				584	0	260	1080	3610	0	0	2124	510
Arrive On Green				0.16	0.00	0.16	0.10	0.23	0.00	0.00	0.33	0.33
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	6696	1544
Grp Volume(v), veh/h				487	0	60	604	636	0	0	1479	261
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1609	1544
Q Serve(g_s), s				11.9	0.0	3.0	15.0	9.0	0.0	0.0	18.0	12.3
Cycle Q Clear(g_c), s				11.9	0.0	3.0	15.0	9.0	0.0	0.0	18.0	12.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				584	0	260	1080	3610	0	0	2124	510
V/C Ratio(X)				0.83	0.00	0.23	0.56	0.18	0.00	0.00	0.70	0.51
Avail Cap(c_a), veh/h				720	0	321	1080	3610	0	0	2588	621
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.93	0.93	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.4	0.0	32.7	34.5	13.5	0.0	0.0	26.2	24.3
Incr Delay (d2), s/veh				6.9	0.0	0.4	0.4	0.1	0.0	0.0	1.9	3.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.5	0.0	2.8	6.9	3.1	0.0	0.0	6.6	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				43.4	0.0	33.1	34.8	13.6	0.0	0.0	28.1	28.0
LnGrp LOS				D	A	C	C	B	A	A	C	C
Approach Vol, veh/h					547			1240			1740	
Approach Delay, s/veh					42.2			24.0			28.1	
Approach LOS					D			C			C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	69.4	20.6	33.9	35.5
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	60.2	18.2	19.0	* 36
Max Q Clear Time (g_c+I1), s	11.0	13.9	17.0	20.0
Green Ext Time (p_c), s	4.5	0.9	0.3	9.7

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

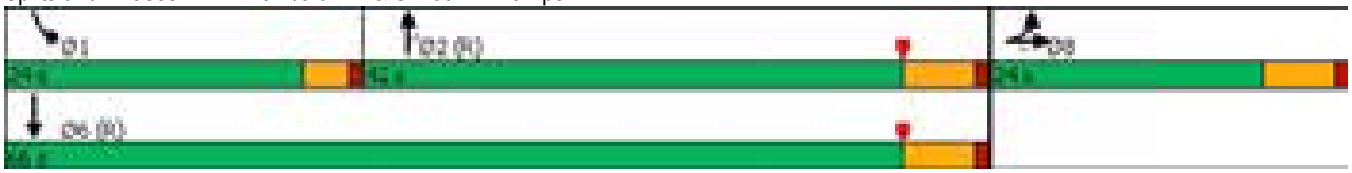
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	124	1	524	1093	607	527	1372
Future Volume (vph)	124	1	524	1093	607	527	1372
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	24.0	24.0	24.0	42.0	42.0	24.0	66.0
Total Split (%)	26.7%	26.7%	26.7%	46.7%	46.7%	26.7%	73.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	16.2	16.2	16.2	40.6	40.6	17.6	62.2
Actuated g/C Ratio	0.18	0.18	0.18	0.45	0.45	0.20	0.69
v/c Ratio	0.37	0.86	0.80	0.38	0.61	0.80	0.39
Control Delay	35.3	52.1	42.4	17.7	6.1	53.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	52.1	42.4	17.7	6.1	53.6	1.4
LOS	D	D	D	B	A	D	A
Approach Delay		45.2		13.5			15.9
Approach LOS		D		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 74.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1	524	0	0	0	0	1093	607	527	1372	0
Future Volume (veh/h)	124	1	524	0	0	0	0	1093	607	527	1372	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	84	0	340				0	1104	437	532	1386	0
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	243	0	432				0	3327	802	600	3753	0
Arrive On Green	0.14	0.00	0.14				0.00	0.52	0.52	0.35	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	84	0	340				0	1104	437	532	1386	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1551	1728	1702	0
Q Serve(g_s), s	3.8	0.0	9.3				0.0	9.0	17.1	13.1	0.0	0.0
Cycle Q Clear(g_c), s	3.8	0.0	9.3				0.0	9.0	17.1	13.1	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	243	0	432				0	3327	802	600	3753	0
V/C Ratio(X)	0.35	0.00	0.79				0.00	0.33	0.55	0.89	0.37	0.00
Avail Cap(c_a), veh/h	360	0	641				0	3327	802	768	3753	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.79	0.79	0.00
Uniform Delay (d), s/veh	35.2	0.0	37.6				0.0	12.7	14.6	28.6	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	3.9				0.0	0.3	2.7	7.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	3.7				0.0	2.8	5.6	4.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	41.5				0.0	12.9	17.3	35.7	0.2	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		424						1541			1918	
Approach Delay, s/veh		40.5						14.2			10.1	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	19.6	52.3				71.9		18.1				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	20.0	36.2				60.2		18.2				
Max Q Clear Time (g_c+I1), s	15.1	19.1				2.0		11.3				
Green Ext Time (p_c), s	0.5	8.1				12.5		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		15.0
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	183	584	308	222	430	202	255	1044	322	1035
Future Volume (vph)	183	584	308	222	430	202	255	1044	322	1035
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	21.0	42.2	42.2	17.0	38.2	38.2	27.0	32.8	28.0	33.8
Total Split (%)	17.5%	35.2%	35.2%	14.2%	31.8%	31.8%	22.5%	27.3%	23.3%	28.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	15.5	26.7	26.7	12.4	23.6	23.6	20.7	26.7	23.5	29.4
Actuated g/C Ratio	0.14	0.24	0.24	0.11	0.21	0.21	0.19	0.24	0.21	0.27
v/c Ratio	0.85	0.74	0.53	1.28	0.61	0.43	0.88	1.05	0.99	1.01
Control Delay	79.2	44.7	7.1	203.8	43.5	7.8	74.1	82.0	90.4	68.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.2	44.7	7.1	203.8	43.5	7.8	74.1	82.0	90.4	68.2
LOS	E	D	A	F	D	A	E	F	F	E
Approach Delay		39.8			76.8			80.6		72.8
Approach LOS		D			E			F		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.28	
Intersection Signal Delay: 68.6	Intersection LOS: E
Intersection Capacity Utilization 96.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	584	308	222	430	202	255	1044	141	322	1035	216
Future Volume (veh/h)	183	584	308	222	430	202	255	1044	141	322	1035	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	187	596	245	227	439	157	260	1065	137	329	1056	187
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	781	340	177	708	314	285	1033	133	335	1172	207
Arrive On Green	0.13	0.23	0.23	0.11	0.21	0.21	0.18	0.24	0.24	0.21	0.28	0.28
Sat Flow, veh/h	1594	3367	1463	1594	3367	1493	1594	4329	556	1594	4127	730
Grp Volume(v), veh/h	187	596	245	227	439	157	260	793	409	329	825	418
Grp Sat Flow(s),veh/h/ln	1594	1683	1463	1594	1683	1493	1594	1612	1660	1594	1612	1631
Q Serve(g_s), s	12.8	18.4	17.2	12.4	13.2	6.1	17.8	26.6	26.6	22.9	27.4	27.5
Cycle Q Clear(g_c), s	12.8	18.4	17.2	12.4	13.2	6.1	17.8	26.6	26.6	22.9	27.4	27.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.45
Lane Grp Cap(c), veh/h	212	781	340	177	708	314	285	770	396	335	916	463
V/C Ratio(X)	0.88	0.76	0.72	1.28	0.62	0.50	0.91	1.03	1.03	0.98	0.90	0.90
Avail Cap(c_a), veh/h	234	1087	473	177	966	429	320	770	396	335	916	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	39.9	39.5	49.5	40.0	13.7	44.9	42.4	42.4	43.8	38.4	38.4
Incr Delay (d2), s/veh	26.5	2.1	3.3	162.2	0.9	1.2	25.9	40.5	53.8	44.4	11.9	20.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	7.5	6.2	12.7	5.3	3.5	8.8	14.3	16.2	12.7	11.7	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.9	42.1	42.8	211.7	40.9	14.9	70.8	82.9	96.3	88.3	50.3	59.0
LnGrp LOS	E	D	D	F	D	B	E	F	F	F	D	E
Approach Vol, veh/h		1028			823			1462			1572	
Approach Delay, s/veh		48.0			83.1			84.5			60.5	
Approach LOS		D			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.6	32.8	17.0	32.1	24.5	37.9	19.4	29.6
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	23.4	* 27	12.4	36.0	22.4	27.6	16.4	32.0
Max Q Clear Time (g_c+I1), s	24.9	28.6	14.4	20.4	19.8	29.5	14.8	15.2
Green Ext Time (p_c), s	0.0	0.0	0.0	3.9	0.1	0.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	68.9
HCM 6th LOS	E

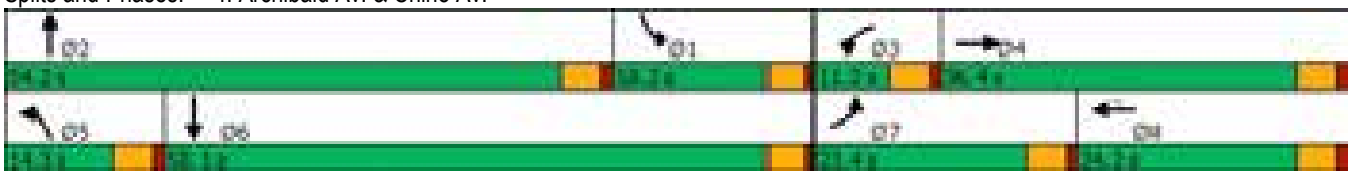
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	178	285	64	85	70	101	1258	81	1281
Future Volume (vph)	178	285	64	85	70	101	1258	81	1281
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	23.4	36.4	11.2	24.2	24.2	14.3	54.2	18.2	58.1
Total Split (%)	19.5%	30.3%	9.3%	20.2%	20.2%	11.9%	45.2%	15.2%	48.4%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	17.0	31.6	6.6	21.2	21.2	9.6	46.1	17.3	51.3
Actuated g/C Ratio	0.14	0.27	0.06	0.18	0.18	0.08	0.39	0.15	0.44
v/c Ratio	0.81	0.96	0.75	0.28	0.17	0.82	0.67	0.36	0.92
Control Delay	75.1	74.7	100.9	46.3	0.9	96.3	32.5	50.1	41.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.1	74.7	100.9	46.3	0.9	96.3	32.5	50.1	41.7
LOS	E	E	F	D	A	F	C	D	D
Approach Delay		74.8		47.8			37.0		42.2
Approach LOS		E		D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 45.8	Intersection LOS: D
Intersection Capacity Utilization 90.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	285	141	64	85	70	101	1258	77	81	1281	71
Future Volume (veh/h)	178	285	141	64	85	70	101	1258	77	81	1281	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	185	297	122	67	89	41	105	1310	79	84	1334	70
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	317	130	83	330	280	127	1645	99	298	1466	77
Arrive On Green	0.13	0.27	0.27	0.05	0.19	0.19	0.08	0.33	0.33	0.19	0.44	0.44
Sat Flow, veh/h	1594	1188	488	1594	1772	1502	1594	4957	299	1594	3338	175
Grp Volume(v), veh/h	185	0	419	67	89	41	105	936	453	84	707	697
Grp Sat Flow(s),veh/h/ln	1594	0	1675	1594	1772	1502	1594	1772	1712	1594	1772	1740
Q Serve(g_s), s	12.9	0.0	27.7	4.7	4.9	1.7	7.4	27.2	27.2	5.1	42.2	42.5
Cycle Q Clear(g_c), s	12.9	0.0	27.7	4.7	4.9	1.7	7.4	27.2	27.2	5.1	42.2	42.5
Prop In Lane	1.00		0.29	1.00		1.00	1.00		0.17	1.00		0.10
Lane Grp Cap(c), veh/h	211	0	447	83	330	280	127	1176	568	298	779	765
V/C Ratio(X)	0.88	0.00	0.94	0.81	0.27	0.15	0.83	0.80	0.80	0.28	0.91	0.91
Avail Cap(c_a), veh/h	264	0	470	93	330	280	136	1550	749	298	836	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.3	0.0	40.7	53.2	39.5	17.4	51.4	34.4	34.4	39.6	29.7	29.7
Incr Delay (d2), s/veh	22.6	0.0	26.1	36.2	0.4	0.2	31.1	2.2	4.5	0.5	13.2	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	14.3	2.7	2.1	0.9	3.9	11.2	11.2	2.0	19.2	19.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.8	0.0	66.7	89.4	40.0	17.6	82.6	36.6	38.9	40.1	42.8	43.5
LnGrp LOS	E	A	E	F	D	B	F	D	D	D	D	D
Approach Vol, veh/h		604			197			1494			1488	
Approach Delay, s/veh		68.0			52.1			40.5			43.0	
Approach LOS		E			D			D			D	

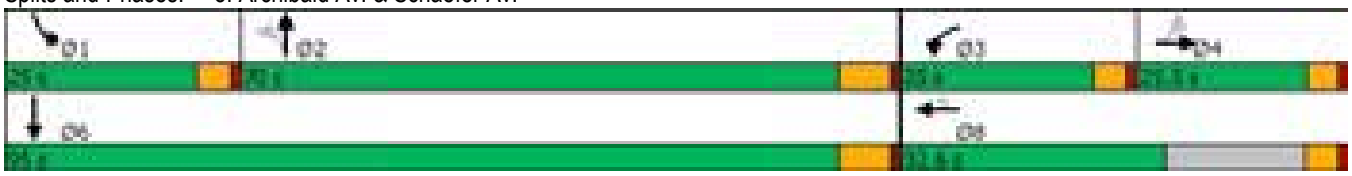
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.8	42.2	10.5	34.8	13.6	54.4	19.6	25.7
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	13.6	49.6	6.6	31.8	9.7	53.5	18.8	19.6
Max Q Clear Time (g_c+I1), s	7.1	29.2	6.7	29.7	9.4	44.5	14.9	6.9
Green Ext Time (p_c), s	0.1	8.4	0.0	0.5	0.0	5.4	0.2	0.4

Intersection Summary	
HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	18	25	33	23	17	1332	50	1429
Future Volume (vph)	18	25	33	23	17	1332	50	1429
Turn Type	Perm	NA	Prot	NA	Perm	NA	Prot	NA
Protected Phases		4	3	8		2	1	6
Permitted Phases	4				8			
Detector Phase	4	4	3	8	8	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	9.6	32.6	32.6	37.5	9.6	23.5
Total Split (s)	22.5	22.5	25.0	32.6	32.6	70.0	25.0	95.0
Total Split (%)	15.8%	15.8%	17.5%	22.9%	22.9%	49.1%	17.5%	66.7%
Yellow Time (s)	3.5	3.5	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	9.4	9.4	8.3	14.8	14.8	41.6	9.1	47.7
Actuated g/C Ratio	0.15	0.15	0.13	0.24	0.24	0.67	0.15	0.77
v/c Ratio	0.08	0.10	0.17	0.06	0.05	0.45	0.23	0.60
Control Delay	36.6	36.6	39.0	25.4	0.2	13.8	37.7	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	36.6	39.0	25.4	0.2	13.8	37.7	10.0
LOS	D	D	D	C	A	B	D	A
Approach Delay		36.6		25.7		13.8		10.9
Approach LOS		D		C		B		B

Intersection Summary	
Cycle Length: 142.5	
Actuated Cycle Length: 62.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 13.0	Intersection LOS: B
Intersection Capacity Utilization 67.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	25	0	33	23	17	0	1332	37	50	1429	17
Future Volume (veh/h)	18	25	0	33	23	17	0	1332	37	50	1429	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	19	27	0	35	24	12	0	1417	37	53	1520	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	116	0	60	333	280	133	2286	60	81	2069	24
Arrive On Green	0.07	0.07	0.00	0.04	0.19	0.19	0.00	0.47	0.47	0.05	0.61	0.61
Sat Flow, veh/h	1196	1772	0	1594	1772	1487	302	4844	126	1594	3407	40
Grp Volume(v), veh/h	19	27	0	35	24	12	0	943	511	53	750	788
Grp Sat Flow(s),veh/h/ln	1196	1772	0	1594	1772	1487	302	1612	1746	1594	1683	1764
Q Serve(g_s), s	0.8	0.8	0.0	1.2	0.6	0.4	0.0	11.8	11.8	1.8	17.1	17.2
Cycle Q Clear(g_c), s	0.8	0.8	0.0	1.2	0.6	0.4	0.0	11.8	11.8	1.8	17.1	17.2
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.07	1.00		0.02
Lane Grp Cap(c), veh/h	211	116	0	60	333	280	133	1522	824	81	1022	1071
V/C Ratio(X)	0.09	0.23	0.00	0.58	0.07	0.04	0.00	0.62	0.62	0.66	0.73	0.74
Avail Cap(c_a), veh/h	529	588	0	599	915	768	344	3775	2043	599	2746	2877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	24.1	0.0	25.7	18.1	18.0	0.0	10.7	10.7	25.3	7.5	7.6
Incr Delay (d2), s/veh	0.2	1.0	0.0	3.3	0.1	0.1	0.0	0.4	0.8	3.3	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.0	0.4	0.2	0.1	0.0	2.7	3.0	0.6	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	25.1	0.0	28.9	18.2	18.1	0.0	11.1	11.5	28.6	8.6	8.6
LnGrp LOS	C	C	A	C	B	B	A	B	B	C	A	A
Approach Vol, veh/h		46			71			1454			1591	
Approach Delay, s/veh		24.7			23.5			11.2			9.2	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	7.4	32.1	6.6	8.1		39.4		14.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6		6.5		4.6				
Max Green Setting (Gmax), s	20.4	63.5	20.4	* 18		88.5		28.0				
Max Q Clear Time (g_c+I1), s	3.8	13.8	3.2	2.8		19.2		2.6				
Green Ext Time (p_c), s	0.0	11.6	0.0	0.1		13.8		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	697	293	268	299	116	105	1047	323	162	1111	66
Future Volume (vph)	105	697	293	268	299	116	105	1047	323	162	1111	66
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	10.1	39.3		17.0	46.2	46.2	14.0	45.1		18.6	49.7	49.7
Total Split (%)	8.4%	32.8%		14.2%	38.5%	38.5%	11.7%	37.6%		15.5%	41.4%	41.4%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.5	28.8	115.1	12.4	35.6	35.6	9.4	38.2	115.1	13.9	42.6	42.6
Actuated g/C Ratio	0.05	0.25	1.00	0.11	0.31	0.31	0.08	0.33	1.00	0.12	0.37	0.37
v/c Ratio	0.78	0.83	0.21	0.88	0.58	0.23	0.86	0.94	0.23	0.90	0.90	0.11
Control Delay	89.5	50.0	0.3	79.7	38.1	6.1	102.4	53.9	0.3	95.2	44.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.5	50.0	0.3	79.7	38.1	6.1	102.4	53.9	0.3	95.2	44.9	0.3
LOS	F	D	A	E	D	A	F	D	A	F	D	A
Approach Delay		40.5			49.0			45.7			48.8	
Approach LOS		D			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.1	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 45.9	Intersection LOS: D
Intersection Capacity Utilization 88.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	697	293	268	299	116	105	1047	323	162	1111	66
Future Volume (veh/h)	105	697	293	268	299	116	105	1047	323	162	1111	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	111	734	0	282	315	64	111	1102	0	171	1169	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	858		329	537	454	132	1178		195	1319	559
Arrive On Green	0.05	0.24	0.00	0.11	0.30	0.30	0.08	0.33	0.00	0.12	0.37	0.37
Sat Flow, veh/h	3000	3544	1502	3000	1772	1500	1594	3544	1502	1594	3544	1502
Grp Volume(v), veh/h	111	734	0	282	315	64	111	1102	0	171	1169	37
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	4.1	22.4	0.0	10.5	17.1	3.5	7.8	34.1	0.0	11.9	35.0	1.8
Cycle Q Clear(g_c), s	4.1	22.4	0.0	10.5	17.1	3.5	7.8	34.1	0.0	11.9	35.0	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	858		329	537	454	132	1178		195	1319	559
V/C Ratio(X)	0.76	0.86		0.86	0.59	0.14	0.84	0.94		0.88	0.89	0.07
Avail Cap(c_a), veh/h	146	1036		329	626	530	132	1208		197	1352	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	41.0	0.0	49.5	33.5	28.7	51.2	36.6	0.0	48.8	33.3	22.9
Incr Delay (d2), s/veh	18.9	6.2	0.0	18.9	1.0	0.1	33.9	13.1	0.0	31.4	7.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.0	0.0	4.6	7.1	1.2	4.2	15.7	0.0	6.2	15.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	47.2	0.0	68.5	34.5	28.9	85.1	49.7	0.0	80.2	40.7	22.9
LnGrp LOS	E	D		E	C	C	F	D		F	D	C
Approach Vol, veh/h		845	A		661			1213	A		1377	
Approach Delay, s/veh		50.5			48.4			53.0			45.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.5	44.1	17.0	33.6	14.0	48.6	10.1	40.5
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	14.0	38.6	12.4	33.1	9.4	43.2	5.5	40.0
Max Q Clear Time (g_c+I1), s	13.9	36.1	12.5	24.4	9.8	37.0	6.1	19.1
Green Ext Time (p_c), s	0.0	1.5	0.0	2.9	0.0	3.6	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	96	618	127	752	187	63	25	62
Future Volume (vph)	96	618	127	752	187	63	25	62
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	19.0	41.0	23.0	45.0	25.0	45.0	11.0	31.0
Total Split (%)	15.8%	34.2%	19.2%	37.5%	20.8%	37.5%	9.2%	25.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	10.1	31.4	12.2	36.3	15.7	29.0	5.9	12.4
Actuated g/C Ratio	0.11	0.34	0.13	0.39	0.17	0.31	0.06	0.13
v/c Ratio	0.58	0.81	0.64	0.63	0.73	0.21	0.26	0.27
Control Delay	57.2	34.9	55.6	28.2	56.0	10.2	55.0	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	34.9	55.6	28.2	56.0	10.2	55.0	23.6
LOS	E	C	E	C	E	B	D	C
Approach Delay		37.2		32.0		31.9		29.0
Approach LOS		D		C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 33.9	Intersection LOS: C
Intersection Capacity Utilization 72.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	618	248	127	752	38	187	63	145	25	62	59
Future Volume (veh/h)	96	618	248	127	752	38	187	63	145	25	62	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	99	637	200	131	775	26	193	65	124	26	64	53
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	797	250	162	1138	38	230	443	392	45	269	198
Arrive On Green	0.08	0.32	0.32	0.10	0.34	0.34	0.14	0.26	0.26	0.03	0.15	0.15
Sat Flow, veh/h	1594	2505	786	1594	3322	111	1594	1683	1487	1594	1831	1349
Grp Volume(v), veh/h	99	428	409	131	393	408	193	65	124	26	58	59
Grp Sat Flow(s),veh/h/ln	1594	1683	1607	1594	1683	1750	1594	1683	1487	1594	1683	1497
Q Serve(g_s), s	4.5	17.1	17.1	5.9	14.7	14.7	8.7	2.2	4.9	1.2	2.2	2.6
Cycle Q Clear(g_c), s	4.5	17.1	17.1	5.9	14.7	14.7	8.7	2.2	4.9	1.2	2.2	2.6
Prop In Lane	1.00		0.49	1.00		0.06	1.00		1.00	1.00		0.90
Lane Grp Cap(c), veh/h	123	536	511	162	577	599	230	443	392	45	247	220
V/C Ratio(X)	0.80	0.80	0.80	0.81	0.68	0.68	0.84	0.15	0.32	0.58	0.24	0.27
Avail Cap(c_a), veh/h	313	798	762	399	890	925	443	899	794	139	578	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	22.9	22.9	32.3	20.7	20.7	30.6	20.7	21.7	35.3	27.7	27.8
Incr Delay (d2), s/veh	4.6	3.5	3.7	3.6	1.4	1.4	3.1	0.2	0.5	4.4	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	6.3	6.1	2.2	5.1	5.3	3.2	0.8	1.6	0.5	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	26.4	26.6	35.9	22.1	22.1	33.7	20.9	22.2	39.7	28.2	28.5
LnGrp LOS	D	C	C	D	C	C	C	C	C	D	C	C
Approach Vol, veh/h		936			932			382			143	
Approach Delay, s/veh		27.7			24.0			27.8			30.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	25.1	12.1	29.6	15.2	16.6	10.3	31.3
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.4	39.2	18.4	34.8	20.4	25.2	14.4	38.8
Max Q Clear Time (g_c+I1), s	3.2	6.9	7.9	19.1	10.7	4.6	6.5	16.7
Green Ext Time (p_c), s	0.0	1.0	0.1	4.3	0.2	0.5	0.1	4.4

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	191	59	41	140	78	22	139	40	63	217	47
Future Vol, veh/h	103	191	59	41	140	78	22	139	40	63	217	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	112	208	64	45	152	85	24	151	43	68	236	51
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

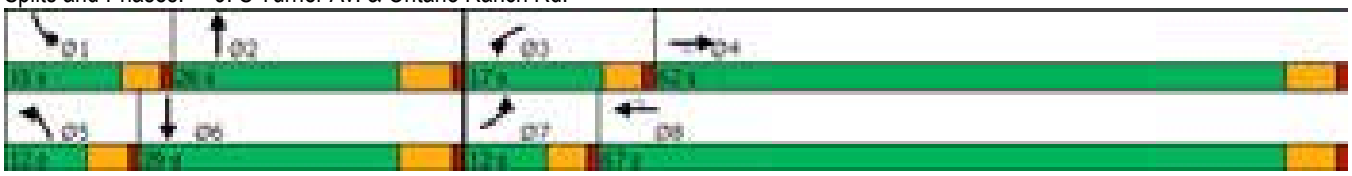
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	12.5	12.1	12	12.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	54%	0%	100%	52%	0%	100%	37%	0%	100%	61%
Vol Right, %	0%	0%	46%	0%	0%	48%	0%	0%	63%	0%	0%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	93	86	103	127	123	41	93	125	63	145	119
LT Vol	22	0	0	103	0	0	41	0	0	63	0	0
Through Vol	0	93	46	0	127	64	0	93	47	0	145	72
RT Vol	0	0	40	0	0	59	0	0	78	0	0	47
Lane Flow Rate	24	101	94	112	138	133	45	101	136	68	157	130
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.054	0.213	0.19	0.24	0.277	0.254	0.098	0.21	0.263	0.148	0.318	0.253
Departure Headway (Hd)	8.105	7.605	7.28	7.707	7.207	6.87	7.938	7.438	7	7.787	7.287	7.011
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	442	472	493	467	500	523	452	483	514	461	494	512
Service Time	5.846	5.346	5.022	5.445	4.945	4.608	5.678	5.178	4.74	5.525	5.025	4.75
HCM Lane V/C Ratio	0.054	0.214	0.191	0.24	0.276	0.254	0.1	0.209	0.265	0.148	0.318	0.254
HCM Control Delay	11.3	12.4	11.7	12.9	12.7	11.9	11.5	12.2	12.2	11.9	13.4	12.1
HCM Lane LOS	B	B	B	B	B	B	B	B	B	B	B	B
HCM 95th-tile Q	0.2	0.8	0.7	0.9	1.1	1	0.3	0.8	1	0.5	1.4	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	18	1161	48	60	800	27	18	12	45	30
Future Volume (vph)	18	1161	48	60	800	27	18	12	45	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	12.0	62.0	62.0	17.0	67.0	67.0	12.0	26.0	15.0	29.0
Total Split (%)	10.0%	51.7%	51.7%	14.2%	55.8%	55.8%	10.0%	21.7%	12.5%	24.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.6	36.3	36.3	8.5	42.7	42.7	6.6	8.7	7.8	11.7
Actuated g/C Ratio	0.09	0.48	0.48	0.11	0.57	0.57	0.09	0.12	0.10	0.16
v/c Ratio	0.12	0.73	0.06	0.33	0.43	0.03	0.12	0.20	0.26	0.15
Control Delay	46.4	20.2	0.1	44.4	11.7	0.1	46.4	22.0	45.0	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	20.2	0.1	44.4	11.7	0.1	46.4	22.0	45.0	29.6
LOS	D	C	A	D	B	A	D	C	D	C
Approach Delay		19.8			13.6			29.3		37.7
Approach LOS		B			B			C		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 75	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 58.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	1161	48	60	800	27	18	12	30	45	30	10
Future Volume (veh/h)	18	1161	48	60	800	27	18	12	30	45	30	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	1248	52	65	860	29	19	13	32	48	32	11
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	1728	771	97	1841	821	40	38	95	81	137	47
Arrive On Green	0.02	0.49	0.49	0.05	0.52	0.52	0.02	0.08	0.08	0.05	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	479	1179	1781	1331	457
Grp Volume(v), veh/h	19	1248	52	65	860	29	19	0	45	48	0	43
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1658	1781	0	1788
Q Serve(g_s), s	0.7	17.3	1.1	2.2	9.6	0.6	0.7	0.0	1.6	1.6	0.0	1.4
Cycle Q Clear(g_c), s	0.7	17.3	1.1	2.2	9.6	0.6	0.7	0.0	1.6	1.6	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		0.26
Lane Grp Cap(c), veh/h	40	1728	771	97	1841	821	40	0	133	81	0	184
V/C Ratio(X)	0.47	0.72	0.07	0.67	0.47	0.04	0.47	0.00	0.34	0.59	0.00	0.23
Avail Cap(c_a), veh/h	212	3207	1430	355	3492	1558	212	0	538	297	0	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	12.7	8.5	28.9	9.5	7.4	30.1	0.0	27.1	29.2	0.0	25.7
Incr Delay (d2), s/veh	3.2	0.6	0.0	3.0	0.2	0.0	3.2	0.0	1.5	2.6	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.2	0.3	0.9	2.8	0.1	0.3	0.0	0.6	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	13.3	8.5	31.9	9.7	7.4	33.3	0.0	28.6	31.8	0.0	26.3
LnGrp LOS	C	B	A	C	A	A	C	A	C	C	A	C
Approach Vol, veh/h		1319			954			64			91	
Approach Delay, s/veh		13.4			11.2			30.0			29.2	
Approach LOS		B			B			C			C	

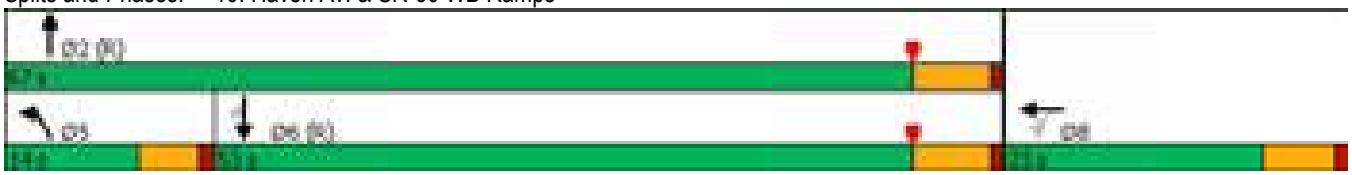
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	10.8	8.0	36.1	6.0	12.2	6.0	38.1
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	10.4	20.2	12.4	56.2	7.4	23.2	7.4	61.2
Max Q Clear Time (g_c+I1), s	3.6	3.6	4.2	19.3	2.7	3.4	2.7	11.6
Green Ext Time (p_c), s	0.0	0.1	0.0	11.0	0.0	0.1	0.0	6.6

Intersection Summary	
HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	349	10	620	157	1025	1638	767
Future Volume (vph)	349	10	620	157	1025	1638	767
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	23.0	23.0		14.0	67.0	53.0	53.0
Total Split (%)	25.6%	25.6%		15.6%	74.4%	58.9%	58.9%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	14.5	14.5	90.0	8.1	63.5	50.5	50.5
Actuated g/C Ratio	0.16	0.16	1.00	0.09	0.71	0.56	0.56
v/c Ratio	0.69	0.69	0.41	0.53	0.30	0.60	0.67
Control Delay	48.8	49.0	0.8	36.2	5.9	14.8	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	49.0	0.8	36.2	5.9	14.8	5.2
LOS	D	D	A	D	A	B	A
Approach Delay		18.4			9.9	11.7	
Approach LOS		B			A	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 12.7	Intersection LOS: B
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	349	10	620	157	1025	0	0	1638	767
Future Volume (veh/h)	0	0	0	349	10	620	157	1025	0	0	1638	767
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				371	0	0	164	1068	0	0	1706	651
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				466	0		232	3757	0	0	3130	959
Arrive On Green				0.13	0.00	0.00	0.13	1.00	0.00	0.00	0.61	0.61
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1565
Grp Volume(v), veh/h				371	0	0	164	1068	0	0	1706	651
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1565
Q Serve(g_s), s				9.1	0.0	0.0	4.1	0.0	0.0	0.0	17.5	24.8
Cycle Q Clear(g_c), s				9.1	0.0	0.0	4.1	0.0	0.0	0.0	17.5	24.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				466	0		232	3757	0	0	3130	959
V/C Ratio(X)				0.80	0.00		0.71	0.28	0.00	0.00	0.55	0.68
Avail Cap(c_a), veh/h				681	0		346	3757	0	0	3130	959
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.79	0.79	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.9	0.0	0.0	38.1	0.0	0.0	0.0	10.1	11.5
Incr Delay (d2), s/veh				4.1	0.0	0.0	1.2	0.2	0.0	0.0	0.7	3.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.0	0.0	0.0	1.6	0.1	0.0	0.0	5.4	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.1	0.0	0.0	39.3	0.2	0.0	0.0	10.8	15.4
LnGrp LOS				D	A		D	A	A	A	B	B
Approach Vol, veh/h					371	A		1232			2357	
Approach Delay, s/veh					42.1			5.4			12.1	
Approach LOS					D			A			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	72.4		11.1	61.4		17.6						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	60.8		9.0	46.8		17.2						
Max Q Clear Time (g_c+I1), s	2.0		6.1	26.8		11.1						
Green Ext Time (p_c), s	5.2		0.1	10.0		0.7						

Intersection Summary		
HCM 6th Ctrl Delay	12.8	
HCM 6th LOS	B	

Notes

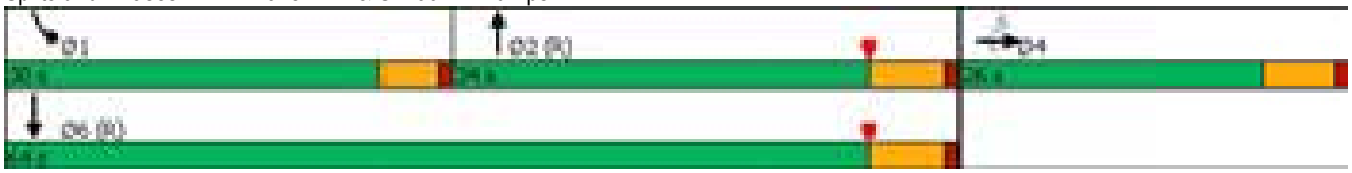
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	385	2	234	788	672	1336
Future Volume (vph)	385	2	234	788	672	1336
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	26.0	26.0	26.0	34.0	30.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	37.8%	33.3%	71.1%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	16.2	16.2	16.2	34.3	22.5	61.8
Actuated g/C Ratio	0.18	0.18	0.18	0.38	0.25	0.69
v/c Ratio	0.66	0.67	0.67	0.56	0.82	0.40
Control Delay	44.7	45.1	28.9	22.5	53.4	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	45.1	28.9	22.5	53.4	4.6
LOS	D	D	C	C	D	A
Approach Delay		38.8		22.5		20.9
Approach LOS		D		C		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 24.4	Intersection LOS: C
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	2	234	0	0	0	0	788	243	672	1336	0
Future Volume (veh/h)	385	2	234	0	0	0	0	788	243	672	1336	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	402	0	130				0	821	195	700	1392	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	516	0	230				0	1817	429	780	3685	0
Arrive On Green	0.14	0.00	0.14				0.00	0.44	0.44	0.45	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4294	973	3456	5274	0
Grp Volume(v), veh/h	402	0	130				0	676	340	700	1392	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1694	1728	1702	0
Q Serve(g_s), s	9.8	0.0	6.9				0.0	12.5	12.6	16.8	0.0	0.0
Cycle Q Clear(g_c), s	9.8	0.0	6.9				0.0	12.5	12.6	16.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.57	1.00		0.00
Lane Grp Cap(c), veh/h	516	0	230				0	1500	746	780	3685	0
V/C Ratio(X)	0.78	0.00	0.57				0.00	0.45	0.45	0.90	0.38	0.00
Avail Cap(c_a), veh/h	800	0	356				0	1500	746	960	3685	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.76	0.76	0.00
Uniform Delay (d), s/veh	37.1	0.0	35.8				0.0	17.6	17.6	23.7	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	2.2				0.0	1.0	2.0	7.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	2.7				0.0	4.6	4.8	5.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	0.0	38.0				0.0	18.6	19.6	31.3	0.2	0.0
LnGrp LOS	D	A	D				A	B	B	C	A	A
Approach Vol, veh/h		532						1016			2092	
Approach Delay, s/veh		39.3						18.9			10.6	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	25.3	45.8		18.8		71.2
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	25.0	27.8		20.2		57.8
Max Q Clear Time (g_c+I1), s	18.8	14.6		11.8		2.0
Green Ext Time (p_c), s	1.5	3.5		1.3		7.5

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

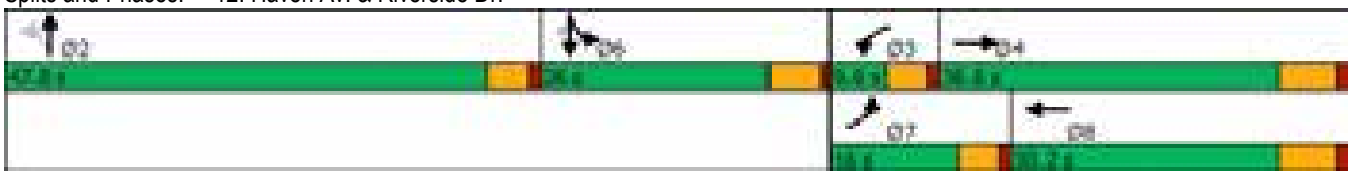
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	349	396	157	392	31	470	135	536	399
Future Volume (vph)	349	396	157	392	31	470	135	536	399
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	16.0	36.6	9.6	30.2	47.8	47.8	26.0	26.0	26.0
Total Split (%)	13.3%	30.5%	8.0%	25.2%	39.8%	39.8%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	11.4	30.4	5.0	24.0		43.1	20.2	20.2	20.2
Actuated g/C Ratio	0.10	0.25	0.04	0.20		0.36	0.17	0.17	0.17
v/c Ratio	2.43	1.06	2.52	0.75		3.53	0.53	1.88	0.84
Control Delay	685.6	101.6	751.9	51.3		1164.7	53.7	437.1	30.7
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	685.6	101.6	751.9	51.3		1164.7	53.7	437.1	30.7
LOS	F	F	F	D		F	D	F	C
Approach Delay		357.7		224.6		1164.7		237.0	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.53	
Intersection Signal Delay: 456.2	Intersection LOS: F
Intersection Capacity Utilization 122.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	396	51	157	392	87	31	470	149	135	536	399
Future Volume (veh/h)	349	396	51	157	392	87	31	470	149	135	536	399
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	364	412	52	164	408	71	32	490	149	141	558	190
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	389	49	66	572	99	29	446	136	268	298	252
Arrive On Green	0.09	0.25	0.25	0.04	0.20	0.20	0.36	0.36	0.36	0.17	0.17	0.17
Sat Flow, veh/h	1594	1536	194	1594	2860	493	81	1241	377	1594	1772	1496
Grp Volume(v), veh/h	364	0	464	164	239	240	671	0	0	141	558	190
Grp Sat Flow(s),veh/h/ln	1594	0	1729	1594	1683	1669	1700	0	0	1594	1772	1496
Q Serve(g_s), s	11.4	0.0	30.4	5.0	15.9	16.1	43.1	0.0	0.0	9.7	20.2	14.5
Cycle Q Clear(g_c), s	11.4	0.0	30.4	5.0	15.9	16.1	43.1	0.0	0.0	9.7	20.2	14.5
Prop In Lane	1.00		0.11	1.00		0.30	0.05		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	151	0	438	66	337	334	611	0	0	268	298	252
V/C Ratio(X)	2.40	0.00	1.06	2.47	0.71	0.72	1.10	0.00	0.00	0.53	1.87	0.75
Avail Cap(c_a), veh/h	151	0	438	66	337	334	611	0	0	268	298	252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	0.0	44.8	57.5	44.7	44.9	38.5	0.0	0.0	45.5	49.9	47.5
Incr Delay (d2), s/veh	651.6	0.0	59.5	704.1	6.7	7.3	66.5	0.0	0.0	1.9	404.4	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.8	0.0	19.6	14.9	7.0	7.1	28.9	0.0	0.0	3.9	42.2	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	705.9	0.0	104.3	761.6	51.5	52.2	104.9	0.0	0.0	47.4	454.3	59.7
LnGrp LOS	F	A	F	F	D	D	F	A	A	D	F	E
Approach Vol, veh/h		828			643			671			889	
Approach Delay, s/veh		368.8			232.9			104.9			305.4	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.8	9.6	36.6		26.0	16.0	30.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 43	5.0	30.4		20.2	11.4	24.0				
Max Q Clear Time (g_c+I1), s		45.1	7.0	32.4		22.2	13.4	18.1				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	1.3				

Intersection Summary		
HCM 6th Ctrl Delay		262.9
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	129	76	82	486	633	123
Future Vol, veh/h	129	76	82	486	633	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	80	86	512	666	129

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1415	731	795	0	-	0
Stage 1	731	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	151	422	826	-	-	-
Stage 1	476	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 135	422	826	-	-	-
Mov Cap-2 Maneuver	271	-	-	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	501	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.2	1.4	0
HCM LOS	D		

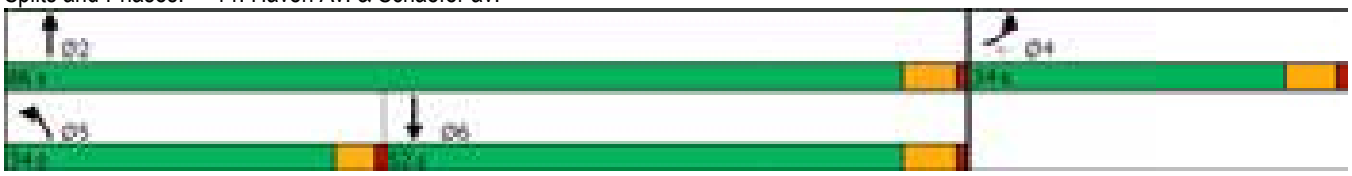
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	826	-	271	422	-	-
HCM Lane V/C Ratio	0.104	-	0.501	0.19	-	-
HCM Control Delay (s)	9.9	-	30.9	15.5	-	-
HCM Lane LOS	A	-	D	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.6	0.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	58	112	159	479	603
Future Volume (vph)	58	112	159	479	603
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	34.0	34.0	34.0	86.0	52.0
Total Split (%)	28.3%	28.3%	28.3%	71.7%	43.3%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.2	12.2	13.0	40.0	22.2
Actuated g/C Ratio	0.19	0.19	0.20	0.62	0.34
v/c Ratio	0.22	0.34	0.58	0.51	0.67
Control Delay	27.6	8.6	33.3	8.7	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	8.6	33.3	8.7	21.8
LOS	C	A	C	A	C
Approach Delay	15.0			14.8	21.8
Approach LOS	B			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 64.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 18.0	Intersection LOS: B
Intersection Capacity Utilization 51.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	112	159	479	603	59
Future Volume (veh/h)	58	112	159	479	603	59
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	67	61	185	557	701	69
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	275	259	231	1029	1047	103
Arrive On Green	0.17	0.17	0.15	0.58	0.34	0.34
Sat Flow, veh/h	1594	1502	1594	1772	3185	305
Grp Volume(v), veh/h	67	61	185	557	381	389
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1683	1717
Q Serve(g_s), s	1.7	1.6	5.3	9.0	9.1	9.1
Cycle Q Clear(g_c), s	1.7	1.6	5.3	9.0	9.1	9.1
Prop In Lane	1.00	1.00	1.00			0.18
Lane Grp Cap(c), veh/h	275	259	231	1029	569	581
V/C Ratio(X)	0.24	0.24	0.80	0.54	0.67	0.67
Avail Cap(c_a), veh/h	955	900	995	3019	1652	1685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	16.8	19.5	6.0	13.3	13.3
Incr Delay (d2), s/veh	0.5	0.5	2.4	0.4	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.5	1.8	1.7	2.7	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.3	17.3	21.9	6.5	14.7	14.7
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	128			742	770	
Approach Delay, s/veh	17.3			10.3	14.7	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		33.1		13.9	11.4	21.7
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		80.2		28.2	29.4	46.2
Max Q Clear Time (g_c+I1), s		11.0		3.7	7.3	11.1
Green Ext Time (p_c), s		3.7		0.3	0.2	4.8

Intersection Summary		
HCM 6th Ctrl Delay		12.9
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	980	38	243	742	237	19	210	75	239	348	129
Future Volume (vph)	226	980	38	243	742	237	19	210	75	239	348	129
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	17.0	45.2	45.2	10.8	39.0	39.0	15.4	49.0	49.0	15.0	48.6	48.6
Total Split (%)	14.2%	37.7%	37.7%	9.0%	32.5%	32.5%	12.8%	40.8%	40.8%	12.5%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	12.5	39.4	39.4	6.3	32.9	32.9	6.0	21.3	21.3	10.5	32.2	32.2
Actuated g/C Ratio	0.13	0.40	0.40	0.06	0.33	0.33	0.06	0.22	0.22	0.11	0.33	0.33
v/c Ratio	1.20	0.54	0.06	1.42	0.39	0.38	0.21	0.59	0.18	1.51	0.64	0.23
Control Delay	167.5	25.8	0.2	253.1	27.6	5.8	53.4	40.2	0.9	292.3	35.0	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	167.5	25.8	0.2	253.1	27.6	5.8	53.4	40.2	0.9	292.3	35.0	3.8
LOS	F	C	A	F	C	A	D	D	A	F	C	A
Approach Delay		50.7			68.3			31.3			115.3	
Approach LOS		D			E			C			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 99	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.51	
Intersection Signal Delay: 68.4	Intersection LOS: E
Intersection Capacity Utilization 72.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	980	38	243	742	237	19	210	75	239	348	129
Future Volume (veh/h)	226	980	38	243	742	237	19	210	75	239	348	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	240	1043	27	259	789	207	20	223	30	254	370	104
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	216	2063	640	197	2186	539	35	278	236	181	441	374
Arrive On Green	0.14	0.43	0.43	0.07	0.36	0.36	0.02	0.16	0.16	0.11	0.25	0.25
Sat Flow, veh/h	1594	4837	1502	2910	6095	1502	1594	1772	1502	1594	1772	1502
Grp Volume(v), veh/h	240	1043	27	259	789	207	20	223	30	254	370	104
Grp Sat Flow(s),veh/h/ln	1594	1612	1502	1455	1524	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	12.4	14.4	1.0	6.2	8.7	9.4	1.1	11.1	1.6	10.4	18.1	5.1
Cycle Q Clear(g_c), s	12.4	14.4	1.0	6.2	8.7	9.4	1.1	11.1	1.6	10.4	18.1	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	2063	640	197	2186	539	35	278	236	181	441	374
V/C Ratio(X)	1.11	0.51	0.04	1.31	0.36	0.38	0.58	0.80	0.13	1.40	0.84	0.28
Avail Cap(c_a), veh/h	216	2063	640	197	2186	539	188	837	709	181	829	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	19.2	15.3	42.6	21.6	21.8	44.3	37.2	33.2	40.5	32.6	27.7
Incr Delay (d2), s/veh	94.0	0.9	0.1	172.0	0.5	2.1	5.5	5.4	0.2	210.3	4.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	4.9	0.3	6.8	2.8	3.3	0.5	5.0	0.5	14.5	7.8	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	133.5	20.1	15.4	214.6	22.1	23.9	49.8	42.5	33.4	250.9	37.0	28.1
LnGrp LOS	F	C	B	F	C	C	D	D	C	F	D	C
Approach Vol, veh/h		1310			1255			273			728	
Approach Delay, s/veh		40.8			62.1			42.1			110.3	
Approach LOS		D			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	20.1	10.8	45.5	6.6	28.6	17.0	39.3
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	10.4	43.2	6.2	* 39	10.8	42.8	12.4	32.5
Max Q Clear Time (g_c+I1), s	12.4	13.1	8.2	16.4	3.1	20.1	14.4	11.4
Green Ext Time (p_c), s	0.0	1.2	0.0	6.9	0.0	2.3	0.0	5.4

Intersection Summary	
HCM 6th Ctrl Delay	62.6
HCM 6th LOS	E

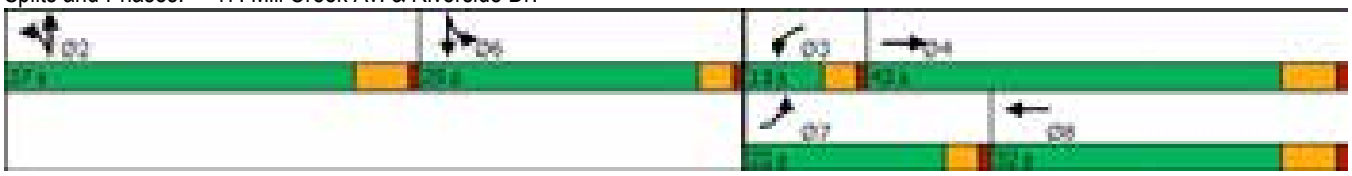
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	120	419	14	469	64	20	23	63	15
Future Volume (vph)	120	419	14	469	64	20	23	63	15
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	22.0	43.0	11.0	32.0	37.0	37.0	37.0	29.0	29.0
Total Split (%)	18.3%	35.8%	9.2%	26.7%	30.8%	30.8%	30.8%	24.2%	24.2%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	11.0	34.0	5.7	20.4	12.4	12.4	12.4	12.3	12.3
Actuated g/C Ratio	0.14	0.44	0.07	0.27	0.16	0.16	0.16	0.16	0.16
v/c Ratio	0.56	0.39	0.13	0.72	0.27	0.07	0.07	0.26	0.31
Control Delay	43.7	16.5	43.2	31.4	34.2	31.8	0.4	34.5	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	16.5	43.2	31.4	34.2	31.8	0.4	34.5	14.1
LOS	D	B	D	C	C	C	A	C	B
Approach Delay		21.6		31.7		26.6			22.5
Approach LOS		C		C		C			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 76.7	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 26.1	Intersection LOS: C
Intersection Capacity Utilization 49.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	419	110	14	469	124	64	20	23	63	15	74
Future Volume (veh/h)	120	419	110	14	469	124	64	20	23	63	15	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	128	446	64	15	499	84	68	21	11	67	16	52
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	942	134	29	684	115	263	293	248	277	63	203
Arrive On Green	0.10	0.32	0.32	0.02	0.24	0.24	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1594	2955	422	1594	2885	483	1594	1772	1499	1594	359	1168
Grp Volume(v), veh/h	128	253	257	15	290	293	68	21	11	67	0	68
Grp Sat Flow(s),veh/h/ln	1594	1683	1694	1594	1683	1685	1594	1772	1499	1594	0	1527
Q Serve(g_s), s	4.8	7.4	7.5	0.6	9.7	9.8	2.3	0.6	0.4	2.2	0.0	2.4
Cycle Q Clear(g_c), s	4.8	7.4	7.5	0.6	9.7	9.8	2.3	0.6	0.4	2.2	0.0	2.4
Prop In Lane	1.00		0.25	1.00		0.29	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	160	537	540	29	399	400	263	293	248	277	0	266
V/C Ratio(X)	0.80	0.47	0.48	0.51	0.73	0.73	0.26	0.07	0.04	0.24	0.00	0.26
Avail Cap(c_a), veh/h	469	1017	1023	182	715	715	812	903	764	651	0	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	16.7	16.7	29.8	21.5	21.6	22.3	21.6	21.5	21.8	0.0	21.9
Incr Delay (d2), s/veh	3.5	0.6	0.7	5.1	2.5	2.6	0.5	0.1	0.1	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.4	2.5	0.2	3.5	3.5	0.8	0.2	0.1	0.8	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	17.4	17.4	34.8	24.1	24.2	22.8	21.7	21.6	22.2	0.0	22.4
LnGrp LOS	C	B	B	C	C	C	C	C	C	C	A	C
Approach Vol, veh/h		638			598			100			135	
Approach Delay, s/veh		20.0			24.4			22.4			22.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.9	5.1	25.5		14.7	10.1	20.5				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		31.2	7.0	37.0		25.0	18.0	26.0				
Max Q Clear Time (g_c+I1), s		4.3	2.6	9.5		4.4	6.8	11.8				
Green Ext Time (p_c), s		0.3	0.0	2.7		0.5	0.1	2.6				

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	1	0
Future Vol, veh/h	0	0	0	0	1	0
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	4	0
Number of Lanes	0	1	1	0	1	0

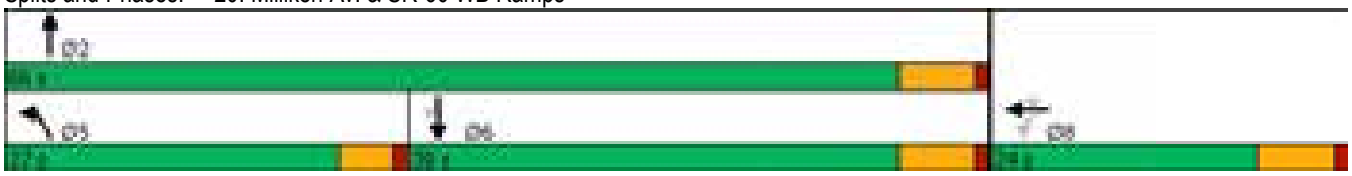
Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	0	0	7.2
HCM LOS	-	-	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	100%	0%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	1
LT Vol	0	0	1
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	4
Geometry Grp	1	1	1
Degree of Util (X)	0	0	0.005
Departure Headway (Hd)	3.937	3.942	4.134
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	871
Service Time	1.938	1.944	2.134
HCM Lane V/C Ratio	0	0	0.005
HCM Control Delay	6.9	6.9	7.2
HCM Lane LOS	N	N	A
HCM 95th-tile Q	0	0	0

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	352	309	812	1062	572
Future Volume (vph)	4	352	309	812	1062	572
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	9.6	16.2	16.2	16.2
Total Split (s)	24.0	24.0	27.0	66.0	39.0	39.0
Total Split (%)	26.7%	26.7%	30.0%	73.3%	43.3%	43.3%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	14.4	14.4	18.1	53.2	30.4	30.4
Actuated g/C Ratio	0.18	0.18	0.23	0.66	0.38	0.38
v/c Ratio	0.30	0.81	0.81	0.34	0.79	0.62
Control Delay	33.2	30.1	47.0	6.5	27.9	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	30.1	47.0	6.5	27.9	5.4
LOS	C	C	D	A	C	A
Approach Delay	30.8			17.6	20.0	
Approach LOS	C			B	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 80.3	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 20.7	Intersection LOS: C
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	87	4	352	309	812	0	0	1062	572
Future Volume (veh/h)	0	0	0	87	4	352	309	812	0	0	1062	572
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				91	4	191	322	846	0	0	1106	304
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				264	12	245	371	2477	0	0	1444	612
Arrive On Green				0.15	0.15	0.15	0.21	0.66	0.00	0.00	0.39	0.39
Sat Flow, veh/h				1710	75	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				95	0	191	322	846	0	0	1106	304
Grp Sat Flow(s),veh/h/ln				1785	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				3.2	0.0	7.8	11.8	6.7	0.0	0.0	17.4	9.9
Cycle Q Clear(g_c), s				3.2	0.0	7.8	11.8	6.7	0.0	0.0	17.4	9.9
Prop In Lane				0.96		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				276	0	245	371	2477	0	0	1444	612
V/C Ratio(X)				0.34	0.00	0.78	0.87	0.34	0.00	0.00	0.77	0.50
Avail Cap(c_a), veh/h				470	0	417	590	3307	0	0	1814	769
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.5	0.0	27.5	25.9	5.0	0.0	0.0	18.1	15.8
Incr Delay (d2), s/veh				0.7	0.0	5.4	4.8	0.1	0.0	0.0	1.6	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.3	0.0	3.0	4.9	1.4	0.0	0.0	6.4	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				26.3	0.0	32.9	30.7	5.1	0.0	0.0	19.7	16.4
LnGrp LOS				C	A	C	C	A	A	A	B	B
Approach Vol, veh/h					286			1168			1410	
Approach Delay, s/veh					30.7			12.1			19.0	
Approach LOS					C			B			B	

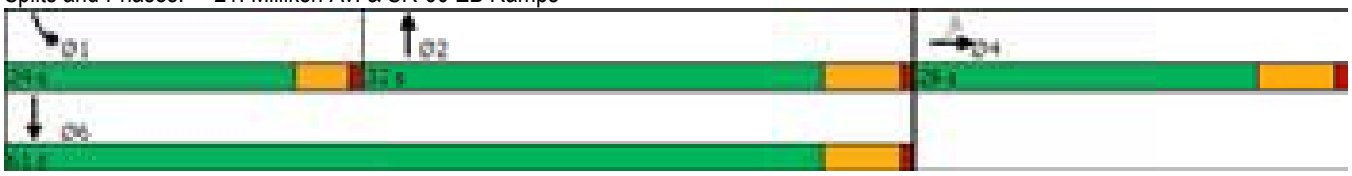
Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	51.0		18.7	32.3		16.6						
Change Period (Y+Rc), s	6.2		4.6	6.2		6.2						
Max Green Setting (Gmax), s	59.8		22.4	32.8		17.8						
Max Q Clear Time (g_c+I1), s	8.7		13.8	19.4		9.8						
Green Ext Time (p_c), s	6.1		0.3	6.7		0.7						

Intersection Summary		
HCM 6th Ctrl Delay		17.3
HCM 6th LOS		B

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	290	4	822	246	902
Future Volume (vph)	290	4	822	246	902
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	16.2	23.2	9.6	16.2
Total Split (s)	29.0	29.0	37.0	24.0	61.0
Total Split (%)	32.2%	32.2%	41.1%	26.7%	67.8%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	17.4	17.4	25.9	15.0	45.7
Actuated g/C Ratio	0.23	0.23	0.34	0.20	0.60
v/c Ratio	0.67	0.79	0.80	0.74	0.42
Control Delay	37.3	30.8	28.6	44.3	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	30.8	28.6	44.3	9.0
LOS	D	C	C	D	A
Approach Delay		33.5	28.6		16.6
Approach LOS		C	C		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 76.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 24.7	Intersection LOS: C
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	4	327	0	0	0	0	822	141	246	902	0
Future Volume (veh/h)	290	4	327	0	0	0	0	822	141	246	902	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	245	83	185				0	856	79	256	940	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	379	110	244				0	1131	104	308	2184	0
Arrive On Green	0.21	0.21	0.21				0.00	0.34	0.34	0.17	0.58	0.00
Sat Flow, veh/h	1781	515	1148				0	3373	311	1781	3741	0
Grp Volume(v), veh/h	245	0	268				0	475	460	256	940	0
Grp Sat Flow(s),veh/h/ln	1781	0	1664				0	1870	1814	1781	1870	0
Q Serve(g_s), s	7.7	0.0	9.2				0.0	13.8	13.8	8.5	8.5	0.0
Cycle Q Clear(g_c), s	7.7	0.0	9.2				0.0	13.8	13.8	8.5	8.5	0.0
Prop In Lane	1.00		0.69				0.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	379	0	354				0	627	608	308	2184	0
V/C Ratio(X)	0.65	0.00	0.76				0.00	0.76	0.76	0.83	0.43	0.00
Avail Cap(c_a), veh/h	666	0	622				0	945	917	567	3364	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.9	0.0	22.5				0.0	18.0	18.0	24.3	7.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	3.3				0.0	1.9	2.0	2.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	3.4				0.0	5.1	4.9	3.2	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	0.0	25.8				0.0	20.0	20.0	26.6	7.2	0.0
LnGrp LOS	C	A	C				A	B	C	C	A	A
Approach Vol, veh/h		513						935			1196	
Approach Delay, s/veh		24.8						20.0			11.3	
Approach LOS		C						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.1	26.6		19.2		41.8
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	19.4	30.8		22.8		54.8
Max Q Clear Time (g_c+I1), s	10.5	15.8		11.2		10.5
Green Ext Time (p_c), s	0.2	4.7		1.8		7.0

Intersection Summary		
HCM 6th Ctrl Delay		17.0
HCM 6th LOS		B

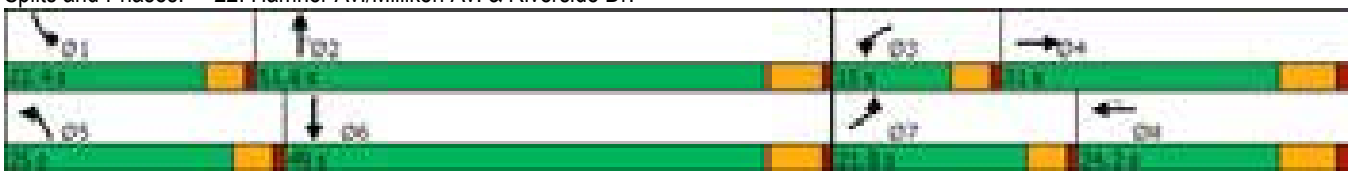
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	171	147	88	158	176	189	534	54	234	770
Future Volume (vph)	171	147	88	158	176	189	534	54	234	770
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	21.8	31.0	15.0	24.2	24.2	25.0	51.6	51.6	22.4	49.0
Total Split (%)	18.2%	25.8%	12.5%	20.2%	20.2%	20.8%	43.0%	43.0%	18.7%	40.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	15.5	24.4	9.4	18.3	18.3	17.4	40.2	40.2	18.0	40.7
Actuated g/C Ratio	0.14	0.21	0.08	0.16	0.16	0.15	0.35	0.35	0.16	0.36
v/c Ratio	0.84	0.93	0.72	0.59	0.47	0.82	0.47	0.09	0.99	0.92
Control Delay	80.0	71.5	81.5	55.6	10.7	73.7	29.8	0.3	103.6	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.0	71.5	81.5	55.6	10.7	73.7	29.8	0.3	103.6	47.0
LOS	F	E	F	E	B	E	C	A	F	D
Approach Delay		74.4		42.3			38.4			57.5
Approach LOS		E		D			D			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 53.2	Intersection LOS: D
Intersection Capacity Utilization 86.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	147	186	88	158	176	189	534	54	234	770	256
Future Volume (veh/h)	171	147	186	88	158	176	189	534	54	234	770	256
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	180	155	155	93	166	147	199	562	52	246	811	255
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	171	171	114	272	231	227	1131	504	272	915	287
Arrive On Green	0.13	0.21	0.21	0.07	0.15	0.15	0.14	0.34	0.34	0.17	0.36	0.36
Sat Flow, veh/h	1594	807	807	1594	1772	1502	1594	3367	1499	1594	2511	789
Grp Volume(v), veh/h	180	0	310	93	166	147	199	562	52	246	543	523
Grp Sat Flow(s),veh/h/ln	1594	0	1613	1594	1772	1502	1594	1683	1499	1594	1683	1617
Q Serve(g_s), s	11.4	0.0	19.3	5.9	9.0	9.5	12.6	13.7	2.5	15.6	31.2	31.3
Cycle Q Clear(g_c), s	11.4	0.0	19.3	5.9	9.0	9.5	12.6	13.7	2.5	15.6	31.2	31.3
Prop In Lane	1.00		0.50	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	207	0	342	114	272	231	227	1131	504	272	613	589
V/C Ratio(X)	0.87	0.00	0.91	0.81	0.61	0.64	0.88	0.50	0.10	0.90	0.89	0.89
Avail Cap(c_a), veh/h	266	0	388	161	309	262	315	1483	660	275	699	671
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	0.0	39.6	47.2	40.7	40.9	43.3	27.3	23.5	41.9	30.8	30.8
Incr Delay (d2), s/veh	17.8	0.0	22.7	13.3	2.8	4.2	14.3	0.3	0.1	29.7	12.1	12.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	9.4	2.7	4.0	3.6	5.6	5.2	0.8	8.1	13.6	13.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	0.0	62.3	60.5	43.5	45.1	57.7	27.6	23.6	71.7	42.8	43.3
LnGrp LOS	E	A	E	E	D	D	E	C	C	E	D	D
Approach Vol, veh/h		490			406			813			1312	
Approach Delay, s/veh		62.1			48.0			34.7			48.4	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.2	40.8	12.0	28.1	19.3	43.8	18.0	22.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.8	45.4	10.4	24.8	20.4	42.8	17.2	18.0
Max Q Clear Time (g_c+I1), s	17.6	15.7	7.9	21.3	14.6	33.3	13.4	11.5
Green Ext Time (p_c), s	0.0	3.7	0.0	0.5	0.1	4.3	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	0	757	1023	2
Future Vol, veh/h	1	0	0	757	1023	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	0	832	1124	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1541	1125	1126	0	-	0
Stage 1	1125	-	-	-	-	-
Stage 2	416	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	116	249	618	-	-	-
Stage 1	309	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	116	249	618	-	-	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	309	-	-	-	-	-
Stage 2	635	-	-	-	-	-

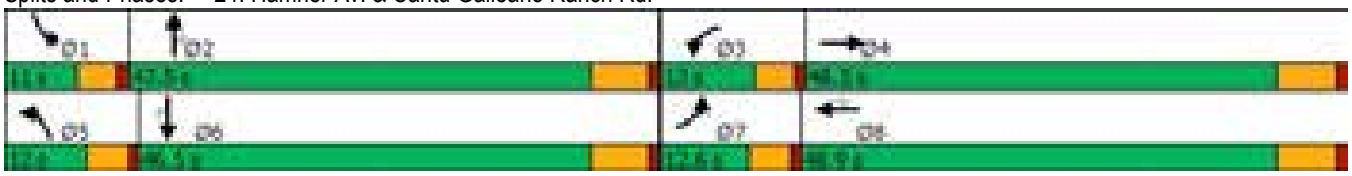
Approach	EB	NB	SB
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	618	-	276	-	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s)	0	-	18.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	154	1181	410	964	166	329	424	323	265	581	104
Future Volume (vph)	154	1181	410	964	166	329	424	323	265	581	104
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	12.6	48.5	13.0	48.9	48.9	12.0	47.5	47.5	11.0	46.5	46.5
Total Split (%)	10.5%	40.4%	10.8%	40.8%	40.8%	10.0%	39.6%	39.6%	9.2%	38.8%	38.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.8	33.4	8.6	34.3	34.3	7.6	25.4	25.4	6.6	24.4	24.4
Actuated g/C Ratio	0.08	0.35	0.09	0.36	0.36	0.08	0.26	0.26	0.07	0.25	0.25
v/c Ratio	0.58	0.69	1.40	0.80	0.26	1.27	0.33	0.63	1.18	0.68	0.22
Control Delay	55.1	28.3	232.6	34.3	5.3	186.7	29.4	21.6	159.5	36.7	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	28.3	232.6	34.3	5.3	186.7	29.4	21.6	159.5	36.7	6.0
LOS	E	C	F	C	A	F	C	C	F	D	A
Approach Delay		30.9		84.0			75.2			67.6	
Approach LOS		C		F			E			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 96.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.40	
Intersection Signal Delay: 62.6	Intersection LOS: E
Intersection Capacity Utilization 77.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	1181	281	410	964	166	329	424	323	265	581	104
Future Volume (veh/h)	154	1181	281	410	964	166	329	424	323	265	581	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	1230	168	427	1004	107	343	442	180	276	605	67
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	1859	253	346	1259	561	305	1229	381	263	813	362
Arrive On Green	0.07	0.32	0.32	0.10	0.35	0.35	0.09	0.24	0.24	0.08	0.23	0.23
Sat Flow, veh/h	3456	5771	784	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	160	1028	370	427	1004	107	343	442	180	276	605	67
Grp Sat Flow(s),veh/h/ln	1728	1609	1729	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	3.8	15.4	15.5	8.4	21.3	3.9	7.4	6.0	8.2	6.4	13.3	2.9
Cycle Q Clear(g_c), s	3.8	15.4	15.5	8.4	21.3	3.9	7.4	6.0	8.2	6.4	13.3	2.9
Prop In Lane	1.00		0.45	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	1555	557	346	1259	561	305	1229	381	263	813	362
V/C Ratio(X)	0.68	0.66	0.66	1.23	0.80	0.19	1.13	0.36	0.47	1.05	0.74	0.18
Avail Cap(c_a), veh/h	329	2414	865	346	1795	801	305	2512	780	263	1706	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	24.5	24.5	37.8	24.4	18.8	38.3	26.5	27.3	38.8	30.1	26.1
Incr Delay (d2), s/veh	1.3	0.5	1.4	128.2	1.7	0.2	90.0	0.2	0.9	68.5	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.2	5.8	9.4	8.0	1.3	6.7	2.3	2.9	5.0	5.3	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	25.0	25.9	166.0	26.1	18.9	128.2	26.7	28.2	107.2	31.5	26.3
LnGrp LOS	D	C	C	F	C	B	F	C	C	F	C	C
Approach Vol, veh/h		1558			1538			965			948	
Approach Delay, s/veh		26.7			64.4			63.1			53.2	
Approach LOS		C			E			E			D	

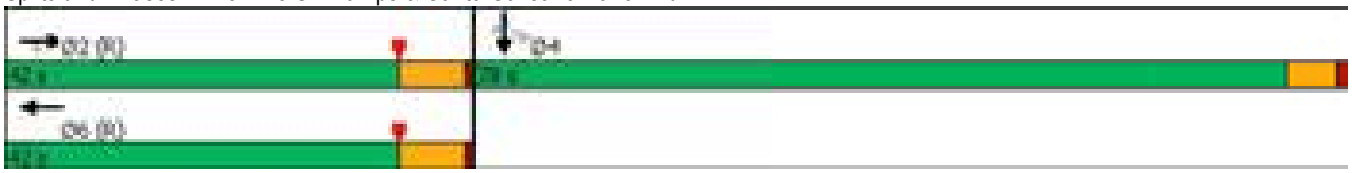
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	26.4	13.0	33.5	12.0	25.4	10.3	36.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.4	41.3	8.4	42.0	7.4	40.3	8.0	42.4
Max Q Clear Time (g_c+I1), s	8.4	10.2	10.4	17.5	9.4	15.3	5.8	23.3
Green Ext Time (p_c), s	0.0	3.4	0.0	9.2	0.0	3.9	0.1	6.4

Intersection Summary	
HCM 6th Ctrl Delay	50.3
HCM 6th LOS	D

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1663	363	732	151	320	1	1429
Future Volume (vph)	1663	363	732	151	320	1	1429
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	42.0	42.0	42.0		78.0	78.0	78.0
Total Split (%)	35.0%	35.0%	35.0%		65.0%	65.0%	65.0%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min		Min	Min	Min
Act Effct Green (s)	36.8	36.8	36.8	120.0	70.9	70.9	70.9
Actuated g/C Ratio	0.31	0.31	0.31	1.00	0.59	0.59	0.59
v/c Ratio	1.16	0.58	0.73	0.06	0.32	0.92	0.88
Control Delay	118.1	14.4	50.4	0.0	13.1	38.0	32.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.5	0.0
Total Delay	118.1	14.4	50.4	0.0	13.1	41.5	32.3
LOS	F	B	D	A	B	D	C
Approach Delay	99.5		41.8			33.0	
Approach LOS	F		D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 113.2 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 63.6	Intersection LOS: E
Intersection Capacity Utilization 89.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1663	363	0	732	151	0	0	0	320	1	1429
Future Volume (veh/h)	0	1663	363	0	732	151	0	0	0	320	1	1429
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1808	0	0	796	0				232	0	1243
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2343		0	1631					781	0	1390
Arrive On Green	0.00	0.46	0.00	0.00	0.61	0.00				0.44	0.00	0.44
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	1808	0	0	796	0				232	0	1243
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	35.6	0.0	0.0	14.9	0.0				10.1	0.0	43.5
Cycle Q Clear(g_c), s	0.0	35.6	0.0	0.0	14.9	0.0				10.1	0.0	43.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2343		0	1631					781	0	1390
V/C Ratio(X)	0.00	0.77		0.00	0.49					0.30	0.00	0.89
Avail Cap(c_a), veh/h	0	2343		0	1631					1076	0	1915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.58	0.00	0.00	0.91	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.2	0.0	0.0	15.6	0.0				21.7	0.0	31.1
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	1.0	0.0				0.2	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.4	0.0	0.0	5.0	0.0				4.1	0.0	16.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	28.7	0.0	0.0	16.5	0.0				22.0	0.0	35.6
LnGrp LOS	A	C		A	B					C	A	D
Approach Vol, veh/h		1808	A		796	A					1475	
Approach Delay, s/veh		28.7			16.5						33.5	
Approach LOS		C			B						C	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		61.9		58.1		61.9						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		35.2		72.5		35.2						
Max Q Clear Time (g_c+I1), s		37.6		45.5		16.9						
Green Ext Time (p_c), s		0.0		7.2		4.5						

Intersection Summary		
HCM 6th Ctrl Delay		28.0
HCM 6th LOS		C

Notes

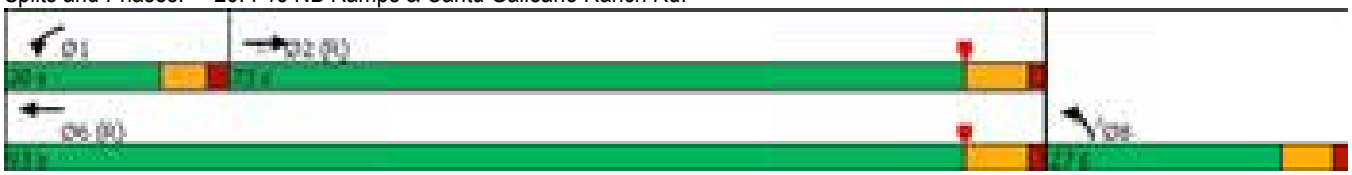
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	844	1187	241	491	370	169
Future Volume (vph)	844	1187	241	491	370	169
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.0	22.5	22.5	22.5
Total Split (s)	73.0	73.0	20.0	93.0	27.0	27.0
Total Split (%)	60.8%	60.8%	16.7%	77.5%	22.5%	22.5%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	68.7	68.7	13.1	87.9	18.8	18.8
Actuated g/C Ratio	0.57	0.57	0.11	0.73	0.16	0.16
v/c Ratio	0.31	1.08	0.70	0.14	0.78	0.45
Control Delay	8.9	70.2	61.8	5.1	58.6	10.7
Queue Delay	0.0	8.5	0.0	0.0	0.0	0.0
Total Delay	8.9	78.7	61.8	5.1	58.6	10.7
LOS	A	E	E	A	E	B
Approach Delay	49.7			23.8	45.0	
Approach LOS	D			C	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 43.2	Intersection LOS: D
Intersection Capacity Utilization 91.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	844	1187	241	491	370	169
Future Volume (veh/h)	844	1187	241	491	370	169
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	917	747	262	534	402	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3122	969	322	3853	480	213
Arrive On Green	1.00	1.00	0.09	0.75	0.13	0.13
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	917	747	262	534	402	102
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	0.0	0.0	8.9	3.4	13.2	7.1
Cycle Q Clear(g_c), s	0.0	0.0	8.9	3.4	13.2	7.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	3122	969	322	3853	480	213
V/C Ratio(X)	0.29	0.77	0.81	0.14	0.84	0.48
Avail Cap(c_a), veh/h	3122	969	403	3853	623	277
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	53.4	4.0	50.6	48.0
Incr Delay (d2), s/veh	0.0	0.6	9.1	0.1	7.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	4.1	0.9	6.2	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.6	62.5	4.1	58.4	49.7
LnGrp LOS	A	A	E	A	E	D
Approach Vol, veh/h	1664			796	504	
Approach Delay, s/veh	0.3			23.3	56.7	
Approach LOS	A			C	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	17.2	80.7				97.8	22.2
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	14.0	65.7				85.7	21.0
Max Q Clear Time (g_c+I1), s	10.9	2.0				5.4	15.2
Green Ext Time (p_c), s	0.2	11.8				3.4	0.9

Intersection Summary	
HCM 6th Ctrl Delay	16.0
HCM 6th LOS	B

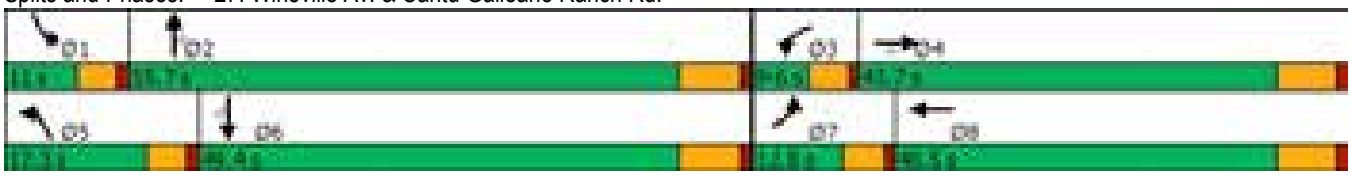
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	112	438	352	29	332	214	102	51	32	186	193
Future Volume (vph)	112	438	352	29	332	214	102	51	32	186	193
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	12.8	43.7	43.7	9.6	40.5	17.3	55.7	55.7	11.0	49.4	49.4
Total Split (%)	10.7%	36.4%	36.4%	8.0%	33.8%	14.4%	46.4%	46.4%	9.2%	41.2%	41.2%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.3	19.7	19.7	5.7	13.6	9.6	27.4	27.4	6.3	16.0	16.0
Actuated g/C Ratio	0.11	0.29	0.29	0.08	0.20	0.14	0.40	0.40	0.09	0.23	0.23
v/c Ratio	0.33	0.26	0.53	0.11	0.38	0.48	0.08	0.08	0.21	0.46	0.39
Control Delay	38.2	20.7	6.1	40.4	25.8	36.1	16.9	0.2	42.0	27.6	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	20.7	6.1	40.4	25.8	36.1	16.9	0.2	42.0	27.6	6.2
LOS	D	C	A	D	C	D	B	A	D	C	A
Approach Delay		17.2			26.9		25.8			18.7	
Approach LOS		B			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 68.4	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 50.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	438	352	29	332	23	214	102	51	32	186	193
Future Volume (veh/h)	112	438	352	29	332	23	214	102	51	32	186	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	122	476	245	32	361	15	233	111	29	35	202	145
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	1607	396	124	1028	42	363	842	375	68	319	270
Arrive On Green	0.08	0.25	0.25	0.04	0.20	0.20	0.10	0.24	0.24	0.04	0.17	0.17
Sat Flow, veh/h	3456	6434	1585	3456	5030	207	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	122	476	245	32	243	133	233	111	29	35	202	145
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1833	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	1.7	3.0	6.9	0.5	3.1	3.1	3.3	1.2	0.7	1.0	5.1	4.2
Cycle Q Clear(g_c), s	1.7	3.0	6.9	0.5	3.1	3.1	3.3	1.2	0.7	1.0	5.1	4.2
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	1607	396	124	696	375	363	842	375	68	319	270
V/C Ratio(X)	0.44	0.30	0.62	0.26	0.35	0.35	0.64	0.13	0.08	0.51	0.63	0.54
Avail Cap(c_a), veh/h	561	4735	1167	342	2290	1233	868	3459	1543	226	1587	1345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	15.4	16.8	23.7	17.2	17.2	21.7	15.2	15.0	23.8	19.5	19.1
Incr Delay (d2), s/veh	0.4	0.1	1.6	0.4	0.3	0.6	0.7	0.1	0.1	2.2	2.1	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.8	2.1	0.2	1.0	1.1	1.2	0.4	0.2	0.4	2.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	15.5	18.4	24.1	17.5	17.8	22.4	15.3	15.1	26.0	21.6	20.8
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		843			408			373			382	
Approach Delay, s/veh		17.3			18.1			19.7			21.7	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	18.5	6.4	19.1	9.9	15.1	8.7	16.8
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	6.4	49.2	5.0	37.2	12.7	42.9	8.2	34.0
Max Q Clear Time (g_c+I1), s	3.0	3.2	2.5	8.9	5.3	7.1	3.7	5.1
Green Ext Time (p_c), s	0.0	0.7	0.0	3.7	0.2	1.5	0.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

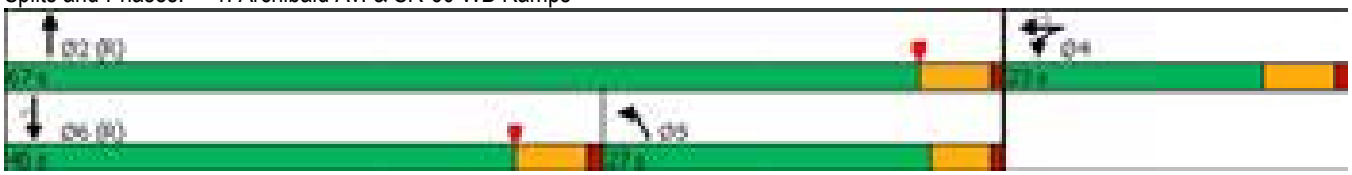
APPENDIX 6.2: OPENING YEAR CUMULATIVE (2027) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	416	8	488	889	1299	569	176
Future Volume (vph)	416	8	488	889	1299	569	176
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	23.0	23.0	23.0	27.0	67.0	40.0	40.0
Total Split (%)	25.6%	25.6%	25.6%	30.0%	74.4%	44.4%	44.4%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	24.0	24.0	24.0	30.0	54.4	19.5	19.5
Actuated g/C Ratio	0.27	0.27	0.27	0.33	0.60	0.22	0.22
v/c Ratio	0.72	0.68	0.63	0.79	0.43	0.42	0.37
Control Delay	42.0	31.5	26.9	30.1	4.5	30.8	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	31.5	26.9	30.1	4.5	30.8	6.1
LOS	D	C	C	C	A	C	A
Approach Delay		33.7			14.9	24.9	
Approach LOS		C			B	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 21.3	Intersection LOS: C
Intersection Capacity Utilization 73.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	416	8	488	889	1299	0	0	569	176
Future Volume (veh/h)	0	0	0	416	8	488	889	1299	0	0	569	176
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				578	0	305	907	1326	0	0	581	83
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				681	0	302	1607	3472	0	0	969	239
Arrive On Green				0.19	0.00	0.19	0.93	1.00	0.00	0.00	0.15	0.15
Sat Flow, veh/h				3563	0	1583	3456	5274	0	0	6696	1585
Grp Volume(v), veh/h				578	0	305	907	1326	0	0	581	83
Grp Sat Flow(s),veh/h/ln				1781	0	1583	1728	1702	0	0	1609	1585
Q Serve(g_s), s				14.1	0.0	17.2	3.5	0.0	0.0	0.0	7.6	4.2
Cycle Q Clear(g_c), s				14.1	0.0	17.2	3.5	0.0	0.0	0.0	7.6	4.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				681	0	302	1607	3472	0	0	969	239
V/C Ratio(X)				0.85	0.00	1.01	0.56	0.38	0.00	0.00	0.60	0.35
Avail Cap(c_a), veh/h				681	0	302	1607	3472	0	0	2445	602
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.71	0.71	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.1	0.0	36.4	1.8	0.0	0.0	0.0	35.7	34.3
Incr Delay (d2), s/veh				9.9	0.0	53.9	0.2	0.2	0.0	0.0	2.7	4.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.7	0.0	18.2	0.6	0.1	0.0	0.0	3.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				45.0	0.0	90.3	2.0	0.2	0.0	0.0	38.4	38.2
LnGrp LOS				D	A	F	A	A	A	A	D	D
Approach Vol, veh/h					883			2233			664	
Approach Delay, s/veh					60.7			1.0			38.4	
Approach LOS					E			A			D	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	67.0	23.0	47.6	19.4
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	61.2	17.2	22.0	* 34
Max Q Clear Time (g_c+I1), s	2.0	19.2	5.5	9.6
Green Ext Time (p_c), s	12.2	0.0	1.7	4.0

Intersection Summary	
HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

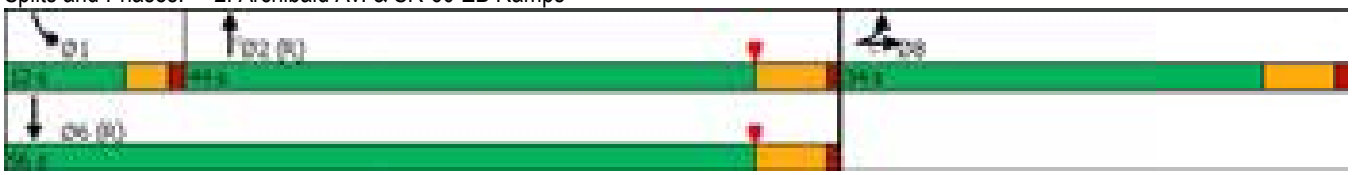
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	386	5	509	1796	637	166	841
Future Volume (vph)	386	5	509	1796	637	166	841
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	34.0	34.0	34.0	44.0	44.0	12.0	56.0
Total Split (%)	37.8%	37.8%	37.8%	48.9%	48.9%	13.3%	62.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	23.7	23.7	23.7	42.8	42.8	7.8	54.7
Actuated g/C Ratio	0.26	0.26	0.26	0.48	0.48	0.09	0.61
v/c Ratio	0.76	0.66	0.64	0.63	0.62	0.60	0.29
Control Delay	41.5	23.5	22.6	19.8	4.3	54.3	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	23.5	22.6	19.8	4.3	54.3	2.2
LOS	D	C	C	B	A	D	A
Approach Delay		29.5		15.7			10.7
Approach LOS		C		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 17.4	Intersection LOS: B
Intersection Capacity Utilization 73.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	386	5	509	0	0	0	0	1796	637	166	841	0
Future Volume (veh/h)	386	5	509	0	0	0	0	1796	637	166	841	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	521	0	224				0	1931	505	178	904	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	666	0	292				0	3658	882	246	3493	0
Arrive On Green	0.19	0.00	0.19				0.00	0.57	0.57	0.14	1.00	0.00
Sat Flow, veh/h	3563	0	1562				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	521	0	224				0	1931	505	178	904	0
Grp Sat Flow(s),veh/h/ln	1781	0	1562				0	1609	1551	1728	1702	0
Q Serve(g_s), s	12.5	0.0	12.3				0.0	16.7	18.7	4.4	0.0	0.0
Cycle Q Clear(g_c), s	12.5	0.0	12.3				0.0	16.7	18.7	4.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	666	0	292				0	3658	882	246	3493	0
V/C Ratio(X)	0.78	0.00	0.77				0.00	0.53	0.57	0.72	0.26	0.00
Avail Cap(c_a), veh/h	1116	0	489				0	3658	882	307	3493	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.84	0.84	0.00
Uniform Delay (d), s/veh	34.8	0.0	34.7				0.0	12.0	12.4	37.8	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	4.2				0.0	0.5	2.7	3.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	4.7				0.0	5.0	5.9	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	0.0	38.9				0.0	12.5	15.1	41.3	0.2	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		745						2436			1082	
Approach Delay, s/veh		37.5						13.1			6.9	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	10.4	57.0				67.4		22.6				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	8.0	38.2				50.2		28.2				
Max Q Clear Time (g_c+I1), s	6.4	20.7				2.0		14.5				
Green Ext Time (p_c), s	0.0	13.2				6.6		2.3				

Intersection Summary			
HCM 6th Ctrl Delay			15.8
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	164	439	210	131	612	289	352	1662	244	730
Future Volume (vph)	164	439	210	131	612	289	352	1662	244	730
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	18.0	41.5	41.5	14.7	38.2	38.2	29.0	42.0	21.8	34.8
Total Split (%)	15.0%	34.6%	34.6%	12.3%	31.8%	31.8%	24.2%	35.0%	18.2%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.4	31.1	31.1	10.1	27.8	27.8	24.4	35.9	17.2	28.6
Actuated g/C Ratio	0.12	0.27	0.27	0.09	0.24	0.24	0.21	0.31	0.15	0.25
v/c Ratio	0.93	0.51	0.39	0.99	0.79	0.52	1.10	1.29	1.08	0.81
Control Delay	103.9	37.9	6.4	127.5	49.4	7.3	122.9	171.4	129.3	45.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.9	37.9	6.4	127.5	49.4	7.3	122.9	171.4	129.3	45.4
LOS	F	D	A	F	D	A	F	F	F	D
Approach Delay		43.1			47.5			163.6		63.0
Approach LOS		D			D			F		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.29	
Intersection Signal Delay: 99.1	Intersection LOS: F
Intersection Capacity Utilization 100.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	439	210	131	612	289	352	1662	173	244	730	192
Future Volume (veh/h)	164	439	210	131	612	289	352	1662	173	244	730	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	171	457	161	136	638	237	367	1731	177	254	760	160
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	867	381	138	772	338	335	1371	140	236	1039	217
Arrive On Green	0.12	0.26	0.26	0.09	0.23	0.23	0.21	0.31	0.31	0.15	0.26	0.26
Sat Flow, veh/h	1594	3367	1478	1594	3367	1473	1594	4453	454	1594	3999	833
Grp Volume(v), veh/h	171	457	161	136	638	237	367	1252	656	254	611	309
Grp Sat Flow(s),veh/h/ln	1594	1683	1478	1594	1683	1473	1594	1612	1682	1594	1612	1608
Q Serve(g_s), s	12.4	13.6	10.6	9.9	20.9	11.5	24.4	35.8	35.8	17.2	20.1	20.4
Cycle Q Clear(g_c), s	12.4	13.6	10.6	9.9	20.9	11.5	24.4	35.8	35.8	17.2	20.1	20.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.52
Lane Grp Cap(c), veh/h	184	867	381	138	772	338	335	993	518	236	838	418
V/C Ratio(X)	0.93	0.53	0.42	0.98	0.83	0.70	1.10	1.26	1.27	1.08	0.73	0.74
Avail Cap(c_a), veh/h	184	1022	449	138	927	405	335	993	518	236	838	418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.0	37.1	36.0	53.0	42.6	18.5	45.9	40.2	40.2	49.5	39.3	39.4
Incr Delay (d2), s/veh	46.3	0.5	0.7	70.6	5.3	4.2	77.8	125.5	134.7	80.6	3.3	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	5.4	3.7	6.5	8.9	4.0	16.4	30.6	33.3	11.8	8.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.2	37.6	36.7	123.6	47.9	22.7	123.7	165.7	174.9	130.1	42.5	46.2
LnGrp LOS	F	D	D	F	D	C	F	F	F	F	D	D
Approach Vol, veh/h		789			1011			2275			1174	
Approach Delay, s/veh		50.3			52.2			161.6			62.5	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.4	42.0	14.7	36.1	29.0	36.4	18.0	32.8
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.2	* 36	10.1	35.3	24.4	28.6	13.4	32.0
Max Q Clear Time (g_c+I1), s	19.2	37.8	11.9	15.6	26.4	22.4	14.4	22.9
Green Ext Time (p_c), s	0.0	0.0	0.0	3.0	0.0	2.7	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	101.6
HCM 6th LOS	F

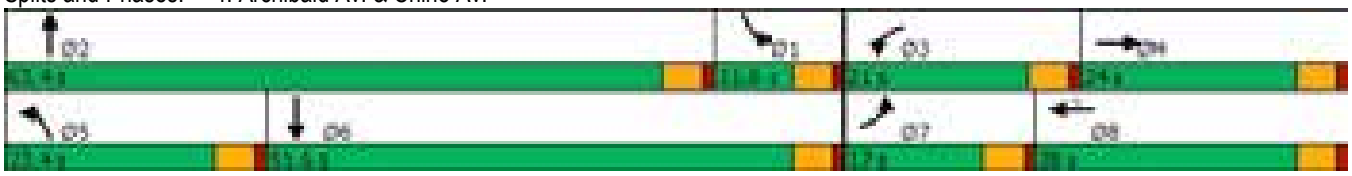
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	124	150	164	257	195	192	1745	62	901
Future Volume (vph)	124	150	164	257	195	192	1745	62	901
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	17.0	24.0	21.0	28.0	28.0	23.4	63.4	11.6	51.6
Total Split (%)	14.2%	20.0%	17.5%	23.3%	23.3%	19.5%	52.8%	9.7%	43.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.4	19.1	16.0	22.7	22.7	18.4	57.6	7.0	46.2
Actuated g/C Ratio	0.10	0.16	0.14	0.19	0.19	0.16	0.49	0.06	0.39
v/c Ratio	0.88	0.93	0.90	0.89	0.57	0.91	0.88	0.78	0.84
Control Delay	97.6	84.0	91.3	75.0	23.4	89.3	32.1	102.7	39.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.6	84.0	91.3	75.0	23.4	89.3	32.1	102.7	39.5
LOS	F	F	F	E	C	F	C	F	D
Approach Delay		88.9		63.0			37.3		43.3
Approach LOS		F		E			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 47.1	Intersection LOS: D
Intersection Capacity Utilization 82.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	150	76	164	257	195	192	1745	169	62	901	78
Future Volume (veh/h)	124	150	76	164	257	195	192	1745	169	62	901	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	146	176	81	193	302	135	226	2053	191	73	1060	84
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	190	88	217	347	294	250	2321	214	90	1244	99
Arrive On Green	0.11	0.17	0.17	0.14	0.20	0.20	0.16	0.48	0.48	0.06	0.38	0.38
Sat Flow, veh/h	1594	1148	528	1594	1772	1502	1594	4789	441	1594	3235	256
Grp Volume(v), veh/h	146	0	257	193	302	135	226	1514	730	73	580	564
Grp Sat Flow(s),veh/h/ln	1594	0	1677	1594	1772	1502	1594	1772	1686	1594	1772	1719
Q Serve(g_s), s	10.6	0.0	17.7	13.9	19.3	7.7	16.3	45.0	46.1	5.3	35.1	35.2
Cycle Q Clear(g_c), s	10.6	0.0	17.7	13.9	19.3	7.7	16.3	45.0	46.1	5.3	35.1	35.2
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.26	1.00		0.15
Lane Grp Cap(c), veh/h	169	0	278	217	347	294	250	1717	817	90	681	661
V/C Ratio(X)	0.87	0.00	0.93	0.89	0.87	0.46	0.91	0.88	0.89	0.81	0.85	0.85
Avail Cap(c_a), veh/h	169	0	278	223	354	300	256	1779	847	95	711	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	0.0	48.1	49.7	45.6	28.8	48.5	27.2	27.4	54.6	33.0	33.0
Incr Delay (d2), s/veh	34.4	0.0	34.8	32.1	20.0	1.1	32.1	5.4	11.7	37.5	9.5	9.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	9.9	7.4	10.2	2.8	8.4	18.1	19.1	3.0	15.8	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	0.0	82.9	81.8	65.6	29.9	80.7	32.6	39.1	92.1	42.4	42.8
LnGrp LOS	F	A	F	F	E	C	F	C	D	F	D	D
Approach Vol, veh/h		403			630			2470			1217	
Approach Delay, s/veh		84.0			62.9			38.9			45.6	
Approach LOS		F			E			D			D	

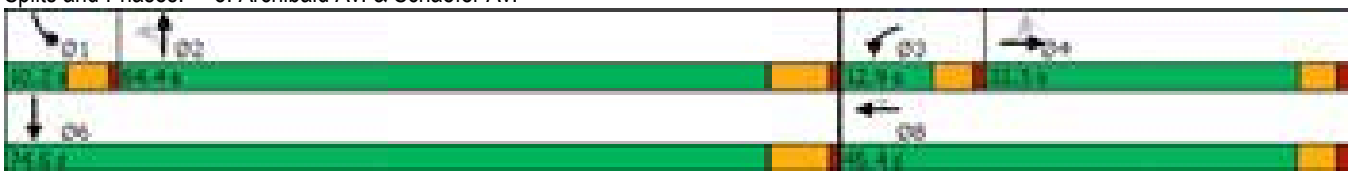
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	61.3	20.5	24.0	22.9	49.6	17.0	27.5
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.0	58.8	16.4	19.4	18.8	47.0	12.4	23.4
Max Q Clear Time (g_c+I1), s	7.3	48.1	15.9	19.7	18.3	37.2	12.6	21.3
Green Ext Time (p_c), s	0.0	8.6	0.0	0.0	0.0	4.6	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	23	79	25	68	1909	50	1166
Future Volume (vph)	17	23	79	25	68	1909	50	1166
Turn Type	Perm	NA	Prot	NA	Perm	NA	Prot	NA
Protected Phases		4	3	8		2	1	6
Permitted Phases	4				8			
Detector Phase	4	4	3	8	8	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	32.5	32.5	9.6	32.6	32.6	37.5	9.6	23.5
Total Split (s)	32.5	32.5	12.9	45.4	45.4	64.4	10.2	74.6
Total Split (%)	27.1%	27.1%	10.8%	37.8%	37.8%	53.7%	8.5%	62.2%
Yellow Time (s)	3.5	3.5	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	8.2	8.2	8.2	16.4	16.4	58.3	5.6	68.6
Actuated g/C Ratio	0.09	0.09	0.09	0.17	0.17	0.61	0.06	0.71
v/c Ratio	0.19	0.18	0.70	0.10	0.26	0.81	0.65	0.59
Control Delay	46.2	44.5	71.9	32.4	9.6	19.0	78.9	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	44.5	71.9	32.4	9.6	19.0	78.9	9.4
LOS	D	D	E	C	A	B	E	A
Approach Delay		45.3		41.5		19.0		12.2
Approach LOS		D		D		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 96.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 18.0	Intersection LOS: B
Intersection Capacity Utilization 77.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	23	0	79	25	68	0	1909	66	50	1166	19
Future Volume (veh/h)	17	23	0	79	25	68	0	1909	66	50	1166	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.81		1.00	1.00		0.93	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	20	27	0	94	30	81	0	2273	67	60	1388	23
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	100	0	116	324	256	83	2843	83	74	2333	39
Arrive On Green	0.06	0.06	0.00	0.07	0.18	0.18	0.00	0.59	0.59	0.05	0.69	0.69
Sat Flow, veh/h	928	1772	0	1594	1772	1398	341	4826	142	1594	3388	56
Grp Volume(v), veh/h	20	27	0	94	30	81	0	1516	824	60	689	722
Grp Sat Flow(s),veh/h/ln	928	1772	0	1594	1772	1398	341	1612	1743	1594	1683	1760
Q Serve(g_s), s	1.8	1.3	0.0	5.0	1.2	4.3	0.0	31.4	31.8	3.2	18.6	18.7
Cycle Q Clear(g_c), s	1.8	1.3	0.0	5.0	1.2	4.3	0.0	31.4	31.8	3.2	18.6	18.7
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.08	1.00		0.03
Lane Grp Cap(c), veh/h	136	100	0	116	324	256	83	1900	1027	74	1159	1212
V/C Ratio(X)	0.15	0.27	0.00	0.81	0.09	0.32	0.00	0.80	0.80	0.82	0.59	0.60
Avail Cap(c_a), veh/h	385	575	0	153	838	661	111	2164	1169	103	1329	1389
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	39.0	0.0	39.4	29.3	30.6	0.0	13.7	13.8	40.8	7.1	7.1
Incr Delay (d2), s/veh	0.5	1.4	0.0	16.0	0.1	0.7	0.0	1.9	3.7	19.9	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.6	0.0	2.4	0.5	1.4	0.0	8.9	10.2	1.6	4.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	40.4	0.0	55.4	29.4	31.3	0.0	15.7	17.5	60.7	7.6	7.6
LnGrp LOS	D	D	A	E	C	C	A	B	B	E	A	A
Approach Vol, veh/h		47			205			2340			1471	
Approach Delay, s/veh		40.1			42.1			16.3			9.8	
Approach LOS		D			D			B			A	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	8.6	57.3	10.9	9.5		65.9		20.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6		6.5		4.6				
Max Green Setting (Gmax), s	5.6	57.9	8.3	* 28		68.1		40.8				
Max Q Clear Time (g_c+I1), s	5.2	33.8	7.0	3.8		20.7		6.3				
Green Ext Time (p_c), s	0.0	17.0	0.0	0.1		11.2		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

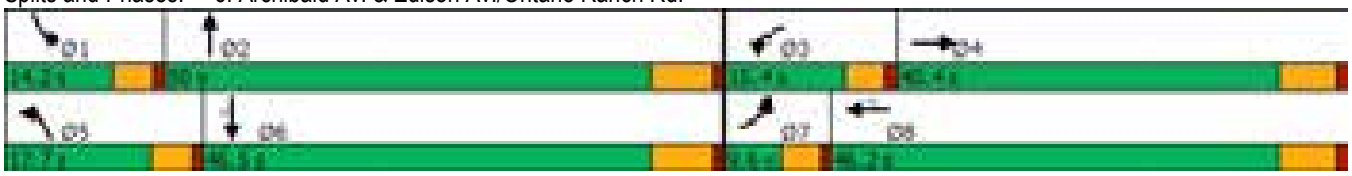
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	550	72	507	787	353	184	1400	484	282	700	68
Future Volume (vph)	38	550	72	507	787	353	184	1400	484	282	700	68
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	40.4		15.4	46.2	46.2	17.7	50.0		14.2	46.5	46.5
Total Split (%)	8.0%	33.7%		12.8%	38.5%	38.5%	14.8%	41.7%		11.8%	38.8%	38.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.0	32.2	118.1	10.8	40.1	40.1	13.1	43.6	118.1	9.6	40.1	40.1
Actuated g/C Ratio	0.04	0.27	1.00	0.09	0.34	0.34	0.11	0.37	1.00	0.08	0.34	0.34
v/c Ratio	0.33	0.63	0.05	2.04	1.45	0.60	1.15	1.18	0.36	2.42	0.64	0.12
Control Delay	63.3	40.9	0.1	509.9	241.4	17.9	162.5	124.6	0.7	685.1	36.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	40.9	0.1	509.9	241.4	17.9	162.5	124.6	0.7	685.1	36.4	0.4
LOS	E	D	A	F	F	B	F	F	A	F	D	A
Approach Delay		37.7			276.1			99.0			208.3	
Approach LOS		D			F			F			F	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 118.1		
Natural Cycle: 115		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 2.42		
Intersection Signal Delay: 166.5	Intersection LOS: F	
Intersection Capacity Utilization 124.4%	ICU Level of Service H	
Analysis Period (min) 15		

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	550	72	507	787	353	184	1400	484	282	700	68
Future Volume (veh/h)	38	550	72	507	787	353	184	1400	484	282	700	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	42	604	0	557	865	365	202	1538	0	310	769	64
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	983		273	597	499	176	1298		129	1194	495
Arrive On Green	0.03	0.28	0.00	0.09	0.34	0.34	0.11	0.37	0.00	0.08	0.34	0.34
Sat Flow, veh/h	3000	3544	1502	3000	1772	1483	1594	3544	1502	1594	3544	1468
Grp Volume(v), veh/h	42	604	0	557	865	365	202	1538	0	310	769	64
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1483	1594	1772	1502	1594	1772	1468
Q Serve(g_s), s	1.6	17.6	0.0	10.8	40.0	25.7	13.1	43.5	0.0	9.6	21.8	3.6
Cycle Q Clear(g_c), s	1.6	17.6	0.0	10.8	40.0	25.7	13.1	43.5	0.0	9.6	21.8	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	983		273	597	499	176	1298		129	1194	495
V/C Ratio(X)	0.44	0.61		2.04	1.45	0.73	1.15	1.18		2.41	0.64	0.13
Avail Cap(c_a), veh/h	126	1021		273	597	499	176	1298		129	1194	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	37.4	0.0	54.0	39.4	34.6	52.8	37.6	0.0	54.6	33.3	27.3
Incr Delay (d2), s/veh	1.2	1.0	0.0	481.2	211.5	5.4	113.6	91.2	0.0	655.7	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.4	0.0	22.2	51.3	9.5	10.6	33.8	0.0	27.2	9.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	38.4	0.0	535.2	250.8	40.1	166.4	128.9	0.0	710.3	34.5	27.4
LnGrp LOS	E	D		F	F	D	F	F		F	C	C
Approach Vol, veh/h		646	A		1787			1740	A		1143	
Approach Delay, s/veh		39.7			296.4			133.2			217.4	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	50.0	15.4	39.1	17.7	46.5	8.3	46.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	9.6	43.5	10.8	34.2	13.1	40.0	5.0	40.0
Max Q Clear Time (g_c+I1), s	11.6	45.5	12.8	19.6	15.1	23.8	3.6	42.0
Green Ext Time (p_c), s	0.0	0.0	0.0	3.1	0.0	4.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	194.8
HCM 6th LOS	F

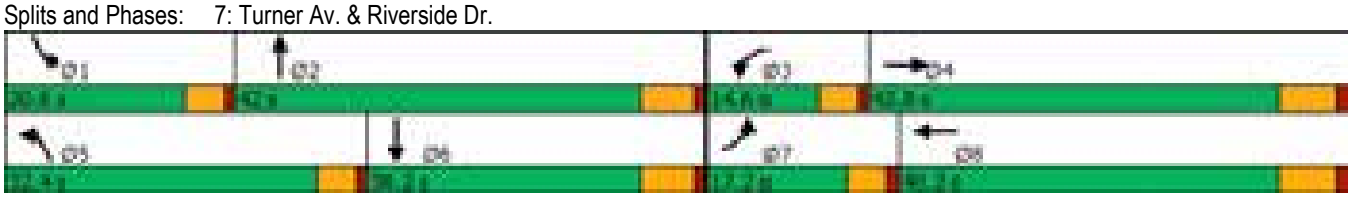
Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	131	576	93	675	305	246	122	187
Future Volume (vph)	131	576	93	675	305	246	122	187
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	17.2	42.8	14.6	40.2	32.4	42.0	20.6	30.2
Total Split (%)	14.3%	35.7%	12.2%	33.5%	27.0%	35.0%	17.2%	25.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	12.6	36.7	10.0	34.1	27.9	29.8	13.9	15.8
Actuated g/C Ratio	0.11	0.33	0.09	0.31	0.25	0.27	0.12	0.14
v/c Ratio	0.93	0.87	0.84	1.03	0.98	0.65	0.78	0.73
Control Delay	101.6	44.7	93.6	74.1	83.0	26.9	74.1	40.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.6	44.7	93.6	74.1	83.0	26.9	74.1	40.5
LOS	F	D	F	E	F	C	E	D
Approach Delay		53.3		76.1		48.5		50.0
Approach LOS		D		E		D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.6	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 58.4	Intersection LOS: E
Intersection Capacity Utilization 82.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	576	165	93	675	142	305	246	242	122	187	121
Future Volume (veh/h)	131	576	165	93	675	142	305	246	242	122	187	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.94	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	166	729	108	118	854	91	386	311	179	154	237	90
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	941	139	141	911	97	396	587	327	179	364	134
Arrive On Green	0.11	0.32	0.32	0.09	0.30	0.30	0.25	0.29	0.29	0.11	0.15	0.15
Sat Flow, veh/h	1594	2927	433	1594	3065	327	1594	2038	1135	1594	2394	880
Grp Volume(v), veh/h	166	419	418	118	469	476	386	255	235	154	164	163
Grp Sat Flow(s),veh/h/ln	1594	1683	1677	1594	1683	1708	1594	1683	1490	1594	1683	1590
Q Serve(g_s), s	11.5	25.2	25.2	8.2	30.4	30.4	26.9	14.2	14.9	10.6	10.3	10.8
Cycle Q Clear(g_c), s	11.5	25.2	25.2	8.2	30.4	30.4	26.9	14.2	14.9	10.6	10.3	10.8
Prop In Lane	1.00		0.26	1.00		0.19	1.00		0.76	1.00		0.55
Lane Grp Cap(c), veh/h	180	541	539	141	500	508	396	485	429	179	256	242
V/C Ratio(X)	0.92	0.77	0.78	0.84	0.94	0.94	0.97	0.53	0.55	0.86	0.64	0.67
Avail Cap(c_a), veh/h	180	551	549	142	512	519	396	545	482	228	367	347
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	34.3	34.3	50.2	38.3	38.3	41.7	33.4	33.6	48.8	44.6	44.8
Incr Delay (d2), s/veh	45.3	6.7	6.8	31.4	24.8	24.6	38.2	0.9	1.1	19.1	2.7	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	10.6	10.6	4.4	15.2	15.4	14.3	5.7	5.3	5.0	4.3	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.5	41.0	41.1	81.6	63.1	62.9	79.9	34.3	34.7	67.8	47.3	48.0
LnGrp LOS	F	D	D	F	E	E	E	C	C	E	D	D
Approach Vol, veh/h		1003			1063			876			481	
Approach Delay, s/veh		49.9			65.1			54.5			54.1	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.2	38.0	14.5	42.2	32.4	22.8	17.2	39.4
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	16.0	36.2	10.0	36.6	27.8	24.4	12.6	34.0
Max Q Clear Time (g_c+I1), s	12.6	16.9	10.2	27.2	28.9	12.8	13.5	32.4
Green Ext Time (p_c), s	0.1	2.6	0.0	3.2	0.0	1.3	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	56.4
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	84
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	107	199	107	67	318	157	142	448	57	93	209	82
Future Vol, veh/h	107	199	107	67	318	157	142	448	57	93	209	82
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	145	269	145	91	430	212	192	605	77	126	282	111
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	39.9	101.9	125.7	35.9
HCM LOS	E	F	F	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	72%	0%	100%	38%	0%	100%	40%	0%	100%	46%
Vol Right, %	0%	0%	28%	0%	0%	62%	0%	0%	60%	0%	0%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	142	299	206	107	133	173	67	212	263	93	139	152
LT Vol	142	0	0	107	0	0	67	0	0	93	0	0
Through Vol	0	299	149	0	133	66	0	212	106	0	139	70
RT Vol	0	0	57	0	0	107	0	0	157	0	0	82
Lane Flow Rate	192	404	279	145	179	234	91	286	355	126	188	205
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.664	1.343	0.914	0.527	0.629	0.795	0.318	0.968	1.161	0.46	0.664	0.702
Departure Headway (Hd)	12.691	12.191	11.997	13.302	12.802	12.37	12.985	12.485	12.067	13.313	12.813	12.435
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	286	303	304	273	283	295	279	292	302	273	284	293
Service Time	10.391	9.891	9.697	11.002	10.502	10.07	10.685	10.185	9.767	11.013	10.513	10.135
HCM Lane V/C Ratio	0.671	1.333	0.918	0.531	0.633	0.793	0.326	0.979	1.175	0.462	0.662	0.7
HCM Control Delay	37.3	207.5	68.2	29.9	34.9	49.9	21.6	82.1	138.3	26.9	37.6	39.9
HCM Lane LOS	E	F	F	D	D	E	C	F	F	D	E	E
HCM 95th-tile Q	4.3	20.1	8.7	2.8	3.9	6.3	1.3	9.7	14.8	2.3	4.3	4.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	35	1309	17	103	1697	92	37	142	100	70
Future Volume (vph)	35	1309	17	103	1697	92	37	142	100	70
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	15.0	49.0	49.0	18.0	52.0	52.0	15.0	35.0	18.0	38.0
Total Split (%)	12.5%	40.8%	40.8%	15.0%	43.3%	43.3%	12.5%	29.2%	15.0%	31.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.9	43.7	43.7	10.4	51.6	51.6	7.0	17.0	10.3	24.8
Actuated g/C Ratio	0.07	0.43	0.43	0.10	0.50	0.50	0.07	0.17	0.10	0.24
v/c Ratio	0.33	0.96	0.03	0.63	1.06	0.12	0.34	0.71	0.62	0.23
Control Delay	55.9	46.9	0.1	62.2	66.5	3.9	56.1	51.0	61.7	31.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	46.9	0.1	62.2	66.5	3.9	56.1	51.0	61.7	31.0
LOS	E	D	A	E	E	A	E	D	E	C
Approach Delay		46.6			63.2			51.8		47.1
Approach LOS		D			E			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102.5	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 55.5	Intersection LOS: E
Intersection Capacity Utilization 84.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	1309	17	103	1697	92	37	142	54	100	70	21
Future Volume (veh/h)	35	1309	17	103	1697	92	37	142	54	100	70	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	1454	15	114	1886	94	41	158	54	111	78	12
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	1649	735	144	1813	808	63	196	67	140	301	46
Arrive On Green	0.03	0.46	0.46	0.08	0.51	0.51	0.04	0.15	0.15	0.08	0.19	0.19
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1333	456	1781	1583	244
Grp Volume(v), veh/h	39	1454	15	114	1886	94	41	0	212	111	0	90
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1788	1781	0	1827
Q Serve(g_s), s	2.0	33.6	0.5	5.7	46.2	2.8	2.1	0.0	10.4	5.5	0.0	3.8
Cycle Q Clear(g_c), s	2.0	33.6	0.5	5.7	46.2	2.8	2.1	0.0	10.4	5.5	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		0.13
Lane Grp Cap(c), veh/h	61	1649	735	144	1813	808	63	0	263	140	0	348
V/C Ratio(X)	0.63	0.88	0.02	0.79	1.04	0.12	0.65	0.00	0.81	0.79	0.00	0.26
Avail Cap(c_a), veh/h	205	1695	756	264	1813	808	205	0	577	264	0	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	22.0	13.1	40.9	22.2	11.6	43.1	0.0	37.4	41.0	0.0	31.2
Incr Delay (d2), s/veh	4.0	5.7	0.0	3.7	32.5	0.1	4.1	0.0	5.8	3.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	13.2	0.1	2.5	24.0	0.9	0.9	0.0	4.7	2.5	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	27.8	13.2	44.6	54.7	11.6	47.2	0.0	43.2	44.7	0.0	31.6
LnGrp LOS	D	C	B	D	F	B	D	A	D	D	A	C
Approach Vol, veh/h		1508			2094			253			201	
Approach Delay, s/veh		28.1			52.2			43.8			38.9	
Approach LOS		C			D			D			D	

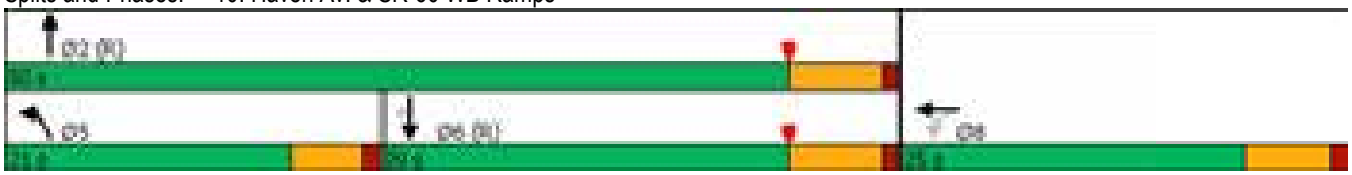
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	19.1	11.9	47.8	7.8	23.0	7.7	52.0
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	13.4	29.2	13.4	43.2	10.4	32.2	10.4	46.2
Max Q Clear Time (g_c+I1), s	7.5	12.4	7.7	35.6	4.1	5.8	4.0	48.2
Green Ext Time (p_c), s	0.1	0.9	0.1	5.1	0.0	0.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	42.1
HCM 6th LOS	D

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	251	4	790	864	1947	1099	449
Future Volume (vph)	251	4	790	864	1947	1099	449
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	25.0	25.0		21.0	50.0	29.0	29.0
Total Split (%)	33.3%	33.3%		28.0%	66.7%	38.7%	38.7%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	19.2	19.2	75.0	16.0	43.8	22.8	22.8
Actuated g/C Ratio	0.26	0.26	1.00	0.21	0.58	0.30	0.30
v/c Ratio	1.17	1.17	0.52	1.23	0.68	0.74	0.58
Control Delay	126.8	129.2	1.2	137.4	11.8	27.0	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.8	129.2	1.2	137.4	11.8	27.0	5.6
LOS	F	F	A	F	B	C	A
Approach Delay		71.0			50.4	20.8	
Approach LOS		E			D	C	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 45 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 48.8	Intersection LOS: D
Intersection Capacity Utilization 94.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	251	4	790	864	1947	0	0	1099	449
Future Volume (veh/h)	0	0	0	251	4	790	864	1947	0	0	1099	449
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1007	0	0	900	2028	0	0	1145	239
Peak Hour Factor				0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				912	0		737	2982	0	0	1552	475
Arrive On Green				0.26	0.00	0.00	0.43	1.00	0.00	0.00	0.30	0.30
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1563
Grp Volume(v), veh/h				1007	0	0	900	2028	0	0	1145	239
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1563
Q Serve(g_s), s				19.2	0.0	0.0	16.0	0.0	0.0	0.0	15.1	9.4
Cycle Q Clear(g_c), s				19.2	0.0	0.0	16.0	0.0	0.0	0.0	15.1	9.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				912	0		737	2982	0	0	1552	475
V/C Ratio(X)				1.10	0.00		1.22	0.68	0.00	0.00	0.74	0.50
Avail Cap(c_a), veh/h				912	0		737	2982	0	0	1552	475
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				27.9	0.0	0.0	21.5	0.0	0.0	0.0	23.4	21.4
Incr Delay (d2), s/veh				62.5	0.0	0.0	100.6	0.1	0.0	0.0	3.2	3.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				15.2	0.0	0.0	14.4	0.0	0.0	0.0	5.8	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				90.4	0.0	0.0	122.1	0.1	0.0	0.0	26.6	25.2
LnGrp LOS				F	A		F	A	A	A	C	C
Approach Vol, veh/h					1007	A		2928			1384	
Approach Delay, s/veh					90.4			37.6			26.4	
Approach LOS					F			D			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	50.0		21.0	29.0		25.0						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	43.8		16.0	22.8		19.2						
Max Q Clear Time (g_c+I1), s	2.0		18.0	17.1		21.2						
Green Ext Time (p_c), s	13.9		0.0	2.8		0.0						

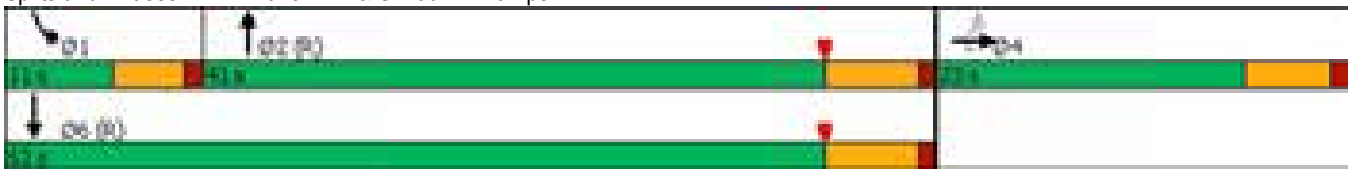
Intersection Summary		
HCM 6th Ctrl Delay	44.7	
HCM 6th LOS	D	

Notes
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	792	5	510	2001	357	1024
Future Volume (vph)	792	5	510	2001	357	1024
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	23.0	23.0	23.0	41.0	11.0	52.0
Total Split (%)	30.7%	30.7%	30.7%	54.7%	14.7%	69.3%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	17.2	17.2	17.2	34.8	6.0	45.8
Actuated g/C Ratio	0.23	0.23	0.23	0.46	0.08	0.61
v/c Ratio	1.08	1.09	1.18	1.08	1.37	0.35
Control Delay	101.0	104.2	126.9	67.2	202.1	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.0	104.2	126.9	67.2	202.1	7.8
LOS	F	F	F	E	F	A
Approach Delay		112.1		67.2		58.1
Approach LOS		F		E		E

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 48 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.37	
Intersection Signal Delay: 76.2	Intersection LOS: E
Intersection Capacity Utilization 94.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	792	5	510	0	0	0	0	2001	405	357	1024	0
Future Volume (veh/h)	792	5	510	0	0	0	0	2001	405	357	1024	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	838	0	305				0	2106	215	376	1078	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	817	0	364				0	2184	220	276	3118	0
Arrive On Green	0.23	0.00	0.23				0.00	0.46	0.46	0.16	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4875	474	3456	5274	0
Grp Volume(v), veh/h	838	0	305				0	1516	805	376	1078	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1777	1728	1702	0
Q Serve(g_s), s	17.2	0.0	13.8				0.0	32.3	33.3	6.0	0.0	0.0
Cycle Q Clear(g_c), s	17.2	0.0	13.8				0.0	32.3	33.3	6.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.27	1.00		0.00
Lane Grp Cap(c), veh/h	817	0	364				0	1579	825	276	3118	0
V/C Ratio(X)	1.03	0.00	0.84				0.00	0.96	0.98	1.36	0.35	0.00
Avail Cap(c_a), veh/h	817	0	364				0	1579	825	276	3118	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.37	0.37	0.00
Uniform Delay (d), s/veh	28.9	0.0	27.6				0.0	19.4	19.7	31.5	0.0	0.0
Incr Delay (d2), s/veh	38.2	0.0	15.8				0.0	14.9	26.1	170.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	6.3				0.0	13.6	17.2	8.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.1	0.0	43.4				0.0	34.3	45.8	202.2	0.1	0.0
LnGrp LOS	F	A	D				A	C	D	F	A	A
Approach Vol, veh/h		1143						2321			1454	
Approach Delay, s/veh		60.8						38.3			52.4	
Approach LOS		E						D			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.0	41.0		23.0		52.0
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	6.0	34.8		17.2		45.8
Max Q Clear Time (g_c+I1), s	8.0	35.3		19.2		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		5.2

Intersection Summary		
HCM 6th Ctrl Delay		47.7
HCM 6th LOS		D

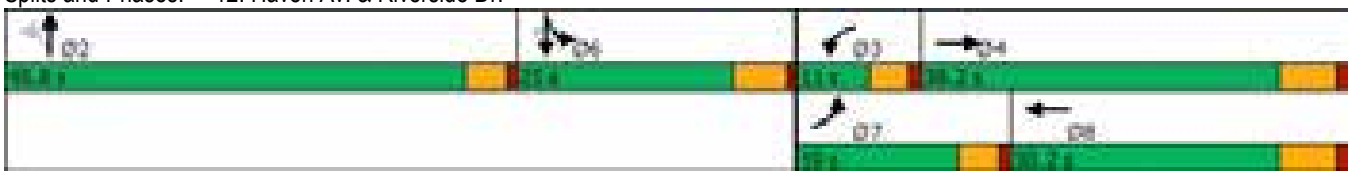
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	388	624	251	467	67	1245	320	835	281
Future Volume (vph)	388	624	251	467	67	1245	320	835	281
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	19.0	38.2	11.0	30.2	45.8	45.8	25.0	25.0	25.0
Total Split (%)	15.8%	31.8%	9.2%	25.2%	38.2%	38.2%	20.8%	20.8%	20.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	14.4	32.0	6.4	24.0		41.1	19.2	19.2	19.2
Actuated g/C Ratio	0.12	0.27	0.05	0.20		0.34	0.16	0.16	0.16
v/c Ratio	2.19	1.54	3.18	1.06		22.94	1.34	3.15	0.83
Control Delay	576.3	287.5	1029.2	94.8		9903.6	218.2	994.4	42.9
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	576.3	287.5	1029.2	94.8		9903.6	218.2	994.4	42.9
LOS	F	F	F	F		F	F	F	D
Approach Delay		393.2		349.4		9903.6		635.2	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 22.94	
Intersection Signal Delay: 3426.7	Intersection LOS: F
Intersection Capacity Utilization 206.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	624	48	251	467	203	67	1245	242	320	835	281
Future Volume (veh/h)	388	624	48	251	467	203	67	1245	242	320	835	281
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	413	664	48	267	497	180	71	1324	240	340	888	123
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	432	31	85	478	172	26	477	86	255	284	235
Arrive On Green	0.12	0.27	0.27	0.05	0.20	0.20	0.34	0.34	0.34	0.16	0.16	0.16
Sat Flow, veh/h	1594	1622	117	1594	2392	860	75	1392	252	1594	1772	1468
Grp Volume(v), veh/h	413	0	712	267	349	328	1635	0	0	340	888	123
Grp Sat Flow(s),veh/h/ln	1594	0	1739	1594	1683	1569	1718	0	0	1594	1772	1468
Q Serve(g_s), s	14.4	0.0	32.0	6.4	24.0	24.0	41.1	0.0	0.0	19.2	19.2	9.2
Cycle Q Clear(g_c), s	14.4	0.0	32.0	6.4	24.0	24.0	41.1	0.0	0.0	19.2	19.2	9.2
Prop In Lane	1.00		0.07	1.00		0.55	0.04		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	464	85	337	314	589	0	0	255	284	235
V/C Ratio(X)	2.16	0.00	1.54	3.14	1.04	1.05	2.78	0.00	0.00	1.33	3.13	0.52
Avail Cap(c_a), veh/h	191	0	464	85	337	314	589	0	0	255	284	235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	0.0	44.0	56.8	48.0	48.0	39.5	0.0	0.0	50.4	50.4	46.2
Incr Delay (d2), s/veh	538.7	0.0	251.6	993.6	58.5	63.5	804.9	0.0	0.0	174.3	968.7	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	34.2	0.0	45.5	26.0	15.1	14.5	148.6	0.0	0.0	19.8	84.5	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	591.5	0.0	295.6	1050.4	106.5	111.5	844.3	0.0	0.0	224.7	1019.1	48.3
LnGrp LOS	F	A	F	F	F	F	F	A	A	F	F	D
Approach Vol, veh/h		1125			944			1635			1351	
Approach Delay, s/veh		404.2			375.2			844.3			730.8	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	45.8	11.0	38.2	25.0	19.0	30.2
Change Period (Y+Rc), s	* 4.7	4.6	6.2	5.8	4.6	6.2
Max Green Setting (Gmax), s	* 41	6.4	32.0	19.2	14.4	24.0
Max Q Clear Time (g_c+I1), s	43.1	8.4	34.0	21.2	16.4	26.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	628.4
HCM 6th LOS	F

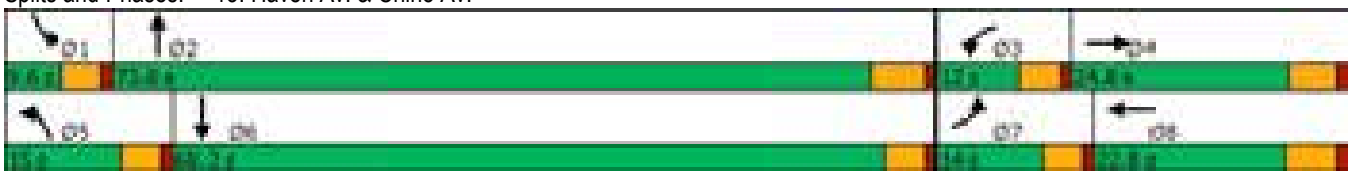
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	174	98	156	121	201	1397	922	
Future Volume (vph)	174	98	156	121	201	1397	922	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	14.0	24.8	12.0	22.8	15.0	73.6	68.2	9.6
Total Split (%)	11.7%	20.7%	10.0%	19.0%	12.5%	61.3%	56.8%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	9.4	16.9	7.4	14.5	10.4	77.4	63.5	
Actuated g/C Ratio	0.08	0.14	0.06	0.12	0.09	0.66	0.54	
v/c Ratio	1.47	0.79	1.53	0.58	1.53	1.74	1.28	
Control Delay	285.0	60.7	315.2	59.0	308.0	356.1	161.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	285.0	60.7	315.2	59.0	308.0	356.1	161.4	
LOS	F	E	F	E	F	F	F	
Approach Delay		162.9		203.2		351.4	161.4	
Approach LOS		F		F		F	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.5	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.74	
Intersection Signal Delay: 265.9	Intersection LOS: F
Intersection Capacity Utilization 147.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	98	107	156	121	0	201	1397	434	0	922	203
Future Volume (veh/h)	174	98	107	156	121	0	201	1397	434	0	922	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	185	107	61	170	132	0	214	1486	255	0	981	110
Peak Hour Factor	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	127	72	114	180	0	144	1004	172	2	863	97
Arrive On Green	0.12	0.17	0.17	0.10	0.14	0.00	0.14	1.00	1.00	0.00	0.83	0.83
Sat Flow, veh/h	1594	1118	637	1781	1870	0	1594	1474	253	1781	1565	175
Grp Volume(v), veh/h	185	0	168	170	132	0	214	0	1741	0	0	1091
Grp Sat Flow(s),veh/h/ln	1594	0	1756	1781	1870	0	1594	0	1726	1781	0	1740
Q Serve(g_s), s	9.4	0.0	10.7	7.4	7.8	0.0	10.4	0.0	75.2	0.0	0.0	63.5
Cycle Q Clear(g_c), s	9.4	0.0	10.7	7.4	7.8	0.0	10.4	0.0	75.2	0.0	0.0	63.5
Prop In Lane	1.00		0.36	1.00		0.00	1.00		0.15	1.00		0.10
Lane Grp Cap(c), veh/h	130	0	199	114	180	0	144	0	1177	2	0	959
V/C Ratio(X)	1.42	0.00	0.84	1.49	0.73	0.00	1.49	0.00	1.48	0.00	0.00	1.14
Avail Cap(c_a), veh/h	130	0	296	114	276	0	144	0	1177	77	0	959
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	50.5	0.0	46.8	52.0	47.9	0.0	49.8	0.0	0.0	0.0	0.0	10.0
Incr Delay (d2), s/veh	228.8	0.0	13.2	259.0	5.7	0.0	252.4	0.0	220.5	0.0	0.0	74.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	0.0	5.0	11.3	3.7	0.0	13.9	0.0	72.1	0.0	0.0	26.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	279.3	0.0	59.9	311.1	53.5	0.0	302.1	0.0	220.5	0.0	0.0	84.5
LnGrp LOS	F	A	E	F	D	A	F	A	F	A	A	F
Approach Vol, veh/h		353			302			1955			1091	
Approach Delay, s/veh		174.9			198.5			229.4			84.5	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	84.3	12.0	18.9	15.0	69.3	14.0	16.9
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	67.8	7.4	* 19	10.4	* 64	9.4	17.0
Max Q Clear Time (g_c+I1), s	0.0	77.2	9.4	12.7	12.4	65.5	11.4	9.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	179.0
HCM 6th LOS	F

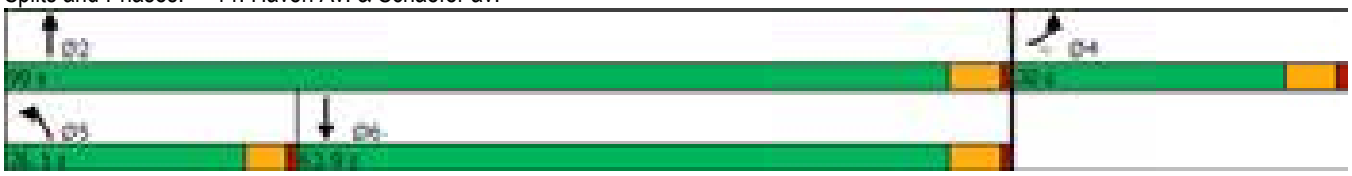
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	81	142	157	1854	1095
Future Volume (vph)	81	142	157	1854	1095
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	30.0	30.0	26.1	90.0	63.9
Total Split (%)	25.0%	25.0%	21.8%	75.0%	53.3%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	13.1	13.1	15.5	84.4	64.2
Actuated g/C Ratio	0.12	0.12	0.14	0.77	0.59
v/c Ratio	0.46	0.49	0.76	1.48	0.61
Control Delay	52.4	12.3	66.1	237.5	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.4	12.3	66.1	237.5	17.4
LOS	D	B	E	F	B
Approach Delay	26.9			224.1	17.4
Approach LOS	C			F	B

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 109.1			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.48			
Intersection Signal Delay: 140.8		Intersection LOS: F	
Intersection Capacity Utilization 121.3%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	142	157	1854	1095	58
Future Volume (veh/h)	81	142	157	1854	1095	58
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	88	78	171	2015	1190	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	150	141	197	1410	2150	65
Arrive On Green	0.14	0.14	0.19	1.00	0.94	0.94
Sat Flow, veh/h	1594	1502	1594	1772	3419	103
Grp Volume(v), veh/h	88	78	171	2015	616	610
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1772	1751
Q Serve(g_s), s	5.4	5.1	11.0	83.9	4.4	4.4
Cycle Q Clear(g_c), s	5.4	5.1	11.0	83.9	4.4	4.4
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	150	141	197	1410	1114	1101
V/C Ratio(X)	0.59	0.55	0.87	1.43	0.55	0.55
Avail Cap(c_a), veh/h	366	345	325	1415	1114	1101
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	43.2	42.1	0.0	1.2	1.2
Incr Delay (d2), s/veh	3.6	3.3	7.0	197.2	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.1	4.3	77.2	0.9	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.0	46.5	49.1	197.2	1.8	1.8
LnGrp LOS	D	D	D	F	A	A
Approach Vol, veh/h	166			2186	1226	
Approach Delay, s/veh	46.8			185.6	1.8	
Approach LOS	D			F	A	

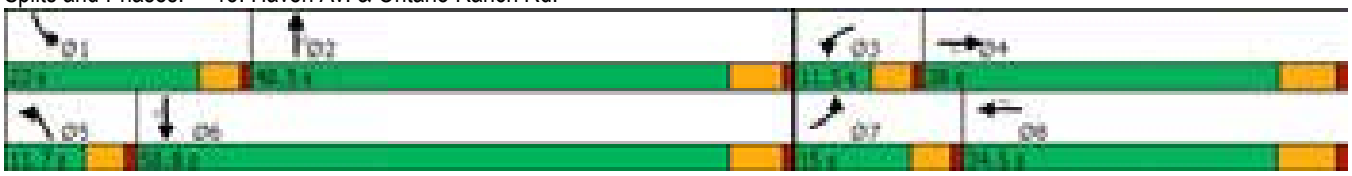
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		89.8		15.7	17.6	72.2
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		84.2		24.2	21.5	58.1
Max Q Clear Time (g_c+I1), s		85.9		7.4	13.0	6.4
Green Ext Time (p_c), s		0.0		0.4	0.1	9.7

Intersection Summary		
HCM 6th Ctrl Delay		116.2
HCM 6th LOS		F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	1311	19	83	1346	723	40	585	130	726	326	382
Future Volume (vph)	320	1311	19	83	1346	723	40	585	130	726	326	382
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	15.0	38.0	38.0	11.5	34.5	34.5	11.7	48.5	48.5	22.0	58.8	58.8
Total Split (%)	12.5%	31.7%	31.7%	9.6%	28.8%	28.8%	9.8%	40.4%	40.4%	18.3%	49.0%	49.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	10.4	32.1	32.1	6.6	28.0	28.0	6.5	42.7	42.7	17.4	55.5	55.5
Actuated g/C Ratio	0.09	0.27	0.27	0.06	0.23	0.23	0.05	0.36	0.36	0.14	0.46	0.46
v/c Ratio	2.51	1.00	0.04	0.54	0.88	1.35	0.51	1.00	0.22	3.41	0.43	0.50
Control Delay	724.2	67.1	0.2	67.8	51.6	192.1	75.4	75.4	3.9	1112.6	24.5	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	724.2	67.1	0.2	67.8	51.6	192.1	75.4	75.4	3.9	1112.6	24.5	11.0
LOS	F	E	A	E	D	F	E	E	A	F	C	B
Approach Delay		193.8			99.4			63.1			571.7	
Approach LOS		F			F			E			F	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Natural Cycle: 115		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 3.41		
Intersection Signal Delay: 233.9	Intersection LOS: F	
Intersection Capacity Utilization 135.9%	ICU Level of Service H	
Analysis Period (min) 15		

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	1311	19	83	1346	723	40	585	130	726	326	382
Future Volume (veh/h)	320	1311	19	83	1346	723	40	585	130	726	326	382
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	344	1410	9	89	1447	725	43	629	89	781	351	388
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1469	415	131	1654	350	53	631	534	231	829	700
Arrive On Green	0.09	0.28	0.28	0.04	0.23	0.23	0.03	0.36	0.36	0.14	0.47	0.47
Sat Flow, veh/h	1594	5316	1500	3000	7088	1502	1594	1772	1500	1594	1772	1497
Grp Volume(v), veh/h	344	1410	9	89	1447	725	43	629	89	781	351	388
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1500	1772	1502	1594	1772	1500	1594	1772	1497
Q Serve(g_s), s	10.4	31.3	0.5	3.5	23.6	28.0	3.2	42.5	4.9	17.4	15.8	22.4
Cycle Q Clear(g_c), s	10.4	31.3	0.5	3.5	23.6	28.0	3.2	42.5	4.9	17.4	15.8	22.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1469	415	131	1654	350	53	631	534	231	829	700
V/C Ratio(X)	2.49	0.96	0.02	0.68	0.87	2.07	0.81	1.00	0.17	3.38	0.42	0.55
Avail Cap(c_a), veh/h	138	1469	415	173	1654	350	94	631	534	231	829	700
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	42.8	31.6	56.6	44.3	46.0	57.6	38.6	26.5	51.3	21.2	22.9
Incr Delay (d2), s/veh	691.8	15.7	0.1	3.1	6.8	490.9	10.6	35.2	0.1	1081.7	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	30.6	15.1	0.2	1.3	10.6	57.6	1.4	23.6	1.7	76.2	6.3	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	746.6	58.4	31.7	59.7	51.1	536.9	68.3	73.8	26.6	1133.0	21.5	23.9
LnGrp LOS	F	E	C	E	D	F	E	E	C	F	C	C
Approach Vol, veh/h		1763			2261			761			1520	
Approach Delay, s/veh		192.6			207.2			68.0			593.2	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	48.5	9.8	39.7	8.6	61.9	15.0	34.5
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	17.4	42.7	6.9	* 32	7.1	53.0	10.4	28.0
Max Q Clear Time (g_c+I1), s	19.4	44.5	5.5	33.3	5.2	24.4	12.4	30.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	279.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	5.4
Intersection LOS	A

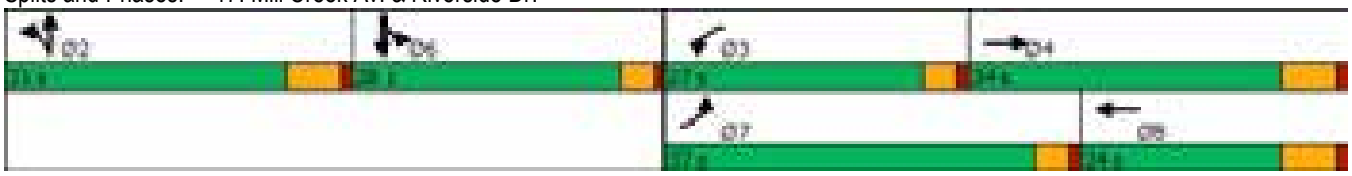
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	484	165	0	123
Demand Flow Rate, veh/h	493	168	0	125
Vehicles Circulating, veh/h	50	24	543	152
Vehicles Exiting, veh/h	227	519	0	40
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.4	3.7	0.0	4.0
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	493	168	0	125
Cap Entry Lane, veh/h	1311	1346	793	1182
Entry HV Adj Factor	0.981	0.982	1.000	0.984
Flow Entry, veh/h	484	165	0	123
Cap Entry, veh/h	1287	1323	793	1163
V/C Ratio	0.376	0.125	0.000	0.106
Control Delay, s/veh	6.4	3.7	4.5	4.0
LOS	A	A	A	A
95th %tile Queue, veh	2	0	0	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	374	392	241	351	226	83	404	91	171
Future Volume (vph)	374	392	241	351	226	83	404	91	171
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	37.0	34.0	27.0	24.0	31.0	31.0	31.0	28.0	28.0
Total Split (%)	30.8%	28.3%	22.5%	20.0%	25.8%	25.8%	25.8%	23.3%	23.3%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	33.0	28.0	23.0	18.0	24.2	24.2	24.2	24.0	24.0
Actuated g/C Ratio	0.28	0.24	0.19	0.15	0.20	0.20	0.20	0.20	0.20
v/c Ratio	1.08	1.02	1.00	1.06	0.89	0.29	0.72	0.36	1.10
Control Delay	106.9	73.7	99.7	103.0	75.7	42.6	10.2	45.1	121.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.9	73.7	99.7	103.0	75.7	42.6	10.2	45.1	121.6
LOS	F	E	F	F	E	D	B	D	F
Approach Delay		85.1		101.9		34.7			103.5
Approach LOS		F		F		C			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.10	
Intersection Signal Delay: 79.1	Intersection LOS: E
Intersection Capacity Utilization 87.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	374	392	324	241	351	99	226	83	404	91	171	124
Future Volume (veh/h)	374	392	324	241	351	99	226	83	404	91	171	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	473	496	258	305	444	74	286	105	258	115	216	106
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	520	269	311	451	75	313	348	294	324	219	107
Arrive On Green	0.42	0.36	0.36	0.29	0.23	0.23	0.29	0.29	0.29	0.31	0.31	0.31
Sat Flow, veh/h	1594	2190	1133	1594	2954	489	1594	1772	1492	1594	1075	527
Grp Volume(v), veh/h	473	401	353	305	265	253	286	105	258	115	0	322
Grp Sat Flow(s),veh/h/ln	1594	1772	1551	1594	1772	1670	1594	1772	1492	1594	0	1602
Q Serve(g_s), s	33.0	26.0	26.3	22.4	17.5	17.8	20.4	5.4	19.4	6.6	0.0	23.6
Cycle Q Clear(g_c), s	33.0	26.0	26.3	22.4	17.5	17.8	20.4	5.4	19.4	6.6	0.0	23.6
Prop In Lane	1.00		0.73	1.00		0.29	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	446	420	368	311	270	255	313	348	294	324	0	326
V/C Ratio(X)	1.06	0.95	0.96	0.98	0.98	0.99	0.91	0.30	0.88	0.35	0.00	0.99
Avail Cap(c_a), veh/h	446	420	368	311	270	255	340	378	319	324	0	326
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.3	37.4	37.5	41.5	45.3	45.4	40.6	35.3	40.3	35.0	0.0	40.9
Incr Delay (d2), s/veh	59.8	32.1	36.3	45.8	49.2	54.3	26.7	0.5	22.2	0.7	0.0	46.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.7	13.1	12.0	11.4	10.4	10.3	9.3	2.3	7.9	2.5	0.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.1	69.5	73.8	87.4	94.5	99.7	67.4	35.8	62.5	35.6	0.0	87.4
LnGrp LOS	F	E	E	F	F	F	E	D	E	D	A	F
Approach Vol, veh/h		1227			823			649			437	
Approach Delay, s/veh		80.2			93.5			60.3			73.8	
Approach LOS		F			F			E			E	

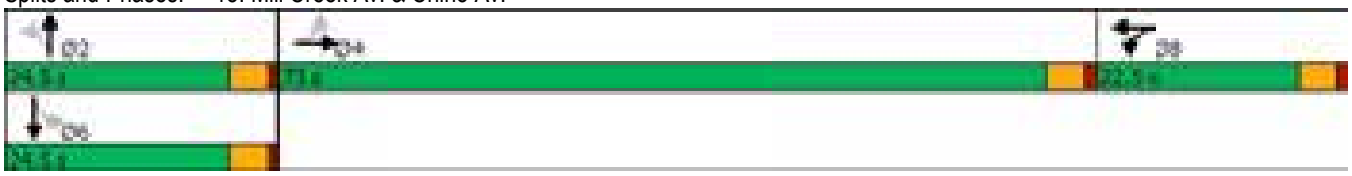
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.0	27.0	34.0		28.0	37.0	24.0				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		25.2	23.0	28.0		24.0	33.0	18.0				
Max Q Clear Time (g_c+I1), s		22.4	24.4	28.3		25.6	35.0	19.8				
Green Ext Time (p_c), s		0.7	0.0	0.0		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			78.7									
HCM 6th LOS			E									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	203	248	14	81	5	92	26	118
Future Volume (vph)	203	248	14	81	5	92	26	118
Turn Type	Perm	NA	Split	NA	Perm	NA	Perm	NA
Protected Phases		4	8	8		2		6
Permitted Phases	4				2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	73.0	73.0	22.5	22.5	24.5	24.5	24.5	24.5
Total Split (%)	60.8%	60.8%	18.8%	18.8%	20.4%	20.4%	20.4%	20.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	68.6	68.6	11.7	11.7	20.0	20.0	20.0	20.0
Actuated g/C Ratio	0.60	0.60	0.10	0.10	0.18	0.18	0.18	0.18
v/c Ratio	3.40	0.26	0.15	0.53	0.08	0.59	0.38	0.95
Control Delay	1141.8	11.7	47.6	55.5	44.6	51.6	51.8	84.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1141.8	11.7	47.6	55.5	44.6	51.6	51.8	84.1
LOS	F	B	D	E	D	D	D	F
Approach Delay		502.4		53.8		51.4		79.4
Approach LOS		F		D		D		E

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 113.8		
Natural Cycle: 70		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 3.40		
Intersection Signal Delay: 252.0	Intersection LOS: F	
Intersection Capacity Utilization 35.6%	ICU Level of Service A	
Analysis Period (min) 15		

Splits and Phases: 18: Mill Creek Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	248	17	14	81	7	5	92	4	26	118	66
Future Volume (veh/h)	203	248	17	14	81	7	5	92	4	26	118	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	221	270	9	28	88	8	5	184	4	52	236	39
Peak Hour Factor	0.92	0.92	0.92	0.50	0.92	0.50	0.92	0.50	0.50	0.50	0.50	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	455	459	15	183	173	16	327	430	9	396	369	61
Arrive On Green	0.26	0.26	0.26	0.10	0.10	0.10	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	1800	60	1781	1689	154	1104	1824	40	1195	1565	259
Grp Volume(v), veh/h	221	0	279	28	0	96	5	0	188	52	0	275
Grp Sat Flow(s),veh/h/ln	1781	0	1860	1781	0	1843	1104	0	1863	1195	0	1824
Q Serve(g_s), s	3.5	0.0	4.4	0.5	0.0	1.6	0.1	0.0	2.8	1.3	0.0	4.5
Cycle Q Clear(g_c), s	3.5	0.0	4.4	0.5	0.0	1.6	4.6	0.0	2.8	4.1	0.0	4.5
Prop In Lane	1.00		0.03	1.00		0.08	1.00		0.02	1.00		0.14
Lane Grp Cap(c), veh/h	455	0	474	183	0	189	327	0	439	396	0	430
V/C Ratio(X)	0.49	0.00	0.59	0.15	0.00	0.51	0.02	0.00	0.43	0.13	0.00	0.64
Avail Cap(c_a), veh/h	3676	0	3837	966	0	999	732	0	1123	835	0	1099
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.5	0.0	10.8	13.6	0.0	14.1	13.5	0.0	10.8	12.5	0.0	11.4
Incr Delay (d2), s/veh	0.8	0.0	1.2	0.4	0.0	2.1	0.0	0.0	0.7	0.1	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.2	0.2	0.0	0.6	0.0	0.0	0.8	0.3	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	0.0	12.0	14.0	0.0	16.2	13.5	0.0	11.4	12.7	0.0	13.0
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		500			124			193			327	
Approach Delay, s/veh		11.7			15.7			11.5			13.0	
Approach LOS		B			B			B			B	

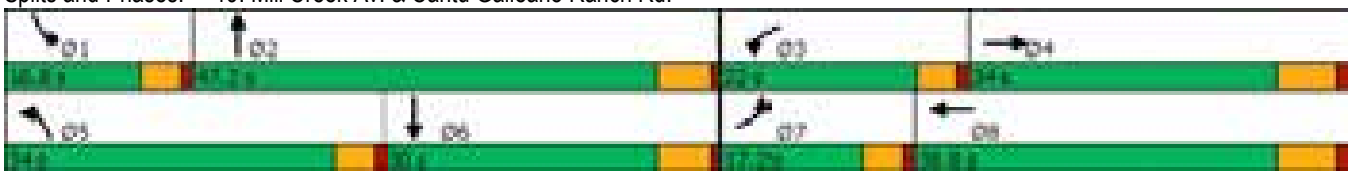
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.3		13.0		12.3		7.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.0		68.5		20.0		18.0				
Max Q Clear Time (g_c+I1), s		6.6		6.4		6.5		3.6				
Green Ext Time (p_c), s		0.7		2.2		1.3		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			12.5									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	121	934	274	644	462	67	115	22
Future Volume (vph)	121	934	274	644	462	67	115	22
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	9.6	23.5	9.6	27.8	9.6	27.8
Total Split (s)	17.2	34.0	22.0	38.8	34.0	47.2	16.8	30.0
Total Split (%)	14.3%	28.3%	18.3%	32.3%	28.3%	39.3%	14.0%	25.0%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	11.3	27.6	17.4	33.7	29.5	30.8	10.9	12.2
Actuated g/C Ratio	0.10	0.26	0.16	0.31	0.27	0.28	0.10	0.11
v/c Ratio	0.72	1.06	1.05	0.66	1.04	0.63	0.70	0.47
Control Delay	69.1	81.0	110.7	32.1	92.3	21.3	68.7	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.1	81.0	110.7	32.1	92.3	21.3	68.7	18.0
LOS	E	F	F	C	F	C	E	B
Approach Delay		79.9		49.7		61.7		42.8
Approach LOS		E		D		E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 63.4	Intersection LOS: E
Intersection Capacity Utilization 92.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 19: Mill Creek Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	934	333	274	644	308	462	67	282	115	22	98
Future Volume (veh/h)	121	934	333	274	644	308	462	67	282	115	22	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	1015	199	298	700	172	502	73	177	125	24	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	1103	216	294	1362	330	497	139	338	153	43	114
Arrive On Green	0.09	0.26	0.26	0.17	0.33	0.33	0.28	0.29	0.29	0.09	0.09	0.09
Sat Flow, veh/h	1781	4285	839	1781	4101	995	1781	484	1175	1781	451	1203
Grp Volume(v), veh/h	132	806	408	298	580	292	502	0	250	125	0	88
Grp Sat Flow(s),veh/h/ln	1781	1702	1719	1781	1702	1691	1781	0	1659	1781	0	1654
Q Serve(g_s), s	7.7	24.3	24.4	17.4	14.4	14.7	29.4	0.0	13.3	7.3	0.0	5.4
Cycle Q Clear(g_c), s	7.7	24.3	24.4	17.4	14.4	14.7	29.4	0.0	13.3	7.3	0.0	5.4
Prop In Lane	1.00		0.49	1.00		0.59	1.00		0.71	1.00		0.73
Lane Grp Cap(c), veh/h	161	876	442	294	1131	562	497	0	477	153	0	157
V/C Ratio(X)	0.82	0.92	0.92	1.01	0.51	0.52	1.01	0.00	0.52	0.82	0.00	0.56
Avail Cap(c_a), veh/h	213	888	448	294	1131	562	497	0	651	206	0	380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.1	38.1	38.1	44.0	28.3	28.4	38.0	0.0	31.5	47.4	0.0	45.6
Incr Delay (d2), s/veh	13.3	14.4	24.4	56.0	0.4	0.9	43.1	0.0	0.9	12.5	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	11.1	12.5	11.8	5.5	5.6	18.0	0.0	5.2	3.6	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	52.5	62.5	100.0	28.7	29.3	81.1	0.0	32.4	59.8	0.0	48.7
LnGrp LOS	E	D	E	F	C	C	F	A	C	E	A	D
Approach Vol, veh/h		1346			1170			752			213	
Approach Delay, s/veh		56.3			47.0			64.9			55.2	
Approach LOS		E			D			E			E	

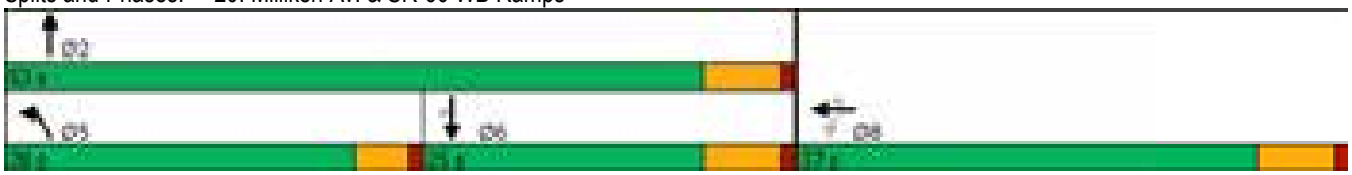
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	36.1	22.0	33.6	34.0	15.8	14.1	41.5
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	12.2	41.4	17.4	27.5	29.4	24.2	12.6	32.3
Max Q Clear Time (g_c+I1), s	9.3	15.3	19.4	26.4	31.4	7.4	9.7	16.7
Green Ext Time (p_c), s	0.0	1.4	0.0	0.8	0.0	0.3	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	55.0
HCM 6th LOS	D

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	580	442	1577	626	289
Future Volume (vph)	4	580	442	1577	626	289
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5	11.2	22.5	22.5	22.5
Total Split (s)	37.0	37.0	28.0	53.0	25.0	25.0
Total Split (%)	41.1%	41.1%	31.1%	58.9%	27.8%	27.8%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	30.8	30.8	23.4	46.4	18.4	18.4
Actuated g/C Ratio	0.34	0.34	0.26	0.52	0.21	0.21
v/c Ratio	0.72	0.98	0.98	0.83	0.84	0.53
Control Delay	33.5	57.5	71.2	23.2	45.4	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	57.5	71.2	23.3	45.4	7.7
LOS	C	E	E	C	D	A
Approach Delay	47.3			33.7	33.5	
Approach LOS	D			C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 89.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 37.2	Intersection LOS: D
Intersection Capacity Utilization 104.5%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	424	4	580	442	1577	0	0	626	289
Future Volume (veh/h)	0	0	0	424	4	580	442	1577	0	0	626	289
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				433	4	337	451	1609	0	0	639	152
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				518	5	465	489	2040	0	0	789	334
Arrive On Green				0.29	0.29	0.29	0.27	0.55	0.00	0.00	0.21	0.21
Sat Flow, veh/h				1766	16	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				437	0	337	451	1609	0	0	639	152
Grp Sat Flow(s),veh/h/ln				1782	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				17.7	0.0	14.7	18.9	26.4	0.0	0.0	12.5	6.4
Cycle Q Clear(g_c), s				17.7	0.0	14.7	18.9	26.4	0.0	0.0	12.5	6.4
Prop In Lane				0.99		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				523	0	465	489	2040	0	0	789	334
V/C Ratio(X)				0.84	0.00	0.73	0.92	0.79	0.00	0.00	0.81	0.45
Avail Cap(c_a), veh/h				714	0	635	542	2277	0	0	915	388
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.4	0.0	24.4	27.1	13.9	0.0	0.0	28.9	26.5
Incr Delay (d2), s/veh				6.3	0.0	2.6	19.3	1.7	0.0	0.0	4.8	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.6	0.0	5.3	9.7	8.9	0.0	0.0	5.6	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				31.8	0.0	27.0	46.4	15.7	0.0	0.0	33.7	27.4
LnGrp LOS				C	A	C	D	B	A	A	C	C
Approach Vol, veh/h					774			2060			791	
Approach Delay, s/veh					29.7			22.4			32.5	
Approach LOS					C			C			C	

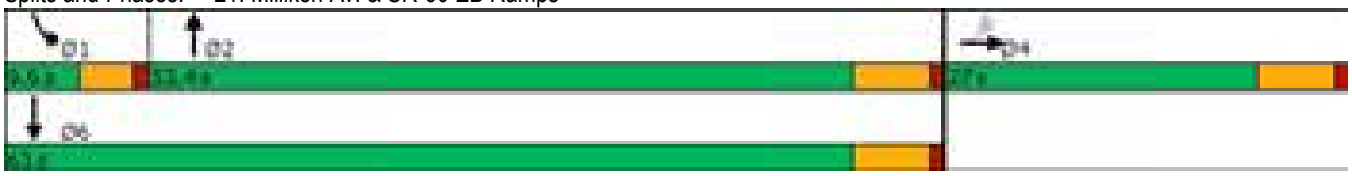
Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	48.1		25.7	22.4		28.7						
Change Period (Y+Rc), s	6.2		4.6	6.2		6.2						
Max Green Setting (Gmax), s	46.8		23.4	18.8		30.8						
Max Q Clear Time (g_c+I1), s	28.4		20.9	14.5		19.7						
Green Ext Time (p_c), s	10.7		0.2	1.7		2.9						

Intersection Summary		
HCM 6th Ctrl Delay		26.2
HCM 6th LOS		C

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	481	3	1600	93	933
Future Volume (vph)	481	3	1600	93	933
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	22.5	9.6	22.5
Total Split (s)	27.0	27.0	53.4	9.6	63.0
Total Split (%)	30.0%	30.0%	59.3%	10.7%	70.0%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	20.8	20.8	47.2	5.0	56.8
Actuated g/C Ratio	0.23	0.23	0.52	0.06	0.63
v/c Ratio	1.09	0.94	1.12	0.98	0.41
Control Delay	106.0	53.6	84.4	131.7	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	106.0	53.6	84.4	131.7	8.9
LOS	F	D	F	F	A
Approach Delay		79.5	84.4		20.0
Approach LOS		E	F		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 66.7	Intersection LOS: E
Intersection Capacity Utilization 104.5%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	481	3	391	0	0	0	0	1600	488	93	933	0
Future Volume (veh/h)	481	3	391	0	0	0	0	1600	488	93	933	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	353	203	207				0	1649	256	96	962	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	412	196	200				0	1665	252	99	2361	0
Arrive On Green	0.23	0.23	0.23				0.00	0.68	0.68	0.07	0.82	0.00
Sat Flow, veh/h	1781	849	866				0	3174	480	1781	3741	0
Grp Volume(v), veh/h	353	0	410				0	954	951	96	962	0
Grp Sat Flow(s),veh/h/ln	1781	0	1715				0	1870	1784	1781	1870	0
Q Serve(g_s), s	17.1	0.0	20.8				0.0	43.4	47.2	4.8	6.2	0.0
Cycle Q Clear(g_c), s	17.1	0.0	20.8				0.0	43.4	47.2	4.8	6.2	0.0
Prop In Lane	1.00		0.50				0.00		0.27	1.00		0.00
Lane Grp Cap(c), veh/h	412	0	396				0	981	936	99	2361	0
V/C Ratio(X)	0.86	0.00	1.03				0.00	0.97	1.02	0.97	0.41	0.00
Avail Cap(c_a), veh/h	412	0	396				0	981	936	99	2361	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.30	1.30	1.30	1.30	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.2	0.0	34.6				0.0	13.7	14.3	41.7	3.5	0.0
Incr Delay (d2), s/veh	16.3	0.0	54.5				0.0	22.3	33.5	80.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.0	14.1				0.0	14.7	17.6	4.2	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	0.0	89.1				0.0	36.0	47.8	121.8	3.7	0.0
LnGrp LOS	D	A	F				A	D	F	F	A	A
Approach Vol, veh/h		763						1905			1058	
Approach Delay, s/veh		70.7						41.9			14.4	
Approach LOS		E						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.6	53.4		27.0		63.0
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	5.0	47.2		20.8		56.8
Max Q Clear Time (g_c+I1), s	6.8	49.2		22.8		8.2
Green Ext Time (p_c), s	0.0	0.0		0.0		7.3

Intersection Summary		
HCM 6th Ctrl Delay		40.0
HCM 6th LOS		D

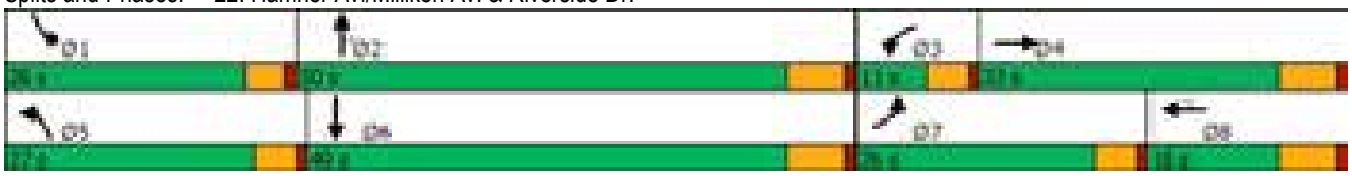
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	420	294	31	205	268	181	1351	64	269	809
Future Volume (vph)	420	294	31	205	268	181	1351	64	269	809
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	26.0	33.0	11.0	18.0	18.0	27.0	50.0	50.0	26.0	49.0
Total Split (%)	21.7%	27.5%	9.2%	15.0%	15.0%	22.5%	41.7%	41.7%	21.7%	40.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	21.4	31.2	6.0	11.8	11.8	19.0	43.8	43.8	21.4	46.2
Actuated g/C Ratio	0.18	0.26	0.05	0.10	0.10	0.16	0.36	0.36	0.18	0.38
v/c Ratio	1.71	1.22	0.46	1.36	0.75	0.83	1.27	0.11	1.10	0.96
Control Delay	366.8	155.9	73.7	237.2	19.0	75.1	161.6	0.4	127.7	53.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	366.8	155.9	73.7	237.2	19.0	75.1	161.6	0.4	127.7	53.6
LOS	F	F	E	F	B	E	F	A	F	D
Approach Delay		254.6		111.2			145.3			68.5
Approach LOS		F		F			F			E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.71	
Intersection Signal Delay: 140.4	Intersection LOS: F
Intersection Capacity Utilization 111.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	420	294	184	31	205	268	181	1351	64	269	809	252
Future Volume (veh/h)	420	294	184	31	205	268	181	1351	64	269	809	252
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	483	338	158	36	236	274	208	1553	63	309	930	268
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	283	132	46	174	148	232	1229	548	284	1026	295
Arrive On Green	0.18	0.25	0.25	0.03	0.10	0.10	0.15	0.37	0.37	0.18	0.40	0.40
Sat Flow, veh/h	1594	1142	534	1594	1772	1502	1594	3367	1502	1594	2580	742
Grp Volume(v), veh/h	483	0	496	36	236	274	208	1553	63	309	606	592
Grp Sat Flow(s),veh/h/ln	1594	0	1676	1594	1772	1502	1594	1683	1502	1594	1683	1638
Q Serve(g_s), s	21.4	0.0	29.7	2.7	11.8	11.8	15.4	43.8	3.3	21.4	40.7	40.9
Cycle Q Clear(g_c), s	21.4	0.0	29.7	2.7	11.8	11.8	15.4	43.8	3.3	21.4	40.7	40.9
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	284	0	415	46	174	148	232	1229	548	284	669	651
V/C Ratio(X)	1.70	0.00	1.20	0.78	1.35	1.86	0.90	1.26	0.11	1.09	0.91	0.91
Avail Cap(c_a), veh/h	284	0	415	85	174	148	298	1229	548	284	669	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	45.1	57.9	54.1	54.1	50.4	38.1	25.3	49.3	34.0	34.1
Incr Delay (d2), s/veh	329.4	0.0	109.4	9.8	192.3	409.9	20.6	125.4	0.1	78.6	15.9	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	34.2	0.0	24.3	1.2	14.4	21.1	7.2	38.2	1.2	14.4	18.4	18.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	378.7	0.0	154.5	67.7	246.4	464.0	71.0	163.5	25.3	127.9	50.0	50.9
LnGrp LOS	F	A	F	E	F	F	E	F	C	F	D	D
Approach Vol, veh/h		979			546			1824			1507	
Approach Delay, s/veh		265.1			343.8			148.1			66.3	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	50.0	8.1	35.9	22.1	53.9	26.0	18.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	43.8	6.4	26.8	22.4	42.8	21.4	11.8
Max Q Clear Time (g_c+I1), s	23.4	45.8	4.7	31.7	17.4	42.9	23.4	13.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	168.3
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	24.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	166	139	57	1450	909	68
Future Vol, veh/h	166	139	57	1450	909	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	189	158	65	1648	1033	77

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2026	1072	1110	0	-	0
Stage 1	1072	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	~ 56	267	627	-	-	-
Stage 1	328	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	267	627	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	336	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	196.8	5.5	0
HCM LOS	F		

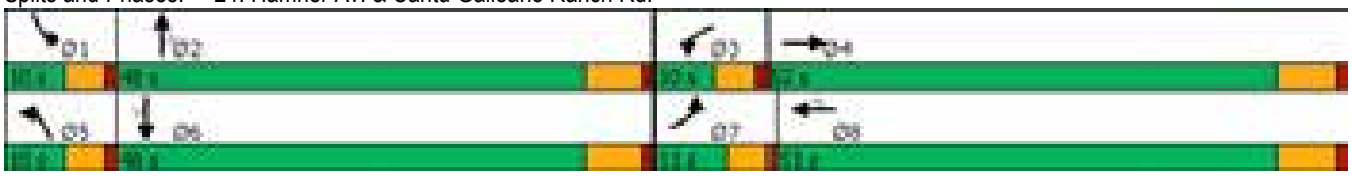
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	627	-	267	-	-
HCM Lane V/C Ratio	0.103	-	1.298	-	-
HCM Control Delay (s)	11.4	5.3	196.8	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.3	-	17.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	471	1721	336	2085	312	405	697	451	248	298	477
Future Volume (vph)	471	1721	336	2085	312	405	697	451	248	298	477
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	11.0	52.0	10.0	51.0	51.0	10.0	48.0	48.0	10.0	48.0	48.0
Total Split (%)	9.2%	43.3%	8.3%	42.5%	42.5%	8.3%	40.0%	40.0%	8.3%	40.0%	40.0%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	45.8	5.4	44.8	44.8	5.4	33.7	33.7	5.4	33.7	33.7
Actuated g/C Ratio	0.06	0.41	0.05	0.40	0.40	0.05	0.30	0.30	0.05	0.30	0.30
v/c Ratio	2.49	0.80	2.11	1.54	0.45	2.54	0.48	0.85	1.55	0.29	0.90
Control Delay	711.6	32.7	547.8	274.6	16.3	736.7	32.7	42.2	314.4	30.3	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	711.6	32.7	547.8	274.6	16.3	736.7	32.7	42.2	314.4	30.3	48.3
LOS	F	C	F	F	B	F	C	D	F	C	D
Approach Delay		162.8		278.7			219.1			107.5	
Approach LOS		F		F			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 112.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.54	
Intersection Signal Delay: 207.5	Intersection LOS: F
Intersection Capacity Utilization 113.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1721	268	336	2085	312	405	697	451	248	298	477
Future Volume (veh/h)	471	1721	268	336	2085	312	405	697	451	248	298	477
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	491	1793	154	350	2172	190	422	726	262	258	310	289
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	2732	235	184	1562	697	184	1162	361	184	809	361
Arrive On Green	0.06	0.45	0.45	0.05	0.44	0.44	0.05	0.23	0.23	0.05	0.23	0.23
Sat Flow, veh/h	3456	6080	522	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	491	1423	524	350	2172	190	422	726	262	258	310	289
Grp Sat Flow(s),veh/h/ln	1728	1609	1776	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	6.4	23.3	23.3	5.4	44.5	7.7	5.4	13.0	15.5	5.4	7.5	17.4
Cycle Q Clear(g_c), s	6.4	23.3	23.3	5.4	44.5	7.7	5.4	13.0	15.5	5.4	7.5	17.4
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	2169	798	184	1562	697	184	1162	361	184	809	361
V/C Ratio(X)	2.25	0.66	0.66	1.90	1.39	0.27	2.29	0.62	0.73	1.40	0.38	0.80
Avail Cap(c_a), veh/h	218	2169	798	184	1562	697	184	2108	654	184	1467	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	21.8	21.8	47.9	28.4	18.1	47.9	35.2	36.2	47.9	33.1	36.9
Incr Delay (d2), s/veh	576.0	0.7	2.0	424.2	179.8	0.2	597.2	0.6	2.8	209.3	0.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.1	7.9	9.0	13.1	55.4	2.6	17.5	5.1	5.8	7.6	3.1	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	623.4	22.5	23.7	472.2	208.2	18.3	645.1	35.8	39.0	257.2	33.4	41.1
LnGrp LOS	F	C	C	F	F	B	F	D	D	F	C	D
Approach Vol, veh/h		2438			2712			1410			857	
Approach Delay, s/veh		143.8			228.9			218.7			103.4	
Approach LOS		F			F			F			F	

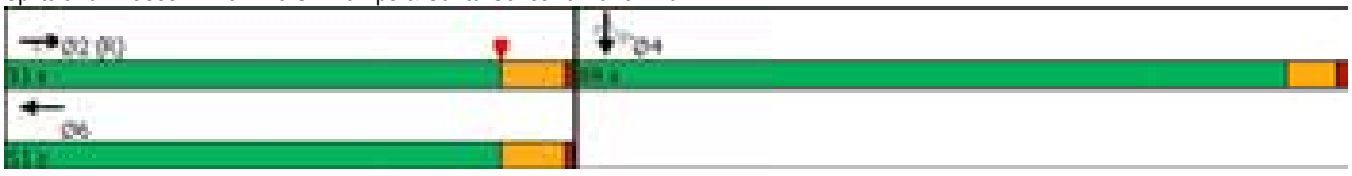
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	29.2	10.0	52.0	10.0	29.2	11.0	51.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	5.4	41.8	5.4	45.5	5.4	41.8	6.4	44.5
Max Q Clear Time (g_c+I1), s	7.4	17.5	7.4	25.3	7.4	19.4	8.4	46.5
Green Ext Time (p_c), s	0.0	5.6	0.0	12.2	0.0	2.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	184.5
HCM 6th LOS	F

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1594	867	1446	185	285	0	1829
Future Volume (vph)	1594	867	1446	185	285	0	1829
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	51.0	51.0	51.0		69.0	69.0	69.0
Total Split (%)	42.5%	42.5%	42.5%		57.5%	57.5%	57.5%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	Min		Min	Min	Min
Act Effct Green (s)	44.2	44.2	44.2	120.0	63.5	63.5	63.5
Actuated g/C Ratio	0.37	0.37	0.37	1.00	0.53	0.53	0.53
v/c Ratio	0.93	0.88	1.21	0.07	0.31	1.29	1.25
Control Delay	46.0	17.1	139.3	0.0	17.2	165.3	149.0
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.4	0.0
Total Delay	46.0	17.1	139.3	0.0	17.2	165.8	149.0
LOS	D	B	F	A	B	F	F
Approach Delay	35.8		123.5			140.4	
Approach LOS	D		F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.29	
Intersection Signal Delay: 94.5	Intersection LOS: F
Intersection Capacity Utilization 125.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1594	867	0	1446	185	0	0	0	285	0	1829
Future Volume (veh/h)	0	1594	867	0	1446	185	0	0	0	285	0	1829
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1733	0	0	1572	0				207	0	1229
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2390		0	1664					765	0	1361
Arrive On Green	0.00	0.47	0.00	0.00	0.94	0.00				0.43	0.00	0.43
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	1733	0	0	1572	0				207	0	1229
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	32.8	0.0	0.0	29.4	0.0				9.0	0.0	43.4
Cycle Q Clear(g_c), s	0.0	32.8	0.0	0.0	29.4	0.0				9.0	0.0	43.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2390		0	1664					765	0	1361
V/C Ratio(X)	0.00	0.73		0.00	0.94					0.27	0.00	0.90
Avail Cap(c_a), veh/h	0	2390		0	1664					943	0	1678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.36	0.00	0.00	0.41	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.7	0.0	0.0	3.0	0.0				22.1	0.0	31.9
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	5.7	0.0				0.2	0.0	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.2	0.0	0.0	2.7	0.0				3.7	0.0	16.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	26.4	0.0	0.0	8.6	0.0				22.3	0.0	38.2
LnGrp LOS	A	C		A	A					C	A	D
Approach Vol, veh/h		1733	A		1572	A					1436	
Approach Delay, s/veh		26.4			8.6						35.9	
Approach LOS		C			A						D	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		63.0		57.0		63.0						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		44.2		63.5		44.2						
Max Q Clear Time (g_c+I1), s		34.8		45.4		31.4						
Green Ext Time (p_c), s		6.6		6.2		8.0						

Intersection Summary		
HCM 6th Ctrl Delay		23.4
HCM 6th LOS		C

Notes

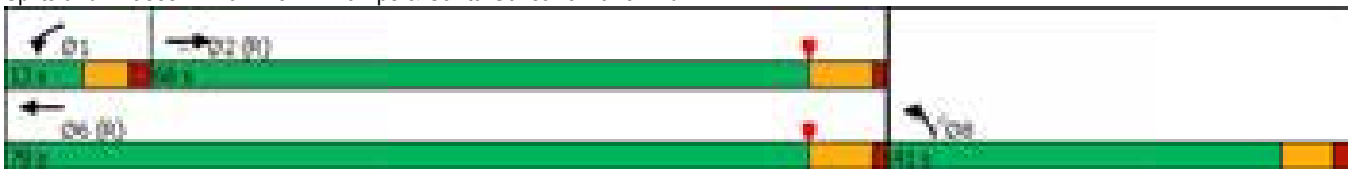
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	620	1273	214	579	1053	416
Future Volume (vph)	620	1273	214	579	1053	416
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.5	22.5	22.5	22.5
Total Split (s)	66.0	66.0	13.0	79.0	41.0	41.0
Total Split (%)	55.0%	55.0%	10.8%	65.8%	34.2%	34.2%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	58.7	58.7	7.0	71.7	35.0	35.0
Actuated g/C Ratio	0.49	0.49	0.06	0.60	0.29	0.29
v/c Ratio	0.27	1.12	1.17	0.21	1.19	0.66
Control Delay	14.2	88.9	164.2	11.3	133.1	17.5
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	14.2	89.2	164.2	11.3	133.1	17.5
LOS	B	F	F	B	F	B
Approach Delay	64.6			52.6	103.6	
Approach LOS	E			D	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.19	
Intersection Signal Delay: 76.1	Intersection LOS: E
Intersection Capacity Utilization 96.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	620	1273	214	579	1053	416
Future Volume (veh/h)	620	1273	214	579	1053	416
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	674	705	233	629	1145	235
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2498	775	202	3051	1039	462
Arrive On Green	0.82	0.82	0.06	0.60	0.29	0.29
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	674	705	233	629	1145	235
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	3.7	38.0	7.0	6.8	35.0	14.8
Cycle Q Clear(g_c), s	3.7	38.0	7.0	6.8	35.0	14.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2498	775	202	3051	1039	462
V/C Ratio(X)	0.27	0.91	1.16	0.21	1.10	0.51
Avail Cap(c_a), veh/h	2498	775	202	3051	1039	462
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.43	0.43	0.85	0.85	1.00	1.00
Uniform Delay (d), s/veh	6.0	9.1	56.5	11.1	42.5	35.3
Incr Delay (d2), s/veh	0.1	8.3	107.0	0.1	60.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.7	5.9	2.3	23.4	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.1	17.4	163.5	11.2	102.6	36.3
LnGrp LOS	A	B	F	B	F	D
Approach Vol, veh/h	1379			862	1380	
Approach Delay, s/veh	11.9			52.4	91.3	
Approach LOS	B			D	F	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	13.0	66.0				79.0	41.0
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	7.0	58.7				71.7	35.0
Max Q Clear Time (g_c+I1), s	9.0	40.0				8.8	37.0
Green Ext Time (p_c), s	0.0	6.7				4.1	0.0

Intersection Summary		
HCM 6th Ctrl Delay		51.8
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	439	398	305	30	308	275	315	18	22	61	155
Future Volume (vph)	439	398	305	30	308	275	315	18	22	61	155
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	17.0	47.9	47.9	9.6	40.5	13.0	52.2	52.2	10.3	49.5	49.5
Total Split (%)	14.2%	39.9%	39.9%	8.0%	33.8%	10.8%	43.5%	43.5%	8.6%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.4	28.1	28.1	5.4	13.1	9.1	24.7	24.7	5.7	11.9	11.9
Actuated g/C Ratio	0.19	0.39	0.39	0.08	0.18	0.13	0.35	0.35	0.08	0.17	0.17
v/c Ratio	0.74	0.17	0.40	0.13	0.41	0.69	0.28	0.03	0.17	0.21	0.42
Control Delay	38.7	16.6	4.5	39.9	25.6	42.5	18.5	0.1	42.0	26.7	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	16.6	4.5	39.9	25.6	42.5	18.5	0.1	42.0	26.7	7.8
LOS	D	B	A	D	C	D	B	A	D	C	A
Approach Delay		21.9			26.8		28.8			15.8	
Approach LOS		C			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 71.4	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 23.8	Intersection LOS: C
Intersection Capacity Utilization 50.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	439	398	305	30	308	46	275	315	18	22	61	155
Future Volume (veh/h)	439	398	305	30	308	46	275	315	18	22	61	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	477	433	222	33	335	30	299	342	10	24	66	141
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	611	1810	446	126	674	59	422	821	366	50	256	217
Arrive On Green	0.18	0.28	0.28	0.04	0.14	0.14	0.12	0.23	0.23	0.03	0.14	0.14
Sat Flow, veh/h	3456	6434	1585	3456	4778	421	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	477	433	222	33	237	128	299	342	10	24	66	141
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1795	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	6.9	2.7	6.1	0.5	3.4	3.5	4.4	4.3	0.3	0.7	1.7	4.4
Cycle Q Clear(g_c), s	6.9	2.7	6.1	0.5	3.4	3.5	4.4	4.3	0.3	0.7	1.7	4.4
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	611	1810	446	126	480	253	422	821	366	50	256	217
V/C Ratio(X)	0.78	0.24	0.50	0.26	0.49	0.51	0.71	0.42	0.03	0.48	0.26	0.65
Avail Cap(c_a), veh/h	817	5077	1251	329	2206	1163	553	3095	1381	194	1533	1299
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	14.5	15.8	24.6	20.8	20.8	22.1	17.2	15.6	25.1	20.3	21.4
Incr Delay (d2), s/veh	2.4	0.1	0.9	0.4	0.8	1.6	1.6	0.3	0.0	2.6	0.5	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.8	1.8	0.2	1.1	1.3	1.6	1.5	0.1	0.3	0.7	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	14.6	16.6	25.0	21.6	22.4	23.7	17.5	15.6	27.7	20.8	24.7
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	C	C
Approach Vol, veh/h		1132			398			651			231	
Approach Delay, s/veh		18.5			22.1			20.3			23.9	
Approach LOS		B			C			C			C	

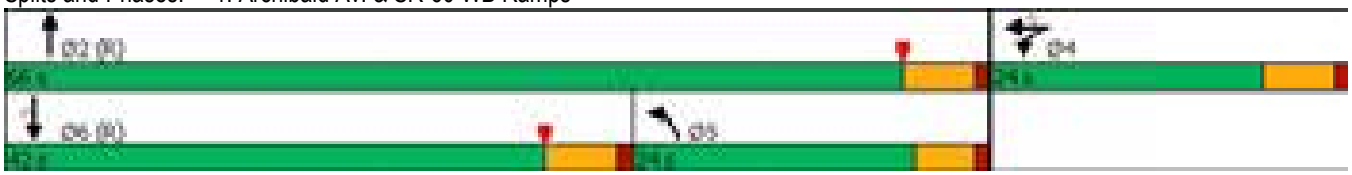
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	18.6	6.5	21.3	11.0	13.7	13.9	13.9
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	5.7	45.7	5.0	41.4	8.4	43.0	12.4	34.0
Max Q Clear Time (g_c+I1), s	2.7	6.3	2.5	8.1	6.4	6.4	8.9	5.5
Green Ext Time (p_c), s	0.0	2.2	0.0	3.4	0.1	0.8	0.4	1.9

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	450	1	194	592	695	1559	354
Future Volume (vph)	450	1	194	592	695	1559	354
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	24.0	24.0	24.0	24.0	66.0	42.0	42.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	73.3%	46.7%	46.7%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	16.5	16.5	16.5	18.2	61.9	38.8	38.8
Actuated g/C Ratio	0.18	0.18	0.18	0.20	0.69	0.43	0.43
v/c Ratio	0.79	0.80	0.42	0.87	0.20	0.58	0.43
Control Delay	54.1	54.8	8.3	44.1	0.6	21.0	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	54.8	8.3	44.1	0.6	21.0	5.2
LOS	D	D	A	D	A	C	A
Approach Delay		42.0			20.6	18.1	
Approach LOS		D			C	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 22.9	Intersection LOS: C
Intersection Capacity Utilization 74.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	450	1	194	592	695	0	0	1559	354
Future Volume (veh/h)	0	0	0	450	1	194	592	695	0	0	1559	354
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				487	0	60	604	709	0	0	1591	261
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				584	0	260	1028	3610	0	0	2221	533
Arrive On Green				0.16	0.00	0.16	0.10	0.23	0.00	0.00	0.35	0.35
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	6696	1544
Grp Volume(v), veh/h				487	0	60	604	709	0	0	1591	261
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1609	1544
Q Serve(g_s), s				11.9	0.0	3.0	15.1	10.0	0.0	0.0	19.4	12.0
Cycle Q Clear(g_c), s				11.9	0.0	3.0	15.1	10.0	0.0	0.0	19.4	12.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				584	0	260	1028	3610	0	0	2221	533
V/C Ratio(X)				0.83	0.00	0.23	0.59	0.20	0.00	0.00	0.72	0.49
Avail Cap(c_a), veh/h				720	0	321	1028	3610	0	0	2588	621
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.92	0.92	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.4	0.0	32.7	35.3	14.0	0.0	0.0	25.6	23.2
Incr Delay (d2), s/veh				6.9	0.0	0.4	0.6	0.1	0.0	0.0	2.0	3.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.5	0.0	2.8	6.9	3.7	0.0	0.0	7.1	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				43.4	0.0	33.1	35.9	14.1	0.0	0.0	27.6	26.4
LnGrp LOS				D	A	C	D	B	A	A	C	C
Approach Vol, veh/h					547			1313			1852	
Approach Delay, s/veh					42.2			24.1			27.5	
Approach LOS					D			C			C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	69.4	20.6	32.6	36.9
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	60.2	18.2	19.0	* 36
Max Q Clear Time (g_c+I1), s	12.0	13.9	17.1	21.4
Green Ext Time (p_c), s	5.1	0.9	0.3	9.7

Intersection Summary	
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

Notes

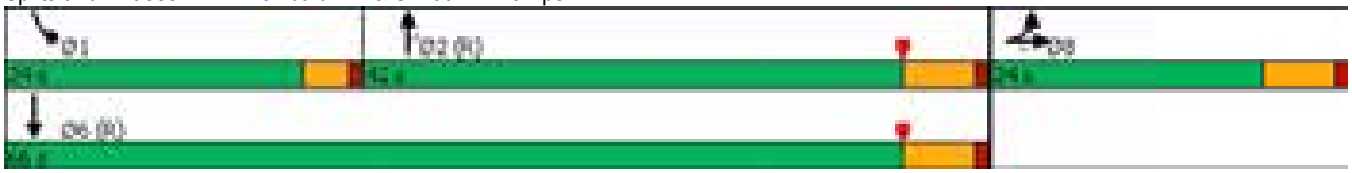
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	124	1	524	1165	607	527	1482
Future Volume (vph)	124	1	524	1165	607	527	1482
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	24.0	24.0	24.0	42.0	42.0	24.0	66.0
Total Split (%)	26.7%	26.7%	26.7%	46.7%	46.7%	26.7%	73.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	16.7	16.7	16.7	40.1	40.1	17.6	61.7
Actuated g/C Ratio	0.19	0.19	0.19	0.45	0.45	0.20	0.69
v/c Ratio	0.36	0.87	0.78	0.41	0.62	0.80	0.43
Control Delay	34.9	56.1	40.5	18.2	6.2	53.4	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.9	56.1	40.5	18.2	6.2	53.4	1.5
LOS	C	E	D	B	A	D	A
Approach Delay		46.0		14.1			15.1
Approach LOS		D		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 19.2	Intersection LOS: B
Intersection Capacity Utilization 74.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1	524	0	0	0	0	1165	607	527	1482	0
Future Volume (veh/h)	124	1	524	0	0	0	0	1165	607	527	1482	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	84	0	340				0	1177	437	532	1497	0
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	243	0	432				0	3327	802	600	3753	0
Arrive On Green	0.14	0.00	0.14				0.00	0.52	0.52	0.35	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	84	0	340				0	1177	437	532	1497	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1551	1728	1702	0
Q Serve(g_s), s	3.8	0.0	9.3				0.0	9.7	17.1	13.1	0.0	0.0
Cycle Q Clear(g_c), s	3.8	0.0	9.3				0.0	9.7	17.1	13.1	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	243	0	432				0	3327	802	600	3753	0
V/C Ratio(X)	0.35	0.00	0.79				0.00	0.35	0.55	0.89	0.40	0.00
Avail Cap(c_a), veh/h	360	0	641				0	3327	802	768	3753	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.76	0.76	0.00
Uniform Delay (d), s/veh	35.2	0.0	37.6				0.0	12.8	14.6	28.6	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	3.9				0.0	0.3	2.7	6.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	3.7				0.0	3.0	5.6	4.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	41.5				0.0	13.1	17.3	35.4	0.2	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		424						1614			2029	
Approach Delay, s/veh		40.5						14.3			9.5	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	19.6	52.3				71.9		18.1				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	20.0	36.2				60.2		18.2				
Max Q Clear Time (g_c+I1), s	15.1	19.1				2.0		11.3				
Green Ext Time (p_c), s	0.5	8.6				14.2		0.9				

Intersection Summary			
HCM 6th Ctrl Delay			14.6
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	183	692	370	222	517	204	303	1114	323	1145
Future Volume (vph)	183	692	370	222	517	204	303	1114	323	1145
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	21.0	42.2	42.2	17.0	38.2	38.2	27.0	32.8	28.0	33.8
Total Split (%)	17.5%	35.2%	35.2%	14.2%	31.8%	31.8%	22.5%	27.3%	23.3%	28.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	15.6	30.6	30.6	12.4	27.5	27.5	22.4	26.6	23.4	27.7
Actuated g/C Ratio	0.14	0.27	0.27	0.11	0.24	0.24	0.20	0.23	0.20	0.24
v/c Ratio	0.87	0.79	0.57	1.33	0.66	0.41	1.00	1.15	1.02	1.21
Control Delay	85.7	46.0	6.8	223.7	43.7	7.2	98.7	119.7	102.1	139.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.7	46.0	6.8	223.7	43.7	7.2	98.7	119.7	102.1	139.1
LOS	F	D	A	F	D	A	F	F	F	F
Approach Delay		40.2			78.2			115.6		132.0
Approach LOS		D			E			F		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.33	
Intersection Signal Delay: 96.9	Intersection LOS: F
Intersection Capacity Utilization 101.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	692	370	222	517	204	303	1114	141	323	1145	216
Future Volume (veh/h)	183	692	370	222	517	204	303	1114	141	323	1145	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	187	706	309	227	528	159	309	1137	137	330	1168	187
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	865	376	172	781	346	310	1008	121	324	1063	170
Arrive On Green	0.13	0.26	0.26	0.11	0.23	0.23	0.19	0.23	0.23	0.20	0.25	0.25
Sat Flow, veh/h	1594	3367	1465	1594	3367	1494	1594	4365	526	1594	4195	671
Grp Volume(v), veh/h	187	706	309	227	528	159	309	840	434	330	898	457
Grp Sat Flow(s),veh/h/ln	1594	1683	1465	1594	1683	1494	1594	1612	1666	1594	1612	1642
Q Serve(g_s), s	13.3	22.7	22.9	12.4	16.5	6.3	22.3	26.6	26.6	23.4	29.2	29.2
Cycle Q Clear(g_c), s	13.3	22.7	22.9	12.4	16.5	6.3	22.3	26.6	26.6	23.4	29.2	29.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.41
Lane Grp Cap(c), veh/h	211	865	376	172	781	346	310	745	385	324	818	416
V/C Ratio(X)	0.88	0.82	0.82	1.32	0.68	0.46	1.00	1.13	1.13	1.02	1.10	1.10
Avail Cap(c_a), veh/h	227	1052	458	172	935	415	310	745	385	324	818	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	40.2	40.3	51.4	40.3	13.5	46.4	44.3	44.3	45.9	43.0	43.0
Incr Delay (d2), s/veh	28.6	4.3	9.6	180.1	1.5	0.9	50.2	74.0	85.6	55.0	61.8	73.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	9.4	8.8	13.3	6.7	3.6	12.8	17.7	19.6	13.8	18.0	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.7	44.5	49.9	231.5	41.8	14.4	96.6	118.3	129.9	100.9	104.8	116.5
LnGrp LOS	E	D	D	F	D	B	F	F	F	F	F	F
Approach Vol, veh/h		1202			914			1583			1685	
Approach Delay, s/veh		51.1			84.1			117.2			107.2	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.6	32.8	17.0	35.8	27.0	35.4	19.9	32.9
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	23.4	* 27	12.4	36.0	22.4	27.6	16.4	32.0
Max Q Clear Time (g_c+I1), s	25.4	28.6	14.4	24.9	24.3	31.2	15.3	18.5
Green Ext Time (p_c), s	0.0	0.0	0.0	4.1	0.0	0.0	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	93.7
HCM 6th LOS	F

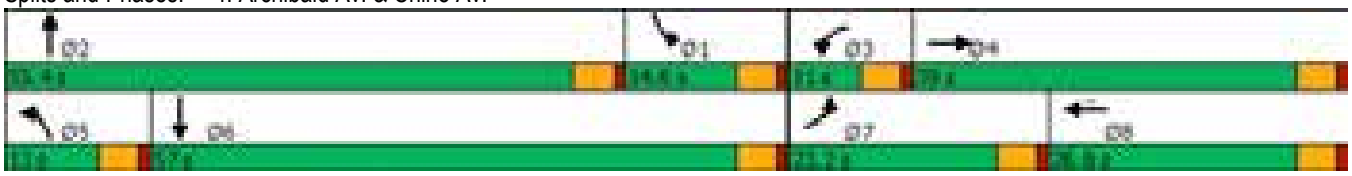
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	178	400	86	159	70	118	1376	81	1453
Future Volume (vph)	178	400	86	159	70	118	1376	81	1453
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	23.2	39.0	11.0	26.8	26.8	13.0	55.4	14.6	57.0
Total Split (%)	19.3%	32.5%	9.2%	22.3%	22.3%	10.8%	46.2%	12.2%	47.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	17.1	34.4	6.4	23.7	23.7	8.4	50.5	12.6	52.4
Actuated g/C Ratio	0.14	0.29	0.05	0.20	0.20	0.07	0.42	0.10	0.44
v/c Ratio	0.82	1.18	1.07	0.48	0.17	1.12	0.69	0.51	1.04
Control Delay	77.8	139.4	172.5	48.6	0.8	171.7	31.0	62.1	66.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.8	139.4	172.5	48.6	0.8	171.7	31.0	62.1	66.4
LOS	E	F	F	D	A	F	C	E	E
Approach Delay		124.6		71.9			41.4		66.2
Approach LOS		F		E			D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 67.5	Intersection LOS: E
Intersection Capacity Utilization 105.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	400	161	86	159	70	118	1376	95	81	1453	71
Future Volume (veh/h)	178	400	161	86	159	70	118	1376	95	81	1453	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	185	417	143	90	166	41	123	1433	98	84	1514	70
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	360	123	85	369	313	112	1739	119	243	1468	68
Arrive On Green	0.13	0.29	0.29	0.05	0.21	0.21	0.07	0.35	0.35	0.15	0.44	0.44
Sat Flow, veh/h	1594	1256	431	1594	1772	1502	1594	4913	336	1594	3361	155
Grp Volume(v), veh/h	185	0	560	90	166	41	123	1034	497	84	796	788
Grp Sat Flow(s),veh/h/ln	1594	0	1687	1594	1772	1502	1594	1772	1705	1594	1772	1744
Q Serve(g_s), s	13.7	0.0	34.4	6.4	9.8	1.9	8.4	31.9	31.9	5.7	52.4	52.4
Cycle Q Clear(g_c), s	13.7	0.0	34.4	6.4	9.8	1.9	8.4	31.9	31.9	5.7	52.4	52.4
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.20	1.00		0.09
Lane Grp Cap(c), veh/h	210	0	484	85	369	313	112	1255	604	243	774	762
V/C Ratio(X)	0.88	0.00	1.16	1.06	0.45	0.13	1.10	0.82	0.82	0.35	1.03	1.03
Avail Cap(c_a), veh/h	247	0	484	85	369	313	112	1500	722	243	774	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	0.0	42.8	56.8	41.5	19.5	55.8	35.3	35.4	45.5	33.8	33.8
Incr Delay (d2), s/veh	26.2	0.0	92.2	114.5	0.9	0.2	115.5	3.3	6.6	0.8	39.9	42.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	26.2	5.2	4.3	1.0	6.8	13.4	13.4	2.2	29.1	29.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.4	0.0	135.0	171.3	42.3	19.7	171.3	38.7	42.0	46.3	73.7	75.8
LnGrp LOS	E	A	F	F	D	B	F	D	D	D	F	F
Approach Vol, veh/h		745			297			1654			1668	
Approach Delay, s/veh		120.7			78.3			49.5			73.3	
Approach LOS		F			E			D			E	

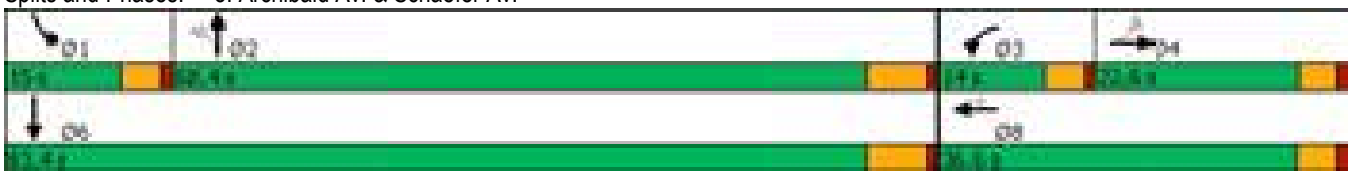
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.9	47.1	11.0	39.0	13.0	57.0	20.4	29.6
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	10.0	50.8	6.4	34.4	8.4	52.4	18.6	22.2
Max Q Clear Time (g_c+I1), s	7.7	33.9	8.4	36.4	10.4	54.4	15.7	11.8
Green Ext Time (p_c), s	0.0	8.6	0.0	0.0	0.0	0.0	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	72.7
HCM 6th LOS	E

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	18	25	53	23	17	1485	50	1641
Future Volume (vph)	18	25	53	23	17	1485	50	1641
Turn Type	Perm	NA	Prot	NA	Perm	NA	Prot	NA
Protected Phases		4	3	8		2	1	6
Permitted Phases	4				8			
Detector Phase	4	4	3	8	8	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	9.6	32.6	32.6	37.5	9.6	23.5
Total Split (s)	22.6	22.6	14.0	36.6	36.6	68.4	15.0	83.4
Total Split (%)	18.8%	18.8%	11.7%	30.5%	30.5%	57.0%	12.5%	69.5%
Yellow Time (s)	3.5	3.5	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	9.4	9.4	8.9	15.3	15.3	50.9	9.0	57.0
Actuated g/C Ratio	0.13	0.13	0.12	0.21	0.21	0.71	0.12	0.79
v/c Ratio	0.09	0.12	0.29	0.06	0.05	0.48	0.27	0.67
Control Delay	43.3	43.3	46.3	31.2	0.2	13.1	45.8	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	43.3	46.3	31.2	0.2	13.1	45.8	10.9
LOS	D	D	D	C	A	B	D	B
Approach Delay		43.3		34.2		13.1		11.9
Approach LOS		D		C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 72.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 70.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	25	0	53	23	17	0	1485	54	50	1641	17
Future Volume (veh/h)	18	25	0	53	23	17	0	1485	54	50	1641	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	19	27	0	56	24	12	0	1580	55	53	1746	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	104	0	77	312	262	108	2592	90	75	2241	23
Arrive On Green	0.06	0.06	0.00	0.05	0.18	0.18	0.00	0.54	0.54	0.05	0.66	0.66
Sat Flow, veh/h	1192	1772	0	1594	1772	1486	243	4795	167	1594	3413	35
Grp Volume(v), veh/h	19	27	0	56	24	12	0	1062	573	53	860	904
Grp Sat Flow(s),veh/h/ln	1192	1772	0	1594	1772	1486	243	1612	1737	1594	1683	1765
Q Serve(g_s), s	1.0	1.0	0.0	2.3	0.8	0.4	0.0	15.0	15.0	2.2	23.8	24.0
Cycle Q Clear(g_c), s	1.0	1.0	0.0	2.3	0.8	0.4	0.0	15.0	15.0	2.2	23.8	24.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.10	1.00		0.02
Lane Grp Cap(c), veh/h	178	104	0	77	312	262	108	1743	939	75	1105	1159
V/C Ratio(X)	0.11	0.26	0.00	0.72	0.08	0.05	0.00	0.61	0.61	0.71	0.78	0.78
Avail Cap(c_a), veh/h	433	483	0	225	853	716	203	3003	1618	249	1948	2042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	29.9	0.0	31.2	22.9	22.7	0.0	10.5	10.5	31.2	8.0	8.0
Incr Delay (d2), s/veh	0.3	1.3	0.0	4.7	0.1	0.1	0.0	0.3	0.6	4.5	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.0	0.9	0.3	0.1	0.0	3.6	4.0	0.8	4.5	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	31.2	0.0	35.9	23.0	22.8	0.0	10.8	11.1	35.8	9.2	9.2
LnGrp LOS	C	C	A	D	C	C	A	B	B	D	A	A
Approach Vol, veh/h		46			92			1635			1817	
Approach Delay, s/veh		30.8			30.8			10.9			10.0	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2	3	4	6	8
Phs Duration (G+Y+Rc), s	7.7	42.4	7.8	8.5	50.1	16.3
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6	6.5	4.6
Max Green Setting (Gmax), s	10.4	61.9	9.4	* 18	76.9	32.0
Max Q Clear Time (g_c+I1), s	4.2	17.0	4.3	3.0	26.0	2.8
Green Ext Time (p_c), s	0.0	13.8	0.0	0.1	17.7	0.1

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1028	293	444	577	286	105	1047	561	394	1111	66
Future Volume (vph)	105	1028	293	444	577	286	105	1047	561	394	1111	66
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	10.2	40.4		16.0	46.2	46.2	16.0	42.6		21.0	47.6	47.6
Total Split (%)	8.5%	33.7%		13.3%	38.5%	38.5%	13.3%	35.5%		17.5%	39.7%	39.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.6	34.2	120.0	11.4	40.0	40.0	10.7	36.1	120.0	16.4	41.8	41.8
Actuated g/C Ratio	0.05	0.28	1.00	0.10	0.33	0.33	0.09	0.30	1.00	0.14	0.35	0.35
v/c Ratio	0.80	1.08	0.21	1.65	1.03	0.46	0.79	1.04	0.39	1.92	0.95	0.11
Control Delay	93.6	92.4	0.3	342.2	85.4	9.2	89.3	79.3	0.8	460.3	54.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.6	92.4	0.3	342.2	85.4	9.2	89.3	79.3	0.8	460.3	54.9	0.4
LOS	F	F	A	F	F	A	F	E	A	F	D	A
Approach Delay		73.6			155.9			54.2			154.4	
Approach LOS		E			F			D			F	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Natural Cycle: 115		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 1.92		
Intersection Signal Delay: 107.0	Intersection LOS: F	
Intersection Capacity Utilization 118.2%	ICU Level of Service H	
Analysis Period (min) 15		

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	1028	293	444	577	286	105	1047	561	394	1111	66
Future Volume (veh/h)	105	1028	293	444	577	286	105	1047	561	394	1111	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	111	1082	0	467	607	259	111	1102	0	415	1169	50
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	1010		285	591	500	133	1066		218	1255	532
Arrive On Green	0.05	0.29	0.00	0.09	0.33	0.33	0.08	0.30	0.00	0.14	0.35	0.35
Sat Flow, veh/h	3000	3544	1502	3000	1772	1500	1594	3544	1502	1594	3544	1502
Grp Volume(v), veh/h	111	1082	0	467	607	259	111	1102	0	415	1169	50
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	4.4	34.2	0.0	11.4	40.0	16.7	8.2	36.1	0.0	16.4	38.1	2.7
Cycle Q Clear(g_c), s	4.4	34.2	0.0	11.4	40.0	16.7	8.2	36.1	0.0	16.4	38.1	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	1010		285	591	500	133	1066		218	1255	532
V/C Ratio(X)	0.79	1.07		1.64	1.03	0.52	0.84	1.03		1.91	0.93	0.09
Avail Cap(c_a), veh/h	140	1010		285	591	500	151	1066		218	1255	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	42.9	0.0	54.3	40.0	32.2	54.2	41.9	0.0	51.8	37.3	25.9
Incr Delay (d2), s/veh	24.2	49.5	0.0	302.7	44.3	0.9	26.0	36.6	0.0	424.1	12.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	21.1	0.0	16.1	23.6	5.9	4.1	20.1	0.0	31.9	17.4	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.8	92.4	0.0	357.0	84.3	33.2	80.2	78.6	0.0	475.9	49.7	26.0
LnGrp LOS	F	F		F	F	C	F	F		F	D	C
Approach Vol, veh/h		1193	A		1333			1213	A		1634	
Approach Delay, s/veh		91.3			169.9			78.7			157.2	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	42.6	16.0	40.4	14.6	49.0	10.2	46.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	16.4	36.1	11.4	34.2	11.4	41.1	5.6	40.0
Max Q Clear Time (g_c+I1), s	18.4	38.1	13.4	36.2	10.2	40.1	6.4	42.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	128.0
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	96	726	127	841	187	63	25	62
Future Volume (vph)	96	726	127	841	187	63	25	62
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	15.8	47.0	18.8	50.0	24.0	43.0	11.2	30.2
Total Split (%)	13.2%	39.2%	15.7%	41.7%	20.0%	35.8%	9.3%	25.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.8	35.7	11.9	37.9	16.0	27.1	5.9	12.4
Actuated g/C Ratio	0.10	0.37	0.12	0.39	0.16	0.28	0.06	0.13
v/c Ratio	0.63	0.84	0.68	0.70	0.75	0.23	0.27	0.28
Control Delay	64.4	35.6	62.5	29.3	59.9	11.5	57.0	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.4	35.6	62.5	29.3	59.9	11.5	57.0	24.6
LOS	E	D	E	C	E	B	E	C
Approach Delay		38.2		33.5		34.5		30.2
Approach LOS		D		C		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 35.4	Intersection LOS: D
Intersection Capacity Utilization 75.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	726	248	127	841	38	187	63	145	25	62	59
Future Volume (veh/h)	96	726	248	127	841	38	187	63	145	25	62	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	99	748	153	131	867	26	193	65	77	26	64	35
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	935	191	161	1205	36	229	433	383	44	304	153
Arrive On Green	0.08	0.34	0.34	0.10	0.36	0.36	0.14	0.26	0.26	0.03	0.14	0.14
Sat Flow, veh/h	1594	2770	567	1594	3335	100	1594	1683	1487	1594	2151	1083
Grp Volume(v), veh/h	99	454	447	131	438	455	193	65	77	26	49	50
Grp Sat Flow(s),veh/h/ln	1594	1683	1654	1594	1683	1752	1594	1683	1487	1594	1683	1550
Q Serve(g_s), s	4.7	18.8	18.8	6.2	17.2	17.2	9.0	2.3	3.1	1.2	2.0	2.2
Cycle Q Clear(g_c), s	4.7	18.8	18.8	6.2	17.2	17.2	9.0	2.3	3.1	1.2	2.0	2.2
Prop In Lane	1.00		0.34	1.00		0.06	1.00		1.00	1.00		0.70
Lane Grp Cap(c), veh/h	123	568	558	161	608	633	229	433	383	44	238	219
V/C Ratio(X)	0.81	0.80	0.80	0.81	0.72	0.72	0.84	0.15	0.20	0.59	0.21	0.23
Avail Cap(c_a), veh/h	233	897	881	295	963	1002	404	818	722	137	536	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	23.0	23.0	33.7	21.1	21.1	31.9	22.0	22.3	36.8	29.1	29.2
Incr Delay (d2), s/veh	4.6	2.8	2.9	3.8	1.6	1.6	3.2	0.2	0.3	4.6	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	6.9	6.8	2.4	6.1	6.3	3.4	0.8	1.0	0.5	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	25.8	25.9	37.5	22.7	22.7	35.2	22.1	22.5	41.4	29.5	29.7
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1000			1024			335			125	
Approach Delay, s/veh		27.2			24.6			29.7			32.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	25.5	12.3	32.0	15.6	16.6	10.5	33.9
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	6.6	37.2	14.2	40.8	19.4	24.4	11.2	43.8
Max Q Clear Time (g_c+I1), s	3.2	5.1	8.2	20.8	11.0	4.2	6.7	19.2
Green Ext Time (p_c), s	0.0	0.7	0.1	5.1	0.2	0.4	0.0	5.2

Intersection Summary	
HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	306	59	58	216	93	22	139	64	86	217	47
Future Vol, veh/h	103	306	59	58	216	93	22	139	64	86	217	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	112	333	64	63	235	101	24	151	70	93	236	51
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

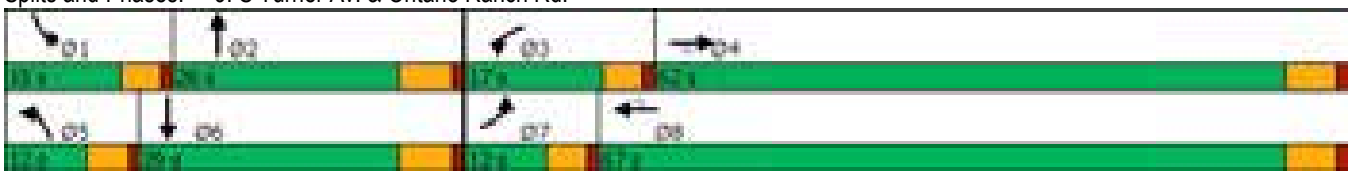
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	16.2	15.1	13.9	14.7
HCM LOS	C	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	42%	0%	100%	63%	0%	100%	44%	0%	100%	61%
Vol Right, %	0%	0%	58%	0%	0%	37%	0%	0%	56%	0%	0%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	93	110	103	204	161	58	144	165	86	145	119
LT Vol	22	0	0	103	0	0	58	0	0	86	0	0
Through Vol	0	93	46	0	204	102	0	144	72	0	145	72
RT Vol	0	0	64	0	0	59	0	0	93	0	0	47
Lane Flow Rate	24	101	120	112	222	175	63	157	179	93	157	130
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.061	0.241	0.273	0.262	0.488	0.373	0.152	0.355	0.388	0.227	0.36	0.287
Departure Headway (Hd)	9.114	8.614	8.208	8.424	7.924	7.668	8.673	8.173	7.779	8.75	8.25	7.975
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	392	415	435	425	452	467	412	438	461	408	434	449
Service Time	6.902	6.402	5.995	6.199	5.699	5.443	6.452	5.952	5.557	6.533	6.033	5.757
HCM Lane V/C Ratio	0.061	0.243	0.276	0.264	0.491	0.375	0.153	0.358	0.388	0.228	0.362	0.29
HCM Control Delay	12.5	14.1	14.1	14.2	18.1	15	13	15.4	15.5	14.1	15.6	14
HCM Lane LOS	B	B	B	B	C	B	B	C	C	B	C	B
HCM 95th-tile Q	0.2	0.9	1.1	1	2.6	1.7	0.5	1.6	1.8	0.9	1.6	1.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	18	1981	48	88	1441	73	18	12	110	30
Future Volume (vph)	18	1981	48	88	1441	73	18	12	110	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	12.0	62.0	62.0	17.0	67.0	67.0	12.0	26.0	15.0	29.0
Total Split (%)	10.0%	51.7%	51.7%	14.2%	55.8%	55.8%	10.0%	21.7%	12.5%	24.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	5.8	56.8	56.8	9.5	64.2	64.2	5.8	8.4	9.8	18.6
Actuated g/C Ratio	0.06	0.55	0.55	0.09	0.62	0.62	0.06	0.08	0.10	0.18
v/c Ratio	0.19	1.09	0.06	0.58	0.70	0.08	0.19	0.46	0.71	0.13
Control Delay	54.4	75.4	0.1	61.7	17.2	1.3	54.4	20.7	70.4	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	75.4	0.1	61.7	17.2	1.3	54.4	20.7	70.4	32.7
LOS	D	E	A	E	B	A	D	C	E	C
Approach Delay		73.4			19.0			26.4		60.3
Approach LOS		E			B			C		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 103	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 49.3	Intersection LOS: D
Intersection Capacity Utilization 85.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	1981	48	88	1441	73	18	12	75	110	30	10
Future Volume (veh/h)	18	1981	48	88	1441	73	18	12	75	110	30	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	2130	52	95	1549	78	19	13	81	118	32	11
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	1999	891	121	2166	966	37	18	111	146	188	65
Arrive On Green	0.02	0.56	0.56	0.07	0.61	0.61	0.02	0.08	0.08	0.08	0.14	0.14
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	224	1395	1781	1331	457
Grp Volume(v), veh/h	19	2130	52	95	1549	78	19	0	94	118	0	43
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1619	1781	0	1788
Q Serve(g_s), s	1.1	56.2	1.5	5.2	30.1	2.0	1.1	0.0	5.7	6.5	0.0	2.1
Cycle Q Clear(g_c), s	1.1	56.2	1.5	5.2	30.1	2.0	1.1	0.0	5.7	6.5	0.0	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.86	1.00		0.26
Lane Grp Cap(c), veh/h	37	1999	891	121	2166	966	37	0	129	146	0	253
V/C Ratio(X)	0.52	1.07	0.06	0.79	0.72	0.08	0.52	0.00	0.73	0.81	0.00	0.17
Avail Cap(c_a), veh/h	132	1999	891	221	2176	971	132	0	327	185	0	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.5	21.9	9.9	45.9	13.5	8.0	48.5	0.0	44.9	45.1	0.0	37.8
Incr Delay (d2), s/veh	4.2	40.3	0.0	4.3	1.1	0.0	4.2	0.0	7.6	14.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	30.8	0.5	2.4	10.3	0.6	0.5	0.0	2.5	3.4	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	62.2	9.9	50.1	14.6	8.0	52.7	0.0	52.6	59.6	0.0	38.1
LnGrp LOS	D	F	A	D	B	A	D	A	D	E	A	D
Approach Vol, veh/h		2201			1722			113			161	
Approach Delay, s/veh		60.9			16.3			52.6			53.9	
Approach LOS		E			B			D			D	

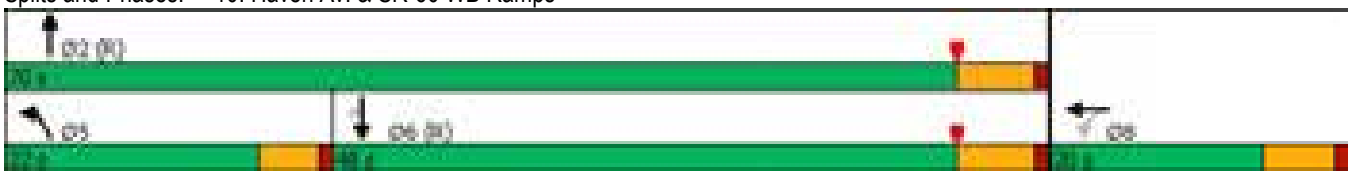
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	13.8	11.4	62.0	6.6	19.9	6.6	66.7
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	10.4	20.2	12.4	56.2	7.4	23.2	7.4	61.2
Max Q Clear Time (g_c+I1), s	8.5	7.7	7.2	58.2	3.1	4.1	3.1	32.1
Green Ext Time (p_c), s	0.0	0.3	0.0	0.0	0.0	0.1	0.0	13.9

Intersection Summary	
HCM 6th Ctrl Delay	42.1
HCM 6th LOS	D

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	349	10	620	522	1211	1864	767
Future Volume (vph)	349	10	620	522	1211	1864	767
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	20.0	20.0		22.0	70.0	48.0	48.0
Total Split (%)	22.2%	22.2%		24.4%	77.8%	53.3%	53.3%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	13.2	13.2	90.0	16.4	64.8	43.4	43.4
Actuated g/C Ratio	0.15	0.15	1.00	0.18	0.72	0.48	0.48
v/c Ratio	0.76	0.76	0.41	0.87	0.34	0.79	0.80
Control Delay	57.1	57.5	0.8	40.6	8.0	22.9	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	57.5	0.8	40.6	8.0	22.9	15.5
LOS	E	E	A	D	A	C	B
Approach Delay		21.5			17.8	20.8	
Approach LOS		C			B	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 19.9	Intersection LOS: B
Intersection Capacity Utilization 87.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	349	10	620	522	1211	0	0	1864	767
Future Volume (veh/h)	0	0	0	349	10	620	522	1211	0	0	1864	767
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				371	0	0	544	1261	0	0	1942	651
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				456	0		603	3771	0	0	2597	796
Arrive On Green				0.13	0.00	0.00	0.35	1.00	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1564
Grp Volume(v), veh/h				371	0	0	544	1261	0	0	1942	651
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1564
Q Serve(g_s), s				9.1	0.0	0.0	13.5	0.0	0.0	0.0	27.1	31.5
Cycle Q Clear(g_c), s				9.1	0.0	0.0	13.5	0.0	0.0	0.0	27.1	31.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				456	0		603	3771	0	0	2597	796
V/C Ratio(X)				0.81	0.00		0.90	0.33	0.00	0.00	0.75	0.82
Avail Cap(c_a), veh/h				562	0		653	3771	0	0	2597	796
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.14	0.14	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.2	0.0	0.0	28.6	0.0	0.0	0.0	17.5	18.6
Incr Delay (d2), s/veh				7.4	0.0	0.0	2.5	0.0	0.0	0.0	2.0	9.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.2	0.0	0.0	4.4	0.0	0.0	0.0	9.6	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				45.5	0.0	0.0	31.1	0.0	0.0	0.0	19.6	27.8
LnGrp LOS				D	A		C	A	A	A	B	C
Approach Vol, veh/h					371	A		1805			2593	
Approach Delay, s/veh					45.5			9.4			21.6	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	72.7		20.7	52.0		17.3						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	63.8		17.0	41.8		14.2						
Max Q Clear Time (g_c+I1), s	2.0		15.5	33.5		11.1						
Green Ext Time (p_c), s	6.5		0.2	6.1		0.4						

Intersection Summary		
HCM 6th Ctrl Delay	18.9	
HCM 6th LOS	B	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	385	2	758	1339	672	1562
Future Volume (vph)	385	2	758	1339	672	1562
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	37.0	37.0	37.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	41.1%	37.8%	21.1%	58.9%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	31.2	31.2	31.2	27.8	14.0	46.8
Actuated g/C Ratio	0.35	0.35	0.35	0.31	0.16	0.52
v/c Ratio	0.34	0.35	1.29	1.06	1.31	0.62
Control Delay	23.9	24.0	167.4	70.0	191.8	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	24.0	167.4	70.0	191.8	9.5
LOS	C	C	F	E	F	A
Approach Delay		118.9		70.0		64.3
Approach LOS		F		E		E

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.31	
Intersection Signal Delay: 78.7	Intersection LOS: E
Intersection Capacity Utilization 87.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	2	758	0	0	0	0	1339	243	672	1562	0
Future Volume (veh/h)	385	2	758	0	0	0	0	1339	243	672	1562	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	402	0	405				0	1395	128	700	1627	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1024	0	455				0	1752	161	538	2958	0
Arrive On Green	0.29	0.00	0.29				0.00	0.37	0.37	0.31	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4927	437	3456	5274	0
Grp Volume(v), veh/h	402	0	405				0	998	525	700	1627	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1791	1728	1702	0
Q Serve(g_s), s	8.2	0.0	22.0				0.0	23.6	23.6	14.0	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	22.0				0.0	23.6	23.6	14.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.24	1.00		0.00
Lane Grp Cap(c), veh/h	1024	0	455				0	1253	660	538	2958	0
V/C Ratio(X)	0.39	0.00	0.89				0.00	0.80	0.80	1.30	0.55	0.00
Avail Cap(c_a), veh/h	1235	0	549				0	1253	660	538	2958	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.52	0.52	0.00
Uniform Delay (d), s/veh	25.8	0.0	30.7				0.0	25.4	25.4	31.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	14.5				0.0	5.3	9.6	143.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	9.6				0.0	9.5	10.8	15.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	0.0	45.2				0.0	30.7	35.1	174.1	0.4	0.0
LnGrp LOS	C	A	D				A	C	D	F	A	A
Approach Vol, veh/h		807						1523			2327	
Approach Delay, s/veh		35.6						32.2			52.6	
Approach LOS		D						C			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.0	39.3		31.7		58.3
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	14.0	27.8		31.2		46.8
Max Q Clear Time (g_c+I1), s	16.0	25.6		24.0		2.0
Green Ext Time (p_c), s	0.0	1.4		1.8		9.5

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

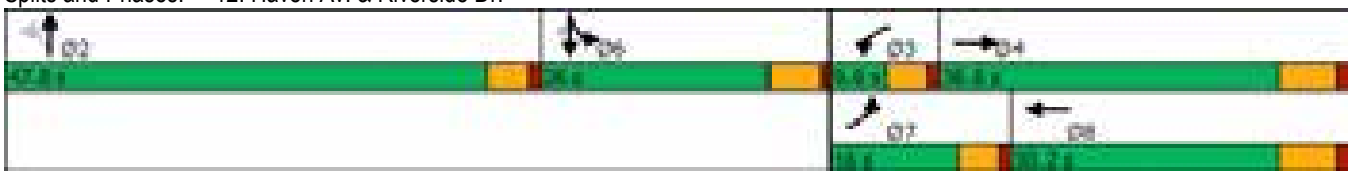
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	349	460	197	455	57	1003	147	1293	399
Future Volume (vph)	349	460	197	455	57	1003	147	1293	399
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	16.0	36.6	9.6	30.2	47.8	47.8	26.0	26.0	26.0
Total Split (%)	13.3%	30.5%	8.0%	25.2%	39.8%	39.8%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	11.4	30.4	5.0	24.0		43.1	20.2	20.2	20.2
Actuated g/C Ratio	0.10	0.25	0.04	0.20		0.36	0.17	0.17	0.17
v/c Ratio	2.43	1.32	3.15	0.90		12.58	0.58	4.54	1.10
Control Delay	685.6	196.3	1027.0	63.0		5235.7	55.5	1611.4	106.7
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	685.6	196.3	1027.0	63.0		5235.7	55.5	1611.4	106.7
LOS	F	F	F	E		F	E	F	F
Approach Delay		385.2		308.2		5235.7		1160.4	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 12.58	
Intersection Signal Delay: 1939.2	Intersection LOS: F
Intersection Capacity Utilization 174.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	460	96	197	455	122	57	1003	184	147	1293	399
Future Volume (veh/h)	349	460	96	197	455	122	57	1003	184	147	1293	399
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	364	479	99	205	474	107	59	1045	186	153	1347	190
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	359	74	66	544	122	28	501	89	268	298	252
Arrive On Green	0.09	0.25	0.25	0.04	0.20	0.20	0.36	0.36	0.36	0.17	0.17	0.17
Sat Flow, veh/h	1594	1415	293	1594	2719	609	79	1396	248	1594	1772	1496
Grp Volume(v), veh/h	364	0	578	205	292	289	1290	0	0	153	1347	190
Grp Sat Flow(s),veh/h/ln	1594	0	1708	1594	1683	1645	1723	0	0	1594	1772	1496
Q Serve(g_s), s	11.4	0.0	30.4	5.0	20.2	20.4	43.1	0.0	0.0	10.6	20.2	14.5
Cycle Q Clear(g_c), s	11.4	0.0	30.4	5.0	20.2	20.4	43.1	0.0	0.0	10.6	20.2	14.5
Prop In Lane	1.00		0.17	1.00		0.37	0.05		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	151	0	433	66	337	329	619	0	0	268	298	252
V/C Ratio(X)	2.40	0.00	1.34	3.09	0.87	0.88	2.08	0.00	0.00	0.57	4.52	0.75
Avail Cap(c_a), veh/h	151	0	433	66	337	329	619	0	0	268	298	252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	0.0	44.8	57.5	46.5	46.6	38.5	0.0	0.0	45.9	49.9	47.5
Incr Delay (d2), s/veh	651.6	0.0	166.2	977.7	20.6	22.5	493.4	0.0	0.0	2.9	1589.9	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.8	0.0	32.2	20.0	10.0	10.1	102.7	0.0	0.0	4.3	140.4	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	705.9	0.0	211.0	1035.2	67.1	69.1	531.9	0.0	0.0	48.8	1639.8	59.7
LnGrp LOS	F	A	F	F	E	E	F	A	A	D	F	E
Approach Vol, veh/h		942			786			1290			1690	
Approach Delay, s/veh		402.2			320.3			531.9			1318.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.8	9.6	36.6		26.0	16.0	30.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 43	5.0	30.4		20.2	11.4	24.0				
Max Q Clear Time (g_c+I1), s		45.1	7.0	32.4		22.2	13.4	22.4				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	0.5				

Intersection Summary		
HCM 6th Ctrl Delay		752.9
HCM 6th LOS		F

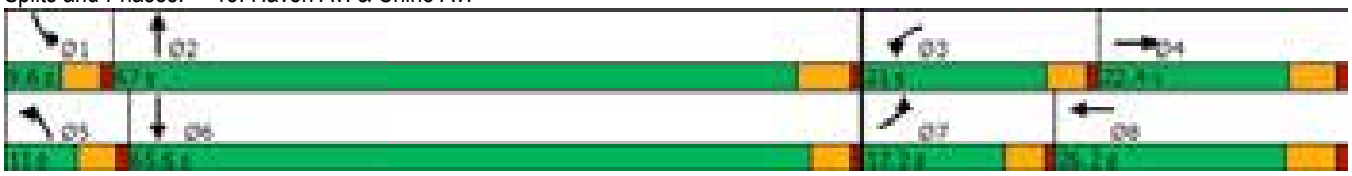
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	196	125	432	116	113	1067	1453	
Future Volume (vph)	196	125	432	116	113	1067	1453	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	17.2	22.4	21.0	26.2	11.0	67.0	65.6	9.6
Total Split (%)	14.3%	18.7%	17.5%	21.8%	9.2%	55.8%	54.7%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	12.6	17.0	16.4	20.4	6.4	70.8	60.9	
Actuated g/C Ratio	0.10	0.14	0.14	0.17	0.05	0.59	0.51	
v/c Ratio	1.24	0.96	1.95	0.40	1.42	1.38	1.92	
Control Delay	193.4	89.6	471.0	48.7	284.4	204.0	442.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	193.4	89.6	471.0	48.7	284.4	204.0	442.0	
LOS	F	F	F	D	F	F	F	
Approach Delay		135.5		381.7		210.3	442.0	
Approach LOS		F		F		F	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.95	
Intersection Signal Delay: 317.9	Intersection LOS: F
Intersection Capacity Utilization 152.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	125	118	432	116	0	113	1067	261	0	1453	163
Future Volume (veh/h)	196	125	118	432	116	0	113	1067	261	0	1453	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	206	136	66	470	126	0	119	1123	143	0	1529	88
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	154	75	243	301	0	85	923	118	1	842	48
Arrive On Green	0.16	0.19	0.19	0.20	0.24	0.00	0.08	0.90	0.90	0.00	0.76	0.76
Sat Flow, veh/h	1594	1189	577	1781	1870	0	1594	1540	196	1781	1659	95
Grp Volume(v), veh/h	206	0	202	470	126	0	119	0	1266	0	0	1617
Grp Sat Flow(s),veh/h/ln	1594	0	1766	1781	1870	0	1594	0	1737	1781	0	1755
Q Serve(g_s), s	12.6	0.0	13.4	16.4	6.8	0.0	6.4	0.0	71.9	0.0	0.0	60.9
Cycle Q Clear(g_c), s	12.6	0.0	13.4	16.4	6.8	0.0	6.4	0.0	71.9	0.0	0.0	60.9
Prop In Lane	1.00		0.33	1.00		0.00	1.00		0.11	1.00		0.05
Lane Grp Cap(c), veh/h	167	0	228	243	301	0	85	0	1040	1	0	890
V/C Ratio(X)	1.23	0.00	0.88	1.93	0.42	0.00	1.40	0.00	1.22	0.00	0.00	1.82
Avail Cap(c_a), veh/h	167	0	250	243	318	0	85	0	1040	74	0	890
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	0.0	47.5	47.7	40.8	0.0	55.2	0.0	6.1	0.0	0.0	14.3
Incr Delay (d2), s/veh	145.1	0.0	27.6	433.7	0.9	0.0	236.5	0.0	106.5	0.0	0.0	371.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	0.0	7.1	35.8	3.0	0.0	8.0	0.0	33.8	0.0	0.0	105.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	195.6	0.0	75.1	481.4	41.7	0.0	291.7	0.0	112.5	0.0	0.0	385.9
LnGrp LOS	F	A	E	F	D	A	F	A	F	A	A	F
Approach Vol, veh/h		408			596			1385			1617	
Approach Delay, s/veh		135.9			388.4			127.9			385.9	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	77.7	21.0	21.3	11.0	66.7	17.2	25.1
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	61.2	16.4	* 17	6.4	* 61	12.6	20.4
Max Q Clear Time (g_c+I1), s	0.0	73.9	18.4	15.4	8.4	62.9	14.6	8.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	271.6
HCM 6th LOS	F

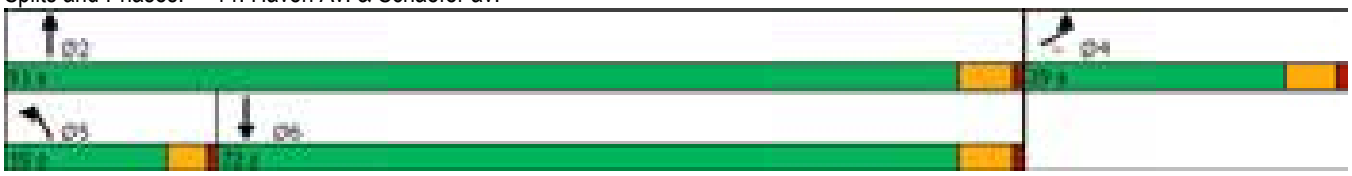
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	58	132	176	1328	1868
Future Volume (vph)	58	132	176	1328	1868
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	29.0	29.0	19.0	91.0	72.0
Total Split (%)	24.2%	24.2%	15.8%	75.8%	60.0%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.5	12.5	14.4	85.3	66.3
Actuated g/C Ratio	0.11	0.11	0.13	0.78	0.61
v/c Ratio	0.37	0.50	0.99	1.12	1.05
Control Delay	50.3	12.8	107.6	81.0	57.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.3	12.8	107.6	81.0	57.9
LOS	D	B	F	F	E
Approach Delay	24.2			84.1	57.9
Approach LOS	C			F	E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.5	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 67.1	Intersection LOS: E
Intersection Capacity Utilization 92.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	132	176	1328	1868	59
Future Volume (veh/h)	58	132	176	1328	1868	59
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	67	84	205	1544	2172	46
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	148	139	215	1415	2146	45
Arrive On Green	0.09	0.09	0.13	0.80	0.62	0.62
Sat Flow, veh/h	1594	1502	1594	1772	3458	73
Grp Volume(v), veh/h	67	84	205	1544	1109	1109
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1772	1759
Q Serve(g_s), s	4.2	5.7	13.6	85.2	66.2	66.2
Cycle Q Clear(g_c), s	4.2	5.7	13.6	85.2	66.2	66.2
Prop In Lane	1.00	1.00	1.00			0.04
Lane Grp Cap(c), veh/h	148	139	215	1415	1099	1091
V/C Ratio(X)	0.45	0.60	0.95	1.09	1.01	1.02
Avail Cap(c_a), veh/h	347	327	215	1415	1099	1091
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	46.5	45.8	10.7	20.2	20.2
Incr Delay (d2), s/veh	2.2	4.2	47.6	52.8	29.3	31.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.9	8.0	37.7	31.2	31.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.0	50.7	93.4	63.6	49.5	51.6
LnGrp LOS	D	D	F	F	F	F
Approach Vol, veh/h	151			1749	2218	
Approach Delay, s/veh	49.5			67.1	50.6	
Approach LOS	D			E	D	

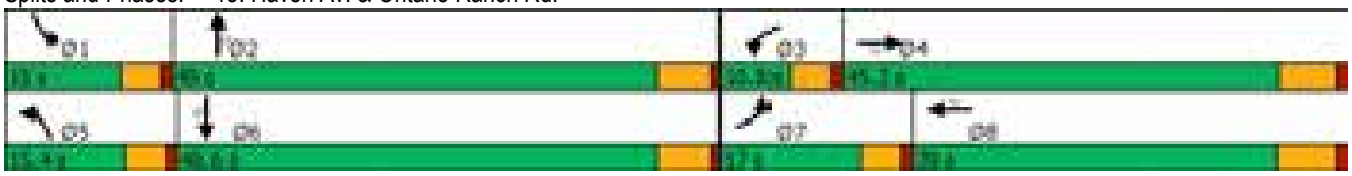
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		91.0		15.7	19.0	72.0
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		85.2		23.2	14.4	66.2
Max Q Clear Time (g_c+I1), s		87.2		7.7	15.6	68.2
Green Ext Time (p_c), s		0.0		0.3	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		57.5
HCM 6th LOS		E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	490	1657	38	249	1299	651	19	368	77	765	602	295
Future Volume (vph)	490	1657	38	249	1299	651	19	368	77	765	602	295
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	17.0	45.2	45.2	10.8	39.0	39.0	15.4	49.0	49.0	15.0	48.6	48.6
Total Split (%)	14.2%	37.7%	37.7%	9.0%	32.5%	32.5%	12.8%	40.8%	40.8%	12.5%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	12.4	39.1	39.1	6.2	32.6	32.6	6.1	32.7	32.7	10.4	43.3	43.3
Actuated g/C Ratio	0.11	0.36	0.36	0.06	0.30	0.30	0.06	0.30	0.30	0.09	0.39	0.39
v/c Ratio	2.91	0.93	0.07	1.58	0.66	0.98	0.23	0.74	0.15	5.43	0.92	0.42
Control Delay	894.1	45.1	0.2	319.6	36.1	48.5	57.6	44.0	0.6	2017.3	52.8	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	894.1	45.1	0.2	319.6	36.1	48.5	57.6	44.0	0.6	2017.3	52.8	7.8
LOS	F	D	A	F	D	D	E	D	A	F	D	A
Approach Delay		234.7			71.9			37.3			949.3	
Approach LOS		F			E			D			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 5.43	
Intersection Signal Delay: 348.1	Intersection LOS: F
Intersection Capacity Utilization 135.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	490	1657	38	249	1299	651	19	368	77	765	602	295
Future Volume (veh/h)	490	1657	38	249	1299	651	19	368	77	765	602	295
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	521	1763	27	265	1382	648	20	391	32	814	640	281
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1869	528	168	2096	444	33	540	458	149	670	568
Arrive On Green	0.11	0.35	0.35	0.06	0.30	0.30	0.02	0.30	0.30	0.09	0.38	0.38
Sat Flow, veh/h	1594	5316	1502	3000	7088	1502	1594	1772	1502	1594	1772	1502
Grp Volume(v), veh/h	521	1763	27	265	1382	648	20	391	32	814	640	281
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1500	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	12.4	35.7	1.3	6.2	18.9	32.8	1.4	21.8	1.7	10.4	39.0	15.9
Cycle Q Clear(g_c), s	12.4	35.7	1.3	6.2	18.9	32.8	1.4	21.8	1.7	10.4	39.0	15.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1869	528	168	2096	444	33	540	458	149	670	568
V/C Ratio(X)	2.92	0.94	0.05	1.58	0.66	1.46	0.61	0.72	0.07	5.45	0.96	0.50
Avail Cap(c_a), veh/h	178	1869	528	168	2096	444	155	690	585	149	684	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	34.9	23.7	52.4	34.2	39.1	53.9	34.4	27.4	50.3	33.6	26.4
Incr Delay (d2), s/veh	881.0	11.1	0.2	287.7	1.6	218.9	6.5	2.7	0.1	2015.9	23.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	48.3	16.2	0.5	8.9	7.8	38.1	0.6	9.4	0.6	87.7	20.1	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	930.2	46.0	23.9	340.0	35.8	257.9	60.3	37.1	27.4	2066.2	57.4	27.1
LnGrp LOS	F	D	C	F	D	F	E	D	C	F	E	C
Approach Vol, veh/h		2311			2295			443			1735	
Approach Delay, s/veh		245.1			133.7			37.5			994.9	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	39.6	10.8	45.5	6.9	47.7	17.0	39.3
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	10.4	43.2	6.2	* 39	10.8	42.8	12.4	32.5
Max Q Clear Time (g_c+I1), s	12.4	23.8	8.2	37.7	3.4	41.0	14.4	34.8
Green Ext Time (p_c), s	0.0	2.1	0.0	1.1	0.0	0.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	385.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	6.0
Intersection LOS	A

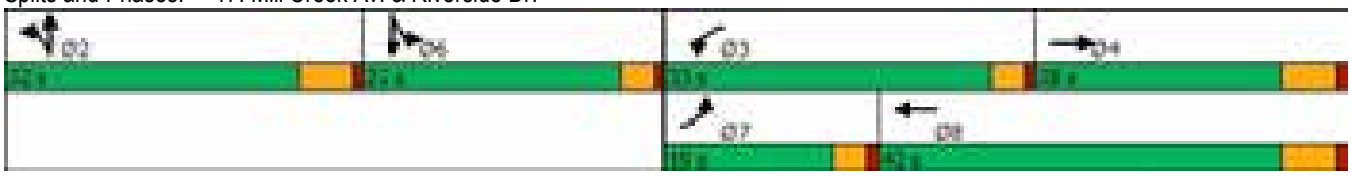
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	338	509	0	71
Demand Flow Rate, veh/h	344	519	0	73
Vehicles Circulating, veh/h	29	74	373	469
Vehicles Exiting, veh/h	513	299	0	124
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.0	6.8	0.0	5.2
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	344	519	0	73
Cap Entry Lane, veh/h	1340	1280	943	855
Entry HV Adj Factor	0.982	0.980	1.000	0.973
Flow Entry, veh/h	338	509	0	71
Cap Entry, veh/h	1315	1254	943	832
V/C Ratio	0.257	0.406	0.000	0.085
Control Delay, s/veh	5.0	6.8	3.8	5.2
LOS	A	A	A	A
95th %tile Queue, veh	1	2	0	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	137	450	339	511	136	20	241	63	15
Future Volume (vph)	137	450	339	511	136	20	241	63	15
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	19.0	28.0	33.0	42.0	32.0	32.0	32.0	27.0	27.0
Total Split (%)	15.8%	23.3%	27.5%	35.0%	26.7%	26.7%	26.7%	22.5%	22.5%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	12.6	21.8	26.9	36.1	14.8	14.8	14.8	12.5	12.5
Actuated g/C Ratio	0.13	0.23	0.28	0.38	0.15	0.15	0.15	0.13	0.13
v/c Ratio	0.71	0.80	0.81	0.52	0.59	0.08	0.58	0.33	0.41
Control Delay	61.1	43.4	49.8	25.8	49.6	37.0	10.5	44.5	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	43.4	49.8	25.8	49.6	37.0	10.5	44.5	15.7
LOS	E	D	D	C	D	D	B	D	B
Approach Delay		46.7		34.1		25.3			26.3
Approach LOS		D		C		C			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 96.1	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 36.0	Intersection LOS: D
Intersection Capacity Utilization 67.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	450	141	339	511	124	136	20	241	63	15	94
Future Volume (veh/h)	137	450	141	339	511	124	136	20	241	63	15	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	146	479	97	361	544	84	145	21	128	67	16	73
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	608	122	400	1055	162	213	237	200	227	39	176
Arrive On Green	0.11	0.21	0.21	0.25	0.35	0.35	0.13	0.13	0.13	0.14	0.14	0.14
Sat Flow, veh/h	1594	2860	575	1594	2999	462	1594	1772	1498	1594	271	1237
Grp Volume(v), veh/h	146	296	280	361	321	307	145	21	128	67	0	89
Grp Sat Flow(s),veh/h/ln	1594	1772	1664	1594	1772	1689	1594	1772	1498	1594	0	1508
Q Serve(g_s), s	6.8	12.0	12.1	16.7	10.9	11.0	6.6	0.8	6.1	2.9	0.0	4.1
Cycle Q Clear(g_c), s	6.8	12.0	12.1	16.7	10.9	11.0	6.6	0.8	6.1	2.9	0.0	4.1
Prop In Lane	1.00		0.35	1.00		0.27	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	178	377	354	400	623	594	213	237	200	227	0	215
V/C Ratio(X)	0.82	0.78	0.79	0.90	0.51	0.52	0.68	0.09	0.64	0.30	0.00	0.41
Avail Cap(c_a), veh/h	315	513	482	609	840	800	550	611	517	483	0	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.0	28.3	28.3	27.6	19.5	19.5	31.4	28.8	31.2	29.2	0.0	29.7
Incr Delay (d2), s/veh	3.6	5.5	6.3	8.8	0.7	0.7	3.8	0.2	3.4	0.7	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	5.1	4.9	6.6	4.0	3.8	2.6	0.3	2.2	1.1	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	33.8	34.6	36.4	20.1	20.2	35.2	29.0	34.5	29.9	0.0	31.0
LnGrp LOS	D	C	C	D	C	C	D	C	C	C	A	C
Approach Vol, veh/h		722			989			294			156	
Approach Delay, s/veh		34.7			26.1			34.4			30.5	
Approach LOS		C			C			C			C	

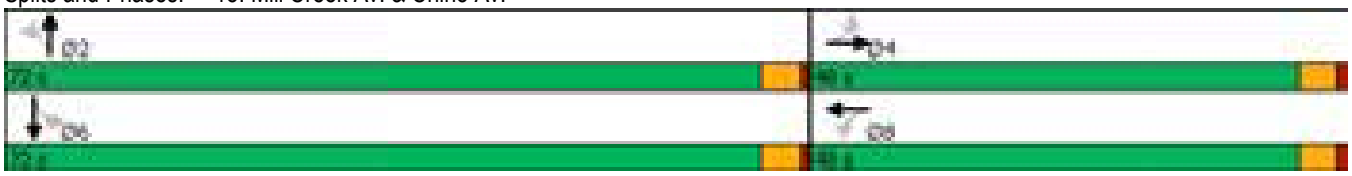
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.9	23.0	22.2		14.8	12.5	32.7				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		26.2	29.0	22.0		23.0	15.0	36.0				
Max Q Clear Time (g_c+I1), s		8.6	18.7	14.1		6.1	8.8	13.0				
Green Ext Time (p_c), s		0.8	0.4	1.9		0.6	0.1	3.4				

Intersection Summary												
HCM 6th Ctrl Delay			30.4									
HCM 6th LOS			C									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	119	145	6	246	20	144	14	110
Future Volume (vph)	119	145	6	246	20	144	14	110
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	48.0	48.0	48.0	48.0	72.0	72.0	72.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	60.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	19.3	19.3	19.3	19.3	29.5	29.5	29.5	29.5
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.50	0.50	0.50	0.50
v/c Ratio	0.52	0.27	0.06	0.59	0.10	0.69	0.23	0.73
Control Delay	27.9	18.2	17.7	22.3	10.3	16.3	12.3	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.9	18.2	17.7	22.3	10.3	16.3	12.3	17.1
LOS	C	B	B	C	B	B	B	B
Approach Delay		22.4		22.0		16.1		16.7
Approach LOS		C		C		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 59.1	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 50.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 18: Mill Creek Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	145	7	6	246	22	20	144	16	14	110	202
Future Volume (veh/h)	119	145	7	6	246	22	20	144	16	14	110	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	158	5	24	267	48	22	576	40	56	440	138
Peak Hour Factor	0.92	0.92	0.92	0.25	0.92	0.25	0.92	0.25	0.25	0.25	0.25	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	592	19	485	507	91	343	811	56	326	641	201
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1065	1803	57	1223	1543	277	836	1729	120	807	1365	428
Grp Volume(v), veh/h	129	0	163	24	0	315	22	0	616	56	0	578
Grp Sat Flow(s),veh/h/ln	1065	0	1860	1223	0	1820	836	0	1849	807	0	1793
Q Serve(g_s), s	5.0	0.0	2.9	0.7	0.0	6.3	0.9	0.0	11.8	2.6	0.0	11.2
Cycle Q Clear(g_c), s	11.2	0.0	2.9	3.5	0.0	6.3	12.2	0.0	11.8	14.4	0.0	11.2
Prop In Lane	1.00		0.03	1.00		0.15	1.00		0.06	1.00		0.24
Lane Grp Cap(c), veh/h	362	0	611	485	0	598	343	0	867	326	0	841
V/C Ratio(X)	0.36	0.00	0.27	0.05	0.00	0.53	0.06	0.00	0.71	0.17	0.00	0.69
Avail Cap(c_a), veh/h	1053	0	1819	1279	0	1780	1219	0	2805	1172	0	2721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	11.0	12.3	0.0	12.1	14.0	0.0	9.4	15.1	0.0	9.2
Incr Delay (d2), s/veh	0.6	0.0	0.2	0.0	0.0	0.7	0.1	0.0	1.1	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	0.1	0.0	1.9	0.1	0.0	3.0	0.4	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	0.0	11.2	12.3	0.0	12.9	14.1	0.0	10.5	15.4	0.0	10.3
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		292			339			638			634	
Approach Delay, s/veh		13.9			12.8			10.6			10.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.4		19.1		25.4		19.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		67.5		43.5		67.5		43.5				
Max Q Clear Time (g_c+I1), s		14.2		13.2		16.4		8.3				
Green Ext Time (p_c), s		4.4		1.4		4.4		1.9				

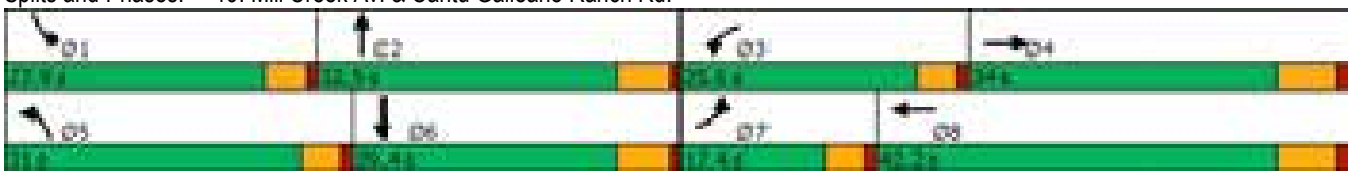
Intersection Summary												
HCM 6th Ctrl Delay			11.5									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	674	279	748	351	39	299	67
Future Volume (vph)	85	674	279	748	351	39	299	67
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	9.6	23.5	9.6	27.8	9.6	27.8
Total Split (s)	17.4	34.0	25.6	42.2	31.0	32.5	27.9	29.4
Total Split (%)	14.5%	28.3%	21.3%	35.2%	25.8%	27.1%	23.3%	24.5%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.8	27.6	21.0	38.8	26.4	19.3	22.7	15.5
Actuated g/C Ratio	0.09	0.25	0.19	0.35	0.24	0.17	0.20	0.14
v/c Ratio	0.60	1.02dr	0.91	0.58	0.92	0.64	0.91	0.73
Control Delay	66.0	56.5	77.7	31.1	70.6	16.7	74.1	44.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	56.5	77.7	31.1	70.6	16.7	74.1	44.8
LOS	E	E	E	C	E	B	E	D
Approach Delay		57.2		41.8		46.5		62.5
Approach LOS		E		D		D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 112.1	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 50.8	Intersection LOS: D
Intersection Capacity Utilization 90.5%	ICU Level of Service E
Analysis Period (min) 15	

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 19: Mill Creek Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	674	459	279	748	189	351	39	246	299	67	130
Future Volume (veh/h)	85	674	459	279	748	189	351	39	246	299	67	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	733	282	303	813	107	382	42	137	325	73	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	891	339	335	1676	219	414	58	188	357	91	109
Arrive On Green	0.07	0.24	0.24	0.19	0.37	0.37	0.23	0.15	0.15	0.20	0.12	0.12
Sat Flow, veh/h	1781	3641	1384	1781	4569	598	1781	386	1258	1781	777	926
Grp Volume(v), veh/h	92	685	330	303	604	316	382	0	179	325	0	160
Grp Sat Flow(s),veh/h/ln	1781	1702	1621	1781	1702	1763	1781	0	1644	1781	0	1704
Q Serve(g_s), s	5.0	18.8	19.1	16.4	13.5	13.6	20.7	0.0	10.3	17.6	0.0	9.0
Cycle Q Clear(g_c), s	5.0	18.8	19.1	16.4	13.5	13.6	20.7	0.0	10.3	17.6	0.0	9.0
Prop In Lane	1.00		0.85	1.00		0.34	1.00		0.77	1.00		0.54
Lane Grp Cap(c), veh/h	117	833	397	335	1248	646	414	0	245	357	0	200
V/C Ratio(X)	0.79	0.82	0.83	0.91	0.48	0.49	0.92	0.00	0.73	0.91	0.00	0.80
Avail Cap(c_a), veh/h	231	948	451	379	1248	646	476	0	444	420	0	407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	35.3	35.4	39.2	24.1	24.1	37.1	0.0	40.1	38.6	0.0	42.4
Incr Delay (d2), s/veh	4.3	5.3	11.4	21.6	0.3	0.6	20.8	0.0	4.1	19.9	0.0	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.8	8.2	8.7	5.0	5.2	10.9	0.0	4.3	9.3	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	40.6	46.7	60.8	24.4	24.7	57.9	0.0	44.2	58.5	0.0	49.6
LnGrp LOS	D	D	D	E	C	C	E	A	D	E	A	D
Approach Vol, veh/h		1107			1223			561			485	
Approach Delay, s/veh		43.2			33.5			53.5			55.6	
Approach LOS		D			C			D			E	

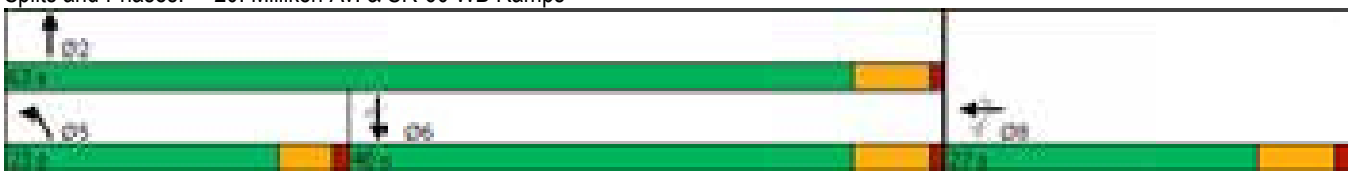
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.4	20.5	23.2	30.7	27.5	17.4	11.1	42.7
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	23.3	26.7	21.0	27.5	26.4	23.6	12.8	35.7
Max Q Clear Time (g_c+I1), s	19.6	12.3	18.4	21.1	22.7	11.0	7.0	15.6
Green Ext Time (p_c), s	0.2	0.7	0.1	3.1	0.2	0.6	0.0	5.2

Intersection Summary	
HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	352	388	1020	1350	572
Future Volume (vph)	4	352	388	1020	1350	572
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	9.6	16.2	16.2	16.2
Total Split (s)	27.0	27.0	23.0	63.0	40.0	40.0
Total Split (%)	30.0%	30.0%	25.6%	70.0%	44.4%	44.4%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	20.8	20.8	18.4	56.8	33.8	33.8
Actuated g/C Ratio	0.23	0.23	0.20	0.63	0.38	0.38
v/c Ratio	1.10	0.80	1.12	0.45	1.01	0.62
Control Delay	109.8	37.2	119.0	9.3	54.7	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.8	37.2	119.0	9.3	54.7	4.9
LOS	F	D	F	A	D	A
Approach Delay	77.3			39.5	39.9	
Approach LOS	E			D	D	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 46.9	Intersection LOS: D
Intersection Capacity Utilization 97.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	430	4	352	388	1020	0	0	1350	572
Future Volume (veh/h)	0	0	0	430	4	352	388	1020	0	0	1350	572
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				448	4	191	404	1062	0	0	1406	304
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				408	4	366	364	2361	0	0	1405	595
Arrive On Green				0.23	0.23	0.23	0.20	0.63	0.00	0.00	0.38	0.38
Sat Flow, veh/h				1766	16	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				452	0	191	404	1062	0	0	1406	304
Grp Sat Flow(s),veh/h/ln				1782	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				20.8	0.0	9.5	18.4	13.2	0.0	0.0	33.8	13.3
Cycle Q Clear(g_c), s				20.8	0.0	9.5	18.4	13.2	0.0	0.0	33.8	13.3
Prop In Lane				0.99		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				412	0	366	364	2361	0	0	1405	595
V/C Ratio(X)				1.10	0.00	0.52	1.11	0.45	0.00	0.00	1.00	0.51
Avail Cap(c_a), veh/h				412	0	366	364	2361	0	0	1405	595
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				34.6	0.0	30.2	35.8	8.6	0.0	0.0	28.1	21.7
Incr Delay (d2), s/veh				73.3	0.0	1.3	80.0	0.1	0.0	0.0	24.2	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				16.8	0.0	3.5	15.5	4.1	0.0	0.0	18.0	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				107.9	0.0	31.6	115.8	8.7	0.0	0.0	52.3	22.4
LnGrp LOS				F	A	C	F	A	A	A	F	C
Approach Vol, veh/h					643			1466			1710	
Approach Delay, s/veh					85.2			38.2			47.0	
Approach LOS					F			D			D	

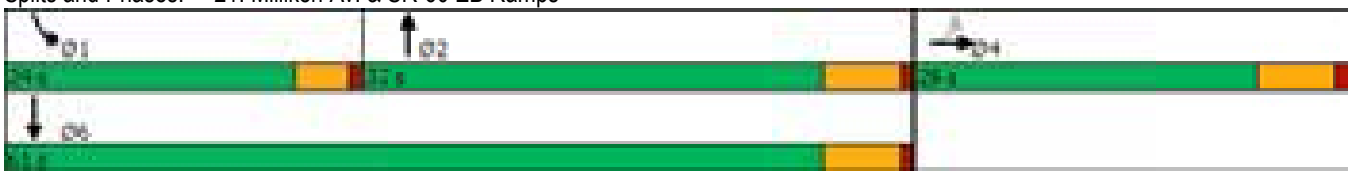
Timer - Assigned Phs	2			5	6		8					
Phs Duration (G+Y+Rc), s	63.0			23.0	40.0		27.0					
Change Period (Y+Rc), s	6.2			4.6	6.2		6.2					
Max Green Setting (Gmax), s	56.8			18.4	33.8		20.8					
Max Q Clear Time (g_c+I1), s	15.2			20.4	35.8		22.8					
Green Ext Time (p_c), s	8.3			0.0	0.0		0.0					

Intersection Summary		
HCM 6th Ctrl Delay	50.1	
HCM 6th LOS	D	

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	290	4	1108	246	1534
Future Volume (vph)	290	4	1108	246	1534
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	16.2	23.2	9.6	16.2
Total Split (s)	29.0	29.0	37.0	24.0	61.0
Total Split (%)	32.2%	32.2%	41.1%	26.7%	67.8%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	22.8	22.8	30.9	15.8	51.3
Actuated g/C Ratio	0.26	0.26	0.36	0.18	0.59
v/c Ratio	0.58	0.95	1.20	0.79	0.72
Control Delay	34.4	62.7	123.3	51.8	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	34.4	62.7	123.3	51.8	15.0
LOS	C	E	F	D	B
Approach Delay		51.6	123.3		20.1
Approach LOS		D	F		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 86.6	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 64.9	Intersection LOS: E
Intersection Capacity Utilization 97.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	4	371	0	0	0	0	1108	409	246	1534	0
Future Volume (veh/h)	290	4	371	0	0	0	0	1108	409	246	1534	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	252	74	198				0	1154	218	256	1598	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	363	92	246				0	1234	232	299	2364	0
Arrive On Green	0.20	0.20	0.20				0.00	0.40	0.40	0.17	0.63	0.00
Sat Flow, veh/h	1781	450	1204				0	3062	575	1781	3741	0
Grp Volume(v), veh/h	252	0	272				0	702	670	256	1598	0
Grp Sat Flow(s),veh/h/ln	1781	0	1654				0	1870	1767	1781	1870	0
Q Serve(g_s), s	9.9	0.0	11.8				0.0	27.1	27.5	10.6	20.7	0.0
Cycle Q Clear(g_c), s	9.9	0.0	11.8				0.0	27.1	27.5	10.6	20.7	0.0
Prop In Lane	1.00		0.73				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	363	0	337				0	754	712	299	2364	0
V/C Ratio(X)	0.69	0.00	0.81				0.00	0.93	0.94	0.86	0.68	0.00
Avail Cap(c_a), veh/h	537	0	499				0	762	720	457	2712	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.9	0.0	28.7				0.0	21.6	21.7	30.6	8.9	0.0
Incr Delay (d2), s/veh	2.4	0.0	6.0				0.0	18.0	20.2	6.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	4.8				0.0	13.6	13.4	4.6	5.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	0.0	34.6				0.0	39.5	41.9	36.8	9.5	0.0
LnGrp LOS	C	A	C				A	D	D	D	A	A
Approach Vol, veh/h		524						1372			1854	
Approach Delay, s/veh		32.5						40.7			13.3	
Approach LOS		C						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.3	36.7		21.6		54.0
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	19.4	30.8		22.8		54.8
Max Q Clear Time (g_c+I1), s	12.6	29.5		13.8		22.7
Green Ext Time (p_c), s	0.2	0.9		1.6		14.3

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

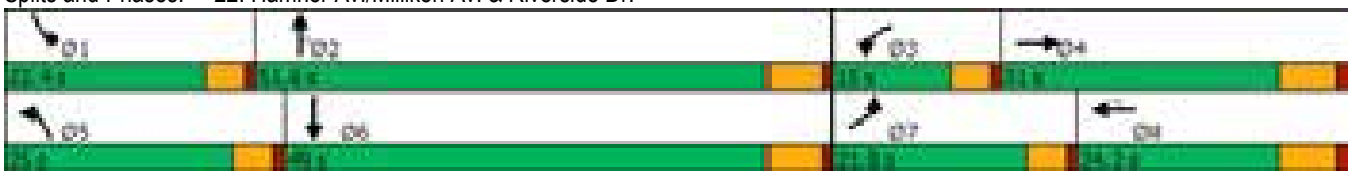
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	313	253	88	316	176	189	946	54	234	1236
Future Volume (vph)	313	253	88	316	176	189	946	54	234	1236
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	21.8	31.0	15.0	24.2	24.2	25.0	51.6	51.6	22.4	49.0
Total Split (%)	18.2%	25.8%	12.5%	20.2%	20.2%	20.8%	43.0%	43.0%	18.7%	40.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	17.2	25.8	9.4	18.0	18.0	17.7	42.7	42.7	17.8	42.8
Actuated g/C Ratio	0.15	0.22	0.08	0.15	0.15	0.15	0.36	0.36	0.15	0.36
v/c Ratio	1.42	1.22	0.73	1.23	0.48	0.84	0.82	0.09	1.03	1.49
Control Delay	250.0	157.9	84.6	174.6	11.0	76.6	40.1	0.3	115.1	255.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	250.0	157.9	84.6	174.6	11.0	76.6	40.1	0.3	115.1	255.0
LOS	F	F	F	F	B	E	D	A	F	F
Approach Delay		196.2		111.3			44.1			238.1
Approach LOS		F		F			D			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.4	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.49	
Intersection Signal Delay: 162.8	Intersection LOS: F
Intersection Capacity Utilization 118.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	313	253	186	88	316	176	189	946	54	234	1236	466
Future Volume (veh/h)	313	253	186	88	316	176	189	946	54	234	1236	466
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	329	266	155	93	333	147	199	996	52	246	1301	477
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	243	142	113	275	233	224	1199	534	245	899	315
Arrive On Green	0.15	0.23	0.23	0.07	0.16	0.16	0.14	0.36	0.36	0.15	0.37	0.37
Sat Flow, veh/h	1594	1044	609	1594	1772	1502	1594	3367	1500	1594	2435	853
Grp Volume(v), veh/h	329	0	421	93	333	147	199	996	52	246	881	897
Grp Sat Flow(s),veh/h/ln	1594	0	1653	1594	1772	1502	1594	1683	1500	1594	1683	1605
Q Serve(g_s), s	17.2	0.0	27.0	6.7	18.0	10.6	14.2	31.3	2.7	17.8	42.8	42.8
Cycle Q Clear(g_c), s	17.2	0.0	27.0	6.7	18.0	10.6	14.2	31.3	2.7	17.8	42.8	42.8
Prop In Lane	1.00		0.37	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	237	0	384	113	275	233	224	1199	534	245	622	593
V/C Ratio(X)	1.39	0.00	1.10	0.82	1.21	0.63	0.89	0.83	0.10	1.00	1.42	1.51
Avail Cap(c_a), veh/h	237	0	384	143	275	233	281	1319	587	245	622	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	44.5	53.1	48.9	45.8	48.9	34.1	24.9	49.0	36.5	36.5
Incr Delay (d2), s/veh	199.7	0.0	74.0	20.5	123.3	5.4	21.0	4.3	0.1	58.8	196.7	240.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.7	0.0	18.4	3.2	17.1	4.2	6.7	12.7	0.9	10.8	50.3	55.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	249.0	0.0	118.4	73.6	172.3	51.2	69.9	38.4	25.0	107.8	233.3	276.5
LnGrp LOS	F	A	F	E	F	D	E	D	C	F	F	F
Approach Vol, veh/h		750			573			1247			2024	
Approach Delay, s/veh		175.7			125.2			42.9			237.2	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.4	47.5	12.8	33.2	20.9	49.0	21.8	24.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.8	45.4	10.4	24.8	20.4	42.8	17.2	18.0
Max Q Clear Time (g_c+I1), s	19.8	33.3	8.7	29.0	16.2	44.8	19.2	20.0
Green Ext Time (p_c), s	0.0	5.0	0.0	0.0	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	160.4
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	26

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	109	86	129	1061	1327	164
Future Vol, veh/h	109	86	129	1061	1327	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	95	142	1166	1458	180

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2415	1548	1638	0	-	0
Stage 1	1548	-	-	-	-	-
Stage 2	867	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	~ 31	140	394	-	-	-
Stage 1	192	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	140	394	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	373	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 328.9	8.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	394	-	140	-	-
HCM Lane V/C Ratio	0.36	-	1.531	-	-
HCM Control Delay (s)	19.2	7.7	$ 328.9	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	1.6	-	14.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	433	2047	517	1915	231	513	491	397	321	621	411
Future Volume (vph)	433	2047	517	1915	231	513	491	397	321	621	411
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	11.0	51.0	11.0	51.0	51.0	11.0	48.0	48.0	10.0	47.0	47.0
Total Split (%)	9.2%	42.5%	9.2%	42.5%	42.5%	9.2%	40.0%	40.0%	8.3%	39.2%	39.2%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	44.7	6.4	44.7	44.7	6.4	30.6	30.6	5.4	29.6	29.6
Actuated g/C Ratio	0.06	0.41	0.06	0.41	0.41	0.06	0.28	0.28	0.05	0.27	0.27
v/c Ratio	2.23	1.01	2.67	1.38	0.34	2.64	0.36	0.78	1.96	0.68	0.82
Control Delay	596.4	51.8	787.1	202.6	13.3	776.2	31.6	35.3	483.0	38.8	39.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	596.4	51.8	787.1	202.6	13.3	776.2	31.6	35.3	483.0	38.8	39.8
LOS	F	D	F	F	B	F	C	D	F	D	D
Approach Delay		132.2		299.7			305.2			144.4	
Approach LOS		F		F			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.2	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.67	
Intersection Signal Delay: 216.7	Intersection LOS: F
Intersection Capacity Utilization 115.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	433	2047	451	517	1915	231	513	491	397	321	621	411
Future Volume (veh/h)	433	2047	451	517	1915	231	513	491	397	321	621	411
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	451	2132	262	539	1995	137	534	511	232	334	647	246
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	2515	308	214	1528	681	214	1249	388	180	835	372
Arrive On Green	0.06	0.43	0.43	0.06	0.43	0.43	0.06	0.24	0.24	0.05	0.23	0.23
Sat Flow, veh/h	3456	5850	717	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	451	1757	637	539	1995	137	534	511	232	334	647	246
Grp Sat Flow(s),veh/h/ln	1728	1609	1741	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	6.4	33.8	34.0	6.4	44.5	5.6	6.4	8.7	13.4	5.4	17.6	14.6
Cycle Q Clear(g_c), s	6.4	33.8	34.0	6.4	44.5	5.6	6.4	8.7	13.4	5.4	17.6	14.6
Prop In Lane	1.00		0.41	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	2074	749	214	1528	681	214	1249	388	180	835	372
V/C Ratio(X)	2.11	0.85	0.85	2.52	1.31	0.20	2.50	0.41	0.60	1.85	0.77	0.66
Avail Cap(c_a), veh/h	214	2074	749	214	1528	681	214	2062	640	180	1401	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	26.5	26.5	48.6	29.5	18.4	48.6	32.8	34.6	49.1	37.0	35.9
Incr Delay (d2), s/veh	515.5	3.5	9.2	699.0	142.6	0.1	688.6	0.2	1.5	404.4	1.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.9	12.1	14.3	23.4	46.8	1.9	23.1	3.4	5.0	12.4	7.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	564.1	30.0	35.7	747.6	172.1	18.6	737.1	33.0	36.1	453.5	38.6	37.9
LnGrp LOS	F	C	D	F	F	B	F	C	D	F	D	D
Approach Vol, veh/h		2845			2671			1277			1227	
Approach Delay, s/veh		115.9			280.3			328.0			151.4	
Approach LOS		F			F			F			F	

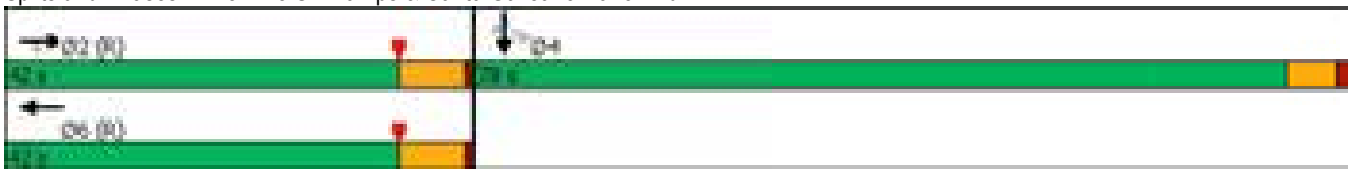
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	31.5	11.0	51.0	11.0	30.5	11.0	51.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	5.4	41.8	6.4	44.5	6.4	40.8	6.4	44.5
Max Q Clear Time (g_c+I1), s	7.4	15.4	8.4	36.0	8.4	19.6	8.4	46.5
Green Ext Time (p_c), s	0.0	4.0	0.0	7.2	0.0	4.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	209.9
HCM 6th LOS	F

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	2163	859	1393	151	320	1	1891
Future Volume (vph)	2163	859	1393	151	320	1	1891
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	42.0	42.0	42.0		78.0	78.0	78.0
Total Split (%)	35.0%	35.0%	35.0%		65.0%	65.0%	65.0%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min		Min	Min	Min
Act Effct Green (s)	35.2	35.2	35.2	120.0	72.5	72.5	72.5
Actuated g/C Ratio	0.29	0.29	0.29	1.00	0.60	0.60	0.60
v/c Ratio	1.58	1.14	1.46	0.06	0.31	1.19	1.14
Control Delay	293.8	95.1	246.3	0.0	12.6	123.1	99.0
Queue Delay	0.1	0.0	0.0	0.0	0.2	1.5	0.0
Total Delay	293.9	95.1	246.3	0.0	12.8	124.6	99.0
LOS	F	F	F	A	B	F	F
Approach Delay	237.3		222.2			98.9	
Approach LOS	F		F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 113.2 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.58	
Intersection Signal Delay: 188.7	Intersection LOS: F
Intersection Capacity Utilization 126.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2163	859	0	1393	151	0	0	0	320	1	1891
Future Volume (veh/h)	0	2163	859	0	1393	151	0	0	0	320	1	1891
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	2351	0	0	1514	0				232	0	1152
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2493		0	1735					729	0	1297
Arrive On Green	0.00	0.49	0.00	0.00	0.98	0.00				0.41	0.00	0.41
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	2351	0	0	1514	0				232	0	1152
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	52.4	0.0	0.0	8.1	0.0				10.6	0.0	40.5
Cycle Q Clear(g_c), s	0.0	52.4	0.0	0.0	8.1	0.0				10.6	0.0	40.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2493		0	1735					729	0	1297
V/C Ratio(X)	0.00	0.94		0.00	0.87					0.32	0.00	0.89
Avail Cap(c_a), veh/h	0	2493		0	1735					1076	0	1915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.55	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.1	0.0	0.0	0.8	0.0				24.1	0.0	32.9
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	3.7	0.0				0.2	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	19.2	0.0	0.0	1.3	0.0				4.4	0.0	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	30.2	0.0	0.0	4.5	0.0				24.3	0.0	36.7
LnGrp LOS	A	C		A	A					C	A	D
Approach Vol, veh/h		2351	A		1514	A					1384	
Approach Delay, s/veh		30.2			4.5						34.7	
Approach LOS		C			A						C	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		65.4		54.6		65.4						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		35.2		72.5		35.2						
Max Q Clear Time (g_c+I1), s		54.4		42.5		10.1						
Green Ext Time (p_c), s		0.0		6.6		11.5						

Intersection Summary		
HCM 6th Ctrl Delay		23.9
HCM 6th LOS		C

Notes

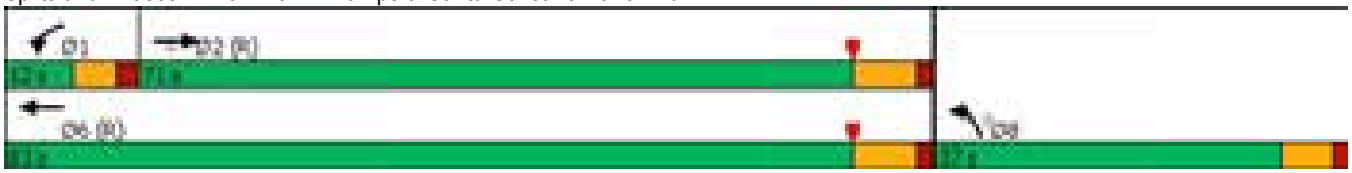
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	938	1581	241	608	914	169
Future Volume (vph)	938	1581	241	608	914	169
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.0	22.5	22.5	22.5
Total Split (s)	71.0	71.0	12.0	83.0	37.0	37.0
Total Split (%)	59.2%	59.2%	10.0%	69.2%	30.8%	30.8%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	63.7	63.7	6.0	75.7	31.0	31.0
Actuated g/C Ratio	0.53	0.53	0.05	0.63	0.26	0.26
v/c Ratio	0.38	1.35	1.53	0.21	1.14	0.35
Control Delay	9.9	190.8	304.6	9.6	117.2	9.8
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	9.9	191.1	304.6	9.6	117.2	9.8
LOS	A	F	F	A	F	A
Approach Delay	123.6			93.3	102.0	
Approach LOS	F			F	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.53	
Intersection Signal Delay: 112.6	Intersection LOS: F
Intersection Capacity Utilization 115.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	938	1581	241	608	914	169
Future Volume (veh/h)	938	1581	241	608	914	169
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1020	859	262	661	993	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2710	841	173	3221	920	409
Arrive On Green	0.89	0.89	0.05	0.63	0.26	0.26
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	1020	859	262	661	993	102
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	4.1	63.7	6.0	6.6	31.0	6.1
Cycle Q Clear(g_c), s	4.1	63.7	6.0	6.6	31.0	6.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2710	841	173	3221	920	409
V/C Ratio(X)	0.38	1.02	1.52	0.21	1.08	0.25
Avail Cap(c_a), veh/h	2710	841	173	3221	920	409
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.87	0.87	1.00	1.00
Uniform Delay (d), s/veh	3.4	6.8	57.0	9.4	44.5	35.3
Incr Delay (d2), s/veh	0.0	15.2	256.5	0.1	53.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	6.3	8.7	2.1	19.9	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.5	22.0	313.5	9.5	97.8	35.6
LnGrp LOS	A	F	F	A	F	D
Approach Vol, veh/h	1879			923	1095	
Approach Delay, s/veh	12.0			95.8	92.0	
Approach LOS	B			F	F	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	12.0	71.0				83.0	37.0
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	6.0	63.7				75.7	31.0
Max Q Clear Time (g_c+I1), s	8.0	65.7				8.6	33.0
Green Ext Time (p_c), s	0.0	0.0				4.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.3
HCM 6th LOS	D

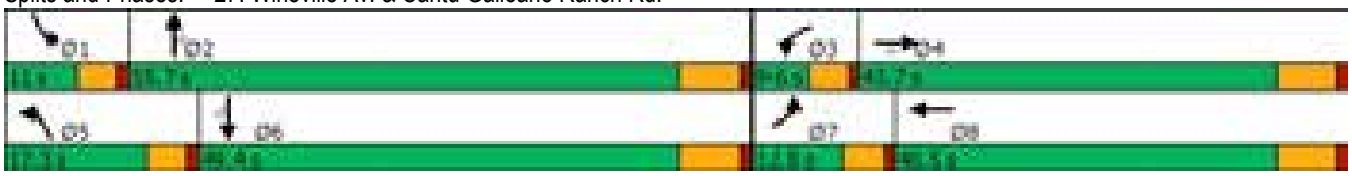
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	143	486	367	29	383	237	102	51	32	186	235
Future Volume (vph)	143	486	367	29	383	237	102	51	32	186	235
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	12.8	43.7	43.7	9.6	40.5	17.3	55.7	55.7	11.0	49.4	49.4
Total Split (%)	10.7%	36.4%	36.4%	8.0%	33.8%	14.4%	46.4%	46.4%	9.2%	41.2%	41.2%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.7	23.7	23.7	5.4	14.1	10.0	27.4	27.4	6.1	16.1	16.1
Actuated g/C Ratio	0.11	0.33	0.33	0.07	0.20	0.14	0.38	0.38	0.08	0.22	0.22
v/c Ratio	0.42	0.25	0.51	0.12	0.44	0.54	0.08	0.08	0.23	0.49	0.47
Control Delay	39.4	20.4	5.5	41.2	27.1	37.5	17.2	0.2	43.2	28.9	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	20.4	5.5	41.2	27.1	37.5	17.2	0.2	43.2	28.9	7.7
LOS	D	C	A	D	C	D	B	A	D	C	A
Approach Delay		17.6			28.1		27.4			19.0	
Approach LOS		B			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 72.1	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 21.6	Intersection LOS: C
Intersection Capacity Utilization 51.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	486	367	29	383	23	237	102	51	32	186	235
Future Volume (veh/h)	143	486	367	29	383	23	237	102	51	32	186	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	528	261	32	416	15	258	111	29	35	202	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	1669	411	122	1067	38	385	902	402	67	337	286
Arrive On Green	0.08	0.26	0.26	0.04	0.21	0.21	0.11	0.25	0.25	0.04	0.18	0.18
Sat Flow, veh/h	3456	6434	1585	3456	5060	181	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	155	528	261	32	279	152	258	111	29	35	202	190
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1838	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	2.3	3.6	7.8	0.5	3.8	3.8	3.8	1.3	0.7	1.0	5.3	6.0
Cycle Q Clear(g_c), s	2.3	3.6	7.8	0.5	3.8	3.8	3.8	1.3	0.7	1.0	5.3	6.0
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	290	1669	411	122	718	388	385	902	402	67	337	286
V/C Ratio(X)	0.53	0.32	0.63	0.26	0.39	0.39	0.67	0.12	0.07	0.52	0.60	0.66
Avail Cap(c_a), veh/h	528	4457	1098	322	2155	1164	817	3256	1452	212	1494	1266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	16.0	17.6	25.2	18.2	18.2	22.9	15.4	15.2	25.4	20.2	20.5
Incr Delay (d2), s/veh	0.6	0.1	1.6	0.4	0.3	0.6	0.8	0.1	0.1	2.3	1.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.0	2.4	0.2	1.2	1.4	1.4	0.4	0.2	0.4	2.1	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	16.1	19.3	25.6	18.6	18.9	23.7	15.5	15.3	27.6	21.9	23.1
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		944			463			398			427	
Approach Delay, s/veh		18.3			19.1			20.8			22.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	20.1	6.5	20.4	10.6	16.2	9.1	17.8
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	6.4	49.2	5.0	37.2	12.7	42.9	8.2	34.0
Max Q Clear Time (g_c+I1), s	3.0	3.3	2.5	9.8	5.8	8.0	4.3	5.8
Green Ext Time (p_c), s	0.0	0.7	0.0	4.1	0.3	1.7	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	19.8
HCM 6th LOS	B

APPENDIX 6.3: OPENING YEAR CUMULATIVE (2027) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	322	309	299	907	1212	523	180
v/c Ratio	0.71	0.66	0.63	0.79	0.40	0.39	0.38
Control Delay	41.0	29.5	26.4	30.7	4.8	30.7	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	29.5	26.4	30.7	4.8	30.7	6.2
Queue Length 50th (ft)	161	112	92	266	43	80	0
Queue Length 95th (ft)	#373	#300	#257	#412	26	79	41
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	455	469	477	1143	3457	2435	713
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.66	0.63	0.79	0.35	0.21	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	336	319	312	1812	685	178	844
v/c Ratio	0.76	0.64	0.62	0.59	0.62	0.60	0.27
Control Delay	41.5	20.8	19.9	19.1	4.3	53.4	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	20.8	19.9	19.1	4.3	53.4	2.4
Queue Length 50th (ft)	180	89	81	224	0	47	38
Queue Length 95th (ft)	269	180	164	275	63	m70	16
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	526	563	566	3050	1102	313	3088
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.57	0.55	0.59	0.62	0.57	0.27

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	502	506	823	349	1796	948	468
v/c Ratio	0.93	0.94	0.52	0.73	0.68	0.59	0.58
Control Delay	51.8	52.5	1.2	35.4	16.1	23.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	52.5	1.2	35.4	16.1	23.8	5.5
Queue Length 50th (ft)	233	235	0	92	216	137	0
Queue Length 95th (ft)	69	#427	0	m101	m250	179	64
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	546	548	1583	503	2637	1594	810
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.92	0.52	0.69	0.68	0.59	0.58

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	417	422	193	1741	376	879
v/c Ratio	0.88	0.88	0.36	0.92	0.92	0.31
Control Delay	46.9	47.8	9.9	30.9	54.1	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	47.8	9.9	30.9	54.1	8.8
Queue Length 50th (ft)	189	192	22	260	~103	91
Queue Length 95th (ft)	#349	#353	69	#366	m#154	m108
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	497	499	559	1886	410	2831
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.85	0.35	0.92	0.92	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	143	592	423	1313	454	295
v/c Ratio	0.23	0.95	0.92	0.74	0.68	0.55
Control Delay	21.8	51.2	59.7	20.1	38.5	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	51.2	59.7	20.1	38.5	8.2
Queue Length 50th (ft)	56	279	228	283	124	0
Queue Length 95th (ft)	103	#514	#410	362	175	65
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	636	627	481	1924	773	576
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.94	0.88	0.68	0.59	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	432	393	1467	96	478
v/c Ratio	0.87	0.61	0.93	0.65	0.24
Control Delay	49.4	12.8	35.8	62.1	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	12.8	35.8	62.1	10.1
Queue Length 50th (ft)	243	52	413	54	67
Queue Length 95th (ft)	#418	150	#580	#126	93
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	545	685	1644	158	2175
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.79	0.57	0.89	0.61	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1125	370	865	201	279	783	782
v/c Ratio	0.77	0.52	0.95	0.07	0.56	0.96	0.94
Control Delay	44.4	6.4	57.0	0.0	39.8	35.6	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	6.4	57.0	0.0	39.8	35.6	31.7
Queue Length 50th (ft)	304	0	365	0	184	236	215
Queue Length 95th (ft)	361	77	#457	m0	276	#568	#526
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1458	718	920	2787	539	838	856
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.52	0.94	0.07	0.52	0.93	0.91

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	551	924	233	533	675	312
v/c Ratio	0.21	0.78	0.66	0.16	0.84	0.54
Control Delay	28.2	29.9	61.1	8.2	52.8	7.9
Queue Delay	0.0	2.1	0.0	0.0	0.0	0.0
Total Delay	28.2	32.0	61.1	8.2	52.8	7.9
Queue Length 50th (ft)	134	468	90	55	245	0
Queue Length 95th (ft)	m65	m425	135	68	#328	83
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2649	1197	368	3391	838	586
Starvation Cap Reductn	0	149	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.88	0.63	0.16	0.81	0.53

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	243	237	178	604	636	1479	361
v/c Ratio	0.79	0.80	0.42	0.87	0.18	0.54	0.42
Control Delay	54.1	54.8	8.3	43.3	0.6	20.5	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	54.8	8.3	43.3	0.6	20.5	4.4
Queue Length 50th (ft)	136	136	0	179	1	188	8
Queue Length 95th (ft)	#245	#251	55	m#260	2	221	62
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	339	327	446	729	3498	2759	863
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.72	0.40	0.83	0.18	0.54	0.42

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	112	273	270	1104	613	532	1386
v/c Ratio	0.37	0.86	0.80	0.38	0.61	0.80	0.39
Control Delay	35.3	52.1	42.4	17.7	6.1	53.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	52.1	42.4	17.7	6.1	53.6	1.4
Queue Length 50th (ft)	57	121	106	124	25	135	15
Queue Length 95th (ft)	109	#261	#225	158	119	194	20
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	339	348	369	2890	1000	762	3512
Starvation Cap Reductn	0	0	0	0	0	0	153
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.78	0.73	0.38	0.61	0.70	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	186	188	646	164	1068	1706	799
v/c Ratio	0.69	0.69	0.41	0.53	0.30	0.60	0.67
Control Delay	48.8	49.0	0.8	36.2	5.9	14.8	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	49.0	0.8	36.2	5.9	14.8	5.2
Queue Length 50th (ft)	105	106	0	51	97	228	22
Queue Length 95th (ft)	174	176	0	81	134	292	110
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	321	322	1583	343	3589	2851	1189
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.58	0.41	0.48	0.30	0.60	0.67

Intersection Summary



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	200	203	244	1074	700	1392
v/c Ratio	0.66	0.67	0.67	0.56	0.82	0.40
Control Delay	44.7	45.1	28.9	22.5	53.4	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	45.1	28.9	22.5	53.4	4.6
Queue Length 50th (ft)	111	113	75	162	211	82
Queue Length 95th (ft)	178	181	149	227	250	95
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	377	378	432	1921	954	3494
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.54	0.56	0.56	0.73	0.40

Intersection Summary



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	95	367	322	846	1106	596
v/c Ratio	0.30	0.81	0.81	0.36	0.82	0.62
Control Delay	33.4	30.5	47.6	6.6	29.5	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	30.5	47.6	6.6	29.5	5.3
Queue Length 50th (ft)	45	82	163	90	276	4
Queue Length 95th (ft)	90	#220	#284	129	#396	78
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	397	514	498	2661	1459	995
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.71	0.65	0.32	0.76	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	272	375	1003	256	940
v/c Ratio	0.70	0.81	0.82	0.74	0.44
Control Delay	39.5	33.6	30.6	45.4	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	33.6	30.6	45.4	9.3
Queue Length 50th (ft)	138	123	243	130	127
Queue Length 95th (ft)	234	#272	349	217	177
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	512	563	1438	459	2581
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.67	0.70	0.56	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1808	395	796	164	313	797	792
v/c Ratio	1.16	0.58	0.73	0.06	0.32	0.92	0.88
Control Delay	118.1	14.4	50.4	0.0	13.1	38.0	32.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.5	0.0
Total Delay	118.1	14.4	50.4	0.0	13.1	41.5	32.3
Queue Length 50th (ft)	~627	69	321	0	116	538	482
Queue Length 95th (ft)	#723	176	393	m0	172	#881	#802
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1557	678	1084	2787	1015	887	922
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	53	45	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.58	0.73	0.06	0.33	0.95	0.86

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	917	1290	262	534	420	166
v/c Ratio	0.31	1.08	0.70	0.14	0.78	0.45
Control Delay	8.9	70.2	61.8	5.1	58.6	10.7
Queue Delay	0.0	8.5	0.0	0.0	0.0	0.0
Total Delay	8.9	78.7	61.8	5.1	58.6	10.7
Queue Length 50th (ft)	65	~788	101	41	160	0
Queue Length 95th (ft)	m59	m#570	146	55	214	67
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2912	1195	402	3723	602	389
Starvation Cap Reductn	0	26	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	1.10	0.65	0.14	0.70	0.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.4: OPENING YEAR CUMULATIVE (2027) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	322	309	299	907	1326	581	180
v/c Ratio	0.72	0.68	0.63	0.79	0.43	0.42	0.37
Control Delay	42.0	31.5	26.9	30.1	4.5	30.8	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	31.5	26.9	30.1	4.5	30.8	6.1
Queue Length 50th (ft)	164	119	94	267	40	88	0
Queue Length 95th (ft)	#373	#308	#257	#413	27	87	41
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	447	457	471	1143	3457	2435	713
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.68	0.63	0.79	0.38	0.24	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	336	319	312	1931	685	178	904
v/c Ratio	0.76	0.66	0.64	0.63	0.62	0.60	0.29
Control Delay	41.5	23.5	22.6	19.8	4.3	54.3	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	23.5	22.6	19.8	4.3	54.3	2.2
Queue Length 50th (ft)	180	101	92	245	0	45	26
Queue Length 95th (ft)	269	193	177	299	63	m71	16
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	526	549	552	3050	1102	313	3088
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.58	0.57	0.63	0.62	0.57	0.29

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	502	506	823	900	2028	1145	468
v/c Ratio	0.93	0.94	0.52	1.74	0.77	0.75	0.59
Control Delay	51.8	52.5	1.2	360.6	17.2	27.3	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	52.5	1.2	360.6	17.2	27.3	5.6
Queue Length 50th (ft)	233	235	0	~347	231	174	0
Queue Length 95th (ft)	69	#427	0	m#284	m196	223	64
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	546	548	1583	517	2637	1532	797
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.92	0.52	1.74	0.77	0.75	0.59

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	417	422	537	2532	376	1078
v/c Ratio	0.84	0.85	0.97	1.35	1.03	0.39
Control Delay	42.1	42.7	55.2	185.6	75.8	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	42.7	55.2	185.6	75.8	9.9
Queue Length 50th (ft)	189	192	198	~575	~103	104
Queue Length 95th (ft)	#349	#353	#400	#672	m#148	m138
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	497	499	552	1874	366	2766
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.85	0.97	1.35	1.03	0.39

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	437	592	451	1609	639	295
v/c Ratio	0.72	0.98	0.98	0.88	0.87	0.53
Control Delay	33.7	58.0	71.8	26.0	49.0	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	58.0	71.8	26.0	49.0	7.6
Queue Length 50th (ft)	214	287	255	401	185	0
Queue Length 95th (ft)	325	#514	#448	511	#278	65
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	609	605	461	1845	741	565
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.98	0.98	0.87	0.86	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	446	456	2152	96	962
v/c Ratio	0.90	0.86	1.36	0.67	0.48
Control Delay	53.9	40.0	190.6	63.8	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	40.0	190.6	63.8	12.5
Queue Length 50th (ft)	253	196	~879	54	160
Queue Length 95th (ft)	#438	#381	#1021	#126	208
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	527	557	1581	153	2104
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.85	0.82	1.36	0.63	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1733	942	1572	201	279	1005	1014
v/c Ratio	0.93	0.88	1.21	0.07	0.31	1.29	1.25
Control Delay	46.0	17.1	139.3	0.0	17.2	165.3	149.0
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.4	0.0
Total Delay	46.0	17.1	139.3	0.0	17.2	165.8	149.0
Queue Length 50th (ft)	466	121	~799	0	123	~1079	~1023
Queue Length 95th (ft)	#548	#496	m#626	m0	185	#1362	#1293
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1872	1072	1303	2787	889	781	812
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	59	51	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.88	1.21	0.07	0.34	1.38	1.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	674	1384	233	629	1190	407
v/c Ratio	0.28	1.18	0.67	0.20	1.34	0.67
Control Delay	14.6	117.0	62.0	9.5	197.3	15.2
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	14.6	117.1	62.0	9.5	197.3	15.2
Queue Length 50th (ft)	60	~916	90	69	~623	59
Queue Length 95th (ft)	m78	m#654	134	88	#759	189
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2439	1169	371	3207	887	608
Starvation Cap Reductn	0	29	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	1.21	0.63	0.20	1.34	0.67

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	243	237	178	604	709	1591	361
v/c Ratio	0.79	0.80	0.42	0.87	0.20	0.58	0.43
Control Delay	54.1	54.8	8.3	44.1	0.6	21.0	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	54.8	8.3	44.1	0.6	21.0	5.2
Queue Length 50th (ft)	136	136	0	184	1	204	16
Queue Length 95th (ft)	#245	#251	55	#261	2	242	74
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	339	327	446	724	3498	2759	849
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.72	0.40	0.83	0.20	0.58	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	112	273	270	1177	613	532	1497
v/c Ratio	0.36	0.87	0.78	0.41	0.62	0.80	0.43
Control Delay	34.9	56.1	40.5	18.2	6.2	53.4	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.9	56.1	40.5	18.2	6.2	53.4	1.5
Queue Length 50th (ft)	57	132	106	134	25	137	19
Queue Length 95th (ft)	109	#278	#225	170	119	195	21
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	339	336	369	2855	994	762	3483
Starvation Cap Reductn	0	0	0	0	0	0	123
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.81	0.73	0.41	0.62	0.70	0.45

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	186	188	646	544	1261	1942	799
v/c Ratio	0.69	0.69	0.41	1.22	0.35	0.73	0.70
Control Delay	48.8	49.0	0.8	141.1	8.1	18.9	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	49.0	0.8	141.1	8.1	18.9	6.5
Queue Length 50th (ft)	105	106	0	~214	129	297	36
Queue Length 95th (ft)	174	176	0	m#271	m144	355	144
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	321	322	1583	447	3589	2644	1134
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.58	0.41	1.22	0.35	0.73	0.70

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	200	203	790	1648	700	1627
v/c Ratio	0.53	0.54	1.83	0.97	0.82	0.50
Control Delay	36.7	36.9	404.8	46.3	53.8	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	36.9	404.8	46.3	53.8	5.4
Queue Length 50th (ft)	106	107	~648	332	207	90
Queue Length 95th (ft)	178	181	#873	#470	253	102
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	377	378	432	1698	953	3265
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.54	1.83	0.97	0.73	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	452	367	404	1063	1406	596
v/c Ratio	1.28	0.87	0.94	0.45	1.08	0.65
Control Delay	178.0	45.3	65.5	8.0	79.5	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	178.0	45.3	65.5	8.0	79.5	6.8
Queue Length 50th (ft)	~330	134	224	134	~478	20
Queue Length 95th (ft)	#514	#294	#396	173	#611	110
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	354	420	443	2369	1299	924
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.87	0.91	0.45	1.08	0.65

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	272	420	1580	256	1598
v/c Ratio	0.61	0.99	1.26	0.79	0.76
Control Delay	35.7	74.5	151.2	51.8	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.1
Total Delay	35.7	74.5	151.2	51.8	16.1
Queue Length 50th (ft)	138	~230	~578	134	311
Queue Length 95th (ft)	234	#449	#744	217	396
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	443	423	1252	397	2244
Starvation Cap Reductn	0	0	0	0	87
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.99	1.26	0.64	0.74

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	2351	934	1514	164	313	1043	1048
v/c Ratio	1.58	1.14	1.46	0.06	0.31	1.19	1.14
Control Delay	293.8	95.1	246.3	0.0	12.6	123.1	99.0
Queue Delay	0.1	0.0	0.0	0.0	0.2	1.5	0.0
Total Delay	293.9	95.1	246.3	0.0	12.8	124.6	99.0
Queue Length 50th (ft)	~947	~547	~865	0	116	~1078	~987
Queue Length 95th (ft)	#1041	#799	m#828	m0	172	#1362	#1260
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1491	822	1038	2787	1015	874	922
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	39	0	0	0	222	191	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.62	1.14	1.46	0.06	0.39	1.53	1.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1020	1718	262	661	1011	166
v/c Ratio	0.38	1.35	1.53	0.21	1.14	0.35
Control Delay	9.9	190.8	304.6	9.6	117.2	9.8
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	9.9	191.1	304.6	9.6	117.2	9.8
Queue Length 50th (ft)	67	~659	~146	73	~472	12
Queue Length 95th (ft)	m46	m619	#233	93	#604	73
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2699	1269	171	3207	887	481
Starvation Cap Reductn	0	91	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	1.46	1.53	0.21	1.14	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

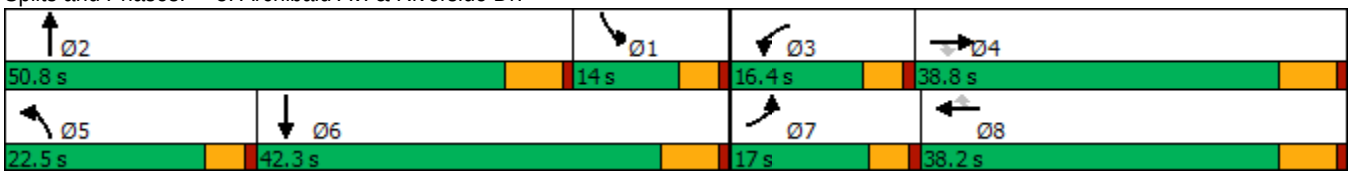
APPENDIX 6.5: OPENING YEAR CUMULATIVE (2027) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

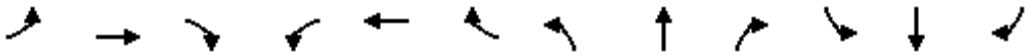
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	164	377	154	131	514	289	288	1551	242	676
Future Volume (vph)	164	377	154	131	514	289	288	1551	242	676
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	17.0	38.8	38.8	16.4	38.2	38.2	22.5	50.8	14.0	42.3
Total Split (%)	14.2%	32.3%	32.3%	13.7%	31.8%	31.8%	18.8%	42.3%	11.7%	35.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.4	25.3	25.3	11.5	24.4	24.4	14.7	44.7	9.4	39.4
Actuated g/C Ratio	0.11	0.22	0.22	0.10	0.22	0.22	0.13	0.40	0.08	0.35
v/c Ratio	0.98	0.52	0.35	0.84	0.74	0.67	0.75	0.95	0.98	0.54
Control Delay	115.2	40.7	6.6	90.5	47.5	24.6	59.7	45.2	104.5	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	115.2	40.7	6.6	90.5	47.5	24.6	59.7	45.2	104.5	29.9
LOS	F	D	A	F	D	C	E	D	F	C
Approach Delay		50.8			46.4			47.3		46.2
Approach LOS		D			D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 112.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 47.4	Intersection LOS: D
Intersection Capacity Utilization 88.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	377	154	131	514	289	288	1551	173	242	676	192
Future Volume (veh/h)	164	377	154	131	514	289	288	1551	173	242	676	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	171	393	56	136	535	155	300	1616	91	252	704	106
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	729	320	160	689	301	357	1813	102	264	1575	235
Arrive On Green	0.11	0.22	0.22	0.10	0.20	0.20	0.12	0.39	0.39	0.09	0.37	0.37
Sat Flow, veh/h	1594	3367	1476	1594	3367	1472	3092	4681	263	3092	4241	632
Grp Volume(v), veh/h	171	393	56	136	535	155	300	1113	594	252	534	276
Grp Sat Flow(s),veh/h/ln	1594	1683	1476	1594	1683	1472	1546	1612	1720	1546	1612	1648
Q Serve(g_s), s	11.8	11.4	3.4	9.3	16.6	7.8	10.5	35.6	35.6	8.9	13.7	14.0
Cycle Q Clear(g_c), s	11.8	11.4	3.4	9.3	16.6	7.8	10.5	35.6	35.6	8.9	13.7	14.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		0.38
Lane Grp Cap(c), veh/h	179	729	320	160	689	301	357	1249	666	264	1198	612
V/C Ratio(X)	0.95	0.54	0.18	0.85	0.78	0.51	0.84	0.89	0.89	0.96	0.45	0.45
Avail Cap(c_a), veh/h	179	995	437	171	977	427	502	1305	696	264	1198	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	38.3	35.2	48.8	41.5	22.0	47.7	31.6	31.6	50.2	26.1	26.2
Incr Delay (d2), s/veh	53.3	0.6	0.3	28.0	2.6	1.4	6.3	7.8	13.5	43.0	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	4.6	1.2	4.8	6.8	3.6	4.2	14.1	16.1	4.9	5.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.9	38.9	35.4	76.8	44.0	23.4	54.0	39.4	45.1	93.2	26.4	26.7
LnGrp LOS	F	D	D	E	D	C	D	D	D	F	C	C
Approach Vol, veh/h		620			826			2007			1062	
Approach Delay, s/veh		56.0			45.5			43.3			42.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	48.9	15.7	30.1	17.3	47.1	17.0	28.8
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	9.4	* 45	11.8	32.6	17.9	36.1	12.4	32.0
Max Q Clear Time (g_c+I1), s	10.9	37.6	11.3	13.4	12.5	16.0	13.8	18.6
Green Ext Time (p_c), s	0.0	5.0	0.0	2.3	0.3	4.6	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	45.2
HCM 6th LOS	D

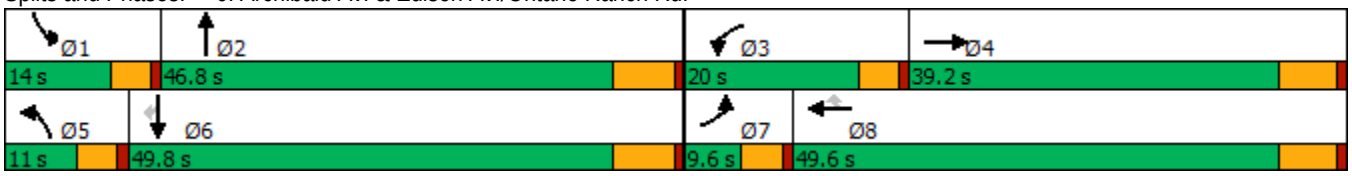
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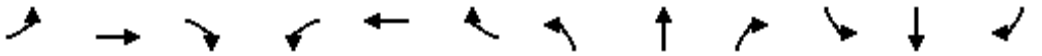
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	233	72	267	454	117	184	1400	309	99	700	68
Future Volume (vph)	38	233	72	267	454	117	184	1400	309	99	700	68
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.2		20.0	49.6	49.6	11.0	46.8		14.0	49.8	49.8
Total Split (%)	8.0%	32.7%		16.7%	41.3%	41.3%	9.2%	39.0%		11.7%	41.5%	41.5%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.1	14.1	92.8	13.3	26.8	26.8	6.6	35.3	92.8	7.6	36.3	36.3
Actuated g/C Ratio	0.05	0.15	1.00	0.14	0.29	0.29	0.07	0.38	1.00	0.08	0.39	0.39
v/c Ratio	0.25	0.32	0.05	0.69	0.49	0.25	0.90	0.76	0.23	0.43	0.37	0.11
Control Delay	51.9	36.6	0.1	49.3	30.6	6.3	86.0	29.3	0.4	49.9	21.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	36.6	0.1	49.3	30.6	6.3	86.0	29.3	0.4	49.9	21.4	0.3
LOS	D	D	A	D	C	A	F	C	A	D	C	A
Approach Delay		30.7			33.1			30.0			23.0	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 92.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 29.2	Intersection LOS: C
Intersection Capacity Utilization 68.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	233	72	267	454	117	184	1400	309	99	700	68
Future Volume (veh/h)	38	233	72	267	454	117	184	1400	309	99	700	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	42	256	0	293	499	106	202	1538	0	109	769	64
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	695		373	768	321	267	2123		182	1991	555
Arrive On Green	0.04	0.13	0.00	0.12	0.22	0.22	0.08	0.40	0.00	0.06	0.37	0.37
Sat Flow, veh/h	3000	5316	1502	3000	3544	1482	3188	5316	1502	3092	5316	1482
Grp Volume(v), veh/h	42	256	0	293	499	106	202	1538	0	109	769	64
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1482	1594	1772	1502	1546	1772	1482
Q Serve(g_s), s	1.0	3.4	0.0	7.2	9.8	4.6	4.7	18.7	0.0	2.6	8.1	2.2
Cycle Q Clear(g_c), s	1.0	3.4	0.0	7.2	9.8	4.6	4.7	18.7	0.0	2.6	8.1	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	695		373	768	321	267	2123		182	1991	555
V/C Ratio(X)	0.36	0.37		0.78	0.65	0.33	0.76	0.72		0.60	0.39	0.12
Avail Cap(c_a), veh/h	196	2294		604	2012	841	267	2802		380	3011	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	30.3	0.0	32.5	27.3	25.3	34.3	19.4	0.0	35.1	17.5	15.6
Incr Delay (d2), s/veh	0.7	0.3	0.0	1.4	0.9	0.6	10.6	0.6	0.0	1.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.3	0.0	2.5	3.8	1.5	2.1	6.4	0.0	0.9	2.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	30.7	0.0	33.9	28.2	25.9	44.9	20.1	0.0	36.3	17.6	15.7
LnGrp LOS	D	C		C	C	C	D	C		D	B	B
Approach Vol, veh/h		298			898			1740			942	
Approach Delay, s/veh		31.5			29.8			22.9			19.6	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	37.0	14.1	16.2	11.0	35.1	7.6	22.8
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	9.4	40.3	15.4	33.0	6.4	43.3	5.0	43.4
Max Q Clear Time (g_c+I1), s	4.6	20.7	9.2	5.4	6.7	10.1	3.0	11.8
Green Ext Time (p_c), s	0.1	9.8	0.3	1.5	0.0	5.3	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

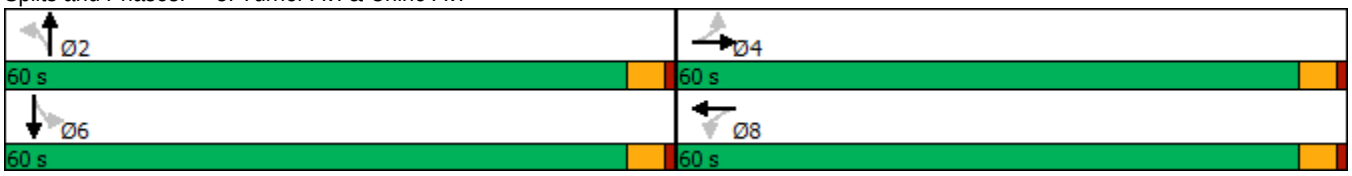
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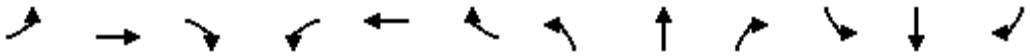
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	107	154	44	203	142	448	84	209
Future Volume (vph)	107	154	44	203	142	448	84	209
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	22.6	22.6	22.6	22.6	23.3	23.3	23.3	23.3
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.41	0.41	0.41	0.41
v/c Ratio	0.46	0.26	0.16	0.34	0.54	0.49	0.49	0.29
Control Delay	19.6	7.7	14.0	8.2	21.8	14.5	23.5	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	7.7	14.0	8.2	21.8	14.5	23.5	10.9
LOS	B	A	B	A	C	B	C	B
Approach Delay		11.2		8.9		16.1		13.8
Approach LOS		B		A		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 56.9	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 13.0	Intersection LOS: B
Intersection Capacity Utilization 52.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Turner Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	154	107	44	203	134	142	448	46	84	209	82
Future Volume (veh/h)	107	154	107	44	203	134	142	448	46	84	209	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	145	208	145	59	274	181	192	605	62	114	282	111
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	384	725	482	431	733	468	467	1310	134	356	1010	387
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	837	1936	1287	920	1958	1250	886	3072	314	687	2368	908
Grp Volume(v), veh/h	145	180	173	59	234	221	192	331	336	114	198	195
Grp Sat Flow(s),veh/h/ln	837	1683	1540	920	1683	1525	886	1683	1703	687	1683	1593
Q Serve(g_s), s	6.9	3.4	3.6	2.2	4.6	4.8	8.2	6.3	6.4	6.4	3.5	3.6
Cycle Q Clear(g_c), s	11.7	3.4	3.6	5.8	4.6	4.8	11.8	6.3	6.4	12.8	3.5	3.6
Prop In Lane	1.00		0.84	1.00		0.82	1.00		0.18	1.00		0.57
Lane Grp Cap(c), veh/h	384	630	576	431	630	571	467	718	726	356	718	679
V/C Ratio(X)	0.38	0.28	0.30	0.14	0.37	0.39	0.41	0.46	0.46	0.32	0.28	0.29
Avail Cap(c_a), veh/h	1099	2069	1893	1217	2069	1874	1178	2069	2092	907	2069	1958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	9.9	10.0	12.0	10.3	10.3	12.3	9.2	9.3	13.8	8.4	8.5
Incr Delay (d2), s/veh	0.6	0.2	0.3	0.1	0.4	0.4	0.6	0.5	0.5	0.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.9	0.9	0.4	1.3	1.2	1.2	1.6	1.6	0.8	0.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	10.1	10.3	12.1	10.6	10.8	12.9	9.7	9.7	14.3	8.6	8.7
LnGrp LOS	B	B	B	B	B	B	B	A	A	B	A	A
Approach Vol, veh/h		498			514			859			507	
Approach Delay, s/veh		11.7			10.9			10.4			9.9	
Approach LOS		B			B			B			A	

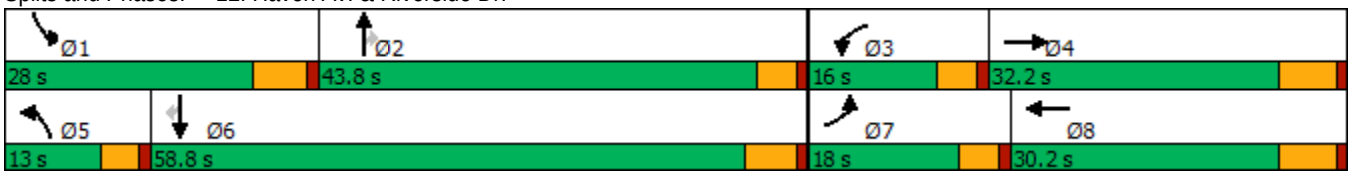
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.8		21.4		23.8		21.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		55.5		55.5		55.5		55.5				
Max Q Clear Time (g_c+I1), s		13.8		13.7		14.8		7.8				
Green Ext Time (p_c), s		5.5		3.2		3.4		3.2				

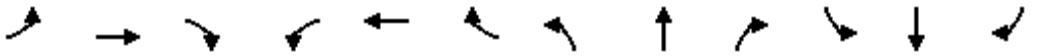
Intersection Summary												
HCM 6th Ctrl Delay			10.7									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	388	575	202	414	22	481	201	289	326	281
Future Volume (vph)	388	575	202	414	22	481	201	289	326	281
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	9.5	23.7	23.7	15.8	24.8	24.8
Total Split (s)	18.0	32.2	16.0	30.2	13.0	43.8	43.8	28.0	58.8	58.8
Total Split (%)	15.0%	26.8%	13.3%	25.2%	10.8%	36.5%	36.5%	23.3%	49.0%	49.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.5	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.5	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	13.5	25.5	10.3	22.4	6.9	21.4	21.4	22.3	43.7	43.7
Actuated g/C Ratio	0.13	0.25	0.10	0.22	0.07	0.21	0.21	0.22	0.43	0.43
v/c Ratio	0.98	0.73	0.67	0.82	0.21	0.68	0.45	0.88	0.23	0.38
Control Delay	84.3	40.9	55.3	44.0	51.5	41.7	7.7	66.3	19.8	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.3	40.9	55.3	44.0	51.5	41.7	7.7	66.3	19.8	4.1
LOS	F	D	E	D	D	D	A	E	B	A
Approach Delay		57.8		46.9		32.3			29.8	
Approach LOS		E		D		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 42.6	Intersection LOS: D
Intersection Capacity Utilization 82.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	575	33	202	414	195	22	481	201	289	326	281
Future Volume (veh/h)	388	575	33	202	414	195	22	481	201	289	326	281
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	413	612	14	215	440	63	23	512	86	307	347	123
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	456	922	21	279	639	91	38	694	289	334	1401	588
Arrive On Green	0.21	0.40	0.40	0.13	0.32	0.32	0.04	0.29	0.29	0.31	0.59	0.59
Sat Flow, veh/h	3188	3446	79	3188	3015	428	1594	3544	1479	1594	3544	1488
Grp Volume(v), veh/h	413	314	312	215	257	246	23	512	86	307	347	123
Grp Sat Flow(s),veh/h/ln	1594	1772	1753	1594	1772	1672	1594	1772	1479	1594	1772	1488
Q Serve(g_s), s	11.8	13.5	13.6	6.1	11.8	12.0	1.3	12.2	4.2	17.4	4.4	3.6
Cycle Q Clear(g_c), s	11.8	13.5	13.6	6.1	11.8	12.0	1.3	12.2	4.2	17.4	4.4	3.6
Prop In Lane	1.00		0.04	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	456	474	469	279	375	354	38	694	289	334	1401	588
V/C Ratio(X)	0.90	0.66	0.66	0.77	0.68	0.69	0.60	0.74	0.30	0.92	0.25	0.21
Avail Cap(c_a), veh/h	456	492	487	388	454	429	145	1481	618	378	2007	843
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	24.6	24.6	39.7	29.2	29.3	44.7	30.9	28.1	31.3	12.4	12.2
Incr Delay (d2), s/veh	20.8	3.2	3.2	3.8	3.3	3.7	14.1	1.6	0.6	25.3	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	5.0	5.0	2.3	4.6	4.4	0.7	4.8	1.4	7.8	1.5	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.9	27.7	27.8	43.5	32.4	33.0	58.8	32.4	28.6	56.5	12.5	12.4
LnGrp LOS	E	C	C	D	C	C	E	C	C	E	B	B
Approach Vol, veh/h		1039			718			621			777	
Approach Delay, s/veh		39.4			35.9			32.9			29.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.4	24.1	12.8	31.2	6.8	42.8	18.0	26.0
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.2	4.5	5.8	4.6	6.2
Max Green Setting (Gmax), s	22.2	* 39	11.4	26.0	8.5	53.0	13.4	24.0
Max Q Clear Time (g_c+I1), s	19.4	14.2	8.1	15.6	3.3	6.4	13.8	14.0
Green Ext Time (p_c), s	0.3	3.9	0.1	2.4	0.0	2.6	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	35.0
HCM 6th LOS	C

Notes

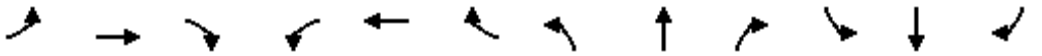
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	Ø1
Lane Configurations									
Traffic Volume (vph)	152	62	23	50	158	569	25	357	
Future Volume (vph)	152	62	23	50	158	569	25	357	
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	NA	
Protected Phases	7	4	3	8	5	2		6	1
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	6	
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	22.8	21.7	9.6
Total Split (s)	15.0	23.8	14.0	22.8	17.0	72.6	72.6	65.2	9.6
Total Split (%)	12.5%	19.8%	11.7%	19.0%	14.2%	60.5%	60.5%	54.3%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min	None
Act Effct Green (s)	11.1	15.8	5.8	11.5	13.0	32.3	32.3	15.7	
Actuated g/C Ratio	0.17	0.25	0.09	0.18	0.20	0.51	0.51	0.25	
v/c Ratio	0.59	0.32	0.16	0.16	0.52	0.34	0.03	0.62	
Control Delay	40.2	18.3	34.4	27.1	34.7	11.4	0.1	23.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.2	18.3	34.4	27.1	34.7	11.4	0.1	23.1	
LOS	D	B	C	C	C	B	A	C	
Approach Delay		29.8		29.4		15.9		23.1	
Approach LOS		C		C		B		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 63.6	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 21.2	Intersection LOS: C
Intersection Capacity Utilization 56.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	62	75	23	50	0	158	569	25	0	357	135
Future Volume (veh/h)	152	62	75	23	50	0	158	569	25	0	357	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	162	67	27	25	54	0	168	605	-207	0	380	38
Peak Hour Factor	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	336	136	52	319	0	205	1445	646	3	602	60
Arrive On Green	0.19	0.40	0.40	0.04	0.26	0.00	0.19	0.61	0.00	0.00	0.29	0.29
Sat Flow, veh/h	1594	1268	511	1781	1870	0	1594	3544	1585	1781	3092	308
Grp Volume(v), veh/h	162	0	94	25	54	0	168	605	-207	0	206	212
Grp Sat Flow(s),veh/h/ln	1594	0	1778	1781	1870	0	1594	1772	1585	1781	1683	1717
Q Serve(g_s), s	5.3	0.0	1.9	0.7	1.2	0.0	5.5	4.8	0.0	0.0	5.8	5.8
Cycle Q Clear(g_c), s	5.3	0.0	1.9	0.7	1.2	0.0	5.5	4.8	0.0	0.0	5.8	5.8
Prop In Lane	1.00		0.29	1.00		0.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	197	0	472	52	319	0	205	1445	646	3	328	334
V/C Ratio(X)	0.82	0.00	0.20	0.49	0.17	0.00	0.82	0.42	-0.32	0.00	0.63	0.63
Avail Cap(c_a), veh/h	305	0	602	308	585	0	363	4354	1947	164	1873	1910
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	0.0	12.6	25.6	17.2	0.0	21.3	7.2	0.0	0.0	17.5	17.6
Incr Delay (d2), s/veh	5.4	0.0	0.2	2.6	0.2	0.0	3.1	0.2	0.0	0.0	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.7	0.3	0.5	0.0	1.8	1.2	0.0	0.0	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	12.8	28.2	17.5	0.0	24.5	7.4	0.0	0.0	19.5	19.6
LnGrp LOS	C	A	B	C	B	A	C	A	A	A	B	B
Approach Vol, veh/h		256			79			566			418	
Approach Delay, s/veh		21.8			20.9			15.2			19.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	28.0	6.2	20.2	11.6	16.4	11.3	15.1
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	66.8	9.4	* 18	12.4	* 61	10.4	17.0
Max Q Clear Time (g_c+I1), s	0.0	6.8	2.7	3.9	7.5	7.8	7.3	3.2
Green Ext Time (p_c), s	0.0	4.2	0.0	0.3	0.1	2.8	0.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Notes

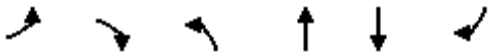
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	81	118	136	577	366
Future Volume (vph)	81	118	136	577	366
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	27.8	27.8	27.3	92.2	64.9
Total Split (%)	23.2%	23.2%	22.8%	76.8%	54.1%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.2	12.2	9.7	26.9	15.2
Actuated g/C Ratio	0.24	0.24	0.19	0.52	0.30
v/c Ratio	0.23	0.29	0.49	0.36	0.44
Control Delay	20.2	6.5	27.6	7.7	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	6.5	27.6	7.7	17.3
LOS	C	A	C	A	B
Approach Delay	12.1			11.5	17.3
Approach LOS	B			B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 51.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 43.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	118	136	577	366	58
Future Volume (veh/h)	81	118	136	577	366	58
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	88	74	148	627	398	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	337	318	185	1655	773	116
Arrive On Green	0.21	0.21	0.12	0.49	0.26	0.26
Sat Flow, veh/h	1594	1502	1594	3455	3001	448
Grp Volume(v), veh/h	88	74	148	627	234	224
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1683	1772	1678
Q Serve(g_s), s	1.8	1.6	3.5	4.5	4.4	4.5
Cycle Q Clear(g_c), s	1.8	1.6	3.5	4.5	4.4	4.5
Prop In Lane	1.00	1.00	1.00			0.27
Lane Grp Cap(c), veh/h	337	318	185	1655	457	432
V/C Ratio(X)	0.26	0.23	0.80	0.38	0.51	0.52
Avail Cap(c_a), veh/h	897	845	925	7438	2678	2535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.9	12.8	16.8	6.2	12.4	12.4
Incr Delay (d2), s/veh	0.4	0.4	3.0	0.1	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.1	0.8	1.3	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.3	13.2	19.8	6.4	13.3	13.4
LnGrp LOS	B	B	B	A	B	B
Approach Vol, veh/h	162			775	458	
Approach Delay, s/veh	13.2			8.9	13.4	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		25.0		14.1	9.2	15.9
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		86.4		22.0	22.7	59.1
Max Q Clear Time (g_c+I1), s		6.5		3.8	5.5	6.5
Green Ext Time (p_c), s		4.4		0.4	0.2	2.6

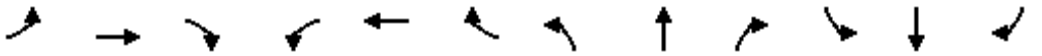
Intersection Summary		
HCM 6th Ctrl Delay		10.9
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	665	19	82	660	190	40	329	125	240	216	116
Future Volume (vph)	198	665	19	82	660	190	40	329	125	240	216	116
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	9.6	9.6	34.5	34.5	9.6	47.8	9.6	9.6	45.8	45.8
Total Split (s)	13.0	41.3	12.5	9.7	38.0	38.0	12.5	49.0	9.7	20.0	56.5	56.5
Total Split (%)	10.8%	34.4%	10.4%	8.1%	31.7%	31.7%	10.4%	40.8%	8.1%	16.7%	47.1%	47.1%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.5	5.5	3.6	4.8	3.6	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.5	6.5	4.6	5.8	4.6	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	8.9	19.7	28.1	5.4	15.9	15.9	6.6	16.5	23.2	10.7	25.5	25.5
Actuated g/C Ratio	0.12	0.26	0.38	0.07	0.21	0.21	0.09	0.22	0.31	0.14	0.34	0.34
v/c Ratio	0.56	0.51	0.03	0.41	0.47	0.43	0.31	0.46	0.25	0.57	0.19	0.21
Control Delay	42.2	26.0	0.1	45.5	27.7	7.7	44.5	27.0	6.1	38.2	19.3	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	26.0	0.1	45.5	27.7	7.7	44.5	27.0	6.1	38.2	19.3	5.0
LOS	D	C	A	D	C	A	D	C	A	D	B	A
Approach Delay		29.1			25.2			23.1			24.3	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 74.8	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 25.9	Intersection LOS: C
Intersection Capacity Utilization 53.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	665	19	82	660	190	40	329	125	240	216	116
Future Volume (veh/h)	198	665	19	82	660	190	40	329	125	240	216	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	213	715	9	88	710	-468	43	354	69	258	232	-79
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	1257	420	198	1450	307	69	718	403	371	977	414
Arrive On Green	0.10	0.24	0.24	0.07	0.20	0.00	0.04	0.20	0.20	0.12	0.28	0.00
Sat Flow, veh/h	3188	5316	1500	3000	7088	1502	1594	3544	1499	3188	3544	1502
Grp Volume(v), veh/h	213	715	9	88	710	-468	43	354	69	258	232	-79
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1500	1772	1502	1594	1772	1499	1594	1772	1502
Q Serve(g_s), s	3.7	6.7	0.2	1.6	5.0	0.0	1.5	5.0	2.0	4.4	2.9	0.0
Cycle Q Clear(g_c), s	3.7	6.7	0.2	1.6	5.0	0.0	1.5	5.0	2.0	4.4	2.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	1257	420	198	1450	307	69	718	403	371	977	414
V/C Ratio(X)	0.68	0.57	0.02	0.44	0.49	-1.52	0.62	0.49	0.17	0.70	0.24	-0.19
Avail Cap(c_a), veh/h	471	3285	992	269	3930	833	222	2695	1239	864	3163	1340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.8	19.1	14.8	25.5	20.0	0.0	26.7	20.1	15.9	24.1	15.9	0.0
Incr Delay (d2), s/veh	1.0	0.4	0.0	0.6	0.3	0.0	3.4	0.5	0.2	0.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.3	0.1	0.5	1.7	0.0	0.6	1.8	0.6	1.5	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	19.5	14.8	26.1	20.2	0.0	30.1	20.6	16.1	25.0	16.1	0.0
LnGrp LOS	C	B	B	C	C	A	C	C	B	C	B	A
Approach Vol, veh/h		937			330			466			411	
Approach Delay, s/veh		20.9			50.5			20.8			24.8	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	17.3	8.4	19.9	7.1	21.5	10.2	18.1
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	15.4	43.2	5.1	* 35	7.9	50.7	8.4	31.5
Max Q Clear Time (g_c+I1), s	6.4	7.0	3.6	8.7	3.5	4.9	5.7	7.0
Green Ext Time (p_c), s	0.3	2.4	0.0	4.6	0.0	1.4	0.1	4.3

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

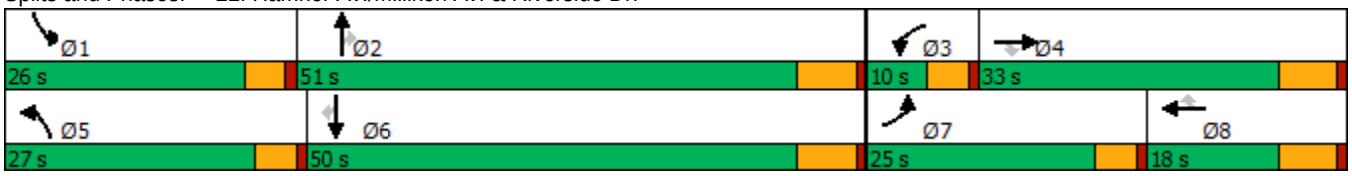
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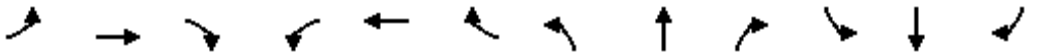
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	136	184	31	128	268	181	895	64	269	351	165
Future Volume (vph)	212	136	184	31	128	268	181	895	64	269	351	165
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	25.0	33.0	33.0	10.0	18.0	18.0	27.0	51.0	51.0	26.0	50.0	50.0
Total Split (%)	20.8%	27.5%	27.5%	8.3%	15.0%	15.0%	22.5%	42.5%	42.5%	21.7%	41.7%	41.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	12.1	23.1	23.1	5.4	11.6	11.6	11.1	34.8	34.8	14.1	37.9	37.9
Actuated g/C Ratio	0.13	0.24	0.24	0.06	0.12	0.12	0.12	0.37	0.37	0.15	0.40	0.40
v/c Ratio	0.60	0.36	0.40	0.40	0.68	0.68	0.57	0.79	0.11	0.66	0.29	0.27
Control Delay	47.7	37.4	7.9	62.3	60.6	13.9	48.1	32.6	0.4	46.9	20.2	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	37.4	7.9	62.3	60.6	13.9	48.1	32.6	0.4	46.9	20.2	4.0
LOS	D	D	A	E	E	B	D	C	A	D	C	A
Approach Delay		31.3			31.4			33.2			25.9	
Approach LOS		C			C			C			C	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 94.9		
Natural Cycle: 80		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.79		
Intersection Signal Delay: 30.6	Intersection LOS: C	
Intersection Capacity Utilization 67.8%	ICU Level of Service C	
Analysis Period (min) 15		

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	136	184	31	128	268	181	895	64	269	351	165
Future Volume (veh/h)	212	136	184	31	128	268	181	895	64	269	351	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	244	156	158	36	147	84	208	1029	63	309	403	46
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	332	353	300	56	231	196	294	1271	539	400	1389	588
Arrive On Green	0.10	0.20	0.20	0.03	0.13	0.13	0.09	0.54	0.36	0.13	0.59	0.39
Sat Flow, veh/h	3188	1772	1502	1594	1772	1502	3188	3544	1502	3188	3544	1502
Grp Volume(v), veh/h	244	156	158	36	147	84	208	1029	63	309	403	46
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1594	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	5.7	5.9	7.2	1.7	6.0	4.0	4.9	18.2	2.2	7.2	4.3	1.5
Cycle Q Clear(g_c), s	5.7	5.9	7.2	1.7	6.0	4.0	4.9	18.2	2.2	7.2	4.3	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	332	353	300	56	231	196	294	1271	539	400	1389	588
V/C Ratio(X)	0.74	0.44	0.53	0.65	0.64	0.43	0.71	0.81	0.12	0.77	0.29	0.08
Avail Cap(c_a), veh/h	848	619	525	112	273	231	931	2069	877	889	2023	857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	27.0	27.5	36.6	31.6	30.7	33.8	15.6	16.5	32.5	10.5	14.6
Incr Delay (d2), s/veh	1.2	0.9	1.4	4.6	3.7	1.5	1.2	1.3	0.1	1.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.4	2.5	0.7	2.6	1.4	1.8	4.9	0.7	2.6	1.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	27.8	28.9	41.2	35.3	32.2	35.0	16.9	16.6	33.7	10.6	14.7
LnGrp LOS	C	C	C	D	D	C	D	B	B	C	B	B
Approach Vol, veh/h		558			267			1300			758	
Approach Delay, s/veh		31.1			35.1			19.8			20.3	
Approach LOS		C			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	33.7	7.3	21.5	11.7	36.3	12.6	16.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	44.8	5.4	26.8	22.4	43.8	20.4	11.8
Max Q Clear Time (g_c+I1), s	9.2	20.2	3.7	9.2	6.9	6.3	7.7	8.0
Green Ext Time (p_c), s	0.4	7.3	0.0	1.1	0.3	2.6	0.3	0.3

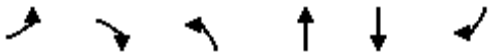
Intersection Summary	
HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Lane Group	EBL	NBT	SBT
Lane Configurations			
Traffic Volume (vph)	5	1155	517
Future Volume (vph)	5	1155	517
Turn Type	Prot	NA	NA
Protected Phases	4	2	6
Permitted Phases			
Detector Phase	4	2	6
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5
Total Split (s)	35.0	85.0	85.0
Total Split (%)	29.2%	70.8%	70.8%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	Min	Min
Act Effct Green (s)	7.6	39.2	39.2
Actuated g/C Ratio	0.18	0.93	0.93
v/c Ratio	0.03	0.38	0.18
Control Delay	16.6	2.5	1.8
Queue Delay	0.0	0.0	0.0
Total Delay	16.6	2.5	1.8
LOS	B	A	A
Approach Delay	16.6	2.5	1.8
Approach LOS	B	A	A

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 42.2		
Natural Cycle: 50		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.38		
Intersection Signal Delay: 2.3	Intersection LOS: A	
Intersection Capacity Utilization 43.6%	ICU Level of Service A	
Analysis Period (min) 15		

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	2	0	1155	517	3
Future Volume (veh/h)	5	2	0	1155	517	3
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	2	0	1312	588	3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	14	5	0	2518	2440	12
Arrive On Green	0.01	0.01	0.00	0.67	0.67	0.67
Sat Flow, veh/h	1162	387	0	3741	3719	18
Grp Volume(v), veh/h	9	0	0	1312	288	303
Grp Sat Flow(s),veh/h/ln	1743	0	0	1870	1777	1867
Q Serve(g_s), s	0.1	0.0	0.0	5.0	1.8	1.8
Cycle Q Clear(g_c), s	0.1	0.0	0.0	5.0	1.8	1.8
Prop In Lane	0.67	0.22	0.00			0.01
Lane Grp Cap(c), veh/h	21	0	0	2518	1196	1257
V/C Ratio(X)	0.43	0.00	0.00	0.52	0.24	0.24
Avail Cap(c_a), veh/h	1860	0	0	10536	5004	5258
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	0.0	2.4	1.8	1.8
Incr Delay (d2), s/veh	13.2	0.0	0.0	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.1	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.2	0.0	0.0	2.5	1.9	1.9
LnGrp LOS	C	A	A	A	A	A
Approach Vol, veh/h	9			1312	591	
Approach Delay, s/veh	27.2			2.5	1.9	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		23.7		4.8		23.7
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		80.5		30.5		80.5
Max Q Clear Time (g_c+I1), s		7.0		2.1		3.8
Green Ext Time (p_c), s		12.2		0.0		3.3

Intersection Summary	
HCM 6th Ctrl Delay	2.5
HCM 6th LOS	A

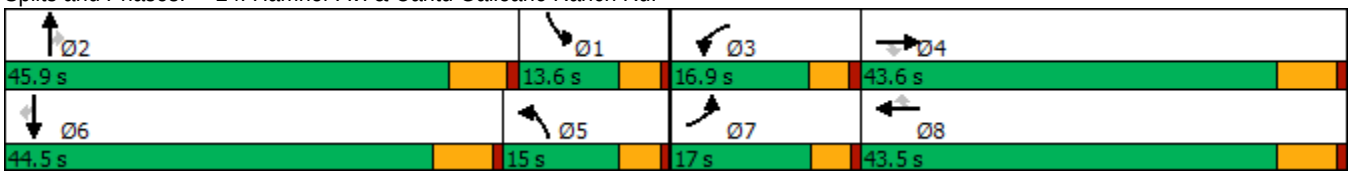
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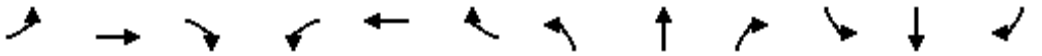
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	805	79	265	1131	269	173	675	342	187	230	93
Future Volume (vph)	156	805	79	265	1131	269	173	675	342	187	230	93
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	43.5	43.5	9.6	43.5	43.5	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	17.0	43.6	43.6	16.9	43.5	43.5	15.0	45.9	45.9	13.6	44.5	44.5
Total Split (%)	14.2%	36.3%	36.3%	14.1%	36.3%	36.3%	12.5%	38.3%	38.3%	11.3%	37.1%	37.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	8.7	22.4	22.4	10.8	24.6	24.6	16.9	20.4	20.4	8.8	12.3	12.3
Actuated g/C Ratio	0.10	0.26	0.26	0.13	0.29	0.29	0.20	0.24	0.24	0.10	0.14	0.14
v/c Ratio	0.45	0.43	0.16	0.61	0.55	0.45	0.26	0.53	0.62	0.54	0.22	0.18
Control Delay	43.9	27.2	3.1	44.9	27.3	8.7	35.1	30.1	14.6	46.0	32.8	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	27.2	3.1	44.9	27.3	8.7	35.1	30.1	14.6	46.0	32.8	5.1
LOS	D	C	A	D	C	A	D	C	B	D	C	A
Approach Delay		27.9			27.1			26.4			32.6	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 85.3	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 27.7	Intersection LOS: C
Intersection Capacity Utilization 57.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	805	79	265	1131	269	173	675	342	187	230	93
Future Volume (veh/h)	156	805	79	265	1131	269	173	675	342	187	230	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	839	81	276	1178	279	180	703	44	195	240	-111
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	1989	421	384	2253	477	765	1203	340	294	614	260
Arrive On Green	0.07	0.27	0.27	0.11	0.30	0.30	0.21	0.21	0.21	0.08	0.08	0.00
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	162	839	81	276	1178	279	180	703	44	195	240	-111
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.9	6.2	1.3	5.0	8.7	6.4	2.8	7.5	1.0	3.5	2.0	0.0
Cycle Q Clear(g_c), s	2.9	6.2	1.3	5.0	8.7	6.4	2.8	7.5	1.0	3.5	2.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	1989	421	384	2253	477	765	1203	340	294	614	260
V/C Ratio(X)	0.63	0.42	0.19	0.72	0.52	0.58	0.24	0.58	0.13	0.66	0.39	-0.43
Avail Cap(c_a), veh/h	665	4176	885	659	4165	882	765	3351	947	482	4311	1827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.9	20.2	4.4	28.7	19.3	8.1	21.6	23.5	9.1	29.6	28.9	0.0
Incr Delay (d2), s/veh	0.9	0.1	0.2	1.0	0.2	1.1	0.1	0.5	0.2	1.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.3	0.8	1.9	3.1	2.9	1.0	2.9	0.5	1.4	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	20.3	4.6	29.6	19.5	9.3	21.6	23.9	9.2	30.6	29.3	0.0
LnGrp LOS	C	C	A	C	B	A	C	C	A	C	C	A
Approach Vol, veh/h		1082			1733			927			324	
Approach Delay, s/veh		20.7			19.4			22.8			40.1	
Approach LOS		C			B			C			D	

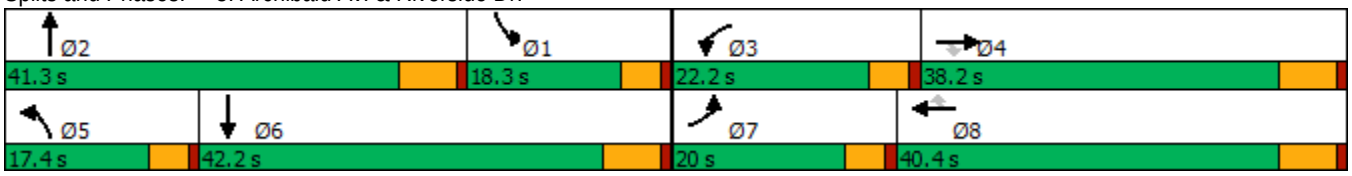
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	20.4	11.8	24.2	18.9	11.7	9.4	26.5
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	9.0	39.7	12.3	37.1	10.4	38.3	12.4	37.0
Max Q Clear Time (g_c+I1), s	5.5	9.5	7.0	8.2	4.8	4.0	4.9	10.7
Green Ext Time (p_c), s	0.1	4.8	0.2	5.7	0.1	1.4	0.1	9.3

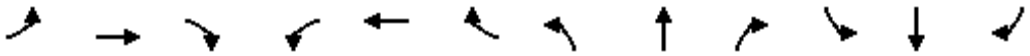
Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	183	584	308	222	430	202	255	1044	322	1035
Future Volume (vph)	183	584	308	222	430	202	255	1044	322	1035
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	20.0	38.2	38.2	22.2	40.4	40.4	17.4	41.3	18.3	42.2
Total Split (%)	16.7%	31.8%	31.8%	18.5%	33.7%	33.7%	14.5%	34.4%	15.3%	35.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	15.0	26.5	26.5	17.7	29.1	29.1	12.1	33.4	13.9	35.1
Actuated g/C Ratio	0.13	0.23	0.23	0.16	0.26	0.26	0.11	0.30	0.12	0.31
v/c Ratio	0.89	0.76	0.56	0.92	0.51	0.39	0.79	0.86	0.88	0.86
Control Delay	89.1	47.4	10.4	88.5	38.3	6.7	68.1	44.6	73.9	43.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.1	47.4	10.4	88.5	38.3	6.7	68.1	44.6	73.9	43.4
LOS	F	D	B	F	D	A	E	D	E	D
Approach Delay		43.9			43.9			48.8		49.6
Approach LOS		D			D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.1	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 47.1	Intersection LOS: D
Intersection Capacity Utilization 86.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	584	308	222	430	202	255	1044	141	322	1035	216
Future Volume (veh/h)	183	584	308	222	430	202	255	1044	141	322	1035	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	187	596	130	227	439	104	260	1065	73	329	1056	118
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	770	335	252	854	379	314	1279	88	380	1381	154
Arrive On Green	0.13	0.23	0.23	0.16	0.25	0.25	0.10	0.28	0.28	0.12	0.31	0.31
Sat Flow, veh/h	1594	3367	1463	1594	3367	1495	3092	4617	316	3092	4411	492
Grp Volume(v), veh/h	187	596	130	227	439	104	260	743	395	329	772	402
Grp Sat Flow(s),veh/h/ln	1594	1683	1463	1594	1683	1495	1546	1612	1709	1546	1612	1678
Q Serve(g_s), s	12.5	18.1	8.2	15.2	12.2	4.1	9.0	23.6	23.6	11.4	23.5	23.6
Cycle Q Clear(g_c), s	12.5	18.1	8.2	15.2	12.2	4.1	9.0	23.6	23.6	11.4	23.5	23.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.29
Lane Grp Cap(c), veh/h	212	770	335	252	854	379	314	893	473	380	1009	525
V/C Ratio(X)	0.88	0.77	0.39	0.90	0.51	0.27	0.83	0.83	0.83	0.86	0.76	0.77
Avail Cap(c_a), veh/h	225	989	430	258	1058	469	364	1040	551	389	1066	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	39.3	35.5	45.0	34.9	15.2	48.0	37.0	37.0	46.9	33.8	33.8
Incr Delay (d2), s/veh	28.1	2.9	0.7	30.2	0.5	0.4	11.4	5.2	9.4	17.0	3.2	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	7.4	0.1	7.8	4.8	2.1	3.8	9.4	10.5	5.1	9.1	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.4	42.3	36.3	75.2	35.4	15.6	59.3	42.2	46.4	63.8	37.0	39.8
LnGrp LOS	E	D	D	E	D	B	E	D	D	E	D	D
Approach Vol, veh/h		913			770			1398			1503	
Approach Delay, s/veh		48.0			44.4			46.6			43.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.6	36.4	21.8	31.1	15.7	40.3	19.1	33.8
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	13.7	* 35	17.6	32.0	12.8	36.0	15.4	34.2
Max Q Clear Time (g_c+I1), s	13.4	25.6	17.2	20.1	11.0	25.6	14.5	14.2
Green Ext Time (p_c), s	0.0	4.5	0.0	3.1	0.1	5.0	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D

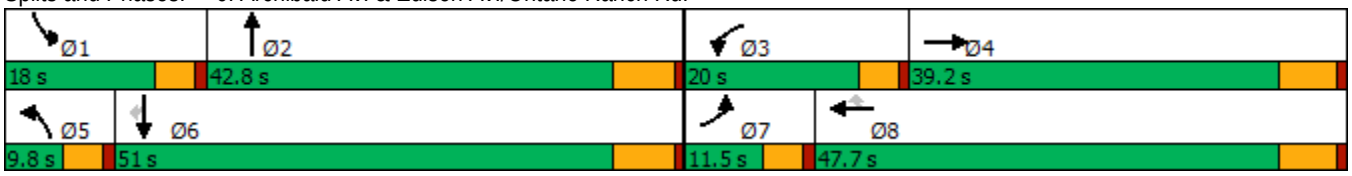
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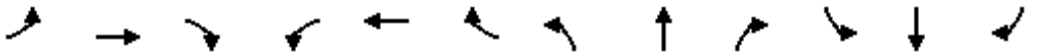
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	697	293	268	299	116	105	1047	323	162	1111	66
Future Volume (vph)	105	697	293	268	299	116	105	1047	323	162	1111	66
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	11.5	39.2		20.0	47.7	47.7	9.8	42.8		18.0	51.0	51.0
Total Split (%)	9.6%	32.7%		16.7%	39.8%	39.8%	8.2%	35.7%		15.0%	42.5%	42.5%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	6.8	20.7	93.7	13.0	26.9	26.9	5.4	27.5	93.7	9.8	31.9	31.9
Actuated g/C Ratio	0.07	0.22	1.00	0.14	0.29	0.29	0.06	0.29	1.00	0.10	0.34	0.34
v/c Ratio	0.51	0.63	0.21	0.68	0.31	0.23	0.61	0.71	0.23	0.53	0.65	0.11
Control Delay	55.8	36.2	0.3	50.2	27.4	2.9	63.0	33.3	0.3	49.3	28.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	36.2	0.3	50.2	27.4	2.9	63.0	33.3	0.3	49.3	28.3	0.4
LOS	E	D	A	D	C	A	E	C	A	D	C	A
Approach Delay		28.5			32.2			28.2			29.5	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 29.2	Intersection LOS: C
Intersection Capacity Utilization 68.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	697	293	268	299	116	105	1047	323	162	1111	66
Future Volume (veh/h)	105	697	293	268	299	116	105	1047	323	162	1111	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	111	734	0	282	315	80	111	1102	0	171	1169	50
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1129		361	971	411	187	1615		246	1725	487
Arrive On Green	0.06	0.21	0.00	0.12	0.27	0.27	0.06	0.30	0.00	0.08	0.32	0.32
Sat Flow, veh/h	3000	5316	1502	3000	3544	1500	3188	5316	1502	3092	5316	1502
Grp Volume(v), veh/h	111	734	0	282	315	80	111	1102	0	171	1169	50
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1546	1772	1502
Q Serve(g_s), s	2.8	9.7	0.0	7.0	5.5	3.2	2.6	14.1	0.0	4.2	14.7	1.8
Cycle Q Clear(g_c), s	2.8	9.7	0.0	7.0	5.5	3.2	2.6	14.1	0.0	4.2	14.7	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	1129		361	971	411	187	1615		246	1725	487
V/C Ratio(X)	0.63	0.65		0.78	0.32	0.19	0.59	0.68		0.69	0.68	0.10
Avail Cap(c_a), veh/h	268	2273		599	1906	807	215	2501		537	3066	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	27.8	0.0	32.9	22.3	21.5	35.4	23.6	0.0	34.6	22.6	18.2
Incr Delay (d2), s/veh	1.4	0.6	0.0	1.4	0.2	0.2	1.5	0.5	0.0	1.3	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	3.8	0.0	2.4	2.1	1.0	1.0	5.1	0.0	1.5	5.3	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	28.4	0.0	34.3	22.5	21.7	36.9	24.1	0.0	35.9	23.0	18.3
LnGrp LOS	D	C		C	C	C	D	C		D	C	B
Approach Vol, veh/h		845			677			1213			1390	
Approach Delay, s/veh		29.5			27.3			25.3			24.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	29.9	13.9	22.6	9.1	31.5	9.1	27.3
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	13.4	36.3	15.4	33.0	5.2	44.5	6.9	41.5
Max Q Clear Time (g_c+I1), s	6.2	16.1	9.0	11.7	4.6	16.7	4.8	7.5
Green Ext Time (p_c), s	0.1	6.8	0.3	4.5	0.0	8.4	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

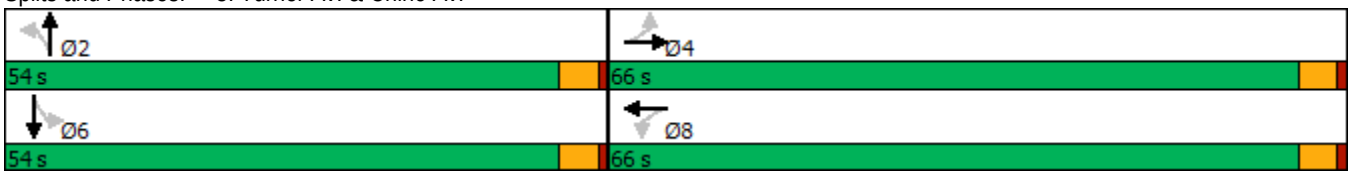
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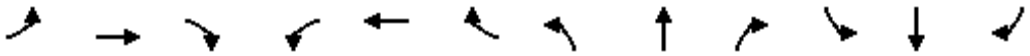
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	103	191	41	140	22	139	63	217
Future Volume (vph)	103	191	41	140	22	139	63	217
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	66.0	66.0	66.0	66.0	54.0	54.0	54.0	54.0
Total Split (%)	55.0%	55.0%	55.0%	55.0%	45.0%	45.0%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	10.0	10.0	10.0	10.0	9.2	9.2	9.2	9.2
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.32	0.32	0.32	0.32
v/c Ratio	0.32	0.24	0.13	0.21	0.08	0.19	0.20	0.27
Control Delay	10.5	6.3	8.3	5.2	8.4	6.7	9.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	6.3	8.3	5.2	8.4	6.7	9.5	7.7
LOS	B	A	A	A	A	A	A	A
Approach Delay		7.5		5.7		6.8		8.0
Approach LOS		A		A		A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 28.8	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.32	
Intersection Signal Delay: 7.1	Intersection LOS: A
Intersection Capacity Utilization 41.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Turner Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	191	59	41	140	78	22	139	40	63	217	47
Future Volume (veh/h)	103	191	59	41	140	78	22	139	40	63	217	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.95	0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	112	208	64	45	152	85	24	151	43	68	236	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	582	817	245	567	680	361	530	752	206	567	804	171
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1023	2553	765	991	2125	1127	977	2581	706	1044	2763	586
Grp Volume(v), veh/h	112	135	137	45	119	118	24	96	98	68	142	145
Grp Sat Flow(s),veh/h/ln	1023	1683	1634	991	1683	1569	977	1683	1604	1044	1683	1666
Q Serve(g_s), s	2.1	1.4	1.4	0.8	1.2	1.3	0.5	1.0	1.1	1.2	1.5	1.6
Cycle Q Clear(g_c), s	3.4	1.4	1.4	2.3	1.2	1.3	2.0	1.0	1.1	2.3	1.5	1.6
Prop In Lane	1.00		0.47	1.00		0.72	1.00		0.44	1.00		0.35
Lane Grp Cap(c), veh/h	582	539	523	567	539	502	530	490	467	567	490	485
V/C Ratio(X)	0.19	0.25	0.26	0.08	0.22	0.24	0.05	0.20	0.21	0.12	0.29	0.30
Avail Cap(c_a), veh/h	2972	4472	4342	2881	4472	4169	2335	3599	3430	2496	3599	3563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.0	5.8	5.8	6.7	5.8	5.8	7.2	6.2	6.2	7.1	6.4	6.4
Incr Delay (d2), s/veh	0.2	0.2	0.3	0.1	0.2	0.2	0.0	0.2	0.2	0.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.2	0.1	0.2	0.2	0.0	0.1	0.1	0.1	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.2	6.1	6.1	6.7	6.0	6.0	7.2	6.4	6.4	7.1	6.7	6.7
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		384			282			218			355	
Approach Delay, s/veh		6.4			6.1			6.5			6.8	
Approach LOS		A			A			A			A	

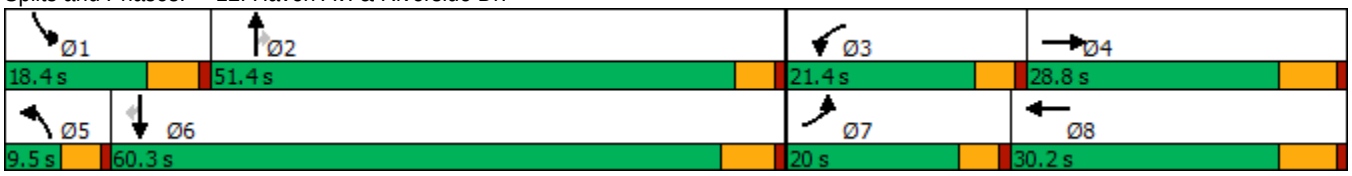
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		11.2		11.9		11.2		11.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		49.5		61.5		49.5		61.5				
Max Q Clear Time (g_c+I1), s		4.0		5.4		4.3		4.3				
Green Ext Time (p_c), s		1.2		2.1		1.9		1.6				

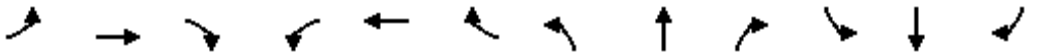
Intersection Summary												
HCM 6th Ctrl Delay			6.5									
HCM 6th LOS			A									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	349	396	157	392	31	470	149	135	536	399
Future Volume (vph)	349	396	157	392	31	470	149	135	536	399
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	9.5	23.7	23.7	15.8	24.8	24.8
Total Split (s)	20.0	28.8	21.4	30.2	9.5	51.4	51.4	18.4	60.3	60.3
Total Split (%)	16.7%	24.0%	17.8%	25.2%	7.9%	42.8%	42.8%	15.3%	50.3%	50.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.5	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.5	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	14.2	22.5	8.9	17.3	5.1	18.7	18.7	12.2	30.4	30.4
Actuated g/C Ratio	0.17	0.27	0.11	0.21	0.06	0.22	0.22	0.15	0.36	0.36
v/c Ratio	0.68	0.50	0.49	0.69	0.33	0.62	0.34	0.62	0.44	0.52
Control Delay	41.7	28.3	42.4	35.8	52.1	33.9	6.4	49.6	23.3	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	28.3	42.4	35.8	52.1	33.9	6.4	49.6	23.3	5.1
LOS	D	C	D	D	D	C	A	D	C	A
Approach Delay		34.2		37.4		28.5			19.9	
Approach LOS		C		D		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 84	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 28.8	Intersection LOS: C
Intersection Capacity Utilization 66.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	396	51	157	392	87	31	470	149	135	536	399
Future Volume (veh/h)	349	396	51	157	392	87	31	470	149	135	536	399
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	364	412	11	164	408	29	32	490	82	141	558	190
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	454	856	23	247	601	43	53	734	311	229	1193	504
Arrive On Green	0.21	0.37	0.37	0.12	0.28	0.28	0.05	0.31	0.31	0.22	0.50	0.50
Sat Flow, veh/h	3188	3434	92	3188	3265	231	1594	3544	1502	1594	3544	1499
Grp Volume(v), veh/h	364	212	211	164	221	216	32	490	82	141	558	190
Grp Sat Flow(s),veh/h/ln	1594	1772	1753	1594	1772	1724	1594	1772	1502	1594	1772	1499
Q Serve(g_s), s	7.5	6.4	6.4	3.4	7.7	7.8	1.4	8.4	2.8	5.6	7.1	5.4
Cycle Q Clear(g_c), s	7.5	6.4	6.4	3.4	7.7	7.8	1.4	8.4	2.8	5.6	7.1	5.4
Prop In Lane	1.00		0.05	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	454	442	437	247	326	318	53	734	311	229	1193	504
V/C Ratio(X)	0.80	0.48	0.48	0.67	0.68	0.68	0.61	0.67	0.26	0.61	0.47	0.38
Avail Cap(c_a), veh/h	707	576	570	771	612	595	115	2382	1009	289	2780	1176
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	18.3	18.3	29.8	23.3	23.3	32.6	21.9	20.0	25.5	13.2	12.7
Incr Delay (d2), s/veh	1.7	0.8	0.8	1.2	2.4	2.6	10.7	1.1	0.4	2.7	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.2	2.2	1.2	2.8	2.8	0.7	3.1	0.9	2.0	2.2	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	19.1	19.2	31.0	25.7	25.9	43.2	22.9	20.4	28.2	13.5	13.2
LnGrp LOS	C	B	B	C	C	C	D	C	C	C	B	B
Approach Vol, veh/h		787			601			604			889	
Approach Delay, s/veh		23.3			27.2			23.7			15.7	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.8	20.2	10.0	23.5	6.8	29.2	14.5	19.0
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.2	4.5	5.8	4.6	6.2
Max Green Setting (Gmax), s	12.6	* 47	16.8	22.6	5.0	54.5	15.4	24.0
Max Q Clear Time (g_c+I1), s	7.6	10.4	5.4	8.4	3.4	9.1	9.5	9.8
Green Ext Time (p_c), s	0.1	3.9	0.2	1.8	0.0	4.5	0.4	1.9

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

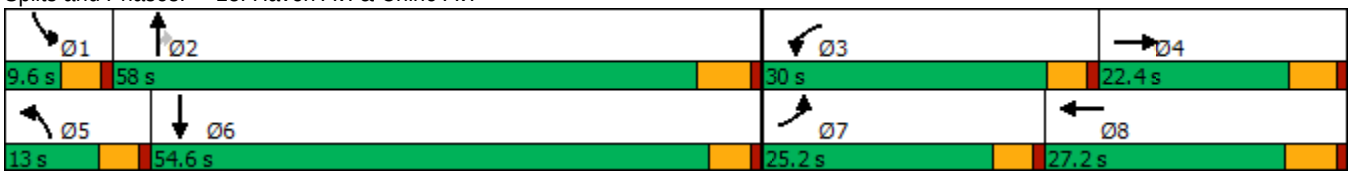
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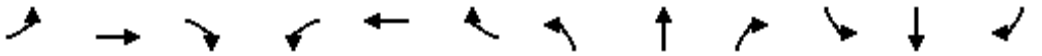
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	Ø1
Lane Configurations									
Traffic Volume (vph)	129	52	25	61	82	486	23	633	
Future Volume (vph)	129	52	25	61	82	486	23	633	
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	NA	
Protected Phases	7	4	3	8	5	2		6	1
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	6	
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	22.8	21.7	9.6
Total Split (s)	25.2	22.4	30.0	27.2	13.0	58.0	58.0	54.6	9.6
Total Split (%)	21.0%	18.7%	25.0%	22.7%	10.8%	48.3%	48.3%	45.5%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min	None
Act Effct Green (s)	11.4	21.1	6.2	11.7	8.3	37.2	37.2	25.2	
Actuated g/C Ratio	0.15	0.28	0.08	0.16	0.11	0.50	0.50	0.34	
v/c Ratio	0.56	0.26	0.18	0.22	0.49	0.29	0.03	0.71	
Control Delay	42.5	18.5	41.4	35.0	48.0	12.3	0.0	25.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.5	18.5	41.4	35.0	48.0	12.3	0.0	25.3	
LOS	D	B	D	C	D	B	A	C	
Approach Delay		30.4		36.9		16.8		25.3	
Approach LOS		C		D		B		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 74.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 23.7	Intersection LOS: C
Intersection Capacity Utilization 60.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	52	76	25	61	0	82	486	23	0	633	123
Future Volume (veh/h)	129	52	76	25	61	0	82	486	23	0	633	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	136	57	22	27	66	0	86	512	-116	0	666	45
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	309	119	54	309	0	105	1565	700	3	942	64
Arrive On Green	0.16	0.36	0.36	0.05	0.25	0.00	0.10	0.66	0.00	0.00	0.44	0.44
Sat Flow, veh/h	1594	1285	496	1781	1870	0	1594	3544	1585	1781	3200	216
Grp Volume(v), veh/h	136	0	79	27	66	0	86	512	-116	0	350	361
Grp Sat Flow(s),veh/h/ln	1594	0	1781	1781	1870	0	1594	1772	1585	1781	1683	1733
Q Serve(g_s), s	4.6	0.0	1.7	0.8	1.6	0.0	3.0	3.5	0.0	0.0	9.5	9.5
Cycle Q Clear(g_c), s	4.6	0.0	1.7	0.8	1.6	0.0	3.0	3.5	0.0	0.0	9.5	9.5
Prop In Lane	1.00		0.28	1.00		0.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	169	0	428	54	309	0	105	1565	700	3	496	510
V/C Ratio(X)	0.81	0.00	0.18	0.50	0.21	0.00	0.82	0.33	-0.17	0.00	0.71	0.71
Avail Cap(c_a), veh/h	582	0	537	802	709	0	237	3279	1467	158	1489	1533
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	14.2	26.5	18.3	0.0	25.1	5.9	0.0	0.0	13.8	13.8
Incr Delay (d2), s/veh	3.4	0.0	0.2	2.6	0.3	0.0	5.9	0.1	0.0	0.0	1.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.6	0.4	0.6	0.0	1.1	0.9	0.0	0.0	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	0.0	14.4	29.1	18.6	0.0	31.0	6.0	0.0	0.0	15.6	15.6
LnGrp LOS	C	A	B	C	B	A	C	A	A	A	B	B
Approach Vol, veh/h		215			93			482			711	
Approach Delay, s/veh		22.1			21.7			11.9			15.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	30.7	6.3	19.4	8.3	22.4	10.6	15.1
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	52.2	25.4	* 17	8.4	* 50	20.6	21.4
Max Q Clear Time (g_c+I1), s	0.0	5.5	2.8	3.7	5.0	11.5	6.6	3.6
Green Ext Time (p_c), s	0.0	3.4	0.0	0.2	0.0	5.1	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

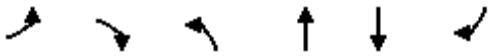
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	58	112	159	479	603
Future Volume (vph)	58	112	159	479	603
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	27.8	27.8	19.0	92.2	73.2
Total Split (%)	23.2%	23.2%	15.8%	76.8%	61.0%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.1	12.1	14.5	39.3	20.1
Actuated g/C Ratio	0.19	0.19	0.23	0.62	0.32
v/c Ratio	0.22	0.34	0.51	0.27	0.69
Control Delay	24.6	7.6	30.1	6.2	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	7.6	30.1	6.2	22.2
LOS	C	A	C	A	C
Approach Delay	13.4			12.1	22.2
Approach LOS	B			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 63.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 51.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	112	159	479	603	59
Future Volume (veh/h)	58	112	159	479	603	59
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	67	61	185	557	701	69
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	276	260	229	1947	1068	105
Arrive On Green	0.17	0.17	0.14	0.58	0.34	0.34
Sat Flow, veh/h	1594	1502	1594	3455	3175	312
Grp Volume(v), veh/h	67	61	185	557	391	379
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1683	1772	1716
Q Serve(g_s), s	1.7	1.6	5.3	3.9	8.8	8.8
Cycle Q Clear(g_c), s	1.7	1.6	5.3	3.9	8.8	8.8
Prop In Lane	1.00	1.00	1.00			0.18
Lane Grp Cap(c), veh/h	276	260	229	1947	596	577
V/C Ratio(X)	0.24	0.23	0.81	0.29	0.66	0.66
Avail Cap(c_a), veh/h	750	707	491	6224	2555	2474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	16.6	19.4	5.0	13.2	13.2
Incr Delay (d2), s/veh	0.5	0.5	2.6	0.1	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.7	0.7	2.7	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.1	17.1	21.9	5.1	14.4	14.5
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	128			742	770	
Approach Delay, s/veh	17.1			9.3	14.5	
Approach LOS	B			A	B	

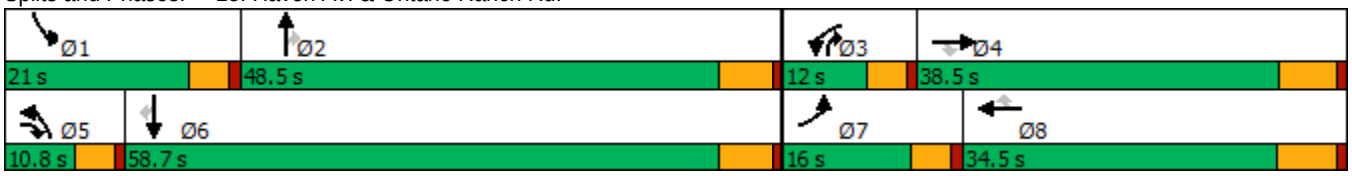
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		32.8		13.9	11.3	21.5
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		86.4		22.0	14.4	67.4
Max Q Clear Time (g_c+I1), s		5.9		3.7	7.3	10.8
Green Ext Time (p_c), s		3.8		0.3	0.1	4.9

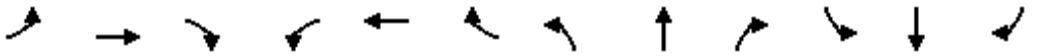
Intersection Summary		
HCM 6th Ctrl Delay	12.3	
HCM 6th LOS	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	980	38	243	742	237	19	210	75	239	348	129
Future Volume (vph)	226	980	38	243	742	237	19	210	75	239	348	129
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	9.6	9.6	34.5	34.5	9.6	47.8	9.6	9.6	45.8	45.8
Total Split (s)	16.0	38.5	10.8	12.0	34.5	34.5	10.8	48.5	12.0	21.0	58.7	58.7
Total Split (%)	13.3%	32.1%	9.0%	10.0%	28.8%	28.8%	9.0%	40.4%	10.0%	17.5%	48.9%	48.9%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.5	5.5	3.6	4.8	3.6	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.5	6.5	4.6	5.8	4.6	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	10.5	23.5	35.8	7.8	20.4	20.4	5.8	15.3	29.2	11.2	25.5	25.5
Actuated g/C Ratio	0.13	0.29	0.45	0.10	0.25	0.25	0.07	0.19	0.36	0.14	0.32	0.32
v/c Ratio	0.58	0.67	0.05	0.90	0.44	0.44	0.18	0.33	0.13	0.57	0.33	0.24
Control Delay	42.2	28.7	0.1	72.0	27.4	7.1	46.6	29.1	1.7	40.3	22.5	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	28.7	0.1	72.0	27.4	7.1	46.6	29.1	1.7	40.3	22.5	5.1
LOS	D	C	A	E	C	A	D	C	A	D	C	A
Approach Delay		30.3			32.3			23.4			25.3	
Approach LOS		C			C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 80.1	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 29.4	Intersection LOS: C
Intersection Capacity Utilization 61.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	980	38	243	742	237	19	210	75	239	348	129
Future Volume (veh/h)	226	980	38	243	742	237	19	210	75	239	348	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	240	1043	27	259	789	-253	20	223	30	254	370	-12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	1593	485	336	2177	461	37	537	396	353	848	359
Arrive On Green	0.10	0.30	0.30	0.11	0.31	0.00	0.02	0.15	0.15	0.11	0.24	0.00
Sat Flow, veh/h	3188	5316	1502	3000	7088	1502	1594	3544	1502	3188	3544	1502
Grp Volume(v), veh/h	240	1043	27	259	789	-253	20	223	30	254	370	-12
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1500	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	4.8	11.3	0.8	5.5	5.7	0.0	0.8	3.8	1.0	5.1	5.9	0.0
Cycle Q Clear(g_c), s	4.8	11.3	0.8	5.5	5.7	0.0	0.8	3.8	1.0	5.1	5.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	333	1593	485	336	2177	461	37	537	396	353	848	359
V/C Ratio(X)	0.72	0.65	0.06	0.77	0.36	-0.55	0.54	0.42	0.08	0.72	0.44	-0.03
Avail Cap(c_a), veh/h	551	2602	770	336	3008	637	150	2293	1140	792	2841	1204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.6	20.1	15.4	28.5	17.8	0.0	31.9	25.3	18.3	28.3	21.3	0.0
Incr Delay (d2), s/veh	1.1	0.5	0.0	9.5	0.1	0.0	4.5	0.5	0.1	1.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.0	0.2	2.2	1.9	0.0	0.3	1.5	0.3	1.8	2.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	20.6	15.5	37.9	17.9	0.0	36.3	25.9	18.3	29.4	21.7	0.0
LnGrp LOS	C	C	B	D	B	A	D	C	B	C	C	A
Approach Vol, veh/h		1310			795			273			612	
Approach Delay, s/veh		22.2			30.1			25.8			25.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	15.8	12.0	26.3	6.1	21.6	11.5	26.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	16.4	42.7	7.4	* 32	6.2	52.9	11.4	28.0
Max Q Clear Time (g_c+I1), s	7.1	5.8	7.5	13.3	2.8	7.9	6.8	7.7
Green Ext Time (p_c), s	0.3	1.4	0.0	6.5	0.0	2.4	0.2	4.6

Intersection Summary	
HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

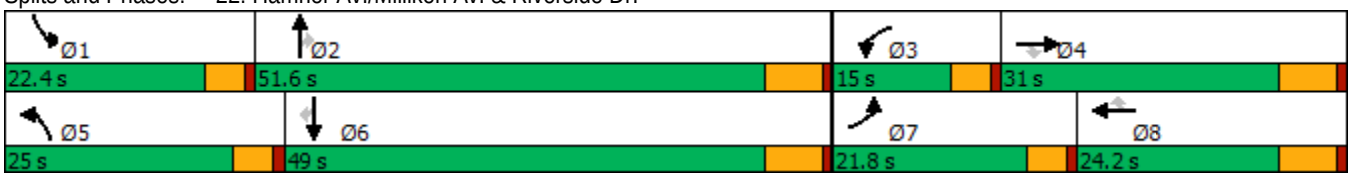
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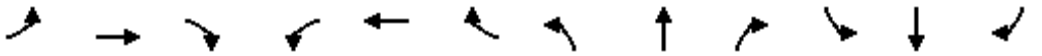
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	147	186	88	158	176	189	534	54	234	770	256
Future Volume (vph)	171	147	186	88	158	176	189	534	54	234	770	256
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	21.8	31.0	31.0	15.0	24.2	24.2	25.0	51.6	51.6	22.4	49.0	49.0
Total Split (%)	18.2%	25.8%	25.8%	12.5%	20.2%	20.2%	20.8%	43.0%	43.0%	18.7%	40.8%	40.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	9.6	17.3	17.3	9.1	13.8	13.8	10.2	26.2	26.2	11.5	27.4	27.4
Actuated g/C Ratio	0.11	0.21	0.21	0.11	0.17	0.17	0.12	0.31	0.31	0.14	0.33	0.33
v/c Ratio	0.49	0.42	0.43	0.54	0.57	0.46	0.52	0.51	0.10	0.57	0.70	0.40
Control Delay	42.5	37.7	8.6	52.8	43.6	10.0	42.1	25.8	0.4	41.5	28.6	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	37.7	8.6	52.8	43.6	10.0	42.1	25.8	0.4	41.5	28.6	4.9
LOS	D	D	A	D	D	A	D	C	A	D	C	A
Approach Delay		28.6			31.5			28.0			26.2	
Approach LOS		C			C			C			C	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 83.6		
Natural Cycle: 75		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.70		
Intersection Signal Delay: 27.8	Intersection LOS: C	
Intersection Capacity Utilization 60.7%	ICU Level of Service B	
Analysis Period (min) 15		

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	147	186	88	158	176	189	534	54	234	770	256
Future Volume (veh/h)	171	147	186	88	158	176	189	534	54	234	770	256
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	180	155	155	93	166	147	199	562	52	246	811	255
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	299	251	115	276	234	296	1112	471	348	1169	489
Arrive On Green	0.09	0.17	0.17	0.07	0.16	0.16	0.09	0.31	0.31	0.11	0.33	0.33
Sat Flow, veh/h	3188	1772	1486	1594	1772	1502	3188	3544	1500	3188	3544	1481
Grp Volume(v), veh/h	180	155	155	93	166	147	199	562	52	246	811	255
Grp Sat Flow(s),veh/h/ln	1594	1772	1486	1594	1772	1502	1594	1772	1500	1594	1772	1481
Q Serve(g_s), s	3.5	5.1	6.2	3.7	5.6	5.9	3.9	8.3	1.6	4.8	12.8	9.0
Cycle Q Clear(g_c), s	3.5	5.1	6.2	3.7	5.6	5.9	3.9	8.3	1.6	4.8	12.8	9.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	299	251	115	276	234	296	1112	471	348	1169	489
V/C Ratio(X)	0.66	0.52	0.62	0.81	0.60	0.63	0.67	0.51	0.11	0.71	0.69	0.52
Avail Cap(c_a), veh/h	853	683	573	258	496	420	1011	2502	1059	882	2359	986
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	24.3	24.8	29.4	25.3	25.4	28.2	18.0	15.7	27.6	18.7	17.4
Incr Delay (d2), s/veh	1.0	1.4	2.5	5.0	2.1	2.8	1.0	0.4	0.1	1.0	0.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.0	2.1	1.4	2.2	2.0	1.4	2.9	0.5	1.7	4.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	25.7	27.3	34.4	27.4	28.2	29.2	18.3	15.8	28.6	19.5	18.3
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		490			406			813			1312	
Approach Delay, s/veh		27.6			29.3			20.8			21.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	26.4	9.2	17.1	10.6	27.4	10.1	16.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.8	45.4	10.4	24.8	20.4	42.8	17.2	18.0
Max Q Clear Time (g_c+I1), s	6.8	10.3	5.7	8.2	5.9	14.8	5.5	7.9
Green Ext Time (p_c), s	0.3	3.7	0.0	1.1	0.3	6.4	0.2	0.9

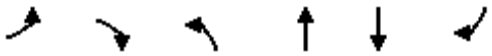
Intersection Summary	
HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Lane Group	EBL	NBT	SBT
Lane Configurations			
Traffic Volume (vph)	1	757	1023
Future Volume (vph)	1	757	1023
Turn Type	Prot	NA	NA
Protected Phases	4	2	6
Permitted Phases			
Detector Phase	4	2	6
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5
Total Split (s)	23.0	97.0	97.0
Total Split (%)	19.2%	80.8%	80.8%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	Min	Min
Act Effct Green (s)	7.5	36.9	36.9
Actuated g/C Ratio	0.19	0.92	0.92
v/c Ratio	0.00	0.24	0.34
Control Delay	17.0	2.1	2.5
Queue Delay	0.0	0.0	0.0
Total Delay	17.0	2.1	2.5
LOS	B	A	A
Approach Delay	17.0	2.1	2.5
Approach LOS	B	A	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 39.9	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.34	
Intersection Signal Delay: 2.3	Intersection LOS: A
Intersection Capacity Utilization 40.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	0	0	757	1023	2
Future Volume (veh/h)	1	0	0	757	1023	2
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	832	1	0	832	1124	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	9999	9999	0	2014	1960	3
Arrive On Green	0.16	0.16	0.00	0.54	0.54	0.54
Sat Flow, veh/h	1897708650	1498	1781184	0	3741	3733	6
Grp Volume(v), veh/h	832	1	0	832	549	577
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1870	1777	1869
Q Serve(g_s), s	0.0	0.0	0.0	4.0	6.3	6.3
Cycle Q Clear(g_c), s	0.0	0.0	0.0	4.0	6.3	6.3
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	31263952	1776	3391488	0	2014	957	1006
V/C Ratio(X)	0.00	0.00	0.00	0.41	0.57	0.57
Avail Cap(c_a), veh/h	1157804984	3671	5832832	0	11411	5420	5702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	4.2	4.7	4.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.2	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	0.0	4.3	5.2	5.2
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	833			832	1126	
Approach Delay, s/veh	0.0			4.3	5.2	
Approach LOS	A			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		20.8		9.5		20.8
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		92.5		18.5		92.5
Max Q Clear Time (g_c+I1), s		6.0		2.0		8.3
Green Ext Time (p_c), s		6.0		3.0		8.1

Intersection Summary	
HCM 6th Ctrl Delay	3.4
HCM 6th LOS	A

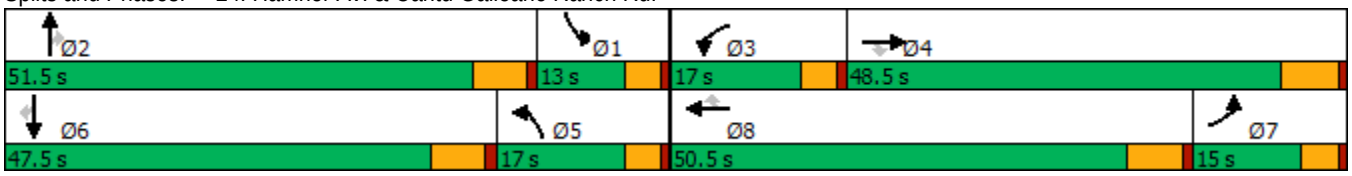
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	1181	281	410	964	166	329	424	323	265	581	104
Future Volume (vph)	154	1181	281	410	964	166	329	424	323	265	581	104
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	15.0	48.5	48.5	17.0	50.5	50.5	17.0	51.5	51.5	13.0	47.5	47.5
Total Split (%)	11.5%	37.3%	37.3%	13.1%	38.8%	38.8%	13.1%	39.6%	39.6%	10.0%	36.5%	36.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	16.4	26.6	26.6	12.8	23.0	23.0	12.8	17.4	17.4	12.5	17.1	17.1
Actuated g/C Ratio	0.18	0.29	0.29	0.14	0.25	0.25	0.14	0.19	0.19	0.14	0.19	0.19
v/c Ratio	0.25	0.57	0.49	0.87	0.54	0.33	0.70	0.42	0.68	0.57	0.44	0.15
Control Delay	38.6	29.2	11.9	59.3	30.9	6.3	48.7	33.6	17.4	45.9	33.7	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	29.2	11.9	59.3	30.9	6.3	48.7	33.6	17.4	45.9	33.7	1.5
LOS	D	C	B	E	C	A	D	C	B	D	C	A
Approach Delay		27.1			35.8			33.3			33.6	
Approach LOS		C			D			C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 92	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 32.2	Intersection LOS: C
Intersection Capacity Utilization 64.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	1181	281	410	964	166	329	424	323	265	581	104
Future Volume (veh/h)	154	1181	281	410	964	166	329	424	323	265	581	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	1230	85	427	1004	69	343	442	154	276	605	-74
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	599	2159	457	517	1799	381	438	806	228	472	1146	486
Arrive On Green	0.17	0.29	0.29	0.15	0.24	0.24	0.12	0.14	0.14	0.13	0.15	0.00
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	160	1230	85	427	1004	69	343	442	154	276	605	-74
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.0	10.6	1.9	8.8	8.9	2.6	7.1	5.5	4.6	5.5	5.6	0.0
Cycle Q Clear(g_c), s	3.0	10.6	1.9	8.8	8.9	2.6	7.1	5.5	4.6	5.5	5.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	599	2159	457	517	1799	381	438	806	228	472	1146	486
V/C Ratio(X)	0.27	0.57	0.19	0.83	0.56	0.18	0.78	0.55	0.68	0.58	0.53	-0.15
Avail Cap(c_a), veh/h	599	4163	882	585	4361	924	585	3367	951	472	4093	1734
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.3	22.9	7.8	31.3	25.2	22.8	32.1	30.0	13.5	30.8	29.4	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.2	7.6	0.3	0.2	3.4	0.6	3.5	1.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.0	1.0	3.9	3.5	0.9	3.0	2.3	2.5	2.2	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	23.1	8.0	38.9	25.4	23.0	35.6	30.6	17.0	32.1	29.8	0.0
LnGrp LOS	C	C	A	D	C	C	D	C	B	C	C	A
Approach Vol, veh/h		1475			1500			939			807	
Approach Delay, s/veh		22.7			29.2			30.2			33.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	17.0	15.6	28.3	13.9	17.8	19.2	24.6
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	6.5	* 6.5
Max Green Setting (Gmax), s	8.4	45.3	12.4	42.0	12.4	41.3	10.4	* 44
Max Q Clear Time (g_c+I1), s	7.5	7.5	10.8	12.6	9.1	7.6	5.0	10.9
Green Ext Time (p_c), s	0.1	3.3	0.2	9.2	0.2	3.9	0.1	7.3

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

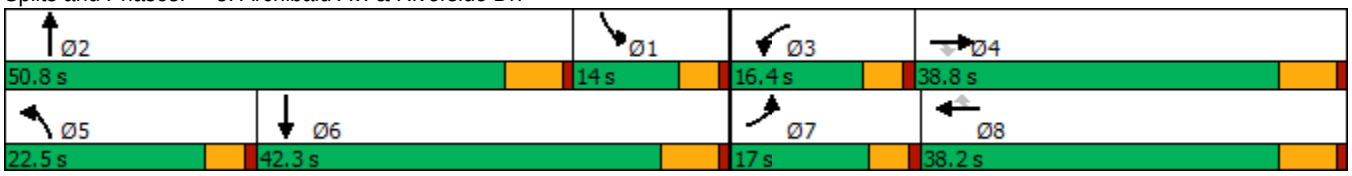
APPENDIX 6.6: OPENING YEAR CUMULATIVE (2027) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

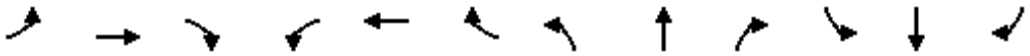
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	164	439	210	131	612	289	352	1662	244	730
Future Volume (vph)	164	439	210	131	612	289	352	1662	244	730
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	17.0	38.8	38.8	16.4	38.2	38.2	22.5	50.8	14.0	42.3
Total Split (%)	14.2%	32.3%	32.3%	13.7%	31.8%	31.8%	18.8%	42.3%	11.7%	35.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.4	28.7	28.7	11.5	27.8	27.8	16.5	44.7	9.4	37.6
Actuated g/C Ratio	0.11	0.25	0.25	0.10	0.24	0.24	0.14	0.39	0.08	0.32
v/c Ratio	1.01	0.55	0.41	0.87	0.79	0.63	0.84	1.04	1.02	0.62
Control Delay	124.5	40.6	7.0	96.5	49.4	22.7	66.3	67.3	115.4	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.5	40.6	7.0	96.5	49.4	22.7	66.3	67.3	115.4	34.0
LOS	F	D	A	F	D	C	E	E	F	C
Approach Delay		48.9			47.9			67.2		51.0
Approach LOS		D			D			E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 56.8	Intersection LOS: E
Intersection Capacity Utilization 92.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	439	210	131	612	289	352	1662	173	244	730	192
Future Volume (veh/h)	164	439	210	131	612	289	352	1662	173	244	730	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	171	457	115	136	638	155	367	1731	91	254	760	106
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	791	347	159	768	336	419	1804	95	251	1472	204
Arrive On Green	0.11	0.24	0.24	0.10	0.23	0.23	0.14	0.38	0.38	0.08	0.34	0.34
Sat Flow, veh/h	1594	3367	1477	1594	3367	1473	3092	4701	247	3092	4287	593
Grp Volume(v), veh/h	171	457	115	136	638	155	367	1187	635	254	570	296
Grp Sat Flow(s),veh/h/ln	1594	1683	1477	1594	1683	1473	1546	1612	1723	1546	1612	1656
Q Serve(g_s), s	12.4	13.9	7.5	9.7	20.9	8.0	13.5	41.6	41.7	9.4	16.3	16.6
Cycle Q Clear(g_c), s	12.4	13.9	7.5	9.7	20.9	8.0	13.5	41.6	41.7	9.4	16.3	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.36
Lane Grp Cap(c), veh/h	171	791	347	159	768	336	419	1237	661	251	1107	568
V/C Ratio(X)	1.00	0.58	0.33	0.85	0.83	0.46	0.88	0.96	0.96	1.01	0.52	0.52
Avail Cap(c_a), veh/h	171	947	415	162	929	407	477	1241	663	251	1107	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	39.2	36.8	51.3	42.6	22.1	49.2	34.8	34.9	53.3	30.4	30.4
Incr Delay (d2), s/veh	69.7	0.7	0.6	31.4	5.5	1.0	14.0	16.7	25.5	60.2	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	5.6	2.7	5.1	8.9	3.6	5.8	17.9	20.8	5.6	6.1	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.4	39.9	37.3	82.7	48.1	23.1	63.2	51.5	60.3	113.5	30.8	31.3
LnGrp LOS	F	D	D	F	D	C	E	D	E	F	C	C
Approach Vol, veh/h		743			929			2189			1120	
Approach Delay, s/veh		58.3			49.0			56.0			49.7	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	50.7	16.2	33.4	20.3	46.0	17.0	32.6
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	9.4	* 45	11.8	32.6	17.9	36.1	12.4	32.0
Max Q Clear Time (g_c+I1), s	11.4	43.7	11.7	15.9	15.5	18.6	14.4	22.9
Green Ext Time (p_c), s	0.0	0.8	0.0	2.7	0.2	4.7	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	53.6
HCM 6th LOS	D

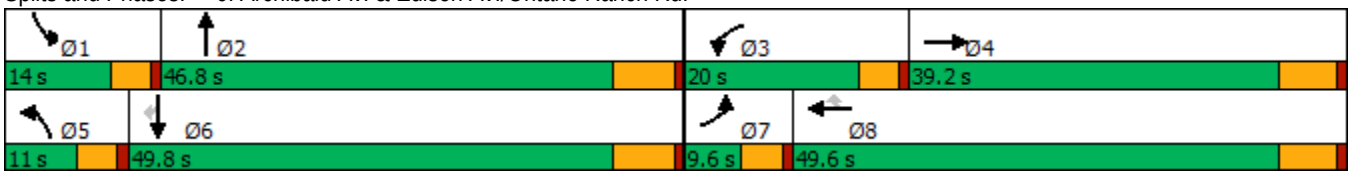
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	550	72	507	787	353	184	1400	484	282	700	68
Future Volume (vph)	38	550	72	507	787	353	184	1400	484	282	700	68
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.2		20.0	49.6	49.6	11.0	46.8		14.0	49.8	49.8
Total Split (%)	8.0%	32.7%		16.7%	41.3%	41.3%	9.2%	39.0%		11.7%	41.5%	41.5%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.1	22.9	107.8	15.6	37.8	37.8	6.5	37.6	107.8	9.5	40.6	40.6
Actuated g/C Ratio	0.05	0.21	1.00	0.14	0.35	0.35	0.06	0.35	1.00	0.09	0.38	0.38
v/c Ratio	0.30	0.54	0.05	1.29	0.70	0.62	1.06	0.83	0.36	1.14	0.39	0.11
Control Delay	59.6	39.2	0.1	186.9	34.6	21.8	133.9	37.7	0.7	144.9	25.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	39.2	0.1	186.9	34.6	21.8	133.9	37.7	0.7	144.9	25.8	0.4
LOS	E	D	A	F	C	C	F	D	A	F	C	A
Approach Delay		36.1			78.7			37.6			56.2	
Approach LOS		D			E			D			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 107.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.29	
Intersection Signal Delay: 53.5	Intersection LOS: D
Intersection Capacity Utilization 84.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	550	72	507	787	353	184	1400	484	282	700	68
Future Volume (veh/h)	38	550	72	507	787	353	184	1400	484	282	700	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	42	604	0	557	865	365	202	1538	0	310	769	64
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	1021		452	1094	458	199	1867		284	2023	564
Arrive On Green	0.03	0.19	0.00	0.15	0.31	0.31	0.06	0.35	0.00	0.09	0.38	0.38
Sat Flow, veh/h	3000	5316	1502	3000	3544	1483	3188	5316	1502	3092	5316	1482
Grp Volume(v), veh/h	42	604	0	557	865	365	202	1538	0	310	769	64
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1483	1594	1772	1502	1546	1772	1482
Q Serve(g_s), s	1.4	10.6	0.0	15.4	22.8	23.1	6.4	27.0	0.0	9.4	10.7	2.9
Cycle Q Clear(g_c), s	1.4	10.6	0.0	15.4	22.8	23.1	6.4	27.0	0.0	9.4	10.7	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	102	1021		452	1094	458	199	1867		284	2023	564
V/C Ratio(X)	0.41	0.59		1.23	0.79	0.80	1.01	0.82		1.09	0.38	0.11
Avail Cap(c_a), veh/h	147	1715		452	1504	629	199	2095		284	2251	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	37.6	0.0	43.4	32.3	32.4	47.9	30.3	0.0	46.4	22.9	20.5
Incr Delay (d2), s/veh	1.0	0.5	0.0	122.8	2.0	5.0	67.0	2.5	0.0	79.8	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.4	0.0	13.1	9.4	8.3	4.3	10.8	0.0	6.6	4.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	38.2	0.0	166.3	34.4	37.4	115.0	32.8	0.0	126.2	23.1	20.6
LnGrp LOS	D	D		F	C	D	F	C		F	C	C
Approach Vol, veh/h		646			1787			1740			1143	
Approach Delay, s/veh		38.9			76.1			42.4			50.9	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	42.4	20.0	25.8	11.0	45.4	8.1	37.8
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	9.4	40.3	15.4	33.0	6.4	43.3	5.0	43.4
Max Q Clear Time (g_c+I1), s	11.4	29.0	17.4	12.6	8.4	12.7	3.4	25.1
Green Ext Time (p_c), s	0.0	6.9	0.0	3.5	0.0	5.2	0.0	6.5

Intersection Summary	
HCM 6th Ctrl Delay	55.1
HCM 6th LOS	E

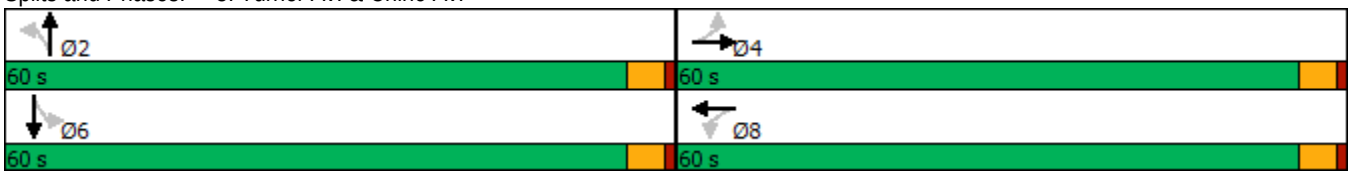
Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	107	199	67	318	142	448	93	209
Future Volume (vph)	107	199	67	318	142	448	93	209
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	23.7	23.7	23.7	23.7	24.4	24.4	24.4	24.4
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.41	0.41	0.41	0.41
v/c Ratio	0.62	0.31	0.27	0.48	0.54	0.50	0.55	0.29
Control Delay	29.2	9.8	16.1	12.8	22.1	14.9	26.9	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	9.8	16.1	12.8	22.1	14.9	26.9	11.2
LOS	C	A	B	B	C	B	C	B
Approach Delay		14.8		13.2		16.5		15.0
Approach LOS		B		B		B		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 59.1	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 15.0	Intersection LOS: B
Intersection Capacity Utilization 57.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Turner Av. & Chino Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	199	107	67	318	157	142	448	57	93	209	82
Future Volume (veh/h)	107	199	107	67	318	157	142	448	57	93	209	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	145	269	145	91	430	212	192	605	77	126	282	111
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	329	917	480	426	937	457	420	1235	157	305	978	375
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	704	2136	1118	870	2181	1064	886	2991	380	678	2368	908
Grp Volume(v), veh/h	145	210	204	91	331	311	192	340	342	126	198	195
Grp Sat Flow(s),veh/h/ln	704	1683	1571	870	1683	1562	886	1683	1688	678	1683	1593
Q Serve(g_s), s	10.5	4.6	4.9	4.4	8.0	8.1	10.6	8.5	8.5	9.6	4.5	4.7
Cycle Q Clear(g_c), s	18.7	4.6	4.9	9.2	8.0	8.1	15.2	8.5	8.5	18.1	4.5	4.7
Prop In Lane	1.00		0.71	1.00		0.68	1.00		0.23	1.00		0.57
Lane Grp Cap(c), veh/h	329	723	674	426	723	671	420	695	697	305	695	658
V/C Ratio(X)	0.44	0.29	0.30	0.21	0.46	0.46	0.46	0.49	0.49	0.41	0.29	0.30
Avail Cap(c_a), veh/h	711	1636	1527	898	1636	1518	915	1636	1641	684	1636	1549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	10.6	10.7	13.7	11.6	11.6	16.3	12.3	12.3	19.0	11.2	11.2
Incr Delay (d2), s/veh	0.9	0.2	0.2	0.2	0.5	0.5	0.8	0.5	0.5	0.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.4	1.4	0.7	2.4	2.3	1.8	2.6	2.6	1.3	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	10.8	10.9	14.0	12.0	12.1	17.1	12.9	12.9	19.9	11.4	11.5
LnGrp LOS	B	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		559			733			874			519	
Approach Delay, s/veh		13.0			12.3			13.8			13.5	
Approach LOS		B			B			B			B	

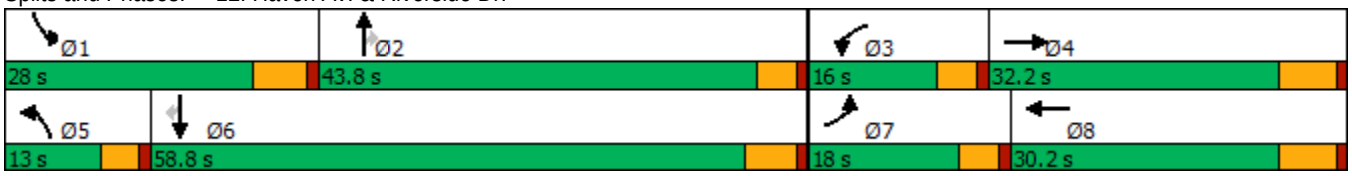
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.1		29.0		28.1		29.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		55.5		55.5		55.5		55.5				
Max Q Clear Time (g_c+I1), s		17.2		20.7		20.1		11.2				
Green Ext Time (p_c), s		5.6		3.9		3.5		4.9				

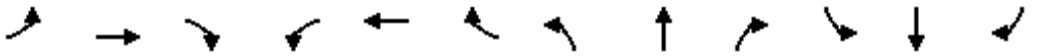
Intersection Summary												
HCM 6th Ctrl Delay			13.2									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	388	624	251	467	67	1245	242	320	835	281
Future Volume (vph)	388	624	251	467	67	1245	242	320	835	281
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	9.5	23.7	23.7	15.8	24.8	24.8
Total Split (s)	18.0	32.2	16.0	30.2	13.0	43.8	43.8	28.0	58.8	58.8
Total Split (%)	15.0%	26.8%	13.3%	25.2%	10.8%	36.5%	36.5%	23.3%	49.0%	49.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.5	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.5	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	13.4	26.0	11.4	24.0	8.1	39.1	39.1	22.2	55.6	55.6
Actuated g/C Ratio	0.11	0.22	0.10	0.20	0.07	0.33	0.33	0.18	0.46	0.46
v/c Ratio	1.17	0.94	0.89	1.00	0.66	1.15	0.43	1.16	0.54	0.36
Control Delay	149.1	67.7	84.4	79.0	82.9	116.2	11.3	148.3	25.3	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	149.1	67.7	84.4	79.0	82.9	116.2	11.3	148.3	25.3	3.6
LOS	F	E	F	E	F	F	B	F	C	A
Approach Delay		97.5		80.5		98.4			48.4	
Approach LOS		F		F		F			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 80.5	Intersection LOS: F
Intersection Capacity Utilization 107.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	624	48	251	467	203	67	1245	242	320	835	281
Future Volume (veh/h)	388	624	48	251	467	203	67	1245	242	320	835	281
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	413	664	30	267	497	72	71	1324	129	340	888	123
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	354	710	32	301	587	85	87	1149	482	293	1644	691
Arrive On Green	0.17	0.32	0.32	0.14	0.29	0.29	0.08	0.49	0.49	0.28	0.70	0.70
Sat Flow, veh/h	3188	3354	151	3188	3008	433	1594	3544	1488	1594	3544	1490
Grp Volume(v), veh/h	413	350	344	267	292	277	71	1324	129	340	888	123
Grp Sat Flow(s),veh/h/ln	1594	1772	1734	1594	1772	1669	1594	1772	1488	1594	1772	1490
Q Serve(g_s), s	13.4	23.2	23.2	9.9	18.6	18.9	5.3	39.1	6.2	22.2	14.7	3.5
Cycle Q Clear(g_c), s	13.4	23.2	23.2	9.9	18.6	18.9	5.3	39.1	6.2	22.2	14.7	3.5
Prop In Lane	1.00		0.09	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	354	375	367	301	346	326	87	1149	482	293	1644	691
V/C Ratio(X)	1.17	0.93	0.94	0.89	0.84	0.85	0.81	1.15	0.27	1.16	0.54	0.18
Avail Cap(c_a), veh/h	354	382	374	301	353	332	112	1149	482	293	1644	691
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	40.4	40.4	51.1	40.9	41.0	54.7	31.0	22.5	43.7	12.1	10.4
Incr Delay (d2), s/veh	101.3	29.7	30.4	24.8	16.5	18.5	28.2	79.0	0.3	102.8	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	11.7	11.5	4.7	8.6	8.3	2.8	27.0	2.0	16.0	4.3	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	151.5	70.0	70.8	76.0	57.5	59.5	82.9	110.0	22.8	146.5	12.4	10.5
LnGrp LOS	F	E	E	E	E	E	F	F	C	F	B	B
Approach Vol, veh/h		1107			836			1524			1351	
Approach Delay, s/veh		100.7			64.0			101.4			46.0	
Approach LOS		F			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	44.9	16.0	31.7	11.1	61.8	18.0	29.7
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.2	4.5	5.8	4.6	6.2
Max Green Setting (Gmax), s	22.2	* 39	11.4	26.0	8.5	53.0	13.4	24.0
Max Q Clear Time (g_c+I1), s	24.2	41.1	11.9	25.2	7.3	16.7	15.4	20.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	7.1	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	79.2
HCM 6th LOS	E

Notes

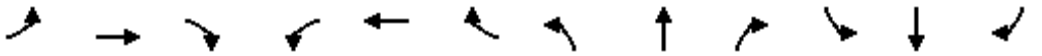
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	174	98	156	121	201	1397	922	
Future Volume (vph)	174	98	156	121	201	1397	922	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	18.8	24.0	17.6	22.8	23.5	68.8	54.9	9.6
Total Split (%)	15.7%	20.0%	14.7%	19.0%	19.6%	57.3%	45.8%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	14.2	16.8	12.6	14.8	17.7	69.9	48.7	
Actuated g/C Ratio	0.12	0.15	0.11	0.13	0.15	0.61	0.42	
v/c Ratio	0.95	0.78	0.88	0.55	0.88	0.94	0.86	
Control Delay	103.7	59.2	91.5	56.9	82.9	30.6	37.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	103.7	59.2	91.5	56.9	82.9	30.6	37.5	
LOS	F	E	F	E	F	C	D	
Approach Delay		79.5		76.4		35.8	37.5	
Approach LOS		E		E		D	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 43.6	Intersection LOS: D
Intersection Capacity Utilization 96.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	98	107	156	121	0	201	1397	434	0	922	203
Future Volume (veh/h)	174	98	107	156	121	0	201	1397	434	0	922	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	185	107	61	170	132	0	214	1486	238	0	981	110
Peak Hour Factor	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	140	80	203	196	0	244	1767	278	2	1190	133
Arrive On Green	0.13	0.13	0.13	0.11	0.10	0.00	0.15	0.59	0.59	0.00	0.39	0.39
Sat Flow, veh/h	1594	1118	637	1781	1870	0	1594	2989	471	1781	3052	342
Grp Volume(v), veh/h	185	0	168	170	132	0	214	871	853	0	541	550
Grp Sat Flow(s),veh/h/ln	1594	0	1756	1781	1870	0	1594	1772	1687	1781	1683	1710
Q Serve(g_s), s	10.8	0.0	8.8	8.9	6.5	0.0	12.5	37.7	39.9	0.0	27.5	27.6
Cycle Q Clear(g_c), s	10.8	0.0	8.8	8.9	6.5	0.0	12.5	37.7	39.9	0.0	27.5	27.6
Prop In Lane	1.00		0.36	1.00		0.00	1.00		0.28	1.00		0.20
Lane Grp Cap(c), veh/h	214	0	220	203	196	0	244	1047	997	2	656	667
V/C Ratio(X)	0.87	0.00	0.76	0.84	0.67	0.00	0.88	0.83	0.86	0.00	0.82	0.82
Avail Cap(c_a), veh/h	237	0	343	243	334	0	316	1171	1115	93	886	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	0.0	40.3	41.4	41.1	0.0	39.5	15.7	16.1	0.0	26.2	26.2
Incr Delay (d2), s/veh	23.3	0.0	5.4	16.9	4.0	0.0	16.5	4.8	6.2	0.0	4.7	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	4.0	4.7	3.1	0.0	5.8	13.8	14.2	0.0	11.4	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	0.0	45.8	58.3	45.1	0.0	56.0	20.4	22.3	0.0	30.9	30.8
LnGrp LOS	E	A	D	E	D	A	E	C	C	A	C	C
Approach Vol, veh/h		353			302			1938			1091	
Approach Delay, s/veh		55.2			52.5			25.2			30.9	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	62.1	15.4	17.7	19.2	43.0	17.4	15.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	63.0	13.0	* 19	18.9	* 50	14.2	17.0
Max Q Clear Time (g_c+I1), s	0.0	41.9	10.9	10.8	14.5	29.6	12.8	8.5
Green Ext Time (p_c), s	0.0	12.5	0.0	0.5	0.1	7.6	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

Notes

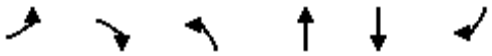
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	81	142	157	1854	1095
Future Volume (vph)	81	142	157	1854	1095
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	27.8	27.8	27.3	92.2	64.9
Total Split (%)	23.2%	23.2%	22.8%	76.8%	54.1%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	13.0	13.0	14.8	62.1	42.5
Actuated g/C Ratio	0.15	0.15	0.17	0.71	0.49
v/c Ratio	0.37	0.44	0.64	0.85	0.73
Control Delay	43.1	11.1	48.5	13.4	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.1	11.1	48.5	13.4	21.4
LOS	D	B	D	B	C
Approach Delay	22.7			16.2	21.4
Approach LOS	C			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 87.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 72.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	142	157	1854	1095	58
Future Volume (veh/h)	81	142	157	1854	1095	58
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	88	100	171	2015	1190	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	191	180	205	2491	1857	94
Arrive On Green	0.12	0.12	0.13	0.74	0.56	0.56
Sat Flow, veh/h	1594	1502	1594	3455	3341	168
Grp Volume(v), veh/h	88	100	171	2015	631	619
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1683	1772	1737
Q Serve(g_s), s	4.2	5.2	8.6	32.0	20.3	20.3
Cycle Q Clear(g_c), s	4.2	5.2	8.6	32.0	20.3	20.3
Prop In Lane	1.00	1.00	1.00			0.10
Lane Grp Cap(c), veh/h	191	180	205	2491	985	965
V/C Ratio(X)	0.46	0.56	0.84	0.81	0.64	0.64
Avail Cap(c_a), veh/h	425	400	438	3525	1269	1244
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	34.3	35.1	7.0	12.6	12.7
Incr Delay (d2), s/veh	1.7	2.7	3.4	1.0	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.1	3.3	6.4	6.7	6.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.6	37.0	38.6	7.9	13.3	13.4
LnGrp LOS	D	D	D	A	B	B
Approach Vol, veh/h	188			2186	1250	
Approach Delay, s/veh	36.3			10.3	13.4	
Approach LOS	D			B	B	

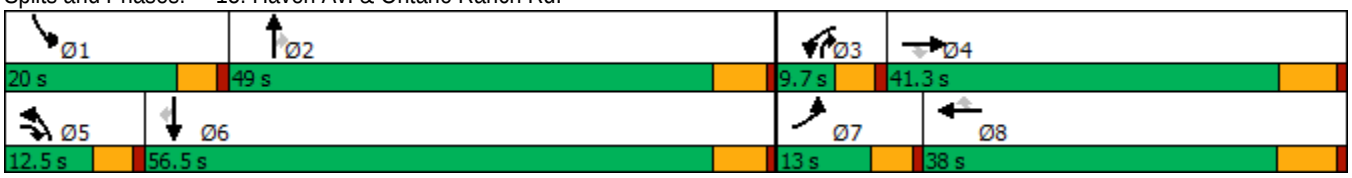
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		66.9		15.7	15.2	51.7
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		86.4		22.0	22.7	59.1
Max Q Clear Time (g_c+I1), s		34.0		7.2	10.6	22.3
Green Ext Time (p_c), s		27.1		0.4	0.2	9.6

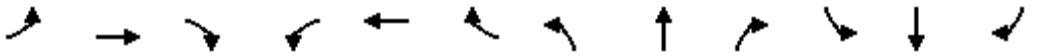
Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	1311	19	83	1346	723	40	585	130	726	326	382
Future Volume (vph)	320	1311	19	83	1346	723	40	585	130	726	326	382
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	9.6	9.6	34.5	34.5	9.6	47.8	9.6	9.6	45.8	45.8
Total Split (s)	13.0	41.3	12.5	9.7	38.0	38.0	12.5	49.0	9.7	20.0	56.5	56.5
Total Split (%)	10.8%	34.4%	10.4%	8.1%	31.7%	31.7%	10.4%	40.8%	8.1%	16.7%	47.1%	47.1%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.5	5.5	3.6	4.8	3.6	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.5	6.5	4.6	5.8	4.6	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	8.5	35.3	43.7	5.1	31.7	31.7	6.7	25.5	31.9	15.5	36.4	36.4
Actuated g/C Ratio	0.08	0.34	0.43	0.05	0.31	0.31	0.07	0.25	0.31	0.15	0.35	0.35
v/c Ratio	1.32	0.78	0.03	0.60	0.66	1.19	0.42	0.72	0.26	1.64	0.28	0.63
Control Delay	208.4	34.8	0.1	67.3	33.7	121.9	61.0	39.8	7.1	326.9	24.9	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	208.4	34.8	0.1	67.3	33.7	121.9	61.0	39.8	7.1	326.9	24.9	17.9
LOS	F	C	A	E	C	F	E	D	A	F	C	B
Approach Delay		68.1			64.6			35.3			175.9	
Approach LOS		E			E			D			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.64	
Intersection Signal Delay: 88.5	Intersection LOS: F
Intersection Capacity Utilization 89.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	1311	19	83	1346	723	40	585	130	726	326	382
Future Volume (veh/h)	320	1311	19	83	1346	723	40	585	130	726	326	382
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	344	1410	9	89	1447	105	43	629	75	781	351	207
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	1728	541	141	2019	428	57	867	438	510	1308	552
Arrive On Green	0.09	0.32	0.32	0.05	0.28	0.28	0.04	0.24	0.24	0.16	0.37	0.37
Sat Flow, veh/h	3188	5316	1500	3000	7088	1502	1594	3544	1500	3188	3544	1496
Grp Volume(v), veh/h	344	1410	9	89	1447	105	43	629	75	781	351	207
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1500	1772	1502	1594	1772	1500	1594	1772	1496
Q Serve(g_s), s	8.4	23.5	0.4	2.8	17.7	5.2	2.6	15.7	3.6	15.4	6.7	9.8
Cycle Q Clear(g_c), s	8.4	23.5	0.4	2.8	17.7	5.2	2.6	15.7	3.6	15.4	6.7	9.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	278	1728	541	141	2019	428	57	867	438	510	1308	552
V/C Ratio(X)	1.24	0.82	0.02	0.63	0.72	0.25	0.76	0.73	0.17	1.53	0.27	0.38
Avail Cap(c_a), veh/h	278	1938	600	159	2319	491	131	1590	744	510	1866	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	29.9	19.8	45.0	30.9	26.5	46.0	33.4	25.4	40.4	21.3	22.2
Incr Delay (d2), s/veh	133.6	2.6	0.0	4.0	0.9	0.3	7.6	1.2	0.2	249.1	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	9.5	0.1	1.1	7.0	1.7	1.1	6.5	1.2	23.4	2.6	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.5	32.4	19.8	49.1	31.9	26.8	53.6	34.6	25.6	289.5	21.4	22.7
LnGrp LOS	F	C	B	D	C	C	D	C	C	F	C	C
Approach Vol, veh/h		1763			1641			747			1339	
Approach Delay, s/veh		60.7			32.5			34.8			178.0	
Approach LOS		E			C			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	29.3	9.1	37.8	8.0	41.3	13.0	33.9
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	15.4	43.2	5.1	* 35	7.9	50.7	8.4	31.5
Max Q Clear Time (g_c+I1), s	17.4	17.7	4.8	25.5	4.6	11.8	10.4	19.7
Green Ext Time (p_c), s	0.0	4.3	0.0	5.8	0.0	2.9	0.0	7.0

Intersection Summary	
HCM 6th Ctrl Delay	77.3
HCM 6th LOS	E

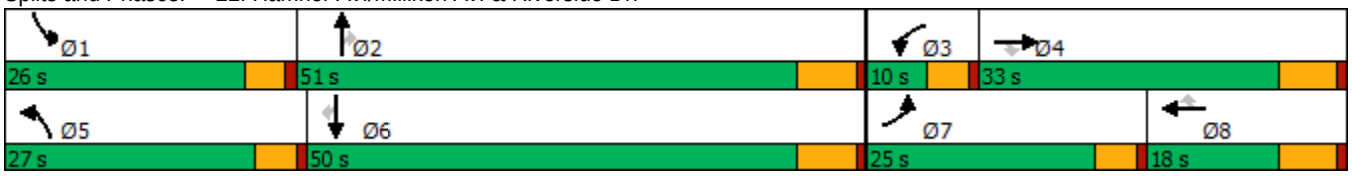
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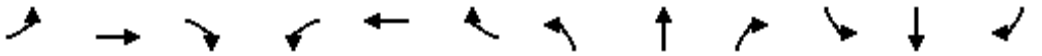
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	420	294	184	31	205	268	181	1351	64	269	809	252
Future Volume (vph)	420	294	184	31	205	268	181	1351	64	269	809	252
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	25.0	33.0	33.0	10.0	18.0	18.0	27.0	51.0	51.0	26.0	50.0	50.0
Total Split (%)	20.8%	27.5%	27.5%	8.3%	15.0%	15.0%	22.5%	42.5%	42.5%	21.7%	41.7%	41.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	19.6	30.2	30.2	5.3	11.8	11.8	11.8	44.9	44.9	15.3	48.4	48.4
Actuated g/C Ratio	0.17	0.27	0.27	0.05	0.10	0.10	0.10	0.40	0.40	0.14	0.43	0.43
v/c Ratio	0.88	0.72	0.38	0.49	1.28	0.74	0.63	1.11	0.11	0.72	0.62	0.36
Control Delay	64.7	49.5	7.2	76.2	204.6	18.3	57.7	94.1	0.3	57.1	27.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	49.5	7.2	76.2	204.6	18.3	57.7	94.1	0.3	57.1	27.9	3.8
LOS	E	D	A	E	F	B	E	F	A	E	C	A
Approach Delay		48.0			97.7			86.2			29.2	
Approach LOS		D			F			F			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.3	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.28	
Intersection Signal Delay: 62.1	Intersection LOS: E
Intersection Capacity Utilization 90.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	420	294	184	31	205	268	181	1351	64	269	809	252
Future Volume (veh/h)	420	294	184	31	205	268	181	1351	64	269	809	252
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	483	338	158	36	236	84	208	1553	63	309	930	146
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	539	437	370	48	191	162	269	1450	615	372	1564	663
Arrive On Green	0.17	0.25	0.25	0.03	0.11	0.11	0.08	0.61	0.41	0.12	0.66	0.44
Sat Flow, veh/h	3188	1772	1502	1594	1772	1502	3188	3544	1502	3188	3544	1502
Grp Volume(v), veh/h	483	338	158	36	236	84	208	1553	63	309	930	146
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1594	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	16.2	19.4	9.7	2.5	11.8	5.8	7.0	44.8	2.8	10.4	16.0	6.6
Cycle Q Clear(g_c), s	16.2	19.4	9.7	2.5	11.8	5.8	7.0	44.8	2.8	10.4	16.0	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	539	437	370	48	191	162	269	1450	615	372	1564	663
V/C Ratio(X)	0.90	0.77	0.43	0.74	1.24	0.52	0.77	1.07	0.10	0.83	0.59	0.22
Avail Cap(c_a), veh/h	594	437	370	79	191	162	652	1450	615	623	1564	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	38.4	34.7	52.6	48.8	46.1	49.1	21.1	19.9	47.3	13.0	18.9
Incr Delay (d2), s/veh	14.5	8.4	0.8	8.1	142.7	2.9	1.8	45.1	0.1	1.9	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	9.0	3.5	1.1	12.6	2.2	2.7	20.5	0.9	4.0	4.5	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	46.8	35.5	60.7	191.5	49.1	50.9	66.2	20.0	49.2	13.7	19.1
LnGrp LOS	E	D	D	E	F	D	D	F	C	D	B	B
Approach Vol, veh/h		979			356			1824			1385	
Approach Delay, s/veh		51.0			144.7			62.9			22.2	
Approach LOS		D			F			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.4	51.0	7.9	33.2	13.9	54.5	23.1	18.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	44.8	5.4	26.8	22.4	43.8	20.4	11.8
Max Q Clear Time (g_c+I1), s	12.4	46.8	4.5	21.4	9.0	18.0	18.2	13.8
Green Ext Time (p_c), s	0.4	0.0	0.0	1.1	0.3	6.8	0.3	0.0

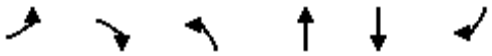
Intersection Summary	
HCM 6th Ctrl Delay	54.3
HCM 6th LOS	D

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	166	57	1450	909
Future Volume (vph)	166	57	1450	909
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	35.0	85.0	85.0	85.0
Total Split (%)	29.2%	70.8%	70.8%	70.8%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Min	Min	Min
Act Effct Green (s)	23.3		62.7	62.7
Actuated g/C Ratio	0.24		0.66	0.66
v/c Ratio	0.79		0.84	0.48
Control Delay	46.8		17.5	9.1
Queue Delay	0.0		0.0	0.0
Total Delay	46.8		17.5	9.1
LOS	D		B	A
Approach Delay	46.8		17.5	9.1
Approach LOS	D		B	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 95.7	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 17.8	Intersection LOS: B
Intersection Capacity Utilization 98.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	166	139	57	1450	909	68
Future Volume (veh/h)	166	139	57	1450	909	68
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	158	65	1648	1033	77
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	217	181	104	2108	2161	161
Arrive On Green	0.24	0.24	0.64	0.64	0.64	0.64
Sat Flow, veh/h	916	766	82	3269	3446	250
Grp Volume(v), veh/h	348	0	874	839	547	563
Grp Sat Flow(s),veh/h/ln	1687	0	1650	1702	1777	1825
Q Serve(g_s), s	15.0	0.0	13.7	26.2	12.0	12.0
Cycle Q Clear(g_c), s	15.0	0.0	27.9	26.2	12.0	12.0
Prop In Lane	0.54	0.45	0.07			0.14
Lane Grp Cap(c), veh/h	399	0	1115	1097	1146	1177
V/C Ratio(X)	0.87	0.00	0.78	0.76	0.48	0.48
Avail Cap(c_a), veh/h	678	0	1764	1807	1886	1938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	9.3	9.4	6.9	6.9
Incr Delay (d2), s/veh	6.5	0.0	1.3	1.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	6.5	6.5	3.0	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.4	0.0	10.5	10.6	7.2	7.2
LnGrp LOS	C	A	B	B	A	A
Approach Vol, veh/h	348			1713	1110	
Approach Delay, s/veh	34.4			10.6	7.2	
Approach LOS	C			B	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		53.4		22.4		53.4
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		80.5		30.5		80.5
Max Q Clear Time (g_c+I1), s		29.9		17.0		14.0
Green Ext Time (p_c), s		19.0		0.9		8.0

Intersection Summary		
HCM 6th Ctrl Delay		12.0
HCM 6th LOS		B

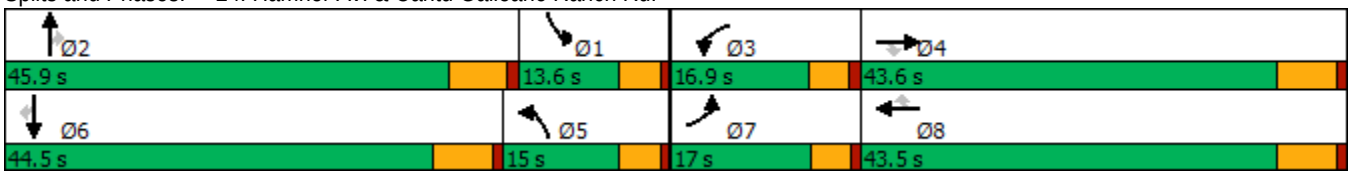
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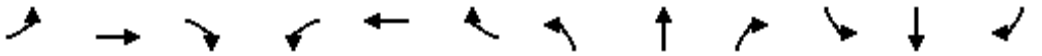
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	471	1721	268	336	2085	312	405	697	451	248	298	477
Future Volume (vph)	471	1721	268	336	2085	312	405	697	451	248	298	477
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	43.5	43.5	9.6	43.5	43.5	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	17.0	43.6	43.6	16.9	43.5	43.5	15.0	45.9	45.9	13.6	44.5	44.5
Total Split (%)	14.2%	36.3%	36.3%	14.1%	36.3%	36.3%	12.5%	38.3%	38.3%	11.3%	37.1%	37.1%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	12.5	37.3	37.3	12.4	37.2	37.2	21.1	27.3	27.3	9.1	15.3	15.3
Actuated g/C Ratio	0.12	0.35	0.35	0.11	0.34	0.34	0.20	0.25	0.25	0.08	0.14	0.14
v/c Ratio	1.20	0.70	0.38	0.86	0.85	0.48	0.61	0.51	0.82	0.87	0.29	0.59
Control Delay	154.6	33.3	5.2	69.9	37.7	14.0	45.4	35.4	30.9	78.7	41.4	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	154.6	33.3	5.2	69.9	37.7	14.0	45.4	35.4	30.9	78.7	41.4	8.0
LOS	F	C	A	E	D	B	D	D	C	E	D	A
Approach Delay		53.5			39.0			36.7			34.9	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.1	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 42.6	Intersection LOS: D
Intersection Capacity Utilization 82.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1721	268	336	2085	312	405	697	451	248	298	477
Future Volume (veh/h)	471	1721	268	336	2085	312	405	697	451	248	298	477
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	491	1793	278	350	2172	324	422	726	158	258	310	289
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	452	2795	592	418	2724	577	601	1087	307	325	871	369
Arrive On Green	0.13	0.37	0.37	0.12	0.36	0.36	0.17	0.19	0.19	0.09	0.12	0.12
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	491	1793	278	350	2172	324	422	726	158	258	310	289
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	12.4	19.3	7.2	9.4	25.4	10.8	10.9	11.7	6.3	6.9	3.7	6.3
Cycle Q Clear(g_c), s	12.4	19.3	7.2	9.4	25.4	10.8	10.9	11.7	6.3	6.9	3.7	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	452	2795	592	418	2724	577	601	1087	307	325	871	369
V/C Ratio(X)	1.09	0.64	0.47	0.84	0.80	0.56	0.70	0.67	0.51	0.79	0.36	0.78
Avail Cap(c_a), veh/h	452	2839	601	448	2831	600	601	2278	644	328	2931	1242
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.7	25.2	7.0	42.2	27.9	11.4	38.3	36.5	18.2	43.5	39.8	22.5
Incr Delay (d2), s/veh	67.8	0.5	0.6	11.4	1.6	1.1	3.1	0.7	1.3	11.5	0.2	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	7.8	4.0	4.5	10.4	5.1	4.8	5.1	3.1	3.4	1.6	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.4	25.7	7.6	53.7	29.5	12.5	41.5	37.2	19.5	55.0	40.1	26.1
LnGrp LOS	F	C	A	D	C	B	D	D	B	D	D	C
Approach Vol, veh/h		2562			2846			1306			857	
Approach Delay, s/veh		40.0			30.5			36.4			39.8	
Approach LOS		D			C			D			D	

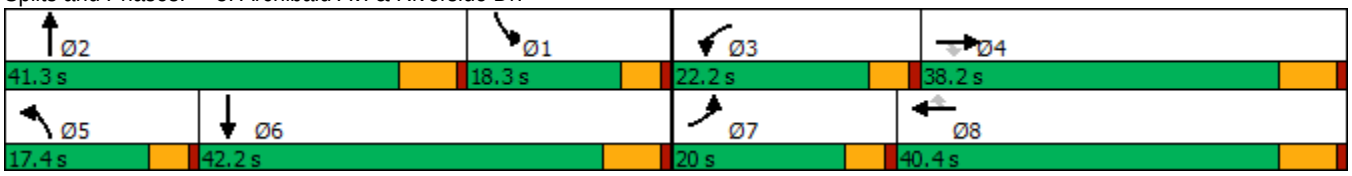
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	25.1	16.1	43.0	21.1	17.6	17.0	42.1
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	9.0	39.7	12.3	37.1	10.4	38.3	12.4	37.0
Max Q Clear Time (g_c+I1), s	8.9	13.7	11.4	21.3	12.9	8.3	14.4	27.4
Green Ext Time (p_c), s	0.0	5.2	0.1	10.8	0.0	3.0	0.0	8.2

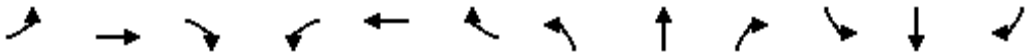
Intersection Summary	
HCM 6th Ctrl Delay	35.8
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	183	692	370	222	517	204	303	1114	323	1145
Future Volume (vph)	183	692	370	222	517	204	303	1114	323	1145
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	20.0	38.2	38.2	22.2	40.4	40.4	17.4	41.3	18.3	42.2
Total Split (%)	16.7%	31.8%	31.8%	18.5%	33.7%	33.7%	14.5%	34.4%	15.3%	35.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	15.1	29.6	29.6	17.6	32.1	32.1	12.8	34.4	14.5	36.0
Actuated g/C Ratio	0.13	0.25	0.25	0.15	0.27	0.27	0.11	0.29	0.12	0.31
v/c Ratio	0.92	0.84	0.65	0.96	0.58	0.38	0.93	0.92	0.88	0.95
Control Delay	97.2	51.6	16.2	99.7	39.7	6.5	86.3	51.3	75.5	54.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.2	51.6	16.2	99.7	39.7	6.5	86.3	51.3	75.5	54.4
LOS	F	D	B	F	D	A	F	D	E	D
Approach Delay		47.8			46.7			58.1		58.4
Approach LOS		D			D			E		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 53.9	Intersection LOS: D
Intersection Capacity Utilization 92.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	692	370	222	517	204	303	1114	141	323	1145	216
Future Volume (veh/h)	183	692	370	222	517	204	303	1114	141	323	1145	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	187	706	194	227	528	106	309	1137	73	330	1168	118
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	835	363	242	902	401	342	1303	84	366	1349	136
Arrive On Green	0.13	0.25	0.25	0.15	0.27	0.27	0.11	0.28	0.28	0.12	0.30	0.30
Sat Flow, veh/h	1594	3367	1464	1594	3367	1495	3092	4640	298	3092	4460	450
Grp Volume(v), veh/h	187	706	194	227	528	106	309	790	420	330	844	442
Grp Sat Flow(s),veh/h/ln	1594	1683	1464	1594	1683	1495	1546	1612	1712	1546	1612	1686
Q Serve(g_s), s	13.3	23.1	13.3	16.3	15.8	4.5	11.4	27.0	27.0	12.2	28.6	28.7
Cycle Q Clear(g_c), s	13.3	23.1	13.3	16.3	15.8	4.5	11.4	27.0	27.0	12.2	28.6	28.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.27
Lane Grp Cap(c), veh/h	211	835	363	242	902	401	342	906	481	366	975	510
V/C Ratio(X)	0.89	0.85	0.53	0.94	0.59	0.26	0.90	0.87	0.87	0.90	0.87	0.87
Avail Cap(c_a), veh/h	212	931	405	242	995	442	342	978	520	366	1003	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	41.4	37.7	48.5	36.8	16.0	50.8	39.6	39.6	50.3	38.1	38.1
Incr Delay (d2), s/veh	32.1	6.7	1.2	40.1	0.7	0.3	25.5	8.3	14.4	23.9	7.9	14.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	9.9	4.7	8.9	6.3	2.2	5.5	11.2	12.7	5.7	11.7	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.4	48.0	38.9	88.6	37.5	16.3	76.3	47.9	54.1	74.2	46.1	52.1
LnGrp LOS	F	D	D	F	D	B	E	D	D	E	D	D
Approach Vol, veh/h		1087			861			1519			1616	
Approach Delay, s/veh		52.2			48.4			55.4			53.5	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.9	38.7	22.2	34.9	17.4	41.2	19.9	37.2
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	13.7	* 35	17.6	32.0	12.8	36.0	15.4	34.2
Max Q Clear Time (g_c+I1), s	14.2	29.0	18.3	25.1	13.4	30.7	15.3	17.8
Green Ext Time (p_c), s	0.0	3.4	0.0	2.8	0.0	3.3	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	52.9
HCM 6th LOS	D

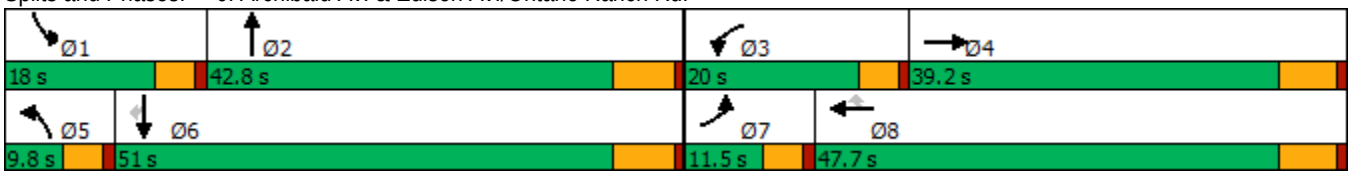
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1028	293	444	577	286	105	1047	561	394	1111	66
Future Volume (vph)	105	1028	293	444	577	286	105	1047	561	394	1111	66
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	11.5	39.2		20.0	47.7	47.7	9.8	42.8		18.0	51.0	51.0
Total Split (%)	9.6%	32.7%		16.7%	39.8%	39.8%	8.2%	35.7%		15.0%	42.5%	42.5%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	6.7	29.0	110.2	15.5	37.8	37.8	5.2	30.2	110.2	13.5	38.5	38.5
Actuated g/C Ratio	0.06	0.26	1.00	0.14	0.34	0.34	0.05	0.27	1.00	0.12	0.35	0.35
v/c Ratio	0.62	0.78	0.21	1.11	0.50	0.47	0.74	0.76	0.39	1.10	0.63	0.11
Control Delay	67.8	42.4	0.3	123.7	30.9	12.4	82.1	40.6	0.8	123.5	31.9	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	42.4	0.3	123.7	30.9	12.4	82.1	40.6	0.8	123.5	31.9	0.4
LOS	E	D	A	F	C	B	F	D	A	F	C	A
Approach Delay		35.6			58.4			30.1			53.6	
Approach LOS		D			E			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.2	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.11	
Intersection Signal Delay: 43.7	Intersection LOS: D
Intersection Capacity Utilization 88.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	1028	293	444	577	286	105	1047	561	394	1111	66
Future Volume (veh/h)	105	1028	293	444	577	286	105	1047	561	394	1111	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	111	1082	0	467	607	259	111	1102	0	415	1169	50
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	1363		436	1235	523	157	1408		391	1820	514
Arrive On Green	0.05	0.26	0.00	0.15	0.35	0.35	0.05	0.26	0.00	0.13	0.34	0.34
Sat Flow, veh/h	3000	5316	1502	3000	3544	1500	3188	5316	1502	3092	5316	1502
Grp Volume(v), veh/h	111	1082	0	467	607	259	111	1102	0	415	1169	50
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1546	1772	1502
Q Serve(g_s), s	3.9	20.1	0.0	15.4	14.3	14.4	3.6	20.4	0.0	13.4	19.6	2.4
Cycle Q Clear(g_c), s	3.9	20.1	0.0	15.4	14.3	14.4	3.6	20.4	0.0	13.4	19.6	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	1363		436	1235	523	157	1408		391	1820	514
V/C Ratio(X)	0.69	0.79		1.07	0.49	0.50	0.71	0.78		1.06	0.64	0.10
Avail Cap(c_a), veh/h	195	1656		436	1389	588	157	1822		391	2234	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	36.8	0.0	45.3	27.1	27.2	49.6	36.1	0.0	46.3	29.4	23.7
Incr Delay (d2), s/veh	5.1	2.3	0.0	63.2	0.3	0.7	12.0	1.7	0.0	62.5	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	8.5	0.0	9.3	5.7	4.9	1.6	8.4	0.0	8.3	7.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	39.0	0.0	108.4	27.4	27.9	61.6	37.8	0.0	108.7	29.8	23.8
LnGrp LOS	D	D		F	C	C	E	D		F	C	C
Approach Vol, veh/h		1193			1333			1213			1634	
Approach Delay, s/veh		40.5			55.9			40.0			49.7	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	34.5	20.0	33.4	9.8	42.7	10.2	43.1
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	13.4	36.3	15.4	33.0	5.2	44.5	6.9	41.5
Max Q Clear Time (g_c+I1), s	15.4	22.4	17.4	22.1	5.6	21.6	5.9	16.4
Green Ext Time (p_c), s	0.0	5.7	0.0	4.9	0.0	7.8	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	47.0
HCM 6th LOS	D

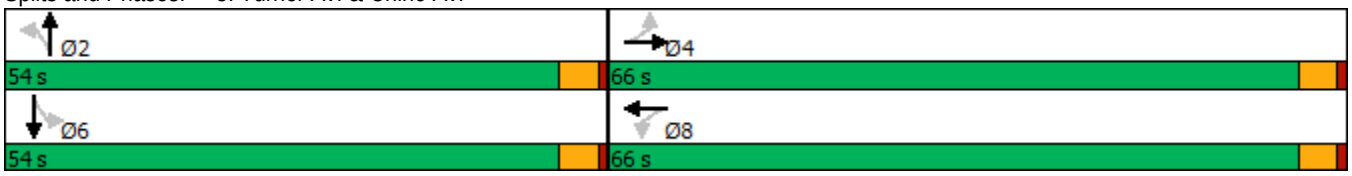
Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	103	306	58	216	22	139	86	217
Future Volume (vph)	103	306	58	216	22	139	86	217
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	66.0	66.0	66.0	66.0	54.0	54.0	54.0	54.0
Total Split (%)	55.0%	55.0%	55.0%	55.0%	45.0%	45.0%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	10.4	10.4	10.4	10.4	9.5	9.5	9.5	9.5
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.32	0.32	0.32	0.32
v/c Ratio	0.35	0.34	0.21	0.28	0.08	0.21	0.28	0.27
Control Delay	11.2	7.7	9.4	6.2	8.5	6.0	10.7	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	7.7	9.4	6.2	8.5	6.0	10.7	7.8
LOS	B	A	A	A	A	A	B	A
Approach Delay		8.5		6.7		6.2		8.5
Approach LOS		A		A		A		A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 29.5	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.35	
Intersection Signal Delay: 7.7	Intersection LOS: A
Intersection Capacity Utilization 46.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Turner Av. & Chino Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	306	59	58	216	93	22	139	64	86	217	47
Future Volume (veh/h)	103	306	59	58	216	93	22	139	64	86	217	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.95	0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	112	333	64	63	235	101	24	151	70	93	236	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	537	1018	193	512	835	348	500	677	296	523	834	177
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	934	2822	536	883	2316	965	977	2244	980	1021	2763	586
Grp Volume(v), veh/h	112	197	200	63	169	167	24	111	110	93	142	145
Grp Sat Flow(s),veh/h/ln	934	1683	1675	883	1683	1598	977	1683	1540	1021	1683	1666
Q Serve(g_s), s	2.6	2.3	2.3	1.5	1.9	2.0	0.5	1.3	1.4	2.0	1.7	1.8
Cycle Q Clear(g_c), s	4.6	2.3	2.3	3.8	1.9	2.0	2.3	1.3	1.4	3.4	1.7	1.8
Prop In Lane	1.00		0.32	1.00		0.60	1.00		0.64	1.00		0.35
Lane Grp Cap(c), veh/h	537	607	604	512	607	576	500	508	465	523	508	503
V/C Ratio(X)	0.21	0.32	0.33	0.12	0.28	0.29	0.05	0.22	0.24	0.18	0.28	0.29
Avail Cap(c_a), veh/h	2356	3883	3865	2232	3883	3687	2019	3125	2860	2110	3125	3094
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.7	6.2	6.2	7.6	6.1	6.1	8.0	7.0	7.0	8.3	7.1	7.1
Incr Delay (d2), s/veh	0.2	0.3	0.3	0.1	0.2	0.3	0.0	0.2	0.3	0.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.4	0.2	0.3	0.3	0.1	0.2	0.2	0.2	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.9	6.5	6.5	7.7	6.3	6.4	8.0	7.2	7.3	8.5	7.4	7.4
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		509			399			245			380	
Approach Delay, s/veh		6.8			6.5			7.3			7.7	
Approach LOS		A			A			A			A	

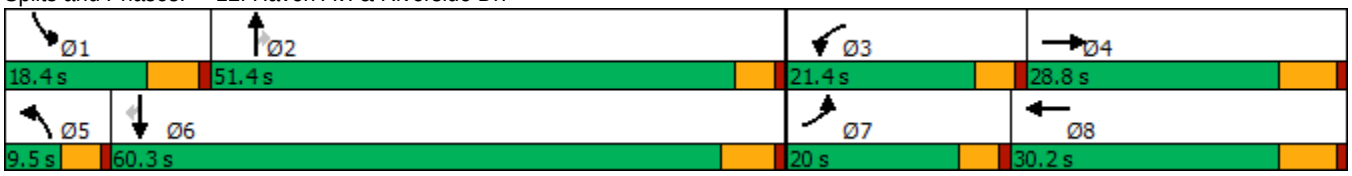
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.5		14.1		12.5		14.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		49.5		61.5		49.5		61.5				
Max Q Clear Time (g_c+I1), s		4.3		6.6		5.4		5.8				
Green Ext Time (p_c), s		1.4		3.0		2.0		2.4				

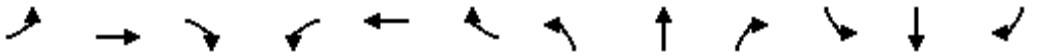
Intersection Summary												
HCM 6th Ctrl Delay			7.0									
HCM 6th LOS			A									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	349	460	197	455	57	1003	184	147	1293	399
Future Volume (vph)	349	460	197	455	57	1003	184	147	1293	399
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	9.5	23.7	23.7	15.8	24.8	24.8
Total Split (s)	20.0	28.8	21.4	30.2	9.5	51.4	51.4	18.4	60.3	60.3
Total Split (%)	16.7%	24.0%	17.8%	25.2%	7.9%	42.8%	42.8%	15.3%	50.3%	50.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.5	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.5	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	14.9	25.6	11.8	22.5	5.0	42.8	42.8	12.7	50.6	50.6
Actuated g/C Ratio	0.13	0.22	0.10	0.20	0.04	0.37	0.37	0.11	0.44	0.44
v/c Ratio	0.88	0.74	0.63	0.87	0.86	0.79	0.28	0.87	0.86	0.48
Control Delay	72.9	47.7	58.8	57.6	130.3	37.0	4.5	93.5	35.7	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.9	47.7	58.8	57.6	130.3	37.0	4.5	93.5	35.7	5.2
LOS	E	D	E	E	F	D	A	F	D	A
Approach Delay		57.4		57.9		36.4			33.7	
Approach LOS		E		E		D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.3	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 42.8	Intersection LOS: D
Intersection Capacity Utilization 88.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	349	460	96	197	455	122	57	1003	184	147	1293	399
Future Volume (veh/h)	349	460	96	197	455	122	57	1003	184	147	1293	399
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	364	479	58	205	474	65	59	1045	119	153	1347	190
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	419	732	88	266	574	78	73	1242	526	180	1525	645
Arrive On Green	0.20	0.35	0.35	0.13	0.28	0.28	0.07	0.53	0.53	0.17	0.65	0.65
Sat Flow, veh/h	3188	3095	373	3188	3042	415	1594	3544	1502	1594	3544	1500
Grp Volume(v), veh/h	364	273	264	205	275	264	59	1045	119	153	1347	190
Grp Sat Flow(s),veh/h/ln	1594	1772	1696	1594	1772	1685	1594	1772	1502	1594	1772	1500
Q Serve(g_s), s	11.4	13.4	13.5	6.4	15.0	15.2	3.8	25.9	4.4	9.6	32.4	5.7
Cycle Q Clear(g_c), s	11.4	13.4	13.5	6.4	15.0	15.2	3.8	25.9	4.4	9.6	32.4	5.7
Prop In Lane	1.00		0.22	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	419	419	401	266	334	318	73	1242	526	180	1525	645
V/C Ratio(X)	0.87	0.65	0.66	0.77	0.82	0.83	0.81	0.84	0.23	0.85	0.88	0.29
Avail Cap(c_a), veh/h	475	419	401	518	411	391	77	1601	678	194	1868	790
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	29.8	29.8	44.3	35.5	35.5	47.7	22.1	17.0	42.1	16.2	11.5
Incr Delay (d2), s/veh	13.2	3.6	3.9	1.8	10.6	11.8	44.3	3.3	0.2	27.1	4.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	5.2	5.1	2.4	6.5	6.3	2.4	9.3	1.4	4.8	8.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	33.3	33.7	46.1	46.1	47.4	92.1	25.4	17.2	69.2	20.8	11.7
LnGrp LOS	D	C	C	D	D	D	F	C	B	E	C	B
Approach Vol, veh/h		901			744			1223			1690	
Approach Delay, s/veh		41.7			46.5			27.8			24.2	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	42.0	13.2	30.7	9.2	50.3	18.2	25.7
Change Period (Y+Rc), s	5.8	* 5.8	4.6	6.2	4.5	5.8	4.6	6.2
Max Green Setting (Gmax), s	12.6	* 47	16.8	22.6	5.0	54.5	15.4	24.0
Max Q Clear Time (g_c+I1), s	11.6	27.9	8.4	15.5	5.8	34.4	13.4	17.2
Green Ext Time (p_c), s	0.0	7.9	0.2	1.6	0.0	10.1	0.2	1.6

Intersection Summary	
HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

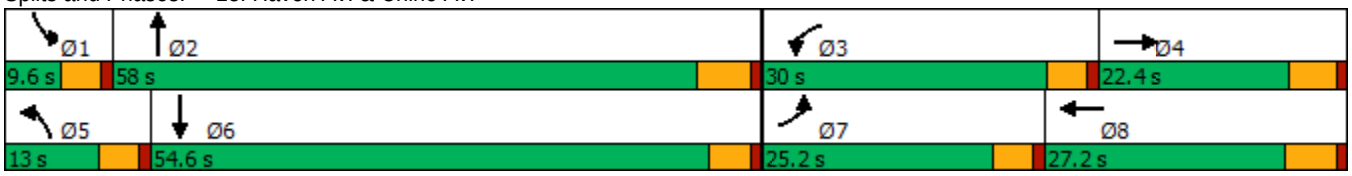
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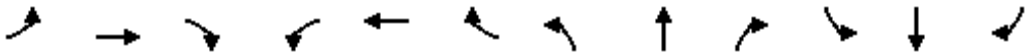
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	196	125	432	116	113	1067	1453	
Future Volume (vph)	196	125	432	116	113	1067	1453	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	25.2	22.4	30.0	27.2	13.0	58.0	54.6	9.6
Total Split (%)	21.0%	18.7%	25.0%	22.7%	10.8%	48.3%	45.5%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	18.4	17.0	25.4	23.6	8.4	61.8	49.9	
Actuated g/C Ratio	0.15	0.14	0.21	0.20	0.07	0.52	0.42	
v/c Ratio	0.85	0.96	1.26	0.35	1.08	0.79	1.17	
Control Delay	78.6	89.6	175.3	45.7	161.7	27.2	117.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	78.6	89.6	175.3	45.7	161.7	27.2	117.3	
LOS	E	F	F	D	F	C	F	
Approach Delay		84.7		147.9		37.7	117.3	
Approach LOS		F		F		D	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.26	
Intersection Signal Delay: 89.7	Intersection LOS: F
Intersection Capacity Utilization 108.7%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	125	118	432	116	0	113	1067	261	0	1453	163
Future Volume (veh/h)	196	125	118	432	116	0	113	1067	261	0	1453	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	206	136	66	470	126	0	119	1123	143	0	1529	88
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	155	75	377	369	0	111	1614	205	1	1379	79
Arrive On Green	0.14	0.13	0.13	0.21	0.20	0.00	0.07	0.79	0.52	0.00	0.62	0.42
Sat Flow, veh/h	1594	1189	577	1781	1870	0	1594	3082	392	1781	3319	190
Grp Volume(v), veh/h	206	0	202	470	126	0	119	645	621	0	813	804
Grp Sat Flow(s),veh/h/ln	1594	0	1766	1781	1870	0	1594	1772	1701	1781	1772	1738
Q Serve(g_s), s	15.3	0.0	13.5	25.4	7.0	0.0	8.4	20.7	24.4	0.0	49.9	49.9
Cycle Q Clear(g_c), s	15.3	0.0	13.5	25.4	7.0	0.0	8.4	20.7	24.4	0.0	49.9	49.9
Prop In Lane	1.00		0.33	1.00		0.00	1.00		0.23	1.00		0.11
Lane Grp Cap(c), veh/h	230	0	230	377	369	0	111	928	891	1	736	722
V/C Ratio(X)	0.90	0.00	0.88	1.25	0.34	0.00	1.07	0.69	0.70	0.00	1.10	1.11
Avail Cap(c_a), veh/h	273	0	250	377	369	0	111	928	891	74	736	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	0.0	51.3	47.4	41.5	0.0	55.9	8.4	11.2	0.0	22.6	24.0
Incr Delay (d2), s/veh	24.3	0.0	26.6	131.9	0.5	0.0	104.7	2.3	2.4	0.0	65.6	69.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	0.0	7.6	24.7	3.2	0.0	6.5	4.9	6.2	0.0	29.5	30.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	0.0	78.0	179.3	42.0	0.0	160.5	10.6	13.6	0.0	88.2	93.3
LnGrp LOS	E	A	E	F	D	A	F	B	B	A	F	F
Approach Vol, veh/h		408			596			1385			1617	
Approach Delay, s/veh		76.4			150.3			24.9			90.8	
Approach LOS		E			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	68.7	30.0	21.4	13.0	55.7	21.9	29.5
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	52.2	25.4	* 17	8.4	* 50	20.6	21.4
Max Q Clear Time (g_c+I1), s	0.0	26.4	27.4	15.5	10.4	51.9	17.3	9.0
Green Ext Time (p_c), s	0.0	8.9	0.0	0.1	0.0	0.0	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	75.4
HCM 6th LOS	E

Notes

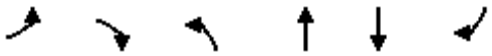
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	58	132	176	1328	1868
Future Volume (vph)	58	132	176	1328	1868
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	27.8	27.8	19.0	92.2	73.2
Total Split (%)	23.2%	23.2%	15.8%	76.8%	61.0%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.6	12.6	14.4	86.5	67.5
Actuated g/C Ratio	0.11	0.11	0.13	0.78	0.61
v/c Ratio	0.37	0.50	1.00	0.59	1.05
Control Delay	51.1	13.0	111.2	6.5	55.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	13.0	111.2	6.5	55.3
LOS	D	B	F	A	E
Approach Delay	24.6			18.8	55.3
Approach LOS	C			B	E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 38.5	Intersection LOS: D
Intersection Capacity Utilization 89.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	132	176	1328	1868	59
Future Volume (veh/h)	58	132	176	1328	1868	59
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	67	84	205	1544	2172	69
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	146	138	213	2696	2134	67
Arrive On Green	0.09	0.09	0.13	0.80	0.62	0.62
Sat Flow, veh/h	1594	1502	1594	3455	3416	108
Grp Volume(v), veh/h	67	84	205	1544	1121	1121
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1683	1772	1752
Q Serve(g_s), s	4.3	5.8	13.8	18.2	67.4	67.4
Cycle Q Clear(g_c), s	4.3	5.8	13.8	18.2	67.4	67.4
Prop In Lane	1.00	1.00	1.00			0.06
Lane Grp Cap(c), veh/h	146	138	213	2696	1107	1095
V/C Ratio(X)	0.46	0.61	0.96	0.57	1.01	1.02
Avail Cap(c_a), veh/h	325	306	213	2696	1107	1095
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	47.1	46.5	4.0	20.2	20.2
Incr Delay (d2), s/veh	2.2	4.3	50.9	0.3	30.1	33.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.0	8.3	3.5	31.9	32.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.7	51.5	97.4	4.2	50.4	53.6
LnGrp LOS	D	D	F	A	F	F
Approach Vol, veh/h	151			1749	2241	
Approach Delay, s/veh	50.2			15.2	52.0	
Approach LOS	D			B	D	

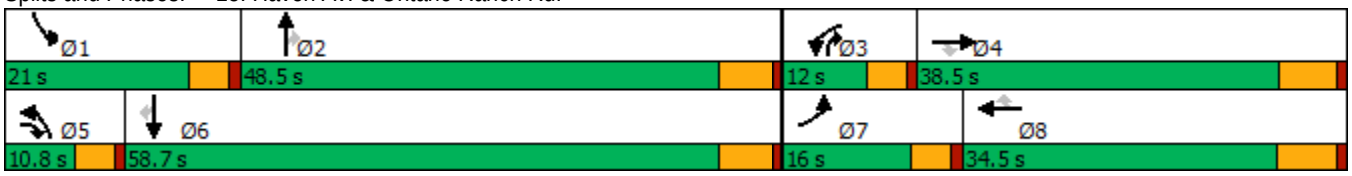
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		92.2		15.7	19.0	73.2
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		86.4		22.0	14.4	67.4
Max Q Clear Time (g_c+I1), s		20.2		7.8	15.8	69.4
Green Ext Time (p_c), s		17.3		0.3	0.0	0.0

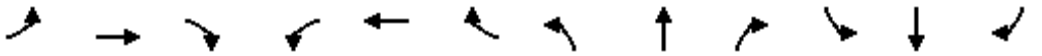
Intersection Summary		
HCM 6th Ctrl Delay		36.4
HCM 6th LOS		D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	490	1657	38	249	1299	651	19	368	77	765	602	295
Future Volume (vph)	490	1657	38	249	1299	651	19	368	77	765	602	295
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	9.6	9.6	34.5	34.5	9.6	47.8	9.6	9.6	45.8	45.8
Total Split (s)	16.0	38.5	10.8	12.0	34.5	34.5	10.8	48.5	12.0	21.0	58.7	58.7
Total Split (%)	13.3%	32.1%	9.0%	10.0%	28.8%	28.8%	9.0%	40.4%	10.0%	17.5%	48.9%	48.9%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.5	5.5	3.6	4.8	3.6	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.5	6.5	4.6	5.8	4.6	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	11.5	32.7	44.6	7.5	28.3	28.3	5.6	19.1	32.5	16.6	32.2	32.2
Actuated g/C Ratio	0.12	0.34	0.46	0.08	0.29	0.29	0.06	0.20	0.33	0.17	0.33	0.33
v/c Ratio	1.39	0.99	0.05	1.16	0.67	0.97	0.22	0.57	0.14	1.51	0.55	0.45
Control Delay	225.2	52.9	0.1	150.5	33.6	44.9	53.6	37.7	1.9	268.9	28.6	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	225.2	52.9	0.1	150.5	33.6	44.9	53.6	37.7	1.9	268.9	28.6	5.8
LOS	F	D	A	F	C	D	D	D	A	F	C	A
Approach Delay		90.6			50.2			32.3			135.2	
Approach LOS		F			D			C			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.51	
Intersection Signal Delay: 84.2	Intersection LOS: F
Intersection Capacity Utilization 95.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	490	1657	38	249	1299	651	19	368	77	765	602	295
Future Volume (veh/h)	490	1657	38	249	1299	651	19	368	77	765	602	295
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	521	1763	27	265	1382	188	20	391	32	814	640	165
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	1868	560	242	2181	462	35	546	353	571	1104	468
Arrive On Green	0.12	0.35	0.35	0.08	0.31	0.31	0.02	0.15	0.15	0.18	0.31	0.31
Sat Flow, veh/h	3188	5316	1502	3000	7088	1502	1594	3544	1502	3188	3544	1502
Grp Volume(v), veh/h	521	1763	27	265	1382	188	20	391	32	814	640	165
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1500	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	11.4	29.5	1.1	7.4	15.4	9.1	1.1	9.6	1.5	16.4	13.9	7.8
Cycle Q Clear(g_c), s	11.4	29.5	1.1	7.4	15.4	9.1	1.1	9.6	1.5	16.4	13.9	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	397	1868	560	242	2181	462	35	546	353	571	1104	468
V/C Ratio(X)	1.31	0.94	0.05	1.09	0.63	0.41	0.58	0.72	0.09	1.43	0.58	0.35
Avail Cap(c_a), veh/h	397	1874	562	242	2181	462	108	1652	821	571	2046	867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	28.8	18.3	42.1	27.3	25.1	44.4	36.8	27.4	37.6	26.5	24.4
Incr Delay (d2), s/veh	158.1	10.4	0.0	85.1	0.6	0.6	5.5	1.8	0.1	202.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	13.0	0.3	5.4	5.9	3.0	0.5	4.1	0.5	22.0	5.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	198.2	39.3	18.4	127.2	27.9	25.7	49.9	38.6	27.5	239.6	27.0	24.9
LnGrp LOS	F	D	B	F	C	C	D	D	C	F	C	C
Approach Vol, veh/h		2311			1835			443			1619	
Approach Delay, s/veh		74.8			42.0			38.3			133.7	
Approach LOS		E			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	19.9	12.0	38.7	6.6	34.3	16.0	34.7
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	16.4	42.7	7.4	* 32	6.2	52.9	11.4	28.0
Max Q Clear Time (g_c+I1), s	18.4	11.6	9.4	31.5	3.1	15.9	13.4	17.4
Green Ext Time (p_c), s	0.0	2.5	0.0	0.7	0.0	5.0	0.0	6.4

Intersection Summary	
HCM 6th Ctrl Delay	77.9
HCM 6th LOS	E

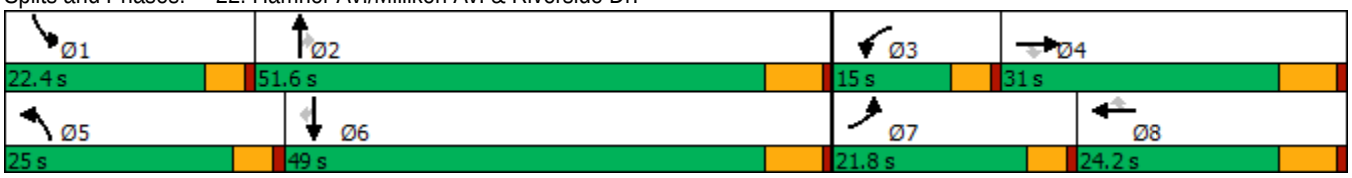
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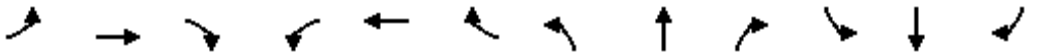
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	253	186	88	316	176	189	946	54	234	1236	466
Future Volume (vph)	313	253	186	88	316	176	189	946	54	234	1236	466
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	21.8	31.0	31.0	15.0	24.2	24.2	25.0	51.6	51.6	22.4	49.0	49.0
Total Split (%)	18.2%	25.8%	25.8%	12.5%	20.2%	20.2%	20.8%	43.0%	43.0%	18.7%	40.8%	40.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.8	23.5	23.5	9.3	18.1	18.1	11.3	42.5	42.5	12.9	44.1	44.1
Actuated g/C Ratio	0.13	0.21	0.21	0.08	0.16	0.16	0.10	0.39	0.39	0.12	0.40	0.40
v/c Ratio	0.77	0.71	0.42	0.69	1.15	0.46	0.61	0.73	0.09	0.66	0.92	0.60
Control Delay	59.5	52.3	8.4	76.6	142.3	10.5	56.1	33.3	0.3	55.9	43.5	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	52.3	8.4	76.6	142.3	10.5	56.1	33.3	0.3	55.9	43.5	9.2
LOS	E	D	A	E	F	B	E	C	A	E	D	A
Approach Delay		44.4			92.4			35.4			36.7	
Approach LOS		D			F			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 44.9	Intersection LOS: D
Intersection Capacity Utilization 87.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	313	253	186	88	316	176	189	946	54	234	1236	466
Future Volume (veh/h)	313	253	186	88	316	176	189	946	54	234	1236	466
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	329	266	155	93	333	147	199	996	52	246	1301	477
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	404	340	114	313	265	264	1384	586	311	1437	601
Arrive On Green	0.12	0.23	0.23	0.07	0.18	0.18	0.08	0.39	0.39	0.10	0.41	0.41
Sat Flow, veh/h	3188	1772	1490	1594	1772	1502	3188	3544	1500	3188	3544	1482
Grp Volume(v), veh/h	329	266	155	93	333	147	199	996	52	246	1301	477
Grp Sat Flow(s),veh/h/ln	1594	1772	1490	1594	1772	1502	1594	1772	1500	1594	1772	1482
Q Serve(g_s), s	10.3	13.9	9.1	5.9	18.0	9.1	6.2	24.3	2.2	7.7	35.2	28.8
Cycle Q Clear(g_c), s	10.3	13.9	9.1	5.9	18.0	9.1	6.2	24.3	2.2	7.7	35.2	28.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	404	340	114	313	265	264	1384	586	311	1437	601
V/C Ratio(X)	0.84	0.66	0.46	0.81	1.06	0.55	0.75	0.72	0.09	0.79	0.91	0.79
Avail Cap(c_a), veh/h	538	431	362	163	313	265	638	1578	668	556	1488	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	35.7	33.9	46.6	42.0	38.3	45.7	26.3	19.6	45.0	28.5	26.6
Incr Delay (d2), s/veh	6.2	3.4	1.0	12.7	69.0	2.5	1.6	1.4	0.1	1.7	8.1	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	6.0	3.2	2.6	13.4	3.4	2.4	9.6	0.7	3.0	15.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	39.1	34.9	59.3	111.0	40.8	47.4	27.7	19.7	46.7	36.6	33.4
LnGrp LOS	D	D	C	E	F	D	D	C	B	D	D	C
Approach Vol, veh/h		750			573			1247			2024	
Approach Delay, s/veh		43.0			84.6			30.5			37.1	
Approach LOS		D			F			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	46.0	11.9	29.5	13.0	47.5	17.2	24.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.8	45.4	10.4	24.8	20.4	42.8	17.2	18.0
Max Q Clear Time (g_c+I1), s	9.7	26.3	7.9	15.9	8.2	37.2	12.3	20.0
Green Ext Time (p_c), s	0.3	6.3	0.0	1.2	0.3	4.2	0.3	0.0

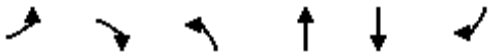
Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	109	129	1061	1327
Future Volume (vph)	109	129	1061	1327
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	23.0	97.0	97.0	97.0
Total Split (%)	19.2%	80.8%	80.8%	80.8%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Min	Min	Min
Act Effct Green (s)	15.2		71.2	71.2
Actuated g/C Ratio	0.16		0.74	0.74
v/c Ratio	0.73		0.92dl	0.63
Control Delay	52.0		16.4	7.0
Queue Delay	0.0		0.0	0.0
Total Delay	52.0		16.4	7.0
LOS	D		B	A
Approach Delay	52.0		16.4	7.0
Approach LOS	D		B	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 95.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 14.0	Intersection LOS: B
Intersection Capacity Utilization 97.5%	ICU Level of Service F
Analysis Period (min) 15	
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	109	86	129	1061	1327	164
Future Volume (veh/h)	109	86	129	1061	1327	164
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	95	142	1166	1458	180
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	137	109	178	1629	2442	298
Arrive On Green	0.15	0.15	0.77	0.77	0.77	0.77
Sat Flow, veh/h	939	743	172	2126	3281	390
Grp Volume(v), veh/h	216	0	417	891	806	832
Grp Sat Flow(s),veh/h/ln	1690	0	596	1702	1777	1800
Q Serve(g_s), s	12.8	0.0	42.8	26.4	20.0	20.6
Cycle Q Clear(g_c), s	12.8	0.0	63.4	26.4	20.0	20.6
Prop In Lane	0.56	0.44	0.34			0.22
Lane Grp Cap(c), veh/h	247	0	503	1304	1361	1379
V/C Ratio(X)	0.87	0.00	0.83	0.68	0.59	0.60
Avail Cap(c_a), veh/h	304	0	596	1533	1601	1622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	0.0	12.2	5.9	5.1	5.2
Incr Delay (d2), s/veh	20.2	0.0	8.2	1.0	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	0.0	5.3	5.8	4.4	4.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.1	0.0	20.5	6.9	5.6	5.7
LnGrp LOS	E	A	C	A	A	A
Approach Vol, veh/h	216			1308	1638	
Approach Delay, s/veh	63.1			11.2	5.6	
Approach LOS	E			B	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		83.2		19.5		83.2
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		92.5		18.5		92.5
Max Q Clear Time (g_c+I1), s		65.4		14.8		22.6
Green Ext Time (p_c), s		13.3		0.2		17.0

Intersection Summary		
HCM 6th Ctrl Delay		11.9
HCM 6th LOS		B

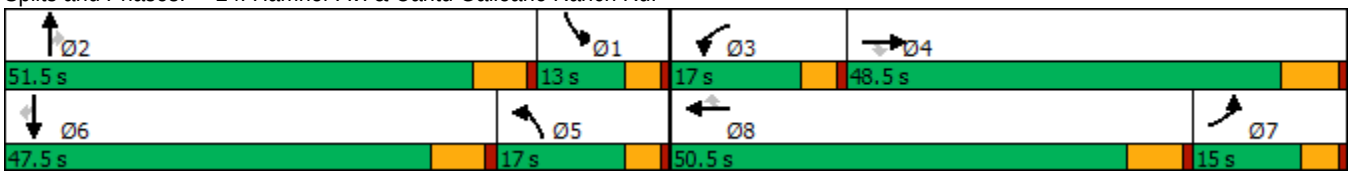
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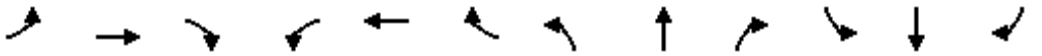
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	433	2047	451	517	1915	231	513	491	397	321	621	411
Future Volume (vph)	433	2047	451	517	1915	231	513	491	397	321	621	411
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	15.0	48.5	48.5	17.0	50.5	50.5	17.0	51.5	51.5	13.0	47.5	47.5
Total Split (%)	11.5%	37.3%	37.3%	13.1%	38.8%	38.8%	13.1%	39.6%	39.6%	10.0%	36.5%	36.5%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.1	42.2	42.2	12.5	41.6	41.6	13.1	22.6	22.6	10.9	20.5	20.5
Actuated g/C Ratio	0.12	0.38	0.38	0.11	0.38	0.38	0.12	0.20	0.20	0.10	0.19	0.19
v/c Ratio	1.07	0.75	0.65	1.35	0.71	0.33	1.27	0.45	0.80	0.95	0.47	0.50
Control Delay	112.4	32.5	21.8	210.6	31.4	5.8	180.7	38.7	29.0	88.7	40.5	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.4	32.5	21.8	210.6	31.4	5.8	180.7	38.7	29.0	88.7	40.5	11.2
LOS	F	C	C	F	C	A	F	D	C	F	D	B
Approach Delay		42.7			64.0			88.0			43.1	
Approach LOS		D			E			F			D	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 110.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.35	
Intersection Signal Delay: 57.1	Intersection LOS: E
Intersection Capacity Utilization 86.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	433	2047	451	517	1915	231	513	491	397	321	621	411
Future Volume (veh/h)	433	2047	451	517	1915	231	513	491	397	321	621	411
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	451	2132	262	539	1995	137	534	511	232	334	647	246
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	2873	609	438	2823	598	438	921	260	398	1144	485
Arrive On Green	0.11	0.38	0.38	0.12	0.38	0.38	0.12	0.16	0.16	0.11	0.15	0.15
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	451	2132	262	539	1995	137	534	511	232	334	647	246
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	11.2	24.8	7.6	12.4	22.8	5.9	12.4	8.4	10.5	9.3	8.1	7.2
Cycle Q Clear(g_c), s	11.2	24.8	7.6	12.4	22.8	5.9	12.4	8.4	10.5	9.3	8.1	7.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	2873	609	438	2823	598	438	921	260	398	1144	485
V/C Ratio(X)	1.14	0.74	0.43	1.23	0.71	0.23	1.22	0.55	0.89	0.84	0.57	0.51
Avail Cap(c_a), veh/h	395	3116	660	438	3264	692	438	2521	712	398	3064	1298
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	26.8	8.9	44.2	26.7	21.4	44.2	38.8	21.7	43.9	39.6	39.2
Incr Delay (d2), s/veh	90.3	0.9	0.5	122.3	0.6	0.2	117.7	0.5	10.2	13.9	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	10.1	3.9	12.6	9.2	2.0	12.3	3.7	4.3	4.6	3.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.2	27.7	9.3	166.5	27.3	21.6	161.9	39.3	31.9	57.8	40.0	40.0
LnGrp LOS	F	C	A	F	C	C	F	D	C	E	D	D
Approach Vol, veh/h		2845			2671			1277			1227	
Approach Delay, s/veh		43.0			55.1			89.2			44.9	
Approach LOS		D			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.9	22.7	17.0	45.2	17.0	21.6	17.7	44.5
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	6.5	* 6.5
Max Green Setting (Gmax), s	8.4	45.3	12.4	42.0	12.4	41.3	10.4	* 44
Max Q Clear Time (g_c+I1), s	11.3	12.5	14.4	26.8	14.4	10.1	13.2	24.8
Green Ext Time (p_c), s	0.0	4.1	0.0	12.0	0.0	5.3	0.0	13.2

Intersection Summary	
HCM 6th Ctrl Delay	54.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

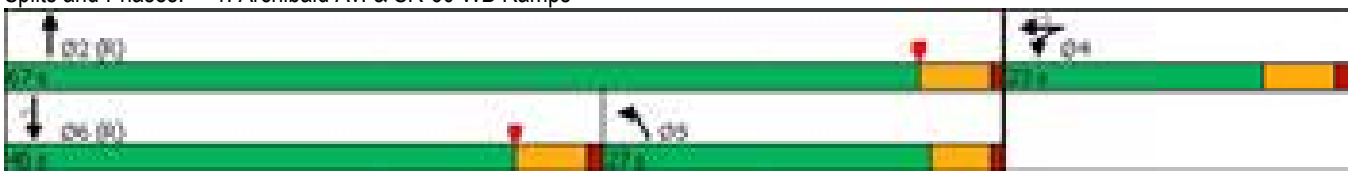
APPENDIX 7.1: HORIZON YEAR (2050) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	457	9	537	978	1339	562	194
Future Volume (vph)	457	9	537	978	1339	562	194
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	23.0	23.0	23.0	27.0	67.0	40.0	40.0
Total Split (%)	25.6%	25.6%	25.6%	30.0%	74.4%	44.4%	44.4%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	21.3	21.3	21.3	34.4	57.1	17.7	17.7
Actuated g/C Ratio	0.24	0.24	0.24	0.38	0.63	0.20	0.20
v/c Ratio	0.89	0.83	0.76	0.76	0.42	0.46	0.42
Control Delay	59.5	44.4	35.4	26.7	3.5	32.2	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	44.4	35.4	26.7	3.5	32.2	6.5
LOS	E	D	D	C	A	C	A
Approach Delay		46.7			13.3	25.6	
Approach LOS		D			B	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 23.8	Intersection LOS: C
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	457	9	537	978	1339	0	0	562	194
Future Volume (veh/h)	0	0	0	457	9	537	978	1339	0	0	562	194
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				637	0	338	998	1366	0	0	573	101
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				681	0	302	1610	3472	0	0	963	237
Arrive On Green				0.19	0.00	0.19	0.93	1.00	0.00	0.00	0.15	0.15
Sat Flow, veh/h				3563	0	1583	3456	5274	0	0	6696	1585
Grp Volume(v), veh/h				637	0	338	998	1366	0	0	573	101
Grp Sat Flow(s),veh/h/ln				1781	0	1583	1728	1702	0	0	1609	1585
Q Serve(g_s), s				15.9	0.0	17.2	4.2	0.0	0.0	0.0	7.5	5.2
Cycle Q Clear(g_c), s				15.9	0.0	17.2	4.2	0.0	0.0	0.0	7.5	5.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				681	0	302	1610	3472	0	0	963	237
V/C Ratio(X)				0.94	0.00	1.12	0.62	0.39	0.00	0.00	0.60	0.43
Avail Cap(c_a), veh/h				681	0	302	1610	3472	0	0	2445	602
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.64	0.64	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.9	0.0	36.4	1.8	0.0	0.0	0.0	35.7	34.8
Incr Delay (d2), s/veh				20.3	0.0	87.2	0.3	0.2	0.0	0.0	2.7	5.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.4	0.0	21.0	0.7	0.1	0.0	0.0	3.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				56.2	0.0	123.6	2.1	0.2	0.0	0.0	38.4	40.3
LnGrp LOS				E	A	F	A	A	A	A	D	D
Approach Vol, veh/h					975			2364			674	
Approach Delay, s/veh					79.5			1.0			38.7	
Approach LOS					E			A			D	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	67.0	23.0	47.7	19.3
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	61.2	17.2	22.0	* 34
Max Q Clear Time (g_c+I1), s	2.0	19.2	6.2	9.5
Green Ext Time (p_c), s	12.8	0.0	1.9	4.0

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Notes

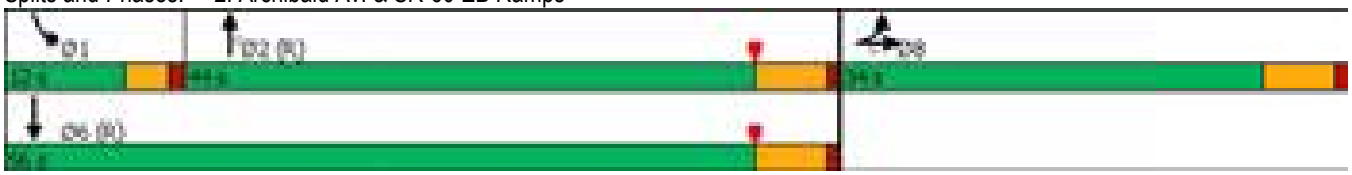
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	433	5	560	1886	701	183	862
Future Volume (vph)	433	5	560	1886	701	183	862
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	34.0	34.0	34.0	44.0	44.0	12.0	56.0
Total Split (%)	37.8%	37.8%	37.8%	48.9%	48.9%	13.3%	62.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	25.1	25.1	25.1	41.5	41.5	7.8	53.3
Actuated g/C Ratio	0.28	0.28	0.28	0.46	0.46	0.09	0.59
v/c Ratio	0.80	0.72	0.68	0.69	0.67	0.66	0.31
Control Delay	43.0	27.2	25.4	21.4	4.8	58.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	27.2	25.4	21.4	4.8	58.6	1.9
LOS	D	C	C	C	A	E	A
Approach Delay		32.1		16.9			11.8
Approach LOS		C		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 19.0	Intersection LOS: B
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	433	5	560	0	0	0	0	1886	701	183	862	0
Future Volume (veh/h)	433	5	560	0	0	0	0	1886	701	183	862	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	589	0	261				0	2028	574	197	927	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	745	0	327				0	3481	839	265	3381	0
Arrive On Green	0.21	0.00	0.21				0.00	0.54	0.54	0.15	1.00	0.00
Sat Flow, veh/h	3563	0	1562				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	589	0	261				0	2028	574	197	927	0
Grp Sat Flow(s),veh/h/ln	1781	0	1562				0	1609	1551	1728	1702	0
Q Serve(g_s), s	14.1	0.0	14.3				0.0	19.0	24.3	4.9	0.0	0.0
Cycle Q Clear(g_c), s	14.1	0.0	14.3				0.0	19.0	24.3	4.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	745	0	327				0	3481	839	265	3381	0
V/C Ratio(X)	0.79	0.00	0.80				0.00	0.58	0.68	0.74	0.27	0.00
Avail Cap(c_a), veh/h	1116	0	489				0	3481	839	307	3381	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.75	0.75	0.00
Uniform Delay (d), s/veh	33.7	0.0	33.8				0.0	13.8	15.0	37.3	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	5.5				0.0	0.7	4.5	4.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	5.6				0.0	5.9	8.1	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	39.3				0.0	14.6	19.6	42.1	0.2	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		850						2602			1124	
Approach Delay, s/veh		37.1						15.7			7.5	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	10.9	54.5				65.4		24.6				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	8.0	38.2				50.2		28.2				
Max Q Clear Time (g_c+I1), s	6.9	26.3				2.0		16.3				
Green Ext Time (p_c), s	0.0	10.0				6.8		2.5				

Intersection Summary			
HCM 6th Ctrl Delay			17.6
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	203	719	276	174	669	318	386	1739	265	744
Future Volume (vph)	203	719	276	174	669	318	386	1739	265	744
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	18.0	41.5	41.5	14.7	38.2	38.2	29.0	42.0	21.8	34.8
Total Split (%)	15.0%	34.6%	34.6%	12.3%	31.8%	31.8%	24.2%	35.0%	18.2%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.4	32.6	32.6	10.1	29.3	29.3	24.4	35.8	17.2	28.6
Actuated g/C Ratio	0.11	0.28	0.28	0.09	0.25	0.25	0.21	0.30	0.15	0.24
v/c Ratio	1.17	0.81	0.47	1.33	0.83	0.55	1.22	1.38	1.19	0.85
Control Delay	166.4	46.9	7.0	232.3	51.4	8.5	164.9	207.9	164.9	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	166.4	46.9	7.0	232.3	51.4	8.5	164.9	207.9	164.9	48.1
LOS	F	D	A	F	D	A	F	F	F	D
Approach Delay		57.9			66.7			200.7		73.5
Approach LOS		E			E			F		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.38	
Intersection Signal Delay: 119.0	Intersection LOS: F
Intersection Capacity Utilization 107.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	719	276	174	669	318	386	1739	190	265	744	211
Future Volume (veh/h)	203	719	276	174	669	318	386	1739	190	265	744	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	211	749	230	181	697	267	402	1811	195	276	775	180
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	908	399	136	814	356	329	1342	144	232	1001	230
Arrive On Green	0.11	0.27	0.27	0.09	0.24	0.24	0.21	0.30	0.30	0.15	0.26	0.26
Sat Flow, veh/h	1594	3367	1478	1594	3367	1474	1594	4428	474	1594	3918	901
Grp Volume(v), veh/h	211	749	230	181	697	267	402	1316	690	276	636	319
Grp Sat Flow(s),veh/h/ln	1594	1683	1478	1594	1683	1474	1594	1612	1678	1594	1612	1595
Q Serve(g_s), s	13.4	24.7	15.9	10.1	23.4	13.3	24.4	35.8	35.8	17.2	21.6	22.0
Cycle Q Clear(g_c), s	13.4	24.7	15.9	10.1	23.4	13.3	24.4	35.8	35.8	17.2	21.6	22.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		0.57
Lane Grp Cap(c), veh/h	181	908	399	136	814	356	329	977	508	232	824	408
V/C Ratio(X)	1.17	0.83	0.58	1.33	0.86	0.75	1.22	1.35	1.36	1.19	0.77	0.78
Avail Cap(c_a), veh/h	181	1006	441	136	912	399	329	977	508	232	824	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	40.5	37.3	54.0	42.8	18.6	46.9	41.2	41.2	50.5	40.8	40.9
Incr Delay (d2), s/veh	119.2	5.3	1.5	189.6	7.5	6.9	123.9	163.0	173.2	120.0	4.6	9.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	10.4	5.7	11.1	10.1	4.9	20.6	35.5	38.4	14.3	8.7	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	171.6	45.8	38.8	243.6	50.3	25.5	170.8	204.2	214.4	170.5	45.3	50.4
LnGrp LOS	F	D	D	F	D	C	F	F	F	F	D	D
Approach Vol, veh/h		1190			1145			2408			1231	
Approach Delay, s/veh		66.8			75.1			201.6			74.7	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.4	42.0	14.7	38.1	29.0	36.4	18.0	34.8
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.2	* 36	10.1	35.3	24.4	28.6	13.4	32.0
Max Q Clear Time (g_c+I1), s	19.2	37.8	12.1	26.7	26.4	24.0	15.4	25.4
Green Ext Time (p_c), s	0.0	0.0	0.0	3.5	0.0	2.3	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	124.3
HCM 6th LOS	F

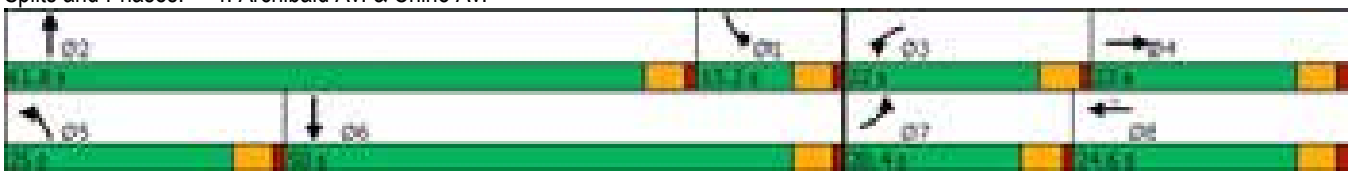
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	148	141	135	219	214	275	1775	85	840
Future Volume (vph)	148	141	135	219	214	275	1775	85	840
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	20.4	23.0	22.0	24.6	24.6	25.0	61.8	13.2	50.0
Total Split (%)	17.0%	19.2%	18.3%	20.5%	20.5%	20.8%	51.5%	11.0%	41.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	15.1	18.9	15.5	19.3	19.3	20.4	56.3	8.6	44.4
Actuated g/C Ratio	0.13	0.16	0.13	0.16	0.16	0.17	0.48	0.07	0.38
v/c Ratio	0.86	0.78	0.76	0.89	0.66	1.18	0.90	0.87	0.86
Control Delay	85.7	65.5	73.1	80.8	26.2	154.8	34.1	109.0	41.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.7	65.5	73.1	80.8	26.2	154.8	34.1	109.0	41.4
LOS	F	E	E	F	C	F	C	F	D
Approach Delay		74.4		58.4			49.3		46.9
Approach LOS		E		E			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.7	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 52.0	Intersection LOS: D
Intersection Capacity Utilization 82.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	141	47	135	219	214	275	1775	141	85	840	121
Future Volume (veh/h)	148	141	47	135	219	214	275	1775	141	85	840	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	174	166	47	159	258	158	324	2088	158	100	988	134
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	228	64	184	288	244	281	2339	176	118	1150	156
Arrive On Green	0.12	0.17	0.17	0.12	0.16	0.16	0.18	0.48	0.48	0.07	0.38	0.38
Sat Flow, veh/h	1594	1328	376	1594	1772	1502	1594	4878	366	1594	3046	413
Grp Volume(v), veh/h	174	0	213	159	258	158	324	1512	734	100	574	548
Grp Sat Flow(s),veh/h/ln	1594	0	1704	1594	1772	1502	1594	1772	1701	1594	1772	1687
Q Serve(g_s), s	12.4	0.0	13.7	11.3	16.5	9.3	20.4	44.8	45.8	7.2	34.6	34.6
Cycle Q Clear(g_c), s	12.4	0.0	13.7	11.3	16.5	9.3	20.4	44.8	45.8	7.2	34.6	34.6
Prop In Lane	1.00		0.22	1.00		1.00	1.00		0.22	1.00		0.24
Lane Grp Cap(c), veh/h	199	0	292	184	288	244	281	1699	815	118	669	637
V/C Ratio(X)	0.88	0.00	0.73	0.86	0.90	0.65	1.15	0.89	0.90	0.84	0.86	0.86
Avail Cap(c_a), veh/h	218	0	292	240	306	259	281	1751	840	118	695	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	0.0	45.4	50.3	47.5	30.2	47.7	27.3	27.6	52.9	33.2	33.2
Incr Delay (d2), s/veh	28.9	0.0	8.9	21.4	25.9	5.1	101.8	6.0	12.5	39.8	10.2	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	6.4	5.5	9.2	3.6	15.6	18.2	19.3	4.1	15.7	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.7	0.0	54.3	71.7	73.4	35.3	149.5	33.3	40.1	92.7	43.4	44.0
LnGrp LOS	E	A	D	E	E	D	F	C	D	F	D	D
Approach Vol, veh/h		387			575			2570			1222	
Approach Delay, s/veh		65.3			62.5			49.9			47.7	
Approach LOS		E			E			D			D	

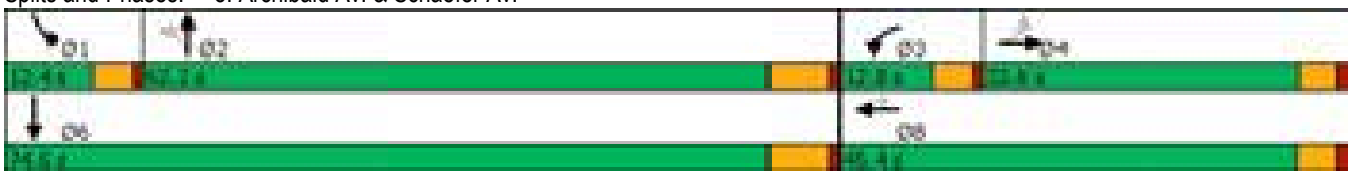
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	60.1	18.0	24.5	25.0	48.3	19.0	23.4
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	8.6	57.2	17.4	18.4	20.4	45.4	15.8	20.0
Max Q Clear Time (g_c+I1), s	9.2	47.8	13.3	15.7	22.4	36.6	14.4	18.5
Green Ext Time (p_c), s	0.0	7.7	0.1	0.3	0.0	4.2	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	19	25	44	28	248	1836	82	1043
Future Volume (vph)	19	25	44	28	248	1836	82	1043
Turn Type	Perm	NA	Prot	NA	Perm	NA	Prot	NA
Protected Phases		4	3	8		2	1	6
Permitted Phases	4				8			
Detector Phase	4	4	3	8	8	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	32.5	32.5	9.6	32.6	32.6	37.5	9.6	23.5
Total Split (s)	32.6	32.6	12.8	45.4	45.4	62.2	12.4	74.6
Total Split (%)	27.2%	27.2%	10.7%	37.8%	37.8%	51.8%	10.3%	62.2%
Yellow Time (s)	3.5	3.5	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.7	10.7	7.0	17.7	17.7	55.1	7.9	67.6
Actuated g/C Ratio	0.11	0.11	0.07	0.18	0.18	0.57	0.08	0.70
v/c Ratio	0.17	0.15	0.46	0.10	0.80	0.81	0.76	0.54
Control Delay	44.4	43.0	58.5	32.2	36.7	20.8	81.5	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	43.0	58.5	32.2	36.7	20.8	81.5	9.0
LOS	D	D	E	C	D	C	F	A
Approach Delay		43.6		39.3		20.8		14.2
Approach LOS		D		D		C		B

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 96.5		
Natural Cycle: 110		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.81		
Intersection Signal Delay: 20.6	Intersection LOS: C	
Intersection Capacity Utilization 77.8%	ICU Level of Service D	
Analysis Period (min) 15		

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	25	0	44	28	248	0	1836	32	82	1043	21
Future Volume (veh/h)	19	25	0	44	28	248	0	1836	32	82	1043	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		1.00	1.00		0.95	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	23	30	0	52	33	295	0	2186	26	98	1242	25
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	291	0	64	443	357	72	2551	30	120	2156	43
Arrive On Green	0.16	0.16	0.00	0.04	0.25	0.25	0.00	0.52	0.52	0.08	0.64	0.64
Sat Flow, veh/h	895	1772	0	1594	1772	1426	391	4926	59	1594	3373	68
Grp Volume(v), veh/h	23	30	0	52	33	295	0	1430	782	98	620	647
Grp Sat Flow(s),veh/h/ln	895	1772	0	1594	1772	1426	391	1612	1760	1594	1683	1758
Q Serve(g_s), s	2.2	1.4	0.0	3.2	1.4	19.6	0.0	38.5	38.6	6.1	21.1	21.1
Cycle Q Clear(g_c), s	2.2	1.4	0.0	3.2	1.4	19.6	0.0	38.5	38.6	6.1	21.1	21.1
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.03	1.00		0.04
Lane Grp Cap(c), veh/h	219	291	0	64	443	357	72	1670	911	120	1076	1123
V/C Ratio(X)	0.11	0.10	0.00	0.81	0.07	0.83	0.00	0.86	0.86	0.82	0.58	0.58
Avail Cap(c_a), veh/h	323	497	0	130	721	580	87	1791	978	124	1143	1194
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.9	35.6	0.0	47.8	28.7	35.5	0.0	20.9	21.0	45.7	10.3	10.3
Incr Delay (d2), s/veh	0.2	0.2	0.0	8.9	0.1	5.2	0.0	4.1	7.3	30.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.6	0.0	1.4	0.6	7.0	0.0	13.1	15.1	3.3	6.1	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	35.8	0.0	56.7	28.8	40.7	0.0	25.1	28.3	75.8	11.0	11.0
LnGrp LOS	D	D	A	E	C	D	A	C	C	E	B	B
Approach Vol, veh/h		53			380			2212			1365	
Approach Delay, s/veh		35.9			41.9			26.2			15.6	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	12.1	58.4	8.6	21.1		70.6		29.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6		6.5		4.6				
Max Green Setting (Gmax), s	7.8	55.7	8.2	* 28		68.1		40.8				
Max Q Clear Time (g_c+I1), s	8.1	40.6	5.2	4.2		23.1		21.6				
Green Ext Time (p_c), s	0.0	11.3	0.0	0.2		9.2		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

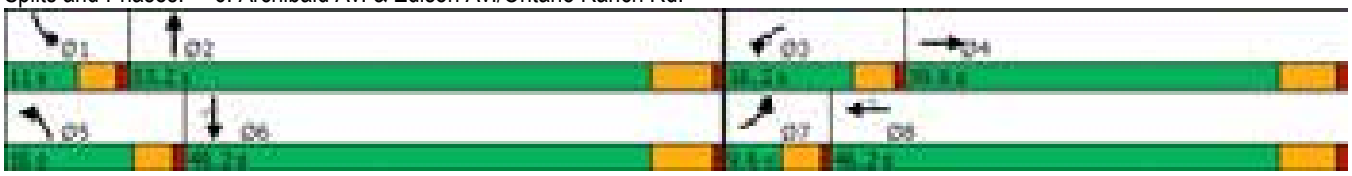
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	155	292	288	385	85	690	1637	270	27	943	101
Future Volume (vph)	43	155	292	288	385	85	690	1637	270	27	943	101
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.6		16.2	46.2	46.2	16.0	53.2		11.0	48.2	48.2
Total Split (%)	8.0%	33.0%		13.5%	38.5%	38.5%	13.3%	44.3%		9.2%	40.2%	40.2%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.1	23.0	106.5	11.8	32.1	32.1	11.6	48.1	106.5	5.9	37.9	37.9
Actuated g/C Ratio	0.05	0.22	1.00	0.11	0.30	0.30	0.11	0.45	1.00	0.06	0.36	0.36
v/c Ratio	0.33	0.22	0.21	0.96	0.80	0.17	4.41	1.13	0.20	0.34	0.83	0.17
Control Delay	60.1	34.6	0.3	89.8	47.4	0.9	1564.1	96.6	0.3	63.9	38.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	34.6	0.3	89.8	47.4	0.9	1564.1	96.6	0.3	63.9	38.8	0.6
LOS	E	C	A	F	D	A	F	F	A	E	D	A
Approach Delay		16.4			58.3			476.3			35.8	
Approach LOS		B			E			F			D	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 106.5		
Natural Cycle: 115		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 4.41		
Intersection Signal Delay: 270.1	Intersection LOS: F	
Intersection Capacity Utilization 114.0%	ICU Level of Service H	
Analysis Period (min) 15		

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	155	292	288	385	85	690	1637	270	27	943	101
Future Volume (veh/h)	43	155	292	288	385	85	690	1637	270	27	943	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	47	170	0	316	423	38	758	1799	0	30	1036	78
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	662		341	468	392	178	1620		45	1324	549
Arrive On Green	0.05	0.28	0.00	0.17	0.40	0.40	0.17	0.69	0.00	0.04	0.56	0.56
Sat Flow, veh/h	3000	3544	1502	3000	1772	1482	1594	3544	1502	1594	3544	1469
Grp Volume(v), veh/h	47	170	0	316	423	38	758	1799	0	30	1036	78
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1482	1594	1772	1502	1594	1772	1469
Q Serve(g_s), s	1.6	3.8	0.0	10.6	22.9	1.6	11.4	46.7	0.0	1.9	23.4	2.6
Cycle Q Clear(g_c), s	1.6	3.8	0.0	10.6	22.9	1.6	11.4	46.7	0.0	1.9	23.4	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	108	662		341	468	392	178	1620		45	1324	549
V/C Ratio(X)	0.43	0.26		0.93	0.90	0.10	4.26	1.11		0.67	0.78	0.14
Avail Cap(c_a), veh/h	147	1159		341	694	581	178	1620		100	1447	600
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	31.3	0.0	42.0	29.6	23.2	42.5	16.0	0.0	48.5	19.2	14.6
Incr Delay (d2), s/veh	1.0	0.2	0.0	30.3	11.1	0.1	1480.6	59.0	0.0	6.3	2.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.5	0.0	4.9	9.0	0.6	77.1	20.8	0.0	0.8	6.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	31.5	0.0	72.3	40.7	23.3	1523.1	75.1	0.0	54.8	21.8	14.7
LnGrp LOS	D	C		E	D	C	F	F		D	C	B
Approach Vol, veh/h		217	A		777			2557	A		1144	
Approach Delay, s/veh		35.1			52.7			504.3			22.2	
Approach LOS		D			D			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	53.2	16.2	25.3	16.0	44.7	8.3	33.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	6.4	46.7	11.6	33.4	11.4	41.7	5.0	40.0
Max Q Clear Time (g_c+I1), s	3.9	48.7	12.6	5.8	13.4	25.4	3.6	24.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	6.1	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	290.4
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	171	814	103	730	336	271	134	206
Future Volume (vph)	171	814	103	730	336	271	134	206
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	18.0	45.0	13.0	40.0	30.0	40.0	22.0	32.0
Total Split (%)	15.0%	37.5%	10.8%	33.3%	25.0%	33.3%	18.3%	26.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.4	38.9	8.4	33.9	25.5	28.0	15.0	17.6
Actuated g/C Ratio	0.12	0.35	0.08	0.30	0.23	0.25	0.13	0.16
v/c Ratio	1.14	1.10	1.09	1.12	1.18	0.75	0.80	0.73
Control Delay	152.1	94.1	158.7	105.3	144.4	32.2	74.2	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	152.1	94.1	158.7	105.3	144.4	32.2	74.2	38.2
LOS	F	F	F	F	F	C	E	D
Approach Delay		102.6		110.9		75.1		48.2
Approach LOS		F		F		E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.6	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 90.6	Intersection LOS: F
Intersection Capacity Utilization 89.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	814	181	103	730	157	336	271	271	134	206	143
Future Volume (veh/h)	171	814	181	103	730	157	336	271	271	134	206	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.94	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	216	1030	115	130	924	104	425	343	178	170	261	92
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	1062	118	120	926	104	364	556	281	194	382	131
Arrive On Green	0.18	0.52	0.52	0.11	0.46	0.46	0.34	0.39	0.39	0.18	0.23	0.23
Sat Flow, veh/h	1594	3042	339	1594	3046	343	1594	2116	1069	1594	2445	838
Grp Volume(v), veh/h	216	570	575	130	511	517	425	271	250	170	177	176
Grp Sat Flow(s),veh/h/ln	1594	1683	1698	1594	1683	1705	1594	1683	1501	1594	1683	1600
Q Serve(g_s), s	13.4	36.4	36.5	8.4	33.7	33.7	25.4	14.3	14.9	11.5	10.7	11.2
Cycle Q Clear(g_c), s	13.4	36.4	36.5	8.4	33.7	33.7	25.4	14.3	14.9	11.5	10.7	11.2
Prop In Lane	1.00		0.20	1.00		0.20	1.00		0.71	1.00		0.52
Lane Grp Cap(c), veh/h	192	587	593	120	512	518	364	443	395	194	263	250
V/C Ratio(X)	1.12	0.97	0.97	1.08	1.00	1.00	1.17	0.61	0.63	0.88	0.67	0.70
Avail Cap(c_a), veh/h	192	587	593	120	512	518	364	518	462	249	397	377
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	25.9	25.9	49.3	30.2	30.2	36.5	29.1	29.3	44.6	40.0	40.2
Incr Delay (d2), s/veh	102.3	29.5	29.6	105.0	39.2	39.0	101.0	1.6	2.2	19.9	3.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	15.3	15.5	6.6	16.0	16.2	18.5	5.1	4.8	5.2	4.2	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	147.9	55.4	55.6	154.3	69.4	69.2	137.5	30.7	31.5	64.6	43.0	43.8
LnGrp LOS	F	E	E	F	E	E	F	C	C	E	D	D
Approach Vol, veh/h		1361			1158			946			523	
Approach Delay, s/veh		70.2			78.8			78.9			50.3	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.1	35.0	13.0	45.0	30.0	23.2	18.0	40.0
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	17.4	34.2	8.4	38.8	25.4	26.2	13.4	33.8
Max Q Clear Time (g_c+I1), s	13.5	16.9	10.4	38.5	27.4	13.2	15.4	35.7
Green Ext Time (p_c), s	0.1	2.7	0.0	0.2	0.0	1.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	72.1
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	100.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	170	181	117	61	285	160	157	493	52	94	230	109
Future Vol, veh/h	170	181	117	61	285	160	157	493	52	94	230	109
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	230	245	158	82	385	216	212	666	70	127	311	147
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	50.1	97.8	168.4	47.4
HCM LOS	F	F	F	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	76%	0%	100%	34%	0%	100%	37%	0%	100%	41%
Vol Right, %	0%	0%	24%	0%	0%	66%	0%	0%	63%	0%	0%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	157	329	216	170	121	177	61	190	255	94	153	186
LT Vol	157	0	0	170	0	0	61	0	0	94	0	0
Through Vol	0	329	164	0	121	60	0	190	95	0	153	77
RT Vol	0	0	52	0	0	117	0	0	160	0	0	109
Lane Flow Rate	212	444	292	230	163	240	82	257	345	127	207	251
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.754	1.519	0.987	0.842	0.575	0.816	0.298	0.894	1.159	0.467	0.734	0.861
Departure Headway (Hd)	12.964	12.464	12.295	13.405	12.905	12.444	13.313	12.813	12.374	13.38	12.88	12.469
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	280	298	298	271	282	292	272	285	296	271	282	294
Service Time	10.664	10.164	9.995	11.105	10.605	10.144	11.013	10.513	10.074	11.08	10.58	10.169
HCM Lane V/C Ratio	0.757	1.49	0.98	0.849	0.578	0.822	0.301	0.902	1.166	0.469	0.734	0.854
HCM Control Delay	46.7	280.8	86	60.2	31.7	53	21.6	67.3	138.8	27.3	44.3	60.1
HCM Lane LOS	E	F	F	F	D	F	C	F	F	D	E	F
HCM 95th-tile Q	5.6	25.3	10.2	6.9	3.3	6.7	1.2	8	14.5	2.3	5.3	7.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	150	1155	18	88	1334	55	46	157	210	77
Future Volume (vph)	150	1155	18	88	1334	55	46	157	210	77
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	15.0	49.0	49.0	18.0	52.0	52.0	15.0	35.0	18.0	38.0
Total Split (%)	12.5%	40.8%	40.8%	15.0%	43.3%	43.3%	12.5%	29.2%	15.0%	31.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	10.4	46.7	46.7	10.0	46.3	46.3	7.5	18.2	13.4	26.2
Actuated g/C Ratio	0.10	0.43	0.43	0.09	0.42	0.42	0.07	0.17	0.12	0.24
v/c Ratio	0.99	0.85	0.03	0.60	0.99	0.08	0.42	0.73	1.07	0.51
Control Delay	118.7	36.0	0.1	64.1	52.9	0.8	60.2	54.9	128.6	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	118.7	36.0	0.1	64.1	52.9	0.8	60.2	54.9	128.6	29.9
LOS	F	D	A	E	D	A	E	D	F	C
Approach Delay		44.9			51.6			55.9		79.4
Approach LOS		D			D			E		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.2	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay: 52.7	Intersection LOS: D
Intersection Capacity Utilization 85.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	1155	18	88	1334	55	46	157	48	210	77	131
Future Volume (veh/h)	150	1155	18	88	1334	55	46	157	48	210	77	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	1283	16	98	1482	53	51	174	47	233	86	135
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	1641	732	124	1539	687	66	208	56	225	155	243
Arrive On Green	0.10	0.46	0.46	0.07	0.43	0.43	0.04	0.15	0.15	0.13	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1418	383	1781	656	1029
Grp Volume(v), veh/h	167	1283	16	98	1482	53	51	0	221	233	0	221
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1801	1781	0	1685
Q Serve(g_s), s	9.9	32.3	0.6	5.8	43.0	2.1	3.0	0.0	12.7	13.4	0.0	12.2
Cycle Q Clear(g_c), s	9.9	32.3	0.6	5.8	43.0	2.1	3.0	0.0	12.7	13.4	0.0	12.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.61
Lane Grp Cap(c), veh/h	175	1641	732	124	1539	687	66	0	264	225	0	398
V/C Ratio(X)	0.96	0.78	0.02	0.79	0.96	0.08	0.78	0.00	0.84	1.04	0.00	0.56
Avail Cap(c_a), veh/h	175	1641	732	225	1547	690	175	0	496	225	0	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.7	24.1	15.5	48.6	29.3	17.6	50.7	0.0	44.0	46.4	0.0	35.6
Incr Delay (d2), s/veh	55.0	2.5	0.0	4.3	14.9	0.0	7.2	0.0	6.9	69.8	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	12.7	0.2	2.6	19.6	0.7	1.4	0.0	5.9	10.1	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.6	26.6	15.5	52.9	44.2	17.7	57.9	0.0	50.9	116.2	0.0	36.9
LnGrp LOS	F	C	B	D	D	B	E	A	D	F	A	D
Approach Vol, veh/h		1466			1633			272			454	
Approach Delay, s/veh		35.1			43.9			52.2			77.6	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	21.4	12.0	54.8	8.5	30.9	15.0	51.8
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	13.4	29.2	13.4	43.2	10.4	32.2	10.4	46.2
Max Q Clear Time (g_c+I1), s	15.4	14.7	7.8	34.3	5.0	14.2	11.9	45.0
Green Ext Time (p_c), s	0.0	0.9	0.0	5.2	0.0	1.1	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	276	4	869	424	2166	1098	494
Future Volume (vph)	276	4	869	424	2166	1098	494
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	30.2	30.2		16.0	44.8	28.8	28.8
Total Split (%)	40.3%	40.3%		21.3%	59.7%	38.4%	38.4%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	24.4	24.4	75.0	11.0	38.6	22.6	22.6
Actuated g/C Ratio	0.33	0.33	1.00	0.15	0.51	0.30	0.30
v/c Ratio	1.01	1.01	0.57	0.88	0.86	0.75	0.62
Control Delay	69.4	70.2	1.5	39.4	16.3	27.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	70.2	1.5	39.4	16.3	27.2	5.9
LOS	E	E	A	D	B	C	A
Approach Delay		39.1			20.1	20.6	
Approach LOS		D			C	C	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 45 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	276	4	869	424	2166	0	0	1098	494
Future Volume (veh/h)	0	0	0	276	4	869	424	2166	0	0	1098	494
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1107	0	0	442	2256	0	0	1144	447
Peak Hour Factor				0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1159	0		507	2628	0	0	1539	471
Arrive On Green				0.33	0.00	0.00	0.29	1.00	0.00	0.00	0.30	0.30
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1563
Grp Volume(v), veh/h				1107	0	0	442	2256	0	0	1144	447
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1563
Q Serve(g_s), s				22.8	0.0	0.0	9.1	0.0	0.0	0.0	15.1	21.0
Cycle Q Clear(g_c), s				22.8	0.0	0.0	9.1	0.0	0.0	0.0	15.1	21.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1159	0		507	2628	0	0	1539	471
V/C Ratio(X)				0.96	0.00		0.87	0.86	0.00	0.00	0.74	0.95
Avail Cap(c_a), veh/h				1159	0		507	2628	0	0	1539	471
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.8	0.0	0.0	25.8	0.0	0.0	0.0	23.6	25.6
Incr Delay (d2), s/veh				16.8	0.0	0.0	1.6	0.4	0.0	0.0	3.3	30.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.1	0.0	0.0	3.0	0.1	0.0	0.0	5.9	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.5	0.0	0.0	27.5	0.4	0.0	0.0	26.9	56.1
LnGrp LOS				D	A		C	A	A	A	C	E
Approach Vol, veh/h					1107	A		2698			1591	
Approach Delay, s/veh					41.5			4.8			35.1	
Approach LOS					D			A			D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		44.8			16.0	28.8		30.2				
Change Period (Y+Rc), s		6.2			5.0	6.2		5.8				
Max Green Setting (Gmax), s		38.6			11.0	22.6		24.4				
Max Q Clear Time (g_c+I1), s		2.0			11.1	23.0		24.8				
Green Ext Time (p_c), s		16.1			0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	21.3	
HCM 6th LOS	C	

Notes

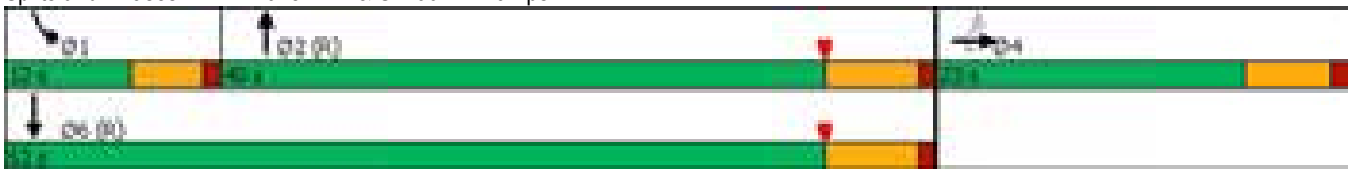
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	871	5	118	1792	393	965
Future Volume (vph)	871	5	118	1792	393	965
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	23.0	23.0	23.0	40.0	12.0	52.0
Total Split (%)	30.7%	30.7%	30.7%	53.3%	16.0%	69.3%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	17.2	17.2	17.2	33.8	7.0	45.8
Actuated g/C Ratio	0.23	0.23	0.23	0.45	0.09	0.61
v/c Ratio	1.19	1.20	0.27	1.04	1.29	0.33
Control Delay	138.0	142.6	7.3	50.2	169.5	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	138.0	142.6	7.3	50.2	169.5	7.0
LOS	F	F	A	D	F	A
Approach Delay		124.5		50.2		54.0
Approach LOS		F		D		D

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 48 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.29	
Intersection Signal Delay: 67.4	Intersection LOS: E
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	871	5	118	0	0	0	0	1792	446	393	965	0
Future Volume (veh/h)	871	5	118	0	0	0	0	1792	446	393	965	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	921	0	66				0	1886	237	414	1016	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	817	0	364				0	2069	258	323	3118	0
Arrive On Green	0.23	0.00	0.23				0.00	0.45	0.45	0.19	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4759	572	3456	5274	0
Grp Volume(v), veh/h	921	0	66				0	1394	729	414	1016	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1758	1728	1702	0
Q Serve(g_s), s	17.2	0.0	2.5				0.0	28.6	29.2	7.0	0.0	0.0
Cycle Q Clear(g_c), s	17.2	0.0	2.5				0.0	28.6	29.2	7.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	817	0	364				0	1534	792	323	3118	0
V/C Ratio(X)	1.13	0.00	0.18				0.00	0.91	0.92	1.28	0.33	0.00
Avail Cap(c_a), veh/h	817	0	364				0	1534	792	323	3118	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.44	0.44	0.00
Uniform Delay (d), s/veh	28.9	0.0	23.2				0.0	19.2	19.3	30.5	0.0	0.0
Incr Delay (d2), s/veh	72.7	0.0	0.2				0.0	9.5	17.6	137.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	0.0	0.9				0.0	11.3	13.7	8.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.6	0.0	23.5				0.0	28.6	36.9	168.4	0.1	0.0
LnGrp LOS	F	A	C				A	C	D	F	A	A
Approach Vol, veh/h		987						2123			1430	
Approach Delay, s/veh		96.3						31.5			48.8	
Approach LOS		F						C			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.0	40.0		23.0		52.0
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	7.0	33.8		17.2		45.8
Max Q Clear Time (g_c+I1), s	9.0	31.2		19.2		2.0
Green Ext Time (p_c), s	0.0	2.1		0.0		4.8

Intersection Summary		
HCM 6th Ctrl Delay		51.0
HCM 6th LOS		D

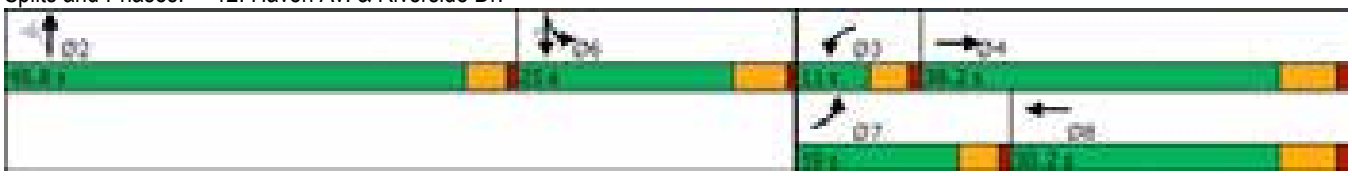
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	546	754	287	548	50	546	447	256	309
Future Volume (vph)	546	754	287	548	50	546	447	256	309
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	19.0	38.2	11.0	30.2	45.8	45.8	25.0	25.0	25.0
Total Split (%)	15.8%	31.8%	9.2%	25.2%	38.2%	38.2%	20.8%	20.8%	20.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	14.4	32.0	6.4	24.0		41.1	19.2	19.2	19.2
Actuated g/C Ratio	0.12	0.27	0.05	0.20		0.34	0.16	0.16	0.16
v/c Ratio	3.07	1.88	3.63	1.42		7.50	1.88	0.96	0.65
Control Delay	966.0	431.9	1229.1	229.9		2949.1	440.5	95.8	11.4
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	966.0	431.9	1229.1	229.9		2949.1	440.5	95.8	11.4
LOS	F	F	F	F		F	F	F	B
Approach Delay		645.6		456.2		2949.1		222.3	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 7.50	
Intersection Signal Delay: 901.7	Intersection LOS: F
Intersection Capacity Utilization 156.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	546	754	65	287	548	431	50	546	186	447	256	309
Future Volume (veh/h)	546	754	65	287	548	431	50	546	186	447	256	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	581	802	66	305	583	423	53	581	181	476	272	153
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	427	35	85	364	264	38	413	129	255	284	235
Arrive On Green	0.12	0.27	0.27	0.05	0.20	0.20	0.34	0.34	0.34	0.16	0.16	0.16
Sat Flow, veh/h	1594	1603	132	1594	1822	1322	110	1206	376	1594	1772	1468
Grp Volume(v), veh/h	581	0	868	305	539	467	815	0	0	476	272	153
Grp Sat Flow(s),veh/h/ln	1594	0	1735	1594	1683	1460	1692	0	0	1594	1772	1468
Q Serve(g_s), s	14.4	0.0	32.0	6.4	24.0	24.0	41.1	0.0	0.0	19.2	18.3	11.7
Cycle Q Clear(g_c), s	14.4	0.0	32.0	6.4	24.0	24.0	41.1	0.0	0.0	19.2	18.3	11.7
Prop In Lane	1.00		0.08	1.00		0.91	0.07		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	463	85	337	292	580	0	0	255	284	235
V/C Ratio(X)	3.04	0.00	1.88	3.59	1.60	1.60	1.41	0.00	0.00	1.87	0.96	0.65
Avail Cap(c_a), veh/h	191	0	463	85	337	292	580	0	0	255	284	235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	0.0	44.0	56.8	48.0	48.0	39.5	0.0	0.0	50.4	50.0	47.3
Incr Delay (d2), s/veh	930.8	0.0	402.5	1193.3	283.6	285.7	193.0	0.0	0.0	404.6	42.3	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	55.0	0.0	64.7	30.7	36.1	31.5	47.8	0.0	0.0	36.1	11.2	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	983.6	0.0	446.5	1250.1	331.6	333.7	232.4	0.0	0.0	455.0	92.4	53.5
LnGrp LOS	F	A	F	F	F	F	F	A	A	F	F	D
Approach Vol, veh/h		1449			1311			815			901	
Approach Delay, s/veh		661.9			546.1			232.4			277.4	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		45.8	11.0	38.2		25.0	19.0	30.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 41	6.4	32.0		19.2	14.4	24.0				
Max Q Clear Time (g_c+I1), s		43.1	8.4	34.0		21.2	16.4	26.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		472.4
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	32.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	265	195	169	677	425	187
Future Vol, veh/h	265	195	169	677	425	187
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	282	207	180	720	452	199

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1632	552	651	0	-	0
Stage 1	552	-	-	-	-	-
Stage 2	1080	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 111	533	935	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	326	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 90	533	935	-	-	-
Mov Cap-2 Maneuver	~ 214	-	-	-	-	-
Stage 1	466	-	-	-	-	-
Stage 2	326	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	131.2	2	0
HCM LOS	F		

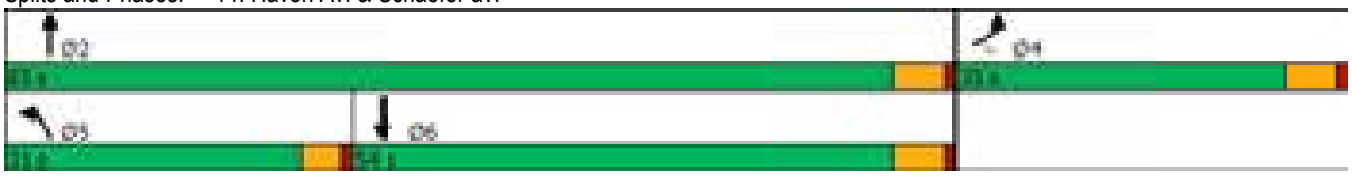
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	935	-	214	533	-	-
HCM Lane V/C Ratio	0.192	-	1.317	0.389	-	-
HCM Control Delay (s)	9.8	-	216	16	-	-
HCM Lane LOS	A	-	F	C	-	-
HCM 95th %tile Q(veh)	0.7	-	15.4	1.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	89	120	132	852	280
Future Volume (vph)	89	120	132	852	280
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	35.0	35.0	31.0	85.0	54.0
Total Split (%)	29.2%	29.2%	25.8%	70.8%	45.0%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.9	12.9	12.0	40.7	23.6
Actuated g/C Ratio	0.19	0.19	0.18	0.61	0.36
v/c Ratio	0.31	0.33	0.50	0.86	0.32
Control Delay	31.3	9.2	35.3	19.1	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	9.2	35.3	19.1	14.8
LOS	C	A	D	B	B
Approach Delay	18.6			21.3	14.8
Approach LOS	B			C	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 66.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 65.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	89	120	132	852	280	64
Future Volume (veh/h)	89	120	132	852	280	64
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	97	76	143	926	304	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	273	258	179	1087	1138	247
Arrive On Green	0.17	0.17	0.11	0.61	0.42	0.42
Sat Flow, veh/h	1594	1502	1594	1772	2827	594
Grp Volume(v), veh/h	97	76	143	926	185	186
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1683	1649
Q Serve(g_s), s	2.9	2.4	4.7	22.8	3.9	4.0
Cycle Q Clear(g_c), s	2.9	2.4	4.7	22.8	3.9	4.0
Prop In Lane	1.00	1.00	1.00			0.36
Lane Grp Cap(c), veh/h	273	258	179	1087	700	685
V/C Ratio(X)	0.35	0.30	0.80	0.85	0.26	0.27
Avail Cap(c_a), veh/h	863	813	780	2602	1504	1473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	19.5	23.3	8.4	10.3	10.4
Incr Delay (d2), s/veh	0.8	0.6	3.1	2.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.7	4.9	1.1	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.5	20.1	26.4	10.4	10.5	10.6
LnGrp LOS	C	C	C	B	B	B
Approach Vol, veh/h	173			1069	371	
Approach Delay, s/veh	20.3			12.6	10.6	
Approach LOS	C			B	B	

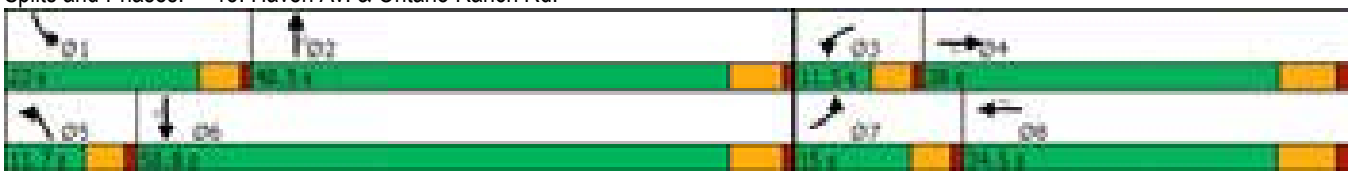
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		38.9		15.1	10.7	28.2
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		79.2		29.2	26.4	48.2
Max Q Clear Time (g_c+I1), s		24.8		4.9	6.7	6.0
Green Ext Time (p_c), s		8.3		0.5	0.2	2.1

Intersection Summary		
HCM 6th Ctrl Delay		12.9
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	1214	54	126	831	5	75	463	187	227	435	264
Future Volume (vph)	238	1214	54	126	831	5	75	463	187	227	435	264
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	15.0	38.0	38.0	11.5	34.5	34.5	11.7	48.5	48.5	22.0	58.8	58.8
Total Split (%)	12.5%	31.7%	31.7%	9.6%	28.8%	28.8%	9.8%	40.4%	40.4%	18.3%	49.0%	49.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	10.4	31.9	31.9	6.9	28.1	28.1	7.1	36.1	36.1	17.5	46.5	46.5
Actuated g/C Ratio	0.09	0.28	0.28	0.06	0.25	0.25	0.06	0.32	0.32	0.15	0.41	0.41
v/c Ratio	1.77	0.97	0.11	0.77	0.60	0.01	0.82	0.89	0.34	1.01	0.65	0.39
Control Delay	402.4	58.8	0.4	81.5	40.5	0.0	106.5	55.6	6.2	109.0	31.6	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	402.4	58.8	0.4	81.5	40.5	0.0	106.5	55.6	6.2	109.0	31.6	7.6
LOS	F	E	A	F	D	A	F	E	A	F	C	A
Approach Delay		111.0			45.7			48.1			43.7	
Approach LOS		F			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.77	
Intersection Signal Delay: 69.6	Intersection LOS: E
Intersection Capacity Utilization 86.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	1214	54	126	831	5	75	463	187	227	435	264
Future Volume (veh/h)	238	1214	54	126	831	5	75	463	187	227	435	264
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	256	1305	47	135	894	-47	81	498	150	244	468	261
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	1360	422	178	1526	376	100	556	471	245	718	606
Arrive On Green	0.09	0.28	0.28	0.06	0.25	0.00	0.06	0.31	0.31	0.15	0.41	0.41
Sat Flow, veh/h	1594	4837	1500	2910	6095	1502	1594	1772	1500	1594	1772	1496
Grp Volume(v), veh/h	256	1305	47	135	894	-47	81	498	150	244	468	261
Grp Sat Flow(s),veh/h/ln	1594	1612	1500	1455	1524	1502	1594	1772	1500	1594	1772	1496
Q Serve(g_s), s	10.4	30.0	2.6	5.2	14.6	0.0	5.7	30.3	8.6	17.3	24.1	14.2
Cycle Q Clear(g_c), s	10.4	30.0	2.6	5.2	14.6	0.0	5.7	30.3	8.6	17.3	24.1	14.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	1360	422	178	1526	376	100	556	471	245	718	606
V/C Ratio(X)	1.75	0.96	0.11	0.76	0.59	-0.13	0.81	0.90	0.32	0.99	0.65	0.43
Avail Cap(c_a), veh/h	147	1360	422	178	1526	376	100	669	567	245	831	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	40.0	30.2	52.3	37.2	0.0	52.3	37.0	29.6	47.8	27.2	24.2
Incr Delay (d2), s/veh	362.5	16.4	0.5	15.7	1.7	0.0	35.7	13.1	0.4	55.9	1.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.8	13.3	1.0	2.2	5.3	0.0	3.2	14.5	3.0	10.4	9.9	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	413.8	56.4	30.7	68.0	38.9	0.0	88.0	50.1	30.0	103.7	28.7	24.7
LnGrp LOS	F	E	C	E	D	A	F	D	C	F	C	C
Approach Vol, veh/h		1608			982			729			973	
Approach Delay, s/veh		112.6			44.7			50.2			46.4	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	41.3	11.5	38.3	11.7	51.6	15.0	34.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	17.4	42.7	6.9	* 32	7.1	53.0	10.4	28.0
Max Q Clear Time (g_c+I1), s	19.3	32.3	7.2	32.0	7.7	26.1	12.4	16.6
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.0	3.7	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	71.5
HCM 6th LOS	E

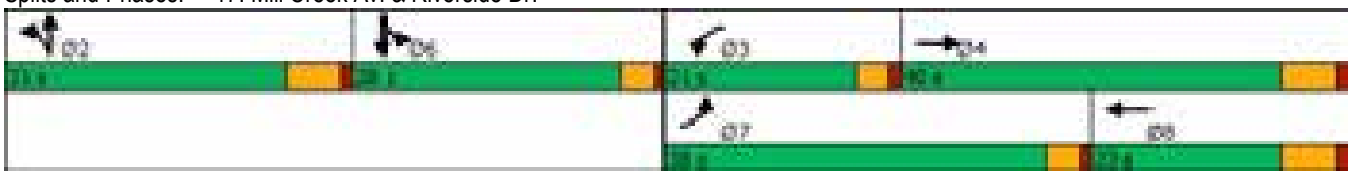
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	370	774	149	973	219	91	422	100	188
Future Volume (vph)	370	774	149	973	219	91	422	100	188
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	38.0	40.0	21.0	23.0	31.0	31.0	31.0	28.0	28.0
Total Split (%)	31.7%	33.3%	17.5%	19.2%	25.8%	25.8%	25.8%	23.3%	23.3%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	34.0	34.9	16.1	17.0	23.9	23.9	23.9	24.0	24.0
Actuated g/C Ratio	0.29	0.29	0.14	0.14	0.20	0.20	0.20	0.20	0.20
v/c Ratio	1.03	1.32	0.88	2.87	0.87	0.32	0.84	0.40	1.05
Control Delay	93.3	187.0	88.1	867.3	72.7	43.2	22.5	45.9	105.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.3	187.0	88.1	867.3	72.7	43.2	22.5	45.9	105.9
LOS	F	F	F	F	E	D	C	D	F
Approach Delay		161.9		772.9		40.1			90.1
Approach LOS		F		F		D			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.87	
Intersection Signal Delay: 332.6	Intersection LOS: F
Intersection Capacity Utilization 104.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	774	236	149	973	109	219	91	422	100	188	93
Future Volume (veh/h)	370	774	236	149	973	109	219	91	422	100	188	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	468	980	147	189	1232	87	277	115	488	127	238	67
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	452	857	129	212	452	32	335	373	314	316	256	72
Arrive On Green	0.28	0.29	0.29	0.13	0.14	0.14	0.21	0.21	0.21	0.20	0.20	0.20
Sat Flow, veh/h	1594	2931	439	1594	3184	224	1594	1772	1493	1594	1290	363
Grp Volume(v), veh/h	468	562	565	189	650	669	277	115	488	127	0	305
Grp Sat Flow(s),veh/h/ln	1594	1683	1687	1594	1683	1725	1594	1772	1493	1594	0	1653
Q Serve(g_s), s	34.0	35.0	35.0	14.0	17.0	17.0	19.9	6.6	25.2	8.3	0.0	21.7
Cycle Q Clear(g_c), s	34.0	35.0	35.0	14.0	17.0	17.0	19.9	6.6	25.2	8.3	0.0	21.7
Prop In Lane	1.00		0.26	1.00		0.13	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	452	492	494	212	239	245	335	373	314	316	0	328
V/C Ratio(X)	1.03	1.14	1.14	0.89	2.72	2.73	0.83	0.31	1.55	0.40	0.00	0.93
Avail Cap(c_a), veh/h	452	492	494	226	239	245	335	373	314	319	0	331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.9	42.4	42.4	51.0	51.4	51.4	45.2	39.9	47.3	41.8	0.0	47.2
Incr Delay (d2), s/veh	51.5	86.0	86.4	29.8	786.8	790.6	15.5	0.5	264.3	0.8	0.0	31.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	25.5	25.6	7.1	59.1	60.8	9.1	2.8	32.0	3.4	0.0	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.4	128.4	128.8	80.8	838.2	842.0	60.7	40.4	311.6	42.6	0.0	78.7
LnGrp LOS	F	F	F	F	F	F	E	D	F	D	A	E
Approach Vol, veh/h		1595			1508			880			432	
Approach Delay, s/veh		118.6			745.0			197.2			68.1	
Approach LOS		F			F			F			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.0	20.0	41.0		27.8	38.0	23.0				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		25.2	17.0	34.0		24.0	34.0	17.0				
Max Q Clear Time (g_c+I1), s		27.2	16.0	37.0		23.7	36.0	19.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.1	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			343.3									
HCM 6th LOS			F									

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	23	81	1	26	0
Future Vol, veh/h	0	23	81	1	26	0
Peak Hour Factor	0.50	0.50	0.50	0.50	0.50	0.50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	46	162	2	52	0
Number of Lanes	0	1	1	0	1	0

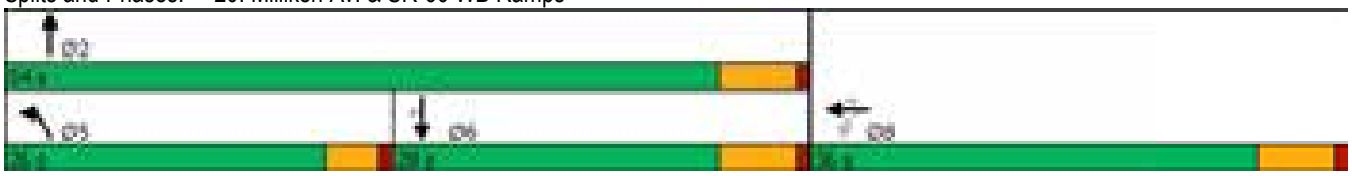
Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7	8	7.7
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	99%	0%	0%
Vol Right, %	1%	100%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	82	23	26
LT Vol	0	0	26
Through Vol	81	0	0
RT Vol	1	23	0
Lane Flow Rate	164	46	52
Geometry Grp	1	1	1
Degree of Util (X)	0.184	0.049	0.063
Departure Headway (Hd)	4.047	3.806	4.339
Convergence, Y/N	Yes	Yes	Yes
Cap	886	947	821
Service Time	2.077	1.806	2.388
HCM Lane V/C Ratio	0.185	0.049	0.063
HCM Control Delay	8	7	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.2	0.2

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	677	464	1626	867	318
Future Volume (vph)	5	677	464	1626	867	318
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5	11.2	22.5	22.5	22.5
Total Split (s)	36.0	36.0	26.0	54.0	28.0	28.0
Total Split (%)	40.0%	40.0%	28.9%	60.0%	31.1%	31.1%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	29.8	29.8	21.4	47.8	21.8	21.8
Actuated g/C Ratio	0.33	0.33	0.24	0.53	0.24	0.24
v/c Ratio	0.02	1.18	1.13	0.84	0.98	0.52
Control Delay	20.5	122.9	116.9	22.8	60.9	6.7
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	20.5	122.9	116.9	23.0	60.9	6.7
LOS	C	F	F	C	E	A
Approach Delay	121.2			43.8	46.4	
Approach LOS	F			D	D	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 58.0	Intersection LOS: E
Intersection Capacity Utilization 106.6%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	7	5	677	464	1626	0	0	867	318
Future Volume (veh/h)	0	0	0	7	5	677	464	1626	0	0	867	318
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				7	5	354	473	1659	0	0	885	166
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				267	191	399	479	2215	0	0	993	421
Arrive On Green				0.25	0.25	0.25	0.27	0.59	0.00	0.00	0.27	0.27
Sat Flow, veh/h				1060	757	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				12	0	354	473	1659	0	0	885	166
Grp Sat Flow(s),veh/h/ln				1817	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				0.4	0.0	17.1	21.0	25.9	0.0	0.0	18.1	6.8
Cycle Q Clear(g_c), s				0.4	0.0	17.1	21.0	25.9	0.0	0.0	18.1	6.8
Prop In Lane				0.58		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				458	0	399	479	2215	0	0	993	421
V/C Ratio(X)				0.03	0.00	0.89	0.99	0.75	0.00	0.00	0.89	0.39
Avail Cap(c_a), veh/h				681	0	594	479	2247	0	0	1025	434
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				22.4	0.0	28.7	28.9	11.9	0.0	0.0	28.1	24.0
Incr Delay (d2), s/veh				0.0	0.0	10.7	37.6	1.4	0.0	0.0	9.8	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.2	0.0	7.1	13.0	8.2	0.0	0.0	8.6	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.4	0.0	39.3	66.5	13.3	0.0	0.0	37.9	24.6
LnGrp LOS				C	A	D	E	B	A	A	D	C
Approach Vol, veh/h					366			2132			1051	
Approach Delay, s/veh					38.8			25.1			35.8	
Approach LOS					D			C			D	

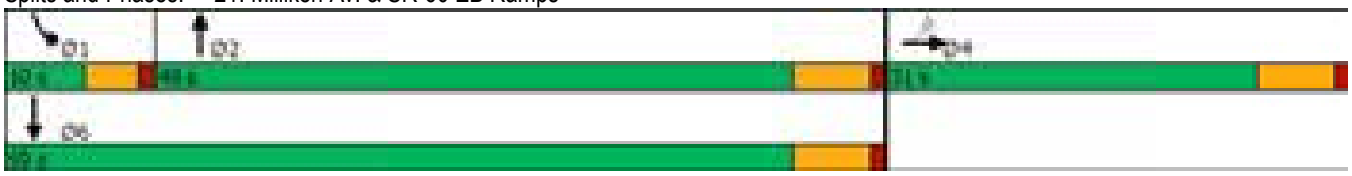
Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	53.3		26.0	27.3		26.3						
Change Period (Y+Rc), s	6.2		4.6	6.2		6.2						
Max Green Setting (Gmax), s	47.8		21.4	21.8		29.8						
Max Q Clear Time (g_c+I1), s	27.9		23.0	20.1		19.1						
Green Ext Time (p_c), s	11.6		0.0	1.0		0.9						

Intersection Summary		
HCM 6th Ctrl Delay		29.7
HCM 6th LOS		C

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	530	4	1613	103	738
Future Volume (vph)	530	4	1613	103	738
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	22.5	9.6	22.5
Total Split (s)	31.0	31.0	49.0	10.0	59.0
Total Split (%)	34.4%	34.4%	54.4%	11.1%	65.6%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	24.8	24.8	42.8	5.4	52.8
Actuated g/C Ratio	0.28	0.28	0.48	0.06	0.59
v/c Ratio	1.01	1.10	1.14	1.00	0.35
Control Delay	77.3	90.8	93.5	133.4	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	77.3	90.8	93.5	133.4	10.2
LOS	E	F	F	F	B
Approach Delay		85.0	93.5		25.3
Approach LOS		F	F		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.14	
Intersection Signal Delay: 76.3	Intersection LOS: E
Intersection Capacity Utilization 106.6%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	530	4	567	0	0	0	0	1613	314	103	738	0
Future Volume (veh/h)	530	4	567	0	0	0	0	1613	314	103	738	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	422	178	293				0	1663	162	106	761	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	491	175	288				0	1598	154	107	2195	0
Arrive On Green	0.28	0.28	0.28				0.00	0.48	0.48	0.06	0.59	0.00
Sat Flow, veh/h	1781	636	1046				0	3360	323	1781	3741	0
Grp Volume(v), veh/h	422	0	471				0	916	909	106	761	0
Grp Sat Flow(s),veh/h/ln	1781	0	1682				0	1870	1812	1781	1870	0
Q Serve(g_s), s	20.2	0.0	24.8				0.0	42.8	42.8	5.4	9.5	0.0
Cycle Q Clear(g_c), s	20.2	0.0	24.8				0.0	42.8	42.8	5.4	9.5	0.0
Prop In Lane	1.00		0.62				0.00		0.18	1.00		0.00
Lane Grp Cap(c), veh/h	491	0	463				0	889	862	107	2195	0
V/C Ratio(X)	0.86	0.00	1.02				0.00	1.03	1.05	0.99	0.35	0.00
Avail Cap(c_a), veh/h	491	0	463				0	889	862	107	2195	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.9	0.0	32.6				0.0	23.6	23.6	42.3	9.7	0.0
Incr Delay (d2), s/veh	14.3	0.0	45.9				0.0	38.0	46.2	84.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	0.0	15.2				0.0	25.2	26.3	4.7	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	0.0	78.5				0.0	61.6	69.8	126.5	9.7	0.0
LnGrp LOS	D	A	F				A	F	F	F	A	A
Approach Vol, veh/h		893						1825			867	
Approach Delay, s/veh		62.8						65.7			24.0	
Approach LOS		E						E			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.0	49.0		31.0		59.0
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	5.4	42.8		24.8		52.8
Max Q Clear Time (g_c+I1), s	7.4	44.8		26.8		11.5
Green Ext Time (p_c), s	0.0	0.0		0.0		5.2

Intersection Summary	
HCM 6th Ctrl Delay	54.9
HCM 6th LOS	D

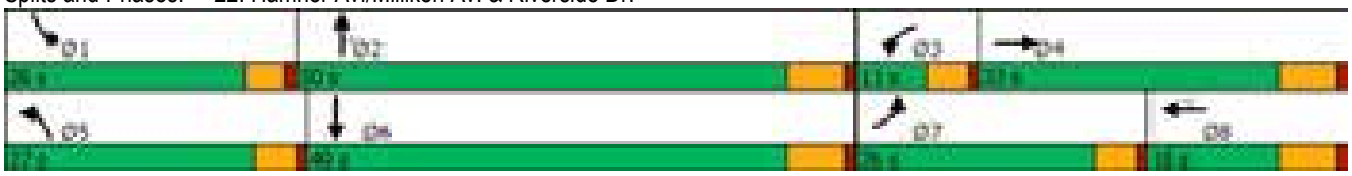
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	480	217	34	140	295	263	1226	70	296	706
Future Volume (vph)	480	217	34	140	295	263	1226	70	296	706
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	26.0	33.0	11.0	18.0	18.0	27.0	50.0	50.0	26.0	49.0
Total Split (%)	21.7%	27.5%	9.2%	15.0%	15.0%	22.5%	41.7%	41.7%	21.7%	40.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	21.4	31.2	6.0	11.8	11.8	22.4	43.8	43.8	21.4	42.8
Actuated g/C Ratio	0.18	0.26	0.05	0.10	0.10	0.19	0.36	0.36	0.18	0.36
v/c Ratio	1.96	1.96	0.49	0.93	0.82	1.02	1.15	0.12	1.21	0.97
Control Delay	471.4	465.3	76.2	106.4	26.9	106.9	113.8	0.4	163.6	55.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	471.4	465.3	76.2	106.4	26.9	106.9	113.8	0.4	163.6	55.6
LOS	F	F	E	F	C	F	F	A	F	E
Approach Delay		467.5		54.2			107.6			80.4
Approach LOS		F		D			F			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.96	
Intersection Signal Delay: 196.8	Intersection LOS: F
Intersection Capacity Utilization 128.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	480	217	619	34	140	295	263	1226	70	296	706	287
Future Volume (veh/h)	480	217	619	34	140	295	263	1226	70	296	706	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	552	249	658	39	161	305	302	1409	69	340	811	308
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	106	280	48	174	148	298	1229	548	284	851	323
Arrive On Green	0.18	0.25	0.25	0.03	0.10	0.10	0.19	0.37	0.37	0.18	0.36	0.36
Sat Flow, veh/h	1594	430	1137	1594	1772	1502	1594	3367	1502	1594	2387	905
Grp Volume(v), veh/h	552	0	907	39	161	305	302	1409	69	340	572	547
Grp Sat Flow(s),veh/h/ln	1594	0	1567	1594	1772	1502	1594	1683	1502	1594	1683	1609
Q Serve(g_s), s	21.4	0.0	29.6	2.9	10.8	11.8	22.4	43.8	3.7	21.4	39.7	39.8
Cycle Q Clear(g_c), s	21.4	0.0	29.6	2.9	10.8	11.8	22.4	43.8	3.7	21.4	39.7	39.8
Prop In Lane	1.00		0.73	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	284	0	386	48	174	148	298	1229	548	284	600	574
V/C Ratio(X)	1.94	0.00	2.35	0.81	0.92	2.07	1.02	1.15	0.13	1.20	0.95	0.95
Avail Cap(c_a), veh/h	284	0	386	85	174	148	298	1229	548	284	600	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	45.2	57.8	53.7	54.1	48.8	38.1	25.4	49.3	37.6	37.6
Incr Delay (d2), s/veh	436.6	0.0	615.1	11.1	46.7	502.1	56.1	75.9	0.1	117.4	25.3	26.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	42.6	0.0	76.9	1.3	6.9	24.9	13.2	29.8	1.3	17.4	19.5	18.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	485.9	0.0	660.3	68.9	100.4	556.2	104.9	114.0	25.5	166.7	62.9	64.1
LnGrp LOS	F	A	F	E	F	F	F	F	C	F	E	E
Approach Vol, veh/h		1459			505			1780			1459	
Approach Delay, s/veh		594.3			373.2			109.0			87.5	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	50.0	8.2	35.8	27.0	49.0	26.0	18.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	43.8	6.4	26.8	22.4	42.8	21.4	11.8
Max Q Clear Time (g_c+I1), s	23.4	45.8	4.9	31.6	24.4	41.8	23.4	13.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	264.7
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	17.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	110	57	3	1459	1463	19
Future Vol, veh/h	110	57	3	1459	1463	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	125	65	3	1658	1663	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2509	1674	1685	0	-	0
Stage 1	1674	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	~ 27	117	377	-	-	-
Stage 1	166	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 24	117	377	-	-	-
Mov Cap-2 Maneuver	132	-	-	-	-	-
Stage 1	149	-	-	-	-	-
Stage 2	387	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 327.3	0.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	377	-	126	-	-
HCM Lane V/C Ratio	0.009	-	1.506	-	-
HCM Control Delay (s)	14.6	0.7	$ 327.3	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	13.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	573	1208	269	1040	453	148	762	378	415	291	166
Future Volume (vph)	573	1208	269	1040	453	148	762	378	415	291	166
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	11.3	48.5	13.0	50.2	50.2	11.0	47.5	47.5	11.0	47.5	47.5
Total Split (%)	9.4%	40.4%	10.8%	41.8%	41.8%	9.2%	39.6%	39.6%	9.2%	39.6%	39.6%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.8	36.1	8.6	37.8	37.8	6.5	27.2	27.2	6.5	27.2	27.2
Actuated g/C Ratio	0.07	0.36	0.09	0.38	0.38	0.06	0.27	0.27	0.06	0.27	0.27
v/c Ratio	2.56	0.55	0.96	0.82	0.68	0.69	0.58	0.75	1.95	0.32	0.32
Control Delay	737.7	27.4	92.2	35.1	23.0	66.3	33.5	31.0	467.4	30.3	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	737.7	27.4	92.2	35.1	23.0	66.3	33.5	31.0	467.4	30.3	8.4
LOS	F	C	F	D	C	E	C	C	F	C	A
Approach Delay		256.0		40.7			36.5			234.1	
Approach LOS		F		D			D			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.56	
Intersection Signal Delay: 136.5	Intersection LOS: F
Intersection Capacity Utilization 89.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	573	1208	0	269	1040	453	148	762	378	415	291	166
Future Volume (veh/h)	573	1208	0	269	1040	453	148	762	378	415	291	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	597	1258	-36	280	1083	344	154	794	238	432	303	102
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	2313	0	323	1345	600	223	1184	367	246	848	378
Arrive On Green	0.07	0.36	0.00	0.09	0.38	0.38	0.06	0.23	0.23	0.07	0.24	0.24
Sat Flow, veh/h	3456	6696	0	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	597	1222	0	280	1083	344	154	794	238	432	303	102
Grp Sat Flow(s),veh/h/ln	1728	1609	0	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	6.7	13.5	0.0	7.2	24.5	15.5	3.9	12.7	12.2	6.4	6.4	4.7
Cycle Q Clear(g_c), s	6.7	13.5	0.0	7.2	24.5	15.5	3.9	12.7	12.2	6.4	6.4	4.7
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	2313	0	323	1345	600	223	1184	367	246	848	378
V/C Ratio(X)	2.32	0.53	0.00	0.87	0.81	0.57	0.69	0.67	0.65	1.75	0.36	0.27
Avail Cap(c_a), veh/h	258	3010	0	323	1730	771	246	2349	729	246	1635	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	22.7	0.0	40.1	25.0	22.2	41.1	31.4	31.2	41.7	28.5	27.8
Incr Delay (d2), s/veh	603.9	0.2	0.0	20.3	2.2	0.9	5.4	0.7	1.9	355.4	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.3	4.6	0.0	3.7	9.4	5.2	1.7	4.9	4.4	14.7	2.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	645.4	22.9	0.0	60.4	27.2	23.0	46.5	32.0	33.1	397.1	28.7	28.2
LnGrp LOS	F	C	A	E	C	C	D	C	C	F	C	C
Approach Vol, veh/h		1819			1707			1186			837	
Approach Delay, s/veh		227.2			31.8			34.1			218.8	
Approach LOS		F			C			C			F	

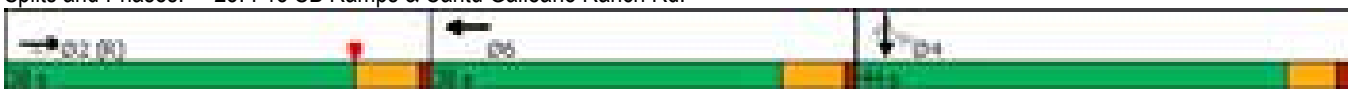
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	27.0	13.0	38.8	10.4	27.6	11.3	40.5
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.4	41.3	8.4	42.0	6.4	41.3	6.7	43.7
Max Q Clear Time (g_c+I1), s	8.4	14.7	9.2	15.5	5.9	8.4	8.7	26.5
Green Ext Time (p_c), s	0.0	6.1	0.0	8.5	0.0	2.1	0.0	7.5

Intersection Summary	
HCM 6th Ctrl Delay	124.6
HCM 6th LOS	F

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1348	178	684	360	313	0	1505
Future Volume (vph)	1348	178	684	360	313	0	1505
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	38.0	38.0	38.0		44.0	44.0	44.0
Total Split (%)	31.7%	31.7%	31.7%		36.7%	36.7%	36.7%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	Min		Min	Min	Min
Act Effct Green (s)	31.2	31.2	29.2	120.0	40.5	40.5	40.5
Actuated g/C Ratio	0.26	0.26	0.24	1.00	0.34	0.34	0.34
v/c Ratio	1.11	0.36	0.86	0.14	0.54	0.98	0.95
Control Delay	101.4	10.6	49.8	0.1	37.1	39.5	34.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.4	10.6	49.8	0.1	37.1	39.5	34.6
LOS	F	B	D	A	D	D	C
Approach Delay	90.9		32.7			37.0	
Approach LOS	F		C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.11	
Intersection Signal Delay: 54.7	Intersection LOS: D
Intersection Capacity Utilization 91.3%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1348	178	0	684	360	0	0	0	313	0	1505
Future Volume (veh/h)	0	1348	178	0	684	360	0	0	0	313	0	1505
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1465	0	0	743	0				227	0	997
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2945		0	2049					571	0	1017
Arrive On Green	0.00	0.58	0.00	0.00	0.19	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	1465	0	0	743	0				227	0	997
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	20.4	0.0	0.0	21.8	0.0				11.9	0.0	37.4
Cycle Q Clear(g_c), s	0.0	20.4	0.0	0.0	21.8	0.0				11.9	0.0	37.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2945		0	2049					571	0	1017
V/C Ratio(X)	0.00	0.50		0.00	0.36					0.40	0.00	0.98
Avail Cap(c_a), veh/h	0	2945		0	2049					571	0	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.36	0.00	0.00	0.81	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.1	0.0	0.0	29.4	0.0				31.7	0.0	40.4
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.1	0.0				0.4	0.0	23.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.0	0.0	0.0	10.3	0.0				5.0	0.0	17.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.3	0.0	0.0	29.5	0.0				32.2	0.0	63.8
LnGrp LOS	A	B		A	C					C	A	E
Approach Vol, veh/h		1465	A		743	A					1224	
Approach Delay, s/veh		15.3			29.5						57.9	
Approach LOS		B			C						E	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		76.0		44.0		76.0						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		31.2		38.5		31.2						
Max Q Clear Time (g_c+I1), s		22.4		39.4		23.8						
Green Ext Time (p_c), s		5.5		0.0		2.6						

Intersection Summary		
HCM 6th Ctrl Delay		33.6
HCM 6th LOS		C

Notes

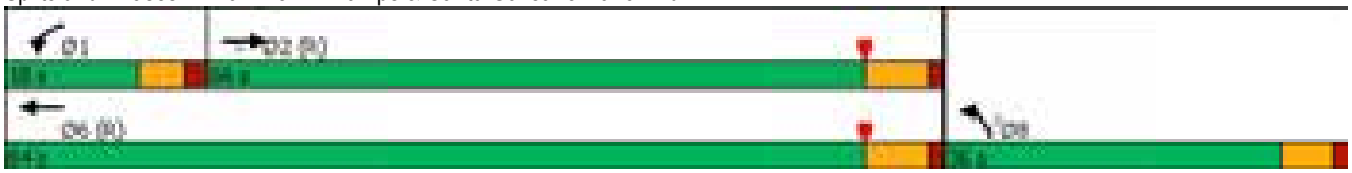
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	558	983	253	507	461	481
Future Volume (vph)	558	983	253	507	461	481
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.5	22.5	22.5	22.5
Total Split (s)	66.0	66.0	18.0	84.0	36.0	36.0
Total Split (%)	55.0%	55.0%	15.0%	70.0%	30.0%	30.0%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	60.4	60.4	12.5	78.9	27.8	27.8
Actuated g/C Ratio	0.50	0.50	0.10	0.66	0.23	0.23
v/c Ratio	0.24	0.90	0.77	0.16	0.86	0.56
Control Delay	22.5	32.5	67.7	8.3	52.8	7.9
Queue Delay	0.0	46.9	0.0	0.0	0.0	0.0
Total Delay	22.5	79.4	67.7	8.3	52.8	7.9
LOS	C	E	E	A	D	A
Approach Delay	58.8			28.1	38.6	
Approach LOS	E			C	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 45.7	Intersection LOS: D
Intersection Capacity Utilization 79.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	558	983	253	507	461	481
Future Volume (veh/h)	558	983	253	507	461	481
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	607	535	275	551	535	269
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2790	866	330	3533	703	313
Arrive On Green	0.18	0.18	0.10	0.69	0.20	0.20
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	607	535	275	551	535	269
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	12.2	37.4	9.4	4.5	17.0	19.7
Cycle Q Clear(g_c), s	12.2	37.4	9.4	4.5	17.0	19.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2790	866	330	3533	703	313
V/C Ratio(X)	0.22	0.62	0.83	0.16	0.76	0.86
Avail Cap(c_a), veh/h	2790	866	346	3533	891	396
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh	27.3	37.6	53.3	6.4	45.5	46.6
Incr Delay (d2), s/veh	0.0	0.3	13.3	0.1	3.0	14.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	15.7	4.5	1.3	7.6	8.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.3	37.9	66.7	6.5	48.5	60.9
LnGrp LOS	C	D	E	A	D	E
Approach Vol, veh/h	1142			826	804	
Approach Delay, s/veh	32.3			26.5	52.6	
Approach LOS	C			C	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	17.4	72.9				90.3	29.7
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	12.0	58.7				76.7	30.0
Max Q Clear Time (g_c+I1), s	11.4	39.4				6.5	21.7
Green Ext Time (p_c), s	0.1	5.5				3.5	2.0

Intersection Summary			
HCM 6th Ctrl Delay		36.5	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	563	380	322	33	265	295	346	20	24	67	122
Future Volume (vph)	563	380	322	33	265	295	346	20	24	67	122
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	17.0	47.9	47.9	9.6	40.5	13.0	52.2	52.2	10.3	49.5	49.5
Total Split (%)	14.2%	39.9%	39.9%	8.0%	33.8%	10.8%	43.5%	43.5%	8.6%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.4	27.6	27.6	5.4	12.5	9.1	22.9	22.9	5.7	12.4	12.4
Actuated g/C Ratio	0.19	0.39	0.39	0.08	0.17	0.13	0.32	0.32	0.08	0.17	0.17
v/c Ratio	0.95	0.17	0.42	0.14	0.40	0.74	0.33	0.04	0.18	0.23	0.33
Control Delay	57.4	17.0	4.6	40.0	23.8	44.7	20.7	0.1	42.3	26.4	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	17.0	4.6	40.0	23.8	44.7	20.7	0.1	42.3	26.4	5.3
LOS	E	B	A	D	C	D	C	A	D	C	A
Approach Delay		31.8			25.3		30.8			16.1	
Approach LOS		C			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 71.5	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 29.3	Intersection LOS: C
Intersection Capacity Utilization 54.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	563	380	322	33	265	65	295	346	20	24	67	122
Future Volume (veh/h)	563	380	322	33	265	65	295	346	20	24	67	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	612	413	240	36	288	51	321	376	12	26	73	106
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	730	1972	486	134	588	101	441	751	335	53	212	180
Arrive On Green	0.21	0.31	0.31	0.04	0.13	0.13	0.13	0.21	0.21	0.03	0.11	0.11
Sat Flow, veh/h	3456	6434	1585	3456	4388	751	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	612	413	240	36	221	118	321	376	12	26	73	106
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1735	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	9.1	2.6	6.6	0.5	3.2	3.4	4.8	5.0	0.3	0.8	1.9	3.4
Cycle Q Clear(g_c), s	9.1	2.6	6.6	0.5	3.2	3.4	4.8	5.0	0.3	0.8	1.9	3.4
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	730	1972	486	134	456	233	441	751	335	53	212	180
V/C Ratio(X)	0.84	0.21	0.49	0.27	0.48	0.51	0.73	0.50	0.04	0.49	0.34	0.59
Avail Cap(c_a), veh/h	798	4962	1223	322	2156	1099	541	3026	1350	189	1498	1270
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	13.8	15.2	25.1	21.5	21.6	22.5	18.7	16.8	25.6	21.9	22.6
Incr Delay (d2), s/veh	6.7	0.1	0.8	0.4	0.8	1.7	2.7	0.5	0.0	2.5	1.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.7	1.9	0.2	1.1	1.2	1.8	1.8	0.1	0.3	0.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	13.8	16.0	25.5	22.3	23.3	25.2	19.2	16.9	28.2	22.9	25.6
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	C	C
Approach Vol, veh/h		1265			375			709			205	
Approach Delay, s/veh		20.6			22.9			21.9			25.0	
Approach LOS		C			C			C			C	

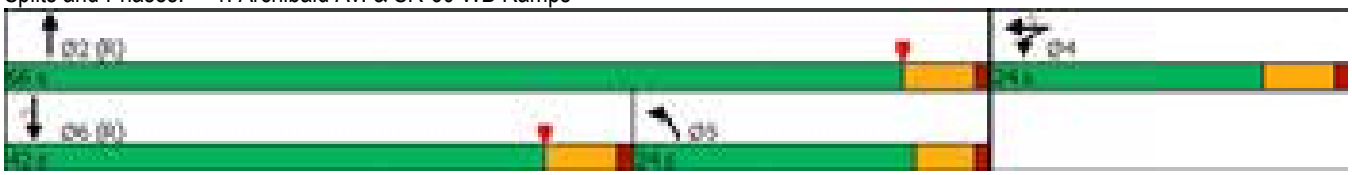
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	17.8	6.7	23.0	11.5	12.6	15.9	13.7
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	5.7	45.7	5.0	41.4	8.4	43.0	12.4	34.0
Max Q Clear Time (g_c+I1), s	2.8	7.0	2.5	8.6	6.8	5.4	11.1	5.4
Green Ext Time (p_c), s	0.0	2.4	0.0	3.3	0.1	0.7	0.2	1.8

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	495	1	213	651	715	1954	390
Future Volume (vph)	495	1	213	651	715	1954	390
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	24.0	24.0	24.0	24.0	66.0	42.0	42.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	73.3%	46.7%	46.7%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	17.2	17.2	17.2	18.7	61.2	37.4	37.4
Actuated g/C Ratio	0.19	0.19	0.19	0.21	0.68	0.42	0.42
v/c Ratio	0.83	0.84	0.44	0.93	0.21	0.75	0.49
Control Delay	58.0	58.5	8.1	50.3	0.4	24.8	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	58.5	8.1	50.3	0.4	24.8	8.4
LOS	E	E	A	D	A	C	A
Approach Delay		44.7			24.2	22.1	
Approach LOS		D			C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 83.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	495	1	213	651	715	0	0	1954	390
Future Volume (veh/h)	0	0	0	495	1	213	651	715	0	0	1954	390
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				539	0	73	664	730	0	0	1994	298
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				631	0	281	845	3544	0	0	2478	595
Arrive On Green				0.18	0.00	0.18	0.08	0.23	0.00	0.00	0.39	0.39
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	6696	1545
Grp Volume(v), veh/h				539	0	73	664	730	0	0	1994	298
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1609	1545
Q Serve(g_s), s				13.2	0.0	3.6	17.0	10.4	0.0	0.0	24.9	13.2
Cycle Q Clear(g_c), s				13.2	0.0	3.6	17.0	10.4	0.0	0.0	24.9	13.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				631	0	281	845	3544	0	0	2478	595
V/C Ratio(X)				0.85	0.00	0.26	0.79	0.21	0.00	0.00	0.80	0.50
Avail Cap(c_a), veh/h				720	0	321	845	3544	0	0	2588	622
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.88	0.88	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.9	0.0	31.9	39.1	14.6	0.0	0.0	24.7	21.1
Incr Delay (d2), s/veh				8.9	0.0	0.5	4.0	0.1	0.0	0.0	2.9	3.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	0.0	3.4	8.2	4.0	0.0	0.0	9.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				44.8	0.0	32.4	43.1	14.7	0.0	0.0	27.6	24.1
LnGrp LOS				D	A	C	D	B	A	A	C	C
Approach Vol, veh/h					612			1394			2292	
Approach Delay, s/veh					43.3			28.2			27.1	
Approach LOS					D			C			C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	68.3	21.7	27.8	40.5
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	60.2	18.2	19.0	* 36
Max Q Clear Time (g_c+I1), s	12.4	15.2	19.0	26.9
Green Ext Time (p_c), s	5.3	0.7	0.0	7.8

Intersection Summary	
HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

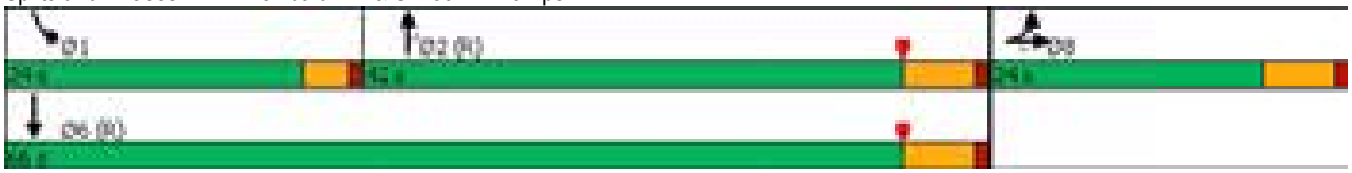
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	136	1	576	1232	668	662	1642
Future Volume (vph)	136	1	576	1232	668	662	1642
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	24.0	24.0	24.0	42.0	42.0	24.0	66.0
Total Split (%)	26.7%	26.7%	26.7%	46.7%	46.7%	26.7%	73.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	17.9	17.9	17.9	37.0	37.0	19.5	60.5
Actuated g/C Ratio	0.20	0.20	0.20	0.41	0.41	0.22	0.67
v/c Ratio	0.37	0.94	0.81	0.47	0.71	0.90	0.49
Control Delay	34.7	69.6	43.8	20.3	9.7	56.5	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	69.6	43.8	20.3	9.7	56.5	2.0
LOS	C	E	D	C	A	E	A
Approach Delay		53.0		16.6			17.7
Approach LOS		D		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 22.4	Intersection LOS: C
Intersection Capacity Utilization 83.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	1	576	0	0	0	0	1232	668	662	1642	0
Future Volume (veh/h)	136	1	576	0	0	0	0	1232	668	662	1642	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	92	0	397				0	1244	499	669	1659	0
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	274	0	487				0	2985	719	723	3664	0
Arrive On Green	0.15	0.00	0.15				0.00	0.46	0.46	0.42	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	6696	1550	3456	5274	0
Grp Volume(v), veh/h	92	0	397				0	1244	499	669	1659	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1550	1728	1702	0
Q Serve(g_s), s	4.1	0.0	10.9				0.0	11.6	22.9	16.5	0.0	0.0
Cycle Q Clear(g_c), s	4.1	0.0	10.9				0.0	11.6	22.9	16.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	274	0	487				0	2985	719	723	3664	0
V/C Ratio(X)	0.34	0.00	0.82				0.00	0.42	0.69	0.93	0.45	0.00
Avail Cap(c_a), veh/h	360	0	641				0	2985	719	768	3664	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.57	0.57	0.00
Uniform Delay (d), s/veh	34.0	0.0	36.9				0.0	16.0	19.1	25.5	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	6.1				0.0	0.4	5.5	10.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	4.4				0.0	3.8	8.2	5.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	0.0	43.0				0.0	16.5	24.5	35.8	0.2	0.0
LnGrp LOS	C	A	D				A	B	C	D	A	A
Approach Vol, veh/h		489						1743			2328	
Approach Delay, s/veh		41.4						18.8			10.5	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	22.8	47.6				70.4		19.6				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	20.0	36.2				60.2		18.2				
Max Q Clear Time (g_c+I1), s	18.5	24.9				2.0		12.9				
Green Ext Time (p_c), s	0.3	7.0				17.0		0.9				

Intersection Summary			
HCM 6th Ctrl Delay			17.0
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	223	973	695	245	793	220	374	1180	353	1191
Future Volume (vph)	223	973	695	245	793	220	374	1180	353	1191
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	21.0	42.2	42.2	17.0	38.2	38.2	27.0	32.8	28.0	33.8
Total Split (%)	17.5%	35.2%	35.2%	14.2%	31.8%	31.8%	22.5%	27.3%	23.3%	28.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	16.4	36.0	36.0	12.4	32.0	32.0	22.4	26.6	23.4	27.6
Actuated g/C Ratio	0.14	0.30	0.30	0.10	0.27	0.27	0.19	0.22	0.20	0.23
v/c Ratio	1.06	0.99	0.95	1.53	0.90	0.42	1.29	1.28	1.17	1.38
Control Delay	126.4	67.7	38.7	305.0	57.3	9.9	195.2	173.5	148.1	213.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.4	67.7	38.7	305.0	57.3	9.9	195.2	173.5	148.1	213.0
LOS	F	E	D	F	E	A	F	F	F	F
Approach Delay		64.0			97.3			178.2		200.7
Approach LOS		E			F			F		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.53	
Intersection Signal Delay: 137.0	Intersection LOS: F
Intersection Capacity Utilization 116.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	973	695	245	793	220	374	1180	156	353	1191	307
Future Volume (veh/h)	223	973	695	245	793	220	374	1180	156	353	1191	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	228	993	640	250	809	175	382	1204	152	360	1215	280
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	997	434	163	886	393	294	949	120	307	941	217
Arrive On Green	0.13	0.30	0.30	0.10	0.26	0.26	0.18	0.22	0.22	0.19	0.24	0.24
Sat Flow, veh/h	1594	3367	1468	1594	3367	1495	1594	4339	548	1594	3918	903
Grp Volume(v), veh/h	228	993	640	250	809	175	382	895	461	360	1000	495
Grp Sat Flow(s),veh/h/ln	1594	1683	1468	1594	1683	1495	1594	1612	1661	1594	1612	1596
Q Serve(g_s), s	16.4	35.8	36.0	12.4	28.3	7.1	22.4	26.6	26.6	23.4	29.2	29.2
Cycle Q Clear(g_c), s	16.4	35.8	36.0	12.4	28.3	7.1	22.4	26.6	26.6	23.4	29.2	29.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.57
Lane Grp Cap(c), veh/h	215	997	434	163	886	393	294	705	363	307	774	383
V/C Ratio(X)	1.06	1.00	1.47	1.54	0.91	0.44	1.30	1.27	1.27	1.17	1.29	1.29
Avail Cap(c_a), veh/h	215	997	434	163	886	393	294	705	363	307	774	383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	42.7	42.8	54.6	43.5	13.5	49.6	47.5	47.5	49.1	46.2	46.2
Incr Delay (d2), s/veh	78.3	27.5	225.1	270.5	13.7	0.8	158.2	131.9	141.0	107.1	140.7	149.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	17.9	39.5	17.0	12.9	4.0	21.5	23.1	24.7	18.0	26.3	26.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	130.9	70.3	267.9	325.1	57.1	14.3	207.8	179.4	188.5	156.2	186.9	195.6
LnGrp LOS	F	E	F	F	E	B	F	F	F	F	F	F
Approach Vol, veh/h		1861			1234			1738			1855	
Approach Delay, s/veh		145.7			105.3			188.0			183.3	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.6	32.8	17.0	42.2	27.0	35.4	21.0	38.2
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	23.4	* 27	12.4	36.0	22.4	27.6	16.4	32.0
Max Q Clear Time (g_c+I1), s	25.4	28.6	14.4	38.0	24.4	31.2	18.4	30.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	159.7
HCM 6th LOS	F

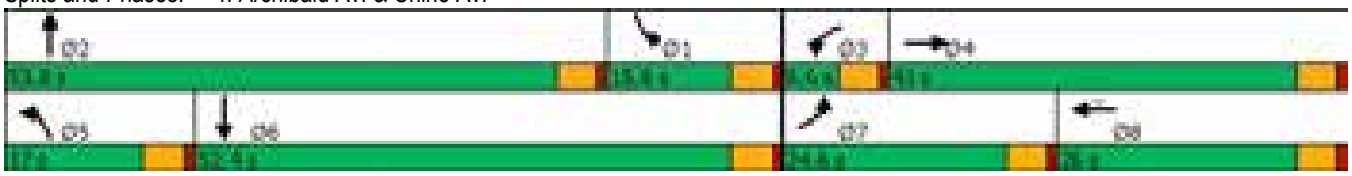
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	196	428	55	211	77	223	1411	93	1658
Future Volume (vph)	196	428	55	211	77	223	1411	93	1658
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	24.6	41.0	9.6	26.0	26.0	17.0	53.8	15.6	52.4
Total Split (%)	20.5%	34.2%	8.0%	21.7%	21.7%	14.2%	44.8%	13.0%	43.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	18.4	36.4	5.0	23.0	23.0	12.4	44.8	15.4	47.8
Actuated g/C Ratio	0.15	0.30	0.04	0.19	0.19	0.10	0.37	0.13	0.40
v/c Ratio	0.84	1.39	0.88	0.65	0.18	1.42	0.79	0.48	1.34
Control Delay	77.6	219.8	138.2	55.7	0.9	261.4	36.3	59.0	188.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.6	219.8	138.2	55.7	0.9	261.4	36.3	59.0	188.5
LOS	E	F	F	E	A	F	D	E	F
Approach Delay		188.5		56.6			65.6		182.1
Approach LOS		F		E			E		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.42	
Intersection Signal Delay: 133.1	Intersection LOS: F
Intersection Capacity Utilization 127.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	428	266	55	211	77	223	1411	77	93	1658	134
Future Volume (veh/h)	196	428	266	55	211	77	223	1411	77	93	1658	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	204	446	142	57	220	44	232	1470	44	97	1727	72
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	389	124	66	359	304	165	1727	52	263	1346	56
Arrive On Green	0.21	0.46	0.46	0.06	0.30	0.30	0.16	0.50	0.50	0.25	0.60	0.60
Sat Flow, veh/h	1594	1283	408	1594	1772	1502	1594	5132	154	1594	3379	140
Grp Volume(v), veh/h	204	0	588	57	220	44	232	1015	499	97	901	898
Grp Sat Flow(s),veh/h/ln	1594	0	1691	1594	1772	1502	1594	1772	1741	1594	1772	1747
Q Serve(g_s), s	14.9	0.0	36.4	4.3	12.7	1.8	12.4	29.8	29.8	6.0	47.8	47.8
Cycle Q Clear(g_c), s	14.9	0.0	36.4	4.3	12.7	1.8	12.4	29.8	29.8	6.0	47.8	47.8
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.09	1.00		0.08
Lane Grp Cap(c), veh/h	227	0	513	66	359	304	165	1193	586	263	706	696
V/C Ratio(X)	0.90	0.00	1.15	0.86	0.61	0.14	1.41	0.85	0.85	0.37	1.28	1.29
Avail Cap(c_a), veh/h	266	0	513	66	359	304	165	1453	714	263	706	696
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	0.0	32.7	55.9	37.7	16.6	50.7	27.1	27.1	40.0	24.1	24.2
Incr Delay (d2), s/veh	27.8	0.0	86.7	63.8	3.1	0.2	216.0	4.3	8.2	0.9	135.5	141.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	24.7	2.8	5.3	0.9	14.3	10.1	10.5	2.3	40.1	40.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.2	0.0	119.4	119.7	40.8	16.8	266.7	31.4	35.3	40.8	159.6	165.4
LnGrp LOS	E	A	F	F	D	B	F	C	D	D	F	F
Approach Vol, veh/h		792			321			1746			1896	
Approach Delay, s/veh		107.7			51.5			63.8			156.3	
Approach LOS		F			D			E			F	

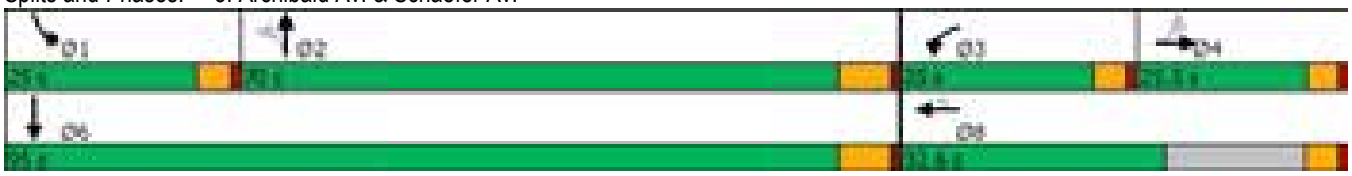
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.4	45.0	9.6	41.0	17.0	52.4	21.7	28.9
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	11.0	49.2	5.0	36.4	12.4	47.8	20.0	21.4
Max Q Clear Time (g_c+I1), s	8.0	31.8	6.3	38.4	14.4	49.8	16.9	14.7
Green Ext Time (p_c), s	0.0	8.5	0.0	0.0	0.0	0.0	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	107.1
HCM 6th LOS	F

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	28	24	25	74	1478	242	1589
Future Volume (vph)	20	28	24	25	74	1478	242	1589
Turn Type	Perm	NA	Prot	NA	Perm	NA	Prot	NA
Protected Phases		4	3	8		2	1	6
Permitted Phases	4				8			
Detector Phase	4	4	3	8	8	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	9.6	32.6	32.6	37.5	9.6	23.5
Total Split (s)	22.5	22.5	25.0	32.6	32.6	70.0	25.0	95.0
Total Split (%)	15.8%	15.8%	17.5%	22.9%	22.9%	49.1%	17.5%	66.7%
Yellow Time (s)	3.5	3.5	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	8.2	8.2	6.6	14.3	14.3	41.5	21.8	70.2
Actuated g/C Ratio	0.09	0.09	0.07	0.16	0.16	0.45	0.24	0.77
v/c Ratio	0.19	0.19	0.23	0.10	0.27	0.74	0.68	0.66
Control Delay	50.0	48.2	53.2	36.1	11.1	23.6	48.2	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	48.2	53.2	36.1	11.1	23.6	48.2	9.8
LOS	D	D	D	D	B	C	D	A
Approach Delay		49.0		24.5		23.6		14.9
Approach LOS		D		C		C		B

Intersection Summary	
Cycle Length: 142.5	
Actuated Cycle Length: 91.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 80.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	28	0	24	25	74	0	1478	34	242	1589	19
Future Volume (veh/h)	20	28	0	24	25	74	0	1478	34	242	1589	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	21	30	0	26	27	73	0	1572	34	257	1690	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	112	0	44	268	224	95	2229	48	294	2395	28
Arrive On Green	0.06	0.06	0.00	0.03	0.15	0.15	0.00	0.46	0.46	0.18	0.70	0.70
Sat Flow, veh/h	1130	1772	0	1594	1772	1484	256	4870	105	1594	3407	40
Grp Volume(v), veh/h	21	30	0	26	27	73	0	1041	565	257	834	876
Grp Sat Flow(s),veh/h/ln	1130	1772	0	1594	1772	1484	256	1612	1750	1594	1683	1764
Q Serve(g_s), s	1.4	1.2	0.0	1.2	1.0	3.3	0.0	19.7	19.7	11.9	22.2	22.3
Cycle Q Clear(g_c), s	1.4	1.2	0.0	1.2	1.0	3.3	0.0	19.7	19.7	11.9	22.2	22.3
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.06	1.00		0.02
Lane Grp Cap(c), veh/h	166	112	0	44	268	224	95	1476	801	294	1183	1240
V/C Ratio(X)	0.13	0.27	0.00	0.59	0.10	0.33	0.00	0.71	0.71	0.87	0.70	0.71
Avail Cap(c_a), veh/h	362	419	0	427	652	546	191	2691	1460	427	1957	2051
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	34.0	0.0	36.6	27.8	28.8	0.0	16.5	16.5	30.2	6.7	6.7
Incr Delay (d2), s/veh	0.3	1.3	0.0	4.5	0.2	0.8	0.0	0.6	1.2	9.6	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.5	0.0	0.5	0.4	1.2	0.0	5.9	6.5	4.8	4.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	35.3	0.0	41.1	28.0	29.7	0.0	17.1	17.7	39.8	7.4	7.4
LnGrp LOS	C	D	A	D	C	C	A	B	B	D	A	A
Approach Vol, veh/h		51			126			1606			1967	
Approach Delay, s/veh		34.9			31.7			17.3			11.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	18.7	41.3	6.7	9.4		60.0		16.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6		6.5		4.6				
Max Green Setting (Gmax), s	20.4	63.5	20.4	* 18		88.5		28.0				
Max Q Clear Time (g_c+I1), s	13.9	21.7	3.2	3.4		24.3		5.3				
Green Ext Time (p_c), s	0.2	13.2	0.0	0.1		17.3		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	775	874	308	333	133	305	1220	387	185	1716	126
Future Volume (vph)	178	775	874	308	333	133	305	1220	387	185	1716	126
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	10.1	39.3		17.0	46.2	46.2	14.0	45.1		18.6	49.7	49.7
Total Split (%)	8.4%	32.8%		14.2%	38.5%	38.5%	11.7%	37.6%		15.5%	41.4%	41.4%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.5	31.0	118.0	12.4	38.0	38.0	9.4	38.6	118.0	14.0	43.2	43.2
Actuated g/C Ratio	0.05	0.26	1.00	0.11	0.32	0.32	0.08	0.33	1.00	0.12	0.37	0.37
v/c Ratio	1.36	0.88	0.61	1.04	0.62	0.25	2.55	1.11	0.27	1.04	1.40	0.21
Control Delay	240.5	53.5	1.9	112.3	39.3	5.7	741.9	100.4	0.4	128.1	215.0	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	240.5	53.5	1.9	112.3	39.3	5.7	741.9	100.4	0.4	128.1	215.0	3.4
LOS	F	D	A	F	D	A	F	F	A	F	F	A
Approach Delay		47.0			62.6			182.5			193.9	
Approach LOS		D			E			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.55	
Intersection Signal Delay: 134.0	Intersection LOS: F
Intersection Capacity Utilization 120.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	775	874	308	333	133	305	1220	387	185	1716	126
Future Volume (veh/h)	178	775	874	308	333	133	305	1220	387	185	1716	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	187	816	0	324	351	82	321	1284	0	195	1806	101
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	915		318	562	476	128	1168		190	1307	554
Arrive On Green	0.05	0.26	0.00	0.11	0.32	0.32	0.08	0.33	0.00	0.12	0.37	0.37
Sat Flow, veh/h	3000	3544	1502	3000	1772	1500	1594	3544	1502	1594	3544	1502
Grp Volume(v), veh/h	187	816	0	324	351	82	321	1284	0	195	1806	101
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	5.5	26.0	0.0	12.4	19.8	4.6	9.4	38.6	0.0	14.0	43.2	5.3
Cycle Q Clear(g_c), s	5.5	26.0	0.0	12.4	19.8	4.6	9.4	38.6	0.0	14.0	43.2	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	915		318	562	476	128	1168		190	1307	554
V/C Ratio(X)	1.33	0.89		1.02	0.62	0.17	2.51	1.10		1.02	1.38	0.18
Avail Cap(c_a), veh/h	141	1001		318	605	512	128	1168		190	1307	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	41.9	0.0	52.4	34.1	28.9	53.9	39.3	0.0	51.6	37.0	25.0
Incr Delay (d2), s/veh	188.0	9.6	0.0	55.8	1.8	0.2	702.1	58.0	0.0	71.5	176.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	12.0	0.0	7.0	8.3	1.6	28.5	24.9	0.0	9.1	49.2	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	243.8	51.5	0.0	108.1	35.9	29.1	756.0	97.2	0.0	123.1	213.7	25.2
LnGrp LOS	F	D		F	D	C	F	F		F	F	C
Approach Vol, veh/h		1003	A		757			1605	A		2102	
Approach Delay, s/veh		87.4			66.1			229.0			196.2	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.6	45.1	17.0	36.4	14.0	49.7	10.1	43.3
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	14.0	38.6	12.4	33.1	9.4	43.2	5.5	40.0
Max Q Clear Time (g_c+I1), s	16.0	40.6	14.4	28.0	11.4	45.2	7.5	21.8
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.0	0.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	167.8
HCM 6th LOS	F

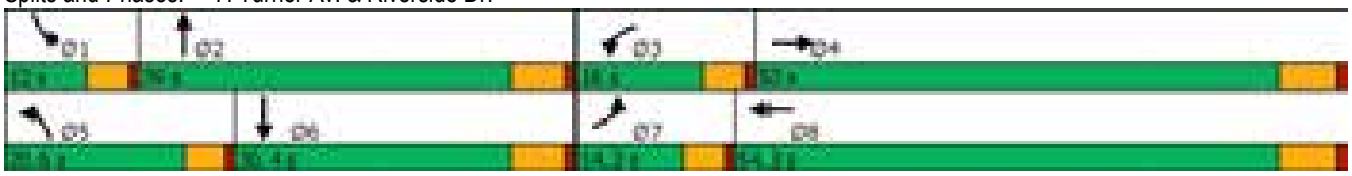
Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	105	1070	140	1118	206	69	36	68
Future Volume (vph)	105	1070	140	1118	206	69	36	68
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	14.2	53.0	16.0	54.8	20.6	39.0	12.0	30.4
Total Split (%)	11.8%	44.2%	13.3%	45.7%	17.2%	32.5%	10.0%	25.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.4	46.9	11.4	48.9	16.0	26.0	6.5	12.4
Actuated g/C Ratio	0.09	0.43	0.11	0.45	0.15	0.24	0.06	0.11
v/c Ratio	0.78	0.97	0.86	0.80	0.90	0.29	0.39	0.33
Control Delay	84.8	48.6	89.7	30.8	85.0	12.4	62.1	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.8	48.6	89.7	30.8	85.0	12.4	62.1	25.0
LOS	F	D	F	C	F	B	E	C
Approach Delay		51.2		37.1		46.5		33.0
Approach LOS		D		D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 44.2	Intersection LOS: D
Intersection Capacity Utilization 88.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	1070	273	140	1118	49	206	69	163	36	68	64
Future Volume (veh/h)	105	1070	273	140	1118	49	206	69	163	36	68	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	108	1103	147	144	1153	30	212	71	86	37	70	35
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	1219	162	170	1453	38	238	390	344	52	254	118
Arrive On Green	0.12	0.61	0.61	0.16	0.65	0.65	0.22	0.35	0.35	0.05	0.17	0.17
Sat Flow, veh/h	1594	2978	396	1594	3351	87	1594	1683	1485	1594	2215	1027
Grp Volume(v), veh/h	108	623	627	144	579	604	212	71	86	37	52	53
Grp Sat Flow(s),veh/h/ln	1594	1683	1690	1594	1683	1755	1594	1683	1485	1594	1683	1559
Q Serve(g_s), s	6.4	30.9	31.1	8.5	23.9	24.0	12.4	2.8	4.0	2.2	2.6	2.9
Cycle Q Clear(g_c), s	6.4	30.9	31.1	8.5	23.9	24.0	12.4	2.8	4.0	2.2	2.6	2.9
Prop In Lane	1.00		0.23	1.00		0.05	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	131	689	692	170	730	761	238	390	344	52	193	178
V/C Ratio(X)	0.82	0.90	0.91	0.85	0.79	0.79	0.89	0.18	0.25	0.71	0.27	0.30
Avail Cap(c_a), veh/h	159	818	821	189	849	885	265	580	512	122	430	398
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	16.9	17.0	39.7	13.7	13.7	36.6	25.1	25.5	45.4	36.4	36.5
Incr Delay (d2), s/veh	21.0	12.0	12.3	24.7	4.5	4.4	25.4	0.2	0.4	6.5	0.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	8.8	8.9	4.1	6.1	6.3	5.9	1.1	1.3	0.9	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.5	28.9	29.3	64.4	18.2	18.1	61.9	25.3	25.8	51.9	37.1	37.4
LnGrp LOS	E	C	C	E	B	B	E	C	C	D	D	D
Approach Vol, veh/h		1358			1327			369			142	
Approach Delay, s/veh		31.8			23.2			46.5			41.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	28.1	14.9	45.6	19.0	16.8	12.5	48.0
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	7.4	33.2	11.4	46.8	16.0	24.6	9.6	48.6
Max Q Clear Time (g_c+I1), s	4.2	6.0	10.5	33.1	14.4	4.9	8.4	26.0
Green Ext Time (p_c), s	0.0	0.8	0.0	6.3	0.0	0.4	0.0	7.3

Intersection Summary	
HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	16.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	192	290	74	51	194	94	24	153	59	86	238	69
Future Vol, veh/h	192	290	74	51	194	94	24	153	59	86	238	69
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	209	315	80	55	211	102	26	166	64	93	259	75
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

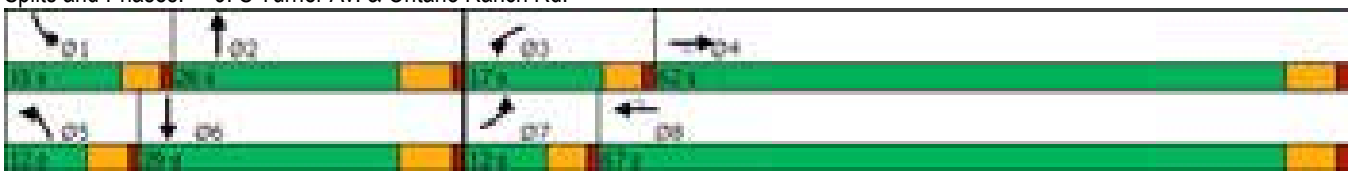
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	18.4	16	15.1	16.3
HCM LOS	C	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	46%	0%	100%	57%	0%	100%	41%	0%	100%	53%
Vol Right, %	0%	0%	54%	0%	0%	43%	0%	0%	59%	0%	0%	47%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	102	110	192	193	171	51	129	159	86	159	148
LT Vol	24	0	0	192	0	0	51	0	0	86	0	0
Through Vol	0	102	51	0	193	97	0	129	65	0	159	79
RT Vol	0	0	59	0	0	74	0	0	94	0	0	69
Lane Flow Rate	26	111	120	209	210	186	55	141	172	93	172	161
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.07	0.282	0.291	0.508	0.482	0.41	0.143	0.343	0.401	0.239	0.417	0.375
Departure Headway (Hd)	9.642	9.142	8.766	8.764	8.264	7.961	9.295	8.795	8.38	9.196	8.696	8.37
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	372	394	410	413	437	454	386	409	429	392	416	432
Service Time	7.395	6.895	6.52	6.483	5.983	5.679	7.047	6.547	6.132	6.916	6.416	6.09
HCM Lane V/C Ratio	0.07	0.282	0.293	0.506	0.481	0.41	0.142	0.345	0.401	0.237	0.413	0.373
HCM Control Delay	13.1	15.5	15.1	20.2	18.5	16.1	13.6	16.1	16.7	14.8	17.5	16
HCM Lane LOS	B	C	C	C	C	C	B	C	C	B	C	C
HCM 95th-tile Q	0.2	1.1	1.2	2.8	2.6	2	0.5	1.5	1.9	0.9	2	1.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	158	2204	53	84	1907	163	19	19	179	38
Future Volume (vph)	158	2204	53	84	1907	163	19	19	179	38
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	12.0	62.0	62.0	17.0	67.0	67.0	12.0	26.0	15.0	29.0
Total Split (%)	10.0%	51.7%	51.7%	14.2%	55.8%	55.8%	10.0%	21.7%	12.5%	24.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	7.4	61.5	61.5	9.4	61.3	61.3	5.9	8.7	10.4	19.3
Actuated g/C Ratio	0.07	0.57	0.57	0.09	0.56	0.56	0.05	0.08	0.10	0.18
v/c Ratio	1.42	1.18	0.06	0.59	1.03	0.18	0.21	0.46	1.14	0.33
Control Delay	266.2	113.6	0.1	63.8	52.2	3.1	55.7	23.6	155.7	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	266.2	113.6	0.1	63.8	52.2	3.1	55.7	23.6	155.7	21.8
LOS	F	F	A	E	D	A	E	C	F	C
Approach Delay		121.1			48.9			29.4		105.3
Approach LOS		F			D			C		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.42	
Intersection Signal Delay: 86.9	Intersection LOS: F
Intersection Capacity Utilization 95.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	2204	53	84	1907	163	19	19	66	179	38	70
Future Volume (veh/h)	158	2204	53	84	1907	163	19	19	66	179	38	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	2370	35	90	2051	89	20	20	39	192	41	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	2080	928	114	2059	919	37	31	61	175	111	116
Arrive On Green	0.07	0.59	0.59	0.06	0.58	0.58	0.02	0.06	0.06	0.10	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	567	1105	1781	836	877
Grp Volume(v), veh/h	170	2370	35	90	2051	89	20	0	59	192	0	84
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1671	1781	0	1713
Q Serve(g_s), s	7.4	61.8	1.0	5.3	60.6	2.6	1.2	0.0	3.7	10.4	0.0	4.7
Cycle Q Clear(g_c), s	7.4	61.8	1.0	5.3	60.6	2.6	1.2	0.0	3.7	10.4	0.0	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.66	1.00		0.51
Lane Grp Cap(c), veh/h	125	2080	928	114	2059	919	37	0	92	175	0	227
V/C Ratio(X)	1.36	1.14	0.04	0.79	1.00	0.10	0.53	0.00	0.64	1.09	0.00	0.37
Avail Cap(c_a), veh/h	125	2080	928	209	2059	919	125	0	320	175	0	376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	21.9	9.3	48.7	22.1	9.9	51.2	0.0	48.9	47.6	0.0	41.8
Incr Delay (d2), s/veh	205.9	69.1	0.0	4.5	18.8	0.0	4.3	0.0	7.2	95.5	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	41.5	0.3	2.4	26.7	0.8	0.6	0.0	1.7	9.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	255.0	91.0	9.3	53.2	40.9	9.9	55.5	0.0	56.1	143.1	0.0	42.8
LnGrp LOS	F	F	A	D	D	A	E	A	E	F	A	D
Approach Vol, veh/h		2575			2230			79			276	
Approach Delay, s/veh		100.7			40.2			56.0			112.6	
Approach LOS		F			D			E			F	

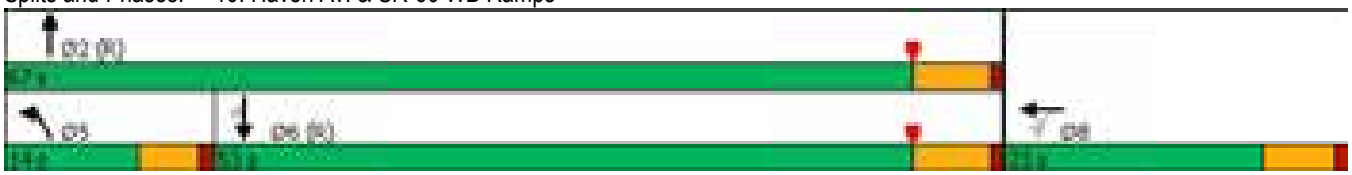
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	11.6	11.4	67.6	6.8	19.8	12.0	67.0
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	10.4	20.2	12.4	56.2	7.4	23.2	7.4	61.2
Max Q Clear Time (g_c+I1), s	12.4	5.7	7.3	63.8	3.2	6.7	9.4	62.6
Green Ext Time (p_c), s	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	74.5
HCM 6th LOS	E

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	384	12	682	260	1214	2187	844
Future Volume (vph)	384	12	682	260	1214	2187	844
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	23.0	23.0		14.0	67.0	53.0	53.0
Total Split (%)	25.6%	25.6%		15.6%	74.4%	58.9%	58.9%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	14.9	14.9	90.0	9.3	63.1	48.7	48.7
Actuated g/C Ratio	0.17	0.17	1.00	0.10	0.70	0.54	0.54
v/c Ratio	0.75	0.73	0.45	0.76	0.36	0.83	0.76
Control Delay	52.2	51.0	0.9	39.1	8.6	21.0	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	51.0	0.9	39.1	8.6	21.0	9.0
LOS	D	D	A	D	A	C	A
Approach Delay		19.6			14.0	17.7	
Approach LOS		B			B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 17.1	Intersection LOS: B
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	384	12	682	260	1214	0	0	2187	844
Future Volume (veh/h)	0	0	0	384	12	682	260	1214	0	0	2187	844
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				409	0	0	271	1265	0	0	2278	731
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				503	0		336	3704	0	0	2924	896
Arrive On Green				0.14	0.00	0.00	0.19	1.00	0.00	0.00	0.57	0.57
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1565
Grp Volume(v), veh/h				409	0	0	271	1265	0	0	2278	731
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1565
Q Serve(g_s), s				10.0	0.0	0.0	6.7	0.0	0.0	0.0	31.0	33.7
Cycle Q Clear(g_c), s				10.0	0.0	0.0	6.7	0.0	0.0	0.0	31.0	33.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				503	0		336	3704	0	0	2924	896
V/C Ratio(X)				0.81	0.00		0.81	0.34	0.00	0.00	0.78	0.82
Avail Cap(c_a), veh/h				681	0		346	3704	0	0	2924	896
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.30	0.30	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.5	0.0	0.0	35.4	0.0	0.0	0.0	14.8	15.4
Incr Delay (d2), s/veh				5.4	0.0	0.0	3.9	0.1	0.0	0.0	2.1	8.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.5	0.0	0.0	2.6	0.0	0.0	0.0	10.4	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.9	0.0	0.0	39.3	0.1	0.0	0.0	17.0	23.5
LnGrp LOS				D	A		D	A	A	A	B	C
Approach Vol, veh/h					409	A		1536			3009	
Approach Delay, s/veh					42.9			7.0			18.6	
Approach LOS					D			A			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	71.5		13.7	57.7		18.5						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	60.8		9.0	46.8		17.2						
Max Q Clear Time (g_c+I1), s	2.0		8.7	35.7		12.0						
Green Ext Time (p_c), s	6.5		0.0	8.7		0.7						

Intersection Summary		
HCM 6th Ctrl Delay	17.0	
HCM 6th LOS	B	

Notes

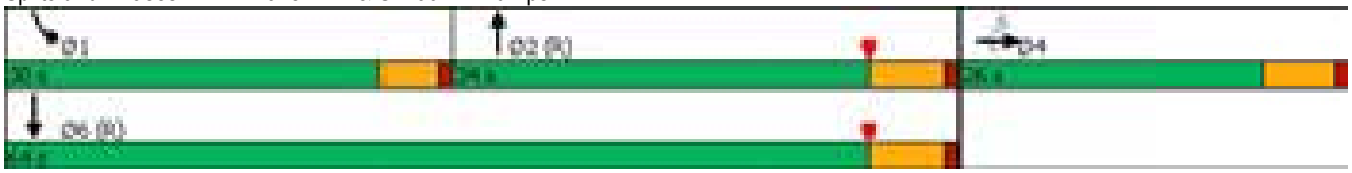
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	423	2	413	1236	739	1947
Future Volume (vph)	423	2	413	1236	739	1947
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	26.0	26.0	26.0	34.0	30.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	37.8%	33.3%	71.1%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	20.2	20.2	20.2	29.3	23.5	57.8
Actuated g/C Ratio	0.22	0.22	0.22	0.33	0.26	0.64
v/c Ratio	0.58	0.59	1.00	0.95	0.86	0.62
Control Delay	38.3	38.5	71.1	43.9	51.0	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	38.3	38.5	71.1	43.9	51.0	6.7
LOS	D	D	E	D	D	A
Approach Delay		54.5		43.9		18.9
Approach LOS		D		D		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 32.3	Intersection LOS: C
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	423	2	413	0	0	0	0	1236	267	739	1947	0
Future Volume (veh/h)	423	2	413	0	0	0	0	1236	267	739	1947	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	442	0	222				0	1288	143	770	2028	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	612	0	272				0	1846	205	841	3548	0
Arrive On Green	0.17	0.00	0.17				0.00	0.40	0.40	0.49	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4831	518	3456	5274	0
Grp Volume(v), veh/h	442	0	222				0	940	491	770	2028	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1777	1728	1702	0
Q Serve(g_s), s	10.6	0.0	12.1				0.0	20.7	20.7	18.6	0.0	0.0
Cycle Q Clear(g_c), s	10.6	0.0	12.1				0.0	20.7	20.7	18.6	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.29	1.00		0.00
Lane Grp Cap(c), veh/h	612	0	272				0	1348	704	841	3548	0
V/C Ratio(X)	0.72	0.00	0.81				0.00	0.70	0.70	0.92	0.57	0.00
Avail Cap(c_a), veh/h	800	0	356				0	1348	704	960	3548	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.46	0.46	0.00
Uniform Delay (d), s/veh	35.2	0.0	35.9				0.0	22.7	22.7	22.3	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	10.6				0.0	3.0	5.7	6.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	5.2				0.0	8.0	8.9	5.5	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	0.0	46.5				0.0	25.7	28.4	28.6	0.3	0.0
LnGrp LOS	D	A	D				A	C	C	C	A	A
Approach Vol, veh/h		664						1431			2798	
Approach Delay, s/veh		40.5						26.6			8.1	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	26.9	41.8		21.3		68.7
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	25.0	27.8		20.2		57.8
Max Q Clear Time (g_c+I1), s	20.6	22.7		14.1		2.0
Green Ext Time (p_c), s	1.3	2.8		1.3		14.7

Intersection Summary		
HCM 6th Ctrl Delay		17.9
HCM 6th LOS		B

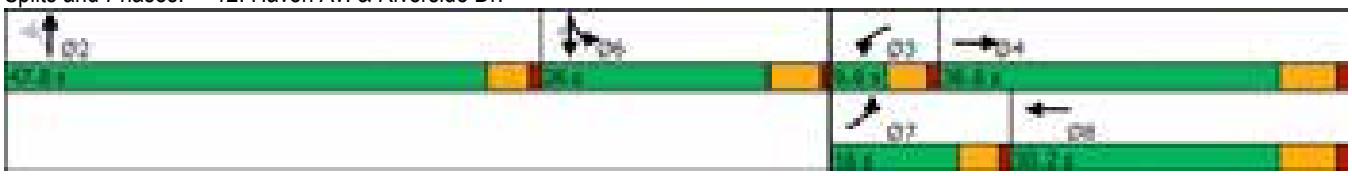
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	462	709	147	538	85	742	262	919	571
Future Volume (vph)	462	709	147	538	85	742	262	919	571
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	16.0	36.6	9.6	30.2	47.8	47.8	26.0	26.0	26.0
Total Split (%)	13.3%	30.5%	8.0%	25.2%	39.8%	39.8%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	11.4	30.4	5.0	24.0		43.1	20.2	20.2	20.2
Actuated g/C Ratio	0.10	0.25	0.04	0.20		0.36	0.17	0.17	0.17
v/c Ratio	3.21	2.01	2.35	1.02		20.34	1.03	3.22	1.31
Control Delay	1028.3	489.0	679.1	86.8		8743.6	111.4	1026.4	180.2
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	1028.3	489.0	679.1	86.8		8743.6	111.4	1026.4	180.2
LOS	F	F	F	F		F	F	F	F
Approach Delay		679.2		195.6		8743.6		613.6	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 20.34	
Intersection Signal Delay: 2203.1	Intersection LOS: F
Intersection Capacity Utilization 181.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	462	709	138	147	538	115	85	742	149	262	919	571
Future Volume (veh/h)	462	709	138	147	538	115	85	742	149	262	919	571
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	481	739	143	153	560	100	89	773	149	273	957	369
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	363	70	66	569	101	54	472	91	268	298	252
Arrive On Green	0.09	0.25	0.25	0.04	0.20	0.20	0.36	0.36	0.36	0.17	0.17	0.17
Sat Flow, veh/h	1594	1434	277	1594	2844	506	151	1314	253	1594	1772	1496
Grp Volume(v), veh/h	481	0	882	153	331	329	1011	0	0	273	957	369
Grp Sat Flow(s),veh/h/ln	1594	0	1711	1594	1683	1667	1719	0	0	1594	1772	1496
Q Serve(g_s), s	11.4	0.0	30.4	5.0	23.5	23.6	43.1	0.0	0.0	20.2	20.2	20.2
Cycle Q Clear(g_c), s	11.4	0.0	30.4	5.0	23.5	23.6	43.1	0.0	0.0	20.2	20.2	20.2
Prop In Lane	1.00		0.16	1.00		0.30	0.09		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	151	0	433	66	337	333	617	0	0	268	298	252
V/C Ratio(X)	3.18	0.00	2.03	2.30	0.98	0.99	1.64	0.00	0.00	1.02	3.21	1.47
Avail Cap(c_a), veh/h	151	0	433	66	337	333	617	0	0	268	298	252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	0.0	44.8	57.5	47.8	47.9	38.5	0.0	0.0	49.9	49.9	49.9
Incr Delay (d2), s/veh	996.6	0.0	473.6	631.3	44.0	45.9	294.3	0.0	0.0	59.5	1002.5	229.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	46.3	0.0	69.3	13.6	13.5	13.6	68.2	0.0	0.0	12.2	91.7	23.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1050.9	0.0	518.4	688.8	91.8	93.8	332.7	0.0	0.0	109.4	1052.4	279.7
LnGrp LOS	F	A	F	F	F	F	F	A	A	F	F	F
Approach Vol, veh/h		1363			813			1011			1599	
Approach Delay, s/veh		706.3			205.0			332.7			713.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	47.8	9.6	36.6	26.0	16.0	30.2
Change Period (Y+Rc), s	* 4.7	4.6	6.2	5.8	4.6	6.2
Max Green Setting (Gmax), s	* 43	5.0	30.4	20.2	11.4	24.0
Max Q Clear Time (g_c+I1), s	45.1	7.0	32.4	22.2	13.4	25.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	544.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	37

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	192	87	187	799	889	385
Future Vol, veh/h	192	87	187	799	889	385
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	202	92	197	841	936	405

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2374	1139	1341	0	-	0
Stage 1	1139	-	-	-	-	-
Stage 2	1235	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 38	245	514	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	274	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 23	245	514	-	-	-
Mov Cap-2 Maneuver	~ 112	-	-	-	-	-
Stage 1	~ 188	-	-	-	-	-
Stage 2	274	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 325.9	3.1	0
HCM LOS	F		

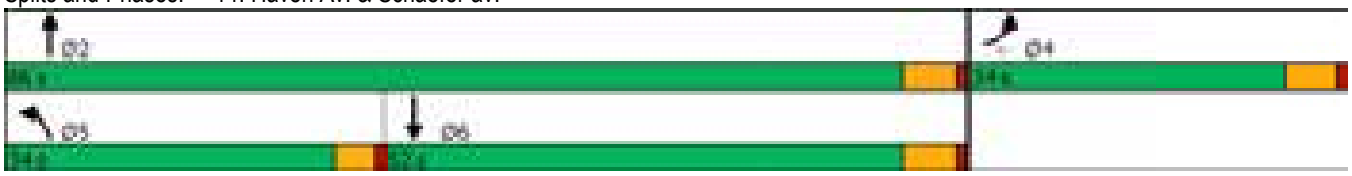
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	514	-	112	245	-	-
HCM Lane V/C Ratio	0.383	-	1.805	0.374	-	-
HCM Control Delay (s)	16.3	-	$ 460.8	28.2	-	-
HCM Lane LOS	C	-	F	D	-	-
HCM 95th %tile Q(veh)	1.8	-	16	1.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	64	110	168	801	1120
Future Volume (vph)	64	110	168	801	1120
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	34.0	34.0	34.0	86.0	52.0
Total Split (%)	28.3%	28.3%	28.3%	71.7%	43.3%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.3	12.3	15.6	67.0	46.7
Actuated g/C Ratio	0.14	0.14	0.17	0.74	0.51
v/c Ratio	0.35	0.41	0.72	0.72	0.81
Control Delay	41.5	11.1	51.4	11.4	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	11.1	51.4	11.4	24.8
LOS	D	B	D	B	C
Approach Delay	22.2			18.3	24.8
Approach LOS	C			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 91	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 21.9	Intersection LOS: C
Intersection Capacity Utilization 67.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	110	168	801	1120	65
Future Volume (veh/h)	64	110	168	801	1120	65
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	74	59	195	931	1302	76
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	208	196	234	1252	1600	93
Arrive On Green	0.13	0.13	0.15	0.71	0.49	0.49
Sat Flow, veh/h	1594	1502	1594	1772	3322	188
Grp Volume(v), veh/h	74	59	195	931	677	701
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1683	1738
Q Serve(g_s), s	3.0	2.5	8.5	23.1	24.2	24.3
Cycle Q Clear(g_c), s	3.0	2.5	8.5	23.1	24.2	24.3
Prop In Lane	1.00	1.00	1.00			0.11
Lane Grp Cap(c), veh/h	208	196	234	1252	833	860
V/C Ratio(X)	0.36	0.30	0.83	0.74	0.81	0.82
Avail Cap(c_a), veh/h	632	595	659	1998	1093	1129
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	28.0	29.5	6.5	15.2	15.2
Incr Delay (d2), s/veh	1.0	0.9	2.9	0.9	3.6	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	3.1	4.7	8.1	8.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.2	28.8	32.4	7.4	18.8	18.8
LnGrp LOS	C	C	C	A	B	B
Approach Vol, veh/h	133			1126	1378	
Approach Delay, s/veh	29.1			11.7	18.8	
Approach LOS	C			B	B	

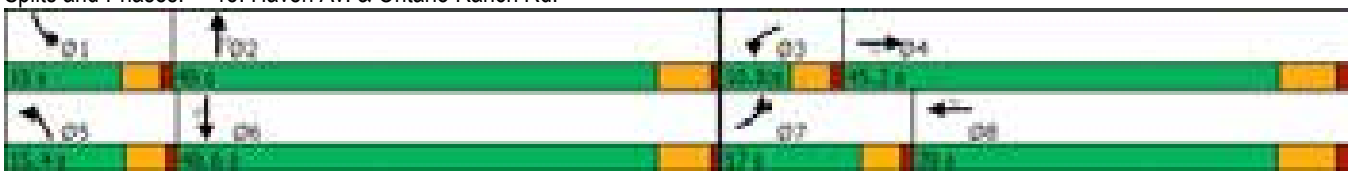
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		56.0		15.1	15.1	41.0
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		80.2		28.2	29.4	46.2
Max Q Clear Time (g_c+I1), s		25.1		5.0	10.5	26.3
Green Ext Time (p_c), s		8.4		0.3	0.2	8.9

Intersection Summary		
HCM 6th Ctrl Delay		16.3
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	602	1680	95	264	1705	228	93	486	115	170	568	264
Future Volume (vph)	602	1680	95	264	1705	228	93	486	115	170	568	264
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	17.0	45.2	45.2	10.8	39.0	39.0	15.4	49.0	49.0	15.0	48.6	48.6
Total Split (%)	14.2%	37.7%	37.7%	9.0%	32.5%	32.5%	12.8%	40.8%	40.8%	12.5%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	12.4	39.0	39.0	6.2	32.5	32.5	9.9	41.4	41.4	10.4	42.0	42.0
Actuated g/C Ratio	0.10	0.33	0.33	0.05	0.27	0.27	0.08	0.35	0.35	0.09	0.36	0.36
v/c Ratio	3.86	1.12	0.18	1.86	1.09	0.41	0.75	0.84	0.19	1.30	0.97	0.42
Control Delay	1318.7	102.2	5.4	440.6	90.5	6.5	85.9	48.7	2.5	222.0	66.7	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1318.7	102.2	5.4	440.6	90.5	6.5	85.9	48.7	2.5	222.0	66.7	9.0
LOS	F	F	A	F	F	A	F	D	A	F	E	A
Approach Delay		406.3			123.9			46.1			77.9	
Approach LOS		F			F			D			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.86	
Intersection Signal Delay: 215.0	Intersection LOS: F
Intersection Capacity Utilization 118.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	602	1680	95	264	1705	228	93	486	115	170	568	264
Future Volume (veh/h)	602	1680	95	264	1705	228	93	486	115	170	568	264
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	640	1787	88	281	1814	198	99	517	72	181	604	248
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	1607	499	154	1703	419	120	609	516	141	632	536
Arrive On Green	0.11	0.33	0.33	0.05	0.28	0.28	0.08	0.34	0.34	0.09	0.36	0.36
Sat Flow, veh/h	1594	4837	1502	2910	6095	1502	1594	1772	1502	1594	1772	1502
Grp Volume(v), veh/h	640	1787	88	281	1814	198	99	517	72	181	604	248
Grp Sat Flow(s),veh/h/ln	1594	1612	1502	1455	1524	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	12.4	39.0	4.9	6.2	32.8	12.9	7.2	31.8	3.9	10.4	39.1	14.9
Cycle Q Clear(g_c), s	12.4	39.0	4.9	6.2	32.8	12.9	7.2	31.8	3.9	10.4	39.1	14.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	168	1607	499	154	1703	419	120	609	516	141	632	536
V/C Ratio(X)	3.80	1.11	0.18	1.83	1.07	0.47	0.82	0.85	0.14	1.28	0.96	0.46
Avail Cap(c_a), veh/h	168	1607	499	154	1703	419	147	652	552	141	646	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	39.2	27.8	55.6	42.3	35.1	53.5	35.7	26.6	53.5	36.9	29.1
Incr Delay (d2), s/veh	1275.7	59.9	0.8	397.3	41.6	3.8	22.2	9.9	0.1	170.3	24.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	64.4	23.3	1.8	10.7	16.4	4.9	3.5	14.7	1.3	10.7	20.3	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1328.2	99.1	28.6	452.9	84.0	38.9	75.7	45.6	26.7	223.8	61.5	29.7
LnGrp LOS	F	F	C	F	F	D	E	D	C	F	E	C
Approach Vol, veh/h		2515			2293			688			1033	
Approach Delay, s/veh		409.4			125.3			48.0			82.3	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	46.1	10.8	45.5	13.4	47.7	17.0	39.3
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	10.4	43.2	6.2	* 39	10.8	42.8	12.4	32.5
Max Q Clear Time (g_c+I1), s	12.4	33.8	8.2	41.0	9.2	41.1	14.4	34.8
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	0.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	219.8
HCM 6th LOS	F

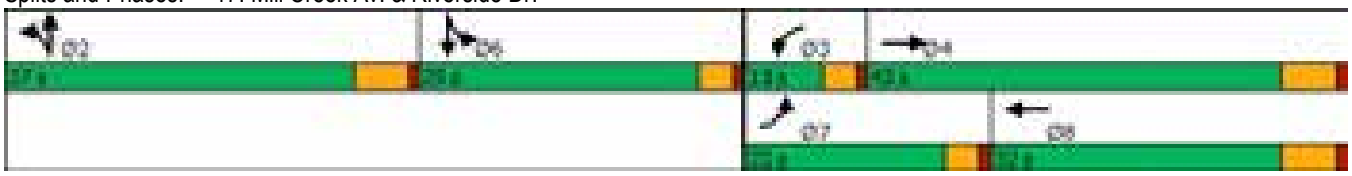
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	125	1343	515	1034	18	22	130	70	17
Future Volume (vph)	125	1343	515	1034	18	22	130	70	17
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	22.0	43.0	11.0	32.0	37.0	37.0	37.0	29.0	29.0
Total Split (%)	18.3%	35.8%	9.2%	26.7%	30.8%	30.8%	30.8%	24.2%	24.2%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	11.5	37.5	7.1	33.0	12.4	12.4	12.4	12.3	12.3
Actuated g/C Ratio	0.13	0.42	0.08	0.37	0.14	0.14	0.14	0.14	0.14
v/c Ratio	0.65	1.10	4.38	1.02	0.09	0.09	0.43	0.34	0.33
Control Delay	53.1	84.0	1547.6	60.2	34.9	34.9	10.7	39.8	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	84.0	1547.6	60.2	34.9	34.9	10.7	39.8	15.8
LOS	D	F	F	E	C	C	B	D	B
Approach Delay		81.5		514.5		16.3			26.6
Approach LOS		F		F		B			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 89.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.38	
Intersection Signal Delay: 280.1	Intersection LOS: F
Intersection Capacity Utilization 98.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	1343	101	515	1034	137	18	22	130	70	17	68
Future Volume (veh/h)	125	1343	101	515	1034	137	18	22	130	70	17	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	133	1429	54	548	1100	98	19	23	125	74	18	45
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	1442	54	131	1303	116	191	212	179	205	56	141
Arrive On Green	0.10	0.44	0.44	0.08	0.42	0.42	0.12	0.12	0.12	0.13	0.13	0.13
Sat Flow, veh/h	1594	3308	125	1594	3127	278	1594	1772	1498	1594	439	1097
Grp Volume(v), veh/h	133	726	757	548	592	606	19	23	125	74	0	63
Grp Sat Flow(s),veh/h/ln	1594	1683	1749	1594	1683	1722	1594	1772	1498	1594	0	1536
Q Serve(g_s), s	6.9	36.3	36.5	7.0	26.8	26.9	0.9	1.0	6.8	3.6	0.0	3.2
Cycle Q Clear(g_c), s	6.9	36.3	36.5	7.0	26.8	26.9	0.9	1.0	6.8	3.6	0.0	3.2
Prop In Lane	1.00		0.07	1.00		0.16	1.00		1.00	1.00		0.71
Lane Grp Cap(c), veh/h	162	734	762	131	701	717	191	212	179	205	0	197
V/C Ratio(X)	0.82	0.99	0.99	4.17	0.84	0.85	0.10	0.11	0.70	0.36	0.00	0.32
Avail Cap(c_a), veh/h	338	734	762	131	701	717	586	651	551	469	0	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.4	23.7	23.8	38.9	22.3	22.3	33.3	33.3	35.9	33.8	0.0	33.6
Incr Delay (d2), s/veh	3.9	30.4	30.7	1443.8	9.3	9.2	0.2	0.2	4.8	1.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	18.3	19.2	55.3	10.9	11.2	0.3	0.4	2.5	1.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	54.2	54.5	1482.7	31.5	31.5	33.5	33.5	40.7	34.9	0.0	34.5
LnGrp LOS	D	D	D	F	C	C	C	C	D	C	A	C
Approach Vol, veh/h		1616			1746			167			137	
Approach Delay, s/veh		53.3			487.0			38.9			34.7	
Approach LOS		D			F			D			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	11.0	43.0		14.9	12.6	41.4				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		31.2	7.0	37.0		25.0	18.0	26.0				
Max Q Clear Time (g_c+I1), s		8.8	9.0	38.5		5.6	8.9	28.9				
Green Ext Time (p_c), s		0.5	0.0	0.0		0.5	0.1	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			258.5									
HCM 6th LOS			F									

Intersection	
Intersection Delay, s/veh	21.6
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	17	0	0	80	96
Future Vol, veh/h	5	17	0	0	80	96
Peak Hour Factor	0.25	0.25	0.25	0.25	0.25	0.25
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	68	0	0	320	384
Number of Lanes	0	1	1	0	1	0

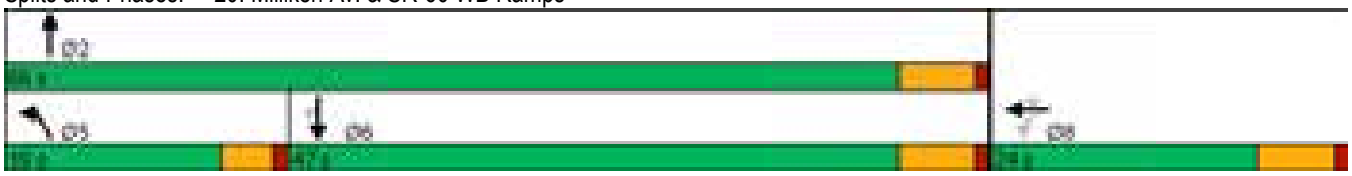
Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.8	0	23.2
HCM LOS	A	-	C

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	23%	45%
Vol Thru, %	100%	0%	55%
Vol Right, %	0%	77%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	22	176
LT Vol	0	5	80
Through Vol	0	0	96
RT Vol	0	17	0
Lane Flow Rate	0	88	704
Geometry Grp	1	1	1
Degree of Util (X)	0	0.125	0.817
Departure Headway (Hd)	4.884	5.116	4.178
Convergence, Y/N	Yes	Yes	Yes
Cap	0	705	852
Service Time	2.904	3.116	2.271
HCM Lane V/C Ratio	0	0.125	0.826
HCM Control Delay	7.9	8.8	23.2
HCM Lane LOS	N	A	C
HCM 95th-tile Q	0	0.4	9.1

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	548	438	1413	1649	629
Future Volume (vph)	5	548	438	1413	1649	629
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	9.6	16.2	16.2	16.2
Total Split (s)	24.0	24.0	19.0	66.0	47.0	47.0
Total Split (%)	26.7%	26.7%	21.1%	73.3%	52.2%	52.2%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	17.8	17.8	14.4	59.8	40.8	40.8
Actuated g/C Ratio	0.20	0.20	0.16	0.66	0.45	0.45
v/c Ratio	0.78	1.47	1.61	0.59	1.02	0.63
Control Delay	51.3	249.9	319.6	9.6	52.2	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.3	249.9	319.6	9.6	52.2	5.4
LOS	D	F	F	A	D	A
Approach Delay	185.5			82.9	39.2	
Approach LOS	F			F	D	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.61	
Intersection Signal Delay: 79.6	Intersection LOS: E
Intersection Capacity Utilization 111.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	258	5	548	438	1413	0	0	1649	629
Future Volume (veh/h)	0	0	0	258	5	548	438	1413	0	0	1649	629
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				269	5	290	456	1472	0	0	1718	328
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				346	6	313	285	2486	0	0	1696	719
Arrive On Green				0.30	0.30	0.30	0.24	1.00	0.00	0.00	0.68	0.68
Sat Flow, veh/h				1750	33	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				274	0	290	456	1472	0	0	1718	328
Grp Sat Flow(s),veh/h/ln				1783	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				12.6	0.0	16.0	14.4	0.3	0.0	0.0	40.8	8.6
Cycle Q Clear(g_c), s				12.6	0.0	16.0	14.4	0.3	0.0	0.0	40.8	8.6
Prop In Lane				0.98		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				353	0	313	285	2486	0	0	1696	719
V/C Ratio(X)				0.78	0.00	0.93	1.60	0.59	0.00	0.00	1.01	0.46
Avail Cap(c_a), veh/h				353	0	313	285	2486	0	0	1696	719
HCM Platoon Ratio				1.50	1.50	1.50	1.50	1.50	1.00	1.00	1.50	1.50
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				29.8	0.0	31.0	34.2	0.1	0.0	0.0	14.4	9.3
Incr Delay (d2), s/veh				10.5	0.0	32.1	285.9	0.4	0.0	0.0	25.1	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.6	0.0	7.8	27.8	0.2	0.0	0.0	12.6	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				40.3	0.0	63.1	320.1	0.4	0.0	0.0	39.5	9.7
LnGrp LOS				D	A	E	F	A	A	A	F	A
Approach Vol, veh/h					564			1928			2046	
Approach Delay, s/veh					52.0			76.0			34.8	
Approach LOS					D			E			C	

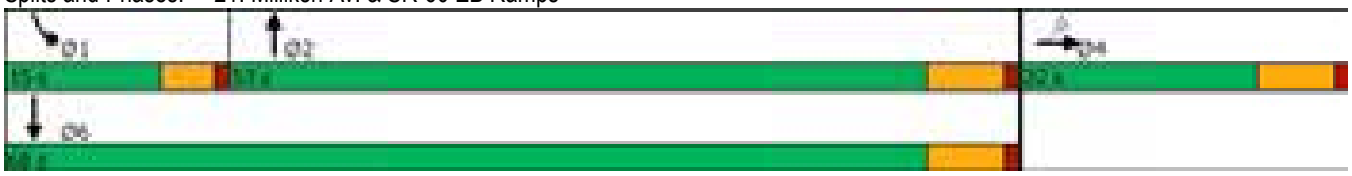
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		66.0			19.0	47.0		24.0				
Change Period (Y+Rc), s		6.2			4.6	6.2		6.2				
Max Green Setting (Gmax), s		59.8			14.4	40.8		17.8				
Max Q Clear Time (g_c+I1), s		2.3			16.4	42.8		18.0				
Green Ext Time (p_c), s		14.7			0.0	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			54.4									
HCM 6th LOS			D									

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	319	5	1816	270	1779
Future Volume (vph)	319	5	1816	270	1779
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	16.2	23.2	9.6	16.2
Total Split (s)	22.0	22.0	53.0	15.0	68.0
Total Split (%)	24.4%	24.4%	58.9%	16.7%	75.6%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	15.8	15.8	46.8	10.4	61.8
Actuated g/C Ratio	0.18	0.18	0.52	0.12	0.69
v/c Ratio	0.96	1.49	1.17	1.38	0.72
Control Delay	81.9	267.2	106.9	230.9	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.5
Total Delay	81.9	267.2	106.9	230.9	11.4
LOS	F	F	F	F	B
Approach Delay		193.6	106.9		40.3
Approach LOS		F	F		D

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.49	
Intersection Signal Delay: 91.9	Intersection LOS: F
Intersection Capacity Utilization 111.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	5	399	0	0	0	0	1816	336	270	1779	0
Future Volume (veh/h)	319	5	399	0	0	0	0	1816	336	270	1779	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	273	88	209				0	1892	175	281	1853	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	313	86	205				0	1757	160	206	2569	0
Arrive On Green	0.26	0.26	0.26				0.00	0.78	0.78	0.17	1.00	0.00
Sat Flow, veh/h	1781	492	1168				0	3378	307	1781	3741	0
Grp Volume(v), veh/h	273	0	297				0	1034	1034	281	1853	0
Grp Sat Flow(s),veh/h/ln	1781	0	1660				0	1870	1815	1781	1870	0
Q Serve(g_s), s	13.2	0.0	15.8				0.0	46.8	46.8	10.4	0.0	0.0
Cycle Q Clear(g_c), s	13.2	0.0	15.8				0.0	46.8	46.8	10.4	0.0	0.0
Prop In Lane	1.00		0.70				0.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	313	0	291				0	973	944	206	2569	0
V/C Ratio(X)	0.87	0.00	1.02				0.00	1.06	1.10	1.37	0.72	0.00
Avail Cap(c_a), veh/h	313	0	291				0	973	944	206	2569	0
HCM Platoon Ratio	1.50	1.50	1.50				1.00	1.50	1.50	1.50	1.50	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.2	0.0	33.2				0.0	9.9	9.9	37.2	0.0	0.0
Incr Delay (d2), s/veh	22.7	0.0	57.7				0.0	47.0	58.8	192.3	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	9.9				0.0	17.5	20.1	14.9	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	0.0	90.8				0.0	56.9	68.7	229.5	1.0	0.0
LnGrp LOS	D	A	F				A	F	F	F	A	A
Approach Vol, veh/h		570						2067			2134	
Approach Delay, s/veh		73.6						62.8			31.1	
Approach LOS		E						E			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.0	53.0		22.0		68.0
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	10.4	46.8		15.8		61.8
Max Q Clear Time (g_c+I1), s	12.4	48.8		17.8		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		23.3

Intersection Summary	
HCM 6th Ctrl Delay	49.9
HCM 6th LOS	D

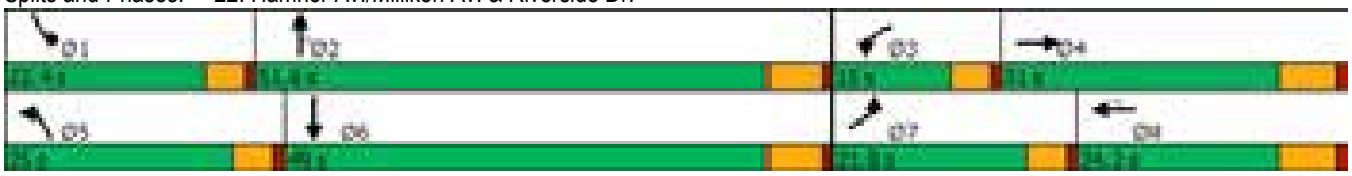
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	393	203	109	274	250	482	1456	59	257	1398
Future Volume (vph)	393	203	109	274	250	482	1456	59	257	1398
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	21.8	31.0	15.0	24.2	24.2	25.0	51.6	51.6	22.4	49.0
Total Split (%)	18.2%	25.8%	12.5%	20.2%	20.2%	20.8%	43.0%	43.0%	18.7%	40.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	17.2	25.1	10.1	18.0	18.0	20.4	45.4	45.4	17.8	42.8
Actuated g/C Ratio	0.14	0.21	0.08	0.15	0.15	0.17	0.38	0.38	0.15	0.36
v/c Ratio	1.83	1.43	0.86	1.09	0.59	1.88	1.21	0.10	1.16	1.83
Control Delay	421.3	240.9	102.7	129.5	11.3	440.9	135.7	0.3	153.5	400.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	421.3	240.9	102.7	129.5	11.3	440.9	135.7	0.3	153.5	400.5
LOS	F	F	F	F	B	F	F	A	F	F
Approach Delay		319.8		78.2			205.3			372.9
Approach LOS		F		E			F			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.88	
Intersection Signal Delay: 275.3	Intersection LOS: F
Intersection Capacity Utilization 150.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	203	303	109	274	250	482	1456	59	257	1398	646
Future Volume (veh/h)	393	203	303	109	274	250	482	1456	59	257	1398	646
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	414	214	278	115	288	225	507	1533	57	271	1472	666
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	144	187	137	266	225	271	1274	567	236	822	343
Arrive On Green	0.14	0.21	0.21	0.09	0.15	0.15	0.17	0.38	0.38	0.15	0.36	0.36
Sat Flow, veh/h	1594	693	901	1594	1772	1502	1594	3367	1500	1594	2305	962
Grp Volume(v), veh/h	414	0	492	115	288	225	507	1533	57	271	1042	1096
Grp Sat Flow(s),veh/h/ln	1594	0	1594	1594	1772	1502	1594	1683	1500	1594	1683	1583
Q Serve(g_s), s	17.2	0.0	24.9	8.5	18.0	18.0	20.4	45.4	2.9	17.8	42.8	42.8
Cycle Q Clear(g_c), s	17.2	0.0	24.9	8.5	18.0	18.0	20.4	45.4	2.9	17.8	42.8	42.8
Prop In Lane	1.00		0.57	1.00		1.00	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	228	0	331	137	266	225	271	1274	567	236	600	565
V/C Ratio(X)	1.81	0.00	1.49	0.84	1.08	1.00	1.87	1.20	0.10	1.15	1.73	1.94
Avail Cap(c_a), veh/h	228	0	331	138	266	225	271	1274	567	236	600	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	0.0	47.6	54.0	51.0	51.0	49.8	37.3	24.1	51.1	38.6	38.6
Incr Delay (d2), s/veh	382.3	0.0	234.9	32.9	79.3	59.6	405.8	99.3	0.1	103.7	337.6	430.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	30.9	0.0	31.0	4.6	13.5	10.2	38.3	34.9	1.0	13.6	72.8	83.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	433.7	0.0	282.4	86.9	130.3	110.6	455.6	136.6	24.2	154.8	376.2	468.8
LnGrp LOS	F	A	F	F	F	F	F	F	C	F	F	F
Approach Vol, veh/h		906			628			2097			2409	
Approach Delay, s/veh		351.6			115.3			210.7			393.4	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.4	51.6	14.9	31.1	25.0	49.0	21.8	24.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.8	45.4	10.4	24.8	20.4	42.8	17.2	18.0
Max Q Clear Time (g_c+I1), s	19.8	47.4	10.5	26.9	22.4	44.8	19.2	20.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	294.8
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	54	36	76	1865	1724	121
Future Vol, veh/h	54	36	76	1865	1724	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	40	84	2049	1895	133

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3155	1962	2028	0	-	0
Stage 1	1962	-	-	-	-	-
Stage 2	1193	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	~ 10	79	277	-	-	-
Stage 1	119	-	-	-	-	-
Stage 2	251	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 10	79	277	-	-	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	119	-	-	-	-	-
Stage 2	251	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	209.6	0.9	0
HCM LOS	F		

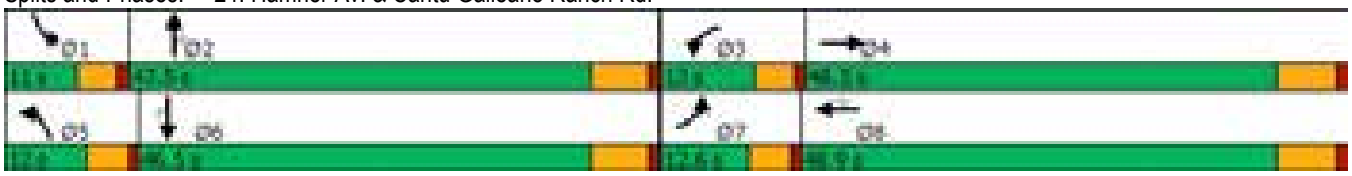
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	277	-	90	-	-
HCM Lane V/C Ratio	0.302	-	1.099	-	-
HCM Control Delay (s)	23.5	0	209.6	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	1.2	-	6.7	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	704	1527	475	1542	449	239	516	371	729	855	569
Future Volume (vph)	704	1527	475	1542	449	239	516	371	729	855	569
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	12.6	48.5	13.0	48.9	48.9	12.0	47.5	47.5	11.0	46.5	46.5
Total Split (%)	10.5%	40.4%	10.8%	40.8%	40.8%	10.0%	39.6%	39.6%	9.2%	38.8%	38.8%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	8.0	42.0	8.4	42.4	42.4	7.4	40.1	40.1	6.4	39.1	39.1
Actuated g/C Ratio	0.07	0.35	0.07	0.36	0.36	0.06	0.34	0.34	0.05	0.33	0.33
v/c Ratio	3.17	0.87	2.04	1.27	0.66	1.17	0.31	0.61	4.10	0.77	0.95
Control Delay	1010.1	40.0	510.5	162.0	20.8	162.4	29.7	23.3	1425.4	40.9	54.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1010.1	40.0	510.5	162.0	20.8	162.4	29.7	23.3	1425.4	40.9	54.4
LOS	F	D	F	F	C	F	C	C	F	D	D
Approach Delay		306.4		203.5			55.8			512.9	
Approach LOS		F		F			E			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.10	
Intersection Signal Delay: 295.4	Intersection LOS: F
Intersection Capacity Utilization 111.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	704	1527	331	475	1542	449	239	516	371	729	855	569
Future Volume (veh/h)	704	1527	331	475	1542	449	239	516	371	729	855	569
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	733	1591	220	495	1606	402	249	538	230	759	891	552
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	2015	279	242	1256	560	213	1757	546	184	1193	532
Arrive On Green	0.07	0.35	0.35	0.07	0.35	0.35	0.06	0.34	0.34	0.05	0.34	0.34
Sat Flow, veh/h	3456	5757	796	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	733	1334	477	495	1606	402	249	538	230	759	891	552
Grp Sat Flow(s),veh/h/ln	1728	1609	1727	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	8.0	29.8	29.8	8.4	42.4	26.4	7.4	9.3	13.4	6.4	26.7	40.3
Cycle Q Clear(g_c), s	8.0	29.8	29.8	8.4	42.4	26.4	7.4	9.3	13.4	6.4	26.7	40.3
Prop In Lane	1.00		0.46	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	1689	604	242	1256	560	213	1757	546	184	1193	532
V/C Ratio(X)	3.18	0.79	0.79	2.05	1.28	0.72	1.17	0.31	0.42	4.12	0.75	1.04
Avail Cap(c_a), veh/h	230	1689	604	242	1256	560	213	1757	546	184	1193	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	35.0	35.0	55.8	38.8	33.6	56.3	28.8	30.2	56.8	35.3	39.8
Incr Delay (d2), s/veh	993.0	2.6	7.0	485.0	131.8	4.4	114.6	0.1	0.5	1416.0	2.6	48.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	35.1	11.2	12.8	19.8	40.0	10.1	6.5	3.6	4.9	38.9	11.3	21.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1049.0	37.6	42.0	540.8	170.6	38.0	170.9	28.9	30.7	1472.8	37.9	88.8
LnGrp LOS	F	D	D	F	F	D	F	C	C	F	D	F
Approach Vol, veh/h		2544			2503			1017			2202	
Approach Delay, s/veh		329.9			222.5			64.1			545.2	
Approach LOS		F			F			E			F	

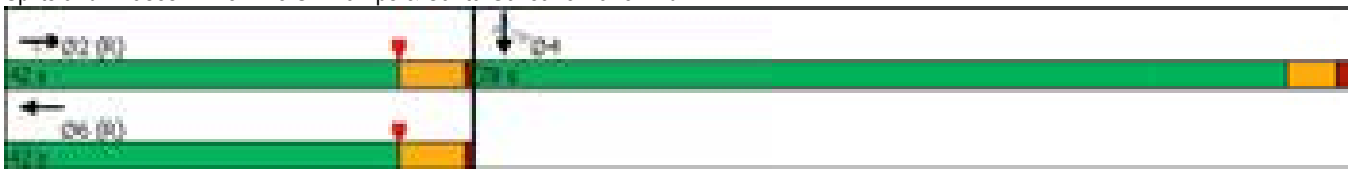
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	47.5	13.0	48.5	12.0	46.5	12.6	48.9
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	6.4	41.3	8.4	42.0	7.4	40.3	8.0	42.4
Max Q Clear Time (g_c+I1), s	8.4	15.4	10.4	31.8	9.4	42.3	10.0	44.4
Green Ext Time (p_c), s	0.0	4.1	0.0	7.1	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	322.0
HCM 6th LOS	F

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1969	398	1201	504	352	1	1632
Future Volume (vph)	1969	398	1201	504	352	1	1632
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	42.0	42.0	42.0		78.0	78.0	78.0
Total Split (%)	35.0%	35.0%	35.0%		65.0%	65.0%	65.0%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min		Min	Min	Min
Act Effct Green (s)	35.2	35.2	35.2	120.0	72.5	72.5	72.5
Actuated g/C Ratio	0.29	0.29	0.29	1.00	0.60	0.60	0.60
v/c Ratio	1.44	0.67	1.26	0.20	0.34	1.04	0.98
Control Delay	233.0	20.2	161.7	0.1	13.0	65.3	48.7
Queue Delay	0.0	0.0	0.0	0.0	0.2	24.9	0.0
Total Delay	233.0	20.2	161.7	0.1	13.2	90.2	48.7
LOS	F	C	F	A	B	F	D
Approach Delay	197.2		113.9			60.5	
Approach LOS	F		F			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 113.2 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.44	
Intersection Signal Delay: 129.0	Intersection LOS: F
Intersection Capacity Utilization 110.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1969	398	0	1201	504	0	0	0	352	1	1632
Future Volume (veh/h)	0	1969	398	0	1201	504	0	0	0	352	1	1632
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	2140	0	0	1305	0				256	0	1476
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	1976		0	1376					909	0	1618
Arrive On Green	0.00	0.39	0.00	0.00	0.77	0.00				0.51	0.00	0.51
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	2140	0	0	1305	0				256	0	1476
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	46.4	0.0	0.0	37.5	0.0				9.9	0.0	51.2
Cycle Q Clear(g_c), s	0.0	46.4	0.0	0.0	37.5	0.0				9.9	0.0	51.2
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1976		0	1376					909	0	1618
V/C Ratio(X)	0.00	1.08		0.00	0.95					0.28	0.00	0.91
Avail Cap(c_a), veh/h	0	1976		0	1376					1076	0	1915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.50	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	36.8	0.0	0.0	12.5	0.0				16.8	0.0	26.9
Incr Delay (d2), s/veh	0.0	38.3	0.0	0.0	8.8	0.0				0.2	0.0	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	24.7	0.0	0.0	6.2	0.0				3.9	0.0	19.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	75.1	0.0	0.0	21.3	0.0				17.0	0.0	33.3
LnGrp LOS	A	F		A	C					B	A	C
Approach Vol, veh/h		2140	A		1305	A					1732	
Approach Delay, s/veh		75.1			21.3						30.9	
Approach LOS		E			C						C	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		53.2		66.8		53.2						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		35.2		72.5		35.2						
Max Q Clear Time (g_c+I1), s		48.4		53.2		39.5						
Green Ext Time (p_c), s		0.0		8.1		0.0						

Intersection Summary		
HCM 6th Ctrl Delay	46.7	
HCM 6th LOS	D	

Notes

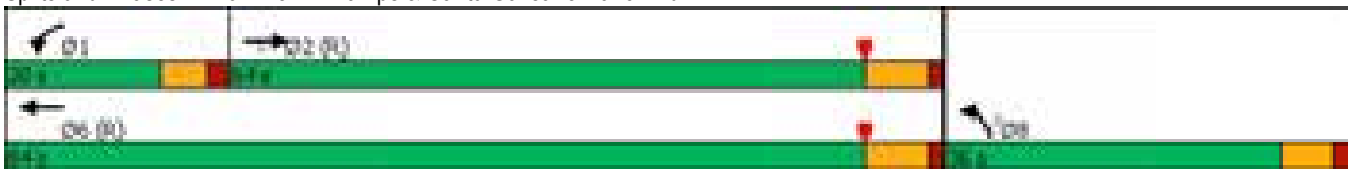
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	935	1477	265	712	944	186
Future Volume (vph)	935	1477	265	712	944	186
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.0	22.5	22.5	22.5
Total Split (s)	64.0	64.0	20.0	84.0	36.0	36.0
Total Split (%)	53.3%	53.3%	16.7%	70.0%	30.0%	30.0%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	57.3	57.3	13.4	76.7	30.0	30.0
Actuated g/C Ratio	0.48	0.48	0.11	0.64	0.25	0.25
v/c Ratio	0.42	1.40	0.75	0.24	1.22	0.38
Control Delay	12.1	207.5	64.6	9.4	147.1	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	207.5	64.6	9.4	147.1	11.1
LOS	B	F	E	A	F	B
Approach Delay	131.8			24.4	126.9	
Approach LOS	F			C	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.40	
Intersection Signal Delay: 107.3	Intersection LOS: F
Intersection Capacity Utilization 110.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	935	1477	265	712	944	186
Future Volume (veh/h)	935	1477	265	712	944	186
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1016	812	288	774	1026	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2497	775	346	3264	891	396
Arrive On Green	0.82	0.82	0.10	0.64	0.25	0.25
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	1016	812	288	774	1026	120
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	6.6	58.7	9.8	7.7	30.0	7.4
Cycle Q Clear(g_c), s	6.6	58.7	9.8	7.7	30.0	7.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2497	775	346	3264	891	396
V/C Ratio(X)	0.41	1.05	0.83	0.24	1.15	0.30
Avail Cap(c_a), veh/h	2497	775	403	3264	891	396
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.83	0.83	1.00	1.00
Uniform Delay (d), s/veh	6.2	11.0	53.0	9.2	45.0	36.5
Incr Delay (d2), s/veh	0.0	25.4	10.3	0.1	81.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	9.9	4.6	2.5	22.8	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.3	36.4	63.3	9.4	126.3	36.9
LnGrp LOS	A	F	E	A	F	D
Approach Vol, veh/h	1828			1062	1146	
Approach Delay, s/veh	19.6			24.0	116.9	
Approach LOS	B			C	F	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	18.0	66.0				84.0	36.0
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	14.0	56.7				76.7	30.0
Max Q Clear Time (g_c+I1), s	11.8	60.7				9.7	32.0
Green Ext Time (p_c), s	0.2	0.0				5.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

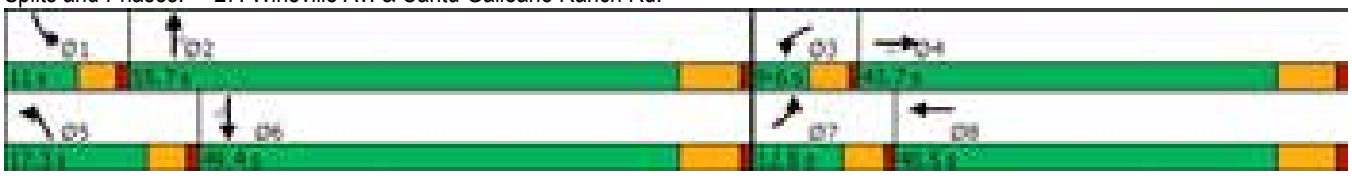
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	143	477	395	32	449	251	112	56	35	205	269
Future Volume (vph)	143	477	395	32	449	251	112	56	35	205	269
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	12.8	43.7	43.7	9.6	40.5	17.3	55.7	55.7	11.0	49.4	49.4
Total Split (%)	10.7%	36.4%	36.4%	8.0%	33.8%	14.4%	46.4%	46.4%	9.2%	41.2%	41.2%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.7	25.0	25.0	5.4	15.5	10.6	26.8	26.8	6.1	17.3	17.3
Actuated g/C Ratio	0.10	0.33	0.33	0.07	0.21	0.14	0.36	0.36	0.08	0.23	0.23
v/c Ratio	0.44	0.24	0.53	0.14	0.50	0.56	0.10	0.10	0.26	0.52	0.56
Control Delay	41.2	20.8	5.5	42.7	28.2	38.9	18.9	0.4	45.4	30.2	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	20.8	5.5	42.7	28.2	38.9	18.9	0.4	45.4	30.2	13.2
LOS	D	C	A	D	C	D	B	A	D	C	B
Approach Delay		17.7			29.1		28.4			22.3	
Approach LOS		B			C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 75	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 22.9	Intersection LOS: C
Intersection Capacity Utilization 54.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	477	395	32	449	35	251	112	56	35	205	269
Future Volume (veh/h)	143	477	395	32	449	35	251	112	56	35	205	269
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	518	291	35	488	28	273	122	35	38	223	227
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	1729	426	128	1123	64	392	978	436	70	376	319
Arrive On Green	0.08	0.27	0.27	0.04	0.23	0.23	0.11	0.28	0.28	0.04	0.20	0.20
Sat Flow, veh/h	3456	6434	1585	3456	4942	281	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	155	518	291	35	335	181	273	122	35	38	223	227
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1820	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	2.5	3.7	9.6	0.6	4.9	5.0	4.4	1.5	1.0	1.2	6.3	7.8
Cycle Q Clear(g_c), s	2.5	3.7	9.6	0.6	4.9	5.0	4.4	1.5	1.0	1.2	6.3	7.8
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	1729	426	128	773	413	392	978	436	70	376	319
V/C Ratio(X)	0.57	0.30	0.68	0.27	0.43	0.44	0.70	0.12	0.08	0.54	0.59	0.71
Avail Cap(c_a), veh/h	485	4093	1008	296	1979	1058	751	2990	1334	195	1372	1163
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	17.0	19.1	27.4	19.4	19.4	24.9	15.9	15.7	27.6	21.2	21.8
Incr Delay (d2), s/veh	0.7	0.1	1.9	0.4	0.4	0.7	0.8	0.1	0.1	2.4	1.5	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.1	3.0	0.2	1.6	1.8	1.7	0.5	0.3	0.5	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	17.1	21.1	27.8	19.7	20.1	25.8	16.0	15.8	30.0	22.7	24.7
LnGrp LOS	C	B	C	C	B	C	C	B	B	C	C	C
Approach Vol, veh/h		964			551			430			488	
Approach Delay, s/veh		19.8			20.4			22.2			24.2	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	22.6	6.8	22.2	11.2	18.3	9.2	19.8
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	6.4	49.2	5.0	37.2	12.7	42.9	8.2	34.0
Max Q Clear Time (g_c+I1), s	3.2	3.5	2.6	11.6	6.4	9.8	4.5	7.0
Green Ext Time (p_c), s	0.0	0.8	0.0	4.1	0.3	1.9	0.1	2.8

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

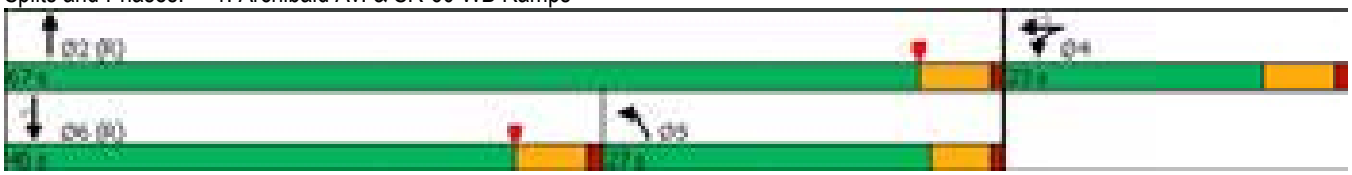
APPENDIX 7.2: HORIZON YEAR (2050) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	457	9	537	978	1306	564	194
Future Volume (vph)	457	9	537	978	1306	564	194
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	23.0	23.0	23.0	27.0	67.0	40.0	40.0
Total Split (%)	25.6%	25.6%	25.6%	30.0%	74.4%	44.4%	44.4%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	21.3	21.3	21.3	34.4	57.1	17.7	17.7
Actuated g/C Ratio	0.24	0.24	0.24	0.38	0.63	0.20	0.20
v/c Ratio	0.89	0.82	0.77	0.76	0.41	0.46	0.42
Control Delay	60.0	43.1	35.5	26.9	3.5	32.1	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	43.1	35.5	26.9	3.5	32.1	6.5
LOS	E	D	D	C	A	C	A
Approach Delay		46.5			13.5	25.6	
Approach LOS		D			B	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 23.9	Intersection LOS: C
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	457	9	537	978	1306	0	0	564	194
Future Volume (veh/h)	0	0	0	457	9	537	978	1306	0	0	564	194
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				637	0	338	998	1333	0	0	576	101
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				681	0	302	1608	3472	0	0	967	238
Arrive On Green				0.19	0.00	0.19	0.93	1.00	0.00	0.00	0.15	0.15
Sat Flow, veh/h				3563	0	1583	3456	5274	0	0	6696	1585
Grp Volume(v), veh/h				637	0	338	998	1333	0	0	576	101
Grp Sat Flow(s),veh/h/ln				1781	0	1583	1728	1702	0	0	1609	1585
Q Serve(g_s), s				15.9	0.0	17.2	4.3	0.0	0.0	0.0	7.5	5.2
Cycle Q Clear(g_c), s				15.9	0.0	17.2	4.3	0.0	0.0	0.0	7.5	5.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				681	0	302	1608	3472	0	0	967	238
V/C Ratio(X)				0.94	0.00	1.12	0.62	0.38	0.00	0.00	0.60	0.42
Avail Cap(c_a), veh/h				681	0	302	1608	3472	0	0	2445	602
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.66	0.66	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.9	0.0	36.4	1.8	0.0	0.0	0.0	35.7	34.7
Incr Delay (d2), s/veh				20.3	0.0	87.2	0.4	0.2	0.0	0.0	2.7	5.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.4	0.0	21.0	0.7	0.1	0.0	0.0	3.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				56.2	0.0	123.6	2.2	0.2	0.0	0.0	38.4	40.2
LnGrp LOS				E	A	F	A	A	A	A	D	D
Approach Vol, veh/h					975			2331			677	
Approach Delay, s/veh					79.5			1.1			38.7	
Approach LOS					E			A			D	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	67.0	23.0	47.7	19.3
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	61.2	17.2	22.0	* 34
Max Q Clear Time (g_c+I1), s	2.0	19.2	6.3	9.5
Green Ext Time (p_c), s	12.3	0.0	1.9	4.0

Intersection Summary	
HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Notes

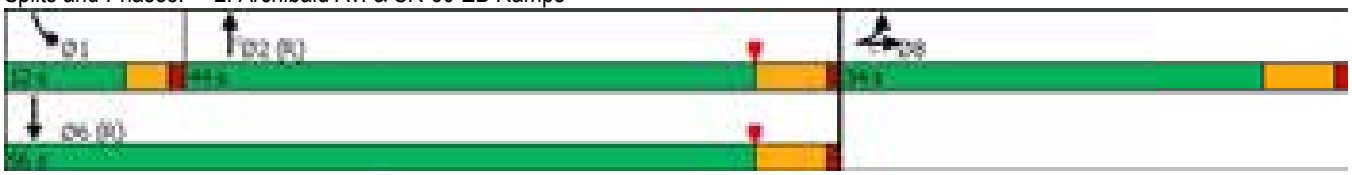
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	433	5	560	1853	701	183	864
Future Volume (vph)	433	5	560	1853	701	183	864
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	34.0	34.0	34.0	44.0	44.0	12.0	56.0
Total Split (%)	37.8%	37.8%	37.8%	48.9%	48.9%	13.3%	62.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	25.1	25.1	25.1	41.5	41.5	7.8	53.3
Actuated g/C Ratio	0.28	0.28	0.28	0.46	0.46	0.09	0.59
v/c Ratio	0.80	0.72	0.69	0.68	0.67	0.66	0.31
Control Delay	43.0	27.3	25.5	21.1	4.8	58.8	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	27.3	25.5	21.1	4.8	58.8	1.9
LOS	D	C	C	C	A	E	A
Approach Delay		32.2		16.6			11.9
Approach LOS		C		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	433	5	560	0	0	0	0	1853	701	183	864	0
Future Volume (veh/h)	433	5	560	0	0	0	0	1853	701	183	864	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	589	0	261				0	1992	574	197	929	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	745	0	327				0	3481	839	265	3381	0
Arrive On Green	0.21	0.00	0.21				0.00	0.54	0.54	0.15	1.00	0.00
Sat Flow, veh/h	3563	0	1562				0	6696	1551	3456	5274	0
Grp Volume(v), veh/h	589	0	261				0	1992	574	197	929	0
Grp Sat Flow(s),veh/h/ln	1781	0	1562				0	1609	1551	1728	1702	0
Q Serve(g_s), s	14.1	0.0	14.3				0.0	18.5	24.3	4.9	0.0	0.0
Cycle Q Clear(g_c), s	14.1	0.0	14.3				0.0	18.5	24.3	4.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	745	0	327				0	3481	839	265	3381	0
V/C Ratio(X)	0.79	0.00	0.80				0.00	0.57	0.68	0.74	0.27	0.00
Avail Cap(c_a), veh/h	1116	0	489				0	3481	839	307	3381	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.74	0.74	0.00
Uniform Delay (d), s/veh	33.7	0.0	33.8				0.0	13.7	15.0	37.3	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	5.5				0.0	0.7	4.5	4.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	5.6				0.0	5.7	8.1	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	39.3				0.0	14.4	19.6	42.1	0.1	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		850						2566			1126	
Approach Delay, s/veh		37.1						15.6			7.5	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	10.9	54.5				65.4		24.6				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	8.0	38.2				50.2		28.2				
Max Q Clear Time (g_c+I1), s	6.9	26.3				2.0		16.3				
Green Ext Time (p_c), s	0.0	9.9				6.8		2.5				

Intersection Summary			
HCM 6th Ctrl Delay			17.6
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	203	718	306	174	621	318	409	1706	267	744
Future Volume (vph)	203	718	306	174	621	318	409	1706	267	744
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	18.0	41.5	41.5	14.7	38.2	38.2	29.0	42.0	21.8	34.8
Total Split (%)	15.0%	34.6%	34.6%	12.3%	31.8%	31.8%	24.2%	35.0%	18.2%	29.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.4	31.5	31.5	10.1	28.2	28.2	24.4	35.9	17.2	28.6
Actuated g/C Ratio	0.12	0.27	0.27	0.09	0.24	0.24	0.21	0.31	0.15	0.25
v/c Ratio	1.16	0.82	0.51	1.32	0.80	0.56	1.28	1.34	1.19	0.84
Control Delay	162.1	48.3	7.2	226.7	49.4	8.7	186.9	192.2	163.0	47.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	162.1	48.3	7.2	226.7	49.4	8.7	186.9	192.2	163.0	47.2
LOS	F	D	A	F	D	A	F	F	F	D
Approach Delay		56.8			65.5			191.3		72.5
Approach LOS		E			E			F		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 116.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.34	
Intersection Signal Delay: 114.5	Intersection LOS: F
Intersection Capacity Utilization 105.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	718	306	174	621	318	409	1706	190	267	744	211
Future Volume (veh/h)	203	718	306	174	621	318	409	1706	190	267	744	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	211	748	261	181	647	267	426	1777	195	278	775	180
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	876	385	138	781	342	333	1356	148	235	1014	233
Arrive On Green	0.11	0.26	0.26	0.09	0.23	0.23	0.21	0.31	0.31	0.15	0.26	0.26
Sat Flow, veh/h	1594	3367	1478	1594	3367	1473	1594	4418	482	1594	3918	901
Grp Volume(v), veh/h	211	748	261	181	647	267	426	1295	677	278	636	319
Grp Sat Flow(s),veh/h/ln	1594	1683	1478	1594	1683	1473	1594	1612	1676	1594	1612	1595
Q Serve(g_s), s	13.4	24.7	18.5	10.1	21.3	13.3	24.4	35.8	35.8	17.2	21.3	21.6
Cycle Q Clear(g_c), s	13.4	24.7	18.5	10.1	21.3	13.3	24.4	35.8	35.8	17.2	21.3	21.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.29	1.00		0.57
Lane Grp Cap(c), veh/h	183	876	385	138	781	342	333	990	514	235	835	413
V/C Ratio(X)	1.15	0.85	0.68	1.31	0.83	0.78	1.28	1.31	1.32	1.18	0.76	0.77
Avail Cap(c_a), veh/h	183	1019	447	138	923	404	333	990	514	235	835	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	41.0	38.8	53.3	42.6	18.8	46.1	40.4	40.4	49.7	39.9	40.0
Incr Delay (d2), s/veh	113.6	6.4	3.4	182.6	5.5	8.1	146.4	146.1	156.0	117.2	4.2	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	10.5	6.8	10.9	9.1	5.0	22.8	33.4	36.1	14.2	8.5	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	165.3	47.4	42.1	235.8	48.1	27.0	192.5	186.5	196.5	167.0	44.1	48.8
LnGrp LOS	F	D	D	F	D	C	F	F	F	F	D	D
Approach Vol, veh/h		1220			1095			2398			1233	
Approach Delay, s/veh		66.7			74.0			190.4			73.0	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.4	42.0	14.7	36.6	29.0	36.4	18.0	33.3
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.2	* 36	10.1	35.3	24.4	28.6	13.4	32.0
Max Q Clear Time (g_c+I1), s	19.2	37.8	12.1	26.7	26.4	23.6	15.4	23.3
Green Ext Time (p_c), s	0.0	0.0	0.0	3.6	0.0	2.4	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	119.2
HCM 6th LOS	F

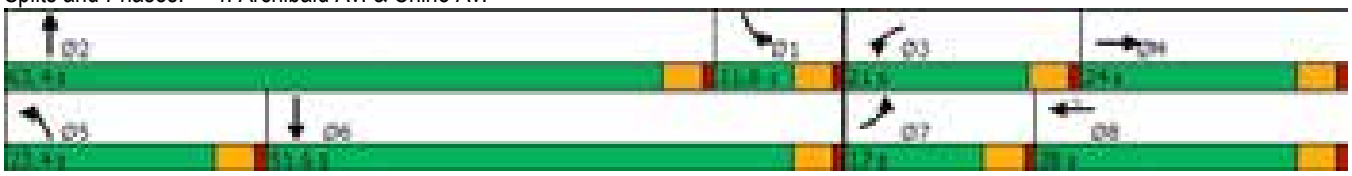
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	148	127	153	157	214	293	1765	85	870
Future Volume (vph)	148	127	153	157	214	293	1765	85	870
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	17.0	24.0	21.0	28.0	28.0	23.4	63.4	11.6	51.6
Total Split (%)	14.2%	20.0%	17.5%	23.3%	23.3%	19.5%	52.8%	9.7%	43.0%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.5	17.6	15.6	20.7	20.7	18.9	56.9	7.0	45.0
Actuated g/C Ratio	0.11	0.15	0.13	0.18	0.18	0.16	0.49	0.06	0.39
v/c Ratio	1.02	0.83	0.85	0.59	0.66	1.33	0.88	1.04	0.86
Control Delay	127.3	69.6	81.9	51.9	28.4	213.1	31.2	157.8	39.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	127.3	69.6	81.9	51.9	28.4	213.1	31.2	157.8	39.9
LOS	F	E	F	D	C	F	C	F	D
Approach Delay		94.8		51.1			55.3		49.2
Approach LOS		F		D			E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 115.6	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.33	
Intersection Signal Delay: 56.4	Intersection LOS: E
Intersection Capacity Utilization 83.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	127	64	153	157	214	293	1765	161	85	870	121
Future Volume (veh/h)	148	127	64	153	157	214	293	1765	161	85	870	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	174	149	67	180	185	158	345	2076	181	100	1024	134
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	170	76	206	293	248	267	2400	207	99	1203	157
Arrive On Green	0.11	0.15	0.15	0.13	0.17	0.17	0.17	0.50	0.50	0.06	0.39	0.39
Sat Flow, veh/h	1594	1158	521	1594	1772	1502	1594	4819	416	1594	3061	400
Grp Volume(v), veh/h	174	0	216	180	185	158	345	1521	736	100	592	566
Grp Sat Flow(s),veh/h/ln	1594	0	1678	1594	1772	1502	1594	1772	1691	1594	1772	1690
Q Serve(g_s), s	12.2	0.0	14.1	12.4	10.9	9.1	18.8	42.4	43.4	7.0	34.2	34.3
Cycle Q Clear(g_c), s	12.2	0.0	14.1	12.4	10.9	9.1	18.8	42.4	43.4	7.0	34.2	34.3
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.25	1.00		0.24
Lane Grp Cap(c), veh/h	176	0	246	206	293	248	267	1765	842	99	696	664
V/C Ratio(X)	0.99	0.00	0.88	0.88	0.63	0.64	1.29	0.86	0.87	1.01	0.85	0.85
Avail Cap(c_a), veh/h	176	0	290	233	369	313	267	1857	886	99	742	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	0.0	46.9	48.0	43.7	29.9	46.7	24.8	25.0	52.6	31.1	31.1
Incr Delay (d2), s/veh	64.1	0.0	22.3	26.8	2.3	2.8	156.5	4.3	9.3	91.9	8.9	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	7.3	6.4	4.9	3.4	18.6	16.6	17.4	5.2	15.2	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	114.0	0.0	69.2	74.8	45.9	32.7	203.2	29.1	34.4	144.5	40.0	40.5
LnGrp LOS	F	A	E	E	D	C	F	C	C	F	D	D
Approach Vol, veh/h		390			523			2602			1258	
Approach Delay, s/veh		89.2			51.9			53.7			48.5	
Approach LOS		F			D			D			D	

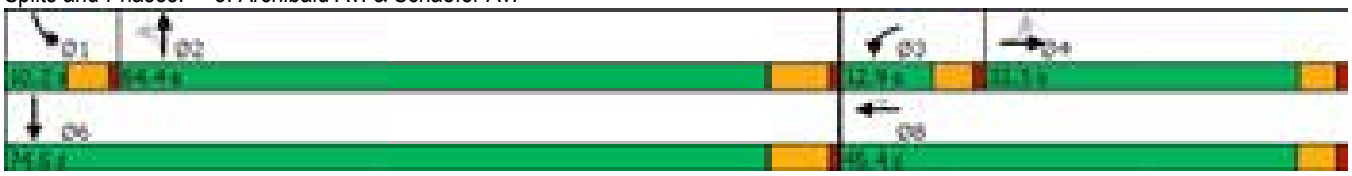
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	60.5	19.1	21.1	23.4	48.7	17.0	23.1
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	7.0	58.8	16.4	19.4	18.8	47.0	12.4	23.4
Max Q Clear Time (g_c+I1), s	9.0	45.4	14.4	16.1	20.8	36.3	14.2	12.9
Green Ext Time (p_c), s	0.0	10.5	0.1	0.3	0.0	5.0	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	55.0
HCM 6th LOS	E

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	19	25	61	28	248	1862	82	1108
Future Volume (vph)	19	25	61	28	248	1862	82	1108
Turn Type	Perm	NA	Prot	NA	Perm	NA	Prot	NA
Protected Phases		4	3	8		2	1	6
Permitted Phases	4				8			
Detector Phase	4	4	3	8	8	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	32.5	32.5	9.6	32.6	32.6	37.5	9.6	23.5
Total Split (s)	32.5	32.5	12.9	45.4	45.4	64.4	10.2	74.6
Total Split (%)	27.1%	27.1%	10.8%	37.8%	37.8%	53.7%	8.5%	62.2%
Yellow Time (s)	3.5	3.5	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	10.8	10.8	9.3	20.0	20.0	56.3	5.7	66.6
Actuated g/C Ratio	0.11	0.11	0.10	0.20	0.20	0.58	0.06	0.68
v/c Ratio	0.17	0.15	0.49	0.09	0.81	0.83	1.08	0.59
Control Delay	44.1	42.8	57.5	31.3	42.0	21.3	163.8	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	42.8	57.5	31.3	42.0	21.3	163.8	10.7
LOS	D	D	E	C	D	C	F	B
Approach Delay		43.4		43.9		21.3		21.1
Approach LOS		D		D		C		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 23.7	Intersection LOS: C
Intersection Capacity Utilization 78.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	25	0	61	28	248	0	1862	50	82	1108	21
Future Volume (veh/h)	19	25	0	61	28	248	0	1862	50	82	1108	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		1.00	1.00		0.95	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	23	30	0	73	33	295	0	2217	48	98	1319	25
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	262	0	90	444	357	72	2611	56	89	2156	41
Arrive On Green	0.15	0.15	0.00	0.06	0.25	0.25	0.00	0.54	0.54	0.06	0.64	0.64
Sat Flow, veh/h	890	1772	0	1594	1772	1426	364	4870	105	1594	3378	64
Grp Volume(v), veh/h	23	30	0	73	33	295	0	1466	799	98	657	687
Grp Sat Flow(s),veh/h/ln	890	1772	0	1594	1772	1426	364	1612	1750	1594	1683	1759
Q Serve(g_s), s	2.3	1.5	0.0	4.5	1.4	19.5	0.0	38.6	38.9	5.6	23.1	23.2
Cycle Q Clear(g_c), s	2.3	1.5	0.0	4.5	1.4	19.5	0.0	38.6	38.9	5.6	23.1	23.2
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.06	1.00		0.04
Lane Grp Cap(c), veh/h	204	262	0	90	444	357	72	1729	938	89	1074	1123
V/C Ratio(X)	0.11	0.11	0.00	0.81	0.07	0.83	0.00	0.85	0.85	1.10	0.61	0.61
Avail Cap(c_a), veh/h	322	497	0	132	724	582	88	1869	1014	89	1147	1199
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	36.9	0.0	46.6	28.6	35.4	0.0	19.7	19.8	47.2	10.7	10.7
Incr Delay (d2), s/veh	0.2	0.2	0.0	12.7	0.1	5.1	0.0	3.7	6.7	124.0	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.6	0.0	2.0	0.6	6.9	0.0	12.8	14.8	5.2	6.8	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	37.1	0.0	59.3	28.7	40.4	0.0	23.4	26.4	171.1	11.6	11.6
LnGrp LOS	D	D	A	E	C	D	A	C	C	F	B	B
Approach Vol, veh/h		53			401			2265			1442	
Approach Delay, s/veh		37.3			42.9			24.4			22.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	6	8
Phs Duration (G+Y+Rc), s	10.2	60.1	10.3	19.4	70.3	29.6
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6	6.5	4.6
Max Green Setting (Gmax), s	5.6	57.9	8.3	* 28	68.1	40.8
Max Q Clear Time (g_c+I1), s	7.6	40.9	6.5	4.3	25.2	21.5
Green Ext Time (p_c), s	0.0	12.7	0.0	0.2	10.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

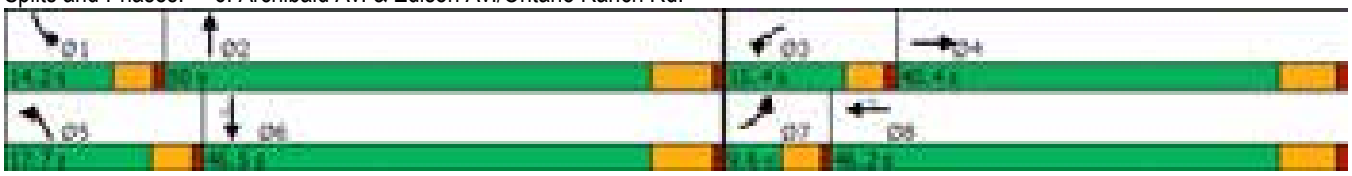
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	256	292	304	499	129	690	1637	339	109	943	101
Future Volume (vph)	43	256	292	304	499	129	690	1637	339	109	943	101
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	40.4		15.4	46.2	46.2	17.7	50.0		14.2	46.5	46.5
Total Split (%)	8.0%	33.7%		12.8%	38.5%	38.5%	14.8%	41.7%		11.8%	38.8%	38.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.0	30.0	116.2	10.9	38.0	38.0	13.2	43.7	116.2	9.6	40.2	40.2
Actuated g/C Ratio	0.04	0.26	1.00	0.09	0.33	0.33	0.11	0.38	1.00	0.08	0.35	0.35
v/c Ratio	0.36	0.31	0.21	1.20	0.95	0.25	4.23	1.36	0.25	0.92	0.85	0.18
Control Delay	64.2	35.1	0.3	165.2	65.9	7.5	1486.6	196.1	0.4	114.0	44.0	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	35.1	0.3	165.2	65.9	7.5	1486.6	196.1	0.4	114.0	44.0	2.1
LOS	E	D	A	F	E	A	F	F	A	F	D	A
Approach Delay		20.0			90.2			505.0			46.9	
Approach LOS		C			F			F			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 116.2	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.23	
Intersection Signal Delay: 280.2	Intersection LOS: F
Intersection Capacity Utilization 120.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	256	292	304	499	129	690	1637	339	109	943	101
Future Volume (veh/h)	43	256	292	304	499	129	690	1637	339	109	943	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	47	281	0	334	548	119	758	1799	0	120	1036	100
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	950		276	579	484	178	1315		131	1209	501
Arrive On Green	0.03	0.27	0.00	0.09	0.33	0.33	0.11	0.37	0.00	0.08	0.34	0.34
Sat Flow, veh/h	3000	3544	1502	3000	1772	1483	1594	3544	1502	1594	3544	1468
Grp Volume(v), veh/h	47	281	0	334	548	119	758	1799	0	120	1036	100
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1483	1594	1772	1502	1594	1772	1468
Q Serve(g_s), s	1.8	7.4	0.0	10.8	35.3	6.9	13.1	43.5	0.0	8.8	31.9	5.6
Cycle Q Clear(g_c), s	1.8	7.4	0.0	10.8	35.3	6.9	13.1	43.5	0.0	8.8	31.9	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	950		276	579	484	178	1315		131	1209	501
V/C Ratio(X)	0.47	0.30		1.21	0.95	0.25	4.26	1.37		0.92	0.86	0.20
Avail Cap(c_a), veh/h	128	1034		276	605	506	178	1315		131	1209	501
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	34.1	0.0	53.2	38.5	28.9	52.1	36.9	0.0	53.4	35.9	27.3
Incr Delay (d2), s/veh	1.3	0.2	0.0	122.6	23.7	0.3	1477.9	170.5	0.0	53.8	6.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.1	0.0	8.6	18.2	2.4	78.1	48.4	0.0	5.3	13.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.9	34.3	0.0	175.8	62.2	29.1	1530.0	207.3	0.0	107.3	42.2	27.5
LnGrp LOS	E	C		F	E	C	F	F		F	D	C
Approach Vol, veh/h		328	A		1001			2557	A		1256	
Approach Delay, s/veh		37.5			96.1			599.4			47.3	
Approach LOS		D			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	50.0	15.4	37.6	17.7	46.5	8.5	44.5
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	9.6	43.5	10.8	34.2	13.1	40.0	5.0	40.0
Max Q Clear Time (g_c+I1), s	10.8	45.5	12.8	9.4	15.1	33.9	3.8	37.3
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.0	3.3	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	330.7
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	171	815	103	682	336	271	134	206
Future Volume (vph)	171	815	103	682	336	271	134	206
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	18.0	44.0	13.0	39.0	31.0	41.0	22.0	32.0
Total Split (%)	15.0%	36.7%	10.8%	32.5%	25.8%	34.2%	18.3%	26.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	13.4	37.9	8.4	32.9	26.5	28.7	15.0	17.2
Actuated g/C Ratio	0.12	0.34	0.08	0.30	0.24	0.26	0.13	0.15
v/c Ratio	1.13	1.13	1.08	1.09	1.13	0.74	0.80	0.74
Control Delay	150.7	104.3	156.8	94.1	126.6	31.1	73.4	38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	150.7	104.3	156.8	94.1	126.6	31.1	73.4	38.9
LOS	F	F	F	F	F	C	E	D
Approach Delay		111.1		101.0		67.6		48.5
Approach LOS		F		F		E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 88.6	Intersection LOS: F
Intersection Capacity Utilization 88.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	815	181	103	682	157	336	271	271	134	206	143
Future Volume (veh/h)	171	815	181	103	682	157	336	271	271	134	206	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.94	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	216	1032	115	130	863	104	425	343	178	170	261	92
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	1032	115	120	889	107	378	577	291	196	387	133
Arrive On Green	0.12	0.34	0.34	0.08	0.29	0.29	0.24	0.27	0.27	0.12	0.16	0.16
Sat Flow, veh/h	1594	3043	339	1594	3020	364	1594	2116	1070	1594	2445	838
Grp Volume(v), veh/h	216	571	576	130	481	486	425	271	250	170	177	176
Grp Sat Flow(s),veh/h/ln	1594	1683	1698	1594	1683	1701	1594	1683	1503	1594	1683	1600
Q Serve(g_s), s	13.4	37.8	37.8	8.4	31.5	31.5	26.4	15.6	16.2	11.7	11.1	11.6
Cycle Q Clear(g_c), s	13.4	37.8	37.8	8.4	31.5	31.5	26.4	15.6	16.2	11.7	11.1	11.6
Prop In Lane	1.00		0.20	1.00		0.21	1.00		0.71	1.00		0.52
Lane Grp Cap(c), veh/h	192	571	576	120	496	501	378	459	409	196	266	253
V/C Ratio(X)	1.13	1.00	1.00	1.08	0.97	0.97	1.13	0.59	0.61	0.87	0.67	0.69
Avail Cap(c_a), veh/h	192	571	576	120	496	501	378	532	475	249	396	376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	36.8	36.8	51.5	38.8	38.8	42.5	35.2	35.4	48.0	44.1	44.3
Incr Delay (d2), s/veh	103.3	37.4	37.6	105.8	32.9	32.7	84.9	1.3	1.8	19.2	2.9	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	20.3	20.6	6.8	16.7	16.8	18.8	6.3	5.9	5.5	4.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	152.3	74.2	74.4	157.3	71.7	71.5	127.4	36.5	37.1	67.2	47.0	47.7
LnGrp LOS	F	E	F	F	E	E	F	D	D	E	D	D
Approach Vol, veh/h		1363			1097			946			523	
Approach Delay, s/veh		86.7			81.8			77.5			53.8	
Approach LOS		F			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.3	36.2	13.0	44.0	31.0	23.4	18.0	39.0
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	17.4	35.2	8.4	37.8	26.4	26.2	13.4	32.8
Max Q Clear Time (g_c+I1), s	13.7	18.2	10.4	39.8	28.4	13.6	15.4	33.5
Green Ext Time (p_c), s	0.1	2.7	0.0	0.0	0.0	1.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	78.7
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	89.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	170	169	117	49	224	148	157	493	51	92	230	109
Future Vol, veh/h	170	169	117	49	224	148	157	493	51	92	230	109
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	230	228	158	66	303	200	212	666	69	124	311	147
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	48.1	64	158	46.7
HCM LOS	E	F	F	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	76%	0%	100%	32%	0%	100%	34%	0%	100%	41%
Vol Right, %	0%	0%	24%	0%	0%	68%	0%	0%	66%	0%	0%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	157	329	215	170	113	173	49	149	223	92	153	186
LT Vol	157	0	0	170	0	0	49	0	0	92	0	0
Through Vol	0	329	164	0	113	56	0	149	75	0	153	77
RT Vol	0	0	51	0	0	117	0	0	148	0	0	109
Lane Flow Rate	212	444	291	230	152	234	66	202	301	124	207	251
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.738	1.484	0.959	0.838	0.535	0.794	0.237	0.696	1.001	0.455	0.731	0.857
Departure Headway (Hd)	12.641	12.141	11.975	13.284	12.784	12.311	13.278	12.778	12.312	13.301	12.801	12.297
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	289	302	306	273	283	295	272	285	298	272	284	294
Service Time	10.341	9.841	9.675	10.984	10.484	10.011	10.978	10.478	10.012	11.001	10.501	10.09
HCM Lane V/C Ratio	0.734	1.47	0.951	0.842	0.537	0.793	0.243	0.709	1.01	0.456	0.729	0.854
HCM Control Delay	44	265	77.9	59.1	29.3	49.6	20.1	40.2	89.7	26.6	43.7	59.2
HCM Lane LOS	E	F	F	F	D	E	C	E	F	D	E	F
HCM 95th-tile Q	5.4	24.6	9.7	6.9	2.9	6.3	0.9	4.8	10.5	2.2	5.2	7.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	150	1424	18	63	1526	48	46	157	220	77
Future Volume (vph)	150	1424	18	63	1526	48	46	157	220	77
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	15.0	49.0	49.0	18.0	52.0	52.0	15.0	35.0	18.0	38.0
Total Split (%)	12.5%	40.8%	40.8%	15.0%	43.3%	43.3%	12.5%	29.2%	15.0%	31.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	10.4	50.1	50.1	8.7	46.3	46.3	7.5	17.8	13.4	25.8
Actuated g/C Ratio	0.10	0.46	0.46	0.08	0.43	0.43	0.07	0.16	0.12	0.24
v/c Ratio	0.99	0.97	0.03	0.50	1.13	0.07	0.42	0.72	1.12	0.51
Control Delay	117.5	47.4	0.1	60.6	97.1	0.2	59.8	55.0	141.4	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	117.5	47.4	0.1	60.6	97.1	0.2	59.8	55.0	141.4	30.2
LOS	F	D	A	E	F	A	E	D	F	C
Approach Delay		53.5			92.9			55.9		87.2
Approach LOS		D			F			E		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 73.9	Intersection LOS: E
Intersection Capacity Utilization 90.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	1424	18	63	1526	48	46	157	41	220	77	131
Future Volume (veh/h)	150	1424	18	63	1526	48	46	157	41	220	77	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	167	1582	16	70	1696	45	51	174	40	244	86	135
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	1720	767	90	1551	692	66	209	48	225	152	239
Arrive On Green	0.10	0.48	0.48	0.05	0.44	0.44	0.04	0.14	0.14	0.13	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1471	338	1781	656	1029
Grp Volume(v), veh/h	167	1582	16	70	1696	45	51	0	214	244	0	221
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1809	1781	0	1685
Q Serve(g_s), s	9.9	43.8	0.6	4.1	46.2	1.7	3.0	0.0	12.2	13.4	0.0	12.3
Cycle Q Clear(g_c), s	9.9	43.8	0.6	4.1	46.2	1.7	3.0	0.0	12.2	13.4	0.0	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.61
Lane Grp Cap(c), veh/h	175	1720	767	90	1551	692	66	0	257	225	0	391
V/C Ratio(X)	0.95	0.92	0.02	0.78	1.09	0.07	0.78	0.00	0.83	1.08	0.00	0.57
Avail Cap(c_a), veh/h	175	1720	767	225	1551	692	175	0	499	225	0	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.5	25.4	14.2	49.7	29.8	17.3	50.5	0.0	44.2	46.2	0.0	35.9
Incr Delay (d2), s/veh	54.1	8.5	0.0	5.3	52.9	0.0	7.2	0.0	6.8	83.5	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	18.3	0.2	1.9	29.0	0.6	1.4	0.0	5.7	10.9	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.6	33.9	14.2	54.9	82.7	17.3	57.7	0.0	51.0	129.7	0.0	37.2
LnGrp LOS	F	C	B	D	F	B	E	A	D	F	A	D
Approach Vol, veh/h		1765			1811			265			465	
Approach Delay, s/veh		40.1			80.0			52.3			85.8	
Approach LOS		D			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	20.9	10.0	57.0	8.5	30.4	15.0	52.0
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	13.4	29.2	13.4	43.2	10.4	32.2	10.4	46.2
Max Q Clear Time (g_c+I1), s	15.4	14.2	6.1	45.8	5.0	14.3	11.9	48.2
Green Ext Time (p_c), s	0.0	0.9	0.0	0.0	0.0	1.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	62.6
HCM 6th LOS	E

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	276	4	869	368	2197	1184	494
Future Volume (vph)	276	4	869	368	2197	1184	494
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	30.2	30.2		16.0	44.8	28.8	28.8
Total Split (%)	40.3%	40.3%		21.3%	59.7%	38.4%	38.4%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	24.4	24.4	75.0	10.6	38.6	23.0	23.0
Actuated g/C Ratio	0.33	0.33	1.00	0.14	0.51	0.31	0.31
v/c Ratio	1.01	1.01	0.57	0.79	0.87	0.79	0.62
Control Delay	69.4	70.2	1.5	34.4	18.9	28.5	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	70.2	1.5	34.4	18.9	28.5	5.8
LOS	E	E	A	C	B	C	A
Approach Delay		39.1			21.1	21.8	
Approach LOS		D			C	C	

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 45 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 26.9	Intersection LOS: C
Intersection Capacity Utilization 93.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	276	4	869	368	2197	0	0	1184	494
Future Volume (veh/h)	0	0	0	276	4	869	368	2197	0	0	1184	494
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1107	0	0	383	2289	0	0	1233	447
Peak Hour Factor				0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1159	0		459	2628	0	0	1610	493
Arrive On Green				0.33	0.00	0.00	0.27	1.00	0.00	0.00	0.32	0.32
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1563
Grp Volume(v), veh/h				1107	0	0	383	2289	0	0	1233	447
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1563
Q Serve(g_s), s				22.8	0.0	0.0	7.8	0.0	0.0	0.0	16.3	20.6
Cycle Q Clear(g_c), s				22.8	0.0	0.0	7.8	0.0	0.0	0.0	16.3	20.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1159	0		459	2628	0	0	1610	493
V/C Ratio(X)				0.96	0.00		0.84	0.87	0.00	0.00	0.77	0.91
Avail Cap(c_a), veh/h				1159	0		507	2628	0	0	1610	493
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.8	0.0	0.0	26.8	0.0	0.0	0.0	23.2	24.6
Incr Delay (d2), s/veh				16.8	0.0	0.0	1.0	0.4	0.0	0.0	3.5	23.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.1	0.0	0.0	2.7	0.1	0.0	0.0	6.3	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.5	0.0	0.0	27.7	0.4	0.0	0.0	26.7	47.6
LnGrp LOS				D	A		C	A	A	A	C	D
Approach Vol, veh/h					1107	A		2672			1680	
Approach Delay, s/veh					41.5			4.3			32.3	
Approach LOS					D			A			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		44.8			15.0	29.8		30.2				
Change Period (Y+Rc), s		6.2			5.0	6.2		5.8				
Max Green Setting (Gmax), s		38.6			11.0	22.6		24.4				
Max Q Clear Time (g_c+I1), s		2.0			9.8	22.6		24.8				
Green Ext Time (p_c), s		16.5			0.1	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	20.5	
HCM 6th LOS	C	

Notes

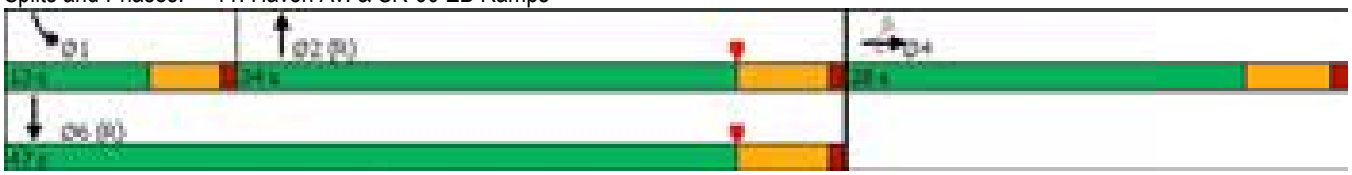
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	871	5	202	1767	393	1051
Future Volume (vph)	871	5	202	1767	393	1051
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	28.0	28.0	28.0	34.0	13.0	47.0
Total Split (%)	37.3%	37.3%	37.3%	45.3%	17.3%	62.7%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	22.1	22.1	22.1	27.8	8.1	40.9
Actuated g/C Ratio	0.29	0.29	0.29	0.37	0.11	0.55
v/c Ratio	0.93	0.94	0.39	1.24	1.12	0.40
Control Delay	53.9	55.4	12.0	135.9	99.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	55.4	12.0	135.9	99.5	10.2
LOS	D	E	B	F	F	B
Approach Delay		46.7		135.9		34.6
Approach LOS		D		F		C

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 48 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.24	
Intersection Signal Delay: 84.7	Intersection LOS: F
Intersection Capacity Utilization 93.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	871	5	202	0	0	0	0	1767	446	393	1051	0
Future Volume (veh/h)	871	5	202	0	0	0	0	1767	446	393	1051	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	921	0	108				0	1860	258	414	1106	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1017	0	452				0	1727	237	369	2832	0
Arrive On Green	0.29	0.00	0.29				0.00	0.38	0.38	0.21	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4698	622	3456	5274	0
Grp Volume(v), veh/h	921	0	108				0	1393	725	414	1106	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1748	1728	1702	0
Q Serve(g_s), s	18.7	0.0	3.9				0.0	28.6	28.6	8.0	0.0	0.0
Cycle Q Clear(g_c), s	18.7	0.0	3.9				0.0	28.6	28.6	8.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.36	1.00		0.00
Lane Grp Cap(c), veh/h	1017	0	452				0	1298	667	369	2832	0
V/C Ratio(X)	0.91	0.00	0.24				0.00	1.07	1.09	1.12	0.39	0.00
Avail Cap(c_a), veh/h	1055	0	469				0	1298	667	369	2832	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.39	0.39	0.00
Uniform Delay (d), s/veh	25.8	0.0	20.6				0.0	23.2	23.2	29.5	0.0	0.0
Incr Delay (d2), s/veh	10.9	0.0	0.3				0.0	47.2	61.1	69.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	0.0	1.3				0.0	18.3	21.4	6.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	0.0	20.8				0.0	70.4	84.3	98.8	0.2	0.0
LnGrp LOS	D	A	C				A	F	F	F	A	A
Approach Vol, veh/h		1029						2118			1520	
Approach Delay, s/veh		35.0						75.1			27.0	
Approach LOS		D						E			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.0	34.8		27.2		47.8
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	8.0	27.8		22.2		40.8
Max Q Clear Time (g_c+I1), s	10.0	30.6		20.7		2.0
Green Ext Time (p_c), s	0.0	0.0		0.7		5.3

Intersection Summary	
HCM 6th Ctrl Delay	50.6
HCM 6th LOS	D

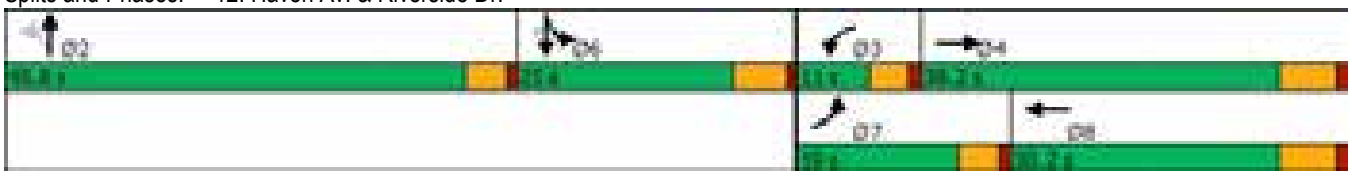
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	546	763	321	526	24	530	478	412	309
Future Volume (vph)	546	763	321	526	24	530	478	412	309
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	19.0	38.2	11.0	30.2	45.8	45.8	25.0	25.0	25.0
Total Split (%)	15.8%	31.8%	9.2%	25.2%	38.2%	38.2%	20.8%	20.8%	20.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	14.4	32.0	6.4	24.0		41.1	19.2	19.2	19.2
Actuated g/C Ratio	0.12	0.27	0.05	0.20		0.34	0.16	0.16	0.16
v/c Ratio	3.07	1.88	4.06	1.40		3.99	2.01	1.55	0.69
Control Delay	966.0	432.1	1419.2	217.8		1370.7	496.5	300.4	15.9
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	966.0	432.1	1419.2	217.8		1370.7	496.5	300.4	15.9
LOS	F	F	F	F		F	F	F	B
Approach Delay		645.4		517.3		1370.7		305.3	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.06	
Intersection Signal Delay: 643.3	Intersection LOS: F
Intersection Capacity Utilization 158.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	546	763	57	321	526	439	24	530	222	478	412	309
Future Volume (veh/h)	546	763	57	321	526	439	24	530	222	478	412	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	581	812	58	341	560	431	26	564	219	509	438	153
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	433	31	85	354	273	18	401	156	255	284	235
Arrive On Green	0.12	0.27	0.27	0.05	0.20	0.20	0.34	0.34	0.34	0.16	0.16	0.16
Sat Flow, veh/h	1594	1623	116	1594	1771	1363	54	1171	455	1594	1772	1468
Grp Volume(v), veh/h	581	0	870	341	532	459	809	0	0	509	438	153
Grp Sat Flow(s),veh/h/ln	1594	0	1739	1594	1683	1450	1679	0	0	1594	1772	1468
Q Serve(g_s), s	14.4	0.0	32.0	6.4	24.0	24.0	41.1	0.0	0.0	19.2	19.2	11.7
Cycle Q Clear(g_c), s	14.4	0.0	32.0	6.4	24.0	24.0	41.1	0.0	0.0	19.2	19.2	11.7
Prop In Lane	1.00		0.07	1.00		0.94	0.03		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	464	85	337	290	575	0	0	255	284	235
V/C Ratio(X)	3.04	0.00	1.88	4.01	1.58	1.58	1.41	0.00	0.00	2.00	1.54	0.65
Avail Cap(c_a), veh/h	191	0	464	85	337	290	575	0	0	255	284	235
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	0.0	44.0	56.8	48.0	48.0	39.5	0.0	0.0	50.4	50.4	47.3
Incr Delay (d2), s/veh	930.8	0.0	402.3	1382.9	275.4	277.5	193.2	0.0	0.0	461.9	262.1	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	55.0	0.0	64.9	35.1	35.4	30.7	47.5	0.0	0.0	40.1	28.9	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	983.6	0.0	446.3	1439.7	323.4	325.5	232.6	0.0	0.0	512.3	312.5	53.5
LnGrp LOS	F	A	F	F	F	F	F	A	A	F	F	D
Approach Vol, veh/h		1451			1332			809			1100	
Approach Delay, s/veh		661.4			609.9			232.6			368.9	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		45.8	11.0	38.2		25.0	19.0	30.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 41	6.4	32.0		19.2	14.4	24.0				
Max Q Clear Time (g_c+I1), s		43.1	8.4	34.0		21.2	16.4	26.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		504.3
HCM 6th LOS		F

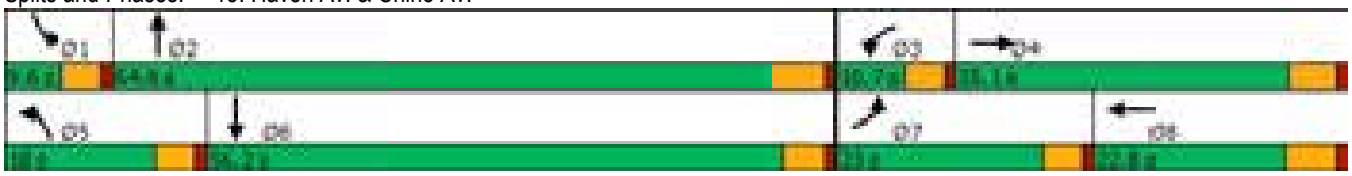
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	252	68	25	55	174	685	611	
Future Volume (vph)	252	68	25	55	174	685	611	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	23.0	35.1	10.7	22.8	18.0	64.6	56.2	9.6
Total Split (%)	19.2%	29.3%	8.9%	19.0%	15.0%	53.8%	46.8%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	18.5	25.1	5.7	11.4	13.5	68.7	51.8	
Actuated g/C Ratio	0.17	0.23	0.05	0.10	0.12	0.62	0.47	
v/c Ratio	1.02	0.63	0.30	0.32	0.97	0.70	1.01	
Control Delay	108.6	30.1	61.9	52.3	108.2	20.2	64.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	108.6	30.1	61.9	52.3	108.2	20.2	64.5	
LOS	F	C	E	D	F	C	E	
Approach Delay		67.4		55.3		37.5	64.5	
Approach LOS		E		E		D	E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.3	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 54.2	Intersection LOS: D
Intersection Capacity Utilization 88.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	68	208	25	55	0	174	685	28	0	611	149
Future Volume (veh/h)	252	68	208	25	55	0	174	685	28	0	611	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	268	74	115	27	60	0	185	729	15	0	650	159
Peak Hour Factor	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	148	229	45	164	0	187	1054	22	2	621	152
Arrive On Green	0.16	0.22	0.22	0.03	0.09	0.00	0.12	0.61	0.61	0.00	0.45	0.45
Sat Flow, veh/h	1594	660	1026	1781	1870	0	1594	1730	36	1781	1375	336
Grp Volume(v), veh/h	268	0	189	27	60	0	185	0	744	0	0	809
Grp Sat Flow(s),veh/h/ln	1594	0	1686	1781	1870	0	1594	0	1766	1781	0	1711
Q Serve(g_s), s	18.4	0.0	11.2	1.7	3.5	0.0	13.2	0.0	32.5	0.0	0.0	51.5
Cycle Q Clear(g_c), s	18.4	0.0	11.2	1.7	3.5	0.0	13.2	0.0	32.5	0.0	0.0	51.5
Prop In Lane	1.00		0.61	1.00		0.00	1.00		0.02	1.00		0.20
Lane Grp Cap(c), veh/h	257	0	377	45	164	0	187	0	1075	2	0	772
V/C Ratio(X)	1.04	0.00	0.50	0.60	0.37	0.00	0.99	0.00	0.69	0.00	0.00	1.05
Avail Cap(c_a), veh/h	257	0	439	95	279	0	187	0	1075	78	0	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	47.8	0.0	38.7	55.0	49.1	0.0	50.3	0.0	15.1	0.0	0.0	31.3
Incr Delay (d2), s/veh	67.7	0.0	1.0	4.7	1.4	0.0	62.1	0.0	1.9	0.0	0.0	45.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	0.0	4.6	0.8	1.6	0.0	8.3	0.0	11.9	0.0	0.0	30.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.6	0.0	39.8	59.8	50.4	0.0	112.4	0.0	17.0	0.0	0.0	76.8
LnGrp LOS	F	A	D	E	D	A	F	A	B	A	A	F
Approach Vol, veh/h		457			87			929			809	
Approach Delay, s/veh		84.2			53.3			36.0			76.8	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	75.3	7.5	31.3	18.0	57.3	23.0	15.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	58.8	6.1	* 30	13.4	* 52	18.4	17.0
Max Q Clear Time (g_c+I1), s	0.0	34.5	3.7	13.2	15.2	53.5	20.4	5.5
Green Ext Time (p_c), s	0.0	5.0	0.0	0.9	0.0	0.0	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	60.8
HCM 6th LOS	E

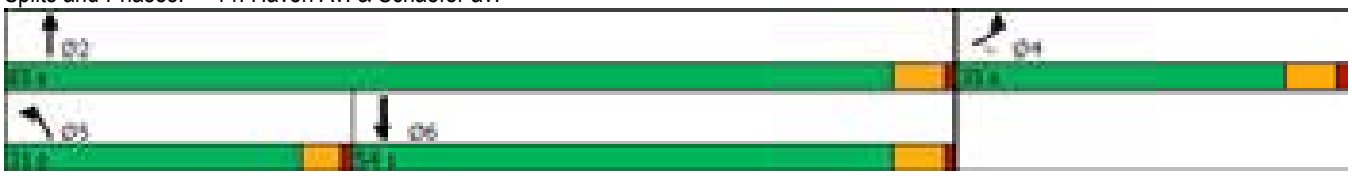
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	89	137	150	635	403
Future Volume (vph)	89	137	150	635	403
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	35.0	35.0	31.0	85.0	54.0
Total Split (%)	29.2%	29.2%	25.8%	70.8%	45.0%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.2	12.2	10.5	30.0	14.6
Actuated g/C Ratio	0.22	0.22	0.19	0.55	0.27
v/c Ratio	0.27	0.33	0.53	0.71	0.54
Control Delay	21.8	6.8	28.6	14.0	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	6.8	28.6	14.0	19.3
LOS	C	A	C	B	B
Approach Delay	12.7			16.8	19.3
Approach LOS	B			B	B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 54.3	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 17.0	Intersection LOS: B
Intersection Capacity Utilization 53.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	89	137	150	635	403	64
Future Volume (veh/h)	89	137	150	635	403	64
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	97	95	163	690	438	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	348	328	205	877	757	115
Arrive On Green	0.22	0.22	0.13	0.50	0.25	0.25
Sat Flow, veh/h	1594	1502	1594	1772	2994	455
Grp Volume(v), veh/h	97	95	163	690	258	247
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1772	1676
Q Serve(g_s), s	2.1	2.1	4.0	13.0	5.2	5.2
Cycle Q Clear(g_c), s	2.1	2.1	4.0	13.0	5.2	5.2
Prop In Lane	1.00	1.00	1.00			0.27
Lane Grp Cap(c), veh/h	348	328	205	877	448	424
V/C Ratio(X)	0.28	0.29	0.79	0.79	0.58	0.58
Avail Cap(c_a), veh/h	1149	1083	1039	3465	2109	1995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	13.2	17.1	8.5	13.2	13.3
Incr Delay (d2), s/veh	0.4	0.5	2.6	1.6	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.3	2.8	1.6	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.6	13.7	19.8	10.1	14.4	14.5
LnGrp LOS	B	B	B	B	B	B
Approach Vol, veh/h	192			853	505	
Approach Delay, s/veh	13.6			11.9	14.5	
Approach LOS	B			B	B	

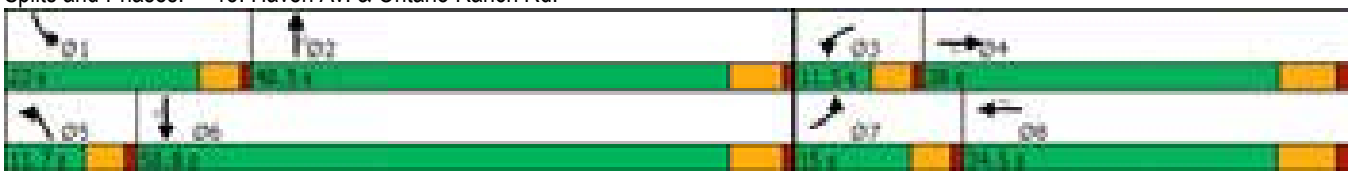
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		25.9		14.6	9.8	16.0
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		79.2		29.2	26.4	48.2
Max Q Clear Time (g_c+I1), s		15.0		4.1	6.0	7.2
Green Ext Time (p_c), s		5.0		0.5	0.2	2.9

Intersection Summary		
HCM 6th Ctrl Delay		13.0
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	1503	54	127	1092	209	75	362	192	489	419	172
Future Volume (vph)	230	1503	54	127	1092	209	75	362	192	489	419	172
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	15.0	38.0	38.0	11.5	34.5	34.5	11.7	48.5	48.5	22.0	58.8	58.8
Total Split (%)	12.5%	31.7%	31.7%	9.6%	28.8%	28.8%	9.8%	40.4%	40.4%	18.3%	49.0%	49.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	10.5	32.0	32.0	6.9	28.2	28.2	7.1	29.0	29.0	17.5	39.3	39.3
Actuated g/C Ratio	0.10	0.30	0.30	0.06	0.26	0.26	0.07	0.27	0.27	0.16	0.37	0.37
v/c Ratio	1.60	1.02	0.11	0.71	0.63	0.40	0.76	0.81	0.40	2.03	0.69	0.28
Control Delay	331.1	65.2	0.4	71.1	37.4	7.1	92.7	50.0	10.2	502.9	34.4	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	331.1	65.2	0.4	71.1	37.4	7.1	92.7	50.0	10.2	502.9	34.4	4.1
LOS	F	E	A	E	D	A	F	D	B	F	C	A
Approach Delay		97.4			36.0			43.0			241.7	
Approach LOS		F			D			D			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 106.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.03	
Intersection Signal Delay: 104.3	Intersection LOS: F
Intersection Capacity Utilization 103.5%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	1503	54	127	1092	209	75	362	192	489	419	172
Future Volume (veh/h)	230	1503	54	127	1092	209	75	362	192	489	419	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	247	1616	47	137	1174	173	81	389	155	526	451	162
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	1613	455	188	1892	401	100	466	394	264	649	548
Arrive On Green	0.10	0.30	0.30	0.06	0.27	0.27	0.06	0.26	0.26	0.17	0.37	0.37
Sat Flow, veh/h	1594	5316	1500	3000	7088	1502	1594	1772	1500	1594	1772	1495
Grp Volume(v), veh/h	247	1616	47	137	1174	173	81	389	155	526	451	162
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1500	1772	1502	1594	1772	1500	1594	1772	1495
Q Serve(g_s), s	10.4	31.8	2.4	4.7	15.3	10.0	5.3	21.7	8.9	17.4	22.7	8.1
Cycle Q Clear(g_c), s	10.4	31.8	2.4	4.7	15.3	10.0	5.3	21.7	8.9	17.4	22.7	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	1613	455	188	1892	401	100	466	394	264	649	548
V/C Ratio(X)	1.56	1.00	0.10	0.73	0.62	0.43	0.81	0.83	0.39	1.99	0.70	0.30
Avail Cap(c_a), veh/h	158	1613	455	197	1892	401	108	721	611	264	895	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	36.5	26.3	48.3	33.8	31.8	48.5	36.5	31.8	43.7	28.3	23.6
Incr Delay (d2), s/veh	281.7	22.9	0.5	10.3	1.5	3.4	30.7	5.1	0.6	458.5	1.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.3	16.2	0.8	1.9	6.3	3.8	2.9	9.6	3.1	40.2	9.3	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	329.0	59.5	26.7	58.6	35.3	35.2	79.2	41.6	32.4	502.2	29.6	23.9
LnGrp LOS	F	F	C	E	D	D	E	D	C	F	C	C
Approach Vol, veh/h		1910			1484			625			1139	
Approach Delay, s/veh		93.5			37.4			44.2			247.1	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	33.4	11.2	38.3	11.2	44.2	15.0	34.5
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	17.4	42.7	6.9	* 32	7.1	53.0	10.4	28.0
Max Q Clear Time (g_c+I1), s	19.4	23.7	6.7	33.8	7.3	24.7	12.4	17.3
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.0	3.2	0.0	5.6

Intersection Summary	
HCM 6th Ctrl Delay	105.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	5.4
Intersection LOS	A

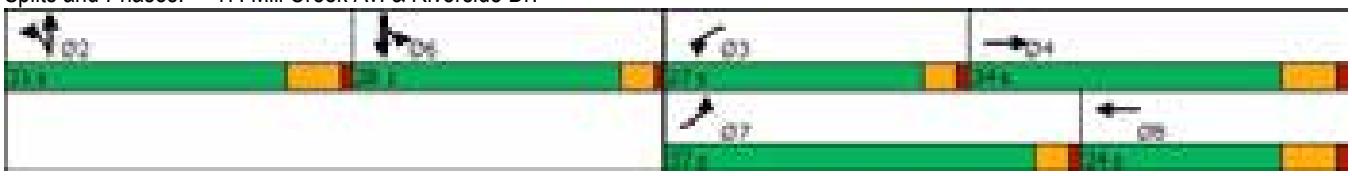
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	484	165	0	123
Demand Flow Rate, veh/h	493	168	0	125
Vehicles Circulating, veh/h	50	24	543	152
Vehicles Exiting, veh/h	227	519	0	40
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.4	3.7	0.0	4.0
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	493	168	0	125
Cap Entry Lane, veh/h	1311	1346	793	1182
Entry HV Adj Factor	0.981	0.982	1.000	0.984
Flow Entry, veh/h	484	165	0	123
Cap Entry, veh/h	1287	1323	793	1163
V/C Ratio	0.376	0.125	0.000	0.106
Control Delay, s/veh	6.4	3.7	4.5	4.0
LOS	A	A	A	A
95th %tile Queue, veh	2	0	0	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	388	779	120	986	231	91	251	100	188
Future Volume (vph)	388	779	120	986	231	91	251	100	188
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	37.0	34.0	27.0	24.0	31.0	31.0	31.0	28.0	28.0
Total Split (%)	30.8%	28.3%	22.5%	20.0%	25.8%	25.8%	25.8%	23.3%	23.3%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	33.0	35.3	15.7	18.0	24.1	24.1	24.1	24.0	24.0
Actuated g/C Ratio	0.28	0.30	0.13	0.15	0.20	0.20	0.20	0.20	0.20
v/c Ratio	1.12	1.31	0.73	2.61	0.91	0.32	0.58	0.40	1.12
Control Delay	119.7	181.8	68.6	751.5	79.1	43.1	8.9	45.9	125.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.7	181.8	68.6	751.5	79.1	43.1	8.9	45.9	125.4
LOS	F	F	E	F	E	D	A	D	F
Approach Delay		165.2		684.0		42.6			105.4
Approach LOS		F		F		D			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.61	
Intersection Signal Delay: 312.6	Intersection LOS: F
Intersection Capacity Utilization 106.7%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	779	285	120	986	109	231	91	251	100	188	110
Future Volume (veh/h)	388	779	285	120	986	109	231	91	251	100	188	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	491	986	209	152	1248	87	292	115	65	127	238	88
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	445	909	192	175	498	35	316	351	296	323	242	89
Arrive On Green	0.42	0.48	0.48	0.17	0.23	0.23	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1594	2831	599	1594	3269	227	1594	1772	1493	1594	1190	440
Grp Volume(v), veh/h	491	616	579	152	675	660	292	115	65	127	0	326
Grp Sat Flow(s),veh/h/ln	1594	1772	1657	1594	1772	1725	1594	1772	1493	1594	0	1630
Q Serve(g_s), s	33.0	38.0	38.0	11.0	18.0	18.0	21.0	6.0	3.9	7.4	0.0	23.5
Cycle Q Clear(g_c), s	33.0	38.0	38.0	11.0	18.0	18.0	21.0	6.0	3.9	7.4	0.0	23.5
Prop In Lane	1.00		0.36	1.00		0.13	1.00		1.00	1.00		0.27
Lane Grp Cap(c), veh/h	445	569	532	175	270	263	316	351	296	323	0	331
V/C Ratio(X)	1.10	1.08	1.09	0.87	2.50	2.51	0.92	0.33	0.22	0.39	0.00	0.99
Avail Cap(c_a), veh/h	445	569	532	310	270	263	340	378	318	323	0	331
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.4	30.6	30.6	48.5	45.6	45.6	40.7	35.4	34.7	35.4	0.0	40.9
Incr Delay (d2), s/veh	73.9	62.2	64.6	4.9	687.5	692.0	29.2	0.5	0.4	0.8	0.0	45.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.4	22.3	21.2	4.2	58.4	57.1	9.7	2.5	1.4	2.8	0.0	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.3	92.8	95.2	53.4	733.1	737.6	69.8	35.9	35.0	36.1	0.0	86.3
LnGrp LOS	F	F	F	D	F	F	E	D	D	D	A	F
Approach Vol, veh/h		1686			1487			472			453	
Approach Delay, s/veh		98.1			665.6			56.8			72.3	
Approach LOS		F			F			E			E	

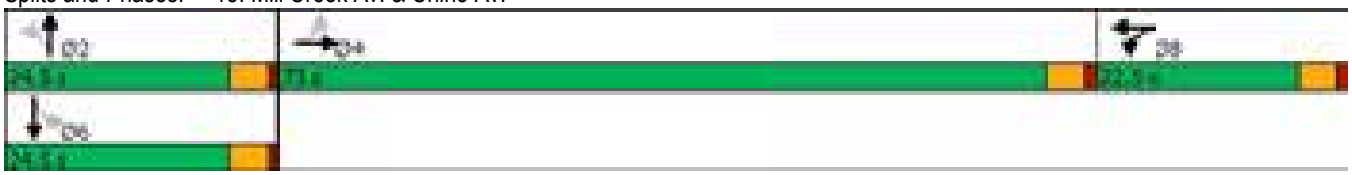
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.2	17.0	44.0		28.0	37.0	24.0				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		25.2	23.0	28.0		24.0	33.0	18.0				
Max Q Clear Time (g_c+I1), s		23.0	13.0	40.0		25.5	35.0	20.0				
Green Ext Time (p_c), s		0.4	0.1	0.0		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			296.4									
HCM 6th LOS			F									

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	268	182	92	33	62	13	4
Future Volume (vph)	268	182	92	33	62	13	4
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA
Protected Phases		4	8		2		6
Permitted Phases	4			2		6	
Detector Phase	4	4	8	2	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	73.0	73.0	22.5	24.5	24.5	24.5	24.5
Total Split (%)	60.8%	60.8%	18.8%	20.4%	20.4%	20.4%	20.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	68.8	68.8	12.7	13.0	13.0	13.0	13.0
Actuated g/C Ratio	0.64	0.64	0.12	0.12	0.12	0.12	0.12
v/c Ratio	4.28	0.17	0.62	0.27	0.60	0.23	0.39
Control Delay	1515.6	9.6	54.3	49.2	56.0	48.7	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1515.6	9.6	54.3	49.2	56.0	48.7	14.5
LOS	F	A	D	D	E	D	B
Approach Delay		893.1	54.3		54.6		21.0
Approach LOS		F	D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.28	
Intersection Signal Delay: 491.7	Intersection LOS: F
Intersection Capacity Utilization 37.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 18: Mill Creek Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	182	6	0	92	19	33	62	5	13	4	95
Future Volume (veh/h)	268	182	6	0	92	19	33	62	5	13	4	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	291	198	-2	0	100	32	36	124	6	26	8	70
Peak Hour Factor	0.92	0.92	0.92	0.50	0.92	0.50	0.92	0.50	0.50	0.50	0.50	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	479	503	0	199	151	48	407	296	14	373	28	242
Arrive On Green	0.27	0.27	0.00	0.00	0.11	0.11	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	1870	0	1781	1358	434	1321	1769	86	1260	165	1445
Grp Volume(v), veh/h	291	196	0	0	0	132	36	0	130	26	0	78
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1792	1321	0	1855	1260	0	1610
Q Serve(g_s), s	4.3	2.6	0.0	0.0	0.0	2.1	0.7	0.0	1.9	0.6	0.0	1.3
Cycle Q Clear(g_c), s	4.3	2.6	0.0	0.0	0.0	2.1	2.0	0.0	1.9	2.4	0.0	1.3
Prop In Lane	1.00		0.00	1.00		0.24	1.00		0.05	1.00		0.90
Lane Grp Cap(c), veh/h	479	503	0	199	0	200	407	0	311	373	0	270
V/C Ratio(X)	0.61	0.39	0.00	0.00	0.00	0.66	0.09	0.00	0.42	0.07	0.00	0.29
Avail Cap(c_a), veh/h	4088	4293	0	1074	0	1081	1070	0	1243	1007	0	1079
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.5	8.9	0.0	0.0	0.0	12.7	11.7	0.0	11.1	12.2	0.0	10.9
Incr Delay (d2), s/veh	1.3	0.5	0.0	0.0	0.0	3.7	0.1	0.0	0.9	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.6	0.0	0.0	0.0	0.7	0.1	0.0	0.5	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.8	9.4	0.0	0.0	0.0	16.4	11.8	0.0	12.0	12.3	0.0	11.5
LnGrp LOS	B	A	A	A	A	B	B	A	B	B	A	B
Approach Vol, veh/h		487			132			166			104	
Approach Delay, s/veh		10.2			16.4			12.0			11.7	
Approach LOS		B			B			B			B	

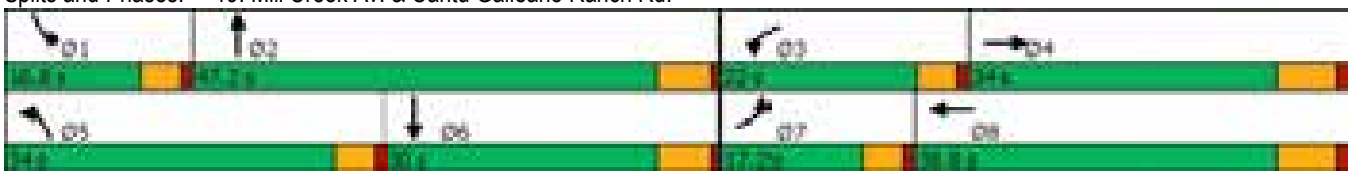
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		12.5		9.5		7.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		20.0		68.5		20.0		18.0				
Max Q Clear Time (g_c+I1), s		4.0		6.3		4.4		4.1				
Green Ext Time (p_c), s		0.6		1.9		0.3		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			11.6									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	Ø1	Ø6
Lane Configurations								
Traffic Volume (vph)	24	1462	28	1273	47	19		
Future Volume (vph)	24	1462	28	1273	47	19		
Turn Type	Prot	NA	Prot	NA	Prot	NA		
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2		
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	9.6	23.5	9.6	27.8	9.6	27.8
Total Split (s)	17.2	34.0	22.0	38.8	34.0	47.2	16.8	30.0
Total Split (%)	14.3%	28.3%	18.3%	32.3%	28.3%	39.3%	14%	25%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	5.8		
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	5.9	33.6	6.1	33.7	6.8	18.9		
Actuated g/C Ratio	0.09	0.49	0.09	0.49	0.10	0.27		
v/c Ratio	0.17	0.65	0.19	0.59	0.29	0.29		
Control Delay	38.1	18.5	38.1	17.1	38.1	6.6		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.1	18.5	38.1	17.1	38.1	6.6		
LOS	D	B	D	B	D	A		
Approach Delay		18.8		17.5		14.2		
Approach LOS		B		B		B		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 69.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 17.9	Intersection LOS: B
Intersection Capacity Utilization 47.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 19: Mill Creek Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1462	12	28	1273	57	47	19	128	0	0	0
Future Volume (veh/h)	24	1462	12	28	1273	57	47	19	128	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	1589	-150	30	1384	-101	51	21	9	0	0	-43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	2152	0	61	2171	0	91	251	108	4	0	320
Arrive On Green	0.03	0.42	0.00	0.03	0.43	0.00	0.05	0.20	0.20	0.00	0.00	0.00
Sat Flow, veh/h	1781	5274	0	1781	5274	0	1781	1242	532	1781	1870	0
Grp Volume(v), veh/h	26	1439	0	30	1283	0	51	0	30	0	-43	-43
Grp Sat Flow(s),veh/h/ln	1781	1702	0	1781	1702	0	1781	0	1775	1781	1870	1585
Q Serve(g_s), s	0.7	11.2	0.0	0.8	9.5	0.0	1.4	0.0	0.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	11.2	0.0	0.8	9.5	0.0	1.4	0.0	0.7	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.30	1.00		0.00
Lane Grp Cap(c), veh/h	54	2152	0	61	2171	0	91	0	359	4	0	0
V/C Ratio(X)	0.48	0.67	0.00	0.49	0.59	0.00	0.56	0.00	0.08	0.00	0.00	0.00
Avail Cap(c_a), veh/h	454	2842	0	627	3338	0	1060	0	1487	440	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	23.6	11.5	0.0	23.4	10.9	0.0	22.9	0.0	16.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.4	0.0	2.3	0.3	0.0	2.0	0.0	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.7	0.0	0.3	2.3	0.0	0.5	0.0	0.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	11.9	0.0	25.7	11.2	0.0	24.9	0.0	16.1	0.0	0.0	0.0
LnGrp LOS	C	B	A	C	B	A	C	A	B	A	A	A
Approach Vol, veh/h		1465			1313			81			-86	
Approach Delay, s/veh		12.1			11.5			21.7			0.0	
Approach LOS		B			B			C			A	

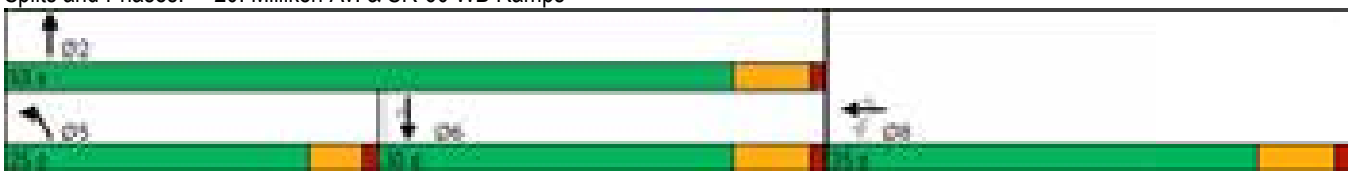
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	15.8	6.3	27.3	7.1	8.7	6.1	27.5
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	12.2	41.4	17.4	27.5	29.4	24.2	12.6	32.3
Max Q Clear Time (g_c+I1), s	0.0	2.7	2.8	13.2	3.4	0.0	2.7	11.5
Green Ext Time (p_c), s	0.0	0.1	0.0	7.6	0.0	0.0	0.0	8.2

Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	677	457	1588	915	318
Future Volume (vph)	5	677	457	1588	915	318
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5	11.2	22.5	22.5	22.5
Total Split (s)	35.0	35.0	25.0	55.0	30.0	30.0
Total Split (%)	38.9%	38.9%	27.8%	61.1%	33.3%	33.3%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	28.8	28.8	20.4	48.8	23.8	23.8
Actuated g/C Ratio	0.32	0.32	0.23	0.54	0.26	0.26
v/c Ratio	0.28	1.21	1.16	0.80	0.95	0.49
Control Delay	24.5	136.6	130.8	20.6	52.2	6.1
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	24.5	136.6	130.8	20.8	52.2	6.1
LOS	C	F	F	C	D	A
Approach Delay	115.8			45.4	40.3	
Approach LOS	F			D	D	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.21	
Intersection Signal Delay: 58.1	Intersection LOS: E
Intersection Capacity Utilization 105.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	149	5	677	457	1588	0	0	915	318
Future Volume (veh/h)	0	0	0	149	5	677	457	1588	0	0	915	318
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				152	5	354	466	1620	0	0	934	166
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				443	15	407	449	2208	0	0	1054	446
Arrive On Green				0.26	0.26	0.26	0.25	0.59	0.00	0.00	0.28	0.28
Sat Flow, veh/h				1727	57	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				157	0	354	466	1620	0	0	934	166
Grp Sat Flow(s),veh/h/ln				1784	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				5.8	0.0	17.3	20.4	25.3	0.0	0.0	19.4	6.8
Cycle Q Clear(g_c), s				5.8	0.0	17.3	20.4	25.3	0.0	0.0	19.4	6.8
Prop In Lane				0.97		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				458	0	407	449	2208	0	0	1054	446
V/C Ratio(X)				0.34	0.00	0.87	1.04	0.73	0.00	0.00	0.89	0.37
Avail Cap(c_a), veh/h				634	0	564	449	2254	0	0	1099	466
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.5	0.0	28.8	30.3	12.0	0.0	0.0	27.9	23.3
Incr Delay (d2), s/veh				0.4	0.0	10.5	52.9	1.2	0.0	0.0	8.7	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.3	0.0	7.2	14.4	8.1	0.0	0.0	9.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				25.0	0.0	39.3	83.2	13.2	0.0	0.0	36.6	23.9
LnGrp LOS				C	A	D	F	B	A	A	D	C
Approach Vol, veh/h					511			2086			1100	
Approach Delay, s/veh					34.9			28.9			34.6	
Approach LOS					C			C			C	

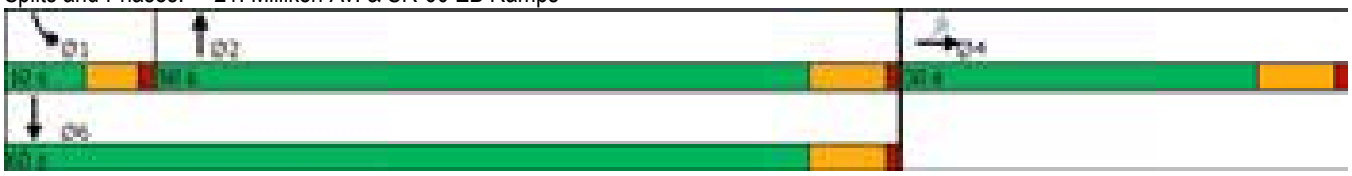
Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	54.0		25.0	29.0		27.0						
Change Period (Y+Rc), s	6.2		4.6	6.2		6.2						
Max Green Setting (Gmax), s	48.8		20.4	23.8		28.8						
Max Q Clear Time (g_c+I1), s	27.3		22.4	21.4		19.3						
Green Ext Time (p_c), s	11.8		0.0	1.5		1.5						

Intersection Summary		
HCM 6th Ctrl Delay		31.4
HCM 6th LOS		C

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	530	4	1568	103	928
Future Volume (vph)	530	4	1568	103	928
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	22.5	9.6	22.5
Total Split (s)	30.0	30.0	50.0	10.0	60.0
Total Split (%)	33.3%	33.3%	55.6%	11.1%	66.7%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	23.8	23.8	43.8	5.4	53.8
Actuated g/C Ratio	0.26	0.26	0.49	0.06	0.60
v/c Ratio	1.05	1.07	1.13	1.00	0.43
Control Delay	89.4	85.1	90.6	133.4	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	89.4	85.1	90.6	133.4	10.5
LOS	F	F	F	F	B
Approach Delay		87.1	90.6		22.8
Approach LOS		F	F		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 72.2	Intersection LOS: E
Intersection Capacity Utilization 105.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	530	4	482	0	0	0	0	1568	391	103	928	0
Future Volume (veh/h)	530	4	482	0	0	0	0	1568	391	103	928	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	400	209	250				0	1616	207	106	957	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	471	205	245				0	1585	200	107	2236	0
Arrive On Green	0.26	0.26	0.26				0.00	0.49	0.49	0.06	0.60	0.00
Sat Flow, veh/h	1781	776	928				0	3257	410	1781	3741	0
Grp Volume(v), veh/h	400	0	459				0	916	907	106	957	0
Grp Sat Flow(s),veh/h/ln	1781	0	1703				0	1870	1797	1781	1870	0
Q Serve(g_s), s	19.2	0.0	23.8				0.0	43.8	43.8	5.4	12.4	0.0
Cycle Q Clear(g_c), s	19.2	0.0	23.8				0.0	43.8	43.8	5.4	12.4	0.0
Prop In Lane	1.00		0.54				0.00		0.23	1.00		0.00
Lane Grp Cap(c), veh/h	471	0	450				0	910	874	107	2236	0
V/C Ratio(X)	0.85	0.00	1.02				0.00	1.01	1.04	0.99	0.43	0.00
Avail Cap(c_a), veh/h	471	0	450				0	910	874	107	2236	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.4	0.0	33.1				0.0	23.1	23.1	42.3	9.8	0.0
Incr Delay (d2), s/veh	13.7	0.0	47.3				0.0	31.4	40.6	84.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	0.0	15.0				0.0	24.0	25.2	4.7	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	0.0	80.4				0.0	54.5	63.7	126.5	9.9	0.0
LnGrp LOS	D	A	F				A	F	F	F	A	A
Approach Vol, veh/h		859						1823			1063	
Approach Delay, s/veh		63.9						59.0			21.5	
Approach LOS		E						E			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.0	50.0		30.0		60.0
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	5.4	43.8		23.8		53.8
Max Q Clear Time (g_c+I1), s	7.4	45.8		25.8		14.4
Green Ext Time (p_c), s	0.0	0.0		0.0		7.1

Intersection Summary		
HCM 6th Ctrl Delay		49.5
HCM 6th LOS		D

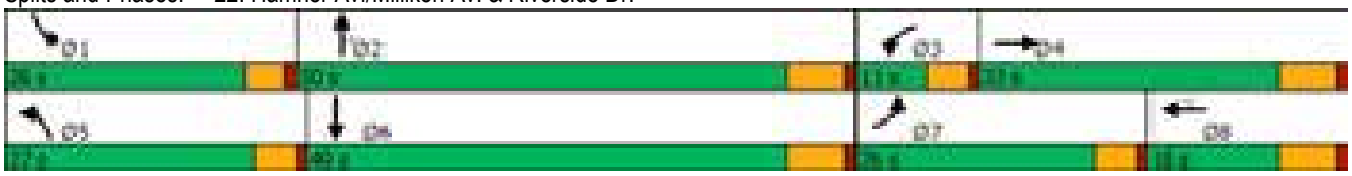
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	371	161	34	141	295	263	1368	70	296	828
Future Volume (vph)	371	161	34	141	295	263	1368	70	296	828
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	26.0	33.0	11.0	18.0	18.0	27.0	50.0	50.0	26.0	49.0
Total Split (%)	21.7%	27.5%	9.2%	15.0%	15.0%	22.5%	41.7%	41.7%	21.7%	40.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	21.4	31.2	6.0	11.8	11.8	22.4	43.8	43.8	21.4	42.8
Actuated g/C Ratio	0.18	0.26	0.05	0.10	0.10	0.19	0.36	0.36	0.18	0.36
v/c Ratio	1.51	1.74	0.49	0.94	0.81	1.02	1.29	0.12	1.21	1.07
Control Delay	282.3	368.0	76.2	107.7	25.5	106.9	168.1	0.4	163.6	83.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	282.3	368.0	76.2	107.7	25.5	106.9	168.1	0.4	163.6	83.9
LOS	F	F	E	F	C	F	F	A	F	F
Approach Delay		340.4		53.8			151.8			100.8
Approach LOS		F		D			F			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.74	
Intersection Signal Delay: 173.0	Intersection LOS: F
Intersection Capacity Utilization 129.6%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	371	161	619	34	141	295	263	1368	70	296	828	270
Future Volume (veh/h)	371	161	619	34	141	295	263	1368	70	296	828	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	426	185	658	39	162	305	302	1572	69	340	952	288
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	84	299	48	174	148	298	1229	548	284	909	274
Arrive On Green	0.18	0.25	0.25	0.03	0.10	0.10	0.19	0.37	0.37	0.18	0.36	0.36
Sat Flow, veh/h	1594	341	1213	1594	1772	1502	1594	3367	1502	1594	2549	768
Grp Volume(v), veh/h	426	0	843	39	162	305	302	1572	69	340	627	613
Grp Sat Flow(s),veh/h/ln	1594	0	1554	1594	1772	1502	1594	1683	1502	1594	1683	1634
Q Serve(g_s), s	21.4	0.0	29.6	2.9	10.9	11.8	22.4	43.8	3.7	21.4	42.8	42.8
Cycle Q Clear(g_c), s	21.4	0.0	29.6	2.9	10.9	11.8	22.4	43.8	3.7	21.4	42.8	42.8
Prop In Lane	1.00		0.78	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	284	0	383	48	174	148	298	1229	548	284	600	583
V/C Ratio(X)	1.50	0.00	2.20	0.81	0.93	2.07	1.02	1.28	0.13	1.20	1.05	1.05
Avail Cap(c_a), veh/h	284	0	383	85	174	148	298	1229	548	284	600	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	45.2	57.8	53.7	54.1	48.8	38.1	25.4	49.3	38.6	38.6
Incr Delay (d2), s/veh	242.1	0.0	549.6	11.1	48.2	502.1	56.1	132.1	0.1	117.4	49.0	51.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.3	0.0	69.3	1.3	7.0	24.9	13.2	39.3	1.3	17.4	24.6	24.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	291.4	0.0	594.8	68.9	101.9	556.2	104.9	170.2	25.5	166.7	87.6	90.1
LnGrp LOS	F	A	F	E	F	F	F	F	C	F	F	F
Approach Vol, veh/h		1269			506			1943			1580	
Approach Delay, s/veh		493.0			373.2			154.9			105.6	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	50.0	8.2	35.8	27.0	49.0	26.0	18.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.4	43.8	6.4	26.8	22.4	42.8	21.4	11.8
Max Q Clear Time (g_c+I1), s	23.4	45.8	4.9	31.6	24.4	44.8	23.4	13.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	242.0
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	10	0	1686	1600	3
Future Vol, veh/h	24	10	0	1686	1600	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	11	0	1916	1818	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2778	1820	1821	0	-	0
Stage 1	1820	-	-	-	-	-
Stage 2	958	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	~ 18	96	334	-	-	-
Stage 1	141	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 18	96	334	-	-	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	141	-	-	-	-	-
Stage 2	334	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	52.6	0	0
HCM LOS	F		

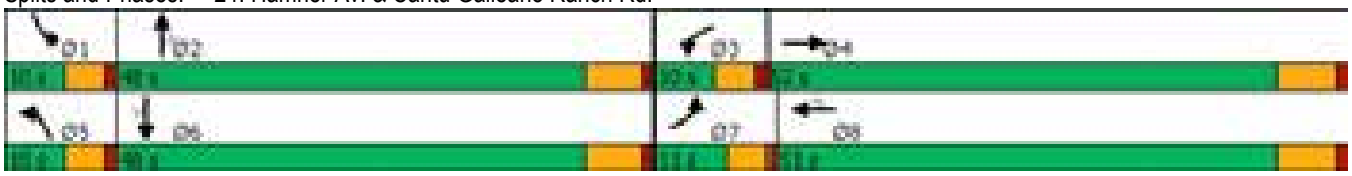
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	334	-	113	-	-
HCM Lane V/C Ratio	-	-	0.342	-	-
HCM Control Delay (s)	0	-	52.6	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	850	1509	291	1405	307	314	749	376	373	253	441
Future Volume (vph)	850	1509	291	1405	307	314	749	376	373	253	441
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	11.0	52.0	10.0	51.0	51.0	10.0	48.0	48.0	10.0	48.0	48.0
Total Split (%)	9.2%	43.3%	8.3%	42.5%	42.5%	8.3%	40.0%	40.0%	8.3%	40.0%	40.0%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	45.8	5.4	44.8	44.8	5.4	30.4	30.4	5.4	30.4	30.4
Actuated g/C Ratio	0.06	0.42	0.05	0.41	0.41	0.05	0.28	0.28	0.05	0.28	0.28
v/c Ratio	4.38	0.62	1.78	1.01	0.43	1.92	0.55	0.75	2.29	0.27	0.88
Control Delay	1544.3	27.1	404.0	59.2	14.7	463.5	34.4	33.8	620.1	30.5	45.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1544.3	27.1	404.0	59.2	14.7	463.5	34.4	33.8	620.1	30.5	45.9
LOS	F	C	F	E	B	F	C	C	F	C	D
Approach Delay		552.8		102.4			127.9			243.1	
Approach LOS		F		F			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109.1	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.38	
Intersection Signal Delay: 287.9	Intersection LOS: F
Intersection Capacity Utilization 106.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	850	1509	93	291	1405	307	314	749	376	373	253	441
Future Volume (veh/h)	850	1509	93	291	1405	307	314	749	376	373	253	441
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	885	1572	-28	303	1464	185	327	780	184	389	264	251
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	2900	0	188	1566	698	188	1118	347	188	778	347
Arrive On Green	0.06	0.45	0.00	0.05	0.44	0.44	0.05	0.22	0.22	0.05	0.22	0.22
Sat Flow, veh/h	3456	6696	0	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	885	1544	0	303	1464	185	327	780	184	389	264	251
Grp Sat Flow(s),veh/h/ln	1728	1609	0	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	6.4	17.2	0.0	5.4	38.8	7.3	5.4	13.9	10.2	5.4	6.2	14.5
Cycle Q Clear(g_c), s	6.4	17.2	0.0	5.4	38.8	7.3	5.4	13.9	10.2	5.4	6.2	14.5
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	2900	0	188	1566	698	188	1118	347	188	778	347
V/C Ratio(X)	3.96	0.53	0.00	1.61	0.93	0.26	1.73	0.70	0.53	2.06	0.34	0.72
Avail Cap(c_a), veh/h	223	2957	0	188	1597	712	188	2156	669	188	1500	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	19.6	0.0	46.8	26.3	17.5	46.8	35.6	34.2	46.8	32.6	35.9
Incr Delay (d2), s/veh	1343.5	0.2	0.0	296.7	10.5	0.2	351.9	0.8	1.3	496.6	0.3	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	44.3	5.7	0.0	10.0	16.4	2.4	11.4	5.5	3.8	15.2	2.6	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1389.9	19.8	0.0	343.5	36.9	17.7	398.7	36.4	35.4	543.4	32.9	38.7
LnGrp LOS	F	B	A	F	D	B	F	D	D	F	C	D
Approach Vol, veh/h		2429			1952			1291			904	
Approach Delay, s/veh		519.0			82.7			128.1			254.2	
Approach LOS		F			F			F			F	

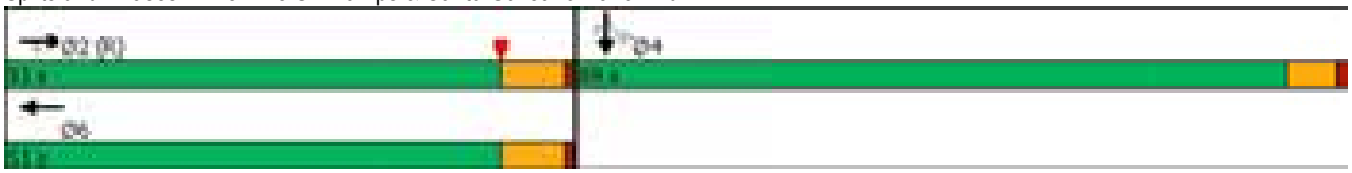
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	27.9	10.0	51.1	10.0	27.9	11.0	50.1
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	5.4	41.8	5.4	45.5	5.4	41.8	6.4	44.5
Max Q Clear Time (g_c+I1), s	7.4	15.9	7.4	19.2	7.4	16.5	8.4	40.8
Green Ext Time (p_c), s	0.0	5.7	0.0	11.5	0.0	2.3	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	276.3
HCM 6th LOS	F

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1409	373	876	360	313	0	1552
Future Volume (vph)	1409	373	876	360	313	0	1552
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	51.0	51.0	51.0		69.0	69.0	69.0
Total Split (%)	42.5%	42.5%	42.5%		57.5%	57.5%	57.5%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	Min		Min	Min	Min
Act Effct Green (s)	43.4	43.4	43.4	120.0	64.3	64.3	64.3
Actuated g/C Ratio	0.36	0.36	0.36	1.00	0.54	0.54	0.54
v/c Ratio	0.83	0.50	0.74	0.14	0.34	1.09	1.05
Control Delay	39.8	5.9	45.8	0.1	17.4	85.9	71.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	5.9	45.8	0.1	17.4	85.9	71.7
LOS	D	A	D	A	B	F	E
Approach Delay	32.7		32.5			69.5	
Approach LOS	C		C			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 46.7	Intersection LOS: D
Intersection Capacity Utilization 98.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1409	373	0	876	360	0	0	0	313	0	1552
Future Volume (veh/h)	0	1409	373	0	876	360	0	0	0	313	0	1552
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1532	0	0	952	0				227	0	939
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2857		0	1989					602	0	1071
Arrive On Green	0.00	0.56	0.00	0.00	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	1532	0	0	952	0				227	0	939
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	22.7	0.0	0.0	0.0	0.0				11.6	0.0	33.4
Cycle Q Clear(g_c), s	0.0	22.7	0.0	0.0	0.0	0.0				11.6	0.0	33.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2857		0	1989					602	0	1071
V/C Ratio(X)	0.00	0.54		0.00	0.48					0.38	0.00	0.88
Avail Cap(c_a), veh/h	0	2857		0	1989					943	0	1678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.30	0.00	0.00	0.73	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.6	0.0	0.0	0.0	0.0				30.1	0.0	37.4
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.1	0.0				0.4	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.8	0.0	0.0	0.0	0.0				4.9	0.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.8	0.0	0.0	0.1	0.0				30.5	0.0	40.9
LnGrp LOS	A	B		A	A					C	A	D
Approach Vol, veh/h		1532	A		952	A					1166	
Approach Delay, s/veh		16.8			0.1						38.8	
Approach LOS		B			A						D	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		74.0		46.0		74.0						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		44.2		63.5		44.2						
Max Q Clear Time (g_c+I1), s		24.7		35.4		2.0						
Green Ext Time (p_c), s		9.8		5.1		6.8						

Intersection Summary		
HCM 6th Ctrl Delay		19.5
HCM 6th LOS		B

Notes

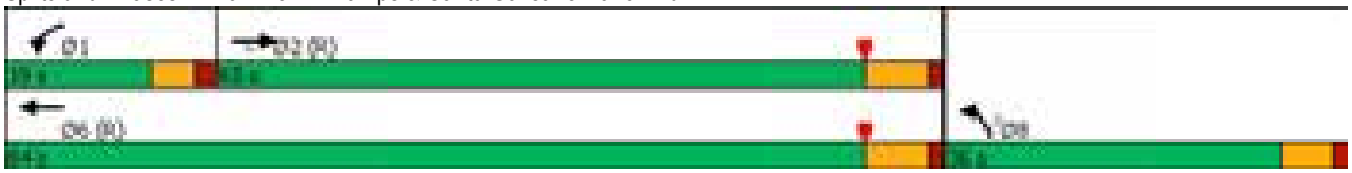
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	557	1057	253	538	622	481
Future Volume (vph)	557	1057	253	538	622	481
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.5	22.5	22.5	22.5
Total Split (s)	65.0	65.0	19.0	84.0	36.0	36.0
Total Split (%)	54.2%	54.2%	15.8%	70.0%	30.0%	30.0%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	58.1	58.1	12.6	76.7	30.0	30.0
Actuated g/C Ratio	0.48	0.48	0.10	0.64	0.25	0.25
v/c Ratio	0.25	0.99	0.76	0.18	0.95	0.59
Control Delay	11.8	47.0	66.8	9.0	64.9	8.1
Queue Delay	0.0	5.8	0.0	0.0	0.0	0.0
Total Delay	11.8	52.8	66.8	9.0	64.9	8.1
LOS	B	D	E	A	E	A
Approach Delay	38.6			27.5	47.1	
Approach LOS	D			C	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 38.8	Intersection LOS: D
Intersection Capacity Utilization 83.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	557	1057	253	538	622	481
Future Volume (veh/h)	557	1057	253	538	622	481
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	605	524	275	585	676	306
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2673	830	332	3419	782	348
Arrive On Green	0.87	0.87	0.10	0.67	0.22	0.22
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	605	524	275	585	676	306
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	2.2	11.1	9.4	5.1	21.9	22.4
Cycle Q Clear(g_c), s	2.2	11.1	9.4	5.1	21.9	22.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2673	830	332	3419	782	348
V/C Ratio(X)	0.23	0.63	0.83	0.17	0.86	0.88
Avail Cap(c_a), veh/h	2673	830	374	3419	891	396
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh	3.7	4.3	53.3	7.4	45.1	45.3
Incr Delay (d2), s/veh	0.1	2.1	11.2	0.1	8.0	18.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.3	4.4	1.6	10.2	10.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.8	6.4	64.5	7.5	53.1	63.4
LnGrp LOS	A	A	E	A	D	E
Approach Vol, veh/h	1129			860	982	
Approach Delay, s/veh	5.0			25.7	56.3	
Approach LOS	A			C	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	17.5	70.1				87.6	32.4
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	13.0	57.7				76.7	30.0
Max Q Clear Time (g_c+I1), s	11.4	13.1				7.1	24.4
Green Ext Time (p_c), s	0.2	6.3				3.8	1.9

Intersection Summary		
HCM 6th Ctrl Delay		28.0
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	568	387	310	33	286	293	346	20	24	67	135
Future Volume (vph)	568	387	310	33	286	293	346	20	24	67	135
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	17.0	47.9	47.9	9.6	40.5	13.0	52.2	52.2	10.3	49.5	49.5
Total Split (%)	14.2%	39.9%	39.9%	8.0%	33.8%	10.8%	43.5%	43.5%	8.6%	41.3%	41.3%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.4	27.9	27.9	5.4	12.9	9.1	22.9	22.9	5.7	12.4	12.4
Actuated g/C Ratio	0.19	0.39	0.39	0.08	0.18	0.13	0.32	0.32	0.08	0.17	0.17
v/c Ratio	0.96	0.17	0.41	0.14	0.41	0.73	0.33	0.04	0.18	0.23	0.36
Control Delay	60.1	16.9	4.5	40.1	24.5	44.8	20.8	0.1	42.5	26.5	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	16.9	4.5	40.1	24.5	44.8	20.8	0.1	42.5	26.5	6.6
LOS	E	B	A	D	C	D	C	A	D	C	A
Approach Delay		33.3			25.9		30.8			16.3	
Approach LOS		C			C		C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 71.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 30.0	Intersection LOS: C
Intersection Capacity Utilization 55.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	568	387	310	33	286	65	293	346	20	24	67	135
Future Volume (veh/h)	568	387	310	33	286	65	293	346	20	24	67	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	617	421	227	36	311	51	318	376	12	26	73	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	729	2001	493	133	615	98	435	774	345	53	227	193
Arrive On Green	0.21	0.31	0.31	0.04	0.14	0.14	0.13	0.22	0.22	0.03	0.12	0.12
Sat Flow, veh/h	3456	6434	1585	3456	4440	707	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	617	421	227	36	236	126	318	376	12	26	73	120
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1743	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	9.4	2.7	6.3	0.6	3.5	3.7	4.9	5.1	0.3	0.8	2.0	4.0
Cycle Q Clear(g_c), s	9.4	2.7	6.3	0.6	3.5	3.7	4.9	5.1	0.3	0.8	2.0	4.0
Prop In Lane	1.00		1.00	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	729	2001	493	133	471	241	435	774	345	53	227	193
V/C Ratio(X)	0.85	0.21	0.46	0.27	0.50	0.52	0.73	0.49	0.03	0.49	0.32	0.62
Avail Cap(c_a), veh/h	778	4837	1192	314	2102	1076	527	2949	1315	184	1460	1238
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	14.0	15.3	25.7	22.0	22.0	23.2	18.8	17.0	26.3	22.1	23.0
Incr Delay (d2), s/veh	7.6	0.1	0.7	0.4	0.8	1.7	3.0	0.5	0.0	2.6	0.8	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.7	1.8	0.2	1.2	1.4	1.9	1.8	0.1	0.3	0.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	14.0	15.9	26.1	22.8	23.8	26.1	19.3	17.0	28.9	22.9	26.3
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	C	C
Approach Vol, veh/h		1265			398			706			219	
Approach Delay, s/veh		21.4			23.4			22.4			25.5	
Approach LOS		C			C			C			C	

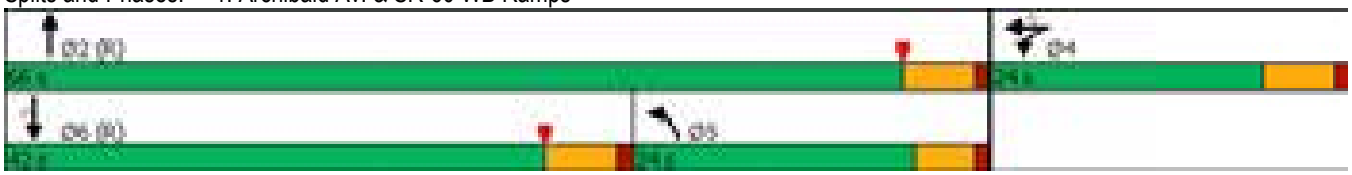
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	18.5	6.7	23.6	11.5	13.2	16.2	14.1
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	5.7	45.7	5.0	41.4	8.4	43.0	12.4	34.0
Max Q Clear Time (g_c+I1), s	2.8	7.1	2.6	8.3	6.9	6.0	11.4	5.7
Green Ext Time (p_c), s	0.0	2.4	0.0	3.3	0.1	0.7	0.2	1.9

Intersection Summary	
HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	495	1	213	651	685	1901	390
Future Volume (vph)	495	1	213	651	685	1901	390
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4	4		5	2	6	
Permitted Phases			4				6
Detector Phase	4	4	4	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	8.0	8.0
Minimum Split (s)	10.8	10.8	10.8	10.0	43.8	38.8	38.8
Total Split (s)	24.0	24.0	24.0	24.0	66.0	42.0	42.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	73.3%	46.7%	46.7%
Yellow Time (s)	4.8	4.8	4.8	4.0	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.0	5.8	5.8	5.8
Lead/Lag				Lag		Lead	Lead
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	17.2	17.2	17.2	18.7	61.2	37.4	37.4
Actuated g/C Ratio	0.19	0.19	0.19	0.21	0.68	0.42	0.42
v/c Ratio	0.83	0.84	0.44	0.93	0.20	0.73	0.49
Control Delay	58.0	58.5	8.1	50.2	0.4	24.3	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	58.5	8.1	50.2	0.4	24.3	8.1
LOS	E	E	A	D	A	C	A
Approach Delay		44.7			24.7	21.5	
Approach LOS		D			C	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 83.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Archibald Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	495	1	213	651	685	0	0	1901	390
Future Volume (veh/h)	0	0	0	495	1	213	651	685	0	0	1901	390
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				539	0	73	664	699	0	0	1940	298
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				631	0	281	858	3544	0	0	2453	589
Arrive On Green				0.18	0.00	0.18	0.08	0.23	0.00	0.00	0.38	0.38
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	6696	1545
Grp Volume(v), veh/h				539	0	73	664	699	0	0	1940	298
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1609	1545
Q Serve(g_s), s				13.2	0.0	3.6	17.0	9.9	0.0	0.0	24.0	13.3
Cycle Q Clear(g_c), s				13.2	0.0	3.6	17.0	9.9	0.0	0.0	24.0	13.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				631	0	281	858	3544	0	0	2453	589
V/C Ratio(X)				0.85	0.00	0.26	0.77	0.20	0.00	0.00	0.79	0.51
Avail Cap(c_a), veh/h				720	0	321	858	3544	0	0	2588	621
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.89	0.89	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.9	0.0	31.9	38.8	14.5	0.0	0.0	24.7	21.3
Incr Delay (d2), s/veh				8.9	0.0	0.5	3.6	0.1	0.0	0.0	2.7	3.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	0.0	3.4	8.2	3.7	0.0	0.0	8.7	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				44.8	0.0	32.4	42.4	14.6	0.0	0.0	27.4	24.4
LnGrp LOS				D	A	C	D	B	A	A	C	C
Approach Vol, veh/h					612			1363			2238	
Approach Delay, s/veh					43.3			28.1			27.0	
Approach LOS					D			C			C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	68.3	21.7	28.1	40.1
Change Period (Y+Rc), s	5.8	5.8	5.8	* 5.8
Max Green Setting (Gmax), s	60.2	18.2	19.0	* 36
Max Q Clear Time (g_c+I1), s	11.9	15.2	19.0	26.0
Green Ext Time (p_c), s	5.0	0.7	0.0	8.3

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Notes

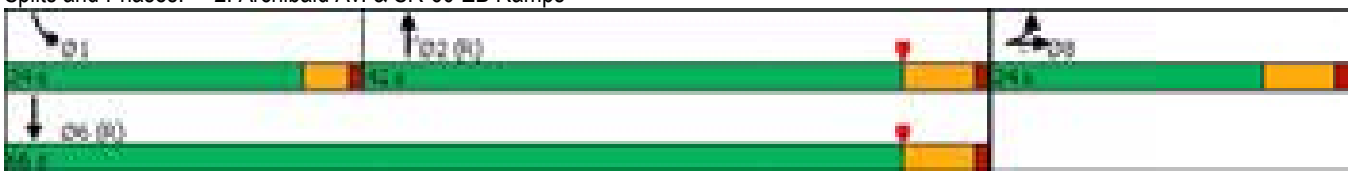
User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	136	1	576	1202	668	662	1589
Future Volume (vph)	136	1	576	1202	668	662	1589
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8	8		2		1	6
Permitted Phases			8		2		
Detector Phase	8	8	8	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	32.8	32.8	9.0	33.8
Total Split (s)	24.0	24.0	24.0	42.0	42.0	24.0	66.0
Total Split (%)	26.7%	26.7%	26.7%	46.7%	46.7%	26.7%	73.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.0	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.0	5.8
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	17.8	17.8	17.8	37.1	37.1	19.5	60.6
Actuated g/C Ratio	0.20	0.20	0.20	0.41	0.41	0.22	0.67
v/c Ratio	0.37	0.93	0.82	0.46	0.71	0.90	0.47
Control Delay	34.8	68.1	44.2	20.1	9.7	56.8	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	68.1	44.2	20.1	9.7	56.8	1.9
LOS	C	E	D	C	A	E	A
Approach Delay		52.6		16.4			18.0
Approach LOS		D		B			B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 22.5	Intersection LOS: C
Intersection Capacity Utilization 83.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Archibald Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	1	576	0	0	0	0	1202	668	662	1589	0
Future Volume (veh/h)	136	1	576	0	0	0	0	1202	668	662	1589	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	92	0	397				0	1214	499	669	1605	0
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	274	0	487				0	2985	719	723	3664	0
Arrive On Green	0.15	0.00	0.15				0.00	0.46	0.46	0.42	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	6696	1550	3456	5274	0
Grp Volume(v), veh/h	92	0	397				0	1214	499	669	1605	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1609	1550	1728	1702	0
Q Serve(g_s), s	4.1	0.0	10.9				0.0	11.2	22.9	16.5	0.0	0.0
Cycle Q Clear(g_c), s	4.1	0.0	10.9				0.0	11.2	22.9	16.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	274	0	487				0	2985	719	723	3664	0
V/C Ratio(X)	0.34	0.00	0.82				0.00	0.41	0.69	0.93	0.44	0.00
Avail Cap(c_a), veh/h	360	0	641				0	2985	719	768	3664	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.59	0.59	0.00
Uniform Delay (d), s/veh	34.0	0.0	36.9				0.0	15.9	19.1	25.5	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	6.1				0.0	0.4	5.5	10.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	4.4				0.0	3.7	8.2	5.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.7	0.0	43.0				0.0	16.4	24.5	36.1	0.2	0.0
LnGrp LOS	C	A	D				A	B	C	D	A	A
Approach Vol, veh/h		489						1713			2274	
Approach Delay, s/veh		41.4						18.7			10.8	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	22.8	47.6				70.4		19.6				
Change Period (Y+Rc), s	4.0	5.8				5.8		5.8				
Max Green Setting (Gmax), s	20.0	36.2				60.2		18.2				
Max Q Clear Time (g_c+I1), s	18.5	24.9				2.0		12.9				
Green Ext Time (p_c), s	0.3	6.9				16.0		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		17.2
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	223	913	705	245	769	222	379	1148	354	1138
Future Volume (vph)	223	913	705	245	769	222	379	1148	354	1138
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	21.0	42.2	42.2	17.0	38.2	38.2	27.0	32.8	28.0	33.8
Total Split (%)	17.5%	35.2%	35.2%	14.2%	31.8%	31.8%	22.5%	27.3%	23.3%	28.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	16.4	36.0	36.0	12.4	32.0	32.0	22.4	26.6	23.4	27.6
Actuated g/C Ratio	0.14	0.30	0.30	0.10	0.27	0.27	0.19	0.22	0.20	0.23
v/c Ratio	1.06	0.93	0.96	1.53	0.88	0.42	1.31	1.25	1.17	1.33
Control Delay	126.4	56.6	41.6	305.0	54.5	9.3	201.7	160.8	149.2	191.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.4	56.6	41.6	305.0	54.5	9.3	201.7	160.8	149.2	191.5
LOS	F	E	D	F	D	A	F	F	F	F
Approach Delay		59.3			96.0			170.0		183.1
Approach LOS		E			F			F		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.53	
Intersection Signal Delay: 128.6	Intersection LOS: F
Intersection Capacity Utilization 113.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	913	705	245	769	222	379	1148	156	354	1138	307
Future Volume (veh/h)	223	913	705	245	769	222	379	1148	156	354	1138	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	228	932	650	250	785	178	387	1171	152	361	1161	280
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	997	434	163	886	393	294	946	123	307	931	225
Arrive On Green	0.13	0.30	0.30	0.10	0.26	0.26	0.18	0.22	0.22	0.19	0.24	0.24
Sat Flow, veh/h	1594	3367	1468	1594	3367	1495	1594	4323	561	1594	3879	935
Grp Volume(v), veh/h	228	932	650	250	785	178	387	873	450	361	965	476
Grp Sat Flow(s),veh/h/ln	1594	1683	1468	1594	1683	1495	1594	1612	1659	1594	1612	1590
Q Serve(g_s), s	16.4	32.8	36.0	12.4	27.2	7.3	22.4	26.6	26.6	23.4	29.2	29.2
Cycle Q Clear(g_c), s	16.4	32.8	36.0	12.4	27.2	7.3	22.4	26.6	26.6	23.4	29.2	29.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		0.59
Lane Grp Cap(c), veh/h	215	997	434	163	886	393	294	705	363	307	774	382
V/C Ratio(X)	1.06	0.94	1.50	1.54	0.89	0.45	1.32	1.24	1.24	1.18	1.25	1.25
Avail Cap(c_a), veh/h	215	997	434	163	886	393	294	705	363	307	774	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	41.7	42.8	54.6	43.0	13.5	49.6	47.5	47.5	49.1	46.2	46.2
Incr Delay (d2), s/veh	78.3	15.3	235.1	270.5	10.7	0.8	165.2	119.1	128.9	108.4	121.6	131.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	15.0	40.7	17.0	12.1	4.1	22.0	21.9	23.5	18.2	24.2	24.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	130.9	57.0	277.9	325.1	53.8	14.3	214.8	166.6	176.4	157.5	167.8	177.3
LnGrp LOS	F	E	F	F	D	B	F	F	F	F	F	F
Approach Vol, veh/h		1810			1213			1710			1802	
Approach Delay, s/veh		145.6			103.9			180.1			168.2	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.6	32.8	17.0	42.2	27.0	35.4	21.0	38.2
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	23.4	* 27	12.4	36.0	22.4	27.6	16.4	32.0
Max Q Clear Time (g_c+I1), s	25.4	28.6	14.4	38.0	24.4	31.2	18.4	29.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	153.1
HCM 6th LOS	F

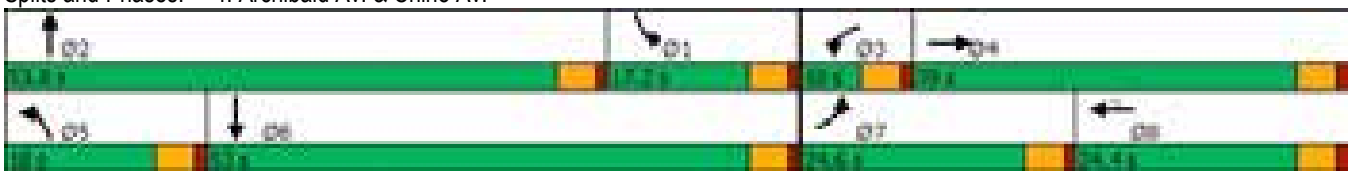
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	196	347	70	170	77	230	1384	93	1614
Future Volume (vph)	196	347	70	170	77	230	1384	93	1614
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	24.6	39.0	10.0	24.4	24.4	18.0	53.8	17.2	53.0
Total Split (%)	20.5%	32.5%	8.3%	20.3%	20.3%	15.0%	44.8%	14.3%	44.2%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	18.4	34.4	5.4	21.4	21.4	13.4	44.5	17.3	48.4
Actuated g/C Ratio	0.15	0.29	0.04	0.18	0.18	0.11	0.37	0.14	0.40
v/c Ratio	0.84	1.33	1.03	0.56	0.19	1.36	0.79	0.43	1.29
Control Delay	77.6	193.8	171.0	53.6	1.0	236.1	36.3	55.2	168.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.6	193.8	171.0	53.6	1.0	236.1	36.3	55.2	168.0
LOS	E	F	F	D	A	F	D	E	F
Approach Delay		166.1		66.8			63.4		162.3
Approach LOS		F		E			E		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.36	
Intersection Signal Delay: 120.6	Intersection LOS: F
Intersection Capacity Utilization 122.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	347	279	70	170	77	230	1384	85	93	1614	134
Future Volume (veh/h)	196	347	279	70	170	77	230	1384	85	93	1614	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	204	361	156	73	177	44	240	1442	53	97	1681	72
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	335	145	72	333	283	178	1748	64	274	1361	58
Arrive On Green	0.14	0.29	0.29	0.05	0.19	0.19	0.11	0.34	0.34	0.17	0.40	0.40
Sat Flow, veh/h	1594	1168	505	1594	1772	1502	1594	5091	187	1594	3374	144
Grp Volume(v), veh/h	204	0	517	73	177	44	240	1004	491	97	879	874
Grp Sat Flow(s),veh/h/ln	1594	0	1672	1594	1772	1502	1594	1772	1735	1594	1772	1746
Q Serve(g_s), s	15.1	0.0	34.4	5.4	10.8	2.0	13.4	31.1	31.1	6.4	48.4	48.4
Cycle Q Clear(g_c), s	15.1	0.0	34.4	5.4	10.8	2.0	13.4	31.1	31.1	6.4	48.4	48.4
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.11	1.00		0.08
Lane Grp Cap(c), veh/h	229	0	479	72	333	283	178	1217	596	274	715	704
V/C Ratio(X)	0.89	0.00	1.08	1.02	0.53	0.16	1.35	0.82	0.82	0.35	1.23	1.24
Avail Cap(c_a), veh/h	266	0	479	72	333	283	178	1453	711	274	715	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	0.0	42.8	57.3	43.9	19.6	53.3	36.1	36.1	43.8	35.8	35.8
Incr Delay (d2), s/veh	26.7	0.0	63.9	111.3	1.6	0.3	189.3	3.4	6.8	0.8	115.4	120.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	22.2	4.4	4.8	1.1	14.5	13.1	13.4	2.5	42.2	42.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.2	0.0	106.7	168.6	45.5	19.9	242.6	39.5	42.8	44.6	151.2	156.3
LnGrp LOS	E	A	F	F	D	B	F	D	D	D	F	F
Approach Vol, veh/h		721			294			1735			1850	
Approach Delay, s/veh		98.3			72.3			68.6			148.0	
Approach LOS		F			E			E			F	

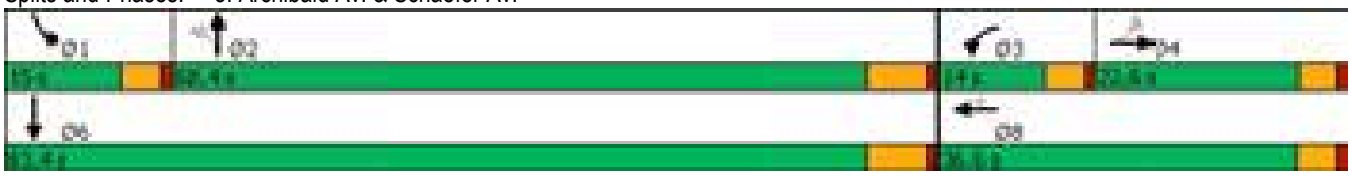
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.2	45.8	10.0	39.0	18.0	53.0	21.8	27.2
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	12.6	49.2	5.4	34.4	13.4	48.4	20.0	19.8
Max Q Clear Time (g_c+I1), s	8.4	33.1	7.4	36.4	15.4	50.4	17.1	12.8
Green Ext Time (p_c), s	0.1	8.1	0.0	0.0	0.0	0.0	0.2	0.5

Intersection Summary	
HCM 6th Ctrl Delay	105.4
HCM 6th LOS	F

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	28	37	25	74	1465	242	1572
Future Volume (vph)	20	28	37	25	74	1465	242	1572
Turn Type	Perm	NA	Prot	NA	Perm	NA	Prot	NA
Protected Phases		4	3	8		2	1	6
Permitted Phases	4				8			
Detector Phase	4	4	3	8	8	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	9.6	32.6	32.6	37.5	9.6	23.5
Total Split (s)	22.6	22.6	14.0	36.6	36.6	68.4	15.0	83.4
Total Split (%)	18.8%	18.8%	11.7%	30.5%	30.5%	57.0%	12.5%	69.5%
Yellow Time (s)	3.5	3.5	3.6	3.6	3.6	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.6	4.6	4.6	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	8.3	8.3	7.2	14.4	14.4	37.2	11.8	56.7
Actuated g/C Ratio	0.11	0.11	0.09	0.19	0.19	0.48	0.15	0.73
v/c Ratio	0.16	0.16	0.27	0.08	0.23	0.70	1.07	0.69
Control Delay	43.9	42.2	46.9	30.4	9.7	18.1	117.2	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	42.2	46.9	30.4	9.7	18.1	117.2	11.3
LOS	D	D	D	C	A	B	F	B
Approach Delay		42.9		23.6		18.1		25.3
Approach LOS		D		C		B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 77.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay: 22.3	Intersection LOS: C
Intersection Capacity Utilization 81.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Archibald Av. & Schaefer Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	28	0	37	25	74	0	1465	41	242	1572	19
Future Volume (veh/h)	20	28	0	37	25	74	0	1465	41	242	1572	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		1.00	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	21	30	0	39	27	73	0	1559	42	257	1672	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	118	0	60	299	251	101	2254	61	232	2302	28
Arrive On Green	0.07	0.07	0.00	0.04	0.17	0.17	0.00	0.47	0.47	0.15	0.68	0.68
Sat Flow, veh/h	1131	1772	0	1594	1772	1486	260	4839	130	1594	3406	41
Grp Volume(v), veh/h	21	30	0	39	27	73	0	1039	562	257	825	867
Grp Sat Flow(s),veh/h/ln	1131	1772	0	1594	1772	1486	260	1612	1745	1594	1683	1764
Q Serve(g_s), s	1.3	1.1	0.0	1.7	0.9	3.1	0.0	18.1	18.1	10.4	22.3	22.4
Cycle Q Clear(g_c), s	1.3	1.1	0.0	1.7	0.9	3.1	0.0	18.1	18.1	10.4	22.3	22.4
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.07	1.00		0.02
Lane Grp Cap(c), veh/h	176	118	0	60	299	251	101	1502	813	232	1138	1192
V/C Ratio(X)	0.12	0.25	0.00	0.65	0.09	0.29	0.00	0.69	0.69	1.11	0.73	0.73
Avail Cap(c_a), veh/h	388	449	0	210	794	666	205	2796	1513	232	1813	1900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	31.6	0.0	33.9	25.0	25.9	0.0	15.0	15.0	30.5	7.4	7.4
Incr Delay (d2), s/veh	0.3	1.1	0.0	4.3	0.1	0.6	0.0	0.6	1.1	90.7	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.5	0.0	0.7	0.4	1.0	0.0	5.2	5.7	9.4	4.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	32.8	0.0	38.2	25.2	26.6	0.0	15.6	16.1	121.2	8.3	8.2
LnGrp LOS	C	C	A	D	C	C	A	B	B	F	A	A
Approach Vol, veh/h		51			139			1601			1949	
Approach Delay, s/veh		32.4			29.6			15.8			23.1	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	6	8
Phs Duration (G+Y+Rc), s	15.0	39.7	7.3	9.3	54.7	16.6
Change Period (Y+Rc), s	4.6	6.5	4.6	* 4.6	6.5	4.6
Max Green Setting (Gmax), s	10.4	61.9	9.4	* 18	76.9	32.0
Max Q Clear Time (g_c+I1), s	12.4	20.1	3.7	3.3	24.4	5.1
Green Ext Time (p_c), s	0.0	13.1	0.0	0.1	16.3	0.3

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	800	874	295	329	128	305	1220	356	181	1716	126
Future Volume (vph)	178	800	874	295	329	128	305	1220	356	181	1716	126
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	10.2	40.4		16.0	46.2	46.2	16.0	42.6		21.0	47.6	47.6
Total Split (%)	8.5%	33.7%		13.3%	38.5%	38.5%	13.3%	35.5%		17.5%	39.7%	39.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.6	32.0	117.8	11.4	37.8	37.8	11.4	36.8	117.8	15.8	41.1	41.1
Actuated g/C Ratio	0.05	0.27	1.00	0.10	0.32	0.32	0.10	0.31	1.00	0.13	0.35	0.35
v/c Ratio	1.33	0.88	0.61	1.08	0.61	0.23	2.10	1.17	0.25	0.91	1.47	0.21
Control Delay	229.2	52.7	1.9	125.8	39.1	3.9	543.9	122.2	0.4	92.2	245.4	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	229.2	52.7	1.9	125.8	39.1	3.9	543.9	122.2	0.4	92.2	245.4	3.6
LOS	F	D	A	F	D	A	F	F	A	F	F	A
Approach Delay		45.6			67.2			167.5			216.5	
Approach LOS		D			E			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.10	
Intersection Signal Delay: 136.5	Intersection LOS: F
Intersection Capacity Utilization 120.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	800	874	295	329	128	305	1220	356	181	1716	126
Future Volume (veh/h)	178	800	874	295	329	128	305	1220	356	181	1716	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	187	842	0	311	346	93	321	1284	0	191	1806	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	944		292	560	474	155	1113		215	1245	528
Arrive On Green	0.05	0.27	0.00	0.10	0.32	0.32	0.10	0.31	0.00	0.13	0.35	0.35
Sat Flow, veh/h	3000	3544	1502	3000	1772	1500	1594	3544	1502	1594	3544	1502
Grp Volume(v), veh/h	187	842	0	311	346	93	321	1284	0	191	1806	114
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	5.6	26.7	0.0	11.4	19.4	5.3	11.4	36.7	0.0	13.8	41.1	6.2
Cycle Q Clear(g_c), s	5.6	26.7	0.0	11.4	19.4	5.3	11.4	36.7	0.0	13.8	41.1	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	944		292	560	474	155	1113		215	1245	528
V/C Ratio(X)	1.30	0.89		1.06	0.62	0.20	2.07	1.15		0.89	1.45	0.22
Avail Cap(c_a), veh/h	144	1036		292	606	513	155	1113		223	1245	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	41.3	0.0	52.8	34.0	29.2	52.8	40.1	0.0	49.7	37.9	26.6
Incr Delay (d2), s/veh	177.3	9.3	0.0	70.4	1.7	0.2	501.4	79.6	0.0	30.6	207.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	12.3	0.0	7.0	8.2	1.9	26.0	27.1	0.0	7.0	52.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	232.9	50.6	0.0	123.2	35.7	29.4	554.2	119.8	0.0	80.3	245.1	26.8
LnGrp LOS	F	D		F	D	C	F	F		F	F	C
Approach Vol, veh/h		1029	A		750			1605	A		2111	
Approach Delay, s/veh		83.7			71.2			206.6			218.4	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.4	43.2	16.0	37.4	16.0	47.6	10.2	43.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	16.4	36.1	11.4	34.2	11.4	41.1	5.6	40.0
Max Q Clear Time (g_c+I1), s	15.8	38.7	13.4	28.7	13.4	43.1	7.6	21.4
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	0.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	169.7
HCM 6th LOS	F

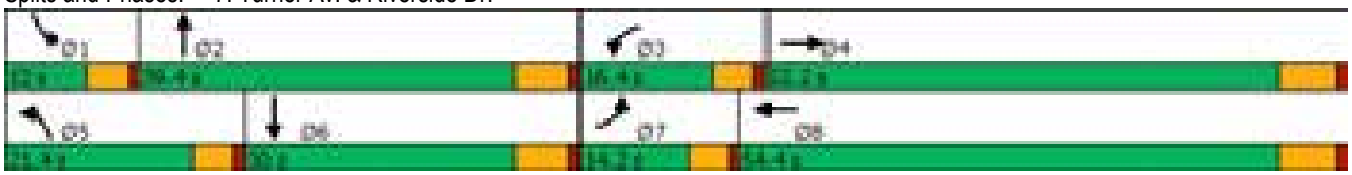
Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	105	1011	140	1095	206	69	36	68
Future Volume (vph)	105	1011	140	1095	206	69	36	68
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	27.2	9.6	27.2	9.6	28.8	9.6	28.8
Total Split (s)	14.2	52.2	16.4	54.4	21.4	39.4	12.0	30.0
Total Split (%)	11.8%	43.5%	13.7%	45.3%	17.8%	32.8%	10.0%	25.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.4	46.1	11.8	48.5	16.8	26.8	6.5	12.4
Actuated g/C Ratio	0.09	0.43	0.11	0.45	0.16	0.25	0.06	0.11
v/c Ratio	0.79	0.95	0.84	0.79	0.87	0.28	0.39	0.33
Control Delay	85.7	45.2	85.2	31.0	77.2	12.2	62.4	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.7	45.2	85.2	31.0	77.2	12.2	62.4	25.2
LOS	F	D	F	C	E	B	E	C
Approach Delay		48.3		36.9		42.8		33.1
Approach LOS		D		D		D		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.3	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 42.3	Intersection LOS: D
Intersection Capacity Utilization 86.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Turner Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	1011	273	140	1095	49	206	69	163	36	68	64
Future Volume (veh/h)	105	1011	273	140	1095	49	206	69	163	36	68	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	108	1042	178	144	1129	38	212	71	116	37	70	40
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	1182	201	171	1451	49	240	389	344	52	239	125
Arrive On Green	0.08	0.41	0.41	0.11	0.44	0.44	0.15	0.23	0.23	0.03	0.11	0.11
Sat Flow, veh/h	1594	2866	489	1594	3321	112	1594	1683	1485	1594	2115	1110
Grp Volume(v), veh/h	108	611	609	144	572	595	212	71	116	37	54	56
Grp Sat Flow(s),veh/h/ln	1594	1683	1671	1594	1683	1750	1594	1683	1485	1594	1683	1542
Q Serve(g_s), s	6.5	32.8	32.9	8.7	28.4	28.4	12.7	3.3	6.4	2.2	2.9	3.2
Cycle Q Clear(g_c), s	6.5	32.8	32.9	8.7	28.4	28.4	12.7	3.3	6.4	2.2	2.9	3.2
Prop In Lane	1.00		0.29	1.00		0.06	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	132	694	689	171	735	764	240	389	344	52	190	174
V/C Ratio(X)	0.82	0.88	0.88	0.84	0.78	0.78	0.88	0.18	0.34	0.72	0.29	0.32
Avail Cap(c_a), veh/h	156	792	786	192	830	862	274	578	510	121	416	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	26.5	26.6	42.9	23.5	23.5	40.7	30.2	31.3	46.9	39.8	39.9
Incr Delay (d2), s/veh	21.3	10.3	10.7	23.0	4.2	4.1	22.8	0.2	0.6	6.7	0.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	13.7	13.7	4.3	10.8	11.2	6.3	1.3	2.2	1.0	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.4	36.8	37.2	65.9	27.7	27.6	63.5	30.4	31.9	53.6	40.6	41.0
LnGrp LOS	E	D	D	E	C	C	E	C	C	D	D	D
Approach Vol, veh/h		1328			1311			399			147	
Approach Delay, s/veh		39.3			31.8			48.4			44.0	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	28.4	15.1	46.5	19.4	16.8	12.7	48.9
Change Period (Y+Rc), s	4.6	5.8	4.6	6.2	4.6	5.8	4.6	6.2
Max Green Setting (Gmax), s	7.4	33.6	11.8	46.0	16.8	24.2	9.6	48.2
Max Q Clear Time (g_c+I1), s	4.2	8.4	10.7	34.9	14.7	5.2	8.5	30.4
Green Ext Time (p_c), s	0.0	1.0	0.0	5.4	0.1	0.4	0.0	6.6

Intersection Summary	
HCM 6th Ctrl Delay	37.6
HCM 6th LOS	D

Intersection	
Intersection Delay, s/veh	14.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	192	210	74	45	155	86	24	153	44	70	238	69
Future Vol, veh/h	192	210	74	45	155	86	24	153	44	70	238	69
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	209	228	80	49	168	93	26	166	48	76	259	75
Number of Lanes	1	2	0	1	2	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	15.7	13.8	13.6	14.7
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	54%	0%	100%	49%	0%	100%	38%	0%	100%	53%
Vol Right, %	0%	0%	46%	0%	0%	51%	0%	0%	62%	0%	0%	47%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	102	95	192	140	144	45	103	138	70	159	148
LT Vol	24	0	0	192	0	0	45	0	0	70	0	0
Through Vol	0	102	51	0	140	70	0	103	52	0	159	79
RT Vol	0	0	44	0	0	74	0	0	86	0	0	69
Lane Flow Rate	26	111	103	209	152	157	49	112	150	76	172	161
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.065	0.259	0.232	0.476	0.326	0.32	0.118	0.256	0.322	0.179	0.382	0.343
Departure Headway (Hd)	8.903	8.403	8.078	8.215	7.715	7.355	8.691	8.191	7.754	8.482	7.982	7.656
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	401	426	443	438	466	488	411	437	462	422	450	469
Service Time	6.678	6.178	5.854	5.979	5.479	5.119	6.464	5.964	5.527	6.251	5.751	5.425
HCM Lane V/C Ratio	0.065	0.261	0.233	0.477	0.326	0.322	0.119	0.256	0.325	0.18	0.382	0.343
HCM Control Delay	12.3	14.1	13.3	18.3	14.2	13.6	12.6	13.8	14.2	13.1	15.6	14.4
HCM Lane LOS	B	B	B	C	B	B	B	B	B	B	C	B
HCM 95th-tile Q	0.2	1	0.9	2.5	1.4	1.4	0.4	1	1.4	0.6	1.8	1.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	158	2207	53	66	1892	153	19	19	160	38
Future Volume (vph)	158	2207	53	66	1892	153	19	19	160	38
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.8	23.8	9.6	23.8	23.8	9.6	23.8	9.6	23.8
Total Split (s)	15.0	71.0	71.0	9.6	65.6	65.6	10.2	24.4	15.0	29.2
Total Split (%)	12.5%	59.2%	59.2%	8.0%	54.7%	54.7%	8.5%	20.3%	12.5%	24.3%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	10.4	65.3	65.3	5.0	59.9	59.9	5.4	8.6	10.4	19.7
Actuated g/C Ratio	0.09	0.59	0.59	0.05	0.54	0.54	0.05	0.08	0.09	0.18
v/c Ratio	1.02	1.13	0.06	0.89	1.06	0.17	0.23	0.34	1.03	0.33
Control Delay	124.6	89.4	0.1	127.7	63.5	1.7	58.8	28.5	127.3	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.6	89.4	0.1	127.7	63.5	1.7	58.8	28.5	127.3	21.7
LOS	F	F	A	F	E	A	E	C	F	C
Approach Delay		89.7			61.0			36.6		84.8
Approach LOS		F			E			D		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 76.2	Intersection LOS: E
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 9: S Turner Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	2207	53	66	1892	153	19	19	33	160	38	70
Future Volume (veh/h)	158	2207	53	66	1892	153	19	19	33	160	38	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	170	2373	35	71	2034	84	20	20	19	172	41	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	2178	971	84	1997	891	37	41	39	174	103	109
Arrive On Green	0.10	0.61	0.61	0.05	0.56	0.56	0.02	0.05	0.05	0.10	0.12	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	882	838	1781	836	877
Grp Volume(v), veh/h	170	2373	35	71	2034	84	20	0	39	172	0	84
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1720	1781	0	1713
Q Serve(g_s), s	10.1	65.2	0.9	4.2	59.8	2.6	1.2	0.0	2.4	10.3	0.0	4.8
Cycle Q Clear(g_c), s	10.1	65.2	0.9	4.2	59.8	2.6	1.2	0.0	2.4	10.3	0.0	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.49	1.00		0.51
Lane Grp Cap(c), veh/h	174	2178	971	84	1997	891	37	0	81	174	0	212
V/C Ratio(X)	0.98	1.09	0.04	0.85	1.02	0.09	0.54	0.00	0.48	0.99	0.00	0.40
Avail Cap(c_a), veh/h	174	2178	971	84	1997	891	94	0	301	174	0	377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.9	20.6	8.2	50.3	23.3	10.8	51.6	0.0	49.4	47.9	0.0	43.0
Incr Delay (d2), s/veh	60.8	48.7	0.0	50.0	24.9	0.0	4.4	0.0	4.4	64.4	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	37.0	0.3	3.0	28.4	0.8	0.6	0.0	1.1	7.5	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.7	69.3	8.2	100.3	48.2	10.8	55.9	0.0	53.8	112.3	0.0	44.2
LnGrp LOS	F	F	A	F	F	B	E	A	D	F	A	D
Approach Vol, veh/h		2578			2189			59			256	
Approach Delay, s/veh		71.1			48.4			54.6			89.9	
Approach LOS		E			D			D			F	

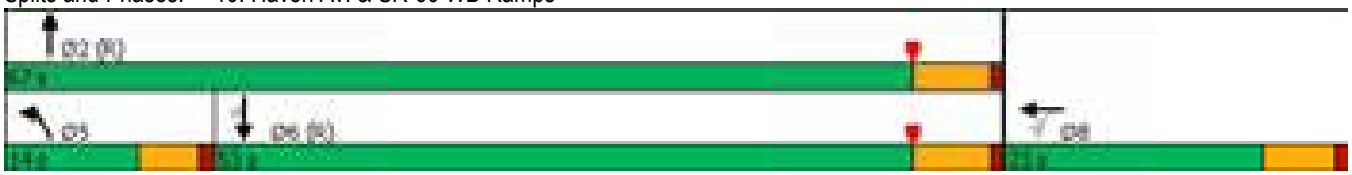
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	10.8	9.6	71.0	6.8	19.0	15.0	65.6
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8
Max Green Setting (Gmax), s	10.4	18.6	5.0	65.2	5.6	23.4	10.4	59.8
Max Q Clear Time (g_c+I1), s	12.3	4.4	6.2	67.2	3.2	6.8	12.1	61.8
Green Ext Time (p_c), s	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	62.1
HCM 6th LOS	E

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	384	12	682	177	1224	2179	844
Future Volume (vph)	384	12	682	177	1224	2179	844
Turn Type	Perm	NA	Free	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		Free				6
Detector Phase	8	8		5	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0		5.0	8.0	8.0	8.0
Minimum Split (s)	15.8	15.8		10.0	35.2	28.2	28.2
Total Split (s)	23.0	23.0		14.0	67.0	53.0	53.0
Total Split (%)	25.6%	25.6%		15.6%	74.4%	58.9%	58.9%
Yellow Time (s)	4.8	4.8		4.0	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8		5.0	6.2	6.2	6.2
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	14.9	14.9	90.0	8.3	63.1	49.8	49.8
Actuated g/C Ratio	0.17	0.17	1.00	0.09	0.70	0.55	0.55
v/c Ratio	0.75	0.73	0.45	0.58	0.36	0.81	0.75
Control Delay	52.2	51.0	0.9	35.4	8.1	19.9	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	51.0	0.9	35.4	8.1	19.9	8.2
LOS	D	D	A	D	A	B	A
Approach Delay		19.6			11.6	16.6	
Approach LOS		B			B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 15.9	Intersection LOS: B
Intersection Capacity Utilization 82.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 10: Haven Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	384	12	682	177	1224	0	0	2179	844
Future Volume (veh/h)	0	0	0	384	12	682	177	1224	0	0	2179	844
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				409	0	0	184	1275	0	0	2270	731
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				503	0		253	3704	0	0	3047	934
Arrive On Green				0.14	0.00	0.00	0.15	1.00	0.00	0.00	0.60	0.60
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1565
Grp Volume(v), veh/h				409	0	0	184	1275	0	0	2270	731
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1565
Q Serve(g_s), s				10.0	0.0	0.0	4.6	0.0	0.0	0.0	29.1	31.8
Cycle Q Clear(g_c), s				10.0	0.0	0.0	4.6	0.0	0.0	0.0	29.1	31.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				503	0		253	3704	0	0	3047	934
V/C Ratio(X)				0.81	0.00		0.73	0.34	0.00	0.00	0.75	0.78
Avail Cap(c_a), veh/h				681	0		346	3704	0	0	3047	934
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.49	0.49	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.5	0.0	0.0	37.6	0.0	0.0	0.0	13.2	13.7
Incr Delay (d2), s/veh				5.4	0.0	0.0	1.3	0.1	0.0	0.0	1.7	6.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.5	0.0	0.0	1.8	0.0	0.0	0.0	9.4	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.9	0.0	0.0	38.9	0.1	0.0	0.0	14.9	20.3
LnGrp LOS				D	A		D	A	A	A	B	C
Approach Vol, veh/h					409	A		1459			3001	
Approach Delay, s/veh					42.9			5.0			16.2	
Approach LOS					D			A			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	71.5		11.6	59.9		18.5						
Change Period (Y+Rc), s	6.2		5.0	6.2		5.8						
Max Green Setting (Gmax), s	60.8		9.0	46.8		17.2						
Max Q Clear Time (g_c+I1), s	2.0		6.6	33.8		12.0						
Green Ext Time (p_c), s	6.6		0.1	9.9		0.7						

Intersection Summary		
HCM 6th Ctrl Delay	15.1	
HCM 6th LOS	B	

Notes

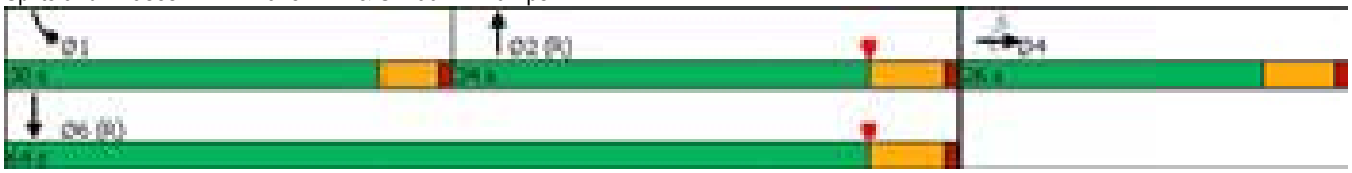
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	423	2	257	1164	739	1939
Future Volume (vph)	423	2	257	1164	739	1939
Turn Type	Perm	NA	Perm	NA	Prot	NA
Protected Phases		4		2	1	6
Permitted Phases	4		4			
Detector Phase	4	4	4	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.8	10.8	10.8	28.2	10.0	31.2
Total Split (s)	26.0	26.0	26.0	34.0	30.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	37.8%	33.3%	71.1%
Yellow Time (s)	4.8	4.8	4.8	5.2	4.0	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	6.2	5.0	6.2
Lead/Lag				Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	
Recall Mode	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	16.9	16.9	16.9	32.4	23.7	61.1
Actuated g/C Ratio	0.19	0.19	0.19	0.36	0.26	0.68
v/c Ratio	0.70	0.71	0.71	0.82	0.85	0.58
Control Delay	45.9	46.3	31.7	31.3	52.1	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	45.9	46.3	31.7	31.3	52.1	5.8
LOS	D	D	C	C	D	A
Approach Delay		40.7		31.3		18.6
Approach LOS		D		C		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 25.6	Intersection LOS: C
Intersection Capacity Utilization 82.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 11: Haven Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	423	2	257	0	0	0	0	1164	267	739	1939	0
Future Volume (veh/h)	423	2	257	0	0	0	0	1164	267	739	1939	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	442	0	138				0	1212	143	770	2020	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	556	0	248				0	1906	225	841	3628	0
Arrive On Green	0.16	0.00	0.16				0.00	0.41	0.41	0.49	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	4798	546	3456	5274	0
Grp Volume(v), veh/h	442	0	138				0	891	464	770	2020	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1772	1728	1702	0
Q Serve(g_s), s	10.8	0.0	7.2				0.0	18.8	18.8	18.6	0.0	0.0
Cycle Q Clear(g_c), s	10.8	0.0	7.2				0.0	18.8	18.8	18.6	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.31	1.00		0.00
Lane Grp Cap(c), veh/h	556	0	248				0	1401	729	841	3628	0
V/C Ratio(X)	0.79	0.00	0.56				0.00	0.64	0.64	0.92	0.56	0.00
Avail Cap(c_a), veh/h	800	0	356				0	1401	729	960	3628	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.50	0.50	0.00
Uniform Delay (d), s/veh	36.6	0.0	35.1				0.0	21.1	21.1	22.3	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	2.0				0.0	2.2	4.2	6.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	2.8				0.0	7.2	7.9	5.5	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	0.0	37.1				0.0	23.3	25.3	29.1	0.3	0.0
LnGrp LOS	D	A	D				A	C	C	C	A	A
Approach Vol, veh/h		580						1355			2790	
Approach Delay, s/veh		39.4						24.0			8.3	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	26.9	43.3		19.9		70.1
Change Period (Y+Rc), s	5.0	6.2		5.8		6.2
Max Green Setting (Gmax), s	25.0	27.8		20.2		57.8
Max Q Clear Time (g_c+I1), s	20.6	20.8		12.8		2.0
Green Ext Time (p_c), s	1.3	3.3		1.3		14.5

Intersection Summary		
HCM 6th Ctrl Delay		16.6
HCM 6th LOS		B

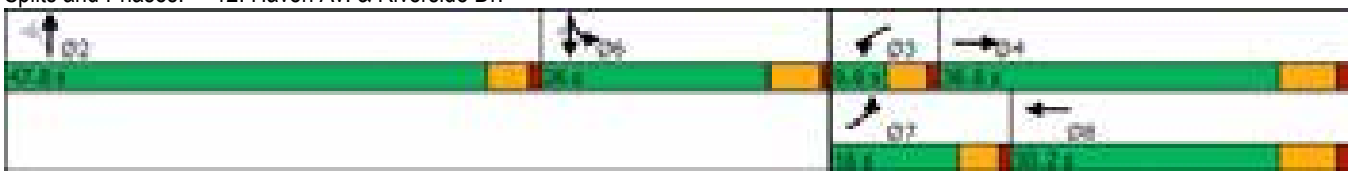
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	462	683	173	535	65	642	274	756	571
Future Volume (vph)	462	683	173	535	65	642	274	756	571
Turn Type	Prot	NA	Prot	NA	Perm	NA	Split	NA	Perm
Protected Phases	7	4	3	8		2	6	6	
Permitted Phases					2				6
Detector Phase	7	4	3	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	23.7	23.7	24.8	24.8	24.8
Total Split (s)	16.0	36.6	9.6	30.2	47.8	47.8	26.0	26.0	26.0
Total Split (%)	13.3%	30.5%	8.0%	25.2%	39.8%	39.8%	21.7%	21.7%	21.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2		4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	11.4	30.4	5.0	24.0		43.1	20.2	20.2	20.2
Actuated g/C Ratio	0.10	0.25	0.04	0.20		0.36	0.17	0.17	0.17
v/c Ratio	3.21	1.86	2.77	1.07		10.56	1.07	2.65	1.20
Control Delay	1028.3	424.9	858.7	99.3		4329.6	122.9	774.7	129.1
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	1028.3	424.9	858.7	99.3		4329.6	122.9	774.7	129.1
LOS	F	F	F	F		F	F	F	F
Approach Delay		648.0		252.3		4329.6		433.0	
Approach LOS		F		F		F		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 10.56	
Intersection Signal Delay: 1199.6	Intersection LOS: F
Intersection Capacity Utilization 165.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	462	683	105	173	535	150	65	642	164	274	756	571
Future Volume (veh/h)	462	683	105	173	535	150	65	642	164	274	756	571
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	481	711	108	180	557	136	68	669	165	285	788	369
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	379	58	66	534	130	46	455	112	268	298	252
Arrive On Green	0.09	0.25	0.25	0.04	0.20	0.20	0.36	0.36	0.36	0.17	0.17	0.17
Sat Flow, veh/h	1594	1495	227	1594	2671	650	129	1268	313	1594	1772	1496
Grp Volume(v), veh/h	481	0	819	180	350	343	902	0	0	285	788	369
Grp Sat Flow(s),veh/h/ln	1594	0	1722	1594	1683	1637	1709	0	0	1594	1772	1496
Q Serve(g_s), s	11.4	0.0	30.4	5.0	24.0	24.0	43.1	0.0	0.0	20.2	20.2	20.2
Cycle Q Clear(g_c), s	11.4	0.0	30.4	5.0	24.0	24.0	43.1	0.0	0.0	20.2	20.2	20.2
Prop In Lane	1.00		0.13	1.00		0.40	0.08		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	151	0	436	66	337	327	614	0	0	268	298	252
V/C Ratio(X)	3.18	0.00	1.88	2.71	1.04	1.05	1.47	0.00	0.00	1.06	2.64	1.47
Avail Cap(c_a), veh/h	151	0	436	66	337	327	614	0	0	268	298	252
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	0.0	44.8	57.5	48.0	48.0	38.5	0.0	0.0	49.9	49.9	49.9
Incr Delay (d2), s/veh	996.6	0.0	403.4	810.5	59.9	62.5	220.0	0.0	0.0	72.4	748.4	229.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	46.3	0.0	61.2	16.9	15.2	15.1	55.2	0.0	0.0	13.2	70.7	23.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1050.9	0.0	448.2	868.0	107.9	110.5	258.5	0.0	0.0	122.3	798.3	279.7
LnGrp LOS	F	A	F	F	F	F	F	A	A	F	F	F
Approach Vol, veh/h		1300			873			902			1442	
Approach Delay, s/veh		671.2			265.7			258.5			532.0	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.8	9.6	36.6		26.0	16.0	30.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 43	5.0	30.4		20.2	11.4	24.0				
Max Q Clear Time (g_c+I1), s		45.1	7.0	32.4		22.2	13.4	26.0				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		466.0
HCM 6th LOS		F

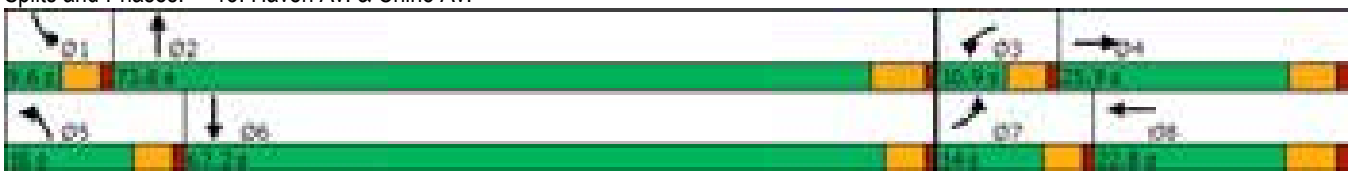
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	142	57	28	67	184	704	735	
Future Volume (vph)	142	57	28	67	184	704	735	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	14.0	25.9	10.9	22.8	16.0	73.6	67.2	9.6
Total Split (%)	11.7%	21.6%	9.1%	19.0%	13.3%	61.3%	56.0%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	9.8	16.5	5.8	11.6	11.5	77.7	62.8	
Actuated g/C Ratio	0.09	0.15	0.05	0.10	0.10	0.69	0.56	
v/c Ratio	1.08	0.51	0.33	0.38	1.20	0.63	1.20	
Control Delay	149.6	35.9	62.9	53.7	178.9	13.3	126.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	149.6	35.9	62.9	53.7	178.9	13.3	126.7	
LOS	F	D	E	D	F	B	F	
Approach Delay		92.6		56.4		46.7	126.7	
Approach LOS		F		E		D	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 89.1	Intersection LOS: F
Intersection Capacity Utilization 108.7%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	57	84	28	67	0	184	704	25	0	735	356
Future Volume (veh/h)	142	57	84	28	67	0	184	704	25	0	735	356
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	149	62	46	30	73	0	194	741	14	0	774	191
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	143	106	48	164	0	159	1193	23	2	752	186
Arrive On Green	0.08	0.14	0.14	0.03	0.09	0.00	0.10	0.69	0.69	0.00	0.55	0.55
Sat Flow, veh/h	1594	997	740	1781	1870	0	1594	1733	33	1781	1372	339
Grp Volume(v), veh/h	149	0	108	30	73	0	194	0	755	0	0	965
Grp Sat Flow(s),veh/h/ln	1594	0	1737	1781	1870	0	1594	0	1766	1781	0	1711
Q Serve(g_s), s	9.4	0.0	6.5	1.9	4.2	0.0	11.4	0.0	26.6	0.0	0.0	62.5
Cycle Q Clear(g_c), s	9.4	0.0	6.5	1.9	4.2	0.0	11.4	0.0	26.6	0.0	0.0	62.5
Prop In Lane	1.00		0.43	1.00		0.00	1.00		0.02	1.00		0.20
Lane Grp Cap(c), veh/h	131	0	248	48	164	0	159	0	1215	2	0	937
V/C Ratio(X)	1.13	0.00	0.43	0.63	0.45	0.00	1.22	0.00	0.62	0.00	0.00	1.03
Avail Cap(c_a), veh/h	131	0	312	98	279	0	159	0	1215	78	0	937
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	52.3	0.0	44.7	54.9	49.4	0.0	51.3	0.0	9.7	0.0	0.0	25.8
Incr Delay (d2), s/veh	119.3	0.0	1.2	4.9	1.9	0.0	141.8	0.0	1.0	0.0	0.0	37.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	2.8	0.9	2.0	0.0	10.7	0.0	8.7	0.0	0.0	33.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	171.6	0.0	45.9	59.9	51.3	0.0	193.2	0.0	10.7	0.0	0.0	63.0
LnGrp LOS	F	A	D	E	D	A	F	A	B	A	A	F
Approach Vol, veh/h		257			103			949			965	
Approach Delay, s/veh		118.8			53.8			48.0			63.0	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	84.3	7.7	22.1	16.0	68.3	14.0	15.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	67.8	6.3	* 21	11.4	* 63	9.4	17.0
Max Q Clear Time (g_c+I1), s	0.0	28.6	3.9	8.5	13.4	64.5	11.4	6.2
Green Ext Time (p_c), s	0.0	5.6	0.0	0.3	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	62.6
HCM 6th LOS	E

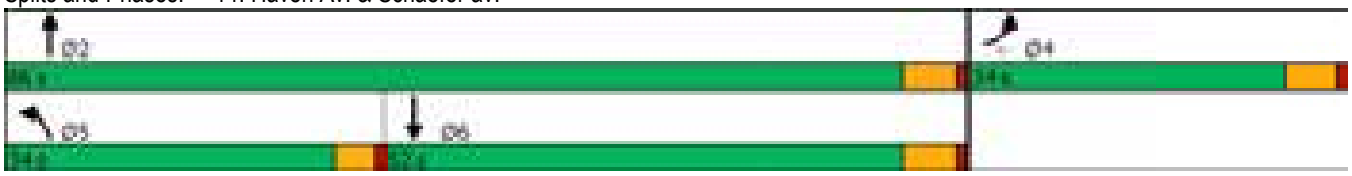
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	64	123	175	527	663
Future Volume (vph)	64	123	175	527	663
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	27.8	27.8	9.6	15.8	29.8
Total Split (s)	34.0	34.0	34.0	86.0	52.0
Total Split (%)	28.3%	28.3%	28.3%	71.7%	43.3%
Yellow Time (s)	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	5.8
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.3	12.3	14.1	43.0	24.0
Actuated g/C Ratio	0.18	0.18	0.21	0.64	0.36
v/c Ratio	0.26	0.37	0.61	0.55	0.68
Control Delay	29.9	8.9	34.9	9.0	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	8.9	34.9	9.0	22.1
LOS	C	A	C	A	C
Approach Delay	16.1			15.4	22.1
Approach LOS	B			B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 67.5	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 18.5	Intersection LOS: B
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 14: Haven Av. & Schaefer av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	123	175	527	663	65
Future Volume (veh/h)	64	123	175	527	663	65
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	74	74	203	613	771	76
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	274	258	251	1064	1120	110
Arrive On Green	0.17	0.17	0.16	0.60	0.35	0.35
Sat Flow, veh/h	1594	1502	1594	1772	3175	313
Grp Volume(v), veh/h	74	74	203	613	430	417
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	1772	1716
Q Serve(g_s), s	2.1	2.2	6.3	10.8	10.6	10.6
Cycle Q Clear(g_c), s	2.1	2.2	6.3	10.8	10.6	10.6
Prop In Lane	1.00	1.00	1.00			0.18
Lane Grp Cap(c), veh/h	274	258	251	1064	625	605
V/C Ratio(X)	0.27	0.29	0.81	0.58	0.69	0.69
Avail Cap(c_a), veh/h	882	831	919	2787	1606	1555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	18.4	20.7	6.2	14.1	14.1
Incr Delay (d2), s/veh	0.5	0.6	2.4	0.5	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.0	2.1	2.1	3.4	3.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.8	19.0	23.1	6.7	15.5	15.5
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	148			816	847	
Approach Delay, s/veh	18.9			10.8	15.5	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.4		14.6	12.6	23.8
Change Period (Y+Rc), s		5.8		5.8	4.6	5.8
Max Green Setting (Gmax), s		80.2		28.2	29.4	46.2
Max Q Clear Time (g_c+I1), s		12.8		4.2	8.3	12.6
Green Ext Time (p_c), s		4.2		0.4	0.2	5.4

Intersection Summary		
HCM 6th Ctrl Delay		13.7
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	462	1778	95	270	1749	277	93	399	117	263	421	181
Future Volume (vph)	462	1778	95	270	1749	277	93	399	117	263	421	181
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	17.0	45.2	45.2	10.8	39.0	39.0	15.4	49.0	49.0	15.0	48.6	48.6
Total Split (%)	14.2%	37.7%	37.7%	9.0%	32.5%	32.5%	12.8%	40.8%	40.8%	12.5%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	12.5	39.2	39.2	6.2	32.7	32.7	9.7	32.2	32.2	10.5	33.0	33.0
Actuated g/C Ratio	0.11	0.36	0.36	0.06	0.30	0.30	0.09	0.29	0.29	0.10	0.30	0.30
v/c Ratio	2.73	1.00	0.17	1.70	0.88	0.45	0.71	0.82	0.22	1.85	0.84	0.33
Control Delay	813.4	56.2	5.3	369.8	43.5	6.2	77.2	48.9	2.8	439.1	50.8	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	813.4	56.2	5.3	369.8	43.5	6.2	77.2	48.9	2.8	439.1	50.8	5.4
LOS	F	E	A	F	D	A	E	D	A	F	D	A
Approach Delay		203.8			77.3			44.4			159.4	
Approach LOS		F			E			D			F	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 109.5		
Natural Cycle: 115		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 2.73		
Intersection Signal Delay: 134.1	Intersection LOS: F	
Intersection Capacity Utilization 111.7%	ICU Level of Service H	
Analysis Period (min) 15		

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	462	1778	95	270	1749	277	93	399	117	263	421	181
Future Volume (veh/h)	462	1778	95	270	1749	277	93	399	117	263	421	181
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	491	1891	88	287	1861	250	99	424	74	280	448	160
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	1961	554	176	2199	466	121	480	406	157	519	440
Arrive On Green	0.12	0.37	0.37	0.06	0.31	0.31	0.08	0.27	0.27	0.10	0.29	0.29
Sat Flow, veh/h	1594	5316	1502	3000	7088	1502	1594	1772	1502	1594	1772	1502
Grp Volume(v), veh/h	491	1891	88	287	1861	250	99	424	74	280	448	160
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1500	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	12.4	36.8	4.2	6.2	26.0	14.6	6.5	24.3	4.0	10.4	25.3	8.9
Cycle Q Clear(g_c), s	12.4	36.8	4.2	6.2	26.0	14.6	6.5	24.3	4.0	10.4	25.3	8.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	1961	554	176	2199	466	121	480	406	157	519	440
V/C Ratio(X)	2.63	0.96	0.16	1.63	0.85	0.54	0.82	0.88	0.18	1.79	0.86	0.36
Avail Cap(c_a), veh/h	187	1961	554	176	2199	466	163	724	614	157	717	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	32.7	22.4	49.8	34.1	30.2	48.1	37.0	29.6	47.7	35.4	29.6
Incr Delay (d2), s/veh	747.0	13.5	0.6	308.3	4.2	4.4	15.7	8.6	0.2	377.9	7.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	43.5	16.9	1.5	9.7	10.9	5.4	3.0	11.1	1.4	20.4	11.4	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	793.7	46.1	23.0	358.1	38.3	34.5	63.8	45.6	29.8	425.6	43.3	30.1
LnGrp LOS	F	D	C	F	D	C	E	D	C	F	D	C
Approach Vol, veh/h		2470			2398			597			888	
Approach Delay, s/veh		193.9			76.2			46.6			161.5	
Approach LOS		F			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	34.4	10.8	45.5	12.6	36.8	17.0	39.3
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	10.4	43.2	6.2	* 39	10.8	42.8	12.4	32.5
Max Q Clear Time (g_c+I1), s	12.4	26.3	8.2	38.8	8.5	27.3	14.4	28.0
Green Ext Time (p_c), s	0.0	2.4	0.0	0.2	0.0	2.7	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	131.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	6.0
Intersection LOS	A

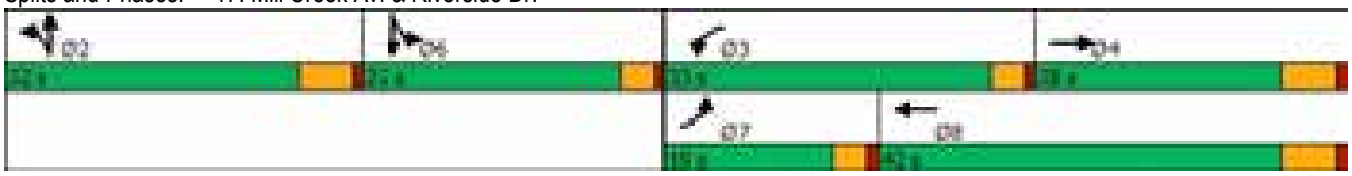
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	338	509	0	71
Demand Flow Rate, veh/h	344	519	0	73
Vehicles Circulating, veh/h	29	74	373	469
Vehicles Exiting, veh/h	513	299	0	124
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.0	6.8	0.0	5.2
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	344	519	0	73
Cap Entry Lane, veh/h	1340	1280	943	855
Entry HV Adj Factor	0.982	0.980	1.000	0.973
Flow Entry, veh/h	338	509	0	71
Cap Entry, veh/h	1315	1254	943	832
V/C Ratio	0.257	0.406	0.000	0.085
Control Delay, s/veh	5.0	6.8	3.8	5.2
LOS	A	A	A	A
95th %tile Queue, veh	1	2	0	0

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	132	1340	294	1030	70	22	26	70	17
Future Volume (vph)	132	1340	294	1030	70	22	26	70	17
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA
Protected Phases	7	4	3	8	2	2		6	6
Permitted Phases							2		
Detector Phase	7	4	3	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0
Total Split (s)	19.0	28.0	33.0	42.0	32.0	32.0	32.0	27.0	27.0
Total Split (%)	15.8%	23.3%	27.5%	35.0%	26.7%	26.7%	26.7%	22.5%	22.5%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	12.2	26.7	22.0	36.6	12.6	12.6	12.6	12.4	12.4
Actuated g/C Ratio	0.13	0.28	0.23	0.39	0.13	0.13	0.13	0.13	0.13
v/c Ratio	0.68	1.56	0.84	0.92	0.35	0.10	0.09	0.35	0.38
Control Delay	58.3	285.7	56.0	40.0	42.9	38.0	0.5	43.4	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	285.7	56.0	40.0	42.9	38.0	0.5	43.4	16.2
LOS	E	F	E	D	D	D	A	D	B
Approach Delay		266.9		43.2		32.5			27.5
Approach LOS		F		D		C			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 93.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.56	
Intersection Signal Delay: 148.8	Intersection LOS: F
Intersection Capacity Utilization 85.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1340	121	294	1030	137	70	22	26	70	17	81
Future Volume (veh/h)	132	1340	121	294	1030	137	70	22	26	70	17	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	140	1426	76	313	1096	98	74	23	-100	74	18	59
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	935	50	349	1259	112	198	221	187	212	47	155
Arrive On Green	0.11	0.28	0.28	0.22	0.39	0.39	0.12	0.12	0.00	0.13	0.13	0.13
Sat Flow, veh/h	1594	3334	177	1594	3206	286	1594	1772	1502	1590	356	1166
Grp Volume(v), veh/h	140	756	746	313	605	589	74	23	-100	74	0	77
Grp Sat Flow(s),veh/h/ln	1594	1772	1739	1594	1772	1720	1594	1772	1502	1590	0	1522
Q Serve(g_s), s	7.0	22.9	22.9	15.6	25.7	25.8	3.5	0.9	0.0	3.5	0.0	3.8
Cycle Q Clear(g_c), s	7.0	22.9	22.9	15.6	25.7	25.8	3.5	0.9	0.0	3.5	0.0	3.8
Prop In Lane	1.00		0.10	1.00		0.17	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	170	497	487	349	696	676	198	221	187	212	0	203
V/C Ratio(X)	0.82	1.52	1.53	0.90	0.87	0.87	0.37	0.10	-0.53	0.35	0.00	0.38
Avail Cap(c_a), veh/h	293	497	487	566	782	759	512	569	482	448	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.7	29.4	29.4	30.9	22.8	22.9	32.8	31.7	0.0	32.1	0.0	32.3
Incr Delay (d2), s/veh	3.8	245.0	248.9	6.8	9.6	10.0	1.2	0.2	0.0	1.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	42.5	42.2	6.1	11.0	10.8	1.3	0.4	0.0	1.4	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	274.3	278.2	37.8	32.4	32.8	34.0	31.9	0.0	33.1	0.0	33.5
LnGrp LOS	D	F	F	D	C	C	C	C	A	C	A	C
Approach Vol, veh/h		1642			1507			-3			151	
Approach Delay, s/veh		256.1			33.7			0.0			33.3	
Approach LOS		F			C			A			C	

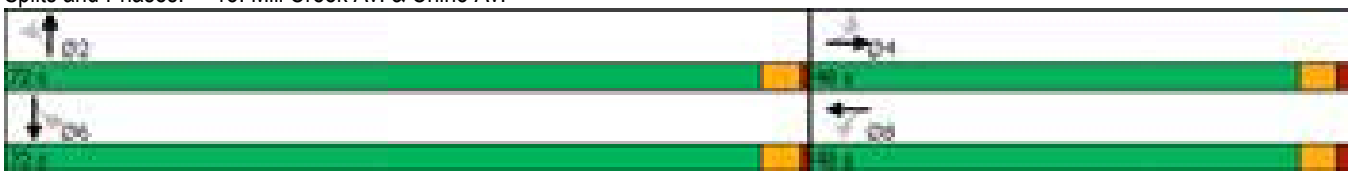
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	21.9	28.9		14.9	12.7	38.0				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		26.2	29.0	22.0		23.0	15.0	36.0				
Max Q Clear Time (g_c+I1), s		5.5	17.6	24.9		5.8	9.0	27.8				
Green Ext Time (p_c), s		0.2	0.3	0.0		0.5	0.1	4.3				

Intersection Summary												
HCM 6th Ctrl Delay			144.5									
HCM 6th LOS			F									

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	488	11	296	8	0	70	78
Future Volume (vph)	488	11	296	8	0	70	78
Turn Type	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	4		8		2		6
Permitted Phases		8		2		6	
Detector Phase	4	8	8	2	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	48.0	48.0	48.0	72.0	72.0	72.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	60.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	30.1	30.1	30.1	31.3	31.3	31.3	31.3
Actuated g/C Ratio	0.42	0.42	0.42	0.44	0.44	0.44	0.44
v/c Ratio	0.77	0.26	0.41	0.04	0.01	0.45	0.72
Control Delay	26.3	20.6	17.4	14.1	0.0	17.8	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	20.6	17.4	14.1	0.0	17.8	21.3
LOS	C	C	B	B	A	B	C
Approach Delay	26.3		17.8		7.5		20.2
Approach LOS	C		B		A		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 71.1	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 21.6	Intersection LOS: C
Intersection Capacity Utilization 55.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 18: Mill Creek Av. & Chino Av.



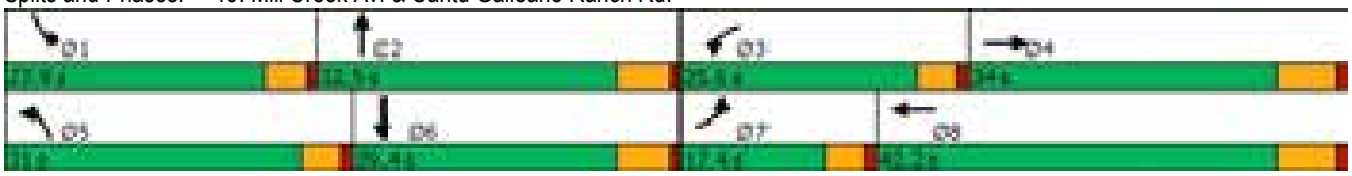


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	488	61	11	296	0	8	0	2	70	78	236
Future Volume (veh/h)	0	488	61	11	296	0	8	0	2	70	78	236
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	530	63	44	322	-40	9	0	-16	280	312	175
Peak Hour Factor	0.92	0.92	0.92	0.25	0.92	0.25	0.92	0.25	0.25	0.25	0.25	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	681	81	278	776	0	292	0	892	838	425	238
Arrive On Green	0.00	0.41	0.41	0.41	0.41	0.00	0.38	0.00	0.00	0.38	0.38	0.38
Sat Flow, veh/h	1097	1640	195	824	1870	0	909	1870	0	1781	1125	631
Grp Volume(v), veh/h	0	0	593	44	282	0	9	-16	-16	280	0	487
Grp Sat Flow(s),veh/h/ln	1097	0	1835	824	1870	0	909	1870	1585	1781	0	1757
Q Serve(g_s), s	0.0	0.0	12.1	2.1	4.5	0.0	0.4	0.0	0.0	5.0	0.0	10.4
Cycle Q Clear(g_c), s	0.0	0.0	12.1	14.2	4.5	0.0	10.7	0.0	0.0	5.0	0.0	10.4
Prop In Lane	1.00		0.11	1.00		0.00	1.00		0.00	1.00		0.36
Lane Grp Cap(c), veh/h	166	0	762	278	776	0	292	0	0	838	0	663
V/C Ratio(X)	0.00	0.00	0.78	0.16	0.36	0.00	0.03	0.00	0.00	0.33	0.00	0.73
Avail Cap(c_a), veh/h	812	0	1842	763	1877	0	1365	0	0	2941	0	2736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	11.0	17.1	8.7	0.0	16.2	0.0	0.0	10.0	0.0	11.6
Incr Delay (d2), s/veh	0.0	0.0	1.8	0.3	0.3	0.0	0.0	0.0	0.0	0.2	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.4	0.3	1.2	0.0	0.1	0.0	0.0	1.4	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	12.7	17.4	9.0	0.0	16.3	0.0	0.0	10.2	0.0	13.2
LnGrp LOS	A	A	B	B	A	A	B	A	A	B	A	B
Approach Vol, veh/h		593			326			-23			767	
Approach Delay, s/veh		12.7			10.1			0.0			12.1	
Approach LOS		B			B			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.9		22.5		20.9		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		67.5		43.5		67.5		43.5				
Max Q Clear Time (g_c+I1), s		12.7		14.1		12.4		16.2				
Green Ext Time (p_c), s		0.0		3.8		4.0		1.8				
Intersection Summary												
HCM 6th Ctrl Delay			12.1									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	3	1785	59	1526	14	1	99	14
Future Volume (vph)	3	1785	59	1526	14	1	99	14
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	23.5	9.6	23.5	9.6	27.8	9.6	27.8
Total Split (s)	17.4	34.0	25.6	42.2	31.0	32.5	27.9	29.4
Total Split (%)	14.5%	28.3%	21.3%	35.2%	25.8%	27.1%	23.3%	24.5%
Yellow Time (s)	3.6	5.5	3.6	5.5	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	5.2	30.8	7.4	38.9	5.6	12.1	9.3	21.6
Actuated g/C Ratio	0.07	0.40	0.10	0.51	0.07	0.16	0.12	0.28
v/c Ratio	0.03	0.96	0.37	0.64	0.12	0.14	0.50	0.11
Control Delay	40.3	39.9	42.2	18.0	40.6	12.0	42.8	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	39.9	42.2	18.0	40.6	12.0	42.8	10.6
LOS	D	D	D	B	D	B	D	B
Approach Delay		39.9		18.9		19.8		31.7
Approach LOS		D		B		B		C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 76.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 30.0	Intersection LOS: C
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 19: Mill Creek Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1785	27	59	1526	6	14	1	36	99	14	39
Future Volume (veh/h)	3	1785	27	59	1526	6	14	1	36	99	14	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	1940	-188	64	1659	-91	15	1	-91	108	15	-12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	2135	0	96	2389	0	33	0	353	140	303	0
Arrive On Green	0.00	0.42	0.00	0.05	0.47	0.00	0.02	0.10	0.00	0.08	0.16	0.00
Sat Flow, veh/h	1781	5274	0	1781	5274	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	3	1752	0	64	1568	0	15	-90	-90	108	3	0
Grp Sat Flow(s),veh/h/ln	1781	1702	0	1781	1702	0	1781	1870	1585	1781	1870	0
Q Serve(g_s), s	0.1	18.8	0.0	2.2	14.6	0.0	0.5	0.0	0.0	3.7	0.1	0.0
Cycle Q Clear(g_c), s	0.1	18.8	0.0	2.2	14.6	0.0	0.5	0.0	0.0	3.7	0.1	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	7	2135	0	96	2389	0	33	0	0	140	303	0
V/C Ratio(X)	0.41	0.82	0.00	0.67	0.66	0.00	0.46	0.00	0.00	0.77	0.01	0.00
Avail Cap(c_a), veh/h	369	2272	0	605	2949	0	761	0	0	672	714	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.7	15.9	0.0	28.7	12.6	0.0	30.0	0.0	0.0	27.9	21.7	0.0
Incr Delay (d2), s/veh	13.5	2.4	0.0	2.9	0.4	0.0	3.7	0.0	0.0	3.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.8	0.0	0.9	3.9	0.0	0.2	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.2	18.3	0.0	31.6	13.0	0.0	33.7	0.0	0.0	31.2	21.8	0.0
LnGrp LOS	D	B	A	C	B	A	C	A	A	C	C	A
Approach Vol, veh/h		1755			1632			-165			111	
Approach Delay, s/veh		18.4			13.7			0.0			31.0	
Approach LOS		B			B			A			C	

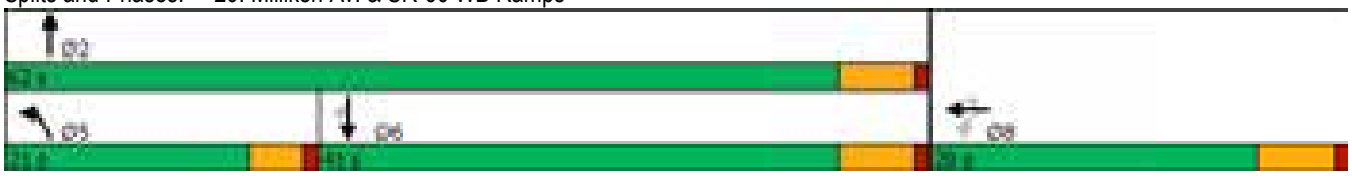
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	12.1	7.9	32.3	5.7	15.8	4.9	35.4
Change Period (Y+Rc), s	4.6	5.8	4.6	6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	23.3	26.7	21.0	27.5	26.4	23.6	12.8	35.7
Max Q Clear Time (g_c+I1), s	5.7	0.0	4.2	20.8	2.5	2.1	2.1	16.6
Green Ext Time (p_c), s	0.1	0.0	0.0	5.1	0.0	0.0	0.0	9.9

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	548	383	1374	1559	629
Future Volume (vph)	5	548	383	1374	1559	629
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	16.2	16.2	9.6	16.2	16.2	16.2
Total Split (s)	28.0	28.0	21.0	62.0	41.0	41.0
Total Split (%)	31.1%	31.1%	23.3%	68.9%	45.6%	45.6%
Yellow Time (s)	5.2	5.2	3.6	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	4.6	6.2	6.2	6.2
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	21.8	21.8	16.4	55.8	34.8	34.8
Actuated g/C Ratio	0.24	0.24	0.18	0.62	0.39	0.39
v/c Ratio	0.66	1.25	1.24	0.62	1.13	0.68
Control Delay	39.2	158.9	165.2	12.0	95.0	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	158.9	165.2	12.0	95.0	7.3
LOS	D	F	F	B	F	A
Approach Delay	119.2			45.4	69.8	
Approach LOS	F			D	E	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.25	
Intersection Signal Delay: 69.3	Intersection LOS: E
Intersection Capacity Utilization 107.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 20: Milliken Av. & SR-60 WB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	267	5	548	383	1374	0	0	1559	629
Future Volume (veh/h)	0	0	0	267	5	548	383	1374	0	0	1559	629
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				278	5	290	399	1431	0	0	1624	329
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				372	7	337	337	2411	0	0	1503	637
Arrive On Green				0.21	0.21	0.21	0.19	0.64	0.00	0.00	0.40	0.40
Sat Flow, veh/h				1751	31	1585	1781	3741	0	0	3741	1585
Grp Volume(v), veh/h				283	0	290	399	1431	0	0	1624	329
Grp Sat Flow(s),veh/h/ln				1783	0	1585	1781	1870	0	0	1870	1585
Q Serve(g_s), s				12.9	0.0	15.3	16.4	19.1	0.0	0.0	34.8	13.6
Cycle Q Clear(g_c), s				12.9	0.0	15.3	16.4	19.1	0.0	0.0	34.8	13.6
Prop In Lane				0.98		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				379	0	337	337	2411	0	0	1503	637
V/C Ratio(X)				0.75	0.00	0.86	1.18	0.59	0.00	0.00	1.08	0.52
Avail Cap(c_a), veh/h				449	0	399	337	2411	0	0	1503	637
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.9	0.0	32.9	35.1	8.9	0.0	0.0	25.9	19.5
Incr Delay (d2), s/veh				5.6	0.0	15.3	108.4	0.4	0.0	0.0	48.2	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.8	0.0	6.9	16.7	5.7	0.0	0.0	23.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.6	0.0	48.1	143.5	9.3	0.0	0.0	74.1	20.3
LnGrp LOS				D	A	D	F	A	A	A	F	C
Approach Vol, veh/h					573			1830			1953	
Approach Delay, s/veh					42.9			38.5			65.0	
Approach LOS					D			D			E	

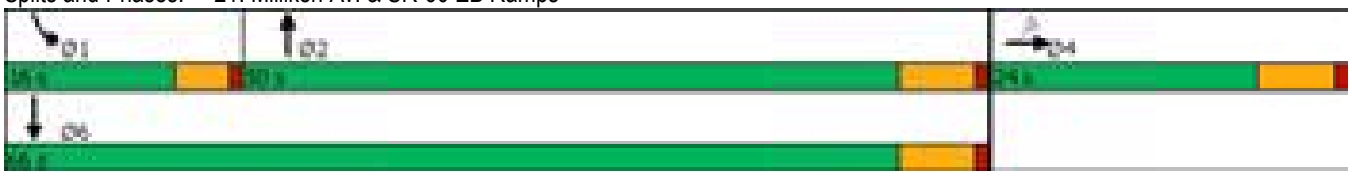
Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	62.0		21.0	41.0		24.6						
Change Period (Y+Rc), s	6.2		4.6	6.2		6.2						
Max Green Setting (Gmax), s	55.8		16.4	34.8		21.8						
Max Q Clear Time (g_c+I1), s	21.1		18.4	36.8		17.3						
Green Ext Time (p_c), s	12.5		0.0	0.0		1.1						

Intersection Summary		
HCM 6th Ctrl Delay		51.0
HCM 6th LOS		D

Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	319	5	1722	270	1698
Future Volume (vph)	319	5	1722	270	1698
Turn Type	Perm	NA	NA	Prot	NA
Protected Phases		4	2	1	6
Permitted Phases	4				
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	16.2	16.2	23.2	9.6	16.2
Total Split (s)	24.0	24.0	50.0	16.0	66.0
Total Split (%)	26.7%	26.7%	55.6%	17.8%	73.3%
Yellow Time (s)	5.2	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	6.2	4.6	6.2
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	17.8	17.8	43.8	11.4	59.8
Actuated g/C Ratio	0.20	0.20	0.49	0.13	0.66
v/c Ratio	0.85	1.21	1.21	1.25	0.71
Control Delay	58.9	149.8	123.4	181.1	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.4
Total Delay	58.9	149.8	123.4	181.1	12.2
LOS	E	F	F	F	B
Approach Delay		111.6	123.4		35.3
Approach LOS		F	F		D

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.25	
Intersection Signal Delay: 85.0	Intersection LOS: F
Intersection Capacity Utilization 107.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 21: Milliken Av. & SR-60 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	5	359	0	0	0	0	1722	352	270	1698	0
Future Volume (veh/h)	319	5	359	0	0	0	0	1722	352	270	1698	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	264	100	192				0	1794	185	281	1769	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	344	111	212				0	1636	166	227	2500	0
Arrive On Green	0.29	0.29	0.29				0.00	0.73	0.73	0.19	1.00	0.00
Sat Flow, veh/h	1781	573	1100				0	3342	338	1781	3741	0
Grp Volume(v), veh/h	264	0	292				0	990	990	281	1769	0
Grp Sat Flow(s),veh/h/ln	1781	0	1672				0	1870	1809	1781	1870	0
Q Serve(g_s), s	12.1	0.0	15.0				0.0	43.8	43.8	11.4	0.0	0.0
Cycle Q Clear(g_c), s	12.1	0.0	15.0				0.0	43.8	43.8	11.4	0.0	0.0
Prop In Lane	1.00		0.66				0.00		0.19	1.00		0.00
Lane Grp Cap(c), veh/h	344	0	323				0	916	886	227	2500	0
V/C Ratio(X)	0.77	0.00	0.90				0.00	1.08	1.12	1.24	0.71	0.00
Avail Cap(c_a), veh/h	354	0	333				0	916	886	227	2500	0
HCM Platoon Ratio	1.50	1.50	1.50				1.00	1.50	1.50	1.50	1.50	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.0	0.0	31.0				0.0	11.9	11.9	36.2	0.0	0.0
Incr Delay (d2), s/veh	9.5	0.0	26.5				0.0	54.0	67.7	138.9	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	7.4				0.0	19.4	22.2	13.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	0.0	57.5				0.0	65.8	79.6	175.1	0.9	0.0
LnGrp LOS	D	A	E				A	F	F	F	A	A
Approach Vol, veh/h		556						1979			2050	
Approach Delay, s/veh		48.9						72.7			24.8	
Approach LOS		D						E			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.0	50.0		23.5		66.0
Change Period (Y+Rc), s	4.6	6.2		6.2		6.2
Max Green Setting (Gmax), s	11.4	43.8		17.8		59.8
Max Q Clear Time (g_c+I1), s	13.4	45.8		17.0		2.0
Green Ext Time (p_c), s	0.0	0.0		0.2		21.0

Intersection Summary		
HCM 6th Ctrl Delay		48.4
HCM 6th LOS		D

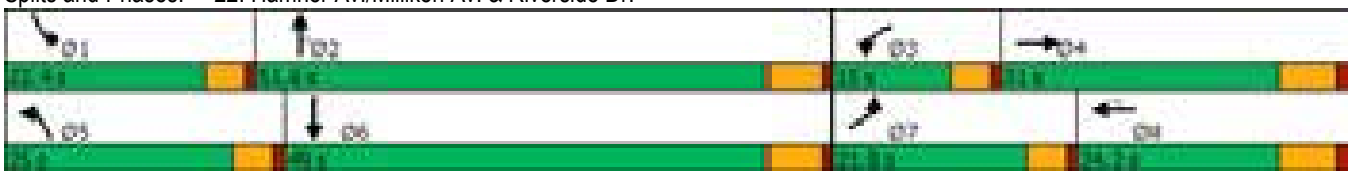
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	328	161	109	191	250	482	1443	59	257	1418
Future Volume (vph)	328	161	109	191	250	482	1443	59	257	1418
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2
Total Split (s)	21.8	31.0	15.0	24.2	24.2	25.0	51.6	51.6	22.4	49.0
Total Split (%)	18.2%	25.8%	12.5%	20.2%	20.2%	20.8%	43.0%	43.0%	18.7%	40.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)	17.2	24.8	10.1	17.7	17.7	20.4	45.4	45.4	17.8	42.8
Actuated g/C Ratio	0.14	0.21	0.08	0.15	0.15	0.17	0.38	0.38	0.15	0.36
v/c Ratio	1.52	1.29	0.86	0.77	0.59	1.88	1.20	0.10	1.15	1.72
Control Delay	292.0	183.4	102.1	69.3	11.4	439.0	130.0	0.3	152.4	354.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	292.0	183.4	102.1	69.3	11.4	439.0	130.0	0.3	152.4	354.7
LOS	F	F	F	E	B	F	F	A	F	F
Approach Delay		228.4		49.5			201.1			330.8
Approach LOS		F		D			F			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.88	
Intersection Signal Delay: 241.2	Intersection LOS: F
Intersection Capacity Utilization 142.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	161	303	109	191	250	482	1443	59	257	1418	504
Future Volume (veh/h)	328	161	303	109	191	250	482	1443	59	257	1418	504
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	345	169	278	115	201	225	507	1519	57	271	1493	517
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	124	204	137	266	225	271	1274	567	236	887	289
Arrive On Green	0.14	0.21	0.21	0.09	0.15	0.15	0.17	0.38	0.38	0.15	0.36	0.36
Sat Flow, veh/h	1594	597	982	1594	1772	1502	1594	3367	1500	1594	2487	809
Grp Volume(v), veh/h	345	0	447	115	201	225	507	1519	57	271	979	1031
Grp Sat Flow(s),veh/h/ln	1594	0	1578	1594	1772	1502	1594	1683	1500	1594	1683	1613
Q Serve(g_s), s	17.2	0.0	24.9	8.5	13.1	18.0	20.4	45.4	2.9	17.8	42.8	42.8
Cycle Q Clear(g_c), s	17.2	0.0	24.9	8.5	13.1	18.0	20.4	45.4	2.9	17.8	42.8	42.8
Prop In Lane	1.00		0.62	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	228	0	327	137	266	225	271	1274	567	236	600	575
V/C Ratio(X)	1.51	0.00	1.37	0.84	0.76	1.00	1.87	1.19	0.10	1.15	1.63	1.79
Avail Cap(c_a), veh/h	228	0	327	138	266	225	271	1274	567	236	600	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	0.0	47.6	54.0	48.9	51.0	49.8	37.3	24.1	51.1	38.6	38.6
Incr Delay (d2), s/veh	250.9	0.0	182.8	32.9	11.7	59.6	405.8	94.7	0.1	103.7	291.5	363.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.5	0.0	26.0	4.6	6.4	10.2	38.3	34.1	1.0	13.6	65.1	73.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	302.3	0.0	230.3	86.9	60.6	110.6	455.6	132.0	24.2	154.8	330.1	401.7
LnGrp LOS	F	A	F	F	E	F	F	F	C	F	F	F
Approach Vol, veh/h		792			541			2083			2281	
Approach Delay, s/veh		261.7			87.0			207.8			341.6	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.4	51.6	14.9	31.1	25.0	49.0	21.8	24.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.8	45.4	10.4	24.8	20.4	42.8	17.2	18.0
Max Q Clear Time (g_c+I1), s	19.8	47.4	10.5	26.9	22.4	44.8	19.2	20.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	257.4
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	0	1905	1855	10
Future Vol, veh/h	1	0	0	1905	1855	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	0	2093	2038	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3091	2044	2049	0	-	0
Stage 1	2044	-	-	-	-	-
Stage 2	1047	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	11	70	272	-	-	-
Stage 1	108	-	-	-	-	-
Stage 2	300	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	11	70	272	-	-	-
Mov Cap-2 Maneuver	95	-	-	-	-	-
Stage 1	108	-	-	-	-	-
Stage 2	300	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	43.3	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	272	-	95	-	-
HCM Lane V/C Ratio	-	-	0.012	-	-
HCM Control Delay (s)	0	-	43.3	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	831	1593	451	1637	352	362	466	356	611	826	774
Future Volume (vph)	831	1593	451	1637	352	362	466	356	611	826	774
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	11.0	51.0	11.0	51.0	51.0	11.0	48.0	48.0	10.0	47.0	47.0
Total Split (%)	9.2%	42.5%	9.2%	42.5%	42.5%	9.2%	40.0%	40.0%	8.3%	39.2%	39.2%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	44.5	6.4	44.5	44.5	6.4	41.8	41.8	5.4	40.8	40.8
Actuated g/C Ratio	0.05	0.37	0.05	0.37	0.37	0.05	0.35	0.35	0.04	0.34	0.34
v/c Ratio	4.73	0.89	2.57	1.30	0.51	2.06	0.27	0.59	4.13	0.71	1.30
Control Delay	1704.4	40.3	744.4	173.5	14.2	523.8	28.7	24.9	1438.1	38.6	175.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1704.4	40.3	744.4	173.5	14.2	523.8	28.7	24.9	1438.1	38.6	175.9
LOS	F	D	F	F	B	F	C	C	F	D	F
Approach Delay		528.5		256.0			178.9			473.3	
Approach LOS		F		F			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.73	
Intersection Signal Delay: 390.0	Intersection LOS: F
Intersection Capacity Utilization 120.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	831	1593	410	451	1637	352	362	466	356	611	826	774
Future Volume (veh/h)	831	1593	410	451	1637	352	362	466	356	611	826	774
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	866	1659	219	470	1705	263	377	485	189	636	860	624
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	2148	284	184	1318	588	184	1779	552	156	1208	539
Arrive On Green	0.05	0.37	0.37	0.05	0.37	0.37	0.05	0.35	0.35	0.05	0.34	0.34
Sat Flow, veh/h	3456	5794	765	3456	3554	1585	3456	5106	1585	3456	3554	1585
Grp Volume(v), veh/h	866	1382	496	470	1705	263	377	485	189	636	860	624
Grp Sat Flow(s),veh/h/ln	1728	1609	1733	1728	1777	1585	1728	1702	1585	1728	1777	1585
Q Serve(g_s), s	6.4	30.3	30.3	6.4	44.5	15.0	6.4	8.2	10.6	5.4	25.3	40.8
Cycle Q Clear(g_c), s	6.4	30.3	30.3	6.4	44.5	15.0	6.4	8.2	10.6	5.4	25.3	40.8
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	1789	643	184	1318	588	184	1779	552	156	1208	539
V/C Ratio(X)	4.70	0.77	0.77	2.55	1.29	0.45	2.05	0.27	0.34	4.09	0.71	1.16
Avail Cap(c_a), veh/h	184	1789	643	184	1318	588	184	1779	552	156	1208	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	33.3	33.3	56.8	37.8	28.5	56.8	28.2	28.9	57.3	34.5	39.6
Incr Delay (d2), s/veh	1676.7	2.1	5.8	713.3	138.0	0.5	488.9	0.1	0.4	1405.6	2.0	90.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	45.6	11.3	12.8	20.9	43.0	5.4	15.2	3.2	3.9	32.6	10.7	28.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1733.5	35.4	39.1	770.1	175.7	29.0	545.7	28.2	29.3	1462.9	36.5	129.9
LnGrp LOS	F	D	D	F	F	C	F	C	C	F	D	F
Approach Vol, veh/h		2744			2438			1051			2120	
Approach Delay, s/veh		572.0			274.5			214.0			491.9	
Approach LOS		F			F			F			F	

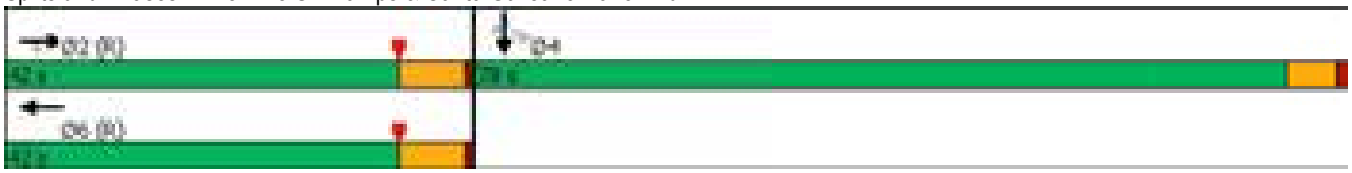
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	48.0	11.0	51.0	11.0	47.0	11.0	51.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	5.4	41.8	6.4	44.5	6.4	40.8	6.4	44.5
Max Q Clear Time (g_c+I1), s	7.4	12.6	8.4	32.3	8.4	42.8	8.4	46.5
Green Ext Time (p_c), s	0.0	3.7	0.0	8.3	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	419.8
HCM 6th LOS	F

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1901	400	1236	504	352	1	1572
Future Volume (vph)	1901	400	1236	504	352	1	1572
Turn Type	NA	Perm	NA	Free	Perm	NA	Perm
Protected Phases	2		6			4	
Permitted Phases		2		Free	4		4
Detector Phase	2	2	6		4	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	42.0	42.0	42.0		78.0	78.0	78.0
Total Split (%)	35.0%	35.0%	35.0%		65.0%	65.0%	65.0%
Yellow Time (s)	5.8	5.8	5.8		4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8	6.8		5.5	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min		Min	Min	Min
Act Effct Green (s)	35.2	35.2	35.2	120.0	72.5	72.5	72.5
Actuated g/C Ratio	0.29	0.29	0.29	1.00	0.60	0.60	0.60
v/c Ratio	1.39	0.67	1.29	0.20	0.34	1.00	0.95
Control Delay	211.9	19.3	176.5	0.1	13.0	55.0	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.2	35.5	0.0
Total Delay	211.9	19.3	176.5	0.1	13.2	90.4	41.3
LOS	F	B	F	A	B	F	D
Approach Delay	178.4		125.4			57.2	
Approach LOS	F		F			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 113.2 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.39	
Intersection Signal Delay: 123.8	Intersection LOS: F
Intersection Capacity Utilization 109.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 25: I-15 SB Ramps & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1901	400	0	1236	504	0	0	0	352	1	1572
Future Volume (veh/h)	0	1901	400	0	1236	504	0	0	0	352	1	1572
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	2066	0	0	1343	0				256	0	1194
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2421		0	1685					754	0	1342
Arrive On Green	0.00	0.47	0.00	0.00	0.95	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	5274	1585	0	3647	2790				1781	0	3170
Grp Volume(v), veh/h	0	2066	0	0	1343	0				256	0	1194
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1777	1395				1781	0	1585
Q Serve(g_s), s	0.0	42.9	0.0	0.0	9.6	0.0				11.6	0.0	41.8
Cycle Q Clear(g_c), s	0.0	42.9	0.0	0.0	9.6	0.0				11.6	0.0	41.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2421		0	1685					754	0	1342
V/C Ratio(X)	0.00	0.85		0.00	0.80					0.34	0.00	0.89
Avail Cap(c_a), veh/h	0	2421		0	1685					1076	0	1915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.39	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	27.9	0.0	0.0	1.9	0.0				23.3	0.0	32.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	1.6	0.0				0.3	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.7	0.0	0.0	1.3	0.0				4.7	0.0	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	28.3	0.0	0.0	3.5	0.0				23.6	0.0	36.1
LnGrp LOS	A	C		A	A					C	A	D
Approach Vol, veh/h		2066	A		1343	A					1450	
Approach Delay, s/veh		28.3			3.5						33.9	
Approach LOS		C			A						C	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		63.7		56.3		63.7						
Change Period (Y+Rc), s		6.8		5.5		6.8						
Max Green Setting (Gmax), s		35.2		72.5		35.2						
Max Q Clear Time (g_c+I1), s		44.9		43.8		11.6						
Green Ext Time (p_c), s		0.0		7.0		9.5						

Intersection Summary		
HCM 6th Ctrl Delay		23.1
HCM 6th LOS		C

Notes

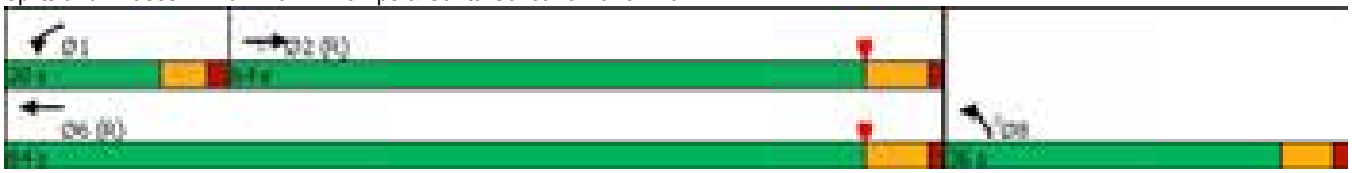
User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	929	1424	265	692	998	186
Future Volume (vph)	929	1424	265	692	998	186
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	61.3	61.3	11.0	22.5	22.5	22.5
Total Split (s)	64.0	64.0	20.0	84.0	36.0	36.0
Total Split (%)	53.3%	53.3%	16.7%	70.0%	30.0%	30.0%
Yellow Time (s)	5.8	5.8	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	7.3	6.0	7.3	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	57.3	57.3	13.4	76.7	30.0	30.0
Actuated g/C Ratio	0.48	0.48	0.11	0.64	0.25	0.25
v/c Ratio	0.42	1.35	0.75	0.23	1.29	0.39
Control Delay	12.2	185.5	64.6	9.4	175.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	185.6	64.6	9.4	175.2	12.1
LOS	B	F	E	A	F	B
Approach Delay	117.1			24.7	152.1	
Approach LOS	F			C	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.35	
Intersection Signal Delay: 106.7	Intersection LOS: F
Intersection Capacity Utilization 106.8%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 26: I-15 NB Ramps & Cantu Galleano Ranch Rd.





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	929	1424	265	692	998	186
Future Volume (veh/h)	929	1424	265	692	998	186
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1010	733	288	752	1085	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2497	775	346	3264	891	396
Arrive On Green	0.82	0.82	0.10	0.64	0.25	0.25
Sat Flow, veh/h	5274	1585	3456	5274	3563	1585
Grp Volume(v), veh/h	1010	733	288	752	1085	120
Grp Sat Flow(s),veh/h/ln	1702	1585	1728	1702	1781	1585
Q Serve(g_s), s	6.5	44.7	9.8	7.5	30.0	7.4
Cycle Q Clear(g_c), s	6.5	44.7	9.8	7.5	30.0	7.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2497	775	346	3264	891	396
V/C Ratio(X)	0.40	0.95	0.83	0.23	1.22	0.30
Avail Cap(c_a), veh/h	2497	775	403	3264	891	396
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh	6.2	9.7	53.0	9.2	45.0	36.5
Incr Delay (d2), s/veh	0.0	3.2	10.5	0.1	108.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.8	4.6	2.4	26.1	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.3	13.0	63.4	9.3	153.4	36.9
LnGrp LOS	A	B	E	A	F	D
Approach Vol, veh/h	1743			1040	1205	
Approach Delay, s/veh	9.1			24.3	141.8	
Approach LOS	A			C	F	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	18.0	66.0				84.0	36.0
Change Period (Y+Rc), s	6.0	7.3				7.3	6.0
Max Green Setting (Gmax), s	14.0	56.7				76.7	30.0
Max Q Clear Time (g_c+I1), s	11.8	46.7				9.5	32.0
Green Ext Time (p_c), s	0.2	6.1				5.1	0.0

Intersection Summary		
HCM 6th Ctrl Delay		53.2
HCM 6th LOS		D

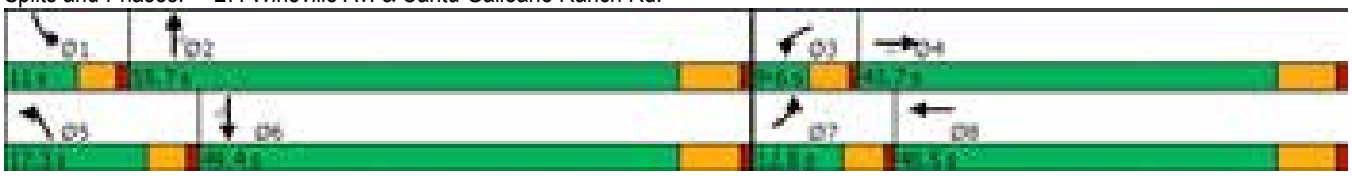
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	140	482	387	32	449	235	112	56	35	205	266
Future Volume (vph)	140	482	387	32	449	235	112	56	35	205	266
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	40.5	40.5	9.6	40.5	9.6	48.5	48.5	9.6	48.5	48.5
Total Split (s)	12.8	43.7	43.7	9.6	40.5	17.3	55.7	55.7	11.0	49.4	49.4
Total Split (%)	10.7%	36.4%	36.4%	8.0%	33.8%	14.4%	46.4%	46.4%	9.2%	41.2%	41.2%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	7.7	25.0	25.0	5.4	15.5	10.1	26.3	26.3	6.1	17.2	17.2
Actuated g/C Ratio	0.10	0.34	0.34	0.07	0.21	0.14	0.35	0.35	0.08	0.23	0.23
v/c Ratio	0.43	0.24	0.52	0.14	0.50	0.55	0.10	0.10	0.26	0.52	0.55
Control Delay	40.8	20.6	5.5	42.5	27.9	38.9	19.0	0.4	45.0	29.9	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	20.6	5.5	42.5	27.9	38.9	19.0	0.4	45.0	29.9	12.7
LOS	D	C	A	D	C	D	B	A	D	C	B
Approach Delay		17.6			28.8		28.0			21.9	
Approach LOS		B			C		C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 74.4	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 22.6	Intersection LOS: C
Intersection Capacity Utilization 53.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 27: Wineville Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	482	387	32	449	35	235	112	56	35	205	266
Future Volume (veh/h)	140	482	387	32	449	35	235	112	56	35	205	266
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	524	283	35	488	28	255	122	35	38	223	224
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	1714	422	129	1108	63	375	957	427	71	375	318
Arrive On Green	0.08	0.27	0.27	0.04	0.22	0.22	0.11	0.27	0.27	0.04	0.20	0.20
Sat Flow, veh/h	3456	6434	1585	3456	4942	281	3456	3554	1585	1781	1870	1585
Grp Volume(v), veh/h	152	524	283	35	335	181	255	122	35	38	223	224
Grp Sat Flow(s),veh/h/ln	1728	1609	1585	1728	1702	1820	1728	1777	1585	1781	1870	1585
Q Serve(g_s), s	2.4	3.7	9.1	0.6	4.8	4.9	4.1	1.5	0.9	1.2	6.2	7.5
Cycle Q Clear(g_c), s	2.4	3.7	9.1	0.6	4.8	4.9	4.1	1.5	0.9	1.2	6.2	7.5
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	1714	422	129	763	408	375	957	427	71	375	318
V/C Ratio(X)	0.55	0.31	0.67	0.27	0.44	0.44	0.68	0.13	0.08	0.54	0.60	0.71
Avail Cap(c_a), veh/h	495	4179	1029	302	2021	1080	766	3053	1362	199	1401	1187
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	16.8	18.8	26.8	19.1	19.1	24.6	15.8	15.6	27.0	20.8	21.3
Incr Delay (d2), s/veh	0.6	0.1	1.9	0.4	0.4	0.8	0.8	0.1	0.1	2.4	1.5	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.1	2.8	0.2	1.6	1.8	1.5	0.5	0.3	0.5	2.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	16.9	20.6	27.2	19.5	19.9	25.4	15.9	15.7	29.4	22.3	24.2
LnGrp LOS	C	B	C	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		959			551			412			485	
Approach Delay, s/veh		19.4			20.1			21.8			23.7	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	21.9	6.7	21.8	10.8	18.0	9.2	19.3
Change Period (Y+Rc), s	4.6	6.5	4.6	6.5	4.6	6.5	4.6	6.5
Max Green Setting (Gmax), s	6.4	49.2	5.0	37.2	12.7	42.9	8.2	34.0
Max Q Clear Time (g_c+I1), s	3.2	3.5	2.6	11.1	6.1	9.5	4.4	6.9
Green Ext Time (p_c), s	0.0	0.8	0.0	4.1	0.3	1.9	0.1	2.8

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

APPENDIX 7.3: HORIZON YEAR (2050) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	354	340	329	998	1366	573	198
v/c Ratio	0.89	0.83	0.76	0.76	0.42	0.46	0.42
Control Delay	59.5	44.4	35.4	26.7	3.5	32.2	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	44.4	35.4	26.7	3.5	32.2	6.5
Queue Length 50th (ft)	194	151	120	291	36	87	0
Queue Length 95th (ft)	#421	#363	#302	#475	32	86	43
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	398	410	431	1311	3457	2435	724
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.83	0.76	0.76	0.40	0.24	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	373	357	343	2028	754	197	927
v/c Ratio	0.80	0.72	0.68	0.69	0.67	0.66	0.31
Control Delay	43.0	27.2	25.4	21.4	4.8	58.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	27.2	25.4	21.4	4.8	58.6	1.9
Queue Length 50th (ft)	196	126	111	274	0	48	24
Queue Length 95th (ft)	305	235	210	320	67	m71	m16
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	526	545	548	2951	1125	309	3011
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.66	0.63	0.69	0.67	0.64	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	552	556	905	442	2256	1144	515
v/c Ratio	1.01	1.01	0.57	0.88	0.86	0.75	0.62
Control Delay	69.4	70.2	1.5	36.9	18.7	27.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	70.2	1.5	36.9	18.7	27.2	5.9
Queue Length 50th (ft)	~271	~275	0	118	269	174	0
Queue Length 95th (ft)	75	#487	0	m103	m239	222	67
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	546	548	1583	503	2617	1533	830
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	1.01	0.57	0.88	0.86	0.75	0.62

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	458	464	124	2355	414	1016
v/c Ratio	0.93	0.94	0.23	1.25	1.12	0.37
Control Delay	53.9	55.4	5.9	142.2	100.2	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	55.4	5.9	142.2	100.2	9.7
Queue Length 50th (ft)	215	218	2	~505	~124	100
Queue Length 95th (ft)	#397	#403	37	#602	m#161	m129
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	497	499	552	1880	371	2774
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.93	0.22	1.25	1.12	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	12	691	473	1659	885	324
v/c Ratio	0.02	1.14	1.03	0.90	1.20	0.55
Control Delay	19.8	109.5	84.2	28.0	135.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	109.5	84.2	28.0	135.2	7.7
Queue Length 50th (ft)	4	~428	~290	424	~324	0
Queue Length 95th (ft)	16	#645	#477	#564	#444	68
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	619	604	460	1840	739	586
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	1.14	1.03	0.90	1.20	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	491	644	1987	106	761
v/c Ratio	0.98	1.10	1.32	0.75	0.38
Control Delay	68.6	91.6	171.9	73.0	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	68.6	91.6	171.9	73.0	11.6
Queue Length 50th (ft)	290	~358	~776	60	117
Queue Length 95th (ft)	#503	#581	#917	#143	156
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	501	585	1511	145	2002
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.98	1.10	1.32	0.73	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1465	193	743	391	306	836	834
v/c Ratio	1.11	0.36	0.86	0.14	0.54	0.98	0.95
Control Delay	101.4	10.6	49.8	0.1	37.1	39.5	34.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.4	10.6	49.8	0.1	37.1	39.5	34.6
Queue Length 50th (ft)	~474	19	208	0	205	319	287
Queue Length 95th (ft)	#571	80	317	m0	307	#659	#612
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1322	529	920	2787	567	857	876
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.11	0.36	0.81	0.14	0.54	0.98	0.95

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	607	1068	275	551	700	324
v/c Ratio	0.24	0.90	0.77	0.16	0.86	0.56
Control Delay	22.5	32.5	67.7	8.3	52.8	7.9
Queue Delay	0.0	46.9	0.0	0.0	0.0	0.0
Total Delay	22.5	79.4	67.7	8.3	52.8	7.9
Queue Length 50th (ft)	68	455	107	58	247	0
Queue Length 95th (ft)	m57	m411	#174	75	319	82
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2569	1189	360	3343	871	603
Starvation Cap Reductn	0	256	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	1.14	0.76	0.16	0.80	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	268	260	195	664	730	1994	398
v/c Ratio	0.83	0.84	0.44	0.93	0.21	0.75	0.49
Control Delay	58.0	58.5	8.1	50.3	0.4	24.8	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	58.5	8.1	50.3	0.4	24.8	8.4
Queue Length 50th (ft)	153	152	0	206	2	279	44
Queue Length 95th (ft)	#282	#290	57	#301	2	326	120
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	339	327	459	724	3456	2665	810
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.80	0.42	0.92	0.21	0.75	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	123	300	297	1244	675	669	1659
v/c Ratio	0.37	0.94	0.81	0.47	0.71	0.90	0.49
Control Delay	34.7	69.6	43.8	20.3	9.7	56.5	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	69.6	43.8	20.3	9.7	56.5	2.0
Queue Length 50th (ft)	64	162	124	149	55	181	21
Queue Length 95th (ft)	117	#336	#264	181	189	m#286	33
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	339	324	369	2634	951	762	3416
Starvation Cap Reductn	0	0	0	0	0	0	253
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.93	0.80	0.47	0.71	0.88	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	208	205	710	271	1265	2278	879
v/c Ratio	0.75	0.73	0.45	0.76	0.36	0.83	0.76
Control Delay	52.2	51.0	0.9	39.1	8.6	21.0	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	51.0	0.9	39.1	8.6	21.0	9.0
Queue Length 50th (ft)	117	115	0	85	142	390	63
Queue Length 95th (ft)	#195	191	0	m97	m155	465	241
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	321	322	1583	360	3563	2752	1151
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.64	0.45	0.75	0.36	0.83	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	220	223	430	1566	770	2028
v/c Ratio	0.58	0.59	1.00	0.95	0.86	0.62
Control Delay	38.3	38.5	71.1	43.9	51.0	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	38.3	38.5	71.1	43.9	51.0	6.7
Queue Length 50th (ft)	117	120	196	~317	221	112
Queue Length 95th (ft)	196	198	#392	#431	m274	163
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	377	378	432	1640	953	3265
Starvation Cap Reductn	0	0	0	0	0	220
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.59	1.00	0.95	0.81	0.67

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	274	571	456	1472	1718	655
v/c Ratio	0.78	1.47	1.04	0.63	1.33	0.73
Control Delay	51.3	249.9	87.8	10.2	182.5	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.3	249.9	87.8	10.2	182.5	11.3
Queue Length 50th (ft)	149	~407	~282	223	~675	60
Queue Length 95th (ft)	#269	#611	#466	284	#811	200
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	351	389	440	2351	1289	895
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	1.47	1.04	0.63	1.33	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	299	454	2242	281	1853
v/c Ratio	0.68	1.11	1.81	0.83	0.88
Control Delay	39.2	110.8	391.8	54.7	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.6
Total Delay	39.2	110.8	391.8	54.7	21.4
Queue Length 50th (ft)	163	~313	~1035	151	415
Queue Length 95th (ft)	#263	#512	#1183	#262	533
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	437	408	1237	391	2213
Starvation Cap Reductn	0	0	0	0	104
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	1.11	1.81	0.72	0.88

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	2140	433	1305	548	345	908	905
v/c Ratio	1.44	0.67	1.26	0.20	0.34	1.04	0.98
Control Delay	233.0	20.2	161.7	0.1	13.0	65.3	48.7
Queue Delay	0.0	0.0	0.0	0.0	0.2	24.9	0.0
Total Delay	233.0	20.2	161.7	0.1	13.2	90.2	48.7
Queue Length 50th (ft)	~823	117	~681	0	131	~832	660
Queue Length 95th (ft)	#918	237	m#633	m0	192	#1108	#1004
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1491	646	1038	2787	1015	875	922
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	11	0	0	0	216	185	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.45	0.67	1.26	0.20	0.43	1.32	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1016	1605	288	774	1046	182
v/c Ratio	0.42	1.40	0.75	0.24	1.22	0.38
Control Delay	12.1	207.5	64.6	9.4	147.1	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	207.5	64.6	9.4	147.1	11.1
Queue Length 50th (ft)	76	~685	112	86	~513	18
Queue Length 95th (ft)	m59	m#707	160	107	#646	86
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2428	1150	400	3250	860	475
Starvation Cap Reductn	0	6	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	1.40	0.72	0.24	1.22	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.4: HORIZON YEAR (2050) WITH PROJECT CONDITIONS

OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	354	340	329	998	1333	576	198
v/c Ratio	0.89	0.82	0.77	0.76	0.41	0.46	0.42
Control Delay	60.0	43.1	35.5	26.9	3.5	32.1	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	43.1	35.5	26.9	3.5	32.1	6.5
Queue Length 50th (ft)	194	148	120	291	36	87	0
Queue Length 95th (ft)	#421	#358	#302	#474	32	86	43
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	397	414	430	1311	3457	2435	724
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.82	0.77	0.76	0.39	0.24	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	373	357	343	1992	754	197	929
v/c Ratio	0.80	0.72	0.69	0.68	0.67	0.66	0.31
Control Delay	43.0	27.3	25.5	21.1	4.8	58.8	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	27.3	25.5	21.1	4.8	58.8	1.9
Queue Length 50th (ft)	196	126	112	267	0	49	23
Queue Length 95th (ft)	305	235	210	312	67	m71	m17
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	526	544	547	2951	1125	309	3011
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.66	0.63	0.68	0.67	0.64	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	552	556	905	383	2289	1233	515
v/c Ratio	1.01	1.01	0.57	0.79	0.87	0.79	0.62
Control Delay	69.4	70.2	1.5	34.4	18.9	28.5	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	70.2	1.5	34.4	18.9	28.5	5.8
Queue Length 50th (ft)	~271	~275	0	102	274	192	0
Queue Length 95th (ft)	75	#487	0	m88	m246	244	67
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	546	548	1583	503	2617	1556	835
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	1.01	0.57	0.76	0.87	0.79	0.62

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	458	464	213	2329	414	1106
v/c Ratio	0.93	0.94	0.39	1.24	1.12	0.40
Control Delay	53.9	55.4	12.0	135.9	99.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	55.4	12.0	135.9	99.5	10.2
Queue Length 50th (ft)	215	218	32	~495	~124	109
Queue Length 95th (ft)	#397	#403	86	#592	m#154	m142
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	497	499	552	1881	371	2774
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.93	0.39	1.24	1.12	0.40

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	157	691	466	1620	934	324
v/c Ratio	0.26	1.14	1.01	0.88	1.26	0.55
Control Delay	22.8	109.5	80.4	26.3	161.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	109.5	80.4	26.3	161.8	7.7
Queue Length 50th (ft)	64	~428	~271	406	~355	0
Queue Length 95th (ft)	112	#645	#468	518	#476	68
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	608	604	460	1840	739	586
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	1.14	1.01	0.88	1.26	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	491	556	2019	106	957
v/c Ratio	0.98	1.04	1.34	0.75	0.48
Control Delay	68.6	75.4	182.2	73.0	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	68.6	75.4	182.2	73.0	12.7
Queue Length 50th (ft)	290	~309	~796	60	159
Queue Length 95th (ft)	#503	#522	#936	#143	207
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	501	536	1508	145	2002
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.98	1.04	1.34	0.73	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1532	405	952	391	306	861	860
v/c Ratio	0.83	0.50	0.74	0.14	0.34	1.09	1.05
Control Delay	39.8	5.9	45.8	0.1	17.4	85.9	71.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	5.9	45.8	0.1	17.4	85.9	71.7
Queue Length 50th (ft)	389	14	380	0	137	~818	~756
Queue Length 95th (ft)	452	85	m427	m0	205	#1093	#1018
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1872	821	1303	2787	900	792	822
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.49	0.73	0.14	0.34	1.09	1.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	605	1149	275	585	822	377
v/c Ratio	0.25	0.99	0.76	0.18	0.95	0.59
Control Delay	11.8	47.0	66.8	9.0	64.9	8.1
Queue Delay	0.0	5.8	0.0	0.0	0.0	0.0
Total Delay	11.8	52.8	66.8	9.0	64.9	8.1
Queue Length 50th (ft)	41	538	108	62	317	3
Queue Length 95th (ft)	m76	m#775	#162	79	#444	96
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2460	1164	371	3250	861	639
Starvation Cap Reductn	0	28	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	1.01	0.74	0.18	0.95	0.59

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	268	260	195	664	699	1940	398
v/c Ratio	0.83	0.84	0.44	0.93	0.20	0.73	0.49
Control Delay	58.0	58.5	8.1	50.2	0.4	24.3	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	58.5	8.1	50.2	0.4	24.3	8.1
Queue Length 50th (ft)	153	152	0	205	2	268	41
Queue Length 95th (ft)	#282	#290	57	m#299	m2	314	116
Internal Link Dist (ft)		1312			387	822	
Turn Bay Length (ft)	360		360				125
Base Capacity (vph)	339	327	459	724	3456	2665	814
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.80	0.42	0.92	0.20	0.73	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	123	300	297	1214	675	669	1605
v/c Ratio	0.37	0.93	0.82	0.46	0.71	0.90	0.47
Control Delay	34.8	68.1	44.2	20.1	9.7	56.8	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	68.1	44.2	20.1	9.7	56.8	1.9
Queue Length 50th (ft)	64	160	124	144	55	180	20
Queue Length 95th (ft)	117	#331	#264	175	189	m#286	24
Internal Link Dist (ft)		1366		1177			387
Turn Bay Length (ft)	325		325		250		
Base Capacity (vph)	339	327	369	2641	952	762	3421
Starvation Cap Reductn	0	0	0	0	0	0	268
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.92	0.80	0.46	0.71	0.88	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	208	205	710	184	1275	2270	879
v/c Ratio	0.75	0.73	0.45	0.58	0.36	0.81	0.75
Control Delay	52.2	51.0	0.9	35.4	8.1	19.9	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.2	51.0	0.9	35.4	8.1	19.9	8.2
Queue Length 50th (ft)	117	115	0	58	128	380	55
Queue Length 95th (ft)	#195	191	0	m73	172	461	219
Internal Link Dist (ft)		1155			514	1331	
Turn Bay Length (ft)	240			150			
Base Capacity (vph)	321	322	1583	344	3563	2811	1172
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.64	0.45	0.53	0.36	0.81	0.75

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	220	223	268	1491	770	2020
v/c Ratio	0.70	0.71	0.71	0.82	0.85	0.58
Control Delay	45.9	46.3	31.7	31.3	52.1	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	45.9	46.3	31.7	31.3	52.1	5.8
Queue Length 50th (ft)	122	124	88	284	224	111
Queue Length 95th (ft)	196	198	169	#395	279	163
Internal Link Dist (ft)		944		581		514
Turn Bay Length (ft)	620		285		125	
Base Capacity (vph)	377	378	432	1813	960	3453
Starvation Cap Reductn	0	0	0	0	0	243
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.59	0.62	0.82	0.80	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	283	571	399	1431	1624	655
v/c Ratio	0.80	1.46	0.93	0.61	1.25	0.71
Control Delay	52.7	245.6	64.3	10.0	146.0	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	245.6	64.3	10.0	146.0	9.9
Queue Length 50th (ft)	155	~407	220	213	~615	48
Queue Length 95th (ft)	#283	#611	#389	271	#751	177
Internal Link Dist (ft)	1742			616	1566	
Turn Bay Length (ft)			75			
Base Capacity (vph)	354	392	444	2373	1301	917
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	1.46	0.90	0.60	1.25	0.71

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	299	412	2161	281	1769
v/c Ratio	0.68	1.00	1.75	0.83	0.84
Control Delay	39.0	77.7	365.1	54.6	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.3
Total Delay	39.0	77.7	365.1	54.6	19.0
Queue Length 50th (ft)	161	~243	~980	150	377
Queue Length 95th (ft)	#263	#447	#1131	#262	483
Internal Link Dist (ft)		1522	1450		616
Turn Bay Length (ft)				95	
Base Capacity (vph)	438	412	1234	392	2218
Starvation Cap Reductn	0	0	0	0	103
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	1.00	1.75	0.72	0.84

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	2066	435	1343	548	345	876	872
v/c Ratio	1.39	0.67	1.29	0.20	0.34	1.00	0.95
Control Delay	211.9	19.3	176.5	0.1	13.0	55.0	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.2	35.5	0.0
Total Delay	211.9	19.3	176.5	0.1	13.2	90.4	41.3
Queue Length 50th (ft)	~779	111	~714	0	131	700	601
Queue Length 95th (ft)	#875	231	m#625	m0	192	#1049	#945
Internal Link Dist (ft)	1972		847			2051	
Turn Bay Length (ft)				180			
Base Capacity (vph)	1491	653	1038	2787	1015	876	922
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	6	0	0	0	179	154	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	0.67	1.29	0.20	0.41	1.21	0.95

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1010	1548	288	752	1105	182
v/c Ratio	0.42	1.35	0.75	0.23	1.29	0.39
Control Delay	12.2	185.5	64.6	9.4	175.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	185.6	64.6	9.4	175.2	12.1
Queue Length 50th (ft)	78	~617	112	83	~564	24
Queue Length 95th (ft)	m62	m#694	160	103	#699	93
Internal Link Dist (ft)	847			2104	1664	
Turn Bay Length (ft)			255			
Base Capacity (vph)	2428	1150	400	3250	859	469
Starvation Cap Reductn	0	6	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	1.35	0.72	0.23	1.29	0.39

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.5: HORIZON YEAR (2050) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	203	719	276	174	669	318	386	1739	265	744
Future Volume (vph)	203	719	276	174	669	318	386	1739	265	744
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	18.0	38.8	38.8	17.4	38.2	38.2	23.8	49.8	14.0	40.0
Total Split (%)	15.0%	32.3%	32.3%	14.5%	31.8%	31.8%	19.8%	41.5%	11.7%	33.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.4	30.5	30.5	12.8	29.9	29.9	17.9	43.6	9.4	35.1
Actuated g/C Ratio	0.11	0.26	0.26	0.11	0.25	0.25	0.15	0.37	0.08	0.30
v/c Ratio	1.18	0.86	0.49	1.06	0.82	0.66	0.86	1.14	1.13	0.70
Control Delay	168.4	53.2	8.3	135.6	50.5	25.7	67.8	105.0	145.8	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	168.4	53.2	8.3	135.6	50.5	25.7	67.8	105.0	145.8	38.2
LOS	F	D	A	F	D	C	E	F	F	D
Approach Delay		62.3			56.4			98.8		61.5
Approach LOS		E			E			F		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 75.3	Intersection LOS: E
Intersection Capacity Utilization 99.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	719	276	174	669	318	386	1739	190	265	744	211
Future Volume (veh/h)	203	719	276	174	669	318	386	1739	190	265	744	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	211	749	132	181	697	170	402	1811	104	276	775	111
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	838	368	172	821	360	448	1720	99	245	1348	192
Arrive On Green	0.17	0.37	0.37	0.16	0.37	0.37	0.22	0.55	0.55	0.12	0.47	0.47
Sat Flow, veh/h	1594	3367	1477	1594	3367	1474	3092	4676	268	3092	4271	607
Grp Volume(v), veh/h	211	749	132	181	697	170	402	1248	667	276	584	302
Grp Sat Flow(s),veh/h/ln	1594	1683	1477	1594	1683	1474	1546	1612	1719	1546	1612	1653
Q Serve(g_s), s	13.4	24.8	7.7	12.8	22.6	7.9	15.0	43.6	43.6	9.4	15.5	15.7
Cycle Q Clear(g_c), s	13.4	24.8	7.7	12.8	22.6	7.9	15.0	43.6	43.6	9.4	15.5	15.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		0.37
Lane Grp Cap(c), veh/h	180	838	368	172	821	360	448	1186	632	245	1018	522
V/C Ratio(X)	1.17	0.89	0.36	1.05	0.85	0.47	0.90	1.05	1.05	1.13	0.57	0.58
Avail Cap(c_a), veh/h	180	926	406	172	909	398	501	1186	632	245	1018	522
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	35.6	30.3	49.7	35.6	18.2	45.5	26.6	26.6	52.2	25.4	25.5
Incr Delay (d2), s/veh	120.6	10.4	0.6	82.9	7.1	1.0	16.4	40.9	51.1	95.4	0.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	9.6	2.5	8.6	8.5	3.3	6.1	18.8	21.8	6.6	5.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	169.8	46.0	30.9	132.5	42.6	19.1	61.9	67.5	77.7	147.6	26.2	27.1
LnGrp LOS	F	D	C	F	D	B	E	F	F	F	C	C
Approach Vol, veh/h		1092			1048			2317			1162	
Approach Delay, s/veh		68.1			54.3			69.4			55.3	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	49.8	17.4	35.7	21.8	43.6	18.0	35.1
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	9.4	* 44	12.8	32.6	19.2	33.8	13.4	32.0
Max Q Clear Time (g_c+I1), s	11.4	45.6	14.8	26.8	17.0	17.7	15.4	24.6
Green Ext Time (p_c), s	0.0	0.0	0.0	2.5	0.2	4.7	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	63.4
HCM 6th LOS	E

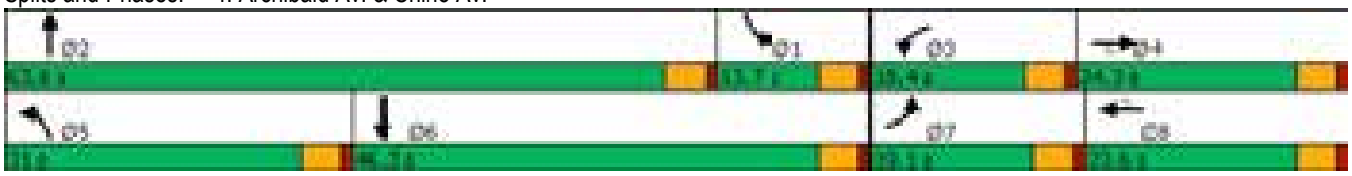
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	148	141	47	135	219	214	275	1775	85	840
Future Volume (vph)	148	141	47	135	219	214	275	1775	85	840
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	19.1	24.3	24.3	18.4	23.6	23.6	31.0	63.6	13.7	46.3
Total Split (%)	15.9%	20.3%	20.3%	15.3%	19.7%	19.7%	25.8%	53.0%	11.4%	38.6%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.4	19.7	19.7	13.5	18.8	18.8	25.8	57.9	9.1	41.2
Actuated g/C Ratio	0.12	0.17	0.17	0.11	0.16	0.16	0.22	0.49	0.08	0.35
v/c Ratio	0.91	0.57	0.15	0.88	0.92	0.68	0.94	0.88	0.83	0.93
Control Delay	96.3	54.5	0.9	94.4	87.9	27.8	82.5	32.1	99.6	51.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.3	54.5	0.9	94.4	87.9	27.8	82.5	32.1	99.6	51.7
LOS	F	D	A	F	F	C	F	C	F	D
Approach Delay		65.4			66.8			38.4		55.5
Approach LOS		E			E			D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.6	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 48.8	Intersection LOS: D
Intersection Capacity Utilization 82.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	141	47	135	219	214	275	1775	141	85	840	121
Future Volume (veh/h)	148	141	47	135	219	214	275	1775	141	85	840	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	174	166	31	159	258	134	324	2088	84	100	988	71
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	302	256	183	286	242	348	2430	97	121	1098	79
Arrive On Green	0.12	0.17	0.17	0.11	0.16	0.16	0.22	0.48	0.48	0.08	0.34	0.34
Sat Flow, veh/h	1594	1772	1502	1594	1772	1502	1594	5073	203	1594	3261	234
Grp Volume(v), veh/h	174	166	31	159	258	134	324	1456	716	100	537	522
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1594	1772	1502	1594	1772	1732	1594	1772	1724
Q Serve(g_s), s	12.4	9.9	2.0	11.3	16.5	7.7	23.0	41.9	42.3	7.1	33.2	33.2
Cycle Q Clear(g_c), s	12.4	9.9	2.0	11.3	16.5	7.7	23.0	41.9	42.3	7.1	33.2	33.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.14
Lane Grp Cap(c), veh/h	198	302	256	183	286	242	348	1697	830	121	597	581
V/C Ratio(X)	0.88	0.55	0.12	0.87	0.90	0.55	0.93	0.86	0.86	0.83	0.90	0.90
Avail Cap(c_a), veh/h	200	303	257	191	292	247	365	1813	886	126	641	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	43.8	40.5	50.2	47.5	29.5	44.2	26.6	26.7	52.5	36.4	36.4
Incr Delay (d2), s/veh	32.7	2.1	0.2	31.3	28.9	2.6	29.7	4.2	8.4	33.5	15.1	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	4.4	0.7	6.0	9.4	2.9	11.4	16.7	17.4	3.9	15.9	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.3	45.9	40.7	81.5	76.4	32.1	73.9	30.7	35.0	86.0	51.4	51.8
LnGrp LOS	F	D	D	F	E	C	E	C	D	F	D	D
Approach Vol, veh/h		371			551			2496			1159	
Approach Delay, s/veh		62.5			67.1			37.6			54.6	
Approach LOS		E			E			D			D	

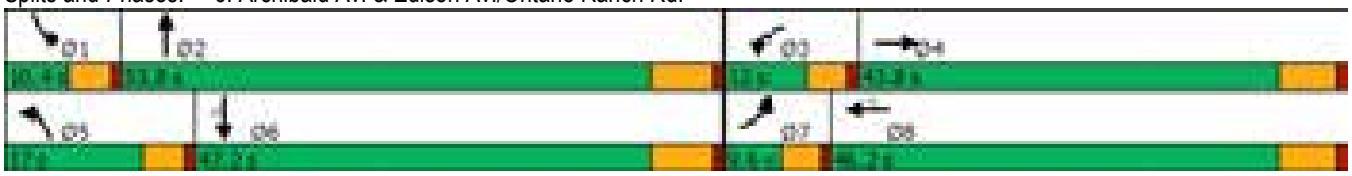
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	59.8	17.8	24.3	29.7	43.4	18.9	23.2
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	9.1	59.0	13.8	19.7	26.4	41.7	14.5	19.0
Max Q Clear Time (g_c+I1), s	9.1	44.3	13.3	11.9	25.0	35.2	14.4	18.5
Green Ext Time (p_c), s	0.0	10.9	0.0	0.5	0.1	3.2	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	155	292	288	385	85	690	1637	270	27	943	101
Future Volume (vph)	43	155	292	288	385	85	690	1637	270	27	943	101
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	43.8		12.0	46.2	46.2	17.0	53.8		10.4	47.2	47.2
Total Split (%)	8.0%	36.5%		10.0%	38.5%	38.5%	14.2%	44.8%		8.7%	39.3%	39.3%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.2	16.7	90.4	7.7	24.1	24.1	12.9	42.5	90.4	5.6	30.2	30.2
Actuated g/C Ratio	0.06	0.18	1.00	0.09	0.27	0.27	0.14	0.47	1.00	0.06	0.33	0.33
v/c Ratio	0.27	0.17	0.21	1.24	0.45	0.18	1.68	0.72	0.20	0.16	0.59	0.19
Control Delay	52.0	31.8	0.3	176.6	31.5	1.0	341.3	23.3	0.3	49.7	26.5	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	31.8	0.3	176.6	31.5	1.0	341.3	23.3	0.3	49.7	26.5	2.2
LOS	D	C	A	F	C	A	F	C	A	D	C	A
Approach Delay		14.8			83.2			105.4			24.8	
Approach LOS		B			F			F			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 90.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.68	
Intersection Signal Delay: 75.4	Intersection LOS: E
Intersection Capacity Utilization 77.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	155	292	288	385	85	690	1637	270	27	943	101
Future Volume (veh/h)	43	155	292	288	385	85	690	1637	270	27	943	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	47	170	0	316	423	27	758	1799	0	30	1036	56
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	707		295	673	281	526	2372		96	1660	463
Arrive On Green	0.06	0.20	0.00	0.15	0.28	0.28	0.25	0.67	0.00	0.05	0.47	0.47
Sat Flow, veh/h	3000	5316	1502	3000	3544	1482	3188	5316	1502	3092	5316	1481
Grp Volume(v), veh/h	47	170	0	316	423	27	758	1799	0	30	1036	56
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1482	1594	1772	1502	1546	1772	1481
Q Serve(g_s), s	1.1	2.0	0.0	7.4	7.8	1.0	12.4	17.1	0.0	0.7	11.0	1.6
Cycle Q Clear(g_c), s	1.1	2.0	0.0	7.4	7.8	1.0	12.4	17.1	0.0	0.7	11.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	125	707		295	673	281	526	2372		96	1660	463
V/C Ratio(X)	0.38	0.24		1.07	0.63	0.10	1.44	0.76		0.31	0.62	0.12
Avail Cap(c_a), veh/h	200	2659		295	1886	789	526	3345		239	2878	802
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	26.9	0.0	32.0	24.6	22.1	28.3	9.7	0.0	35.1	16.7	14.2
Incr Delay (d2), s/veh	0.7	0.2	0.0	72.2	1.0	0.1	209.3	0.7	0.0	0.7	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.8	0.0	5.3	2.8	0.3	19.0	3.5	0.0	0.3	3.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.0	27.1	0.0	104.2	25.5	22.3	237.6	10.4	0.0	35.8	17.1	14.3
LnGrp LOS	D	C		F	C	C	F	B		D	B	B
Approach Vol, veh/h		217	A		766			2557	A		1122	
Approach Delay, s/veh		28.8			57.9			77.7			17.4	
Approach LOS		C			E			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	40.0	12.0	16.2	17.0	30.0	7.7	20.5
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	5.8	47.3	7.4	37.6	12.4	40.7	5.0	40.0
Max Q Clear Time (g_c+I1), s	2.7	19.1	9.4	4.0	14.4	13.0	3.1	9.8
Green Ext Time (p_c), s	0.0	14.5	0.0	1.0	0.0	7.2	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	57.7
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	170	181	61	285	157	493	94	230
Future Volume (vph)	170	181	61	285	157	493	94	230
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	64.0	64.0	64.0	64.0	56.0	56.0	56.0	56.0
Total Split (%)	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	39.4	39.4	39.4	39.4	33.2	33.2	33.2	33.2
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.40	0.40	0.40	0.40
v/c Ratio	0.78	0.26	0.21	0.39	0.72	0.56	0.70	0.35
Control Delay	41.0	8.9	16.6	12.3	39.9	22.0	47.8	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	8.9	16.6	12.3	39.9	22.0	47.8	16.2
LOS	D	A	B	B	D	C	D	B
Approach Delay		20.6		12.8		26.0		23.0
Approach LOS		C		B		C		C

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 83.4		
Natural Cycle: 45		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.78		
Intersection Signal Delay: 21.0	Intersection LOS: C	
Intersection Capacity Utilization 61.4%	ICU Level of Service B	
Analysis Period (min) 15		

Splits and Phases: 8: Turner Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	181	117	61	285	160	157	493	52	94	230	109
Future Volume (veh/h)	170	181	117	61	285	160	157	493	52	94	230	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	230	245	90	82	385	148	212	666	43	127	311	79
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	1119	400	477	1094	415	397	1312	85	272	1089	272
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	779	2430	869	935	2377	901	889	3206	207	662	2660	664
Grp Volume(v), veh/h	230	168	167	82	271	262	212	349	360	127	195	195
Grp Sat Flow(s),veh/h/ln	779	1683	1615	935	1683	1594	889	1683	1730	662	1683	1641
Q Serve(g_s), s	18.7	4.1	4.3	4.0	7.1	7.3	14.5	10.7	10.7	12.2	5.3	5.5
Cycle Q Clear(g_c), s	26.0	4.1	4.3	8.3	7.1	7.3	20.0	10.7	10.7	22.9	5.3	5.5
Prop In Lane	1.00		0.54	1.00		0.56	1.00		0.12	1.00		0.40
Lane Grp Cap(c), veh/h	380	775	744	477	775	734	397	689	708	272	689	672
V/C Ratio(X)	0.60	0.22	0.22	0.17	0.35	0.36	0.53	0.51	0.51	0.47	0.28	0.29
Avail Cap(c_a), veh/h	693	1451	1392	852	1451	1374	696	1256	1290	495	1256	1224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	11.2	11.2	13.7	12.0	12.0	20.4	15.2	15.2	23.8	13.6	13.7
Incr Delay (d2), s/veh	1.6	0.1	0.2	0.2	0.3	0.3	1.1	0.6	0.6	1.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.3	1.3	0.8	2.3	2.3	2.7	3.5	3.6	1.8	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.0	11.3	11.4	13.9	12.2	12.3	21.5	15.8	15.8	25.0	13.8	13.9
LnGrp LOS	C	B	B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h		565			615			921			517	
Approach Delay, s/veh		15.7			12.5			17.1			16.6	
Approach LOS		B			B			B			B	

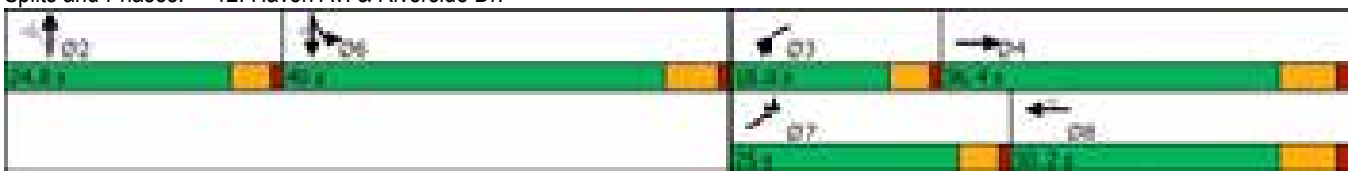
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.7		36.3		32.7		36.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		51.5		59.5		51.5		59.5				
Max Q Clear Time (g_c+I1), s		22.0		28.0		24.9		10.3				
Green Ext Time (p_c), s		5.7		3.8		3.3		3.9				

Intersection Summary												
HCM 6th Ctrl Delay			15.6									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	546	754	287	548	431	50	546	186	447	256	309
Future Volume (vph)	546	754	287	548	431	50	546	186	447	256	309
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Split	NA	Perm
Protected Phases	7	4	3	8			2		6	6	
Permitted Phases					8	2		2			6
Detector Phase	7	4	3	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	30.2	23.7	23.7	23.7	24.8	24.8	24.8
Total Split (s)	25.0	36.4	18.8	30.2	30.2	24.8	24.8	24.8	40.0	40.0	40.0
Total Split (%)	20.8%	30.3%	15.7%	25.2%	25.2%	20.7%	20.7%	20.7%	33.3%	33.3%	33.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.7	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.7	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	20.4	30.2	13.7	23.5	23.5	20.1	20.1	20.1	34.2	34.2	34.2
Actuated g/C Ratio	0.17	0.25	0.11	0.20	0.20	0.17	0.17	0.17	0.29	0.29	0.29
v/c Ratio	1.08	0.99	0.84	0.84	0.71	0.96	0.98	0.48	1.05	0.27	0.51
Control Delay	107.4	71.8	72.9	58.4	10.4	161.9	81.9	10.3	98.0	34.0	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	107.4	71.8	72.9	58.4	10.4	161.9	81.9	10.3	98.0	34.0	6.5
LOS	F	E	E	E	B	F	F	B	F	C	A
Approach Delay		86.0		45.3			69.9			53.9	
Approach LOS		F		D			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.5	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 64.2	Intersection LOS: E
Intersection Capacity Utilization 96.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	546	754	65	287	548	431	50	546	186	447	256	309
Future Volume (veh/h)	546	754	65	287	548	431	50	546	186	447	256	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	581	802	42	305	583	236	53	581	81	476	272	153
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	546	848	44	353	688	278	269	598	249	458	1017	426
Arrive On Green	0.26	0.38	0.38	0.17	0.29	0.29	0.25	0.25	0.25	0.43	0.43	0.43
Sat Flow, veh/h	3188	3328	174	3188	3544	1432	1594	3544	1475	1594	3544	1483
Grp Volume(v), veh/h	581	427	417	305	583	236	53	581	81	476	272	153
Grp Sat Flow(s),veh/h/ln	1594	1772	1730	1594	1772	1432	1594	1772	1475	1594	1772	1483
Q Serve(g_s), s	20.4	27.8	27.8	11.1	18.4	18.5	3.1	19.3	5.3	34.2	5.9	8.3
Cycle Q Clear(g_c), s	20.4	27.8	27.8	11.1	18.4	18.5	3.1	19.3	5.3	34.2	5.9	8.3
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	546	451	441	353	688	278	269	598	249	458	1017	426
V/C Ratio(X)	1.06	0.95	0.95	0.87	0.85	0.85	0.20	0.97	0.33	1.04	0.27	0.36
Avail Cap(c_a), veh/h	546	451	441	380	714	289	269	598	249	458	1017	426
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.3	36.0	36.0	48.8	40.6	40.6	38.1	44.2	39.0	33.9	25.8	26.5
Incr Delay (d2), s/veh	56.8	29.1	29.6	16.4	9.1	20.1	0.4	29.6	0.8	52.9	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	13.5	13.3	4.8	7.7	7.1	1.2	10.3	1.9	17.6	2.3	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.0	65.1	65.6	65.2	49.7	60.7	38.5	73.8	39.7	86.8	26.0	27.0
LnGrp LOS	F	E	E	E	D	E	D	E	D	F	C	C
Approach Vol, veh/h		1425			1124			715			901	
Approach Delay, s/veh		79.9			56.2			67.4			58.3	
Approach LOS		E			E			E			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.8	17.8	36.5		40.0	25.0	29.3				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 20	14.2	30.2		34.2	20.4	24.0				
Max Q Clear Time (g_c+I1), s		21.3	13.1	29.8		36.2	22.4	20.5				
Green Ext Time (p_c), s		0.0	0.1	0.2		0.0	0.0	1.5				

Intersection Summary		
HCM 6th Ctrl Delay		66.7
HCM 6th LOS		E

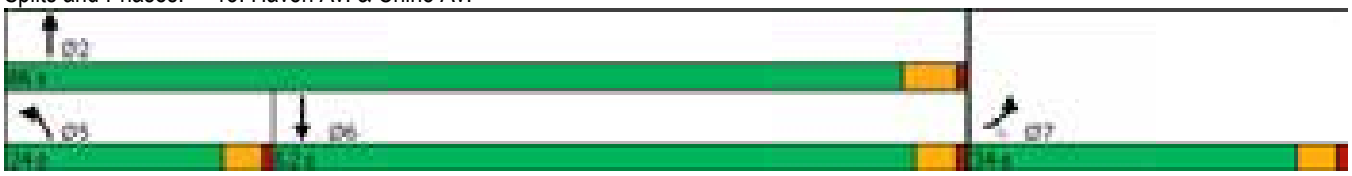
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	265	195	169	677	425
Future Volume (vph)	265	195	169	677	425
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	7		5	2	6
Permitted Phases		7			
Detector Phase	7	7	5	2	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	9.6	9.6	22.8	21.7
Total Split (s)	34.0	34.0	24.0	86.0	62.0
Total Split (%)	28.3%	28.3%	20.0%	71.7%	51.7%
Yellow Time (s)	3.6	3.6	3.6	4.8	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	5.8	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	21.4	21.4	15.0	60.2	41.4
Actuated g/C Ratio	0.23	0.23	0.16	0.65	0.45
v/c Ratio	0.77	0.41	0.70	0.63	0.85
Control Delay	51.9	7.8	57.2	12.9	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	7.8	57.2	12.9	34.8
LOS	D	A	E	B	C
Approach Delay	33.2			21.8	34.8
Approach LOS	C			C	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 92.9	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 28.7	Intersection LOS: C
Intersection Capacity Utilization 74.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	265	195	169	677	425	187
Future Volume (veh/h)	265	195	169	677	425	187
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	282	207	180	720	452	199
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	331	311	217	1149	524	231
Arrive On Green	0.21	0.21	0.14	0.65	0.45	0.45
Sat Flow, veh/h	1594	1502	1594	1772	1166	513
Grp Volume(v), veh/h	282	207	180	720	0	651
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	0	1680
Q Serve(g_s), s	12.3	9.2	7.9	17.4	0.0	25.2
Cycle Q Clear(g_c), s	12.3	9.2	7.9	17.4	0.0	25.2
Prop In Lane	1.00	1.00	1.00			0.31
Lane Grp Cap(c), veh/h	331	311	217	1149	0	754
V/C Ratio(X)	0.85	0.66	0.83	0.63	0.00	0.86
Avail Cap(c_a), veh/h	648	611	428	1967	0	1332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.6	26.3	30.4	7.5	0.0	17.9
Incr Delay (d2), s/veh	2.4	0.9	3.1	0.6	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	7.5	3.0	4.4	0.0	9.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.0	27.2	33.5	8.1	0.0	21.0
LnGrp LOS	C	C	C	A	A	C
Approach Vol, veh/h	489			900	651	
Approach Delay, s/veh	28.8			13.2	21.0	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		52.7		19.6	14.4	38.2
Change Period (Y+Rc), s		5.8		4.6	4.6	* 5.8
Max Green Setting (Gmax), s		80.2		29.4	19.4	* 57
Max Q Clear Time (g_c+I1), s		19.4		14.3	9.9	27.2
Green Ext Time (p_c), s		5.3		0.7	0.2	5.2

Intersection Summary		
HCM 6th Ctrl Delay	19.4	
HCM 6th LOS	B	

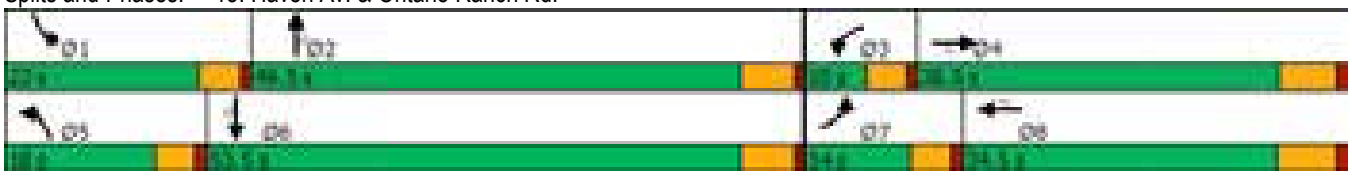
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	1214	54	126	831	5	75	463	187	227	435	264
Future Volume (vph)	238	1214	54	126	831	5	75	463	187	227	435	264
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	14.0	38.5	38.5	10.0	34.5	34.5	18.0	49.5	49.5	22.0	53.5	53.5
Total Split (%)	11.7%	32.1%	32.1%	8.3%	28.8%	28.8%	15.0%	41.3%	41.3%	18.3%	44.6%	44.6%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	9.5	32.6	32.6	5.4	28.2	28.2	9.2	23.0	23.0	17.5	33.5	33.5
Actuated g/C Ratio	0.10	0.33	0.33	0.05	0.28	0.28	0.09	0.23	0.23	0.18	0.34	0.34
v/c Ratio	0.88	0.76	0.10	0.83	0.45	0.01	0.56	0.65	0.43	0.88	0.42	0.43
Control Delay	76.1	34.7	0.7	86.6	31.4	0.0	59.9	38.2	10.9	73.1	27.6	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.1	34.7	0.7	86.6	31.4	0.0	59.9	38.2	10.9	73.1	27.6	7.0
LOS	E	C	A	F	C	A	E	D	B	E	C	A
Approach Delay		40.1			38.5			33.4			32.9	
Approach LOS		D			D			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 99.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 36.9	Intersection LOS: D
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	1214	54	126	831	5	75	463	187	227	435	264
Future Volume (veh/h)	238	1214	54	126	831	5	75	463	187	227	435	264
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	256	1305	31	135	894	-103	81	498	99	244	468	193
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	1805	510	170	2109	447	100	700	312	270	1059	470
Arrive On Green	0.15	0.51	0.51	0.09	0.45	0.00	0.09	0.31	0.31	0.25	0.47	0.47
Sat Flow, veh/h	3092	5316	1500	3000	7088	1502	1594	3367	1499	1594	3367	1494
Grp Volume(v), veh/h	256	1305	31	135	894	-103	81	498	99	244	468	193
Grp Sat Flow(s),veh/h/ln	1546	1772	1500	1500	1772	1502	1594	1683	1499	1594	1683	1494
Q Serve(g_s), s	7.7	18.1	1.0	4.2	8.2	0.0	4.7	12.4	4.8	14.1	8.8	8.0
Cycle Q Clear(g_c), s	7.7	18.1	1.0	4.2	8.2	0.0	4.7	12.4	4.8	14.1	8.8	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	306	1805	510	170	2109	447	100	700	312	270	1059	470
V/C Ratio(X)	0.84	0.72	0.06	0.79	0.42	-0.23	0.81	0.71	0.32	0.90	0.44	0.41
Avail Cap(c_a), veh/h	306	1805	510	170	2109	447	225	1547	689	292	1688	750
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	19.9	15.7	43.0	20.8	0.0	42.5	30.2	27.6	34.7	19.5	19.3
Incr Delay (d2), s/veh	17.3	2.5	0.2	20.5	0.6	0.0	5.7	1.4	0.6	26.9	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	5.8	0.3	1.9	2.9	0.0	1.9	4.4	1.6	6.7	3.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.0	22.4	15.9	63.4	21.4	0.0	48.2	31.5	28.1	61.6	19.8	19.9
LnGrp LOS	E	C	B	E	C	A	D	C	C	E	B	B
Approach Vol, veh/h		1592			926			678			905	
Approach Delay, s/veh		27.8			29.9			33.0			31.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.7	25.6	10.0	38.8	10.6	35.7	14.0	34.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	17.4	43.7	5.4	* 32	13.4	47.7	9.4	28.0
Max Q Clear Time (g_c+I1), s	16.1	14.4	6.2	20.1	6.7	10.8	9.7	10.2
Green Ext Time (p_c), s	0.1	3.5	0.0	6.4	0.0	3.7	0.0	5.1

Intersection Summary	
HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	370	774	149	973	219	91	422	100	188	93
Future Volume (vph)	370	774	149	973	219	91	422	100	188	93
Turn Type	Prot	NA	Prot	NA	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	7	4	3	8	2	2	3	6	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	2	2	3	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	9.0	27.0	27.0	27.0
Total Split (s)	37.0	43.0	28.0	34.0	32.0	32.0	28.0	27.0	27.0	27.0
Total Split (%)	28.5%	33.1%	21.5%	26.2%	24.6%	24.6%	21.5%	20.8%	20.8%	20.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes			
Recall Mode	None	None	None	None	Min	Min	None	Min	Min	Min
Act Effct Green (s)	33.1	42.4	18.7	28.1	24.5	24.5	45.0	20.5	20.5	20.5
Actuated g/C Ratio	0.26	0.34	0.15	0.22	0.19	0.19	0.36	0.16	0.16	0.16
v/c Ratio	1.13	0.73	0.80	1.17	0.90	0.34	0.83	0.49	0.83	0.36
Control Delay	126.9	39.6	76.9	130.3	81.2	47.2	24.4	55.4	75.1	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.9	39.6	76.9	130.3	81.2	47.2	24.4	55.4	75.1	7.5
LOS	F	D	E	F	F	D	C	E	E	A
Approach Delay		63.0		123.8		44.2			53.4	
Approach LOS		E		F		D			D	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 126	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.17	
Intersection Signal Delay: 78.4	Intersection LOS: E
Intersection Capacity Utilization 93.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	774	236	149	973	109	219	91	422	100	188	93
Future Volume (veh/h)	370	774	236	149	973	109	219	91	422	100	188	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	468	980	122	189	1232	75	277	115	281	127	238	48
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	415	1617	201	211	1095	67	303	337	482	275	305	226
Arrive On Green	0.39	0.52	0.52	0.20	0.33	0.33	0.29	0.29	0.29	0.26	0.26	0.26
Sat Flow, veh/h	1594	4631	575	1594	4954	302	1594	1772	1492	1594	1772	1311
Grp Volume(v), veh/h	468	749	353	189	881	426	277	115	281	127	238	48
Grp Sat Flow(s),veh/h/ln	1594	1772	1663	1594	1772	1712	1594	1772	1492	1594	1772	1311
Q Serve(g_s), s	33.0	18.7	18.8	14.7	28.0	28.0	21.3	6.5	19.9	8.5	15.8	3.6
Cycle Q Clear(g_c), s	33.0	18.7	18.8	14.7	28.0	28.0	21.3	6.5	19.9	8.5	15.8	3.6
Prop In Lane	1.00		0.35	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	415	1237	580	211	783	378	303	337	482	275	305	226
V/C Ratio(X)	1.13	0.61	0.61	0.90	1.13	1.13	0.91	0.34	0.58	0.46	0.78	0.21
Avail Cap(c_a), veh/h	415	1237	580	302	783	378	329	366	507	289	322	238
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	24.1	24.1	49.9	42.4	42.4	44.3	39.0	31.6	42.0	44.7	40.2
Incr Delay (d2), s/veh	83.7	0.8	1.8	16.9	72.5	85.0	27.7	0.6	1.6	1.2	11.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.4	6.3	6.1	6.2	18.3	19.0	9.7	2.7	6.2	3.3	7.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.4	25.0	26.0	66.9	114.9	127.4	72.0	39.6	33.2	43.2	55.8	40.7
LnGrp LOS	F	C	C	E	F	F	E	D	C	D	E	D
Approach Vol, veh/h		1570			1496			673			413	
Approach Delay, s/veh		54.2			112.4			50.3			50.2	
Approach LOS		D			F			D			D	

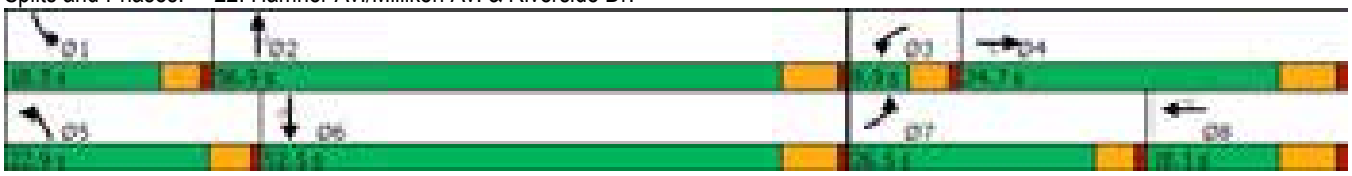
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.9	20.8	50.2		25.8	37.0	34.0				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		26.2	24.0	37.0		23.0	33.0	28.0				
Max Q Clear Time (g_c+I1), s		23.3	16.7	20.8		17.8	35.0	30.0				
Green Ext Time (p_c), s		0.8	0.1	6.0		0.9	0.0	0.0				

Intersection Summary		
HCM 6th Ctrl Delay		74.1
HCM 6th LOS		E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	480	217	619	34	140	295	263	1226	70	296	706	287
Future Volume (vph)	480	217	619	34	140	295	263	1226	70	296	706	287
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	26.5	34.7	34.7	9.9	18.1	18.1	22.9	56.9	56.9	18.5	52.5	52.5
Total Split (%)	22.1%	28.9%	28.9%	8.3%	15.1%	15.1%	19.1%	47.4%	47.4%	15.4%	43.8%	43.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	21.8	30.4	30.4	5.2	11.9	11.9	15.3	50.0	50.0	13.9	48.6	48.6
Actuated g/C Ratio	0.18	0.26	0.26	0.04	0.10	0.10	0.13	0.42	0.42	0.12	0.41	0.41
v/c Ratio	0.96	0.55	0.58	0.57	0.91	0.56	0.75	0.95	0.11	0.92	0.38	0.41
Control Delay	76.4	45.1	8.4	86.6	102.4	9.2	61.8	48.2	0.3	83.5	25.7	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.4	45.1	8.4	86.6	102.4	9.2	61.8	48.2	0.3	83.5	25.7	4.2
LOS	E	D	A	F	F	A	E	D	A	F	C	A
Approach Delay		39.3			42.6			48.4			34.2	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.2	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 41.3	Intersection LOS: D
Intersection Capacity Utilization 86.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	480	217	619	34	140	295	263	1226	70	296	706	287
Future Volume (veh/h)	480	217	619	34	140	295	263	1226	70	296	706	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	552	249	366	39	161	172	302	1409	40	340	811	175
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	588	451	764	49	178	301	354	1474	624	373	2242	633
Arrive On Green	0.28	0.38	0.38	0.05	0.15	0.15	0.17	0.62	0.62	0.18	0.63	0.63
Sat Flow, veh/h	3188	1772	3003	1594	1772	3003	3188	3544	1502	3188	5316	1502
Grp Volume(v), veh/h	552	249	366	39	161	172	302	1409	40	340	811	175
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1594	1772	1502	1594	1772	1502	1594	1772	1502
Q Serve(g_s), s	20.1	13.1	10.9	2.9	10.6	6.3	10.9	44.0	1.2	12.4	8.6	6.2
Cycle Q Clear(g_c), s	20.1	13.1	10.9	2.9	10.6	6.3	10.9	44.0	1.2	12.4	8.6	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	588	451	764	49	178	301	354	1474	624	373	2242	633
V/C Ratio(X)	0.94	0.55	0.48	0.80	0.91	0.57	0.85	0.96	0.06	0.91	0.36	0.28
Avail Cap(c_a), veh/h	588	451	764	71	178	301	492	1515	642	373	2242	633
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	31.4	30.7	56.3	49.8	48.0	48.5	21.3	13.3	48.3	14.2	13.7
Incr Delay (d2), s/veh	22.7	1.5	0.5	20.6	41.8	2.6	7.6	13.9	0.0	25.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	5.0	3.6	1.4	6.4	2.3	4.3	14.6	0.4	5.8	2.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.9	32.8	31.2	76.8	91.6	50.6	56.1	35.2	13.3	73.5	14.3	14.0
LnGrp LOS	E	C	C	E	F	D	E	D	B	E	B	B
Approach Vol, veh/h		1167			372			1751			1326	
Approach Delay, s/veh		47.5			71.1			38.3			29.4	
Approach LOS		D			E			D			C	

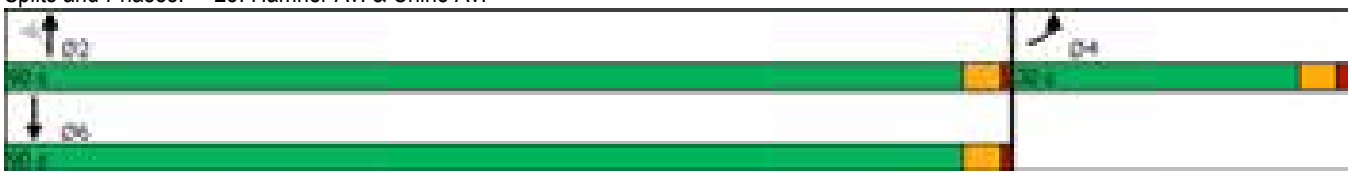
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.5	55.5	8.2	36.4	17.8	56.2	26.5	18.1
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	13.9	50.7	5.3	28.5	18.3	46.3	21.9	11.9
Max Q Clear Time (g_c+I1), s	14.4	46.0	4.9	15.1	12.9	10.6	22.1	12.6
Green Ext Time (p_c), s	0.0	3.4	0.0	2.3	0.3	6.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	110	3	1459	1463
Future Volume (vph)	110	3	1459	1463
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	30.0	90.0	90.0	90.0
Total Split (%)	25.0%	75.0%	75.0%	75.0%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Min	Min	Min
Act Effct Green (s)	13.0		47.8	47.8
Actuated g/C Ratio	0.19		0.68	0.68
v/c Ratio	0.57		0.69	0.70
Control Delay	31.7		8.8	9.0
Queue Delay	0.0		0.0	0.0
Total Delay	31.7		8.8	9.0
LOS	C		A	A
Approach Delay	31.7		8.8	9.0
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 70.1	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 59.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	110	57	3	1459	1463	19
Future Volume (veh/h)	110	57	3	1459	1463	19
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	65	3	1658	1662	22
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	163	85	73	2407	2424	32
Arrive On Green	0.15	0.15	0.67	0.67	0.67	0.67
Sat Flow, veh/h	1119	582	1	3566	3685	47
Grp Volume(v), veh/h	191	0	869	792	821	863
Grp Sat Flow(s),veh/h/ln	1710	0	1865	1702	1777	1862
Q Serve(g_s), s	5.4	0.0	0.0	14.2	14.0	14.1
Cycle Q Clear(g_c), s	5.4	0.0	14.2	14.2	14.0	14.1
Prop In Lane	0.65	0.34	0.00			0.03
Lane Grp Cap(c), veh/h	249	0	1331	1149	1199	1257
V/C Ratio(X)	0.77	0.00	0.65	0.69	0.68	0.69
Avail Cap(c_a), veh/h	869	0	3221	2900	3028	3173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	5.0	5.0	4.9	4.9
Incr Delay (d2), s/veh	4.9	0.0	0.5	0.7	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	1.4	1.4	1.4	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.5	0.0	5.5	5.7	5.6	5.6
LnGrp LOS	C	A	A	A	A	A
Approach Vol, veh/h	191			1661	1684	
Approach Delay, s/veh	25.5			5.6	5.6	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		38.4		11.8		38.4
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		85.5		25.5		85.5
Max Q Clear Time (g_c+I1), s		16.2		7.4		16.1
Green Ext Time (p_c), s		17.4		0.5		17.8

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	573	1208	269	1040	453	148	762	378	415	291	166
Future Volume (vph)	573	1208	269	1040	453	148	762	378	415	291	166
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	48.5	48.5	9.6	46.2	46.2	9.6	46.2	46.2
Total Split (s)	28.0	53.2	23.3	48.5	48.5	14.0	47.5	47.5	16.0	49.5	49.5
Total Split (%)	20.0%	38.0%	16.6%	34.6%	34.6%	10.0%	33.9%	33.9%	11.4%	35.4%	35.4%
Yellow Time (s)	3.6	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	23.8	43.8	13.7	33.6	33.6	8.6	26.5	26.5	11.6	29.5	29.5
Actuated g/C Ratio	0.20	0.37	0.12	0.29	0.29	0.07	0.22	0.22	0.10	0.25	0.25
v/c Ratio	0.83	0.45	0.68	0.51	0.83	0.60	0.63	0.68	1.24	0.16	0.19
Control Delay	58.3	29.5	60.5	36.1	38.6	66.1	43.9	17.5	174.5	35.4	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	29.5	60.5	36.1	38.6	66.1	43.9	17.5	174.5	35.4	5.6
LOS	E	C	E	D	D	E	D	B	F	D	A
Approach Delay		38.7		40.5			38.7			95.9	
Approach LOS		D		D			D			F	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 117.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.24	
Intersection Signal Delay: 48.0	Intersection LOS: D
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	573	1208	0	269	1040	453	148	762	378	415	291	166
Future Volume (veh/h)	573	1208	0	269	1040	453	148	762	378	415	291	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	597	1258	-125	280	1083	337	154	794	186	432	303	-35
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	670	2814	596	353	2149	455	219	1156	326	389	1898	804
Arrive On Green	0.19	0.38	0.00	0.10	0.29	0.29	0.06	0.21	0.21	0.11	0.25	0.00
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	597	1258	-125	280	1083	337	154	794	186	432	303	-35
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	17.1	13.2	0.0	8.0	12.6	20.1	4.4	13.7	11.0	11.4	3.3	0.0
Cycle Q Clear(g_c), s	17.1	13.2	0.0	8.0	12.6	20.1	4.4	13.7	11.0	11.4	3.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	670	2814	596	353	2149	455	219	1156	326	389	1898	804
V/C Ratio(X)	0.89	0.45	-0.21	0.79	0.50	0.74	0.70	0.69	0.57	1.11	0.16	-0.04
Avail Cap(c_a), veh/h	798	3345	709	638	3009	637	321	2219	627	389	3102	1314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.4	24.4	0.0	46.0	31.0	33.7	48.1	38.4	37.3	46.5	30.3	0.0
Incr Delay (d2), s/veh	9.8	0.1	0.0	1.5	0.2	2.9	1.5	0.7	1.6	79.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	5.3	0.0	3.4	5.3	7.5	1.9	6.0	4.2	9.1	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	24.5	0.0	47.5	31.2	36.6	49.6	39.1	38.9	125.7	30.4	0.0
LnGrp LOS	D	C	A	D	C	D	D	D	D	F	C	A
Approach Vol, veh/h		1730			1700			1134			700	
Approach Delay, s/veh		35.5			35.0			40.5			90.7	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	27.7	14.9	45.8	11.0	32.7	24.2	36.5
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	11.4	41.3	18.7	46.7	9.4	43.3	23.4	42.0
Max Q Clear Time (g_c+I1), s	13.4	15.7	10.0	15.2	6.4	5.3	19.1	22.1
Green Ext Time (p_c), s	0.0	5.8	0.3	9.3	0.1	1.9	0.6	7.9

Intersection Summary	
HCM 6th Ctrl Delay	43.7
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	223	973	695	245	793	220	374	1180	353	1191
Future Volume (vph)	223	973	695	245	793	220	374	1180	353	1191
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	22.4	41.0	41.0	20.0	38.6	38.6	17.0	43.0	16.0	42.0
Total Split (%)	18.7%	34.2%	34.2%	16.7%	32.2%	32.2%	14.2%	35.8%	13.3%	35.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	17.8	34.8	34.8	15.4	32.4	32.4	12.4	36.8	11.4	35.8
Actuated g/C Ratio	0.15	0.29	0.29	0.13	0.27	0.27	0.10	0.31	0.10	0.30
v/c Ratio	0.97	1.02	1.17	1.23	0.89	0.42	1.21	0.93	1.24	1.07
Control Delay	104.0	76.7	117.1	183.2	55.7	9.7	163.8	52.1	177.4	85.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.0	76.7	117.1	183.2	55.7	9.7	163.8	52.1	177.4	85.4
LOS	F	E	F	F	E	A	F	D	F	F
Approach Delay		94.8			72.5			76.6		102.9
Approach LOS		F			E			E		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.24	
Intersection Signal Delay: 88.2	Intersection LOS: F
Intersection Capacity Utilization 107.5%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	973	695	245	793	220	374	1180	156	353	1191	307
Future Volume (veh/h)	223	973	695	245	793	220	374	1180	156	353	1191	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	228	993	352	250	809	111	382	1204	82	360	1215	160
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	979	427	205	912	405	321	1333	91	302	1279	168
Arrive On Green	0.22	0.44	0.44	0.19	0.41	0.41	0.16	0.43	0.43	0.15	0.44	0.44
Sat Flow, veh/h	1594	3367	1467	1594	3367	1495	3092	4619	315	3092	4319	569
Grp Volume(v), veh/h	228	993	352	250	809	111	382	840	446	360	907	468
Grp Sat Flow(s),veh/h/ln	1594	1683	1467	1594	1683	1495	1546	1612	1709	1546	1612	1663
Q Serve(g_s), s	16.9	34.8	25.3	15.4	26.7	4.3	12.4	29.0	29.0	11.7	32.4	32.4
Cycle Q Clear(g_c), s	16.9	34.8	25.3	15.4	26.7	4.3	12.4	29.0	29.0	11.7	32.4	32.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		0.34
Lane Grp Cap(c), veh/h	237	979	427	205	912	405	321	931	493	302	955	492
V/C Ratio(X)	0.96	1.01	0.82	1.22	0.89	0.27	1.19	0.90	0.90	1.19	0.95	0.95
Avail Cap(c_a), veh/h	237	979	427	205	912	405	321	992	526	302	965	498
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	33.7	31.0	48.3	33.8	14.5	50.5	32.4	32.4	51.0	32.4	32.4
Incr Delay (d2), s/veh	47.2	32.2	12.4	134.1	10.6	0.4	113.0	10.9	18.3	114.0	18.0	28.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	15.7	8.7	13.1	10.2	2.0	9.4	10.5	12.1	8.9	12.4	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.3	66.0	43.4	182.4	44.4	14.8	163.5	43.3	50.6	165.0	50.4	60.5
LnGrp LOS	F	F	D	F	D	B	F	D	D	F	D	E
Approach Vol, veh/h		1573			1170			1668			1735	
Approach Delay, s/veh		64.9			71.1			72.8			76.9	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	40.7	20.0	41.0	17.0	41.6	22.4	38.6
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	11.4	* 37	15.4	34.8	12.4	35.8	17.8	32.4
Max Q Clear Time (g_c+I1), s	13.7	31.0	17.4	36.8	14.4	34.4	18.9	28.7
Green Ext Time (p_c), s	0.0	3.5	0.0	0.0	0.0	1.1	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	71.6
HCM 6th LOS	E

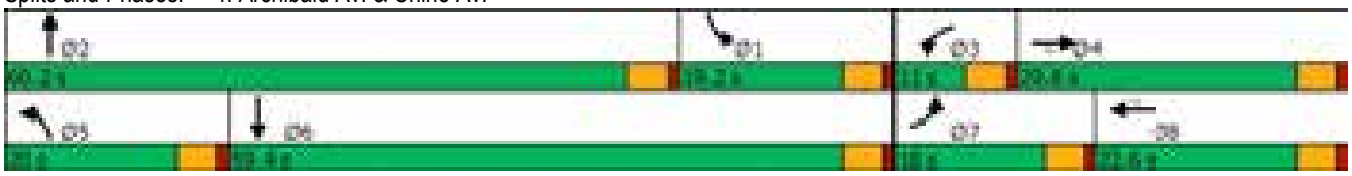
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	196	428	266	55	211	77	223	1411	93	1658
Future Volume (vph)	196	428	266	55	211	77	223	1411	93	1658
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	18.0	29.6	29.6	11.0	22.6	22.6	20.0	60.2	19.2	59.4
Total Split (%)	15.0%	24.7%	24.7%	9.2%	18.8%	18.8%	16.7%	50.2%	16.0%	49.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.4	26.5	26.5	6.4	17.2	17.2	15.4	53.7	18.8	54.8
Actuated g/C Ratio	0.11	0.22	0.22	0.05	0.14	0.14	0.13	0.45	0.16	0.46
v/c Ratio	1.15	1.14	0.52	0.68	0.87	0.22	1.14	0.65	0.39	1.16
Control Delay	161.2	131.9	10.2	92.5	80.7	1.3	151.3	28.5	49.7	110.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	161.2	131.9	10.2	92.5	80.7	1.3	151.3	28.5	49.7	110.3
LOS	F	F	B	F	F	A	F	C	D	F
Approach Delay		102.0			64.8			44.5		107.3
Approach LOS		F			E			D		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 81.1	Intersection LOS: F
Intersection Capacity Utilization 110.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	428	266	55	211	77	223	1411	77	93	1658	134
Future Volume (veh/h)	196	428	266	55	211	77	223	1411	77	93	1658	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	204	446	136	57	220	44	232	1470	38	97	1727	72
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	373	311	70	251	213	207	1772	46	394	1558	65
Arrive On Green	0.17	0.32	0.32	0.07	0.21	0.21	0.19	0.52	0.52	0.37	0.69	0.69
Sat Flow, veh/h	1594	1772	1478	1594	1772	1502	1594	5156	133	1594	3379	140
Grp Volume(v), veh/h	204	446	136	57	220	44	232	1010	498	97	901	898
Grp Sat Flow(s),veh/h/ln	1594	1772	1478	1594	1772	1502	1594	1772	1745	1594	1772	1747
Q Serve(g_s), s	13.4	25.0	8.7	4.2	14.3	1.8	15.4	28.7	28.7	5.0	54.8	54.8
Cycle Q Clear(g_c), s	13.4	25.0	8.7	4.2	14.3	1.8	15.4	28.7	28.7	5.0	54.8	54.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.08
Lane Grp Cap(c), veh/h	180	373	311	70	251	213	207	1218	600	394	817	805
V/C Ratio(X)	1.14	1.20	0.44	0.81	0.88	0.21	1.12	0.83	0.83	0.25	1.10	1.11
Avail Cap(c_a), veh/h	180	373	311	86	268	227	207	1658	816	394	817	805
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	40.7	35.1	55.0	45.8	16.0	47.9	25.9	25.9	29.7	18.3	18.3
Incr Delay (d2), s/veh	108.2	111.7	1.0	36.1	25.0	0.5	99.7	2.7	5.3	0.3	63.6	68.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	21.1	3.0	2.3	7.4	1.1	11.1	9.3	9.6	1.8	26.4	27.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	157.6	152.4	36.1	91.1	70.8	16.4	147.6	28.6	31.2	30.1	82.0	86.4
LnGrp LOS	F	F	D	F	E	B	F	C	C	C	F	F
Approach Vol, veh/h		786			321			1740			1896	
Approach Delay, s/veh		133.6			67.0			45.2			81.4	
Approach LOS		F			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.0	45.4	9.9	29.6	20.0	59.4	18.0	21.5
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	14.6	55.6	6.4	25.0	15.4	54.8	13.4	18.0
Max Q Clear Time (g_c+I1), s	7.0	30.7	6.2	27.0	17.4	56.8	15.4	16.3
Green Ext Time (p_c), s	0.1	10.1	0.0	0.0	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	75.8
HCM 6th LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	775	874	308	333	133	305	1220	387	185	1716	126
Future Volume (vph)	178	775	874	308	333	133	305	1220	387	185	1716	126
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	11.0	39.6		17.6	46.2	46.2	15.0	48.0		14.8	47.8	47.8
Total Split (%)	9.2%	33.0%		14.7%	38.5%	38.5%	12.5%	40.0%		12.3%	39.8%	39.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	6.4	24.2	111.0	13.0	30.8	30.8	10.4	42.1	111.0	9.7	41.4	41.4
Actuated g/C Ratio	0.06	0.22	1.00	0.12	0.28	0.28	0.09	0.38	1.00	0.09	0.37	0.37
v/c Ratio	1.09	0.71	0.61	0.93	0.36	0.27	1.08	0.64	0.27	0.72	0.91	0.20
Control Delay	144.6	43.6	1.9	82.6	32.9	6.2	123.3	30.7	0.4	66.1	42.0	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	144.6	43.6	1.9	82.6	32.9	6.2	123.3	30.7	0.4	66.1	42.0	3.5
LOS	F	D	A	F	C	A	F	C	A	E	D	A
Approach Delay		33.4			48.1			39.4			41.8	
Approach LOS		C			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 39.5	Intersection LOS: D
Intersection Capacity Utilization 89.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	775	874	308	333	133	305	1220	387	185	1716	126
Future Volume (veh/h)	178	775	874	308	333	133	305	1220	387	185	1716	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	187	816	0	324	351	98	321	1284	0	195	1806	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1094		361	946	400	307	2075		249	1992	563
Arrive On Green	0.06	0.21	0.00	0.12	0.27	0.27	0.10	0.39	0.00	0.08	0.37	0.37
Sat Flow, veh/h	3000	5316	1502	3000	3544	1500	3188	5316	1502	3092	5316	1502
Grp Volume(v), veh/h	187	816	0	324	351	98	321	1284	0	195	1806	114
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1546	1772	1502
Q Serve(g_s), s	6.4	15.6	0.0	11.5	8.7	5.5	10.4	21.0	0.0	6.7	34.7	5.5
Cycle Q Clear(g_c), s	6.4	15.6	0.0	11.5	8.7	5.5	10.4	21.0	0.0	6.7	34.7	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	1094		361	946	400	307	2075		249	1992	563
V/C Ratio(X)	1.05	0.75		0.90	0.37	0.24	1.05	0.62		0.78	0.91	0.20
Avail Cap(c_a), veh/h	178	1644		361	1313	556	307	2075		292	2033	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	40.2	0.0	46.8	32.2	31.0	48.8	26.5	0.0	48.7	32.0	22.8
Incr Delay (d2), s/veh	81.8	1.0	0.0	23.4	0.2	0.3	63.8	0.6	0.0	9.2	6.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.5	0.0	5.3	3.6	1.9	6.6	8.2	0.0	2.8	14.6	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.6	41.3	0.0	70.2	32.4	31.4	112.6	27.0	0.0	57.9	38.3	23.0
LnGrp LOS	F	D		E	C	C	F	C		E	D	C
Approach Vol, veh/h		1003	A		773			1605	A		2115	
Approach Delay, s/veh		58.3			48.1			44.1			39.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	48.7	17.6	28.4	15.0	47.0	11.0	35.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	10.2	41.5	13.0	33.4	10.4	41.3	6.4	40.0
Max Q Clear Time (g_c+I1), s	8.7	23.0	13.5	17.6	12.4	36.7	8.4	10.7
Green Ext Time (p_c), s	0.1	7.8	0.0	4.5	0.0	3.7	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

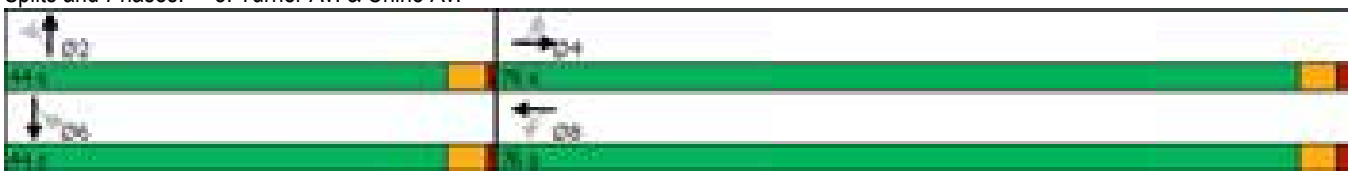
Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	192	290	51	194	24	153	86	238
Future Volume (vph)	192	290	51	194	24	153	86	238
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	76.0	76.0	76.0	76.0	44.0	44.0	44.0	44.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	14.5	14.5	14.5	14.5	10.2	10.2	10.2	10.2
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.30	0.30	0.30	0.30
v/c Ratio	0.53	0.28	0.15	0.22	0.10	0.24	0.31	0.34
Control Delay	13.4	6.4	7.7	4.8	11.4	8.6	13.9	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	6.4	7.7	4.8	11.4	8.6	13.9	10.3
LOS	B	A	A	A	B	A	B	B
Approach Delay		8.8		5.2		8.9		11.1
Approach LOS		A		A		A		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 34.3	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 8.6	Intersection LOS: A
Intersection Capacity Utilization 51.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Turner Av. & Chino Av.



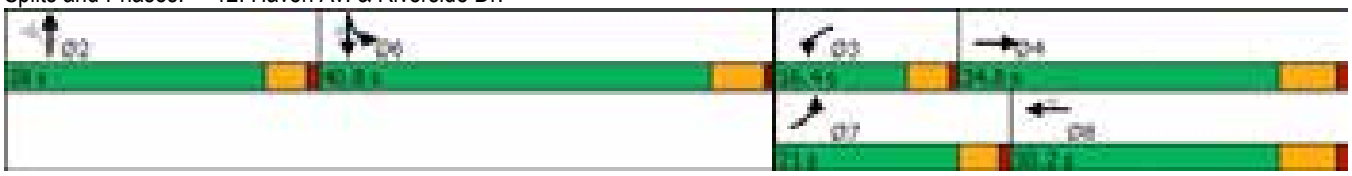


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	290	74	51	194	94	24	153	59	86	238	69
Future Volume (veh/h)	192	290	74	51	194	94	24	153	59	86	238	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	0.99		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	209	315	47	55	211	59	26	166	42	93	259	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	598	1198	177	553	1064	290	453	757	186	491	827	132
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	993	2942	435	912	2614	713	965	2662	653	1039	2906	465
Grp Volume(v), veh/h	209	179	183	55	134	136	26	103	105	93	149	152
Grp Sat Flow(s),veh/h/ln	993	1683	1694	912	1683	1644	965	1683	1632	1039	1683	1688
Q Serve(g_s), s	5.0	2.1	2.1	1.2	1.5	1.6	0.6	1.4	1.4	2.2	2.0	2.1
Cycle Q Clear(g_c), s	6.6	2.1	2.1	3.3	1.5	1.6	2.7	1.4	1.4	3.6	2.0	2.1
Prop In Lane	1.00		0.26	1.00		0.43	1.00		0.40	1.00		0.28
Lane Grp Cap(c), veh/h	598	685	690	553	685	669	453	479	464	491	479	480
V/C Ratio(X)	0.35	0.26	0.27	0.10	0.20	0.20	0.06	0.22	0.23	0.19	0.31	0.32
Avail Cap(c_a), veh/h	2626	4125	4150	2417	4125	4027	1484	2279	2209	1602	2279	2285
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.7	5.7	5.7	6.9	5.6	5.6	9.3	8.0	8.0	9.4	8.2	8.2
Incr Delay (d2), s/veh	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.3	0.3	0.1	0.2	0.2	0.1	0.3	0.3	0.3	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.1	5.9	6.0	6.9	5.7	5.7	9.3	8.2	8.2	9.6	8.6	8.6
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		571			325			234			394	
Approach Delay, s/veh		6.7			5.9			8.3			8.8	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.8		16.4		12.8		16.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		39.5		71.5		39.5		71.5				
Max Q Clear Time (g_c+I1), s		4.7		8.6		5.6		5.3				
Green Ext Time (p_c), s		1.2		3.3		2.0		1.9				
Intersection Summary												
HCM 6th Ctrl Delay			7.3									
HCM 6th LOS			A									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	462	709	147	538	115	85	742	149	262	919	571
Future Volume (vph)	462	709	147	538	115	85	742	149	262	919	571
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Split	NA	Perm
Protected Phases	7	4	3	8			2		6	6	
Permitted Phases					8	2		2			6
Detector Phase	7	4	3	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	30.2	23.7	23.7	23.7	24.8	24.8	24.8
Total Split (s)	21.0	34.8	16.4	30.2	30.2	28.0	28.0	28.0	40.8	40.8	40.8
Total Split (%)	17.5%	29.0%	13.7%	25.2%	25.2%	23.3%	23.3%	23.3%	34.0%	34.0%	34.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.7	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.7	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	16.4	29.3	9.8	22.7	22.7	23.3	23.3	23.3	35.0	35.0	35.0
Actuated g/C Ratio	0.14	0.25	0.08	0.19	0.19	0.20	0.20	0.20	0.29	0.29	0.29
v/c Ratio	1.10	1.03	0.59	0.83	0.32	1.59	1.12	0.37	0.59	0.92	0.78
Control Delay	120.8	80.7	61.9	57.8	9.5	369.8	114.7	9.1	42.0	55.3	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	120.8	80.7	61.9	57.8	9.5	369.8	114.7	9.1	42.0	55.3	16.8
LOS	F	F	E	E	A	F	F	A	D	E	B
Approach Delay		94.8		51.6			120.9			40.8	
Approach LOS		F		D			F			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 118.7	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.59	
Intersection Signal Delay: 73.4	Intersection LOS: E
Intersection Capacity Utilization 86.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	462	709	138	147	538	115	85	742	149	262	919	571
Future Volume (veh/h)	462	709	138	147	538	115	85	742	149	262	919	571
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	481	739	76	153	560	63	89	773	82	273	957	298
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	449	822	84	205	651	269	319	710	301	465	1035	438
Arrive On Green	0.21	0.39	0.39	0.10	0.28	0.28	0.30	0.30	0.30	0.44	0.44	0.44
Sat Flow, veh/h	3188	3154	324	3188	3544	1466	1594	3544	1502	1594	3544	1499
Grp Volume(v), veh/h	481	415	400	153	560	63	89	773	82	273	957	298
Grp Sat Flow(s),veh/h/ln	1594	1772	1706	1594	1772	1466	1594	1772	1502	1594	1772	1499
Q Serve(g_s), s	16.4	25.6	25.6	5.4	17.5	3.9	5.0	23.3	4.8	15.1	29.7	18.5
Cycle Q Clear(g_c), s	16.4	25.6	25.6	5.4	17.5	3.9	5.0	23.3	4.8	15.1	29.7	18.5
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	449	462	444	205	651	269	319	710	301	465	1035	438
V/C Ratio(X)	1.07	0.90	0.90	0.75	0.86	0.23	0.28	1.09	0.27	0.59	0.92	0.68
Avail Cap(c_a), veh/h	449	462	444	323	731	302	319	710	301	479	1066	451
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	34.0	34.0	51.7	40.7	35.8	34.3	40.7	34.2	27.4	31.5	28.4
Incr Delay (d2), s/veh	62.6	20.2	21.0	2.0	9.4	0.4	0.5	60.7	0.5	1.8	13.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	11.6	11.2	2.1	7.4	1.3	1.9	15.2	1.7	5.1	12.2	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.5	54.3	55.0	53.7	50.1	36.2	34.8	101.4	34.7	29.2	44.5	32.4
LnGrp LOS	F	D	D	D	D	D	C	F	C	C	D	C
Approach Vol, veh/h		1296			776			944			1528	
Approach Delay, s/veh		74.6			49.7			89.3			39.4	
Approach LOS		E			D			F			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.0	12.1	36.5		39.8	21.0	27.6				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 23	11.8	28.6		35.0	16.4	24.0				
Max Q Clear Time (g_c+I1), s		25.3	7.4	27.6		31.7	18.4	19.5				
Green Ext Time (p_c), s		0.0	0.1	0.5		2.3	0.0	1.5				

Intersection Summary		
HCM 6th Ctrl Delay		61.6
HCM 6th LOS		E

Notes

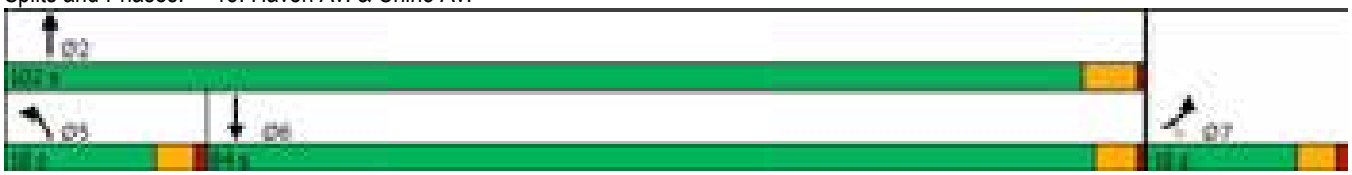
User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	192	87	187	799	889
Future Volume (vph)	192	87	187	799	889
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	7		5	2	6
Permitted Phases		7			
Detector Phase	7	7	5	2	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	9.6	9.6	22.8	21.7
Total Split (s)	18.0	18.0	18.0	102.0	84.0
Total Split (%)	15.0%	15.0%	15.0%	85.0%	70.0%
Yellow Time (s)	3.6	3.6	3.6	4.8	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	5.8	4.7
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	13.4	13.4	13.4	96.2	79.3
Actuated g/C Ratio	0.11	0.11	0.11	0.80	0.66
v/c Ratio	1.15	0.37	1.12	0.59	1.19
Control Delay	160.5	14.4	151.9	6.6	114.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	160.5	14.4	151.9	6.6	114.6
LOS	F	B	F	A	F
Approach Delay	114.8			34.2	114.6
Approach LOS	F			C	F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.19	
Intersection Signal Delay: 83.4	Intersection LOS: F
Intersection Capacity Utilization 109.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	192	87	187	799	889	385
Future Volume (veh/h)	192	87	187	799	889	385
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	202	50	197	841	936	205
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	176	166	176	1424	922	202
Arrive On Green	0.11	0.11	0.11	0.80	0.65	0.65
Sat Flow, veh/h	1594	1502	1594	1772	1408	308
Grp Volume(v), veh/h	202	50	197	841	0	1141
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1772	0	1716
Q Serve(g_s), s	13.4	3.7	13.4	21.5	0.0	79.3
Cycle Q Clear(g_c), s	13.4	3.7	13.4	21.5	0.0	79.3
Prop In Lane	1.00	1.00	1.00			0.18
Lane Grp Cap(c), veh/h	176	166	176	1424	0	1124
V/C Ratio(X)	1.15	0.30	1.12	0.59	0.00	1.02
Avail Cap(c_a), veh/h	176	166	176	1424	0	1124
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.9	49.5	53.9	4.5	0.0	20.9
Incr Delay (d2), s/veh	112.3	0.4	102.7	0.7	0.0	30.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	0.0	10.3	5.2	0.0	38.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	166.1	49.9	156.5	5.1	0.0	51.6
LnGrp LOS	F	D	F	A	A	F
Approach Vol, veh/h	252			1038	1141	
Approach Delay, s/veh	143.1			33.8	51.6	
Approach LOS	F			C	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.1		18.0	18.0	85.1
Change Period (Y+Rc), s		5.8		4.6	4.6	* 5.8
Max Green Setting (Gmax), s		96.2		13.4	13.4	* 79
Max Q Clear Time (g_c+I1), s		23.5		15.4	15.4	81.3
Green Ext Time (p_c), s		6.9		0.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		53.5
HCM 6th LOS		D

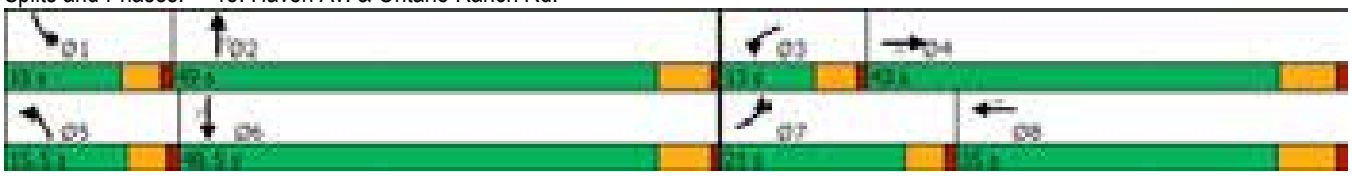
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	602	1680	95	264	1705	228	93	486	115	170	568	264
Future Volume (vph)	602	1680	95	264	1705	228	93	486	115	170	568	264
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	21.0	43.0	43.0	13.0	35.0	35.0	15.5	49.0	49.0	15.0	48.5	48.5
Total Split (%)	17.5%	35.8%	35.8%	10.8%	29.2%	29.2%	12.9%	40.8%	40.8%	12.5%	40.4%	40.4%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	16.5	37.1	37.1	8.5	28.7	28.7	9.6	26.0	26.0	10.5	26.8	26.8
Actuated g/C Ratio	0.16	0.36	0.36	0.08	0.28	0.28	0.09	0.25	0.25	0.10	0.26	0.26
v/c Ratio	1.30	0.94	0.17	1.16	0.93	0.41	0.67	0.61	0.25	1.13	0.70	0.47
Control Delay	187.4	44.2	5.4	149.4	46.4	6.7	69.7	36.9	3.0	155.4	38.8	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	187.4	44.2	5.4	149.4	46.4	6.7	69.7	36.9	3.0	155.4	38.8	6.1
LOS	F	D	A	F	D	A	E	D	A	F	D	A
Approach Delay		78.9			54.6			35.7			50.0	
Approach LOS		E			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 103.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.30	
Intersection Signal Delay: 61.0	Intersection LOS: E
Intersection Capacity Utilization 87.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	602	1680	95	264	1705	228	93	486	115	170	568	264
Future Volume (veh/h)	602	1680	95	264	1705	228	93	486	115	170	568	264
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	640	1787	52	281	1814	123	99	517	63	181	604	141
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	528	2036	575	262	2125	450	121	664	296	173	773	345
Arrive On Green	0.26	0.57	0.57	0.13	0.45	0.45	0.11	0.30	0.30	0.16	0.34	0.34
Sat Flow, veh/h	3092	5316	1502	3000	7088	1502	1594	3367	1502	1594	3367	1502
Grp Volume(v), veh/h	640	1787	52	281	1814	123	99	517	63	181	604	141
Grp Sat Flow(s),veh/h/ln	1546	1772	1502	1500	1772	1502	1594	1683	1502	1594	1683	1502
Q Serve(g_s), s	16.4	27.7	1.5	8.4	22.0	4.9	5.8	13.5	3.0	10.4	15.5	6.9
Cycle Q Clear(g_c), s	16.4	27.7	1.5	8.4	22.0	4.9	5.8	13.5	3.0	10.4	15.5	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	528	2036	575	262	2125	450	121	664	296	173	773	345
V/C Ratio(X)	1.21	0.88	0.09	1.07	0.85	0.27	0.82	0.78	0.21	1.05	0.78	0.41
Avail Cap(c_a), veh/h	528	2036	575	262	2125	450	181	1514	675	173	1497	668
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	18.5	12.9	41.7	24.5	19.9	41.9	31.9	28.2	40.2	29.3	26.5
Incr Delay (d2), s/veh	112.2	5.7	0.3	75.7	4.6	1.5	10.0	2.0	0.4	82.0	1.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.3	7.9	0.5	5.5	7.2	1.7	2.5	4.9	1.0	7.6	5.3	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	147.9	24.2	13.2	117.4	29.2	21.4	51.9	33.9	28.6	122.3	31.1	27.3
LnGrp LOS	F	C	B	F	C	C	D	C	C	F	C	C
Approach Vol, veh/h		2479			2218			679			926	
Approach Delay, s/veh		55.9			39.9			36.0			48.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	24.8	13.0	43.3	11.9	27.9	21.0	35.3
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	10.4	43.2	8.4	* 37	10.9	42.7	16.4	28.5
Max Q Clear Time (g_c+I1), s	12.4	15.5	10.4	29.7	7.8	17.5	18.4	24.0
Green Ext Time (p_c), s	0.0	3.5	0.0	5.5	0.0	4.3	0.0	3.7

Intersection Summary	
HCM 6th Ctrl Delay	47.0
HCM 6th LOS	D

Notes

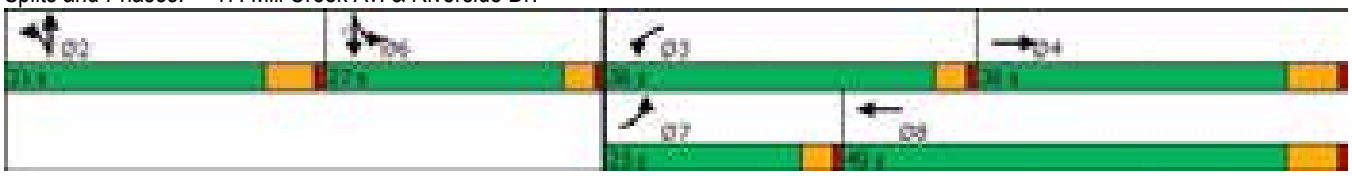
User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	125	1343	515	1034	18	22	130	70	17	68
Future Volume (vph)	125	1343	515	1034	18	22	130	70	17	68
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4	3	8	2	2		6	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0	27.0
Total Split (s)	23.0	36.0	36.0	49.0	31.0	31.0	31.0	27.0	27.0	27.0
Total Split (%)	17.7%	27.7%	27.7%	37.7%	23.8%	23.8%	23.8%	20.8%	20.8%	20.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	12.9	30.3	32.3	49.7	12.4	12.4	12.4	12.6	12.6	12.6
Actuated g/C Ratio	0.12	0.28	0.30	0.46	0.12	0.12	0.12	0.12	0.12	0.12
v/c Ratio	0.70	1.04	1.15	0.52	0.10	0.11	0.47	0.40	0.09	0.24
Control Delay	66.3	72.3	126.7	23.1	44.4	44.4	13.0	51.1	43.8	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	72.3	126.7	23.1	44.4	44.4	13.0	51.1	43.8	1.9
LOS	E	E	F	C	D	D	B	D	D	A
Approach Delay		71.8		54.7		20.3			28.7	
Approach LOS		E		D		C			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 107.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 59.5	Intersection LOS: E
Intersection Capacity Utilization 85.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	1343	101	515	1034	137	18	22	130	70	17	68
Future Volume (veh/h)	125	1343	101	515	1034	137	18	22	130	70	17	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	133	1429	54	548	1100	98	19	23	74	74	18	45
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1481	56	495	2412	215	158	175	148	171	191	156
Arrive On Green	0.10	0.29	0.29	0.31	0.50	0.50	0.10	0.10	0.10	0.11	0.11	0.11
Sat Flow, veh/h	1594	5088	192	1594	4811	428	1594	1772	1497	1594	1772	1453
Grp Volume(v), veh/h	133	995	488	548	810	388	19	23	74	74	18	45
Grp Sat Flow(s),veh/h/ln	1594	1772	1736	1594	1772	1695	1594	1772	1497	1594	1772	1453
Q Serve(g_s), s	8.4	28.5	28.5	32.0	15.2	15.3	1.1	1.2	4.8	4.5	0.9	2.9
Cycle Q Clear(g_c), s	8.4	28.5	28.5	32.0	15.2	15.3	1.1	1.2	4.8	4.5	0.9	2.9
Prop In Lane	1.00		0.11	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	1031	505	495	1777	850	158	175	148	171	191	156
V/C Ratio(X)	0.83	0.97	0.97	1.11	0.46	0.46	0.12	0.13	0.50	0.43	0.09	0.29
Avail Cap(c_a), veh/h	294	1031	505	495	1777	850	390	433	366	356	395	324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.6	36.0	36.0	35.5	16.6	16.6	42.4	42.4	44.0	43.1	41.5	42.4
Incr Delay (d2), s/veh	4.3	20.1	31.2	73.2	0.2	0.4	0.3	0.3	2.6	1.7	0.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	14.3	15.6	21.5	5.6	5.4	0.4	0.5	1.8	1.8	0.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.9	56.1	67.2	108.8	16.8	17.0	42.7	42.7	46.6	44.8	41.7	43.4
LnGrp LOS	D	E	E	F	B	B	D	D	D	D	D	D
Approach Vol, veh/h		1616			1746			116			137	
Approach Delay, s/veh		59.0			45.7			45.2			43.9	
Approach LOS		E			D			D			D	

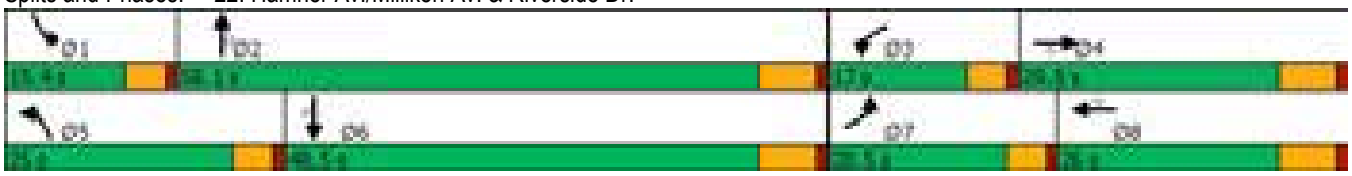
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	36.0	36.0		15.1	14.3	57.7				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		25.2	32.0	30.0		23.0	19.0	43.0				
Max Q Clear Time (g_c+I1), s		6.8	34.0	30.5		6.5	10.4	17.3				
Green Ext Time (p_c), s		0.3	0.0	0.0		0.3	0.1	7.9				

Intersection Summary												
HCM 6th Ctrl Delay			51.5									
HCM 6th LOS			D									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	393	203	303	109	274	250	482	1456	59	257	1398	646
Future Volume (vph)	393	203	303	109	274	250	482	1456	59	257	1398	646
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	20.5	29.5	29.5	17.0	26.0	26.0	25.0	58.1	58.1	15.4	48.5	48.5
Total Split (%)	17.1%	24.6%	24.6%	14.2%	21.7%	21.7%	20.8%	48.4%	48.4%	12.8%	40.4%	40.4%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	15.9	24.4	24.4	11.3	19.8	19.8	20.3	51.9	51.9	10.8	42.4	42.4
Actuated g/C Ratio	0.13	0.20	0.20	0.09	0.16	0.16	0.17	0.43	0.43	0.09	0.35	0.35
v/c Ratio	0.99	0.60	0.38	0.78	0.99	0.37	0.95	1.00	0.09	0.95	0.79	0.92
Control Delay	93.3	51.7	5.8	85.4	100.6	6.8	77.3	58.4	0.5	96.7	38.5	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.3	51.7	5.8	85.4	100.6	6.8	77.3	58.4	0.5	96.7	38.5	38.2
LOS	F	D	A	F	F	A	E	E	A	F	D	D
Approach Delay		54.4			60.9			61.3			44.9	
Approach LOS		D			E			E			D	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Natural Cycle: 120		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 1.00		
Intersection Signal Delay: 53.7	Intersection LOS: D	
Intersection Capacity Utilization 96.4%	ICU Level of Service F	
Analysis Period (min) 15		

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	203	303	109	274	250	482	1456	59	257	1398	646
Future Volume (veh/h)	393	203	303	109	274	250	482	1456	59	257	1398	646
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	414	214	161	115	288	131	507	1533	33	271	1472	343
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	376	628	136	292	496	542	1533	649	287	1874	522
Arrive On Green	0.20	0.32	0.32	0.13	0.25	0.25	0.25	0.65	0.65	0.13	0.53	0.53
Sat Flow, veh/h	3188	1772	2961	1594	1772	3003	3188	3544	1501	3188	5316	1481
Grp Volume(v), veh/h	414	214	161	115	288	131	507	1533	33	271	1472	343
Grp Sat Flow(s),veh/h/ln	1594	1772	1480	1594	1772	1502	1594	1772	1501	1594	1772	1481
Q Serve(g_s), s	15.5	12.1	4.8	8.5	19.4	4.2	18.7	51.9	1.0	10.1	26.8	20.1
Cycle Q Clear(g_c), s	15.5	12.1	4.8	8.5	19.4	4.2	18.7	51.9	1.0	10.1	26.8	20.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	422	376	628	136	292	496	542	1533	649	287	1874	522
V/C Ratio(X)	0.98	0.57	0.26	0.84	0.99	0.26	0.94	1.00	0.05	0.94	0.79	0.66
Avail Cap(c_a), veh/h	422	376	628	165	292	496	542	1533	649	287	1874	522
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	36.4	33.9	51.5	45.0	39.3	44.1	21.1	12.1	51.6	24.6	23.0
Incr Delay (d2), s/veh	38.3	2.0	0.2	23.8	48.4	0.3	23.5	23.0	0.0	38.0	2.3	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	4.9	1.7	4.0	11.3	1.5	8.1	18.1	0.3	5.2	8.8	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.3	38.4	34.1	75.3	93.4	39.6	67.6	44.1	12.2	89.7	26.9	26.0
LnGrp LOS	F	D	C	E	F	D	E	F	B	F	C	C
Approach Vol, veh/h		789			534			2073			2086	
Approach Delay, s/veh		62.6			76.3			49.3			34.9	
Approach LOS		E			E			D			C	

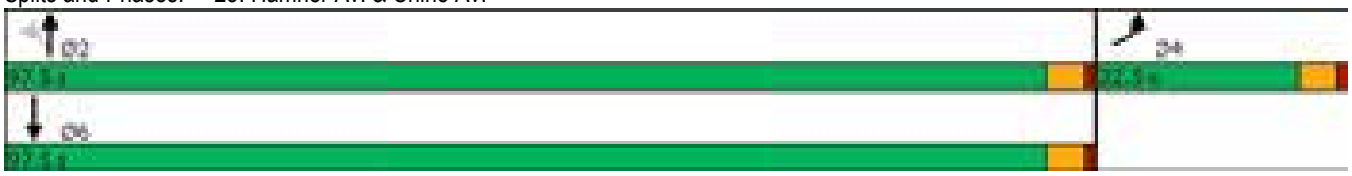
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.4	58.1	14.9	31.6	25.0	48.5	20.5	26.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	10.8	51.9	12.4	23.3	20.4	42.3	15.9	19.8
Max Q Clear Time (g_c+I1), s	12.1	53.9	10.5	14.1	20.7	28.8	17.5	21.4
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.0	8.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	54	76	1865	1724
Future Volume (vph)	54	76	1865	1724
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		2		
Detector Phase	4	2	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	22.5	97.5	97.5	97.5
Total Split (%)	18.8%	81.3%	81.3%	81.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Min	Min	Min
Act Effct Green (s)	11.2		99.8	99.8
Actuated g/C Ratio	0.09		0.83	0.83
v/c Ratio	0.55		1.09	0.70
Control Delay	49.4		63.5	6.1
Queue Delay	0.0		0.0	0.0
Total Delay	49.4		63.5	6.1
LOS	D		E	A
Approach Delay	49.4		63.5	6.1
Approach LOS	D		E	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 35.9	Intersection LOS: D
Intersection Capacity Utilization 119.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	54	36	76	1865	1724	121
Future Volume (veh/h)	54	36	76	1865	1724	121
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	24	84	2049	1895	67
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	75	31	98	2459	2994	105
Arrive On Green	0.06	0.06	0.86	0.86	0.86	0.86
Sat Flow, veh/h	1209	492	73	2876	3595	123
Grp Volume(v), veh/h	84	0	1093	1040	956	1006
Grp Sat Flow(s),veh/h/ln	1721	0	1247	1702	1777	1848
Q Serve(g_s), s	5.2	0.0	74.2	24.8	18.4	18.8
Cycle Q Clear(g_c), s	5.2	0.0	93.0	24.8	18.4	18.8
Prop In Lane	0.70	0.29	0.08			0.07
Lane Grp Cap(c), veh/h	107	0	1102	1455	1519	1580
V/C Ratio(X)	0.78	0.00	0.99	0.71	0.63	0.64
Avail Cap(c_a), veh/h	285	0	1102	1455	1519	1580
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	0.0	7.0	2.9	2.5	2.5
Incr Delay (d2), s/veh	11.8	0.0	25.1	1.7	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	9.2	2.3	1.6	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.1	0.0	32.1	4.6	3.3	3.4
LnGrp LOS	E	A	C	A	A	A
Approach Vol, veh/h	84			2133	1962	
Approach Delay, s/veh	62.1			18.7	3.3	
Approach LOS	E			B	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		97.5		11.3		97.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		93.0		18.0		93.0
Max Q Clear Time (g_c+I1), s		95.0		7.2		20.8
Green Ext Time (p_c), s		0.0		0.1		26.3

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

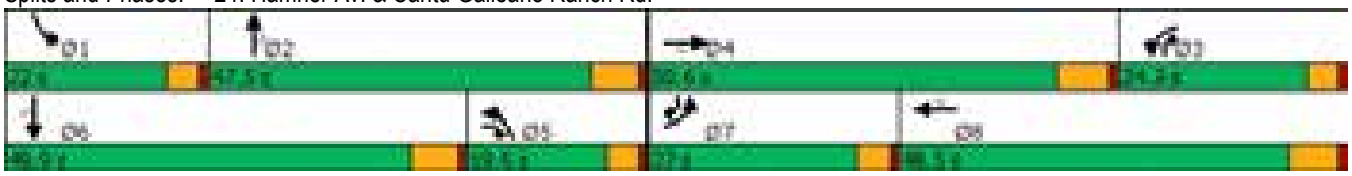
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	704	1527	331	475	1542	449	239	516	371	729	855	569
Future Volume (vph)	704	1527	331	475	1542	449	239	516	371	729	855	569
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	8	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	48.5	9.6	9.6	48.5	48.5	9.6	46.2	9.6	9.6	46.2	9.6
Total Split (s)	27.0	50.6	19.6	24.9	48.5	48.5	19.6	47.5	24.9	22.0	49.9	27.0
Total Split (%)	18.6%	34.9%	13.5%	17.2%	33.4%	33.4%	13.5%	32.8%	17.2%	15.2%	34.4%	18.6%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	5.5	3.6	5.2	3.6	3.6	5.2	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	6.5	4.6	6.2	4.6	4.6	6.2	4.6
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None
Act Effct Green (s)	22.6	35.7	57.3	25.8	38.9	38.9	15.0	21.3	48.7	17.6	23.9	48.1
Actuated g/C Ratio	0.18	0.29	0.47	0.21	0.32	0.32	0.12	0.17	0.40	0.14	0.20	0.39
v/c Ratio	1.12	0.73	0.43	0.67	0.68	0.67	0.58	0.55	0.56	1.50	0.61	0.45
Control Delay	119.4	41.7	16.7	51.1	38.7	18.5	58.3	48.1	15.2	269.9	46.9	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.4	41.7	16.7	51.1	38.7	18.5	58.3	48.1	15.2	269.9	46.9	13.2
LOS	F	D	B	D	D	B	E	D	B	F	D	B
Approach Delay		59.8			37.4			39.4			113.4	
Approach LOS		E			D			D			F	

Intersection Summary	
Cycle Length: 145	
Actuated Cycle Length: 122.5	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.50	
Intersection Signal Delay: 64.3	Intersection LOS: E
Intersection Capacity Utilization 91.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	704	1527	331	475	1542	449	239	516	371	729	855	569
Future Volume (veh/h)	704	1527	331	475	1542	449	239	516	371	729	855	569
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	733	1591	131	495	1606	285	249	538	202	759	891	202
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	722	2220	628	668	2235	474	353	803	524	561	1398	1235
Arrive On Green	0.30	0.45	0.45	0.28	0.45	0.45	0.15	0.21	0.21	0.24	0.28	0.28
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	733	1591	131	495	1606	285	249	538	202	759	891	202
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	22.4	19.2	0.0	13.9	19.3	15.0	7.3	9.7	3.2	17.4	11.5	2.5
Cycle Q Clear(g_c), s	22.4	19.2	0.0	13.9	19.3	15.0	7.3	9.7	3.2	17.4	11.5	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	722	2220	628	668	2235	474	353	803	524	561	1398	1235
V/C Ratio(X)	1.02	0.72	0.21	0.74	0.72	0.60	0.70	0.67	0.39	1.35	0.64	0.16
Avail Cap(c_a), veh/h	722	2984	790	668	2842	602	483	2096	889	561	2957	1895
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	26.9	17.0	37.3	26.7	25.5	45.5	41.0	9.5	42.2	36.5	7.9
Incr Delay (d2), s/veh	37.4	0.5	0.2	3.9	0.7	1.2	1.3	1.0	0.5	170.6	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	6.7	1.6	5.6	6.8	4.7	3.1	4.1	1.5	19.8	4.7	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.9	27.4	17.2	41.2	27.4	26.8	46.8	42.0	10.0	212.8	37.0	8.0
LnGrp LOS	F	C	B	D	C	C	D	D	B	F	D	A
Approach Vol, veh/h		2455			2386			989			1852	
Approach Delay, s/veh		41.3			30.2			36.7			105.9	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	22.0	27.2	39.3	17.2	26.9	27.0	39.5
Change Period (Y+Rc), s	4.6	6.2	6.5	* 6.5	6.2	* 6.2	4.6	6.5
Max Green Setting (Gmax), s	17.4	41.3	20.3	* 44	15.0	* 44	22.4	42.0
Max Q Clear Time (g_c+I1), s	19.4	11.7	15.9	21.2	9.3	13.5	24.4	21.3
Green Ext Time (p_c), s	0.0	4.1	0.4	11.7	0.2	7.1	0.0	11.7

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 7.6: HORIZON YEAR (2050) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	203	718	306	174	621	318	409	1706	267	744
Future Volume (vph)	203	718	306	174	621	318	409	1706	267	744
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	18.0	38.8	38.8	17.4	38.2	38.2	24.8	49.8	14.0	39.0
Total Split (%)	15.0%	32.3%	32.3%	14.5%	31.8%	31.8%	20.7%	41.5%	11.7%	32.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.4	30.5	30.5	12.8	29.9	29.9	18.8	43.6	9.4	34.2
Actuated g/C Ratio	0.11	0.26	0.26	0.11	0.25	0.25	0.16	0.37	0.08	0.29
v/c Ratio	1.18	0.86	0.53	1.06	0.76	0.66	0.87	1.12	1.14	0.72
Control Delay	168.4	53.1	8.5	135.6	47.3	25.7	67.1	97.3	148.3	39.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	168.4	53.1	8.5	135.6	47.3	25.7	67.1	97.3	148.3	39.3
LOS	F	D	A	F	D	C	E	F	F	D
Approach Delay		61.0			55.0			92.0		63.1
Approach LOS		E			D			F		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 117.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 72.5	Intersection LOS: E
Intersection Capacity Utilization 97.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	718	306	174	621	318	409	1706	190	267	744	211
Future Volume (veh/h)	203	718	306	174	621	318	409	1706	190	267	744	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	211	748	163	181	647	170	426	1777	104	278	775	111
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	848	372	172	831	364	476	1712	100	244	1303	185
Arrive On Green	0.11	0.25	0.25	0.11	0.25	0.25	0.15	0.37	0.37	0.08	0.31	0.31
Sat Flow, veh/h	1594	3367	1477	1594	3367	1474	3092	4670	273	3092	4271	607
Grp Volume(v), veh/h	211	748	163	181	647	170	426	1226	655	278	584	302
Grp Sat Flow(s),veh/h/ln	1594	1683	1477	1594	1683	1474	1546	1612	1718	1546	1612	1653
Q Serve(g_s), s	13.4	25.4	11.0	12.8	21.3	8.8	16.1	43.6	43.6	9.4	18.3	18.5
Cycle Q Clear(g_c), s	13.4	25.4	11.0	12.8	21.3	8.8	16.1	43.6	43.6	9.4	18.3	18.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		0.37
Lane Grp Cap(c), veh/h	180	848	372	172	831	364	476	1182	630	244	984	504
V/C Ratio(X)	1.18	0.88	0.44	1.06	0.78	0.47	0.90	1.04	1.04	1.14	0.59	0.60
Avail Cap(c_a), veh/h	180	923	405	172	906	396	525	1182	630	244	984	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	42.8	37.4	53.1	41.8	21.8	49.4	37.7	37.7	54.8	35.1	35.1
Incr Delay (d2), s/veh	122.2	9.5	0.8	84.1	4.1	0.9	15.9	36.3	46.6	99.8	1.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	11.2	3.9	8.9	8.9	3.0	7.0	22.0	25.2	6.9	7.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	175.0	52.3	38.2	137.2	45.8	22.8	65.2	74.0	84.3	154.5	36.0	37.1
LnGrp LOS	F	D	D	F	D	C	E	F	F	F	D	D
Approach Vol, veh/h		1122			998			2307			1164	
Approach Delay, s/veh		73.3			58.5			75.3			64.6	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	49.8	17.4	36.1	22.9	42.5	18.0	35.5
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	9.4	* 44	12.8	32.6	20.2	32.8	13.4	32.0
Max Q Clear Time (g_c+I1), s	11.4	45.6	14.8	27.4	18.1	20.5	15.4	23.3
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.2	4.1	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	69.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	148	127	64	153	157	214	293	1765	85	870
Future Volume (vph)	148	127	64	153	157	214	293	1765	85	870
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	19.1	22.6	22.6	19.6	23.1	23.1	32.4	62.0	15.8	45.4
Total Split (%)	15.9%	18.8%	18.8%	16.3%	19.3%	19.3%	27.0%	51.7%	13.2%	37.8%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	14.4	15.6	15.6	14.9	16.1	16.1	27.1	56.2	11.8	40.9
Actuated g/C Ratio	0.12	0.13	0.13	0.13	0.14	0.14	0.23	0.48	0.10	0.35
v/c Ratio	0.89	0.63	0.23	0.90	0.76	0.68	0.94	0.90	0.63	0.96
Control Delay	93.2	60.8	1.7	92.6	69.2	23.9	79.5	33.7	70.0	54.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.2	60.8	1.7	92.6	69.2	23.9	79.5	33.7	70.0	54.9
LOS	F	E	A	F	E	C	E	C	E	D
Approach Delay		63.8			57.5			39.8		56.1
Approach LOS		E			E			D		E

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 116.9	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 48.2	Intersection LOS: D
Intersection Capacity Utilization 80.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	127	64	153	157	214	293	1765	161	85	870	121
Future Volume (veh/h)	148	127	64	153	157	214	293	1765	161	85	870	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	174	149	67	180	185	158	345	2076	181	100	1024	134
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	216	183	205	222	188	369	2361	204	154	1086	142
Arrive On Green	0.12	0.12	0.12	0.13	0.13	0.13	0.23	0.49	0.49	0.10	0.35	0.35
Sat Flow, veh/h	1594	1772	1502	1594	1772	1502	1594	4819	416	1594	3061	400
Grp Volume(v), veh/h	174	149	67	180	185	158	345	1521	736	100	592	566
Grp Sat Flow(s),veh/h/ln	1594	1772	1502	1594	1772	1502	1594	1772	1691	1594	1772	1690
Q Serve(g_s), s	12.1	9.1	4.6	12.5	11.5	9.2	23.9	43.2	44.3	6.8	36.5	36.6
Cycle Q Clear(g_c), s	12.1	9.1	4.6	12.5	11.5	9.2	23.9	43.2	44.3	6.8	36.5	36.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		0.24
Lane Grp Cap(c), veh/h	199	216	183	205	222	188	369	1737	829	154	629	599
V/C Ratio(X)	0.88	0.69	0.37	0.88	0.83	0.84	0.93	0.88	0.89	0.65	0.94	0.94
Avail Cap(c_a), veh/h	205	283	240	212	291	246	393	1804	861	158	641	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	47.5	45.5	48.3	48.1	30.5	42.5	25.7	26.0	49.1	35.2	35.3
Incr Delay (d2), s/veh	31.3	4.7	1.2	31.1	14.4	17.5	28.4	5.1	10.9	8.7	22.2	23.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	4.2	1.8	6.6	5.9	4.2	11.7	17.2	18.1	3.0	18.5	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.8	52.1	46.7	79.3	62.6	48.0	70.9	30.7	36.9	57.8	57.4	58.5
LnGrp LOS	E	D	D	E	E	D	E	C	D	E	E	E
Approach Vol, veh/h		390			523			2602			1258	
Approach Delay, s/veh		63.5			63.9			37.8			57.9	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	59.8	19.1	18.3	30.7	44.6	18.7	18.8
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	11.2	57.4	15.0	18.0	27.8	40.8	14.5	18.5
Max Q Clear Time (g_c+I1), s	8.8	46.3	14.5	11.1	25.9	38.6	14.1	13.5
Green Ext Time (p_c), s	0.0	8.9	0.0	0.5	0.2	1.4	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	48.1
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	256	292	304	499	129	690	1637	339	109	943	101
Future Volume (vph)	43	256	292	304	499	129	690	1637	339	109	943	101
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	43.8		12.0	46.2	46.2	17.0	53.8		10.4	47.2	47.2
Total Split (%)	8.0%	36.5%		10.0%	38.5%	38.5%	14.2%	44.8%		8.7%	39.3%	39.3%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.1	20.4	98.1	7.6	25.4	25.4	12.7	41.7	98.1	5.9	35.0	35.0
Actuated g/C Ratio	0.05	0.21	1.00	0.08	0.26	0.26	0.13	0.43	1.00	0.06	0.36	0.36
v/c Ratio	0.30	0.25	0.21	1.45	0.60	0.28	1.85	0.80	0.25	0.65	0.55	0.18
Control Delay	55.5	32.8	0.3	261.5	35.9	5.2	419.1	28.6	0.4	65.8	27.1	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.5	32.8	0.3	261.5	35.9	5.2	419.1	28.6	0.4	65.8	27.1	2.1
LOS	E	C	A	F	D	A	F	C	A	E	C	A
Approach Delay		18.4			105.2			126.0			28.6	
Approach LOS		B			F			F			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 98.1	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.85	
Intersection Signal Delay: 89.5	Intersection LOS: F
Intersection Capacity Utilization 78.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	256	292	304	499	129	690	1637	339	109	943	101
Future Volume (veh/h)	43	256	292	304	499	129	690	1637	339	109	943	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	47	281	0	334	548	76	758	1799	0	120	1036	56
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	834		268	732	306	477	2292		179	1805	503
Arrive On Green	0.06	0.24	0.00	0.13	0.31	0.31	0.22	0.65	0.00	0.09	0.51	0.51
Sat Flow, veh/h	3000	5316	1502	3000	3544	1482	3188	5316	1502	3092	5316	1482
Grp Volume(v), veh/h	47	281	0	334	548	76	758	1799	0	120	1036	56
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1482	1594	1772	1502	1546	1772	1482
Q Serve(g_s), s	1.2	3.6	0.0	7.4	11.5	3.2	12.4	20.1	0.0	3.1	11.2	1.6
Cycle Q Clear(g_c), s	1.2	3.6	0.0	7.4	11.5	3.2	12.4	20.1	0.0	3.1	11.2	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	834		268	732	306	477	2292		179	1805	503
V/C Ratio(X)	0.39	0.34		1.25	0.75	0.25	1.59	0.78		0.67	0.57	0.11
Avail Cap(c_a), veh/h	181	2414		268	1712	716	477	3036		217	2613	728
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	28.1	0.0	35.9	26.7	23.8	32.1	11.9	0.0	37.0	16.2	13.8
Incr Delay (d2), s/veh	0.8	0.2	0.0	137.9	1.6	0.4	274.4	1.0	0.0	3.6	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.4	0.0	7.5	4.1	1.0	22.1	4.5	0.0	1.2	3.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	28.3	0.0	173.8	28.2	24.2	306.6	12.9	0.0	40.6	16.5	13.9
LnGrp LOS	D	C		F	C	C	F	B		D	B	B
Approach Vol, veh/h		328	A		958			2557	A		1212	
Approach Delay, s/veh		29.8			78.6			99.9			18.7	
Approach LOS		C			E			F			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	42.2	12.0	19.2	17.0	34.6	7.9	23.3
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	5.8	47.3	7.4	37.6	12.4	40.7	5.0	40.0
Max Q Clear Time (g_c+I1), s	5.1	22.1	9.4	5.6	14.4	13.2	3.2	13.5
Green Ext Time (p_c), s	0.0	13.6	0.0	1.7	0.0	7.2	0.0	3.6

Intersection Summary	
HCM 6th Ctrl Delay	71.9
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	170	169	49	224	157	493	92	230
Future Volume (vph)	170	169	49	224	157	493	92	230
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	62.0	62.0	62.0	62.0	58.0	58.0	58.0	58.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%	48.3%	48.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	32.0	32.0	32.0	32.0	30.7	30.7	30.7	30.7
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.42	0.42	0.42	0.42
v/c Ratio	0.73	0.27	0.18	0.35	0.67	0.53	0.61	0.33
Control Delay	35.2	8.8	16.3	10.8	32.2	18.5	35.8	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	8.8	16.3	10.8	32.2	18.5	35.8	13.5
LOS	D	A	B	B	C	B	D	B
Approach Delay		18.7		11.5		21.6		18.3
Approach LOS		B		B		C		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 73.7	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 59.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Turner Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	169	117	49	224	148	157	493	51	92	230	109
Future Volume (veh/h)	170	169	117	49	224	148	157	493	51	92	230	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	230	228	158	66	303	200	212	666	69	124	311	147
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	870	578	429	878	563	376	1318	136	272	956	441
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	801	1937	1287	892	1954	1254	835	3068	317	646	2226	1027
Grp Volume(v), veh/h	230	197	189	66	260	243	212	365	370	124	233	225
Grp Sat Flow(s),veh/h/ln	801	1683	1540	892	1683	1525	835	1683	1702	646	1683	1570
Q Serve(g_s), s	19.6	5.4	5.7	3.7	7.5	7.8	16.9	11.7	11.8	12.9	6.8	7.1
Cycle Q Clear(g_c), s	27.4	5.4	5.7	9.5	7.5	7.8	23.9	11.7	11.8	24.7	6.8	7.1
Prop In Lane	1.00		0.84	1.00		0.82	1.00		0.19	1.00		0.65
Lane Grp Cap(c), veh/h	373	757	692	429	757	685	376	723	731	272	723	674
V/C Ratio(X)	0.62	0.26	0.27	0.15	0.34	0.35	0.56	0.50	0.51	0.46	0.32	0.33
Avail Cap(c_a), veh/h	632	1301	1191	718	1301	1179	618	1211	1224	459	1211	1129
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	12.8	12.9	15.8	13.3	13.4	22.1	15.5	15.5	24.5	14.0	14.1
Incr Delay (d2), s/veh	1.7	0.2	0.2	0.2	0.3	0.3	1.3	0.5	0.5	1.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	1.8	1.8	0.7	2.5	2.4	3.0	4.0	4.0	1.9	2.3	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.0	12.9	13.1	16.0	13.6	13.7	23.4	16.0	16.0	25.6	14.3	14.4
LnGrp LOS	C	B	B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h		616			569			947			582	
Approach Delay, s/veh		17.1			13.9			17.7			16.8	
Approach LOS		B			B			B			B	

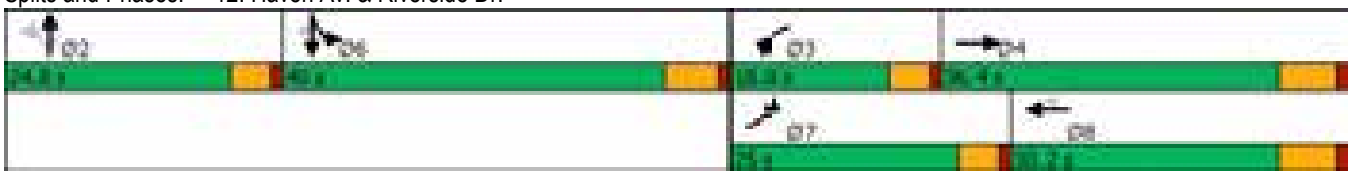
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.5		37.9		36.5		37.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		53.5		57.5		53.5		57.5				
Max Q Clear Time (g_c+I1), s		25.9		29.4		26.7		11.5				
Green Ext Time (p_c), s		6.0		4.0		3.8		3.6				

Intersection Summary												
HCM 6th Ctrl Delay			16.6									
HCM 6th LOS			B									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	546	763	321	526	439	24	530	222	478	412	309
Future Volume (vph)	546	763	321	526	439	24	530	222	478	412	309
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Split	NA	Perm
Protected Phases	7	4	3	8			2		6	6	
Permitted Phases					8	2		2			6
Detector Phase	7	4	3	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	30.2	23.7	23.7	23.7	24.8	24.8	24.8
Total Split (s)	25.0	36.4	18.8	30.2	30.2	24.8	24.8	24.8	40.0	40.0	40.0
Total Split (%)	20.8%	30.3%	15.7%	25.2%	25.2%	20.7%	20.7%	20.7%	33.3%	33.3%	33.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.7	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.7	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	20.4	30.2	14.1	23.9	23.9	20.1	20.1	20.1	34.2	34.2	34.2
Actuated g/C Ratio	0.17	0.25	0.12	0.20	0.20	0.17	0.17	0.17	0.29	0.29	0.29
v/c Ratio	1.08	0.99	0.91	0.80	0.71	0.47	0.95	0.54	1.13	0.44	0.51
Control Delay	108.9	73.0	82.0	55.1	10.4	74.6	77.0	10.4	122.1	36.6	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.9	73.0	82.0	55.1	10.4	74.6	77.0	10.4	122.1	36.6	6.5
LOS	F	E	F	E	B	E	E	B	F	D	A
Approach Delay		87.3		46.6			57.9			63.0	
Approach LOS		F		D			E			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.9	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 64.8	Intersection LOS: E
Intersection Capacity Utilization 98.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	546	763	57	321	526	439	24	530	222	478	412	309
Future Volume (veh/h)	546	763	57	321	526	439	24	530	222	478	412	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	581	812	34	341	560	244	26	564	119	509	438	153
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	542	848	35	377	709	287	267	594	247	454	1010	423
Arrive On Green	0.25	0.38	0.38	0.18	0.30	0.30	0.25	0.25	0.25	0.43	0.43	0.43
Sat Flow, veh/h	3188	3369	141	3188	3544	1433	1594	3544	1475	1594	3544	1483
Grp Volume(v), veh/h	581	427	419	341	560	244	26	564	119	509	438	153
Grp Sat Flow(s),veh/h/ln	1594	1772	1738	1594	1772	1433	1594	1772	1475	1594	1772	1483
Q Serve(g_s), s	20.4	28.2	28.2	12.6	17.4	19.2	1.5	18.8	8.2	34.2	10.4	8.4
Cycle Q Clear(g_c), s	20.4	28.2	28.2	12.6	17.4	19.2	1.5	18.8	8.2	34.2	10.4	8.4
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	542	446	437	377	709	287	267	594	247	454	1010	423
V/C Ratio(X)	1.07	0.96	0.96	0.90	0.79	0.85	0.10	0.95	0.48	1.12	0.43	0.36
Avail Cap(c_a), veh/h	542	446	437	377	709	287	267	594	247	454	1010	423
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	36.7	36.7	48.7	39.7	40.3	38.0	44.4	40.5	34.4	27.5	27.0
Incr Delay (d2), s/veh	59.4	31.9	32.3	23.8	6.0	21.0	0.2	25.1	1.5	79.4	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	14.0	13.8	5.8	7.1	7.4	0.6	9.7	2.9	20.9	4.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.1	68.6	69.1	72.5	45.7	61.3	38.1	69.6	41.9	113.8	27.8	27.5
LnGrp LOS	F	E	E	E	D	E	D	E	D	F	C	C
Approach Vol, veh/h		1427			1145			709			1100	
Approach Delay, s/veh		83.2			57.0			63.8			67.6	
Approach LOS		F			E			E			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.8	18.8	36.4		40.0	25.0	30.2				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 20	14.2	30.2		34.2	20.4	24.0				
Max Q Clear Time (g_c+I1), s		20.8	14.6	30.2		36.2	22.4	21.2				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	1.2				

Intersection Summary	
HCM 6th Ctrl Delay	69.3
HCM 6th LOS	E

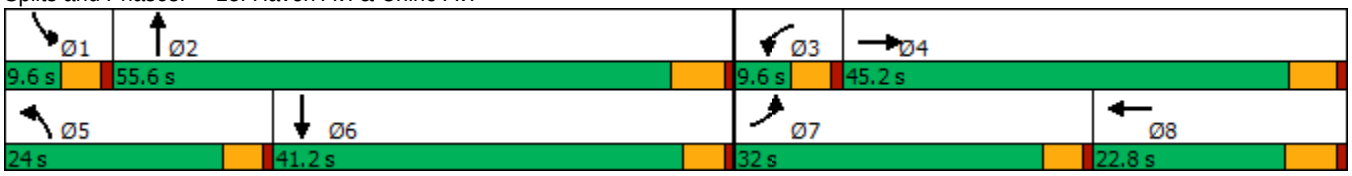
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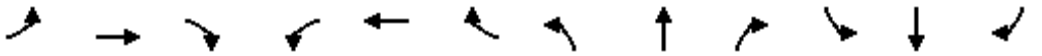
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	252	68	25	55	174	685	611	
Future Volume (vph)	252	68	25	55	174	685	611	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	32.0	45.2	9.6	22.8	24.0	55.6	41.2	9.6
Total Split (%)	26.7%	37.7%	8.0%	19.0%	20.0%	46.3%	34.3%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	21.0	27.8	5.5	12.2	15.6	49.1	29.6	
Actuated g/C Ratio	0.22	0.30	0.06	0.13	0.17	0.52	0.31	
v/c Ratio	0.76	0.51	0.13	0.25	0.71	0.41	0.78	
Control Delay	53.1	19.6	53.4	47.7	58.0	16.1	36.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.1	19.6	53.4	47.7	58.0	16.1	36.5	
LOS	D	B	D	D	E	B	D	
Approach Delay		35.5		49.5		24.3	36.5	
Approach LOS		D		D		C	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 94.2	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 32.0	Intersection LOS: C
Intersection Capacity Utilization 68.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	68	208	25	55	0	174	685	28	0	611	149
Future Volume (veh/h)	252	68	208	25	55	0	174	685	28	0	611	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	268	74	221	27	60	0	185	729	30	0	650	159
Peak Hour Factor	0.94	0.92	0.94	0.92	0.92	0.92	0.94	0.94	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	117	349	96	224	0	218	1676	69	2	815	199
Arrive On Green	0.19	0.28	0.28	0.03	0.12	0.00	0.14	0.50	0.50	0.00	0.30	0.30
Sat Flow, veh/h	1594	413	1235	3456	1870	0	1594	3380	139	1781	2682	655
Grp Volume(v), veh/h	268	0	295	27	60	0	185	382	377	0	408	401
Grp Sat Flow(s),veh/h/ln	1594	0	1648	1728	1870	0	1594	1772	1747	1781	1683	1654
Q Serve(g_s), s	13.7	0.0	13.1	0.6	2.4	0.0	9.5	11.6	11.6	0.0	18.6	18.6
Cycle Q Clear(g_c), s	13.7	0.0	13.1	0.6	2.4	0.0	9.5	11.6	11.6	0.0	18.6	18.6
Prop In Lane	1.00		0.75	1.00		0.00	1.00		0.08	1.00		0.40
Lane Grp Cap(c), veh/h	304	0	465	96	224	0	218	879	866	2	511	503
V/C Ratio(X)	0.88	0.00	0.63	0.28	0.27	0.00	0.85	0.43	0.44	0.00	0.80	0.80
Avail Cap(c_a), veh/h	522	0	785	207	380	0	370	1056	1041	107	735	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	0.0	26.2	39.8	33.5	0.0	35.2	13.5	13.5	0.0	26.7	26.7
Incr Delay (d2), s/veh	4.3	0.0	1.4	0.6	0.6	0.0	3.5	0.3	0.3	0.0	4.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	5.0	0.3	1.1	0.0	3.7	4.1	4.0	0.0	7.7	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	0.0	27.6	40.4	34.1	0.0	38.7	13.9	13.9	0.0	30.7	30.9
LnGrp LOS	D	A	C	D	C	A	D	B	B	A	C	C
Approach Vol, veh/h		563			87			944			809	
Approach Delay, s/veh		32.2			36.1			18.7			30.8	
Approach LOS		C			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	47.3	6.9	29.4	16.1	31.2	20.5	15.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	49.8	5.0	* 40	19.4	* 37	27.4	17.0
Max Q Clear Time (g_c+I1), s	0.0	13.6	2.6	15.1	11.5	20.6	15.7	4.4
Green Ext Time (p_c), s	0.0	4.7	0.0	1.8	0.1	4.8	0.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

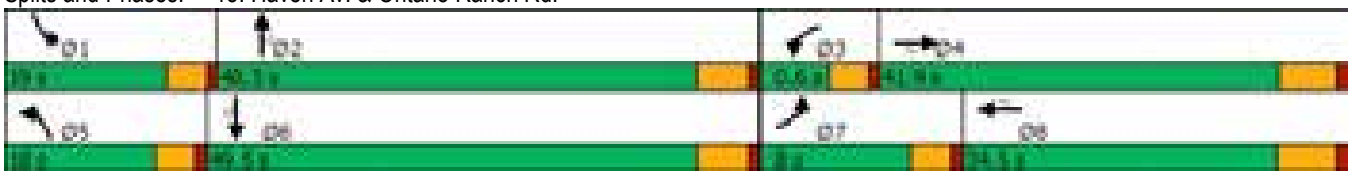
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	1503	54	127	1092	209	75	362	192	489	419	172
Future Volume (vph)	230	1503	54	127	1092	209	75	362	192	489	419	172
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	18.0	41.9	41.9	10.6	34.5	34.5	18.0	48.5	48.5	19.0	49.5	49.5
Total Split (%)	15.0%	34.9%	34.9%	8.8%	28.8%	28.8%	15.0%	40.4%	40.4%	15.8%	41.3%	41.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	13.5	36.1	36.1	6.1	28.3	28.3	9.1	19.9	19.9	14.6	27.6	27.6
Actuated g/C Ratio	0.14	0.37	0.37	0.06	0.29	0.29	0.09	0.20	0.20	0.15	0.28	0.28
v/c Ratio	1.13	0.83	0.09	0.74	0.58	0.38	0.55	0.57	0.48	2.24	0.48	0.34
Control Delay	141.9	34.0	0.6	71.6	32.3	6.6	58.9	37.7	12.9	595.5	31.7	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	141.9	34.0	0.6	71.6	32.3	6.6	58.9	37.7	12.9	595.5	31.7	5.9
LOS	F	C	A	E	C	A	E	D	B	F	C	A
Approach Delay		46.9			32.0			32.7			282.8	
Approach LOS		D			C			C			F	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 98		
Natural Cycle: 115		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 2.24		
Intersection Signal Delay: 92.5	Intersection LOS: F	
Intersection Capacity Utilization 94.3%	ICU Level of Service F	
Analysis Period (min) 15		

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	1503	54	127	1092	209	75	362	192	489	419	172
Future Volume (veh/h)	230	1503	54	127	1092	209	75	362	192	489	419	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	247	1616	47	137	1174	173	81	389	155	526	451	162
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	2003	565	190	2117	449	101	609	271	242	908	403
Arrive On Green	0.14	0.38	0.38	0.06	0.30	0.30	0.06	0.18	0.18	0.15	0.27	0.27
Sat Flow, veh/h	1594	5316	1500	3000	7088	1502	1594	3367	1499	1594	3367	1493
Grp Volume(v), veh/h	247	1616	47	137	1174	173	81	389	155	526	451	162
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1500	1772	1502	1594	1683	1499	1594	1683	1493
Q Serve(g_s), s	13.4	25.8	1.9	4.2	13.2	8.7	4.8	10.1	8.9	14.4	10.7	8.4
Cycle Q Clear(g_c), s	13.4	25.8	1.9	4.2	13.2	8.7	4.8	10.1	8.9	14.4	10.7	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	2003	565	190	2117	449	101	609	271	242	908	403
V/C Ratio(X)	1.10	0.81	0.08	0.72	0.55	0.39	0.80	0.64	0.57	2.17	0.50	0.40
Avail Cap(c_a), veh/h	225	2003	565	190	2117	449	225	1517	676	242	1553	689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	26.4	19.0	43.5	27.9	26.3	43.8	35.9	35.4	40.2	29.2	28.3
Incr Delay (d2), s/veh	87.9	3.6	0.3	11.0	1.1	2.5	5.6	1.1	1.9	540.5	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	10.4	0.6	1.8	5.2	3.1	2.0	4.0	0.1	41.7	4.1	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	128.5	30.0	19.3	54.5	29.0	28.8	49.4	37.1	37.3	580.7	29.6	29.0
LnGrp LOS	F	C	B	D	C	C	D	D	D	F	C	C
Approach Vol, veh/h		1910			1484			625			1139	
Approach Delay, s/veh		42.5			31.3			38.7			284.0	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	22.9	10.6	42.2	10.6	31.4	18.0	34.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	14.4	42.7	6.0	* 36	13.4	43.7	13.4	28.0
Max Q Clear Time (g_c+I1), s	16.4	12.1	6.2	27.8	6.8	12.7	15.4	15.2
Green Ext Time (p_c), s	0.0	2.9	0.0	5.6	0.0	3.4	0.0	6.2

Intersection Summary	
HCM 6th Ctrl Delay	92.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	388	779	120	986	231	91	251	100	188	110
Future Volume (vph)	388	779	120	986	231	91	251	100	188	110
Turn Type	Prot	NA	Prot	NA	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	7	4	3	8	2	2	3	6	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	2	2	3	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	9.0	27.0	27.0	27.0
Total Split (s)	36.0	47.0	24.0	35.0	32.0	32.0	24.0	27.0	27.0	27.0
Total Split (%)	27.7%	36.2%	18.5%	26.9%	24.6%	24.6%	18.5%	20.8%	20.8%	20.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes			
Recall Mode	None	None	None	None	Min	Min	None	Min	Min	Min
Act Effct Green (s)	32.1	45.3	15.8	29.1	25.3	25.3	42.9	20.6	20.6	20.6
Actuated g/C Ratio	0.25	0.36	0.12	0.23	0.20	0.20	0.34	0.16	0.16	0.16
v/c Ratio	1.23	0.73	0.77	1.16	0.93	0.33	0.52	0.49	0.83	0.42
Control Delay	163.7	37.4	78.9	122.5	85.6	47.0	10.6	55.5	75.5	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	163.7	37.4	78.9	122.5	85.6	47.0	10.6	55.5	75.5	11.3
LOS	F	D	E	F	F	D	B	E	E	B
Approach Delay		71.2		118.2		46.6			52.8	
Approach LOS		E		F		D			D	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 126.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 81.0	Intersection LOS: F
Intersection Capacity Utilization 96.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	388	779	285	120	986	109	231	91	251	100	188	110
Future Volume (veh/h)	388	779	285	120	986	109	231	91	251	100	188	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	491	986	184	152	1248	75	292	115	65	127	238	69
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	1604	298	174	1125	68	313	348	456	273	304	225
Arrive On Green	0.38	0.55	0.55	0.16	0.34	0.34	0.29	0.29	0.29	0.26	0.26	0.26
Sat Flow, veh/h	1594	4352	810	1594	4959	298	1594	1772	1492	1594	1772	1310
Grp Volume(v), veh/h	491	802	368	152	892	431	292	115	65	127	238	69
Grp Sat Flow(s),veh/h/ln	1594	1772	1618	1594	1772	1713	1594	1772	1492	1594	1772	1310
Q Serve(g_s), s	32.0	19.6	19.7	11.9	29.0	29.0	22.8	6.5	3.6	8.6	16.0	5.4
Cycle Q Clear(g_c), s	32.0	19.6	19.7	11.9	29.0	29.0	22.8	6.5	3.6	8.6	16.0	5.4
Prop In Lane	1.00		0.50	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	399	1306	596	174	804	389	313	348	456	273	304	225
V/C Ratio(X)	1.23	0.61	0.62	0.88	1.11	1.11	0.93	0.33	0.14	0.46	0.78	0.31
Avail Cap(c_a), veh/h	399	1306	596	249	804	389	327	363	470	287	319	236
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	22.4	22.4	52.6	42.1	42.1	44.3	38.5	28.2	42.5	45.2	41.3
Incr Delay (d2), s/veh	123.7	0.9	1.9	15.9	65.9	78.5	32.4	0.6	0.1	1.2	11.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.3	6.5	6.1	5.1	18.2	18.9	10.8	2.7	1.3	3.3	7.5	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	163.6	23.3	24.4	68.5	108.0	120.6	76.7	39.1	28.3	43.7	56.8	42.1
LnGrp LOS	F	C	C	E	F	F	E	D	C	D	E	D
Approach Vol, veh/h		1661			1475			472			434	
Approach Delay, s/veh		65.0			107.6			60.9			50.6	
Approach LOS		E			F			E			D	

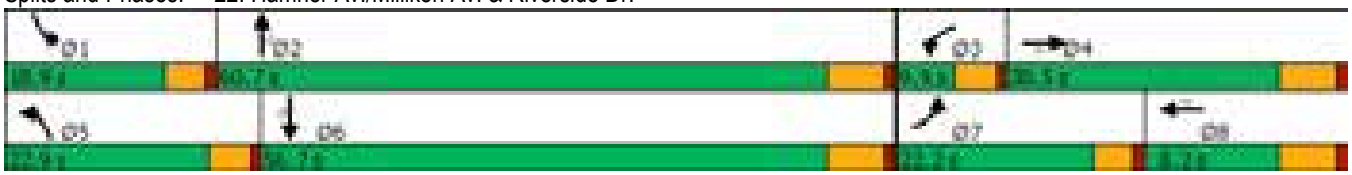
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.9	17.9	53.1		25.9	36.0	35.0				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		26.2	20.0	41.0		23.0	32.0	29.0				
Max Q Clear Time (g_c+I1), s		24.8	13.9	21.7		18.0	34.0	31.0				
Green Ext Time (p_c), s		0.3	0.1	7.0		0.9	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			78.5									
HCM 6th LOS			E									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	371	161	619	34	141	295	263	1368	70	296	828	270
Future Volume (vph)	371	161	619	34	141	295	263	1368	70	296	828	270
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	22.2	30.5	30.5	9.9	18.2	18.2	22.9	60.7	60.7	18.9	56.7	56.7
Total Split (%)	18.5%	25.4%	25.4%	8.3%	15.2%	15.2%	19.1%	50.6%	50.6%	15.8%	47.3%	47.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	17.6	26.3	26.3	5.2	12.0	12.0	15.3	54.5	54.5	14.3	53.5	53.5
Actuated g/C Ratio	0.15	0.22	0.22	0.04	0.10	0.10	0.13	0.45	0.45	0.12	0.45	0.45
v/c Ratio	0.95	0.48	0.73	0.57	0.92	0.60	0.75	0.98	0.10	0.93	0.61	0.37
Control Delay	82.0	46.8	17.7	87.4	103.6	10.0	62.1	51.1	0.3	84.7	27.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.0	46.8	17.7	87.4	103.6	10.0	62.1	51.1	0.3	84.7	27.7	3.7
LOS	F	D	B	F	F	B	E	D	A	F	C	A
Approach Delay		42.5			43.7			50.7			35.2	
Approach LOS		D			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 43.4	Intersection LOS: D
Intersection Capacity Utilization 87.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	371	161	619	34	141	295	263	1368	70	296	828	270
Future Volume (veh/h)	371	161	619	34	141	295	263	1368	70	296	828	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	426	185	366	39	162	172	302	1572	40	340	952	155
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	455	384	573	48	178	265	354	1605	680	369	1635	693
Arrive On Green	0.22	0.33	0.33	0.05	0.15	0.15	0.17	0.68	0.68	0.18	0.69	0.69
Sat Flow, veh/h	3092	1772	2643	1594	1772	2643	3188	3544	1502	3092	3544	1502
Grp Volume(v), veh/h	426	185	366	39	162	172	302	1572	40	340	952	155
Grp Sat Flow(s),veh/h/ln	1546	1772	1321	1594	1772	1321	1594	1772	1502	1546	1772	1502
Q Serve(g_s), s	16.2	10.0	14.1	2.9	10.8	7.3	11.0	50.9	1.1	12.9	16.6	4.5
Cycle Q Clear(g_c), s	16.2	10.0	14.1	2.9	10.8	7.3	11.0	50.9	1.1	12.9	16.6	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	455	384	573	48	178	265	354	1605	680	369	1635	693
V/C Ratio(X)	0.94	0.48	0.64	0.81	0.91	0.65	0.85	0.98	0.06	0.92	0.58	0.22
Avail Cap(c_a), veh/h	455	384	573	71	178	265	487	1613	684	369	1635	693
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	35.0	36.4	56.8	50.3	48.9	48.9	18.7	10.7	48.6	12.5	10.6
Incr Delay (d2), s/veh	26.8	0.9	2.4	21.9	43.3	5.5	8.0	17.7	0.0	27.3	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	4.0	4.2	1.4	6.5	2.5	4.4	15.6	0.3	5.9	4.7	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.9	35.9	38.8	78.7	93.6	54.3	56.9	36.3	10.7	75.9	13.0	10.8
LnGrp LOS	E	D	D	E	F	D	E	D	B	E	B	B
Approach Vol, veh/h		977			373			1914			1447	
Approach Delay, s/veh		53.1			74.0			39.0			27.6	
Approach LOS		D			E			D			C	

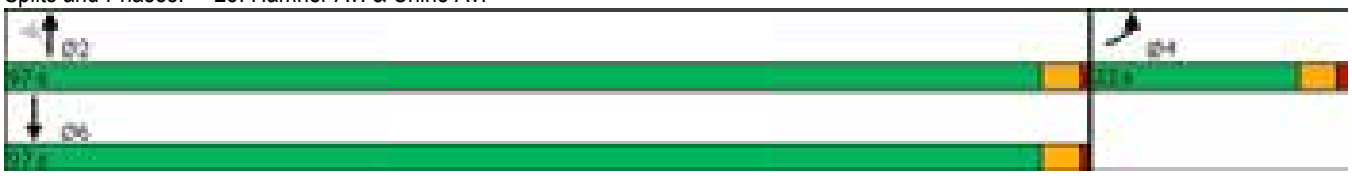
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.9	60.4	8.2	32.2	17.9	61.4	22.2	18.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	14.3	54.5	5.3	24.3	18.3	50.5	17.6	12.0
Max Q Clear Time (g_c+I1), s	14.9	52.9	4.9	16.1	13.0	18.6	18.2	12.8
Green Ext Time (p_c), s	0.0	1.3	0.0	1.5	0.3	7.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.2
HCM 6th LOS	D

Lane Group	EBL	NBT	SBT
Lane Configurations			
Traffic Volume (vph)	24	1686	1600
Future Volume (vph)	24	1686	1600
Turn Type	Prot	NA	NA
Protected Phases	4	2	6
Permitted Phases			
Detector Phase	4	2	6
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5
Total Split (s)	23.0	97.0	97.0
Total Split (%)	19.2%	80.8%	80.8%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	Min	Min
Act Effct Green (s)	8.6	59.2	59.2
Actuated g/C Ratio	0.13	0.86	0.86
v/c Ratio	0.17	0.60	0.60
Control Delay	29.6	4.4	4.5
Queue Delay	0.0	0.0	0.0
Total Delay	29.6	4.4	4.5
LOS	C	A	A
Approach Delay	29.6	4.4	4.5
Approach LOS	C	A	A

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 68.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 4.7	Intersection LOS: A
Intersection Capacity Utilization 58.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	10	0	1686	1600	3
Future Volume (veh/h)	24	10	0	1686	1600	3
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	11	0	1916	1818	3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	49	20	0	2936	2857	5
Arrive On Green	0.04	0.04	0.00	0.78	0.78	0.78
Sat Flow, veh/h	1193	486	0	3741	3734	6
Grp Volume(v), veh/h	39	0	0	1916	887	934
Grp Sat Flow(s),veh/h/ln	1723	0	0	1870	1777	1869
Q Serve(g_s), s	1.1	0.0	0.0	11.7	11.1	11.1
Cycle Q Clear(g_c), s	1.1	0.0	0.0	11.7	11.1	11.1
Prop In Lane	0.69	0.28	0.00			0.00
Lane Grp Cap(c), veh/h	71	0	0	2936	1394	1467
V/C Ratio(X)	0.55	0.00	0.00	0.65	0.64	0.64
Avail Cap(c_a), veh/h	616	0	0	6681	3173	3338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	0.0	0.0	2.5	2.4	2.4
Incr Delay (d2), s/veh	6.3	0.0	0.0	0.2	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.1	0.2	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.7	0.0	0.0	2.7	2.9	2.9
LnGrp LOS	C	A	A	A	A	A
Approach Vol, veh/h	39			1916	1821	
Approach Delay, s/veh	30.7			2.7	2.9	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		45.1		6.6		45.1
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		92.5		18.5		92.5
Max Q Clear Time (g_c+I1), s		13.7		3.1		13.1
Green Ext Time (p_c), s		26.9		0.0		21.9

Intersection Summary		
HCM 6th Ctrl Delay		3.1
HCM 6th LOS		A

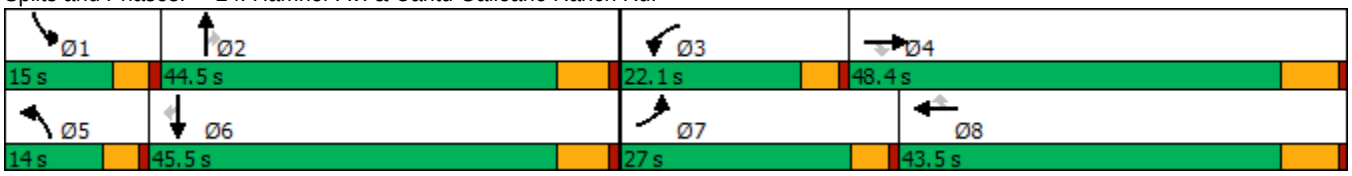
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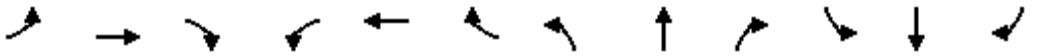
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	850	1509	93	291	1405	307	314	749	376	373	253	441
Future Volume (vph)	850	1509	93	291	1405	307	314	749	376	373	253	441
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	43.5	43.5	9.6	43.5	43.5	9.6	43.2	43.2	9.6	43.2	43.2
Total Split (s)	27.0	48.4	48.4	22.1	43.5	43.5	14.0	44.5	44.5	15.0	45.5	45.5
Total Split (%)	20.8%	37.2%	37.2%	17.0%	33.5%	33.5%	10.8%	34.2%	34.2%	11.5%	35.0%	35.0%
Yellow Time (s)	3.6	5.5	5.5	3.6	5.5	5.5	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	6.5	4.6	6.5	6.5	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	22.6	42.0	42.0	13.8	33.2	33.2	9.5	25.4	25.4	10.5	26.4	26.4
Actuated g/C Ratio	0.20	0.37	0.37	0.12	0.29	0.29	0.08	0.22	0.22	0.09	0.23	0.23
v/c Ratio	1.26	0.57	0.15	0.71	0.67	0.55	1.11	0.63	0.67	1.19	0.15	0.42
Control Delay	167.3	30.6	5.4	58.6	37.6	19.1	134.0	42.2	16.3	158.5	34.9	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	167.3	30.6	5.4	58.6	37.6	19.1	134.0	42.2	16.3	158.5	34.9	4.3
LOS	F	C	A	E	D	B	F	D	B	F	C	A
Approach Delay		77.0			37.8			55.5			65.5	
Approach LOS		E			D			E			E	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 113.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.26	
Intersection Signal Delay: 59.5	Intersection LOS: E
Intersection Capacity Utilization 88.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	850	1509	93	291	1405	307	314	749	376	373	253	441
Future Volume (veh/h)	850	1509	93	291	1405	307	314	749	376	373	253	441
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	885	1572	71	303	1464	143	327	780	137	389	264	412
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	760	2900	614	375	2089	443	319	1119	316	353	1563	662
Arrive On Green	0.21	0.39	0.39	0.11	0.28	0.28	0.09	0.20	0.20	0.10	0.21	0.21
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	885	1572	71	303	1464	143	327	780	137	389	264	412
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	22.4	17.1	3.0	8.7	18.4	7.5	9.4	13.6	7.9	10.4	3.0	12.4
Cycle Q Clear(g_c), s	22.4	17.1	3.0	8.7	18.4	7.5	9.4	13.6	7.9	10.4	3.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	760	2900	614	375	2089	443	319	1119	316	353	1563	662
V/C Ratio(X)	1.16	0.54	0.12	0.81	0.70	0.32	1.02	0.70	0.43	1.10	0.17	0.62
Avail Cap(c_a), veh/h	760	2987	633	594	2638	559	319	2048	579	353	2802	1187
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	24.9	20.6	45.9	33.9	30.0	47.8	39.1	36.8	47.3	34.0	37.7
Incr Delay (d2), s/veh	87.8	0.2	0.1	2.0	0.6	0.4	56.8	0.8	0.9	78.1	0.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.4	6.9	1.0	3.8	7.8	2.7	6.5	6.0	3.0	8.2	1.3	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.1	25.1	20.7	47.9	34.5	30.4	104.6	39.9	37.7	125.4	34.1	38.7
LnGrp LOS	F	C	C	D	C	C	F	D	D	F	C	D
Approach Vol, veh/h		2528			1910			1244			1065	
Approach Delay, s/veh		61.4			36.3			56.6			69.2	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	27.1	15.6	47.2	14.0	28.1	27.0	35.8
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	10.4	38.3	17.5	41.9	9.4	39.3	22.4	37.0
Max Q Clear Time (g_c+I1), s	12.4	15.6	10.7	19.1	11.4	14.4	24.4	20.4
Green Ext Time (p_c), s	0.0	5.4	0.3	11.2	0.0	3.2	0.0	8.9

Intersection Summary	
HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	223	913	705	245	769	222	379	1148	354	1138
Future Volume (vph)	223	913	705	245	769	222	379	1148	354	1138
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	38.2	38.2	9.6	38.2	38.2	9.6	32.2	9.6	33.2
Total Split (s)	22.2	42.0	42.0	20.0	39.8	39.8	17.0	42.0	16.0	41.0
Total Split (%)	18.5%	35.0%	35.0%	16.7%	33.2%	33.2%	14.2%	35.0%	13.3%	34.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	17.6	35.8	35.8	15.4	33.6	33.6	12.4	35.7	11.5	34.8
Actuated g/C Ratio	0.15	0.30	0.30	0.13	0.28	0.28	0.10	0.30	0.10	0.29
v/c Ratio	0.98	0.93	1.16	1.23	0.84	0.40	1.22	0.94	1.23	1.06
Control Delay	106.4	57.5	112.7	183.2	49.9	8.5	169.4	53.5	176.1	82.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.4	57.5	112.7	183.2	49.9	8.5	169.4	53.5	176.1	82.8
LOS	F	E	F	F	D	A	F	D	F	F
Approach Delay		84.5			68.8			79.6		101.2
Approach LOS		F			E			E		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 84.9	Intersection LOS: F
Intersection Capacity Utilization 107.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Archibald Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	913	705	245	769	222	379	1148	156	354	1138	307
Future Volume (veh/h)	223	913	705	245	769	222	379	1148	156	354	1138	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	228	932	362	250	785	114	387	1171	82	361	1161	160
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	996	434	206	933	415	322	1313	92	296	1244	171
Arrive On Green	0.15	0.30	0.30	0.13	0.28	0.28	0.10	0.28	0.28	0.10	0.29	0.29
Sat Flow, veh/h	1594	3367	1468	1594	3367	1495	3092	4610	323	3092	4292	591
Grp Volume(v), veh/h	228	932	362	250	785	114	387	819	434	361	872	449
Grp Sat Flow(s),veh/h/ln	1594	1683	1468	1594	1683	1495	1546	1612	1707	1546	1612	1658
Q Serve(g_s), s	17.0	32.1	27.5	15.4	26.2	5.1	12.4	29.0	29.1	11.4	31.4	31.4
Cycle Q Clear(g_c), s	17.0	32.1	27.5	15.4	26.2	5.1	12.4	29.0	29.1	11.4	31.4	31.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.36
Lane Grp Cap(c), veh/h	235	996	434	206	933	415	322	919	486	296	935	481
V/C Ratio(X)	0.97	0.94	0.83	1.21	0.84	0.27	1.20	0.89	0.89	1.22	0.93	0.93
Avail Cap(c_a), veh/h	235	1011	441	206	949	421	322	968	513	296	941	484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	40.9	39.2	51.9	40.6	17.7	53.4	40.9	40.9	53.9	41.2	41.2
Incr Delay (d2), s/veh	49.6	15.2	12.8	132.5	6.8	0.4	117.4	10.1	17.2	126.0	15.6	25.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	14.7	10.9	13.5	11.2	2.5	9.9	12.2	13.9	9.4	13.8	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.1	56.1	52.1	184.4	47.4	18.0	170.8	51.0	58.0	179.9	56.8	66.5
LnGrp LOS	F	E	D	F	D	B	F	D	E	F	E	E
Approach Vol, veh/h		1522			1149			1640			1682	
Approach Delay, s/veh		61.7			74.3			81.1			85.8	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	40.2	20.0	41.5	17.0	40.8	22.2	39.3
Change Period (Y+Rc), s	6.2	* 6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	11.4	* 36	15.4	35.8	12.4	34.8	17.6	33.6
Max Q Clear Time (g_c+I1), s	13.4	31.1	17.4	34.1	14.4	33.4	19.0	28.2
Green Ext Time (p_c), s	0.0	2.9	0.0	1.1	0.0	1.0	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	76.2
HCM 6th LOS	E

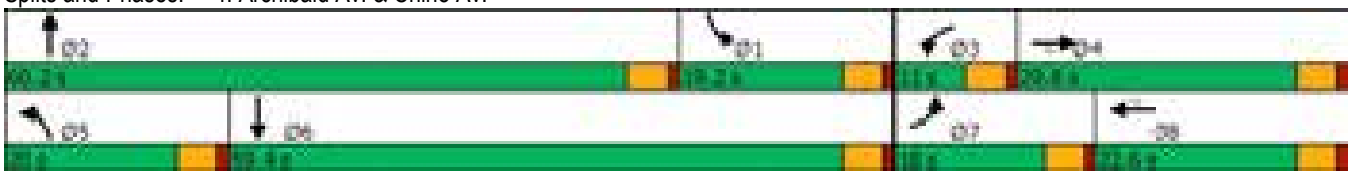
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	196	347	279	70	170	77	230	1384	93	1614
Future Volume (vph)	196	347	279	70	170	77	230	1384	93	1614
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.6	22.6	9.6	22.6	22.6	9.6	22.6	9.6	22.6
Total Split (s)	18.0	29.6	29.6	11.0	22.6	22.6	20.0	60.2	19.2	59.4
Total Split (%)	15.0%	24.7%	24.7%	9.2%	18.8%	18.8%	16.7%	50.2%	16.0%	49.5%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.4	25.0	25.0	6.4	18.0	18.0	15.4	53.3	19.2	54.8
Actuated g/C Ratio	0.11	0.21	0.21	0.05	0.15	0.15	0.13	0.44	0.16	0.46
v/c Ratio	1.16	0.98	0.57	0.87	0.67	0.21	1.18	0.66	0.38	1.14
Control Delay	164.1	90.8	12.7	123.7	61.7	1.3	166.4	28.9	49.3	102.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	164.1	90.8	12.7	123.7	61.7	1.3	166.4	28.9	49.3	102.6
LOS	F	F	B	F	E	A	F	C	D	F
Approach Delay		81.7			60.8			47.5		99.9
Approach LOS		F			E			D		F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 75.0	Intersection LOS: E
Intersection Capacity Utilization 104.8%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 4: Archibald Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	347	279	70	170	77	230	1384	85	93	1614	134
Future Volume (veh/h)	196	347	279	70	170	77	230	1384	85	93	1614	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	204	361	150	73	177	44	240	1442	47	97	1681	72
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	369	308	85	266	225	205	1737	57	391	1541	66
Arrive On Green	0.17	0.31	0.31	0.08	0.22	0.22	0.19	0.51	0.51	0.37	0.68	0.68
Sat Flow, veh/h	1594	1772	1478	1594	1772	1502	1594	5116	167	1594	3374	144
Grp Volume(v), veh/h	204	361	150	73	177	44	240	999	490	97	879	874
Grp Sat Flow(s),veh/h/ln	1594	1772	1478	1594	1772	1502	1594	1772	1739	1594	1772	1746
Q Serve(g_s), s	13.4	24.2	9.9	5.4	10.9	1.8	15.4	28.8	28.8	5.1	54.8	54.8
Cycle Q Clear(g_c), s	13.4	24.2	9.9	5.4	10.9	1.8	15.4	28.8	28.8	5.1	54.8	54.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.08
Lane Grp Cap(c), veh/h	178	369	308	85	266	225	205	1203	590	391	809	797
V/C Ratio(X)	1.15	0.98	0.49	0.86	0.67	0.20	1.17	0.83	0.83	0.25	1.09	1.10
Avail Cap(c_a), veh/h	178	369	308	85	266	225	205	1642	806	391	809	797
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	41.0	36.1	54.8	43.8	15.7	48.4	26.5	26.5	30.2	18.9	18.9
Incr Delay (d2), s/veh	112.3	40.8	1.2	54.1	6.2	0.4	117.6	2.7	5.4	0.3	57.6	61.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	13.5	3.4	3.4	4.9	1.0	12.1	9.4	9.7	1.9	25.3	25.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	162.2	81.8	37.2	108.9	49.9	16.1	166.0	29.2	31.9	30.5	76.5	80.4
LnGrp LOS	F	F	D	F	D	B	F	C	C	C	F	F
Approach Vol, veh/h		715			294			1729			1850	
Approach Delay, s/veh		95.4			59.5			49.0			75.9	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.1	45.3	11.0	29.6	20.0	59.4	18.0	22.6
Change Period (Y+Rc), s	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Max Green Setting (Gmax), s	14.6	55.6	6.4	25.0	15.4	54.8	13.4	18.0
Max Q Clear Time (g_c+I1), s	7.1	30.8	7.4	26.2	17.4	56.8	15.4	12.9
Green Ext Time (p_c), s	0.1	10.0	0.0	0.0	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	67.7
HCM 6th LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	800	874	295	329	128	305	1220	356	181	1716	126
Future Volume (vph)	178	800	874	295	329	128	305	1220	356	181	1716	126
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	11.0	39.6		17.6	46.2	46.2	15.0	48.0		14.8	47.8	47.8
Total Split (%)	9.2%	33.0%		14.7%	38.5%	38.5%	12.5%	40.0%		12.3%	39.8%	39.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	6.4	24.6	111.4	13.0	31.3	31.3	10.4	42.1	111.4	9.7	41.4	41.4
Actuated g/C Ratio	0.06	0.22	1.00	0.12	0.28	0.28	0.09	0.38	1.00	0.09	0.37	0.37
v/c Ratio	1.09	0.72	0.61	0.89	0.35	0.26	1.09	0.64	0.25	0.72	0.92	0.20
Control Delay	145.9	43.8	1.9	77.3	32.7	6.2	125.3	31.0	0.4	66.0	42.6	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	145.9	43.8	1.9	77.3	32.7	6.2	125.3	31.0	0.4	66.0	42.6	3.5
LOS	F	D	A	E	C	A	F	C	A	E	D	A
Approach Delay		33.8			45.7			40.5			42.3	
Approach LOS		C			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 111.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 39.7	Intersection LOS: D
Intersection Capacity Utilization 89.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Archibald Av. & Edison Av./Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	800	874	295	329	128	305	1220	356	181	1716	126
Future Volume (veh/h)	178	800	874	295	329	128	305	1220	356	181	1716	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1575	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	187	842	0	311	346	93	321	1284	0	191	1806	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	1119		359	961	407	305	2069		245	1982	560
Arrive On Green	0.06	0.21	0.00	0.12	0.27	0.27	0.10	0.39	0.00	0.08	0.37	0.37
Sat Flow, veh/h	3000	5316	1502	3000	3544	1500	3188	5316	1502	3092	5316	1502
Grp Volume(v), veh/h	187	842	0	311	346	93	321	1284	0	191	1806	114
Grp Sat Flow(s),veh/h/ln	1500	1772	1502	1500	1772	1500	1594	1772	1502	1546	1772	1502
Q Serve(g_s), s	6.4	16.2	0.0	11.1	8.6	5.2	10.4	21.1	0.0	6.6	35.1	5.6
Cycle Q Clear(g_c), s	6.4	16.2	0.0	11.1	8.6	5.2	10.4	21.1	0.0	6.6	35.1	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	177	1119		359	961	407	305	2069		245	1982	560
V/C Ratio(X)	1.06	0.75		0.87	0.36	0.23	1.05	0.62		0.78	0.91	0.20
Avail Cap(c_a), veh/h	177	1633		359	1304	552	305	2069		290	2019	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	40.3	0.0	47.0	32.0	30.8	49.2	26.7	0.0	49.1	32.4	23.1
Incr Delay (d2), s/veh	84.2	1.2	0.0	18.8	0.2	0.3	66.1	0.6	0.0	8.9	6.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	6.8	0.0	4.9	3.5	1.8	6.7	8.3	0.0	2.7	14.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.4	41.4	0.0	65.8	32.2	31.1	115.3	27.3	0.0	58.0	39.0	23.3
LnGrp LOS	F	D		E	C	C	F	C		E	D	C
Approach Vol, veh/h		1029	A		750			1605	A		2111	
Approach Delay, s/veh		58.5			46.0			44.9			39.9	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	48.8	17.6	29.1	15.0	47.0	11.0	35.7
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	10.2	41.5	13.0	33.4	10.4	41.3	6.4	40.0
Max Q Clear Time (g_c+I1), s	8.6	23.1	13.1	18.2	12.4	37.1	8.4	10.6
Green Ext Time (p_c), s	0.1	7.7	0.0	4.6	0.0	3.5	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	45.7
HCM 6th LOS	D

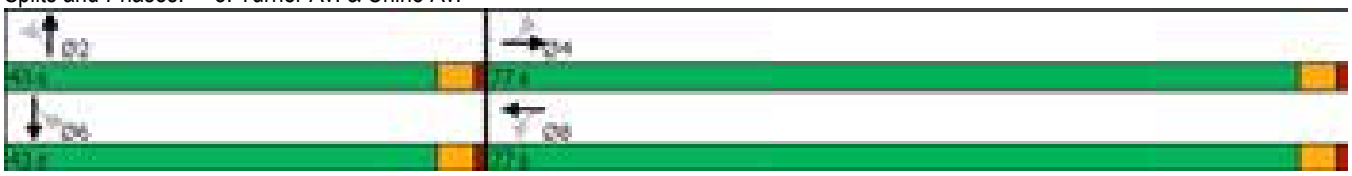
Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	192	210	45	155	24	153	70	238
Future Volume (vph)	192	210	45	155	24	153	70	238
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	77.0	77.0	77.0	77.0	43.0	43.0	43.0	43.0
Total Split (%)	64.2%	64.2%	64.2%	64.2%	35.8%	35.8%	35.8%	35.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	13.4	13.4	13.4	13.4	9.9	9.9	9.9	9.9
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.30	0.30	0.30	0.30
v/c Ratio	0.52	0.23	0.13	0.19	0.09	0.22	0.25	0.33
Control Delay	13.3	5.5	7.6	4.7	10.5	8.5	12.0	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	5.5	7.6	4.7	10.5	8.5	12.0	9.6
LOS	B	A	A	A	B	A	B	A
Approach Delay		8.6		5.2		8.7		10.0
Approach LOS		A		A		A		B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 32.9	
Natural Cycle: 45	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 8.3	Intersection LOS: A
Intersection Capacity Utilization 48.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Turner Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	210	74	45	155	86	24	153	44	70	238	69
Future Volume (veh/h)	192	210	74	45	155	86	24	153	44	70	238	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.95	0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	209	228	80	49	168	93	26	166	48	76	259	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	600	987	337	577	853	450	442	726	202	490	732	207
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1001	2463	841	959	2131	1123	936	2570	715	1026	2589	734
Grp Volume(v), veh/h	209	154	154	49	131	130	26	106	108	76	166	168
Grp Sat Flow(s),veh/h/ln	1001	1683	1621	959	1683	1570	936	1683	1601	1026	1683	1640
Q Serve(g_s), s	4.9	1.7	1.8	1.0	1.4	1.5	0.6	1.4	1.5	1.7	2.2	2.3
Cycle Q Clear(g_c), s	6.4	1.7	1.8	2.8	1.4	1.5	3.0	1.4	1.5	3.2	2.2	2.3
Prop In Lane	1.00		0.52	1.00		0.72	1.00		0.45	1.00		0.45
Lane Grp Cap(c), veh/h	600	674	649	577	674	629	442	476	453	490	476	463
V/C Ratio(X)	0.35	0.23	0.24	0.08	0.19	0.21	0.06	0.22	0.24	0.15	0.35	0.36
Avail Cap(c_a), veh/h	2754	4297	4137	2640	4297	4007	1446	2282	2171	1591	2282	2223
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.7	5.6	5.6	6.6	5.5	5.6	9.3	7.8	7.8	9.1	8.1	8.1
Incr Delay (d2), s/veh	0.3	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.3	0.1	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.3	0.3	0.1	0.2	0.2	0.1	0.3	0.3	0.2	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	5.8	5.8	6.6	5.7	5.7	9.4	8.0	8.1	9.2	8.5	8.6
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		517			310			240			410	
Approach Delay, s/veh		6.7			5.8			8.2			8.7	
Approach LOS		A			A			A			A	

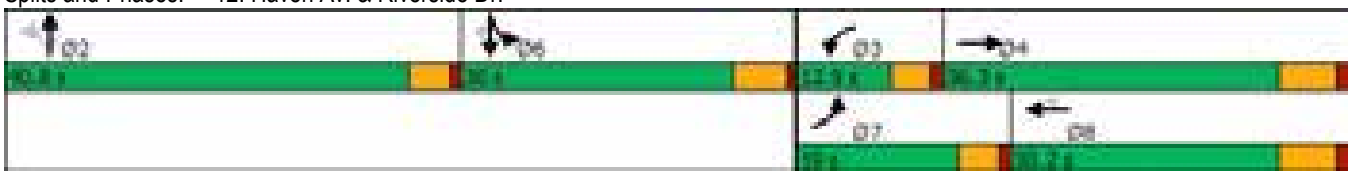
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.5		15.9		12.5		15.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		38.5		72.5		38.5		72.5				
Max Q Clear Time (g_c+I1), s		5.0		8.4		5.2		4.8				
Green Ext Time (p_c), s		1.3		3.0		2.2		1.8				

Intersection Summary												
HCM 6th Ctrl Delay			7.3									
HCM 6th LOS			A									

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	462	683	173	535	150	65	642	164	274	756	571
Future Volume (vph)	462	683	173	535	150	65	642	164	274	756	571
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Split	NA	Perm
Protected Phases	7	4	3	8			2		6	6	
Permitted Phases					8	2		2			6
Detector Phase	7	4	3	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	25.2	9.6	30.2	30.2	23.7	23.7	23.7	24.8	24.8	24.8
Total Split (s)	19.0	36.3	12.9	30.2	30.2	40.8	40.8	40.8	30.0	30.0	30.0
Total Split (%)	15.8%	30.3%	10.8%	25.2%	25.2%	34.0%	34.0%	34.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.7	3.7	3.7	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.7	4.7	4.7	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	14.4	29.8	8.3	23.7	23.7	36.1	36.1	36.1	24.2	24.2	24.2
Actuated g/C Ratio	0.12	0.25	0.07	0.20	0.20	0.30	0.30	0.30	0.20	0.20	0.20
v/c Ratio	1.26	0.94	0.82	0.80	0.38	1.24	0.63	0.30	0.89	1.11	0.78
Control Delay	180.8	63.1	83.3	55.3	9.1	234.9	39.2	6.1	76.2	110.7	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	180.8	63.1	83.3	55.3	9.1	234.9	39.2	6.1	76.2	110.7	12.1
LOS	F	E	F	E	A	F	D	A	E	F	B
Approach Delay		106.6		52.9			47.6			69.7	
Approach LOS		F		D			D			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.7	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.26	
Intersection Signal Delay: 72.4	Intersection LOS: E
Intersection Capacity Utilization 84.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: Haven Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	462	683	105	173	535	150	65	642	164	274	756	571
Future Volume (veh/h)	462	683	105	173	535	150	65	642	164	274	756	571
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	481	711	57	180	557	83	68	669	98	285	788	369
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	435	824	66	236	683	283	382	849	360	366	813	344
Arrive On Green	0.14	0.26	0.26	0.07	0.19	0.19	0.24	0.24	0.24	0.23	0.23	0.23
Sat Flow, veh/h	3188	3232	259	3188	3544	1466	1594	3544	1502	1594	3544	1498
Grp Volume(v), veh/h	481	390	378	180	557	83	68	669	98	285	788	369
Grp Sat Flow(s),veh/h/ln	1594	1772	1719	1594	1772	1466	1594	1772	1502	1594	1772	1498
Q Serve(g_s), s	14.4	22.1	22.2	5.8	15.9	5.1	3.6	18.7	5.6	17.7	23.2	24.2
Cycle Q Clear(g_c), s	14.4	22.1	22.2	5.8	15.9	5.1	3.6	18.7	5.6	17.7	23.2	24.2
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	452	438	236	683	283	382	849	360	366	813	344
V/C Ratio(X)	1.11	0.86	0.86	0.76	0.82	0.29	0.18	0.79	0.27	0.78	0.97	1.07
Avail Cap(c_a), veh/h	435	506	491	251	806	334	545	1213	514	366	813	344
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	37.5	37.5	47.9	40.8	36.4	31.9	37.6	32.6	38.1	40.3	40.6
Incr Delay (d2), s/veh	74.9	13.1	13.6	10.7	5.6	0.6	0.2	2.3	0.4	10.3	24.2	69.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	10.7	10.4	2.6	7.1	1.8	1.4	8.3	2.0	7.7	12.4	15.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.5	50.7	51.1	58.6	46.4	37.0	32.1	39.9	33.0	48.5	64.5	110.3
LnGrp LOS	F	D	D	E	D	D	C	D	C	D	E	F
Approach Vol, veh/h		1249			820			835			1442	
Approach Delay, s/veh		77.7			48.1			38.5			73.0	
Approach LOS		E			D			D			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.0	12.4	33.1		30.0	19.0	26.5				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		* 36	8.3	30.1		24.2	14.4	24.0				
Max Q Clear Time (g_c+I1), s		20.7	7.8	24.2		26.2	16.4	17.9				
Green Ext Time (p_c), s		4.6	0.0	2.1		0.0	0.0	1.9				

Intersection Summary		
HCM 6th Ctrl Delay		63.0
HCM 6th LOS		E

Notes

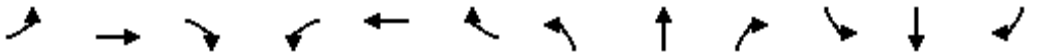
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	Ø1
Lane Configurations								
Traffic Volume (vph)	142	57	28	67	184	704	735	
Future Volume (vph)	142	57	28	67	184	704	735	
Turn Type	Prot	NA	Prot	NA	Prot	NA	NA	
Protected Phases	7	4	3	8	5	2	6	1
Permitted Phases								
Detector Phase	7	4	3	8	5	2	6	
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	9.6	22.4	9.6	22.8	9.6	22.8	21.7	9.6
Total Split (s)	20.2	33.4	9.6	22.8	24.0	67.4	53.0	9.6
Total Split (%)	16.8%	27.8%	8.0%	19.0%	20.0%	56.2%	44.2%	8%
Yellow Time (s)	3.6	4.4	3.6	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.4	4.6	5.8	4.6	5.8	4.7	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None
Act Effct Green (s)	14.4	21.4	5.4	12.1	16.3	61.6	41.6	
Actuated g/C Ratio	0.14	0.21	0.05	0.12	0.16	0.62	0.42	
v/c Ratio	0.66	0.37	0.16	0.32	0.75	0.35	0.84	
Control Delay	60.8	27.1	55.2	50.8	62.9	10.7	32.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.8	27.1	55.2	50.8	62.9	10.7	32.2	
LOS	E	C	E	D	E	B	C	
Approach Delay		43.9		52.1		21.2	32.2	
Approach LOS		D		D		C	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 30.2	Intersection LOS: C
Intersection Capacity Utilization 72.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 13: Haven Av. & Chino Av.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	57	84	28	67	0	184	704	25	0	735	356
Future Volume (veh/h)	142	57	84	28	67	0	184	704	25	0	735	356
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1870	1772	1870	1870	1870	1673	1772	1870	1870	1772	1772
Adj Flow Rate, veh/h	149	62	88	30	73	0	194	741	27	0	774	375
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	132	188	100	200	0	225	2067	75	2	920	445
Arrive On Green	0.11	0.19	0.19	0.03	0.11	0.00	0.14	0.61	0.61	0.00	0.42	0.42
Sat Flow, veh/h	1594	699	992	3456	1870	0	1594	3398	124	1781	2201	1063
Grp Volume(v), veh/h	149	0	150	30	73	0	194	386	382	0	592	557
Grp Sat Flow(s),veh/h/ln	1594	0	1692	1728	1870	0	1594	1772	1750	1781	1683	1581
Q Serve(g_s), s	8.6	0.0	7.4	0.8	3.4	0.0	11.1	10.2	10.2	0.0	29.5	29.6
Cycle Q Clear(g_c), s	8.6	0.0	7.4	0.8	3.4	0.0	11.1	10.2	10.2	0.0	29.5	29.6
Prop In Lane	1.00		0.59	1.00		0.00	1.00		0.07	1.00		0.67
Lane Grp Cap(c), veh/h	178	0	320	100	200	0	225	1078	1064	2	704	661
V/C Ratio(X)	0.84	0.00	0.47	0.30	0.37	0.00	0.86	0.36	0.36	0.00	0.84	0.84
Avail Cap(c_a), veh/h	266	0	507	185	340	0	331	1168	1153	95	870	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	0.0	33.7	44.5	38.8	0.0	39.3	9.2	9.2	0.0	24.4	24.4
Incr Delay (d2), s/veh	8.9	0.0	1.1	0.6	1.1	0.0	10.4	0.2	0.2	0.0	6.2	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	3.0	0.3	1.6	0.0	4.8	3.3	3.3	0.0	12.3	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.6	0.0	34.8	45.1	39.9	0.0	49.7	9.4	9.4	0.0	30.6	31.2
LnGrp LOS	D	A	C	D	D	A	D	A	A	A	C	C
Approach Vol, veh/h		299			103			962			1149	
Approach Delay, s/veh		42.2			41.4			17.5			30.9	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	62.7	7.3	23.5	17.8	44.9	15.0	15.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 5.8	4.6	* 5.8	4.6	5.8
Max Green Setting (Gmax), s	5.0	61.6	5.0	* 28	19.4	* 48	15.6	17.0
Max Q Clear Time (g_c+I1), s	0.0	12.2	2.8	9.4	13.1	31.6	10.6	5.4
Green Ext Time (p_c), s	0.0	4.8	0.0	0.7	0.1	7.5	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

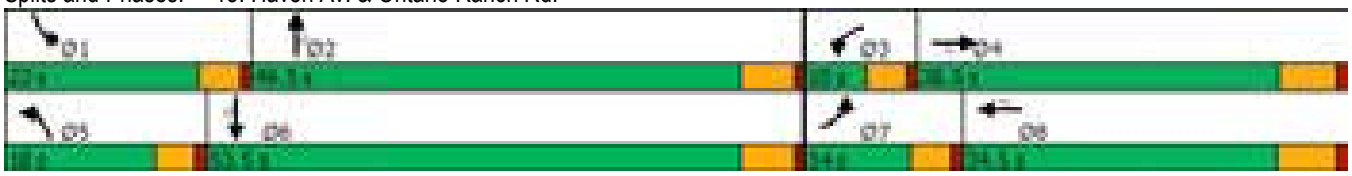
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	1503	54	127	1092	209	75	362	192	489	419	172
Future Volume (vph)	230	1503	54	127	1092	209	75	362	192	489	419	172
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	14.0	38.5	38.5	10.0	34.5	34.5	18.0	49.5	49.5	22.0	53.5	53.5
Total Split (%)	11.7%	32.1%	32.1%	8.3%	28.8%	28.8%	15.0%	41.3%	41.3%	18.3%	44.6%	44.6%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	9.5	32.6	32.6	5.5	28.3	28.3	9.1	19.8	19.8	17.6	30.5	30.5
Actuated g/C Ratio	0.10	0.34	0.34	0.06	0.29	0.29	0.09	0.20	0.20	0.18	0.31	0.31
v/c Ratio	1.60	0.91	0.10	0.82	0.57	0.38	0.55	0.57	0.51	1.83	0.43	0.31
Control Delay	329.3	40.3	0.7	82.2	31.7	6.5	57.9	37.2	17.3	415.7	28.3	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	329.3	40.3	0.7	82.2	31.7	6.5	57.9	37.2	17.3	415.7	28.3	5.2
LOS	F	D	A	F	C	A	E	D	B	F	C	A
Approach Delay		76.2			32.5			33.6			200.0	
Approach LOS		E			C			C			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 96.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.83	
Intersection Signal Delay: 85.2	Intersection LOS: F
Intersection Capacity Utilization 94.3%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 15: Haven Av. & Ontario Ranch Rd.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	1503	54	127	1092	209	75	362	192	489	419	172
Future Volume (veh/h)	230	1503	54	127	1092	209	75	362	192	489	419	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1575	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	247	1616	31	137	1174	117	81	389	104	526	451	94
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	1846	521	174	2156	457	100	594	265	298	1012	449
Arrive On Green	0.15	0.52	0.52	0.09	0.46	0.46	0.09	0.26	0.26	0.28	0.45	0.45
Sat Flow, veh/h	1594	5316	1500	3000	7088	1502	1594	3367	1499	1594	3367	1494
Grp Volume(v), veh/h	247	1616	31	137	1174	117	81	389	104	526	451	94
Grp Sat Flow(s),veh/h/ln	1594	1772	1500	1500	1772	1502	1594	1683	1499	1594	1683	1494
Q Serve(g_s), s	9.4	24.9	1.0	4.2	11.1	4.5	4.6	9.6	5.3	17.4	8.6	3.5
Cycle Q Clear(g_c), s	9.4	24.9	1.0	4.2	11.1	4.5	4.6	9.6	5.3	17.4	8.6	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	161	1846	521	174	2156	457	100	594	265	298	1012	449
V/C Ratio(X)	1.53	0.88	0.06	0.79	0.54	0.26	0.81	0.65	0.39	1.76	0.45	0.21
Avail Cap(c_a), veh/h	161	1846	521	174	2156	457	230	1582	704	298	1726	766
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	20.5	14.8	41.9	20.6	18.8	41.6	31.7	30.1	33.5	20.2	18.8
Incr Delay (d2), s/veh	268.8	6.2	0.2	19.3	1.0	1.4	5.7	1.2	0.9	357.3	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.3	7.7	0.3	1.9	3.8	1.5	1.9	3.5	1.8	35.1	2.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	308.3	26.7	15.0	61.2	21.6	20.2	47.3	32.9	31.1	390.8	20.5	19.1
LnGrp LOS	F	C	B	E	C	C	D	C	C	F	C	B
Approach Vol, veh/h		1894			1428			574			1071	
Approach Delay, s/veh		63.2			25.3			34.6			202.2	
Approach LOS		E			C			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	22.2	10.0	38.8	10.4	33.8	14.0	34.8
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5
Max Green Setting (Gmax), s	17.4	43.7	5.4	* 32	13.4	47.7	9.4	28.0
Max Q Clear Time (g_c+I1), s	19.4	11.6	6.2	26.9	6.6	10.6	11.4	13.1
Green Ext Time (p_c), s	0.0	2.8	0.0	4.0	0.0	3.2	0.0	6.6

Intersection Summary	
HCM 6th Ctrl Delay	79.0
HCM 6th LOS	E

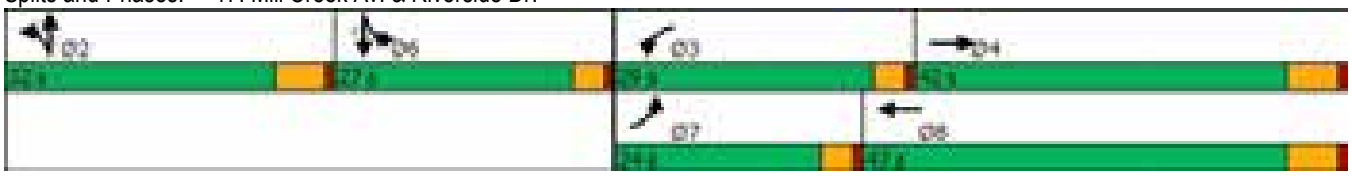
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	132	1340	294	1030	70	22	26	70	17	81
Future Volume (vph)	132	1340	294	1030	70	22	26	70	17	81
Turn Type	Prot	NA	Prot	NA	Split	NA	Perm	Split	NA	Perm
Protected Phases	7	4	3	8	2	2		6	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.0	26.0	9.0	23.0	29.8	29.8	29.8	27.0	27.0	27.0
Total Split (s)	24.0	42.0	29.0	47.0	32.0	32.0	32.0	27.0	27.0	27.0
Total Split (%)	18.5%	32.3%	22.3%	36.2%	24.6%	24.6%	24.6%	20.8%	20.8%	20.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.8	4.8	4.8	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.0	6.0	5.8	5.8	5.8	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	13.4	36.3	25.2	48.2	12.8	12.8	12.8	12.7	12.7	12.7
Actuated g/C Ratio	0.13	0.34	0.24	0.45	0.12	0.12	0.12	0.12	0.12	0.12
v/c Ratio	0.71	0.87	0.84	0.53	0.39	0.11	0.10	0.40	0.09	0.29
Control Delay	65.2	40.3	60.8	24.0	50.1	43.5	0.7	50.7	43.6	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	40.3	60.8	24.0	50.1	43.5	0.7	50.7	43.6	3.3
LOS	E	D	E	C	D	D	A	D	D	A
Approach Delay		42.3		31.4		37.8			27.1	
Approach LOS		D		C		D			C	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 107	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 36.6	Intersection LOS: D
Intersection Capacity Utilization 72.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 17: Mill Creek Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1340	121	294	1030	137	70	22	26	70	17	81
Future Volume (veh/h)	132	1340	121	294	1030	137	70	22	26	70	17	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	140	1426	76	313	1096	98	74	23	-100	74	18	59
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	1729	92	343	2190	196	174	193	164	187	209	171
Arrive On Green	0.11	0.35	0.35	0.22	0.46	0.46	0.11	0.11	0.00	0.12	0.12	0.12
Sat Flow, veh/h	1594	5000	266	1594	4809	430	1594	1772	1502	1590	1772	1456
Grp Volume(v), veh/h	140	1011	491	313	807	387	74	23	-100	74	18	59
Grp Sat Flow(s),veh/h/ln	1594	1772	1723	1594	1772	1695	1594	1772	1502	1590	1772	1456
Q Serve(g_s), s	8.0	24.4	24.4	17.9	15.0	15.0	4.1	1.1	0.0	4.0	0.8	3.5
Cycle Q Clear(g_c), s	8.0	24.4	24.4	17.9	15.0	15.0	4.1	1.1	0.0	4.0	0.8	3.5
Prop In Lane	1.00		0.15	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	1225	596	343	1614	772	174	193	164	187	209	171
V/C Ratio(X)	0.83	0.82	0.82	0.91	0.50	0.50	0.43	0.12	-0.61	0.40	0.09	0.34
Avail Cap(c_a), veh/h	341	1366	664	427	1614	772	447	497	421	392	436	359
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	28.0	28.0	35.8	17.9	17.9	38.9	37.5	0.0	38.1	36.7	37.9
Incr Delay (d2), s/veh	4.0	3.9	7.7	18.7	0.2	0.5	1.6	0.3	0.0	1.4	0.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	10.0	10.3	8.2	5.5	5.3	1.6	0.5	0.0	1.6	0.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	31.9	35.6	54.5	18.2	18.5	40.5	37.8	0.0	39.5	36.9	39.1
LnGrp LOS	D	C	D	D	B	B	D	D	A	D	D	D
Approach Vol, veh/h		1642			1507			-3			151	
Approach Delay, s/veh		34.1			25.8			0.0			39.0	
Approach LOS		C			C			A			D	

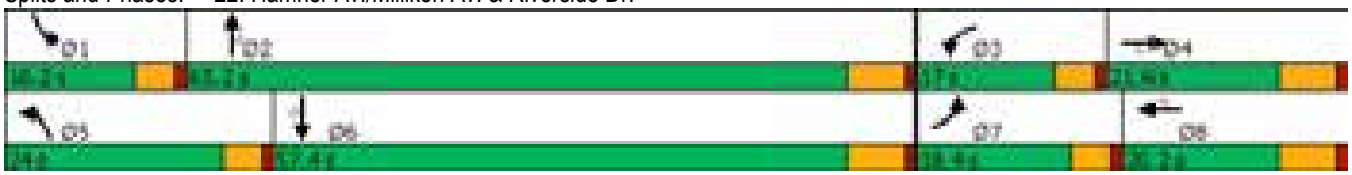
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	24.1	38.3		15.0	13.9	48.5				
Change Period (Y+Rc), s		5.8	4.0	6.0		4.0	4.0	6.0				
Max Green Setting (Gmax), s		26.2	25.0	36.0		23.0	20.0	41.0				
Max Q Clear Time (g_c+I1), s		6.1	19.9	26.4		6.0	10.0	17.0				
Green Ext Time (p_c), s		0.2	0.2	5.9		0.4	0.1	7.7				

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	161	303	109	191	250	482	1443	59	257	1418	504
Future Volume (vph)	328	161	303	109	191	250	482	1443	59	257	1418	504
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	16.2	16.2	9.6	35.2	35.2	9.6	16.2	16.2
Total Split (s)	18.4	21.6	21.6	17.0	20.2	20.2	24.0	65.2	65.2	16.2	57.4	57.4
Total Split (%)	15.3%	18.0%	18.0%	14.2%	16.8%	16.8%	20.0%	54.3%	54.3%	13.5%	47.8%	47.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.8	16.5	16.5	11.3	14.0	14.0	19.4	59.0	59.0	11.6	51.2	51.2
Actuated g/C Ratio	0.12	0.14	0.14	0.09	0.12	0.12	0.16	0.49	0.49	0.10	0.43	0.43
v/c Ratio	0.98	0.70	0.51	0.78	0.98	0.49	0.99	0.88	0.08	0.92	0.99	0.63
Control Delay	95.7	65.9	8.3	85.4	111.3	9.1	88.4	34.3	0.4	88.6	55.9	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.7	65.9	8.3	85.4	111.3	9.1	88.4	34.3	0.4	88.6	55.9	11.2
LOS	F	E	A	F	F	A	F	C	A	F	E	B
Approach Delay		56.2			59.7			46.4			49.4	
Approach LOS		E			E			D			D	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Natural Cycle: 120		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.99		
Intersection Signal Delay: 50.3	Intersection LOS: D	
Intersection Capacity Utilization 95.8%	ICU Level of Service F	
Analysis Period (min) 15		

Splits and Phases: 22: Hamner Av./Milliken Av. & Riverside Dr.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	328	161	303	109	191	250	482	1443	59	257	1418	504
Future Volume (veh/h)	328	161	303	109	191	250	482	1443	59	257	1418	504
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1772	1772	1673	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	345	169	161	115	201	131	507	1519	36	271	1493	268
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	259	378	136	207	308	515	1742	738	299	1512	632
Arrive On Green	0.17	0.22	0.22	0.13	0.18	0.18	0.24	0.74	0.74	0.15	0.64	0.64
Sat Flow, veh/h	3092	1772	2589	1594	1772	2643	3188	3544	1501	3092	3544	1482
Grp Volume(v), veh/h	345	169	161	115	201	131	507	1519	36	271	1493	268
Grp Sat Flow(s),veh/h/ln	1546	1772	1294	1594	1772	1321	1594	1772	1501	1546	1772	1482
Q Serve(g_s), s	13.3	10.4	6.4	8.5	13.5	5.3	19.0	37.8	0.8	10.4	49.4	10.7
Cycle Q Clear(g_c), s	13.3	10.4	6.4	8.5	13.5	5.3	19.0	37.8	0.8	10.4	49.4	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	356	259	378	136	207	308	515	1742	738	299	1512	632
V/C Ratio(X)	0.97	0.65	0.43	0.84	0.97	0.42	0.98	0.87	0.05	0.91	0.99	0.42
Avail Cap(c_a), veh/h	356	259	378	165	207	308	515	1742	738	299	1512	632
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	44.1	42.5	51.5	49.3	45.9	45.3	13.0	8.1	50.8	21.3	14.3
Incr Delay (d2), s/veh	39.5	5.7	0.8	23.8	54.5	0.9	35.3	5.2	0.0	28.8	20.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	4.6	2.0	4.0	8.5	1.7	9.0	7.9	0.3	4.9	17.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.0	49.8	43.3	75.3	103.8	46.8	80.6	18.1	8.1	79.5	41.4	14.8
LnGrp LOS	F	D	D	E	F	D	F	B	A	E	D	B
Approach Vol, veh/h		675			447			2062			2032	
Approach Delay, s/veh		68.3			79.8			33.3			43.0	
Approach LOS		E			E			C			D	

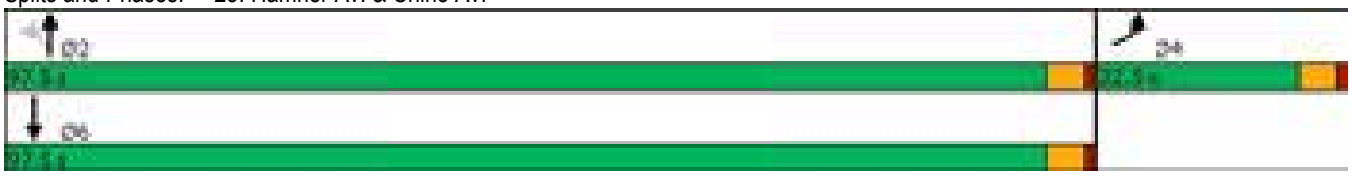
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.2	65.2	14.9	23.7	24.0	57.4	18.4	20.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	11.6	59.0	12.4	15.4	19.4	51.2	13.8	14.0
Max Q Clear Time (g_c+I1), s	12.4	39.8	10.5	12.4	21.0	51.4	15.3	15.5
Green Ext Time (p_c), s	0.0	10.4	0.0	0.4	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	45.6
HCM 6th LOS	D

Lane Group	EBL	NBT	SBT
Lane Configurations			
Traffic Volume (vph)	1	1905	1855
Future Volume (vph)	1	1905	1855
Turn Type	Prot	NA	NA
Protected Phases	4	2	6
Permitted Phases			
Detector Phase	4	2	6
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5
Total Split (s)	22.5	97.5	97.5
Total Split (%)	18.8%	81.3%	81.3%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	Min	Min
Act Effct Green (s)	7.6	61.4	61.4
Actuated g/C Ratio	0.12	0.95	0.95
v/c Ratio	0.00	0.59	0.61
Control Delay	35.0	2.8	3.0
Queue Delay	0.0	0.0	0.0
Total Delay	35.0	2.8	3.0
LOS	C	A	A
Approach Delay	35.0	2.8	3.0
Approach LOS	C	A	A

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 64.3		
Natural Cycle: 75		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.61		
Intersection Signal Delay: 2.9	Intersection LOS: A	
Intersection Capacity Utilization 64.3%	ICU Level of Service C	
Analysis Period (min) 15		

Splits and Phases: 23: Hamner Av. & Chino Av.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	0	0	1905	1855	10
Future Volume (veh/h)	1	0	0	1905	1855	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2093	1	0	2093	2038	11
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	9999	9999	0	2791	2704	15
Arrive On Green	0.14	0.14	0.00	0.75	0.75	0.75
Sat Flow, veh/h	189770865	2496	0437248	0	3741	3718	20
Grp Volume(v), veh/h	2093	1	0	2093	998	1051
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1870	1777	1867
Q Serve(g_s), s	0.0	0.0	0.0	25.1	25.3	25.4
Cycle Q Clear(g_c), s	0.0	0.0	0.0	25.1	25.3	25.4
Prop In Lane	1.00	1.00	0.00			0.01
Lane Grp Cap(c), veh/h	26228437	8015	84562688	0	2791	1326	1393
V/C Ratio(X)	0.00	0.00	0.00	0.75	0.75	0.75
Avail Cap(c_a), veh/h	43895170	6823	5474688	0	4470	2123	2231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	5.7	5.7	5.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	4.2	4.2	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	0.0	6.1	6.6	6.6
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	2094			2093	2049	
Approach Delay, s/veh	0.0			6.1	6.6	
Approach LOS	A			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		62.6		15.3		62.6
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		93.0		18.0		93.0
Max Q Clear Time (g_c+I1), s		27.1		2.0		27.4
Green Ext Time (p_c), s		31.0		8.8		28.4

Intersection Summary	
HCM 6th Ctrl Delay	4.2
HCM 6th LOS	A

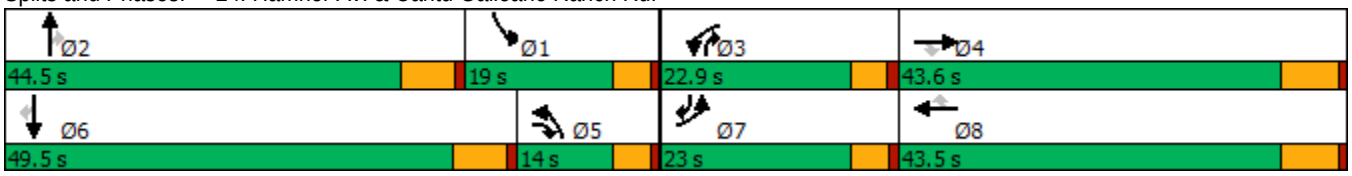
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	831	1593	410	451	1637	352	362	466	356	611	826	774
Future Volume (vph)	831	1593	410	451	1637	352	362	466	356	611	826	774
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	8	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	43.5	9.6	9.6	43.5	43.5	9.6	43.2	9.6	9.6	43.2	9.6
Total Split (s)	23.0	43.6	14.0	22.9	43.5	43.5	14.0	44.5	22.9	19.0	49.5	23.0
Total Split (%)	17.7%	33.5%	10.8%	17.6%	33.5%	33.5%	10.8%	34.2%	17.6%	14.6%	38.1%	17.7%
Yellow Time (s)	3.6	5.5	3.6	3.6	5.5	5.5	3.6	5.2	3.6	3.6	5.2	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.5	4.6	4.6	6.5	6.5	4.6	6.2	4.6	4.6	6.2	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None
Act Effct Green (s)	18.6	36.3	49.0	17.9	35.6	35.6	10.8	17.7	37.2	14.5	21.4	41.6
Actuated g/C Ratio	0.17	0.33	0.45	0.16	0.33	0.33	0.10	0.16	0.34	0.13	0.20	0.38
v/c Ratio	1.43	0.67	0.57	0.81	0.70	0.55	1.07	0.53	0.63	1.34	0.58	0.64
Control Delay	237.7	33.4	15.2	56.5	34.3	15.2	116.4	43.3	18.4	205.6	40.9	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	237.7	33.4	15.2	56.5	34.3	15.2	116.4	43.3	18.4	205.6	40.9	17.0
LOS	F	C	B	E	C	B	F	D	B	F	D	B
Approach Delay		90.7			35.7			58.2			78.1	
Approach LOS		F			D			E			E	

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 108.5	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.43	
Intersection Signal Delay: 67.5	Intersection LOS: E
Intersection Capacity Utilization 92.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 24: Hamner Av. & Cantu Galleano Ranch Rd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	831	1593	410	451	1637	352	362	466	356	611	826	774
Future Volume (veh/h)	831	1593	410	451	1637	352	362	466	356	611	826	774
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	866	1659	401	470	1705	341	377	485	187	636	860	415
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	648	2561	690	536	2327	493	331	757	453	555	1479	1203
Arrive On Green	0.27	0.51	0.51	0.23	0.47	0.47	0.14	0.20	0.20	0.23	0.30	0.30
Sat Flow, veh/h	3563	7481	1585	3563	7481	1585	3563	5611	1585	3563	7481	3170
Grp Volume(v), veh/h	866	1659	401	470	1705	341	377	485	187	636	860	415
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	18.4	16.4	6.0	12.9	18.7	10.5	9.4	8.0	5.4	15.8	9.9	5.4
Cycle Q Clear(g_c), s	18.4	16.4	6.0	12.9	18.7	10.5	9.4	8.0	5.4	15.8	9.9	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	648	2561	690	536	2327	493	331	757	453	555	1479	1203
V/C Ratio(X)	1.34	0.65	0.58	0.88	0.73	0.69	1.14	0.64	0.41	1.15	0.58	0.34
Avail Cap(c_a), veh/h	648	2744	729	644	2736	580	331	2124	839	555	3202	1933
HCM Platoon Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	20.2	5.0	38.2	23.6	8.8	43.5	38.1	10.8	38.8	32.0	8.1
Incr Delay (d2), s/veh	161.8	0.5	1.1	10.1	0.9	2.8	92.6	0.9	0.6	85.5	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.1	5.4	1.7	5.6	6.3	4.8	8.0	3.4	2.0	12.4	4.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	198.6	20.7	6.0	48.3	24.4	11.6	136.1	39.0	11.4	124.3	32.4	8.3
LnGrp LOS	F	C	A	D	C	B	F	D	B	F	C	A
Approach Vol, veh/h		2926			2516			1049			1911	
Approach Delay, s/veh		71.3			27.2			69.0			57.7	
Approach LOS		E			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.4	19.9	19.8	41.1	14.0	26.2	23.0	38.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.5	4.6	6.2	4.6	6.5
Max Green Setting (Gmax), s	14.4	38.3	18.3	37.1	9.4	43.3	18.4	37.0
Max Q Clear Time (g_c+I1), s	17.8	10.0	14.9	18.4	11.4	11.9	20.4	20.7
Green Ext Time (p_c), s	0.0	3.6	0.4	11.8	0.0	8.1	0.0	10.8

Intersection Summary	
HCM 6th Ctrl Delay	54.7
HCM 6th LOS	D

October 3, 2022

Mr. Craig Cristina
Richland Developers, Inc.
3161 Michelson Drive, Suite 425
Irvine, CA 92615

Mr. Dave Bartlett
Brookcal Ontario, LLC.
3200 Park Center Drive, Suite 1000
Costa Mesa, CA 92626

RICH HAVEN SPECIFIC PLAN AMENDMENT VEHICLE MILES TRAVELED (VMT) ANALYSIS

Mr. Craig Cristina and Mr. Dave Bartlett,

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Analysis for the Rich Haven Specific Plan Amendment (**2022 Specific Plan Amendment/Project**), which is located north of Ontario Ranch Road, south of Riverside Drive, east of Haven Avenue, and on either side of Mill Creek Avenue in the City of Ontario.

PROJECT OVERVIEW

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan (**2021 Specific Plan**) comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, in the southeast portion of The Ontario Plan (TOP). The 2021 Specific Plan Area is bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated in this analysis coincide with the location and boundaries in the 2021 Specific Plan as presented on Exhibit 1.

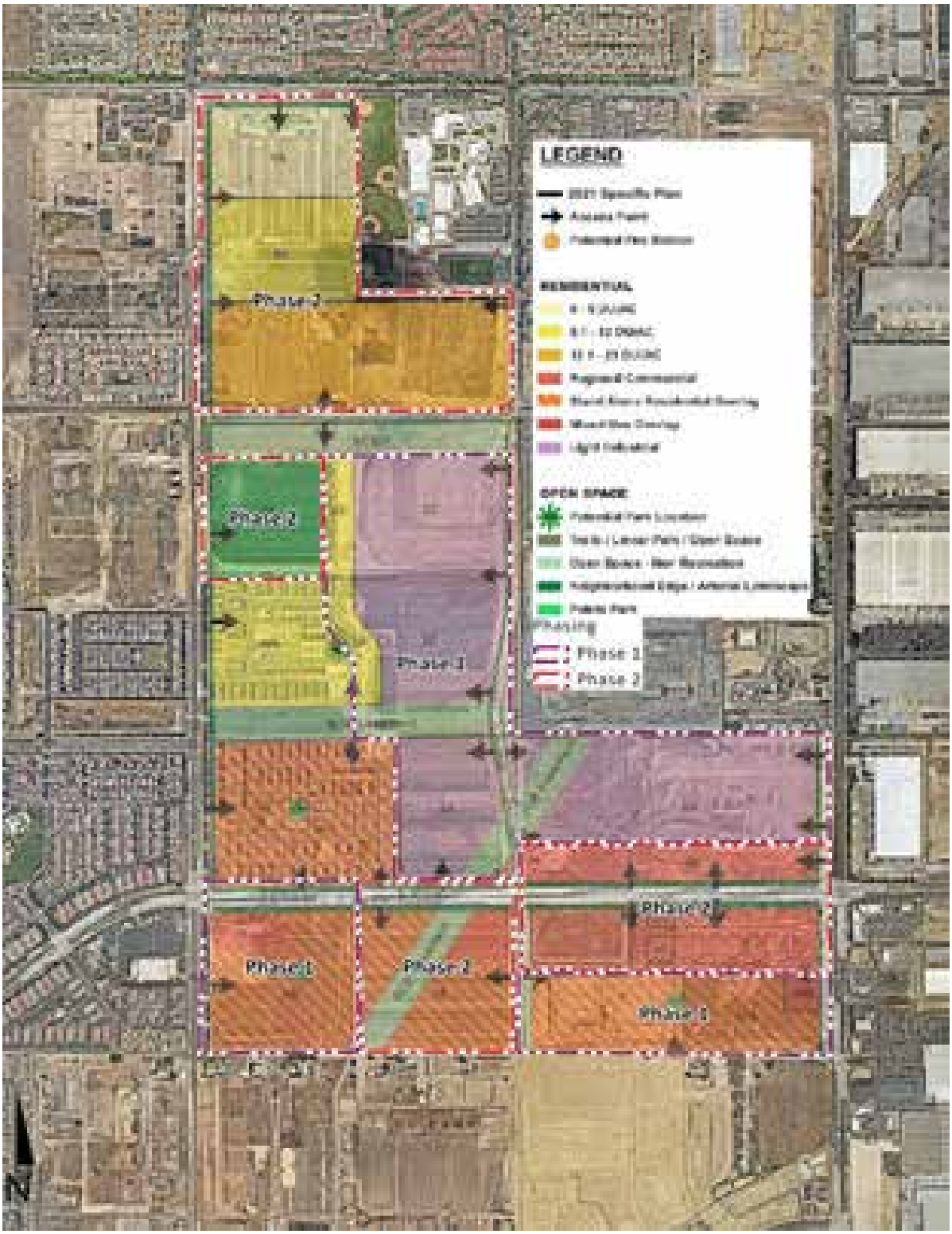
The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements.

Under the proposed 2022 Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 Specific Plan Amendment.

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan would be maintained at 7,194 dwelling units. Residential units and densities would however be reassigned within the Specific Plan.
2. Total commercial development would be reduced by 65,900 square feet (approximately 7 percent reduction from the 2021 Specific Plan commercial entitlements).
3. Total light industrial development would be increased by 1,583,623 square feet (approximately 134 percent increase from the 2021 Specific Plan light industrial entitlements).

EXHIBIT 1: 2022 SPECIFIC PLAN AMENDMENT LAND USE PLAN



BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which require all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**) (1). Based on the Technical Advisory, the City of Ontario has developed and adopted their own VMT methodologies and thresholds (Resolution No. 2020-071), which were adopted by City Council in June 2020 (**City Guidelines**) (2). This VMT analysis has been prepared based on the adopted City Guidelines.

PROJECT LEVEL SCREENING

City's Guidelines describe that a project may be determined to have a less than significant impact and may be screened out of requiring a project level VMT analysis if it meets at least one of the City's VMT screening criteria. The City's adopted VMT screening criteria are described in Table 2 along with a determination of each screening criteria's applicability to the Project.

TABLE 2: SCREENING FOR LAND USE POJECTS EXEMPT FROM VMT CALCULATIONS

Screening	Screening Criteria	Project Evaluation	Result
Transit Priority Area	Projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing "major transit stop"[1] or an existing stop along a "high-quality transit corridor"[2]) may be presumed to have a less than significant impact absent substantial evidence to the contrary	Specific Plan Site is not located within ½ mile of an existing major transit stop or along a high-quality transit corridor.	Does Not Meet Criteria
Low Area VMT	Projects may be presumed to have a less than significant VMT impact if located in an already low VMT generating traffic analysis zones (TAZs) that generates a VMT per service population that does not exceed the Citywide average under General Plan Buildout condition VMT per service population.	The Specific Plan is not located within a low VMT generating area.	Does Not Meet Criteria

[1] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").
[2] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

TABLE 2 CONT.: SCREENING FOR LAND USE POJECTS EXEMPT FROM VMT CALCULATIONS

Screening	Screening Criteria	Project Evaluation	Result
Project Type Screening by Land Use Type	Projects that meet the criteria describe below can be screened from further VMT review during the CEQA process and are presumed to have less than significant impact upon transportation (determination to be made by City staff). 1. Local serving retail: a. Not greater than 50,000 sq. ft. in size b. Projects with a Neighborhood Commercial TOP Land Use designation since this designation is intended to be local serving (Neighborhood Commercial is defined as "Local serving retail, personal service, office, and dining uses, typically located within a predominantly residential neighborhood"). 2. Local Serving K – 12 Public Schools (not magnet or charter schools); 3. Local/Neighborhood Parks; 4. Daycare / Childcare/Pre-Kindergarten; 5. Affordable or Supportive Housing; 6. Student Housing on or adjacent to college campuses; 7. Community Institutions (e.g. Public Library, Fire Station, local government facilities); 8. Senior Housing (as defined by HUD) or Assisted Living facilities; HUD defines Senior Housing as projects that are: a. Provided under any state or federal program that the Secretary of HUD has determined to be specifically designed and operated to assist elderly persons (as defined in the state or federal program); b. Intended for, and solely occupied by persons 62 years of age or older; or c. Intended and operated for occupancy by persons 55 years of age or older. (most commonly used)	The Specific Plan does not contain any of the available land use types that would qualify for this screening.	Does not Meet Criteria

The 2022 Specific Plan Amendment was not found to meet any of the City's adopted VMT screening criteria for land use projects. City Guidelines require a project level VMT analysis to be performed.

VMT ANALYSIS

VMT MODELING

The City Guidelines identifies the San Bernardino Traffic Analysis Model (**SBTAM**) as the appropriate tool for conducting VMT analysis for land use projects in the City of Ontario, as it considers interaction between different land uses based on socio-economic data, such as population, households, and employment. The City of Ontario has recently adopted an updated version of SBTAM also referred to as The Ontario Plan (**TOP**) model, which contains updated roadway network and socio-economic data within the City of Ontario consistent with the City's recently adopted TOP and includes a base year of 2019 and a General Plan Buildout of 2050. Outside of the City of Ontario, the model assumes datasets consistent with the 2016 Southern

California Association of Governments (SCAG) Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). Urban Crossroads has obtained the newly adopted TOP model from the City of Ontario.

VMT METRIC AND SIGNIFICANCE THRESHOLD

City Guidelines identifies the efficiency based metric VMT per Service Population (**SP**) (i.e., population and employees) is to be used to conduct project level VMT analyses for land use projects in the City of Ontario. City Guidelines also identifies the following impact threshold for project level VMT analyses:

- A significant impact would occur if the project VMT per SP exceeds the Citywide average VMT per SP under General Plan Buildout Conditions.

The City of Ontario's average VMT per SP under General Plan Buildout conditions has been calculated using TOP General Plan Buildout (2050) model. Table 3 provides the City of Ontario's Citywide average VMT per SP for General Plan Buildout (2050) conditions.

TABLE 3: CITYWIDE VMT PER SERVICE POPULATION

Ontario	TOP 2050
Service Population	706,494
VMT	21,689,573
VMT per SP	30.70

As shown in Table 3, the City of Ontario's VMT per SP for General Plan Buildout (2050) conditions has been calculated as **30.70 VMT per SP**.

PROJECT LAND USE CONVERSION

In order to estimate project generated VMT, standard land use information such as dwelling units and building square footage must first be converted into a SBTAM compatible dataset. The SBTAM model utilizes socio-economic data (**SED**) (e.g., population, households and employment) instead of land use information for the purposes of vehicle trip estimation. Land use information for the Project has been converted to SED and input into a separate traffic analysis zone (**TAZ**) to isolate the Project's VMT. Table 4 summarizes the SED inputs used to reflect the Project.

TABLE 4: POPULATION & EMPLOYMENT ESTIMATES

	2022 Specific Plan Amendment
Households	7,194
Population	25,179
Employment	5,005

VMT CALCULATION

Origin/Destination VMT Method

The Origin/Destination (**OD**) method for calculating VMT sums all weekday VMT generated by trips with at least one trip end in the study area (i.e., TAZ or group of TAZ's). The OD method

accounts for all trips (i.e., both passenger car and truck) and trip purposes (i.e., total VMT) and therefore provides a more complete estimate of VMT. Total VMT is then divided by the Project's SP to derive the efficiency based metric VMT per SP.

Table 5 presents Project generated total OD VMT and the resulting total OD VMT per SP for both Baseline (2022) and General Plan Buildout (2050) conditions. As shown in Table 5, the Project would generate total OD VMT per SP below the City's adopted impact threshold for both Baseline (2022) and General Plan Buildout Year (2050) conditions.

TABLE 5: PROJECT TOTAL OD VMT

	Baseline (2022)	General Plan Buildout Year (2050)
Population	25,179	25,179
Employment	5,005	5,005
Service Population	30,184	30,184
Total OD VMT	679,212	777,191
Total VMT Trucks	33,586	33,586
OD VMT per SP	22.50	25.75
City Threshold	30.70	30.70
Percent Below Threshold	-26.71%	-16.12%
Potentially Significant?	No	No

Boundary VMT Method

City Guidelines also acknowledge that a VMT analysis should also contain an evaluation of a project's effect on VMT, which can be performed using the boundary method of calculating VMT. The boundary method is the sum of all weekday VMT on the roadway network within a designated boundary (i.e., City boundary or other designated geographic area). The boundary method estimates VMT by multiplying vehicle trips on each roadway segment within the boundary by that segment's length. This approach consists of all trips, including those trips that do not begin or end in the designated boundary. Consistent with City Guidelines, the City of Ontario was used as the boundary for this assessment. In addition, as the Project is located near the southeastern edge of the City of Ontario, an additional assessment of a ten-mile boundary area surrounding the Project site has also been conducted to ensure trips associated with the Project are not omitted.

Table 6 presents total VMT calculated using the boundary method for No Project (i.e., 2021 Specific Plan) and With Project (i.e., 2022 Specific Plan Amendment) General Plan Buildout (2050) conditions. Boundary VMT is higher under the 2022 Specific Plan Amendment scenario for both the City of Ontario boundary and 10-mile boundary of the Project, but similarly to the OD VMT per SP results, the Boundary VMT per SP is lower under the proposed Project.

TABLE 6: GENERAL PLAN BUILDOUT (2050) BOUNDARY VMT RESULTS

	City Boundary		10-Mile Boundary	
Scenario	No Project	With Project	No Project	With Project
Service Population	719,661	721,445	2,276,901	2,278,685
Boundary VMT	9,670,427	9,687,140	35,863,716	35,892,228
VMT per SP	13.44	13.43	15.75	15.75
Change in VMT	-0.01		0.00	
Potentially Significant?	No		No	

SUMMARY

Based on the results of this analysis the following findings are made:

- The 2022 Specific Plan Amendment was evaluated against screening criteria as outlined in the City Guidelines. The 2022 Specific Plan Amendment was not found to meet any available screening criteria, and a VMT analysis was performed.
- The 2022 Specific Plan Amendment's VMT analysis found the 2022 Specific Plan Amendment to be below the City's VMT per service population threshold by 26.71% for baseline (2022) conditions and 16.12% for buildout (2050) conditions.
- In addition, the 2022 Specific Plan Amendment cumulative effect on VMT was also found to reduce the City's VMT per SP with the inclusion of the 2022 Specific Plan Amendment, which indicates that the 2022 Specific Plan Amendment is a more efficient land use plan.
- The 2022 Specific Plan Amendment is found to have a less than significant impact.

If you have any questions, please contact me directly at aso@urbanxroads.com.

Respectfully submitted,

URBAN CROSSROADS, INC.



Alexander So
Senior Associate

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Rich-Haven Specific Plan, 2022 Amendment

AIR QUALITY IMPACT ANALYSIS

CITY OF ONTARIO

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Michael Tirohn
mtirohn@urbanxroads.com

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LIST OF ABBREVIATED TERMS

%	Percent
°F	Degrees Fahrenheit
(1)	Reference
µg/m^3	Microgram per Cubic Meter
1992 CO Plan	*1992 Federal Attainment Plan for Carbon Monoxide*
1993 CEQA Handbook	SCAQMD's *CEQA Air Quality Handbook (1993)*
2003 AQMP	SCAQMD's *2003 Air Quality Management Plan*
2016 AQMP	SCAQMD's *Final 2019 Air Quality Management Plan*
2016-2040 RTP/SCS	*2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*
AB 2595	California Clean Air Act
AQIA	Air Quality Impact Analysis
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
BC	Black Carbon
C_2Cl_4	Perchloroethylene
C_4H_6	1,3-butadiene
C_6H_6	Benzene
C_2H_3Cl	Vinyl Chloride
C_2H_4O	Acetaldehyde
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CEQA Guidelines	*2019 CEQA Statute and Guidelines*
CH_2O	Formaldehyde
City	City of Ontario
CO	Carbon Monoxide
COH	Coefficient of Haze

COHb	Carboxyhemoglobin
Cr(VI)	Chromium
CTP	Clean Truck Program
Cr(VI)	Chromium
CRRC	Cool Roof Rating Council
CTP	Clean Truck Program
CY	Cubic Yards
DPM	Diesel Particulate Matter
DRRP	Diesel Risk Reduction Plan
EC	Elemental Carbon
EIR	Environmental Impact Reports
EMFAC	EMissions FACtor Model
EPA	Environmental Protection Agency
ETW	Equivalent Test Weight
EV	Electric Vehicles
g/L	Grams Per Liter
GHG	Greenhouse Gas
GVWR	Gross Vehicle Weight Rating
H_2S	Hydrogen Sulfide
HDT	Heavy Duty Trucks
HI	Hazard Index
HHDT	Heavy-Heavy-Duty Trucks
hp	Horsepower
ITE	Institute of Transportation Engineers
lbs	Pounds
lbs/day	Pounds Per Day
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
LHDT	Light-Heavy-Duty Trucks
LST	Localized Significance Threshold
LST METHODOLOGY	Final Localized Significance Threshold Methodology
MATES	Multiple Air Toxics Exposure Study
MDV	Medium-Duty Vehicles
MHDT	Medium-Heavy-Duty Trucks
MICR	Maximum Individual Cancer Risk
MM	Mitigation Measures
MW	Megawatt
MWELO	California Department of Water Resources' Model Water

	Efficient
N_2	Nitrogen
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
O_2	Oxygen
O_3	Ozone
O_2 Deficiency	Chronic Hypoxemia
OBD-II	On-Board Diagnostic
OPR	Office of Planning and Research
Pb	Lead
PM_{10}	Particulate Matter 10 microns in diameter or less
$PM_{2.5}$	Particulate Matter 2.5 microns in diameter or less
POLA	Port of Los Angeles
POLB	Port of Long Beach
ppm	Parts Per Million
Project	Rich-Haven Specific Plan, 2022 Amendment
RECLAIM	Regional Clean Air Incentives Market
RFG-2	Reformulated Gasoline Regulation
ROG	Reactive Organic Gases
RTP	Regional Transportation Plan
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCAQMD Rule 403	Fugitive Dust
SCAQMD Rule 1113	Architectural Coating
SCS	Sustainable Communities Strategy
sf	Square Feet
SIPs	State Implementation Plans
SO_2	Sulfur Dioxide
SO_4	Sulfates
SO_X	Sulfur Oxides
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Management

TITLE I	Non-Attainment Provisions
TITLE II	Mobile Sources Provisions
TRU	Transport Refrigeration Unit
UFP	Ultra Fine Particles
UTRs	Utility Tractors
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
vph	Vehicles Per Hour

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Rich-Haven Specific Plan, 2022 Amendment Air Quality Impact Analysis* (AQIA) are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines* (*CEQA Guidelines*) as implemented by the City (1). Table ES-1 shows the findings of significance for each potential air quality impact under CEQA before and after any required mitigation described below. It is noted here that the extent and degree of construction-source emissions is largely a byproduct of the construction schedule. The duration of Project construction activities would need to be protracted by an estimated additional 67 percent of the current Project construction schedule.[1] This may achieve the most restrictive construction-source emissions threshold [NOx], but in so doing would only prolong the duration of air quality emissions, the duration of construction-source equipment noise, and the duration of general disturbances associated with construction activities. The Lead Agency has determined that the benefits of the Project's current construction schedule outweigh the potential benefit in a temporary decrease in air quality emissions that may be achieved through a protracted Project construction schedule. Moreover, accepted air quality modeling parameters do not provide for such an assumed extended construction period. Alternatively, in order to reduce Project construction-source air quality emissions to levels that would preclude exceedance of all SCAQMD thresholds would require use of construction equipment or construction technologies that are not currently available or that would be available in the near-term. In this regard, use of alternative fuel construction equipment, including electric-powered equipment, is not feasible at this time as such equipment is not commercially available, and is not expected to be in the near-term. For these reasons, there are no feasible means or alternatives to avoid this impact or reduce the impact to levels that would be less-than-significant.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings		
		Unmitigated	Mitigation Measure	Mitigated[1]
Regional Construction Emissions	5.3	*Potentially Significant* (VOCs, NO_X, and CO)	*MM AQ-1 through MM AQ-6*	*Significant and Unavoidable* (NO_X and CO)
Localized Construction Emissions	5.5	*Less Than Significant*	*n/a*	*n/a*
Regional Operational Emissions	5.4	*Potentially Significant*	*MM AQ-7 through*	*Significant and Unavoidable*

1 Maximum daily construction-source NOx emissions [mitigated] = 165.30 lbs/day. NOx threshold = 55 lbs./day. Assuming roughly linear reduction necessary to meet threshold condition = 55/165.30 = 0.33 of maximum daily NOx emissions = 67 percent reduction in VOC emissions = 67 percent extension of Project construction schedule.

Analysis	Report Section	Significance Findings		
		Unmitigated	**Mitigation Measure**	**Mitigated[1]**
		(VOCs, NO_X, CO, PM_{10}, $PM_{2.5}$)	*MM AQ-20*	(VOCs, NO_X, CO, PM_{10}, $PM_{2.5}$)
Localized Operational Emissions	5.6	*Less Than Significant*	*n/a*	*n/a*
CO "Hot Spot" Analysis	5.7	*Less Than Significant*	*n/a*	*n/a*
Air Quality Management Plan	5.8	*Potentially Significant*	*MM AQ-1 through MM AQ-20*	*Significant and Unavoidable*
Regional Transportation Plan/ Sustainable Communities Strategy	5.9	*Less Than Significant*	*n/a*	*n/a*
Sensitive Receptors	5.10	*Less Than Significant*	*n/a*	*n/a*
Odors	5.11	*Less Than Significant*	*n/a*	*n/a*
Cumulative Impacts	5.12	*Potentially Significant*	*MM AQ-1 through MM AQ-20*	*Significant and Unavoidable*

ES.2 STANDARD REGULATORY REQUIREMENTS

There are numerous requirements that development projects must comply with by law, and that were put in place by federal, State, and local regulatory agencies for the improvement of air quality. Required by South Coast Air Quality Management District (SCAQMD) Rules, the two most pertinent regulatory requirements that apply during construction activity for the proposed Project include but are not limited to Rule 403 (Fugitive Dust) (2) and Rule 1113 (Architectural Coatings) (3). As such, credit for Rule 403 and Rule 1113 have been taken in the analysis.

SCAQMD RULE 401

A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.

SCAQMD RULE 402

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

SCAQMD RULE 403

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities.

SCAQMD RULE 445

The purpose of this rule is to reduce the amount of particulate matter from wood-burning devices, including stoves and fireplaces. In accordance with Rule 445, no wood-burning devices will be installed in any dwelling units.

SCAQMD RULE 1113

This rule serves to limit the Volatile Organic Compound (VOC) content of architectural coatings used on projects in the SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the SCAQMD must comply with the current VOC standards set in this rule.

SCAQMD RULE 1301

This rule is intended to provide that pre-construction review requirements to ensure that new or relocated facilities do not interfere with progress in attainment of the National Ambient Air Quality Standards (NAAQS), while future economic growth within the SCAQMD is not unnecessarily restricted. The specific air quality goal is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. Rule 1301 also limits emission increases of ammonia, and Ozone Depleting Compounds (ODCs) from new, modified or relocated facilities by requiring the use of Best Available Control Technology (BACT).

ES.3 PROJECT MITIGATION MEASURES

ES.3.1 CONSTRUCTION-SOURCE EMISSIONS MMS

Without mitigation, Project construction-source emissions would exceed SCAQMD regional criteria pollutant thresholds for VOC's, NOx and CO. The following mitigation measures shall be implemented as means of reducing construction-source emissions to the extent feasible. However, due to the large scale of the proposed Project, even with application of mitigation, Project construction-source emissions would exceed SCAQMD regional criteria pollutant thresholds for NOx and CO. These impacts are therefore significant and unavoidable.

MM AQ-1

Fugitive dust control measures that surpassing SCAQMD Rule 403 minimum requires shall be implemented. Such measures include: use of nontoxic soil stabilizers, applying water every four hours to active soil disturbing activities and tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.

MM AQ-2

Construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or higher exhaust emission limits shall be utilized.

MM AQ-3

Construction equipment shall be properly serviced and maintained to the manufacturer's standards.

MM AQ-4

Nonessential idling of construction equipment shall be limited to no more than five consecutive minutes.

MM AQ-5

Super-Compliant VOC paints for coating of architectural surfaces shall be used whenever possible.

MM AQ-6

The construction contractor shall use off-road diesel construction equipment that complies with EPA/CARB Tier 4 Interim or better emissions standards during all construction phases.

ES.3.2 OPERATIONAL-SOURCE EMISSIONS MMS

Without mitigation, Project operational-source emissions would exceed SCAQMD regional criteria pollutant thresholds for VOC's, NOx, CO, PM_{10}, and $PM_{2.5}$. The following mitigation measures shall be implemented as means of reducing operational-source emissions to the extent feasible. in California Emissions Estimator Model (CalEEMod), there is no way to meaningfully quantify potential emissions reductions that would result from application of the proposed mitigation. Therefore, no emissions reduction credit for mitigation has been taken in this analysis.

It is noted here that Project operational-source NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions exceedances are largely the product of traffic (mobile sources) accessing the Project site. Neither the Project Applicant nor the City have regulatory authority to control tailpipe emissions from these mobile sources. No feasible MMs beyond the measures identified herein exist that would reduce operational-source NOx and CO emissions to levels that would be less-than-significant.

With regard to VOC emissions, it is recognized that approximately 50 percent of operational-source VOC emissions would be generated by on-site sources, including natural gas usage, consumer products, landscape equipment, gasoline dispensing, and onsite equipment usage associated with the industrial portion of the Project. Approximately 60% of onsite VOC emissions are generated through the use of consumer products by future residents and building users. As such, the Project applicant cannot meaningfully control the use of consumer products through mitigation.

The following measures (MM AQ-7 through MM AQ-20) are designed to reduce Project operational-source criteria pollutant emissions exceedances noted above. These measures would also act to reduce Project operational-source criteria pollutant emissions generally. Even with application of MM AQ-7 through MM AQ-20, Project operational-source emissions impacts (CO, NOx, and VOC) would be significant and unavoidable.

MM AQ-7

Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable CARB anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five (5) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, the City shall conduct a site inspection to ensure that the signs are in place.

MM AQ-8

Prior to tenant occupancy, the Project Applicant or successor(s) in interest shall provide documentation to the City demonstrating that occupants/tenants of the Project site have been provided documentation on funding opportunities, such as the Carl Moyer Program, that provide incentives for using cleaner-than-required engines and equipment.

MM AQ-9

Prior to the issuing of each building permit, the Project Applicant, successor(s) in interest, and contractors shall provide plans and specifications to the City that demonstrate that each project building is designed for passive heating and cooling and is designed to include natural light. Features designed to achieve this shall include the proper placement of windows, overhangs, and skylights.

MM AQ-10

Prior to the issuing of each building permit, the Project Applicant, successor(s) in interest, and contractors shall provide plans and specifications to the City that demonstrate that electrical service is provided to each of the areas in the vicinity of the building that are to be landscaped in order that electrical equipment may be used for landscape maintenance.

MM AQ-11

Once constructed, the Project Applicant, successor(s) in interest shall ensure that all building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements.

MM AQ-12

Once constructed, through requirements in the lease agreements, the Project Applicant or successors in interest shall ensure that all building tenants shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment, through requirements in the lease agreements. Electric-powered service yard trucks (hostlers), pallet

jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically or natural gas fueled provided such yard trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles.

MM AQ-13

Through requirements in the lease agreements, tenants that do not already operate 2010 and newer trucks shall apply in good faith for funding to replace/retrofit their trucks. Funding mechanisms include Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible. This measure shall not apply to trucks that are not owned or operated by the facility operator or facility tenants since it would be infeasible to prohibit access to the site by any truck that is otherwise legal to operate on California roads and highways.

MM AQ-14

Through requirements in the lease agreements, tenants who employ 250 or more employees on a full- or part-time basis shall comply with SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Tenants with less than 250 employees or tenants with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to Rule 2202 with annual reporting of actions and results to the City. The tenant-implemented program would include, but not be limited to the following:

- Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees.
- Create and maintain a “commuter club” to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work.
- Inform employees of public transit and commuting services available to them (e.g., social media, signage).
- Provide on-site transit pass sales and discounted transit passes.
- Guarantee a ride home.
- Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted.

MM AQ-15

Prior to the issuance of a building permit, the Project Applicant or successor(s) in interest shall provide evidence to the City that loading docks are designed to be compatible with SmartWay trucks.

MM AQ-16

Upon occupancy and annually thereafter, the Project Applicant or successor(s) in interest shall provide the following information to all tenants:

- Building energy efficiency, solid waste reduction, recycling, and water conservation.
- Vehicle GHG emissions, electric vehicle charging availability, and alternate transportation opportunities for commuting.
- Participation in the Voluntary Interindustry Commerce Solutions (VICS) "Empty Miles" program to improve goods trucking efficiencies.
- Health effects of diesel particulates, State regulations limiting truck idling time, and the benefits of minimized idling.
- The importance of minimizing traffic, noise, and air pollutant impacts to any residences in the Project vicinity.
-

Tenants shall ensure that the above information is provided to employees and truck drivers as appropriate.

MM AQ-17

Prior to issuance of a building permit, the Project Applicant or successor(s) in interest shall provide the City with an onsite signage program that clearly identifies the required onsite circulation system. This shall be accomplished through posted signs and painting on driveways and internal roadways.

MM AQ-18

Prior to issuance of an occupancy permit, the City shall confirm that signs clearly identifying approved trucks have been installed along any truck routes to and from the project site.

MM AQ-19

Prior to issuance of an occupancy permit(s) for commercial/retail/industrial tenants, tenants shall install (a) sign(s) on their respective property(ies) with telephone, email, and regular mail contact information for a designated tenant representative (representative) who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the City for perceived Code violations. The representative shall keep records of any complaints received and actions taken to communicate with the complainant and resolve the complaint. The representative shall endeavor to resolve complaints within 24 hours.

MM AQ-20

Prior to issuance of a building permit for the Project industrial uses, the Project Applicant or successor(s) in interest shall provide the City with site and building specifications, drawings, and calculations that demonstrate that main electrical supply lines and panels have been sized to

support heavy truck charging facilities when these trucks become available. The calculations shall be based on reasonable predictions from currently available truck manufacturer's data.

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1 INTRODUCTION

This report presents the results of the AQIA prepared by Urban Crossroads, Inc., for the proposed Rich-Haven Specific Plan, 2022 Amendment (2022 Specific Plan Amendment, Project). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the SCAQMD.

1.1 BACKGROUND AND PROJECT DESCRIPTION

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated herein coincide with the location and boundaries in the 2021 Specific Plan. The location of the Project is presented at Exhibit 1-A.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated proposes a new amendment of the RHSP as described herein.

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This EIR evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.
3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment.

Note that portions of Planning Areas 3A and 4A within the Project site have been developed. Planning Areas 2, 3, 4A, 5C, 6, 10, and portions of 7, 8, and 9 are anticipated to be developed as part of the first phase with an anticipated Opening Year of 2024. Project Buildout and of Phase 2 is anticipated in Year 2027. Project Planning Areas and Phases are illustrated at Exhibit 1-B.

Table 1-1 presents the land uses that were assumed to be developed as part of Phase 1.

TABLE 1-1: PHASE 1 LAND USES

Land Use	Qty	Units
Business Park	316.725	TSF
High-Cube Cold Storage	454.244	TSF
High-Cube Fulfillment	1,404.417	TSF
High-Cube Transload	591.763	TSF
Multifamily (Low Rise) Residential	3,289	DU
Single Family Detached Residential	822	DU
Public Park	1.3	AC
Strip Retail	7.500	TSF
Gasoline Station	48	VFP
Shopping Center	162.137	TSF
High Turnover Restaurant	32.427	TSF
Fast Food Restaurant w/Drive Through	21.618	TSF

TSF = Thousand Square Feet
DU = Dwelling Units
AC = Acre
VFP = Vehicle Fueling Position

Table 1-2 presents the land uses that would be developed as part of Phase 2.

TABLE 1-2: PHASE 2 LAND USES

Land Use	Qty	Units
Multifamily (Low Rise) Residential	2,000	DU
Single Family Detached Residential	603	DU
Public Park	27	AC
Gasoline Station	48	VFP
Shopping Center	525.990	TSF
High Turnover Restaurant	105.198	TSF
Fast Food Restaurant w/Drive Through	70.132	TSF

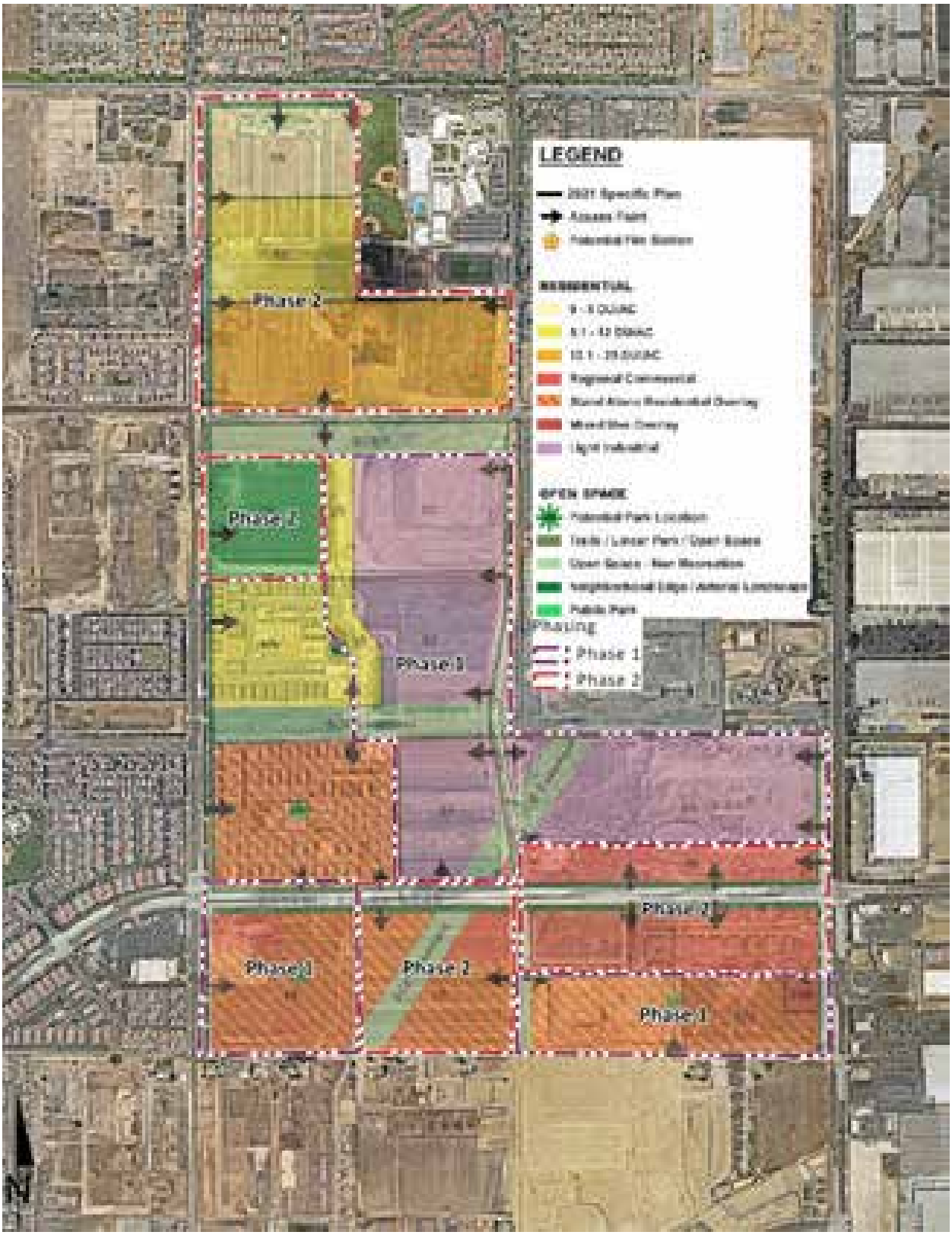
TSF = Thousand Square Feet
DU = Dwelling Units
AC = Acre
VFP = Vehicle Fueling Position

According to the *Rich-Haven Specific Plan, 2022 Amendment Traffic Analysis*, at buildout following the development of Phases 1 and 2, the proposed Project is anticipated to generate a total of 95,552 two-way vehicle trips per day including 94,408 two-way passenger vehicle trips and 1,144 two-way truck trips per day (in actual vehicles) (4).

EXHIBIT 1-A: LOCATION MAP



EXHIBIT 1-B: LAND USE PLAN



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2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

2.1 SOUTH COAST AIR BASIN

The Project site is located in the South Coast Air Basin (SCAB) within the jurisdiction of SCAQMD (5). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As previously stated, the Project site is located within the SCAB, a 6,745-square mile subregion of the SCAQMD, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the San Diego Air Basin to the south.

2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s degrees Fahrenheit (°F). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent (%) along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year, there are approximately 10 hours of possible sunshine, and on the longest day of the year, there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as nitrogen oxides (NO_X) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

2.4 CRITERIA POLLUTANTS

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified below (6):

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
CO	CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone (O_3), motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen (O_2) supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with O_2 transport and competing with O_2 to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for O_2 supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (O_2 deficiency) as seen at high altitudes.
SO_2	SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant	Coal or oil burning power plants and industries,	A few minutes of exposure to low levels of SO_2 can result in airway constriction in some

Criteria Pollutant	Description	Sources	Health Effects
	mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms SO_4. Collectively, these pollutants are referred to as sulfur oxides (SO_X).	refineries, diesel engines	asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.
NO_X	NO_X consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with O_2. Their lifespan in the atmosphere ranges from	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming	Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is

Criteria Pollutant	Description	Sources	Health Effects
	one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. NO_X is typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring station.	equipment and residential heating.	associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of O_3 exposure increases when animals are exposed to a combination of O_3 and NO_2.
O_3	O_3 is a highly reactive and unstable gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O_3 concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.	Formed when reactive organic gases (ROG) and NO_X react in the presence of sunlight. ROG sources include any source that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and	Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for O_3 effects. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased

Criteria Pollutant	Description	Sources	Health Effects
		storage and pesticides.	susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated O_3 levels are associated with increased school absences. In recent years, a correlation between elevated ambient O_3 levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple outdoor sports and live in communities with high O_3 levels. O_3 exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes O_3 may be more toxic than exposure to O_3 alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.
Particulate Matter	PM_{10}: A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light and consequently the significant reduction air clarity. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be	Sources of PM_{10} include road dust, windblown dust and construction. Also formed from other pollutants (acid rain, NO_X, SO_X, organics). Incomplete combustion of any fuel. $PM_{2.5}$ comes from	A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In

Criteria Pollutant	Description	Sources	Health Effects
	deposited, resulting in adverse health effects. Additionally, it should be noted that PM_{10} is considered a criteria air pollutant. $PM_{2.5}$: A similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include SO_4 formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_X release from power plants, automobiles, and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.	fuel combustion in motor vehicles, equipment, and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO_X, SO_X, organics).	recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.
VOC	VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the	Organic chemicals are widely used as ingredients in household products. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products. Fuels are made up of organic chemicals. All of these products can release organic	Breathing VOCs can irritate the eyes, nose, and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health effects, though many have several.

Criteria Pollutant	Description	Sources	Health Effects
	solvents used in paints. Exceptions to the VOC designation include CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably.	compounds while you are using them, and, to some degree, when they are stored.	
ROG	Similar to VOC, ROGs are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms ROG and VOC (see previous) interchangeably.	Sources similar to VOCs.	Health effects similar to VOCs.
Lead (Pb)	Pb is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of Pb in the air was emissions from vehicles burning leaded gasoline. The major sources of Pb emissions are ore and metals processing, particularly Pb smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the Project does not include operational activities such as metal processing or Pb acid battery manufacturing. As such, the Project is not anticipated to	Metal smelters, resource recovery, leaded gasoline, deterioration of Pb paint.	Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be

Criteria Pollutant	Description	Sources	Health Effects
	generate a quantifiable amount of Pb emissions.		stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.
Odor	Odor means the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves (7).	Odors can come from many sources including animals, human activities, industry, natures, and vehicles.	Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

2.5 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 2-2 (8).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards. At the time of this AQIA, the most recent state and federal standards were updated by CARB on May ,4 2016 and are presented in Table 2-2. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, PM_{10}, and $PM_{2.5}$ are not to be exceeded. All others are not to be equaled or exceeded. It should be noted that the three-year period is presented for informational purposes and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the SCAQMD meets the standards set by the EPA or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted by CARB. The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area (9).

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (1 OF 2)

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [1]		
		Concentration [2]	Method [3]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3) [8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10}) [9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter ($PM_{2.5}$) [9]	24 Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2) [10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2) [11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas) [11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) [11]	—	
Lead [12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas) [12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility Reducing Particles [14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride [13]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990 California Air Resources Board (5/4/16)

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (2 OF 2)

1. Californian standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentrations expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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2.6 REGIONAL AIR QUALITY

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: CO, Pb, O_3, particulate matter (PM_{10} and $PM_{2.5}$), NO_2, and SO_2 which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district (10). On January 5, 2021, CARB posted the 2020 amendments to the state and national area designations. See Table 2-3 for attainment designations for the SCAB (11). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Attainment	Unclassifiable/Attainment
Pb[2]	Attainment	Unclassifiable/Attainment

Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the SCAB
"-" = The national 1-hour O_3 standard was revoked effective June 15, 2005.

2.7 LOCAL AIR QUALITY

The SCAQMD has designated general forecast areas and air monitoring areas (referred to as Source Receptor Areas [SRA]) throughout the district in order to provide Southern California residents about the air quality conditions. The Project site is located within the Southwest San Bernardino Valley area (SRA 33). The CA-60 Near Road monitoring station is located 2.52 miles northwest of the Project site and is the nearest long-term air quality monitoring site for NO_2 and $PM_{2.5}$. The SCAQMD I-10 Near Road monitoring station is located 4.24 miles northeast of the Project site and is the next nearest monitoring site within SRA 33. The I-10 Near Road monitoring station provides data for CO. Relative to the Project site, the nearest long-term air quality monitoring site for O_3 and PM_{10} is the SCAQMD Northwest San Bernardino Valley (SRA 32) monitoring station located 7.17 miles northwest of the Project site. It should be noted that the Northwest San Bernardino Valley monitoring station was utilized in lieu of the CA-60 Near Road and I-10 Near Road monitoring stations only in instances where data was not available.

The most recent three (3) years of data available are shown on Table 2-4 and identifies the number of days ambient air quality standards were exceeded for the study area, which is

[2] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

considered to be representative of the local air quality at the Project Site. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2018 through 2020 was obtained from the SCAQMD Air Quality Data Tables (12). Additionally, data for SO_2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations.

TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2018-2020

Pollutant	Standard	Year		
		2018	2019	2020
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.133	0.131	0.158
Maximum Federal 8-Hour Concentration (ppm)		0.111	0.107	0.123
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	25	31	82
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	52	52	114
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	1.6	1.5	1.5
Maximum Federal 8-Hour Concentration	> 20 ppm	1.3	1.1	1.2
NO_2				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.079	0.087	0.101
Annual Average		0.030	0.029	0.029
PM_{10}				
Maximum Federal 24-Hour Concentration ($\mu g/m^3$)	> 150 $\mu g/m^3$	73	125	63
Annual Federal Arithmetic Mean ($\mu g/m^3$)		32.3	28.1	30.5
Number of Days Exceeding Federal 24-Hour Standard	> 150 $\mu g/m^3$	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 $\mu g/m^3$	14	7	12
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration ($\mu g/m^3$)	> 35 $\mu g/m^3$	47.90	41.30	53.10
Annual Federal Arithmetic Mean ($\mu g/m^3$)	> 12 $\mu g/m^3$	14.31	12.70	14.36
Number of Days Exceeding Federal 24-Hour Standard	> 35 $\mu g/m^3$	5	5	4

ppm = Parts Per Million
$\mu g/m^3$ = Microgram per Cubic Meter
Source: Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ was obtained from SCAQMD Air Quality Data Tables.

2.8 REGIONAL AIR QUALITY IMPROVEMENT

The Project is within the jurisdiction of the SCAQMD. In 1976, California adopted the Lewis Air Quality Management Act which created SCAQMD from a voluntary association of air pollution control districts in Los Angeles, Orange, Riverside, and San Bernardino counties. The geographic area of which SCAQMD consists of is known as the SCAB. SCAQMD develops comprehensive plans

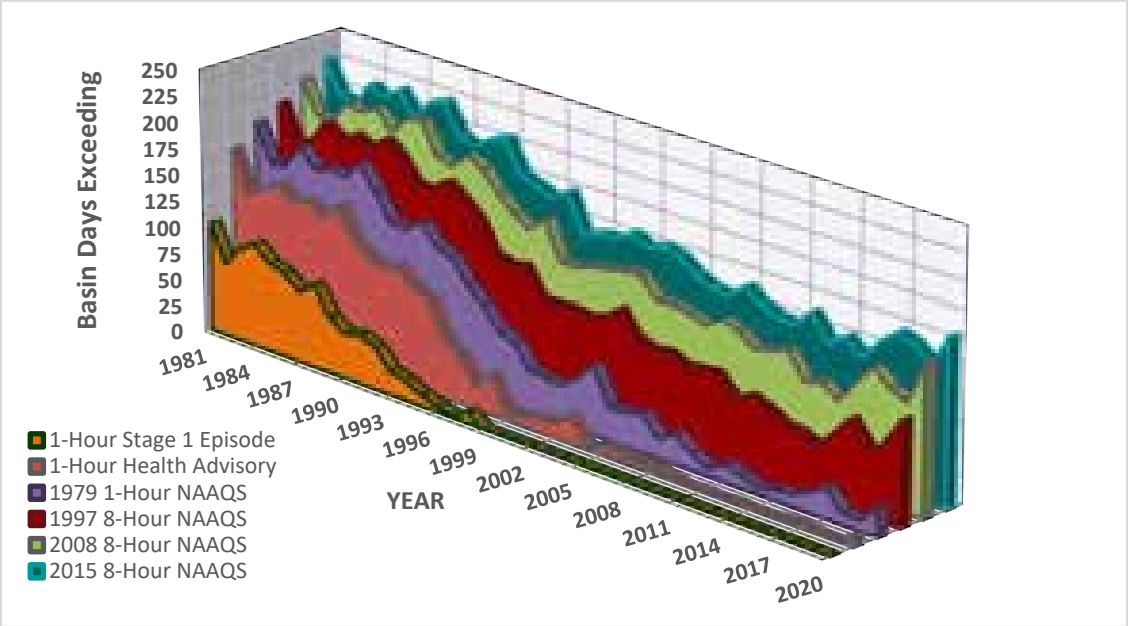
and regulatory programs for the region to attain federal standards by dates specified in federal law. The agency is also responsible for meeting state standards by the earliest date achievable, using reasonably available control measures.

SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in SCAB air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the SCAB. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.

As discussed above, the SCAQMD is the lead agency charged with regulating air quality emission reductions for the entire SCAB. SCAQMD created AQMPs which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the SCAB. The 2012 AQMP states, "the remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs," (13).

Emissions of O_3, NO_X, VOC, and CO have been decreasing in the SCAB since 1975 and are projected to continue to decrease through 2020 (14). These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled (VMT) in the SCAB continue to increase, NO_X and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. O_3 contour maps show that the number of days exceeding the 8-hour NAAQS has generally decreased between 1980 and 2020. For 2020, there was an overall decrease in exceedance days compared with the 1980 period. However, as shown on Table 2-5, O_3 levels have increased in the past three years due to higher temperatures and stagnant weather conditions. Notwithstanding, O_3 levels in the SCAB have decreased substantially over the last 30 years with the current maximum measured concentrations being approximately one-third of concentrations within the late 70's (15).

TABLE 2-5: SCAB O_3 TREND

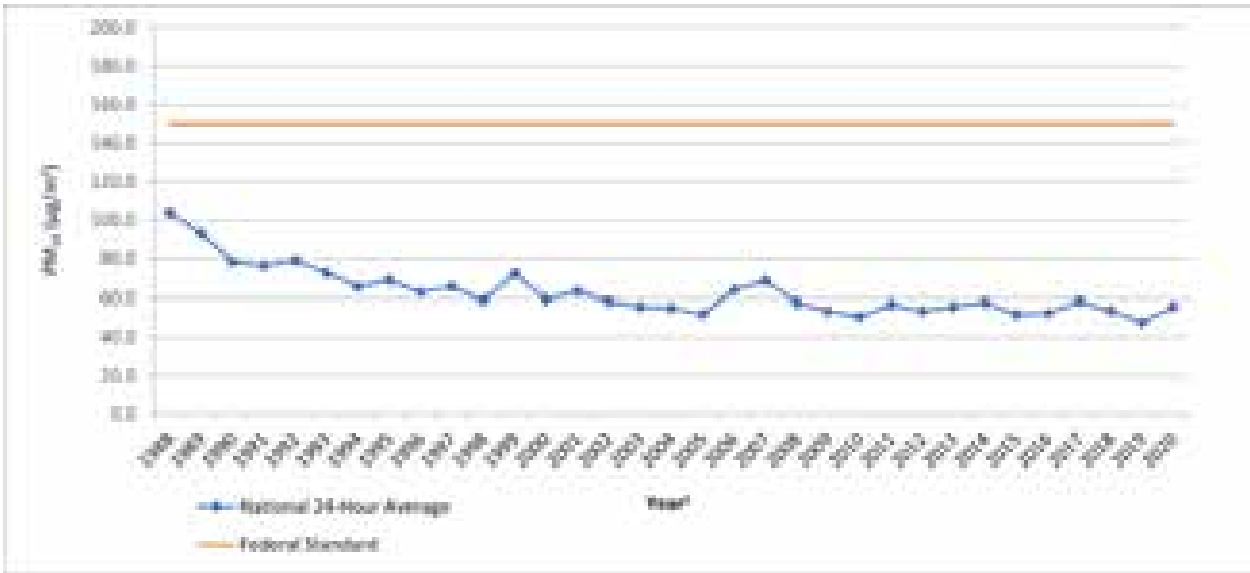


Source: 2020 SCAQMD, Historical O_3 Air Quality Trends (1976-2020)

The overall trends of PM_{10} and $PM_{2.5}$ levels in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM_{10} have remained somewhat constant in the SCAB and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction, and other sources) contribute the greatest amount of direct particulate matter emissions.

As with other pollutants, the most recent PM_{10} statistics show an overall improvement as illustrated in Tables 2-6 and 2-7. During the period for which data are available, the 24-hour national annual average concentration for PM_{10} decreased by approximately 46%, from 103.7 microgram per cubic meter (µg/m³) in 1988 to 55.5 µg/m³ in 2020 (16). Although the values are below the federal standard, it should be noted that there are days within the year where the concentrations would exceed the threshold. The 24-hour state annual average for emissions for PM_{10}, have decreased by approximately 64%, from 93.9 µg/m³ in 1989 to 33.9 µg/m³ in 2020 (16). Although data in the late 1990's show some variability, this is probably due to the advances in meteorological science rather than a change in emissions. Similar to the ambient concentrations, the calculated number of days above the 24-hour PM_{10} standards has also shown an overall drop.

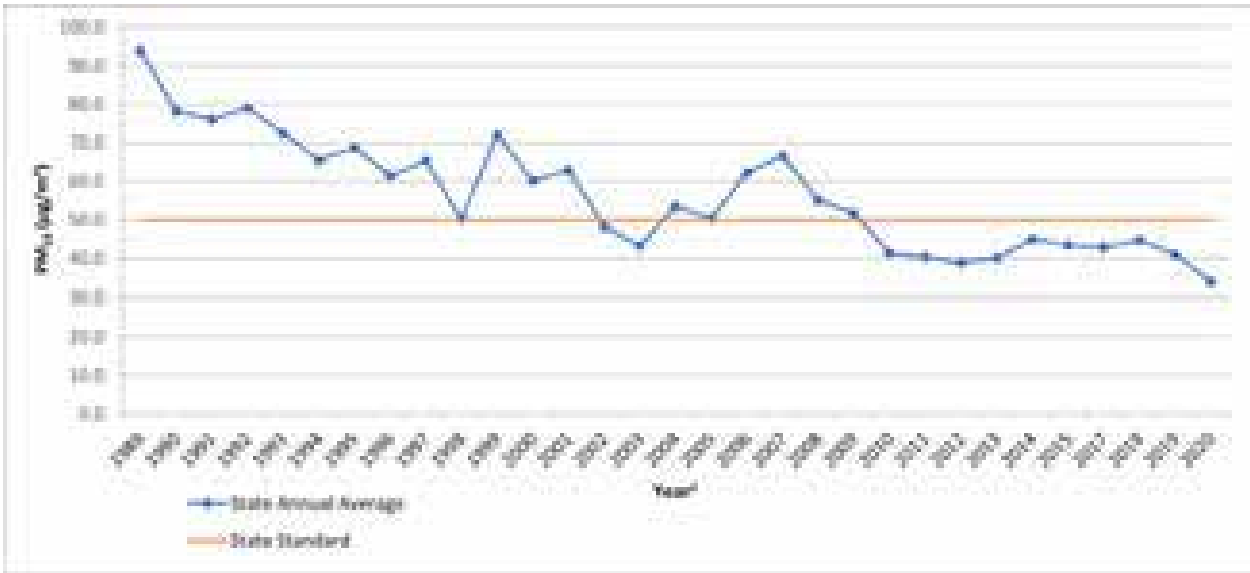
TABLE 2-6: SCAB AVERAGE 24-HOUR CONCENTRATION PM_{10} TREND (BASED ON FEDERAL STANDARD)[1]



Source: 2020 CARB, iADAM: Top Four Summary: PM_{10} 24-Hour Averages (1988-2020)

[1] Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

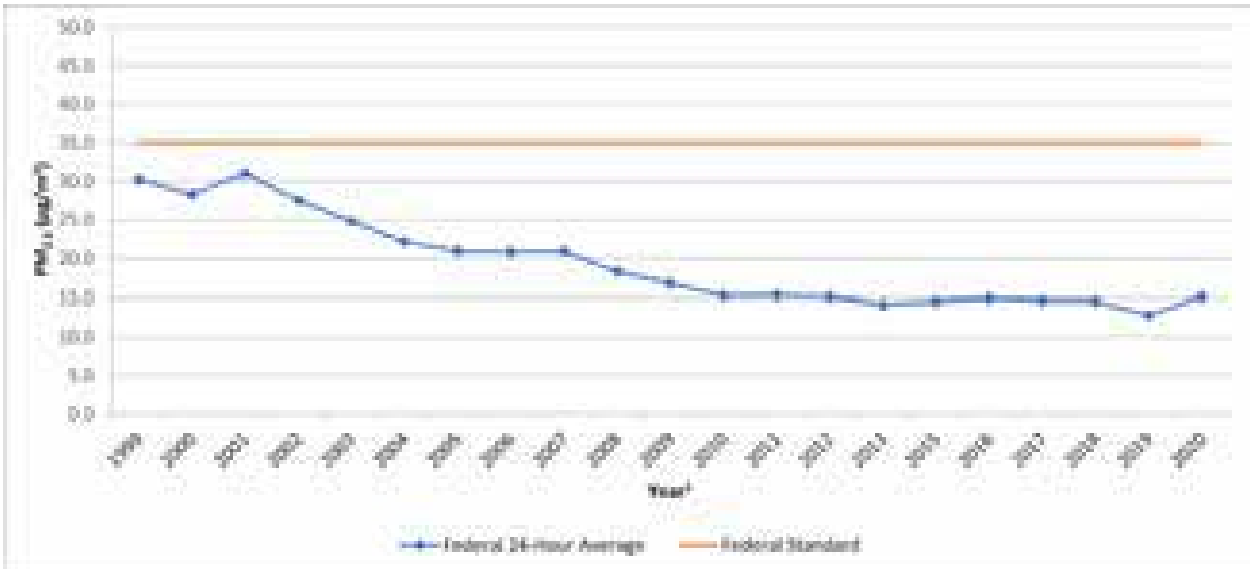
TABLE 2-7: SCAB ANNUAL AVERAGE CONCENTRATION PM_{10} TREND (BASED ON STATE STANDARD)[1]



Source: 2020 CARB, iADAM: Top Four Summary: PM_{10} 24-Hour Averages (1988-2020)
[1] Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

Tables 2-8 and 2-9 shows the most recent 24-hour average $PM_{2.5}$ concentrations in the SCAB from 1999 through 2020. Overall, the national and state annual average concentrations have decreased by almost 50% and 31% respectively (16). It should be noted that the SCAB is currently designated as nonattainment for the state and federal $PM_{2.5}$ standards.

TABLE 2-8: SCAB 24-HOUR AVERAGE CONCENTRATION $PM_{2.5}$ TREND (BASED ON FEDERAL STANDARD)[1]



Source: 2020 CARB, iADAM: Top Four Summary: $PM_{2.5}$ 24-Hour Averages (1999-2020)
[1] Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

TABLE 2-9: SCAB ANNUAL AVERAGE CONCENTRATION $PM_{2.5}$ TREND (BASED ON STATE STANDARD)[1]



Source: 2020 CARB, iADAM: Top Four Summary: $PM_{2.5}$ 24-Hour Averages (1999-2020)
[1] Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

While the 2012 AQMP PM_{10} attainment demonstration and the 2015 associated supplemental SIP submission indicated that attainment of the 24-hour standard was predicted to occur by the end of 2015, it could not anticipate the effect of the ongoing drought on the measured $PM_{2.5}$.

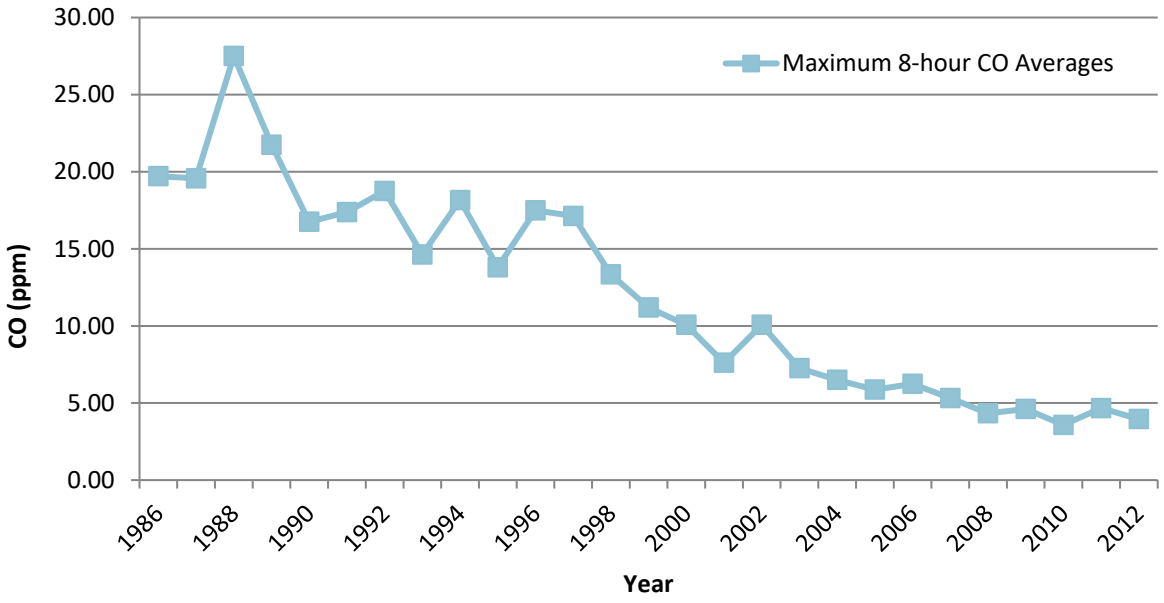
The 2006 to 2010 base period used for the 2012 attainment demonstration had near-normal rainfall. While the trend of $PM_{2.5}$-equivalent emission reductions continued through 2015, the severe drought conditions contributed to the $PM_{2.5}$ increases observed after 2012. As a result of the disrupted progress toward attainment of the federal 24-hour $PM_{2.5}$ standard, SCAQMD submitted a request and the EPA approved, in January 2016, a "bump up" to the nonattainment classification from "moderate" to "serious," with a new attainment deadline as soon as practicable, but not beyond December 31, 2019. As of March 14, 2019, the EPA approved portions of a SIP revision submitted by California to address CAA requirements for the 2006 24-hour $PM_{2.5}$ NAAQS in the Los Angeles-SCAB Serious $PM_{2.5}$ nonattainment area. The EPA also approved 2017 and 2019 motor vehicle emissions budgets for transportation conformity purposes and inter-pollutant trading ratios for use in transportation conformity analyses (17).

In March 2017, the SCAQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (18). Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) and updated emission inventory methodologies for various source categories (19).

The 2022 AQMP is currently being developed by SCAQMD to address the EPA's strengthened ozone standard. Development of the 2022 AQMP is in its early stages and no formal timeline for completion and adoption is currently known.

The most recent CO concentrations in the SCAB are shown in Table 2-10 (16). CO concentrations in the SCAB have decreased markedly — a total decrease of more about 80% in the peak 8-hour concentration from 1986 to 2012. It should be noted 2012 is the most recent year where 8-hour CO averages and related statistics are available in the SCAB. The number of exceedance days has also declined. The entire SCAB is now designated as attainment for both the state and national CO standards. Ongoing reductions from motor vehicle control programs should continue the downward trend in ambient CO concentrations.

TABLE 2-10: SCAB 8-HOUR AVERAGE CONCENTRATION CO TREND[1]



Source: 2020 CARB, iADAM: Top Four Summary: CO 8-Hour Averages (1986-2012)
[1] The most recent year where 8-hour concentration data is available is 2012.

Part of the control process of the SCAQMD's duty to greatly improve the air quality in the SCAB is the uniform CEQA review procedures required by SCAQMD's *CEQA Air Quality Handbook (1993)* (*1993 CEQA Handbook*) (20). The single threshold of significance used to assess Project direct and cumulative impacts has in fact "worked" as evidenced by the track record of the air quality in the SCAB dramatically improving over the course of the past decades. As stated by the SCAQMD, the District's thresholds of significance are based on factual and scientific data and are therefore appropriate thresholds of significance to use for this Project.

The most recent NO_2 data for the SCAB is shown in Tables 2-11 and 2-12 (16). Over the last 50 years, NO_2 values have decreased significantly; the peak 1-hour national and state averages for 2020 is approximately 80% lower than what it was during 1963. The SCAB attained the State 1-hour NO_2 standard in 1994, bringing the entire state into attainment. A new state annual average

standard of 0.030 ppm was adopted by CARB in February 2007 (21). The new standard is just barely exceeded in the SCAQMD. NO_2 is formed from NO_X emissions, which also contribute to O_3. As a result, the majority of the future emission control measures would be implemented as part of the overall O_3 control strategy. Many of these control measures would target mobile sources, which account for more than three-quarters of California's NO_X emissions. These measures are expected to bring the SCAQMD into attainment of the state annual average standard.

TABLE 2-11: SCAB 1-HOUR AVERAGE CONCENTRATION NO_2 TREND (BASED ON FEDERAL STANDARD)



Source: 2020 CARB, iADAM: Top Four Summary: CO 1-Hour Averages (1963-2020)

TABLE 2-12: SCAB 1-HOUR AVERAGE CONCENTRATION NO_2 TREND (BASED ON STATE STANDARD)



Source: 2020 CARB, iADAM: Top Four Summary: CO 1-Hour Averages (1963-2020)

2.9.1 TOXIC AIR CONTAMINANTS (TAC) TRENDS

In 1984, as a result of public concern for exposure to airborne carcinogens, CARB adopted regulations to reduce the amount of TAC emissions resulting from mobile and area sources, such as cars, trucks, stationary sources, and consumer products. According to the *Ambient and Emission Trends of Toxic Air Contaminants in California* journal article (22) which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene (C_6H_6), and 1,3-butadiene (C_4H_6); those that are derived from stationary sources: perchloroethylene (C_2Cl_4) and hexavalent chromium (Cr(VI)); and those derived from photochemical reactions of emitted VOCs: formaldehyde (CH_2O) and acetaldehyde (C_2H_4O)[3]. The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

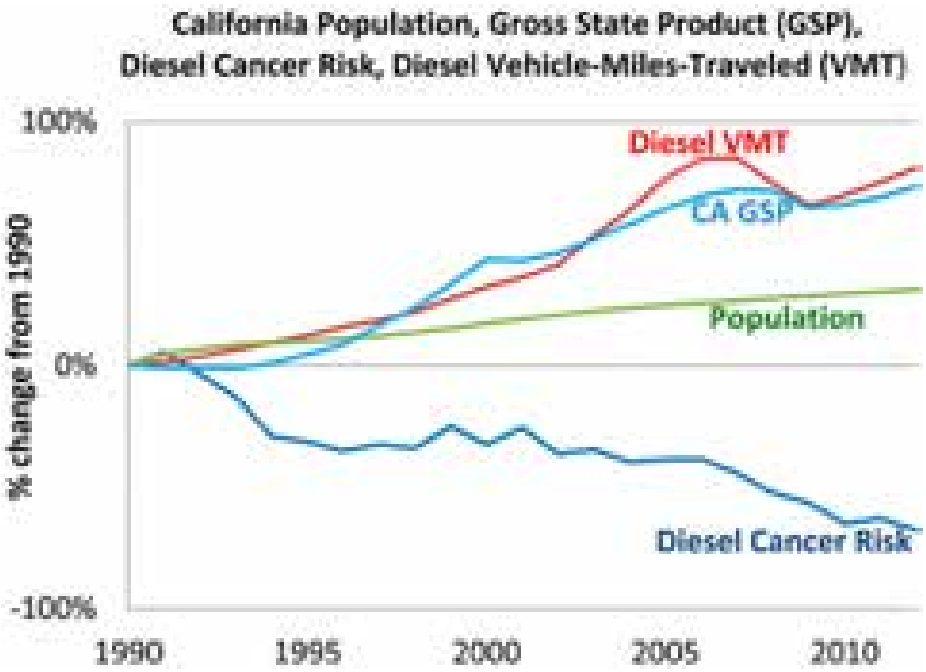
MOBILE SOURCE TACS

CARB introduced two programs that aimed at reducing mobile emissions for light and medium duty vehicles through vehicle emissions controls and cleaner fuel. In California, light-duty vehicles sold after 1996 are equipped with California's second-generation On-Board Diagnostic (OBD-II) system. The OBD-II system monitors virtually every component that can affect the emission performance of the vehicle to ensure that the vehicle remains as clean as possible over its entire life and assists repair technicians in diagnosing and fixing problems with the computerized engine controls. If a problem is detected, the OBD-II system illuminates a warning lamp on the vehicle instrument panel to alert the driver. This warning lamp typically contains the phrase "Check Engine" or "Service Engine Soon." The system would also store important information about the detected malfunction so that a repair technician can accurately find and fix the problem. CARB has recently developed similar OBD requirements for heavy-duty vehicles over 14,000 pounds (lbs). CARB's phase II Reformulated Gasoline Regulation (RFG-2), adopted in 1996, also led to a reduction of mobile source emissions. Through such regulations, benzene levels declined 88% from 1990-2012. 1,3-Butadiene concentrations also declined 85% from 1990-2012 as a result of the use of reformulated gasoline and motor vehicle regulations (22).

In 2000, CARB's Diesel Risk Reduction Plan (DRRP) recommended the replacement and retrofit of diesel-fueled engines and the use of ultra-low-sulfur (<15 ppm) diesel fuel. As a result of these measures, DPM concentrations have declined 68% since 2000, even though the state's population increased 31% and the amount of diesel vehicles miles traveled increased 81%, as shown on Exhibit 2-B. With the implementation of these diesel-related control regulations, CARB expects a DPM decline of 71% for 2000-2020.

[3] It should be noted that ambient DPM concentrations are not measured directly. Rather, a surrogate method using the coefficient of haze (COH) and elemental carbon (EC) is used to estimate DPM concentrations.

EXHIBIT 2-A: DPM AND DIESEL VEHICLE MILES TREND



Source: 2020 CARB

DIESEL REGULATIONS

CARB and the Ports of Los Angeles and Long Beach (POLA and POLB) have adopted several iterations of regulations for diesel trucks that are aimed at reducing DPM. More specifically, CARB Drayage Truck Regulation (23), CARB statewide On-road Truck and Bus Regulation (24), and the Ports of Los Angeles and Long Beach Clean Truck Program (CTP) require accelerated implementation of "clean trucks" into the statewide truck fleet (25). In other words, older more polluting trucks would be replaced with newer, cleaner trucks as a function of these regulatory requirements.

Moreover, the average statewide DPM emissions for Heavy Duty Trucks (HDT), in terms of grams of DPM generated per mile traveled, would dramatically be reduced due to the aforementioned regulatory requirements.

Diesel emissions identified in this analysis would therefore overstate future DPM emissions since not all the regulatory requirements are reflected in the modeling.

CANCER RISK TRENDS

Based on information available from CARB, overall cancer risk throughout the SCAB has had a declining trend since 1990. In 1998, following an exhaustive 10-year scientific assessment process, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. The SCAQMD initiated a comprehensive urban toxic air pollution study called the Multiple Air Toxics Exposure Study (MATES). DPM accounts for more than 70% of the cancer risk.

In January 2018, as part of the overall effort to reduce air toxics exposure in the SCAB, SCAQMD began conducting the MATES V Program. MATES V field measurements were conducted at ten fixed sites (the same sites selected for MATES III and IV) to assess trends in air toxics levels. MATES V also included measurements of ultrafine particles (UFP) and black carbon (BC) concentrations, which can be compared to the UFP levels measured in MATES IV (26). The final report for the MATES V study was published August 2021. In addition to new measurements and updated modeling results, several key updates were implemented in MATES V. First, MATES V estimates cancer risks by taking into account multiple exposure pathways, which includes inhalation and non-inhalation pathways. This approach is consistent with how cancer risks are estimated in South Coast AQMD's programs such as permitting, Air Toxics Hot Spots (AB2588), and CEQA. Previous MATES studies quantified the cancer risks based on the inhalation pathway only. Second, along with cancer risk estimates, MATES V includes information on the chronic non-cancer risks from inhalation and non-inhalation pathways for the first time. Cancer risks and chronic non-cancer risks from MATES II through IV measurements have been re-examined using current Office of Environmental Health Hazard Assessment (OEHHA) and CalEPA risk assessment methodologies and modern statistical methods to examine the trends over time (27).

MATES-V calculated cancer risks based on monitoring data collected at ten fixed sites within the SCAB. None of the fixed monitoring sites are within the local area of the Project site. However, MATES-V has extrapolated the excess cancer risk levels throughout the SCAB by modeling the specific grids. The Project is located within a quadrant of the geographic grid of the MATES-V model which predicted a cancer risk of 600 in one million for the area containing the Project site. DPM is included in this cancer risk along with all other TAC sources. As in previous MATES iterations, diesel PM is the largest contributor to overall air toxics cancer risk. However, the average levels of diesel PM in MATES V are 53% lower at the 10 monitoring sites compared to MATES IV. Cumulative Project generated TACs are limited to DPM.

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3 REGULATORY BACKGROUND

3.1 FEDERAL REGULATIONS

The EPA is responsible for setting and enforcing the NAAQS for O_3, CO, NO_X, SO_2, PM_{10}, and Pb (28). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (29). The CAA also mandates that states submit and implement SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (30) (31). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. Table 2-3 (previously presented) provides the NAAQS within the SCAB.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_X. NO_X is a collective term that includes all forms of NO_X which are emitted as byproducts of the combustion process.

3.2 CALIFORNIA REGULATIONS

CARB

CARB, which became part of CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO_4, visibility, hydrogen sulfide (H_2S), and vinyl chloride (C_2H_3Cl). However, at this time, H_2S and C_2H_3Cl are not measured at any monitoring stations in the SCAB

because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (32) (28).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, NOX, CO and PM10. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

TITLE 24 ENERGY EFFICIENCY STANDARDS AND CALIFORNIA GREEN BUILDING STANDARDS

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that became effective January 1, 2020.

Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction waste and demolition ordinances and defers to them as the ruling guidance provided they establish a minimum 65% diversion requirement.

The code also provides exemptions for areas not served by construction waste and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2020.

The 2019 Title 24 standards will result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the SCAB and across the State of California. For example, the 2019 Title 24 standards will require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting requirements for nonresidential buildings.

The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings (such as the Project) will use approximately 30% less energy due to lighting upgrade requirements (33).

Because the Project will be constructed after January 1, 2020, the 2019 CALGreen standards are applicable to the Project and require, among other items (34):

- EV Charging (new one- and two-family dwellings and townhouses with attached private garages). For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device (4.106.4.1).
- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- Electric vehicle charging stations. New construction shall facilitate the future installation of electric vehicle supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3).

- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8)
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
  - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
  - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
  - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
  - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor potable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (5.303.1.1 and 5.303.1.2).
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).

- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

Additionally, under California's 2022 Title 24, Part 6 Building Energy Efficiency Standards, solar photovoltaic systems are required for newly constructed low-rise residential buildings and shall be sized sufficient to offset the electricity use of the proposed building as if it was a mixed-fuel building.

AIR QUALITY MANAGEMENT PLANNING (AQMP)

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards (19). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 5.8.

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4 SIGNIFICANCE THRESHOLDS

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the *Initial Study Checklist in Appendix G of the State CEQA Guidelines* (14 CCR §§ 15000, et seq.). Based on these thresholds, a project would result in a potentially significant impact related to air quality if it would (1):

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

4.1 REGIONAL SIGNIFICANCE THRESHOLDS

The SCAQMD has also developed regional significance thresholds for other regulated pollutants, as summarized at Table 4-1 (35). The SCAQMD's *CEQA Air Quality Significance Thresholds* (April 2019) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

TABLE 4-1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Construction Regional Thresholds	Operational Regional Thresholds
NO_X	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Pb	3 lbs/day	3 lbs/day

lbs/day = Pounds Per Day
Source: Regional Thresholds presented in this table are based on the SCAQMD Air Quality Significance Thresholds, April 2019

4.2 LOCALIZED SIGNIFICANCE THRESHOLDS

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (*LST Methodology*) (36). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the NAAQS and CAAQS. Collectively, these are referred to as Localized Significance Thresholds (LSTs).

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[4]. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the *LST Methodology* (37).

4.2.1 APPLICABILITY OF LSTS FOR THE PROJECT

For this Project, the appropriate SRA for the LST analysis is Southwest San Bernardino Valley (SRA 33). LSTs apply to CO, NO_X, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size, however the look-up tables can be applied as a screening criterion for larger projects (see additional discussion in Section 4.2.2).

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

Identify the maximum daily on-site emissions that will occur during construction activity:

- The maximum daily on-site emissions could be based on information provided by the Project Applicant; or
- The SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds and CalEEMod User's Guide Appendix A: Calculation Details for CalEEMod can be used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod (38) (39).

If the total acreage disturbed is less than or equal to 5 acres per day, then the SCAQMD's screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in lbs/day that can be compared to CalEEMod outputs.

Since total acreage disturbed for the Project is likely greater than 5 acres per day throughout the construction process, then the SCAQMD recommends dispersion modeling to be conducted to determine the actual pollutant concentrations for applicable LSTs in the air. In other words, the maximum daily on-site emissions as calculated in CalEEMod are modeled via air dispersion modeling to calculate the actual concentration in the air (e.g., parts per million or micrograms per cubic meter) in order to determine if any applicable thresholds are exceeded.

[4] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

4.2.1.1 MAXIMUM DAILY DISTURBED-ACREAGE

As a conservative measure, it is assumed that a maximum of 20 acres per day can be actively disturbed. In CalEEMod, the Total Acres Graded (TAG) field represents the cumulative distance traversed on the property by the grading equipment. In order to properly grade a piece of land, multiple passes with grading equipment may be required. So even though the lot size is a fixed number of acres, the TAG could be an order of magnitude higher than the footprint of the lot (39). TAG is a function of the maximum acreage disturbed per day times the number of days of the subphase of construction. As such, the "Total Acres Graded" field in CalEEMod has been revised to the following[5]:

- Phase 1
    - Site Preparation: 1,700 acres (20 acres disturbed per day x 85 working days)
    - Grading: 3,080 acres (20 acres disturbed per day x 154 working days)
- Phase 2
    - Site Preparation: 2,200 acres (20 acres per day x 110 working days)
    - Grading: 3,460 acres (20 acres per day x 173 working days)

4.2.1.2 DISPERSION MODELING

In order to estimate localized pollutant concentrations resulting from Project construction, the SCAQMD-approved AERMOD dispersion model was utilized. The modeling approach utilized is discussed as follows:

SOURCES

It should be noted that in order to model worst-case conditions, the highest daily peak on-site emissions resulting from overlapping construction activity were modeled.

A ground level release height and a 1 meter (~3.28 feet) initial vertical dimension (sigma z) were utilized for fugitive emissions of PM_{10} and $PM_{2.5}$ consistent with SCAQMD's LST guidance.

In order to account for equipment exhaust emissions from NO_2, and CO a release height of 5.0 meters was utilized consistent with SCAQMD's LST guidance.

METEOROLOGICAL DATA AND MODEL OPTIONS

In order to account for meteorological conditions at the Project site, meteorological data from the SCAQMD's Ontario Airport (KONT) monitoring station was utilized, as this is the nearest station to the Project site for which meteorological data is available. Additionally, a receptor height of 2 meters and regulatory default options were utilized consistent with SCAQMD's LST guidance.

[5] CalEEMod does not provide a "Total Acres Graded" field for Building Construction, Paving, or Architectural Coating activities.

4.2.1.3 SENSITIVE RECEPTORS

As previously stated, LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQS at the nearest residence or sensitive receptor. Receptor locations are sites where individuals may be exposed to emissions from Project activities. For the purposes of this analysis, receptor sites have been established at on-site and off-site locations representative of land uses that could be maximally affected by Project-source air pollutant emissions.

RESIDENTIAL RECEPTORS

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors". These structures typically include residences, hotels, hospitals, etc. as they are also known to be locations where an individual can remain for 24 hours. Consistent with the LST Methodology, the nearest land use where an individual could remain for 24 hours to the Project site (in this case the nearest residential land use) has been used to determine construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$, since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time.

NON-RESIDENTIAL RECEPTORS

As per the LST Methodology, commercial and industrial facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for 8 hours or less. The LST Methodology explicitly states that "*LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours* (36)." For purposes of analysis, if an industrial/commercial use is located at a closer distance to the Project site than the nearest residential use, the nearest industrial/commercial use will be utilized to determine construction and operational LST air impacts for emissions of NO_2 and CO an individual could be present at these sites for periods of 1 to 8 hours.

SENSITIVE RECEPTOR LOCATIONS

Sensitive receptors in the Project study area are illustrated at Exhibit 4-A and are described below:

R1: Location R1 represents the Colony High School Football Stadium, approximately 76 feet north of the Project site. R1 is placed in the bleachers just north of Planning Area (PA) 1.

R2: Location R2 represents the existing residence at 3271 S Quincy Way, approximately 219 feet east of the Project site. R2 is placed in the private outdoor living areas facing the Project site.

R3: Location R3 represents an on-site receiver location within the planned PA7 residential mixed use overlay area. R3 is placed approximately 460 feet south of the light industrial use within PA 6A.

R4: Location R4 represents the existing residence at 10823 Edison Avenue, approximately 94 feet south of the Project site. Since there are no private outdoor living areas (backyard) facing the Project site, R4 is placed at the building's façade.

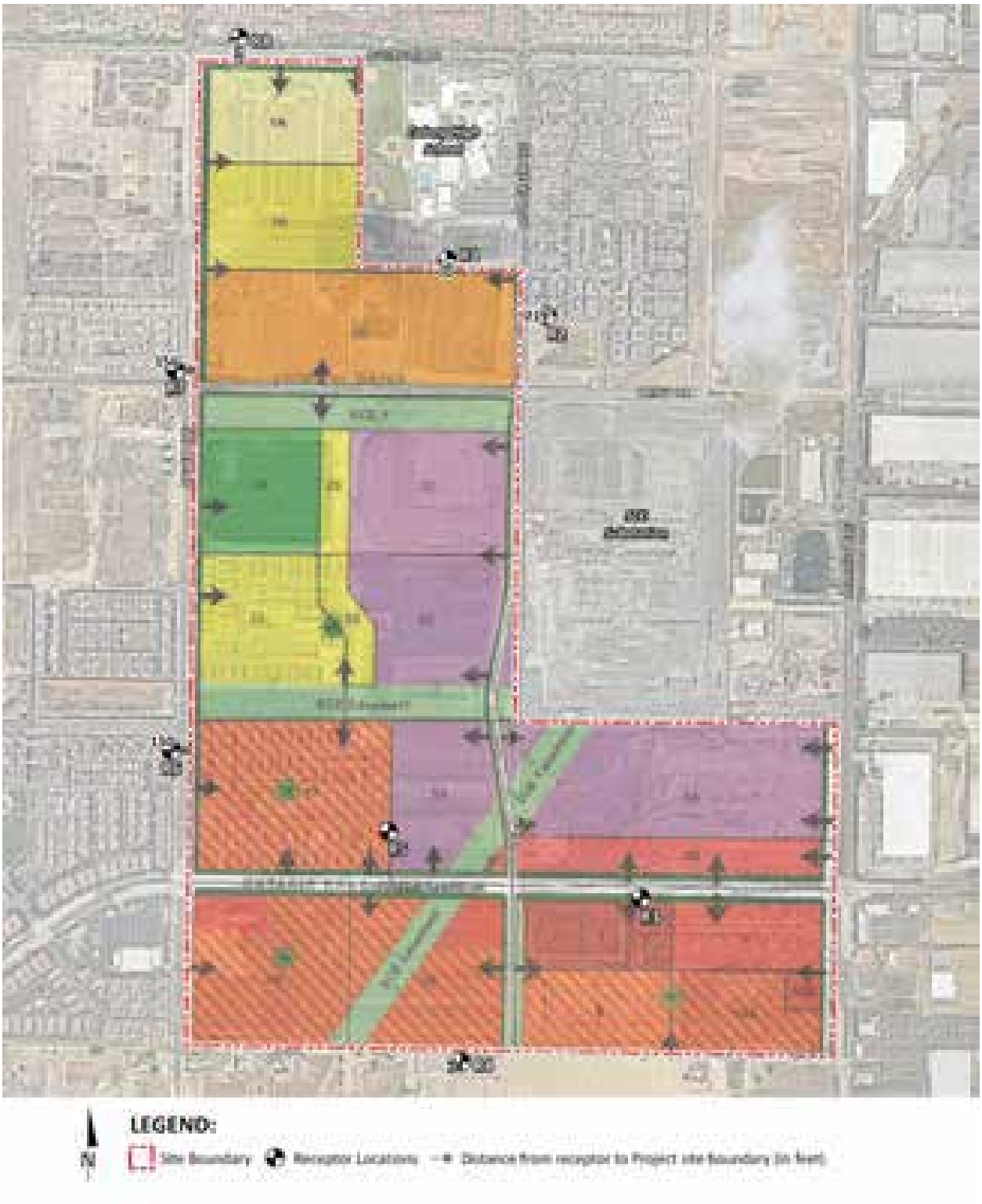
R5: Location R5 represents the existing on-site residence at 3959 S Sunrise Avenue within the standalone residential overlay (PA4). R5 is placed in the private outdoor living areas facing the light industrial use within PA5A.

R6: Location R6 represents the existing residence at 3455 Pine Ridge Loop, approximately 150 feet west of the Project site. R6 is placed in the private outdoor living areas facing the Project site.

R7: Location R7 represents the existing residence at 3379 S Myrtle Drive, approximately 156 feet west of the Project site. R7 is placed in the private outdoor living areas facing the Project site.

R8: Location R8 represents the existing residence at 2943 S Alder Creek Drive, approximately 189 feet north of the Project site. R8 is placed in the private outdoor living areas facing the Project site.

EXHIBIT 4-A: SENSITIVE RECEPTOR LOCATIONS



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5 AIR QUALITY IMPACTS

5.1 INTRODUCTION

The Project has been evaluated to determine if it will violate an air quality standard, contribute to an existing or projected air quality violation, or determine if it will result in a cumulatively considerable net increase of a criteria pollutant for which the SCAB is non-attainment under an applicable NAAQS and CAAQS. Additionally, the Project has been evaluated to determine consistency with the applicable AQMP, exposure of sensitive receptors to substantial pollutant concentrations, and the impacts of odors.

5.2 METHODOLOGY

5.2.1 CALEEMOD

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

In May 2022, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from MMs (40). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendices 5.1, 5.3, and 5.4.

5.3 REGIONAL CONSTRUCTION EMISSIONS

5.3.1 CONSTRUCTION ACTIVITIES

Construction activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

PHASE 1

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

PHASE 2

- Demolition
- Site Preparation

- Grading
- Building Construction
- Paving
- Architectural Coating

GRADING ACTIVITIES

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions". Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from grading activities. Based on information provided by the Project Applicant, Project grading will balance on-site – that is, grading activities will not require substantial import of export of soils.

CONSTRUCTION WORKER VEHICLE TRIPS

Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information from CalEEMod defaults.

5.3.2 CONSTRUCTION DURATION

Construction is expected to commence in January 2023 and will end in December 2026. The construction schedule utilized in the analysis, shown in Table 5-1, represents a "worst-case" analysis scenario. Should construction occur any time after the respective dates indicated, emissions would be reduced. This is due to decreased emission factors for construction activities and construction equipment in future years, and increasing stringency of emission regulations.[6] The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (1).

[6] As shown in the CalEEMod User's Guide Version 2022.1, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 5-1: CONSTRUCTION SCHEDULE

Phase	Construction Activity	Start Date	End Date	Days
Phase 1	Site Preparation	1/1/2023	4/30/2023	85
	Grading	5/1/2023	11/30/2023	154
	Building Construction	12/1/2023	12/31/2024	283
	Paving	9/1/2024	12/31/2024	87
	Architectural Coating	2/1/2024	12/31/2024	239
Phase 2	Demolition	1/1/2024	3/31/2024	65
	Site Preparation	4/1/2024	8/31/2024	110
	Grading	9/1/2024	4/30/2025	173
	Building Construction	5/1/2025	12/31/2026	436
	Paving	9/1/2026	12/31/2026	88
	Architectural Coating	6/1/2026	12/31/2026	154

5.3.3 CONSTRUCTION EQUIPMENT

Site specific construction fleet may vary due to specific project needs at the time of construction. A detailed summary of construction equipment assumptions by phase is provided at Table 5-2.

TABLE 5-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase	Construction Activity	Equipment	Amount	Hours Per Day
Phase 1	Site Preparation	Rubber Tired Dozers	9	8
		Crawler Tractors	12	8
	Grading	Excavators	6	8
		Graders	3	8
		Rubber Tired Dozers	3	8
		Scrapers	6	8
		Crawler Tractors	6	8
	Building Construction	Cranes	3	8
		Forklifts	9	8
		Generator Sets	3	8
		Tractors/Loaders/Backhoes	9	8
		Welders	3	8
	Paving	Pavers	6	8
		Paving Equipment	6	8

Phase	Construction Activity	Equipment	Amount	Hours Per Day
		Rollers	6	8
	Architectural Coating	Air Compressors	3	8
Phase 2	Demolition	Concrete/Industrial Saws	3	8
		Excavators	9	8
		Rubber Tired Dozers	6	8
	Site Preparation	Rubber Tired Dozers	9	8
		Crawler Tractors	12	8
	Grading	Excavators	6	8
		Graders	3	8
		Rubber Tired Dozers	3	8
		Scrapers	6	8
		Crawler Tractors	6	8
	Building Construction	Cranes	3	8
		Forklifts	9	8
		Generator Sets	3	8
		Tractors/Loaders/Backhoes	9	8
		Welders	3	8
	Paving	Pavers	6	8
		Paving Equipment	6	8
		Rollers	6	8
	Architectural Coating	Air Compressors	3	8

5.3.4 ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, and vendors commuting to and from the site. The number of worker and vendor trips are presented below in Table 5-3.

TABLE 5-3: CONSTRUCTION TRIP ASSUMPTIONS

Phase	Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Phase 1	Site Preparation	53	152	0
	Grading	60	275	0
	Building Construction	3,874	505	0
	Paving	45	0	0

Phase	Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
	Architectural Coating	775	0	0
Phase 2	Demolition	45	33	6
	Site Preparation	53	55	0
	Grading	60	87	0
	Building Construction	1,901	219	0
	Paving	45	0	0
	Architectural Coating	380	0	0

5.3.5 CONSTRUCTION EMISSIONS SUMMARY

IMPACTS WITHOUT MITIGATION

CalEEMod calculates maximum daily emissions for summer and winter periods. As such, the estimated maximum daily construction emissions without mitigation for both summer and winter periods are summarized on Table 5-4. The maximum daily emissions would occur in 2024 during overlap between Phase 1 and Phase 2 construction activities. Detailed unmitigated construction model outputs are presented in Appendix 5.1. Under the assumed scenarios, emissions resulting from the Project construction will exceed criteria pollutant thresholds established by the SCAQMD for emissions of VOCs, NO_X, and CO.

TABLE 5-4: MAXIMUM DAILY CONSTRUCTION EMISSIONS – WITHOUT MITIGATION

Year	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
2023 (Phase 1)	15.10	147.00	122.00	0.25	26.60	15.60
2024 (Phase 1)	286.00	105.00	484.00	0.24	68.80	18.50
2024 (Phase 2)	13.80	130.00	111.00	0.21	24.90	14.60
2025 (Phase 2)	12.60	101.00	195.00	0.21	28.20	7.73
2026 (Phase 2)	199.00	73.20	248.00	0.17	34.70	9.84
Winter						
2023 (Phase 1)	24.40	147.00	323.00	0.25	57.00	15.60
2024 (Phase 1)	285.00	109.00	387.00	0.24	68.80	18.50
2024 (Phase 2)	12.20	116.00	99.60	0.21	14.90	8.26
2025 (Phase 2)	12.00	101.00	158.00	0.21	28.20	7.73
2026 (Phase 2)	198.00	74.50	207.00	0.17	34.70	9.84
Maximum Daily Emissions	**299.80**	**235.00**	**595.00**	**0.45**	**93.70**	**33.10**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**NO**	**NO**

IMPACTS WITH MITIGATION

As previously stated, the Project will implement MMs AQ-1 through AQ-6 which would reduce the severity of impacts. As shown in Table 5-5, after implementation of MMs AQ-1 through AQ-6, Project construction-source emissions would exceed criteria pollutant thresholds established by the SCAQMD for emissions of NO_X and CO. Detailed mitigated construction model outputs are presented in Appendix 5.2.

TABLE 5-5: MAXIMUM DAILY CONSTRUCTION EMISSIONS – WITH MITIGATION

Year	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
2023 (Phase 1)	3.03	70.40	120.00	0.25	19.40	8.96
2024 (Phase 1)	70.10	97.70	491.00	0.24	66.60	16.50
2024 (Phase 2)	2.85	63.20	115.00	0.21	18.50	8.69
2025 (Phase 2)	10.20	63.00	201.00	0.21	27.20	6.79
2026 (Phase 2)	49.30	73.10	256.00	0.17	33.10	8.45
Winter						
2023 (Phase 1)	21.70	74.50	329.00	0.25	55.60	13.60
2024 (Phase 1)	68.60	102.00	394.00	0.24	66.60	16.50
2024 (Phase 2)	2.83	63.30	114.00	0.21	10.10	3.91
2025 (Phase 2)	9.69	63.10	164.00	0.21	27.20	6.79
2026 (Phase 2)	48.60	74.40	215.00	0.17	33.10	8.45
Maximum Daily Emissions	**72.95**	**165.30**	**606.00**	**0.45**	**85.10**	**25.19**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**YES**	**YES**	**NO**	**NO**	**NO**

5.4 REGIONAL OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Equipment Source Emissions
- TRU Source Emissions
- Gasoline Dispensing Emissions

5.4.1 AREA SOURCE EMISSIONS

CalEEMod estimates area source emissions for the following sources: architectural coating, consumer products, and landscape maintenance equipment. Detailed operational model outputs are presented in Appendix 5.3.

ARCHITECTURAL COATING

Over a period of time, the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using CalEEMod.

CONSUMER PRODUCTS

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form O_3 and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that as October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by 2024. For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod. It should be noted that the version of CalEEMod that was employed for this analysis does not account for AB 1346. As such, emissions associated with landscape maintenance equipment are conservative.

5.4.2 ENERGY SOURCE EMISSIONS

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity are generally excluded from the evaluation of significance and only natural gas use is considered.

INTEGRATED ENERGY POLICY REPORT

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by

Southern California Gas (SoCalGas) and electricity would be supplied to the Project by Southern California Edison (SCE).

5.4.3 MOBILE SOURCE EMISSIONS

The Project related operational emissions derive primarily from vehicle trips generated by the Project. Trip characteristics available from the *Rich Haven Specific Plan Traffic Analysis* were utilized in this analysis (4). The mobile-source emissions were calculated based on trip rates and trip lengths. Detailed operational model outputs are presented in Appendices 5.4 through 5.7.

Per the *Rich Haven Specific Plan Traffic Analysis*, at buildout the Project is expected to generate a total of approximately of 95,552 trip-ends per day with 8,079 AM peak hour trips and 8,036 PM peak hour trips (in actual vehicles) (4).

5.4.3.1 APPROACH FOR ANALYSIS

TRIP RATES

The trip generation rates used for this analysis are consistent with the rates provided in the *Rich Haven Specific Plan Traffic Analysis* which are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in the *Trip Generation Manual*, 11th Edition, 2021 (4).

TRIP LENGTHS

To determine emissions associated with the retail, active park, and public park land uses from all vehicle types (Light-Duty-Auto vehicles [LDA], Light-Duty Trucks [LDT1][7], Light-Duty Trucks [LDT2][8], Medium-Duty Trucks [MDV], Other Buses [OBUS[9]], Urban Buses [UBUS[10]], Motorcycle [MCY], School Buses [SBUS], and Motor Homes [MH], heavy duty trucks (2-axle/Light-Heavy-Duty Trucks [LHDT1[11] and LHDT2[12]], 3-axle/Medium-Heavy-Duty Trucks [MHDT], and 4+-axle/Heavy-Heavy-Duty Trucks [HHDT]), the CalEEMod default for vehicle type, trip purpose and one-way trip length was employed. In order to determine emissions from passenger car vehicles, CalEEMod defaults for trip length and trip purpose were utilized (41). Default vehicle trip lengths for primary trips will be populated using data from the local metropolitan planning organizations/Regional Transportation Planning Agencies (MPO/RTPA). Trip type percentages and trip lengths provided by MPO/RTPAs truncate data at their demonstrative borders.

To determine emissions from passenger car vehicles associated with the high-cube fulfillment center and business park uses, the CalEEMod defaults for trip purpose and a trip length were utilized. It should also be noted that for purposes of this analysis, passenger cars related to the high-cube fulfillment center and business park uses include LDA, LDT1, LDT2, MDV, and MCY

[7] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[8] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

[9] OBUS vehicle classes refers to all other buses except school buses and urban buses.

[10] UBUS vehicle classes consist of natural gas buses, gasoline buses, and diesel buses.

[11] Vehicles under the LHDT1 category have a GVWR of less than 8,501-10,000 lbs.

[12] Vehicles under the LHDT2 category have a GVWR of less than 10,001-14,000 lbs.

vehicle types. The CalEEMod default fleet mix was utilized for residential, retail, and recreational land uses. To account for emissions generated by passenger cars accessing the business park, high-cube cold storage, high-cube fulfillment, and high-cube transload land uses the following fleet mix was utilized in this analysis:

TABLE 5-6: PASSENGER CAR FLEET MIX

Land Use	% Vehicle Type				
	LDA	LDT1	LDT2	MDV	MCY
Phase 1 (2024)	54.62%	4.53%	21.75%	16.80%	2.30%
Buildout (2027)	53.99%	4.16%	23.01%	16.58%	2.26%

Note: The Project-specific passenger car fleet mix used in this analysis is based on a proportional split utilizing the default CalEEMod percentages assigned to LDA, LDT1, LDT2, MDV, and MCY vehicle types.

To determine emissions from trucks for the proposed industrial uses, the analysis incorporated the SCAQMD recommended truck trip length of 14.2 miles for 2-axle (LHDT1 and LHDT2) trucks, 15.3 miles for 3-axle (MHDT) trucks, and 39.9 miles for 4+-axle (HHDT) trucks and weighting the average trip lengths using traffic trip percentages taken from the *Rich-Haven Specific Plan, 2022 Amendment Traffic Study*. The trip length function for the industrial uses has been conservatively calculated to 31.31 miles, with an assumption of 100% primary trips for the proposed industrial land uses. This trip length assumption is higher than the CalEEMod default trip length. Heavy trucks are broken down by truck type (or axle type) and are categorized as either Light-Heavy-Duty Trucks (LHDT1[13] & LHDT2 [14])/2-axle, Medium-Heavy-Duty Trucks (MHDT)/3-axle, and Heavy-Heavy-Duty Trucks (HHDT)/4+-axle. To account for emissions generated by trucks, the following fleet mix was utilized in this analysis:

TABLE 5-7: TRUCK FLEET MIX

Land Use	% Vehicle Type			
	LHDT1	LHDT2	MHDT	HHDT
Phase 1 (2024)	15.76%	4.25%	14.25%	65.73%
Buildout (2027)	15.71%	4.30%	14.25%	65.73%

Note: Project-specific truck fleet mix is based on the number of trips generated by each truck type (LHDT1, LHDT2, MHDT, and HHDT) relative to the total number of truck trips.

FUGITIVE DUST RELATED TO VEHICULAR TRAVEL

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of brake and tire wear particulates. The emissions estimates for travel on paved roads were calculated using CalEEMod.

[13] Vehicles under the LHDT1 category have a GVWR of 8,501 to 10,000 lbs.

[14] Vehicles under the LHDT2 category have a GVWR of 10,001 to 14,000 lbs.

5.4.4 TRU SOURCE EMISSIONS

In order to account for the possibility of refrigerated uses, trucks associated with the assumed 454,244 square feet of cold-storage land use are assumed to also have TRUs. Therefore, for modeling purposes 174 trucks (348 two-way truck trips per day) have the potential to include TRUs. TRUs are accounted for during on-site and off-site travel. The TRU calculations are based on EMissions FACtor Model version 2021 (EMFAC2021), developed by the CARB. EMFAC2021 does not provide emission rates per hour or mile as with the on-road emission model and only provides emission inventories. Emission results are produced in tons per day while all activity, fuel consumption and horsepower hours were reported at annual levels. The emission inventory is based on specific assumptions including the average horsepower rating of specific types of equipment and the hours of operation annually. These assumptions are not always consistent with assumptions used in the modeling of project level emissions. Therefore, the emissions inventory was converted into emission rates to accurately calculate emissions from TRU operation associated with project level details. This was accomplished by converting the annual horsepower hours to daily operational characteristics and converting the daily emission levels into hourly emission rates based on the total emission of each criteria pollutant by equipment type and the average daily hours of operation.

5.4.5 ON-SITE CARGO HANDLING EQUIPMENT EMISSIONS

It is common for warehouse buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this particular Project, on-site modeled operational equipment includes up to ten (10) 200 horsepower (hp), compressed natural gas or gasoline-powered tractors/loaders/backhoes operating at 4 hours a day[15] for 365 days of the year.

5.4.6 GASOLINE DISPENSING EMISSIONS

Operational VOC emissions have been analyzed using CalEEMod analysis software and methodology and are based on the default assumptions for a convenience store with fueling positions use. The operational VOC emissions estimates associated with this use was previously shown in Table 3-8.

Operational VOC emissions would occur through the storage, transfer, and dispensing of gasoline. The enhanced vapor recovery systems required by SCAQMD Rule 461 would substantially reduce VOC emissions and mitigate any potential for the proposed gas station to exceed the daily emissions thresholds set by SCAQMD.

For example, SCAQMD Rule 461 sets a maximum limit of 0.15 pounds of VOC per 1,000 gallons from the storage, transfer and dispensing of gasoline and 0.38 pounds of VOC per 1,000 gallons from the dispensing of gasoline into vehicle fuel tanks for a total of 0.53 pounds of VOC per 1,000 gallons of gasoline. Because anticipated gasoline dispensing volumes were not available at the

[15] Based on Table II-3, Port and Rail Cargo Handling Equipment Demographics by Type, from CARB's Technology Assessment: Mobile Cargo Handling Equipment document, a single piece of equipment could operate up to 2 hours per day (Total Average Annual Activity divided by Total Number Pieces of Equipment). As such, the analysis conservatively assumes that the tractor/loader/backhoe would operate up to 4 hours per day.

time of this analysis, it was conservatively estimated that each 16-vehicle fueling position (VFP) gas station would dispense 12,300,000 gallons per year. By dividing the throughput per day by 1,000 and then multiplying by 0.53, it was determined that each gas station would result in 17.86 pounds of additional VOC emissions per day from gasoline dispensing.

5.4.7 OPERATIONAL EMISSIONS SUMMARY

Project mobile source emissions impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project related operational air quality impacts derive primarily from vehicle trips generated by the Project.

The estimated operational-source emissions for the proposed Project are summarized on Table 5-8 for Phase 1 (2024) and Table 5-9 for Project Buildout (2027). Detailed operational model outputs are presented in Appendices 5.3 and 5.4. As shown, the proposed Project will exceed the applicable SCAQMD thresholds for VOC, NO_X, and CO for Phase 1, and VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$ at Project Buildout. As such, Project operational emissions during Phase 1 and at Buildout would result in a significant and unavoidable impact.

TABLE 5-8: SUMMARY OF PEAK OPERATIONAL EMISSIONS – PHASE 1 (2024)

Source	Emissions (lbs/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Summer						
Mobile Source	242.00	295.00	1,792.00	4.59	141.00	29.10
Area Source	236.00	61.40	387.00	0.39	4.95	5.04
Energy Source	2.27	39.90	24.30	0.25	3.14	3.14
TRU Source	12.61	13.81	1.50	0.00	0.59	0.54
On-Site Equipment	1.17	3.75	164.45	0.00	0.29	0.27
Gasoline Dispensing	53.58	0	0	0	0	0
Total Maximum Daily Emissions	**547.63**	**413.87**	**2,369.25**	**5.23**	**149.97**	**38.09**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**NO**	**NO**
Winter						
Mobile Source	224.00	314.00	1,545.00	4.36	141.00	29.10
Area Source	193.00	58.00	24.70	0.37	4.69	4.69
Energy Source	2.27	39.90	24.30	0.25	3.14	3.14
TRU Source	12.61	13.81	1.50	0.00	0.59	0.54
On-Site Equipment	1.17	3.75	164.45	0.00	0.29	0.27
Gasoline Dispensing	53.58	0	0	0	0	0
Total Maximum Daily Emissions	**486.63**	**429.47**	**1,759.95**	**4.98**	**149.71**	**37.74**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**NO**	**NO**

TABLE 5-9: SUMMARY OF PEAK OPERATIONAL EMISSIONS – PROJECT BUILDOUT (2027)

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Mobile Source	455.00	432.00	3,250.00	8.48	287.00	57.00
Area Source	350.00	99.80	581.00	0.63	8.01	8.13
Energy Source	3.45	60.50	35.70	0.38	4.77	4.77
TRU Source	12.61	13.81	1.50	0.00	0.59	0.54
On-Site Equipment	1.17	3.75	164.45	0.00	0.29	0.27
Gasoline Dispensing	107.16	0	0	0	0	0
Total Maximum Daily Emissions	**929.39**	**609.87**	**4,032.65**	**9.49**	**300.66**	**70.71**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**YES**	**YES**
Winter						
Mobile Source	424.00	460.00	2,800.00	8.00	287.00	57.10
Area Source	289.30	94.70	40.30	0.60	7.66	7.66
Energy Source	3.45	60.50	35.70	0.38	4.77	4.77
TRU Source	12.61	13.81	1.50	0.00	0.59	0.54
On-Site Equipment	1.17	3.75	164.45	0.00	0.29	0.27
Gasoline Dispensing	107.16	0	0	0	0	0
Total Maximum Daily Emissions	**837.69**	**632.77**	**3,041.95**	**8.98**	**300.31**	**70.34**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**YES**	**YES**

5.5 CONSTRUCTION-SOURCE LOCALIZED EMISSIONS

IMPACTS WITHOUT MITIGATION

As shown in Table 5-10, with mitigation, localized construction emissions would not exceed the applicable SCAQMD LSTs for emissions of any criterial pollutant. Emissions associated with peak Phase 1 building construction, paving, and architectural coating and Phase 2 grading activities have been considered for purposes of the LST analysis, since these overlapping phases represent the maximum localized emissions that would occur. Any other construction phases of development that overlap would result in lesser emissions and consequently lesser impacts than what is disclosed herein. Outputs from the model runs for unmitigated construction LSTs are provided in Appendix 5.1. AERMOD modeling outputs for construction are provided in Appendix 5.5.

TABLE 5-10: LOCALIZED SIGNIFICANCE SUMMARY – PEAK CONSTRUCTION (WITH MITIGATION)

Peak Construction	CO		NO_2	PM_{10}	$PM_{2.5}$
	Averaging Time				
	1-Hour	8-Hour	1-Hour	24-Hours	24-Hours
Peak Day Localized Emissions	0.03	0.01	1.23E-02	0.41	0.16
Background Concentration [A]	1.6	1.3	0.101		
Total Concentration	**1.63**	**1.31**	**0.11**	**0.41**	**0.16**
SCAQMD Localized Significance Threshold	20	9	0.18	10.4	10.4
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**

[A] Highest concentration from the last three years of available data.

Note: PM_{10} and $PM_{2.5}$ concentrations are expressed in $\mu g/m^3$. All others are expressed in ppm

5.6 OPERATIONAL-SOURCE LOCALIZED EMISSIONS

The LST analysis generally includes on-site sources (area, energy, mobile – are previously discussed in Section 5.4 of this report). However, it should be noted that the CalEEMod outputs do not separate on-site and off-site emissions from mobile sources. It should be noted that the longest on-site distance is approximately 1.0 miles. As such, a separate CalEEMod run for operational LSTs has been prepared which accounts for the 1.0-mile on-site travel distance. Outputs from the model run for operational LSTs are provided in Appendix 5.4.

SUMMARY OF OPERATIONAL LST IMPACTS

The on-site operational emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ are compared to the respective LSTs as previously shown in Table 4-5. As shown on Table 5-11 operational emissions will not exceed the LST thresholds. Therefore, the Project will have a less than significant localized impact during operational activity and no mitigation is required.

TABLE 5-11: LOCALIZED SIGNIFICANCE SUMMARY – OPERATION (PROJECT BUILDOUT)

Peak Operation	CO		NO_2	PM_{10}	$PM_{2.5}$
	Averaging Time				
	1-Hour	8-Hour	1-Hour	24-Hours	24-Hours
Peak Day Localized Emissions	1.19E-01	9.06E-02	1.31E-02	1.98	0.81
Background Concentration [A]	1.6	1.3	0.101		
Total Concentration	**1.72**	**1.39**	**0.11**	**1.98**	**0.81**
SCAQMD Localized Significance Threshold	20	9	0.18	2.5	2.5
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**

[A] Highest concentration from the last three years of available data.

Note: PM_{10} and $PM_{2.5}$ concentrations are expressed in $\mu g/m^3$. All others are expressed in ppm

5.7 CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hotspots." Further, detailed modeling of Project-specific CO "hotspots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the SCAQMD's *CEQA Air Quality Handbook (1993)* (*1993 CEQA Handbook*), the SCAB was designated nonattainment under the CAAQS and NAAQS for CO (42). The determination of a potential CO hotspot is focused on the mobile-source vehicular activity that would occur at intersections in the Project-area. Aircraft-related emissions are not concentrated enough, in a particular location such that they would have a propensity to result in a CO hotspot and therefore aircraft emissions are not a consideration in determining CO hotspots.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment.

To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 5-12.

TABLE 5-12: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations
Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes

and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (43). In contrast, an adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

The ambient 1-hr and 8-hr CO concentration within the Project study area is estimated to be 1.5 ppm and 1.2 ppm, respectively (data from I-10 Near Road station for 2020). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections.

The 2003 AQMP, and as previously shown in Table 5-12, estimated that the 1-hour concentration for the Wilshire Boulevard and Veteran Avenue intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).[16] The highest trips on a segment of road that the Project would generate is 73,850 vehicles per day on the I-15 Southbound (SB) Ramps and Galleano Ranch Road (4).

Traffic volumes generating the CO concentrations for the "hot spot" analysis is shown on Table 5-13. The busiest intersection evaluated for traffic volumes was at La Cienega Boulevard and Century Boulevard, which has a traffic volume of approximately 8,674 vph (43). As shown on Table 5-14, the highest trips on a segment of road for the proposed Project is 7,935 vph on Hamner Avenue and Ontario Ranch Road. As such, Project-related traffic volumes are less than the traffic volumes identified in the 2003 AQMP. The Project considered herein would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, CO "hot spots" are not an environmental impact of concern for the Project.

TABLE 5-13: TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Boulevard/Highland Avenue	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Boulevard/Century Boulevard	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Boulevard/Imperial Highway	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

[16] Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

TABLE 5-14: OPENING YEAR CUMULATIVE (2027) WITH PROJECT TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Hamner Ave. & Ontario Ranch Rd.	1,499/1,383	921/1,306	2,304/2,769	2,524/2,477	7,249/7,935
I-15 SB Ramps & Cantu Galleano Rd.	0/0	1,916/2,046	2,237/2,875	1,481/1,452	5,635/6,373
Haven Ave. & Ontario Ranch Rd.	730/457	1,412/1,654	1,494/2,065	1,998/2,052	5,634/6,227
Haven Ave. & SR-60 WB Ramps	2,654/1,610	1,346/2,462	0/0	909/885	4,910/4,956

5.8 AIR QUALITY MANAGEMENT PLANNING

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what used to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the SCAQMD released the *2016 AQMP*. The *2016 AQMP* continues to evaluate current integrated strategies and control measures to meet the NAAQS, and to explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (44). Similar to the 2012 AQMP, the *2016 AQMP* incorporates scientific and technological information and planning assumptions, including the *RTP/SCS*, a planning document that supports the integration of land use and transportation to help the region meet the federal Clean Air Act requirements (19). The Project's consistency with the AQMP will be determined using the *2016 AQMP* as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the *1993 CEQA Handbook* (45). These indicators are discussed below:

5.8.1 CONSISTENCY CRITERION NO. 1

To be considered consistent with Criterion No. 1, the proposed Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to

new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion No. 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if LSTs or regional significance thresholds were exceeded. As evaluated, the Project's regional construction emissions would exceed the applicable regional significance thresholds for emissions of VOCs, NO_X, and CO even after implementation of mitigation measures. Localized construction-source emissions would not exceed applicable LST thresholds. As such, even with implementation of mitigation measures, Project construction-source emissions would be significant and unavoidable. Project construction-source emissions would therefore conflict with Consistency Criterion 1.

Operational Impacts – Consistency Criterion No. 1

The Project would not exceed the applicable LSTs for operational activity. However, the Project's operational-source emissions are anticipated to exceed the regional thresholds of significance for VOC, NO_X, CO, PM_{10} and $PM_{2.5}$ emissions. MM AQ-7 through MM AQ-20 are designed to reduce Project operational-source emissions. However, as there is no way to meaningfully quantify these reductions in CalEEMod, no emissions credit has been taken in the analysis. As such, even with application of MM AQ-7 through MM AQ-20, Project operational-source emissions impacts would be significant and unavoidable. Project operational-source emissions would therefore conflict with Consistency Criterion 1.

On the basis of the preceding discussion, the Project is determined to be inconsistent with Consistency Criterion No. 1.

5.8.2 CONSISTENCY CRITERION NO. 2

To be considered consistent with Criterion No. 2, the Project would not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The *2016 AQMP* demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Ontario General Plan is considered to be consistent with the AQMP***.***

Construction Impacts – Consistency Criterion No. 2

The Project is consistent with TOP 2050, and therefore would not result in growth exceeding SCAG projections, or emissions attributable to growth projections modeled by SCAG. Moreover, peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance.

Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. On this basis, Project construction-source emissions would not conflict with Criterion No. 2.

Operational Impacts – Consistency Criterion 2

General Plan Consistency

Uses proposed by the Project are allowed under the site's current General Plan (Policy Plan) Land Use designations. No General Plan Amendment (GPA) is required in conjunction with the Project. The Project would not result in growth or development not anticipated under the AQMP. Project operational-source emissions are reflected in the AQMP assumptions and would not result in AQMP inconsistencies.

Regional Plan Consistency

Development of the City pursuant to the General Plan is reflected in Southern California Association of Governments (SCAG) planning efforts and policies including: *The 2016 – 2040 Regional Transportation Plan/Sustainable Communities Strategy* (SCAG) April 2016 (2016 – 2040 RTP/SCS). Development of the City pursuant to the General Plan is also reflected in the recently-adopted 2020 – 2045 RTP/SCS (SCAG) September 2020 (Connect SoCal). The Project is consistent with the General Plan and by extension is reflected in SCAG planning efforts and policies.

The *Final 2008 Regional Comprehensive Plan* (SCAG) 2008 (2008 RCP) defines a vision for the SCAG region to be implemented under a strategic plan addressing the regions interrelated housing, traffic, water and air quality issues. The 2008 RCP does not mandate planning actions. SCAG does however request that local governments consider the 2008 RCP recommendations in developing or amending local plans, codes, design guidelines, and other related actions. SCAG promotes use of the 2008 RCP as an advisory policy document for voluntary use by local agencies. The Project does not propose or require actions that would somehow conflict with 2008 RCP advisory policies.

On this basis, Project operational-source emissions would not conflict with Criterion No. 2.

5.8.3 AQMP CONSISTENCY CONCLUSION

As presented above, the Project is consistent with AQMP Consistency Criteria No. 2, and in this respect would not conflict with the AQMP. However, Project construction-source emissions would exceed applicable SCAQMD regional thresholds for emissions of VOCs, NO_X, and CO. Operational-source emissions would exceed the applicable SCAQMD regional thresholds for VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$ As such, the Project would be inconsistent with AQMP Consistency Criteria No.1. On this basis, the Project would conflict with the AQMP.

5.9 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions on sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities,

rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors.

Results of the LST analysis indicate that the Project would not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Results of the LST analysis indicate that the Project would not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

5.11 ODORS

The potential for the Project to generate objectionable odors has also been considered. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction would be less than significant and no mitigation is required (46).

According to the SCAQMD, land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The proposed Project does not include any uses identified by the SCAQMD as being associated with emitting objectionable odors. As the proposed Project operational activities do not include these sources of odors, potential odor impacts would be less than significant.

5.12 CUMULATIVE IMPACTS

As previously shown in Table 2-3, the CAAQS designate the SCAB as nonattainment for O_3, PM_{10}, and $PM_{2.5}$ while the NAAQS designates the SCAB as nonattainment for O_3 and $PM_{2.5}$.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (47). In this report the SCAQMD clearly states (Page D-3):

> *…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*
>
> *Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.*

Per the above White Paper guidance, less-than-significant air quality impacts at the Project-level are not cumulatively significant. Conversely, significant air quality impacts at the Project-level are cumulatively significant.

The South Coast Air Basin encompassing the Project site is designated as non-attainment for ozone, PM_{10}, and $PM_{2.5}$ (VOC and NO_X are both ozone precursors; NO_X is a precursor to PM_{10}/$PM_{2.5}$). Project construction-source NOx emissions regional threshold exceedances; and operational-source VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions regional threshold exceedances would result in a cumulatively considerable net increase in criteria pollutants (ozone and PM_{10}/$PM_{2.5}$) for which the Project region is non-attainment. These are cumulatively significant air quality impacts.

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7 CERTIFICATIONS

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Rich-Haven Specific Plan, 2022 Amendment. The information contained in this air quality impact assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

Haseeb Qureshi
Principal
Urban Crossroads, Inc.
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – CARB • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 2.1:

STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS

APPENDIX C

MAPS AND TABLES OF AREA DESIGNATIONS FOR STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

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APPENDIX C

MAPS AND TABLES OF AREA DESIGNATIONS FOR STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

This attachment fulfills the requirement of Health and Safety Code section 40718 for CARB to publish maps that identify areas where one or more violations of any State ambient air quality standard (State standard) or national ambient air quality standard (national standard) have been measured. The national standards are those promulgated under section 109 of the federal Clean Air Act (42 U.S.C. 7409).

This attachment is divided into three parts. The first part comprises a table showing the levels, averaging times, and measurement methods for each of the State and national standards. This is followed by a section containing maps and tables showing the area designations for each pollutant for which there is a State standard in the California Code of Regulations, title 17, section 70200. The last section contains maps and tables showing the most current area designations for the national standards.

Ambient Air Quality Standards

(Updated 5/4/16)

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

See footnotes on next page ...

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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Area Designations for the State Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a State standard set forth in the California Code of Regulations, title 17, section 60200. Each area is identified as attainment, nonattainment, nonattainment-transitional, or unclassified for each pollutant, as shown below:

Attainment	A
Nonattainment	N
Nonattainment-Transitional	NA-T
Unclassified	U

In general, CARB designates areas by air basin for pollutants with a regional impact and by county for pollutants with a more local impact. However, when there are areas within an air basin or county with distinctly different air quality deriving from sources and conditions not affecting the entire air basin or county, CARB may designate a smaller area. Generally, when boundaries of the designated area differ from the air basin or county boundaries, the description of the specific area is referenced at the bottom of the summary table.

FIGURE 1


2018
Area Designations for State
Ambient Air Quality Standards
OZONE
N
NORTH COAST
NORTHEAST PLATEAU
SACRAMENTO VALLEY
SUTTER BUTTES
MOUNTAIN COUNTIES
LAKE COUNTY
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
MOJAVE DESERT
SOUTH COAST
SAN DIEGO COUNTY
SALTON SEA
Unclassified
Attainment
Nonattainment-Transitional
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 1

California Ambient Air Quality Standards
Area Designations for Ozone (1)

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					NORTHEAST PLATEAU AIR BASIN				X
Alpine County			X		SACRAMENTO VALLEY AIR BASIN				
Inyo County	X				Colusa and Glenn Counties				X
Mono County	X				Sutter/Yuba Counties				
LAKE COUNTY AIR BASIN				X	Sutter Buttes	X			
LAKE TAHOE AIR BASIN				X	Remainder of Sutter County				X
MOJAVE DESERT AIR BASIN	X				Yuba County				X
MOUNTAIN COUNTIES AIR BASIN					Yolo/Solano Counties		X		
Amador County	X				Remainder of Air Basin	X			
Calaveras County	X				SALTON SEA AIR BASIN	X			
El Dorado County (portion)	X				SAN DIEGO AIR BASIN	X			
Mariposa County	X				SAN FRANCISCO BAY AREA AIR BASIN	X			
Nevada County	X				SAN JOAQUIN VALLEY AIR BASIN	X			
Placer County (portion)	X				SOUTH CENTRAL COAST AIR BASIN				
Plumas County			X		San Luis Obispo County	X			
Sierra County			X		Santa Barbara County		X		
Tuolumne County	X				Ventura County	X			
NORTH CENTRAL COAST AIR BASIN		X			SOUTH COAST AIR BASIN	X			
NORTH COAST AIR BASIN				X					

(1) AB 3048 (Olberg) and AB 2525 (Miller) signed into law in 1996, made changes to Health and Safety Code, section 40925.5. One of the changes allows nonattainment districts to become nonattainment-transitional for ozone by operation of law.

FIGURE 2


2018
Area Designations for State
Ambient Air Quality Standards
PM10
N
NORTHEAST PLATEAU
NORTH COAST
SACRAMENTO VALLEY
LAKE COUNTY
MOUNTAIN COUNTIES
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
MOJAVE DESERT
SOUTH CENTRAL COAST
SOUTH COAST
SAN DIEGO COUNTY
SALTON SEA
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Data
October 2018
Air Quality Planning and Science Division

TABLE 2

California Ambient Air Quality Standards
Area Designation for Suspended Particulate Matter (PM10)

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN	X			NORTH CENTRAL COAST AIR BASIN	X		
LAKE COUNTY AIR BASIN			X	NORTH COAST AIR BASIN			
LAKE TAHOE AIR BASIN	X			Del Norte, Sonoma (portion) and Trinity Counties			X
MOJAVE DESERT AIR BASIN	X			Remainder of Air Basin	X		
MOUNTAIN COUNTIES AIR BASIN				NORTHEAST PLATEAU AIR BASIN			
Amador County		X		Siskiyou County			X
Calaveras County	X			Remainder of Air Basin		X	
El Dorado County (portion)	X			SACRAMENTO VALLEY AIR BASIN			
Mariposa County				Shasta County			X
- Yosemite National Park	X			Remainder of Air Basin	X		
- Remainder of County		X		SALTON SEA AIR BASIN	X		
Nevada County	X			SAN DIEGO AIR BASIN	X		
Placer County (portion)	X			SAN FRANCISCO BAY AREA AIR BASIN	X		
Plumas County	X			SAN JOAQUIN VALLEY AIR BASIN	X		
Sierra County	X			SOUTH CENTRAL COAST AIR BASIN	X		
Tuolumne County		X		SOUTH COAST AIR BASIN	X		

FIGURE 3


2018
Area Designations for State
Ambient Air Quality Standards
PM2.5
N
NORTHEAST PLATEAU
NORTH COAST
LAKE COUNTY
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
County Portion of Federal Ozone AQMA
MOJAVE DESERT
SOUTH COAST
SAN DIEGO COUNTY
SALTON SEA
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Data
October 2018
Air Quality Planning and Science Division

TABLE 3

California Ambient Air Quality Standards
Area Designations for Fine Particulate Matter (PM2.5)

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SALTON SEA AIR BASIN			
LAKE COUNTY AIR BASIN			X	Imperial County			
LAKE TAHOE AIR BASIN			X	- City of Calexico (3)	X		
MOJAVE DESERT AIR BASIN				Remainder of Air Basin			X
San Bernardino County				SAN DIEGO AIR BASIN	X		
- County portion of federal Southeast Desert Modified AQMA for Ozone (1)			X	SAN FRANCISCO BAY AREA AIR BASIN	X		
				SAN JOAQUIN VALLEY AIR BASIN	X		
Remainder of Air Basin		X		SOUTH CENTRAL COAST AIR BASIN			
MOUNTAIN COUNTIES AIR BASIN				San Luis Obispo County			X
Plumas County				Santa Barbara County		X	
- Portola Valley (2)	X			Ventura County			X
Remainder of Air Basin		X		SOUTH COAST AIR BASIN	X		
NORTH CENTRAL COAST AIR BASIN			X				
NORTH COAST AIR BASIN			X				
NORTHEAST PLATEAU AIR BASIN			X				
SACRAMENTO VALLEY AIR BASIN							
Butte County	X						
Colusa County			X				
Glenn County			X				
Placer County (portion)			X				
Sacramento County			X				
Shasta County			X				
Sutter and Yuba Counties			X				
Remainder of Air Basin		X					

(1) California Code of Regulations, title 17, section 60200(b)

(2) California Code of Regulations, title 17, section 60200(c)

(3) California Code of Regulations, title 17, section 60200(a)

FIGURE 4


2018
Area Designations for State
Ambient Air Quality Standards
CARBON MONOXIDE
N
NORTHEAST PLATEAU
NORTH COAST
LAKE COUNTY
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
MOJAVE DESERT
SOUTH COAST
SAN DIEGO COUNTY
SALTON SEA
Unclassified
Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 4

California Ambient Air Quality Standards
Area Designation for Carbon Monoxide*

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					SACRAMENTO VALLEY AIR BASIN				
Alpine County			X		Butte County				X
Inyo County				X	Colusa County			X	
Mono County				X	Glenn County			X	
LAKE COUNTY AIR BASIN				X	Placer County (portion)				X
LAKE TAHOE AIR BASIN				X	Sacramento County				X
MOJAVE DESERT AIR BASIN					Shasta County			X	
Kern County (portion)			X		Solano County (portion)				X
Los Angeles County (portion)				X	Sutter County				X
Riverside County (portion)			X		Tehama County			X	
San Bernardino County (portion)				X	Yolo County				X
MOUNTAIN COUNTIES AIR BASIN					Yuba County			X	
Amador County			X		SALTON SEA AIR BASIN				X
Calaveras County			X		SAN DIEGO AIR BASIN				X
El Dorado County (portion)			X		SAN FRANCISCO BAY AREA AIR BASIN				X
Mariposa County			X		SAN JOAQUIN VALLEY AIR BASIN				
Nevada County			X		Fresno County				X
Placer County (portion)			X		Kern County (portion)				X
Plumas County				X	Kings County			X	
Sierra County			X		Madera County			X	
Tuolumne County				X	Merced County			X	
NORTH CENTRAL COAST AIR BASIN					San Joaquin County				X
Monterey County				X	Stanislaus County				X
San Benito County			X		Tulare County				X
Santa Cruz County			X		SOUTH CENTRAL COAST AIR BASIN				X
NORTH COAST AIR BASIN					SOUTH COAST AIR BASIN				X
Del Norte County			X						
Humboldt County				X					
Mendocino County				X					
Sonoma County (portion)			X						
Trinity County			X						
NORTHEAST PLATEAU AIR BASIN			X						

* The area designated for carbon monoxide is a county or portion of a county

FIGURE 5

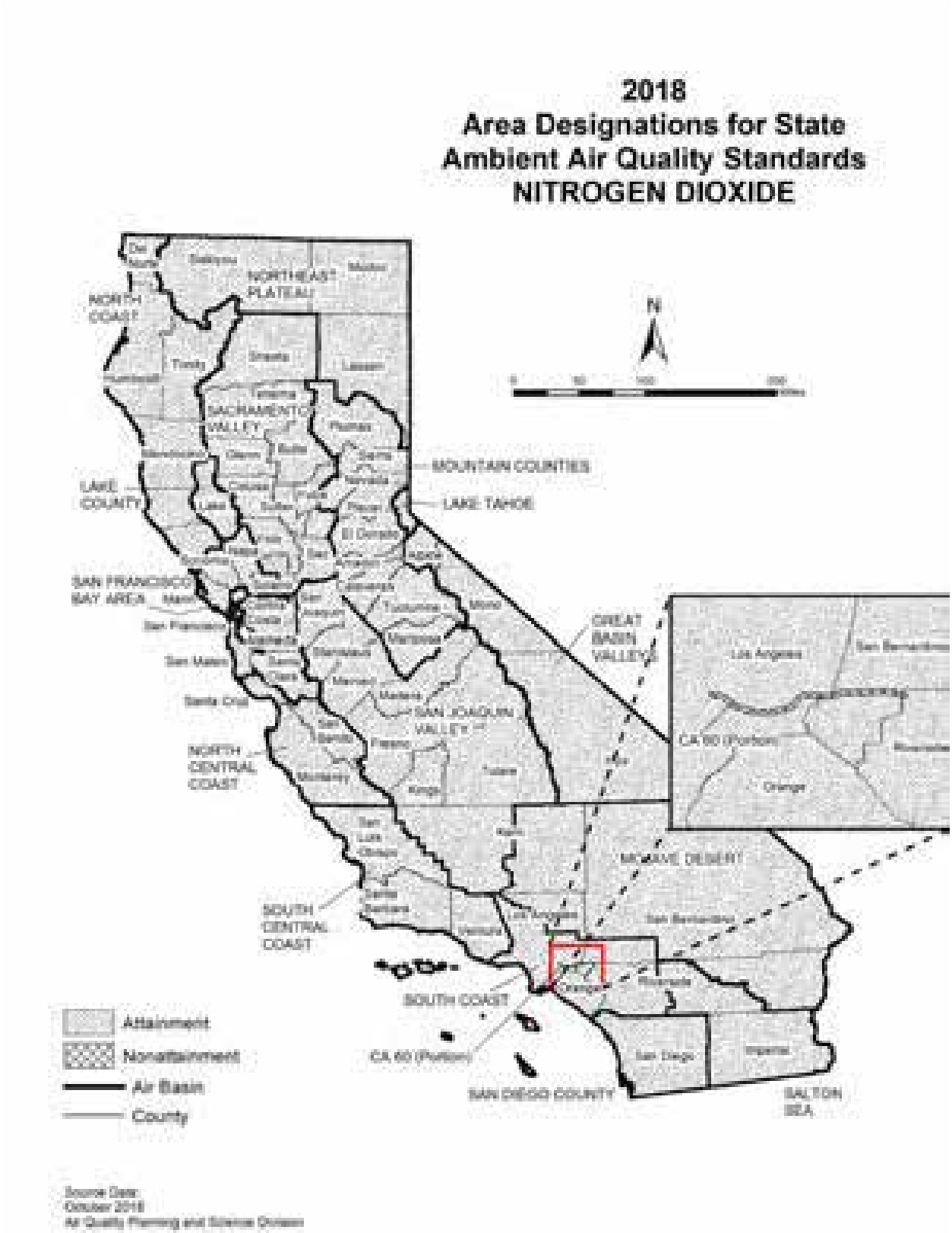

2018
Area Designations for State
Ambient Air Quality Standards
NITROGEN DIOXIDE
N
NORTH COAST
NORTHEAST PLATEAU
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE COUNTY
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
MOJAVE DESERT
SOUTH COAST
CA 60 (Portion)
SAN DIEGO COUNTY
SALTON SEA
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 5

California Ambient Air Quality Standards
Area Designation for Nitrogen Dioxide

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SACRAMENTO VALLEY AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN DIEGO AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X	SOUTH COAST AIR BASIN			
NORTHEAST PLATEAU AIR BASIN			X	CA 60 Near-road Portion of San Bernardino, Riverside, and Los Angeles Counties	X		
				Remainder of Air Basin			X

FIGURE 6


2018
Area Designations for State
Ambient Air Quality Standards
SULFUR DIOXIDE
NORTHEAST PLATEAU
NORTH COAST
SACRAMENTO VALLEY
LAKE COUNTY
MOUNTAIN COUNTIES
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
MOJAVE DESERT
SOUTH COAST
SAN DIEGO COUNTY
SALTON SEA
Attainment
Air Basin
County
Source Date
October 2018
Air Quality Planning and Science Division

TABLE 6

California Ambient Air Quality Standards
Area Designation for Sulfur Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SALTON SEA AIR BASIN		X
LAKE TAHOE AIR BASIN		X	SAN DIEGO AIR BASIN		X
MOJAVE DESERT AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X			

* The area designated for sulfur dioxide is a county or portion of a county

FIGURE 7


2018
Area Designations for State
Ambient Air Quality Standards
SULFATES
N
NORTHEAST PLATEAU
NORTH COAST
SACRAMENTO VALLEY
LAKE COUNTY
MOUNTAIN COUNTIES
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
MOJAVE DESERT
SOUTH COAST
SAN DIEGO COUNTY
SALTON SEA
Attainment
Air Basin
County
Source Data
October 2018
Air Quality Planning and Science Division

TABLE 7

California Ambient Air Quality Standards
Area Designation for Sulfates

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SACRAMENTO VALLEY AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN DIEGO AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X	SOUTH COAST AIR BASIN			X
NORTHEAST PLATEAU AIR BASIN			X				

FIGURE 8


2018
Area Designations for State
Ambient Air Quality Standards
LEAD
N
NORTHEAST PLATEAU
NORTH COAST
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE COUNTY
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
MOJAVE DESERT
SOUTH CENTRAL COAST
SOUTH COAST
SAN DIEGO COUNTY
SALTON SEA
Attainment
Air Basin
County
Source Data:
October 2018
Air Quality Planning and Science Division

TABLE 8

California Ambient Air Quality Standards
Area Designations for Lead (particulate)*

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SAN DIEGO AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH COAST AIR BASIN			X
NORTH COAST AIR BASIN			X				
NORTHEAST PLATEAU AIR BASIN			X				
SACRAMENTO VALLEY AIR BASIN			X				

* The area designated for lead is a county or portion of a county. Since all areas in the State are in attainment for this standard, air basins are indicated here for simplicity.

FIGURE 9


2018
Area Designations for State
Ambient Air Quality Standards
HYDROGEN SULFIDE
N
NORTHEAST PLATEAU
NORTH COAST
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE COUNTY
LAKE TAHOE
Geyser Geothermal
City of Sutter Creek
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
Searles Valley
MOJAVE DESERT
SOUTH CENTRAL COAST
SOUTH COAST
SAN DIEGO COUNTY
SALTON SEA
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 9

California Ambient Air Quality Standards
Area Designation for Hydrogen Sulfide*

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					NORTH CENTRAL COAST AIR BASIN			X	
Alpine County			X		NORTH COAST AIR BASIN				
Inyo County				X	Del Norte County			X	
Mono County				X	Humboldt County				X
LAKE COUNTY AIR BASIN				X	Mendocino County			X	
LAKE TAHOE AIR BASIN			X		Sonoma County (portion)				
MOJAVE DESERT AIR BASIN					- Geyser Geothermal Area (2)				X
Kern County (portion)			X		- Remainder of County			X	
Los Angeles County (portion)			X		Trinity County			X	
Riverside County (portion)			X		NORTHEAST PLATEAU AIR BASIN			X	
San Bernardino County (portion)					SACRAMENTO VALLEY AIR BASIN			X	
- Searles Valley Planning Area (1)	X				SALTON SEA AIR BASIN			X	
- Remainder of County			X		SAN DIEGO AIR BASIN			X	
MOUNTAIN COUNTIES AIR BASIN					SAN FRANCISCO BAY AREA AIR BASIN			X	
Amador County					SAN JOAQUIN VALLEY AIR BASIN			X	
- City of Sutter Creek	X				SOUTH CENTRAL COAST AIR BASIN				
- Remainder of County			X		San Luis Obispo County				X
Calaveras County			X		Santa Barbara County				X
El Dorado County (portion)			X		Ventura County			X	
Mariposa County			X		SOUTH COAST AIR BASIN			X	
Nevada County			X						
Placer County (portion)			X						
Plumas County			X						
Sierra County			X						
Tuolumne County			X						

* The area designated for hydrogen sulfide is a county or portion of a county

(1) 52 Federal Register 29384 (August 7, 1987)

(2) California Code of Regulations, title 17, section 60200(d)

FIGURE 10


2018
Area Designations for State
Ambient Air Quality Standards
VISIBILITY REDUCING PARTICLES
NORTH COAST
NORTHEAST PLATEAU
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE COUNTY
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
MOJAVE DESERT
SOUTH COAST
SAN DIEGO COUNTY
SALTON SEA
N
Unclassified
Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 10

California Ambient Air Quality Standards
Area Designation for Visibility Reducing Particles

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN			X		SACRAMENTO VALLEY AIR BASIN			X	
LAKE COUNTY AIR BASIN				X	SALTON SEA AIR BASIN			X	
LAKE TAHOE AIR BASIN			X		SAN DIEGO AIR BASIN			X	
MOJAVE DESERT AIR BASIN			X		SAN FRANCISCO BAY AREA AIR BASIN			X	
MOUNTAIN COUNTIES AIR BASIN			X		SAN JOAQUIN VALLEY AIR BASIN			X	
NORTH CENTRAL COAST AIR BASIN			X		SOUTH CENTRAL COAST AIR BASIN			X	
NORTH COAST AIR BASIN			X		SOUTH COAST AIR BASIN			X	
NORTHEAST PLATEAU AIR BASIN			X						

Area Designations for the National Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a national ambient air quality standard. Additional information about the federal area designations is available on the U.S. EPA website:

https://www.epa.gov/green-book

Over the last several years, U.S. EPA has been reviewing the levels of the various national standards. The agency has already promulgated new standard levels for some pollutants and is considering revising the levels for others. Information about the status of these reviews is available on the U.S. EPA website:

https://www.epa.gov/criteria-air-pollutants

Designation Categories

Suspended Particulate Matter (PM_{10}). The U.S. EPA uses three categories to designate areas with respect to PM_{10}:

- Attainment
- Nonattainment
- Unclassifiable

Ozone, Fine Suspended Particulate Matter ($PM_{2.5}$), Carbon Monoxide (CO), and Nitrogen Dioxide (NO_2). The U.S. EPA uses two categories to designate areas with respect to these standards:

- Nonattainment
- Unclassifiable/Attainment

The national 1-hour ozone standard was revoked effective June 15, 2005, and the area designations map reflects the 2015 national 8-hour ozone standard of 0.070 ppm. Original designations were finalized on August 3, 2018.

On December 14, 2012, the U.S. EPA established a new national annual primary $PM_{2.5}$ standard of 12.0 $\mu g/m^3$. New area designations reflecting this revised standard became final in December 2014. The current designation map reflects the most recently revised (2012) annual average standard of 12.0 $\mu g/m^3$ as well as the 24-hour standard of 35 $\mu g/m^3$, revised in 2006.

On January 22, 2010, the U.S. EPA established a new national 1-hour NO_2 standard of 100 parts per billion (ppb) and retained the annual average standard of 53 ppb. Designations for the primary NO_2 standard became effective on February 29, 2012. All areas of California meet this standard.

Sulfur Dioxide (SO_2). The U.S. EPA uses three categories to designate areas with respect to the 24-hour and annual average sulfur dioxide standards. These designation categories are:

- Nonattainment,
- Unclassifiable, and
- Attainment/Unclassifiable.

On June 2, 2010, the U.S. EPA established a new primary 1-hour SO_2 standard of 75 parts per billion (ppb). At the same time, U.S. EPA revoked the 24-hour and annual

average standards. Area designations for the 1-hour SO_2 standard were finalized on December 21, 2017 and are reflected in the area designations map.

Lead (particulate). The U.S. EPA promulgated a new rolling 3-month average lead standard in October 2008 of 0.15 µg/m^3. Designations were made for this standard in November 2010.

Designation Areas

From time to time, the boundaries of the California air basins have been changed to facilitate the planning process. CARB generally initiates these changes, and they are not always reflected in the U.S. EPA's area designations. For purposes of consistency, the maps in this attachment reflect area designation boundaries and nomenclature as promulgated by the U.S. EPA. In some cases, these may not be the same as those adopted by CARB. For example, the national area designations reflect the former Southeast Desert Air Basin. In accordance with Health and Safety Code section 39606.1, CARB redefined this area in 1996 to be the Mojave Desert Air Basin and Salton Sea Air Basin. The definitions and boundaries for all areas designated for the national standards can be found in Title 40, Code of Federal Regulations (CFR), Chapter I, Subchapter C, Part 81.305. They are available on the web at:

https://ecfr.io/Title-40/se40.20.81_1305

FIGURE 11


Area Designations for National Ambient Air Quality Standards
8-HOUR OZONE
N
NORTH COAST
NORTHEAST PLATEAU
Shasta
Lassen
Sutter Buttes
Tehama
Plumas
Yolo-Solano
SACRAMENTO VALLEY
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Lake
Colusa
Sutter
LAKE TAHOE
SAN FRANCISCO BAY AREA
Marin
San Francisco
San Mateo
Santa Cruz
GREAT BASIN VALLEYS
Mono
SAN JOAQUIN VALLEY
Kern
NORTH CENTRAL COAST
Monterey
Antelope Valley and Western Mojave Desert
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
SOUTH COAST
SAN DIEGO
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 11

National Ambient Air Quality Standards
Area Designations for 8-Hour Ozone*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN (cont.)		
LAKE COUNTY AIR BASIN		X	Yolo County (2)	X	
LAKE TAHOE AIR BASIN		X	Yuba County		X
MOUNTAIN COUNTIES AIR BASIN			SAN DIEGO COUNTY	X	
Amador County	X		SAN FRANCISCO BAY AREA AIR BASIN	X	
Calaveras County	X		SAN JOAQUIN VALLEY AIR BASIN	X	
El Dorado County (portion) (2)	X		SOUTH CENTRAL COAST AIR BASIN (1)		
Mariposa County	X		San Luis Obispo County		
Nevada County			- Eastern San Luis Obispo County	X	
- Western Nevada County	X		- Remainder of County		X
- Remainder of County		X	Santa Barbara County		X
Placer County (portion) (2)	X		Ventura County		
Plumas County		X	- Area excluding Anacapa and San Nicolas Islands	X	
Sierra County		X	- Channel Islands (1)		X
Tuolumne County	X		SOUTH COAST AIR BASIN (1)	X	
NORTH CENTRAL COAST AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		
NORTH COAST AIR BASIN		X	Kern County (portion)	X	
NORTHEAST PLATEAU AIR BASIN		X	- Indian Wells Valley		X
SACRAMENTO VALLEY AIR BASIN			Imperial County	X	
Butte County	X		Los Angeles County (portion)	X	
Colusa County		X	Riverside County (portion)		
Glenn County		X	- Coachella Valley	X	
Sacramento Metro Area (2)	X		- Non-AQMA portion		X
Shasta County		X	San Bernardino County		
Sutter County			- Western portion (AQMA)	X	
- Sutter Buttes	X		- Eastern portion (non-AQMA)		X
- Southern portion of Sutter County (2)	X				
- Remainder of Sutter County		X			
Tehama County					
- Tuscan Buttes	X				
- Remainder of Tehama County		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

NOTE: This map and table reflect the 2015 8-hour ozone standard of 0.070 ppm.

(1) South Central Coast Air Basin Channel Islands:
Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.
Ventura County includes Anacapa and San Nicolas Islands.

South Coast Air Basin:
Los Angeles County includes San Clemente and Santa Catalina Islands.

(2) For this purpose, the Sacramento Metro Area comprises all of Sacramento and Yolo Counties, the Sacramento Valley Air Basin portion of Solano County, the southern portion of Sutter County, and the Sacramento Valley and Mountain Counties Air Basins portions of Placer and El Dorado counties.

FIGURE 12


Area Designations for National Ambient Air Quality Standards PM10
N
NORTH COAST
NORTHEAST PLATEAU
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE COUNTY
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
SOUTH COAST
SAN DIEGO COUNTY
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date
October 2018
Air Quality Planning and Science Division

TABLE 12

National Ambient Air Quality Standards
Area Designations for Suspended Particulate Matter (PM10)*

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN				SAN DIEGO COUNTY		X	
Alpine County		X		SAN FRANCISCO BAY AREA AIR BASIN		X	
Inyo County				SAN JOAQUIN VALLEY AIR BASIN			X
- Owens Valley Planning Area	X			SOUTH CENTRAL COAST AIR BASIN		X	
- Coso Junction			X	SOUTH COAST AIR BASIN			X
- Remainder of County		X		SOUTHEAST DESERT AIR BASIN			
Mono County				Eastern Kern County			
- Mammoth Lake Planning Area			X	- Indian Wells Valley			X
- Mono Lake Basin	X			- Portion within San Joaquin Valley Planning Area	X		
- Remainder of County		X		- Remainder of County		X	
LAKE COUNTY AIR BASIN		X		Imperial County			
LAKE TAHOE AIR BASIN		X		- Imperial Valley Planning Area	X		
MOUNTAIN COUNTIES AIR BASIN				- Remainder of County		X	
Placer County (portion) (2)		X		Los Angeles County (portion)		X	
Remainder of Air Basin		X		Riverside County (portion)			
NORTH CENTRAL COAST AIR BASIN		X		- Coachella Valley (3)	X		
NORTH COAST AIR BASIN		X		- Non-AQMA portion		X	
NORTHEAST PLATEAU AIR BASIN		X		San Bernardino County			
SACRAMENTO VALLEY AIR BASIN				- Trona	X		
Butte County		X		- Remainder of County	X		
Colusa County		X					
Glenn County		X					
Placer County (portion) (2)		X					
Sacramento County (1)			X				
Shasta County		X					
Solano County (portion)		X					
Sutter County		X					
Tehama County		X					
Yolo County		X					
Yuba County		X					

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.
(1) Air quality in Sacramento County meets the national PM10 standards. The request for redesignation to attainment was approved by U.S. EPA in September 2013.
(2) U.S. EPA designation puts the Sacramento Valley Air Basin portion of Placer County in the Mountain Counties Air Basin.
(3) Air quality in Coachella Valley meets the national PM10 standards. A request for redesignation to attainment has been submitted to U.S. EPA.

FIGURE 13


Area Designations for National
Ambient Air Quality Standards
PM2.5
N
NORTH COAST
NORTHEAST PLATEAU
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE COUNTY
LAKE TAHOE
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
NORTH CENTRAL COAST
SAN JOAQUIN VALLEY
SOUTH CENTRAL COAST
SOUTHEAST DESERT
SOUTH COAST
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date
October 2018
Air Quality Planning and Science Division

TABLE 13

National Ambient Air Quality Standards
Area Designations for Fine Particulate Matter (PM2.5)*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE COUNTY AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN (2)	X	
LAKE TAHOE AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN	X	
MOUNTAIN COUNTIES AIR BASIN			SOUTH CENTRAL COAST AIR BASIN		X
Plumas County			SOUTH COAST AIR BASIN (3)	X	
- Portola Valley Portion of Plumas	X		SOUTHEAST DESERT AIR BASIN		
- Remainder of Plumas County		X	Imperial County (portion) (4)	X	
Remainder of Air Basin		X	Remainder of Air Basin		X
NORTH CENTRAL COAST AIR BASIN		X			
NORTH COAST AIR BASIN		X			
NORTHEAST PLATEAU AIR BASIN		X			
SACRAMENTO VALLEY AIR BASIN					
Sacramento Metro Area (1)	X				
Sutter County		X			
Yuba County (portion)		X			
Remainder of Air Basin		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305. This map reflects the 2006 24-hour PM2.5 standard as well as the 1997 and 2012 PM2.5 annual standards.

(1) For this purpose, Sacramento Metro Area comprises all of Sacramento and portions of El Dorado, Placer, Solano, and Yolo Counties. Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

(2) Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

(3) Those lands of the Santa Rosa Band of Cahulla Mission Indians in Riverside County are designated Unclassifiable/Attainment.

(4) That portion of Imperial County encompassing the urban and surrounding areas of Brawley, Calexico, El Centro, Heber, Holtville, Imperial, Seeley, and Westmorland. Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

FIGURE 14


Area Designations for National Ambient Air Quality Standards
CARBON MONOXIDE
N
NORTH COAST
NORTHEAST PLATEAU
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE TAHOE
LAKE COUNTY
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
SOUTHEAST DESERT
SOUTH COAST
SAN DIEGO COUNTY
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Lake
Sutter
Yuba
Placer
El Dorado
Napa
Sonoma
Yolo
Sacramento
Amador
Marin
Calaveras
Contra Costa
San Joaquin
Tuolumne
Alpine
Mono
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
San Benito
Fresno
Inyo
Monterey
Kings
Tulare
San Luis Obispo
Kern
Santa Barbara
Ventura
Los Angeles
San Bernardino
Orange
Riverside
San Diego
Imperial
Unclassified/Attainment
Air Basin
County
Source Date
October 2018
Air Quality Planning and Science Division

TABLE 14

National Ambient Air Quality Standards
Area Designations for Carbon Monoxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE TAHOE AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

FIGURE 15


Area Designations for National Ambient Air Quality Standards
NITROGEN DIOXIDE
N
NORTH COAST
NORTHEAST PLATEAU
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE TAHOE
LAKE COUNTY
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
SAN JOAQUIN VALLEY
NORTH CENTRAL COAST
SOUTH CENTRAL COAST
SOUTHEAST DESERT
SOUTH COAST
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Source Date
October 2018
Air Quality Planning and Science Division

TABLE 15

National Ambient Air Quality Standards
Area Designations for Nitrogen Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE TAHOE AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

FIGURE 16


Area Designations for National Ambient Air Quality Standards
SULFUR DIOXIDE
N
NORTH COAST
NORTHEAST PLATEAU
Siskiyou
Modoc
Shasta
Lassen
Trinity
Humboldt
Tehama
Plumas
SACRAMENTO VALLEY
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Colusa
Nevada
Yuba
Placer
LAKE COUNTY
Lake
Sutter
LAKE TAHOE
Yolo
El Dorado
Napa
Alpine
Sonoma
San Joaquin
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
Tuolumne
GREAT BASIN VALLEYS
Mono
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Tulare
Inyo
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Source Date
October 2018
Air Quality Planning and Science Division

TABLE 16

National Ambient Air Quality Standards
Area Designations for Sulfur Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		
LAKE COUNTY AIR BASIN		X	San Luis Obispo County		X
LAKE TAHOE AIR BASIN		X	Santa Barbara County		X
MOUNTAIN COUNTIES AIR BASIN		X	Ventura County		X
NORTH CENTRAL COAST AIR BASIN		X	Channel Islands (1)		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		
SACRAMENTO VALLEY AIR BASIN		X	Imperial County		X
SAN DIEGO COUNTY		X	Remainder of Air Basin		X
SAN FRANCISCO BAY AREA AIR BASIN		X			
SAN JOAQUIN VALLEY AIR BASIN					
Fresno County		X			
Kern County (portion)		X			
Kings County		X			
Madera County		X			
Merced County		X			
San Joaquin County		X			
Stanislaus County		X			
Tulare County		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

NOTE: This map and table reflect the 2010 1-hour SO_2 standard of 75 ppb.

(1) South Central Coast Air Basin Channel Islands:

Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.

Ventura County includes Anacapa and San Nicolas Islands.

Note that the San Clemente and Santa Catalina Islands are considered part of Los Angeles County, and therefore, are included as part of the South Coast Air Basin.

FIGURE 17


Area Designations for National Ambient Air Quality Standards
LEAD
N
NORTH COAST
NORTHEAST PLATEAU
SACRAMENTO VALLEY
MOUNTAIN COUNTIES
LAKE TAHOE
LAKE COUNTY
SAN FRANCISCO BAY AREA
GREAT BASIN VALLEYS
NORTH CENTRAL COAST
SAN JOAQUIN Fresno VALLEY
SOUTH CENTRAL COAST
SOUTHEAST DESERT
SOUTH COAST
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date
October 2018
Air Quality Planning and Science Division

TABLE 17

National Ambient Air Quality Standards
Area Designations for Lead (particulate)

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE COUNTY AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
LAKE TAHOE AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH COAST AIR BASIN		
NORTH COAST AIR BASIN		X	Los Angeles County (portion) (1)	X	
NORTHEAST PLATEAU AIR BASIN		X	Remainder of Air Basin		X
SACRAMENTO VALLEY AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

(1) Portion of County in Air Basin, not including Channel Islands

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APPENDIX 5.1:

CALEEMOD CONSTRUCTION EMISSIONS MODEL OUTPUTS – WITHOUT MITIGATION

14822 Rich Haven Ph1 Construction Unmitigated Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Construction Unmitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01192837529811, -117.57074736445445
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	36.9	286	147	484	0.25	7.66	65.7	68.8	7.05	15.6	18.5	—	96,362	96,362	4.59	4.79	314	98,220

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	35.6	285	147	387	0.25	7.66	65.7	68.8	7.05	15.6	18.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	23.5	186	95.8	269	0.16	4.44	45.5	47.2	4.09	10.8	12.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.28	33.9	17.5	49.1	0.03	0.81	8.31	8.61	0.75	1.97	2.25	—	10,345	10,345	0.53	0.56	15.8	10,541

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	18.4	15.1	147	122	0.25	7.66	19.0	26.6	7.05	8.58	15.6	—	29,743	29,743	1.59	1.48	27.8	30,251
2024	36.9	286	105	484	0.24	3.14	65.7	68.8	2.90	15.6	18.5	—	96,362	96,362	4.59	4.79	314	98,220
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	28.7	24.4	147	323	0.25	7.66	55.0	57.0	7.05	13.1	15.6	—	76,040	76,040	4.18	4.36	7.50	77,450
2024	35.6	285	109	387	0.24	3.14	65.7	68.8	2.90	15.6	18.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	12.9	10.5	95.8	94.3	0.16	4.44	12.4	16.8	4.09	4.37	8.45	—	22,333	22,333	1.18	1.09	14.3	22,702
2024	23.5	186	66.6	269	0.15	1.68	45.5	47.2	1.56	10.8	12.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	2.35	1.92	17.5	17.2	0.03	0.81	2.26	3.07	0.75	0.80	1.54	—	3,698	3,698	0.20	0.18	2.38	3

2024	4.28	33.9	12.1	49.1	0.03	0.31	8.31	8.61	0.28	1.97	2.25	—	10,345	10,345	0.53	0.56	15.8	10,541

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	17.5	14.7	141	114	0.15	7.59	—	7.59	6.98	—	6.98	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	17.5	14.7	141	114	0.15	7.59	—	7.59	6.98	—	6.98	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	4.07	3.42	32.8	26.5	0.04	1.77	—	1.77	1.63	—	1.63	—	3,863	3,863	0.16	0.03	—	3,877
Dust From Material Movement	—	—	—	—	—	—	3.96	3.96	—	1.88	1.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.99	4.84	0.01	0.32	—	0.32	0.30	—	0.30	—	640	640	0.03	0.01	—	642
Dust From Material Movement	—	—	—	—	—	—	0.72	0.72	—	0.34	0.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.28	4.86	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	771	771	0.03	0.03	3.31	783
Vendor	0.54	0.14	5.72	3.08	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,817	4,817	0.40	0.71	13.3	5,052
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.32	3.65	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	707	707	0.03	0.03	0.09	715
Vendor	0.53	0.13	5.94	3.13	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,819	4,819	0.40	0.71	0.35	5,042
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.90	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	167	167	0.01	0.01	0.33	169

Vendor	0.13	0.03	1.39	0.72	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	1,122	1,122	0.09	0.17	1.34	1,175
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	27.6	27.6	< 0.005	< 0.005	0.06	28.0
Vendor	0.02	0.01	0.25	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	186	186	0.02	0.03	0.22	195
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	15.0	12.6	123	98.0	0.19	5.87	—	5.87	5.40	—	5.40	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	15.0	12.6	123	98.0	0.19	5.87	—	5.87	5.40	—	5.40	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.32	5.31	51.8	41.4	0.08	2.48	—	2.48	2.28	—	2.28	—	8,500	8,500	0.34	0.07	—	8,529
Dust From Material Movement	—	—	—	—	—	—	3.38	3.38	—	1.24	1.24	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15	0.97	9.46	7.55	0.01	0.45	—	0.45	0.42	—	0.42	—	1,407	1,407	0.06	0.01	—	1,412
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.32	5.55	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	881	881	0.04	0.03	3.78	895
Vendor	0.98	0.24	10.3	5.58	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,715	8,715	0.73	1.29	24.1	9,140
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.37	4.18	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	808	808	0.04	0.03	0.10	818
Vendor	0.97	0.23	10.7	5.66	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,719	8,719	0.73	1.29	0.63	9,122

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.86	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	346	346	0.02	0.01	0.69	350
Vendor	0.41	0.10	4.56	2.37	0.03	0.05	0.21	0.26	0.05	0.08	0.13	—	3,678	3,678	0.31	0.54	4.40	3,851
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.34	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	57.2	57.2	< 0.005	< 0.005	0.11	58.0
Vendor	0.07	0.02	0.83	0.43	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	609	609	0.05	0.09	0.73	638
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.86	4.07	38.4	42.9	0.08	1.79	—	1.79	1.65	—	1.65	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.25	2.33	2.60	< 0.005	0.11	—	0.11	0.10	—	0.10	—	479	479	0.02	< 0.005	—	480
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.43	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02	—	79.2	79.2	< 0.005	< 0.005	—	79.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.0	19.9	23.9	270	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	52,139	52,139	2.52	1.92	6.35	52,781
Vendor	1.77	0.42	19.7	10.4	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	16,011	16,011	1.34	2.37	1.15	16,752
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.33	1.20	1.45	17.3	0.00	0.00	0.19	0.19	0.00	0.00	0.00	—	3,208	3,208	0.15	0.12	6.41	3,253
Vendor	0.11	0.03	1.21	0.63	0.01	0.01	0.06	0.07	0.01	0.02	0.03	—	971	971	0.08	0.14	1.16	1,017
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.22	0.27	3.16	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	531	531	0.03	0.02	1.06	539
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	161	161	0.01	0.02	0.19	168
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.64	3.89	36.5	42.7	0.08	1.61	—	1.61	1.48	—	1.48	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.64	3.89	36.5	42.7	0.08	1.61	—	1.61	1.48	—	1.48	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.33	2.78	26.2	30.6	0.05	1.16	—	1.16	1.06	—	1.06	—	5,652	5,652	0.23	0.05	—	5,671
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.77	5.58	0.01	0.21	—	0.21	0.19	—	0.19	—	936	936	0.04	0.01	—	939
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.2	20.3	18.8	328	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	55,768	55,768	2.35	1.92	223	56,622
Vendor	1.68	0.45	18.2	9.74	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,833	15,833	1.22	2.36	44.2	16,611
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	21.1	19.1	22.1	248	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	51,115	51,115	2.43	1.92	5.78	51,755
Vendor	1.65	0.42	18.9	9.88	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,840	15,840	1.22	2.36	1.14	16,575
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	15.0	13.5	15.8	186	0.00	0.00	2.26	2.26	0.00	0.00	0.00	—	37,129	37,129	1.74	1.38	68.9	37,652
Vendor	1.19	0.31	13.6	7.04	0.08	0.16	0.65	0.81	0.16	0.24	0.41	—	11,342	11,342	0.87	1.69	13.6	11,882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.73	2.47	2.89	34.0	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,147	6,147	0.29	0.23	11.4	6,234
Vendor	0.22	0.06	2.49	1.28	0.01	0.03	0.12	0.15	0.03	0.04	0.07	—	1,878	1,878	0.14	0.28	2.25	1,967
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.04	2.55	23.4	30.1	0.04	1.17	—	1.17	1.07	—	1.07	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.04	2.55	23.4	30.1	0.04	1.17	—	1.17	1.07	—	1.07	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.61	5.59	7.17	0.01	0.28	—	0.28	0.26	—	0.26	—	1,081	1,081	0.04	0.01	—	1,085
Paving	—	0.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.02	1.31	< 0.005	0.05	—	0.05	0.05	—	0.05	—	179	179	0.01	< 0.005	—	180
Paving	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.22	3.81	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	648	648	0.03	0.02	2.59	658
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.72	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	144	144	0.01	0.01	0.27	146
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.8	23.8	< 0.005	< 0.005	0.04	24.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	0.55	3.63	4.59	0.01	0.13	—	0.13	0.12	—	0.12	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	253	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	0.55	3.63	4.59	0.01	0.13	—	0.13	0.12	—	0.12	—	534	534	0.02	< 0.005	—	536

Architect Coatings	—	253	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	0.36	2.38	3.00	< 0.005	0.08	—	0.08	0.08	—	0.08	—	350	350	0.01	< 0.005	—	351
Architectural Coatings	—	165	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.43	0.55	< 0.005	0.02	—	0.02	0.01	—	0.01	—	57.9	57.9	< 0.005	< 0.005	—	58.1
Architectural Coatings	—	30.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.44	4.06	3.76	65.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	11,154	11,154	0.47	0.38	44.6	11,324
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.22	3.82	4.42	49.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	10,223	10,223	0.49	0.38	1.16	10,351
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.74	2.48	2.90	34.1	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,789	6,789	0.32	0.25	12.6	6,884
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.50	0.45	0.53	6.22	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,124	1,124	0.05	0.04	2.09	1,140
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2023	4/30/2023	5.00	85.0	—
Grading	Grading	5/1/2023	11/30/2023	5.00	154	—

Building Construction	Building Construction	12/1/2023	12/31/2024	5.00	283	—
Paving	Paving	9/1/2024	12/31/2024	5.00	87.0	—
Architectural Coating	Architectural Coating	2/1/2024	12/31/2024	5.00	239	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	9.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Average	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Average	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Average	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	152	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	275	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3,874	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	505	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	775	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	10,305,711	3,435,237	4,496,411	1,498,804	151,589

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	1,700	0.00	—
Grading	—	—	3,080	0.00	—
Paving	0.00	0.00	0.00	0.00	67.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Office Park	0.00	0%
Refrigerated Warehouse-No Rail	0.00	0%
Unrefrigerated Warehouse-No Rail	0.00	0%

Condo/Townhouse	—	0%
Single Family Housing	9.06	0%
Strip Mall	0.00	0%
Gasoline/Service Station	0.00	0%
Regional Shopping Center	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Parking Lot	58.0	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

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Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

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Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site plan
Construction: Construction Phases	Schedule adjusted based on data from the Project team.
Construction: Off-Road Equipment	Equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings

14822 Rich Haven Ph2 Construction Unmitigated Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Construction Unmitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01284450351814, -117.57158813842331
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	19.3	199	130	248	0.21	6.78	32.3	34.7	6.24	8.35	14.6	—	51,709	51,709	2.35	2.23	127	52,561
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.6	198	116	207	0.21	5.36	32.3	34.7	4.94	7.65	9.84	—	49,051	49,051	2.00	2.28	3.30	49,771
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.3	86.2	80.6	130	0.12	3.89	21.0	22.3	3.58	4.98	6.94	—	31,329	31,329	1.21	1.55	36.6	31,850

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.05	15.7	14.7	23.6	0.02	0.71	3.84	4.06	0.65	0.91	1.27	—	5,187	5,187	0.20	0.26	6.06	5,273

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	16.5	13.8	130	111	0.21	6.78	18.1	24.9	6.24	8.35	14.6	—	23,736	23,736	1.06	0.60	11.1	23,953
2025	14.7	12.6	101	195	0.21	4.59	26.7	28.2	4.23	6.34	7.73	—	41,436	41,436	1.96	2.03	118	42,209
2026	19.3	199	73.2	248	0.17	2.38	32.3	34.7	2.20	7.65	9.84	—	51,709	51,709	2.35	2.23	127	52,561
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	14.7	12.2	116	99.6	0.21	5.36	9.53	14.9	4.94	3.33	8.26	—	23,665	23,665	1.07	0.60	0.29	23,871
2025	14.1	12.0	101	158	0.21	4.59	26.7	28.2	4.23	6.34	7.73	—	39,212	39,212	2.00	2.03	3.07	39,870
2026	18.6	198	74.5	207	0.17	2.38	32.3	34.7	2.20	7.65	9.84	—	49,051	49,051	1.46	2.28	3.30	49,771
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	10.2	8.51	80.6	69.5	0.12	3.89	7.96	11.9	3.58	3.36	6.94	—	13,571	13,571	0.61	0.33	2.63	13,686
2025	9.86	8.28	48.6	101	0.11	1.80	14.9	16.7	1.66	3.78	5.44	—	24,512	24,512	1.21	1.11	25.6	24,900
2026	11.3	86.2	42.2	130	0.10	1.22	21.0	22.3	1.13	4.98	6.11	—	31,329	31,329	0.92	1.55	36.6	31,850
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.86	1.55	14.7	12.7	0.02	0.71	1.45	2.16	0.65	0.61	1.27	—	2,247	2,247	0.10	0.05	0.44	2,266
2025	1.80	1.51	8.87	18.4	0.02	0.33	2.72	3.04	0.30	0.69	0.99	—	4,058	4,058	0.20	0.18	4.24	4,122
2026	2.05	15.7	7.70	23.6	0.02	0.22	3.84	4.06	0.21	0.91	1.12	—	5,187	5,187	0.15	0.26	6.06	5,273

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	9.35	7.85	74.7	65.2	0.10	3.18	—	3.18	2.93	—	2.93	—	10,276	10,276	0.42	0.08	—	10,311
Demolition	—	—	—	—	—	—	0.30	0.30	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.67	1.40	13.3	11.6	0.02	0.57	—	0.57	0.52	—	0.52	—	1,830	1,830	0.07	0.01	—	1,836
Demolition	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	0.26	2.43	2.12	< 0.005	0.10	—	0.10	0.10	—	0.10	—	303	303	0.01	< 0.005	—	304
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601
Vendor	0.11	0.03	1.24	0.65	0.01	0.01	0.06	0.07	0.01	0.02	0.04	—	1,035	1,035	0.08	0.15	0.07	1,083
Hauling	0.05	0.01	0.48	0.26	< 0.005	0.01	0.03	0.04	< 0.005	0.01	0.01	—	374	374	0.04	0.06	0.02	393
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.54	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	107	107	0.01	< 0.005	0.20	109
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	184	184	0.01	0.03	0.22	193
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	66.6	66.6	0.01	0.01	0.06	70.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.8	17.8	< 0.005	< 0.005	0.03	18.0
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	0.04	32.0
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.6

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	16.0	13.5	128	106	0.15	6.75	—	6.75	6.21	—	6.21	—	16,588	16,588	0.67	0.13	—	16,644
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.84	4.06	38.4	31.9	0.05	2.04	—	2.04	1.87	—	1.87	—	4,999	4,999	0.20	0.04	—	5,016
Dust From Material Movement	—	—	—	—	—	—	5.12	5.12	—	2.43	2.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	7.01	5.83	0.01	0.37	—	0.37	0.34	—	0.34	—	828	828	0.03	0.01	—	830
Dust From Material Movement	—	—	—	—	—	—	0.93	0.93	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.25	4.44	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	756	756	0.03	0.03	3.02	767

Vendor	0.18	0.05	1.98	1.06	0.01	0.02	0.10	0.12	0.02	0.04	0.06	—	1,724	1,724	0.13	0.26	4.81	1,809
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.06	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	212	212	0.01	0.01	0.39	215
Vendor	0.05	0.01	0.62	0.32	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	520	520	0.04	0.08	0.62	544
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.19	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	35.1	35.1	< 0.005	< 0.005	0.07	35.5
Vendor	0.01	< 0.005	0.11	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	86.1	86.1	0.01	0.01	0.10	90.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	14.1	11.8	113	94.1	0.19	5.32	—	5.32	4.90	—	4.90	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	14.1	11.8	113	94.1	0.19	5.32	—	5.32	4.90	—	4.90	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.36	2.82	26.9	22.5	0.04	1.27	—	1.27	1.17	—	1.17	—	4,810	4,810	0.20	0.04	—	4,826
Dust From Material Movement	—	—	—	—	—	—	1.91	1.91	—	0.70	0.70	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.52	4.91	4.10	0.01	0.23	—	0.23	0.21	—	0.21	—	796	796	0.03	0.01	—	799
Dust From Material Movement	—	—	—	—	—	—	0.35	0.35	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.29	5.08	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	864	864	0.04	0.03	3.45	877

Vendor	0.29	0.08	3.13	1.68	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,728	2,728	0.21	0.41	7.61	2,862
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.30	0.34	3.84	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	792	792	0.04	0.03	0.09	802
Vendor	0.28	0.07	3.26	1.70	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,729	2,729	0.21	0.41	0.20	2,856
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.96	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	192	192	0.01	0.01	0.36	194
Vendor	0.07	0.02	0.78	0.40	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	651	651	0.05	0.10	0.78	682
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	31.7	31.7	< 0.005	< 0.005	0.06	32.2
Vendor	0.01	< 0.005	0.14	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	108	108	0.01	0.02	0.13	113
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	12.7	10.7	97.8	88.3	0.19	4.55	—	4.55	4.19	—	4.19	—	20,146	20,146	0.82	0.16	—	20,215

Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	12.7	10.7	97.8	88.3	0.19	4.55	—	4.55	4.19	—	4.19	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.99	2.51	23.0	20.7	0.04	1.07	—	1.07	0.98	—	0.98	—	4,731	4,731	0.19	0.04	—	4,747
Dust From Material Movement	—	—	—	—	—	—	1.88	1.88	—	0.69	0.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.19	3.78	0.01	0.20	—	0.20	0.18	—	0.18	—	783	783	0.03	0.01	—	786
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.28	0.26	4.67	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	845	845	0.04	0.03	3.14	858
Vendor	0.27	0.08	2.98	1.61	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,684	2,684	0.21	0.41	7.55	2,818
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.29	3.52	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	775	775	0.04	0.03	0.08	785
Vendor	0.26	0.07	3.11	1.62	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,685	2,685	0.21	0.41	0.20	2,812
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.87	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	185	185	0.01	0.01	0.32	187
Vendor	0.06	0.02	0.74	0.38	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	630	630	0.05	0.10	0.77	661
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	30.6	30.6	< 0.005	< 0.005	0.05	31.0
Vendor	0.01	< 0.005	0.13	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	104	104	0.01	0.02	0.13	109
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	4.35	3.64	33.9	42.4	0.08	1.40	—	1.40	1.29	—	1.29	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.35	3.64	33.9	42.4	0.08	1.40	—	1.40	1.29	—	1.29	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.09	1.75	16.3	20.3	0.04	0.67	—	0.67	0.62	—	0.62	—	3,783	3,783	0.15	0.03	—	3,796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	0.32	2.97	3.71	0.01	0.12	—	0.12	0.11	—	0.11	—	626	626	0.03	0.01	—	629
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.66	8.72	8.36	148	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,789	26,789	1.11	0.94	99.4	27,197
Vendor	0.67	0.19	7.50	4.06	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,756	6,756	0.52	1.02	19.0	7,093
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.17	9.22	112	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,561	24,561	1.15	0.94	2.57	24,873

Vendor	0.66	0.18	7.84	4.07	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,760	6,760	0.52	1.02	0.49	7,078
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.33	3.86	4.79	56.5	0.00	0.00	0.74	0.74	0.00	0.00	0.00	—	11,942	11,942	0.55	0.45	20.6	12,111
Vendor	0.32	0.09	3.78	1.93	0.02	0.05	0.19	0.24	0.05	0.07	0.12	—	3,240	3,240	0.25	0.49	3.95	3,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.70	0.87	10.3	0.00	0.00	0.14	0.14	0.00	0.00	0.00	—	1,977	1,977	0.09	0.07	3.41	2,005
Vendor	0.06	0.02	0.69	0.35	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	536	536	0.04	0.08	0.65	562
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.14	3.47	32.0	42.2	0.08	1.23	—	1.23	1.13	—	1.13	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.14	3.47	32.0	42.2	0.08	1.23	—	1.23	1.13	—	1.13	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.96	2.48	22.9	30.1	0.05	0.88	—	0.88	0.81	—	0.81	—	5,635	5,635	0.23	0.05	—	5,655
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.45	4.17	5.50	0.01	0.16	—	0.16	0.15	—	0.15	—	933	933	0.04	0.01	—	936
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.22	7.50	137	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,242	26,242	1.11	0.90	89.8	26,628
Vendor	0.67	0.14	7.18	3.89	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,643	6,643	0.47	1.02	17.5	6,977
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	8.61	7.67	8.36	103	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,066	24,066	0.38	0.94	2.33	24,359
Vendor	0.66	0.13	7.47	3.95	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,647	6,647	0.47	1.02	0.45	6,964
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.15	5.48	6.53	77.7	0.00	0.00	1.11	1.11	0.00	0.00	0.00	—	17,431	17,431	0.27	0.67	27.7	17,666
Vendor	0.47	0.09	5.37	2.80	0.04	0.07	0.28	0.35	0.07	0.11	0.18	—	4,746	4,746	0.34	0.73	5.38	4,978
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.12	1.00	1.19	14.2	0.00	0.00	0.20	0.20	0.00	0.00	0.00	—	2,886	2,886	0.04	0.11	4.59	2,925

Vendor	0.09	0.02	0.98	0.51	0.01	0.01	0.05	0.06	0.01	0.02	0.03	—	786	786	0.06	0.12	0.89	824
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.72	2.28	21.4	29.8	0.04	0.96	—	0.96	0.88	—	0.88	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.72	2.28	21.4	29.8	0.04	0.96	—	0.96	0.88	—	0.88	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.55	5.15	7.19	0.01	0.23	—	0.23	0.21	—	0.21	—	1,093	1,093	0.04	0.01	—	1,096
Paving	—	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.12	0.10	0.94	1.31	< 0.005	0.04	—	0.04	0.04	—	0.04	—	181	181	0.01	< 0.005	—	182
Paving	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.19	0.18	3.24	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	621	621	0.03	0.02	2.13	630
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.20	2.45	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	570	570	0.01	0.02	0.06	577
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.62	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	139	139	< 0.005	0.01	0.22	141
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.1	23.1	< 0.005	< 0.005	0.04	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.48	3.43	4.53	0.01	0.09	—	0.09	0.09	—	0.09	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	181	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.48	3.43	4.53	0.01	0.09	—	0.09	0.09	—	0.09	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	181	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.20	1.45	1.91	< 0.005	0.04	—	0.04	0.04	—	0.04	—	225	225	0.01	< 0.005	—	226
Architectural Coatings	—	76.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.26	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.3	37.3	< 0.005	< 0.005	—	37.4

Architect Coatings	—	13.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.64	1.50	27.4	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	5,248	5,248	0.22	0.18	18.0	5,326
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.72	1.53	1.67	20.7	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	4,813	4,813	0.08	0.19	0.47	4,872
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.65	0.77	9.18	0.00	0.00	0.13	0.13	0.00	0.00	0.00	—	2,059	2,059	0.03	0.08	3.27	2,087
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.14	1.68	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	341	341	0.01	0.01	0.54	346
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

3615

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2024	3/31/2024	5.00	65.0	—
Site Preparation	Site Preparation	4/1/2024	8/31/2024	5.00	110	—
Grading	Grading	9/1/2024	4/30/2025	5.00	173	—
Building Construction	Building Construction	5/1/2025	12/31/2026	5.00	436	—
Paving	Paving	9/1/2026	12/31/2026	5.00	88.0	—
Architectural Coating	Architectural Coating	6/1/2026	12/31/2026	5.00	154	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	3.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	9.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	6.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	9.00	8.00	367	0.40

Grading	Excavators	Diesel	Average	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Average	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Average	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Average	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	45.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	33.0	10.2	HHDT,MHDT
Demolition	Hauling	5.31	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2

Site Preparation	Vendor	55.0	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	87.0	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,901	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	219	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	380	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	6,674,096	2,224,699	1,062,144	354,048	142,363

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	30,000	—
Site Preparation	—	—	2,200	0.00	—
Grading	—	—	3,460	0.00	—
Paving	0.00	0.00	0.00	0.00	61.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	6.64	0%
Condo/Townhouse	—	0%
City Park	0.00	0%
Regional Shopping Center	0.00	0%

High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Gasoline/Service Station	0.00	0%
Parking Lot	54.5	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

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Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

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7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859

Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—

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Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site area
Construction: Construction Phases	Construction schedule based on info from the Project team
Construction: Off-Road Equipment	Construction equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings.

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APPENDIX 5.2:

CALEEMOD CONSTRUCTION EMISSIONS MODEL OUTPUTS – WITH MITIGATION

14822 Rich Haven Ph1 Construction Mitigated Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Construction Mitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01192837529811, -117.57074736445445
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.8	70.1	97.7	491	0.25	0.98	65.7	66.6	0.94	15.6	16.5	—	96,362	96,362	4.59	4.79	314	98,220

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	29.4	68.6	102	394	0.25	0.98	65.7	66.6	0.94	15.6	16.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	20.2	45.0	62.5	273	0.16	0.57	45.5	46.1	0.55	10.8	11.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.69	8.21	11.4	49.8	0.03	0.10	8.31	8.41	0.10	1.97	2.07	—	10,345	10,345	0.53	0.56	15.8	10,541

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.80	3.03	70.4	120	0.25	0.68	19.0	19.4	0.66	8.58	8.96	—	29,743	29,743	1.59	1.48	27.8	30,251
2024	30.8	70.1	97.7	491	0.24	0.98	65.7	66.6	0.94	15.6	16.5	—	96,362	96,362	4.59	4.79	314	98,220
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	25.2	21.7	74.5	329	0.25	0.68	55.0	55.6	0.66	13.1	13.6	—	76,040	76,040	4.18	4.36	7.50	77,450
2024	29.4	68.6	102	394	0.24	0.98	65.7	66.6	0.94	15.6	16.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.78	3.14	46.9	93.5	0.16	0.41	12.4	12.8	0.40	4.37	4.77	—	22,333	22,333	1.18	1.09	14.3	22,702
2024	20.2	45.0	62.5	273	0.15	0.57	45.5	46.1	0.55	10.8	11.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.69	0.57	8.56	17.1	0.03	0.07	2.26	2.34	0.07	0.80	0.87	—	3,698	3,698	0.20	0.18	2.38	3

2024	3.69	8.21	11.4	49.8	0.03	0.10	8.31	8.41	0.10	1.97	2.07	—	10,345	10,345	0.53	0.56	15.8	10,541

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.47	0.47	11.0	20.9	0.04	0.07	—	0.07	0.07	—	0.07	—	3,863	3,863	0.16	0.03	—	3,877
Dust From Material Movement	—	—	—	—	—	—	3.96	3.96	—	1.88	1.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	2.00	3.82	0.01	0.01	—	0.01	0.01	—	0.01	—	640	640	0.03	0.01	—	642
Dust From Material Movement	—	—	—	—	—	—	0.72	0.72	—	0.34	0.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.28	4.86	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	771	771	0.03	0.03	3.31	783
Vendor	0.54	0.14	5.72	3.08	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,817	4,817	0.40	0.71	13.3	5,052
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.32	3.65	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	707	707	0.03	0.03	0.09	715
Vendor	0.53	0.13	5.94	3.13	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,819	4,819	0.40	0.71	0.35	5,042
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.90	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	167	167	0.01	0.01	0.33	169

Vendor	0.13	0.03	1.39	0.72	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	1,122	1,122	0.09	0.17	1.34	1,175
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	27.6	27.6	< 0.005	< 0.005	0.06	28.0
Vendor	0.02	0.01	0.25	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	186	186	0.02	0.03	0.22	195
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	1.04	25.2	45.8	0.08	0.23	—	0.23	0.23	—	0.23	—	8,500	8,500	0.34	0.07	—	8,529
Dust From Material Movement	—	—	—	—	—	—	3.38	3.38	—	1.24	1.24	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	4.60	8.36	0.01	0.04	—	0.04	0.04	—	0.04	—	1,407	1,407	0.06	0.01	—	1,412
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.32	5.55	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	881	881	0.04	0.03	3.78	895
Vendor	0.98	0.24	10.3	5.58	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,715	8,715	0.73	1.29	24.1	9,140
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.37	4.18	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	808	808	0.04	0.03	0.10	818
Vendor	0.97	0.23	10.7	5.66	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,719	8,719	0.73	1.29	0.63	9,122

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.86	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	346	346	0.02	0.01	0.69	350
Vendor	0.41	0.10	4.56	2.37	0.03	0.05	0.21	0.26	0.05	0.08	0.13	—	3,678	3,678	0.31	0.54	4.40	3,851
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.34	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	57.2	57.2	< 0.005	< 0.005	0.11	58.0
Vendor	0.07	0.02	0.83	0.43	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	609	609	0.05	0.09	0.73	638
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.9	48.6	0.08	0.38	—	0.38	0.36	—	0.36	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	1.87	2.95	< 0.005	0.02	—	0.02	0.02	—	0.02	—	479	479	0.02	< 0.005	—	480
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.34	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	79.2	79.2	< 0.005	< 0.005	—	79.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.0	19.9	23.9	270	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	52,139	52,139	2.52	1.92	6.35	52,781
Vendor	1.77	0.42	19.7	10.4	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	16,011	16,011	1.34	2.37	1.15	16,752
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.33	1.20	1.45	17.3	0.00	0.00	0.19	0.19	0.00	0.00	0.00	—	3,208	3,208	0.15	0.12	6.41	3,253
Vendor	0.11	0.03	1.21	0.63	0.01	0.01	0.06	0.07	0.01	0.02	0.03	—	971	971	0.08	0.14	1.16	1,017
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.22	0.27	3.16	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	531	531	0.03	0.02	1.06	539
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	161	161	0.01	0.02	0.19	168
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.96	22.1	34.8	0.05	0.27	—	0.27	0.25	—	0.25	—	5,652	5,652	0.23	0.05	—	5,671
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.17	4.03	6.35	0.01	0.05	—	0.05	0.05	—	0.05	—	936	936	0.04	0.01	—	939
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.2	20.3	18.8	328	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	55,768	55,768	2.35	1.92	223	56,622
Vendor	1.68	0.45	18.2	9.74	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,833	15,833	1.22	2.36	44.2	16,611
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	21.1	19.1	22.1	248	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	51,115	51,115	2.43	1.92	5.78	51,755
Vendor	1.65	0.42	18.9	9.88	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,840	15,840	1.22	2.36	1.14	16,575
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	15.0	13.5	15.8	186	0.00	0.00	2.26	2.26	0.00	0.00	0.00	—	37,129	37,129	1.74	1.38	68.9	37,652
Vendor	1.19	0.31	13.6	7.04	0.08	0.16	0.65	0.81	0.16	0.24	0.41	—	11,342	11,342	0.87	1.69	13.6	11,882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.73	2.47	2.89	34.0	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,147	6,147	0.29	0.23	11.4	6,234
Vendor	0.22	0.06	2.49	1.28	0.01	0.03	0.12	0.15	0.03	0.04	0.07	—	1,878	1,878	0.14	0.28	2.25	1,967
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	5.15	7.58	0.01	0.06	—	0.06	0.06	—	0.06	—	1,081	1,081	0.04	0.01	—	1,085
Paving	—	0.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.94	1.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	179	179	0.01	< 0.005	—	180
Paving	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.22	3.81	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	648	648	0.03	0.02	2.59	658
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.72	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	144	144	0.01	0.01	0.27	146
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.8	23.8	< 0.005	< 0.005	0.04	24.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	41.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536

Architect Coatings	—	41.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	2.80	2.52	< 0.005	0.08	—	0.08	0.07	—	0.07	—	350	350	0.01	< 0.005	—	351
Architectural Coatings	—	27.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.51	0.46	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.9	57.9	< 0.005	< 0.005	—	58.1
Architectural Coatings	—	4.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.44	4.06	3.76	65.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	11,154	11,154	0.47	0.38	44.6	11,324
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.22	3.82	4.42	49.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	10,223	10,223	0.49	0.38	1.16	10,351
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.74	2.48	2.90	34.1	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,789	6,789	0.32	0.25	12.6	6,884
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.50	0.45	0.53	6.22	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,124	1,124	0.05	0.04	2.09	1,140
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2023	4/30/2023	5.00	85.0	—
Grading	Grading	5/1/2023	11/30/2023	5.00	154	—

Building Construction	Building Construction	12/1/2023	12/31/2024	5.00	283	—
Paving	Paving	9/1/2024	12/31/2024	5.00	87.0	—
Architectural Coating	Architectural Coating	2/1/2024	12/31/2024	5.00	239	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	9.00	8.00	367	0.40
Grading	Excavators	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Interim	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Tier 4 Interim	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	152	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	275	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3,874	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	505	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	775	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	10,305,711	3,435,237	4,496,411	1,498,804	151,589

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	1,700	0.00	—
Grading	—	—	3,080	0.00	—
Paving	0.00	0.00	0.00	0.00	67.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Office Park	0.00	0%
Refrigerated Warehouse-No Rail	0.00	0%
Unrefrigerated Warehouse-No Rail	0.00	0%

Condo/Townhouse	—	0%
Single Family Housing	9.06	0%
Strip Mall	0.00	0%
Gasoline/Service Station	0.00	0%
Regional Shopping Center	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Parking Lot	58.0	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

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Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

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Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site plan
Construction: Construction Phases	Schedule adjusted based on data from the Project team.
Construction: Off-Road Equipment	Equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings

14822 Rich Haven Ph2 Construction Mitigated Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Construction Mitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01284450351814, -117.57158813842331
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.0	49.3	73.1	256	0.21	0.85	32.3	33.1	0.81	8.35	8.69	—	51,709	51,709	2.35	2.23	127	52,561
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.4	48.6	74.4	215	0.21	0.85	32.3	33.1	0.81	7.65	8.45	—	49,051	49,051	2.00	2.28	3.30	49,771
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.60	22.7	41.8	134	0.12	0.45	21.0	21.5	0.43	4.98	5.41	—	31,329	31,329	1.21	1.55	36.6	31,850

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	4.15	7.62	24.5	0.02	0.08	3.84	3.92	0.08	0.91	0.99	—	5,187	5,187	0.20	0.26	6.06	5,273

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.09	2.85	63.2	115	0.21	0.59	18.1	18.5	0.58	8.35	8.69	—	23,736	23,736	1.06	0.60	11.1	23,953
2025	11.7	10.2	63.0	201	0.21	0.59	26.7	27.2	0.58	6.34	6.79	—	41,436	41,436	1.96	2.03	118	42,209
2026	14.0	49.3	73.1	256	0.17	0.85	32.3	33.1	0.81	7.65	8.45	—	51,709	51,709	2.35	2.23	127	52,561
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.07	2.83	63.3	114	0.21	0.63	9.53	10.1	0.59	3.33	3.91	—	23,665	23,665	1.07	0.60	0.29	23,871
2025	11.2	9.69	63.1	164	0.21	0.59	26.7	27.2	0.58	6.34	6.79	—	39,212	39,212	2.00	2.03	3.07	39,870
2026	13.4	48.6	74.4	215	0.17	0.85	32.3	33.1	0.81	7.65	8.45	—	49,051	49,051	1.46	2.28	3.30	49,771
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.78	1.64	36.7	66.2	0.12	0.35	7.96	8.31	0.34	3.36	3.70	—	13,571	13,571	0.61	0.33	2.63	13,686
2025	6.03	5.24	38.2	108	0.11	0.36	14.9	15.2	0.35	3.78	4.13	—	24,512	24,512	1.21	1.11	25.6	24,900
2026	8.60	22.7	41.8	134	0.10	0.45	21.0	21.5	0.43	4.98	5.41	—	31,329	31,329	0.92	1.55	36.6	31,850
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.30	6.71	12.1	0.02	0.06	1.45	1.52	0.06	0.61	0.68	—	2,247	2,247	0.10	0.05	0.44	2,266
2025	1.10	0.96	6.97	19.8	0.02	0.07	2.72	2.78	0.06	0.69	0.75	—	4,058	4,058	0.20	0.18	4.24	4,122
2026	1.57	4.15	7.62	24.5	0.02	0.08	3.84	3.92	0.08	0.91	0.99	—	5,187	5,187	0.15	0.26	6.06	5,273

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.24	1.24	35.7	54.5	0.10	0.60	—	0.60	0.57	—	0.57	—	10,276	10,276	0.42	0.08	—	10,311
Demolition	—	—	—	—	—	—	0.30	0.30	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.22	6.36	9.71	0.02	0.11	—	0.11	0.10	—	0.10	—	1,830	1,830	0.07	0.01	—	1,836
Demolition	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.16	1.77	< 0.005	0.02	—	0.02	0.02	—	0.02	—	303	303	0.01	< 0.005	—	304
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601
Vendor	0.11	0.03	1.24	0.65	0.01	0.01	0.06	0.07	0.01	0.02	0.04	—	1,035	1,035	0.08	0.15	0.07	1,083
Hauling	0.05	0.01	0.48	0.26	< 0.005	0.01	0.03	0.04	< 0.005	0.01	0.01	—	374	374	0.04	0.06	0.02	393
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.54	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	107	107	0.01	< 0.005	0.20	109
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	184	184	0.01	0.03	0.22	193
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	66.6	66.6	0.01	0.01	0.06	70.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.8	17.8	< 0.005	< 0.005	0.03	18.0
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	0.04	32.0
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.6

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,588	16,588	0.67	0.13	—	16,644
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.61	14.2	27.1	0.05	0.09	—	0.09	0.09	—	0.09	—	4,999	4,999	0.20	0.04	—	5,016
Dust From Material Movement	—	—	—	—	—	—	5.12	5.12	—	2.43	2.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.59	4.94	0.01	0.02	—	0.02	0.02	—	0.02	—	828	828	0.03	0.01	—	830
Dust From Material Movement	—	—	—	—	—	—	0.93	0.93	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.25	4.44	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	756	756	0.03	0.03	3.02	767

Vendor	0.18	0.05	1.98	1.06	0.01	0.02	0.10	0.12	0.02	0.04	0.06	—	1,724	1,724	0.13	0.26	4.81	1,809
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.06	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	212	212	0.01	0.01	0.39	215
Vendor	0.05	0.01	0.62	0.32	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	520	520	0.04	0.08	0.62	544
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.19	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	35.1	35.1	< 0.005	< 0.005	0.07	35.5
Vendor	0.01	< 0.005	0.11	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	86.1	86.1	0.01	0.01	0.10	90.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.59	14.3	25.9	0.04	0.13	—	0.13	0.13	—	0.13	—	4,810	4,810	0.20	0.04	—	4,826
Dust From Material Movement	—	—	—	—	—	—	1.91	1.91	—	0.70	0.70	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.60	4.73	0.01	0.02	—	0.02	0.02	—	0.02	—	796	796	0.03	0.01	—	799
Dust From Material Movement	—	—	—	—	—	—	0.35	0.35	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.29	5.08	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	864	864	0.04	0.03	3.45	877

Vendor	0.29	0.08	3.13	1.68	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,728	2,728	0.21	0.41	7.61	2,862
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.30	0.34	3.84	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	792	792	0.04	0.03	0.09	802
Vendor	0.28	0.07	3.26	1.70	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,729	2,729	0.21	0.41	0.20	2,856
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.96	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	192	192	0.01	0.01	0.36	194
Vendor	0.07	0.02	0.78	0.40	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	651	651	0.05	0.10	0.78	682
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	31.7	31.7	< 0.005	< 0.005	0.06	32.2
Vendor	0.01	< 0.005	0.14	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	108	108	0.01	0.02	0.13	113
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215

Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.58	14.0	25.5	0.04	0.13	—	0.13	0.13	—	0.13	—	4,731	4,731	0.19	0.04	—	4,747
Dust From Material Movement	—	—	—	—	—	—	1.88	1.88	—	0.69	0.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.56	4.65	0.01	0.02	—	0.02	0.02	—	0.02	—	783	783	0.03	0.01	—	786
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.28	0.26	4.67	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	845	845	0.04	0.03	3.14	858
Vendor	0.27	0.08	2.98	1.61	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,684	2,684	0.21	0.41	7.55	2,818
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.29	3.52	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	775	775	0.04	0.03	0.08	785
Vendor	0.26	0.07	3.11	1.62	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,685	2,685	0.21	0.41	0.20	2,812
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.87	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	185	185	0.01	0.01	0.32	187
Vendor	0.06	0.02	0.74	0.38	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	630	630	0.05	0.10	0.77	661
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	30.6	30.6	< 0.005	< 0.005	0.05	31.0
Vendor	0.01	< 0.005	0.13	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	104	104	0.01	0.02	0.13	109
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.64	14.8	23.3	0.04	0.18	—	0.18	0.17	—	0.17	—	3,783	3,783	0.15	0.03	—	3,796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.70	4.25	0.01	0.03	—	0.03	0.03	—	0.03	—	626	626	0.03	0.01	—	629
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.66	8.72	8.36	148	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,789	26,789	1.11	0.94	99.4	27,197
Vendor	0.67	0.19	7.50	4.06	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,756	6,756	0.52	1.02	19.0	7,093
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.17	9.22	112	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,561	24,561	1.15	0.94	2.57	24,873

Vendor	0.66	0.18	7.84	4.07	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,760	6,760	0.52	1.02	0.49	7,078
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.33	3.86	4.79	56.5	0.00	0.00	0.74	0.74	0.00	0.00	0.00	—	11,942	11,942	0.55	0.45	20.6	12,111
Vendor	0.32	0.09	3.78	1.93	0.02	0.05	0.19	0.24	0.05	0.07	0.12	—	3,240	3,240	0.25	0.49	3.95	3,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.70	0.87	10.3	0.00	0.00	0.14	0.14	0.00	0.00	0.00	—	1,977	1,977	0.09	0.07	3.41	2,005
Vendor	0.06	0.02	0.69	0.35	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	536	536	0.04	0.08	0.65	562
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.95	22.0	34.7	0.05	0.26	—	0.26	0.25	—	0.25	—	5,635	5,635	0.23	0.05	—	5,655
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.17	4.02	6.33	0.01	0.05	—	0.05	0.05	—	0.05	—	933	933	0.04	0.01	—	936
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.22	7.50	137	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,242	26,242	1.11	0.90	89.8	26,628
Vendor	0.67	0.14	7.18	3.89	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,643	6,643	0.47	1.02	17.5	6,977
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	8.61	7.67	8.36	103	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,066	24,066	0.38	0.94	2.33	24,359
Vendor	0.66	0.13	7.47	3.95	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,647	6,647	0.47	1.02	0.45	6,964
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.15	5.48	6.53	77.7	0.00	0.00	1.11	1.11	0.00	0.00	0.00	—	17,431	17,431	0.27	0.67	27.7	17,666
Vendor	0.47	0.09	5.37	2.80	0.04	0.07	0.28	0.35	0.07	0.11	0.18	—	4,746	4,746	0.34	0.73	5.38	4,978
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.12	1.00	1.19	14.2	0.00	0.00	0.20	0.20	0.00	0.00	0.00	—	2,886	2,886	0.04	0.11	4.59	2,925

Vendor	0.09	0.02	0.98	0.51	0.01	0.01	0.05	0.06	0.01	0.02	0.03	—	786	786	0.06	0.12	0.89	824
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	5.21	7.67	0.01	0.06	—	0.06	0.06	—	0.06	—	1,093	1,093	0.04	0.01	—	1,096
Paving	—	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.95	1.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	181	181	0.01	< 0.005	—	182
Paving	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.19	0.18	3.24	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	621	621	0.03	0.02	2.13	630
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.20	2.45	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	570	570	0.01	0.02	0.06	577
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.62	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	139	139	< 0.005	0.01	0.22	141
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.1	23.1	< 0.005	< 0.005	0.04	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	35.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	35.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.80	1.63	< 0.005	0.05	—	0.05	0.05	—	0.05	—	225	225	0.01	< 0.005	—	226
Architectural Coatings	—	14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.33	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.3	37.3	< 0.005	< 0.005	—	37.4

Architect Coatings	—	2.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.64	1.50	27.4	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	5,248	5,248	0.22	0.18	18.0	5,326
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.72	1.53	1.67	20.7	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	4,813	4,813	0.08	0.19	0.47	4,872
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.65	0.77	9.18	0.00	0.00	0.13	0.13	0.00	0.00	0.00	—	2,059	2,059	0.03	0.08	3.27	2,087
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.14	1.68	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	341	341	0.01	0.01	0.54	346
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

3685

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2024	3/31/2024	5.00	65.0	—
Site Preparation	Site Preparation	4/1/2024	8/31/2024	5.00	110	—
Grading	Grading	9/1/2024	4/30/2025	5.00	173	—
Building Construction	Building Construction	5/1/2025	12/31/2026	5.00	436	—
Paving	Paving	9/1/2026	12/31/2026	5.00	88.0	—
Architectural Coating	Architectural Coating	6/1/2026	12/31/2026	5.00	154	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	3.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	9.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	6.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	9.00	8.00	367	0.40

Grading	Excavators	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Interim	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Tier 4 Interim	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	45.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	33.0	10.2	HHDT,MHDT
Demolition	Hauling	5.31	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2

Site Preparation	Vendor	55.0	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	87.0	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,901	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	219	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	380	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	6,674,096	2,224,699	1,062,144	354,048	142,363

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	30,000	—
Site Preparation	—	—	2,200	0.00	—
Grading	—	—	3,460	0.00	—
Paving	0.00	0.00	0.00	0.00	61.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	6.64	0%
Condo/Townhouse	—	0%
City Park	0.00	0%
Regional Shopping Center	0.00	0%

High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Gasoline/Service Station	0.00	0%
Parking Lot	54.5	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

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Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

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7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859

Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—

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Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site area
Construction: Construction Phases	Construction schedule based on info from the Project team
Construction: Off-Road Equipment	Construction equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings.

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APPENDIX 5.3:

CALEEMOD OPERATIONS EMISSIONS MODEL OUTPUTS

14822 Rich Haven Ph1 Ops 2024 Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Ops 2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.012654365759644, -117.57100716437458
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
User Defined Industrial	2,767	User Defined Unit	0.00	0.00	0.00	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	328	481	397	2,203	5.23	12.3	136	149	12.1	25.2	37.3	5,170	658,569	663,739	561	38.0	2,365	691,464
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	264	419	412	1,594	4.97	12.0	136	148	11.8	25.2	36.9	5,170	633,433	638,603	562	38.6	632	664,788
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	227	389	301	1,444	3.60	6.95	100	107	6.83	18.7	25.5	5,170	458,589	463,759	555	32.4	1,157	488,435
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	41.4	71.0	55.0	264	0.66	1.27	18.3	19.5	1.25	3.41	4.65	856	75,925	76,781	91.9	5.36	191	80,866

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	271	242	295	1,792	4.59	4.16	136	141	3.93	25.2	29.1	—	478,611	478,611	29.4	33.2	1,779	491,015
Area	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.25	—	74,846
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,635	99,635	9.13	0.67	—	100,063
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,587	7,166	162	3.91	—	12,391
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	328	481	397	2,203	5.23	12.3	136	149	12.1	25.2	37.3	5,170	658,569	663,739	561	38.0	2,365	691,464
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	253	224	314	1,545	4.36	4.17	136	141	3.93	25.2	29.1	—	454,635	454,635	30.5	33.8	46.1	465,532

Area	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,635	99,635	9.13	0.67	—	100,063
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,587	7,166	162	3.91	—	12,391
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	264	419	412	1,594	4.97	12.0	136	148	11.8	25.2	36.9	5,170	633,433	638,603	562	38.6	632	664,788
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	191	168	255	1,170	3.32	3.31	100	103	3.12	18.7	21.8	—	347,534	347,534	24.2	27.7	571	356,969
Area	31.7	219	6.31	250	0.04	0.50	—	0.50	0.56	—	0.56	0.00	5,834	5,834	0.13	0.08	—	5,862
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,635	99,635	9.13	0.67	—	100,063
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,587	7,166	162	3.91	—	12,391
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	227	389	301	1,444	3.60	6.95	100	107	6.83	18.7	25.5	5,170	458,589	463,759	555	32.4	1,157	488,435
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	34.8	30.6	46.5	213	0.61	0.60	18.3	18.9	0.57	3.41	3.98	—	57,538	57,538	4.00	4.59	94.6	59,100
Area	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.01	—	970
Energy	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	16,496	16,496	1.51	0.11	—	16,567
Water	—	—	—	—	—	—	—	—	—	—	—	261	925	1,186	26.9	0.65	—	2,052
Waste	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9
Total	41.4	71.0	55.0	264	0.66	1.27	18.3	19.5	1.25	3.41	4.65	856	75,925	76,781	91.9	5.36	191	80,866

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

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4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	3.55	3.31	1.63	29.8	0.06	0.03	0.26	0.29	0.02	0.08	0.10	—	5,715	5,715	0.25	0.16	22.2	5,793
Refrigerated Warehouse-No Rail	2.26	2.10	1.03	18.9	0.04	0.02	0.17	0.18	0.02	0.05	0.07	—	3,631	3,631	0.16	0.10	14.1	3,680
Unrefrigerated Warehouse-No Rail	17.7	16.5	8.11	148	0.28	0.13	1.30	1.43	0.12	0.39	0.51	—	28,480	28,480	1.27	0.82	111	28,867
User Defined Industrial	12.0	2.72	117	67.5	0.94	1.62	8.23	9.85	1.55	2.67	4.22	—	103,990	103,990	8.93	15.6	305	109,165
Condo/Townhouse	82.2	75.7	61.0	560	1.22	0.87	6.69	7.57	0.82	2.07	2.89	—	125,367	125,367	6.76	6.03	495	127,829
Single Family Housing	34.5	31.8	25.6	235	0.51	0.37	2.81	3.17	0.34	0.87	1.21	—	52,581	52,581	2.83	2.53	208	53,613
Strip Mall	1.49	1.37	1.16	10.8	0.02	0.02	0.13	0.15	0.02	0.04	0.06	—	2,450	2,450	0.13	0.12	9.71	2,497
Gasoline/Service Station	18.8	17.2	14.6	135	0.30	0.21	1.65	1.86	0.20	0.51	0.71	—	30,844	30,844	1.60	1.46	122	31,439
Regional Shopping Center	53.1	50.0	29.5	257	0.49	0.37	2.64	3.01	0.35	0.82	1.16	—	50,567	50,567	3.64	2.83	195	51,696

High Turnover (Sit Down Restaurant)	12.7	11.6	9.91	91.6	0.20	0.14	1.12	1.26	0.14	0.35	0.48	—	20,874	20,874	1.08	0.99	82.7	21,277
Fast Food Restaurant with Drive Thru	32.9	30.2	25.7	237	0.53	0.38	2.90	3.27	0.35	0.90	1.25	—	54,092	54,092	2.80	2.55	214	55,137
City Park	0.01	0.01	0.01	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	21.1	21.1	< 0.005	< 0.005	0.08	21.5
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	271	242	295	1,792	4.59	4.16	27.9	32.0	3.93	8.74	12.7	—	478,611	478,611	29.4	33.2	1,779	491,015
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	3.37	3.12	1.80	25.0	0.05	0.03	0.26	0.29	0.02	0.08	0.10	—	5,266	5,266	0.27	0.18	0.58	5,325
Refrigerated Warehouse-No Rail	2.14	1.98	1.14	15.9	0.03	0.02	0.17	0.18	0.02	0.05	0.07	—	3,345	3,345	0.17	0.11	0.37	3,383
Unrefrigerated Warehouse-No Rail	16.8	15.6	8.97	124	0.26	0.13	1.30	1.43	0.12	0.39	0.51	—	26,239	26,239	1.35	0.88	2.87	26,537
User Defined Industrial	11.9	2.64	122	67.5	0.94	1.62	8.23	9.85	1.55	2.67	4.22	—	104,009	104,009	8.92	15.6	7.91	108,890
Condo/Townhouse	76.3	69.7	65.5	478	1.14	0.88	6.69	7.57	0.82	2.07	2.89	—	117,518	117,518	7.09	6.25	12.8	119,570
Single Family Housing	32.0	29.2	27.5	200	0.48	0.37	2.81	3.17	0.34	0.87	1.21	—	49,289	49,289	2.97	2.62	5.39	50,149

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Strip Mall	1.39	1.26	1.25	9.11	0.02	0.02	0.13	0.15	0.02	0.04	0.06	—	2,296	2,296	0.13	0.12	0.25	2,336
Gasoline /Service Station	17.5	15.9	15.7	115	0.28	0.21	1.65	1.86	0.20	0.51	0.71	—	28,906	28,906	1.67	1.51	3.17	29,400
Regional Shopping Center	49.0	45.8	31.6	231	0.46	0.37	2.64	3.01	0.35	0.82	1.17	—	47,490	47,490	3.90	2.92	5.06	48,464
High Turnover (Sit Down Restaurant)	11.8	10.7	10.7	77.6	0.19	0.14	1.12	1.26	0.14	0.35	0.48	—	19,563	19,563	1.13	1.02	2.14	19,897
Fast Food Restaurant with Drive Thru	30.6	27.8	27.6	201	0.49	0.38	2.90	3.27	0.35	0.90	1.25	—	50,694	50,694	2.93	2.64	5.56	51,560
City Park	0.01	0.01	0.01	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.8	19.8	< 0.005	< 0.005	< 0.005	20.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	253	224	314	1,545	4.36	4.17	27.9	32.1	3.93	8.74	12.7	—	454,635	454,635	30.5	33.8	46.1	465,532
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.53	0.49	0.29	4.14	0.01	< 0.005	0.04	0.05	< 0.005	0.01	0.02	—	773	773	0.04	0.03	1.39	783
Refrigerated Warehouse-No Rail	0.34	0.31	0.19	2.62	0.01	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	490	490	0.02	0.02	0.88	496
Unrefrigerated Warehouse-No Rail	2.89	2.68	1.60	22.5	0.05	0.02	0.23	0.25	0.02	0.07	0.09	—	4,196	4,196	0.21	0.14	7.54	4,251
User Defined Industrial	2.04	0.46	21.2	11.5	0.16	0.28	1.41	1.69	0.27	0.46	0.72	—	16,176	16,176	1.39	2.43	20.5	16,954

Condo/T	12.1	11.0	10.6	78.6	0.18	0.14	1.06	1.20	0.13	0.33	0.46	—	17,136	17,136	1.02	0.91	30.9	17,464
Single Family Housing	5.69	5.19	5.00	37.1	0.09	0.07	0.50	0.57	0.06	0.16	0.22	—	8,092	8,092	0.48	0.43	14.6	8,247
Strip Mall	0.21	0.19	0.20	1.46	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	326	326	0.02	0.02	0.59	332
Gasoline /Service Station	2.02	1.88	1.40	10.4	0.02	0.02	0.12	0.14	0.02	0.04	0.05	—	1,979	1,979	0.15	0.12	3.50	2,022
Regional Shopping Center	4.56	4.27	2.92	21.7	0.04	0.03	0.23	0.27	0.03	0.07	0.10	—	3,891	3,891	0.33	0.24	6.81	3,979
High Turnover (Sit Down Restaurant)	1.31	1.22	0.96	7.11	0.01	0.01	0.09	0.10	0.01	0.03	0.04	—	1,395	1,395	0.10	0.08	2.48	1,424
Fast Food Restaurant with Drive Thru	3.11	2.89	2.17	16.1	0.03	0.03	0.19	0.21	0.02	0.06	0.08	—	3,081	3,081	0.23	0.18	5.45	3,147
City Park	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.56	2.56	< 0.005	< 0.005	< 0.005	2.61
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	34.8	30.6	46.5	213	0.61	0.60	3.92	4.53	0.57	1.23	1.80	—	57,538	57,538	4.00	4.59	94.6	59,100

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,280	5,280	0.50	0.06	—	5,310
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,500	9,500	0.90	0.11	—	9,555
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,806	8,806	0.83	0.10	—	8,857
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,232	15,232	1.44	0.17	—	15,320
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,975	5,975	0.57	0.07	—	6,009
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.7	69.7	0.01	< 0.005	—	70.1
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	0.01	< 0.005	—	62.1
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,507	1,507	0.14	0.02	—	1,515
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,086	1,086	0.10	0.01	—	1,092
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	724	724	0.07	0.01	—	728

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City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,114	2,114	0.20	0.02	—	2,126
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,355	50,355	4.77	0.58	—	50,646
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,280	5,280	0.50	0.06	—	5,310
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,500	9,500	0.90	0.11	—	9,555
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,806	8,806	0.83	0.10	—	8,857
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,232	15,232	1.44	0.17	—	15,320
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,975	5,975	0.57	0.07	—	6,009
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.7	69.7	0.01	< 0.005	—	70.1
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.7	61.7	0.01	< 0.005	—	62.1
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,507	1,507	0.14	0.02	—	1,515

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,086	1,086	0.10	0.01	—	1,092
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	724	724	0.07	0.01	—	728
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,114	2,114	0.20	0.02	—	2,126
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,355	50,355	4.77	0.58	—	50,646
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	874	874	0.08	0.01	—	879
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,573	1,573	0.15	0.02	—	1,582
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,458	1,458	0.14	0.02	—	1,466
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	2,522	2,522	0.24	0.03	—	2,536
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	989	989	0.09	0.01	—	995

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Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5	< 0.005	< 0.005	—	11.6
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.2	10.2	< 0.005	< 0.005	—	10.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	249	249	0.02	< 0.005	—	251
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	180	180	0.02	< 0.005	—	181
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	120	120	0.01	< 0.005	—	121
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	350	350	0.03	< 0.005	—	352
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,337	8,337	0.79	0.10	—	8,385

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846

Unrefrige Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline /Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846
Unrefrigerated Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794

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City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.05	0.02	0.43	0.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	461	461	0.04	< 0.005	—	462
Refrigerated Warehouse-No Rail	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	635	635	0.06	< 0.005	—	637
Unrefrigerated Warehouse-No Rail	0.20	0.10	1.86	1.56	0.01	0.14	—	0.14	0.14	—	0.14	—	2,014	2,014	0.18	< 0.005	—	2,019
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.33	0.17	2.86	1.22	0.02	0.23	—	0.23	0.23	—	0.23	—	3,288	3,288	0.29	0.01	—	3,297
Single Family Housing	0.14	0.07	1.19	0.50	0.01	0.10	—	0.10	0.10	—	0.10	—	1,365	1,365	0.12	< 0.005	—	1,368
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.35
Gasoline/Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Regional Shopping Center	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	50.7	50.7	< 0.005	< 0.005	—	50.9

High Turnover (Sit Down Restaurant)	0.02	0.01	0.18	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	197	197	0.02	< 0.005	—	197
Fast Food Restaurant with Drive Thru	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	8,159	8,159	0.72	0.02	—	8,181

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	45.7	42.7	3.41	363	0.02	0.27	—	0.27	0.35	—	0.35	—	1,160	1,160	0.05	0.11	—	1,193
Total	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.25	—	74,846

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.08	0.04	0.72	0.31	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	834	834	0.02	< 0.005	—	835
Consumer Products	—	31.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.71	5.34	0.43	45.3	< 0.005	0.03	—	0.03	0.04	—	0.04	—	132	132	0.01	0.01	—	135
Total	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.01	—	970

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	366	474	11.1	0.27	—	831
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	683	884	20.7	0.50	—	1,550
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,045	3,929	91.0	2.19	—	6,857
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	995	1,258	27.0	0.65	—	2,128
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	286	351	6.76	0.16	—	569
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.97	5.03	0.11	< 0.005	—	8.56
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.15	5.37	0.13	< 0.005	—	9.41
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	87.0	110	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	64.0	82.9	1.94	0.05	—	145

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.7	55.2	1.29	0.03	—	96.8
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,587	7,166	162	3.91	—	12,391
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	366	474	11.1	0.27	—	831
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	683	884	20.7	0.50	—	1,550
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,045	3,929	91.0	2.19	—	6,857
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	995	1,258	27.0	0.65	—	2,128
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	286	351	6.76	0.16	—	569
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.97	5.03	0.11	< 0.005	—	8.56

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Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	1.22	4.15	5.37	0.13	< 0.005	—	9.41
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	87.0	110	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	64.0	82.9	1.94	0.05	—	145
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.7	55.2	1.29	0.03	—	96.8
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,587	7,166	162	3.91	—	12,391
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	17.9	60.6	78.5	1.84	0.04	—	138
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	33.3	113	146	3.43	0.08	—	257
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	146	504	651	15.1	0.36	—	1,135
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	43.5	165	208	4.48	0.11	—	352
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.9	47.3	58.2	1.12	0.03	—	94.2
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.18	0.66	0.83	0.02	< 0.005	—	1.42
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.69	0.89	0.02	< 0.005	—	1.56
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.81	14.4	18.2	0.39	0.01	—	30.8
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	3.12	10.6	13.7	0.32	0.01	—	24.1
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.08	7.06	9.15	0.21	0.01	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.70	1.70	< 0.005	< 0.005	—	1.71
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	261	925	1,186	26.9	0.65	—	2,052

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8

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Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	26.3	0.00	26.3	2.63	0.00	—	92.0
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	38.1	0.00	38.1	3.81	0.00	—	133
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	167	0.00	167	16.7	0.00	—	586
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

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Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	217	0.00	217	21.7	0.00	—	759
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	70.9	0.00	70.9	7.08	0.00	—	248
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.70	0.00	0.70	0.07	0.00	—	2.46
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	34.4	0.00	34.4	3.44	0.00	—	120
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	22.2	0.00	22.2	2.22	0.00	—	77.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77

3732

Refrigerated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	76.7	76.7
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.13	4.13
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.39	8.39
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Office Park	888	669	327	283,479	7,525	5,670	2,769	2,401,918
Refrigerated Warehouse-No Rail	564	319	306	179,702	4,780	2,706	2,594	1,522,619
Unrefrigerated Warehouse-No Rail	4,426	3,725	3,675	1,539,648	37,498	31,561	31,138	13,045,437
User Defined Industrial	1,143	927	874	391,883	35,782	29,024	27,378	12,269,872
Condo/Townhouse	18,580	11,370	9,101	5,911,360	142,672	87,311	69,884	45,393,329

Single Family Housing	7,755	7,793	6,971	2,791,565	59,549	59,839	53,527	21,436,426
Strip Mall	330	237	75.2	102,332	2,796	2,011	637	867,056
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	5,649	35,198	35,198	5,143,326
Regional Shopping Center	5,320	13,204	8,133	2,499,577	20,262	56,219	34,626	10,019,460
High Turnover (Sit Down Restaurant)	1,662	2,155	2,811	692,267	5,554	18,260	23,821	3,642,197
Fast Food Restaurant with Drive Thru	4,074	7,285	4,182	1,660,093	11,305	61,729	35,436	8,013,735
City Park	2.00	2.55	2.85	803	16.9	21.6	24.1	6,800
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	2796
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	329
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	699

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	82

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
10305711	3,435,237	4,496,411	1,498,804	151,589

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Office Park	5,527,449	349	0.0330	0.0040	8,690,939
Refrigerated Warehouse-No Rail	9,945,872	349	0.0330	0.0040	11,966,710
Unrefrigerated Warehouse-No Rail	9,219,763	349	0.0330	0.0040	37,948,738
User Defined Industrial	0.00	349	0.0330	0.0040	0.00
Condo/Townhouse	15,946,932	349	0.0330	0.0040	61,972,315
Single Family Housing	6,255,109	349	0.0330	0.0040	25,720,146
Strip Mall	72,963	349	0.0330	0.0040	44,216

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Gasoline/Service Station	64,628	349	0.0330	0.0040	290,596
Regional Shopping Center	1,577,323	349	0.0330	0.0040	955,877
High Turnover (Sit Down Restaurant)	1,137,107	349	0.0330	0.0040	3,705,461
Fast Food Restaurant with Drive Thru	758,071	349	0.0330	0.0040	2,470,307
City Park	0.00	349	0.0330	0.0040	0.00
Parking Lot	2,213,196	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Office Park	56,292,721	0.00
Refrigerated Warehouse-No Rail	105,043,925	0.00
Unrefrigerated Warehouse-No Rail	461,616,625	8,534,332
User Defined Industrial	0.00	0.00
Condo/Townhouse	137,089,385	20,519,706
Single Family Housing	34,261,926	12,397,322
Strip Mall	555,544	69,954
Gasoline/Service Station	637,531	0.00
Regional Shopping Center	12,009,896	1,755,840
High Turnover (Sit Down Restaurant)	9,842,688	0.00
Fast Food Restaurant with Drive Thru	6,561,792	0.00
City Park	0.00	2,020,880
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Office Park	295	0.00
Refrigerated Warehouse-No Rail	427	0.00
Unrefrigerated Warehouse-No Rail	1,876	0.00
User Defined Industrial	0.00	0.00
Condo/Townhouse	735	0.00
Single Family Housing	240	0.00
Strip Mall	7.88	0.00
Gasoline/Service Station	25.9	0.00
Regional Shopping Center	170	0.00
High Turnover (Sit Down Restaurant)	386	0.00
Fast Food Restaurant with Drive Thru	249	0.00
City Park	0.11	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Refrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

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5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

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Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage based on Project site plan
Operations: Vehicle Data	Updated based on Project traffic study
Operations: Fleet Mix	Fleet mix adjusted based on Project traffic study
Operations: Hearths	No wood-burning stoves or fireplaces per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater

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4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Ops 2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.012654365759644, -117.57100716437458
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
User Defined Industrial	2,767	User Defined Unit	0.00	0.00	0.00	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	289	446	348	1,925	4.95	11.8	136	148	11.7	25.2	36.9	5,170	629,697	634,867	557	36.0	1,918	661,438
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	230	389	360	1,357	4.71	11.6	136	148	11.4	25.2	36.5	5,170	606,339	611,509	558	36.3	620	636,882
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	201	367	260	1,265	3.40	6.64	100	107	6.54	18.7	25.2	5,170	437,786	442,956	551	30.6	1,016	466,884
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	36.7	66.9	47.4	231	0.62	1.21	18.3	19.5	1.19	3.41	4.60	856	72,480	73,336	91.3	5.07	168	77,298

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	232	208	247	1,514	4.31	3.76	136	140	3.54	25.2	28.7	—	450,131	450,131	25.2	31.0	1,332	461,322
Area	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.44	—	74,904
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	289	446	348	1,925	4.95	11.8	136	148	11.7	25.2	36.9	5,170	629,697	634,867	557	36.0	1,918	661,438
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	218	194	262	1,308	4.09	3.76	136	140	3.55	25.2	28.7	—	427,933	427,933	26.1	31.5	34.6	438,017

Area	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	230	389	360	1,357	4.71	11.6	136	148	11.4	25.2	36.5	5,170	606,339	611,509	558	36.3	620	636,882
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	165	145	214	990	3.12	3.00	100	103	2.83	18.7	21.5	—	327,123	327,123	20.6	25.8	430	335,770
Area	31.7	219	6.31	250	0.04	0.50	—	0.50	0.56	—	0.56	0.00	5,834	5,834	0.13	0.22	—	5,902
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	201	367	260	1,265	3.40	6.64	100	107	6.54	18.7	25.2	5,170	437,786	442,956	551	30.6	1,016	466,884
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.0	26.5	39.0	181	0.57	0.55	18.3	18.8	0.52	3.41	3.92	—	54,159	54,159	3.41	4.28	71.3	55,591
Area	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.04	—	977
Energy	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	16,437	16,437	1.51	0.11	—	16,508
Water	—	—	—	—	—	—	—	—	—	—	—	261	918	1,180	26.9	0.65	—	2,045
Waste	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9
Total	36.7	66.9	47.4	231	0.62	1.21	18.3	19.5	1.19	3.41	4.60	856	72,480	73,336	91.3	5.07	168	77,298

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

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4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	3.09	2.89	1.27	25.1	0.05	0.02	0.26	0.28	0.02	0.08	0.10	—	5,338	5,338	0.21	0.14	15.6	5,401
Refrigerated Warehouse-No Rail	1.96	1.84	0.81	15.9	0.03	0.01	0.17	0.18	0.01	0.05	0.06	—	3,391	3,391	0.13	0.09	9.90	3,431
Unrefrigerated Warehouse-No Rail	15.4	14.4	6.33	125	0.26	0.12	1.30	1.42	0.11	0.39	0.50	—	26,602	26,602	1.06	0.70	77.7	26,916
User Defined Industrial	9.99	2.27	101	59.2	0.88	1.52	8.23	9.75	1.46	2.67	4.12	—	98,266	98,266	7.46	14.8	259	103,113
Condo/Townhouse	70.4	64.8	50.1	472	1.15	0.77	6.70	7.47	0.72	2.07	2.80	—	117,821	117,821	5.86	5.58	362	119,994
Single Family Housing	29.5	27.2	21.0	198	0.48	0.32	2.81	3.13	0.30	0.87	1.17	—	49,416	49,416	2.46	2.34	152	50,327
Strip Mall	1.28	1.17	0.95	9.07	0.02	0.01	0.13	0.15	0.01	0.04	0.05	—	2,303	2,303	0.11	0.11	7.10	2,344
Gasoline/Service Station	16.1	14.7	12.0	114	0.28	0.19	1.65	1.84	0.18	0.51	0.69	—	28,986	28,986	1.39	1.35	89.4	29,512
Regional Shopping Center	45.5	42.9	24.7	217	0.46	0.33	2.64	2.97	0.31	0.82	1.12	—	47,534	47,534	3.14	2.61	143	48,533

High Turnover (Sit Down Restaurant)	10.9	9.96	8.12	77.3	0.19	0.13	1.12	1.25	0.12	0.35	0.47	—	19,617	19,617	0.94	0.91	60.5	19,973
Fast Food Restaurant with Drive Thru	28.2	25.8	21.0	200	0.49	0.33	2.90	3.23	0.31	0.90	1.21	—	50,835	50,835	2.43	2.36	157	51,757
City Park	0.01	0.01	0.01	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.9	19.9	< 0.005	< 0.005	0.06	20.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	232	208	247	1,514	4.31	3.76	27.9	31.7	3.54	8.75	12.3	—	450,131	450,131	25.2	31.0	1,332	461,322
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	2.94	2.74	1.40	21.1	0.05	0.02	0.26	0.28	0.02	0.08	0.10	—	4,922	4,922	0.23	0.15	0.40	4,973
Refrigerated Warehouse-No Rail	1.87	1.74	0.89	13.4	0.03	0.01	0.17	0.18	0.01	0.05	0.06	—	3,127	3,127	0.14	0.10	0.26	3,159
Unrefrigerated Warehouse-No Rail	14.7	13.7	6.99	105	0.24	0.12	1.30	1.42	0.11	0.39	0.50	—	24,525	24,525	1.13	0.75	2.01	24,780
User Defined Industrial	9.91	2.20	105	59.3	0.88	1.52	8.23	9.75	1.46	2.67	4.12	—	98,288	98,288	7.46	14.8	6.71	102,886
Condo/Townhouse	66.0	60.3	53.7	404	1.08	0.77	6.70	7.47	0.72	2.07	2.80	—	110,555	110,555	6.14	5.76	9.39	112,435
Single Family Housing	27.7	25.3	22.5	169	0.45	0.32	2.81	3.13	0.30	0.87	1.17	—	46,368	46,368	2.58	2.42	3.94	47,157

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Strip Mall	1.20	1.09	1.02	7.70	0.02	0.01	0.13	0.15	0.01	0.04	0.05	—	2,160	2,160	0.11	0.11	0.18	2,196
Gasoline /Service Station	15.1	13.7	12.9	97.0	0.26	0.19	1.65	1.84	0.18	0.51	0.69	—	27,193	27,193	1.45	1.39	2.32	27,646
Regional Shopping Center	42.5	39.7	26.4	196	0.43	0.33	2.64	2.97	0.31	0.82	1.12	—	44,685	44,685	3.35	2.69	3.70	45,575
High Turnover (Sit Down Restaurant)	10.2	9.28	8.70	65.6	0.18	0.13	1.12	1.25	0.12	0.35	0.47	—	18,403	18,403	0.98	0.94	1.57	18,710
Fast Food Restaurant with Drive Thru	26.4	24.0	22.6	170	0.46	0.33	2.90	3.23	0.31	0.90	1.21	—	47,689	47,689	2.54	2.44	4.06	48,483
City Park	0.01	0.01	0.01	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.6	18.6	< 0.005	< 0.005	< 0.005	18.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	218	194	262	1,308	4.09	3.76	27.9	31.7	3.55	8.75	12.3	—	427,933	427,933	26.1	31.5	34.6	438,017
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.47	0.43	0.23	3.49	0.01	< 0.005	0.04	0.05	< 0.005	0.01	0.02	—	722	722	0.03	0.02	0.97	730
Refrigerated Warehouse-No Rail	0.29	0.27	0.15	2.21	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	458	458	0.02	0.01	0.62	463
Unrefrigerated Warehouse-No Rail	2.53	2.35	1.25	18.9	0.04	0.02	0.23	0.25	0.02	0.07	0.09	—	3,921	3,921	0.18	0.12	5.29	3,967
User Defined Industrial	1.70	0.38	18.2	10.1	0.15	0.26	1.41	1.67	0.25	0.46	0.71	—	15,286	15,286	1.16	2.30	17.4	16,017

Condo/T	10.4	9.51	8.66	66.4	0.17	0.12	1.07	1.19	0.11	0.33	0.44	—	16,118	16,118	0.89	0.84	22.6	16,412
Single Family Housing	4.92	4.49	4.09	31.4	0.08	0.06	0.50	0.56	0.05	0.16	0.21	—	7,611	7,611	0.42	0.40	10.7	7,750
Strip Mall	0.18	0.17	0.16	1.24	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	307	307	0.02	0.02	0.43	312
Gasoline /Service Station	1.75	1.63	1.16	8.82	0.02	0.01	0.12	0.14	0.01	0.04	0.05	—	1,862	1,862	0.13	0.11	2.56	1,900
Regional Shopping Center	3.95	3.70	2.44	18.4	0.04	0.03	0.24	0.26	0.03	0.07	0.10	—	3,661	3,661	0.28	0.22	4.98	3,739
High Turnover (Sit Down Restaurant)	1.14	1.06	0.79	6.01	0.01	0.01	0.09	0.10	0.01	0.03	0.04	—	1,312	1,312	0.09	0.07	1.81	1,338
Fast Food Restaurant with Drive Thru	2.69	2.51	1.80	13.7	0.03	0.02	0.19	0.21	0.02	0.06	0.08	—	2,899	2,899	0.20	0.17	3.98	2,958
City Park	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.41	2.41	< 0.005	< 0.005	< 0.005	2.45
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	30.0	26.5	39.0	181	0.57	0.55	3.92	4.47	0.52	1.23	1.75	—	54,159	54,159	3.41	4.28	71.3	55,591

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,243	5,243	0.50	0.06	—	5,273
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,433	9,433	0.90	0.11	—	9,488
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,745	8,745	0.83	0.10	—	8,796
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,125	15,125	1.44	0.17	—	15,214
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,933	5,933	0.57	0.07	—	5,967
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.2	69.2	0.01	< 0.005	—	69.6
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,496	1,496	0.14	0.02	—	1,505
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.10	0.01	—	1,085
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	719	719	0.07	0.01	—	723

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,099	2,099	0.20	0.02	—	2,111
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,002	50,002	4.77	0.58	—	50,294
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,243	5,243	0.50	0.06	—	5,273
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,433	9,433	0.90	0.11	—	9,488
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,745	8,745	0.83	0.10	—	8,796
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,125	15,125	1.44	0.17	—	15,214
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,933	5,933	0.57	0.07	—	5,967
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.2	69.2	0.01	< 0.005	—	69.6
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,496	1,496	0.14	0.02	—	1,505

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.10	0.01	—	1,085
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	719	719	0.07	0.01	—	723
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,099	2,099	0.20	0.02	—	2,111
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,002	50,002	4.77	0.58	—	50,294
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	868	868	0.08	0.01	—	873
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,562	1,562	0.15	0.02	—	1,571
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,448	1,448	0.14	0.02	—	1,456
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	2,504	2,504	0.24	0.03	—	2,519
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	982	982	0.09	0.01	—	988

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Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5	< 0.005	< 0.005	—	11.5
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.1	10.1	< 0.005	< 0.005	—	10.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	248	248	0.02	< 0.005	—	249
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	179	179	0.02	< 0.005	—	180
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	119	119	0.01	< 0.005	—	120
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	348	348	0.03	< 0.005	—	350
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,278	8,278	0.79	0.10	—	8,327

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846

Unrefrige Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline /Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846
Unrefrigerated Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794

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City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.05	0.02	0.43	0.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	461	461	0.04	< 0.005	—	462
Refrigerated Warehouse-No Rail	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	635	635	0.06	< 0.005	—	637
Unrefrigerated Warehouse-No Rail	0.20	0.10	1.86	1.56	0.01	0.14	—	0.14	0.14	—	0.14	—	2,014	2,014	0.18	< 0.005	—	2,019
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.33	0.17	2.86	1.22	0.02	0.23	—	0.23	0.23	—	0.23	—	3,288	3,288	0.29	0.01	—	3,297
Single Family Housing	0.14	0.07	1.19	0.50	0.01	0.10	—	0.10	0.10	—	0.10	—	1,365	1,365	0.12	< 0.005	—	1,368
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.35
Gasoline/Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Regional Shopping Center	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	50.7	50.7	< 0.005	< 0.005	—	50.9

High Turnover (Sit Down Restaurant)	0.02	0.01	0.18	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	197	197	0.02	< 0.005	—	197
Fast Food Restaurant with Drive Thru	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	8,159	8,159	0.72	0.02	—	8,181

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	45.7	42.7	3.41	363	0.02	0.27	—	0.27	0.35	—	0.35	—	1,160	1,160	0.05	0.30	—	1,251
Total	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.44	—	74,904

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.08	0.04	0.72	0.31	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	834	834	0.02	< 0.005	—	835
Consumer Products	—	31.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.71	5.34	0.43	45.3	< 0.005	0.03	—	0.03	0.04	—	0.04	—	132	132	0.01	0.03	—	142
Total	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.04	—	977

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	363	471	11.1	0.27	—	828
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	678	880	20.7	0.50	—	1,546
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,023	3,908	91.0	2.19	—	6,835
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	988	1,251	27.0	0.65	—	2,121
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	284	349	6.76	0.16	—	567
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.94	5.00	0.11	< 0.005	—	8.53
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	86.4	109	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	63.6	82.4	1.94	0.05	—	145

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Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.4	54.9	1.29	0.03	—	96.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	363	471	11.1	0.27	—	828
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	678	880	20.7	0.50	—	1,546
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,023	3,908	91.0	2.19	—	6,835
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	988	1,251	27.0	0.65	—	2,121
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	284	349	6.76	0.16	—	567
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.94	5.00	0.11	< 0.005	—	8.53

Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	86.4	109	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	63.6	82.4	1.94	0.05	—	145
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.4	54.9	1.29	0.03	—	96.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	17.9	60.2	78.0	1.84	0.04	—	137
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	33.3	112	146	3.43	0.08	—	256
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	146	501	647	15.1	0.36	—	1,132
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	43.5	164	207	4.48	0.11	—	351
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.9	47.0	57.8	1.12	0.03	—	93.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.18	0.65	0.83	0.02	< 0.005	—	1.41
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.68	0.88	0.02	< 0.005	—	1.55
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.81	14.3	18.1	0.39	0.01	—	30.7
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	3.12	10.5	13.6	0.32	0.01	—	24.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.08	7.01	9.10	0.21	0.01	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.68	1.68	< 0.005	< 0.005	—	1.69
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	261	918	1,180	26.9	0.65	—	2,045

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728

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Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8

3779

Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	26.3	0.00	26.3	2.63	0.00	—	92.0
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	38.1	0.00	38.1	3.81	0.00	—	133
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	167	0.00	167	16.7	0.00	—	586
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

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Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	217	0.00	217	21.7	0.00	—	759
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	70.9	0.00	70.9	7.08	0.00	—	248
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.70	0.00	0.70	0.07	0.00	—	2.46
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	34.4	0.00	34.4	3.44	0.00	—	120
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	22.2	0.00	22.2	2.22	0.00	—	77.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77

Refrigerated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	76.7	76.7
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.13	4.13
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.39	8.39
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Office Park	888	669	327	283,479	7,525	5,670	2,769	2,401,918
Refrigerated Warehouse-No Rail	564	319	306	179,702	4,780	2,706	2,594	1,522,619
Unrefrigerated Warehouse-No Rail	4,426	3,725	3,675	1,539,648	37,498	31,561	31,138	13,045,437
User Defined Industrial	1,143	927	874	391,883	35,782	29,024	27,378	12,269,872
Condo/Townhouse	18,580	11,370	9,101	5,911,360	142,672	87,311	69,884	45,393,329

Single Family Housing	7,755	7,793	6,971	2,791,565	59,549	59,839	53,527	21,436,426
Strip Mall	330	237	75.2	102,332	2,796	2,011	637	867,056
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	5,649	35,198	35,198	5,143,326
Regional Shopping Center	5,320	13,204	8,133	2,499,577	20,262	56,219	34,626	10,019,460
High Turnover (Sit Down Restaurant)	1,662	2,155	2,811	692,267	5,554	18,260	23,821	3,642,197
Fast Food Restaurant with Drive Thru	4,074	7,285	4,182	1,660,093	11,305	61,729	35,436	8,013,735
City Park	2.00	2.55	2.85	803	16.9	21.6	24.1	6,800
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	2796
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	329
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	699

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	82

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
10305711	3,435,237	4,496,411	1,498,804	151,589

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Office Park	5,527,449	346	0.0330	0.0040	8,690,939
Refrigerated Warehouse-No Rail	9,945,872	346	0.0330	0.0040	11,966,710
Unrefrigerated Warehouse-No Rail	9,219,763	346	0.0330	0.0040	37,948,738
User Defined Industrial	0.00	346	0.0330	0.0040	0.00
Condo/Townhouse	15,946,932	346	0.0330	0.0040	61,972,315
Single Family Housing	6,255,109	346	0.0330	0.0040	25,720,146
Strip Mall	72,963	346	0.0330	0.0040	44,216

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Gasoline/Service Station	64,628	346	0.0330	0.0040	290,596
Regional Shopping Center	1,577,323	346	0.0330	0.0040	955,877
High Turnover (Sit Down Restaurant)	1,137,107	346	0.0330	0.0040	3,705,461
Fast Food Restaurant with Drive Thru	758,071	346	0.0330	0.0040	2,470,307
City Park	0.00	346	0.0330	0.0040	0.00
Parking Lot	2,213,196	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Office Park	56,292,721	0.00
Refrigerated Warehouse-No Rail	105,043,925	0.00
Unrefrigerated Warehouse-No Rail	461,616,625	8,534,332
User Defined Industrial	0.00	0.00
Condo/Townhouse	137,089,385	20,519,706
Single Family Housing	34,261,926	12,397,322
Strip Mall	555,544	69,954
Gasoline/Service Station	637,531	0.00
Regional Shopping Center	12,009,896	1,755,840
High Turnover (Sit Down Restaurant)	9,842,688	0.00
Fast Food Restaurant with Drive Thru	6,561,792	0.00
City Park	0.00	2,020,880
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Office Park	295	0.00
Refrigerated Warehouse-No Rail	427	0.00
Unrefrigerated Warehouse-No Rail	1,876	0.00
User Defined Industrial	0.00	0.00
Condo/Townhouse	735	0.00
Single Family Housing	240	0.00
Strip Mall	7.88	0.00
Gasoline/Service Station	25.9	0.00
Regional Shopping Center	170	0.00
High Turnover (Sit Down Restaurant)	386	0.00
Fast Food Restaurant with Drive Thru	249	0.00
City Park	0.11	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Refrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

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Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

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Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage based on Project site plan
Operations: Vehicle Data	Updated based on Project traffic study
Operations: Fleet Mix	Fleet mix adjusted based on Project traffic study
Operations: Hearths	No wood-burning stoves or fireplaces per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater

14822 Rich Haven Ph2 Ops Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Ops
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01248843179461, -117.57182350609266
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	294	363	244	1,941	4.54	7.50	144	152	7.36	25.7	33.1	2,920	529,145	532,064	321	22.0	1,437	548,067
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	257	327	256	1,519	4.27	7.41	144	152	7.24	25.7	33.0	2,920	502,251	505,171	322	22.6	156	520,102
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	180	260	142	1,028	2.28	3.45	77.0	80.5	3.37	13.7	17.1	2,920	275,935	278,855	312	13.6	424	291,117

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	32.9	47.4	25.9	188	0.42	0.63	14.1	14.7	0.62	2.50	3.12	483	45,684	46,168	51.6	2.25	70.3	48,198

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	268	247	185	1,736	4.17	2.81	144	147	2.63	25.7	28.3	—	428,503	428,503	21.9	20.5	1,315	436,487
Area	23.5	114	38.4	194	0.24	3.06	—	3.06	3.09	—	3.09	0.00	47,109	47,109	0.90	0.14	—	47,172
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	294	363	244	1,941	4.54	7.50	144	152	7.36	25.7	33.1	2,920	529,145	532,064	321	22.0	1,437	548,067
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	251	230	198	1,492	3.91	2.81	144	147	2.64	25.7	28.4	—	402,131	402,131	22.9	21.2	34.1	409,057
Area	4.29	96.3	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	257	327	256	1,519	4.27	7.41	144	152	7.24	25.7	33.0	2,920	502,251	505,171	322	22.6	156	520,102
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	164	152	117	893	2.13	1.55	77.0	78.6	1.45	13.7	15.2	—	218,854	218,854	14.0	12.2	303	223,147
Area	13.4	107	3.66	123	0.02	0.27	—	0.27	0.29	—	0.29	0.00	3,548	3,548	0.08	0.04	—	3,562
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	180	260	142	1,028	2.28	3.45	77.0	80.5	3.37	13.7	17.1	2,920	275,935	278,855	312	13.6	424	291,117
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.0	27.8	21.4	163	0.39	0.28	14.1	14.3	0.26	2.50	2.77	—	36,234	36,234	2.32	2.02	50.1	36,944
Area	2.45	19.5	0.67	22.5	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	587	587	0.01	0.01	—	590
Energy	0.43	0.22	3.75	2.07	0.02	0.30	—	0.30	0.30	—	0.30	—	8,593	8,593	0.79	0.06	—	8,630
Water	—	—	—	—	—	—	—	—	—	—	—	63.9	270	334	6.57	0.16	—	546
Waste	—	—	—	—	—	—	—	—	—	—	—	420	0.00	420	41.9	0.00	—	1,468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	20.1
Total	32.9	47.4	25.9	188	0.42	0.63	14.1	14.7	0.62	2.50	3.12	483	45,684	46,168	51.6	2.25	70.3	48,198

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	21.7	19.9	15.4	145	0.35	0.24	2.06	2.30	0.22	0.64	0.86	—	36,251	36,251	1.80	1.72	111	36,919
Condo/Townhouse	42.4	39.0	30.1	284	0.69	0.46	4.03	4.49	0.43	1.25	1.68	—	70,885	70,885	3.53	3.36	218	72,192
City Park	0.23	0.21	0.17	1.63	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	413	413	0.02	0.02	1.27	420
Regional Shopping Center	60.6	57.1	32.9	290	0.62	0.44	3.52	3.95	0.41	1.09	1.50	—	63,315	63,315	4.18	3.48	190	64,645
High Turnover (Sit Down Restaurant)	35.3	32.3	26.3	251	0.62	0.41	3.63	4.04	0.39	1.12	1.51	—	63,688	63,688	3.05	2.96	196	64,843
Fast Food Restaurant with Drive Thru	91.5	83.8	68.2	650	1.61	1.07	9.40	10.5	1.00	2.91	3.92	—	164,965	164,965	7.89	7.67	509	167,956
Gasoline /Service Station	16.1	14.7	12.0	114	0.28	0.19	1.65	1.84	0.18	0.51	0.69	—	28,986	28,986	1.39	1.35	89.4	29,512
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	268	247	185	1,736	4.17	2.81	24.3	27.1	2.63	7.53	10.2	—	428,503	428,503	21.9	20.5	1,315	436,487
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	20.3	18.5	16.5	124	0.33	0.24	2.06	2.30	0.22	0.64	0.86	—	34,015	34,015	1.89	1.77	2.89	34,593
Condo/Townhouse	39.7	36.3	32.3	243	0.65	0.46	4.03	4.49	0.43	1.25	1.68	—	66,513	66,513	3.69	3.47	5.65	67,644
City Park	0.21	0.20	0.18	1.38	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	387	387	0.02	0.02	0.03	394

Regional Shopping Center	56.6	52.9	35.1	261	0.58	0.44	3.52	3.95	0.41	1.09	1.50	—	59,520	59,520	4.47	3.59	4.93	60,705
High Turnover (Sit Down Restaurant)	33.1	30.1	28.3	213	0.58	0.41	3.63	4.04	0.39	1.12	1.51	—	59,747	59,747	3.18	3.06	5.09	60,742
Fast Food Restaurant with Drive Thru	85.8	78.0	73.2	552	1.51	1.07	9.40	10.5	1.00	2.91	3.92	—	154,756	154,756	8.23	7.91	13.2	157,334
Gasoline /Service Station	15.1	13.7	12.9	97.0	0.26	0.19	1.65	1.84	0.18	0.51	0.69	—	27,193	27,193	1.45	1.39	2.32	27,646
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	251	230	198	1,492	3.91	2.81	24.3	27.1	2.64	7.53	10.2	—	402,131	402,131	22.9	21.2	34.1	409,057
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.61	3.29	3.00	23.0	0.06	0.04	0.37	0.41	0.04	0.11	0.15	—	5,583	5,583	0.31	0.29	7.82	5,685
Condo/Townhouse	6.26	5.71	5.20	39.9	0.10	0.07	0.64	0.71	0.07	0.20	0.27	—	9,683	9,683	0.53	0.50	13.6	9,860
City Park	0.02	0.02	0.02	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	34.7	34.7	< 0.005	< 0.005	0.05	35.4
Regional Shopping Center	5.92	5.55	3.63	27.3	0.06	0.04	0.35	0.39	0.04	0.11	0.15	—	5,404	5,404	0.42	0.33	7.35	5,521
High Turnover (Sit Down Restaurant)	3.69	3.43	2.57	19.5	0.05	0.03	0.28	0.31	0.03	0.09	0.12	—	4,261	4,261	0.28	0.24	5.88	4,346

Fast Food Restaurant with Drive Thru	8.73	8.13	5.85	44.3	0.10	0.07	0.61	0.68	0.07	0.19	0.26	—	9,406	9,406	0.65	0.54	12.9	9,598
Gasoline /Service Station	1.75	1.63	1.16	8.82	0.02	0.01	0.12	0.14	0.01	0.04	0.05	—	1,862	1,862	0.13	0.11	2.56	1,900
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	30.0	27.8	21.4	163	0.39	0.28	2.37	2.65	0.26	0.73	1.00	—	36,234	36,234	2.32	2.02	50.1	36,944

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.41	0.05	—	4,378
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	9,198	9,198	0.88	0.11	—	9,251
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	4,853	4,853	0.46	0.06	—	4,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	3,499	3,499	0.33	0.04	—	3,519

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	2,333	2,333	0.22	0.03	—	2,346
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,973	1,973	0.19	0.02	—	1,984
Total	—	—	—	—	—	—	—	—	—	—	—	—	26,268	26,268	2.50	0.30	—	26,421
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.41	0.05	—	4,378
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	9,198	9,198	0.88	0.11	—	9,251
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	4,853	4,853	0.46	0.06	—	4,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	3,499	3,499	0.33	0.04	—	3,519
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	2,333	2,333	0.22	0.03	—	2,346
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7

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Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,973	1,973	0.19	0.02	—	1,984
Total	—	—	—	—	—	—	—	—	—	—	—	—	26,268	26,268	2.50	0.30	—	26,421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	721	721	0.07	0.01	—	725
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,523	1,523	0.15	0.02	—	1,532
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	804	804	0.08	0.01	—	808
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	579	579	0.06	0.01	—	583
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	386	386	0.04	< 0.005	—	388
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.1	10.1	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	327	327	0.03	< 0.005	—	328
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,349	4,349	0.41	0.05	—	4,374

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.28	4.76	2.03	0.03	0.39	—	0.39	0.39	—	0.39	—	6,047	6,047	0.54	0.01	—	6,064
Condo/Townhouse	1.11	0.56	9.51	4.05	0.06	0.77	—	0.77	0.77	—	0.77	—	12,077	12,077	1.07	0.02	—	12,111
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.09	0.05	0.83	0.70	< 0.005	0.06	—	0.06	0.06	—	0.06	—	994	994	0.09	< 0.005	—	997
High Turnover (Sit Down Restaurant)	0.36	0.18	3.23	2.71	0.02	0.25	—	0.25	0.25	—	0.25	—	3,853	3,853	0.34	0.01	—	3,863
Fast Food Restaurant with Drive Thru	0.24	0.12	2.15	1.81	0.01	0.16	—	0.16	0.16	—	0.16	—	2,568	2,568	0.23	< 0.005	—	2,576
Gasoline /Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	25,632	25,632	2.27	0.05	—	25,703
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.28	4.76	2.03	0.03	0.39	—	0.39	0.39	—	0.39	—	6,047	6,047	0.54	0.01	—	6,064

Condo/Townhouse	1.11	0.56	9.51	4.05	0.06	0.77	—	0.77	0.77	—	0.77	—	12,077	12,077	1.07	0.02	—	12,111
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.09	0.05	0.83	0.70	< 0.005	0.06	—	0.06	0.06	—	0.06	—	994	994	0.09	< 0.005	—	997
High Turnover (Sit Down Restaurant)	0.36	0.18	3.23	2.71	0.02	0.25	—	0.25	0.25	—	0.25	—	3,853	3,853	0.34	0.01	—	3,863
Fast Food Restaurant with Drive Thru	0.24	0.12	2.15	1.81	0.01	0.16	—	0.16	0.16	—	0.16	—	2,568	2,568	0.23	< 0.005	—	2,576
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	25,632	25,632	2.27	0.05	—	25,703
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.05	0.87	0.37	0.01	0.07	—	0.07	0.07	—	0.07	—	1,001	1,001	0.09	< 0.005	—	1,004
Condo/Townhouse	0.20	0.10	1.74	0.74	0.01	0.14	—	0.14	0.14	—	0.14	—	2,000	2,000	0.18	< 0.005	—	2,005
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.02	0.01	0.15	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	165	165	0.01	< 0.005	—	165

High Turnover (Sit Down Restaurant)	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	638	638	0.06	< 0.005	—	640
Fast Food Restaurant with Drive Thru	0.04	0.02	0.39	0.33	< 0.005	0.03	—	0.03	0.03	—	0.03	—	425	425	0.04	< 0.005	—	426
Gasoline /Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.43	0.22	3.75	2.07	0.02	0.30	—	0.30	0.30	—	0.30	—	4,244	4,244	0.38	0.01	—	4,255

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.29	2.15	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Consumer Products	—	86.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	19.2	18.0	1.67	179	0.01	0.09	—	0.09	0.12	—	0.12	—	521	521	0.02	0.05	—	536

Total	23.5	114	38.4	194	0.24	3.06	—	3.06	3.09	—	3.09	0.00	47,109	47,109	0.90	0.14	—	47,172
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.29	2.15	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Consumer Products	—	86.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.29	96.3	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.03	0.46	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	528	528	0.01	< 0.005	—	529
Consumer Products	—	15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.40	2.25	0.21	22.3	< 0.005	0.01	—	0.01	0.02	—	0.02	—	59.1	59.1	< 0.005	0.01	—	60.8
Total	2.45	19.5	0.67	22.5	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	587	587	0.01	0.01	—	590

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.2	232	280	4.96	0.12	—	440
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	160	562	722	16.4	0.40	—	1,251
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	211	211	0.02	< 0.005	—	212
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	74.7	279	354	7.68	0.19	—	601
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	61.2	206	267	6.29	0.15	—	470
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	40.8	137	178	4.20	0.10	—	313
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.2	232	280	4.96	0.12	—	440

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Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	160	562	722	16.4	0.40	—	1,251
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	211	211	0.02	< 0.005	—	212
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	74.7	279	354	7.68	0.19	—	601
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	61.2	206	267	6.29	0.15	—	470
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	40.8	137	178	4.20	0.10	—	313
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.97	38.5	46.4	0.82	0.02	—	72.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	26.4	93.1	120	2.72	0.07	—	207
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	35.0	35.0	< 0.005	< 0.005	—	35.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.4	46.2	58.6	1.27	0.03	—	99.5

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	10.1	34.1	44.3	1.04	0.03	—	77.8
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	6.75	22.8	29.5	0.69	0.02	—	51.9
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.68	0.88	0.02	< 0.005	—	1.55
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	63.9	270	334	6.57	0.16	—	546

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	314	0.00	314	31.4	0.00	—	1,099
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	797	0.00	797	79.7	0.00	—	2,789
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.13	0.00	—	4.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	298	0.00	298	29.7	0.00	—	1,041

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	675	0.00	675	67.4	0.00	—	2,360
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	435	0.00	435	43.5	0.00	—	1,523
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	314	0.00	314	31.4	0.00	—	1,099
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	797	0.00	797	79.7	0.00	—	2,789
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.13	0.00	—	4.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	298	0.00	298	29.7	0.00	—	1,041
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	675	0.00	675	67.4	0.00	—	2,360
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	435	0.00	435	43.5	0.00	—	1,523

Gasoline Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	52.0	0.00	52.0	5.20	0.00	—	182
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	132	0.00	132	13.2	0.00	—	462
City Park	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	49.3	0.00	49.3	4.93	0.00	—	172
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	112	0.00	112	11.2	0.00	—	391
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	72.1	0.00	72.1	7.20	0.00	—	252
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	420	0.00	420	41.9	0.00	—	1,468

4.6. Refrigerant Emissions by Land Use

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4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00	2.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.3	39.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00	2.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.3	39.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.25	2.25
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33	0.33
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.77	9.77
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.51	6.51
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	20.1

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	5,688	5,716	5,113	2,047,670	43,679	43,897	39,266	15,724,054
Condo/Townhouse	11,178	6,798	5,418	3,551,241	85,836	52,202	41,605	27,269,982
City Park	22.0	52.9	59.1	11,580	186	448	501	98,114
Regional Shopping Center	10,311	17,588	2,846	3,753,717	39,270	74,884	12,118	14,774,788
High Turnover (Sit Down Restaurant)	5,399	6,998	9,127	2,248,423	18,042	59,296	77,336	11,828,194
Fast Food Restaurant with Drive Thru	13,218	23,642	13,575	5,386,702	36,678	200,316	115,021	26,005,007
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	5,649	35,198	35,198	5,143,326
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	513

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	60
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	1700
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
6674096.25	2,224,699	1,062,144	354,048	142,441

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	4,588,602	346	0.0330	0.0040	18,867,699
Condo/Townhouse	9,697,131	346	0.0330	0.0040	37,684,594

City Park	0.00	346	0.0330	0.0040	0.00
Regional Shopping Center	5,117,006	346	0.0330	0.0040	3,100,969
High Turnover (Sit Down Restaurant)	3,688,943	346	0.0330	0.0040	12,021,066
Fast Food Restaurant with Drive Thru	2,459,295	346	0.0330	0.0040	8,014,044
Gasoline/Service Station	64,628	346	0.0330	0.0040	290,596
Parking Lot	2,079,642	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	25,133,749	13,910,646
Condo/Townhouse	83,362,350	4,755,487
City Park	0.00	41,972,125
Regional Shopping Center	38,961,406	5,498,355
High Turnover (Sit Down Restaurant)	31,931,139	0.00
Fast Food Restaurant with Drive Thru	21,287,426	0.00
Gasoline/Service Station	637,531	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	176	0.00
Condo/Townhouse	447	0.00

City Park	2.32	0.00
Regional Shopping Center	552	0.00
High Turnover (Sit Down Restaurant)	1,252	0.00
Fast Food Restaurant with Drive Thru	808	0.00
Gasoline/Service Station	25.9	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Regional Shopping Center	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

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5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9

Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985

Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5

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Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—

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2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on Project site plan
Operations: Vehicle Data	Trip rates adjusted based on Project traffic study
Operations: Hearths	Project will not use wood fireplaces or wood stoves per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater.

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APPENDIX 5.4:

CALEEMOD OPERATIONS EMISSIONS MODEL OUTPUTS – LSTS

14822 Rich Haven Ph1 Ops 2027 LST Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Ops 2027 LST
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.012654365759644, -117.57100716437458
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
User Defined Industrial	2,767	User Defined Unit	0.00	0.00	0.00	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	245	419	178	903	1.25	8.68	17.5	26.2	8.72	3.14	11.9	5,170	243,462	248,632	543	11.6	746	266,403
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	186	362	179	559	1.20	8.41	17.5	25.9	8.37	3.14	11.5	5,170	239,308	244,478	544	11.5	590	262,087
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	168	347	110	667	0.73	4.09	13.0	17.1	4.12	2.33	6.45	5,170	156,910	162,080	540	10.0	637	179,202
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.6	63.4	20.0	122	0.13	0.75	2.37	3.11	0.75	0.43	1.18	856	25,978	26,834	89.4	1.66	105	29,669

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	188	180	76.5	491	0.61	0.58	17.5	18.1	0.54	3.14	3.68	—	63,896	63,896	10.7	6.58	161	66,287
Area	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.44	—	74,904
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	245	419	178	903	1.25	8.68	17.5	26.2	8.72	3.14	11.9	5,170	243,462	248,632	543	11.6	746	266,403
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	174	167	80.9	510	0.58	0.59	17.5	18.1	0.55	3.14	3.68	—	60,902	60,902	11.8	6.78	4.17	63,222

Area	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	186	362	179	559	1.20	8.41	17.5	25.9	8.37	3.14	11.5	5,170	239,308	244,478	544	11.5	590	262,087
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	132	126	63.3	393	0.44	0.45	13.0	13.4	0.42	2.33	2.75	—	46,247	46,247	9.10	5.24	51.6	48,088
Area	31.7	219	6.31	250	0.04	0.50	—	0.50	0.56	—	0.56	0.00	5,834	5,834	0.13	0.22	—	5,902
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	168	347	110	667	0.73	4.09	13.0	17.1	4.12	2.33	6.45	5,170	156,910	162,080	540	10.0	637	179,202
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	24.0	22.9	11.6	71.6	0.08	0.08	2.37	2.45	0.08	0.43	0.50	—	7,657	7,657	1.51	0.87	8.54	7,961
Area	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.04	—	977
Energy	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	16,437	16,437	1.51	0.11	—	16,508
Water	—	—	—	—	—	—	—	—	—	—	—	261	918	1,180	26.9	0.65	—	2,045
Waste	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9
Total	30.6	63.4	20.0	122	0.13	0.75	2.37	3.11	0.75	0.43	1.18	856	25,978	26,834	89.4	1.66	105	29,669

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	2.49	2.43	0.55	7.10	0.01	0.01	0.03	0.04	0.01	0.01	0.01	—	754	754	0.12	0.07	1.84	780
Refrigerated Warehouse-No Rail	1.58	1.54	0.35	4.51	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	479	479	0.08	0.04	1.17	495
Unrefrigerated Warehouse-No Rail	12.4	12.1	2.72	35.4	0.04	0.03	0.15	0.18	0.03	0.05	0.07	—	3,760	3,760	0.62	0.34	9.17	3,885
User Defined Industrial	1.77	0.71	13.9	11.7	0.04	0.05	0.26	0.32	0.05	0.09	0.14	—	4,457	4,457	1.01	0.71	8.26	4,701
Condo/Townhouse	58.0	56.1	20.1	147	0.18	0.17	0.87	1.04	0.16	0.27	0.43	—	18,384	18,384	3.04	1.85	47.2	19,059
Single Family Housing	24.3	23.5	8.44	61.8	0.07	0.07	0.37	0.44	0.07	0.11	0.18	—	7,711	7,711	1.28	0.78	19.8	7,994
Strip Mall	1.03	1.00	0.36	2.62	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	327	327	0.05	0.03	0.84	339
Gasoline/Service Station	13.0	12.5	4.50	32.9	0.04	0.04	0.20	0.23	0.03	0.06	0.10	—	4,110	4,110	0.68	0.41	10.5	4,261
Regional Shopping Center	41.3	39.9	14.6	108	0.13	0.12	0.67	0.79	0.12	0.21	0.32	—	13,921	13,921	2.19	1.35	36.2	14,414

High Turnover (Sit Down Restaurant)	8.78	8.49	3.05	22.3	0.03	0.03	0.13	0.16	0.02	0.04	0.06	—	2,782	2,782	0.46	0.28	7.14	2,884
Fast Food Restaurant with Drive Thru	22.8	22.0	7.89	57.8	0.07	0.07	0.34	0.41	0.06	0.11	0.17	—	7,209	7,209	1.19	0.73	18.5	7,473
City Park	0.01	0.01	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.82	2.82	< 0.005	< 0.005	0.01	2.92
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	188	180	76.5	491	0.61	0.58	3.06	3.64	0.54	0.95	1.49	—	63,896	63,896	10.7	6.58	161	66,287
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	2.36	2.28	0.59	7.39	0.01	0.01	0.03	0.04	0.01	0.01	0.01	—	707	707	0.14	0.07	0.05	731
Refrigerated Warehouse-No Rail	1.50	1.45	0.37	4.70	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	449	449	0.09	0.04	0.03	465
Unrefrigerated Warehouse-No Rail	11.7	11.4	2.93	36.8	0.03	0.03	0.15	0.18	0.03	0.05	0.07	—	3,522	3,522	0.71	0.35	0.24	3,645
User Defined Industrial	1.69	0.64	14.6	11.9	0.04	0.05	0.26	0.32	0.05	0.09	0.14	—	4,479	4,479	1.01	0.71	0.21	4,716
Condo/Townhouse	53.8	51.7	21.3	153	0.17	0.17	0.87	1.04	0.16	0.27	0.43	—	17,476	17,476	3.37	1.91	1.22	18,131
Single Family Housing	22.6	21.7	8.95	64.4	0.07	0.07	0.37	0.44	0.07	0.11	0.18	—	7,330	7,330	1.41	0.80	0.51	7,604

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Strip Mall	0.96	0.92	0.38	2.73	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	310	310	0.06	0.03	0.02	322
Gasoline /Service Station	12.0	11.6	4.77	34.3	0.04	0.04	0.20	0.23	0.03	0.06	0.10	—	3,908	3,908	0.75	0.43	0.27	4,054
Regional Shopping Center	38.3	36.8	15.4	111	0.13	0.12	0.67	0.79	0.12	0.21	0.32	—	13,222	13,222	2.42	1.39	0.94	13,697
High Turnover (Sit Down Restaurant)	8.14	7.83	3.23	23.2	0.03	0.03	0.13	0.16	0.02	0.04	0.06	—	2,644	2,644	0.51	0.29	0.19	2,744
Fast Food Restaurant with Drive Thru	21.1	20.3	8.37	60.2	0.07	0.07	0.34	0.41	0.06	0.11	0.17	—	6,853	6,853	1.32	0.75	0.48	7,109
City Park	0.01	0.01	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.68	2.68	< 0.005	< 0.005	< 0.005	2.78
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	174	167	80.9	510	0.58	0.59	3.06	3.65	0.55	0.95	1.50	—	60,902	60,902	11.8	6.78	4.17	63,222
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.37	0.36	0.09	1.19	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	103	103	0.02	0.01	0.12	107
Refrigerated Warehouse-No Rail	0.24	0.23	0.06	0.76	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	65.6	65.6	0.01	0.01	0.07	67.9
Unrefrigerated Warehouse-No Rail	2.02	1.95	0.52	6.49	0.01	0.01	0.03	0.03	< 0.005	0.01	0.01	—	562	562	0.11	0.06	0.62	582
User Defined Industrial	0.30	0.12	2.45	2.02	0.01	0.01	0.05	0.05	0.01	0.01	0.02	—	695	695	0.16	0.11	0.55	732

Condo/T	8.47	8.14	3.40	24.7	0.03	0.03	0.14	0.17	0.02	0.04	0.07	—	2,542	2,542	0.48	0.28	2.94	2,640
Single Family Housing	4.00	3.84	1.60	11.6	0.01	0.01	0.07	0.08	0.01	0.02	0.03	—	1,201	1,201	0.23	0.13	1.39	1,247
Strip Mall	0.15	0.14	0.06	0.43	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	44.0	44.0	0.01	< 0.005	0.05	45.7
Gasoline /Service Station	1.55	1.49	0.61	4.43	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	435	435	0.09	0.05	0.49	453
Regional Shopping Center	3.58	3.44	1.44	10.5	0.01	0.01	0.06	0.07	0.01	0.02	0.03	—	1,094	1,094	0.21	0.12	1.27	1,135
High Turnover (Sit Down Restaurant)	0.99	0.95	0.39	2.82	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	275	275	0.06	0.03	0.31	286
Fast Food Restaurant with Drive Thru	2.37	2.28	0.93	6.70	0.01	0.01	0.03	0.04	0.01	0.01	0.02	—	639	639	0.13	0.07	0.72	665
City Park	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	24.0	22.9	11.6	71.6	0.08	0.08	0.42	0.50	0.08	0.13	0.21	—	7,657	7,657	1.51	0.87	8.54	7,961

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,243	5,243	0.50	0.06	—	5,273
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,433	9,433	0.90	0.11	—	9,488
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,745	8,745	0.83	0.10	—	8,796
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,125	15,125	1.44	0.17	—	15,214
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,933	5,933	0.57	0.07	—	5,967
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.2	69.2	0.01	< 0.005	—	69.6
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,496	1,496	0.14	0.02	—	1,505
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.10	0.01	—	1,085
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	719	719	0.07	0.01	—	723

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City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,099	2,099	0.20	0.02	—	2,111
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,002	50,002	4.77	0.58	—	50,294
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,243	5,243	0.50	0.06	—	5,273
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,433	9,433	0.90	0.11	—	9,488
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,745	8,745	0.83	0.10	—	8,796
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,125	15,125	1.44	0.17	—	15,214
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,933	5,933	0.57	0.07	—	5,967
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.2	69.2	0.01	< 0.005	—	69.6
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,496	1,496	0.14	0.02	—	1,505

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.10	0.01	—	1,085
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	719	719	0.07	0.01	—	723
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,099	2,099	0.20	0.02	—	2,111
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,002	50,002	4.77	0.58	—	50,294
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	868	868	0.08	0.01	—	873
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,562	1,562	0.15	0.02	—	1,571
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,448	1,448	0.14	0.02	—	1,456
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	2,504	2,504	0.24	0.03	—	2,519
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	982	982	0.09	0.01	—	988

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Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5	< 0.005	< 0.005	—	11.5
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.1	10.1	< 0.005	< 0.005	—	10.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	248	248	0.02	< 0.005	—	249
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	179	179	0.02	< 0.005	—	180
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	119	119	0.01	< 0.005	—	120
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	348	348	0.03	< 0.005	—	350
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,278	8,278	0.79	0.10	—	8,327

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846

Unrefrige Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline /Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846
Unrefrigerated Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794

City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.05	0.02	0.43	0.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	461	461	0.04	< 0.005	—	462
Refrigerated Warehouse-No Rail	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	635	635	0.06	< 0.005	—	637
Unrefrigerated Warehouse-No Rail	0.20	0.10	1.86	1.56	0.01	0.14	—	0.14	0.14	—	0.14	—	2,014	2,014	0.18	< 0.005	—	2,019
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.33	0.17	2.86	1.22	0.02	0.23	—	0.23	0.23	—	0.23	—	3,288	3,288	0.29	0.01	—	3,297
Single Family Housing	0.14	0.07	1.19	0.50	0.01	0.10	—	0.10	0.10	—	0.10	—	1,365	1,365	0.12	< 0.005	—	1,368
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.35
Gasoline/Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Regional Shopping Center	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	50.7	50.7	< 0.005	< 0.005	—	50.9

High Turnover (Sit Down Restaurant)	0.02	0.01	0.18	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	197	197	0.02	< 0.005	—	197
Fast Food Restaurant with Drive Thru	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	8,159	8,159	0.72	0.02	—	8,181

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	45.7	42.7	3.41	363	0.02	0.27	—	0.27	0.35	—	0.35	—	1,160	1,160	0.05	0.30	—	1,251
Total	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.44	—	74,984

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.08	0.04	0.72	0.31	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	834	834	0.02	< 0.005	—	835
Consumer Products	—	31.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.71	5.34	0.43	45.3	< 0.005	0.03	—	0.03	0.04	—	0.04	—	132	132	0.01	0.03	—	142
Total	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.04	—	977

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	363	471	11.1	0.27	—	828
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	678	880	20.7	0.50	—	1,546
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,023	3,908	91.0	2.19	—	6,835
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	988	1,251	27.0	0.65	—	2,121
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	284	349	6.76	0.16	—	567
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.94	5.00	0.11	< 0.005	—	8.53
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	86.4	109	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	63.6	82.4	1.94	0.05	—	145

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Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.4	54.9	1.29	0.03	—	96.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	363	471	11.1	0.27	—	828
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	678	880	20.7	0.50	—	1,546
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,023	3,908	91.0	2.19	—	6,835
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	988	1,251	27.0	0.65	—	2,121
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	284	349	6.76	0.16	—	567
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.94	5.00	0.11	< 0.005	—	8.53

Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	86.4	109	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	63.6	82.4	1.94	0.05	—	145
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.4	54.9	1.29	0.03	—	96.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	17.9	60.2	78.0	1.84	0.04	—	137
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	33.3	112	146	3.43	0.08	—	256
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	146	501	647	15.1	0.36	—	1,132
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	43.5	164	207	4.48	0.11	—	351
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.9	47.0	57.8	1.12	0.03	—	93.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.18	0.65	0.83	0.02	< 0.005	—	1.41
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.68	0.88	0.02	< 0.005	—	1.55
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.81	14.3	18.1	0.39	0.01	—	30.7
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	3.12	10.5	13.6	0.32	0.01	—	24.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.08	7.01	9.10	0.21	0.01	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.68	1.68	< 0.005	< 0.005	—	1.69
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	261	918	1,180	26.9	0.65	—	2,045

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728

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Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8

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Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	26.3	0.00	26.3	2.63	0.00	—	92.0
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	38.1	0.00	38.1	3.81	0.00	—	133
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	167	0.00	167	16.7	0.00	—	586
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

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Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	217	0.00	217	21.7	0.00	—	759
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	70.9	0.00	70.9	7.08	0.00	—	248
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.70	0.00	0.70	0.07	0.00	—	2.46
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	34.4	0.00	34.4	3.44	0.00	—	120
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	22.2	0.00	22.2	2.22	0.00	—	77.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77

Refrigerated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	76.7	76.7
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.13	4.13
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.39	8.39
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Office Park	888	669	327	283,479	888	669	327	283,479
Refrigerated Warehouse-No Rail	564	319	306	179,702	564	319	306	179,702
Unrefrigerated Warehouse-No Rail	4,426	3,725	3,675	1,539,648	4,426	3,725	3,675	1,539,648
User Defined Industrial	1,143	927	874	391,883	1,143	927	874	391,883
Condo/Townhouse	18,580	11,370	9,101	5,911,360	18,580	11,370	9,101	5,911,360

Single Family Housing	7,755	7,793	6,971	2,791,565	7,755	7,793	6,971	2,791,565
Strip Mall	330	237	75.2	102,332	330	237	75.2	102,332
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	2,153	4,154	4,154	994,550
Regional Shopping Center	5,320	13,204	8,133	2,499,577	5,186	14,273	8,791	2,554,631
High Turnover (Sit Down Restaurant)	1,662	2,155	2,811	692,267	1,412	2,155	2,811	627,055
Fast Food Restaurant with Drive Thru	4,074	7,285	4,182	1,660,093	3,237	7,285	4,182	1,441,823
City Park	2.00	2.55	2.85	803	2.00	2.55	2.85	803
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	2796
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	329
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	699

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	82

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
10305711	3,435,237	4,496,411	1,498,804	151,589

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Office Park	5,527,449	346	0.0330	0.0040	8,690,939
Refrigerated Warehouse-No Rail	9,945,872	346	0.0330	0.0040	11,966,710
Unrefrigerated Warehouse-No Rail	9,219,763	346	0.0330	0.0040	37,948,738
User Defined Industrial	0.00	346	0.0330	0.0040	0.00
Condo/Townhouse	15,946,932	346	0.0330	0.0040	61,972,315
Single Family Housing	6,255,109	346	0.0330	0.0040	25,720,146
Strip Mall	72,963	346	0.0330	0.0040	44,216

Gasoline/Service Station	64,628	346	0.0330	0.0040	290,596
Regional Shopping Center	1,577,323	346	0.0330	0.0040	955,877
High Turnover (Sit Down Restaurant)	1,137,107	346	0.0330	0.0040	3,705,461
Fast Food Restaurant with Drive Thru	758,071	346	0.0330	0.0040	2,470,307
City Park	0.00	346	0.0330	0.0040	0.00
Parking Lot	2,213,196	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Office Park	56,292,721	0.00
Refrigerated Warehouse-No Rail	105,043,925	0.00
Unrefrigerated Warehouse-No Rail	461,616,625	8,534,332
User Defined Industrial	0.00	0.00
Condo/Townhouse	137,089,385	20,519,706
Single Family Housing	34,261,926	12,397,322
Strip Mall	555,544	69,954
Gasoline/Service Station	637,531	0.00
Regional Shopping Center	12,009,896	1,755,840
High Turnover (Sit Down Restaurant)	9,842,688	0.00
Fast Food Restaurant with Drive Thru	6,561,792	0.00
City Park	0.00	2,020,880
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Office Park	295	0.00
Refrigerated Warehouse-No Rail	427	0.00
Unrefrigerated Warehouse-No Rail	1,876	0.00
User Defined Industrial	0.00	0.00
Condo/Townhouse	735	0.00
Single Family Housing	240	0.00
Strip Mall	7.88	0.00
Gasoline/Service Station	25.9	0.00
Regional Shopping Center	170	0.00
High Turnover (Sit Down Restaurant)	386	0.00
Fast Food Restaurant with Drive Thru	249	0.00
City Park	0.11	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Refrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

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Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

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Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage based on Project site plan
Operations: Vehicle Data	Updated based on Project traffic study
Operations: Fleet Mix	Fleet mix adjusted based on Project traffic study
Operations: Hearths	No wood-burning stoves or fireplaces per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Ops LST
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01248843179461, -117.57182350609266
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	249	331	137	776	1.07	5.34	20.3	25.7	5.33	3.62	8.95	2,920	172,494	175,414	310	8.61	307	186,046
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	214	297	140	620	1.02	5.25	20.3	25.6	5.21	3.62	8.83	2,920	168,409	171,329	312	8.79	126	181,865
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	157	244	80.5	542	0.58	2.33	13.1	15.4	2.32	2.33	4.65	2,920	102,000	104,920	307	6.37	173	114,659

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	28.7	44.5	14.7	99.0	0.11	0.43	2.38	2.81	0.42	0.42	0.85	483	16,887	17,371	50.8	1.05	28.6	18,983

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	223	216	77.7	571	0.70	0.65	20.3	21.0	0.60	3.62	4.22	—	71,853	71,853	11.7	7.16	185	74,465
Area	23.5	114	38.4	194	0.24	3.06	—	3.06	3.09	—	3.09	0.00	47,109	47,109	0.90	0.14	—	47,172
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	249	331	137	776	1.07	5.34	20.3	25.7	5.33	3.62	8.95	2,920	172,494	175,414	310	8.61	307	186,046
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	207	199	82.4	593	0.66	0.65	20.3	21.0	0.61	3.62	4.23	—	68,289	68,289	13.0	7.39	4.80	70,821
Area	4.29	96.3	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	214	297	140	620	1.02	5.25	20.3	25.6	5.21	3.62	8.83	2,920	168,409	171,329	312	8.79	126	181,865
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	142	136	56.2	408	0.43	0.43	13.1	13.5	0.40	2.33	2.73	—	44,919	44,919	8.89	5.02	51.3	46,689
Area	13.4	107	3.66	123	0.02	0.27	—	0.27	0.29	—	0.29	0.00	3,548	3,548	0.08	0.04	—	3,562
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	157	244	80.5	542	0.58	2.33	13.1	15.4	2.32	2.33	4.65	2,920	102,000	104,920	307	6.37	173	114,659
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.9	24.9	10.3	74.4	0.08	0.08	2.38	2.46	0.07	0.42	0.50	—	7,437	7,437	1.47	0.83	8.50	7,730
Area	2.45	19.5	0.67	22.5	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	587	587	0.01	0.01	—	590
Energy	0.43	0.22	3.75	2.07	0.02	0.30	—	0.30	0.30	—	0.30	—	8,593	8,593	0.79	0.06	—	8,630
Water	—	—	—	—	—	—	—	—	—	—	—	63.9	270	334	6.57	0.16	—	546
Waste	—	—	—	—	—	—	—	—	—	—	—	420	0.00	420	41.9	0.00	—	1,468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	20.1
Total	28.7	44.5	14.7	99.0	0.11	0.43	2.38	2.81	0.42	0.42	0.85	483	16,887	17,371	50.8	1.05	28.6	18,983

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	17.9	17.3	6.19	45.3	0.05	0.05	0.27	0.32	0.05	0.08	0.13	—	5,656	5,656	0.94	0.57	14.5	5,864
Condo/Townhouse	34.9	33.7	12.1	88.7	0.11	0.10	0.52	0.63	0.09	0.16	0.26	—	11,060	11,060	1.83	1.11	28.4	11,466
City Park	0.18	0.18	0.06	0.47	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	58.5	58.5	0.01	0.01	0.15	60.7
Regional Shopping Center	55.1	53.2	19.4	143	0.18	0.16	0.89	1.06	0.15	0.28	0.43	—	18,543	18,543	2.91	1.79	48.3	19,199
High Turnover (Sit Down Restaurant)	28.5	27.5	9.89	72.4	0.09	0.08	0.43	0.51	0.08	0.13	0.21	—	9,031	9,031	1.50	0.91	23.2	9,363
Fast Food Restaurant with Drive Thru	73.8	71.4	25.6	188	0.23	0.21	1.11	1.32	0.20	0.34	0.54	—	23,393	23,393	3.87	2.35	60.0	24,251
Gasoline/Service Station	13.0	12.5	4.50	32.9	0.04	0.04	0.20	0.23	0.03	0.06	0.10	—	4,110	4,110	0.68	0.41	10.5	4,261
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	223	216	77.7	571	0.70	0.65	3.42	4.07	0.60	1.06	1.66	—	71,853	71,853	11.7	7.16	185	74,465
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	16.6	15.9	6.57	47.2	0.05	0.05	0.27	0.32	0.05	0.08	0.13	—	5,377	5,377	1.04	0.59	0.38	5,578
Condo/Townhouse	32.4	31.1	12.8	92.3	0.10	0.10	0.52	0.63	0.09	0.16	0.26	—	10,514	10,514	2.03	1.15	0.74	10,908
City Park	0.17	0.16	0.07	0.49	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	55.6	55.6	0.01	0.01	< 0.005	57.7

Regional Shopping Center	51.1	49.1	20.6	148	0.17	0.17	0.89	1.06	0.15	0.28	0.43	—	17,611	17,611	3.22	1.85	1.25	18,245
High Turnover (Sit Down Restaurant)	26.4	25.4	10.5	75.4	0.08	0.08	0.43	0.51	0.08	0.13	0.21	—	8,585	8,585	1.65	0.94	0.60	8,907
Fast Food Restaurant with Drive Thru	68.5	65.8	27.2	195	0.21	0.21	1.11	1.32	0.20	0.34	0.54	—	22,238	22,238	4.29	2.43	1.56	23,071
Gasoline /Service Station	12.0	11.6	4.77	34.3	0.04	0.04	0.20	0.23	0.03	0.06	0.10	—	3,908	3,908	0.75	0.43	0.27	4,054
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	207	199	82.4	593	0.66	0.65	3.42	4.07	0.61	1.06	1.67	—	68,289	68,289	13.0	7.39	4.80	70,821
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.93	2.82	1.18	8.54	0.01	0.01	0.05	0.06	0.01	0.01	0.02	—	881	881	0.17	0.10	1.02	914
Condo/Townhouse	5.09	4.89	2.04	14.8	0.02	0.02	0.08	0.10	0.01	0.03	0.04	—	1,527	1,527	0.29	0.17	1.77	1,586
City Park	0.02	0.02	0.01	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.98	4.98	< 0.005	< 0.005	0.01	5.17
Regional Shopping Center	5.38	5.17	2.16	15.7	0.02	0.02	0.09	0.11	0.02	0.03	0.04	—	1,621	1,621	0.31	0.18	1.88	1,683
High Turnover (Sit Down Restaurant)	3.21	3.09	1.26	9.16	0.01	0.01	0.05	0.06	0.01	0.01	0.02	—	894	894	0.18	0.10	1.01	930

Fast Food Restaurant with Drive Thru	7.68	7.39	3.00	21.7	0.02	0.02	0.11	0.13	0.02	0.03	0.05	—	2,073	2,073	0.43	0.24	2.33	2,159
Gasoline /Service Station	1.55	1.49	0.61	4.43	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	435	435	0.09	0.05	0.49	453
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	25.9	24.9	10.3	74.4	0.08	0.08	0.40	0.48	0.07	0.12	0.20	—	7,437	7,437	1.47	0.83	8.50	7,730

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.41	0.05	—	4,378
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	9,198	9,198	0.88	0.11	—	9,251
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	4,853	4,853	0.46	0.06	—	4,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	3,499	3,499	0.33	0.04	—	3,519

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	2,333	2,333	0.22	0.03	—	2,346
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,973	1,973	0.19	0.02	—	1,984
Total	—	—	—	—	—	—	—	—	—	—	—	—	26,268	26,268	2.50	0.30	—	26,421
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.41	0.05	—	4,378
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	9,198	9,198	0.88	0.11	—	9,251
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	4,853	4,853	0.46	0.06	—	4,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	3,499	3,499	0.33	0.04	—	3,519
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	2,333	2,333	0.22	0.03	—	2,346
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7

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Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,973	1,973	0.19	0.02	—	1,984
Total	—	—	—	—	—	—	—	—	—	—	—	—	26,268	26,268	2.50	0.30	—	26,421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	721	721	0.07	0.01	—	725
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,523	1,523	0.15	0.02	—	1,532
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	804	804	0.08	0.01	—	808
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	579	579	0.06	0.01	—	583
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	386	386	0.04	< 0.005	—	388
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.1	10.1	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	327	327	0.03	< 0.005	—	328
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,349	4,349	0.41	0.05	—	4,374

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.28	4.76	2.03	0.03	0.39	—	0.39	0.39	—	0.39	—	6,047	6,047	0.54	0.01	—	6,064
Condo/Townhouse	1.11	0.56	9.51	4.05	0.06	0.77	—	0.77	0.77	—	0.77	—	12,077	12,077	1.07	0.02	—	12,111
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.09	0.05	0.83	0.70	< 0.005	0.06	—	0.06	0.06	—	0.06	—	994	994	0.09	< 0.005	—	997
High Turnover (Sit Down Restaurant)	0.36	0.18	3.23	2.71	0.02	0.25	—	0.25	0.25	—	0.25	—	3,853	3,853	0.34	0.01	—	3,863
Fast Food Restaurant with Drive Thru	0.24	0.12	2.15	1.81	0.01	0.16	—	0.16	0.16	—	0.16	—	2,568	2,568	0.23	< 0.005	—	2,576
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	25,632	25,632	2.27	0.05	—	25,703
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.28	4.76	2.03	0.03	0.39	—	0.39	0.39	—	0.39	—	6,047	6,047	0.54	0.01	—	6,064

Condo/Townhouse	1.11	0.56	9.51	4.05	0.06	0.77	—	0.77	0.77	—	0.77	—	12,077	12,077	1.07	0.02	—	12,111
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.09	0.05	0.83	0.70	< 0.005	0.06	—	0.06	0.06	—	0.06	—	994	994	0.09	< 0.005	—	997
High Turnover (Sit Down Restaurant)	0.36	0.18	3.23	2.71	0.02	0.25	—	0.25	0.25	—	0.25	—	3,853	3,853	0.34	0.01	—	3,863
Fast Food Restaurant with Drive Thru	0.24	0.12	2.15	1.81	0.01	0.16	—	0.16	0.16	—	0.16	—	2,568	2,568	0.23	< 0.005	—	2,576
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	25,632	25,632	2.27	0.05	—	25,703
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.05	0.87	0.37	0.01	0.07	—	0.07	0.07	—	0.07	—	1,001	1,001	0.09	< 0.005	—	1,004
Condo/Townhouse	0.20	0.10	1.74	0.74	0.01	0.14	—	0.14	0.14	—	0.14	—	2,000	2,000	0.18	< 0.005	—	2,005
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.02	0.01	0.15	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	165	165	0.01	< 0.005	—	165

High Turnover (Sit Down Restaurant)	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	638	638	0.06	< 0.005	—	640
Fast Food Restaurant with Drive Thru	0.04	0.02	0.39	0.33	< 0.005	0.03	—	0.03	0.03	—	0.03	—	425	425	0.04	< 0.005	—	426
Gasoline /Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.43	0.22	3.75	2.07	0.02	0.30	—	0.30	0.30	—	0.30	—	4,244	4,244	0.38	0.01	—	4,255

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.29	2.15	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Consumer Products	—	86.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	19.2	18.0	1.67	179	0.01	0.09	—	0.09	0.12	—	0.12	—	521	521	0.02	0.05	—	536

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Total	23.5	114	38.4	194	0.24	3.06	—	3.06	3.09	—	3.09	0.00	47,109	47,109	0.90	0.14	—	47,172
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.29	2.15	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Consumer Products	—	86.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.29	96.3	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.03	0.46	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	528	528	0.01	< 0.005	—	529
Consumer Products	—	15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.40	2.25	0.21	22.3	< 0.005	0.01	—	0.01	0.02	—	0.02	—	59.1	59.1	< 0.005	0.01	—	60.8
Total	2.45	19.5	0.67	22.5	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	587	587	0.01	0.01	—	590

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.2	232	280	4.96	0.12	—	440
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	160	562	722	16.4	0.40	—	1,251
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	211	211	0.02	< 0.005	—	212
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	74.7	279	354	7.68	0.19	—	601
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	61.2	206	267	6.29	0.15	—	470
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	40.8	137	178	4.20	0.10	—	313
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.2	232	280	4.96	0.12	—	440

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	160	562	722	16.4	0.40	—	1,251
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	211	211	0.02	< 0.005	—	212
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	74.7	279	354	7.68	0.19	—	601
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	61.2	206	267	6.29	0.15	—	470
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	40.8	137	178	4.20	0.10	—	313
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.97	38.5	46.4	0.82	0.02	—	72.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	26.4	93.1	120	2.72	0.07	—	207
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	35.0	35.0	< 0.005	< 0.005	—	35.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.4	46.2	58.6	1.27	0.03	—	99.5

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	10.1	34.1	44.3	1.04	0.03	—	77.8
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	6.75	22.8	29.5	0.69	0.02	—	51.9
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.68	0.88	0.02	< 0.005	—	1.55
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	63.9	270	334	6.57	0.16	—	546

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	314	0.00	314	31.4	0.00	—	1,099
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	797	0.00	797	79.7	0.00	—	2,789
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.13	0.00	—	4.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	298	0.00	298	29.7	0.00	—	1,041

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	675	0.00	675	67.4	0.00	—	2,360
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	435	0.00	435	43.5	0.00	—	1,523
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	314	0.00	314	31.4	0.00	—	1,099
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	797	0.00	797	79.7	0.00	—	2,789
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.13	0.00	—	4.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	298	0.00	298	29.7	0.00	—	1,041
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	675	0.00	675	67.4	0.00	—	2,360
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	435	0.00	435	43.5	0.00	—	1,523

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Gasoline Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	52.0	0.00	52.0	5.20	0.00	—	182
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	132	0.00	132	13.2	0.00	—	462
City Park	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	49.3	0.00	49.3	4.93	0.00	—	172
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	112	0.00	112	11.2	0.00	—	391
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	72.1	0.00	72.1	7.20	0.00	—	252
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	420	0.00	420	41.9	0.00	—	1,468

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00	2.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.3	39.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00	2.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.3	39.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.25	2.25
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33	0.33
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.77	9.77
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.51	6.51
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	20.1

4.7. Offroad Emissions By Equipment Type

3919

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	5,688	5,716	5,113	2,047,670	5,688	5,716	5,113	2,047,670
Condo/Townhouse	11,178	6,798	5,418	3,551,241	11,178	6,798	5,418	3,551,241
City Park	22.0	52.9	59.1	11,580	22.0	52.9	59.1	11,580
Regional Shopping Center	10,311	17,588	2,846	3,753,717	10,051	19,011	3,076	3,772,173
High Turnover (Sit Down Restaurant)	5,399	6,998	9,127	2,248,423	4,586	6,998	9,127	2,036,581
Fast Food Restaurant with Drive Thru	13,218	23,642	13,575	5,386,702	10,502	23,642	13,575	4,678,524
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	2,153	4,154	4,154	994,550
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	513

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	60
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	1700
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
6674096.25	2,224,699	1,062,144	354,048	142,441

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	4,588,602	346	0.0330	0.0040	18,867,699
Condo/Townhouse	9,697,131	346	0.0330	0.0040	37,684,594

City Park	0.00	346	0.0330	0.0040	0.00
Regional Shopping Center	5,117,006	346	0.0330	0.0040	3,100,969
High Turnover (Sit Down Restaurant)	3,688,943	346	0.0330	0.0040	12,021,066
Fast Food Restaurant with Drive Thru	2,459,295	346	0.0330	0.0040	8,014,044
Gasoline/Service Station	64,628	346	0.0330	0.0040	290,596
Parking Lot	2,079,642	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	25,133,749	13,910,646
Condo/Townhouse	83,362,350	4,755,487
City Park	0.00	41,972,125
Regional Shopping Center	38,961,406	5,498,355
High Turnover (Sit Down Restaurant)	31,931,139	0.00
Fast Food Restaurant with Drive Thru	21,287,426	0.00
Gasoline/Service Station	637,531	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	176	0.00
Condo/Townhouse	447	0.00

City Park	2.32	0.00
Regional Shopping Center	552	0.00
High Turnover (Sit Down Restaurant)	1,252	0.00
Fast Food Restaurant with Drive Thru	808	0.00
Gasoline/Service Station	25.9	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Regional Shopping Center	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

3928

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9

Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985

Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5

3933

Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—

3934

2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on Project site plan
Operations: Vehicle Data	Trip rates adjusted based on Project traffic study
Operations: Hearths	Project will not use wood fireplaces or wood stoves per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater.

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APPENDIX 5.5:

AERMOD LST MODELING OUTPUTS – CONSTRUCTION

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Cons CO\14822 Cons
CO.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 1 8
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID CO
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Cons CO.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** Source Parameters **
   SRCPARAM VOL1         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL2         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL3         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL4         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL5         0.0434805186     5.000    44.302     1.400
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   SRCPARAM VOL11        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL12        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL13        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL14        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL15        0.0434805186     5.000    44.302     1.400
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   SRCPARAM VOL17        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL18        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL19        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL20        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL21        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL22        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL23        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL24        0.0434805186     5.000    44.302     1.400
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   SRCPARAM VOL28        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL29        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL30        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL31        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL32        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL33        0.0434805186     5.000    44.302     1.400
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   SRCPARAM VOL36        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL37        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL38        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL39        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL40        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL41        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL42        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL43        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL44        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL45        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL46        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL47        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL48        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL49        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL50        0.0434805186     5.000    44.302     1.400
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   SRCPARAM VOL52        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL53        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL54        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL55        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL56        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL57        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL58        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL59        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL60        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL61        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL62        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL63        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL64        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL65        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL66        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL67        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL68        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL69        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL70        0.0434805186     5.000    44.302     1.400
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Cons CO.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
```

```
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 8 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "14822 CONS CO.AD\01H1GALL.PLT" 31
   PLOTFILE 8 ALL 1ST "14822 CONS CO.AD\08H1GALL.PLT" 32
   SUMMFILE "14822 Cons CO.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Cons CO\14822 Cons
CO.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 1 8
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID CO
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Cons CO.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
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   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** Source Parameters **
   SRCPARAM VOL1         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL2         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL3         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL4         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL5         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL6         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL7         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL8         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL9         0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL10        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL11        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL12        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL13        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL14        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL15        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL16        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL17        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL18        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL19        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL20        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL21        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL22        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL23        0.0434805186     5.000    44.302     1.400
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   SRCPARAM VOL24        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL25        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL26        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL27        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL28        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL29        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL30        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL31        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL32        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL33        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL34        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL35        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL36        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL37        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL38        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL39        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL40        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL41        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL42        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL43        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL44        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL45        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL46        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL47        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL48        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL49        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL50        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL51        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL52        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL53        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL54        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL55        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL56        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL57        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL58        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL59        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL60        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL61        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL62        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL63        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL64        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL65        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL66        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL67        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL68        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL69        0.0434805186     5.000    44.302     1.400
   SRCPARAM VOL70        0.0434805186     5.000    44.302     1.400
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

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** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Cons CO.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
```

```
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 8 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "14822 CONS CO.AD\01H1GALL.PLT" 31
   PLOTFILE 8 ALL 1ST "14822 CONS CO.AD\08H1GALL.PLT" 32
   SUMMFILE "14822 Cons CO.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    1255       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    1255       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for    70 Source(s),
```

```
       for Total of    1 Urban Area(s):
  Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
     * Urban Roughness Length of 1.0 Meter Used.
     * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
     * CCVR_Sub - Meteorological data includes CCVR substitutions
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Accepts FLAGPOLE Receptor . Heights.
     * The User Specified a Pollutant Type of: CO

 **Model Calculates  2 Short Term Average(s) of:   1-HR   8-HR

 **This Run Includes:     70 Source(s);       1 Source Group(s); and     227 Receptor(s)

               with:       0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                and:      70 VOLUME source(s)
                and:       0 AREA type source(s)
                and:       0 LINE source(s)
                and:       0 RLINE/RLINEXT source(s)
                and:       0 OPENPIT source(s)
                and:       0 BUOYANT LINE source(s) with a total of     0 line(s)
                and:       0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing
                                                                 Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   289.00 ;  Decay Coef. =
 0.000     ;  Rot. Angle =     0.0
                Emission Units = GRAMS/SEC                          ;  Emission Rate
                Unit Factor =   0.10000E+07
                Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:
 aermod.inp
 **Output Print File:
 aermod.out

 **Detailed Error/Message File:   14822 Cons
 CO.err
 **File for Summary of Results:   14822 Cons
 CO.sum
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                          *** VOLUME SOURCE DATA ***
```

SOURCE ID	SOURCE SCALAR VARY BY	NUMBER URBAN PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)
VOL1	YES HRDOW	0	0.43481E-01	447959.2	3762097.7	222.0	5.00	44.30	1.40
VOL2	YES HRDOW	0	0.43481E-01	448134.4	3762098.8	222.4	5.00	44.30	1.40
VOL3	YES HRDOW	0	0.43481E-01	447790.3	3762102.9	221.9	5.00	44.30	1.40
VOL4	YES HRDOW	0	0.43481E-01	447618.2	3762098.8	221.0	5.00	44.30	1.40
VOL5	YES HRDOW	0	0.43481E-01	447446.1	3762100.8	221.0	5.00	44.30	1.40
VOL6	YES HRDOW	0	0.43481E-01	447276.1	3762094.7	220.0	5.00	44.30	1.40
VOL7	YES HRDOW	0	0.43481E-01	447099.9	3762094.7	219.6	5.00	44.30	1.40
VOL8	YES HRDOW	0	0.43481E-01	446929.9	3762096.7	220.0	5.00	44.30	1.40
VOL9	YES HRDOW	0	0.43481E-01	448310.5	3762107.0	222.0	5.00	44.30	1.40
VOL10	YES HRDOW	0	0.43481E-01	446926.7	3762209.8	221.3	5.00	44.30	1.40
VOL11	YES HRDOW	0	0.43481E-01	446924.1	3762324.3	222.2	5.00	44.30	1.40
VOL12	YES HRDOW	0	0.43481E-01	447100.3	3762207.3	221.0	5.00	44.30	1.40
VOL13	YES HRDOW	0	0.43481E-01	447276.4	3762207.3	221.9	5.00	44.30	1.40
VOL14	YES HRDOW	0	0.43481E-01	447447.5	3762207.3	222.0	5.00	44.30	1.40
VOL15	YES HRDOW	0	0.43481E-01	447616.0	3762206.0	222.0	5.00	44.30	1.40
VOL16	YES HRDOW	0	0.43481E-01	447807.2	3762206.0	222.6	5.00	44.30	1.40
VOL17	YES HRDOW	0	0.43481E-01	447959.5	3762206.0	223.0	5.00	44.30	1.40
VOL18	YES HRDOW	0	0.43481E-01	448138.1	3762203.5	222.6	5.00	44.30	1.40
VOL19	YES HRDOW	0	0.43481E-01	448313.0	3762202.2	222.6	5.00	44.30	1.40
VOL20	YES HRDOW	0	0.43481E-01	447100.3	3762325.5	222.0	5.00	44.30	1.40
VOL21	YES HRDOW	0	0.43481E-01	447276.4	3762324.3	222.9	5.00	44.30	1.40
VOL22	YES HRDOW	0	0.43481E-01	447448.7	3762324.3	222.7	5.00	44.30	1.40
VOL23	YES HRDOW	0	0.43481E-01	447616.0	3762326.8	222.7	5.00	44.30	1.40
VOL24	YES HRDOW	0	0.43481E-01	447789.6	3762328.0	223.7	5.00	44.30	1.40
VOL25	YES HRDOW	0	0.43481E-01	447960.7	3762326.8	224.2	5.00	44.30	1.40
VOL26	YES HRDOW	0	0.43481E-01	448135.6	3762328.0	224.5	5.00	44.30	1.40
VOL27	YES HRDOW	0	0.43481E-01	448318.0	3762330.6	224.8	5.00	44.30	1.40
VOL28	YES HRDOW	0	0.43481E-01	447432.4	3762513.0	225.3	5.00	44.30	1.40
VOL29		0	0.43481E-01	447621.1	3762513.0	224.5	5.00	44.30	1.40

```
 YES   HRDOW
 VOL30            0   0.43481E-01  447811.0 3762515.5   225.4     5.00    44.30     1.40
 YES   HRDOW
 VOL31            0   0.43481E-01  447999.7 3762515.5   225.9     5.00    44.30     1.40
 YES   HRDOW
 VOL32            0   0.43481E-01  448189.7 3762514.2   225.7     5.00    44.30     1.40
 YES   HRDOW
 VOL33            0   0.43481E-01  448315.5 3762516.7   226.2     5.00    44.30     1.40
 YES   HRDOW
 VOL34            0   0.43481E-01  448316.7 3762709.2   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL35            0   0.43481E-01  448189.7 3762708.0   226.4     5.00    44.30     1.40
 YES   HRDOW
 VOL36            0   0.43481E-01  448001.0 3762706.7   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL37            0   0.43481E-01  447811.0 3762706.7   227.0     5.00    44.30     1.40
 YES   HRDOW
 VOL38            0   0.43481E-01  447621.1 3762704.2   226.6     5.00    44.30     1.40
 YES   HRDOW
 VOL39            0   0.43481E-01  447433.6 3762704.2   227.3     5.00    44.30     1.40
 YES   HRDOW
 VOL40            0   0.43481E-01  447524.2 3762897.9   228.4     5.00    44.30     1.40
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - -

 VOL41            0   0.43481E-01  447329.2 3762897.9   228.7     5.00    44.30     1.40
 YES   HRDOW
 VOL42            0   0.43481E-01  447304.1 3763089.1   231.3     5.00    44.30     1.40
 YES   HRDOW
 VOL43            0   0.43481E-01  447533.0 3763086.6   231.2     5.00    44.30     1.40
 YES   HRDOW
 VOL44            0   0.43481E-01  447433.6 3763086.6   231.2     5.00    44.30     1.40
 YES   HRDOW
 VOL45            0   0.43481E-01  447530.5 3763277.8   232.5     5.00    44.30     1.40
 YES   HRDOW
 VOL46            0   0.43481E-01  447305.3 3763281.6   232.2     5.00    44.30     1.40
 YES   HRDOW
 VOL47            0   0.43481E-01  447419.8 3763282.9   232.6     5.00    44.30     1.40
 YES   HRDOW
 VOL48            0   0.43481E-01  447112.8 3763304.2   231.8     5.00    44.30     1.40
 YES   HRDOW
 VOL49            0   0.43481E-01  446924.1 3763305.5   231.6     5.00    44.30     1.40
 YES   HRDOW
 VOL50            0   0.43481E-01  447533.0 3763469.0   233.5     5.00    44.30     1.40
 YES   HRDOW
 VOL51            0   0.43481E-01  447217.3 3763472.8   233.2     5.00    44.30     1.40
 YES   HRDOW
 VOL52            0   0.43481E-01  447088.9 3763471.6   233.0     5.00    44.30     1.40
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 YES   HRDOW
 VOL53            0   0.43481E-01  446925.4 3763474.1   232.6     5.00    44.30     1.40
 YES   HRDOW
 VOL54            0   0.43481E-01  447361.9 3763470.3   233.5     5.00    44.30     1.40
 YES   HRDOW
 VOL55            0   0.43481E-01  447531.7 3763659.5   234.9     5.00    44.30     1.40
 YES   HRDOW
 VOL56            0   0.43481E-01  447533.5 3763806.8   235.6     5.00    44.30     1.40
 YES   HRDOW
 VOL57            0   0.43481E-01  447359.9 3763658.4   234.1     5.00    44.30     1.40
 YES   HRDOW
 VOL58            0   0.43481E-01  447219.0 3763657.1   234.1     5.00    44.30     1.40
 YES   HRDOW
 VOL59            0   0.43481E-01  447090.7 3763659.7   234.5     5.00    44.30     1.40
 YES   HRDOW
 VOL60            0   0.43481E-01  446930.9 3763659.7   234.2     5.00    44.30     1.40
 YES   HRDOW
 VOL61            0   0.43481E-01  447357.4 3763804.3   234.7     5.00    44.30     1.40
 YES   HRDOW
 VOL62            0   0.43481E-01  447219.0 3763804.3   234.9     5.00    44.30     1.40
 YES   HRDOW
 VOL63            0   0.43481E-01  447093.2 3763805.6   235.8     5.00    44.30     1.40
 YES   HRDOW
 VOL64            0   0.43481E-01  446932.2 3763805.6   235.5     5.00    44.30     1.40
 YES   HRDOW
 VOL65            0   0.43481E-01  447133.5 3763996.8   237.4     5.00    44.30     1.40
 YES   HRDOW
 VOL66            0   0.43481E-01  446943.5 3763996.8   237.4     5.00    44.30     1.40
 YES   HRDOW
 VOL67            0   0.43481E-01  447134.7 3764159.1   239.1     5.00    44.30     1.40
 YES   HRDOW
 VOL68            0   0.43481E-01  446944.8 3764159.1   240.0     5.00    44.30     1.40
 YES   HRDOW
 VOL69            0   0.43481E-01  447136.0 3764318.9   241.0     5.00    44.30     1.40
 YES   HRDOW
 VOL70            0   0.43481E-01  446944.8 3764317.6   240.2     5.00    44.30     1.40
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                        SOURCE IDs
 -----------                                        ----------


  ALL         VOL1        , VOL2        , VOL3        , VOL4        , VOL5        , VOL6        ,
  VOL7         , VOL8         ,

              VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14       ,
              VOL15       , VOL16       ,

              VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
              VOL23       , VOL24       ,

              VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
              VOL31       , VOL32       ,

              VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
              VOL39       , VOL40       ,
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            VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
            VOL47       , VOL48       ,

            VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
            VOL55       , VOL56       ,

            VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
            VOL63       , VOL64       ,

            VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINED AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                  SOURCE IDs
  --------   ---------                                  ----------


              2035210.   VOL1        , VOL2        , VOL3        , VOL4        , VOL5        ,
              VOL6        , VOL7        ,
 VOL8        ,

            VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14       ,
            VOL15       , VOL16       ,

            VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
            VOL23       , VOL24       ,

            VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
            VOL31       , VOL32       ,

            VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
            VOL39       , VOL40       ,

            VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
            VOL47       , VOL48       ,

            VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
            VOL55       , VOL56       ,

            VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
            VOL63       , VOL64       ,

            VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL1         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
```

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL3         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL4         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
```

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 15:50:29

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL5 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL7         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL8         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
```

```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL9         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL10        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL11        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL12 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL13 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL14        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL15        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
```

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL16 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22

*** AERMET - VERSION 16216 ***

*** *** 15:50:29

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL18 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

SOURCE ID = VOL19 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL21 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL22 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL23 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL25 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL28 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 15:50:29

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL29 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = VOL30 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 15:50:29

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL32 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL34        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL35        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL36        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = VOL37   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL39        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL40        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22

*** AERMET - VERSION 16216 ***

*** *** 15:50:29

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL41 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL43        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - -
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL44 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL45 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL46 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL47 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22

*** AERMET - VERSION 16216 ***

*** *** 15:50:29

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL48 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL50        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL51        ; SOURCE TYPE = VOLUME   :
```

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL52        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:2
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL53 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 15:50:29

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL54 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00												

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL55 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL56 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL57        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL58        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL59        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

(HRDOW) *

SOURCE ID = VOL60 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL62 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL63 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 15:50:29

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL64 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 15:50:29

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL65 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22					

```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL66        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL67        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
```

- - - -

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL69        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL70        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447362.2, 3764292.7, 240.7, 240.7, 2.0); (447376.0, 3764151.0, 239.6, 239.6, 2.0);
(447389.8, 3764043.0, 237.8, 237.8, 2.0); (447450.2, 3764031.0, 237.5, 237.5, 2.0);
(447410.2, 3764019.0, 237.5, 237.5, 2.0); (446891.9, 3764451.2, 241.5, 241.5, 2.0);
(446959.3, 3764451.2, 241.5, 241.5, 2.0); (446995.3, 3764468.1, 241.8, 241.8, 2.0);
(447007.4, 3764467.3, 241.9, 241.9, 2.0); (447023.5, 3764466.1, 241.9, 241.9, 2.0);
(447036.6, 3764466.2, 241.9, 241.9, 2.0); (447052.7, 3764465.6, 242.0, 242.0, 2.0);
(447066.6, 3764465.7, 242.1, 242.1, 2.0); (447099.6, 3764456.2, 242.1, 242.1, 2.0);
(447145.3, 3764468.3, 242.1, 242.1, 2.0); (447175.5, 3764468.0, 241.7, 241.7, 2.0);
(447205.3, 3764468.3, 241.3, 241.3, 2.0); (447232.4, 3764467.5, 242.0, 242.0, 2.0);
(447264.0, 3764467.3, 243.3, 243.3, 2.0); (447294.8, 3764466.9, 243.8, 243.8, 2.0);
(447365.0, 3764456.4, 243.3, 243.3, 2.0); (447406.6, 3764460.6, 243.1, 243.1, 2.0);
(447441.5, 3764460.0, 243.2, 243.2, 2.0); (447466.9, 3764460.2, 243.2, 243.2, 2.0);
(447490.0, 3764460.6, 242.9, 242.9, 2.0); (447515.5, 3764460.4, 242.6, 242.6, 2.0);
(447573.1, 3764454.3, 241.6, 241.6, 2.0); (447598.5, 3764445.2, 241.8, 241.8, 2.0);
(447652.9, 3764439.7, 243.1, 243.1, 2.0); (447692.9, 3764439.5, 243.1, 243.1, 2.0);
(447713.8, 3764439.1, 243.1, 243.1, 2.0); (447732.0, 3764438.7, 243.2, 243.2, 2.0);
(447751.1, 3764438.7, 243.3, 243.3, 2.0); (447768.8, 3764437.5, 243.4, 243.4, 2.0);
(447789.1, 3764437.7, 243.7, 243.7, 2.0); (447805.7, 3764437.3, 243.8, 243.8, 2.0);
(447824.0, 3764437.2, 243.9, 243.9, 2.0); (447841.6, 3764437.9, 243.9, 243.9, 2.0);
(447861.7, 3764437.5, 243.9, 243.9, 2.0); (447881.7, 3764435.2, 243.8, 243.8, 2.0);
(447902.8, 3764436.2, 243.8, 243.8, 2.0); (447920.9, 3764435.3, 243.8, 243.8, 2.0);
(447942.2, 3764435.3, 243.8, 243.8, 2.0); (447962.8, 3764434.8, 243.8, 243.8, 2.0);
(447980.7, 3764435.2, 243.8, 243.8, 2.0); (448004.7, 3764435.2, 243.6, 243.6, 2.0);
(448021.2, 3764434.7, 243.0, 243.0, 2.0); (447662.7, 3764379.6, 243.6, 243.6, 2.0);
(447681.3, 3764321.0, 243.4, 243.4, 2.0); (447682.6, 3764285.8, 242.3, 242.3, 2.0);
(447662.5, 3764238.4, 241.1, 241.1, 2.0); (447661.7, 3764207.4, 240.2, 240.2, 2.0);

(447683.1, 3764162.3, 239.1, 239.1, 2.0); (447681.0, 3764145.9, 238.7, 238.7, 2.0);
(447679.6, 3764130.3, 238.2, 238.2, 2.0); (447680.8, 3764112.0, 237.8, 237.8, 2.0);
(447681.5, 3764096.4, 237.6, 237.6, 2.0); (447680.8, 3764078.8, 237.4, 237.4, 2.0);
(447680.0, 3764064.3, 237.4, 237.4, 2.0); (447681.0, 3764045.8, 237.5, 237.5, 2.0);
(447680.6, 3764029.7, 237.5, 237.5, 2.0); (447657.2, 3763992.0, 237.3, 237.3, 2.0);
(447656.3, 3763967.1, 237.5, 237.5, 2.0); (447657.2, 3763928.7, 237.5, 237.5, 2.0);
(447657.2, 3763902.2, 237.6, 237.6, 2.0); (447657.5, 3763869.0, 237.3, 237.3, 2.0);
(447656.2, 3763834.9, 237.4, 237.4, 2.0); (447655.9, 3763808.3, 237.5, 237.5, 2.0);
(447657.1, 3763786.0, 237.6, 237.6, 2.0); (447701.2, 3763782.1, 237.7, 237.7, 2.0);
(447856.9, 3763749.7, 236.2, 236.2, 2.0); (447855.0, 3763730.1, 236.0, 236.0, 2.0);
(447854.3, 3763698.3, 235.6, 235.6, 2.0); (447855.3, 3763676.8, 235.4, 235.4, 2.0);
(447675.5, 3763287.5, 232.0, 232.0, 2.0); (448481.3, 3763485.3, 235.6, 235.6, 2.0);
(448480.0, 3763195.5, 232.0, 232.0, 2.0); (448478.6, 3762907.2, 229.4, 229.4, 2.0);
(448497.9, 3762714.1, 228.1, 228.1, 2.0); (448507.9, 3762487.7, 225.8, 225.8, 2.0);
(448480.5, 3762358.0, 224.8, 224.8, 2.0); (448462.7, 3762339.8, 224.6, 224.6, 2.0);
(448464.5, 3762265.9, 223.3, 223.3, 2.0); (448461.6, 3762165.2, 222.0, 222.0, 2.0);
(448472.6, 3762064.7, 220.0, 220.0, 2.0); (448460.5, 3762016.7, 219.4, 219.4, 2.0);
(448234.6, 3761951.2, 220.0, 220.0, 2.0); (448081.4, 3761952.8, 220.9, 220.9, 2.0);
(448025.5, 3761956.0, 221.0, 221.0, 2.0); (447506.8, 3761967.6, 220.0, 220.0, 2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447269.3, 3761967.7, 219.7, 219.7, 2.0); (447389.5, 3761908.8, 220.0, 220.0, 2.0);
(447019.1, 3761964.3, 219.0, 219.0, 2.0); (447060.3, 3761963.6, 219.0, 219.0, 2.0);
(446975.3, 3761963.2, 219.0, 219.0, 2.0); (446940.9, 3761953.8, 219.0, 219.0, 2.0);
(446865.7, 3761974.5, 219.9, 219.9, 2.0); (446795.1, 3761957.9, 220.0, 220.0, 2.0);
(446757.6, 3761965.8, 220.0, 220.0, 2.0); (446709.3, 3761967.7, 220.0, 220.0, 2.0);
(446796.4, 3762028.6, 220.0, 220.0, 2.0); (446797.0, 3762045.3, 220.1, 220.1, 2.0);
(446796.7, 3762089.5, 221.0, 221.0, 2.0); (446796.1, 3762105.9, 221.0, 221.0, 2.0);
(446796.7, 3762137.3, 221.0, 221.0, 2.0); (446796.1, 3762153.4, 221.0, 221.0, 2.0);

(446772.4, 3762215.4, 221.6, 221.6, 2.0); (446795.1, 3762321.0, 222.0, 222.0, 2.0);
(446796.4, 3762451.0, 224.0, 224.0, 2.0); (446796.4, 3762471.2, 224.4, 224.4, 2.0);
(446797.2, 3762496.0, 224.9, 224.9, 2.0); (446798.1, 3762516.5, 225.3, 225.3, 2.0);
(446797.8, 3762540.0, 225.7, 225.7, 2.0); (446797.5, 3762560.2, 225.9, 225.9, 2.0);
(446798.6, 3762584.8, 226.1, 226.1, 2.0); (446798.1, 3762604.4, 226.5, 226.5, 2.0);
(446799.7, 3762654.1, 227.5, 227.5, 2.0); (446800.0, 3762674.6, 228.0, 228.0, 2.0);
(446800.2, 3762700.2, 228.5, 228.5, 2.0); (446800.2, 3762721.3, 228.6, 228.6, 2.0);
(446800.0, 3762735.7, 228.6, 228.6, 2.0); (446797.8, 3762748.0, 228.6, 228.6, 2.0);
(446802.2, 3762913.5, 228.3, 228.3, 2.0); (446802.2, 3762932.6, 228.3, 228.3, 2.0);
(446802.4, 3762949.2, 228.3, 228.3, 2.0); (446803.0, 3762967.3, 228.3, 228.3, 2.0);
(446802.7, 3762986.1, 228.4, 228.4, 2.0); (446802.2, 3763003.3, 228.6, 228.6, 2.0);
(446802.2, 3763021.9, 228.8, 228.8, 2.0); (446802.7, 3763040.7, 229.0, 229.0, 2.0);
(446803.0, 3763059.3, 229.2, 229.2, 2.0); (446803.5, 3763077.0, 229.3, 229.3, 2.0);
(446756.3, 3763085.3, 228.7, 228.7, 2.0); (446807.7, 3763646.4, 234.6, 234.6, 2.0);
(446808.3, 3763674.7, 234.8, 234.8, 2.0); (446807.7, 3763694.6, 234.9, 234.9, 2.0);
(446808.3, 3763710.6, 235.0, 235.0, 2.0); (446808.3, 3763726.4, 235.0, 235.0, 2.0);
(446808.0, 3763742.1, 235.0, 235.0, 2.0); (446808.3, 3763756.9, 235.0, 235.0, 2.0);
(446808.6, 3763798.3, 235.3, 235.3, 2.0); (446810.2, 3764484.1, 241.7, 241.7, 2.0);
(446781.3, 3764475.1, 241.7, 241.7, 2.0); (446722.6, 3764455.8, 241.4, 241.4, 2.0);
(446170.3, 3764559.8, 242.5, 242.5, 2.0); (446872.3, 3763190.3, 231.5, 231.5, 2.0);
(446925.2, 3763179.2, 231.6, 231.6, 2.0); (446984.9, 3763194.9, 231.4, 231.4, 2.0);
(447010.6, 3763193.3, 231.7, 231.7, 2.0); (447036.6, 3763193.6, 231.7, 231.7, 2.0);
(447053.6, 3763193.3, 231.7, 231.7, 2.0); (447076.4, 3763192.3, 231.8, 231.8, 2.0);
(447093.5, 3763192.6, 231.9, 231.9, 2.0); (447122.0, 3763192.6, 231.7, 231.7, 2.0);
(447138.8, 3763192.3, 231.7, 231.7, 2.0); (447168.0, 3763192.3, 231.6, 231.6, 2.0);
(447170.7, 3763172.2, 231.4, 231.4, 2.0); (447170.4, 3763158.2, 231.2, 231.2, 2.0);
(447169.3, 3763144.9, 231.2, 231.2, 2.0); (447147.5, 3763107.4, 231.5, 231.5, 2.0);
(447146.6, 3763084.2, 231.4, 231.4, 2.0); (447146.9, 3763064.3, 231.1, 231.1, 2.0);
(447149.9, 3763038.9, 230.8, 230.8, 2.0); (447148.6, 3763019.8, 230.6, 230.6, 2.0);
(447148.6, 3762997.4, 230.2, 230.2, 2.0); (447206.1, 3762958.5, 229.5, 229.5, 2.0);
(447209.3, 3762922.5, 229.1, 229.1, 2.0); (447208.4, 3762890.7, 228.9, 228.9, 2.0);
(447145.8, 3762888.9, 228.9, 228.9, 2.0); (447122.5, 3762889.1, 228.9, 228.9, 2.0);
(447094.3, 3762890.0, 228.9, 228.9, 2.0); (447071.0, 3762890.4, 229.0, 229.0, 2.0);

(447043.6, 3762889.7, 228.9, 228.9, 2.0); (447017.8, 3762888.9, 228.9, 228.9, 2.0);
(446992.1, 3762889.1, 228.9, 228.9, 2.0); (446964.3, 3762888.3, 228.9, 228.9, 2.0);
(446940.4, 3762888.5, 228.8, 228.8, 2.0); (446911.2, 3762888.1, 228.6, 228.6, 2.0);
(446885.3, 3762889.7, 228.6, 228.6, 2.0); (446862.1, 3762888.9, 228.6, 228.6, 2.0);

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(446871.5, 3762779.6, 228.6, 228.6, 2.0); (446926.3, 3762768.7, 228.6, 228.6, 2.0);
(446983.7, 3762774.2, 228.6, 228.6, 2.0); (447009.0, 3762774.0, 228.5, 228.5, 2.0);
(447030.5, 3762774.4, 228.2, 228.2, 2.0); (447055.4, 3762774.0, 228.0, 228.0, 2.0);
(447076.9, 3762774.2, 228.1, 228.1, 2.0); (447101.2, 3762774.4, 228.3, 228.3, 2.0);
(447123.8, 3762774.0, 228.3, 228.3, 2.0); (447148.1, 3762775.0, 228.4, 228.4, 2.0);
(447170.2, 3762774.8, 228.5, 228.5, 2.0); (447196.8, 3762775.5, 228.5, 228.5, 2.0);
(447242.1, 3762776.6, 228.5, 228.5, 2.0); (447262.3, 3762776.0, 228.4, 228.4, 2.0);
(447294.6, 3762776.3, 228.3, 228.3, 2.0); (447313.1, 3762775.5, 228.3, 228.3, 2.0);
(447313.4, 3762749.5, 228.3, 228.3, 2.0); (447327.9, 3762713.1, 228.1, 228.1, 2.0);
(447327.4, 3762679.9, 227.5, 227.5, 2.0); (447327.7, 3762657.0, 227.2, 227.2, 2.0);
(447327.3, 3762636.8, 226.9, 226.9, 2.0); (447327.5, 3762612.9, 226.4, 226.4, 2.0);
(447327.3, 3762592.2, 226.2, 226.2, 2.0); (447327.0, 3762569.7, 226.0, 226.0, 2.0);
(447327.3, 3762547.9, 225.8, 225.8, 2.0); (447326.6, 3762524.7, 225.5, 225.5, 2.0);
(447326.6, 3762506.1, 225.4, 225.4, 2.0); (447327.5, 3762477.5, 224.9, 224.9, 2.0);
(447325.9, 3762454.3, 224.5, 224.5, 2.0); (447225.6, 3762432.9, 224.1, 224.1, 2.0);
(447200.3, 3762430.6, 223.9, 223.9, 2.0); (447156.8, 3762430.2, 223.7, 223.7, 2.0);
(447131.8, 3762430.9, 223.6, 223.6, 2.0); (447102.7, 3762430.6, 223.4, 223.4, 2.0);
(447079.1, 3762430.9, 223.1, 223.1, 2.0); (447034.9, 3762433.6, 223.1, 223.1, 2.0);
(446995.5, 3762433.6, 223.1, 223.1, 2.0); (446972.7, 3762434.3, 223.2, 223.2, 2.0);
(446941.4, 3762434.6, 223.5, 223.5, 2.0); (446916.1, 3762436.9, 223.7, 223.7, 2.0);
(446876.3, 3762436.9, 223.7, 223.7, 2.0); (446848.8, 3762647.0, 227.4, 227.4, 2.0);
(446848.8, 3762563.2, 225.9, 225.9, 2.0); (446849.2, 3762509.8, 225.1, 225.1, 2.0);
(446849.2, 3762455.8, 224.1, 224.1, 2.0); (446848.8, 3762702.0, 228.5, 228.5, 2.0);

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

```
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - -
 12 01 01   1 01  -16.4  0.171 -9.000 -9.000 -999.  170.     32.3  0.09   1.12   1.00    2.03
 43.    7.9  285.9    2.0
 12 01 01   1 02  -18.8  0.194 -9.000 -9.000 -999.  205.     41.3  0.09   1.12   1.00    2.28
 34.    7.9  285.4    2.0
 12 01 01   1 03  -17.8  0.182 -9.000 -9.000 -999.  187.     36.5  0.09   1.12   1.00    2.15
 24.    7.9  282.0    2.0
 12 01 01   1 04   -9.4  0.128 -9.000 -9.000 -999.  110.     19.6  0.09   1.12   1.00    1.55
 41.    7.9  283.1    2.0
 12 01 01   1 05  -16.9  0.173 -9.000 -9.000 -999.  173.     33.0  0.09   1.12   1.00    2.05
 39.    7.9  280.4    2.0
 12 01 01   1 06   -8.0  0.117 -9.000 -9.000 -999.   97.     17.8  0.09   1.12   1.00    1.43
 21.    7.9  282.0    2.0
 12 01 01   1 07   -7.6  0.115 -9.000 -9.000 -999.   93.     17.4  0.09   1.12   1.00    1.40
 31.    7.9  282.5    2.0
 12 01 01   1 08  -13.6  0.184 -9.000 -9.000 -999.  190.     40.5  0.09   1.12   0.54    2.16
 34.    7.9  284.2    2.0
 12 01 01   1 09   28.4  0.126  0.300  0.011   33.  108.     -6.2  0.09   1.12   0.32    1.03
 29.    7.9  289.2    2.0
 12 01 01   1 10   79.8  0.133  0.607  0.010   99.  116.     -2.6  0.09   1.12   0.25    0.94
 173.    7.9  292.5    2.0
 12 01 01   1 11  115.8  0.137  0.932  0.006  246.  121.     -2.0  0.09   1.12   0.22    0.92
 172.    7.9  295.4    2.0
 12 01 01   1 12  133.7  0.139  1.197  0.005  453.  125.     -1.8  0.09   1.12   0.21    0.92
 146.    7.9  297.5    2.0
 12 01 01   1 13  133.2  0.160  1.354  0.005  657.  153.     -2.7  0.09   1.12   0.21    1.14
 117.    7.9  299.9    2.0
 12 01 01   1 14  113.5  0.159  1.454  0.005  955.  151.     -3.1  0.09   1.12   0.23    1.16
 285.    7.9  300.9    2.0
 12 01 01   1 15   76.2  0.166  1.350  0.005 1138.  163.     -5.3  0.09   1.12   0.26    1.33
 72.    7.9  302.0    2.0
 12 01 01   1 16   23.5  0.175  0.925  0.005 1183.  175.    -19.9  0.09   1.12   0.35    1.65
 107.    7.9  301.4    2.0
 12 01 01   1 17   -6.1  0.107 -9.000 -9.000 -999.   86.     18.0  0.09   1.12   0.63    1.31
 107.    7.9  298.1    2.0
 12 01 01   1 18  -11.1  0.141 -9.000 -9.000 -999.  127.     22.1  0.09   1.12   1.00    1.69
 86.    7.9  293.1    2.0
 12 01 01   1 19   -3.2  0.076 -9.000 -9.000 -999.   51.     11.8  0.09   1.12   1.00    0.91
 64.    7.9  292.0    2.0
 12 01 01   1 20   -2.3  0.066 -9.000 -9.000 -999.   41.     11.2  0.09   1.12   1.00    0.74
 73.    7.9  288.8    2.0
 12 01 01   1 21  -10.0  0.133 -9.000 -9.000 -999.  116.     20.5  0.09   1.12   1.00    1.60
 14.    7.9  288.1    2.0
 12 01 01   1 22  -19.4  0.201 -9.000 -9.000 -999.  216.     44.5  0.09   1.12   1.00    2.36
 22.    7.9  287.5    2.0
 12 01 01   1 23  -23.7  0.246 -9.000 -9.000 -999.  293.     66.5  0.09   1.12   1.00    2.86
 40.    7.9  287.0    2.0
 12 01 01   1 24  -12.3  0.147 -9.000 -9.000 -999.  139.     23.8  0.09   1.12   1.00    1.76
 40.    7.9  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1   43.    2.03   286.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:50:29

                      PAGE  81
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*
```

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	7.88941	(16122116)	447375.98	3764150.98	9.28298	(16122116)
447389.75	3764043.04	11.41163	(16122116)	447450.16	3764031.05	10.99904	(16122116)
447410.18	3764019.05	11.60060	(16122116)	446891.90	3764451.22	12.05913	(13112916)
446959.28	3764451.22	12.29424	(13112916)	446995.28	3764468.13	9.96026	(16011516)
447007.41	3764467.30	10.10095	(16011516)	447023.51	3764466.09	10.03480	(16011516)
447036.59	3764466.21	10.01098	(13112916)	447052.68	3764465.61	10.82369	(13112916)
447066.60	3764465.73	11.64940	(13112916)	447099.65	3764456.17	13.65265	(13112916)
447145.28	3764468.27	12.20233	(16011516)	447175.54	3764468.03	13.10883	(16011516)
447205.32	3764468.27	12.69452	(16011516)	447232.43	3764467.55	11.44259	(16011516)
447264.02	3764467.30	9.74137	(16122116)	447294.77	3764466.94	8.75487	(16122116)
447364.97	3764456.41	7.03549	(16122116)	447406.61	3764460.65	6.47127	(16122116)
447441.47	3764460.04	6.18316	(16122116)	447466.88	3764460.20	6.07711	(16122116)
447490.00	3764460.56	6.01927	(16122116)	447515.50	3764460.40	5.97712	(16122116)
447573.06	3764454.29	6.02858	(16122116)	447598.49	3764445.22	6.11276	(16122116)
447652.90	3764439.70	6.21536	(16122116)	447692.92	3764439.51	6.23262	(16122116)
447713.82	3764439.11	6.22358	(16122116)	447731.95	3764438.72	6.19655	(16122116)
447751.07	3764438.72	6.15328	(16122116)	447768.82	3764437.53	6.10615	(16122116)
447789.12	3764437.73	6.02728	(16122116)	447805.68	3764437.34	5.94726	(16122116)
447824.02	3764437.20	5.84165	(16122116)	447841.61	3764437.87	5.72240	(16122116)
447861.72	3764437.53	5.57616	(16122116)	447881.66	3764435.18	5.42449	(16122116)
447902.78	3764436.19	5.25066	(16122116)	447920.87	3764435.35	5.10106	(16122116)
447942.16	3764435.35	4.92284	(16122116)	447962.77	3764434.85	4.75227	(16122116)
447980.70	3764435.18	4.60671	(16122116)	448004.66			

3764435.18 4.41658 (16122116)
448021.25 3764434.68 4.29247 (16122116) 447662.70
3764379.63 6.66404 (16122116)
447681.30 3764320.98 7.12897 (16122116) 447682.64
3764285.79 7.41516 (16122116)
447662.53 3764238.37 7.89519 (16122116) 447661.70
3764207.37 8.21592 (16122116)
447683.14 3764162.29 8.50693 (16122116) 447680.97
3764145.87 8.69389 (16122116)
447679.63 3764130.28 8.47317 (16122116) 447680.80
3764112.02 8.39130 (16122116)
447681.47 3764096.43 8.59814 (16122116) 447680.80
3764078.84 8.81960 (16122116)
447679.96 3764064.26 9.00883 (16122116) 447680.97
3764045.82 9.21674 (16122116)
447680.63 3764029.74 9.42413 (16122116) 447657.17
3763992.03 10.57863 (16122116)
447656.33 3763967.06 11.05366 (16122116) 447657.17
3763928.69 12.27098 (12120416)
447657.17 3763902.21 13.68245 (14010716) 447657.51
3763869.03 15.93568 (16121216)
447656.16 3763834.94 18.29543 (16121216) 447655.93
3763808.27 19.57173 (14120316)
447657.09 3763786.00 19.25515 (14120316) 447701.21
3763782.14 15.26711 (14120316)
447856.92 3763749.71 9.08636 (14120316) 447854.99
3763730.13 9.17910 (14120316)
447854.35 3763698.35 9.22313 (14120316) 447855.31
3763676.84 9.11627 (14120316)
447675.51 3763287.46 18.84892 (12121716) 448481.33
3763485.29 4.70743 (16122116)
448479.95 3763195.53 6.08715 (16122116) 448478.56
3762907.16 10.23354 (15122116)
448497.89 3762714.10 14.10933 (14120316) 448507.91
3762487.71 13.76757 (14120316)
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 15:50:29

PAGE 82
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 ,
VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M) Y-COORD (M) CONC (YYMMDDHH) X-COORD (M) Y-COORD (M) CONC (YYMMDDHH)
- - - -

3762165.17 24.69916 (14120316)
448472.57 3762064.71 20.92921 (12121716) 448460.48
3762016.72 24.40843 (12121716)
448234.63 3761951.18 33.73515 (12121716) 448081.42
3761952.78 34.47593 (12121716)
448025.53 3761955.99 38.39218 (12121716) 447506.75
3761967.63 28.26610 (12121716)
447269.29 3761967.74 23.15734 (12121716) 447389.46
3761908.79 19.95308 (12121716)
447019.14 3761964.34 21.92398 (12121716) 447060.33
3761963.58 20.94875 (12121716)
446975.31 3761963.20 18.94980 (12121716) 446940.92
3761953.76 13.85585 (14121616)
446865.72 3761974.54 15.30721 (14121616) 446795.06
3761957.91 13.40101 (14121616)
446757.65 3761965.85 13.17979 (14121616) 446709.33
3761967.74 12.29703 (14121616)
446796.42 3762028.62 17.20987 (14121616) 446796.97
3762045.28 17.90363 (14121616)
446796.70 3762089.51 18.53946 (14121616) 446796.15
3762105.89 18.37285 (14121616)
446796.70 3762137.29 17.94810 (14121616) 446796.15
3762153.39 17.62346 (14121616)
446772.40 3762215.37 16.09993 (16102416) 446795.06
3762321.03 16.94532 (12021516)
446796.42 3762450.98 9.14363 (14123015) 446796.42
3762471.18 8.30516 (14123015)
446797.24 3762496.03 7.34941 (14123015) 446798.06
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446797.79 3762539.98 5.94978 (14123015) 446797.52
3762560.19 5.44625 (14123015)
446798.61 3762584.76 4.95282 (15012616) 446798.06
3762604.42 4.63351 (15012616)
446799.70 3762654.11 3.99940 (15012616) 446799.97
3762674.58 4.02009 (15122216)
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446799.97 3762735.74 4.19439 (15122216) 446797.79
3762748.02 4.24092 (15122216)
446802.16 3762913.47 5.30631 (15122216) 446802.16
3762932.58 5.48180 (15122216)
446802.43 3762949.24 5.64706 (15122216) 446802.98
3762967.26 5.83996 (15122216)
446802.70 3762986.09 6.05412 (15122216) 446802.16
3763003.29 6.25806 (15122216)
446802.16 3763021.86 6.50099 (15122216) 446802.70
3763040.70 6.77123 (15122216)
446802.98 3763059.26 7.06012 (15122216) 446803.52
3763077.01 7.36452 (15122216)
446756.29 3763085.26 6.79737 (15122216) 446807.68
3763646.39 14.50038 (16102416)
446808.32 3763674.66 15.04356 (16102416) 446807.68
3763694.57 14.60781 (16102416)
446808.32 3763710.63 14.23912 (16102416) 446808.32
3763726.37 13.93815 (16102416)
446808.00 3763742.11 13.86534 (16102416) 446808.32
3763756.89 14.05500 (16102416)
446808.64 3763798.32 14.57248 (12021516) 446810.25
3764484.08 8.61413 (13021809)
446781.34 3764475.08 7.74392 (13021809) 446722.56
3764455.81 6.07933 (13021809)
446170.32 3764559.79 3.02567 (16010610) 446872.29
3763190.26 12.42970 (15122216)
446925.22 3763179.19 11.65469 (15122216) 446984.86
3763194.88 21.40026 (12121716)
447010.56 3763193.28 19.89259 (12121716) 447036.58

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	12.81504	(12121716)	447146.92	3763064.30	11.60665	(12121716)
447149.92	3763038.90	11.01070	(14121616)	447148.56	3763019.78	10.69985	(14121616)
447148.56	3762997.39	10.24800	(14121616)	447206.08	3762958.49	11.36049	(15122216)
447209.33	3762922.51	11.95706	(12021516)	447208.40	3762890.70	11.53325	(14121616)
447145.83	3762888.87	8.61646	(14121616)	447122.55	3762889.07	8.02073	(14121616)
447094.33	3762890.05	7.46549	(14121616)	447071.04	3762890.45	7.08959	(14121616)
447043.61	3762889.66	6.70101	(14121616)	447017.76	3762888.87	6.37848	(14121616)
446992.11	3762889.07	6.09646	(14121616)	446964.28	3762888.28	5.81436	(14121616)
446940.41	3762888.47	5.60443	(14121616)	446911.20	3762888.08	5.36727	(14121616)
446885.35	3762889.66	5.21665	(15122216)	446862.07	3762888.87	5.17653	(15122216)
446871.45	3762779.57	4.63287	(14121616)	446926.31	3762768.72	4.90237	(14121616)
446983.74	3762774.24	5.33294	(14121616)	447009.00	3762774.05	5.53560	(14121616)
447030.51	3762774.44	5.76573	(14121616)	447055.37	3762774.05	6.00701	(14121616)
447076.88	3762774.24	6.23724	(14121616)	447101.16			

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      3762774.44        6.50479  (15122216)
      447123.85   3762774.05        6.97290  (15122216)                447148.12
      3762775.03        7.57947  (15122216)
      447170.23   3762774.84        8.21919  (15122216)                447196.78
      3762775.48        9.14224  (15122216)
      447242.12   3762776.57       10.86760  (15122216)                447262.33
      3762776.03       11.48603  (15122216)
      447294.56   3762776.30       12.02679  (15122216)                447313.13
      3762775.48       14.52062  (12121716)
      447313.40   3762749.53       12.29796  (12021516)                447327.86
      3762713.09       14.70226  (12021516)
      447327.36   3762679.87       14.04127  (16102416)                447327.74
      3762657.02       12.38761  (16102416)
      447327.28   3762636.82       11.68940  (14121616)                447327.51
      3762612.90       11.54840  (14123015)
      447327.28   3762592.24       12.34846  (14123015)                447327.04
      3762569.71       13.30000  (12021516)
      447327.28   3762547.89       14.97306  (12021516)                447326.58
      3762524.67       15.60535  (12021516)
      447326.58   3762506.09       15.78897  (16102416)                447327.51
      3762477.53       15.48719  (14121616)
      447325.88   3762454.31       16.47315  (16011516)                447225.58
      3762432.95       15.09171  (16011516)
      447200.27   3762430.63       15.37726  (16011516)                447156.85
      3762430.16       18.55372  (16011516)
      447131.77   3762430.86       19.66114  (16011516)                447102.74
      3762430.63       18.98127  (16011516)
      447079.06   3762430.86       17.00549  (16011516)                447034.94
      3762433.65       14.03260  (16011516)
      446995.47   3762433.65       15.26972  (16011516)                446972.71
      3762434.34       16.03092  (16011516)
      446941.37   3762434.58       15.07328  (16011516)                446916.06
      3762436.90       11.93833  (13112916)
      446876.35   3762436.90       11.92496  (14123015)                446848.85
      3762647.05        4.16829  (13112916)
      446848.85   3762563.17        5.39156  (14123015)                446849.17
      3762509.82        6.99506  (14123015)
      446849.17   3762455.82       10.00845  (14123015)                446848.85
      3762702.00        4.19418  (15122216)
      446849.49   3762754.71        4.41115
      (14121616)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:50:29

                    PAGE  84
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  8-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  ALL      ***
                              INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                              VOL3        , VOL4        , VOL5        ,
                VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                VOL11       , VOL12       , VOL13       ,
                VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                VOL19       , VOL20       , VOL21       ,
                VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                VOL27       , VOL28       ,  . . .      ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF CO       IN
                                   MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
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     (M)        CONC     (YYMMDDHH)
- - - -
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*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	8.56556	(13112016)	448462.73	3762339.82	9.65773	(13112016)
448464.47	3762265.93	9.40421	(13112016)	448461.57	3762165.17	8.81111c	(15013016)
448472.57	3762064.71	7.49808	(12012416)	448460.48	3762016.72	6.77381	(12012416)
448234.63	3761951.18	7.02942	(12121716)	448081.42	3761952.78	7.25897	(12121716)
448025.53	3761955.99	7.87245	(12121716)	447506.75	3761967.63	8.02093	(15122216)
447269.29	3761967.74	8.82705	(15122216)	447389.46	3761908.79	6.09929	(15122216)
447019.14	3761964.34	8.30521	(15122216)	447060.33	3761963.58	8.56467	(15122216)
446975.31	3761963.20	7.84972	(15122216)	446940.92	3761953.76	7.48034	(15122216)
446865.72	3761974.54	8.45359	(15122216)	446795.06	3761957.91	5.99334	(15122216)
446757.65	3761965.85	5.05947	(15122216)	446709.33	3761967.74	3.95581	(15122216)
446796.42	3762028.62	7.11078	(15122216)	446796.97			

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      3762045.28       7.28944  (15122216)
      446796.70   3762089.51       7.33887  (15122216)               446796.15
      3762105.89       7.23964  (15122216)
      446796.70   3762137.29       7.48063  (16102416)               446796.15
      3762153.39       7.62156  (16102416)
      446772.40   3762215.37       6.86574  (14121616)               446795.06
      3762321.03       7.86722  (14121616)
      446796.42   3762450.98       4.87936  (15012616)               446796.42
      3762471.18       4.37807  (15012616)
      446797.24   3762496.03       3.86927  (14121216)               446798.06
      3762516.51       3.52647  (14121216)
      446797.79   3762539.98       3.18633  (14121216)               446797.52
      3762560.19       2.94882  (14121616)
      446798.61   3762584.76       2.76705  (14121616)               446798.06
      3762604.42       2.64539  (14121616)
      446799.70   3762654.11       2.41795  (14121616)               446799.97
      3762674.58       2.34929  (14121616)
      446800.25   3762700.25       2.27655  (14121616)               446800.25
      3762721.27       2.23212  (14121616)
      446799.97   3762735.74       2.20634  (14121616)               446797.79
      3762748.02       2.18355  (14121616)
      446802.16   3762913.47       2.71599  (15122216)               446802.16
      3762932.58       2.82234  (15122216)
      446802.43   3762949.24       2.92435  (15122216)               446802.98
      3762967.26       3.04559  (15122216)
      446802.70   3762986.09       3.18325  (15122216)               446802.16
      3763003.29       3.32024  (15122216)
      446802.16   3763021.86       3.48578  (15122216)               446802.70
      3763040.70       3.67498  (15122216)
      446802.98   3763059.26       3.88329  (15122216)               446803.52
      3763077.01       4.10806  (15122216)
      446756.29   3763085.26       3.80533  (15122216)               446807.68
      3763646.39       8.36937  (14121616)
      446808.32   3763674.66       8.51427  (14121616)               446807.68
      3763694.57       8.41415  (14121616)
      446808.32   3763710.63       8.38095  (14121616)               446808.32
      3763726.37       8.33034  (14121616)
      446808.00   3763742.11       8.31388  (14121616)               446808.32
      3763756.89       8.36714  (14121616)
      446808.64   3763798.32       8.37428  (14121616)               446810.25
      3764484.08       3.33949  (14121216)
      446781.34   3764475.08       3.27875  (14121216)               446722.56
      3764455.81       2.94964  (14121216)
      446170.32   3764559.79       1.18648  (15012616)               446872.29
      3763190.26       8.06543  (15122216)
      446925.22   3763179.19       7.22914  (15122216)               446984.86
      3763194.88       7.35344  (15122216)
      447010.56   3763193.28       7.56478  (15122216)               447036.58
      3763193.60       8.14541  (15122216)
      447053.61   3763193.28       8.47224  (15122216)               447076.42
      3763192.31       8.62139  (15122216)
      447093.45   3763192.63       8.57008  (15122216)               447122.05
      3763192.63       8.07857  (15122216)
      447138.75   3763192.31       7.68984  (12121716)               447167.99
      3763192.31       8.23101  (12121716)
      447170.68   3763172.18       7.27664  (12121716)               447170.41
      3763158.25       6.76401  (14121616)
      447169.31   3763144.87       6.74296  (14121616)               447147.46
      3763107.45       5.96770  (14121616)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:50:29

                     PAGE  86
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*
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*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	5.91667	(14121616)	447146.92	3763064.30	5.84400	(14121616)
447149.92	3763038.90	5.72779	(14121616)	447148.56	3763019.78	5.47736	(14121616)
447148.56	3762997.39	5.31248	(15122216)	447206.08	3762958.49	6.99024	(15122216)
447209.33	3762922.51	6.89490	(14121616)	447208.40	3762890.70	6.90137	(15122216)
447145.83	3762888.87	4.68403	(15122216)	447122.55	3762889.07	4.24405	(15122216)
447094.33	3762890.05	3.82529	(15122216)	447071.04	3762890.45	3.55050	(15122216)
447043.61	3762889.66	3.29413	(15122216)	447017.76	3762888.87	3.11124	(15122216)
446992.11	3762889.07	2.97815	(15122216)	446964.28	3762888.28	2.86862	(15122216)
446940.41	3762888.47	2.80251	(15122216)	446911.20	3762888.08	2.73928	(15122216)
446885.35	3762889.66	2.70351	(15122216)	446862.07	3762888.87	2.66745	(15122216)
446871.45	3762779.57	2.30701	(14121616)	446926.31	3762768.72	2.46466	(14121616)
446983.74	3762774.24	2.67304	(14121616)	447009.00	3762774.05	2.78519	(14121616)
447030.51	3762774.44	2.91268	(15122216)	447055.37	3762774.05	3.10220	(15122216)
447076.88	3762774.24	3.29775	(15122216)	447101.16	3762774.44	3.55776	(15122216)
447123.85	3762774.05	3.86098	(15122216)	447148.12	3762775.03	4.26546	(15122216)
447170.23	3762774.84	4.70977	(15122216)	447196.78	3762775.48	5.36188	(15122216)
447242.12	3762776.57	6.60449	(15122216)	447262.33	3762776.03	7.02142	(15122216)
447294.56	3762776.30	7.34243	(15122216)	447313.13	3762775.48	7.21755	(15122216)
447313.40	3762749.53	6.67460	(14121616)	447327.86	3762713.09	8.06459	(14121616)
447327.36	3762679.87	7.91392	(14121616)	447327.74	3762657.02	7.51633	(14121616)
447327.28	3762636.82	7.16124	(14121616)	447327.51	3762612.90	7.10443	(14121616)
447327.28	3762592.24	7.32554	(14121616)	447327.04	3762569.71	7.81706	(14121616)
447327.28	3762547.89	8.40452	(14121616)	447326.58			

3762524.67 8.79752 (14121616)
447326.58 3762506.09 8.88271 (14121616) 447327.51
3762477.53 8.69403 (14121616)
447325.88 3762454.31 8.27599 (14121616) 447225.58
3762432.95 8.99089 (14121216)
447200.27 3762430.63 8.87672 (14121216) 447156.85
3762430.16 8.46269 (14121216)
447131.77 3762430.86 8.44978 (14121216) 447102.74
3762430.63 8.76647 (14121216)
447079.06 3762430.86 8.83953 (14121216) 447034.94
3762433.65 8.20953 (14121216)
446995.47 3762433.65 7.61929 (14121216) 446972.71
3762434.34 7.32146 (14121216)
446941.37 3762434.58 7.27611 (14121216) 446916.06
3762436.90 7.04414 (14121216)
446876.35 3762436.90 6.76777 (14121216) 446848.85
3762647.05 2.53115 (14121616)
446848.85 3762563.17 3.02684 (14121616) 446849.17
3762509.82 3.83628 (14121216)
446849.17 3762455.82 5.45667 (14121216) 446848.85
3762702.00 2.35769 (14121616)
446849.49 3762754.71 2.27577
(14121616)

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 15:50:29

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	38.39218	ON 12121716: AT (448025.53, 3761955.99, 221.00, 221.00, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 15:50:29

PAGE 88
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

```
                                                     DATE
                                                                                NETWORK
GROUP ID                          AVERAGE CONC     (YYMMDDHH)             RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       9.65773  ON 13112016: AT (  448462.73,  3762339.82,
224.57,   224.57,    2.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                        ***       15:50:29

                      PAGE  89
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         1628 Informational Message(s)

 A Total of        43848 Hours Were Processed

 A Total of         1278 Calm Hours Identified

 A Total of          350 Missing Hours Identified (  0.80 Percent)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    1255       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    1255       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************
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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Cons NO2\14822 Cons
NO2.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 1
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID NOX
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Cons NO2.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** Source Parameters **
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   SRCPARAM VOL2         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL3         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL4         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL5         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL6         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL7         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL8         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL9         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL10        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL11        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL12        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL13        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL14        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL19        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL24        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL32        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL36        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL39        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL44        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL46        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL53        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL56        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL57        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL58        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL59        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL60        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL61        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL62        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL65        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL66        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL67        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL69        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL70        0.0261850596     5.000    44.302     1.400
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

```
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
```

```
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Cons NO2.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
```

```
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "14822 CONS NO2.AD\01H1GALL.PLT" 31
   SUMMFILE "14822 Cons NO2.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Cons NO2\14822 Cons
NO2.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 1
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID NOX
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Cons NO2.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
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   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** Source Parameters **
   SRCPARAM VOL1         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL2         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL3         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL4         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL5         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL6         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL7         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL8         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL9         0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL10        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL11        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL12        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL13        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL14        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL15        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL16        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL17        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL18        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL19        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL20        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL21        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL22        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL23        0.0261850596     5.000    44.302     1.400
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   SRCPARAM VOL24        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL25        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL26        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL27        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL28        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL29        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL30        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL31        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL32        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL33        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL34        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL35        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL36        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL37        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL38        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL39        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL40        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL41        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL42        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL43        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL44        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL45        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL46        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL47        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL48        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL49        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL50        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL51        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL52        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL53        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL54        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL55        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL56        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL57        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL58        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL59        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL60        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL61        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL62        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL63        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL64        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL65        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL66        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL67        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL68        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL69        0.0261850596     5.000    44.302     1.400
   SRCPARAM VOL70        0.0261850596     5.000    44.302     1.400
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

```
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

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** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Cons NO2.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
```

```
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "14822 CONS NO2.AD\01H1GALL.PLT" 31
   SUMMFILE "14822 Cons NO2.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    1255       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    1255       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for    70 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
```

```
     * Urban Roughness Length of 1.0 Meter Used.
     * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
     * CCVR_Sub - Meteorological data includes CCVR substitutions
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Accepts FLAGPOLE Receptor . Heights.
     * The User Specified a Pollutant Type of: NOX

 **Model Calculates  1 Short Term Average(s) of:   1-HR

 **This Run Includes:     70 Source(s);       1 Source Group(s); and     227 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     70 VOLUME source(s)
                and:      0 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing
                                                                 Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   289.00 ;  Decay Coef. =
 0.000     ;  Rot. Angle =     0.0
                Emission Units = GRAMS/SEC                              ;  Emission Rate
                Unit Factor =   0.10000E+07
                Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:
 aermod.inp
 **Output Print File:
 aermod.out

 **Detailed Error/Message File:   14822 Cons
 NO2.err
 **File for Summary of Results:   14822 Cons
 NO2.sum
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                          *** VOLUME SOURCE DATA ***

             NUMBER EMISSION RATE                   BASE    RELEASE    INIT.    INIT.
             URBAN  EMISSION RATE
```

SOURCE ID	PART. SCALAR VARY BY	(GRAMS/SEC)	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	SZ (METERS)	
VOL1	0	0.26185E-01	447959.2	3762097.7	222.0	5.00	44.30	1.40	YES HRDOW
VOL2	0	0.26185E-01	448134.4	3762098.8	222.4	5.00	44.30	1.40	YES HRDOW
VOL3	0	0.26185E-01	447790.3	3762102.9	221.9	5.00	44.30	1.40	YES HRDOW
VOL4	0	0.26185E-01	447618.2	3762098.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL5	0	0.26185E-01	447446.1	3762100.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL6	0	0.26185E-01	447276.1	3762094.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL7	0	0.26185E-01	447099.9	3762094.7	219.6	5.00	44.30	1.40	YES HRDOW
VOL8	0	0.26185E-01	446929.9	3762096.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL9	0	0.26185E-01	448310.5	3762107.0	222.0	5.00	44.30	1.40	YES HRDOW
VOL10	0	0.26185E-01	446926.7	3762209.8	221.3	5.00	44.30	1.40	YES HRDOW
VOL11	0	0.26185E-01	446924.1	3762324.3	222.2	5.00	44.30	1.40	YES HRDOW
VOL12	0	0.26185E-01	447100.3	3762207.3	221.0	5.00	44.30	1.40	YES HRDOW
VOL13	0	0.26185E-01	447276.4	3762207.3	221.9	5.00	44.30	1.40	YES HRDOW
VOL14	0	0.26185E-01	447447.5	3762207.3	222.0	5.00	44.30	1.40	YES HRDOW
VOL15	0	0.26185E-01	447616.0	3762206.0	222.0	5.00	44.30	1.40	YES HRDOW
VOL16	0	0.26185E-01	447807.2	3762206.0	222.6	5.00	44.30	1.40	YES HRDOW
VOL17	0	0.26185E-01	447959.5	3762206.0	223.0	5.00	44.30	1.40	YES HRDOW
VOL18	0	0.26185E-01	448138.1	3762203.5	222.6	5.00	44.30	1.40	YES HRDOW
VOL19	0	0.26185E-01	448313.0	3762202.2	222.6	5.00	44.30	1.40	YES HRDOW
VOL20	0	0.26185E-01	447100.3	3762325.5	222.0	5.00	44.30	1.40	YES HRDOW
VOL21	0	0.26185E-01	447276.4	3762324.3	222.9	5.00	44.30	1.40	YES HRDOW
VOL22	0	0.26185E-01	447448.7	3762324.3	222.7	5.00	44.30	1.40	YES HRDOW
VOL23	0	0.26185E-01	447616.0	3762326.8	222.7	5.00	44.30	1.40	YES HRDOW
VOL24	0	0.26185E-01	447789.6	3762328.0	223.7	5.00	44.30	1.40	YES HRDOW
VOL25	0	0.26185E-01	447960.7	3762326.8	224.2	5.00	44.30	1.40	YES HRDOW
VOL26	0	0.26185E-01	448135.6	3762328.0	224.5	5.00	44.30	1.40	YES HRDOW
VOL27	0	0.26185E-01	448318.0	3762330.6	224.8	5.00	44.30	1.40	YES HRDOW
VOL28	0	0.26185E-01	447432.4	3762513.0	225.3	5.00	44.30	1.40	YES HRDOW
VOL29	0	0.26185E-01	447621.1	3762513.0	224.5	5.00	44.30	1.40	YES HRDOW
VOL30	0	0.26185E-01	447811.0	3762515.5	225.4	5.00	44.30	1.40	

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 YES   HRDOW
 VOL31            0   0.26185E-01  447999.7 3762515.5   225.9     5.00    44.30     1.40
 YES   HRDOW
 VOL32            0   0.26185E-01  448189.7 3762514.2   225.7     5.00    44.30     1.40
 YES   HRDOW
 VOL33            0   0.26185E-01  448315.5 3762516.7   226.2     5.00    44.30     1.40
 YES   HRDOW
 VOL34            0   0.26185E-01  448316.7 3762709.2   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL35            0   0.26185E-01  448189.7 3762708.0   226.4     5.00    44.30     1.40
 YES   HRDOW
 VOL36            0   0.26185E-01  448001.0 3762706.7   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL37            0   0.26185E-01  447811.0 3762706.7   227.0     5.00    44.30     1.40
 YES   HRDOW
 VOL38            0   0.26185E-01  447621.1 3762704.2   226.6     5.00    44.30     1.40
 YES   HRDOW
 VOL39            0   0.26185E-01  447433.6 3762704.2   227.3     5.00    44.30     1.40
 YES   HRDOW
 VOL40            0   0.26185E-01  447524.2 3762897.9   228.4     5.00    44.30     1.40
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)              BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - -

 VOL41            0   0.26185E-01  447329.2 3762897.9   228.7     5.00    44.30     1.40
 YES   HRDOW
 VOL42            0   0.26185E-01  447304.1 3763089.1   231.3     5.00    44.30     1.40
 YES   HRDOW
 VOL43            0   0.26185E-01  447533.0 3763086.6   231.2     5.00    44.30     1.40
 YES   HRDOW
 VOL44            0   0.26185E-01  447433.6 3763086.6   231.2     5.00    44.30     1.40
 YES   HRDOW
 VOL45            0   0.26185E-01  447530.5 3763277.8   232.5     5.00    44.30     1.40
 YES   HRDOW
 VOL46            0   0.26185E-01  447305.3 3763281.6   232.2     5.00    44.30     1.40
 YES   HRDOW
 VOL47            0   0.26185E-01  447419.8 3763282.9   232.6     5.00    44.30     1.40
 YES   HRDOW
 VOL48            0   0.26185E-01  447112.8 3763304.2   231.8     5.00    44.30     1.40
 YES   HRDOW
 VOL49            0   0.26185E-01  446924.1 3763305.5   231.6     5.00    44.30     1.40
 YES   HRDOW
 VOL50            0   0.26185E-01  447533.0 3763469.0   233.5     5.00    44.30     1.40
 YES   HRDOW
 VOL51            0   0.26185E-01  447217.3 3763472.8   233.2     5.00    44.30     1.40
 YES   HRDOW
 VOL52            0   0.26185E-01  447088.9 3763471.6   233.0     5.00    44.30     1.40
 YES   HRDOW
 VOL53            0   0.26185E-01  446925.4 3763474.1   232.6     5.00    44.30     1.40
```

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 YES   HRDOW
 VOL54            0   0.26185E-01  447361.9 3763470.3   233.5     5.00    44.30     1.40
 YES   HRDOW
 VOL55            0   0.26185E-01  447531.7 3763659.5   234.9     5.00    44.30     1.40
 YES   HRDOW
 VOL56            0   0.26185E-01  447533.5 3763806.8   235.6     5.00    44.30     1.40
 YES   HRDOW
 VOL57            0   0.26185E-01  447359.9 3763658.4   234.1     5.00    44.30     1.40
 YES   HRDOW
 VOL58            0   0.26185E-01  447219.0 3763657.1   234.1     5.00    44.30     1.40
 YES   HRDOW
 VOL59            0   0.26185E-01  447090.7 3763659.7   234.5     5.00    44.30     1.40
 YES   HRDOW
 VOL60            0   0.26185E-01  446930.9 3763659.7   234.2     5.00    44.30     1.40
 YES   HRDOW
 VOL61            0   0.26185E-01  447357.4 3763804.3   234.7     5.00    44.30     1.40
 YES   HRDOW
 VOL62            0   0.26185E-01  447219.0 3763804.3   234.9     5.00    44.30     1.40
 YES   HRDOW
 VOL63            0   0.26185E-01  447093.2 3763805.6   235.8     5.00    44.30     1.40
 YES   HRDOW
 VOL64            0   0.26185E-01  446932.2 3763805.6   235.5     5.00    44.30     1.40
 YES   HRDOW
 VOL65            0   0.26185E-01  447133.5 3763996.8   237.4     5.00    44.30     1.40
 YES   HRDOW
 VOL66            0   0.26185E-01  446943.5 3763996.8   237.4     5.00    44.30     1.40
 YES   HRDOW
 VOL67            0   0.26185E-01  447134.7 3764159.1   239.1     5.00    44.30     1.40
 YES   HRDOW
 VOL68            0   0.26185E-01  446944.8 3764159.1   240.0     5.00    44.30     1.40
 YES   HRDOW
 VOL69            0   0.26185E-01  447136.0 3764318.9   241.0     5.00    44.30     1.40
 YES   HRDOW
 VOL70            0   0.26185E-01  446944.8 3764317.6   240.2     5.00    44.30     1.40
 YES   HRDOW
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Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------


  ALL        VOL1       , VOL2       , VOL3       , VOL4       , VOL5       , VOL6       ,
  VOL7        , VOL8       ,

             VOL9       , VOL10      , VOL11      , VOL12      , VOL13      , VOL14      ,
             VOL15      , VOL16      ,

             VOL17      , VOL18      , VOL19      , VOL20      , VOL21      , VOL22      ,
             VOL23      , VOL24      ,

             VOL25      , VOL26      , VOL27      , VOL28      , VOL29      , VOL30      ,
             VOL31      , VOL32      ,

             VOL33      , VOL34      , VOL35      , VOL36      , VOL37      , VOL38      ,
             VOL39      , VOL40      ,

             VOL41      , VOL42      , VOL43      , VOL44      , VOL45      , VOL46
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VOL47 , VOL48 ,

VOL49 , VOL50 , VOL51 , VOL52 , VOL53 , VOL54 ,
VOL55 , VOL56 ,

VOL57 , VOL58 , VOL59 , VOL60 , VOL61 , VOL62 ,
VOL63 , VOL64 ,

VOL65 , VOL66 , VOL67 , VOL68 , VOL69 , VOL70 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
2035210.		VOL1 , VOL2 , VOL3 , VOL4 , VOL5 , VOL6 , VOL7 , VOL8 , VOL9 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 , VOL17 , VOL18 , VOL19 , VOL20 , VOL21 , VOL22 , VOL23 , VOL24 , VOL25 , VOL26 , VOL27 , VOL28 , VOL29 , VOL30 , VOL31 , VOL32 , VOL33 , VOL34 , VOL35 , VOL36 , VOL37 , VOL38 , VOL39 , VOL40 , VOL41 , VOL42 , VOL43 , VOL44 , VOL45 , VOL46 , VOL47 , VOL48 , VOL49 , VOL50 , VOL51 , VOL52 , VOL53 , VOL54 , VOL55 , VOL56 , VOL57 , VOL58 , VOL59 , VOL60 , VOL61 , VOL62 , VOL63 , VOL64 , VOL65 , VOL66 , VOL67 , VOL68 , VOL69 , VOL70 ,

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*** AERMET - VERSION 16216 ***
*** *** 16:20:17

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL1 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

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*** AERMET - VERSION 16216 ***

*** *** 16:20:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL2 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = VOL3 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL5 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL6 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
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Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL7         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL8         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
```

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL9 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL12 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

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*** AERMET - VERSION 16216 ***
*** *** 16:20:17

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL13 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = VOL14 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL16        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

                     PAGE  22
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL17        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

                     PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL18        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

                     PAGE  24
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL19        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

                      PAGE  25
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL20        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
```

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = VOL21   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL23 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL24 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL25 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

- - - - - - - - - - - - - - - - - -

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL27 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

- - - - - - - - - - - - - - - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL28 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL29 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00				

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL30 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL31 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00

```
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00

                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL32        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -

                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00

                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00

                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL33        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -

                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
```

```
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL34        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL35        ; SOURCE TYPE = VOLUME   :
```

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL36        ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:1
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL37 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:20:17

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL38 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00												

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL39 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL40 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6

.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:20:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL41 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL43        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

(HRDOW) *

SOURCE ID = VOL44 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL46 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL47 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL48 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:20:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL50 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL53 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

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*** AERMET - VERSION 16216 ***

*** *** 16:20:17

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL54 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:20:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL55 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL57 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL58 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00

```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL59        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL60        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL61        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL62 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL63 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL64        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL65        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL66        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL67        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
```

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22

*** AERMET - VERSION 16216 ***

*** *** 16:20:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL68 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

SOURCE ID = VOL69 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = VOL70 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447362.2, 3764292.7, 240.7, 240.7, 2.0); (447376.0, 3764151.0, 239.6, 239.6, 2.0);
(447389.8, 3764043.0, 237.8, 237.8, 2.0); (447450.2, 3764031.0, 237.5, 237.5, 2.0);
(447410.2, 3764019.0, 237.5, 237.5, 2.0); (446891.9, 3764451.2, 241.5, 241.5, 2.0);
(446959.3, 3764451.2, 241.5, 241.5, 2.0); (446995.3, 3764468.1, 241.8, 241.8, 2.0);
(447007.4, 3764467.3, 241.9, 241.9, 2.0); (447023.5, 3764466.1, 241.9, 241.9, 2.0);
(447036.6, 3764466.2, 241.9, 241.9, 2.0); (447052.7, 3764465.6, 242.0, 242.0, 2.0);
(447066.6, 3764465.7, 242.1, 242.1, 2.0); (447099.6, 3764456.2, 242.1, 242.1, 2.0);
(447145.3, 3764468.3, 242.1, 242.1, 2.0); (447175.5, 3764468.0, 241.7, 241.7, 2.0);
(447205.3, 3764468.3, 241.3, 241.3, 2.0); (447232.4, 3764467.5, 242.0, 242.0, 2.0);
(447264.0, 3764467.3, 243.3, 243.3, 2.0); (447294.8, 3764466.9, 243.8, 243.8, 2.0);
(447365.0, 3764456.4, 243.3, 243.3, 2.0); (447406.6, 3764460.6, 243.1, 243.1, 2.0);
(447441.5, 3764460.0, 243.2, 243.2, 2.0); (447466.9, 3764460.2, 243.2, 243.2, 2.0);
(447490.0, 3764460.6, 242.9, 242.9, 2.0); (447515.5, 3764460.4, 242.6, 242.6, 2.0);
(447573.1, 3764454.3, 241.6, 241.6, 2.0); (447598.5, 3764445.2, 241.8, 241.8, 2.0);
(447652.9, 3764439.7, 243.1, 243.1, 2.0); (447692.9, 3764439.5, 243.1, 243.1, 2.0);
(447713.8, 3764439.1, 243.1, 243.1, 2.0); (447732.0, 3764438.7, 243.2, 243.2, 2.0);
(447751.1, 3764438.7, 243.3, 243.3, 2.0); (447768.8, 3764437.5, 243.4, 243.4, 2.0);
(447789.1, 3764437.7, 243.7, 243.7, 2.0); (447805.7, 3764437.3, 243.8, 243.8, 2.0);
(447824.0, 3764437.2, 243.9, 243.9, 2.0); (447841.6, 3764437.9, 243.9, 243.9, 2.0);
(447861.7, 3764437.5, 243.9, 243.9, 2.0); (447881.7, 3764435.2, 243.8, 243.8, 2.0);
(447902.8, 3764436.2, 243.8, 243.8, 2.0); (447920.9, 3764435.3, 243.8, 243.8, 2.0);
(447942.2, 3764435.3, 243.8, 243.8, 2.0); (447962.8, 3764434.8, 243.8, 243.8, 2.0);
(447980.7, 3764435.2, 243.8, 243.8, 2.0); (448004.7, 3764435.2, 243.6, 243.6, 2.0);
(448021.2, 3764434.7, 243.0, 243.0, 2.0); (447662.7, 3764379.6, 243.6, 243.6, 2.0);
(447681.3, 3764321.0, 243.4, 243.4, 2.0); (447682.6, 3764285.8, 242.3, 242.3, 2.0);
(447662.5, 3764238.4, 241.1, 241.1, 2.0); (447661.7, 3764207.4, 240.2, 240.2, 2.0);
(447683.1, 3764162.3, 239.1, 239.1, 2.0); (447681.0, 3764145.9, 238.7, 238.7, 2.0);

(447679.6, 3764130.3, 238.2, 238.2, 2.0); (447680.8, 3764112.0,
237.8, 237.8, 2.0);
(447681.5, 3764096.4, 237.6, 237.6, 2.0); (447680.8, 3764078.8,
237.4, 237.4, 2.0);
(447680.0, 3764064.3, 237.4, 237.4, 2.0); (447681.0, 3764045.8,
237.5, 237.5, 2.0);
(447680.6, 3764029.7, 237.5, 237.5, 2.0); (447657.2, 3763992.0,
237.3, 237.3, 2.0);
(447656.3, 3763967.1, 237.5, 237.5, 2.0); (447657.2, 3763928.7,
237.5, 237.5, 2.0);
(447657.2, 3763902.2, 237.6, 237.6, 2.0); (447657.5, 3763869.0,
237.3, 237.3, 2.0);
(447656.2, 3763834.9, 237.4, 237.4, 2.0); (447655.9, 3763808.3,
237.5, 237.5, 2.0);
(447657.1, 3763786.0, 237.6, 237.6, 2.0); (447701.2, 3763782.1,
237.7, 237.7, 2.0);
(447856.9, 3763749.7, 236.2, 236.2, 2.0); (447855.0, 3763730.1,
236.0, 236.0, 2.0);
(447854.3, 3763698.3, 235.6, 235.6, 2.0); (447855.3, 3763676.8,
235.4, 235.4, 2.0);
(447675.5, 3763287.5, 232.0, 232.0, 2.0); (448481.3, 3763485.3,
235.6, 235.6, 2.0);
(448480.0, 3763195.5, 232.0, 232.0, 2.0); (448478.6, 3762907.2,
229.4, 229.4, 2.0);
(448497.9, 3762714.1, 228.1, 228.1, 2.0); (448507.9, 3762487.7,
225.8, 225.8, 2.0);
(448480.5, 3762358.0, 224.8, 224.8, 2.0); (448462.7, 3762339.8,
224.6, 224.6, 2.0);
(448464.5, 3762265.9, 223.3, 223.3, 2.0); (448461.6, 3762165.2,
222.0, 222.0, 2.0);
(448472.6, 3762064.7, 220.0, 220.0, 2.0); (448460.5, 3762016.7,
219.4, 219.4, 2.0);
(448234.6, 3761951.2, 220.0, 220.0, 2.0); (448081.4, 3761952.8,
220.9, 220.9, 2.0);
(448025.5, 3761956.0, 221.0, 221.0, 2.0); (447506.8, 3761967.6,
220.0, 220.0, 2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447269.3, 3761967.7, 219.7, 219.7, 2.0); (447389.5, 3761908.8,
220.0, 220.0, 2.0);
(447019.1, 3761964.3, 219.0, 219.0, 2.0); (447060.3, 3761963.6,
219.0, 219.0, 2.0);
(446975.3, 3761963.2, 219.0, 219.0, 2.0); (446940.9, 3761953.8,
219.0, 219.0, 2.0);
(446865.7, 3761974.5, 219.9, 219.9, 2.0); (446795.1, 3761957.9,
220.0, 220.0, 2.0);
(446757.6, 3761965.8, 220.0, 220.0, 2.0); (446709.3, 3761967.7,
220.0, 220.0, 2.0);
(446796.4, 3762028.6, 220.0, 220.0, 2.0); (446797.0, 3762045.3,
220.1, 220.1, 2.0);
(446796.7, 3762089.5, 221.0, 221.0, 2.0); (446796.1, 3762105.9,
221.0, 221.0, 2.0);
(446796.7, 3762137.3, 221.0, 221.0, 2.0); (446796.1, 3762153.4,
221.0, 221.0, 2.0);
(446772.4, 3762215.4, 221.6, 221.6, 2.0); (446795.1, 3762321.0,
222.0, 222.0, 2.0);

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( 446796.4, 3762451.0,     224.0,     224.0,       2.0);         ( 446796.4, 3762471.2,
224.4,     224.4,       2.0);
( 446797.2, 3762496.0,     224.9,     224.9,       2.0);         ( 446798.1, 3762516.5,
225.3,     225.3,       2.0);
( 446797.8, 3762540.0,     225.7,     225.7,       2.0);         ( 446797.5, 3762560.2,
225.9,     225.9,       2.0);
( 446798.6, 3762584.8,     226.1,     226.1,       2.0);         ( 446798.1, 3762604.4,
226.5,     226.5,       2.0);
( 446799.7, 3762654.1,     227.5,     227.5,       2.0);         ( 446800.0, 3762674.6,
228.0,     228.0,       2.0);
( 446800.2, 3762700.2,     228.5,     228.5,       2.0);         ( 446800.2, 3762721.3,
228.6,     228.6,       2.0);
( 446800.0, 3762735.7,     228.6,     228.6,       2.0);         ( 446797.8, 3762748.0,
228.6,     228.6,       2.0);
( 446802.2, 3762913.5,     228.3,     228.3,       2.0);         ( 446802.2, 3762932.6,
228.3,     228.3,       2.0);
( 446802.4, 3762949.2,     228.3,     228.3,       2.0);         ( 446803.0, 3762967.3,
228.3,     228.3,       2.0);
( 446802.7, 3762986.1,     228.4,     228.4,       2.0);         ( 446802.2, 3763003.3,
228.6,     228.6,       2.0);
( 446802.2, 3763021.9,     228.8,     228.8,       2.0);         ( 446802.7, 3763040.7,
229.0,     229.0,       2.0);
( 446803.0, 3763059.3,     229.2,     229.2,       2.0);         ( 446803.5, 3763077.0,
229.3,     229.3,       2.0);
( 446756.3, 3763085.3,     228.7,     228.7,       2.0);         ( 446807.7, 3763646.4,
234.6,     234.6,       2.0);
( 446808.3, 3763674.7,     234.8,     234.8,       2.0);         ( 446807.7, 3763694.6,
234.9,     234.9,       2.0);
( 446808.3, 3763710.6,     235.0,     235.0,       2.0);         ( 446808.3, 3763726.4,
235.0,     235.0,       2.0);
( 446808.0, 3763742.1,     235.0,     235.0,       2.0);         ( 446808.3, 3763756.9,
235.0,     235.0,       2.0);
( 446808.6, 3763798.3,     235.3,     235.3,       2.0);         ( 446810.2, 3764484.1,
241.7,     241.7,       2.0);
( 446781.3, 3764475.1,     241.7,     241.7,       2.0);         ( 446722.6, 3764455.8,
241.4,     241.4,       2.0);
( 446170.3, 3764559.8,     242.5,     242.5,       2.0);         ( 446872.3, 3763190.3,
231.5,     231.5,       2.0);
( 446925.2, 3763179.2,     231.6,     231.6,       2.0);         ( 446984.9, 3763194.9,
231.4,     231.4,       2.0);
( 447010.6, 3763193.3,     231.7,     231.7,       2.0);         ( 447036.6, 3763193.6,
231.7,     231.7,       2.0);
( 447053.6, 3763193.3,     231.7,     231.7,       2.0);         ( 447076.4, 3763192.3,
231.8,     231.8,       2.0);
( 447093.5, 3763192.6,     231.9,     231.9,       2.0);         ( 447122.0, 3763192.6,
231.7,     231.7,       2.0);
( 447138.8, 3763192.3,     231.7,     231.7,       2.0);         ( 447168.0, 3763192.3,
231.6,     231.6,       2.0);
( 447170.7, 3763172.2,     231.4,     231.4,       2.0);         ( 447170.4, 3763158.2,
231.2,     231.2,       2.0);
( 447169.3, 3763144.9,     231.2,     231.2,       2.0);         ( 447147.5, 3763107.4,
231.5,     231.5,       2.0);
( 447146.6, 3763084.2,     231.4,     231.4,       2.0);         ( 447146.9, 3763064.3,
231.1,     231.1,       2.0);
( 447149.9, 3763038.9,     230.8,     230.8,       2.0);         ( 447148.6, 3763019.8,
230.6,     230.6,       2.0);
( 447148.6, 3762997.4,     230.2,     230.2,       2.0);         ( 447206.1, 3762958.5,
229.5,     229.5,       2.0);
( 447209.3, 3762922.5,     229.1,     229.1,       2.0);         ( 447208.4, 3762890.7,
228.9,     228.9,       2.0);
( 447145.8, 3762888.9,     228.9,     228.9,       2.0);         ( 447122.5, 3762889.1,
228.9,     228.9,       2.0);
( 447094.3, 3762890.0,     228.9,     228.9,       2.0);         ( 447071.0, 3762890.4,
229.0,     229.0,       2.0);
( 447043.6, 3762889.7,     228.9,     228.9,       2.0);         ( 447017.8, 3762888.9,
228.9,     228.9,       2.0);
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(446992.1, 3762889.1, 228.9, 228.9, 2.0); (446964.3, 3762888.3, 228.9, 228.9, 2.0);
(446940.4, 3762888.5, 228.8, 228.8, 2.0); (446911.2, 3762888.1, 228.6, 228.6, 2.0);
(446885.3, 3762889.7, 228.6, 228.6, 2.0); (446862.1, 3762888.9, 228.6, 228.6, 2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(446871.5, 3762779.6, 228.6, 228.6, 2.0); (446926.3, 3762768.7, 228.6, 228.6, 2.0);
(446983.7, 3762774.2, 228.6, 228.6, 2.0); (447009.0, 3762774.0, 228.5, 228.5, 2.0);
(447030.5, 3762774.4, 228.2, 228.2, 2.0); (447055.4, 3762774.0, 228.0, 228.0, 2.0);
(447076.9, 3762774.2, 228.1, 228.1, 2.0); (447101.2, 3762774.4, 228.3, 228.3, 2.0);
(447123.8, 3762774.0, 228.3, 228.3, 2.0); (447148.1, 3762775.0, 228.4, 228.4, 2.0);
(447170.2, 3762774.8, 228.5, 228.5, 2.0); (447196.8, 3762775.5, 228.5, 228.5, 2.0);
(447242.1, 3762776.6, 228.5, 228.5, 2.0); (447262.3, 3762776.0, 228.4, 228.4, 2.0);
(447294.6, 3762776.3, 228.3, 228.3, 2.0); (447313.1, 3762775.5, 228.3, 228.3, 2.0);
(447313.4, 3762749.5, 228.3, 228.3, 2.0); (447327.9, 3762713.1, 228.1, 228.1, 2.0);
(447327.4, 3762679.9, 227.5, 227.5, 2.0); (447327.7, 3762657.0, 227.2, 227.2, 2.0);
(447327.3, 3762636.8, 226.9, 226.9, 2.0); (447327.5, 3762612.9, 226.4, 226.4, 2.0);
(447327.3, 3762592.2, 226.2, 226.2, 2.0); (447327.0, 3762569.7, 226.0, 226.0, 2.0);
(447327.3, 3762547.9, 225.8, 225.8, 2.0); (447326.6, 3762524.7, 225.5, 225.5, 2.0);
(447326.6, 3762506.1, 225.4, 225.4, 2.0); (447327.5, 3762477.5, 224.9, 224.9, 2.0);
(447325.9, 3762454.3, 224.5, 224.5, 2.0); (447225.6, 3762432.9, 224.1, 224.1, 2.0);
(447200.3, 3762430.6, 223.9, 223.9, 2.0); (447156.8, 3762430.2, 223.7, 223.7, 2.0);
(447131.8, 3762430.9, 223.6, 223.6, 2.0); (447102.7, 3762430.6, 223.4, 223.4, 2.0);
(447079.1, 3762430.9, 223.1, 223.1, 2.0); (447034.9, 3762433.6, 223.1, 223.1, 2.0);
(446995.5, 3762433.6, 223.1, 223.1, 2.0); (446972.7, 3762434.3, 223.2, 223.2, 2.0);
(446941.4, 3762434.6, 223.5, 223.5, 2.0); (446916.1, 3762436.9, 223.7, 223.7, 2.0);
(446876.3, 3762436.9, 223.7, 223.7, 2.0); (446848.8, 3762647.0, 227.4, 227.4, 2.0);
(446848.8, 3762563.2, 225.9, 225.9, 2.0); (446849.2, 3762509.8, 225.1, 225.1, 2.0);
(446849.2, 3762455.8, 224.1, 224.1, 2.0); (446848.8, 3762702.0, 228.5, 228.5, 2.0);
(446849.5, 3762754.7, 228.7, 228.7,
2.0);

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:20:17

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data
YR MO DY JDY HR H0 U* W* DT/DZ ZICNV ZIMCH M-O LEN Z0 BOWEN ALBEDO REF WS WD HT REF TA HT

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- - - -
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SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 ,
VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	4.75120	(16122116)	447375.98	3764150.98	5.59044	(16122116)
447389.75	3764043.04	6.87237	(16122116)	447450.16	3764031.05	6.62390	(16122116)
447410.18	3764019.05	6.98617	(16122116)	446891.90	3764451.22	7.26231	(13112916)
446959.28	3764451.22	7.40390	(13112916)	446995.28	3764468.13	5.99832	(16011516)
447007.41	3764467.30	6.08304	(16011516)	447023.51	3764466.09	6.04321	(16011516)
447036.59	3764466.21	6.02886	(13112916)	447052.68	3764465.61	6.51830	(13112916)
447066.60	3764465.73	7.01556	(13112916)	447099.65	3764456.17	8.22197	(13112916)
447145.28	3764468.27	7.34855	(16011516)	447175.54	3764468.03	7.89447	(16011516)
447205.32	3764468.27	7.64496	(16011516)	447232.43	3764467.55	6.89101	(16011516)
447264.02	3764467.30	5.86650	(16122116)	447294.77	3764466.94	5.27240	(16122116)
447364.97	3764456.41	4.23695	(16122116)	447406.61	3764460.65	3.89716	(16122116)
447441.47	3764460.04	3.72366	(16122116)	447466.88	3764460.20	3.65979	(16122116)
447490.00	3764460.56	3.62496	(16122116)	447515.50	3764460.40	3.59957	(16122116)
447573.06	3764454.29	3.63056	(16122116)	447598.49	3764445.22	3.68126	(16122116)
447652.90	3764439.70	3.74304	(16122116)	447692.92	3764439.51	3.75344	(16122116)
447713.82	3764439.11	3.74799	(16122116)	447731.95	3764438.72	3.73172	(16122116)
447751.07	3764438.72	3.70566	(16122116)	447768.82	3764437.53	3.67728	(16122116)
447789.12	3764437.73	3.62978	(16122116)	447805.68	3764437.34	3.58159	(16122116)
447824.02	3764437.20	3.51799	(16122116)	447841.61	3764437.87	3.44618	(16122116)
447861.72	3764437.53	3.35810	(16122116)	447881.66	3764435.18	3.26677	(16122116)
447902.78	3764436.19	3.16208	(16122116)	447920.87	3764435.35	3.07199	(16122116)
447942.16	3764435.35	2.96466	(16122116)	447962.77	3764434.85	2.86194	(16122116)
447980.70	3764435.18	2.77428	(16122116)	448004.66	3764435.18	2.65977	(16122116)
448021.25	3764434.68	2.58503	(16122116)	447662.70			

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       3764379.63        4.01325  (16122116)
       447681.30   3764320.98        4.29325  (16122116)                447682.64
       3764285.79        4.46559  (16122116)
       447662.53   3764238.37        4.75468  (16122116)                447661.70
       3764207.37        4.94783  (16122116)
       447683.14   3764162.29        5.12309  (16122116)                447680.97
       3764145.87        5.23568  (16122116)
       447679.63   3764130.28        5.10275  (16122116)                447680.80
       3764112.02        5.05345  (16122116)
       447681.47   3764096.43        5.17801  (16122116)                447680.80
       3764078.84        5.31139  (16122116)
       447679.96   3764064.26        5.42534  (16122116)                447680.97
       3764045.82        5.55055  (16122116)
       447680.63   3764029.74        5.67545  (16122116)                447657.17
       3763992.03        6.37071  (16122116)
       447656.33   3763967.06        6.65679  (16122116)                447657.17
       3763928.69        7.38989  (12120416)
       447657.17   3763902.21        8.23992  (14010716)                447657.51
       3763869.03        9.59687  (16121216)
       447656.16   3763834.94       11.01797  (16121216)                447655.93
       3763808.27       11.78659  (14120316)
       447657.09   3763786.00       11.59593  (14120316)                447701.21
       3763782.14        9.19423  (14120316)
       447856.92   3763749.71        5.47204  (14120316)                447854.99
       3763730.13        5.52788  (14120316)
       447854.35   3763698.35        5.55440  (14120316)                447855.31
       3763676.84        5.49004  (14120316)
       447675.51   3763287.46       11.35129  (12121716)                448481.33
       3763485.29        2.83494  (16122116)
       448479.95   3763195.53        3.66584  (16122116)                448478.56
       3762907.16        6.16290  (15122116)
       448497.89   3762714.10        8.49699  (14120316)                448507.91
       3762487.71        8.29118  (14120316)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:20:17

                    PAGE  82
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  ALL      ***
                              INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                              VOL3        , VOL4        , VOL5        ,
                VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                VOL11       , VOL12       , VOL13       ,
                VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                VOL19       , VOL20       , VOL21       ,
                VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                VOL27       , VOL28       ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF NOX      IN
                                       MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - -
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3762016.72       14.69937  (12121716)
448234.63   3761951.18       20.31615  (12121716)                448081.42
3761952.78       20.76227  (12121716)
448025.53   3761955.99       23.12073  (12121716)                447506.75
3761967.63       17.02256  (12121716)
447269.29   3761967.74       13.94593  (12121716)                447389.46
3761908.79       12.01625  (12121716)
447019.14   3761964.34       13.20317  (12121716)                447060.33
3761963.58       12.61587  (12121716)
446975.31   3761963.20       11.41204  (12121716)                446940.92
3761953.76        8.34434  (14121616)
446865.72   3761974.54        9.21839  (14121616)                446795.06
3761957.91        8.07043  (14121616)
446757.65   3761965.85        7.93720  (14121616)                446709.33
3761967.74        7.40558  (14121616)
446796.42   3762028.62       10.36422  (14121616)                446796.97
3762045.28       10.78202  (14121616)
446796.70   3762089.51       11.16493  (14121616)                446796.15
3762105.89       11.06459  (14121616)
446796.70   3762137.29       10.80880  (14121616)                446796.15
3762153.39       10.61329  (14121616)
446772.40   3762215.37        9.69578  (16102416)                446795.06
3762321.03       10.20490  (12021516)
446796.42   3762450.98        5.50652  (14123015)                446796.42
3762471.18        5.00158  (14123015)
446797.24   3762496.03        4.42600  (14123015)                446798.06
3762516.51        4.00177  (14123015)
446797.79   3762539.98        3.58310  (14123015)                446797.52
3762560.19        3.27987  (14123015)
446798.61   3762584.76        2.98271  (15012616)                446798.06
3762604.42        2.79042  (15012616)
446799.70   3762654.11        2.40854  (15012616)                446799.97
3762674.58        2.42100  (15122216)
446800.25   3762700.25        2.45037  (15122216)                446800.25
3762721.27        2.49297  (15122216)
446799.97   3762735.74        2.52597  (15122216)                446797.79
3762748.02        2.55399  (15122216)
446802.16   3762913.47        3.19559  (15122216)                446802.16
3762932.58        3.30127  (15122216)
446802.43   3762949.24        3.40080  (15122216)                446802.98
3762967.26        3.51697  (15122216)
446802.70   3762986.09        3.64594  (15122216)                446802.16
3763003.29        3.76876  (15122216)
446802.16   3763021.86        3.91506  (15122216)                446802.70
3763040.70        4.07781  (15122216)
446802.98   3763059.26        4.25178  (15122216)                446803.52
3763077.01        4.43510  (15122216)
446756.29   3763085.26        4.09355  (15122216)                446807.68
3763646.39        8.73250  (16102416)
446808.32   3763674.66        9.05961  (16102416)                446807.68
3763694.57        8.79719  (16102416)
446808.32   3763710.63        8.57515  (16102416)                446808.32
3763726.37        8.39390  (16102416)
446808.00   3763742.11        8.35006  (16102416)                446808.32
3763756.89        8.46428  (16102416)
446808.64   3763798.32        8.77592  (12021516)                446810.25
3764484.08        5.18765  (13021809)
446781.34   3764475.08        4.66358  (13021809)                446722.56
3764455.81        3.66113  (13021809)
446170.32   3764559.79        1.82213  (16010610)                446872.29
3763190.26        7.48548  (15122216)
446925.22   3763179.19        7.01874  (15122216)                446984.86
3763194.88       12.88777  (12121716)
447010.56   3763193.28       11.97981  (12121716)                447036.58
3763193.60       10.71156  (12121716)
447053.61   3763193.28       10.25843  (12121716)                447076.42
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 ,
VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	7.71754	(12121716)	447146.92	3763064.30	6.98981	(12121716)
447149.92	3763038.90	6.63092	(14121616)	447148.56	3763019.78	6.44372	(14121616)
447148.56	3762997.39	6.17160	(14121616)	447206.08	3762958.49	6.84157	(15122216)
447209.33	3762922.51	7.20084	(12021516)	447208.40	3762890.70	6.94561	(14121616)
447145.83	3762888.87	5.18905	(14121616)	447122.55	3762889.07	4.83029	(14121616)
447094.33	3762890.05	4.49591	(14121616)	447071.04	3762890.45	4.26953	(14121616)
447043.61	3762889.66	4.03551	(14121616)	447017.76	3762888.87	3.84128	(14121616)
446992.11	3762889.07	3.67144	(14121616)	446964.28	3762888.28	3.50156	(14121616)
446940.41	3762888.47	3.37513	(14121616)	446911.20	3762888.08	3.23230	(14121616)
446885.35	3762889.66	3.14160	(15122216)	446862.07	3762888.87	3.11743	(15122216)
446871.45	3762779.57	2.79003	(14121616)	446926.31	3762768.72	2.95233	(14121616)
446983.74	3762774.24	3.21163	(14121616)	447009.00	3762774.05	3.33368	(14121616)
447030.51	3762774.44	3.47227	(14121616)	447055.37	3762774.05	3.61757	(14121616)
447076.88	3762774.24	3.75622	(14121616)	447101.16	3762774.44	3.91735	(15122216)
447123.85	3762774.05	4.19926	(15122216)	447148.12			

3762775.03 4.56454 (15122216)
447170.23 3762774.84 4.94980 (15122216) 447196.78
3762775.48 5.50569 (15122216)
447242.12 3762776.57 6.54474 (15122216) 447262.33
3762776.03 6.91718 (15122216)
447294.56 3762776.30 7.24283 (15122216) 447313.13
3762775.48 8.74468 (12121716)
447313.40 3762749.53 7.40614 (12021516) 447327.86
3762713.09 8.85407 (12021516)
447327.36 3762679.87 8.45600 (16102416) 447327.74
3762657.02 7.46013 (16102416)
447327.28 3762636.82 7.03965 (14121616) 447327.51
3762612.90 6.95473 (14123015)
447327.28 3762592.24 7.43655 (14123015) 447327.04
3762569.71 8.00959 (12021516)
447327.28 3762547.89 9.01715 (12021516) 447326.58
3762524.67 9.39793 (12021516)
447326.58 3762506.09 9.50851 (16102416) 447327.51
3762477.53 9.32678 (14121616)
447325.88 3762454.31 9.92054 (16011516) 447225.58
3762432.95 9.08861 (16011516)
447200.27 3762430.63 9.26057 (16011516) 447156.85
3762430.16 11.17351 (16011516)
447131.77 3762430.86 11.84043 (16011516) 447102.74
3762430.63 11.43100 (16011516)
447079.06 3762430.86 10.24113 (16011516) 447034.94
3762433.65 8.45079 (16011516)
446995.47 3762433.65 9.19581 (16011516) 446972.71
3762434.34 9.65422 (16011516)
446941.37 3762434.58 9.07751 (16011516) 446916.06
3762436.90 7.18956 (13112916)
446876.35 3762436.90 7.18151 (14123015) 446848.85
3762647.05 2.51025 (13112916)
446848.85 3762563.17 3.24693 (14123015) 446849.17
3762509.82 4.21260 (14123015)
446849.17 3762455.82 6.02734 (14123015) 446848.85
3762702.00 2.52584 (15122216)
446849.49 3762754.71 2.65650
(14121616)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	1ST HIGH VALUE IS	23.12073	ON 12121716: AT (448025.53, 3761955.99, 221.00, 221.00, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART

 *** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   2 Warning Message(s)
 A Total of   1628 Informational Message(s)

 A Total of   43848 Hours Were Processed

 A Total of   1278 Calm Hours Identified

 A Total of   350 Missing Hours Identified (0.80 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 ME W186   1255   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used   0.50
 ME W187   1255   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

    ****
    *** AERMOD Finishes Successfully ***
    ****

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Cons PM10\14822 Cons
PM10.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 24
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID PM_10
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Cons PM10.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
   LOCATION PAREA1       AREAPOLY   446835.116  3764414.919      241.330
   LOCATION PAREA2       AREAPOLY   446835.110  3763511.955      233.720
   LOCATION PAREA3       AREAPOLY   447222.490  3762400.186      223.610
   LOCATION PAREA4       AREAPOLY   447618.111  3762526.565      224.640
** Source Parameters **
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   SRCPARAM VOL2         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL3         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL4         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL5         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL6         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL7         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL8         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL9         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL10        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL11        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL12        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL13        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL14        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL15        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL16        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL17        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL18        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL19        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL20        0.0002924951     5.000    44.302     1.400
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 SRCPARAM VOL21        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL22        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL23        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL24        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL25        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL26        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL27        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL28        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL29        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL30        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL31        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL32        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL33        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL34        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL35        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL36        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL37        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL38        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL39        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL40        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL41        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL42        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL43        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL44        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL45        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL46        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL47        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL48        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL49        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL50        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL51        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL52        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL53        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL54        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL55        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL56        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL57        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL58        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL59        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL60        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL61        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL62        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL63        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL64        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL65        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL66        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL67        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL68        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL69        0.0002924951     5.000    44.302     1.400
 SRCPARAM VOL70        0.0002924951     5.000    44.302     1.400
 SRCPARAM PAREA1       1.3326E-07     0.000         6     1.000
 AREAVERT PAREA1       446835.116 3764414.919 447234.398 3764418.582
 AREAVERT PAREA1       447230.735 3763903.910 447628.186 3763903.910
 AREAVERT PAREA1       447633.681 3763612.691 446829.621 3763607.196
 SRCPARAM PAREA2       1.3326E-07     0.000         4     1.000
 AREAVERT PAREA2       446835.110 3763511.955 447140.984 3763510.123
 AREAVERT PAREA2       447139.153 3763213.407 446836.942 3763204.249
 SRCPARAM PAREA3       1.3326E-07     0.000         4     1.000
 AREAVERT PAREA3       447222.490 3762400.186 447623.606 3762403.849
 AREAVERT PAREA3       447618.111 3761999.069 447216.995 3762002.733
 SRCPARAM PAREA4       1.3326E-07     0.000         4     1.000
 AREAVERT PAREA4       447618.111 3762526.565 448416.680 3762530.228
 AREAVERT PAREA4       448411.185 3762209.701 447625.437 3762206.038
 URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
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** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
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   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
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   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
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   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA1       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Saturday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA2       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA3       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA4       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Cons PM10.rou"
RE FINISHED
```

```
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 24 1ST
** Auto-Generated Plotfiles
   PLOTFILE 24 ALL 1ST "14822 CONS PM10.AD\24H1GALL.PLT" 31
   SUMMFILE "14822 Cons PM10.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Cons PM10\14822 Cons
PM10.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 24
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID PM_10
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Cons PM10.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
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   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
   LOCATION PAREA1       AREAPOLY   446835.116  3764414.919      241.330
   LOCATION PAREA2       AREAPOLY   446835.110  3763511.955      233.720
   LOCATION PAREA3       AREAPOLY   447222.490  3762400.186      223.610
   LOCATION PAREA4       AREAPOLY   447618.111  3762526.565      224.640
** Source Parameters **
   SRCPARAM VOL1         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL2         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL3         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL4         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL5         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL6         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL7         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL8         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL9         0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL10        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL11        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL12        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL13        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL14        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL15        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL16        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL17        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL18        0.0002924951     5.000    44.302     1.400
   SRCPARAM VOL19        0.0002924951     5.000    44.302     1.400
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SRCPARAM VOL20        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL21        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL22        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL23        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL24        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL25        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL26        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL27        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL28        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL29        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL30        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL31        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL32        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL33        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL34        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL35        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL36        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL37        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL38        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL39        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL40        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL41        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL42        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL43        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL44        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL45        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL46        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL47        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL48        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL49        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL50        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL51        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL52        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL53        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL54        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL55        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL56        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL57        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL58        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL59        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL60        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL61        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL62        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL63        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL64        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL65        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL66        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL67        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL68        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL69        0.0002924951     5.000    44.302     1.400
SRCPARAM VOL70        0.0002924951     5.000    44.302     1.400
SRCPARAM PAREA1       1.3326E-07     0.000         6     1.000
AREAVERT PAREA1       446835.116 3764414.919 447234.398 3764418.582
AREAVERT PAREA1       447230.735 3763903.910 447628.186 3763903.910
AREAVERT PAREA1       447633.681 3763612.691 446829.621 3763607.196
SRCPARAM PAREA2       1.3326E-07     0.000         4     1.000
AREAVERT PAREA2       446835.110 3763511.955 447140.984 3763510.123
AREAVERT PAREA2       447139.153 3763213.407 446836.942 3763204.249
SRCPARAM PAREA3       1.3326E-07     0.000         4     1.000
AREAVERT PAREA3       447222.490 3762400.186 447623.606 3762403.849
AREAVERT PAREA3       447618.111 3761999.069 447216.995 3762002.733
SRCPARAM PAREA4       1.3326E-07     0.000         4     1.000
AREAVERT PAREA4       447618.111 3762526.565 448416.680 3762530.228
AREAVERT PAREA4       448411.185 3762209.701 447625.437 3762206.038
URBANSRC ALL
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** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA1       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA2       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA3       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA4       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Cons PM10.rou"
```

```
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 24 1ST
** Auto-Generated Plotfiles
   PLOTFILE 24 ALL 1ST "14822 CONS PM10.AD\24H1GALL.PLT" 31
   SUMMFILE "14822 Cons PM10.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
                ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    1332       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    1332       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
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     * NO PARTICLE DEPOSITION Data Provided.
     * Model Uses NO DRY DEPLETION. DDPLETE  =  F
     * Model Uses NO WET DEPLETION. WETDPLT  =  F
     * Stack-tip Downwash.
     * Model Accounts for ELEVated Terrain Effects.
     * Use Calms Processing Routine.
     * Use Missing Data Processing Routine.
     * No Exponential Decay.
     * Model Uses URBAN Dispersion Algorithm for the SBL for    74 Source(s),
       for Total of    1 Urban Area(s):
  Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
     * Urban Roughness Length of 1.0 Meter Used.
     * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
     * CCVR_Sub - Meteorological data includes CCVR substitutions
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Accepts FLAGPOLE Receptor . Heights.
     * The User Specified a Pollutant Type of: PM_10

 **Model Calculates  1 Short Term Average(s) of:  24-HR

 **This Run Includes:     74 Source(s);       1 Source Group(s); and     227 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     70 VOLUME source(s)
                and:      4 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing
                                                                 Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   289.00 ;  Decay Coef. =
 0.000     ;  Rot. Angle =     0.0
                Emission Units = GRAMS/SEC                                ;  Emission Rate
                Unit Factor =   0.10000E+07
                Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:
 aermod.inp
 **Output Print File:
 aermod.out

 **Detailed Error/Message File:   14822 Cons
 PM10.err
 **File for Summary of Results:   14822 Cons
 PM10.sum
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SCALAR VARY BY
VOL1	0	0.29250E-03	447959.2	3762097.7	222.0	5.00	44.30	1.40	YES HRDOW
VOL2	0	0.29250E-03	448134.4	3762098.8	222.4	5.00	44.30	1.40	YES HRDOW
VOL3	0	0.29250E-03	447790.3	3762102.9	221.9	5.00	44.30	1.40	YES HRDOW
VOL4	0	0.29250E-03	447618.2	3762098.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL5	0	0.29250E-03	447446.1	3762100.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL6	0	0.29250E-03	447276.1	3762094.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL7	0	0.29250E-03	447099.9	3762094.7	219.6	5.00	44.30	1.40	YES HRDOW
VOL8	0	0.29250E-03	446929.9	3762096.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL9	0	0.29250E-03	448310.5	3762107.0	222.0	5.00	44.30	1.40	YES HRDOW
VOL10	0	0.29250E-03	446926.7	3762209.8	221.3	5.00	44.30	1.40	YES HRDOW
VOL11	0	0.29250E-03	446924.1	3762324.3	222.2	5.00	44.30	1.40	YES HRDOW
VOL12	0	0.29250E-03	447100.3	3762207.3	221.0	5.00	44.30	1.40	YES HRDOW
VOL13	0	0.29250E-03	447276.4	3762207.3	221.9	5.00	44.30	1.40	YES HRDOW
VOL14	0	0.29250E-03	447447.5	3762207.3	222.0	5.00	44.30	1.40	YES HRDOW
VOL15	0	0.29250E-03	447616.0	3762206.0	222.0	5.00	44.30	1.40	YES HRDOW
VOL16	0	0.29250E-03	447807.2	3762206.0	222.6	5.00	44.30	1.40	YES HRDOW
VOL17	0	0.29250E-03	447959.5	3762206.0	223.0	5.00	44.30	1.40	YES HRDOW
VOL18	0	0.29250E-03	448138.1	3762203.5	222.6	5.00	44.30	1.40	YES HRDOW
VOL19	0	0.29250E-03	448313.0	3762202.2	222.6	5.00	44.30	1.40	YES HRDOW
VOL20	0	0.29250E-03	447100.3	3762325.5	222.0	5.00	44.30	1.40	YES HRDOW
VOL21	0	0.29250E-03	447276.4	3762324.3	222.9	5.00	44.30	1.40	YES HRDOW
VOL22	0	0.29250E-03	447448.7	3762324.3	222.7	5.00	44.30	1.40	YES HRDOW
VOL23	0	0.29250E-03	447616.0	3762326.8	222.7	5.00	44.30	1.40	YES HRDOW
VOL24	0	0.29250E-03	447789.6	3762328.0	223.7	5.00	44.30	1.40	YES HRDOW

VOL25 0 0.29250E-03 447960.7 3762326.8 224.2 5.00 44.30 1.40
YES HRDOW
VOL26 0 0.29250E-03 448135.6 3762328.0 224.5 5.00 44.30 1.40
YES HRDOW
VOL27 0 0.29250E-03 448318.0 3762330.6 224.8 5.00 44.30 1.40
YES HRDOW
VOL28 0 0.29250E-03 447432.4 3762513.0 225.3 5.00 44.30 1.40
YES HRDOW
VOL29 0 0.29250E-03 447621.1 3762513.0 224.5 5.00 44.30 1.40
YES HRDOW
VOL30 0 0.29250E-03 447811.0 3762515.5 225.4 5.00 44.30 1.40
YES HRDOW
VOL31 0 0.29250E-03 447999.7 3762515.5 225.9 5.00 44.30 1.40
YES HRDOW
VOL32 0 0.29250E-03 448189.7 3762514.2 225.7 5.00 44.30 1.40
YES HRDOW
VOL33 0 0.29250E-03 448315.5 3762516.7 226.2 5.00 44.30 1.40
YES HRDOW
VOL34 0 0.29250E-03 448316.7 3762709.2 227.4 5.00 44.30 1.40
YES HRDOW
VOL35 0 0.29250E-03 448189.7 3762708.0 226.4 5.00 44.30 1.40
YES HRDOW
VOL36 0 0.29250E-03 448001.0 3762706.7 227.4 5.00 44.30 1.40
YES HRDOW
VOL37 0 0.29250E-03 447811.0 3762706.7 227.0 5.00 44.30 1.40
YES HRDOW
VOL38 0 0.29250E-03 447621.1 3762704.2 226.6 5.00 44.30 1.40
YES HRDOW
VOL39 0 0.29250E-03 447433.6 3762704.2 227.3 5.00 44.30 1.40
YES HRDOW
VOL40 0 0.29250E-03 447524.2 3762897.9 228.4 5.00 44.30 1.40
YES HRDOW
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:36:41

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SCALAR VARY BY
VOL41	0	0.29250E-03	447329.2	3762897.9	228.7	5.00	44.30	1.40	YES HRDOW
VOL42	0	0.29250E-03	447304.1	3763089.1	231.3	5.00	44.30	1.40	YES HRDOW
VOL43	0	0.29250E-03	447533.0	3763086.6	231.2	5.00	44.30	1.40	YES HRDOW
VOL44	0	0.29250E-03	447433.6	3763086.6	231.2	5.00	44.30	1.40	YES HRDOW
VOL45	0	0.29250E-03	447530.5	3763277.8	232.5	5.00	44.30	1.40	YES HRDOW
VOL46	0	0.29250E-03	447305.3	3763281.6	232.2	5.00	44.30	1.40	YES HRDOW
VOL47	0	0.29250E-03	447419.8	3763282.9	232.6	5.00	44.30	1.40	YES HRDOW

```
 VOL48            0   0.29250E-03  447112.8 3763304.2   231.8     5.00    44.30     1.40
 YES   HRDOW
 VOL49            0   0.29250E-03  446924.1 3763305.5   231.6     5.00    44.30     1.40
 YES   HRDOW
 VOL50            0   0.29250E-03  447533.0 3763469.0   233.5     5.00    44.30     1.40
 YES   HRDOW
 VOL51            0   0.29250E-03  447217.3 3763472.8   233.2     5.00    44.30     1.40
 YES   HRDOW
 VOL52            0   0.29250E-03  447088.9 3763471.6   233.0     5.00    44.30     1.40
 YES   HRDOW
 VOL53            0   0.29250E-03  446925.4 3763474.1   232.6     5.00    44.30     1.40
 YES   HRDOW
 VOL54            0   0.29250E-03  447361.9 3763470.3   233.5     5.00    44.30     1.40
 YES   HRDOW
 VOL55            0   0.29250E-03  447531.7 3763659.5   234.9     5.00    44.30     1.40
 YES   HRDOW
 VOL56            0   0.29250E-03  447533.5 3763806.8   235.6     5.00    44.30     1.40
 YES   HRDOW
 VOL57            0   0.29250E-03  447359.9 3763658.4   234.1     5.00    44.30     1.40
 YES   HRDOW
 VOL58            0   0.29250E-03  447219.0 3763657.1   234.1     5.00    44.30     1.40
 YES   HRDOW
 VOL59            0   0.29250E-03  447090.7 3763659.7   234.5     5.00    44.30     1.40
 YES   HRDOW
 VOL60            0   0.29250E-03  446930.9 3763659.7   234.2     5.00    44.30     1.40
 YES   HRDOW
 VOL61            0   0.29250E-03  447357.4 3763804.3   234.7     5.00    44.30     1.40
 YES   HRDOW
 VOL62            0   0.29250E-03  447219.0 3763804.3   234.9     5.00    44.30     1.40
 YES   HRDOW
 VOL63            0   0.29250E-03  447093.2 3763805.6   235.8     5.00    44.30     1.40
 YES   HRDOW
 VOL64            0   0.29250E-03  446932.2 3763805.6   235.5     5.00    44.30     1.40
 YES   HRDOW
 VOL65            0   0.29250E-03  447133.5 3763996.8   237.4     5.00    44.30     1.40
 YES   HRDOW
 VOL66            0   0.29250E-03  446943.5 3763996.8   237.4     5.00    44.30     1.40
 YES   HRDOW
 VOL67            0   0.29250E-03  447134.7 3764159.1   239.1     5.00    44.30     1.40
 YES   HRDOW
 VOL68            0   0.29250E-03  446944.8 3764159.1   240.0     5.00    44.30     1.40
 YES   HRDOW
 VOL69            0   0.29250E-03  447136.0 3764318.9   241.0     5.00    44.30     1.40
 YES   HRDOW
 VOL70            0   0.29250E-03  446944.8 3764317.6   240.2     5.00    44.30     1.40
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** AREAPOLY SOURCE DATA ***

              NUMBER EMISSION RATE   LOCATION OF AREA  BASE     RELEASE  NUMBER      INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC       X        Y      ELEV.    HEIGHT  OF VERTS.     SZ
   SOURCE  SCALAR VARY
     ID         CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
 - - -
```

```
 PAREA1           0   0.13326E-06  446835.1 3764414.9   241.3     0.00       6         1.00
 YES   HRDOW
 PAREA2           0   0.13326E-06  446835.1 3763512.0   233.7     0.00       4         1.00
 YES   HRDOW
 PAREA3           0   0.13326E-06  447222.5 3762400.2   223.6     0.00       4         1.00
 YES   HRDOW
 PAREA4           0   0.13326E-06  447618.1 3762526.6   224.6     0.00       4         1.00
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------


  ALL        VOL1        , VOL2        , VOL3        , VOL4        , VOL5        , VOL6        ,
  VOL7        , VOL8        ,

             VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14       ,
             VOL15       , VOL16       ,

             VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
             VOL23       , VOL24       ,

             VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
             VOL31       , VOL32       ,

             VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
             VOL39       , VOL40       ,

             VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
             VOL47       , VOL48       ,

             VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
             VOL55       , VOL56       ,

             VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
             VOL63       , VOL64       ,

             VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
             PAREA1      , PAREA2      ,

             PAREA3      , PAREA4      ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINED AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                 SOURCE IDs
  --------   ---------                                 ----------
```

```
             2035210.   VOL1        , VOL2        , VOL3        , VOL4        , VOL5        ,
             VOL6        , VOL7        ,
VOL8        ,

             VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14       ,
             VOL15       , VOL16       ,

             VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
             VOL23       , VOL24       ,

             VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
             VOL31       , VOL32       ,

             VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
             VOL39       , VOL40       ,

             VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
             VOL47       , VOL48       ,

             VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
             VOL55       , VOL56       ,

             VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
             VOL63       , VOL64       ,

             VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
             PAREA1      , PAREA2      ,

             PAREA3      , PAREA4      ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL1         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL2 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL3 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL4         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL5         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
```

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL6 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL8         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***       16:36:41
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL9 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:36:41

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL10 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = VOL11 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL13        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL14        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL15        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL16        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL17        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = VOL18   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL20 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL21 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

 SOURCE ID = VOL22   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

- - - - - - - - - - - - - - - - - -

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22

*** AERMET - VERSION 16216 ***

*** *** 16:36:41

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL24 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

- - - - - - - - - - - - - - - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL25 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL26 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL27 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL28 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22

*** AERMET - VERSION 16216 ***

*** *** 16:36:41

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL29 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL31        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL32        ; SOURCE TYPE = VOLUME   :
```

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL33        ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:4
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL34 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:36:41

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL35 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00												

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL36 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL37 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL38        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL39        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL40        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

(HRDOW) *

SOURCE ID = VOL41 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL43 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL44 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL45        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL46        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
```

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL47 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL48 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL50        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL51        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
```

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:36:41

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL52 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:36:41

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL54 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL56        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL57        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL58        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL59 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL60 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL61 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL62 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL63 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL65 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = VOL66        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        16:36:41

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                    (HRDOW) *

 SOURCE ID = VOL67        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL68 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL69 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL70 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = PAREA2 ; SOURCE TYPE = AREAPOLY :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447362.2, 3764292.7, 240.7, 240.7, 2.0); (447376.0, 3764151.0, 239.6, 239.6, 2.0);
(447389.8, 3764043.0, 237.8, 237.8, 2.0); (447450.2, 3764031.0, 237.5, 237.5, 2.0);
(447410.2, 3764019.0, 237.5, 237.5, 2.0); (446891.9, 3764451.2, 241.5, 241.5, 2.0);
(446959.3, 3764451.2, 241.5, 241.5, 2.0); (446995.3, 3764468.1, 241.8, 241.8, 2.0);
(447007.4, 3764467.3, 241.9, 241.9, 2.0); (447023.5, 3764466.1, 241.9, 241.9, 2.0);
(447036.6, 3764466.2, 241.9, 241.9, 2.0); (447052.7, 3764465.6, 242.0, 242.0, 2.0);
(447066.6, 3764465.7, 242.1, 242.1, 2.0); (447099.6, 3764456.2, 242.1, 242.1, 2.0);
(447145.3, 3764468.3, 242.1, 242.1, 2.0); (447175.5, 3764468.0, 241.7, 241.7, 2.0);
(447205.3, 3764468.3, 241.3, 241.3, 2.0); (447232.4, 3764467.5, 242.0, 242.0, 2.0);
(447264.0, 3764467.3, 243.3, 243.3, 2.0); (447294.8, 3764466.9, 243.8, 243.8, 2.0);
(447365.0, 3764456.4, 243.3, 243.3, 2.0); (447406.6, 3764460.6, 243.1, 243.1, 2.0);
(447441.5, 3764460.0, 243.2, 243.2, 2.0); (447466.9, 3764460.2, 243.2, 243.2, 2.0);
(447490.0, 3764460.6, 242.9, 242.9, 2.0); (447515.5, 3764460.4, 242.6, 242.6, 2.0);
(447573.1, 3764454.3, 241.6, 241.6, 2.0); (447598.5, 3764445.2, 241.8, 241.8, 2.0);
(447652.9, 3764439.7, 243.1, 243.1, 2.0); (447692.9, 3764439.5, 243.1, 243.1, 2.0);
(447713.8, 3764439.1, 243.1, 243.1, 2.0); (447732.0, 3764438.7, 243.2, 243.2, 2.0);
(447751.1, 3764438.7, 243.3, 243.3, 2.0); (447768.8, 3764437.5, 243.4, 243.4, 2.0);
(447789.1, 3764437.7, 243.7, 243.7, 2.0); (447805.7, 3764437.3, 243.8, 243.8, 2.0);
(447824.0, 3764437.2, 243.9, 243.9, 2.0); (447841.6, 3764437.9, 243.9, 243.9, 2.0);
(447861.7, 3764437.5, 243.9, 243.9, 2.0); (447881.7, 3764435.2, 243.8, 243.8, 2.0);
(447902.8, 3764436.2, 243.8, 243.8, 2.0); (447920.9, 3764435.3, 243.8, 243.8, 2.0);
(447942.2, 3764435.3, 243.8, 243.8, 2.0); (447962.8, 3764434.8, 243.8, 243.8, 2.0);
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

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(447209.3, 3762922.5,   229.1,   229.1,   2.0);   (447208.4, 3762890.7,
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228.6, 228.6, 2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(446871.5, 3762779.6, 228.6, 228.6, 2.0); (446926.3, 3762768.7, 228.6, 228.6, 2.0);
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(447242.1, 3762776.6, 228.5, 228.5, 2.0); (447262.3, 3762776.0, 228.4, 228.4, 2.0);
(447294.6, 3762776.3, 228.3, 228.3, 2.0); (447313.1, 3762775.5, 228.3, 228.3, 2.0);
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(447326.6, 3762506.1, 225.4, 225.4, 2.0); (447327.5, 3762477.5, 224.9, 224.9, 2.0);
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(446849.5, 3762754.7, 228.7, 228.7, 2.0);

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 16:36:41

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-16.4	0.171	-9.000	-9.000	-999.	170.	32.3	0.09	1.12	1.00	2.03	43.	7.9	285.9	2.0
12	01	01	1	02	-18.8	0.194	-9.000	-9.000	-999.	205.	41.3	0.09	1.12	1.00	2.2				

```
34.    7.9  285.4    2.0
12 01 01   1 03  -17.8  0.182 -9.000 -9.000 -999.  187.     36.5  0.09   1.12   1.00    2.15
24.    7.9  282.0    2.0
12 01 01   1 04   -9.4  0.128 -9.000 -9.000 -999.  110.     19.6  0.09   1.12   1.00    1.55
41.    7.9  283.1    2.0
12 01 01   1 05  -16.9  0.173 -9.000 -9.000 -999.  173.     33.0  0.09   1.12   1.00    2.05
39.    7.9  280.4    2.0
12 01 01   1 06   -8.0  0.117 -9.000 -9.000 -999.   97.     17.8  0.09   1.12   1.00    1.43
21.    7.9  282.0    2.0
12 01 01   1 07   -7.6  0.115 -9.000 -9.000 -999.   93.     17.4  0.09   1.12   1.00    1.40
31.    7.9  282.5    2.0
12 01 01   1 08  -13.6  0.184 -9.000 -9.000 -999.  190.     40.5  0.09   1.12   0.54    2.16
34.    7.9  284.2    2.0
12 01 01   1 09   28.4  0.126  0.300  0.011   33.  108.     -6.2  0.09   1.12   0.32    1.03
29.    7.9  289.2    2.0
12 01 01   1 10   79.8  0.133  0.607  0.010   99.  116.     -2.6  0.09   1.12   0.25    0.94
173.    7.9  292.5    2.0
12 01 01   1 11  115.8  0.137  0.932  0.006  246.  121.     -2.0  0.09   1.12   0.22    0.92
172.    7.9  295.4    2.0
12 01 01   1 12  133.7  0.139  1.197  0.005  453.  125.     -1.8  0.09   1.12   0.21    0.92
146.    7.9  297.5    2.0
12 01 01   1 13  133.2  0.160  1.354  0.005  657.  153.     -2.7  0.09   1.12   0.21    1.14
117.    7.9  299.9    2.0
12 01 01   1 14  113.5  0.159  1.454  0.005  955.  151.     -3.1  0.09   1.12   0.23    1.16
285.    7.9  300.9    2.0
12 01 01   1 15   76.2  0.166  1.350  0.005 1138.  163.     -5.3  0.09   1.12   0.26    1.33
72.    7.9  302.0    2.0
12 01 01   1 16   23.5  0.175  0.925  0.005 1183.  175.    -19.9  0.09   1.12   0.35    1.65
107.    7.9  301.4    2.0
12 01 01   1 17   -6.1  0.107 -9.000 -9.000 -999.   86.     18.0  0.09   1.12   0.63    1.31
107.    7.9  298.1    2.0
12 01 01   1 18  -11.1  0.141 -9.000 -9.000 -999.  127.     22.1  0.09   1.12   1.00    1.69
86.    7.9  293.1    2.0
12 01 01   1 19   -3.2  0.076 -9.000 -9.000 -999.   51.     11.8  0.09   1.12   1.00    0.91
64.    7.9  292.0    2.0
12 01 01   1 20   -2.3  0.066 -9.000 -9.000 -999.   41.     11.2  0.09   1.12   1.00    0.74
73.    7.9  288.8    2.0
12 01 01   1 21  -10.0  0.133 -9.000 -9.000 -999.  116.     20.5  0.09   1.12   1.00    1.60
14.    7.9  288.1    2.0
12 01 01   1 22  -19.4  0.201 -9.000 -9.000 -999.  216.     44.5  0.09   1.12   1.00    2.36
22.    7.9  287.5    2.0
12 01 01   1 23  -23.7  0.246 -9.000 -9.000 -999.  293.     66.5  0.09   1.12   1.00    2.86
40.    7.9  287.0    2.0
12 01 01   1 24  -12.3  0.147 -9.000 -9.000 -999.  139.     23.8  0.09   1.12   1.00    1.76
40.    7.9  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1   43.    2.03   286.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

                     PAGE  86
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  ALL      ***
                               INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                               VOL3        , VOL4        , VOL5        ,
                 VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                 VOL11       , VOL12       , VOL13       ,
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VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	0.16147	(14111124)	447375.98	3764150.98	0.15237	(14111124)
447389.75	3764043.04	0.15334c	(12101124)	447450.16	3764031.05	0.15016c	(12101124)
447410.18	3764019.05	0.16538c	(12101124)	446891.90	3764451.22	0.20399	(14121224)
446959.28	3764451.22	0.23840c	(13012824)	446995.28	3764468.13	0.19901c	(13012824)
447007.41	3764467.30	0.20425c	(13012824)	447023.51	3764466.09	0.21131c	(13012824)
447036.59	3764466.21	0.21373c	(13012824)	447052.68	3764465.61	0.21782c	(13012824)
447066.60	3764465.73	0.21921c	(13012824)	447099.65	3764456.17	0.25076c	(13012824)
447145.28	3764468.27	0.21439c	(13012824)	447175.54	3764468.03	0.21118c	(13012824)
447205.32	3764468.27	0.20730	(13020824)	447232.43	3764467.55	0.20505	(13020824)
447264.02	3764467.30	0.17694	(13020824)	447294.77	3764466.94	0.15936c	(12120524)
447364.97	3764456.41	0.12614c	(12120524)	447406.61	3764460.65	0.10811c	(12120524)
447441.47	3764460.04	0.09715c	(12120524)	447466.88	3764460.20	0.09054c	(12120524)
447490.00	3764460.56	0.08538c	(12120524)	447515.50	3764460.40	0.08047c	(12120524)
447573.06	3764454.29	0.07162c	(12120524)	447598.49	3764445.22	0.06833c	(12120524)
447652.90	3764439.70	0.06205c	(12120524)	447692.92	3764439.51	0.05905c	(12011024)
447713.82	3764439.11	0.05761c	(12011024)	447731.95	3764438.72	0.05637c	(12011024)
447751.07	3764438.72	0.05508c	(12011024)	447768.82	3764437.53	0.05398c	(12011024)
447789.12	3764437.73	0.05261c	(12011024)	447805.68	3764437.34	0.05155c	(12011024)
447824.02	3764437.20	0.05038c	(12011024)	447841.61	3764437.87	0.04923c	(12011024)
447861.72	3764437.53	0.04796c	(12011024)	447881.66	3764435.18	0.04676c	(12011024)
447902.78	3764436.19	0.04531c	(12011024)	447920.87	3764435.35	0.04410c	(12011024)
447942.16	3764435.35	0.04264c	(12120524)	447962.77	3764434.85	0.04149c	(13111224)
447980.70	3764435.18	0.04095c	(13111224)	448004.66	3764435.18	0.04021c	(13111224)
448021.25	3764434.68	0.03971c	(13111224)	447662.70	3764379.63	0.06585c	(12011024)
447681.30	3764320.98	0.06633c	(12011024)	447682.64	3764285.79	0.06768c	(12011024)
447662.53	3764238.37	0.07226c	(12011024)	447661.70	3764207.37	0.07457c	(12011024)

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       447683.14   3764162.29        0.07589c (12011024)               447680.97
       3764145.87        0.07784c (12011024)
       447679.63   3764130.28        0.07985c (12011024)               447680.80
       3764112.02        0.08243c (12120524)
       447681.47   3764096.43        0.08633c (12120524)               447680.80
       3764078.84        0.09162c (12120524)
       447679.96   3764064.26        0.09676c (12120524)               447680.97
       3764045.82        0.10418c (12120524)
       447680.63   3764029.74        0.11208c (12120524)               447657.17
       3763992.03        0.14342c (12120524)
       447656.33   3763967.06        0.17151c (12120524)               447657.17
       3763928.69        0.23950c (12120524)
       447657.17   3763902.21        0.33020  (13112024)               447657.51
       3763869.03        0.38285  (14111124)
       447656.16   3763834.94        0.39893  (14111124)               447655.93
       3763808.27        0.39962  (14111124)
       447657.09   3763786.00        0.38948  (14111124)               447701.21
       3763782.14        0.25896b (12123124)
       447856.92   3763749.71        0.11723b (12123124)               447854.99
       3763730.13        0.11445b (12123124)
       447854.35   3763698.35        0.10628b (12123124)               447855.31
       3763676.84        0.09863b (12123124)
       447675.51   3763287.46        0.07006  (12121724)               448481.33
       3763485.29        0.03239c (12122124)
       448479.95   3763195.53        0.03756c (12122124)               448478.56
       3762907.16        0.05345  (14010724)
       448497.89   3762714.10        0.08396  (14010724)               448507.91
       3762487.71        0.22700  (13112024)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

                     PAGE  87
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                              *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION   VALUES FOR
                              SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                                  VOL3        , VOL4        , VOL5        ,
                    VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                    VOL11       , VOL12       , VOL13       ,
                    VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                    VOL19       , VOL20       , VOL21       ,
                    VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                    VOL27       , VOL28       ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                        ** CONC OF PM_10    IN
                                        MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96        0.26476b (12123124)               448462.73
       3762339.82        0.30238b (12123124)
       448464.47   3762265.93        0.26232b (12123124)               448461.57
       3762165.17        0.16641  (12012424)
       448472.57   3762064.71        0.09905c (15012824)               448460.48
       3762016.72        0.08666c (15012824)
       448234.63   3761951.18        0.07857c (15012824)               448081.42
       3761952.78        0.08134c (15012824)
       448025.53   3761955.99        0.08391c (15012824)               447506.75
       3761967.63        0.27648  (15122224)
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447269.29   3761967.74        0.30986  (15122224)              447389.46
3761908.79        0.18247  (15122224)
447019.14   3761964.34        0.07945m (15123124)              447060.33
3761963.58        0.09379  (15122224)
446975.31   3761963.20        0.07356m (15123124)              446940.92
3761953.76        0.06718m (15123124)
446865.72   3761974.54        0.06379m (15123124)              446795.06
3761957.91        0.05537m (15123124)
446757.65   3761965.85        0.05317m (15123124)              446709.33
3761967.74        0.04941m (15123124)
446796.42   3762028.62        0.06118m (15123124)              446796.97
3762045.28        0.06295c (14123024)
446796.70   3762089.51        0.06498c (14123024)              446796.15
3762105.89        0.06465c (14123024)
446796.70   3762137.29        0.06325c (14123024)              446796.15
3762153.39        0.06190c (14123024)
446772.40   3762215.37        0.05144  (16102424)              446795.06
3762321.03        0.04940  (16012124)
446796.42   3762450.98        0.04253  (15112724)              446796.42
3762471.18        0.04114  (15112724)
446797.24   3762496.03        0.03952  (15112724)              446798.06
3762516.51        0.03930  (15012624)
446797.79   3762539.98        0.03917  (15012624)              446797.52
3762560.19        0.03898  (15012624)
446798.61   3762584.76        0.03878  (15012624)              446798.06
3762604.42        0.03841  (15012624)
446799.70   3762654.11        0.03757  (15012624)              446799.97
3762674.58        0.03712  (15012624)
446800.25   3762700.25        0.03644  (15012624)              446800.25
3762721.27        0.03768  (15122224)
446799.97   3762735.74        0.03955  (15122224)              446797.79
3762748.02        0.04146  (15122224)
446802.16   3762913.47        0.07455  (15122224)              446802.16
3762932.58        0.08013  (15122224)
446802.43   3762949.24        0.08534  (15122224)              446802.98
3762967.26        0.09142  (15122224)
446802.70   3762986.09        0.09843  (15122224)              446802.16
3763003.29        0.10543  (15122224)
446802.16   3763021.86        0.11375  (15122224)              446802.70
3763040.70        0.12324  (15122224)
446802.98   3763059.26        0.13393  (15122224)              446803.52
3763077.01        0.14577  (15122224)
446756.29   3763085.26        0.13604  (15122224)              446807.68
3763646.39        0.34290  (15122224)
446808.32   3763674.66        0.34339  (15122224)              446807.68
3763694.57        0.33814  (15122224)
446808.32   3763710.63        0.33938  (15122224)              446808.32
3763726.37        0.33740  (15122224)
446808.00   3763742.11        0.33356  (15122224)              446808.32
3763756.89        0.33332  (15122224)
446808.64   3763798.32        0.32972  (15122224)              446810.25
3764484.08        0.14401  (16092024)
446781.34   3764475.08        0.13500  (14121224)              446722.56
3764455.81        0.11482  (15012624)
446170.32   3764559.79        0.03189  (15012624)              446872.29
3763190.26        0.40935  (15122224)
446925.22   3763179.19        0.31905  (15122224)              446984.86
3763194.88        0.38217  (15122224)
447010.56   3763193.28        0.34657  (15122224)              447036.58
3763193.60        0.32140  (15122224)
447053.61   3763193.28        0.29680  (15122224)              447076.42
3763192.31        0.25235b (16012724)
447093.45   3763192.63        0.25621b (16012724)              447122.05
3763192.63        0.25798c (15012824)
447138.75   3763192.31        0.25388c (15012824)              447167.99
3763192.31        0.19323c (15012824)
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 ,
VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	0.08155	(12121724)	447146.92	3763064.30	0.07320	(12121724)
447149.92	3763038.90	0.06502	(12121724)	447148.56	3763019.78	0.05944	(12121724)
447148.56	3762997.39	0.05413	(12121724)	447206.08	3762958.49	0.05455	(12121724)
447209.33	3762922.51	0.04942	(12121724)	447208.40	3762890.70	0.04514	(12121724)
447145.83	3762888.87	0.03709	(12121724)	447122.55	3762889.07	0.03402	(12121724)
447094.33	3762890.05	0.03145	(15010924)	447071.04	3762890.45	0.03011	(15010924)
447043.61	3762889.66	0.02973	(16122124)	447017.76	3762888.87	0.03146	(15122224)
446992.11	3762889.07	0.03439	(15122224)	446964.28	3762888.28	0.03828	(15122224)
446940.41	3762888.47	0.04250	(15122224)	446911.20	3762888.08	0.04826	(15122224)
446885.35	3762889.66	0.05402	(15122224)	446862.07	3762888.87	0.05850	(15122224)
446871.45	3762779.57	0.03657	(15122224)	446926.31	3762768.72	0.03618	(15012624)
446983.74	3762774.24	0.03550	(15012624)	447009.00	3762774.05	0.03579	(14121224)
447030.51	3762774.44	0.03634	(14121224)	447055.37	3762774.05	0.03673	(14121224)
447076.88	3762774.24	0.03675	(14121224)	447101.16	3762774.44	0.03656	(14121224)
447123.85	3762774.05	0.03644	(14121224)	447148.12	3762775.03	0.03679	(13120424)
447170.23	3762774.84	0.03751	(13120424)	447196.78	3762775.48	0.03817	(13120424)
447242.12	3762776.57	0.04047	(15012624)	447262.33	3762776.03	0.04216	(15012624)

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       447294.56   3762776.30        0.04527  (15012624)                447313.13
       3762775.48         0.04758  (12121724)
       447313.40   3762749.53        0.05034  (15012624)                447327.86
       3762713.09         0.05623  (15012624)
       447327.36   3762679.87        0.05882  (15012624)                447327.74
       3762657.02         0.06200  (13120424)
       447327.28   3762636.82        0.06626  (13120424)                447327.51
       3762612.90         0.07260  (13120424)
       447327.28   3762592.24        0.07881  (13120424)                447327.04
       3762569.71         0.08634  (13120424)
       447327.28   3762547.89        0.09440  (13120424)                447326.58
       3762524.67         0.10388  (13120424)
       447326.58   3762506.09        0.11415  (14121224)                447327.51
       3762477.53         0.14028  (14121224)
       447325.88   3762454.31        0.17658  (14121224)                447225.58
       3762432.95         0.20231  (14121224)
       447200.27   3762430.63        0.19355  (14121224)                447156.85
       3762430.16         0.15293  (15012624)
       447131.77   3762430.86        0.13418  (15012624)                447102.74
       3762430.63         0.11785  (15012624)
       447079.06   3762430.86        0.10666  (15012624)                447034.94
       3762433.65         0.08875  (15012624)
       446995.47   3762433.65        0.07591  (15012624)                446972.71
       3762434.34         0.06955  (15012624)
       446941.37   3762434.58        0.06255  (15012624)                446916.06
       3762436.90         0.05751  (15012624)
       446876.35   3762436.90        0.05202  (15112724)                446848.85
       3762647.05         0.04144  (15012624)
       446848.85   3762563.17        0.04408  (15012624)                446849.17
       3762509.82         0.04526  (15012624)
       446849.17   3762455.82        0.04701  (15112724)                446848.85
       3762702.00         0.03913  (15012624)
       446849.49   3762754.71        0.03618
       (15122224)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       16:36:41

                     PAGE  89
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                          *** THE SUMMARY OF HIGHEST 24-HR RESULTS ***


                                    ** CONC OF PM_10    IN
                                    MICROGRAMS/M**3                        **


                                                    DATE
                                                                                NETWORK
GROUP ID                            AVERAGE CONC     (YYMMDDHH)             RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.40935  ON 15122224: AT (  446872.29,  3763190.26,
231.48,   231.48,    2.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   2 Warning Message(s)
A Total of   1628 Informational Message(s)

A Total of   43848 Hours Were Processed

A Total of   1278 Calm Hours Identified

A Total of   350 Missing Hours Identified (0.80 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
ME W186   1332   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used   0.50
ME W187   1332   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

   ****
   *** AERMOD Finishes Successfully ***
   ****

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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/14/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Cons PM25\14822 Cons
PM25.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 24
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID PM_2.5
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Cons PM25.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
   LOCATION PAREA1       AREAPOLY   446835.116  3764414.919      241.330
   LOCATION PAREA2       AREAPOLY   446835.110  3763511.955      233.720
   LOCATION PAREA3       AREAPOLY   447222.490  3762400.186      223.610
   LOCATION PAREA4       AREAPOLY   447618.111  3762526.565      224.640
** Source Parameters **
   SRCPARAM VOL1         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL2         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL3         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL4         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL5         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL6         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL7         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL8         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL9         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL10        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL11        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL12        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL13        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL14        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL15        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL16        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL17        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL18        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL19        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL20        0.0002789953     5.000    44.302     1.400
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SRCPARAM VOL21        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL22        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL23        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL24        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL25        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL26        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL27        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL28        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL29        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL30        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL31        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL32        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL33        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL34        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL35        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL36        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL37        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL38        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL39        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL40        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL41        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL42        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL43        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL44        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL45        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL46        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL47        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL48        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL49        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL50        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL51        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL52        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL53        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL54        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL55        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL56        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL57        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL58        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL59        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL60        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL61        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL62        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL63        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL64        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL65        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL66        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL67        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL68        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL69        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL70        0.0002789953     5.000    44.302     1.400
SRCPARAM PAREA1       4.8914E-08     0.000         6     1.000
AREAVERT PAREA1       446835.116 3764414.919 447234.398 3764418.582
AREAVERT PAREA1       447230.735 3763903.910 447628.186 3763903.910
AREAVERT PAREA1       447633.681 3763612.691 446829.621 3763607.196
SRCPARAM PAREA2       4.8914E-08     0.000         4     1.000
AREAVERT PAREA2       446835.110 3763511.955 447140.984 3763510.123
AREAVERT PAREA2       447139.153 3763213.407 446836.942 3763204.249
SRCPARAM PAREA3       4.8914E-08     0.000         4     1.000
AREAVERT PAREA3       447222.490 3762400.186 447623.606 3762403.849
AREAVERT PAREA3       447618.111 3761999.069 447216.995 3762002.733
SRCPARAM PAREA4       4.8914E-08     0.000         4     1.000
AREAVERT PAREA4       447618.111 3762526.565 448416.680 3762530.228
AREAVERT PAREA4       448411.185 3762209.701 447625.437 3762206.038
URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
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** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
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   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
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   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
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   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA1       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Saturday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA2       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA3       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA4       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Cons PM25.rou"
RE FINISHED
```

```
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 24 1ST
** Auto-Generated Plotfiles
   PLOTFILE 24 ALL 1ST "14822 CONS PM25.AD\24H1GALL.PLT" 31
   SUMMFILE "14822 Cons PM25.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/14/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Cons PM25\14822 Cons
PM25.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 24
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID PM_2.5
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Cons PM25.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
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   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
   LOCATION PAREA1       AREAPOLY   446835.116  3764414.919      241.330
   LOCATION PAREA2       AREAPOLY   446835.110  3763511.955      233.720
   LOCATION PAREA3       AREAPOLY   447222.490  3762400.186      223.610
   LOCATION PAREA4       AREAPOLY   447618.111  3762526.565      224.640
** Source Parameters **
   SRCPARAM VOL1         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL2         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL3         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL4         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL5         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL6         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL7         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL8         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL9         0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL10        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL11        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL12        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL13        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL14        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL15        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL16        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL17        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL18        0.0002789953     5.000    44.302     1.400
   SRCPARAM VOL19        0.0002789953     5.000    44.302     1.400
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SRCPARAM VOL20        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL21        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL22        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL23        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL24        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL25        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL26        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL27        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL28        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL29        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL30        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL31        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL32        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL33        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL34        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL35        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL36        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL37        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL38        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL39        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL40        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL41        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL42        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL43        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL44        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL45        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL46        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL47        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL48        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL49        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL50        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL51        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL52        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL53        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL54        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL55        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL56        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL57        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL58        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL59        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL60        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL61        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL62        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL63        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL64        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL65        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL66        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL67        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL68        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL69        0.0002789953     5.000    44.302     1.400
SRCPARAM VOL70        0.0002789953     5.000    44.302     1.400
SRCPARAM PAREA1       4.8914E-08     0.000         6     1.000
AREAVERT PAREA1       446835.116 3764414.919 447234.398 3764418.582
AREAVERT PAREA1       447230.735 3763903.910 447628.186 3763903.910
AREAVERT PAREA1       447633.681 3763612.691 446829.621 3763607.196
SRCPARAM PAREA2       4.8914E-08     0.000         4     1.000
AREAVERT PAREA2       446835.110 3763511.955 447140.984 3763510.123
AREAVERT PAREA2       447139.153 3763213.407 446836.942 3763204.249
SRCPARAM PAREA3       4.8914E-08     0.000         4     1.000
AREAVERT PAREA3       447222.490 3762400.186 447623.606 3762403.849
AREAVERT PAREA3       447618.111 3761999.069 447216.995 3762002.733
SRCPARAM PAREA4       4.8914E-08     0.000         4     1.000
AREAVERT PAREA4       447618.111 3762526.565 448416.680 3762530.228
AREAVERT PAREA4       448411.185 3762209.701 447625.437 3762206.038
URBANSRC ALL
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** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

```
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA1       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
```

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   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA2       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA2       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA3       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA3       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA4       HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA4       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Cons PM25.rou"
```

```
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 24 1ST
** Auto-Generated Plotfiles
   PLOTFILE 24 ALL 1ST "14822 CONS PM25.AD\24H1GALL.PLT" 31
   SUMMFILE "14822 Cons PM25.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
                ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    1332       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    1332       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

                     PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
```

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     * NO PARTICLE DEPOSITION Data Provided.
     * Model Uses NO DRY DEPLETION. DDPLETE  =  F
     * Model Uses NO WET DEPLETION. WETDPLT  =  F
     * Stack-tip Downwash.
     * Model Accounts for ELEVated Terrain Effects.
     * Use Calms Processing Routine.
     * Use Missing Data Processing Routine.
     * No Exponential Decay.
     * Model Uses URBAN Dispersion Algorithm for the SBL for    74 Source(s),
       for Total of    1 Urban Area(s):
  Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
     * Urban Roughness Length of 1.0 Meter Used.
     * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
     * CCVR_Sub - Meteorological data includes CCVR substitutions
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Accepts FLAGPOLE Receptor . Heights.
     * The User Specified a Pollutant Type of: PM_2.5

 **Model Calculates  1 Short Term Average(s) of:  24-HR

 **This Run Includes:     74 Source(s);       1 Source Group(s); and     227 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     70 VOLUME source(s)
                and:      4 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing
                                                                 Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   289.00 ;  Decay Coef. =
 0.000     ;  Rot. Angle =     0.0
                Emission Units = GRAMS/SEC                                ;  Emission Rate
                Unit Factor =   0.10000E+07
                Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:
 aermod.inp
 **Output Print File:
 aermod.out

 **Detailed Error/Message File:   14822 Cons
 PM25.err
 **File for Summary of Results:   14822 Cons
 PM25.sum
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
VOL1	0	0.27900E-03	447959.2	3762097.7	222.0	5.00	44.30	1.40	YES HRDOW
VOL2	0	0.27900E-03	448134.4	3762098.8	222.4	5.00	44.30	1.40	YES HRDOW
VOL3	0	0.27900E-03	447790.3	3762102.9	221.9	5.00	44.30	1.40	YES HRDOW
VOL4	0	0.27900E-03	447618.2	3762098.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL5	0	0.27900E-03	447446.1	3762100.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL6	0	0.27900E-03	447276.1	3762094.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL7	0	0.27900E-03	447099.9	3762094.7	219.6	5.00	44.30	1.40	YES HRDOW
VOL8	0	0.27900E-03	446929.9	3762096.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL9	0	0.27900E-03	448310.5	3762107.0	222.0	5.00	44.30	1.40	YES HRDOW
VOL10	0	0.27900E-03	446926.7	3762209.8	221.3	5.00	44.30	1.40	YES HRDOW
VOL11	0	0.27900E-03	446924.1	3762324.3	222.2	5.00	44.30	1.40	YES HRDOW
VOL12	0	0.27900E-03	447100.3	3762207.3	221.0	5.00	44.30	1.40	YES HRDOW
VOL13	0	0.27900E-03	447276.4	3762207.3	221.9	5.00	44.30	1.40	YES HRDOW
VOL14	0	0.27900E-03	447447.5	3762207.3	222.0	5.00	44.30	1.40	YES HRDOW
VOL15	0	0.27900E-03	447616.0	3762206.0	222.0	5.00	44.30	1.40	YES HRDOW
VOL16	0	0.27900E-03	447807.2	3762206.0	222.6	5.00	44.30	1.40	YES HRDOW
VOL17	0	0.27900E-03	447959.5	3762206.0	223.0	5.00	44.30	1.40	YES HRDOW
VOL18	0	0.27900E-03	448138.1	3762203.5	222.6	5.00	44.30	1.40	YES HRDOW
VOL19	0	0.27900E-03	448313.0	3762202.2	222.6	5.00	44.30	1.40	YES HRDOW
VOL20	0	0.27900E-03	447100.3	3762325.5	222.0	5.00	44.30	1.40	YES HRDOW
VOL21	0	0.27900E-03	447276.4	3762324.3	222.9	5.00	44.30	1.40	YES HRDOW
VOL22	0	0.27900E-03	447448.7	3762324.3	222.7	5.00	44.30	1.40	YES HRDOW
VOL23	0	0.27900E-03	447616.0	3762326.8	222.7	5.00	44.30	1.40	YES HRDOW
VOL24	0	0.27900E-03	447789.6	3762328.0	223.7	5.00	44.30	1.40	YES HRDOW

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 VOL25            0   0.27900E-03  447960.7 3762326.8   224.2     5.00    44.30     1.40
 YES   HRDOW
 VOL26            0   0.27900E-03  448135.6 3762328.0   224.5     5.00    44.30     1.40
 YES   HRDOW
 VOL27            0   0.27900E-03  448318.0 3762330.6   224.8     5.00    44.30     1.40
 YES   HRDOW
 VOL28            0   0.27900E-03  447432.4 3762513.0   225.3     5.00    44.30     1.40
 YES   HRDOW
 VOL29            0   0.27900E-03  447621.1 3762513.0   224.5     5.00    44.30     1.40
 YES   HRDOW
 VOL30            0   0.27900E-03  447811.0 3762515.5   225.4     5.00    44.30     1.40
 YES   HRDOW
 VOL31            0   0.27900E-03  447999.7 3762515.5   225.9     5.00    44.30     1.40
 YES   HRDOW
 VOL32            0   0.27900E-03  448189.7 3762514.2   225.7     5.00    44.30     1.40
 YES   HRDOW
 VOL33            0   0.27900E-03  448315.5 3762516.7   226.2     5.00    44.30     1.40
 YES   HRDOW
 VOL34            0   0.27900E-03  448316.7 3762709.2   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL35            0   0.27900E-03  448189.7 3762708.0   226.4     5.00    44.30     1.40
 YES   HRDOW
 VOL36            0   0.27900E-03  448001.0 3762706.7   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL37            0   0.27900E-03  447811.0 3762706.7   227.0     5.00    44.30     1.40
 YES   HRDOW
 VOL38            0   0.27900E-03  447621.1 3762704.2   226.6     5.00    44.30     1.40
 YES   HRDOW
 VOL39            0   0.27900E-03  447433.6 3762704.2   227.3     5.00    44.30     1.40
 YES   HRDOW
 VOL40            0   0.27900E-03  447524.2 3762897.9   228.4     5.00    44.30     1.40
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - -

 VOL41            0   0.27900E-03  447329.2 3762897.9   228.7     5.00    44.30     1.40
 YES   HRDOW
 VOL42            0   0.27900E-03  447304.1 3763089.1   231.3     5.00    44.30     1.40
 YES   HRDOW
 VOL43            0   0.27900E-03  447533.0 3763086.6   231.2     5.00    44.30     1.40
 YES   HRDOW
 VOL44            0   0.27900E-03  447433.6 3763086.6   231.2     5.00    44.30     1.40
 YES   HRDOW
 VOL45            0   0.27900E-03  447530.5 3763277.8   232.5     5.00    44.30     1.40
 YES   HRDOW
 VOL46            0   0.27900E-03  447305.3 3763281.6   232.2     5.00    44.30     1.40
 YES   HRDOW
 VOL47            0   0.27900E-03  447419.8 3763282.9   232.6     5.00    44.30     1.40
 YES   HRDOW
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 VOL48            0   0.27900E-03  447112.8 3763304.2   231.8     5.00    44.30     1.40
 YES   HRDOW
 VOL49            0   0.27900E-03  446924.1 3763305.5   231.6     5.00    44.30     1.40
 YES   HRDOW
 VOL50            0   0.27900E-03  447533.0 3763469.0   233.5     5.00    44.30     1.40
 YES   HRDOW
 VOL51            0   0.27900E-03  447217.3 3763472.8   233.2     5.00    44.30     1.40
 YES   HRDOW
 VOL52            0   0.27900E-03  447088.9 3763471.6   233.0     5.00    44.30     1.40
 YES   HRDOW
 VOL53            0   0.27900E-03  446925.4 3763474.1   232.6     5.00    44.30     1.40
 YES   HRDOW
 VOL54            0   0.27900E-03  447361.9 3763470.3   233.5     5.00    44.30     1.40
 YES   HRDOW
 VOL55            0   0.27900E-03  447531.7 3763659.5   234.9     5.00    44.30     1.40
 YES   HRDOW
 VOL56            0   0.27900E-03  447533.5 3763806.8   235.6     5.00    44.30     1.40
 YES   HRDOW
 VOL57            0   0.27900E-03  447359.9 3763658.4   234.1     5.00    44.30     1.40
 YES   HRDOW
 VOL58            0   0.27900E-03  447219.0 3763657.1   234.1     5.00    44.30     1.40
 YES   HRDOW
 VOL59            0   0.27900E-03  447090.7 3763659.7   234.5     5.00    44.30     1.40
 YES   HRDOW
 VOL60            0   0.27900E-03  446930.9 3763659.7   234.2     5.00    44.30     1.40
 YES   HRDOW
 VOL61            0   0.27900E-03  447357.4 3763804.3   234.7     5.00    44.30     1.40
 YES   HRDOW
 VOL62            0   0.27900E-03  447219.0 3763804.3   234.9     5.00    44.30     1.40
 YES   HRDOW
 VOL63            0   0.27900E-03  447093.2 3763805.6   235.8     5.00    44.30     1.40
 YES   HRDOW
 VOL64            0   0.27900E-03  446932.2 3763805.6   235.5     5.00    44.30     1.40
 YES   HRDOW
 VOL65            0   0.27900E-03  447133.5 3763996.8   237.4     5.00    44.30     1.40
 YES   HRDOW
 VOL66            0   0.27900E-03  446943.5 3763996.8   237.4     5.00    44.30     1.40
 YES   HRDOW
 VOL67            0   0.27900E-03  447134.7 3764159.1   239.1     5.00    44.30     1.40
 YES   HRDOW
 VOL68            0   0.27900E-03  446944.8 3764159.1   240.0     5.00    44.30     1.40
 YES   HRDOW
 VOL69            0   0.27900E-03  447136.0 3764318.9   241.0     5.00    44.30     1.40
 YES   HRDOW
 VOL70            0   0.27900E-03  446944.8 3764317.6   240.2     5.00    44.30     1.40
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** AREAPOLY SOURCE DATA ***

              NUMBER EMISSION RATE   LOCATION OF AREA  BASE     RELEASE  NUMBER      INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC       X        Y      ELEV.    HEIGHT  OF VERTS.     SZ
   SOURCE  SCALAR VARY
     ID         CATS.   /METER**2)   (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
 - - -
```

```
 PAREA1           0   0.48914E-07  446835.1 3764414.9   241.3     0.00       6         1.00
 YES   HRDOW
 PAREA2           0   0.48914E-07  446835.1 3763512.0   233.7     0.00       4         1.00
 YES   HRDOW
 PAREA3           0   0.48914E-07  447222.5 3762400.2   223.6     0.00       4         1.00
 YES   HRDOW
 PAREA4           0   0.48914E-07  447618.1 3762526.6   224.6     0.00       4         1.00
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------


  ALL        VOL1        , VOL2        , VOL3        , VOL4        , VOL5        , VOL6        ,
  VOL7        , VOL8        ,

             VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14       ,
             VOL15       , VOL16       ,

             VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
             VOL23       , VOL24       ,

             VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
             VOL31       , VOL32       ,

             VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
             VOL39       , VOL40       ,

             VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
             VOL47       , VOL48       ,

             VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
             VOL55       , VOL56       ,

             VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
             VOL63       , VOL64       ,

             VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
             PAREA1      , PAREA2      ,

             PAREA3      , PAREA4      ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINED AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                 SOURCE IDs
  --------   ---------                                 ----------
```

```
             2035210.   VOL1        , VOL2        , VOL3        , VOL4        , VOL5        ,
             VOL6        , VOL7        ,
VOL8        ,

             VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14       ,
             VOL15       , VOL16       ,

             VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
             VOL23       , VOL24       ,

             VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
             VOL31       , VOL32       ,

             VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
             VOL39       , VOL40       ,

             VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
             VOL47       , VOL48       ,

             VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
             VOL55       , VOL56       ,

             VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
             VOL63       , VOL64       ,

             VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
             PAREA1      , PAREA2      ,

             PAREA3      , PAREA4      ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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*** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

 SOURCE ID = VOL1         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL2 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL3 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL4         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL5         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
```

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL6 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL9 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/14/22
*** AERMET - VERSION 16216 ***
*** *** 10:02:17

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL10 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	

```
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

                      PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL11        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL12        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
```

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL13        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL14        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

                     PAGE  21
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL15        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

                     PAGE  22
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL16        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

                      PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL17        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = VOL18   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL20 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL22 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

- - - - - - - - - - - - - - - - - -

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/14/22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL24 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

- - - - - - - - - - - - - - - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL25 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL26 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL27 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL28 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

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*** AERMET - VERSION 16216 ***

*** *** 10:02:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL29 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL31        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL32        ; SOURCE TYPE = VOLUME   :
```

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL33        ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:1
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL34 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/14/22
*** AERMET - VERSION 16216 ***
*** *** 10:02:17

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL35 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00												

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops *** 10/14/22
*** AERMET - VERSION 16216 ***
*** *** 10:02:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = VOL36 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/14/22
*** AERMET - VERSION 16216 ***
*** *** 10:02:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL38 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL40        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

(HRDOW) *

SOURCE ID = VOL41 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL43 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL44 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL45        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL46        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
```

.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/14/22
*** AERMET - VERSION 16216 ***
*** *** 10:02:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL47 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

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- - - -
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL50        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL51        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
```

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/14/22
*** AERMET - VERSION 16216 ***
*** *** 10:02:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL52 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

DAY OF WEEK = SUNDAY

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL54 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL56        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL57        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL58        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
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* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL59 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL60 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL61        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL62        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
```

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL63 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL65 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL66 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = WEEKDAY

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/14/22
*** AERMET - VERSION 16216 ***
*** *** 10:02:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL67 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = WEEKDAY

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL68 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL69 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

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   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL70        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = PAREA1       ; SOURCE TYPE = AREAPOLY :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
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  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = PAREA2       ; SOURCE TYPE = AREAPOLY :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = PAREA3       ; SOURCE TYPE = AREAPOLY :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
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 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447362.2, 3764292.7, 240.7, 240.7, 2.0); (447376.0, 3764151.0, 239.6, 239.6, 2.0);
(447389.8, 3764043.0, 237.8, 237.8, 2.0); (447450.2, 3764031.0, 237.5, 237.5, 2.0);
(447410.2, 3764019.0, 237.5, 237.5, 2.0); (446891.9, 3764451.2, 241.5, 241.5, 2.0);
(446959.3, 3764451.2, 241.5, 241.5, 2.0); (446995.3, 3764468.1, 241.8, 241.8, 2.0);
(447007.4, 3764467.3, 241.9, 241.9, 2.0); (447023.5, 3764466.1, 241.9, 241.9, 2.0);
(447036.6, 3764466.2, 241.9, 241.9, 2.0); (447052.7, 3764465.6, 242.0, 242.0, 2.0);
(447066.6, 3764465.7, 242.1, 242.1, 2.0); (447099.6, 3764456.2, 242.1, 242.1, 2.0);
(447145.3, 3764468.3, 242.1, 242.1, 2.0); (447175.5, 3764468.0, 241.7, 241.7, 2.0);
(447205.3, 3764468.3, 241.3, 241.3, 2.0); (447232.4, 3764467.5, 242.0, 242.0, 2.0);
(447264.0, 3764467.3, 243.3, 243.3, 2.0); (447294.8, 3764466.9, 243.8, 243.8, 2.0);
(447365.0, 3764456.4, 243.3, 243.3, 2.0); (447406.6, 3764460.6, 243.1, 243.1, 2.0);
(447441.5, 3764460.0, 243.2, 243.2, 2.0); (447466.9, 3764460.2, 243.2, 243.2, 2.0);
(447490.0, 3764460.6, 242.9, 242.9, 2.0); (447515.5, 3764460.4, 242.6, 242.6, 2.0);
(447573.1, 3764454.3, 241.6, 241.6, 2.0); (447598.5, 3764445.2, 241.8, 241.8, 2.0);
(447652.9, 3764439.7, 243.1, 243.1, 2.0); (447692.9, 3764439.5, 243.1, 243.1, 2.0);
(447713.8, 3764439.1, 243.1, 243.1, 2.0); (447732.0, 3764438.7, 243.2, 243.2, 2.0);
(447751.1, 3764438.7, 243.3, 243.3, 2.0); (447768.8, 3764437.5, 243.4, 243.4, 2.0);
(447789.1, 3764437.7, 243.7, 243.7, 2.0); (447805.7, 3764437.3, 243.8, 243.8, 2.0);
(447824.0, 3764437.2, 243.9, 243.9, 2.0); (447841.6, 3764437.9, 243.9, 243.9, 2.0);
(447861.7, 3764437.5, 243.9, 243.9, 2.0); (447881.7, 3764435.2, 243.8, 243.8, 2.0);
(447902.8, 3764436.2, 243.8, 243.8, 2.0); (447920.9, 3764435.3, 243.8, 243.8, 2.0);
(447942.2, 3764435.3, 243.8, 243.8, 2.0); (447962.8, 3764434.8, 243.8, 243.8, 2.0);
(447980.7, 3764435.2, 243.8, 243.8, 2.0); (448004.7, 3764435.2, 243.6, 243.6, 2.0);
(448021.2, 3764434.7, 243.0, 243.0, 2.0); (447662.7, 3764379.6, 243.6, 243.6, 2.0);
(447681.3, 3764321.0, 243.4, 243.4, 2.0); (447682.6, 3764285.8, 242.3, 242.3, 2.0);
(447662.5, 3764238.4, 241.1, 241.1, 2.0); (447661.7, 3764207.4, 240.2, 240.2, 2.0);
(447683.1, 3764162.3, 239.1, 239.1, 2.0); (447681.0, 3764145.9, 238.7, 238.7, 2.0);
(447679.6, 3764130.3, 238.2, 238.2, 2.0); (447680.8, 3764112.0, 237.8, 237.8, 2.0);
(447681.5, 3764096.4, 237.6, 237.6, 2.0); (447680.8, 3764078.8, 237.4, 237.4, 2.0);
(447680.0, 3764064.3, 237.4, 237.4, 2.0); (447681.0, 3764045.8,

237.5, 237.5, 2.0);
(447680.6, 3764029.7, 237.5, 237.5, 2.0); (447657.2, 3763992.0,
237.3, 237.3, 2.0);
(447656.3, 3763967.1, 237.5, 237.5, 2.0); (447657.2, 3763928.7,
237.5, 237.5, 2.0);
(447657.2, 3763902.2, 237.6, 237.6, 2.0); (447657.5, 3763869.0,
237.3, 237.3, 2.0);
(447656.2, 3763834.9, 237.4, 237.4, 2.0); (447655.9, 3763808.3,
237.5, 237.5, 2.0);
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237.7, 237.7, 2.0);
(447856.9, 3763749.7, 236.2, 236.2, 2.0); (447855.0, 3763730.1,
236.0, 236.0, 2.0);
(447854.3, 3763698.3, 235.6, 235.6, 2.0); (447855.3, 3763676.8,
235.4, 235.4, 2.0);
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235.6, 235.6, 2.0);
(448480.0, 3763195.5, 232.0, 232.0, 2.0); (448478.6, 3762907.2,
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225.8, 225.8, 2.0);
(448480.5, 3762358.0, 224.8, 224.8, 2.0); (448462.7, 3762339.8,
224.6, 224.6, 2.0);
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219.4, 219.4, 2.0);
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220.0, 220.0, 2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447269.3, 3761967.7, 219.7, 219.7, 2.0); (447389.5, 3761908.8,
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(446975.3, 3761963.2, 219.0, 219.0, 2.0); (446940.9, 3761953.8,
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(446800.0, 3762735.7,   228.6,   228.6,   2.0);   (446797.8, 3762748.0,
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(446802.4, 3762949.2,   228.3,   228.3,   2.0);   (446803.0, 3762967.3,
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(447169.3, 3763144.9,   231.2,   231.2,   2.0);   (447147.5, 3763107.4,
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(447146.6, 3763084.2,   231.4,   231.4,   2.0);   (447146.9, 3763064.3,
231.1,   231.1,   2.0);
(447149.9, 3763038.9,   230.8,   230.8,   2.0);   (447148.6, 3763019.8,
230.6,   230.6,   2.0);
(447148.6, 3762997.4,   230.2,   230.2,   2.0);   (447206.1, 3762958.5,
229.5,   229.5,   2.0);
(447209.3, 3762922.5,   229.1,   229.1,   2.0);   (447208.4, 3762890.7,
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(447145.8, 3762888.9,   228.9,   228.9,   2.0);   (447122.5, 3762889.1,
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(447094.3, 3762890.0,   228.9,   228.9,   2.0);   (447071.0, 3762890.4,
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(447043.6, 3762889.7,   228.9,   228.9,   2.0);   (447017.8, 3762888.9,
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(446992.1, 3762889.1,   228.9,   228.9,   2.0);   (446964.3, 3762888.3,
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(446940.4, 3762888.5,   228.8,   228.8,   2.0);   (446911.2, 3762888.1,
228.6,   228.6,   2.0);
(446885.3, 3762889.7,   228.6,   228.6,   2.0);   (446862.1, 3762888.9,

228.6, 228.6, 2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(446871.5, 3762779.6, 228.6, 228.6, 2.0); (446926.3, 3762768.7, 228.6, 228.6, 2.0);
(446983.7, 3762774.2, 228.6, 228.6, 2.0); (447009.0, 3762774.0, 228.5, 228.5, 2.0);
(447030.5, 3762774.4, 228.2, 228.2, 2.0); (447055.4, 3762774.0, 228.0, 228.0, 2.0);
(447076.9, 3762774.2, 228.1, 228.1, 2.0); (447101.2, 3762774.4, 228.3, 228.3, 2.0);
(447123.8, 3762774.0, 228.3, 228.3, 2.0); (447148.1, 3762775.0, 228.4, 228.4, 2.0);
(447170.2, 3762774.8, 228.5, 228.5, 2.0); (447196.8, 3762775.5, 228.5, 228.5, 2.0);
(447242.1, 3762776.6, 228.5, 228.5, 2.0); (447262.3, 3762776.0, 228.4, 228.4, 2.0);
(447294.6, 3762776.3, 228.3, 228.3, 2.0); (447313.1, 3762775.5, 228.3, 228.3, 2.0);
(447313.4, 3762749.5, 228.3, 228.3, 2.0); (447327.9, 3762713.1, 228.1, 228.1, 2.0);
(447327.4, 3762679.9, 227.5, 227.5, 2.0); (447327.7, 3762657.0, 227.2, 227.2, 2.0);
(447327.3, 3762636.8, 226.9, 226.9, 2.0); (447327.5, 3762612.9, 226.4, 226.4, 2.0);
(447327.3, 3762592.2, 226.2, 226.2, 2.0); (447327.0, 3762569.7, 226.0, 226.0, 2.0);
(447327.3, 3762547.9, 225.8, 225.8, 2.0); (447326.6, 3762524.7, 225.5, 225.5, 2.0);
(447326.6, 3762506.1, 225.4, 225.4, 2.0); (447327.5, 3762477.5, 224.9, 224.9, 2.0);
(447325.9, 3762454.3, 224.5, 224.5, 2.0); (447225.6, 3762432.9, 224.1, 224.1, 2.0);
(447200.3, 3762430.6, 223.9, 223.9, 2.0); (447156.8, 3762430.2, 223.7, 223.7, 2.0);
(447131.8, 3762430.9, 223.6, 223.6, 2.0); (447102.7, 3762430.6, 223.4, 223.4, 2.0);
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(446995.5, 3762433.6, 223.1, 223.1, 2.0); (446972.7, 3762434.3, 223.2, 223.2, 2.0);
(446941.4, 3762434.6, 223.5, 223.5, 2.0); (446916.1, 3762436.9, 223.7, 223.7, 2.0);
(446876.3, 3762436.9, 223.7, 223.7, 2.0); (446848.8, 3762647.0, 227.4, 227.4, 2.0);
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(446849.2, 3762455.8, 224.1, 224.1, 2.0); (446848.8, 3762702.0, 228.5, 228.5, 2.0);
(446849.5, 3762754.7, 228.7, 228.7, 2.0);

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/14/22
*** AERMET - VERSION 16216 ***
*** *** 10:02:17

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-16.4	0.171	-9.000	-9.000	-999.	170.	32.3	0.09	1.12	1.00	2.03	43.	7.9	285.9	2.0
12	01	01	1	02	-18.8	0.194	-9.000	-9.000	-999.	205.	41.3	0.09	1.12	1.00	2.2				

```
34.    7.9  285.4    2.0
12 01 01   1 03  -17.8  0.182 -9.000 -9.000 -999.  187.     36.5  0.09   1.12   1.00    2.15
24.    7.9  282.0    2.0
12 01 01   1 04   -9.4  0.128 -9.000 -9.000 -999.  110.     19.6  0.09   1.12   1.00    1.55
41.    7.9  283.1    2.0
12 01 01   1 05  -16.9  0.173 -9.000 -9.000 -999.  173.     33.0  0.09   1.12   1.00    2.05
39.    7.9  280.4    2.0
12 01 01   1 06   -8.0  0.117 -9.000 -9.000 -999.   97.     17.8  0.09   1.12   1.00    1.43
21.    7.9  282.0    2.0
12 01 01   1 07   -7.6  0.115 -9.000 -9.000 -999.   93.     17.4  0.09   1.12   1.00    1.40
31.    7.9  282.5    2.0
12 01 01   1 08  -13.6  0.184 -9.000 -9.000 -999.  190.     40.5  0.09   1.12   0.54    2.16
34.    7.9  284.2    2.0
12 01 01   1 09   28.4  0.126  0.300  0.011   33.  108.     -6.2  0.09   1.12   0.32    1.03
29.    7.9  289.2    2.0
12 01 01   1 10   79.8  0.133  0.607  0.010   99.  116.     -2.6  0.09   1.12   0.25    0.94
173.    7.9  292.5    2.0
12 01 01   1 11  115.8  0.137  0.932  0.006  246.  121.     -2.0  0.09   1.12   0.22    0.92
172.    7.9  295.4    2.0
12 01 01   1 12  133.7  0.139  1.197  0.005  453.  125.     -1.8  0.09   1.12   0.21    0.92
146.    7.9  297.5    2.0
12 01 01   1 13  133.2  0.160  1.354  0.005  657.  153.     -2.7  0.09   1.12   0.21    1.14
117.    7.9  299.9    2.0
12 01 01   1 14  113.5  0.159  1.454  0.005  955.  151.     -3.1  0.09   1.12   0.23    1.16
285.    7.9  300.9    2.0
12 01 01   1 15   76.2  0.166  1.350  0.005 1138.  163.     -5.3  0.09   1.12   0.26    1.33
72.    7.9  302.0    2.0
12 01 01   1 16   23.5  0.175  0.925  0.005 1183.  175.    -19.9  0.09   1.12   0.35    1.65
107.    7.9  301.4    2.0
12 01 01   1 17   -6.1  0.107 -9.000 -9.000 -999.   86.     18.0  0.09   1.12   0.63    1.31
107.    7.9  298.1    2.0
12 01 01   1 18  -11.1  0.141 -9.000 -9.000 -999.  127.     22.1  0.09   1.12   1.00    1.69
86.    7.9  293.1    2.0
12 01 01   1 19   -3.2  0.076 -9.000 -9.000 -999.   51.     11.8  0.09   1.12   1.00    0.91
64.    7.9  292.0    2.0
12 01 01   1 20   -2.3  0.066 -9.000 -9.000 -999.   41.     11.2  0.09   1.12   1.00    0.74
73.    7.9  288.8    2.0
12 01 01   1 21  -10.0  0.133 -9.000 -9.000 -999.  116.     20.5  0.09   1.12   1.00    1.60
14.    7.9  288.1    2.0
12 01 01   1 22  -19.4  0.201 -9.000 -9.000 -999.  216.     44.5  0.09   1.12   1.00    2.36
22.    7.9  287.5    2.0
12 01 01   1 23  -23.7  0.246 -9.000 -9.000 -999.  293.     66.5  0.09   1.12   1.00    2.86
40.    7.9  287.0    2.0
12 01 01   1 24  -12.3  0.147 -9.000 -9.000 -999.  139.     23.8  0.09   1.12   1.00    1.76
40.    7.9  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1   43.    2.03   286.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

                     PAGE  86
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  ALL      ***
                               INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                               VOL3        , VOL4        , VOL5        ,
                 VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                 VOL11       , VOL12       , VOL13       ,
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VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	0.06414	(14111124)	447375.98	3764150.98	0.06081	(14111124)
447389.75	3764043.04	0.06257c	(12101124)	447450.16	3764031.05	0.06123c	(12101124)
447410.18	3764019.05	0.06738c	(12101124)	446891.90	3764451.22	0.08079	(14121224)
446959.28	3764451.22	0.09212c	(13012824)	446995.28	3764468.13	0.07700c	(13012824)
447007.41	3764467.30	0.07895c	(13012824)	447023.51	3764466.09	0.08158c	(13012824)
447036.59	3764466.21	0.08248c	(13012824)	447052.68	3764465.61	0.08404c	(13012824)
447066.60	3764465.73	0.08459c	(13012824)	447099.65	3764456.17	0.09665c	(13012824)
447145.28	3764468.27	0.08269c	(13012824)	447175.54	3764468.03	0.08255c	(12101124)
447205.32	3764468.27	0.08213	(13020824)	447232.43	3764467.55	0.08094	(13020824)
447264.02	3764467.30	0.06999	(13020824)	447294.77	3764466.94	0.06190c	(12120524)
447364.97	3764456.41	0.04943c	(12120524)	447406.61	3764460.65	0.04249c	(12120524)
447441.47	3764460.04	0.03826c	(12120524)	447466.88	3764460.20	0.03571c	(12120524)
447490.00	3764460.56	0.03371c	(12120524)	447515.50	3764460.40	0.03180c	(12120524)
447573.06	3764454.29	0.02838c	(12120524)	447598.49	3764445.22	0.02711c	(12120524)
447652.90	3764439.70	0.02467c	(12120524)	447692.92	3764439.51	0.02345c	(12011024)
447713.82	3764439.11	0.02290c	(12011024)	447731.95	3764438.72	0.02243c	(12011024)
447751.07	3764438.72	0.02194c	(12011024)	447768.82	3764437.53	0.02152c	(12011024)
447789.12	3764437.73	0.02099c	(12011024)	447805.68	3764437.34	0.02059c	(12011024)
447824.02	3764437.20	0.02014c	(12011024)	447841.61	3764437.87	0.01970c	(12011024)
447861.72	3764437.53	0.01922c	(12011024)	447881.66	3764435.18	0.01876c	(12011024)
447902.78	3764436.19	0.01821c	(12011024)	447920.87	3764435.35	0.01775c	(12011024)
447942.16	3764435.35	0.01718c	(12011024)	447962.77	3764434.85	0.01690c	(13111224)
447980.70	3764435.18	0.01669c	(13111224)	448004.66	3764435.18	0.01640c	(13111224)
448021.25	3764434.68	0.01621c	(13111224)	447662.70	3764379.63	0.02622c	(12011024)
447681.30	3764320.98	0.02654c	(12011024)	447682.64	3764285.79	0.02713c	(12011024)
447662.53	3764238.37	0.02899c	(12011024)	447661.70	3764207.37	0.02993c	(12011024)

```
       447683.14   3764162.29        0.03051c (12011024)               447680.97
       3764145.87        0.03130c (12011024)
       447679.63   3764130.28        0.03211c (12011024)               447680.80
       3764112.02        0.03315c (12120524)
       447681.47   3764096.43        0.03472c (12120524)               447680.80
       3764078.84        0.03683c (12120524)
       447679.96   3764064.26        0.03888c (12120524)               447680.97
       3764045.82        0.04183c (12120524)
       447680.63   3764029.74        0.04496c (12120524)               447657.17
       3763992.03        0.05726c (12120524)
       447656.33   3763967.06        0.06822c (12120524)               447657.17
       3763928.69        0.09447c (12120524)
       447657.17   3763902.21        0.12915  (13112024)               447657.51
       3763869.03        0.15052  (14111124)
       447656.16   3763834.94        0.15829  (14111124)               447655.93
       3763808.27        0.15917  (14111124)
       447657.09   3763786.00        0.15523  (14111124)               447701.21
       3763782.14        0.10381b (12123124)
       447856.92   3763749.71        0.04787b (12123124)               447854.99
       3763730.13        0.04691b (12123124)
       447854.35   3763698.35        0.04392b (12123124)               447855.31
       3763676.84        0.04108b (12123124)
       447675.51   3763287.46        0.03469  (12121724)               448481.33
       3763485.29        0.01368c (12122124)
       448479.95   3763195.53        0.01601c (12122124)               448478.56
       3762907.16        0.02424  (14010724)
       448497.89   3762714.10        0.03637c (12120524)               448507.91
       3762487.71        0.09183  (13112024)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       10:02:17

                     PAGE  87
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                              *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION   VALUES FOR
                              SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                                  VOL3        , VOL4        , VOL5        ,
                    VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                    VOL11       , VOL12       , VOL13       ,
                    VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                    VOL19       , VOL20       , VOL21       ,
                    VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                    VOL27       , VOL28       ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF PM_2.5   IN
                                      MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96        0.10774b (12123124)               448462.73
       3762339.82        0.12299b (12123124)
       448464.47   3762265.93        0.10872b (12123124)               448461.57
       3762165.17        0.07188  (12012424)
       448472.57   3762064.71        0.04458c (15012824)               448460.48
       3762016.72        0.03955c (15012824)
       448234.63   3761951.18        0.03711c (15012824)               448081.42
       3761952.78        0.03835c (15012824)
       448025.53   3761955.99        0.04012c (15012824)               447506.75
       3761967.63        0.11204  (15122224)
```

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447269.29   3761967.74        0.12535  (15122224)              447389.46
3761908.79        0.07500  (15122224)
447019.14   3761964.34        0.03808  (15122224)              447060.33
3761963.58        0.04569  (15122224)
446975.31   3761963.20        0.03244m (15123124)              446940.92
3761953.76        0.02948m (15123124)
446865.72   3761974.54        0.02885m (15123124)              446795.06
3761957.91        0.02490m (15123124)
446757.65   3761965.85        0.02420m (15123124)              446709.33
3761967.74        0.02258m (15123124)
446796.42   3762028.62        0.02977m (15123124)              446796.97
3762045.28        0.03108c (14123024)
446796.70   3762089.51        0.03316c (14123024)              446796.15
3762105.89        0.03322c (14123024)
446796.70   3762137.29        0.03300c (14123024)              446796.15
3762153.39        0.03259c (14123024)
446772.40   3762215.37        0.02774  (16102424)              446795.06
3762321.03        0.02736  (16102424)
446796.42   3762450.98        0.02071  (15012624)              446796.42
3762471.18        0.02009  (15012624)
446797.24   3762496.03        0.01946  (15012624)              446798.06
3762516.51        0.01901  (15012624)
446797.79   3762539.98        0.01851  (15012624)              446797.52
3762560.19        0.01813  (15012624)
446798.61   3762584.76        0.01774  (15012624)              446798.06
3762604.42        0.01740  (15012624)
446799.70   3762654.11        0.01669  (15012624)              446799.97
3762674.58        0.01640  (15012624)
446800.25   3762700.25        0.01602  (15012624)              446800.25
3762721.27        0.01653  (15122224)
446799.97   3762735.74        0.01726  (15122224)              446797.79
3762748.02        0.01800  (15122224)
446802.16   3762913.47        0.03094  (15122224)              446802.16
3762932.58        0.03312  (15122224)
446802.43   3762949.24        0.03517  (15122224)              446802.98
3762967.26        0.03756  (15122224)
446802.70   3762986.09        0.04032  (15122224)              446802.16
3763003.29        0.04307  (15122224)
446802.16   3763021.86        0.04634  (15122224)              446802.70
3763040.70        0.05007  (15122224)
446802.98   3763059.26        0.05427  (15122224)              446803.52
3763077.01        0.05891  (15122224)
446756.29   3763085.26        0.05494  (15122224)              446807.68
3763646.39        0.13467  (15122224)
446808.32   3763674.66        0.13461  (15122224)              446807.68
3763694.57        0.13238  (15122224)
446808.32   3763710.63        0.13274  (15122224)              446808.32
3763726.37        0.13188  (15122224)
446808.00   3763742.11        0.13034  (15122224)              446808.32
3763756.89        0.13020  (15122224)
446808.64   3763798.32        0.12845  (15122224)              446810.25
3764484.08        0.05695  (16092024)
446781.34   3764475.08        0.05387  (14121224)              446722.56
3764455.81        0.04556  (15012624)
446170.32   3764559.79        0.01327  (15012624)              446872.29
3763190.26        0.16087  (15122224)
446925.22   3763179.19        0.12662  (15122224)              446984.86
3763194.88        0.14995  (15122224)
447010.56   3763193.28        0.13716  (15122224)              447036.58
3763193.60        0.12869  (15122224)
447053.61   3763193.28        0.12009  (15122224)              447076.42
3763192.31        0.10386  (15122224)
447093.45   3763192.63        0.10032b (16012724)              447122.05
3763192.63        0.10268c (15012824)
447138.75   3763192.31        0.10162c (15012824)              447167.99
3763192.31        0.07951c (15012824)
```

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	0.03547	(12121724)	447146.92	3763064.30	0.03203	(12121724)
447149.92	3763038.90	0.02872	(12121724)	447148.56	3763019.78	0.02639	(12121724)
447148.56	3762997.39	0.02418	(12121724)	447206.08	3762958.49	0.02538	(12121724)
447209.33	3762922.51	0.02327	(12121724)	447208.40	3762890.70	0.02129	(12121724)
447145.83	3762888.87	0.01690	(12121724)	447122.55	3762889.07	0.01545	(12121724)
447094.33	3762890.05	0.01424	(15122224)	447071.04	3762890.45	0.01455	(15122224)
447043.61	3762889.66	0.01502	(15122224)	447017.76	3762888.87	0.01564	(15122224)
446992.11	3762889.07	0.01654	(15122224)	446964.28	3762888.28	0.01783	(15122224)
446940.41	3762888.47	0.01929	(15122224)	446911.20	3762888.08	0.02132	(15122224)
446885.35	3762889.66	0.02339	(15122224)	446862.07	3762888.87	0.02498	(15122224)
446871.45	3762779.57	0.01645	(15122224)	446926.31	3762768.72	0.01594	(15012624)
446983.74	3762774.24	0.01589	(15012624)	447009.00	3762774.05	0.01596	(15012624)
447030.51	3762774.44	0.01618	(14121224)	447055.37	3762774.05	0.01646	(14121224)
447076.88	3762774.24	0.01661	(14121224)	447101.16	3762774.44	0.01672	(14121224)
447123.85	3762774.05	0.01689	(15012624)	447148.12	3762775.03	0.01727	(15012624)
447170.23	3762774.84	0.01777	(15012624)	447196.78	3762775.48	0.01853	(15012624)
447242.12	3762776.57	0.02042	(15012624)	447262.33	3762776.03	0.02159	(15012624)

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       447294.56   3762776.30        0.02378  (15012624)                447313.13
       3762775.48        0.02532  (15012624)
       447313.40   3762749.53        0.02666  (15012624)                447327.86
       3762713.09        0.02953  (15012624)
       447327.36   3762679.87        0.02957  (15012624)                447327.74
       3762657.02        0.03002  (13120424)
       447327.28   3762636.82        0.03171  (14121224)                447327.51
       3762612.90        0.03491  (14121224)
       447327.28   3762592.24        0.03809  (14121224)                447327.04
       3762569.71        0.04165  (14121224)
       447327.28   3762547.89        0.04511  (14121224)                447326.58
       3762524.67        0.04878  (14121224)
       447326.58   3762506.09        0.05253  (14121224)                447327.51
       3762477.53        0.06198  (14121224)
       447325.88   3762454.31        0.07552  (14121224)                447225.58
       3762432.95        0.08609  (14121224)
       447200.27   3762430.63        0.08272  (14121224)                447156.85
       3762430.16        0.06430  (15012624)
       447131.77   3762430.86        0.05742  (15012624)                447102.74
       3762430.63        0.05184  (15012624)
       447079.06   3762430.86        0.04790  (15012624)                447034.94
       3762433.65        0.04098  (15012624)
       446995.47   3762433.65        0.03584  (15012624)                446972.71
       3762434.34        0.03326  (15012624)
       446941.37   3762434.58        0.03086  (15012624)                446916.06
       3762436.90        0.02896  (15012624)
       446876.35   3762436.90        0.02660  (15012624)                446848.85
       3762647.05        0.01821  (15012624)
       446848.85   3762563.17        0.01999  (15012624)                446849.17
       3762509.82        0.02140  (15012624)
       446849.17   3762455.82        0.02361  (15012624)                446848.85
       3762702.00        0.01706  (15012624)
       446849.49   3762754.71        0.01618
       (15122224)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       10:02:17

                     PAGE  89
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                          *** THE SUMMARY OF HIGHEST 24-HR RESULTS ***


                                    ** CONC OF PM_2.5   IN
                                    MICROGRAMS/M**3                      **


                                                  DATE
                                                                          NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.16087  ON 15122224: AT (  446872.29,  3763190.26,
231.48,   231.48,    2.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/14/22
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   2 Warning Message(s)
A Total of   1628 Informational Message(s)

A Total of   43848 Hours Were Processed

A Total of   1278 Calm Hours Identified

A Total of   350 Missing Hours Identified (0.80 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
ME W186   1332   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used   0.50
ME W187   1332   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

   ****
   *** AERMOD Finishes Successfully ***
   ****

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APPENDIX 5.6:

AERMOD LST MODELING OUTPUTS - OPERATION

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops CO\14822 Ops CO.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 1 8
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID CO
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Ops CO.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
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   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** Source Parameters **
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   SRCPARAM VOL25        0.1385976686     5.000    44.302     1.400
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   SRCPARAM VOL43        0.1385976686     5.000    44.302     1.400
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   SRCPARAM VOL69        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL70        0.1385976686     5.000    44.302     1.400
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED "14822 Ops CO.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
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   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 8 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "14822 Ops CO.AD\01H1GALL.PLT" 31
   PLOTFILE 8 ALL 1ST "14822 Ops CO.AD\08H1GALL.PLT" 32
   SUMMFILE "14822 Ops CO.sum"
OU FINISHED
**
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** Project Parameters
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** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops CO\14822 Ops CO.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 1 8
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID CO
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Ops CO.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
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   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
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   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** Source Parameters **
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   SRCPARAM VOL3         0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL4         0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL5         0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL6         0.1385976686     5.000    44.302     1.400
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   SRCPARAM VOL14        0.1385976686     5.000    44.302     1.400
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   SRCPARAM VOL16        0.1385976686     5.000    44.302     1.400
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   SRCPARAM VOL19        0.1385976686     5.000    44.302     1.400
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   SRCPARAM VOL48        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL49        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL50        0.1385976686     5.000    44.302     1.400
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   SRCPARAM VOL52        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL53        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL54        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL55        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL56        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL57        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL58        0.1385976686     5.000    44.302     1.400
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   SRCPARAM VOL60        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL61        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL62        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL63        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL64        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL65        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL66        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL67        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL68        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL69        0.1385976686     5.000    44.302     1.400
   SRCPARAM VOL70        0.1385976686     5.000    44.302     1.400
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Ops CO.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
```

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   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 8 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "14822 Ops CO.AD\01H1GALL.PLT" 31
   PLOTFILE 8 ALL 1ST "14822 Ops CO.AD\08H1GALL.PLT" 32
   SUMMFILE "14822 Ops CO.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     202       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187     202       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:19:28

                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
```

```
     * No Exponential Decay.
     * Model Uses URBAN Dispersion Algorithm for the SBL for    70 Source(s),
       for Total of    1 Urban Area(s):
  Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
     * Urban Roughness Length of 1.0 Meter Used.
     * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
     * CCVR_Sub - Meteorological data includes CCVR substitutions
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Accepts FLAGPOLE Receptor . Heights.
     * The User Specified a Pollutant Type of: CO

 **Model Calculates  2 Short Term Average(s) of:   1-HR   8-HR

 **This Run Includes:     70 Source(s);       1 Source Group(s); and     227 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     70 VOLUME source(s)
                and:      0 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing
                                                                 Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   289.00 ;  Decay Coef. =
 0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                              ;  Emission Rate
                 Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:
 aermod.inp
 **Output Print File:
 aermod.out

 **Detailed Error/Message File:   14822 Ops
 CO.err
 **File for Summary of Results:   14822 Ops
 CO.sum
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:19:28

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SCALAR VARY BY
VOL1	0	0.13860E+00	447959.2	3762097.7	222.0	5.00	44.30	1.40	YES
VOL2	0	0.13860E+00	448134.4	3762098.8	222.4	5.00	44.30	1.40	YES
VOL3	0	0.13860E+00	447790.3	3762102.9	221.9	5.00	44.30	1.40	YES
VOL4	0	0.13860E+00	447618.2	3762098.8	221.0	5.00	44.30	1.40	YES
VOL5	0	0.13860E+00	447446.1	3762100.8	221.0	5.00	44.30	1.40	YES
VOL6	0	0.13860E+00	447276.1	3762094.7	220.0	5.00	44.30	1.40	YES
VOL7	0	0.13860E+00	447099.9	3762094.7	219.6	5.00	44.30	1.40	YES
VOL8	0	0.13860E+00	446929.9	3762096.7	220.0	5.00	44.30	1.40	YES
VOL9	0	0.13860E+00	448310.5	3762107.0	222.0	5.00	44.30	1.40	YES
VOL10	0	0.13860E+00	446926.7	3762209.8	221.3	5.00	44.30	1.40	YES
VOL11	0	0.13860E+00	446924.1	3762324.3	222.2	5.00	44.30	1.40	YES
VOL12	0	0.13860E+00	447100.3	3762207.3	221.0	5.00	44.30	1.40	YES
VOL13	0	0.13860E+00	447276.4	3762207.3	221.9	5.00	44.30	1.40	YES
VOL14	0	0.13860E+00	447447.5	3762207.3	222.0	5.00	44.30	1.40	YES
VOL15	0	0.13860E+00	447616.0	3762206.0	222.0	5.00	44.30	1.40	YES
VOL16	0	0.13860E+00	447807.2	3762206.0	222.6	5.00	44.30	1.40	YES
VOL17	0	0.13860E+00	447959.5	3762206.0	223.0	5.00	44.30	1.40	YES
VOL18	0	0.13860E+00	448138.1	3762203.5	222.6	5.00	44.30	1.40	YES
VOL19	0	0.13860E+00	448313.0	3762202.2	222.6	5.00	44.30	1.40	YES
VOL20	0	0.13860E+00	447100.3	3762325.5	222.0	5.00	44.30	1.40	YES
VOL21	0	0.13860E+00	447276.4	3762324.3	222.9	5.00	44.30	1.40	YES
VOL22	0	0.13860E+00	447448.7	3762324.3	222.7	5.00	44.30	1.40	YES
VOL23	0	0.13860E+00	447616.0	3762326.8	222.7	5.00	44.30	1.40	YES
VOL24	0	0.13860E+00	447789.6	3762328.0	223.7	5.00	44.30	1.40	YES
VOL25	0	0.13860E+00	447960.7	3762326.8	224.2	5.00	44.30	1.40	YES
VOL26	0	0.13860E+00	448135.6	3762328.0	224.5	5.00	44.30	1.40	YES
VOL27	0	0.13860E+00	448318.0	3762330.6	224.8	5.00	44.30	1.40	YES
VOL28	0	0.13860E+00	447432.4	3762513.0	225.3	5.00	44.30	1.40	

```
 YES
 VOL29           0   0.13860E+00  447621.1 3762513.0   224.5     5.00    44.30     1.40
 YES
 VOL30           0   0.13860E+00  447811.0 3762515.5   225.4     5.00    44.30     1.40
 YES
 VOL31           0   0.13860E+00  447999.7 3762515.5   225.9     5.00    44.30     1.40
 YES
 VOL32           0   0.13860E+00  448189.7 3762514.2   225.7     5.00    44.30     1.40
 YES
 VOL33           0   0.13860E+00  448315.5 3762516.7   226.2     5.00    44.30     1.40
 YES
 VOL34           0   0.13860E+00  448316.7 3762709.2   227.4     5.00    44.30     1.40
 YES
 VOL35           0   0.13860E+00  448189.7 3762708.0   226.4     5.00    44.30     1.40
 YES
 VOL36           0   0.13860E+00  448001.0 3762706.7   227.4     5.00    44.30     1.40
 YES
 VOL37           0   0.13860E+00  447811.0 3762706.7   227.0     5.00    44.30     1.40
 YES
 VOL38           0   0.13860E+00  447621.1 3762704.2   226.6     5.00    44.30     1.40
 YES
 VOL39           0   0.13860E+00  447433.6 3762704.2   227.3     5.00    44.30     1.40
 YES
 VOL40           0   0.13860E+00  447524.2 3762897.9   228.4     5.00    44.30     1.40
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:19:28

                     PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - -

 VOL41           0   0.13860E+00  447329.2 3762897.9   228.7     5.00    44.30     1.40
 YES
 VOL42           0   0.13860E+00  447304.1 3763089.1   231.3     5.00    44.30     1.40
 YES
 VOL43           0   0.13860E+00  447533.0 3763086.6   231.2     5.00    44.30     1.40
 YES
 VOL44           0   0.13860E+00  447433.6 3763086.6   231.2     5.00    44.30     1.40
 YES
 VOL45           0   0.13860E+00  447530.5 3763277.8   232.5     5.00    44.30     1.40
 YES
 VOL46           0   0.13860E+00  447305.3 3763281.6   232.2     5.00    44.30     1.40
 YES
 VOL47           0   0.13860E+00  447419.8 3763282.9   232.6     5.00    44.30     1.40
 YES
 VOL48           0   0.13860E+00  447112.8 3763304.2   231.8     5.00    44.30     1.40
 YES
 VOL49           0   0.13860E+00  446924.1 3763305.5   231.6     5.00    44.30     1.40
 YES
 VOL50           0   0.13860E+00  447533.0 3763469.0   233.5     5.00    44.30     1.40
 YES
 VOL51           0   0.13860E+00  447217.3 3763472.8   233.2     5.00    44.30     1.40
```

```
 YES
 VOL52           0   0.13860E+00  447088.9 3763471.6   233.0     5.00    44.30     1.40
 YES
 VOL53           0   0.13860E+00  446925.4 3763474.1   232.6     5.00    44.30     1.40
 YES
 VOL54           0   0.13860E+00  447361.9 3763470.3   233.5     5.00    44.30     1.40
 YES
 VOL55           0   0.13860E+00  447531.7 3763659.5   234.9     5.00    44.30     1.40
 YES
 VOL56           0   0.13860E+00  447533.5 3763806.8   235.6     5.00    44.30     1.40
 YES
 VOL57           0   0.13860E+00  447359.9 3763658.4   234.1     5.00    44.30     1.40
 YES
 VOL58           0   0.13860E+00  447219.0 3763657.1   234.1     5.00    44.30     1.40
 YES
 VOL59           0   0.13860E+00  447090.7 3763659.7   234.5     5.00    44.30     1.40
 YES
 VOL60           0   0.13860E+00  446930.9 3763659.7   234.2     5.00    44.30     1.40
 YES
 VOL61           0   0.13860E+00  447357.4 3763804.3   234.7     5.00    44.30     1.40
 YES
 VOL62           0   0.13860E+00  447219.0 3763804.3   234.9     5.00    44.30     1.40
 YES
 VOL63           0   0.13860E+00  447093.2 3763805.6   235.8     5.00    44.30     1.40
 YES
 VOL64           0   0.13860E+00  446932.2 3763805.6   235.5     5.00    44.30     1.40
 YES
 VOL65           0   0.13860E+00  447133.5 3763996.8   237.4     5.00    44.30     1.40
 YES
 VOL66           0   0.13860E+00  446943.5 3763996.8   237.4     5.00    44.30     1.40
 YES
 VOL67           0   0.13860E+00  447134.7 3764159.1   239.1     5.00    44.30     1.40
 YES
 VOL68           0   0.13860E+00  446944.8 3764159.1   240.0     5.00    44.30     1.40
 YES
 VOL69           0   0.13860E+00  447136.0 3764318.9   241.0     5.00    44.30     1.40
 YES
 VOL70           0   0.13860E+00  446944.8 3764317.6   240.2     5.00    44.30     1.40
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:19:28

                     PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                        SOURCE IDs
 -----------                                        ----------


  ALL        VOL1        , VOL2        , VOL3        , VOL4        , VOL5        , VOL6        ,
  VOL7        , VOL8        ,

             VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14       ,
             VOL15       , VOL16       ,

             VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
             VOL23       , VOL24       ,

             VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
             VOL31       , VOL32       ,
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VOL33 , VOL34 , VOL35 , VOL36 , VOL37 , VOL38 ,
VOL39 , VOL40 ,

VOL41 , VOL42 , VOL43 , VOL44 , VOL45 , VOL46 ,
VOL47 , VOL48 ,

VOL49 , VOL50 , VOL51 , VOL52 , VOL53 , VOL54 ,
VOL55 , VOL56 ,

VOL57 , VOL58 , VOL59 , VOL60 , VOL61 , VOL62 ,
VOL63 , VOL64 ,

VOL65 , VOL66 , VOL67 , VOL68 , VOL69 , VOL70 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
2035210.		VOL1 , VOL2 , VOL3 , VOL4 , VOL5 , VOL6 , VOL7 , VOL8 , VOL9 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 , VOL17 , VOL18 , VOL19 , VOL20 , VOL21 , VOL22 , VOL23 , VOL24 , VOL25 , VOL26 , VOL27 , VOL28 , VOL29 , VOL30 , VOL31 , VOL32 , VOL33 , VOL34 , VOL35 , VOL36 , VOL37 , VOL38 , VOL39 , VOL40 , VOL41 , VOL42 , VOL43 , VOL44 , VOL45 , VOL46 , VOL47 , VOL48 , VOL49 , VOL50 , VOL51 , VOL52 , VOL53 , VOL54 , VOL55 , VOL56 , VOL57 , VOL58 , VOL59 , VOL60 , VOL61 , VOL62 , VOL63 , VOL64 , VOL65 , VOL66 , VOL67 , VOL68 , VOL69 , VOL70 ,

*** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
*** *** 15:19:28

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447362.2, 3764292.7, 240.7, 240.7, 2.0); (447376.0, 3764151.0,
239.6, 239.6, 2.0);
(447389.8, 3764043.0, 237.8, 237.8, 2.0); (447450.2, 3764031.0,
237.5, 237.5, 2.0);
(447410.2, 3764019.0, 237.5, 237.5, 2.0); (446891.9, 3764451.2,
241.5, 241.5, 2.0);
(446959.3, 3764451.2, 241.5, 241.5, 2.0); (446995.3, 3764468.1,
241.8, 241.8, 2.0);
(447007.4, 3764467.3, 241.9, 241.9, 2.0); (447023.5, 3764466.1,
241.9, 241.9, 2.0);
(447036.6, 3764466.2, 241.9, 241.9, 2.0); (447052.7, 3764465.6,
242.0, 242.0, 2.0);
(447066.6, 3764465.7, 242.1, 242.1, 2.0); (447099.6, 3764456.2,
242.1, 242.1, 2.0);
(447145.3, 3764468.3, 242.1, 242.1, 2.0); (447175.5, 3764468.0,
241.7, 241.7, 2.0);
(447205.3, 3764468.3, 241.3, 241.3, 2.0); (447232.4, 3764467.5,
242.0, 242.0, 2.0);
(447264.0, 3764467.3, 243.3, 243.3, 2.0); (447294.8, 3764466.9,
243.8, 243.8, 2.0);
(447365.0, 3764456.4, 243.3, 243.3, 2.0); (447406.6, 3764460.6,
243.1, 243.1, 2.0);
(447441.5, 3764460.0, 243.2, 243.2, 2.0); (447466.9, 3764460.2,
243.2, 243.2, 2.0);
(447490.0, 3764460.6, 242.9, 242.9, 2.0); (447515.5, 3764460.4,
242.6, 242.6, 2.0);
(447573.1, 3764454.3, 241.6, 241.6, 2.0); (447598.5, 3764445.2,
241.8, 241.8, 2.0);
(447652.9, 3764439.7, 243.1, 243.1, 2.0); (447692.9, 3764439.5,
243.1, 243.1, 2.0);
(447713.8, 3764439.1, 243.1, 243.1, 2.0); (447732.0, 3764438.7,
243.2, 243.2, 2.0);
(447751.1, 3764438.7, 243.3, 243.3, 2.0); (447768.8, 3764437.5,
243.4, 243.4, 2.0);
(447789.1, 3764437.7, 243.7, 243.7, 2.0); (447805.7, 3764437.3,
243.8, 243.8, 2.0);
(447824.0, 3764437.2, 243.9, 243.9, 2.0); (447841.6, 3764437.9,
243.9, 243.9, 2.0);
(447861.7, 3764437.5, 243.9, 243.9, 2.0); (447881.7, 3764435.2,
243.8, 243.8, 2.0);
(447902.8, 3764436.2, 243.8, 243.8, 2.0); (447920.9, 3764435.3,
243.8, 243.8, 2.0);
(447942.2, 3764435.3, 243.8, 243.8, 2.0); (447962.8, 3764434.8,
243.8, 243.8, 2.0);
(447980.7, 3764435.2, 243.8, 243.8, 2.0); (448004.7, 3764435.2,
243.6, 243.6, 2.0);
(448021.2, 3764434.7, 243.0, 243.0, 2.0); (447662.7, 3764379.6,
243.6, 243.6, 2.0);
(447681.3, 3764321.0, 243.4, 243.4, 2.0); (447682.6, 3764285.8,
242.3, 242.3, 2.0);
(447662.5, 3764238.4, 241.1, 241.1, 2.0); (447661.7, 3764207.4,
240.2, 240.2, 2.0);
(447683.1, 3764162.3, 239.1, 239.1, 2.0); (447681.0, 3764145.9,
238.7, 238.7, 2.0);
(447679.6, 3764130.3, 238.2, 238.2, 2.0); (447680.8, 3764112.0,
237.8, 237.8, 2.0);
(447681.5, 3764096.4, 237.6, 237.6, 2.0); (447680.8, 3764078.8,
237.4, 237.4, 2.0);
(447680.0, 3764064.3, 237.4, 237.4, 2.0); (447681.0, 3764045.8,
237.5, 237.5, 2.0);
(447680.6, 3764029.7, 237.5, 237.5, 2.0); (447657.2, 3763992.0,
237.3, 237.3, 2.0);
(447656.3, 3763967.1, 237.5, 237.5, 2.0); (447657.2, 3763928.7,
237.5, 237.5, 2.0);
(447657.2, 3763902.2, 237.6, 237.6, 2.0); (447657.5, 3763869.0,
237.3, 237.3, 2.0);

(447656.2, 3763834.9, 237.4, 237.4, 2.0); (447655.9, 3763808.3,
237.5, 237.5, 2.0);
(447657.1, 3763786.0, 237.6, 237.6, 2.0); (447701.2, 3763782.1,
237.7, 237.7, 2.0);
(447856.9, 3763749.7, 236.2, 236.2, 2.0); (447855.0, 3763730.1,
236.0, 236.0, 2.0);
(447854.3, 3763698.3, 235.6, 235.6, 2.0); (447855.3, 3763676.8,
235.4, 235.4, 2.0);
(447675.5, 3763287.5, 232.0, 232.0, 2.0); (448481.3, 3763485.3,
235.6, 235.6, 2.0);
(448480.0, 3763195.5, 232.0, 232.0, 2.0); (448478.6, 3762907.2,
229.4, 229.4, 2.0);
(448497.9, 3762714.1, 228.1, 228.1, 2.0); (448507.9, 3762487.7,
225.8, 225.8, 2.0);
(448480.5, 3762358.0, 224.8, 224.8, 2.0); (448462.7, 3762339.8,
224.6, 224.6, 2.0);
(448464.5, 3762265.9, 223.3, 223.3, 2.0); (448461.6, 3762165.2,
222.0, 222.0, 2.0);
(448472.6, 3762064.7, 220.0, 220.0, 2.0); (448460.5, 3762016.7,
219.4, 219.4, 2.0);
(448234.6, 3761951.2, 220.0, 220.0, 2.0); (448081.4, 3761952.8,
220.9, 220.9, 2.0);
(448025.5, 3761956.0, 221.0, 221.0, 2.0); (447506.8, 3761967.6,
220.0, 220.0, 2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447269.3, 3761967.7, 219.7, 219.7, 2.0); (447389.5, 3761908.8,
220.0, 220.0, 2.0);
(447019.1, 3761964.3, 219.0, 219.0, 2.0); (447060.3, 3761963.6,
219.0, 219.0, 2.0);
(446975.3, 3761963.2, 219.0, 219.0, 2.0); (446940.9, 3761953.8,
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(446797.8, 3762540.0, 225.7, 225.7, 2.0); (446797.5, 3762560.2,
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(446802.4, 3762949.2, 228.3, 228.3, 2.0); (446803.0, 3762967.3, 228.3, 228.3, 2.0);
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(447138.8, 3763192.3, 231.7, 231.7, 2.0); (447168.0, 3763192.3, 231.6, 231.6, 2.0);
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(447169.3, 3763144.9, 231.2, 231.2, 2.0); (447147.5, 3763107.4, 231.5, 231.5, 2.0);
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(446871.5, 3762779.6, 228.6, 228.6, 2.0); (446926.3, 3762768.7, 228.6, 228.6, 2.0);
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(447123.8, 3762774.0, 228.3, 228.3, 2.0); (447148.1, 3762775.0, 228.4, 228.4, 2.0);
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(446849.5, 3762754.7, 228.7, 228.7, 2.0);

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1

```
            1   1 1 1 1 1 1 1 1 1 1
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            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-16.4	0.171	-9.000	-9.000	-999.	170.	32.3	0.09	1.12	1.00	2.03	43.	7.9	285.9	2.0
12	01	01	1	02	-18.8	0.194	-9.000	-9.000	-999.	205.	41.3	0.09	1.12	1.00	2.28	34.	7.9	285.4	2.0
12	01	01	1	03	-17.8	0.182	-9.000	-9.000	-999.	187.	36.5	0.09	1.12	1.00	2.15	24.	7.9	282.0	2.0
12	01	01	1	04	-9.4	0.128	-9.000	-9.000	-999.	110.	19.6	0.09	1.12	1.00	1.55	41.	7.9	283.1	2.0
12	01	01	1	05	-16.9	0.173	-9.000	-9.000	-999.	173.	33.0	0.09	1.12	1.00	2.05	39.	7.9	280.4	2.0

```
 12 01 01   1 06   -8.0  0.117 -9.000 -9.000 -999.   97.     17.8  0.09   1.12   1.00    1.43
 21.    7.9  282.0    2.0
 12 01 01   1 07   -7.6  0.115 -9.000 -9.000 -999.   93.     17.4  0.09   1.12   1.00    1.40
 31.    7.9  282.5    2.0
 12 01 01   1 08  -13.6  0.184 -9.000 -9.000 -999.  190.     40.5  0.09   1.12   0.54    2.16
 34.    7.9  284.2    2.0
 12 01 01   1 09   28.4  0.126  0.300  0.011   33.  108.     -6.2  0.09   1.12   0.32    1.03
 29.    7.9  289.2    2.0
 12 01 01   1 10   79.8  0.133  0.607  0.010   99.  116.     -2.6  0.09   1.12   0.25    0.94
 173.    7.9  292.5    2.0
 12 01 01   1 11  115.8  0.137  0.932  0.006  246.  121.     -2.0  0.09   1.12   0.22    0.92
 172.    7.9  295.4    2.0
 12 01 01   1 12  133.7  0.139  1.197  0.005  453.  125.     -1.8  0.09   1.12   0.21    0.92
 146.    7.9  297.5    2.0
 12 01 01   1 13  133.2  0.160  1.354  0.005  657.  153.     -2.7  0.09   1.12   0.21    1.14
 117.    7.9  299.9    2.0
 12 01 01   1 14  113.5  0.159  1.454  0.005  955.  151.     -3.1  0.09   1.12   0.23    1.16
 285.    7.9  300.9    2.0
 12 01 01   1 15   76.2  0.166  1.350  0.005 1138.  163.     -5.3  0.09   1.12   0.26    1.33
 72.    7.9  302.0    2.0
 12 01 01   1 16   23.5  0.175  0.925  0.005 1183.  175.    -19.9  0.09   1.12   0.35    1.65
 107.    7.9  301.4    2.0
 12 01 01   1 17   -6.1  0.107 -9.000 -9.000 -999.   86.     18.0  0.09   1.12   0.63    1.31
 107.    7.9  298.1    2.0
 12 01 01   1 18  -11.1  0.141 -9.000 -9.000 -999.  127.     22.1  0.09   1.12   1.00    1.69
 86.    7.9  293.1    2.0
 12 01 01   1 19   -3.2  0.076 -9.000 -9.000 -999.   51.     11.8  0.09   1.12   1.00    0.91
 64.    7.9  292.0    2.0
 12 01 01   1 20   -2.3  0.066 -9.000 -9.000 -999.   41.     11.2  0.09   1.12   1.00    0.74
 73.    7.9  288.8    2.0
 12 01 01   1 21  -10.0  0.133 -9.000 -9.000 -999.  116.     20.5  0.09   1.12   1.00    1.60
 14.    7.9  288.1    2.0
 12 01 01   1 22  -19.4  0.201 -9.000 -9.000 -999.  216.     44.5  0.09   1.12   1.00    2.36
 22.    7.9  287.5    2.0
 12 01 01   1 23  -23.7  0.246 -9.000 -9.000 -999.  293.     66.5  0.09   1.12   1.00    2.86
 40.    7.9  287.0    2.0
 12 01 01   1 24  -12.3  0.147 -9.000 -9.000 -999.  139.     23.8  0.09   1.12   1.00    1.76
 40.    7.9  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1   43.    2.03   286.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:19:28

                     PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                              SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                                  VOL3        , VOL4        , VOL5        ,
                  VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                  VOL11       , VOL12       , VOL13       ,
                  VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                  VOL19       , VOL20       , VOL21       ,
                  VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                  VOL27       , VOL28       ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***
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** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	109.81186	(15083004)	447375.98	3764150.98	122.61611	(15083004)
447389.75	3764043.04	130.39555	(12082822)	447450.16	3764031.05	112.56495	(12082822)
447410.18	3764019.05	120.14995	(12082822)	446891.90	3764451.22	131.75125	(12080801)
446959.28	3764451.22	132.15253	(15072504)	446995.28	3764468.13	126.53051	(16102921)
447007.41	3764467.30	126.54834	(16102921)	447023.51	3764466.09	126.35874	(16102921)
447036.59	3764466.21	125.95340	(16102921)	447052.68	3764465.61	125.74093	(14080503)
447066.60	3764465.73	125.81679	(15032722)	447099.65	3764456.17	135.93943	(15032722)
447145.28	3764468.27	127.35792	(16072222)	447175.54	3764468.03	115.70277	(16072222)
447205.32	3764468.27	109.42366	(16062805)	447232.43	3764467.55	106.29042	(16062805)
447264.02	3764467.30	103.97322	(13090206)	447294.77	3764466.94	101.25223	(13090206)
447364.97	3764456.41	95.89765	(15083004)	447406.61	3764460.65	93.81526	(12082822)
447441.47	3764460.04	91.39830	(12082822)	447466.88	3764460.20	90.36638	(12080905)
447490.00	3764460.56	89.43210	(12080905)	447515.50	3764460.40	87.33124	(12080905)
447573.06	3764454.29	83.82317	(12080824)	447598.49	3764445.22	82.53506	(12080824)
447652.90	3764439.70	80.64245	(16102922)	447692.92	3764439.51	77.87853	(16072903)
447713.82	3764439.11	76.78818	(12080823)	447731.95	3764438.72	75.56969	(12080823)
447751.07	3764438.72	74.13589	(12080823)	447768.82	3764437.53	72.89904	(16062624)
447789.12	3764437.73	71.68540	(16062624)	447805.68	3764437.34	70.40223	(16062624)
447824.02	3764437.20	69.13635	(16072205)	447841.61	3764437.87	68.04098	(13090302)
447861.72	3764437.53	66.70332	(13090302)	447881.66	3764435.18	65.24384	(13090302)
447902.78	3764436.19	63.55709	(13090302)	447920.87	3764435.35	62.06110	(13090302)
447942.16	3764435.35	60.56334	(15080603)	447962.77	3764434.85	59.25787	(15092823)
447980.70	3764435.18	58.13080	(15092823)	448004.66	3764435.18	56.44222	(15092823)
448021.25	3764434.68	55.20134	(15062204)	447662.70	3764379.63	83.04637	(14070405)
447681.30	3764320.98	84.95661	(12080823)	447682.64	3764285.79	86.32262	(12080823)
447662.53	3764238.37	89.63528	(12080823)	447661.70	3764207.37	91.03862	(12080823)
447683.14	3764162.29	89.07054	(12080823)	447680.97	3764145.87	89.70223	(12080823)
447679.63	3764130.28	83.98864	(12080823)	447680.80	3764112.02	79.62772	(15092321)
447681.47	3764096.43	80.70886	(15092321)	447680.80	3764078.84	82.00409	(15092321)
447679.96	3764064.26	83.13016	(15092321)	447680.97			

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	94.37629	(12081723)	448462.73	3762339.82	100.39291	(12081723)
448464.47	3762265.93	98.86386	(12090422)	448461.57	3762165.17	100.57910	(12110518)
448472.57	3762064.71	87.77752	(15090823)	448460.48	3762016.72	84.20960	(14091123)
448234.63	3761951.18	107.53350	(12121716)	448081.42	3761952.78	109.89483	(12121716)
448025.53	3761955.99	122.37817	(12121716)	447506.75	3761967.63	99.20005	(12101522)
447269.29	3761967.74	96.53953	(14091523)	447389.46	3761908.79	83.78398	(14091523)
447019.14	3761964.34	84.93680	(15101221)	447060.33	3761963.58	85.86088	(15010618)
446975.31	3761963.20	82.53125	(15101221)	446940.92	3761953.76	78.48898	(15101221)
446865.72	3761974.54	83.05201	(15100919)	446795.06			

```
      3761957.91       73.95304  (15100919)
      446757.65   3761965.85       72.59463  (15100919)                446709.33
      3761967.74       68.28228  (15100919)
      446796.42   3762028.62       89.87754  (15100919)                446796.97
      3762045.28       93.13638  (14051602)
      446796.70   3762089.51      101.11159  (14051523)                446796.15
      3762105.89      102.57254  (14051523)
      446796.70   3762137.29      103.65242  (14051523)                446796.15
      3762153.39      104.24767  (16021518)
      446772.40   3762215.37       97.68633  (16021518)                446795.06
      3762321.03       99.07985  (15090905)
      446796.42   3762450.98       68.24949  (16110920)                446796.42
      3762471.18       71.60771  (15082702)
      446797.24   3762496.03       68.38676  (15082702)                446798.06
      3762516.51       83.16149  (14091702)
      446797.79   3762539.98       79.26229  (14091702)                446797.52
      3762560.19       76.38167  (15090724)
      446798.61   3762584.76       77.25320  (14091421)                446798.06
      3762604.42       75.74610  (14091421)
      446799.70   3762654.11       74.10537  (12081505)                446799.97
      3762674.58       73.35950  (15032721)
      446800.25   3762700.25       74.87717  (12081505)                446800.25
      3762721.27       74.00772  (12081505)
      446799.97   3762735.74       73.25993  (12081505)                446797.79
      3762748.02       72.56995  (12081505)
      446802.16   3762913.47       67.35058  (12091002)                446802.16
      3762932.58       67.05067  (12091002)
      446802.43   3762949.24       66.78851  (12091002)                446802.98
      3762967.26       66.54908  (16122017)
      446802.70   3762986.09       66.61217  (16122017)                446802.16
      3763003.29       67.66497  (16122017)
      446802.16   3763021.86       68.16333  (16122017)                446802.70
      3763040.70       69.06040  (16122017)
      446802.98   3763059.26       69.66525  (16122017)                446803.52
      3763077.01       70.46903  (15081403)
      446756.29   3763085.26       65.95166  (15081403)                446807.68
      3763646.39      116.75536  (13062901)
      446808.32   3763674.66      117.34731  (13062901)                446807.68
      3763694.57      122.32588  (13062901)
      446808.32   3763710.63      122.14684  (13062901)                446808.32
      3763726.37      121.59690  (13062901)
      446808.00   3763742.11      120.73765  (13062901)                446808.32
      3763756.89      120.11743  (13062901)
      446808.64   3763798.32      121.84024  (13082922)                446810.25
      3764484.08      118.61585  (15082605)
      446781.34   3764475.08      117.29522  (15082605)                446722.56
      3764455.81      112.79135  (13090723)
      446170.32   3764559.79       72.41901  (15090724)                446872.29
      3763190.26       95.58771  (15081403)
      446925.22   3763179.19      101.41828  (15081403)                446984.86
      3763194.88      108.25762  (16092001)
      447010.56   3763193.28      112.45933  (15081403)                447036.58
      3763193.60      115.27054  (15081403)
      447053.61   3763193.28      117.63114  (16092001)                447076.42
      3763192.31      128.83382  (16092001)
      447093.45   3763192.63      131.79543  (16092001)                447122.05
      3763192.63      127.21895  (16092001)
      447138.75   3763192.31      128.84454  (16092001)                447167.99
      3763192.31      132.11115  (12081704)
      447170.68   3763172.18      125.64029  (15090920)                447170.41
      3763158.25      123.52445  (12081704)
      447169.31   3763144.87      122.17891  (12081704)                447147.46
      3763107.45      118.50315  (16092001)
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	114.75685	(16092001)	447146.92	3763064.30	113.52456	(16092001)
447149.92	3763038.90	112.17600	(16092001)	447148.56	3763019.78	110.92346	(15081403)
447148.56	3762997.39	103.17182	(14091702)	447206.08	3762958.49	109.57261	(14091702)
447209.33	3762922.51	109.79533	(14091702)	447208.40	3762890.70	107.99726	(14091702)
447145.83	3762888.87	96.26970	(15081403)	447122.55	3762889.07	93.34920	(15081403)
447094.33	3762890.05	90.19194	(15081403)	447071.04	3762890.45	87.78154	(15081403)
447043.61	3762889.66	85.03334	(15081403)	447017.76	3762888.87	82.88788	(16122017)
446992.11	3762889.07	81.20327	(12091002)	446964.28	3762888.28	79.37447	(12091002)
446940.41	3762888.47	77.31448	(12091002)	446911.20	3762888.08	74.99074	(12091002)
446885.35	3762889.66	73.45148	(12091002)	446862.07	3762888.87	72.07238	(12091002)
446871.45	3762779.57	74.57343	(15032721)	446926.31	3762768.72	78.05202	(16090703)
446983.74	3762774.24	81.65217	(12091002)	447009.00	3762774.05	83.54181	(12091002)
447030.51	3762774.44	78.08548	(12091002)	447055.37	3762774.05	79.30782	(12091002)
447076.88	3762774.24	80.92588	(12091002)	447101.16	3762774.44	90.41094	(12091002)
447123.85	3762774.05	92.50504	(12091002)	447148.12	3762775.03	95.65344	(15081403)
447170.23	3762774.84	99.20647	(15081403)	447196.78	3762775.48	102.93001	(15081403)
447242.12	3762776.57	109.97686	(15081403)	447262.33	3762776.03	112.41784	(16092001)
447294.56	3762776.30	117.85471	(12081704)	447313.13	3762775.48	121.32077	(12081704)
447313.40	3762749.53	121.26628	(12081704)	447327.86	3762713.09	121.60585	(14091702)
447327.36	3762679.87	112.33168	(14091702)	447327.74	3762657.02	111.82841	(14091701)
447327.28	3762636.82	111.08293	(14091701)	447327.51			

3762612.90 110.92878 (14091701)
447327.28 3762592.24 112.02011 (14091701) 447327.04
3762569.71 114.15765 (14091701)
447327.28 3762547.89 118.81184 (12081704) 447326.58
3762524.67 118.60166 (12081103)
447326.58 3762506.09 120.16718 (12081103) 447327.51
3762477.53 123.56510 (12062806)
447325.88 3762454.31 126.37504 (12062806) 447225.58
3762432.95 115.12074 (12062806)
447200.27 3762430.63 112.41457 (12062806) 447156.85
3762430.16 109.08969 (12062806)
447131.77 3762430.86 107.81288 (12062806) 447102.74
3762430.63 106.21182 (12062806)
447079.06 3762430.86 103.43884 (12062806) 447034.94
3762433.65 95.75003 (12062806)
446995.47 3762433.65 91.30887 (12062806) 446972.71
3762434.34 89.22468 (12062806)
446941.37 3762434.58 86.38901 (12062806) 446916.06
3762436.90 81.98303 (12062806)
446876.35 3762436.90 78.55265 (14091620) 446848.85
3762647.05 75.56058 (15032721)
446848.85 3762563.17 80.62113 (14091421) 446849.17
3762509.82 81.54723 (14091421)
446849.17 3762455.82 77.80385 (12092322) 446848.85
3762702.00 76.84470 (12081505)
446849.49 3762754.71 74.64021
(12081505)

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 ,
VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	59.23797	(14021808)	447375.98	3764150.98	68.66992	(14021808)
447389.75	3764043.04	76.31658c	(13061708)	447450.16	3764031.05	70.28845c	(13061708)
447410.18	3764019.05	75.11869	(14021808)	446891.90	3764451.22	77.02360c	(12091708)
446959.28	3764451.22	79.41497c	(12091708)	446995.28	3764468.13	74.61038c	(12091708)
447007.41	3764467.30	74.39406c	(12091708)	447023.51	3764466.09	73.97513c	(12091708)
447036.59	3764466.21	73.42530c	(12091708)	447052.68			

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3764465.61      73.22255  (14021808)
447066.60   3764465.73      73.97211  (14021808)              447099.65
3764456.17      80.05933  (14021808)
447145.28   3764468.27      75.06008  (14021808)              447175.54
3764468.03      69.35128  (14021808)
447205.32   3764468.27      64.12656  (14021808)              447232.43
3764467.55      59.86191  (14021808)
447264.02   3764467.30      56.78475  (12022508)              447294.77
3764466.94      53.93223  (12022508)
447364.97   3764456.41      49.73130  (12022508)              447406.61
3764460.65      47.86986  (12022508)
447441.47   3764460.04      46.55170  (12022508)              447466.88
3764460.20      45.87747  (12022508)
447490.00   3764460.56      45.06872  (12022508)              447515.50
3764460.40      44.22666  (12022508)
447573.06   3764454.29      42.23797  (12022508)              447598.49
3764445.22      41.66139  (12022508)
447652.90   3764439.70      39.79726  (12022508)              447692.92
3764439.51      38.78423c (12032908)
447713.82   3764439.11      38.58791  (12012108)              447731.95
3764438.72      38.44061c (12032908)
447751.07   3764438.72      38.07856  (12012108)              447768.82
3764437.53      37.86359  (12012108)
447789.12   3764437.73      37.50768  (12012108)              447805.68
3764437.34      37.16301  (12012108)
447824.02   3764437.20      36.70739  (12012108)              447841.61
3764437.87      36.18907  (12012108)
447861.72   3764437.53      35.55437  (12012108)              447881.66
3764435.18      34.89847  (12012108)
447902.78   3764436.19      34.09848  (12012108)              447920.87
3764435.35      33.40597  (12012108)
447942.16   3764435.35      32.55238  (12012108)              447962.77
3764434.85      32.00360c (14080408)
447980.70   3764435.18      31.63550c (14080408)              448004.66
3764435.18      31.06950c (14080408)
448021.25   3764434.68      30.70612c (14080408)              447662.70
3764379.63      42.35054c (12032908)
447681.30   3764320.98      44.18884c (12032908)              447682.64
3764285.79      44.84535c (12032908)
447662.53   3764238.37      47.37485  (12012108)              447661.70
3764207.37      49.13525  (12012108)
447683.14   3764162.29      50.20923  (12012108)              447680.97
3764145.87      51.13499  (12012108)
447679.63   3764130.28      49.24640  (12012108)              447680.80
3764112.02      48.33439  (12012108)
447681.47   3764096.43      48.91732  (12012108)              447680.80
3764078.84      50.04255  (12012108)
447679.96   3764064.26      50.96374  (12012108)              447680.97
3764045.82      52.07006  (12012108)
447680.63   3764029.74      53.15705  (12012108)              447657.17
3763992.03      58.30786c (12032908)
447656.33   3763967.06      61.71633c (12032908)              447657.17
3763928.69      67.58084c (12032908)
447657.17   3763902.21      72.94193c (12032908)              447657.51
3763869.03      77.51205c (12032908)
447656.16   3763834.94      82.35548c (12032908)              447655.93
3763808.27      84.56969c (12032908)
447657.09   3763786.00      85.76201c (12032908)              447701.21
3763782.14      74.28419c (12032908)
447856.92   3763749.71      49.58694  (12012108)              447854.99
3763730.13      50.26368  (12012108)
447854.35   3763698.35      50.86272  (12012108)              447855.31
3763676.84      50.58929  (12012108)
447675.51   3763287.46      81.12686  (12012108)              448481.33
3763485.29      35.44341c (14080408)
448479.95   3763195.53      45.74293c (14080408)              448478.56
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 ,
VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	79.90776	(13020608)	448462.73	3762339.82	85.05600	(13020608)
448464.47	3762265.93	81.20762c	(13041208)	448461.57	3762165.17	77.77191	(12111524)
448472.57	3762064.71	72.25976	(15112908)	448460.48	3762016.72	72.01207	(15112908)
448234.63	3761951.18	74.61165	(15112908)	448081.42	3761952.78	76.15970	(14011608)
448025.53	3761955.99	79.81308	(15123108)	447506.75	3761967.63	84.40788	(13012008)
447269.29	3761967.74	85.65306	(16122908)	447389.46	3761908.79	70.08118	(16122908)
447019.14	3761964.34	77.72489	(12121624)	447060.33	3761963.58	79.49844	(12121624)
446975.31	3761963.20	74.97960	(12121624)	446940.92	3761953.76	72.24636	(12121624)
446865.72	3761974.54	74.58862	(12121624)	446795.06	3761957.91	60.60063	(12121624)
446757.65	3761965.85	56.07721	(13012308)	446709.33	3761967.74	51.81744	(14121608)
446796.42	3762028.62	73.88786	(14121608)	446796.97	3762045.28	78.56574	(14121608)
446796.70	3762089.51	86.80291	(14121608)	446796.15	3762105.89	88.10960	(14121608)
446796.70	3762137.29	89.31504	(14121608)	446796.15	3762153.39	89.12897	(14121608)
446772.40	3762215.37	78.71197	(14121608)	446795.06	3762321.03	72.48595	(16010724)
446796.42	3762450.98	51.21876	(16123108)	446796.42	3762471.18	53.25305	(16123108)
446797.24	3762496.03	51.26530	(12102408)	446798.06	3762516.51	58.48601	(16123108)
446797.79	3762539.98	57.13775	(16123108)	446797.52	3762560.19	56.90189	(16123108)
446798.61	3762584.76	56.64340	(16123108)	446798.06			

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      3762604.42       54.96457  (16123108)
      446799.70   3762654.11       54.04573  (16123108)               446799.97
      3762674.58       53.34616  (16123108)
      446800.25   3762700.25       54.14337  (16123108)               446800.25
      3762721.27       53.02042  (16123108)
      446799.97   3762735.74       52.20326  (16123108)               446797.79
      3762748.02       51.49381  (16123108)
      446802.16   3762913.47       45.94730  (12102408)               446802.16
      3762932.58       45.91848  (12102408)
      446802.43   3762949.24       45.94452  (12102408)               446802.98
      3762967.26       46.02559  (12102408)
      446802.70   3762986.09       46.19994  (12102408)               446802.16
      3763003.29       46.53787  (12102408)
      446802.16   3763021.86       46.92701  (12102408)               446802.70
      3763040.70       47.42401  (12102408)
      446802.98   3763059.26       48.24469  (16123108)               446803.52
      3763077.01       48.77646  (16123108)
      446756.29   3763085.26       45.49485  (12102408)               446807.68
      3763646.39       82.41831  (12102408)
      446808.32   3763674.66       82.94834  (12102408)               446807.68
      3763694.57       84.38503  (12102408)
      446808.32   3763710.63       84.33219  (12102408)               446808.32
      3763726.37       83.97863  (12102408)
      446808.00   3763742.11       83.48505  (12102408)               446808.32
      3763756.89       83.27170  (12102408)
      446808.64   3763798.32       83.81745  (12102408)               446810.25
      3764484.08       65.01545c (12091708)
      446781.34   3764475.08       63.13378c (12091708)               446722.56
      3764455.81       58.50238c (12091708)
      446170.32   3764559.79       32.78550  (12102408)               446872.29
      3763190.26       68.62129c (13010508)
      446925.22   3763179.19       71.88073  (16123108)               446984.86
      3763194.88       77.37809c (14020408)
      447010.56   3763193.28       80.14076  (16123108)               447036.58
      3763193.60       82.45257  (16123108)
      447053.61   3763193.28       84.34145c (14020408)               447076.42
      3763192.31       88.29232c (14020408)
      447093.45   3763192.63       90.98444c (14020408)               447122.05
      3763192.63       93.84105c (14020408)
      447138.75   3763192.31       95.71605c (14020408)               447167.99
      3763192.31       99.31113c (14020408)
      447170.68   3763172.18       95.60860c (14020408)               447170.41
      3763158.25       93.59626c (14020408)
      447169.31   3763144.87       91.82620c (14020408)               447147.46
      3763107.45       86.06635  (16123108)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:19:28

                    PAGE  16
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  8-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  ALL      ***
                               INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                               VOL3        , VOL4        , VOL5        ,
                  VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                  VOL11       , VOL12       , VOL13       ,
                  VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                  VOL19       , VOL20       , VOL21       ,
                  VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                  VOL27       , VOL28       ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***
```

** CONC OF CO IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	82.34154	(16123108)	447146.92	3763064.30	81.59669	(16123108)
447149.92	3763038.90	81.21675	(16123108)	447148.56	3763019.78	80.52040	(16123108)
447148.56	3762997.39	76.85798	(16123108)	447206.08	3762958.49	84.57377c	(14020408)
447209.33	3762922.51	84.20448c	(14020408)	447208.40	3762890.70	82.40913c	(14020408)
447145.83	3762888.87	69.63946c	(14020408)	447122.55	3762889.07	66.54541	(16123108)
447094.33	3762890.05	63.78438	(16123108)	447071.04	3762890.45	61.81952	(16123108)
447043.61	3762889.66	59.75804	(16123108)	447017.76	3762888.87	58.01566	(16123108)
446992.11	3762889.07	56.43624	(16123108)	446964.28	3762888.28	54.85818	(16123108)
446940.41	3762888.47	52.93406	(16123108)	446911.20	3762888.08	50.92016	(16123108)
446885.35	3762889.66	49.75917	(16123108)	446862.07	3762888.87	48.79899	(16123108)
446871.45	3762779.57	52.29521	(16123108)	446926.31	3762768.72	54.83262	(16123108)
446983.74	3762774.24	57.18097	(16123108)	447009.00	3762774.05	58.43899	(16123108)
447030.51	3762774.44	56.42438	(16123108)	447055.37	3762774.05	57.78183c	(14020408)
447076.88	3762774.24	59.46196c	(14020408)	447101.16	3762774.44	63.08389	(16123108)
447123.85	3762774.05	64.84732	(16123108)	447148.12	3762775.03	66.95872	(16123108)
447170.23	3762774.84	70.29845	(16123108)	447196.78	3762775.48	73.04949	(16123108)
447242.12	3762776.57	80.08459c	(14020408)	447262.33	3762776.03	84.00085c	(14020408)
447294.56	3762776.30	90.70195c	(14020408)	447313.13	3762775.48	94.72222c	(14020408)
447313.40	3762749.53	92.95833c	(14020408)	447327.86	3762713.09	94.22979c	(14020408)
447327.36	3762679.87	93.16705c	(14020408)	447327.74	3762657.02	92.50166c	(14020408)
447327.28	3762636.82	91.85990c	(14020408)	447327.51	3762612.90	91.95154c	(14020408)
447327.28	3762592.24	92.90525c	(14020408)	447327.04	3762569.71	94.74689c	(14020408)
447327.28	3762547.89	95.68001c	(14020408)	447326.58	3762524.67	95.36048c	(14020408)
447326.58	3762506.09	97.17228c	(14020408)	447327.51	3762477.53	101.35548	(12120908)
447325.88	3762454.31	103.70658	(12120908)	447225.58	3762432.95	94.39525	(12120908)
447200.27	3762430.63	92.94801	(12120908)	447156.85	3762430.16	90.18105	(12120908)
447131.77	3762430.86	89.07815	(12120908)	447102.74	3762430.63	87.75924	(12120908)
447079.06	3762430.86	85.52160	(12120908)	447034.94	3762433.65	79.20312	(12120908)
446995.47	3762433.65	75.51494	(12120908)	446972.71	3762434.34	73.75564	(12120908)
446941.37	3762434.58	71.31175	(12120908)	446916.06			

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	135.93943	ON 15032722: AT (447099.65, 3764456.17, 242.11, 242.11, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF CO IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	103.70658	ON 12120908: AT (447325.88, 3762454.31, 224.52, 224.52, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART

 *** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   2 Warning Message(s)
 A Total of   1628 Informational Message(s)

 A Total of   43848 Hours Were Processed

 A Total of   1278 Calm Hours Identified

 A Total of   350 Missing Hours Identified (0.80 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 ME W186   202   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used   0.50
 ME W187   202   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

    ****
    *** AERMOD Finishes Successfully ***
    ****

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**
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**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops NO2\14822 Ops
NO2.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 1
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID NOX
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Ops NO2.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
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   SRCPARAM VOL3         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL4         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL5         0.0251995761     5.000    44.302     1.400
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   SRCPARAM VOL7         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL8         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL9         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL10        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL11        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL12        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL13        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL14        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL15        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL16        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL17        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL18        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL19        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL20        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL21        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL22        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL23        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL24        0.0251995761     5.000    44.302     1.400
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   SRCPARAM VOL30        0.0251995761     5.000    44.302     1.400
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   SRCPARAM VOL61        0.0251995761     5.000    44.302     1.400
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   SRCPARAM VOL63        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL64        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL65        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL66        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL67        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL68        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL69        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL70        0.0251995761     5.000    44.302     1.400
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Ops NO2.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
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   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "14822 OPS NO2.AD\01H1GALL.PLT" 31
   SUMMFILE "14822 Ops NO2.sum"
OU FINISHED
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** Project Parameters
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** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
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** Lakes Environmental AERMOD MPI
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** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops NO2\14822 Ops
NO2.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 1
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID NOX
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Ops NO2.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
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   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
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   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** Source Parameters **
   SRCPARAM VOL1         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL2         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL3         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL4         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL5         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL6         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL7         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL8         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL9         0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL10        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL11        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL12        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL13        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL14        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL15        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL16        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL17        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL18        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL19        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL20        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL21        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL22        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL23        0.0251995761     5.000    44.302     1.400
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   SRCPARAM VOL24        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL25        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL26        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL27        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL28        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL29        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL30        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL31        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL32        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL33        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL34        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL35        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL36        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL37        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL38        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL39        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL40        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL41        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL42        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL43        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL44        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL45        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL46        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL47        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL48        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL49        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL50        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL51        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL52        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL53        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL54        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL55        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL56        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL57        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL58        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL59        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL60        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL61        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL62        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL63        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL64        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL65        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL66        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL67        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL68        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL69        0.0251995761     5.000    44.302     1.400
   SRCPARAM VOL70        0.0251995761     5.000    44.302     1.400
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Ops NO2.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
```

```
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "14822 OPS NO2.AD\01H1GALL.PLT" 31
   SUMMFILE "14822 Ops NO2.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     202       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187     202       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:25:44

                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
```

```
     * Model Uses URBAN Dispersion Algorithm for the SBL for    70 Source(s),
       for Total of    1 Urban Area(s):
   Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
     * Urban Roughness Length of 1.0 Meter Used.
     * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
     * CCVR_Sub - Meteorological data includes CCVR substitutions
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Accepts FLAGPOLE Receptor . Heights.
     * The User Specified a Pollutant Type of: NOX

 **Model Calculates  1 Short Term Average(s) of:   1-HR

 **This Run Includes:     70 Source(s);       1 Source Group(s); and     227 Receptor(s)

               with:       0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                and:      70 VOLUME source(s)
                and:       0 AREA type source(s)
                and:       0 LINE source(s)
                and:       0 RLINE/RLINEXT source(s)
                and:       0 OPENPIT source(s)
                and:       0 BUOYANT LINE source(s) with a total of     0 line(s)
                and:       0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing
                                                                 Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   289.00 ;  Decay Coef. =
 0.000     ;  Rot. Angle =     0.0
                Emission Units = GRAMS/SEC                          ;  Emission Rate
                Unit Factor =   0.10000E+07
                Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:
 aermod.inp
 **Output Print File:
 aermod.out

 **Detailed Error/Message File:   14822 Ops
 NO2.err
 **File for Summary of Results:   14822 Ops
 NO2.sum
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:25:44

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***
```

SOURCE ID	NUMBER URBAN SOURCE SCALAR VARY BY	EMISSION RATE PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
VOL1	0		0.25200E-01	447959.2	3762097.7	222.0	5.00	44.30	1.40	YES
VOL2	0		0.25200E-01	448134.4	3762098.8	222.4	5.00	44.30	1.40	YES
VOL3	0		0.25200E-01	447790.3	3762102.9	221.9	5.00	44.30	1.40	YES
VOL4	0		0.25200E-01	447618.2	3762098.8	221.0	5.00	44.30	1.40	YES
VOL5	0		0.25200E-01	447446.1	3762100.8	221.0	5.00	44.30	1.40	YES
VOL6	0		0.25200E-01	447276.1	3762094.7	220.0	5.00	44.30	1.40	YES
VOL7	0		0.25200E-01	447099.9	3762094.7	219.6	5.00	44.30	1.40	YES
VOL8	0		0.25200E-01	446929.9	3762096.7	220.0	5.00	44.30	1.40	YES
VOL9	0		0.25200E-01	448310.5	3762107.0	222.0	5.00	44.30	1.40	YES
VOL10	0		0.25200E-01	446926.7	3762209.8	221.3	5.00	44.30	1.40	YES
VOL11	0		0.25200E-01	446924.1	3762324.3	222.2	5.00	44.30	1.40	YES
VOL12	0		0.25200E-01	447100.3	3762207.3	221.0	5.00	44.30	1.40	YES
VOL13	0		0.25200E-01	447276.4	3762207.3	221.9	5.00	44.30	1.40	YES
VOL14	0		0.25200E-01	447447.5	3762207.3	222.0	5.00	44.30	1.40	YES
VOL15	0		0.25200E-01	447616.0	3762206.0	222.0	5.00	44.30	1.40	YES
VOL16	0		0.25200E-01	447807.2	3762206.0	222.6	5.00	44.30	1.40	YES
VOL17	0		0.25200E-01	447959.5	3762206.0	223.0	5.00	44.30	1.40	YES
VOL18	0		0.25200E-01	448138.1	3762203.5	222.6	5.00	44.30	1.40	YES
VOL19	0		0.25200E-01	448313.0	3762202.2	222.6	5.00	44.30	1.40	YES
VOL20	0		0.25200E-01	447100.3	3762325.5	222.0	5.00	44.30	1.40	YES
VOL21	0		0.25200E-01	447276.4	3762324.3	222.9	5.00	44.30	1.40	YES
VOL22	0		0.25200E-01	447448.7	3762324.3	222.7	5.00	44.30	1.40	YES
VOL23	0		0.25200E-01	447616.0	3762326.8	222.7	5.00	44.30	1.40	YES
VOL24	0		0.25200E-01	447789.6	3762328.0	223.7	5.00	44.30	1.40	YES
VOL25	0		0.25200E-01	447960.7	3762326.8	224.2	5.00	44.30	1.40	YES
VOL26	0		0.25200E-01	448135.6	3762328.0	224.5	5.00	44.30	1.40	YES
VOL27	0		0.25200E-01	448318.0	3762330.6	224.8	5.00	44.30	1.40	YES
VOL28	0		0.25200E-01	447432.4	3762513.0	225.3	5.00	44.30	1.40	YES

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 VOL29           0   0.25200E-01  447621.1 3762513.0   224.5     5.00    44.30     1.40
 YES
 VOL30           0   0.25200E-01  447811.0 3762515.5   225.4     5.00    44.30     1.40
 YES
 VOL31           0   0.25200E-01  447999.7 3762515.5   225.9     5.00    44.30     1.40
 YES
 VOL32           0   0.25200E-01  448189.7 3762514.2   225.7     5.00    44.30     1.40
 YES
 VOL33           0   0.25200E-01  448315.5 3762516.7   226.2     5.00    44.30     1.40
 YES
 VOL34           0   0.25200E-01  448316.7 3762709.2   227.4     5.00    44.30     1.40
 YES
 VOL35           0   0.25200E-01  448189.7 3762708.0   226.4     5.00    44.30     1.40
 YES
 VOL36           0   0.25200E-01  448001.0 3762706.7   227.4     5.00    44.30     1.40
 YES
 VOL37           0   0.25200E-01  447811.0 3762706.7   227.0     5.00    44.30     1.40
 YES
 VOL38           0   0.25200E-01  447621.1 3762704.2   226.6     5.00    44.30     1.40
 YES
 VOL39           0   0.25200E-01  447433.6 3762704.2   227.3     5.00    44.30     1.40
 YES
 VOL40           0   0.25200E-01  447524.2 3762897.9   228.4     5.00    44.30     1.40
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:25:44

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - -

 VOL41           0   0.25200E-01  447329.2 3762897.9   228.7     5.00    44.30     1.40
 YES
 VOL42           0   0.25200E-01  447304.1 3763089.1   231.3     5.00    44.30     1.40
 YES
 VOL43           0   0.25200E-01  447533.0 3763086.6   231.2     5.00    44.30     1.40
 YES
 VOL44           0   0.25200E-01  447433.6 3763086.6   231.2     5.00    44.30     1.40
 YES
 VOL45           0   0.25200E-01  447530.5 3763277.8   232.5     5.00    44.30     1.40
 YES
 VOL46           0   0.25200E-01  447305.3 3763281.6   232.2     5.00    44.30     1.40
 YES
 VOL47           0   0.25200E-01  447419.8 3763282.9   232.6     5.00    44.30     1.40
 YES
 VOL48           0   0.25200E-01  447112.8 3763304.2   231.8     5.00    44.30     1.40
 YES
 VOL49           0   0.25200E-01  446924.1 3763305.5   231.6     5.00    44.30     1.40
 YES
 VOL50           0   0.25200E-01  447533.0 3763469.0   233.5     5.00    44.30     1.40
 YES
 VOL51           0   0.25200E-01  447217.3 3763472.8   233.2     5.00    44.30     1.40
 YES
```

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VOL52           0   0.25200E-01  447088.9 3763471.6   233.0     5.00    44.30     1.40
YES
VOL53           0   0.25200E-01  446925.4 3763474.1   232.6     5.00    44.30     1.40
YES
VOL54           0   0.25200E-01  447361.9 3763470.3   233.5     5.00    44.30     1.40
YES
VOL55           0   0.25200E-01  447531.7 3763659.5   234.9     5.00    44.30     1.40
YES
VOL56           0   0.25200E-01  447533.5 3763806.8   235.6     5.00    44.30     1.40
YES
VOL57           0   0.25200E-01  447359.9 3763658.4   234.1     5.00    44.30     1.40
YES
VOL58           0   0.25200E-01  447219.0 3763657.1   234.1     5.00    44.30     1.40
YES
VOL59           0   0.25200E-01  447090.7 3763659.7   234.5     5.00    44.30     1.40
YES
VOL60           0   0.25200E-01  446930.9 3763659.7   234.2     5.00    44.30     1.40
YES
VOL61           0   0.25200E-01  447357.4 3763804.3   234.7     5.00    44.30     1.40
YES
VOL62           0   0.25200E-01  447219.0 3763804.3   234.9     5.00    44.30     1.40
YES
VOL63           0   0.25200E-01  447093.2 3763805.6   235.8     5.00    44.30     1.40
YES
VOL64           0   0.25200E-01  446932.2 3763805.6   235.5     5.00    44.30     1.40
YES
VOL65           0   0.25200E-01  447133.5 3763996.8   237.4     5.00    44.30     1.40
YES
VOL66           0   0.25200E-01  446943.5 3763996.8   237.4     5.00    44.30     1.40
YES
VOL67           0   0.25200E-01  447134.7 3764159.1   239.1     5.00    44.30     1.40
YES
VOL68           0   0.25200E-01  446944.8 3764159.1   240.0     5.00    44.30     1.40
YES
VOL69           0   0.25200E-01  447136.0 3764318.9   241.0     5.00    44.30     1.40
YES
VOL70           0   0.25200E-01  446944.8 3764317.6   240.2     5.00    44.30     1.40
YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:25:44

                    PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                        SOURCE IDs
 -----------                                        ----------


  ALL        VOL1        , VOL2        , VOL3        , VOL4        , VOL5        , VOL6        ,
  VOL7        , VOL8        ,

             VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14       ,
             VOL15       , VOL16       ,

             VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
             VOL23       , VOL24       ,

             VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
             VOL31       , VOL32       ,

             VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38
```

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	2035210.	VOL1 , VOL2 , VOL3 , VOL4 , VOL5 , VOL6 , VOL7 , VOL8 , VOL9 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 , VOL17 , VOL18 , VOL19 , VOL20 , VOL21 , VOL22 , VOL23 , VOL24 , VOL25 , VOL26 , VOL27 , VOL28 , VOL29 , VOL30 , VOL31 , VOL32 , VOL33 , VOL34 , VOL35 , VOL36 , VOL37 , VOL38 , VOL39 , VOL40 , VOL41 , VOL42 , VOL43 , VOL44 , VOL45 , VOL46 , VOL47 , VOL48 , VOL49 , VOL50 , VOL51 , VOL52 , VOL53 , VOL54 , VOL55 , VOL56 , VOL57 , VOL58 , VOL59 , VOL60 , VOL61 , VOL62 , VOL63 , VOL64 , VOL65 , VOL66 , VOL67 , VOL68 , VOL69 , VOL70 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447362.2, 3764292.7, 240.7, 240.7, 2.0); (447376.0, 3764151.0,

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(447410.2, 3764019.0,   237.5,   237.5,   2.0);   (446891.9, 3764451.2,
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243.8,   243.8,   2.0);
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243.8,   243.8,   2.0);
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(447680.6, 3764029.7,   237.5,   237.5,   2.0);   (447657.2, 3763992.0,
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236.0, 236.0, 2.0);
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(448480.0, 3763195.5, 232.0, 232.0, 2.0); (448478.6, 3762907.2,
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(448234.6, 3761951.2, 220.0, 220.0, 2.0); (448081.4, 3761952.8,
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FF *** AERMOD - VERSION 22112 ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***   10/13/22
 *** AERMET - VERSION 16216 ***
 ***   ***   15:25:44

                    PAGE   7
 *** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                          (METERS)

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(446796.7, 3762089.5, 221.0, 221.0, 2.0); (446796.1, 3762105.9,
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(446796.7, 3762137.3, 221.0, 221.0, 2.0); (446796.1, 3762153.4,
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(446796.4, 3762451.0, 224.0, 224.0, 2.0); (446796.4, 3762471.2,
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(447170.7, 3763172.2, 231.4, 231.4, 2.0); (447170.4, 3763158.2, 231.2, 231.2, 2.0);
(447169.3, 3763144.9, 231.2, 231.2, 2.0); (447147.5, 3763107.4, 231.5, 231.5, 2.0);
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(447043.6, 3762889.7, 228.9, 228.9, 2.0); (447017.8, 3762888.9, 228.9, 228.9, 2.0);
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(446871.5, 3762779.6, 228.6, 228.6, 2.0); (446926.3, 3762768.7, 228.6, 228.6, 2.0);
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(447170.2, 3762774.8, 228.5, 228.5, 2.0); (447196.8, 3762775.5, 228.5, 228.5, 2.0);
(447242.1, 3762776.6, 228.5, 228.5, 2.0); (447262.3, 3762776.0, 228.4, 228.4, 2.0);
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(446849.5, 3762754.7, 228.7, 228.7, 2.0);

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
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            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WD	WS	HT	REF TA	HT
12	01	01	1	01	-16.4	0.171	-9.000	-9.000	-999.	170.	32.3	0.09	1.12	1.00	43.	2.03	7.9	285.9	2.0
12	01	01	1	02	-18.8	0.194	-9.000	-9.000	-999.	205.	41.3	0.09	1.12	1.00	34.	2.28	7.9	285.4	2.0
12	01	01	1	03	-17.8	0.182	-9.000	-9.000	-999.	187.	36.5	0.09	1.12	1.00	24.	2.15	7.9	282.0	2.0
12	01	01	1	04	-9.4	0.128	-9.000	-9.000	-999.	110.	19.6	0.09	1.12	1.00	41.	1.55	7.9	283.1	2.0
12	01	01	1	05	-16.9	0.173	-9.000	-9.000	-999.	173.	33.0	0.09	1.12	1.00	39.	2.05	7.9	280.4	2.0
12	01	01	1	06	-8.0	0.117	-9.000	-9.000	-999.	97.	17.8	0.09	1.12	1.00	1.4				

```
 21.    7.9  282.0    2.0
 12 01 01   1 07   -7.6  0.115 -9.000 -9.000 -999.   93.     17.4  0.09   1.12   1.00    1.40
 31.    7.9  282.5    2.0
 12 01 01   1 08  -13.6  0.184 -9.000 -9.000 -999.  190.     40.5  0.09   1.12   0.54    2.16
 34.    7.9  284.2    2.0
 12 01 01   1 09   28.4  0.126  0.300  0.011   33.  108.     -6.2  0.09   1.12   0.32    1.03
 29.    7.9  289.2    2.0
 12 01 01   1 10   79.8  0.133  0.607  0.010   99.  116.     -2.6  0.09   1.12   0.25    0.94
 173.    7.9  292.5    2.0
 12 01 01   1 11  115.8  0.137  0.932  0.006  246.  121.     -2.0  0.09   1.12   0.22    0.92
 172.    7.9  295.4    2.0
 12 01 01   1 12  133.7  0.139  1.197  0.005  453.  125.     -1.8  0.09   1.12   0.21    0.92
 146.    7.9  297.5    2.0
 12 01 01   1 13  133.2  0.160  1.354  0.005  657.  153.     -2.7  0.09   1.12   0.21    1.14
 117.    7.9  299.9    2.0
 12 01 01   1 14  113.5  0.159  1.454  0.005  955.  151.     -3.1  0.09   1.12   0.23    1.16
 285.    7.9  300.9    2.0
 12 01 01   1 15   76.2  0.166  1.350  0.005 1138.  163.     -5.3  0.09   1.12   0.26    1.33
 72.    7.9  302.0    2.0
 12 01 01   1 16   23.5  0.175  0.925  0.005 1183.  175.    -19.9  0.09   1.12   0.35    1.65
 107.    7.9  301.4    2.0
 12 01 01   1 17   -6.1  0.107 -9.000 -9.000 -999.   86.     18.0  0.09   1.12   0.63    1.31
 107.    7.9  298.1    2.0
 12 01 01   1 18  -11.1  0.141 -9.000 -9.000 -999.  127.     22.1  0.09   1.12   1.00    1.69
 86.    7.9  293.1    2.0
 12 01 01   1 19   -3.2  0.076 -9.000 -9.000 -999.   51.     11.8  0.09   1.12   1.00    0.91
 64.    7.9  292.0    2.0
 12 01 01   1 20   -2.3  0.066 -9.000 -9.000 -999.   41.     11.2  0.09   1.12   1.00    0.74
 73.    7.9  288.8    2.0
 12 01 01   1 21  -10.0  0.133 -9.000 -9.000 -999.  116.     20.5  0.09   1.12   1.00    1.60
 14.    7.9  288.1    2.0
 12 01 01   1 22  -19.4  0.201 -9.000 -9.000 -999.  216.     44.5  0.09   1.12   1.00    2.36
 22.    7.9  287.5    2.0
 12 01 01   1 23  -23.7  0.246 -9.000 -9.000 -999.  293.     66.5  0.09   1.12   1.00    2.86
 40.    7.9  287.0    2.0
 12 01 01   1 24  -12.3  0.147 -9.000 -9.000 -999.  139.     23.8  0.09   1.12   1.00    1.76
 40.    7.9  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1   43.    2.03   286.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:25:44

                      PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  ALL      ***
                               INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                               VOL3        , VOL4        , VOL5        ,
                  VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                  VOL11       , VOL12       , VOL13       ,
                  VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                  VOL19       , VOL20       , VOL21       ,
                  VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                  VOL27       , VOL28       ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF NOX      IN
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	19.96579	(15083004)	447375.98	3764150.98	22.29384	(15083004)
447389.75	3764043.04	23.70828	(12082822)	447450.16	3764031.05	20.46636	(12082822)
447410.18	3764019.05	21.84545	(12082822)	446891.90	3764451.22	23.95477	(12080801)
446959.28	3764451.22	24.02773	(15072504)	446995.28	3764468.13	23.00555	(16102921)
447007.41	3764467.30	23.00879	(16102921)	447023.51	3764466.09	22.97432	(16102921)
447036.59	3764466.21	22.90062	(16102921)	447052.68	3764465.61	22.86199	(14080503)
447066.60	3764465.73	22.87578	(15032722)	447099.65	3764456.17	24.71626	(15032722)
447145.28	3764468.27	23.15598	(16072222)	447175.54	3764468.03	21.03687	(16072222)
447205.32	3764468.27	19.89521	(16062805)	447232.43	3764467.55	19.32553	(16062805)
447264.02	3764467.30	18.90422	(13090206)	447294.77	3764466.94	18.40950	(13090206)
447364.97	3764456.41	17.43594	(15083004)	447406.61	3764460.65	17.05732	(12082822)
447441.47	3764460.04	16.61787	(12082822)	447466.88	3764460.20	16.43025	(12080905)
447490.00	3764460.56	16.26038	(12080905)	447515.50	3764460.40	15.87841	(12080905)
447573.06	3764454.29	15.24058	(12080824)	447598.49	3764445.22	15.00637	(12080824)
447652.90	3764439.70	14.66226	(16102922)	447692.92	3764439.51	14.15973	(16072903)
447713.82	3764439.11	13.96149	(12080823)	447731.95	3764438.72	13.73994	(12080823)
447751.07	3764438.72	13.47925	(12080823)	447768.82	3764437.53	13.25437	(16062624)
447789.12	3764437.73	13.03371	(16062624)	447805.68	3764437.34	12.80041	(16062624)
447824.02	3764437.20	12.57025	(16072205)	447841.61	3764437.87	12.37109	(13090302)
447861.72	3764437.53	12.12788	(13090302)	447881.66	3764435.18	11.86252	(13090302)
447902.78	3764436.19	11.55583	(13090302)	447920.87	3764435.35	11.28384	(13090302)
447942.16	3764435.35	11.01152	(15080603)	447962.77	3764434.85	10.77416	(15092823)
447980.70	3764435.18	10.56924	(15092823)	448004.66	3764435.18	10.26222	(15092823)
448021.25	3764434.68	10.03661	(15062204)	447662.70	3764379.63	15.09934	(14070405)
447681.30	3764320.98	15.44666	(12080823)	447682.64	3764285.79	15.69502	(12080823)
447662.53	3764238.37	16.29732	(12080823)	447661.70	3764207.37	16.55248	(12080823)
447683.14	3764162.29	16.19464	(12080823)	447680.97	3764145.87	16.30950	(12080823)
447679.63	3764130.28	15.27066	(12080823)	447680.80	3764112.02	14.47777	(15092321)
447681.47	3764096.43	14.67434	(15092321)	447680.80	3764078.84	14.90983	(15092321)
447679.96	3764064.26	15.11458	(15092321)	447680.97	3764045.82	15.35265	(15092321)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	17.15932	(12081723)	448462.73	3762339.82	18.25326	(12081723)
448464.47	3762265.93	17.97525	(12090422)	448461.57	3762165.17	18.28711	(12110518)
448472.57	3762064.71	15.95955	(15090823)	448460.48	3762016.72	15.31084	(14091123)
448234.63	3761951.18	19.55155	(12121716)	448081.42	3761952.78	19.98088	(12121716)
448025.53	3761955.99	22.25058	(12121716)	447506.75	3761967.63	18.03637	(12101522)
447269.29	3761967.74	17.55264	(14091523)	447389.46	3761908.79	15.23345	(14091523)
447019.14	3761964.34	15.44305	(15101221)	447060.33	3761963.58	15.61107	(15010618)
446975.31	3761963.20	15.00568	(15101221)	446940.92	3761953.76	14.27072	(15101221)
446865.72	3761974.54	15.10037	(15100919)	446795.06	3761957.91	13.44601	(15100919)
447680.63	3764029.74	15.59848	(15092321)	447657.17	3763992.03	16.69678	(15092321)
447656.33	3763967.06	17.23421	(15092321)	447657.17	3763928.69	18.00834	(15092321)
447657.17	3763902.21	18.53896	(12080823)	447657.51	3763869.03	19.32610	(12080823)
447656.16	3763834.94	20.25469	(12080823)	447655.93	3763808.27	20.88048	(12080823)
447657.09	3763786.00	21.17115	(16062624)	447701.21	3763782.14	18.58765	(13090302)
447856.92	3763749.71	13.48435	(12090824)	447854.99	3763730.13	13.64084	(12090824)
447854.35	3763698.35	13.75410	(12090824)	447855.31	3763676.84	13.32858	(15080603)
447675.51	3763287.46	19.44361	(14100622)	448481.33	3763485.29	10.35324	(12081401)
448479.95	3763195.53	12.31439	(12081204)	448478.56	3762907.16	16.03057	(16081422)
448497.89	3762714.10	16.48500	(12090723)	448507.91	3762487.71	16.40939	(15100920)

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      446757.65   3761965.85       13.19902  (15100919)                446709.33
      3761967.74        12.41496  (15100919)
      446796.42   3762028.62       16.34137  (15100919)                446796.97
      3762045.28        16.93389  (14051602)
      446796.70   3762089.51       18.38393  (14051523)                446796.15
      3762105.89        18.64955  (14051523)
      446796.70   3762137.29       18.84590  (14051523)                446796.15
      3762153.39        18.95412  (16021518)
      446772.40   3762215.37       17.76115  (16021518)                446795.06
      3762321.03        18.01452  (15090905)
      446796.42   3762450.98       12.40900  (16110920)                446796.42
      3762471.18        13.01958  (15082702)
      446797.24   3762496.03       12.43396  (15082702)                446798.06
      3762516.51        15.12027  (14091702)
      446797.79   3762539.98       14.41133  (14091702)                446797.52
      3762560.19        13.88758  (15090724)
      446798.61   3762584.76       14.04604  (14091421)                446798.06
      3762604.42        13.77202  (14091421)
      446799.70   3762654.11       13.47370  (12081505)                446799.97
      3762674.58        13.33809  (15032721)
      446800.25   3762700.25       13.61403  (12081505)                446800.25
      3762721.27        13.45595  (12081505)
      446799.97   3762735.74       13.31999  (12081505)                446797.79
      3762748.02        13.19454  (12081505)
      446802.16   3762913.47       12.24556  (12091002)                446802.16
      3762932.58        12.19103  (12091002)
      446802.43   3762949.24       12.14337  (12091002)                446802.98
      3762967.26        12.09983  (16122017)
      446802.70   3762986.09       12.11130  (16122017)                446802.16
      3763003.29        12.30272  (16122017)
      446802.16   3763021.86       12.39333  (16122017)                446802.70
      3763040.70        12.55644  (16122017)
      446802.98   3763059.26       12.66641  (16122017)                446803.52
      3763077.01        12.81255  (15081403)
      446756.29   3763085.26       11.99121  (15081403)                446807.68
      3763646.39        21.22825  (13062901)
      446808.32   3763674.66       21.33588  (13062901)                446807.68
      3763694.57        22.24107  (13062901)
      446808.32   3763710.63       22.20852  (13062901)                446808.32
      3763726.37        22.10853  (13062901)
      446808.00   3763742.11       21.95230  (13062901)                446808.32
      3763756.89        21.83953  (13062901)
      446808.64   3763798.32       22.15277  (13082922)                446810.25
      3764484.08        21.56652  (15082605)
      446781.34   3764475.08       21.32640  (15082605)                446722.56
      3764455.81        20.50752  (13090723)
      446170.32   3764559.79       13.16709  (15090724)                446872.29
      3763190.26        17.37958  (15081403)
      446925.22   3763179.19       18.43969  (15081403)                446984.86
      3763194.88        19.68320  (16092001)
      447010.56   3763193.28       20.44715  (15081403)                447036.58
      3763193.60        20.95828  (15081403)
      447053.61   3763193.28       21.38748  (16092001)                447076.42
      3763192.31        23.42433  (16092001)
      447093.45   3763192.63       23.96281  (16092001)                447122.05
      3763192.63        23.13072  (16092001)
      447138.75   3763192.31       23.42628  (16092001)                447167.99
      3763192.31        24.02021  (12081704)
      447170.68   3763172.18       22.84369  (15090920)                447170.41
      3763158.25        22.45899  (12081704)
      447169.31   3763144.87       22.21435  (12081704)                447147.46
      3763107.45        21.54603  (16092001)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:25:4
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	20.86488	(16092001)	447146.92	3763064.30	20.64083	(16092001)
447149.92	3763038.90	20.39564	(16092001)	447148.56	3763019.78	20.16790	(15081403)
447148.56	3762997.39	18.75851	(14091702)	447206.08	3762958.49	19.92229	(14091702)
447209.33	3762922.51	19.96279	(14091702)	447208.40	3762890.70	19.63587	(14091702)
447145.83	3762888.87	17.50358	(15081403)	447122.55	3762889.07	16.97258	(15081403)
447094.33	3762890.05	16.39853	(15081403)	447071.04	3762890.45	15.96028	(15081403)
447043.61	3762889.66	15.46061	(15081403)	447017.76	3762888.87	15.07052	(16122017)
446992.11	3762889.07	14.76423	(12091002)	446964.28	3762888.28	14.43172	(12091002)
446940.41	3762888.47	14.05718	(12091002)	446911.20	3762888.08	13.63468	(12091002)
446885.35	3762889.66	13.35481	(12091002)	446862.07	3762888.87	13.10407	(12091002)
446871.45	3762779.57	13.55881	(15032721)	446926.31	3762768.72	14.19128	(16090703)
446983.74	3762774.24	14.84585	(12091002)	447009.00	3762774.05	15.18942	(12091002)
447030.51	3762774.44	14.19736	(12091002)	447055.37	3762774.05	14.41960	(12091002)
447076.88	3762774.24	14.71380	(12091002)	447101.16	3762774.44	16.43835	(12091002)
447123.85	3762774.05	16.81910	(12091002)	447148.12	3762775.03	17.39153	(15081403)
447170.23	3762774.84	18.03754	(15081403)	447196.78	3762775.48	18.71455	(15081403)
447242.12	3762776.57	19.99579	(15081403)	447262.33	3762776.03	20.43961	(16092001)
447294.56	3762776.30	21.42813	(12081704)	447313.13	3762775.48	22.05832	(12081704)
447313.40	3762749.53	22.04841	(12081704)	447327.86	3762713.09	22.11015	(14091702)
447327.36	3762679.87	20.42394	(14091702)	447327.74	3762657.02	20.33244	(14091701)
447327.28	3762636.82	20.19690	(14091701)	447327.51	3762612.90	20.16887	(14091701)

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       447327.28   3762592.24       20.36729  (14091701)                447327.04
       3762569.71       20.75594  (14091701)
       447327.28   3762547.89       21.60215  (12081704)                447326.58
       3762524.67       21.56394  (12081103)
       447326.58   3762506.09       21.84858  (12081103)                447327.51
       3762477.53       22.46638  (12062806)
       447325.88   3762454.31       22.97728  (12062806)                447225.58
       3762432.95       20.93104  (12062806)
       447200.27   3762430.63       20.43901  (12062806)                447156.85
       3762430.16       19.83449  (12062806)
       447131.77   3762430.86       19.60234  (12062806)                447102.74
       3762430.63       19.31124  (12062806)
       447079.06   3762430.86       18.80706  (12062806)                447034.94
       3762433.65       17.40910  (12062806)
       446995.47   3762433.65       16.60161  (12062806)                446972.71
       3762434.34       16.22267  (12062806)
       446941.37   3762434.58       15.70709  (12062806)                446916.06
       3762436.90       14.90601  (12062806)
       446876.35   3762436.90       14.28230  (14091620)                446848.85
       3762647.05       13.73829  (15032721)
       446848.85   3762563.17       14.65839  (14091421)                446849.17
       3762509.82       14.82677  (14091421)
       446849.17   3762455.82       14.14616  (12092322)                446848.85
       3762702.00       13.97176  (12081505)
       446849.49   3762754.71       13.57095
       (12081505)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:25:44

                     PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                              *** THE SUMMARY OF HIGHEST  1-HR RESULTS ***


                                    ** CONC OF NOX      IN
                                    MICROGRAMS/M**3                         **


                                                        DATE
                                                                                NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS      24.71626  ON 15032722: AT (  447099.65,  3764456.17,
242.11,   242.11,    2.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:25:44

                     PAGE  15
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***
```

```
 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of         1628 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of         1278 Calm Hours Identified

A Total of          350 Missing Hours Identified (  0.80 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     202       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
ME W187     202       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops PM10\14822 Ops
PM10.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 24
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID PM_10
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Ops PM10.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
```

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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** Source Parameters **
   SRCPARAM VOL1         0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL2         0.0039563334     5.000    44.302     1.400
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   SRCPARAM VOL12        0.0039563334     5.000    44.302     1.400
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   SRCPARAM VOL14        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL15        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL16        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL17        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL18        0.0039563334     5.000    44.302     1.400
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   SRCPARAM VOL22        0.0039563334     5.000    44.302     1.400
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   SRCPARAM VOL28        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL29        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL30        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL31        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL32        0.0039563334     5.000    44.302     1.400
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   SRCPARAM VOL37        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL38        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL39        0.0039563334     5.000    44.302     1.400
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   SRCPARAM VOL42        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL43        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL44        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL45        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL46        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL47        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL48        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL49        0.0039563334     5.000    44.302     1.400
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   SRCPARAM VOL52        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL53        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL54        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL55        0.0039563334     5.000    44.302     1.400
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   SRCPARAM VOL57        0.0039563334     5.000    44.302     1.400
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   SRCPARAM VOL59        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL60        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL61        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL62        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL63        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL64        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL65        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL66        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL67        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL68        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL69        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL70        0.0039563334     5.000    44.302     1.400
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Ops PM10.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
```

```
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 24 1ST
** Auto-Generated Plotfiles
   PLOTFILE 24 ALL 1ST "14822 OPS PM10.AD\24H1GALL.PLT" 31
   SUMMFILE "14822 Ops PM10.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops PM10\14822 Ops
PM10.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 24
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID PM_10
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Ops PM10.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
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   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
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   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** Source Parameters **
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   SRCPARAM VOL3         0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL4         0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL5         0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL6         0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL7         0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL8         0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL9         0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL10        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL11        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL12        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL13        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL14        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL15        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL16        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL17        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL18        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL19        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL20        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL21        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL22        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL23        0.0039563334     5.000    44.302     1.400
```

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   SRCPARAM VOL24        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL25        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL26        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL27        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL28        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL29        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL30        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL31        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL32        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL33        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL34        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL35        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL36        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL37        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL38        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL39        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL40        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL41        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL42        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL43        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL44        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL45        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL46        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL47        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL48        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL49        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL50        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL51        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL52        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL53        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL54        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL55        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL56        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL57        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL58        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL59        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL60        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL61        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL62        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL63        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL64        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL65        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL66        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL67        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL68        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL69        0.0039563334     5.000    44.302     1.400
   SRCPARAM VOL70        0.0039563334     5.000    44.302     1.400
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Ops PM10.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
```

```
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 24 1ST
** Auto-Generated Plotfiles
   PLOTFILE 24 ALL 1ST "14822 OPS PM10.AD\24H1GALL.PLT" 31
   SUMMFILE "14822 Ops PM10.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     202       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187     202       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:12:51

                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
```

```
     * Model Uses URBAN Dispersion Algorithm for the SBL for    70 Source(s),
       for Total of    1 Urban Area(s):
   Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
     * Urban Roughness Length of 1.0 Meter Used.
     * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
     * CCVR_Sub - Meteorological data includes CCVR substitutions
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Accepts FLAGPOLE Receptor . Heights.
     * The User Specified a Pollutant Type of: PM_10

 **Model Calculates  1 Short Term Average(s) of:  24-HR

 **This Run Includes:     70 Source(s);       1 Source Group(s); and     227 Receptor(s)

               with:       0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                and:      70 VOLUME source(s)
                and:       0 AREA type source(s)
                and:       0 LINE source(s)
                and:       0 RLINE/RLINEXT source(s)
                and:       0 OPENPIT source(s)
                and:       0 BUOYANT LINE source(s) with a total of     0 line(s)
                and:       0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing
                                                                 Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   289.00 ;  Decay Coef. =
 0.000     ;  Rot. Angle =     0.0
                Emission Units = GRAMS/SEC                          ;  Emission Rate
                Unit Factor =   0.10000E+07
                Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:
 aermod.inp
 **Output Print File:
 aermod.out

 **Detailed Error/Message File:   14822 Ops
 PM10.err
 **File for Summary of Results:   14822 Ops
 PM10.sum
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:12:51

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***
```

SOURCE ID	NUMBER URBAN SOURCE SCALAR VARY BY	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
VOL1	0	0.39563E-02	447959.2	3762097.7	222.0	5.00	44.30	1.40	YES
VOL2	0	0.39563E-02	448134.4	3762098.8	222.4	5.00	44.30	1.40	YES
VOL3	0	0.39563E-02	447790.3	3762102.9	221.9	5.00	44.30	1.40	YES
VOL4	0	0.39563E-02	447618.2	3762098.8	221.0	5.00	44.30	1.40	YES
VOL5	0	0.39563E-02	447446.1	3762100.8	221.0	5.00	44.30	1.40	YES
VOL6	0	0.39563E-02	447276.1	3762094.7	220.0	5.00	44.30	1.40	YES
VOL7	0	0.39563E-02	447099.9	3762094.7	219.6	5.00	44.30	1.40	YES
VOL8	0	0.39563E-02	446929.9	3762096.7	220.0	5.00	44.30	1.40	YES
VOL9	0	0.39563E-02	448310.5	3762107.0	222.0	5.00	44.30	1.40	YES
VOL10	0	0.39563E-02	446926.7	3762209.8	221.3	5.00	44.30	1.40	YES
VOL11	0	0.39563E-02	446924.1	3762324.3	222.2	5.00	44.30	1.40	YES
VOL12	0	0.39563E-02	447100.3	3762207.3	221.0	5.00	44.30	1.40	YES
VOL13	0	0.39563E-02	447276.4	3762207.3	221.9	5.00	44.30	1.40	YES
VOL14	0	0.39563E-02	447447.5	3762207.3	222.0	5.00	44.30	1.40	YES
VOL15	0	0.39563E-02	447616.0	3762206.0	222.0	5.00	44.30	1.40	YES
VOL16	0	0.39563E-02	447807.2	3762206.0	222.6	5.00	44.30	1.40	YES
VOL17	0	0.39563E-02	447959.5	3762206.0	223.0	5.00	44.30	1.40	YES
VOL18	0	0.39563E-02	448138.1	3762203.5	222.6	5.00	44.30	1.40	YES
VOL19	0	0.39563E-02	448313.0	3762202.2	222.6	5.00	44.30	1.40	YES
VOL20	0	0.39563E-02	447100.3	3762325.5	222.0	5.00	44.30	1.40	YES
VOL21	0	0.39563E-02	447276.4	3762324.3	222.9	5.00	44.30	1.40	YES
VOL22	0	0.39563E-02	447448.7	3762324.3	222.7	5.00	44.30	1.40	YES
VOL23	0	0.39563E-02	447616.0	3762326.8	222.7	5.00	44.30	1.40	YES
VOL24	0	0.39563E-02	447789.6	3762328.0	223.7	5.00	44.30	1.40	YES
VOL25	0	0.39563E-02	447960.7	3762326.8	224.2	5.00	44.30	1.40	YES
VOL26	0	0.39563E-02	448135.6	3762328.0	224.5	5.00	44.30	1.40	YES
VOL27	0	0.39563E-02	448318.0	3762330.6	224.8	5.00	44.30	1.40	YES
VOL28	0	0.39563E-02	447432.4	3762513.0	225.3	5.00	44.30	1.40	YES

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 VOL29           0   0.39563E-02  447621.1 3762513.0   224.5     5.00    44.30     1.40
 YES
 VOL30           0   0.39563E-02  447811.0 3762515.5   225.4     5.00    44.30     1.40
 YES
 VOL31           0   0.39563E-02  447999.7 3762515.5   225.9     5.00    44.30     1.40
 YES
 VOL32           0   0.39563E-02  448189.7 3762514.2   225.7     5.00    44.30     1.40
 YES
 VOL33           0   0.39563E-02  448315.5 3762516.7   226.2     5.00    44.30     1.40
 YES
 VOL34           0   0.39563E-02  448316.7 3762709.2   227.4     5.00    44.30     1.40
 YES
 VOL35           0   0.39563E-02  448189.7 3762708.0   226.4     5.00    44.30     1.40
 YES
 VOL36           0   0.39563E-02  448001.0 3762706.7   227.4     5.00    44.30     1.40
 YES
 VOL37           0   0.39563E-02  447811.0 3762706.7   227.0     5.00    44.30     1.40
 YES
 VOL38           0   0.39563E-02  447621.1 3762704.2   226.6     5.00    44.30     1.40
 YES
 VOL39           0   0.39563E-02  447433.6 3762704.2   227.3     5.00    44.30     1.40
 YES
 VOL40           0   0.39563E-02  447524.2 3762897.9   228.4     5.00    44.30     1.40
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:12:51

                     PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - -

 VOL41           0   0.39563E-02  447329.2 3762897.9   228.7     5.00    44.30     1.40
 YES
 VOL42           0   0.39563E-02  447304.1 3763089.1   231.3     5.00    44.30     1.40
 YES
 VOL43           0   0.39563E-02  447533.0 3763086.6   231.2     5.00    44.30     1.40
 YES
 VOL44           0   0.39563E-02  447433.6 3763086.6   231.2     5.00    44.30     1.40
 YES
 VOL45           0   0.39563E-02  447530.5 3763277.8   232.5     5.00    44.30     1.40
 YES
 VOL46           0   0.39563E-02  447305.3 3763281.6   232.2     5.00    44.30     1.40
 YES
 VOL47           0   0.39563E-02  447419.8 3763282.9   232.6     5.00    44.30     1.40
 YES
 VOL48           0   0.39563E-02  447112.8 3763304.2   231.8     5.00    44.30     1.40
 YES
 VOL49           0   0.39563E-02  446924.1 3763305.5   231.6     5.00    44.30     1.40
 YES
 VOL50           0   0.39563E-02  447533.0 3763469.0   233.5     5.00    44.30     1.40
 YES
 VOL51           0   0.39563E-02  447217.3 3763472.8   233.2     5.00    44.30     1.40
 YES
```

```
 VOL52           0   0.39563E-02  447088.9 3763471.6   233.0     5.00    44.30     1.40
 YES
 VOL53           0   0.39563E-02  446925.4 3763474.1   232.6     5.00    44.30     1.40
 YES
 VOL54           0   0.39563E-02  447361.9 3763470.3   233.5     5.00    44.30     1.40
 YES
 VOL55           0   0.39563E-02  447531.7 3763659.5   234.9     5.00    44.30     1.40
 YES
 VOL56           0   0.39563E-02  447533.5 3763806.8   235.6     5.00    44.30     1.40
 YES
 VOL57           0   0.39563E-02  447359.9 3763658.4   234.1     5.00    44.30     1.40
 YES
 VOL58           0   0.39563E-02  447219.0 3763657.1   234.1     5.00    44.30     1.40
 YES
 VOL59           0   0.39563E-02  447090.7 3763659.7   234.5     5.00    44.30     1.40
 YES
 VOL60           0   0.39563E-02  446930.9 3763659.7   234.2     5.00    44.30     1.40
 YES
 VOL61           0   0.39563E-02  447357.4 3763804.3   234.7     5.00    44.30     1.40
 YES
 VOL62           0   0.39563E-02  447219.0 3763804.3   234.9     5.00    44.30     1.40
 YES
 VOL63           0   0.39563E-02  447093.2 3763805.6   235.8     5.00    44.30     1.40
 YES
 VOL64           0   0.39563E-02  446932.2 3763805.6   235.5     5.00    44.30     1.40
 YES
 VOL65           0   0.39563E-02  447133.5 3763996.8   237.4     5.00    44.30     1.40
 YES
 VOL66           0   0.39563E-02  446943.5 3763996.8   237.4     5.00    44.30     1.40
 YES
 VOL67           0   0.39563E-02  447134.7 3764159.1   239.1     5.00    44.30     1.40
 YES
 VOL68           0   0.39563E-02  446944.8 3764159.1   240.0     5.00    44.30     1.40
 YES
 VOL69           0   0.39563E-02  447136.0 3764318.9   241.0     5.00    44.30     1.40
 YES
 VOL70           0   0.39563E-02  446944.8 3764317.6   240.2     5.00    44.30     1.40
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:12:51

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                        SOURCE IDs
 -----------                                        ----------


  ALL        VOL1        , VOL2        , VOL3        , VOL4        , VOL5        , VOL6        ,
  VOL7        , VOL8        ,

             VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14       ,
             VOL15       , VOL16       ,

             VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
             VOL23       , VOL24       ,

             VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
             VOL31       , VOL32       ,

             VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38
```

VOL39 , VOL40 ,

VOL41 , VOL42 , VOL43 , VOL44 , VOL45 , VOL46 ,
VOL47 , VOL48 ,

VOL49 , VOL50 , VOL51 , VOL52 , VOL53 , VOL54 ,
VOL55 , VOL56 ,

VOL57 , VOL58 , VOL59 , VOL60 , VOL61 , VOL62 ,
VOL63 , VOL64 ,

VOL65 , VOL66 , VOL67 , VOL68 , VOL69 , VOL70 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	2035210.	VOL1 , VOL2 , VOL3 , VOL4 , VOL5 , VOL6 , VOL7 , VOL8 ,
		VOL9 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,
		VOL17 , VOL18 , VOL19 , VOL20 , VOL21 , VOL22 , VOL23 , VOL24 ,
		VOL25 , VOL26 , VOL27 , VOL28 , VOL29 , VOL30 , VOL31 , VOL32 ,
		VOL33 , VOL34 , VOL35 , VOL36 , VOL37 , VOL38 , VOL39 , VOL40 ,
		VOL41 , VOL42 , VOL43 , VOL44 , VOL45 , VOL46 , VOL47 , VOL48 ,
		VOL49 , VOL50 , VOL51 , VOL52 , VOL53 , VOL54 , VOL55 , VOL56 ,
		VOL57 , VOL58 , VOL59 , VOL60 , VOL61 , VOL62 , VOL63 , VOL64 ,
		VOL65 , VOL66 , VOL67 , VOL68 , VOL69 , VOL70 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447362.2, 3764292.7, 240.7, 240.7, 2.0); (447376.0, 3764151.0,

239.6,   239.6,   2.0);
(447389.8, 3764043.0,   237.8,   237.8,   2.0);   (447450.2, 3764031.0,
237.5,   237.5,   2.0);
(447410.2, 3764019.0,   237.5,   237.5,   2.0);   (446891.9, 3764451.2,
241.5,   241.5,   2.0);
(446959.3, 3764451.2,   241.5,   241.5,   2.0);   (446995.3, 3764468.1,
241.8,   241.8,   2.0);
(447007.4, 3764467.3,   241.9,   241.9,   2.0);   (447023.5, 3764466.1,
241.9,   241.9,   2.0);
(447036.6, 3764466.2,   241.9,   241.9,   2.0);   (447052.7, 3764465.6,
242.0,   242.0,   2.0);
(447066.6, 3764465.7,   242.1,   242.1,   2.0);   (447099.6, 3764456.2,
242.1,   242.1,   2.0);
(447145.3, 3764468.3,   242.1,   242.1,   2.0);   (447175.5, 3764468.0,
241.7,   241.7,   2.0);
(447205.3, 3764468.3,   241.3,   241.3,   2.0);   (447232.4, 3764467.5,
242.0,   242.0,   2.0);
(447264.0, 3764467.3,   243.3,   243.3,   2.0);   (447294.8, 3764466.9,
243.8,   243.8,   2.0);
(447365.0, 3764456.4,   243.3,   243.3,   2.0);   (447406.6, 3764460.6,
243.1,   243.1,   2.0);
(447441.5, 3764460.0,   243.2,   243.2,   2.0);   (447466.9, 3764460.2,
243.2,   243.2,   2.0);
(447490.0, 3764460.6,   242.9,   242.9,   2.0);   (447515.5, 3764460.4,
242.6,   242.6,   2.0);
(447573.1, 3764454.3,   241.6,   241.6,   2.0);   (447598.5, 3764445.2,
241.8,   241.8,   2.0);
(447652.9, 3764439.7,   243.1,   243.1,   2.0);   (447692.9, 3764439.5,
243.1,   243.1,   2.0);
(447713.8, 3764439.1,   243.1,   243.1,   2.0);   (447732.0, 3764438.7,
243.2,   243.2,   2.0);
(447751.1, 3764438.7,   243.3,   243.3,   2.0);   (447768.8, 3764437.5,
243.4,   243.4,   2.0);
(447789.1, 3764437.7,   243.7,   243.7,   2.0);   (447805.7, 3764437.3,
243.8,   243.8,   2.0);
(447824.0, 3764437.2,   243.9,   243.9,   2.0);   (447841.6, 3764437.9,
243.9,   243.9,   2.0);
(447861.7, 3764437.5,   243.9,   243.9,   2.0);   (447881.7, 3764435.2,
243.8,   243.8,   2.0);
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243.8,   243.8,   2.0);
(447942.2, 3764435.3,   243.8,   243.8,   2.0);   (447962.8, 3764434.8,
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(447980.7, 3764435.2,   243.8,   243.8,   2.0);   (448004.7, 3764435.2,
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240.2,   240.2,   2.0);
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237.4,   237.4,   2.0);
(447680.0, 3764064.3,   237.4,   237.4,   2.0);   (447681.0, 3764045.8,
237.5,   237.5,   2.0);
(447680.6, 3764029.7,   237.5,   237.5,   2.0);   (447657.2, 3763992.0,
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(447656.3, 3763967.1,   237.5,   237.5,   2.0);   (447657.2, 3763928.7,
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235.4, 235.4, 2.0);
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(448464.5, 3762265.9, 223.3, 223.3, 2.0); (448461.6, 3762165.2,
222.0, 222.0, 2.0);
(448472.6, 3762064.7, 220.0, 220.0, 2.0); (448460.5, 3762016.7,
219.4, 219.4, 2.0);
(448234.6, 3761951.2, 220.0, 220.0, 2.0); (448081.4, 3761952.8,
220.9, 220.9, 2.0);
(448025.5, 3761956.0, 221.0, 221.0, 2.0); (447506.8, 3761967.6,
220.0, 220.0, 2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447269.3, 3761967.7, 219.7, 219.7, 2.0); (447389.5, 3761908.8,
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(446975.3, 3761963.2, 219.0, 219.0, 2.0); (446940.9, 3761953.8,
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(446865.7, 3761974.5, 219.9, 219.9, 2.0); (446795.1, 3761957.9,
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(446757.6, 3761965.8, 220.0, 220.0, 2.0); (446709.3, 3761967.7,
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(446796.4, 3762028.6, 220.0, 220.0, 2.0); (446797.0, 3762045.3,
220.1, 220.1, 2.0);
(446796.7, 3762089.5, 221.0, 221.0, 2.0); (446796.1, 3762105.9,
221.0, 221.0, 2.0);
(446796.7, 3762137.3, 221.0, 221.0, 2.0); (446796.1, 3762153.4,
221.0, 221.0, 2.0);
(446772.4, 3762215.4, 221.6, 221.6, 2.0); (446795.1, 3762321.0,
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(446796.4, 3762451.0, 224.0, 224.0, 2.0); (446796.4, 3762471.2,
224.4, 224.4, 2.0);
(446797.2, 3762496.0, 224.9, 224.9, 2.0); (446798.1, 3762516.5,
225.3, 225.3, 2.0);
(446797.8, 3762540.0, 225.7, 225.7, 2.0); (446797.5, 3762560.2,
225.9, 225.9, 2.0);
(446798.6, 3762584.8, 226.1, 226.1, 2.0); (446798.1, 3762604.4,
226.5, 226.5, 2.0);
(446799.7, 3762654.1, 227.5, 227.5, 2.0); (446800.0, 3762674.6,
228.0, 228.0, 2.0);
(446800.2, 3762700.2, 228.5, 228.5, 2.0); (446800.2, 3762721.3,
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(446800.0, 3762735.7, 228.6, 228.6, 2.0); (446797.8, 3762748.0,

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(446802.4, 3762949.2, 228.3, 228.3, 2.0); (446803.0, 3762967.3,
228.3, 228.3, 2.0);
(446802.7, 3762986.1, 228.4, 228.4, 2.0); (446802.2, 3763003.3,
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(446802.2, 3763021.9, 228.8, 228.8, 2.0); (446802.7, 3763040.7,
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(446803.0, 3763059.3, 229.2, 229.2, 2.0); (446803.5, 3763077.0,
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(446781.3, 3764475.1, 241.7, 241.7, 2.0); (446722.6, 3764455.8,
241.4, 241.4, 2.0);
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231.5, 231.5, 2.0);
(446925.2, 3763179.2, 231.6, 231.6, 2.0); (446984.9, 3763194.9,
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(447053.6, 3763193.3, 231.7, 231.7, 2.0); (447076.4, 3763192.3,
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(447093.5, 3763192.6, 231.9, 231.9, 2.0); (447122.0, 3763192.6,
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(447138.8, 3763192.3, 231.7, 231.7, 2.0); (447168.0, 3763192.3,
231.6, 231.6, 2.0);
(447170.7, 3763172.2, 231.4, 231.4, 2.0); (447170.4, 3763158.2,
231.2, 231.2, 2.0);
(447169.3, 3763144.9, 231.2, 231.2, 2.0); (447147.5, 3763107.4,
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(447146.6, 3763084.2, 231.4, 231.4, 2.0); (447146.9, 3763064.3,
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(447149.9, 3763038.9, 230.8, 230.8, 2.0); (447148.6, 3763019.8,
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(447148.6, 3762997.4, 230.2, 230.2, 2.0); (447206.1, 3762958.5,
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(447209.3, 3762922.5, 229.1, 229.1, 2.0); (447208.4, 3762890.7,
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(447145.8, 3762888.9, 228.9, 228.9, 2.0); (447122.5, 3762889.1,
228.9, 228.9, 2.0);
(447094.3, 3762890.0, 228.9, 228.9, 2.0); (447071.0, 3762890.4,
229.0, 229.0, 2.0);
(447043.6, 3762889.7, 228.9, 228.9, 2.0); (447017.8, 3762888.9,
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(446992.1, 3762889.1, 228.9, 228.9, 2.0); (446964.3, 3762888.3,
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(446940.4, 3762888.5, 228.8, 228.8, 2.0); (446911.2, 3762888.1,
228.6, 228.6, 2.0);
(446885.3, 3762889.7, 228.6, 228.6, 2.0); (446862.1, 3762888.9,
228.6, 228.6, 2.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(446871.5, 3762779.6, 228.6, 228.6, 2.0); (446926.3, 3762768.7, 228.6, 228.6, 2.0);
(446983.7, 3762774.2, 228.6, 228.6, 2.0); (447009.0, 3762774.0, 228.5, 228.5, 2.0);
(447030.5, 3762774.4, 228.2, 228.2, 2.0); (447055.4, 3762774.0, 228.0, 228.0, 2.0);
(447076.9, 3762774.2, 228.1, 228.1, 2.0); (447101.2, 3762774.4, 228.3, 228.3, 2.0);
(447123.8, 3762774.0, 228.3, 228.3, 2.0); (447148.1, 3762775.0, 228.4, 228.4, 2.0);
(447170.2, 3762774.8, 228.5, 228.5, 2.0); (447196.8, 3762775.5, 228.5, 228.5, 2.0);
(447242.1, 3762776.6, 228.5, 228.5, 2.0); (447262.3, 3762776.0, 228.4, 228.4, 2.0);
(447294.6, 3762776.3, 228.3, 228.3, 2.0); (447313.1, 3762775.5, 228.3, 228.3, 2.0);
(447313.4, 3762749.5, 228.3, 228.3, 2.0); (447327.9, 3762713.1, 228.1, 228.1, 2.0);
(447327.4, 3762679.9, 227.5, 227.5, 2.0); (447327.7, 3762657.0, 227.2, 227.2, 2.0);
(447327.3, 3762636.8, 226.9, 226.9, 2.0); (447327.5, 3762612.9, 226.4, 226.4, 2.0);
(447327.3, 3762592.2, 226.2, 226.2, 2.0); (447327.0, 3762569.7, 226.0, 226.0, 2.0);
(447327.3, 3762547.9, 225.8, 225.8, 2.0); (447326.6, 3762524.7, 225.5, 225.5, 2.0);
(447326.6, 3762506.1, 225.4, 225.4, 2.0); (447327.5, 3762477.5, 224.9, 224.9, 2.0);
(447325.9, 3762454.3, 224.5, 224.5, 2.0); (447225.6, 3762432.9, 224.1, 224.1, 2.0);
(447200.3, 3762430.6, 223.9, 223.9, 2.0); (447156.8, 3762430.2, 223.7, 223.7, 2.0);
(447131.8, 3762430.9, 223.6, 223.6, 2.0); (447102.7, 3762430.6, 223.4, 223.4, 2.0);
(447079.1, 3762430.9, 223.1, 223.1, 2.0); (447034.9, 3762433.6, 223.1, 223.1, 2.0);
(446995.5, 3762433.6, 223.1, 223.1, 2.0); (446972.7, 3762434.3, 223.2, 223.2, 2.0);
(446941.4, 3762434.6, 223.5, 223.5, 2.0); (446916.1, 3762436.9, 223.7, 223.7, 2.0);
(446876.3, 3762436.9, 223.7, 223.7, 2.0); (446848.8, 3762647.0, 227.4, 227.4, 2.0);
(446848.8, 3762563.2, 225.9, 225.9, 2.0); (446849.2, 3762509.8, 225.1, 225.1, 2.0);
(446849.2, 3762455.8, 224.1, 224.1, 2.0); (446848.8, 3762702.0, 228.5, 228.5, 2.0);
(446849.5, 3762754.7, 228.7, 228.7, 2.0);

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-16.4	0.171	-9.000	-9.000	-999.	170.	32.3	0.09	1.12	1.00	2.03	43.	7.9	285.9	2.0
12	01	01	1	02	-18.8	0.194	-9.000	-9.000	-999.	205.	41.3	0.09	1.12	1.00	2.28	34.	7.9	285.4	2.0
12	01	01	1	03	-17.8	0.182	-9.000	-9.000	-999.	187.	36.5	0.09	1.12	1.00	2.15	24.	7.9	282.0	2.0
12	01	01	1	04	-9.4	0.128	-9.000	-9.000	-999.	110.	19.6	0.09	1.12	1.00	1.55	41.	7.9	283.1	2.0
12	01	01	1	05	-16.9	0.173	-9.000	-9.000	-999.	173.	33.0	0.09	1.12	1.00	2.05	39.	7.9	280.4	2.0
12	01	01	1	06	-8.0	0.117	-9.000	-9.000	-999.	97.	17.8	0.09	1.12	1.00	1.4				

```
 21.    7.9  282.0    2.0
 12 01 01   1 07   -7.6  0.115 -9.000 -9.000 -999.   93.     17.4  0.09   1.12   1.00    1.40
 31.    7.9  282.5    2.0
 12 01 01   1 08  -13.6  0.184 -9.000 -9.000 -999.  190.     40.5  0.09   1.12   0.54    2.16
 34.    7.9  284.2    2.0
 12 01 01   1 09   28.4  0.126  0.300  0.011   33.  108.     -6.2  0.09   1.12   0.32    1.03
 29.    7.9  289.2    2.0
 12 01 01   1 10   79.8  0.133  0.607  0.010   99.  116.     -2.6  0.09   1.12   0.25    0.94
 173.    7.9  292.5    2.0
 12 01 01   1 11  115.8  0.137  0.932  0.006  246.  121.     -2.0  0.09   1.12   0.22    0.92
 172.    7.9  295.4    2.0
 12 01 01   1 12  133.7  0.139  1.197  0.005  453.  125.     -1.8  0.09   1.12   0.21    0.92
 146.    7.9  297.5    2.0
 12 01 01   1 13  133.2  0.160  1.354  0.005  657.  153.     -2.7  0.09   1.12   0.21    1.14
 117.    7.9  299.9    2.0
 12 01 01   1 14  113.5  0.159  1.454  0.005  955.  151.     -3.1  0.09   1.12   0.23    1.16
 285.    7.9  300.9    2.0
 12 01 01   1 15   76.2  0.166  1.350  0.005 1138.  163.     -5.3  0.09   1.12   0.26    1.33
 72.    7.9  302.0    2.0
 12 01 01   1 16   23.5  0.175  0.925  0.005 1183.  175.    -19.9  0.09   1.12   0.35    1.65
 107.    7.9  301.4    2.0
 12 01 01   1 17   -6.1  0.107 -9.000 -9.000 -999.   86.     18.0  0.09   1.12   0.63    1.31
 107.    7.9  298.1    2.0
 12 01 01   1 18  -11.1  0.141 -9.000 -9.000 -999.  127.     22.1  0.09   1.12   1.00    1.69
 86.    7.9  293.1    2.0
 12 01 01   1 19   -3.2  0.076 -9.000 -9.000 -999.   51.     11.8  0.09   1.12   1.00    0.91
 64.    7.9  292.0    2.0
 12 01 01   1 20   -2.3  0.066 -9.000 -9.000 -999.   41.     11.2  0.09   1.12   1.00    0.74
 73.    7.9  288.8    2.0
 12 01 01   1 21  -10.0  0.133 -9.000 -9.000 -999.  116.     20.5  0.09   1.12   1.00    1.60
 14.    7.9  288.1    2.0
 12 01 01   1 22  -19.4  0.201 -9.000 -9.000 -999.  216.     44.5  0.09   1.12   1.00    2.36
 22.    7.9  287.5    2.0
 12 01 01   1 23  -23.7  0.246 -9.000 -9.000 -999.  293.     66.5  0.09   1.12   1.00    2.86
 40.    7.9  287.0    2.0
 12 01 01   1 24  -12.3  0.147 -9.000 -9.000 -999.  139.     23.8  0.09   1.12   1.00    1.76
 40.    7.9  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1   43.    2.03   286.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        15:12:51

                     PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  ALL      ***
                               INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                               VOL3        , VOL4        , VOL5        ,
                 VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                 VOL11       , VOL12       , VOL13       ,
                 VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                 VOL19       , VOL20       , VOL21       ,
                 VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                 VOL27       , VOL28       ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF PM_10    IN
```

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	0.89698	(12080824)	447375.98	3764150.98	1.01720c	(12091724)
447389.75	3764043.04	1.09567	(12080824)	447450.16	3764031.05	1.00317	(14021824)
447410.18	3764019.05	1.08886	(14021824)	446891.90	3764451.22	0.91263c	(12091724)
446959.28	3764451.22	0.98101c	(12091724)	446995.28	3764468.13	0.93054c	(12091724)
447007.41	3764467.30	0.93636c	(12091724)	447023.51	3764466.09	0.94173c	(12091724)
447036.59	3764466.21	0.94178c	(12091724)	447052.68	3764465.61	0.94522c	(12091724)
447066.60	3764465.73	0.94544c	(12091724)	447099.65	3764456.17	1.02419	(14021824)
447145.28	3764468.27	0.94813	(14021824)	447175.54	3764468.03	0.89359	(14021824)
447205.32	3764468.27	0.83951	(14021824)	447232.43	3764467.55	0.80053c	(12091724)
447264.02	3764467.30	0.76962	(12080824)	447294.77	3764466.94	0.74788	(12080824)
447364.97	3764456.41	0.71390	(12080824)	447406.61	3764460.65	0.68284	(12080824)
447441.47	3764460.04	0.67305	(12080824)	447466.88	3764460.20	0.65902	(12080824)
447490.00	3764460.56	0.65004	(12080824)	447515.50	3764460.40	0.63670	(12080824)
447573.06	3764454.29	0.60788	(12080824)	447598.49	3764445.22	0.59956	(12080824)
447652.90	3764439.70	0.56957	(12080824)	447692.92	3764439.51	0.54098	(12022524)
447713.82	3764439.11	0.53057	(12022524)	447731.95	3764438.72	0.52440	(12022524)
447751.07	3764438.72	0.51491	(12022524)	447768.82	3764437.53	0.50706	(12022524)
447789.12	3764437.73	0.49778	(12022524)	447805.68	3764437.34	0.49067	(12122324)
447824.02	3764437.20	0.48512	(12122324)	447841.61	3764437.87	0.47898	(12122324)
447861.72	3764437.53	0.47201	(12122324)	447881.66	3764435.18	0.46550	(12122324)
447902.78	3764436.19	0.46407	(12120224)	447920.87	3764435.35	0.46619	(12120224)
447942.16	3764435.35	0.46789	(12120224)	447962.77	3764434.85	0.46959	(12120224)
447980.70	3764435.18	0.47034	(12120224)	448004.66	3764435.18	0.47082	(12120224)
448021.25	3764434.68	0.47100	(12120224)	447662.70	3764379.63	0.60092	(12080824)
447681.30	3764320.98	0.61743	(12022524)	447682.64	3764285.79	0.63222	(12022524)
447662.53	3764238.37	0.67048	(12022524)	447661.70	3764207.37	0.68248	(12022524)
447683.14	3764162.29	0.69450	(12022524)	447680.97	3764145.87	0.70577	(12022524)
447679.63	3764130.28	0.71482	(12120224)	447680.80	3764112.02	0.72960	(12120224)
447681.47	3764096.43	0.73059	(12120224)	447680.80	3764078.84	0.75170	(12120224)
447679.96	3764064.26	0.78202	(12120224)	447680.97	3764045.82	0.82331	(12120224)

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	1.50008c	(13020624)	448462.73	3762339.82	1.61135c	(13020624)
448464.47	3762265.93	1.61493	(13112024)	448461.57	3762165.17	1.60145	(13112024)
448472.57	3762064.71	1.19987	(14010624)	448460.48	3762016.72	1.13543	(14010624)
448234.63	3761951.18	1.45868b	(13010324)	448081.42	3761952.78	1.60557c	(15010624)
448025.53	3761955.99	1.66379c	(15010624)	447506.75	3761967.63	1.83926c	(15010624)
447269.29	3761967.74	1.82373m	(15020724)	447389.46	3761908.79	1.50972c	(15010624)
447019.14	3761964.34	1.60011m	(15020724)	447060.33	3761963.58	1.65422m	(15020724)
446975.31	3761963.20	1.53807m	(15020724)	446940.92	3761953.76	1.45596c	(15120624)
446865.72	3761974.54	1.46176c	(15120624)	446795.06	3761957.91	1.16406c	(15120624)
447680.63	3764029.74	0.86212	(12120224)	447657.17	3763992.03	0.97395	(12120224)
447656.33	3763967.06	1.05924	(12120224)	447657.17	3763928.69	1.20063	(12120224)
447657.17	3763902.21	1.31846	(13102424)	447657.51	3763869.03	1.45401	(13102424)
447656.16	3763834.94	1.57928	(13102424)	447655.93	3763808.27	1.61976	(13102424)
447657.09	3763786.00	1.63147	(13102424)	447701.21	3763782.14	1.40098	(13102424)
447856.92	3763749.71	0.87822	(16121124)	447854.99	3763730.13	0.87615	(16121124)
447854.35	3763698.35	0.88431	(16121124)	447855.31	3763676.84	0.88608	(16121124)
447675.51	3763287.46	1.44771	(16121124)	448481.33	3763485.29	0.48590	(13102424)
448479.95	3763195.53	0.67966	(12120224)	448478.56	3762907.16	1.15921	(12120224)
448497.89	3762714.10	1.40659	(13102424)	448507.91	3762487.71	1.36578	(13102424)

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      446757.65   3761965.85        1.05370c (15120624)                446709.33
      3761967.74         0.94733  (14121624)
      446796.42   3762028.62        1.38092  (14121624)                446796.97
      3762045.28         1.45654  (14121624)
      446796.70   3762089.51        1.59479  (14121624)                446796.15
      3762105.89         1.61989  (14121624)
      446796.70   3762137.29        1.65383  (14121624)                446796.15
      3762153.39         1.65634  (14121624)
      446772.40   3762215.37        1.44802  (14121624)                446795.06
      3762321.03         1.34725  (14121624)
      446796.42   3762450.98        0.91294  (12122024)                446796.42
      3762471.18         0.85339  (12121624)
      446797.24   3762496.03        0.82676  (12121624)                446798.06
      3762516.51         0.82683  (12121624)
      446797.79   3762539.98        0.80808  (12121624)                446797.52
      3762560.19         0.79492  (12121624)
      446798.61   3762584.76        0.78659  (12121624)                446798.06
      3762604.42         0.78012  (12121624)
      446799.70   3762654.11        0.76857  (12121624)                446799.97
      3762674.58         0.76647  (12121624)
      446800.25   3762700.25        0.76403  (12121624)                446800.25
      3762721.27         0.76461  (12121624)
      446799.97   3762735.74        0.76518  (12121624)                446797.79
      3762748.02         0.76457  (12121624)
      446802.16   3762913.47        0.81627  (12121624)                446802.16
      3762932.58         0.82669  (12121624)
      446802.43   3762949.24        0.83706  (12121624)                446802.98
      3762967.26         0.84976  (12121624)
      446802.70   3762986.09        0.86423  (12121624)                446802.16
      3763003.29         0.87973  (12121624)
      446802.16   3763021.86        0.89805  (12121624)                446802.70
      3763040.70         0.91992  (12121624)
      446802.98   3763059.26        0.94335  (12121624)                446803.52
      3763077.01         0.96874  (12121624)
      446756.29   3763085.26        0.91926  (12121624)                446807.68
      3763646.39         1.50638  (12121624)
      446808.32   3763674.66        1.49308  (12121624)                446807.68
      3763694.57         1.46866  (12121624)
      446808.32   3763710.63        1.45912  (12121624)                446808.32
      3763726.37         1.44784  (12121624)
      446808.00   3763742.11        1.43688  (12121624)                446808.32
      3763756.89         1.43165  (12121624)
      446808.64   3763798.32        1.39398  (12121624)                446810.25
      3764484.08         0.75049c (12091724)
      446781.34   3764475.08        0.72717c (12091724)                446722.56
      3764455.81         0.67118c (12091724)
      446170.32   3764559.79        0.35183  (12102424)                446872.29
      3763190.26         1.41746  (12121624)
      446925.22   3763179.19        1.41409  (12121624)                446984.86
      3763194.88         1.53035  (12121624)
      447010.56   3763193.28        1.55999  (12121624)                447036.58
      3763193.60         1.61817  (12121624)
      447053.61   3763193.28        1.65483  (12121624)                447076.42
      3763192.31         1.69627  (12121624)
      447093.45   3763192.63        1.72409  (12121624)                447122.05
      3763192.63         1.76269m (15020724)
      447138.75   3763192.31        1.77429m (15020724)                447167.99
      3763192.31         1.80610m (15020724)
      447170.68   3763172.18        1.73381  (12121624)                447170.41
      3763158.25         1.69754  (12121624)
      447169.31   3763144.87        1.66697  (12121624)                447147.46
      3763107.45         1.52090  (12121624)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:12:5
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	1.48815	(12121624)	447146.92	3763064.30	1.46835	(12121624)
447149.92	3763038.90	1.45489	(12121624)	447148.56	3763019.78	1.42624	(12121624)
447148.56	3762997.39	1.39857	(12121624)	447206.08	3762958.49	1.60957	(12121624)
447209.33	3762922.51	1.60722	(12121624)	447208.40	3762890.70	1.58852	(12121624)
447145.83	3762888.87	1.27850	(12121624)	447122.55	3762889.07	1.20820	(12121624)
447094.33	3762890.05	1.13912	(12121624)	447071.04	3762890.45	1.09122	(12121624)
447043.61	3762889.66	1.04244	(12121624)	447017.76	3762888.87	1.00308	(12121624)
446992.11	3762889.07	0.96963	(12121624)	446964.28	3762888.28	0.93757	(12121624)
446940.41	3762888.47	0.91375	(12121624)	446911.20	3762888.08	0.88749	(12121624)
446885.35	3762889.66	0.86709	(12121624)	446862.07	3762888.87	0.84888	(12121624)
446871.45	3762779.57	0.82363	(12121624)	446926.31	3762768.72	0.86796	(12121624)
446983.74	3762774.24	0.92731	(12121624)	447009.00	3762774.05	0.95726	(12121624)
447030.51	3762774.44	0.98393	(12121624)	447055.37	3762774.05	1.01921	(12121624)
447076.88	3762774.24	1.05363	(12121624)	447101.16	3762774.44	1.09849	(12121624)
447123.85	3762774.05	1.14327	(12121624)	447148.12	3762775.03	1.19829	(12121624)
447170.23	3762774.84	1.25367	(12121624)	447196.78	3762775.48	1.32879	(12121624)
447242.12	3762776.57	1.47387	(12121624)	447262.33	3762776.03	1.53508	(12121624)
447294.56	3762776.30	1.62963	(12121624)	447313.13	3762775.48	1.67353	(12121624)
447313.40	3762749.53	1.61960	(12121624)	447327.86	3762713.09	1.70531	(12121624)
447327.36	3762679.87	1.71314	(12121624)	447327.74	3762657.02	1.69568	(12121624)
447327.28	3762636.82	1.66728	(12121624)	447327.51	3762612.90	1.64620	(12121624)

447327.28 3762592.24 1.64779 (12121624) 447327.04
3762569.71 1.67512 (12121624)
447327.28 3762547.89 1.73827 (12121624) 447326.58
3762524.67 1.78694 (12121624)
447326.58 3762506.09 1.83524 (12121624) 447327.51
3762477.53 1.95022m (15020724)
447325.88 3762454.31 1.97837m (15020724) 447225.58
3762432.95 1.78328c (12120624)
447200.27 3762430.63 1.77785c (12120624) 447156.85
3762430.16 1.72589c (12120624)
447131.77 3762430.86 1.70101c (12120624) 447102.74
3762430.63 1.67203c (13120824)
447079.06 3762430.86 1.62332c (13120824) 447034.94
3762433.65 1.48944c (13120824)
446995.47 3762433.65 1.41595c (13120824) 446972.71
3762434.34 1.38374c (13120824)
446941.37 3762434.58 1.33902c (13120824) 446916.06
3762436.90 1.27035c (13120824)
446876.35 3762436.90 1.17552 (12122024) 446848.85
3762647.05 0.81330 (12121624)
446848.85 3762563.17 0.85124 (12121624) 446849.17
3762509.82 0.88507 (12121624)
446849.17 3762455.82 1.01030 (12122024) 446848.85
3762702.00 0.80130 (12121624)
446849.49 3762754.71 0.80389
(12121624)

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	1.97837m ON 15020724:	AT (447325.88, 3762454.31, 224.52, 224.52, 2.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** Message Summary : AERMOD Model Execution ***

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 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of         1628 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of         1278 Calm Hours Identified

A Total of          350 Missing Hours Identified (  0.80 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     202       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
ME W187     202       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops PM25\14822 Ops
PM25.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 24
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID PM_2.5
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Ops PM25.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
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   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
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RE FINISHED
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** AERMOD Meteorology Pathway
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   UAIRDATA 3190 2012
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   RECTABLE 24 1ST
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   SUMMFILE "14822 Ops PM25.sum"
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** DESCPTN  UTM: Universal Transverse Mercator
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** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
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** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/13/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops PM25\14822 Ops
PM25.ADI
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** AERMOD Control Pathway
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   AVERTIME 24
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID PM_2.5
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "14822 Ops PM25.err"
CO FINISHED
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SO STARTING
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** Source ID - Type - X Coord. - Y Coord. **
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   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
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   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
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   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
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   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
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   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
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   SRCGROUP ALL
SO FINISHED
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** AERMOD Receptor Pathway
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**
RE STARTING
   INCLUDED "14822 Ops PM25.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
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   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
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   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
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** AERMOD Output Pathway
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   RECTABLE 24 1ST
** Auto-Generated Plotfiles
   PLOTFILE 24 ALL 1ST "14822 OPS PM25.AD\24H1GALL.PLT" 31
   SUMMFILE "14822 Ops PM25.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     202       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187     202       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
```

```
     * Model Uses URBAN Dispersion Algorithm for the SBL for    70 Source(s),
       for Total of    1 Urban Area(s):
   Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
     * Urban Roughness Length of 1.0 Meter Used.
     * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
     * CCVR_Sub - Meteorological data includes CCVR substitutions
     * TEMP_Sub - Meteorological data includes TEMP substitutions
     * Model Accepts FLAGPOLE Receptor . Heights.
     * The User Specified a Pollutant Type of: PM_2.5

 **Model Calculates  1 Short Term Average(s) of:  24-HR

 **This Run Includes:     70 Source(s);       1 Source Group(s); and     227 Receptor(s)

               with:       0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                and:      70 VOLUME source(s)
                and:       0 AREA type source(s)
                and:       0 LINE source(s)
                and:       0 RLINE/RLINEXT source(s)
                and:       0 OPENPIT source(s)
                and:       0 BUOYANT LINE source(s) with a total of     0 line(s)
                and:       0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing
                                                                 Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   289.00 ;  Decay Coef. =
 0.000     ;  Rot. Angle =     0.0
                Emission Units = GRAMS/SEC                          ;  Emission Rate
                Unit Factor =   0.10000E+07
                Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Input Runstream File:
 aermod.inp
 **Output Print File:
 aermod.out

 **Detailed Error/Message File:   14822 Ops
 PM25.err
 **File for Summary of Results:   14822 Ops
 PM25.sum
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***
```

SOURCE ID	NUMBER URBAN PART. SCALAR CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SOURCE VARY BY
VOL1	0	0.16254E-02	447959.2	3762097.7	222.0	5.00	44.30	1.40	YES
VOL2	0	0.16254E-02	448134.4	3762098.8	222.4	5.00	44.30	1.40	YES
VOL3	0	0.16254E-02	447790.3	3762102.9	221.9	5.00	44.30	1.40	YES
VOL4	0	0.16254E-02	447618.2	3762098.8	221.0	5.00	44.30	1.40	YES
VOL5	0	0.16254E-02	447446.1	3762100.8	221.0	5.00	44.30	1.40	YES
VOL6	0	0.16254E-02	447276.1	3762094.7	220.0	5.00	44.30	1.40	YES
VOL7	0	0.16254E-02	447099.9	3762094.7	219.6	5.00	44.30	1.40	YES
VOL8	0	0.16254E-02	446929.9	3762096.7	220.0	5.00	44.30	1.40	YES
VOL9	0	0.16254E-02	448310.5	3762107.0	222.0	5.00	44.30	1.40	YES
VOL10	0	0.16254E-02	446926.7	3762209.8	221.3	5.00	44.30	1.40	YES
VOL11	0	0.16254E-02	446924.1	3762324.3	222.2	5.00	44.30	1.40	YES
VOL12	0	0.16254E-02	447100.3	3762207.3	221.0	5.00	44.30	1.40	YES
VOL13	0	0.16254E-02	447276.4	3762207.3	221.9	5.00	44.30	1.40	YES
VOL14	0	0.16254E-02	447447.5	3762207.3	222.0	5.00	44.30	1.40	YES
VOL15	0	0.16254E-02	447616.0	3762206.0	222.0	5.00	44.30	1.40	YES
VOL16	0	0.16254E-02	447807.2	3762206.0	222.6	5.00	44.30	1.40	YES
VOL17	0	0.16254E-02	447959.5	3762206.0	223.0	5.00	44.30	1.40	YES
VOL18	0	0.16254E-02	448138.1	3762203.5	222.6	5.00	44.30	1.40	YES
VOL19	0	0.16254E-02	448313.0	3762202.2	222.6	5.00	44.30	1.40	YES
VOL20	0	0.16254E-02	447100.3	3762325.5	222.0	5.00	44.30	1.40	YES
VOL21	0	0.16254E-02	447276.4	3762324.3	222.9	5.00	44.30	1.40	YES
VOL22	0	0.16254E-02	447448.7	3762324.3	222.7	5.00	44.30	1.40	YES
VOL23	0	0.16254E-02	447616.0	3762326.8	222.7	5.00	44.30	1.40	YES
VOL24	0	0.16254E-02	447789.6	3762328.0	223.7	5.00	44.30	1.40	YES
VOL25	0	0.16254E-02	447960.7	3762326.8	224.2	5.00	44.30	1.40	YES
VOL26	0	0.16254E-02	448135.6	3762328.0	224.5	5.00	44.30	1.40	YES
VOL27	0	0.16254E-02	448318.0	3762330.6	224.8	5.00	44.30	1.40	YES
VOL28	0	0.16254E-02	447432.4	3762513.0	225.3	5.00	44.30	1.40	YES

```
 VOL29           0   0.16254E-02  447621.1 3762513.0   224.5     5.00    44.30     1.40
 YES
 VOL30           0   0.16254E-02  447811.0 3762515.5   225.4     5.00    44.30     1.40
 YES
 VOL31           0   0.16254E-02  447999.7 3762515.5   225.9     5.00    44.30     1.40
 YES
 VOL32           0   0.16254E-02  448189.7 3762514.2   225.7     5.00    44.30     1.40
 YES
 VOL33           0   0.16254E-02  448315.5 3762516.7   226.2     5.00    44.30     1.40
 YES
 VOL34           0   0.16254E-02  448316.7 3762709.2   227.4     5.00    44.30     1.40
 YES
 VOL35           0   0.16254E-02  448189.7 3762708.0   226.4     5.00    44.30     1.40
 YES
 VOL36           0   0.16254E-02  448001.0 3762706.7   227.4     5.00    44.30     1.40
 YES
 VOL37           0   0.16254E-02  447811.0 3762706.7   227.0     5.00    44.30     1.40
 YES
 VOL38           0   0.16254E-02  447621.1 3762704.2   226.6     5.00    44.30     1.40
 YES
 VOL39           0   0.16254E-02  447433.6 3762704.2   227.3     5.00    44.30     1.40
 YES
 VOL40           0   0.16254E-02  447524.2 3762897.9   228.4     5.00    44.30     1.40
 YES
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Haven\AQIA\14822 Ops ***        10/13/22
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - -

 VOL41           0   0.16254E-02  447329.2 3762897.9   228.7     5.00    44.30     1.40
 YES
 VOL42           0   0.16254E-02  447304.1 3763089.1   231.3     5.00    44.30     1.40
 YES
 VOL43           0   0.16254E-02  447533.0 3763086.6   231.2     5.00    44.30     1.40
 YES
 VOL44           0   0.16254E-02  447433.6 3763086.6   231.2     5.00    44.30     1.40
 YES
 VOL45           0   0.16254E-02  447530.5 3763277.8   232.5     5.00    44.30     1.40
 YES
 VOL46           0   0.16254E-02  447305.3 3763281.6   232.2     5.00    44.30     1.40
 YES
 VOL47           0   0.16254E-02  447419.8 3763282.9   232.6     5.00    44.30     1.40
 YES
 VOL48           0   0.16254E-02  447112.8 3763304.2   231.8     5.00    44.30     1.40
 YES
 VOL49           0   0.16254E-02  446924.1 3763305.5   231.6     5.00    44.30     1.40
 YES
 VOL50           0   0.16254E-02  447533.0 3763469.0   233.5     5.00    44.30     1.40
 YES
 VOL51           0   0.16254E-02  447217.3 3763472.8   233.2     5.00    44.30     1.40
 YES
```

```
VOL52           0   0.16254E-02  447088.9 3763471.6   233.0     5.00    44.30     1.40
YES
VOL53           0   0.16254E-02  446925.4 3763474.1   232.6     5.00    44.30     1.40
YES
VOL54           0   0.16254E-02  447361.9 3763470.3   233.5     5.00    44.30     1.40
YES
VOL55           0   0.16254E-02  447531.7 3763659.5   234.9     5.00    44.30     1.40
YES
VOL56           0   0.16254E-02  447533.5 3763806.8   235.6     5.00    44.30     1.40
YES
VOL57           0   0.16254E-02  447359.9 3763658.4   234.1     5.00    44.30     1.40
YES
VOL58           0   0.16254E-02  447219.0 3763657.1   234.1     5.00    44.30     1.40
YES
VOL59           0   0.16254E-02  447090.7 3763659.7   234.5     5.00    44.30     1.40
YES
VOL60           0   0.16254E-02  446930.9 3763659.7   234.2     5.00    44.30     1.40
YES
VOL61           0   0.16254E-02  447357.4 3763804.3   234.7     5.00    44.30     1.40
YES
VOL62           0   0.16254E-02  447219.0 3763804.3   234.9     5.00    44.30     1.40
YES
VOL63           0   0.16254E-02  447093.2 3763805.6   235.8     5.00    44.30     1.40
YES
VOL64           0   0.16254E-02  446932.2 3763805.6   235.5     5.00    44.30     1.40
YES
VOL65           0   0.16254E-02  447133.5 3763996.8   237.4     5.00    44.30     1.40
YES
VOL66           0   0.16254E-02  446943.5 3763996.8   237.4     5.00    44.30     1.40
YES
VOL67           0   0.16254E-02  447134.7 3764159.1   239.1     5.00    44.30     1.40
YES
VOL68           0   0.16254E-02  446944.8 3764159.1   240.0     5.00    44.30     1.40
YES
VOL69           0   0.16254E-02  447136.0 3764318.9   241.0     5.00    44.30     1.40
YES
VOL70           0   0.16254E-02  446944.8 3764317.6   240.2     5.00    44.30     1.40
YES
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Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                        SOURCE IDs
 -----------                                        ----------


  ALL        VOL1        , VOL2        , VOL3        , VOL4        , VOL5        , VOL6        ,
  VOL7        , VOL8        ,

             VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14       ,
             VOL15       , VOL16       ,

             VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
             VOL23       , VOL24       ,

             VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
             VOL31       , VOL32       ,

             VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38
```

VOL39 , VOL40 ,

VOL41 , VOL42 , VOL43 , VOL44 , VOL45 , VOL46 ,
VOL47 , VOL48 ,

VOL49 , VOL50 , VOL51 , VOL52 , VOL53 , VOL54 ,
VOL55 , VOL56 ,

VOL57 , VOL58 , VOL59 , VOL60 , VOL61 , VOL62 ,
VOL63 , VOL64 ,

VOL65 , VOL66 , VOL67 , VOL68 , VOL69 , VOL70 ,
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	2035210.	VOL1 , VOL2 , VOL3 , VOL4 , VOL5 , VOL6 , VOL7 , VOL8 ,
		VOL9 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,
		VOL17 , VOL18 , VOL19 , VOL20 , VOL21 , VOL22 , VOL23 , VOL24 ,
		VOL25 , VOL26 , VOL27 , VOL28 , VOL29 , VOL30 , VOL31 , VOL32 ,
		VOL33 , VOL34 , VOL35 , VOL36 , VOL37 , VOL38 , VOL39 , VOL40 ,
		VOL41 , VOL42 , VOL43 , VOL44 , VOL45 , VOL46 , VOL47 , VOL48 ,
		VOL49 , VOL50 , VOL51 , VOL52 , VOL53 , VOL54 , VOL55 , VOL56 ,
		VOL57 , VOL58 , VOL59 , VOL60 , VOL61 , VOL62 , VOL63 , VOL64 ,
		VOL65 , VOL66 , VOL67 , VOL68 , VOL69 , VOL70 ,

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/13/22
*** AERMET - VERSION 16216 ***
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447362.2, 3764292.7, 240.7, 240.7, 2.0); (447376.0, 3764151.0,

239.6,   239.6,   2.0);
(447389.8, 3764043.0,   237.8,   237.8,   2.0);   (447450.2, 3764031.0,
237.5,   237.5,   2.0);
(447410.2, 3764019.0,   237.5,   237.5,   2.0);   (446891.9, 3764451.2,
241.5,   241.5,   2.0);
(446959.3, 3764451.2,   241.5,   241.5,   2.0);   (446995.3, 3764468.1,
241.8,   241.8,   2.0);
(447007.4, 3764467.3,   241.9,   241.9,   2.0);   (447023.5, 3764466.1,
241.9,   241.9,   2.0);
(447036.6, 3764466.2,   241.9,   241.9,   2.0);   (447052.7, 3764465.6,
242.0,   242.0,   2.0);
(447066.6, 3764465.7,   242.1,   242.1,   2.0);   (447099.6, 3764456.2,
242.1,   242.1,   2.0);
(447145.3, 3764468.3,   242.1,   242.1,   2.0);   (447175.5, 3764468.0,
241.7,   241.7,   2.0);
(447205.3, 3764468.3,   241.3,   241.3,   2.0);   (447232.4, 3764467.5,
242.0,   242.0,   2.0);
(447264.0, 3764467.3,   243.3,   243.3,   2.0);   (447294.8, 3764466.9,
243.8,   243.8,   2.0);
(447365.0, 3764456.4,   243.3,   243.3,   2.0);   (447406.6, 3764460.6,
243.1,   243.1,   2.0);
(447441.5, 3764460.0,   243.2,   243.2,   2.0);   (447466.9, 3764460.2,
243.2,   243.2,   2.0);
(447490.0, 3764460.6,   242.9,   242.9,   2.0);   (447515.5, 3764460.4,
242.6,   242.6,   2.0);
(447573.1, 3764454.3,   241.6,   241.6,   2.0);   (447598.5, 3764445.2,
241.8,   241.8,   2.0);
(447652.9, 3764439.7,   243.1,   243.1,   2.0);   (447692.9, 3764439.5,
243.1,   243.1,   2.0);
(447713.8, 3764439.1,   243.1,   243.1,   2.0);   (447732.0, 3764438.7,
243.2,   243.2,   2.0);
(447751.1, 3764438.7,   243.3,   243.3,   2.0);   (447768.8, 3764437.5,
243.4,   243.4,   2.0);
(447789.1, 3764437.7,   243.7,   243.7,   2.0);   (447805.7, 3764437.3,
243.8,   243.8,   2.0);
(447824.0, 3764437.2,   243.9,   243.9,   2.0);   (447841.6, 3764437.9,
243.9,   243.9,   2.0);
(447861.7, 3764437.5,   243.9,   243.9,   2.0);   (447881.7, 3764435.2,
243.8,   243.8,   2.0);
(447902.8, 3764436.2,   243.8,   243.8,   2.0);   (447920.9, 3764435.3,
243.8,   243.8,   2.0);
(447942.2, 3764435.3,   243.8,   243.8,   2.0);   (447962.8, 3764434.8,
243.8,   243.8,   2.0);
(447980.7, 3764435.2,   243.8,   243.8,   2.0);   (448004.7, 3764435.2,
243.6,   243.6,   2.0);
(448021.2, 3764434.7,   243.0,   243.0,   2.0);   (447662.7, 3764379.6,
243.6,   243.6,   2.0);
(447681.3, 3764321.0,   243.4,   243.4,   2.0);   (447682.6, 3764285.8,
242.3,   242.3,   2.0);
(447662.5, 3764238.4,   241.1,   241.1,   2.0);   (447661.7, 3764207.4,
240.2,   240.2,   2.0);
(447683.1, 3764162.3,   239.1,   239.1,   2.0);   (447681.0, 3764145.9,
238.7,   238.7,   2.0);
(447679.6, 3764130.3,   238.2,   238.2,   2.0);   (447680.8, 3764112.0,
237.8,   237.8,   2.0);
(447681.5, 3764096.4,   237.6,   237.6,   2.0);   (447680.8, 3764078.8,
237.4,   237.4,   2.0);
(447680.0, 3764064.3,   237.4,   237.4,   2.0);   (447681.0, 3764045.8,
237.5,   237.5,   2.0);
(447680.6, 3764029.7,   237.5,   237.5,   2.0);   (447657.2, 3763992.0,
237.3,   237.3,   2.0);
(447656.3, 3763967.1,   237.5,   237.5,   2.0);   (447657.2, 3763928.7,
237.5,   237.5,   2.0);
(447657.2, 3763902.2,   237.6,   237.6,   2.0);   (447657.5, 3763869.0,
237.3,   237.3,   2.0);
(447656.2, 3763834.9,   237.4,   237.4,   2.0);   (447655.9, 3763808.3,

237.5, 237.5, 2.0);
(447657.1, 3763786.0, 237.6, 237.6, 2.0); (447701.2, 3763782.1,
237.7, 237.7, 2.0);
(447856.9, 3763749.7, 236.2, 236.2, 2.0); (447855.0, 3763730.1,
236.0, 236.0, 2.0);
(447854.3, 3763698.3, 235.6, 235.6, 2.0); (447855.3, 3763676.8,
235.4, 235.4, 2.0);
(447675.5, 3763287.5, 232.0, 232.0, 2.0); (448481.3, 3763485.3,
235.6, 235.6, 2.0);
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229.4, 229.4, 2.0);
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(448480.5, 3762358.0, 224.8, 224.8, 2.0); (448462.7, 3762339.8,
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(448464.5, 3762265.9, 223.3, 223.3, 2.0); (448461.6, 3762165.2,
222.0, 222.0, 2.0);
(448472.6, 3762064.7, 220.0, 220.0, 2.0); (448460.5, 3762016.7,
219.4, 219.4, 2.0);
(448234.6, 3761951.2, 220.0, 220.0, 2.0); (448081.4, 3761952.8,
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(448025.5, 3761956.0, 221.0, 221.0, 2.0); (447506.8, 3761967.6,
220.0, 220.0, 2.0);
FF *** AERMOD - VERSION 22112 ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***   10/13/22
 *** AERMET - VERSION 16216 ***
 ***   ***   15:33:36

                    PAGE   7
 *** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

                                  *** DISCRETE CARTESIAN RECEPTORS ***
                                 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                          (METERS)

(447269.3, 3761967.7, 219.7, 219.7, 2.0); (447389.5, 3761908.8,
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(446772.4, 3762215.4, 221.6, 221.6, 2.0); (446795.1, 3762321.0,
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(446797.8, 3762540.0, 225.7, 225.7, 2.0); (446797.5, 3762560.2,
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(446800.0, 3762735.7, 228.6, 228.6, 2.0); (446797.8, 3762748.0,

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(446802.4, 3762949.2, 228.3, 228.3, 2.0); (446803.0, 3762967.3, 228.3, 228.3, 2.0);
(446802.7, 3762986.1, 228.4, 228.4, 2.0); (446802.2, 3763003.3, 228.6, 228.6, 2.0);
(446802.2, 3763021.9, 228.8, 228.8, 2.0); (446802.7, 3763040.7, 229.0, 229.0, 2.0);
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(447093.5, 3763192.6, 231.9, 231.9, 2.0); (447122.0, 3763192.6, 231.7, 231.7, 2.0);
(447138.8, 3763192.3, 231.7, 231.7, 2.0); (447168.0, 3763192.3, 231.6, 231.6, 2.0);
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(447169.3, 3763144.9, 231.2, 231.2, 2.0); (447147.5, 3763107.4, 231.5, 231.5, 2.0);
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(446871.5, 3762779.6, 228.6, 228.6, 2.0); (446926.3, 3762768.7, 228.6, 228.6, 2.0);
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(447294.6, 3762776.3, 228.3, 228.3, 2.0); (447313.1, 3762775.5, 228.3, 228.3, 2.0);
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(446849.5, 3762754.7, 228.7, 228.7, 2.0);

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-16.4	0.171	-9.000	-9.000	-999.	170.	32.3	0.09	1.12	1.00	2.03	43.	7.9	285.9	2.0
12	01	01	1	02	-18.8	0.194	-9.000	-9.000	-999.	205.	41.3	0.09	1.12	1.00	2.28	34.	7.9	285.4	2.0
12	01	01	1	03	-17.8	0.182	-9.000	-9.000	-999.	187.	36.5	0.09	1.12	1.00	2.15	24.	7.9	282.0	2.0
12	01	01	1	04	-9.4	0.128	-9.000	-9.000	-999.	110.	19.6	0.09	1.12	1.00	1.55	41.	7.9	283.1	2.0
12	01	01	1	05	-16.9	0.173	-9.000	-9.000	-999.	173.	33.0	0.09	1.12	1.00	2.05	39.	7.9	280.4	2.0
12	01	01	1	06	-8.0	0.117	-9.000	-9.000	-999.	97.	17.8	0.09	1.12	1.00	1.4				

```
 21.    7.9  282.0    2.0
 12 01 01   1 07   -7.6  0.115 -9.000 -9.000 -999.   93.     17.4  0.09   1.12   1.00    1.40
 31.    7.9  282.5    2.0
 12 01 01   1 08  -13.6  0.184 -9.000 -9.000 -999.  190.     40.5  0.09   1.12   0.54    2.16
 34.    7.9  284.2    2.0
 12 01 01   1 09   28.4  0.126  0.300  0.011   33.  108.     -6.2  0.09   1.12   0.32    1.03
 29.    7.9  289.2    2.0
 12 01 01   1 10   79.8  0.133  0.607  0.010   99.  116.     -2.6  0.09   1.12   0.25    0.94
 173.    7.9  292.5    2.0
 12 01 01   1 11  115.8  0.137  0.932  0.006  246.  121.     -2.0  0.09   1.12   0.22    0.92
 172.    7.9  295.4    2.0
 12 01 01   1 12  133.7  0.139  1.197  0.005  453.  125.     -1.8  0.09   1.12   0.21    0.92
 146.    7.9  297.5    2.0
 12 01 01   1 13  133.2  0.160  1.354  0.005  657.  153.     -2.7  0.09   1.12   0.21    1.14
 117.    7.9  299.9    2.0
 12 01 01   1 14  113.5  0.159  1.454  0.005  955.  151.     -3.1  0.09   1.12   0.23    1.16
 285.    7.9  300.9    2.0
 12 01 01   1 15   76.2  0.166  1.350  0.005 1138.  163.     -5.3  0.09   1.12   0.26    1.33
 72.    7.9  302.0    2.0
 12 01 01   1 16   23.5  0.175  0.925  0.005 1183.  175.    -19.9  0.09   1.12   0.35    1.65
 107.    7.9  301.4    2.0
 12 01 01   1 17   -6.1  0.107 -9.000 -9.000 -999.   86.     18.0  0.09   1.12   0.63    1.31
 107.    7.9  298.1    2.0
 12 01 01   1 18  -11.1  0.141 -9.000 -9.000 -999.  127.     22.1  0.09   1.12   1.00    1.69
 86.    7.9  293.1    2.0
 12 01 01   1 19   -3.2  0.076 -9.000 -9.000 -999.   51.     11.8  0.09   1.12   1.00    0.91
 64.    7.9  292.0    2.0
 12 01 01   1 20   -2.3  0.066 -9.000 -9.000 -999.   41.     11.2  0.09   1.12   1.00    0.74
 73.    7.9  288.8    2.0
 12 01 01   1 21  -10.0  0.133 -9.000 -9.000 -999.  116.     20.5  0.09   1.12   1.00    1.60
 14.    7.9  288.1    2.0
 12 01 01   1 22  -19.4  0.201 -9.000 -9.000 -999.  216.     44.5  0.09   1.12   1.00    2.36
 22.    7.9  287.5    2.0
 12 01 01   1 23  -23.7  0.246 -9.000 -9.000 -999.  293.     66.5  0.09   1.12   1.00    2.86
 40.    7.9  287.0    2.0
 12 01 01   1 24  -12.3  0.147 -9.000 -9.000 -999.  139.     23.8  0.09   1.12   1.00    1.76
 40.    7.9  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1   43.    2.03   286.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:33:36

                     PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  ALL      ***
                              INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                              VOL3        , VOL4        , VOL5        ,
                 VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                 VOL11       , VOL12       , VOL13       ,
                 VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                 VOL19       , VOL20       , VOL21       ,
                 VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                 VOL27       , VOL28       ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF PM_2.5   IN
```

MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	0.36850	(12080824)	447375.98	3764150.98	0.41790c	(12091724)
447389.75	3764043.04	0.45013	(12080824)	447450.16	3764031.05	0.41213	(14021824)
447410.18	3764019.05	0.44734	(14021824)	446891.90	3764451.22	0.37493c	(12091724)
446959.28	3764451.22	0.40302c	(12091724)	446995.28	3764468.13	0.38229c	(12091724)
447007.41	3764467.30	0.38468c	(12091724)	447023.51	3764466.09	0.38689c	(12091724)
447036.59	3764466.21	0.38691c	(12091724)	447052.68	3764465.61	0.38832c	(12091724)
447066.60	3764465.73	0.38841c	(12091724)	447099.65	3764456.17	0.42077	(14021824)
447145.28	3764468.27	0.38952	(14021824)	447175.54	3764468.03	0.36711	(14021824)
447205.32	3764468.27	0.34489	(14021824)	447232.43	3764467.55	0.32888c	(12091724)
447264.02	3764467.30	0.31618	(12080824)	447294.77	3764466.94	0.30725	(12080824)
447364.97	3764456.41	0.29329	(12080824)	447406.61	3764460.65	0.28053	(12080824)
447441.47	3764460.04	0.27651	(12080824)	447466.88	3764460.20	0.27074	(12080824)
447490.00	3764460.56	0.26705	(12080824)	447515.50	3764460.40	0.26157	(12080824)
447573.06	3764454.29	0.24973	(12080824)	447598.49	3764445.22	0.24632	(12080824)
447652.90	3764439.70	0.23400	(12080824)	447692.92	3764439.51	0.22225	(12022524)
447713.82	3764439.11	0.21797	(12022524)	447731.95	3764438.72	0.21544	(12022524)
447751.07	3764438.72	0.21154	(12022524)	447768.82	3764437.53	0.20832	(12022524)
447789.12	3764437.73	0.20450	(12022524)	447805.68	3764437.34	0.20158	(12122324)
447824.02	3764437.20	0.19930	(12122324)	447841.61	3764437.87	0.19678	(12122324)
447861.72	3764437.53	0.19391	(12122324)	447881.66	3764435.18	0.19124	(12122324)
447902.78	3764436.19	0.19065	(12120224)	447920.87	3764435.35	0.19152	(12120224)
447942.16	3764435.35	0.19222	(12120224)	447962.77	3764434.85	0.19292	(12120224)
447980.70	3764435.18	0.19323	(12120224)	448004.66	3764435.18	0.19343	(12120224)
448021.25	3764434.68	0.19350	(12120224)	447662.70	3764379.63	0.24687	(12080824)
447681.30	3764320.98	0.25366	(12022524)	447682.64	3764285.79	0.25973	(12022524)
447662.53	3764238.37	0.27545	(12022524)	447661.70	3764207.37	0.28038	(12022524)
447683.14	3764162.29	0.28532	(12022524)	447680.97	3764145.87	0.28995	(12022524)
447679.63	3764130.28	0.29367	(12120224)	447680.80	3764112.02	0.29974	(12120224)
447681.47	3764096.43	0.30015	(12120224)	447680.80	3764078.84	0.30882	(12120224)
447679.96	3764064.26	0.32128	(12120224)	447680.97	3764045.82	0.33824	(12120224)

```
       447680.63   3764029.74        0.35418  (12120224)                447657.17
       3763992.03         0.40013  (12120224)
       447656.33   3763967.06        0.43517  (12120224)                447657.17
       3763928.69         0.49325  (12120224)
       447657.17   3763902.21        0.54166  (13102424)                447657.51
       3763869.03         0.59735  (13102424)
       447656.16   3763834.94        0.64881  (13102424)                447655.93
       3763808.27         0.66544  (13102424)
       447657.09   3763786.00        0.67025  (13102424)                447701.21
       3763782.14         0.57556  (13102424)
       447856.92   3763749.71        0.36080  (16121124)                447854.99
       3763730.13         0.35995  (16121124)
       447854.35   3763698.35        0.36330  (16121124)                447855.31
       3763676.84         0.36403  (16121124)
       447675.51   3763287.46        0.59476  (16121124)                448481.33
       3763485.29         0.19962  (13102424)
       448479.95   3763195.53        0.27922  (12120224)                448478.56
       3762907.16         0.47624  (12120224)
       448497.89   3762714.10        0.57787  (13102424)                448507.91
       3762487.71         0.56110  (13102424)
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 ***                                                                    ***       15:33:36

                     PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  ALL      ***
                              INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                              VOL3        , VOL4        , VOL5        ,
                 VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                 VOL11       , VOL12       , VOL13       ,
                 VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                 VOL19       , VOL20       , VOL21       ,
                 VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                 VOL27       , VOL28       ,  . . .      ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF PM_2.5   IN
                                   MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96        0.61628c (13020624)                448462.73
       3762339.82         0.66199c (13020624)
       448464.47   3762265.93        0.66346  (13112024)                448461.57
       3762165.17         0.65792  (13112024)
       448472.57   3762064.71        0.49294  (14010624)                448460.48
       3762016.72         0.46647  (14010624)
       448234.63   3761951.18        0.59927b (13010324)                448081.42
       3761952.78         0.65961c (15010624)
       448025.53   3761955.99        0.68353c (15010624)                447506.75
       3761967.63         0.75562c (15010624)
       447269.29   3761967.74        0.74924m (15020724)                447389.46
       3761908.79         0.62023c (15010624)
       447019.14   3761964.34        0.65737m (15020724)                447060.33
       3761963.58         0.67960m (15020724)
       446975.31   3761963.20        0.63188m (15020724)                446940.92
       3761953.76         0.59815c (15120624)
       446865.72   3761974.54        0.60053c (15120624)                446795.06
       3761957.91         0.47823c (15120624)
```

```
      446757.65   3761965.85        0.43289c (15120624)              446709.33
      3761967.74        0.38919  (14121624)
      446796.42   3762028.62        0.56732  (14121624)              446796.97
      3762045.28        0.59839  (14121624)
      446796.70   3762089.51        0.65519  (14121624)              446796.15
      3762105.89        0.66549  (14121624)
      446796.70   3762137.29        0.67944  (14121624)              446796.15
      3762153.39        0.68047  (14121624)
      446772.40   3762215.37        0.59489  (14121624)              446795.06
      3762321.03        0.55349  (14121624)
      446796.42   3762450.98        0.37506  (12122024)              446796.42
      3762471.18        0.35060  (12121624)
      446797.24   3762496.03        0.33966  (12121624)              446798.06
      3762516.51        0.33969  (12121624)
      446797.79   3762539.98        0.33198  (12121624)              446797.52
      3762560.19        0.32657  (12121624)
      446798.61   3762584.76        0.32315  (12121624)              446798.06
      3762604.42        0.32050  (12121624)
      446799.70   3762654.11        0.31575  (12121624)              446799.97
      3762674.58        0.31489  (12121624)
      446800.25   3762700.25        0.31389  (12121624)              446800.25
      3762721.27        0.31412  (12121624)
      446799.97   3762735.74        0.31436  (12121624)              446797.79
      3762748.02        0.31411  (12121624)
      446802.16   3762913.47        0.33535  (12121624)              446802.16
      3762932.58        0.33963  (12121624)
      446802.43   3762949.24        0.34389  (12121624)              446802.98
      3762967.26        0.34911  (12121624)
      446802.70   3762986.09        0.35505  (12121624)              446802.16
      3763003.29        0.36142  (12121624)
      446802.16   3763021.86        0.36894  (12121624)              446802.70
      3763040.70        0.37793  (12121624)
      446802.98   3763059.26        0.38755  (12121624)              446803.52
      3763077.01        0.39798  (12121624)
      446756.29   3763085.26        0.37766  (12121624)              446807.68
      3763646.39        0.61886  (12121624)
      446808.32   3763674.66        0.61340  (12121624)              446807.68
      3763694.57        0.60337  (12121624)
      446808.32   3763710.63        0.59945  (12121624)              446808.32
      3763726.37        0.59481  (12121624)
      446808.00   3763742.11        0.59031  (12121624)              446808.32
      3763756.89        0.58816  (12121624)
      446808.64   3763798.32        0.57268  (12121624)              446810.25
      3764484.08        0.30832c (12091724)
      446781.34   3764475.08        0.29874c (12091724)              446722.56
      3764455.81        0.27574c (12091724)
      446170.32   3764559.79        0.14454  (12102424)              446872.29
      3763190.26        0.58233  (12121624)
      446925.22   3763179.19        0.58095  (12121624)              446984.86
      3763194.88        0.62871  (12121624)
      447010.56   3763193.28        0.64089  (12121624)              447036.58
      3763193.60        0.66479  (12121624)
      447053.61   3763193.28        0.67985  (12121624)              447076.42
      3763192.31        0.69687  (12121624)
      447093.45   3763192.63        0.70830  (12121624)              447122.05
      3763192.63        0.72416m (15020724)
      447138.75   3763192.31        0.72893m (15020724)              447167.99
      3763192.31        0.74199m (15020724)
      447170.68   3763172.18        0.71230  (12121624)              447170.41
      3763158.25        0.69740  (12121624)
      447169.31   3763144.87        0.68484  (12121624)              447147.46
      3763107.45        0.62483  (12121624)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
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 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       15:33:3
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 , VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	0.61137	(12121624)	447146.92	3763064.30	0.60324	(12121624)
447149.92	3763038.90	0.59771	(12121624)	447148.56	3763019.78	0.58594	(12121624)
447148.56	3762997.39	0.57457	(12121624)	447206.08	3762958.49	0.66126	(12121624)
447209.33	3762922.51	0.66029	(12121624)	447208.40	3762890.70	0.65261	(12121624)
447145.83	3762888.87	0.52524	(12121624)	447122.55	3762889.07	0.49636	(12121624)
447094.33	3762890.05	0.46798	(12121624)	447071.04	3762890.45	0.44831	(12121624)
447043.61	3762889.66	0.42826	(12121624)	447017.76	3762888.87	0.41209	(12121624)
446992.11	3762889.07	0.39835	(12121624)	446964.28	3762888.28	0.38518	(12121624)
446940.41	3762888.47	0.37539	(12121624)	446911.20	3762888.08	0.36461	(12121624)
446885.35	3762889.66	0.35622	(12121624)	446862.07	3762888.87	0.34875	(12121624)
446871.45	3762779.57	0.33837	(12121624)	446926.31	3762768.72	0.35658	(12121624)
446983.74	3762774.24	0.38096	(12121624)	447009.00	3762774.05	0.39327	(12121624)
447030.51	3762774.44	0.40423	(12121624)	447055.37	3762774.05	0.41872	(12121624)
447076.88	3762774.24	0.43286	(12121624)	447101.16	3762774.44	0.45129	(12121624)
447123.85	3762774.05	0.46969	(12121624)	447148.12	3762775.03	0.49229	(12121624)
447170.23	3762774.84	0.51504	(12121624)	447196.78	3762775.48	0.54590	(12121624)
447242.12	3762776.57	0.60551	(12121624)	447262.33	3762776.03	0.63065	(12121624)
447294.56	3762776.30	0.66950	(12121624)	447313.13	3762775.48	0.68753	(12121624)
447313.40	3762749.53	0.66538	(12121624)	447327.86	3762713.09	0.70059	(12121624)
447327.36	3762679.87	0.70381	(12121624)	447327.74	3762657.02	0.69663	(12121624)
447327.28	3762636.82	0.68497	(12121624)	447327.51	3762612.90	0.67630	(12121624)

```
       447327.28   3762592.24        0.67696  (12121624)                447327.04
       3762569.71        0.68818  (12121624)
       447327.28   3762547.89        0.71413  (12121624)                447326.58
       3762524.67        0.73412  (12121624)
       447326.58   3762506.09        0.75397  (12121624)                447327.51
       3762477.53        0.80121m (15020724)
       447325.88   3762454.31        0.81277m (15020724)                447225.58
       3762432.95        0.73262c (12120624)
       447200.27   3762430.63        0.73039c (12120624)                447156.85
       3762430.16        0.70904c (12120624)
       447131.77   3762430.86        0.69882c (12120624)                447102.74
       3762430.63        0.68691c (13120824)
       447079.06   3762430.86        0.66691c (13120824)                447034.94
       3762433.65        0.61190c (13120824)
       446995.47   3762433.65        0.58171c (13120824)                446972.71
       3762434.34        0.56848c (13120824)
       446941.37   3762434.58        0.55011c (13120824)                446916.06
       3762436.90        0.52190c (13120824)
       446876.35   3762436.90        0.48294  (12122024)                446848.85
       3762647.05        0.33413  (12121624)
       446848.85   3762563.17        0.34971  (12121624)                446849.17
       3762509.82        0.36361  (12121624)
       446849.17   3762455.82        0.41506  (12122024)                446848.85
       3762702.00        0.32920  (12121624)
       446849.49   3762754.71        0.33026
       (12121624)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:33:36

                     PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

                                          *** THE SUMMARY OF HIGHEST 24-HR RESULTS ***


                                    ** CONC OF PM_2.5   IN
                                    MICROGRAMS/M**3                        **


                                                    DATE
                                                                                NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.81277m ON 15020724: AT (  447325.88,  3762454.31,
224.52,   224.52,    2.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/13/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       15:33:36

                     PAGE  15
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***
```

```
 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of         1628 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of         1278 Calm Hours Identified

A Total of          350 Missing Hours Identified (  0.80 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     202       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
ME W187     202       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

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Rich-Haven Specific Plan, 2022 Amendment

MOBILE SOURCE HEALTH RISK ASSESSMENT

CITY OF ONTARIO

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Michael Tirohn
mtirohn@urbanxroads.com

NOVEMBER 8, 2022

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LIST OF ABBREVIATED TERMS

(1)	Reference
µg	Microgram
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
APS	Auxiliary Power System
AQMD	Air Quality Management District
ARB	Air Resources Board
CEQA	California Environmental Quality Act
CPF	Cancer Potency Factor
DPM	Diesel Particulate Matter
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
HHD	Heavy Heavy-Duty
HI	Hazard Index
HRA	Health Risk Assessment
LHD	Light Heavy-Duty
MATES	Multiple Air Toxics Exposure Study
MEIR	Maximally Exposed Individual Receptor
MEIW	Maximally Exposed Individual Worker
MHD	Medium Heavy-Duty
NAD	North American Datum
OEHHA	Office of Environmental Health Hazard Assessment
PM10	Particulate Matter 10 microns in diameter or less
Project	Rich-Haven Specific Plan, 2022 Amendment
REL	Reference Exposure Level
RM	Recommended Measures
SCAQMD	South Coast Air Quality Management District
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
TA	Traffic Analysis
URF	Unit Risk Factor
UTM	Universal Transverse Mercator
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

This report evaluates the potential health risk impacts to sensitive receptors and adjacent workers associated with the development of the proposed Project. More specifically, potential health risk impacts resulting from exposure to Toxic Air Contaminants (TACs) including diesel particulate matter (DPM) as a result of heavy-duty diesel trucks accessing the site and TACs from Project gas stations. This section summarizes the significance criteria and Project health risks.

The results of the health risk assessment from Project-generated TAC emissions are provided in Table ES-1, ES-2, and ES-3 below for the Project.

CONSTRUCTION IMPACTS

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R5 which is an existing on-site residence located at 3959 S. Sunrise Avenue. R5 is placed at the private outdoor living area (backyard) facing the Project site. At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project construction-source DPM emissions is estimated at 1.21 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for this location. The nearest modeled receptors are illustrated on Exhibit 2-D.

OPERATIONAL IMPACTS

Residential Exposure Scenario:

The residential land use with the greatest potential exposure to Project operational-source TAC emissions is Location R5 which is an existing on-site residence located at 3959 S. Sunrise Avenue. R5 is placed at the private outdoor living area (backyard) facing the Project site. At the MEIR, the maximum incremental cancer risk attributable to Project operational-source TAC emissions is estimated at 4.77 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.03, which would not exceed the applicable significance threshold of 1.0. Because all other modeled residential receptors are exposed to lesser concentrations and are located at a greater distance from the Project site and primary truck route than the MEIR analyzed herein, and TACs generally dissipates with distance from the source, all other residential receptors in the vicinity of the Project site would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby residences. The nearest modeled receptors are illustrated on Exhibit 2-D.

Worker Exposure Scenario[1]*:*

The worker receptor land use with the greatest potential exposure to Project operational-source DPM emissions is Location R9, which represents the potential worker receptor located approximately 201 feet east of the Project site. At the maximally exposed individual worker (MEIW), the maximum incremental cancer risk impact is 0.94 in one million which is less than the SCAQMD's threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be 0.06, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyzed herein, and TACs dissipates with distance from the source, all other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent workers. The nearest modeled receptors are illustrated on Exhibit 2-D.

School Child Exposure Scenario:

The nearest school is Colony High School, which is located adjacent to the Project site to the north. At the maximally exposed individual school child (MEISC), the maximum incremental cancer risk impact attributable to the Project is calculated to be 0.37 in one million, which is less than the significance threshold of 10 in one million. At this same location, non-cancer risks attributable to the Project were calculated to be 0.01, which would not exceed the applicable significance threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to nearby school children.

COMBINED CONSTRUCTION AND OPERATIONAL IMPACTS

Over the life of the Project, it is possible that certain nearby residents and workers could be subject to the combined effects of construction-source and operational-source TACs. The land use with the greatest potential exposure to combined construction-source and operational-source TACs is Location R5. At the MEIR, the maximum incremental cancer risk attributable to combined Project construction and operational TAC emissions is estimated at 5.98 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.03, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction and operational activity. All other receptors during construction and operational activity would experience less risk than what is identified for this location. The nearest modeled receptors are illustrated on Exhibit 2-D.

1 SCAQMD guidance does not require assessment of the potential health risk to on-site workers. Excerpts from the document OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines—The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003), also indicate that it is not necessary to examine the health effects to on-site workers unless required by RCRA (Resource Conservation and Recovery Act) / CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or the worker resides on-site.

TABLE ES-1: SUMMARY OF CONSTRUCTION-SOURCE TAC CANCER AND NON-CANCER RISKS

Exposure Scenario	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
4 Year Exposure	Maximum Exposed Sensitive Receptor	1.21	10	NO
Exposure Scenario	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Annual Average	Maximum Exposed Sensitive Receptor	≤0.01	1.0	NO

TABLE ES-2: SUMMARY OF OPERATIONAL CANCER AND NON-CANCER RISKS

Exposure Scenario	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
30 Year Exposure	Maximum Exposed Sensitive Receptor	4.77	10	NO
25 Year Exposure	Maximum Exposed Worker Receptor	0.94	10	NO
9 Year Exposure	Maximum Exposed School Child Receptor	0.37	10	NO
Exposure Scenario	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Annual Average	Maximum Exposed Sensitive Receptor	0.03	1.0	NO
Annual Average	Maximum Exposed Worker Receptor	0.06	1.0	NO
Annual Average	Maximum Exposed School Child Receptor	0.01	1.0	NO

TABLE ES-3: SUMMARY OF CONSTRUCTION-SOURCE TAC AND OPERATIONAL CANCER AND NON-CANCER RISKS

Exposure Scenario	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
30 Year Exposure	Maximum Exposed Sensitive Receptor	5.98	10	NO
Exposure Scenario	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Annual Average	Maximum Exposed Sensitive Receptor	0.03	1.0	NO

1 INTRODUCTION

The South Coast Air Quality Management District (SCAQMD) typically issues a comment letter on the Notice of Preparation of a CEQA Document. Per the SCAQMD's typical comment letter, if a proposed Project is expected to generate/attract diesel trucks, which emit diesel particulate matter (DPM) or other Toxic Air Contaminants (TACs), preparation of a HRA is necessary. This document serves to meet the SCAQMD's request for preparation of a HRA. This HRA has been prepared in accordance with the document Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (1) and is comprised of all relevant and appropriate procedures presented by the United States Environmental Protection Agency (U.S. EPA), California EPA and SCAQMD. Cancer risk is expressed in terms of expected incremental incidence per million population. The SCAQMD has established an incidence rate of ten (10) persons per million as the maximum acceptable incremental cancer risk due to TAC exposure from development proposals such as the proposed Project. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulatively considerable impact.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (2). In this report the AQMD states (Page D-3):

"…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

The SCAQMD has also established non-carcinogenic risk parameters for use in HRAs. Non-carcinogenic risks are quantified by calculating a "hazard index," expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). An REL is a concentration at or below which health effects are not likely to occur. A hazard index less of than one (1.0) means that adverse health effects are not expected. In this HRA, non-carcinogenic exposures of less than 1.0 are considered less-than-significant. Both the cancer risk and non-carcinogenic risk thresholds are applied to the nearest sensitive receptors below.

1.1 BACKGROUND AND PROJECT DESCRIPTION

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated herein coincide with the location and boundaries in the 2021 Specific Plan. Location of the Project is presented at Exhibit 1-A.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in here proposes a new amendment of the RHSP as described herein.

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This EIR evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

- Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
- Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.
- Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment.

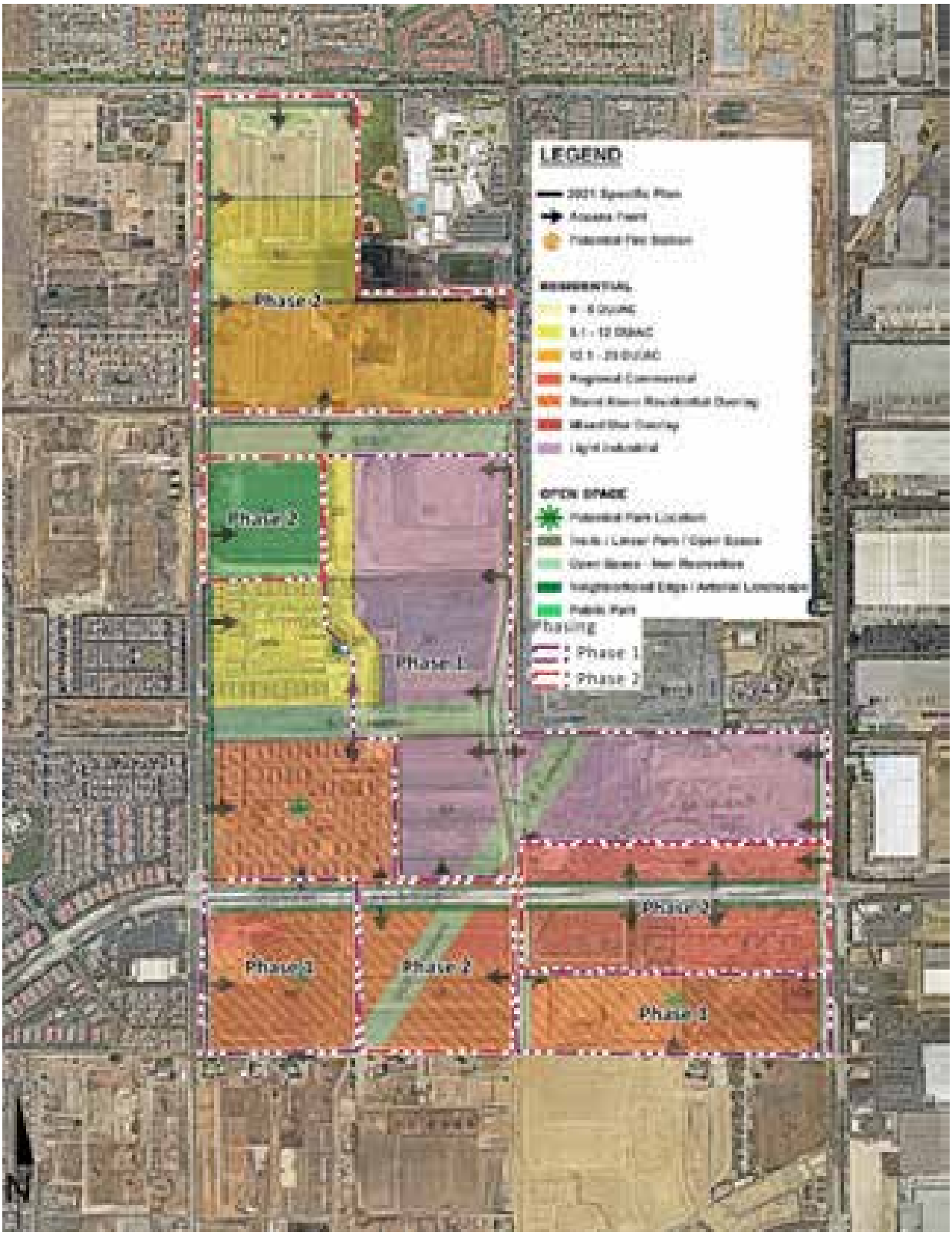
Note that portions of Planning Areas 3A and 4A within the Project site have been developed. Planning Areas 2, 3, 4A, 5C, 6, 10, and portions of 7, 8, and 9 are anticipated to be developed as part of the first phase with an anticipated Opening Year of 2024. Project Buildout and of Phase 2 is anticipated in Year 2027. Project Planning Areas and Phases are illustrated at Exhibit 1-B.

According to the *Rich-Haven Specific Plan, 2022 Amendment Traffic Analysis*, the proposed Project is anticipated to generate a total of 95,552 two-way vehicle trips per day including 94,408 two-way passenger vehicle trips and 1,144 two-way truck trips per day (in actual vehicles) (3).

EXHIBIT 1-A: LOCATION MAP



EXHIBIT 1-B: LAND USE PLAN



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2 BACKGROUND

2.1 BACKGROUND ON RECOMMENDED METHODOLOGY

This HRA is based on SCAQMD guidelines to produce conservative estimates of human health risk posed by exposure to DPM. The conservative nature of this analysis is due primarily to the following factors:

- The ARB-adopted diesel exhaust Unit Risk Factor (URF) of 300 in one million per µg/m3 is based upon the upper 95 percentile of estimated risk for each of the epidemiological studies utilized to develop the URF. Using the 95th percentile URF represents a very conservative (health-protective) risk posed by DPM because it represents breathing rates that are high for the human body (95% higher than the average population).
- The emissions derived assume that every truck accessing the Project site will idle for 15 minutes under the unmitigated scenario, and this is an overestimation of actual idling times and thus conservative.[2] The California Air Resources Board (CARB's) anti-idling requirements impose a 5-minute maximum idling time and therefore the analysis conservatively overestimates DPM emissions from idling by a factor of 3.

2.2 CONSTRUCTION HEALTH RISK ASSESSMENT

2.2.1 EMISSIONS CALCULATIONS

The emissions calculations for the construction HRA component are based on an assumed mix of construction equipment and hauling activity as presented in the *Rich-Haven Specific Plan, 2022 Amendment Air Quality Impact Analysis* ("technical study") prepared by Urban Crossroads, Inc. (4)

Construction related DPM emissions are expected to occur primarily as a function of heavy-duty construction equipment that would be operating on-site.

As discussed in the technical study, the Project would result in approximately 1,044 total working-days of construction activity. The construction duration by phase is shown on Table 2-1. A detailed summary of construction equipment assumptions by phase is provided at Table 2-2. The CalEEMod emissions outputs are presented in Appendix 2.1. The modeled emission sources for construction activity are illustrated on Exhibit 2-A.

[2] Although the Project is required to comply with ARB's idling limit of 5 minutes, staff at SCAQMD recommends that the on-site idling emissions should be estimated for 15 minutes of truck idling (personal communication, in person, with Jillian Wong, December 22, 2016), which would take into account on-site idling which occurs while the trucks are waiting to pull up to the truck bays, idling at the bays, idling at check-in and check-out, etc.

TABLE 2-1: CONSTRUCTION DURATION

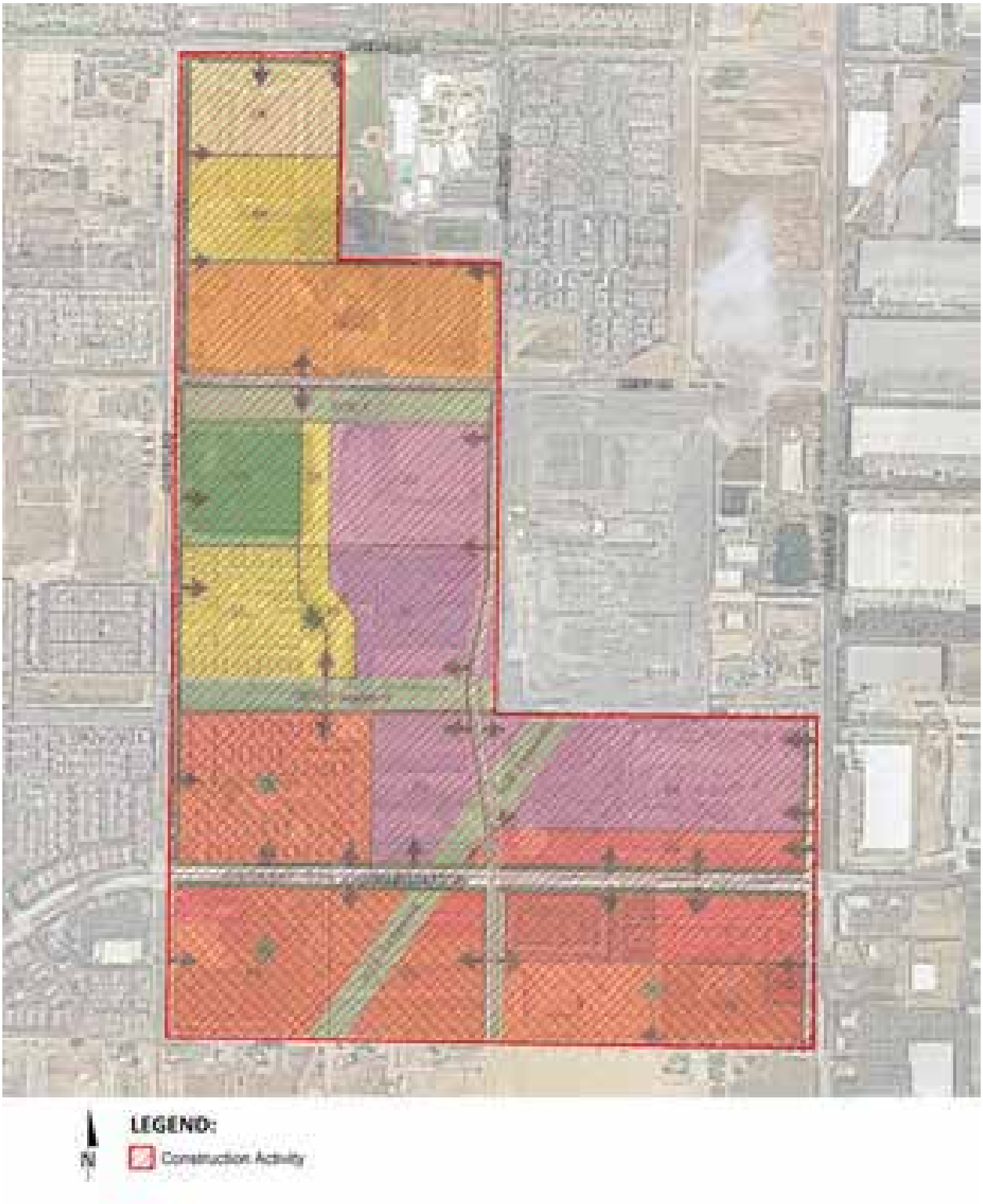
Phase	Construction Activity	Start Date	End Date	Days
Phase 1	Site Preparation	1/1/2023	4/30/2023	85
	Grading	5/1/2023	11/30/2023	154
	Building Construction	12/1/2023	12/31/2024	283
	Paving	9/1/2024	12/31/2024	87
	Architectural Coating	2/1/2024	12/31/2024	239
Phase 2	Demolition	1/1/2024	3/31/2024	65
	Site Preparation	4/1/2024	8/31/2024	110
	Grading	9/1/2024	4/30/2025	173
	Building Construction	5/1/2025	12/31/2026	436
	Paving	9/1/2026	12/31/2026	88
	Architectural Coating	6/1/2026	12/31/2026	154

TABLE 2-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase	Construction Activity	Equipment	Amount	Hours Per Day
Phase 1	Site Preparation	Rubber Tired Dozers	9	8
		Crawler Tractors	12	8
	Grading	Excavators	6	8
		Graders	3	8
		Rubber Tired Dozers	3	8
		Scrapers	6	8
		Crawler Tractors	6	8
	Building Construction	Cranes	3	8
		Forklifts	9	8
		Generator Sets	3	8
		Tractors/Loaders/Backhoes	9	8
		Welders	3	8
	Paving	Pavers	6	8
		Paving Equipment	6	8
		Rollers	6	8
	Architectural Coating	Air Compressors	3	8

Phase	Construction Activity	Equipment	Amount	Hours Per Day
Phase 2	Demolition	Concrete/Industrial Saws	3	8
		Excavators	9	8
		Rubber Tired Dozers	6	8
	Site Preparation	Rubber Tired Dozers	9	8
		Crawler Tractors	12	8
	Grading	Excavators	6	8
		Graders	3	8
		Rubber Tired Dozers	3	8
		Scrapers	6	8
		Crawler Tractors	6	8
	Building Construction	Cranes	3	8
		Forklifts	9	8
		Generator Sets	3	8
		Tractors/Loaders/Backhoes	9	8
		Welders	3	8
	Paving	Pavers	6	8
		Paving Equipment	6	8
		Rollers	6	8
	Architectural Coating	Air Compressors	3	8

EXHIBIT 2-A: MODELED CONSTRUCTION EMISSION SOURCES



2.3 OPERATIONAL HEALTH RISK ASSESSMENT

2.3.1 ON-SITE AND OFF-SITE TRUCK ACTIVITY

Vehicle DPM emissions were calculated using emission factors for particulate matter less than 10µm in diameter (PM_{10}) generated with the 2021 version of the EMission FACtor model (EMFAC) developed by the CARB. EMFAC 2021 is a mathematical model that CARB developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the ARB to project changes in future emissions from on-road mobile sources (5). The most recent version of this model, EMFAC 2021, incorporates regional motor vehicle data, information and estimates regarding the distribution of vehicle miles traveled (VMT) by speed, and number of starts per day.

Several distinct emission processes are included in EMFAC 2021. Emission factors calculated using EMFAC 2021 are expressed in units of grams per vehicle miles traveled (g/VMT) or grams per idle-hour (g/idle-hr), depending on the emission process. The emission processes and corresponding emission factor units associated with diesel particulate exhaust for this Project are presented below.

For this Project, annual average PM_{10} emission factors were generated by running EMFAC 2021 in EMFAC Mode for vehicles in the San Bernardino County jurisdiction. The EMFAC Mode generates emission factors in terms of grams of pollutant emitted per vehicle activity and can calculate a matrix of emission factors at specific values of temperature, relative humidity, and vehicle speed. The model was run for speeds traveled in the vicinity of the Project. The vehicle travel speeds for each segment modeled are summarized below.

- Idling – on-site loading/unloading and truck gate
- 5 miles per hour – on-site vehicle movement including driving and maneuvering
- 25 miles per hour – off-site vehicle movement including driving and maneuvering.

Calculated emission factors are shown at Table 2-3. As a conservative measure, a 2027 EMFAC run was conducted and a static 2027 emissions factor data set was used for the entire duration of analysis herein (e.g., 30 years). Use of 2027 emission factors would overstate potential impacts since this approach assumes that emission factors remain “static” and do not change over time due to fleet turnover or cleaner technology with lower emissions that would be incorporated into vehicles after 2027. Additionally, based on EMFAC 2021, Light-Heavy-Duty Trucks are comprised of 52.7% diesel, Medium-Heavy-Duty Trucks are comprised of 92.2% diesel, and Heavy-Heavy-Duty Trucks are comprised of 85.0% diesel. Trucks fueled by diesel are accounted for by these percentages accordingly in the emissions factor generation. Appendix 2.2 includes additional details on the emissions estimates from EMFAC.

The vehicle DPM exhaust emissions were calculated for running exhaust emissions. The running exhaust emissions were calculated by applying the running exhaust PM_{10} emission factor (g/VMT)

from EMFAC over the total distance traveled. The following equation was used to estimate off-site emissions for each of the different vehicle classes comprising the mobile sources (6):

$Emissions_{speedA}$ (g/s) = $EF_{RunExhaust}$ (g/VMT) * Distance (VMT/trip) * Number of Trips (trips/day) / seconds per day

Where:

$Emissions_{speedA}$ (g/s): Vehicle emissions at a given speed A;

$EF_{RunExhaust}$ (g/VMT): EMFAC running exhaust PM_{10} emission factor at speed A;

Distance (VMT/trip): Total distance traveled per trip.

Similar to off-site traffic, on-site vehicle running emissions were calculated by applying the running exhaust PM_{10} emission factor (g/VMT) from EMFAC and the total vehicle trip number over the length of the driving path using the same formula presented above for on-site emissions. In addition, on-site vehicle idling exhaust emissions were calculated by applying the idle exhaust PM_{10} emission factor (g/idle-hr) from EMFAC and the total truck trip over the total assumed idle time (15 minutes). The following equation was used to estimate the on-site vehicle idling emissions for each of the different vehicle classes (6):

$Emissions_{idle}$ (g/s) = EF_{idle} (g/hr) * Number of Trips (trips/day) * Idling Time (min/trip) *

60 minutes per hour / seconds per day

Where:

$Emissions_{idle}$ (g/s): Vehicle emissions during idling;

EF_{idle}(g/s): EMFAC idle exhaust PM_{10} emission factor.

TABLE 2-3: 2027 WEIGHTED AVERAGE DPM EMISSIONS FACTORS

Speed	Weighted Average
0 (idling)	0.08457 (g/idle-hr)
5	0.01690 (g/s)
25	0.00760 (g/s)

Each roadway was modeled as a line source (made up of multiple adjacent volume sources). Due to the large number of volume sources modeled for this analysis, the corresponding coordinates of each volume source have not been included in this report but are included in Appendix 2.3. The DPM emission rate for each volume source was calculated by multiplying the emission factor (based on the average travel speed along the roadway) by the number of trips and the distance traveled along each roadway segment and dividing the result by the number of volume sources along that roadway, as illustrated on Table 2-4. The modeled emission sources are illustrated on Exhibit 2-B for on-site sources and Exhibit 2-C for off-site sources. The modeling domain is limited to the Project's primary truck route and includes off-site sources in the study area for more than ¾ mile. This modeling domain is more inclusive and conservative than using only a ¼ mile modeling domain which is the distance supported by several reputable studies which conclude

that the greatest potential risks occur within a ¼ mile of the primary source of emissions (7) (in the case of the Project, the primary source of emissions is the on-site idling and on-site travel).

On-site truck idling was estimated to occur as trucks enter and travel through the Project site. Although the Project's diesel-fueled truck and equipment operators will be required by State law to comply with CARB's idling limit of 5 minutes, staff at SCAQMD recommends that the on-site idling emissions be calculated assuming 15 minutes of truck idling (8), which would take into account on-site idling which occurs while the trucks are waiting to pull up to the truck bays, idling at the bays, idling at check-in and check-out, etc. As such, this analysis calculates truck idling at 15 minutes, consistent with SCAQMD's recommendation.

As summarized in the *Rich-Haven Specific Plan, 2022 Amendment Traffic Analysis* prepared by Urban Crossroads, Inc., at buildout the Project is expected to generate a total of approximately 94,408 vehicular trips-ends per day (actual vehicles) which includes 1,144 two-way truck trips per day (9).

2.3.1 TRU SOURCE EMISSIONS

In order to account for the possibility of refrigerated uses, trucks associated with the cold-storage land use are assumed to also have TRUs. fFor modeling purposes it is assumed 174 trucks (348 two-way truck trips per day) have the potential to include TRUs. TRU traffic is consistent with and reflected in trip generation estimates presented in the Project Traffic Analysis (9) and AQIA (4). The cited analyses are appended to the Project EIR, or can be obtained by contacting the City of Ontario Planning Department.

TRUs are accounted for during on-site and off-site travel. The TRU calculations are based on EMFAC2021, developed by the CARB. EMFAC2021 does not provide emission rates per hour or mile as with the on-road emission model and only provides emission inventories. Emission results are produced in tons per day while all activity, fuel consumption and horsepower hours were reported at annual levels. The emission inventory is based on specific assumptions including the average horsepower rating of specific types of equipment and the hours of operation annually. These assumptions are not always consistent with assumptions used in the modeling of project level emissions. Therefore, the emissions inventory was converted into emission rates to accurately calculate emissions from TRU operation associated with project level details. This was accomplished by converting the annual horsepower hours to daily operational characteristics and converting the daily emission levels into hourly emission rates based on the total emission of each criteria pollutant by equipment type and the average daily hours of operation.

2.3.2 ON-SITE GASOLINE DISPENSING

Guidance and emission factors from South Coast Air Quality Management District's Risk Assessment Procedures for Rules 1041, 1401.1 and 212 (10) were utilized to model emissions resulting from gasoline dispensing facilities located in Planning Areas 4B, 5B, 5C, 6B, 8, and 10B.[3]

[3] The assumed assignment of 6 gasoline stations within the Specific Plan Area is provided only for establishing a potential maximum impact scenario. Independently, the Applicant has indicated that no more than 3 gas stations would be constructed under Project buildout conditions.

Consistent with this guidance, it was assumed that emissions from the gasoline dispensing facility would occur through vehicle refueling, hose permeation, tank loading and breathing, and spillage. Refueling and hose permeation emissions were modeled using volume sources with a release height of 1 meter and an initial vertical dimension of 2.33 meters. Loading and breathing emissions were modeled using point sources with a stack height of 3.66 meters and a stack diameter of 0.051 meters. Spillage emissions were modeled using volume sources with a release height of 0 meters and an initial vertical dimension of 2.33 meters.

EXHIBIT 2-B: MODELED ON-SITE EMISSION SOURCES

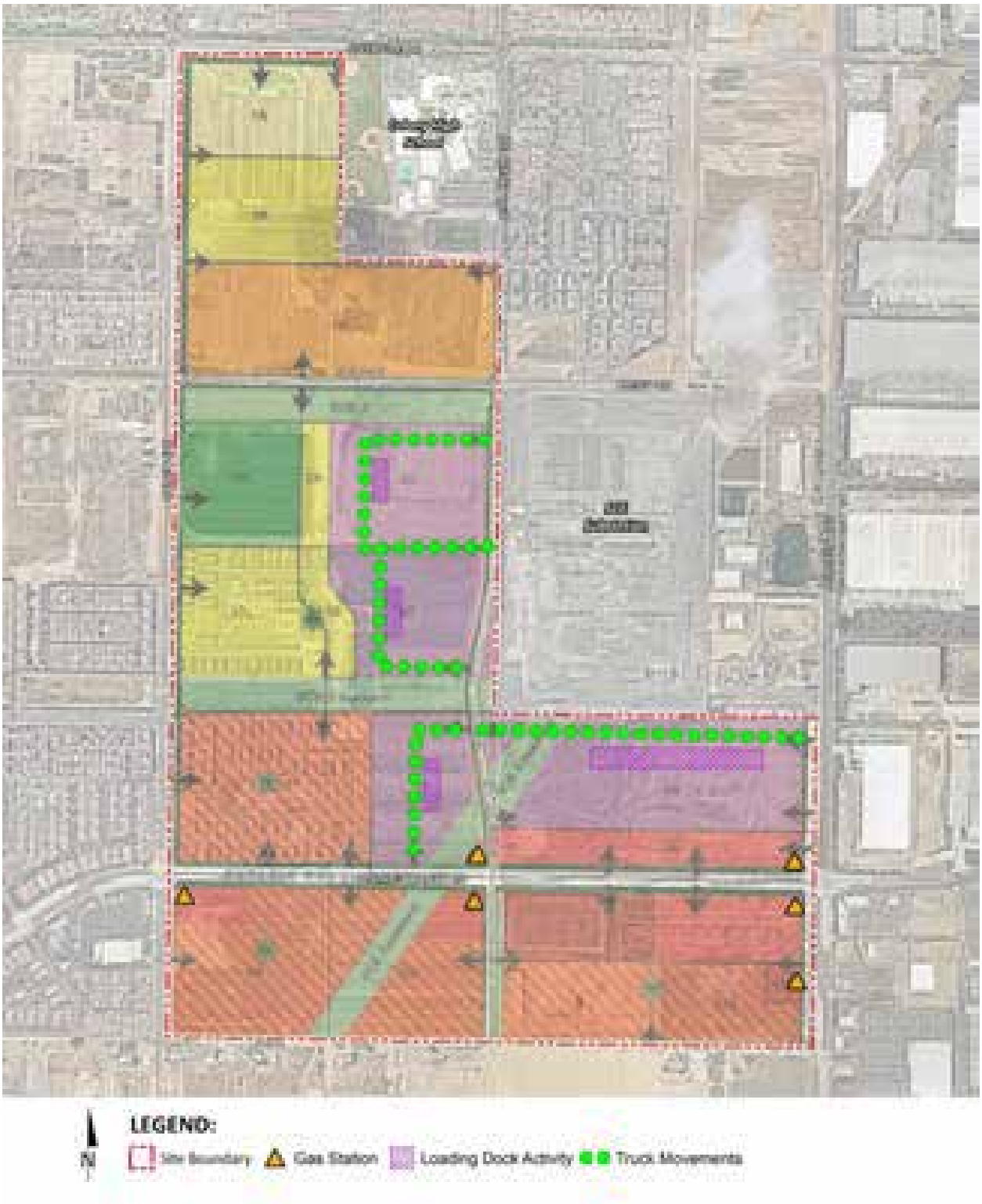


EXHIBIT 2-C: MODELED OFF-SITE EMISSION SOURCES

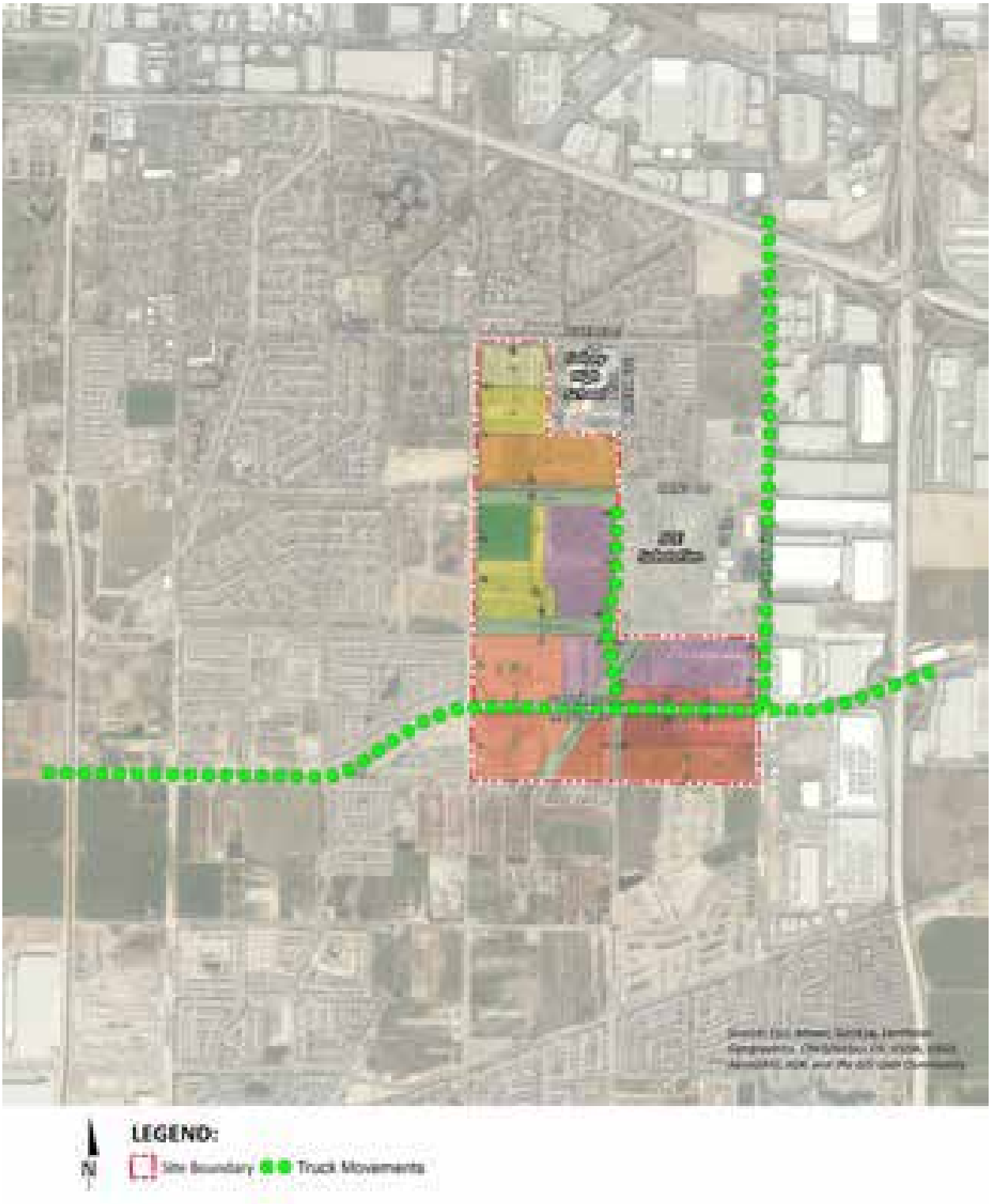


TABLE 2-4: DPM EMISSIONS FROM PROJECT TRUCKS (2027 ANALYSIS YEAR)

Truck Emission Rates						
Source	Trucks Per Day	VMT [a] (miles/day)	Truck Emission Rate [b] (grams/mile)	Truck Emission Rate [b] (grams/idle-hour)	Daily Truck Emissions [c] (grams/day)	Modeled Emission Rates (g/second)
On-Site Idling - PA 2C	120			0.0846	6.38	7.389E-05
On-Site Idling - PA 3C	120			0.0846	6.38	7.389E-05
On-Site Idling - PA 5A	120			0.0846	6.38	7.389E-05
On-Site Idling - PA 6A	204			0.0846	25.62	2.966E-04
On-Site Travel - PA 2C	241	127.95	0.0169		3.80	4.393E-05
On-Site Travel - PA 3C	241	117.74	0.0169		3.49	4.042E-05
On-Site Travel - PA 5A	241	72.17	0.0169		2.14	2.478E-05
On-Site Travel - PA 6A	408	203.58	0.0169		11.95	1.383E-04
Off-Site Travel - Mill Creek Ave. 2C/3C/5A 100% Inbound/Outbound	722	478.51	0.0076		4.86	5.621E-05
Off-Site Travel - Ontario Ranch Rd. 2C/3C/5A 15% Inbound/Outbound	108	219.96	0.0076		2.23	2.584E-05
Off-Site Travel - Ontario Ranch Rd. 2C/3C/5A 85% Inbound/Outbound	614	306.94	0.0076		3.12	3.606E-05
Off-Site Travel - Hamner Ave. 2C/3C/5A 25% Inbound/Outbound	181	299.92	0.0076		3.04	3.523E-05
Off-Site Travel - Ontario Ranch Rd. 2C/3C/5A 60% Inbound/Outbound	433	238.38	0.0076		2.42	2.800E-05
Off-Site Travel - Ontario Ranch Rd. 6A 15% Inbound/Outbound	61	124.30	0.0076		1.98	2.295E-05
Off-Site Travel - Ontario Ranch Rd. 6A 30% Inbound/Outbound	122	61.22	0.0076		0.98	1.130E-05
Off-Site Travel - Ontario Ranch Rd. 6A 60% Inbound/Outbound	245	134.71	0.0076		2.15	2.488E-05
Off-Site Travel - Hamner Ave. 6A 25% Inbound/Outbound	102	169.48	0.0076		2.70	3.130E-05
Off-Site Travel - Mill Creek Ave. 6A 45% Inbound/Outbound	184	39.85	0.0076		0.64	7.358E-06

[a] Vehicle miles traveled are for modeled truck route only.

[b] Emission rates determined using EMFAC 2021. Idle emission rates are expressed in grams per idle hour rather than grams per mile.

[c] This column includes the total truck travel and truck idle emissions. For idle emissions this column includes emissions based on the assumption that each truck idles for 15 minutes and each TRU operates for 30 minutes.

2.4 EXPOSURE QUANTIFICATION

The analysis herein has been conducted in accordance with the guidelines in the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (1). SCAQMD recommends using the Environmental Protection Agency's (U.S. EPA's) AERMOD model. For purposes of this analysis, the Lakes AERMOD View (Version 11.0.0) was used to calculate annual average particulate concentrations associated with site operations. Lakes AERMOD View was utilized to incorporate the U.S. EPA's latest AERMOD Version 22112 (11).

The model offers additional flexibility by allowing the user to assign an initial release height and vertical dispersion parameters for mobile sources representative of a roadway. For this HRA, the roadways were modeled as adjacent volume sources. Roadways were modeled using the U.S. EPA's haul route methodology for modeling of on-site and off-site truck movement. More specifically, the Haul Road Volume Source Calculator in Lakes AERMOD View has been utilized to determine the release height parameters. Based on the US EPA methodology, the Project's modeled sources would result in a release height of 3.49 meters, and an initial lateral dimension of 4.0 meters, and an initial vertical dimension of 3.25 meters.

SCAQMD-recommended model parameters are presented in Table 2-5. The model requires additional input parameters including emission data and local meteorology. Meteorological data from the SCAQMD's Ontario Airport monitoring station was used to represent local weather conditions and prevailing winds (12).

TABLE 2-5: AERMOD MODEL PARAMETERS

Dispersion Coefficient (Urban/Rural)	Urban (Population 2,035,210)
Terrain (Flat/Elevated)	Elevated (Regulatory Default)
Averaging Time	1 year (5-year Meteorological Data Set)
Receptor Height	0 meters (Regulatory Default)

Universal Transverse Mercator (UTM) coordinates for World Geodetic System (WGS) 84 were used to locate the Project site boundaries, each volume source location, and receptor locations in the Project site's vicinity. The AERMOD dispersion model summary output files for the proposed Project are presented in Appendix 2.3. Modeled sensitive receptors were placed at residential and non-residential locations.

Receptors may be placed at applicable structure locations for residential and worker property and not necessarily the boundaries of the properties containing these uses because the human receptors (residents and workers) spend a majority of their time at the residence or in the workplace's building, and not on the property line. It should be noted that the primary purpose of receptor placement is focused on long-term exposure. For example, the HRA evaluates the potential health risks to residents and workers over a period of 30 or 25 years of exposure, respectively. Notwithstanding, as a conservative measure, receptors were placed at either the outdoor living area or the building façade, whichever is closer to the Project site.

For purposes of this HRA, receptors include both residential and non-residential (school and worker) land uses in the vicinity of the Project. These receptors are included in the HRA since residents, schoolchildren, and workers may be exposed at these locations over a long-term duration of 30, 9, and 25 years, respectively. This methodology is consistent with SCAQMD and OEHHA recommended guidance.

Any impacts to residents or workers located further away from the Project site than the modeled residential and workers would have a lesser impact than what has already been disclosed in the HRA at the MEIR and MEIW because concentrations dissipate with distance.

Consistent with SCAQMD modeling guidance, all receptors were set to existing elevation height so that only ground-level concentrations are analyzed (13). United States Geological Survey (USGS) Digital Elevation Model (DEM) terrain data based on a 7.5-minute topographic quadrangle map series using AERMAP was utilized in the HRA modeling to set elevations (14).

For construction activity, discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the 2015 OEHHA Guidelines. Table 2-6 summarizes the exposure parameters for residents utilized to analyze impacts from Project construction based on 2015 OEHHA Guidelines. In order to estimate impacts from DPM and gasoline dispensing emissions during Project operational activities, health risk was calculated using CARB's Hotspots Analysis and Reporting Program (HARP2), version 22118 (15). HARP2 calculates cancer and non-cancer health risk based on the 2015 OEHHA Guidelines. Appendix 2.4 includes the detailed risk calculation and HARP2 model outputs.

TABLE 2-6: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (CONSTRUCTION ACTIVITY)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Fraction of Time at Home	Exposure Frequency (days/year)	Exposure Time (hours/day)
0 to 2	1,090	10	4.00	1.00	260	8

2.5 CARCINOGENIC CHEMICAL RISK

The SCAQMD CEQA Air Quality Handbook (1993) states that emissions of toxic air contaminants (TACs) are considered significant if a HRA shows an increased risk of greater than 10 in one million. Based on guidance from the SCAQMD in the document Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (1), for purposes of this analysis, 10 in one million is used as the cancer risk threshold for the proposed Project.

Excess cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens over a specified exposure duration. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). A risk level

of 10 in one million implies a likelihood that up to 10 people, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of toxic air contaminants over a specified duration of time.

Guidance from CARB and the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA) recommends a refinement to the standard point estimate approach when alternate human body weights and breathing rates are utilized to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose. Once determined, contaminant dose is multiplied by the cancer potency factor (CPF) in units of inverse dose expressed in milligrams per kilogram per day $(mg/kg/day)^{-1}$ to derive the cancer risk estimate. Therefore, to assess exposures, the following dose algorithm was utilized.

$$DOSEair = (Cair \times [BR/BW] \times A \times EF) \times (1 \times 10^{-6})$$

Where:

DOSEair = chronic daily intake (mg/kg/day)

Cair = concentration of contaminant in air ($\mu g/m^3$)

[BR/BW] = daily breathing rate normalized to body weight (L/kg BW-day)

A = inhalation absorption factor

EF = exposure frequency (days/365 days)

BW = body weight (kg)

1×10^{-6} = conversion factors (µg to mg, L to m^3)

$$RISKair = DOSEair \times CPF \times ED/AT$$

Where:

DOSEair = chronic daily intake (mg/kg/day)

CPF = cancer potency factor

ED = number of years within particular age group

AT = averaging time

2.6 NON-CARCINOGENIC EXPOSURES

An evaluation of the potential noncarcinogenic effects of chronic exposures was also conducted. Adverse health effects are evaluated by comparing a compound's annual concentration with its toxicity factor or Reference Exposure Level (REL). The REL for diesel particulates was obtained from OEHHA for this analysis. The chronic reference exposure level (REL) for DPM was established by OEHHA as 5 $\mu g/m^3$ (16).

The non-cancer hazard index was calculated (consistent with SCAQMD methodology) as follows:

The relationship for the non-cancer health effects of DPM is given by the following equation:

$$HI_{DPM} = C_{DPM}/REL_{DPM}$$

Where:

HI_{DPM} = Hazard Index; an expression of the potential for non-cancer health effects.

C_{DPM} = Annual average DPM concentration ($\mu g/m^3$).

REL_{DPM} = Reference exposure level (REL) for DPM; the DPM concentration at which no adverse health effects are anticipated.

For purposes of this analysis the hazard index for the respiratory endpoint totaled less than one for all receptors in the project vicinity, and thus is less than significant.

2.7 POTENTIAL PROJECT-RELATED TAC SOURCE CANCER AND NON-CANCER RISKS

CONSTRUCTION IMPACTS

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R5 which is an existing on-site residence located at 3959 S. Sunrise Avenue. R5 is placed at the private outdoor living area (backyard) facing the Project site. At the MEIR, the maximum incremental cancer risk attributable to Project construction-source DPM emissions is estimated at 1.21 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for this location. The nearest modeled receptors are illustrated on Exhibit 2-D.

OPERATIONAL IMPACTS

Residential Exposure Scenario:

The residential land use with the greatest potential exposure to Project operational-source TAC emissions is Location R5 which is an existing on-site residence located at 3959 S. Sunrise Avenue. R5 is placed at the private outdoor living area (backyard) facing the Project site. At the MEIR, the maximum incremental cancer risk attributable to Project operational-source TAC emissions is estimated at 4.77 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.03, which would not exceed the applicable significance threshold of 1.0. Because all other modeled residential receptors are exposed to lesser concentrations and are located at a greater distance from the Project site and primary truck route than the MEIR analyzed herein, and TACs generally dissipates with distance from the source, all other residential receptors in the vicinity of the Project site

would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby residences. The nearest modeled receptors are illustrated on Exhibit 2-D.

Worker Exposure Scenario[4]*:*

The worker receptor land use with the greatest potential exposure to Project operational-source DPM emissions is Location R9, which represents the potential worker receptor located approximately 201 feet east of the Project site. At the MEIW, the maximum incremental cancer risk impact is 0.94 in one million which is less than the SCAQMD's threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be 0.06, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyzed herein, and TACs dissipates with distance from the source, all other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent workers. The nearest modeled receptors are illustrated on Exhibit 2-D.

School Child Exposure Scenario:

The nearest school is Colony High School, which is located adjacent to the Project site to the north. At the MEISC, the maximum incremental cancer risk impact attributable to the Project is calculated to be 0.37 in one million, which is less than the significance threshold of 10 in one million. At this same location, non-cancer risks attributable to the Project were calculated to be 0.01, which would not exceed the applicable significance threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to nearby school children.

COMBINED CONSTRUCTION AND OPERATIONAL IMPACTS

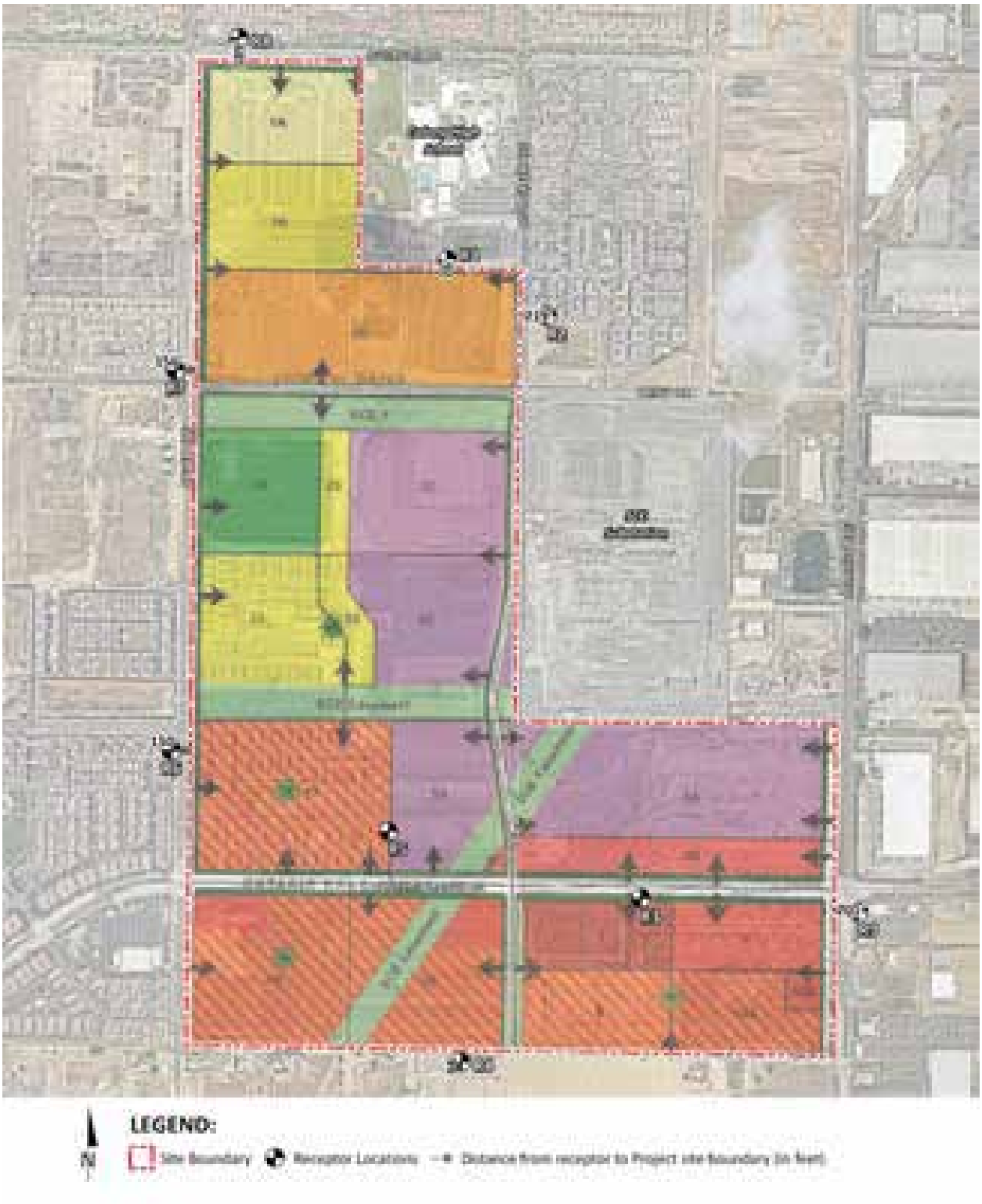
Over the life of the Project, it is possible that certain nearby residents and workers could be subject to the combined effects of construction-source and operational-source TACs. The land use with the greatest potential exposure to combined construction-source and operational-source TACs is Location R5. At the MEIR, the maximum incremental cancer risk attributable to combined Project construction and operational TAC emissions is estimated at 5.98 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.03, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction and operational activity. All other receptors during construction and operational activity would experience less risk than what is identified for this location. The nearest modeled receptors are illustrated on Exhibit 2-D.

It should be noted that the receptors presented in Exhibit 2-D do not represent all modeled

4 SCAQMD guidance does not require assessment of the potential health risk to on-site workers. Excerpts from the document OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines—The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003), also indicate that it is not necessary to examine the health effects to on-site workers unless required by RCRA (Resource Conservation and Recovery Act) / CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or the worker resides on-site.

receptors.

EXHIBIT 2-D: RECEPTOR LOCATIONS



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3 REFERENCES

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4 CERTIFICATIONS

The contents of this health risk assessment represent an accurate depiction of the impacts to sensitive receptors associated with the proposed Rich-Haven Specific Plan, 2022 Amendment Project. The information contained in this health risk assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me at (949) 660-1994.

Haseeb Qureshi
Associate Principal
URBAN CROSSROADS, INC.
(949) 660-1994
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June 2013
Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
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APPENDIX 2.1:

CALEEMOD OUTPUTS

14822 Rich Haven Ph1 Construction Mitigated Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Construction Mitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01192837529811, -117.57074736445445
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.8	70.1	97.7	491	0.25	0.98	65.7	66.6	0.94	15.6	16.5	—	96,362	96,362	4.59	4.79	314	98,220

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	29.4	68.6	102	394	0.25	0.98	65.7	66.6	0.94	15.6	16.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	20.2	45.0	62.5	273	0.16	0.57	45.5	46.1	0.55	10.8	11.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.69	8.21	11.4	49.8	0.03	0.10	8.31	8.41	0.10	1.97	2.07	—	10,345	10,345	0.53	0.56	15.8	10,541

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.80	3.03	70.4	120	0.25	0.68	19.0	19.4	0.66	8.58	8.96	—	29,743	29,743	1.59	1.48	27.8	30,251
2024	30.8	70.1	97.7	491	0.24	0.98	65.7	66.6	0.94	15.6	16.5	—	96,362	96,362	4.59	4.79	314	98,220
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	25.2	21.7	74.5	329	0.25	0.68	55.0	55.6	0.66	13.1	13.6	—	76,040	76,040	4.18	4.36	7.50	77,450
2024	29.4	68.6	102	394	0.24	0.98	65.7	66.6	0.94	15.6	16.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.78	3.14	46.9	93.5	0.16	0.41	12.4	12.8	0.40	4.37	4.77	—	22,333	22,333	1.18	1.09	14.3	22,702
2024	20.2	45.0	62.5	273	0.15	0.57	45.5	46.1	0.55	10.8	11.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.69	0.57	8.56	17.1	0.03	0.07	2.26	2.34	0.07	0.80	0.87	—	3,698	3,698	0.20	0.18	2.38	3

2024	3.69	8.21	11.4	49.8	0.03	0.10	8.31	8.41	0.10	1.97	2.07	—	10,345	10,345	0.53	0.56	15.8	10,541

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.47	0.47	11.0	20.9	0.04	0.07	—	0.07	0.07	—	0.07	—	3,863	3,863	0.16	0.03	—	3,877
Dust From Material Movement	—	—	—	—	—	—	3.96	3.96	—	1.88	1.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	2.00	3.82	0.01	0.01	—	0.01	0.01	—	0.01	—	640	640	0.03	0.01	—	642
Dust From Material Movement	—	—	—	—	—	—	0.72	0.72	—	0.34	0.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.28	4.86	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	771	771	0.03	0.03	3.31	783
Vendor	0.54	0.14	5.72	3.08	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,817	4,817	0.40	0.71	13.3	5,052
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.32	3.65	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	707	707	0.03	0.03	0.09	715
Vendor	0.53	0.13	5.94	3.13	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,819	4,819	0.40	0.71	0.35	5,042
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.90	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	167	167	0.01	0.01	0.33	169

Vendor	0.13	0.03	1.39	0.72	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	1,122	1,122	0.09	0.17	1.34	1,175
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	27.6	27.6	< 0.005	< 0.005	0.06	28.0
Vendor	0.02	0.01	0.25	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	186	186	0.02	0.03	0.22	195
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	1.04	25.2	45.8	0.08	0.23	—	0.23	0.23	—	0.23	—	8,500	8,500	0.34	0.07	—	8,529
Dust From Material Movement	—	—	—	—	—	—	3.38	3.38	—	1.24	1.24	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	4.60	8.36	0.01	0.04	—	0.04	0.04	—	0.04	—	1,407	1,407	0.06	0.01	—	1,412
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.32	5.55	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	881	881	0.04	0.03	3.78	895
Vendor	0.98	0.24	10.3	5.58	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,715	8,715	0.73	1.29	24.1	9,140
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.37	4.18	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	808	808	0.04	0.03	0.10	818
Vendor	0.97	0.23	10.7	5.66	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,719	8,719	0.73	1.29	0.63	9,122

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.86	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	346	346	0.02	0.01	0.69	350
Vendor	0.41	0.10	4.56	2.37	0.03	0.05	0.21	0.26	0.05	0.08	0.13	—	3,678	3,678	0.31	0.54	4.40	3,851
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.34	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	57.2	57.2	< 0.005	< 0.005	0.11	58.0
Vendor	0.07	0.02	0.83	0.43	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	609	609	0.05	0.09	0.73	638
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.9	48.6	0.08	0.38	—	0.38	0.36	—	0.36	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	1.87	2.95	< 0.005	0.02	—	0.02	0.02	—	0.02	—	479	479	0.02	< 0.005	—	480
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.34	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	79.2	79.2	< 0.005	< 0.005	—	79.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.0	19.9	23.9	270	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	52,139	52,139	2.52	1.92	6.35	52,781
Vendor	1.77	0.42	19.7	10.4	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	16,011	16,011	1.34	2.37	1.15	16,752
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.33	1.20	1.45	17.3	0.00	0.00	0.19	0.19	0.00	0.00	0.00	—	3,208	3,208	0.15	0.12	6.41	3,253
Vendor	0.11	0.03	1.21	0.63	0.01	0.01	0.06	0.07	0.01	0.02	0.03	—	971	971	0.08	0.14	1.16	1,017
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.22	0.27	3.16	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	531	531	0.03	0.02	1.06	539
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	161	161	0.01	0.02	0.19	168
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.96	22.1	34.8	0.05	0.27	—	0.27	0.25	—	0.25	—	5,652	5,652	0.23	0.05	—	5,671
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.17	4.03	6.35	0.01	0.05	—	0.05	0.05	—	0.05	—	936	936	0.04	0.01	—	939
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.2	20.3	18.8	328	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	55,768	55,768	2.35	1.92	223	56,622
Vendor	1.68	0.45	18.2	9.74	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,833	15,833	1.22	2.36	44.2	16,611
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	21.1	19.1	22.1	248	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	51,115	51,115	2.43	1.92	5.78	51,755
Vendor	1.65	0.42	18.9	9.88	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,840	15,840	1.22	2.36	1.14	16,575
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	15.0	13.5	15.8	186	0.00	0.00	2.26	2.26	0.00	0.00	0.00	—	37,129	37,129	1.74	1.38	68.9	37,652
Vendor	1.19	0.31	13.6	7.04	0.08	0.16	0.65	0.81	0.16	0.24	0.41	—	11,342	11,342	0.87	1.69	13.6	11,882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.73	2.47	2.89	34.0	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,147	6,147	0.29	0.23	11.4	6,234
Vendor	0.22	0.06	2.49	1.28	0.01	0.03	0.12	0.15	0.03	0.04	0.07	—	1,878	1,878	0.14	0.28	2.25	1,967
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	5.15	7.58	0.01	0.06	—	0.06	0.06	—	0.06	—	1,081	1,081	0.04	0.01	—	1,085
Paving	—	0.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.94	1.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	179	179	0.01	< 0.005	—	180
Paving	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.22	3.81	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	648	648	0.03	0.02	2.59	658
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.72	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	144	144	0.01	0.01	0.27	146
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.8	23.8	< 0.005	< 0.005	0.04	24.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	41.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536

Architect Coatings	—	41.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	2.80	2.52	< 0.005	0.08	—	0.08	0.07	—	0.07	—	350	350	0.01	< 0.005	—	351
Architectural Coatings	—	27.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.51	0.46	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.9	57.9	< 0.005	< 0.005	—	58.1
Architectural Coatings	—	4.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.44	4.06	3.76	65.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	11,154	11,154	0.47	0.38	44.6	11,324
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.22	3.82	4.42	49.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	10,223	10,223	0.49	0.38	1.16	10,351
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.74	2.48	2.90	34.1	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,789	6,789	0.32	0.25	12.6	6,884
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.50	0.45	0.53	6.22	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,124	1,124	0.05	0.04	2.09	1,140
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2023	4/30/2023	5.00	85.0	—
Grading	Grading	5/1/2023	11/30/2023	5.00	154	—

Building Construction	Building Construction	12/1/2023	12/31/2024	5.00	283	—
Paving	Paving	9/1/2024	12/31/2024	5.00	87.0	—
Architectural Coating	Architectural Coating	2/1/2024	12/31/2024	5.00	239	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	9.00	8.00	367	0.40
Grading	Excavators	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Interim	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Tier 4 Interim	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	152	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	275	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3,874	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	505	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	775	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	10,305,711	3,435,237	4,496,411	1,498,804	151,589

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	1,700	0.00	—
Grading	—	—	3,080	0.00	—
Paving	0.00	0.00	0.00	0.00	67.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Office Park	0.00	0%
Refrigerated Warehouse-No Rail	0.00	0%
Unrefrigerated Warehouse-No Rail	0.00	0%

Condo/Townhouse	—	0%
Single Family Housing	9.06	0%
Strip Mall	0.00	0%
Gasoline/Service Station	0.00	0%
Regional Shopping Center	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Parking Lot	58.0	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

4509

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

4510

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

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Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

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Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site plan
Construction: Construction Phases	Schedule adjusted based on data from the Project team.
Construction: Off-Road Equipment	Equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Construction Mitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01284450351814, -117.57158813842331
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.0	49.3	73.1	256	0.21	0.85	32.3	33.1	0.81	8.35	8.69	—	51,709	51,709	2.35	2.23	127	52,561
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.4	48.6	74.4	215	0.21	0.85	32.3	33.1	0.81	7.65	8.45	—	49,051	49,051	2.00	2.28	3.30	49,771
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.60	22.7	41.8	134	0.12	0.45	21.0	21.5	0.43	4.98	5.41	—	31,329	31,329	1.21	1.55	36.6	31,850

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	4.15	7.62	24.5	0.02	0.08	3.84	3.92	0.08	0.91	0.99	—	5,187	5,187	0.20	0.26	6.06	5,273

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.09	2.85	63.2	115	0.21	0.59	18.1	18.5	0.58	8.35	8.69	—	23,736	23,736	1.06	0.60	11.1	23,953
2025	11.7	10.2	63.0	201	0.21	0.59	26.7	27.2	0.58	6.34	6.79	—	41,436	41,436	1.96	2.03	118	42,209
2026	14.0	49.3	73.1	256	0.17	0.85	32.3	33.1	0.81	7.65	8.45	—	51,709	51,709	2.35	2.23	127	52,561
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.07	2.83	63.3	114	0.21	0.63	9.53	10.1	0.59	3.33	3.91	—	23,665	23,665	1.07	0.60	0.29	23,871
2025	11.2	9.69	63.1	164	0.21	0.59	26.7	27.2	0.58	6.34	6.79	—	39,212	39,212	2.00	2.03	3.07	39,870
2026	13.4	48.6	74.4	215	0.17	0.85	32.3	33.1	0.81	7.65	8.45	—	49,051	49,051	1.46	2.28	3.30	49,771
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.78	1.64	36.7	66.2	0.12	0.35	7.96	8.31	0.34	3.36	3.70	—	13,571	13,571	0.61	0.33	2.63	13,686
2025	6.03	5.24	38.2	108	0.11	0.36	14.9	15.2	0.35	3.78	4.13	—	24,512	24,512	1.21	1.11	25.6	24,900
2026	8.60	22.7	41.8	134	0.10	0.45	21.0	21.5	0.43	4.98	5.41	—	31,329	31,329	0.92	1.55	36.6	31,850
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.30	6.71	12.1	0.02	0.06	1.45	1.52	0.06	0.61	0.68	—	2,247	2,247	0.10	0.05	0.44	2,266
2025	1.10	0.96	6.97	19.8	0.02	0.07	2.72	2.78	0.06	0.69	0.75	—	4,058	4,058	0.20	0.18	4.24	4,122
2026	1.57	4.15	7.62	24.5	0.02	0.08	3.84	3.92	0.08	0.91	0.99	—	5,187	5,187	0.15	0.26	6.06	5,273

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.24	1.24	35.7	54.5	0.10	0.60	—	0.60	0.57	—	0.57	—	10,276	10,276	0.42	0.08	—	10,311
Demolition	—	—	—	—	—	—	0.30	0.30	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.22	6.36	9.71	0.02	0.11	—	0.11	0.10	—	0.10	—	1,830	1,830	0.07	0.01	—	1,836
Demolition	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.16	1.77	< 0.005	0.02	—	0.02	0.02	—	0.02	—	303	303	0.01	< 0.005	—	304
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601
Vendor	0.11	0.03	1.24	0.65	0.01	0.01	0.06	0.07	0.01	0.02	0.04	—	1,035	1,035	0.08	0.15	0.07	1,083
Hauling	0.05	0.01	0.48	0.26	< 0.005	0.01	0.03	0.04	< 0.005	0.01	0.01	—	374	374	0.04	0.06	0.02	393
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.54	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	107	107	0.01	< 0.005	0.20	109
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	184	184	0.01	0.03	0.22	193
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	66.6	66.6	0.01	0.01	0.06	70.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.8	17.8	< 0.005	< 0.005	0.03	18.0
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	0.04	32.0
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.6

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,588	16,588	0.67	0.13	—	16,644
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.61	14.2	27.1	0.05	0.09	—	0.09	0.09	—	0.09	—	4,999	4,999	0.20	0.04	—	5,016
Dust From Material Movement	—	—	—	—	—	—	5.12	5.12	—	2.43	2.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.59	4.94	0.01	0.02	—	0.02	0.02	—	0.02	—	828	828	0.03	0.01	—	830
Dust From Material Movement	—	—	—	—	—	—	0.93	0.93	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.25	4.44	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	756	756	0.03	0.03	3.02	767

Vendor	0.18	0.05	1.98	1.06	0.01	0.02	0.10	0.12	0.02	0.04	0.06	—	1,724	1,724	0.13	0.26	4.81	1,809
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.06	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	212	212	0.01	0.01	0.39	215
Vendor	0.05	0.01	0.62	0.32	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	520	520	0.04	0.08	0.62	544
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.19	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	35.1	35.1	< 0.005	< 0.005	0.07	35.5
Vendor	0.01	< 0.005	0.11	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	86.1	86.1	0.01	0.01	0.10	90.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.59	14.3	25.9	0.04	0.13	—	0.13	0.13	—	0.13	—	4,810	4,810	0.20	0.04	—	4,826
Dust From Material Movement	—	—	—	—	—	—	1.91	1.91	—	0.70	0.70	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.60	4.73	0.01	0.02	—	0.02	0.02	—	0.02	—	796	796	0.03	0.01	—	799
Dust From Material Movement	—	—	—	—	—	—	0.35	0.35	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.29	5.08	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	864	864	0.04	0.03	3.45	877

Vendor	0.29	0.08	3.13	1.68	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,728	2,728	0.21	0.41	7.61	2,862
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.30	0.34	3.84	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	792	792	0.04	0.03	0.09	802
Vendor	0.28	0.07	3.26	1.70	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,729	2,729	0.21	0.41	0.20	2,856
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.96	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	192	192	0.01	0.01	0.36	194
Vendor	0.07	0.02	0.78	0.40	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	651	651	0.05	0.10	0.78	682
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	31.7	31.7	< 0.005	< 0.005	0.06	32.2
Vendor	0.01	< 0.005	0.14	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	108	108	0.01	0.02	0.13	113
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215

Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.58	14.0	25.5	0.04	0.13	—	0.13	0.13	—	0.13	—	4,731	4,731	0.19	0.04	—	4,747
Dust From Material Movement	—	—	—	—	—	—	1.88	1.88	—	0.69	0.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.56	4.65	0.01	0.02	—	0.02	0.02	—	0.02	—	783	783	0.03	0.01	—	786
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.28	0.26	4.67	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	845	845	0.04	0.03	3.14	858
Vendor	0.27	0.08	2.98	1.61	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,684	2,684	0.21	0.41	7.55	2,818
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.29	3.52	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	775	775	0.04	0.03	0.08	785
Vendor	0.26	0.07	3.11	1.62	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,685	2,685	0.21	0.41	0.20	2,812
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.87	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	185	185	0.01	0.01	0.32	187
Vendor	0.06	0.02	0.74	0.38	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	630	630	0.05	0.10	0.77	661
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	30.6	30.6	< 0.005	< 0.005	0.05	31.0
Vendor	0.01	< 0.005	0.13	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	104	104	0.01	0.02	0.13	109
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.64	14.8	23.3	0.04	0.18	—	0.18	0.17	—	0.17	—	3,783	3,783	0.15	0.03	—	3,796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.70	4.25	0.01	0.03	—	0.03	0.03	—	0.03	—	626	626	0.03	0.01	—	629
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.66	8.72	8.36	148	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,789	26,789	1.11	0.94	99.4	27,197
Vendor	0.67	0.19	7.50	4.06	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,756	6,756	0.52	1.02	19.0	7,093
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.17	9.22	112	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,561	24,561	1.15	0.94	2.57	24,873

Vendor	0.66	0.18	7.84	4.07	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,760	6,760	0.52	1.02	0.49	7,078
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.33	3.86	4.79	56.5	0.00	0.00	0.74	0.74	0.00	0.00	0.00	—	11,942	11,942	0.55	0.45	20.6	12,111
Vendor	0.32	0.09	3.78	1.93	0.02	0.05	0.19	0.24	0.05	0.07	0.12	—	3,240	3,240	0.25	0.49	3.95	3,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.70	0.87	10.3	0.00	0.00	0.14	0.14	0.00	0.00	0.00	—	1,977	1,977	0.09	0.07	3.41	2,005
Vendor	0.06	0.02	0.69	0.35	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	536	536	0.04	0.08	0.65	562
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.95	22.0	34.7	0.05	0.26	—	0.26	0.25	—	0.25	—	5,635	5,635	0.23	0.05	—	5,655
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.17	4.02	6.33	0.01	0.05	—	0.05	0.05	—	0.05	—	933	933	0.04	0.01	—	936
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.22	7.50	137	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,242	26,242	1.11	0.90	89.8	26,628
Vendor	0.67	0.14	7.18	3.89	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,643	6,643	0.47	1.02	17.5	6,977
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	8.61	7.67	8.36	103	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,066	24,066	0.38	0.94	2.33	24,359
Vendor	0.66	0.13	7.47	3.95	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,647	6,647	0.47	1.02	0.45	6,964
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.15	5.48	6.53	77.7	0.00	0.00	1.11	1.11	0.00	0.00	0.00	—	17,431	17,431	0.27	0.67	27.7	17,666
Vendor	0.47	0.09	5.37	2.80	0.04	0.07	0.28	0.35	0.07	0.11	0.18	—	4,746	4,746	0.34	0.73	5.38	4,978
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.12	1.00	1.19	14.2	0.00	0.00	0.20	0.20	0.00	0.00	0.00	—	2,886	2,886	0.04	0.11	4.59	2,925

Vendor	0.09	0.02	0.98	0.51	0.01	0.01	0.05	0.06	0.01	0.02	0.03	—	786	786	0.06	0.12	0.89	824
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	5.21	7.67	0.01	0.06	—	0.06	0.06	—	0.06	—	1,093	1,093	0.04	0.01	—	1,096
Paving	—	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.95	1.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	181	181	0.01	< 0.005	—	182
Paving	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.19	0.18	3.24	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	621	621	0.03	0.02	2.13	630
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.20	2.45	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	570	570	0.01	0.02	0.06	577
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.62	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	139	139	< 0.005	0.01	0.22	141
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.1	23.1	< 0.005	< 0.005	0.04	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	35.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	35.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.80	1.63	< 0.005	0.05	—	0.05	0.05	—	0.05	—	225	225	0.01	< 0.005	—	226
Architectural Coatings	—	14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.33	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.3	37.3	< 0.005	< 0.005	—	37.4

Architect Coatings	—	2.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.64	1.50	27.4	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	5,248	5,248	0.22	0.18	18.0	5,326
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.72	1.53	1.67	20.7	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	4,813	4,813	0.08	0.19	0.47	4,872
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.65	0.77	9.18	0.00	0.00	0.13	0.13	0.00	0.00	0.00	—	2,059	2,059	0.03	0.08	3.27	2,087
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.14	1.68	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	341	341	0.01	0.01	0.54	346
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

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4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2024	3/31/2024	5.00	65.0	—
Site Preparation	Site Preparation	4/1/2024	8/31/2024	5.00	110	—
Grading	Grading	9/1/2024	4/30/2025	5.00	173	—
Building Construction	Building Construction	5/1/2025	12/31/2026	5.00	436	—
Paving	Paving	9/1/2026	12/31/2026	5.00	88.0	—
Architectural Coating	Architectural Coating	6/1/2026	12/31/2026	5.00	154	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	3.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	9.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	6.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	9.00	8.00	367	0.40

Grading	Excavators	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Interim	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Tier 4 Interim	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	45.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	33.0	10.2	HHDT,MHDT
Demolition	Hauling	5.31	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2

Site Preparation	Vendor	55.0	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	87.0	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,901	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	219	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	380	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	6,674,096	2,224,699	1,062,144	354,048	142,363

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	30,000	—
Site Preparation	—	—	2,200	0.00	—
Grading	—	—	3,460	0.00	—
Paving	0.00	0.00	0.00	0.00	61.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	6.64	0%
Condo/Townhouse	—	0%
City Park	0.00	0%
Regional Shopping Center	0.00	0%

High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Gasoline/Service Station	0.00	0%
Parking Lot	54.5	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859

Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—

4550

Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site area
Construction: Construction Phases	Construction schedule based on info from the Project team
Construction: Off-Road Equipment	Construction equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings.

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APPENDIX 2.2:

EMFAC EMISSIONS SUMMARY

Emissions	Phase	Lb/Day	# Days	Emissions	Avg/Lb Day	Avg/Hourly
On-Site	Site Preparation	2.53	10	25.3	2.53	0.31625
Exhaust PM-10	Grading	1.96	30	58.8	1.96	0.245
	Building Construction	1.61	200	322	1.61	0.20125
	Paving	0.39	20	7.8	0.39	0.04875
	Architectural Coatings	0.04	40	1.6	0.04	0.005
		6.53	240	415.5	1.73125	0.21640625
Off-Site	Site Preparation	1.00E-02	10	0.1	0.01	0.00125
Exhaust PM-10	Grading	2.00E-02	30	0.6	0.02	0.0025
	Building Construction	7.00E-02	200	14	0.07	0.00875
	Paving	0.00E+00	20	0	0	0
	Architectural Coatings	0.00E+00	40	0	0	0
		1.00E-01	240	14.7	0.06125	0.00765625

Phase	Start Date	End Date	No. Days
Site Preparation	9/5/2023	9/18/2023	10
Grading	9/19/2023	10/30/2023	30
Building Construction	10/31/2023	8/5/2024	200
Paving	7/9/2024	8/5/2024	20
Arch Coatings	6/11/2024	8/5/2024	40
		Total Days of Construction	**240**

AVERAGE EMISSION FACTOR
SAN BERNARDINO COUNTY 2027

Speed	LHD1	LHD2	MHD	HHD
0	0.321049	0.518709	0.030022	0.01143
5	0.032511	0.048813	0.018367	0.01076
25	0.015365	0.023804	0.005139	0.00521

Speed	**Weighted Average Emissions**
0	**0.08457**
5	**0.01690**
25	**0.00760**

Truck Emission Rates						
Source	Trucks Per Day	VMT [a] (miles/day)	Truck Emission Rate [b] (grams/mile)	Truck Emission Rate [b] (grams/idle-hour)	Daily Truck Emissions [c] (grams/day)	Modeled Emission Rates (g/second)
On-Site Idling - PA 2C	120			0.0846	6.38	7.389E-05
On-Site Idling - PA 3C	120			0.0846	6.38	7.389E-05
On-Site Idling - PA 5A	120			0.0846	6.38	7.389E-05
On-Site Idling - PA 6A	204			0.0846	25.62	2.966E-04
On-Site Travel - PA 2C	241	127.95	0.0169		3.80	4.393E-05
On-Site Travel - PA 3C	241	117.74	0.0169		3.49	4.042E-05
On-Site Travel - PA 5A	241	72.17	0.0169		2.14	2.478E-05
On-Site Travel - PA 6A	408	203.58	0.0169		11.95	1.383E-04
Off-Site Travel - Mill Creek Ave. 2C/3C/5A 100% Inbound/Outbound	722	478.51	0.0076		4.86	5.621E-05
Off-Site Travel - Ontario Ranch Rd. 2C/3C/5A 15% Inbound/Outbound	108	219.96	0.0076		2.23	2.584E-05
Off-Site Travel - Ontario Ranch Rd. 2C/3C/5A 85% Inbound/Outbound	614	306.94	0.0076		3.12	3.606E-05
Off-Site Travel - Hamner Ave. 2C/3C/5A 25% Inbound/Outbound	181	299.92	0.0076		3.04	3.523E-05
Off-Site Travel - Ontario Ranch Rd. 2C/3C/5A 60% Inbound/Outbound	433	238.38	0.0076		2.42	2.800E-05
Off-Site Travel - Ontario Ranch Rd. 6A 15% Inbound/Outbound	61	124.30	0.0076		1.98	2.295E-05
Off-Site Travel - Ontario Ranch Rd. 6A 30% Inbound/Outbound	122	61.22	0.0076		0.98	1.130E-05
Off-Site Travel - Ontario Ranch Rd. 6A 60% Inbound/Outbound	245	134.71	0.0076		2.15	2.488E-05
Off-Site Travel - Hamner Ave. 6A 25% Inbound/Outbound	102	169.48	0.0076		2.70	3.130E-05
Off-Site Travel - Mill Creek Ave. 6A 45% Inbound/Outbound	184	39.85	0.0076		0.64	7.358E-06

[a] Vehicle miles traveled are for modeled truck route only.

[b] Emission rates determined using EMFAC 2021. Idle emission rates are expressed in grams per idle hour rather than grams per mile.

[c] This column includes the total truck travel and truck idle emissions. For idle emissions this column includes emissions based on the assumption that each truck idles for 15 minutes and each TRU operates for 30 minutes.

calendar_y	season_m	sub_area	vehicle_class	fuel	temperatu	relative_hu	process	speed_tim	pollutant	emission_rate
2027	Annual	San Berna	HHDT	Dsl	60	70	RUNEX	5	PM10	0.012659
2027	Annual	San Berna	HHDT	Dsl	60	70	RUNEX	25	PM10	0.006131
2027	Annual	San Berna	HHDT	Dsl			IDLEX		PM10	0.013449
2027	Annual	San Berna	LHDT1	Dsl	60	70	RUNEX	5	PM10	0.080135
2027	Annual	San Berna	LHDT1	Dsl	60	70	RUNEX	25	PM10	0.037872
2027	Annual	San Berna	LHDT1	Dsl			IDLEX		PM10	0.791351
2027	Annual	San Berna	LHDT2	Dsl	60	70	RUNEX	5	PM10	0.075325
2027	Annual	San Berna	LHDT2	Dsl	60	70	RUNEX	25	PM10	0.036733
2027	Annual	San Berna	LHDT2	Dsl			IDLEX		PM10	0.800435
2027	Annual	San Berna	MHDT	Dsl	60	70	RUNEX	5	PM10	0.019931
2027	Annual	San Berna	MHDT	Dsl	60	70	RUNEX	25	PM10	0.005576
2027	Annual	San Berna	MHDT	Dsl			IDLEX		PM10	0.032577

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2027
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar `	Vehicle Ca	Model Yea	Speed	Fuel	Population
San Berna	2027	HHDT	Aggregate	Aggregate	Gasoline	2.0312
San Berna	2027	HHDT	Aggregate	Aggregate	Diesel	15410.1
San Berna	2027	HHDT	Aggregate	Aggregate	Natural Ga	2715.58
San Berna	2027	LHDT1	Aggregate	Aggregate	Gasoline	16631.8
San Berna	2027	LHDT1	Aggregate	Aggregate	Diesel	11353.6
San Berna	2027	LHDT2	Aggregate	Aggregate	Gasoline	2701.1
San Berna	2027	LHDT2	Aggregate	Aggregate	Diesel	4973.21
San Berna	2027	MHDT	Aggregate	Aggregate	Gasoline	1363.93
San Berna	2027	MHDT	Aggregate	Aggregate	Diesel	16024.9
San Berna	2027	MHDT	Aggregate	Aggregate	Natural Ga	231.558

HHDT% GAS/NG	0.14991
HHDT% DSL	0.85009
LHDT1% GAS	0.5943
LHDT1% DSL	0.4057
LHDT2% GAS	0.35197
LHDT2% DSL	0.64803
MHDT% GAS	0.07844
MHDT% DSL	0.92156

Gasoline Dispensing Emissions

Emission Factors

Pollutant		Loading	Breathing	Refueling	Hose Perm.	Spillage	Total
ROG (lbs/1000 gal)		0.15	0.024	0.32	0.009	0.24	0.743
Benzene	%wt	0.455%	0.455%	0.455%	0.455%	0.707%	
	EF (lbs/1000gal)	0.000683	0.000109	0.001456	0.000041	0.001697	0.003985
Ethyl Benzene	%wt	0.107%	0.107%	0.107%	0.107%	1.29%	
	EF (lbs/1000gal)	0.0001605	0.00002568	0.0003424	0.00000963	0.003096	0.0036342
Naphthalene	%wt	0.0004%	0.0004%	0.0004%	0.0004%	0.17%	
	EF (lbs/1000gal)	0.0000006	0.000000096	0.00000128	3.6E-08	0.0004176	0.0004196

Source: SCAQMD Risk Assessment Procedures for Rule 1401, 1401.1, and 212, Table X-1 (http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12)

Emissions

Annual Throughput:	12,300	1000 gals	(per 16 VFP gas station)
Max Hourly	2.4	1000 gals	

Pollutant	Emissions		
	lbs/yr	lbs/day	lbs/hr
ROG	9,138.90	25.04	1.783
Benzene	49.02	0.13	0.010
Ethyl Benzene	44.70	0.12	0.009
Naphthalene	5.16	0.01	0.001

Release Type	Source	Emissions (lbs/hr)		
		Benzene	Ethyl Benzene	Naphthalene
Refueling/Hose Permeation	REF	3.593E-03	8.449E-04	3.158E-06
Spillage	SPILL	4.072E-03	7.430E-03	1.002E-03
Loading	LOAD	1.638E-03	3.852E-04	1.440E-06
Breathing	BREATHE	2.621E-04	6.163E-05	2.304E-07

Release Type	Source	Emissions (lbs/yr)		
		Benzene	Ethyl Benzene	Naphthalene
Refueling/Hose Permeation	REF	1.841E+01	4.330E+00	1.619E-02
Spillage	SPILL	2.087E+01	3.808E+01	5.136E+00
Loading	LOAD	8.395E+00	1.974E+00	7.380E-03
Breathing	BREATHE	1.343E+00	3.159E-01	1.181E-03

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APPENDIX 2.3:

AERMOD MODEL INPUT/OUTPUT

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/19/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\14822 Construction HRA\14822
Construction HRA.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "14822 Construction HRA.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
```

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   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.0021654378
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 5
** 448415.406, 3762409.748, 225.24, 3.49, 6.51
** 448659.241, 3762398.494, 224.01, 3.49, 6.51
** 448751.148, 3762400.370, 222.22, 3.49, 6.51
** 448929.335, 3762451.012, 223.01, 3.49, 6.51
** 449315.720, 3762593.562, 224.31, 3.49, 6.51
** ----------------------------------------------------------------------
   LOCATION L0000001     VOLUME   448422.398 3762409.425 225.28
   LOCATION L0000002     VOLUME   448436.383 3762408.780 225.27
   LOCATION L0000003     VOLUME   448450.368 3762408.134 225.27
   LOCATION L0000004     VOLUME   448464.354 3762407.489 225.26
   LOCATION L0000005     VOLUME   448478.339 3762406.843 225.25
   LOCATION L0000006     VOLUME   448492.324 3762406.198 225.25
   LOCATION L0000007     VOLUME   448506.309 3762405.552 225.24
   LOCATION L0000008     VOLUME   448520.294 3762404.907 225.23
   LOCATION L0000009     VOLUME   448534.279 3762404.262 225.23
```

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   LOCATION L0000010     VOLUME   448548.264 3762403.616 225.22
   LOCATION L0000011     VOLUME   448562.249 3762402.971 225.21
   LOCATION L0000012     VOLUME   448576.234 3762402.325 225.27
   LOCATION L0000013     VOLUME   448590.220 3762401.680 225.38
   LOCATION L0000014     VOLUME   448604.205 3762401.034 225.39
   LOCATION L0000015     VOLUME   448618.190 3762400.389 225.20
   LOCATION L0000016     VOLUME   448632.175 3762399.743 224.95
   LOCATION L0000017     VOLUME   448646.160 3762399.098 224.43
   LOCATION L0000018     VOLUME   448660.146 3762398.513 223.93
   LOCATION L0000019     VOLUME   448674.143 3762398.798 223.50
   LOCATION L0000020     VOLUME   448688.140 3762399.084 223.08
   LOCATION L0000021     VOLUME   448702.137 3762399.370 222.76
   LOCATION L0000022     VOLUME   448716.134 3762399.655 222.44
   LOCATION L0000023     VOLUME   448730.131 3762399.941 222.31
   LOCATION L0000024     VOLUME   448744.128 3762400.226 222.23
   LOCATION L0000025     VOLUME   448757.861 3762402.278 222.28
   LOCATION L0000026     VOLUME   448771.328 3762406.105 222.42
   LOCATION L0000027     VOLUME   448784.794 3762409.932 222.56
   LOCATION L0000028     VOLUME   448798.261 3762413.760 222.74
   LOCATION L0000029     VOLUME   448811.728 3762417.587 222.90
   LOCATION L0000030     VOLUME   448825.194 3762421.415 222.80
   LOCATION L0000031     VOLUME   448838.661 3762425.242 222.70
   LOCATION L0000032     VOLUME   448852.128 3762429.069 222.70
   LOCATION L0000033     VOLUME   448865.594 3762432.897 222.74
   LOCATION L0000034     VOLUME   448879.061 3762436.724 222.81
   LOCATION L0000035     VOLUME   448892.528 3762440.551 222.85
   LOCATION L0000036     VOLUME   448905.994 3762444.379 222.89
   LOCATION L0000037     VOLUME   448919.461 3762448.206 222.93
   LOCATION L0000038     VOLUME   448932.839 3762452.305 222.99
   LOCATION L0000039     VOLUME   448945.974 3762457.151 223.14
   LOCATION L0000040     VOLUME   448959.108 3762461.997 223.33
   LOCATION L0000041     VOLUME   448972.243 3762466.843 223.42
   LOCATION L0000042     VOLUME   448985.378 3762471.688 223.47
   LOCATION L0000043     VOLUME   448998.512 3762476.534 223.52
   LOCATION L0000044     VOLUME   449011.647 3762481.380 223.57
   LOCATION L0000045     VOLUME   449024.782 3762486.226 223.67
   LOCATION L0000046     VOLUME   449037.916 3762491.071 223.86
   LOCATION L0000047     VOLUME   449051.051 3762495.917 224.02
   LOCATION L0000048     VOLUME   449064.185 3762500.763 224.07
   LOCATION L0000049     VOLUME   449077.320 3762505.609 224.12
   LOCATION L0000050     VOLUME   449090.455 3762510.455 224.17
   LOCATION L0000051     VOLUME   449103.589 3762515.300 224.22
   LOCATION L0000052     VOLUME   449116.724 3762520.146 224.27
   LOCATION L0000053     VOLUME   449129.859 3762524.992 224.32
   LOCATION L0000054     VOLUME   449142.993 3762529.838 224.37
   LOCATION L0000055     VOLUME   449156.128 3762534.684 224.42
   LOCATION L0000056     VOLUME   449169.262 3762539.529 224.47
   LOCATION L0000057     VOLUME   449182.397 3762544.375 224.46
   LOCATION L0000058     VOLUME   449195.532 3762549.221 224.50
   LOCATION L0000059     VOLUME   449208.666 3762554.067 224.51
   LOCATION L0000060     VOLUME   449221.801 3762558.912 224.46
   LOCATION L0000061     VOLUME   449234.936 3762563.758 224.47
   LOCATION L0000062     VOLUME   449248.070 3762568.604 224.51
   LOCATION L0000063     VOLUME   449261.205 3762573.450 224.49
   LOCATION L0000064     VOLUME   449274.339 3762578.296 224.40
   LOCATION L0000065     VOLUME   449287.474 3762583.141 224.32
   LOCATION L0000066     VOLUME   449300.609 3762587.987 224.36
   LOCATION L0000067     VOLUME   449313.743 3762592.833 224.41
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
   SRCPARAM VOL1         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL2         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL3         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL4         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL5         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL6         0.0001378005     5.000    44.302     1.400
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   SRCPARAM VOL7         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL8         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL9         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL10        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL11        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL12        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL13        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL14        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL15        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL16        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL17        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL18        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL19        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL20        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL21        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL22        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL23        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL24        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL25        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL26        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL27        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL28        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL29        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL30        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL31        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL32        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL33        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL34        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL35        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL36        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL37        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL38        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL39        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL40        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL41        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL42        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL43        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL44        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL45        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL46        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL47        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL48        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL49        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL50        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL51        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL52        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL53        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL54        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL55        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL56        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL57        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL58        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL59        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL60        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL61        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL62        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL63        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL64        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL65        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL66        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL67        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL68        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL69        0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL70        0.0001378005     5.000    44.302     1.400
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001     0.00003232      3.49      6.51      3.25
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SRCPARAM L0000002     0.00003232      3.49      6.51      3.25
SRCPARAM L0000003     0.00003232      3.49      6.51      3.25
SRCPARAM L0000004     0.00003232      3.49      6.51      3.25
SRCPARAM L0000005     0.00003232      3.49      6.51      3.25
SRCPARAM L0000006     0.00003232      3.49      6.51      3.25
SRCPARAM L0000007     0.00003232      3.49      6.51      3.25
SRCPARAM L0000008     0.00003232      3.49      6.51      3.25
SRCPARAM L0000009     0.00003232      3.49      6.51      3.25
SRCPARAM L0000010     0.00003232      3.49      6.51      3.25
SRCPARAM L0000011     0.00003232      3.49      6.51      3.25
SRCPARAM L0000012     0.00003232      3.49      6.51      3.25
SRCPARAM L0000013     0.00003232      3.49      6.51      3.25
SRCPARAM L0000014     0.00003232      3.49      6.51      3.25
SRCPARAM L0000015     0.00003232      3.49      6.51      3.25
SRCPARAM L0000016     0.00003232      3.49      6.51      3.25
SRCPARAM L0000017     0.00003232      3.49      6.51      3.25
SRCPARAM L0000018     0.00003232      3.49      6.51      3.25
SRCPARAM L0000019     0.00003232      3.49      6.51      3.25
SRCPARAM L0000020     0.00003232      3.49      6.51      3.25
SRCPARAM L0000021     0.00003232      3.49      6.51      3.25
SRCPARAM L0000022     0.00003232      3.49      6.51      3.25
SRCPARAM L0000023     0.00003232      3.49      6.51      3.25
SRCPARAM L0000024     0.00003232      3.49      6.51      3.25
SRCPARAM L0000025     0.00003232      3.49      6.51      3.25
SRCPARAM L0000026     0.00003232      3.49      6.51      3.25
SRCPARAM L0000027     0.00003232      3.49      6.51      3.25
SRCPARAM L0000028     0.00003232      3.49      6.51      3.25
SRCPARAM L0000029     0.00003232      3.49      6.51      3.25
SRCPARAM L0000030     0.00003232      3.49      6.51      3.25
SRCPARAM L0000031     0.00003232      3.49      6.51      3.25
SRCPARAM L0000032     0.00003232      3.49      6.51      3.25
SRCPARAM L0000033     0.00003232      3.49      6.51      3.25
SRCPARAM L0000034     0.00003232      3.49      6.51      3.25
SRCPARAM L0000035     0.00003232      3.49      6.51      3.25
SRCPARAM L0000036     0.00003232      3.49      6.51      3.25
SRCPARAM L0000037     0.00003232      3.49      6.51      3.25
SRCPARAM L0000038     0.00003232      3.49      6.51      3.25
SRCPARAM L0000039     0.00003232      3.49      6.51      3.25
SRCPARAM L0000040     0.00003232      3.49      6.51      3.25
SRCPARAM L0000041     0.00003232      3.49      6.51      3.25
SRCPARAM L0000042     0.00003232      3.49      6.51      3.25
SRCPARAM L0000043     0.00003232      3.49      6.51      3.25
SRCPARAM L0000044     0.00003232      3.49      6.51      3.25
SRCPARAM L0000045     0.00003232      3.49      6.51      3.25
SRCPARAM L0000046     0.00003232      3.49      6.51      3.25
SRCPARAM L0000047     0.00003232      3.49      6.51      3.25
SRCPARAM L0000048     0.00003232      3.49      6.51      3.25
SRCPARAM L0000049     0.00003232      3.49      6.51      3.25
SRCPARAM L0000050     0.00003232      3.49      6.51      3.25
SRCPARAM L0000051     0.00003232      3.49      6.51      3.25
SRCPARAM L0000052     0.00003232      3.49      6.51      3.25
SRCPARAM L0000053     0.00003232      3.49      6.51      3.25
SRCPARAM L0000054     0.00003232      3.49      6.51      3.25
SRCPARAM L0000055     0.00003232      3.49      6.51      3.25
SRCPARAM L0000056     0.00003232      3.49      6.51      3.25
SRCPARAM L0000057     0.00003232      3.49      6.51      3.25
SRCPARAM L0000058     0.00003232      3.49      6.51      3.25
SRCPARAM L0000059     0.00003232      3.49      6.51      3.25
SRCPARAM L0000060     0.00003232      3.49      6.51      3.25
SRCPARAM L0000061     0.00003232      3.49      6.51      3.25
SRCPARAM L0000062     0.00003232      3.49      6.51      3.25
SRCPARAM L0000063     0.00003232      3.49      6.51      3.25
SRCPARAM L0000064     0.00003232      3.49      6.51      3.25
SRCPARAM L0000065     0.00003232      3.49      6.51      3.25
SRCPARAM L0000066     0.00003232      3.49      6.51      3.25
SRCPARAM L0000067     0.00003232      3.49      6.51      3.25
```

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** ------------------------------------------------------------------
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
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EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000001     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000001     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000002     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000002     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000003     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000003     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000004     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000004     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000005     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000005     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000006     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000007     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000008     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000009     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000010     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000010     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000011     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000013     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000013     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000014     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000014     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000015     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000015     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000016     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000016     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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EMISFACT L0000017     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000018     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000018     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000019     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000019     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000020     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000021     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000021     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000022     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000022     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000023     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000023     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000024     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000024     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000025     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000025     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000026     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000026     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000027     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000027     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000027     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000027     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000028     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000028     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000029     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000029     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000029     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000029     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000030     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000030     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000030     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000031     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000031     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000031     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000031     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000032     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000032     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000032     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000033     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000033     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000033     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000033     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000034     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000034     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000034     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000034     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000035     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000035     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000035     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000036     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000036     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000036     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000036     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000037     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000037     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000041     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000041     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000042     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000042     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
EMISFACT L0000042     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000042     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000043     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000043     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
EMISFACT L0000043     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000044     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000049     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
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EMISFACT L0000050     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000050     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   SRCGROUP ALL
SO FINISHED
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** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Construction HRA.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "14822 CONSTRUCTION HRA.AD\AN00GALL.PLT" 31
   SUMMFILE "14822 Construction HRA.sum"
OU FINISHED
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** Project Parameters
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** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
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** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/19/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\14822 Construction HRA\14822
Construction HRA.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "14822 Construction HRA.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
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SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION VOL1         VOLUME     447959.249  3762097.745      222.000
   LOCATION VOL2         VOLUME     448134.383  3762098.764      222.370
   LOCATION VOL3         VOLUME     447790.254  3762102.860      221.890
   LOCATION VOL4         VOLUME     447618.190  3762098.764      221.000
   LOCATION VOL5         VOLUME     447446.126  3762100.812      221.000
   LOCATION VOL6         VOLUME     447276.110  3762094.667      220.000
   LOCATION VOL7         VOLUME     447099.949  3762094.667      219.610
   LOCATION VOL8         VOLUME     446929.933  3762096.715      220.000
   LOCATION VOL9         VOLUME     448310.544  3762106.957      222.000
   LOCATION VOL10        VOLUME     446926.657  3762209.795      221.340
   LOCATION VOL11        VOLUME     446924.141  3762324.271      222.230
   LOCATION VOL12        VOLUME     447100.259  3762207.279      221.000
   LOCATION VOL13        VOLUME     447276.377  3762207.279      221.940
   LOCATION VOL14        VOLUME     447447.462  3762207.279      222.000
   LOCATION VOL15        VOLUME     447616.032  3762206.021      222.000
   LOCATION VOL16        VOLUME     447807.246  3762206.021      222.590
   LOCATION VOL17        VOLUME     447959.462  3762206.021      223.000
   LOCATION VOL18        VOLUME     448138.096  3762203.505      222.620
   LOCATION VOL19        VOLUME     448312.955  3762202.247      222.640
   LOCATION VOL20        VOLUME     447100.259  3762325.529      221.990
   LOCATION VOL21        VOLUME     447276.377  3762324.271      222.880
   LOCATION VOL22        VOLUME     447448.720  3762324.271      222.690
   LOCATION VOL23        VOLUME     447616.032  3762326.787      222.680
   LOCATION VOL24        VOLUME     447789.634  3762328.045      223.720
   LOCATION VOL25        VOLUME     447960.720  3762326.787      224.240
   LOCATION VOL26        VOLUME     448135.580  3762328.045      224.450
   LOCATION VOL27        VOLUME     448317.987  3762330.561      224.780
   LOCATION VOL28        VOLUME     447432.367  3762512.969      225.260
   LOCATION VOL29        VOLUME     447621.064  3762512.969      224.500
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   LOCATION VOL30        VOLUME     447811.020  3762515.485      225.440
   LOCATION VOL31        VOLUME     447999.717  3762515.485      225.850
   LOCATION VOL32        VOLUME     448189.673  3762514.227      225.730
   LOCATION VOL33        VOLUME     448315.471  3762516.743      226.160
   LOCATION VOL34        VOLUME     448316.729  3762709.214      227.440
   LOCATION VOL35        VOLUME     448189.673  3762707.956      226.400
   LOCATION VOL36        VOLUME     448000.975  3762706.698      227.390
   LOCATION VOL37        VOLUME     447811.020  3762706.698      226.990
   LOCATION VOL38        VOLUME     447621.064  3762704.182      226.620
   LOCATION VOL39        VOLUME     447433.625  3762704.182      227.300
   LOCATION VOL40        VOLUME     447524.199  3762897.912      228.410
   LOCATION VOL41        VOLUME     447329.212  3762897.912      228.720
   LOCATION VOL42        VOLUME     447304.052  3763089.125      231.270
   LOCATION VOL43        VOLUME     447533.005  3763086.609      231.240
   LOCATION VOL44        VOLUME     447433.625  3763086.609      231.240
   LOCATION VOL45        VOLUME     447530.489  3763277.823      232.460
   LOCATION VOL46        VOLUME     447305.310  3763281.597      232.220
   LOCATION VOL47        VOLUME     447419.787  3763282.855      232.560
   LOCATION VOL48        VOLUME     447112.839  3763304.241      231.800
   LOCATION VOL49        VOLUME     446924.141  3763305.499      231.590
   LOCATION VOL50        VOLUME     447533.005  3763469.037      233.480
   LOCATION VOL51        VOLUME     447217.251  3763472.810      233.160
   LOCATION VOL52        VOLUME     447088.937  3763471.553      232.970
   LOCATION VOL53        VOLUME     446925.399  3763474.068      232.580
   LOCATION VOL54        VOLUME     447361.920  3763470.295      233.480
   LOCATION VOL55        VOLUME     447531.738  3763659.534      234.930
   LOCATION VOL56        VOLUME     447533.543  3763806.850      235.550
   LOCATION VOL57        VOLUME     447359.934  3763658.402      234.090
   LOCATION VOL58        VOLUME     447219.034  3763657.144      234.090
   LOCATION VOL59        VOLUME     447090.714  3763659.660      234.540
   LOCATION VOL60        VOLUME     446930.944  3763659.660      234.180
   LOCATION VOL61        VOLUME     447357.418  3763804.334      234.700
   LOCATION VOL62        VOLUME     447219.034  3763804.334      234.880
   LOCATION VOL63        VOLUME     447093.230  3763805.592      235.810
   LOCATION VOL64        VOLUME     446932.202  3763805.592      235.500
   LOCATION VOL65        VOLUME     447133.487  3763996.814      237.440
   LOCATION VOL66        VOLUME     446943.524  3763996.814      237.440
   LOCATION VOL67        VOLUME     447134.745  3764159.100      239.090
   LOCATION VOL68        VOLUME     446944.782  3764159.100      239.980
   LOCATION VOL69        VOLUME     447136.004  3764318.871      241.020
   LOCATION VOL70        VOLUME     446944.782  3764317.613      240.180
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** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 0.0021654378
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 5
** 448415.406, 3762409.748, 225.24, 3.49, 6.51
** 448659.241, 3762398.494, 224.01, 3.49, 6.51
** 448751.148, 3762400.370, 222.22, 3.49, 6.51
** 448929.335, 3762451.012, 223.01, 3.49, 6.51
** 449315.720, 3762593.562, 224.31, 3.49, 6.51
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   LOCATION L0000002     VOLUME   448436.383 3762408.780 225.27
   LOCATION L0000003     VOLUME   448450.368 3762408.134 225.27
   LOCATION L0000004     VOLUME   448464.354 3762407.489 225.26
   LOCATION L0000005     VOLUME   448478.339 3762406.843 225.25
   LOCATION L0000006     VOLUME   448492.324 3762406.198 225.25
   LOCATION L0000007     VOLUME   448506.309 3762405.552 225.24
   LOCATION L0000008     VOLUME   448520.294 3762404.907 225.23
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   LOCATION L0000009     VOLUME   448534.279 3762404.262 225.23
   LOCATION L0000010     VOLUME   448548.264 3762403.616 225.22
   LOCATION L0000011     VOLUME   448562.249 3762402.971 225.21
   LOCATION L0000012     VOLUME   448576.234 3762402.325 225.27
   LOCATION L0000013     VOLUME   448590.220 3762401.680 225.38
   LOCATION L0000014     VOLUME   448604.205 3762401.034 225.39
   LOCATION L0000015     VOLUME   448618.190 3762400.389 225.20
   LOCATION L0000016     VOLUME   448632.175 3762399.743 224.95
   LOCATION L0000017     VOLUME   448646.160 3762399.098 224.43
   LOCATION L0000018     VOLUME   448660.146 3762398.513 223.93
   LOCATION L0000019     VOLUME   448674.143 3762398.798 223.50
   LOCATION L0000020     VOLUME   448688.140 3762399.084 223.08
   LOCATION L0000021     VOLUME   448702.137 3762399.370 222.76
   LOCATION L0000022     VOLUME   448716.134 3762399.655 222.44
   LOCATION L0000023     VOLUME   448730.131 3762399.941 222.31
   LOCATION L0000024     VOLUME   448744.128 3762400.226 222.23
   LOCATION L0000025     VOLUME   448757.861 3762402.278 222.28
   LOCATION L0000026     VOLUME   448771.328 3762406.105 222.42
   LOCATION L0000027     VOLUME   448784.794 3762409.932 222.56
   LOCATION L0000028     VOLUME   448798.261 3762413.760 222.74
   LOCATION L0000029     VOLUME   448811.728 3762417.587 222.90
   LOCATION L0000030     VOLUME   448825.194 3762421.415 222.80
   LOCATION L0000031     VOLUME   448838.661 3762425.242 222.70
   LOCATION L0000032     VOLUME   448852.128 3762429.069 222.70
   LOCATION L0000033     VOLUME   448865.594 3762432.897 222.74
   LOCATION L0000034     VOLUME   448879.061 3762436.724 222.81
   LOCATION L0000035     VOLUME   448892.528 3762440.551 222.85
   LOCATION L0000036     VOLUME   448905.994 3762444.379 222.89
   LOCATION L0000037     VOLUME   448919.461 3762448.206 222.93
   LOCATION L0000038     VOLUME   448932.839 3762452.305 222.99
   LOCATION L0000039     VOLUME   448945.974 3762457.151 223.14
   LOCATION L0000040     VOLUME   448959.108 3762461.997 223.33
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   LOCATION L0000042     VOLUME   448985.378 3762471.688 223.47
   LOCATION L0000043     VOLUME   448998.512 3762476.534 223.52
   LOCATION L0000044     VOLUME   449011.647 3762481.380 223.57
   LOCATION L0000045     VOLUME   449024.782 3762486.226 223.67
   LOCATION L0000046     VOLUME   449037.916 3762491.071 223.86
   LOCATION L0000047     VOLUME   449051.051 3762495.917 224.02
   LOCATION L0000048     VOLUME   449064.185 3762500.763 224.07
   LOCATION L0000049     VOLUME   449077.320 3762505.609 224.12
   LOCATION L0000050     VOLUME   449090.455 3762510.455 224.17
   LOCATION L0000051     VOLUME   449103.589 3762515.300 224.22
   LOCATION L0000052     VOLUME   449116.724 3762520.146 224.27
   LOCATION L0000053     VOLUME   449129.859 3762524.992 224.32
   LOCATION L0000054     VOLUME   449142.993 3762529.838 224.37
   LOCATION L0000055     VOLUME   449156.128 3762534.684 224.42
   LOCATION L0000056     VOLUME   449169.262 3762539.529 224.47
   LOCATION L0000057     VOLUME   449182.397 3762544.375 224.46
   LOCATION L0000058     VOLUME   449195.532 3762549.221 224.50
   LOCATION L0000059     VOLUME   449208.666 3762554.067 224.51
   LOCATION L0000060     VOLUME   449221.801 3762558.912 224.46
   LOCATION L0000061     VOLUME   449234.936 3762563.758 224.47
   LOCATION L0000062     VOLUME   449248.070 3762568.604 224.51
   LOCATION L0000063     VOLUME   449261.205 3762573.450 224.49
   LOCATION L0000064     VOLUME   449274.339 3762578.296 224.40
   LOCATION L0000065     VOLUME   449287.474 3762583.141 224.32
   LOCATION L0000066     VOLUME   449300.609 3762587.987 224.36
   LOCATION L0000067     VOLUME   449313.743 3762592.833 224.41
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** Source Parameters **
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   SRCPARAM VOL2         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL3         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL4         0.0001378005     5.000    44.302     1.400
   SRCPARAM VOL5         0.0001378005     5.000    44.302     1.400
```

```
  SRCPARAM VOL6         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL7         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL8         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL9         0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL10        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL11        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL12        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL13        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL14        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL15        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL16        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL17        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL18        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL19        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL20        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL21        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL22        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL23        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL24        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL25        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL26        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL27        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL28        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL29        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL30        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL31        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL32        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL33        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL34        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL35        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL36        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL37        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL38        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL39        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL40        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL41        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL42        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL43        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL44        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL45        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL46        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL47        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL48        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL49        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL50        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL51        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL52        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL53        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL54        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL55        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL56        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL57        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL58        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL59        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL60        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL61        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL62        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL63        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL64        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL65        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL66        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL67        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL68        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL69        0.0001378005     5.000    44.302     1.400
  SRCPARAM VOL70        0.0001378005     5.000    44.302     1.400
** LINE VOLUME Source ID = SLINE1
```

```
SRCPARAM L0000001     0.00003232      3.49      6.51      3.25
SRCPARAM L0000002     0.00003232      3.49      6.51      3.25
SRCPARAM L0000003     0.00003232      3.49      6.51      3.25
SRCPARAM L0000004     0.00003232      3.49      6.51      3.25
SRCPARAM L0000005     0.00003232      3.49      6.51      3.25
SRCPARAM L0000006     0.00003232      3.49      6.51      3.25
SRCPARAM L0000007     0.00003232      3.49      6.51      3.25
SRCPARAM L0000008     0.00003232      3.49      6.51      3.25
SRCPARAM L0000009     0.00003232      3.49      6.51      3.25
SRCPARAM L0000010     0.00003232      3.49      6.51      3.25
SRCPARAM L0000011     0.00003232      3.49      6.51      3.25
SRCPARAM L0000012     0.00003232      3.49      6.51      3.25
SRCPARAM L0000013     0.00003232      3.49      6.51      3.25
SRCPARAM L0000014     0.00003232      3.49      6.51      3.25
SRCPARAM L0000015     0.00003232      3.49      6.51      3.25
SRCPARAM L0000016     0.00003232      3.49      6.51      3.25
SRCPARAM L0000017     0.00003232      3.49      6.51      3.25
SRCPARAM L0000018     0.00003232      3.49      6.51      3.25
SRCPARAM L0000019     0.00003232      3.49      6.51      3.25
SRCPARAM L0000020     0.00003232      3.49      6.51      3.25
SRCPARAM L0000021     0.00003232      3.49      6.51      3.25
SRCPARAM L0000022     0.00003232      3.49      6.51      3.25
SRCPARAM L0000023     0.00003232      3.49      6.51      3.25
SRCPARAM L0000024     0.00003232      3.49      6.51      3.25
SRCPARAM L0000025     0.00003232      3.49      6.51      3.25
SRCPARAM L0000026     0.00003232      3.49      6.51      3.25
SRCPARAM L0000027     0.00003232      3.49      6.51      3.25
SRCPARAM L0000028     0.00003232      3.49      6.51      3.25
SRCPARAM L0000029     0.00003232      3.49      6.51      3.25
SRCPARAM L0000030     0.00003232      3.49      6.51      3.25
SRCPARAM L0000031     0.00003232      3.49      6.51      3.25
SRCPARAM L0000032     0.00003232      3.49      6.51      3.25
SRCPARAM L0000033     0.00003232      3.49      6.51      3.25
SRCPARAM L0000034     0.00003232      3.49      6.51      3.25
SRCPARAM L0000035     0.00003232      3.49      6.51      3.25
SRCPARAM L0000036     0.00003232      3.49      6.51      3.25
SRCPARAM L0000037     0.00003232      3.49      6.51      3.25
SRCPARAM L0000038     0.00003232      3.49      6.51      3.25
SRCPARAM L0000039     0.00003232      3.49      6.51      3.25
SRCPARAM L0000040     0.00003232      3.49      6.51      3.25
SRCPARAM L0000041     0.00003232      3.49      6.51      3.25
SRCPARAM L0000042     0.00003232      3.49      6.51      3.25
SRCPARAM L0000043     0.00003232      3.49      6.51      3.25
SRCPARAM L0000044     0.00003232      3.49      6.51      3.25
SRCPARAM L0000045     0.00003232      3.49      6.51      3.25
SRCPARAM L0000046     0.00003232      3.49      6.51      3.25
SRCPARAM L0000047     0.00003232      3.49      6.51      3.25
SRCPARAM L0000048     0.00003232      3.49      6.51      3.25
SRCPARAM L0000049     0.00003232      3.49      6.51      3.25
SRCPARAM L0000050     0.00003232      3.49      6.51      3.25
SRCPARAM L0000051     0.00003232      3.49      6.51      3.25
SRCPARAM L0000052     0.00003232      3.49      6.51      3.25
SRCPARAM L0000053     0.00003232      3.49      6.51      3.25
SRCPARAM L0000054     0.00003232      3.49      6.51      3.25
SRCPARAM L0000055     0.00003232      3.49      6.51      3.25
SRCPARAM L0000056     0.00003232      3.49      6.51      3.25
SRCPARAM L0000057     0.00003232      3.49      6.51      3.25
SRCPARAM L0000058     0.00003232      3.49      6.51      3.25
SRCPARAM L0000059     0.00003232      3.49      6.51      3.25
SRCPARAM L0000060     0.00003232      3.49      6.51      3.25
SRCPARAM L0000061     0.00003232      3.49      6.51      3.25
SRCPARAM L0000062     0.00003232      3.49      6.51      3.25
SRCPARAM L0000063     0.00003232      3.49      6.51      3.25
SRCPARAM L0000064     0.00003232      3.49      6.51      3.25
SRCPARAM L0000065     0.00003232      3.49      6.51      3.25
SRCPARAM L0000066     0.00003232      3.49      6.51      3.25
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   SRCPARAM L0000067     0.00003232      3.49      6.51      3.25
** --------------------------------------------------------------------
   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1"
** WeekDays:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL1         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL1         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL2         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL2         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL3         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL3         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL4         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL4         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL5         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL5         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL6         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL6         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL7         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL7         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL8         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL8         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL9         HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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```
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL9         HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL10        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL10        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL11        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL11        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL12        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL12        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL13        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL13        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL14        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL14        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL15        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL15        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL16        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL16        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL17        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL17        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL18        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL18        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL19        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL19        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL20        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL20        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL21        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL21        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL22        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL22        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL23        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL23        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL24        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL24        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL25        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL25        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL26        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL26        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL27        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL27        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL28        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL28        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL29        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL29        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL30        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL30        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL31        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL31        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL32        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL32        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL33        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL33        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL34        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL34        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL35        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL35        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL36        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL36        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL37        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL37        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL38        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL38        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL39        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL39        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL40        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL40        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL41        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL41        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL42        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL42        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL43        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL43        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL44        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL44        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL45        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL45        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL46        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL46        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL47        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL47        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL48        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL48        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL49        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL49        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL50        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL50        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL51        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL51        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL52        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL52        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL53        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
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   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL53        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL54        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL54        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL55        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL55        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL56        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL56        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL57        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL57        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL58        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL58        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL59        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL59        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL60        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL60        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL61        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL61        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
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   EMISFACT VOL62        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL62        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL63        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL63        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL64        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL64        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL65        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL65        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL66        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL66        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL67        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL67        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL68        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL68        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL69        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL69        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT VOL70        HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VOL70        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** WeekDays:
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000001     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000002     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000003     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000004     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 1.0 1.0 1.0 1.0
   EMISFACT L0000005     HRDOW 1.0 1.0 1.0 1.0 0.0 0.0
   EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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** Sunday:
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   EMISFACT L0000065     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000066     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000067     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED "14822 Construction HRA.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "14822 CONSTRUCTION HRA.AD\AN00GALL.PLT" 31
   SUMMFILE "14822 Construction HRA.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
```

```
 ME W186    2215       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    2215       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************


FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

                      PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                            ***     MODEL SETUP OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for   137 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2035210.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: DPM

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:    137 Source(s);       1 Source Group(s); and     227 Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:    137 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
```

m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 289.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate
Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.7 MB of RAM.

**Input Runstream File:
aermod.inp
**Output Print File:
aermod.out

**Detailed Error/Message File: 14822 Construction HRA.err
**File for Summary of Results: 14822 Construction HRA.sum

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
VOL1	0	0.13780E-03	447959.2	3762097.7	222.0	5.00	44.30	1.40	YES HRDOW
VOL2	0	0.13780E-03	448134.4	3762098.8	222.4	5.00	44.30	1.40	YES HRDOW
VOL3	0	0.13780E-03	447790.3	3762102.9	221.9	5.00	44.30	1.40	YES HRDOW
VOL4	0	0.13780E-03	447618.2	3762098.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL5	0	0.13780E-03	447446.1	3762100.8	221.0	5.00	44.30	1.40	YES HRDOW
VOL6	0	0.13780E-03	447276.1	3762094.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL7	0	0.13780E-03	447099.9	3762094.7	219.6	5.00	44.30	1.40	YES HRDOW
VOL8	0	0.13780E-03	446929.9	3762096.7	220.0	5.00	44.30	1.40	YES HRDOW
VOL9	0	0.13780E-03	448310.5	3762107.0	222.0	5.00	44.30	1.40	YES HRDOW
VOL10	0	0.13780E-03	446926.7	3762209.8	221.3	5.00	44.30	1.40	YES HRDOW
VOL11	0	0.13780E-03	446924.1	3762324.3	222.2	5.00	44.30	1.40	YES HRDOW
VOL12	0	0.13780E-03	447100.3	3762207.3	221.0	5.00	44.30	1.40	YES HRDOW
VOL13	0	0.13780E-03	447276.4	3762207.3	221.9	5.00	44.30	1.40	

```
 YES   HRDOW
 VOL14            0   0.13780E-03  447447.5 3762207.3   222.0     5.00    44.30     1.40
 YES   HRDOW
 VOL15            0   0.13780E-03  447616.0 3762206.0   222.0     5.00    44.30     1.40
 YES   HRDOW
 VOL16            0   0.13780E-03  447807.2 3762206.0   222.6     5.00    44.30     1.40
 YES   HRDOW
 VOL17            0   0.13780E-03  447959.5 3762206.0   223.0     5.00    44.30     1.40
 YES   HRDOW
 VOL18            0   0.13780E-03  448138.1 3762203.5   222.6     5.00    44.30     1.40
 YES   HRDOW
 VOL19            0   0.13780E-03  448313.0 3762202.2   222.6     5.00    44.30     1.40
 YES   HRDOW
 VOL20            0   0.13780E-03  447100.3 3762325.5   222.0     5.00    44.30     1.40
 YES   HRDOW
 VOL21            0   0.13780E-03  447276.4 3762324.3   222.9     5.00    44.30     1.40
 YES   HRDOW
 VOL22            0   0.13780E-03  447448.7 3762324.3   222.7     5.00    44.30     1.40
 YES   HRDOW
 VOL23            0   0.13780E-03  447616.0 3762326.8   222.7     5.00    44.30     1.40
 YES   HRDOW
 VOL24            0   0.13780E-03  447789.6 3762328.0   223.7     5.00    44.30     1.40
 YES   HRDOW
 VOL25            0   0.13780E-03  447960.7 3762326.8   224.2     5.00    44.30     1.40
 YES   HRDOW
 VOL26            0   0.13780E-03  448135.6 3762328.0   224.5     5.00    44.30     1.40
 YES   HRDOW
 VOL27            0   0.13780E-03  448318.0 3762330.6   224.8     5.00    44.30     1.40
 YES   HRDOW
 VOL28            0   0.13780E-03  447432.4 3762513.0   225.3     5.00    44.30     1.40
 YES   HRDOW
 VOL29            0   0.13780E-03  447621.1 3762513.0   224.5     5.00    44.30     1.40
 YES   HRDOW
 VOL30            0   0.13780E-03  447811.0 3762515.5   225.4     5.00    44.30     1.40
 YES   HRDOW
 VOL31            0   0.13780E-03  447999.7 3762515.5   225.9     5.00    44.30     1.40
 YES   HRDOW
 VOL32            0   0.13780E-03  448189.7 3762514.2   225.7     5.00    44.30     1.40
 YES   HRDOW
 VOL33            0   0.13780E-03  448315.5 3762516.7   226.2     5.00    44.30     1.40
 YES   HRDOW
 VOL34            0   0.13780E-03  448316.7 3762709.2   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL35            0   0.13780E-03  448189.7 3762708.0   226.4     5.00    44.30     1.40
 YES   HRDOW
 VOL36            0   0.13780E-03  448001.0 3762706.7   227.4     5.00    44.30     1.40
 YES   HRDOW
 VOL37            0   0.13780E-03  447811.0 3762706.7   227.0     5.00    44.30     1.40
 YES   HRDOW
 VOL38            0   0.13780E-03  447621.1 3762704.2   226.6     5.00    44.30     1.40
 YES   HRDOW
 VOL39            0   0.13780E-03  447433.6 3762704.2   227.3     5.00    44.30     1.40
 YES   HRDOW
 VOL40            0   0.13780E-03  447524.2 3762897.9   228.4     5.00    44.30     1.40
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***
```

SOURCE ID	SOURCE SCALAR VARY BY	NUMBER URBAN PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)
VOL41	YES HRDOW	0	0.13780E-03	447329.2	3762897.9	228.7	5.00	44.30	1.40
VOL42	YES HRDOW	0	0.13780E-03	447304.1	3763089.1	231.3	5.00	44.30	1.40
VOL43	YES HRDOW	0	0.13780E-03	447533.0	3763086.6	231.2	5.00	44.30	1.40
VOL44	YES HRDOW	0	0.13780E-03	447433.6	3763086.6	231.2	5.00	44.30	1.40
VOL45	YES HRDOW	0	0.13780E-03	447530.5	3763277.8	232.5	5.00	44.30	1.40
VOL46	YES HRDOW	0	0.13780E-03	447305.3	3763281.6	232.2	5.00	44.30	1.40
VOL47	YES HRDOW	0	0.13780E-03	447419.8	3763282.9	232.6	5.00	44.30	1.40
VOL48	YES HRDOW	0	0.13780E-03	447112.8	3763304.2	231.8	5.00	44.30	1.40
VOL49	YES HRDOW	0	0.13780E-03	446924.1	3763305.5	231.6	5.00	44.30	1.40
VOL50	YES HRDOW	0	0.13780E-03	447533.0	3763469.0	233.5	5.00	44.30	1.40
VOL51	YES HRDOW	0	0.13780E-03	447217.3	3763472.8	233.2	5.00	44.30	1.40
VOL52	YES HRDOW	0	0.13780E-03	447088.9	3763471.6	233.0	5.00	44.30	1.40
VOL53	YES HRDOW	0	0.13780E-03	446925.4	3763474.1	232.6	5.00	44.30	1.40
VOL54	YES HRDOW	0	0.13780E-03	447361.9	3763470.3	233.5	5.00	44.30	1.40
VOL55	YES HRDOW	0	0.13780E-03	447531.7	3763659.5	234.9	5.00	44.30	1.40
VOL56	YES HRDOW	0	0.13780E-03	447533.5	3763806.8	235.6	5.00	44.30	1.40
VOL57	YES HRDOW	0	0.13780E-03	447359.9	3763658.4	234.1	5.00	44.30	1.40
VOL58	YES HRDOW	0	0.13780E-03	447219.0	3763657.1	234.1	5.00	44.30	1.40
VOL59	YES HRDOW	0	0.13780E-03	447090.7	3763659.7	234.5	5.00	44.30	1.40
VOL60	YES HRDOW	0	0.13780E-03	446930.9	3763659.7	234.2	5.00	44.30	1.40
VOL61	YES HRDOW	0	0.13780E-03	447357.4	3763804.3	234.7	5.00	44.30	1.40
VOL62	YES HRDOW	0	0.13780E-03	447219.0	3763804.3	234.9	5.00	44.30	1.40
VOL63	YES HRDOW	0	0.13780E-03	447093.2	3763805.6	235.8	5.00	44.30	1.40
VOL64	YES HRDOW	0	0.13780E-03	446932.2	3763805.6	235.5	5.00	44.30	1.40
VOL65	YES HRDOW	0	0.13780E-03	447133.5	3763996.8	237.4	5.00	44.30	1.40
VOL66	YES HRDOW	0	0.13780E-03	446943.5	3763996.8	237.4	5.00	44.30	1.40
VOL67	YES HRDOW	0	0.13780E-03	447134.7	3764159.1	239.1	5.00	44.30	1.40
VOL68	YES HRDOW	0	0.13780E-03	446944.8	3764159.1	240.0	5.00	44.30	1.40
VOL69		0	0.13780E-03	447136.0	3764318.9	241.0	5.00	44.30	1.40

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 YES   HRDOW
 VOL70           0   0.13780E-03  446944.8 3764317.6   240.2     5.00    44.30     1.40
 YES   HRDOW
 L0000001        0   0.32320E-04  448422.4 3762409.4   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000002        0   0.32320E-04  448436.4 3762408.8   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000003        0   0.32320E-04  448450.4 3762408.1   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000004        0   0.32320E-04  448464.4 3762407.5   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000005        0   0.32320E-04  448478.3 3762406.8   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000006        0   0.32320E-04  448492.3 3762406.2   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000007        0   0.32320E-04  448506.3 3762405.6   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000008        0   0.32320E-04  448520.3 3762404.9   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000009        0   0.32320E-04  448534.3 3762404.3   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000010        0   0.32320E-04  448548.3 3762403.6   225.2     3.49     6.51     3.25
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - -

 L0000011        0   0.32320E-04  448562.2 3762403.0   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000012        0   0.32320E-04  448576.2 3762402.3   225.3     3.49     6.51     3.25
 YES   HRDOW
 L0000013        0   0.32320E-04  448590.2 3762401.7   225.4     3.49     6.51     3.25
 YES   HRDOW
 L0000014        0   0.32320E-04  448604.2 3762401.0   225.4     3.49     6.51     3.25
 YES   HRDOW
 L0000015        0   0.32320E-04  448618.2 3762400.4   225.2     3.49     6.51     3.25
 YES   HRDOW
 L0000016        0   0.32320E-04  448632.2 3762399.7   225.0     3.49     6.51     3.25
 YES   HRDOW
 L0000017        0   0.32320E-04  448646.2 3762399.1   224.4     3.49     6.51     3.25
 YES   HRDOW
 L0000018        0   0.32320E-04  448660.1 3762398.5   223.9     3.49     6.51     3.25
 YES   HRDOW
 L0000019        0   0.32320E-04  448674.1 3762398.8   223.5     3.49     6.51     3.25
 YES   HRDOW
 L0000020        0   0.32320E-04  448688.1 3762399.1   223.1     3.49     6.51     3.25
 YES   HRDOW
 L0000021        0   0.32320E-04  448702.1 3762399.4   222.8     3.49     6.51     3.25
 YES   HRDOW
 L0000022        0   0.32320E-04  448716.1 3762399.7   222.4     3.49     6.51     3.25
```

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 YES   HRDOW
 L0000023         0   0.32320E-04  448730.1 3762399.9   222.3     3.49     6.51     3.25
 YES   HRDOW
 L0000024         0   0.32320E-04  448744.1 3762400.2   222.2     3.49     6.51     3.25
 YES   HRDOW
 L0000025         0   0.32320E-04  448757.9 3762402.3   222.3     3.49     6.51     3.25
 YES   HRDOW
 L0000026         0   0.32320E-04  448771.3 3762406.1   222.4     3.49     6.51     3.25
 YES   HRDOW
 L0000027         0   0.32320E-04  448784.8 3762409.9   222.6     3.49     6.51     3.25
 YES   HRDOW
 L0000028         0   0.32320E-04  448798.3 3762413.8   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000029         0   0.32320E-04  448811.7 3762417.6   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000030         0   0.32320E-04  448825.2 3762421.4   222.8     3.49     6.51     3.25
 YES   HRDOW
 L0000031         0   0.32320E-04  448838.7 3762425.2   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000032         0   0.32320E-04  448852.1 3762429.1   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000033         0   0.32320E-04  448865.6 3762432.9   222.7     3.49     6.51     3.25
 YES   HRDOW
 L0000034         0   0.32320E-04  448879.1 3762436.7   222.8     3.49     6.51     3.25
 YES   HRDOW
 L0000035         0   0.32320E-04  448892.5 3762440.6   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000036         0   0.32320E-04  448906.0 3762444.4   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000037         0   0.32320E-04  448919.5 3762448.2   222.9     3.49     6.51     3.25
 YES   HRDOW
 L0000038         0   0.32320E-04  448932.8 3762452.3   223.0     3.49     6.51     3.25
 YES   HRDOW
 L0000039         0   0.32320E-04  448946.0 3762457.2   223.1     3.49     6.51     3.25
 YES   HRDOW
 L0000040         0   0.32320E-04  448959.1 3762462.0   223.3     3.49     6.51     3.25
 YES   HRDOW
 L0000041         0   0.32320E-04  448972.2 3762466.8   223.4     3.49     6.51     3.25
 YES   HRDOW
 L0000042         0   0.32320E-04  448985.4 3762471.7   223.5     3.49     6.51     3.25
 YES   HRDOW
 L0000043         0   0.32320E-04  448998.5 3762476.5   223.5     3.49     6.51     3.25
 YES   HRDOW
 L0000044         0   0.32320E-04  449011.6 3762481.4   223.6     3.49     6.51     3.25
 YES   HRDOW
 L0000045         0   0.32320E-04  449024.8 3762486.2   223.7     3.49     6.51     3.25
 YES   HRDOW
 L0000046         0   0.32320E-04  449037.9 3762491.1   223.9     3.49     6.51     3.25
 YES   HRDOW
 L0000047         0   0.32320E-04  449051.1 3762495.9   224.0     3.49     6.51     3.25
 YES   HRDOW
 L0000048         0   0.32320E-04  449064.2 3762500.8   224.1     3.49     6.51     3.25
 YES   HRDOW
 L0000049         0   0.32320E-04  449077.3 3762505.6   224.1     3.49     6.51     3.25
 YES   HRDOW
 L0000050         0   0.32320E-04  449090.5 3762510.5   224.2     3.49     6.51     3.25
 YES   HRDOW
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE SCALAR VARY BY	EMISSION RATE PART. CATS. (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
L0000051	0	0.32320E-04	449103.6	3762515.3	224.2	3.49	6.51	3.25	YES HRDOW
L0000052	0	0.32320E-04	449116.7	3762520.1	224.3	3.49	6.51	3.25	YES HRDOW
L0000053	0	0.32320E-04	449129.9	3762525.0	224.3	3.49	6.51	3.25	YES HRDOW
L0000054	0	0.32320E-04	449143.0	3762529.8	224.4	3.49	6.51	3.25	YES HRDOW
L0000055	0	0.32320E-04	449156.1	3762534.7	224.4	3.49	6.51	3.25	YES HRDOW
L0000056	0	0.32320E-04	449169.3	3762539.5	224.5	3.49	6.51	3.25	YES HRDOW
L0000057	0	0.32320E-04	449182.4	3762544.4	224.5	3.49	6.51	3.25	YES HRDOW
L0000058	0	0.32320E-04	449195.5	3762549.2	224.5	3.49	6.51	3.25	YES HRDOW
L0000059	0	0.32320E-04	449208.7	3762554.1	224.5	3.49	6.51	3.25	YES HRDOW
L0000060	0	0.32320E-04	449221.8	3762558.9	224.5	3.49	6.51	3.25	YES HRDOW
L0000061	0	0.32320E-04	449234.9	3762563.8	224.5	3.49	6.51	3.25	YES HRDOW
L0000062	0	0.32320E-04	449248.1	3762568.6	224.5	3.49	6.51	3.25	YES HRDOW
L0000063	0	0.32320E-04	449261.2	3762573.4	224.5	3.49	6.51	3.25	YES HRDOW
L0000064	0	0.32320E-04	449274.3	3762578.3	224.4	3.49	6.51	3.25	YES HRDOW
L0000065	0	0.32320E-04	449287.5	3762583.1	224.3	3.49	6.51	3.25	YES HRDOW
L0000066	0	0.32320E-04	449300.6	3762588.0	224.4	3.49	6.51	3.25	YES HRDOW
L0000067	0	0.32320E-04	449313.7	3762592.8	224.4	3.49	6.51	3.25	YES HRDOW

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	VOL1 , VOL2 , VOL3 , VOL4 , VOL5 , VOL6 , VOL7 , VOL8 ,
	VOL9 , VOL10 , VOL11 , VOL12 , VOL13 , VOL14 , VOL15 , VOL16 ,

```
            VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
            VOL23       , VOL24       ,

            VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
            VOL31       , VOL32       ,

            VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
            VOL39       , VOL40       ,

            VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
            VOL47       , VOL48       ,

            VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
            VOL55       , VOL56       ,

            VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
            VOL63       , VOL64       ,

            VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
            L0000001    , L0000002    ,

            L0000003    , L0000004    , L0000005    , L0000006    , L0000007    , L0000008    ,
            L0000009    , L0000010    ,

            L0000011    , L0000012    , L0000013    , L0000014    , L0000015    , L0000016    ,
            L0000017    , L0000018    ,

            L0000019    , L0000020    , L0000021    , L0000022    , L0000023    , L0000024    ,
            L0000025    , L0000026    ,

            L0000027    , L0000028    , L0000029    , L0000030    , L0000031    , L0000032    ,
            L0000033    , L0000034    ,

            L0000035    , L0000036    , L0000037    , L0000038    , L0000039    , L0000040    ,
            L0000041    , L0000042    ,

            L0000043    , L0000044    , L0000045    , L0000046    , L0000047    , L0000048    ,
            L0000049    , L0000050    ,

            L0000051    , L0000052    , L0000053    , L0000054    , L0000055    , L0000056    ,
            L0000057    , L0000058    ,

            L0000059    , L0000060    , L0000061    , L0000062    , L0000063    , L0000064    ,
            L0000065    , L0000066    ,

            L0000067    ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                      *** SOURCE IDs DEFINED AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                  SOURCE IDs
  --------   ---------                                  ----------


              2035210.   VOL1        , VOL2        , VOL3        , VOL4        , VOL5        ,
              VOL6        , VOL7        ,
 VOL8        ,

            VOL9        , VOL10       , VOL11       , VOL12       , VOL13       , VOL14
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            VOL15       , VOL16       ,

            VOL17       , VOL18       , VOL19       , VOL20       , VOL21       , VOL22       ,
            VOL23       , VOL24       ,

            VOL25       , VOL26       , VOL27       , VOL28       , VOL29       , VOL30       ,
            VOL31       , VOL32       ,

            VOL33       , VOL34       , VOL35       , VOL36       , VOL37       , VOL38       ,
            VOL39       , VOL40       ,

            VOL41       , VOL42       , VOL43       , VOL44       , VOL45       , VOL46       ,
            VOL47       , VOL48       ,

            VOL49       , VOL50       , VOL51       , VOL52       , VOL53       , VOL54       ,
            VOL55       , VOL56       ,

            VOL57       , VOL58       , VOL59       , VOL60       , VOL61       , VOL62       ,
            VOL63       , VOL64       ,

            VOL65       , VOL66       , VOL67       , VOL68       , VOL69       , VOL70       ,
            L0000001    , L0000002    ,

            L0000003    , L0000004    , L0000005    , L0000006    , L0000007    , L0000008    ,
            L0000009    , L0000010    ,

            L0000011    , L0000012    , L0000013    , L0000014    , L0000015    , L0000016    ,
            L0000017    , L0000018    ,

            L0000019    , L0000020    , L0000021    , L0000022    , L0000023    , L0000024    ,
            L0000025    , L0000026    ,

            L0000027    , L0000028    , L0000029    , L0000030    , L0000031    , L0000032    ,
            L0000033    , L0000034    ,

            L0000035    , L0000036    , L0000037    , L0000038    , L0000039    , L0000040    ,
            L0000041    , L0000042    ,

            L0000043    , L0000044    , L0000045    , L0000046    , L0000047    , L0000048    ,
            L0000049    , L0000050    ,

            L0000051    , L0000052    , L0000053    , L0000054    , L0000055    , L0000056    ,
            L0000057    , L0000058    ,

            L0000059    , L0000060    , L0000061    , L0000062    , L0000063    , L0000064    ,
            L0000065    , L0000066    ,

            L0000067    ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL1         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL2         ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL3          ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL4          ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = VOL5   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL7 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL8 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

 SOURCE ID = VOL9   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

- - - - - - - - - - - - - - - - - -

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL11 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - - - - - - - - - - - - - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL12 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22

*** AERMET - VERSION 16216 ***

*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL13 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL14 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL15 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

```
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL16        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL17        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
```

.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL18 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL20        ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:1
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL21 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL22 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00												

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = VOL23 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL25        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL26        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL27        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

(HRDOW) *

SOURCE ID = VOL28 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL30 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL31 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL32        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL33        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
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```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL34        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL35        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
```

- - - -

```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL37        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL38        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
```

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL39 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

DAY OF WEEK = SUNDAY

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL41 ; SOURCE TYPE = VOLUME :

DAY OF WEEK = WEEKDAY

DAY OF WEEK = SATURDAY

DAY OF WEEK = SUNDAY

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL42 ; SOURCE TYPE = VOLUME :

DAY OF WEEK = WEEKDAY

```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL43        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = VOL44        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL45        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL46 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL47 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL48 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL49 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL50        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL51        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
```

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL52 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL53 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL54 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL55 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL56 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL57 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR						

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL58 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR						

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01				

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL59 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL62 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = VOL63 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = VOL64 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL66        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL67        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL68        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
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```
 SOURCE ID = VOL69        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = VOL70        ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000001   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000003 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14
.0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000004 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6
.0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14
.1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22
.0000E+00 23 .0000E+00 24 .0000E+00

```
- - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000007     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - -
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000008 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22

*** AERMET - VERSION 16216 ***

*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000009 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000010 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000011 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

```
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000012     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000013     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
```

```
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000014     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

                    PAGE  92
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000015     ; SOURCE TYPE = VOLUME   :
```

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 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

                    PAGE  93
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000016     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:1
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000017 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000018 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00												

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000019 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000020 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000021     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000022     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
```

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000023     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
```

(HRDOW) *

SOURCE ID = L0000024 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000026 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000027 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

```
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000030     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000031     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
```

- - - -

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000033 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000034 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00										

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000035 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000036 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14

DAY OF WEEK = SUNDAY

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000037 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000039     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
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 SOURCE ID = L0000040     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000041     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000042 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000043 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6			

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000044 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000045 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

```
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000046     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000047     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
```

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000048 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000049 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000050 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

DAY OF WEEK = WEEKDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01 13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SATURDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

DAY OF WEEK = SUNDAY

1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00 5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00

9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00 13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00

17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00 21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000051 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000052 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00												

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000053 ; SOURCE TYPE = VOLUME :

HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR

- - - -

```
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000055     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
   .1000E+01   15  .1000E+01   16  .1000E+01
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
   .0000E+00    7  .0000E+00    8  .0000E+00
   9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
   .0000E+00   15  .0000E+00   16  .0000E+00
  17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
  .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000056     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
```

```
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000058 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								

FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 13:48:15

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000059 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01
15	.1000E+01	16	.1000E+01	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SATURDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00
15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00
22	.0000E+00	23	.0000E+00	24	.0000E+00								
DAY OF WEEK = SUNDAY													
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00
8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
(HRDOW) *

SOURCE ID = L0000060 ; SOURCE TYPE = VOLUME :
HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR SCALAR HOUR
SCALAR HOUR SCALAR HOUR SCALAR
- - - -

```
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000062     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000063     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
```

```
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000064     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
                                          DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                          DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

                     PAGE 142
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *
```

```
 SOURCE ID = L0000065     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                          ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                   (HRDOW) *

 SOURCE ID = L0000066     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
  SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14
    .1000E+01   15  .1000E+01   16  .1000E+01
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6
    .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00   13  .0000E+00   14
    .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00   21  .0000E+00   22
   .0000E+00   23  .0000E+00   24  .0000E+00
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
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                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK
                  (HRDOW) *

SOURCE ID = L0000067   ; SOURCE TYPE = VOLUME   :
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
 SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - -

243.8,   243.8,   0.0);
(447365.0, 3764456.4,   243.3,   243.3,   0.0);   (447406.6, 3764460.6,
243.1,   243.1,   0.0);
(447441.5, 3764460.0,   243.2,   243.2,   0.0);   (447466.9, 3764460.2,
243.2,   243.2,   0.0);
(447490.0, 3764460.6,   242.9,   242.9,   0.0);   (447515.5, 3764460.4,
242.6,   242.6,   0.0);
(447573.1, 3764454.3,   241.6,   241.6,   0.0);   (447598.5, 3764445.2,
241.8,   241.8,   0.0);
(447652.9, 3764439.7,   243.1,   243.1,   0.0);   (447692.9, 3764439.5,
243.1,   243.1,   0.0);
(447713.8, 3764439.1,   243.1,   243.1,   0.0);   (447732.0, 3764438.7,
243.2,   243.2,   0.0);
(447751.1, 3764438.7,   243.3,   243.3,   0.0);   (447768.8, 3764437.5,
243.4,   243.4,   0.0);
(447789.1, 3764437.7,   243.7,   243.7,   0.0);   (447805.7, 3764437.3,
243.8,   243.8,   0.0);
(447824.0, 3764437.2,   243.9,   243.9,   0.0);   (447841.6, 3764437.9,
243.9,   243.9,   0.0);
(447861.7, 3764437.5,   243.9,   243.9,   0.0);   (447881.7, 3764435.2,
243.8,   243.8,   0.0);
(447902.8, 3764436.2,   243.8,   243.8,   0.0);   (447920.9, 3764435.3,
243.8,   243.8,   0.0);
(447942.2, 3764435.3,   243.8,   243.8,   0.0);   (447962.8, 3764434.8,
243.8,   243.8,   0.0);
(447980.7, 3764435.2,   243.8,   243.8,   0.0);   (448004.7, 3764435.2,
243.6,   243.6,   0.0);
(448021.2, 3764434.7,   243.0,   243.0,   0.0);   (447662.7, 3764379.6,
243.6,   243.6,   0.0);
(447681.3, 3764321.0,   243.4,   243.4,   0.0);   (447682.6, 3764285.8,
242.3,   242.3,   0.0);
(447662.5, 3764238.4,   241.1,   241.1,   0.0);   (447661.7, 3764207.4,
240.2,   240.2,   0.0);
(447683.1, 3764162.3,   239.1,   239.1,   0.0);   (447681.0, 3764145.9,
238.7,   238.7,   0.0);
(447679.6, 3764130.3,   238.2,   238.2,   0.0);   (447680.8, 3764112.0,
237.8,   237.8,   0.0);
(447681.5, 3764096.4,   237.6,   237.6,   0.0);   (447680.8, 3764078.8,
237.4,   237.4,   0.0);
(447680.0, 3764064.3,   237.4,   237.4,   0.0);   (447681.0, 3764045.8,
237.5,   237.5,   0.0);
(447680.6, 3764029.7,   237.5,   237.5,   0.0);   (447657.2, 3763992.0,
237.3,   237.3,   0.0);
(447656.3, 3763967.1,   237.5,   237.5,   0.0);   (447657.2, 3763928.7,
237.5,   237.5,   0.0);
(447657.2, 3763902.2,   237.6,   237.6,   0.0);   (447657.5, 3763869.0,
237.3,   237.3,   0.0);
(447656.2, 3763834.9,   237.4,   237.4,   0.0);   (447655.9, 3763808.3,
237.5,   237.5,   0.0);
(447657.1, 3763786.0,   237.6,   237.6,   0.0);   (447701.2, 3763782.1,
237.7,   237.7,   0.0);
(447856.9, 3763749.7,   236.2,   236.2,   0.0);   (447855.0, 3763730.1,
236.0,   236.0,   0.0);
(447854.3, 3763698.3,   235.6,   235.6,   0.0);   (447855.3, 3763676.8,
235.4,   235.4,   0.0);
(447675.5, 3763287.5,   232.0,   232.0,   0.0);   (448481.3, 3763485.3,
235.6,   235.6,   0.0);
(448480.0, 3763195.5,   232.0,   232.0,   0.0);   (448478.6, 3762907.2,
229.4,   229.4,   0.0);
(448497.9, 3762714.1,   228.1,   228.1,   0.0);   (448507.9, 3762487.7,
225.8,   225.8,   0.0);
(448480.5, 3762358.0,   224.8,   224.8,   0.0);   (448462.7, 3762339.8,
224.6,   224.6,   0.0);
(448464.5, 3762265.9,   223.3,   223.3,   0.0);   (448461.6, 3762165.2,
222.0,   222.0,   0.0);
(448472.6, 3762064.7,   220.0,   220.0,   0.0);   (448460.5, 3762016.7,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447269.3, 3761967.7, 219.7, 219.7, 0.0); (447389.5, 3761908.8, 220.0, 220.0, 0.0);
(447019.1, 3761964.3, 219.0, 219.0, 0.0); (447060.3, 3761963.6, 219.0, 219.0, 0.0);
(446975.3, 3761963.2, 219.0, 219.0, 0.0); (446940.9, 3761953.8, 219.0, 219.0, 0.0);
(446865.7, 3761974.5, 219.9, 219.9, 0.0); (446795.1, 3761957.9, 220.0, 220.0, 0.0);
(446757.6, 3761965.8, 220.0, 220.0, 0.0); (446709.3, 3761967.7, 220.0, 220.0, 0.0);
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(446797.8, 3762540.0, 225.7, 225.7, 0.0); (446797.5, 3762560.2, 225.9, 225.9, 0.0);
(446798.6, 3762584.8, 226.1, 226.1, 0.0); (446798.1, 3762604.4, 226.5, 226.5, 0.0);
(446799.7, 3762654.1, 227.5, 227.5, 0.0); (446800.0, 3762674.6, 228.0, 228.0, 0.0);
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(446800.0, 3762735.7, 228.6, 228.6, 0.0); (446797.8, 3762748.0, 228.6, 228.6, 0.0);
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(446802.4, 3762949.2, 228.3, 228.3, 0.0); (446803.0, 3762967.3, 228.3, 228.3, 0.0);
(446802.7, 3762986.1, 228.4, 228.4, 0.0); (446802.2, 3763003.3, 228.6, 228.6, 0.0);
(446802.2, 3763021.9, 228.8, 228.8, 0.0); (446802.7, 3763040.7, 229.0, 229.0, 0.0);
(446803.0, 3763059.3, 229.2, 229.2, 0.0); (446803.5, 3763077.0, 229.3, 229.3, 0.0);
(446756.3, 3763085.3, 228.7, 228.7, 0.0); (446807.7, 3763646.4, 234.6, 234.6, 0.0);
(446808.3, 3763674.7, 234.8, 234.8, 0.0); (446807.7, 3763694.6, 234.9, 234.9, 0.0);
(446808.3, 3763710.6, 235.0, 235.0, 0.0); (446808.3, 3763726.4, 235.0, 235.0, 0.0);
(446808.0, 3763742.1, 235.0, 235.0, 0.0); (446808.3, 3763756.9,

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    ( 446808.6, 3763798.3,     235.3,     235.3,       0.0);         ( 446810.2, 3764484.1,
    241.7,     241.7,       0.0);
    ( 446781.3, 3764475.1,     241.7,     241.7,       0.0);         ( 446722.6, 3764455.8,
    241.4,     241.4,       0.0);
    ( 446170.3, 3764559.8,     242.5,     242.5,       0.0);         ( 446872.3, 3763190.3,
    231.5,     231.5,       0.0);
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    ( 447010.6, 3763193.3,     231.7,     231.7,       0.0);         ( 447036.6, 3763193.6,
    231.7,     231.7,       0.0);
    ( 447053.6, 3763193.3,     231.7,     231.7,       0.0);         ( 447076.4, 3763192.3,
    231.8,     231.8,       0.0);
    ( 447093.5, 3763192.6,     231.9,     231.9,       0.0);         ( 447122.0, 3763192.6,
    231.7,     231.7,       0.0);
    ( 447138.8, 3763192.3,     231.7,     231.7,       0.0);         ( 447168.0, 3763192.3,
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    ( 447170.7, 3763172.2,     231.4,     231.4,       0.0);         ( 447170.4, 3763158.2,
    231.2,     231.2,       0.0);
    ( 447169.3, 3763144.9,     231.2,     231.2,       0.0);         ( 447147.5, 3763107.4,
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    ( 447146.6, 3763084.2,     231.4,     231.4,       0.0);         ( 447146.9, 3763064.3,
    231.1,     231.1,       0.0);
    ( 447149.9, 3763038.9,     230.8,     230.8,       0.0);         ( 447148.6, 3763019.8,
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    ( 447148.6, 3762997.4,     230.2,     230.2,       0.0);         ( 447206.1, 3762958.5,
    229.5,     229.5,       0.0);
    ( 447209.3, 3762922.5,     229.1,     229.1,       0.0);         ( 447208.4, 3762890.7,
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    ( 447145.8, 3762888.9,     228.9,     228.9,       0.0);         ( 447122.5, 3762889.1,
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    ( 447094.3, 3762890.0,     228.9,     228.9,       0.0);         ( 447071.0, 3762890.4,
    229.0,     229.0,       0.0);
    ( 447043.6, 3762889.7,     228.9,     228.9,       0.0);         ( 447017.8, 3762888.9,
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    ( 446992.1, 3762889.1,     228.9,     228.9,       0.0);         ( 446964.3, 3762888.3,
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    ( 446940.4, 3762888.5,     228.8,     228.8,       0.0);         ( 446911.2, 3762888.1,
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    ( 446885.3, 3762889.7,     228.6,     228.6,       0.0);         ( 446862.1, 3762888.9,
    228.6,     228.6,       0.0);
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

                    PAGE 147
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                        *** DISCRETE CARTESIAN RECEPTORS ***
                                      (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

    ( 446871.5, 3762779.6,     228.6,     228.6,       0.0);         ( 446926.3, 3762768.7,
    228.6,     228.6,       0.0);
    ( 446983.7, 3762774.2,     228.6,     228.6,       0.0);         ( 447009.0, 3762774.0,
    228.5,     228.5,       0.0);
    ( 447030.5, 3762774.4,     228.2,     228.2,       0.0);         ( 447055.4, 3762774.0,
    228.0,     228.0,       0.0);
    ( 447076.9, 3762774.2,     228.1,     228.1,       0.0);         ( 447101.2, 3762774.4,
    228.3,     228.3,       0.0);
    ( 447123.8, 3762774.0,     228.3,     228.3,       0.0);         ( 447148.1, 3762775.0,
    228.4,     228.4,       0.0);
    ( 447170.2, 3762774.8,     228.5,     228.5,       0.0);         ( 447196.8, 3762775.5,
    228.5,     228.5,       0.0);
    ( 447242.1, 3762776.6,     228.5,     228.5,       0.0);         ( 447262.3, 3762776.0,
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228.4, 228.4, 0.0);
(447294.6, 3762776.3, 228.3, 228.3, 0.0); (447313.1, 3762775.5,
228.3, 228.3, 0.0);
(447313.4, 3762749.5, 228.3, 228.3, 0.0); (447327.9, 3762713.1,
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(447327.4, 3762679.9, 227.5, 227.5, 0.0); (447327.7, 3762657.0,
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(447327.3, 3762636.8, 226.9, 226.9, 0.0); (447327.5, 3762612.9,
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(447327.3, 3762592.2, 226.2, 226.2, 0.0); (447327.0, 3762569.7,
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(447327.3, 3762547.9, 225.8, 225.8, 0.0); (447326.6, 3762524.7,
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(447326.6, 3762506.1, 225.4, 225.4, 0.0); (447327.5, 3762477.5,
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(447200.3, 3762430.6, 223.9, 223.9, 0.0); (447156.8, 3762430.2,
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(447131.8, 3762430.9, 223.6, 223.6, 0.0); (447102.7, 3762430.6,
223.4, 223.4, 0.0);
(447079.1, 3762430.9, 223.1, 223.1, 0.0); (447034.9, 3762433.6,
223.1, 223.1, 0.0);
(446995.5, 3762433.6, 223.1, 223.1, 0.0); (446972.7, 3762434.3,
223.2, 223.2, 0.0);
(446941.4, 3762434.6, 223.5, 223.5, 0.0); (446916.1, 3762436.9,
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(446849.2, 3762455.8, 224.1, 224.1, 0.0); (446848.8, 3762702.0,
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(446849.5, 3762754.7, 228.7, 228.7,
0.0);

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file:
KONT_V9_ADJU\KONT_v9.SFC Met
Version: 16216
Profile file:
KONT_V9_ADJU\KONT_v9.PFL
Surface format:
FREE

Profile format:
FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-16.4	0.171	-9.000	-9.000	-999.	170.	32.3	0.09	1.12	1.00	2.03	43.	7.9	285.9	2.0
12	01	01	1	02	-18.8	0.194	-9.000	-9.000	-999.	205.	41.3	0.09	1.12	1.00	2.28	34.	7.9	285.4	2.0
12	01	01	1	03	-17.8	0.182	-9.000	-9.000	-999.	187.	36.5	0.09	1.12	1.00	2.15	24.	7.9	282.0	2.0
12	01	01	1	04	-9.4	0.128	-9.000	-9.000	-999.	110.	19.6	0.09	1.12	1.00	1.55	41.	7.9	283.1	2.0
12	01	01	1	05	-16.9	0.173	-9.000	-9.000	-999.	173.	33.0	0.09	1.12	1.00	2.05	39.	7.9	280.4	2.0
12	01	01	1	06	-8.0	0.117	-9.000	-9.000	-999.	97.	17.8	0.09	1.12	1.00	1.43	21.	7.9	282.0	2.0
12	01	01	1	07	-7.6	0.115	-9.000	-9.000	-999.	93.	17.4	0.09	1.12	1.00	1.40	31.	7.9	282.5	2.0
12	01	01	1	08	-13.6	0.184	-9.000	-9.000	-999.	190.	40.5	0.09	1.12	0.54	2.16	34.	7.9	284.2	2.0
12	01	01	1	09	28.4	0.126	0.300	0.011	33.	108.	-6.2	0.09	1.12	0.32	1.03	29.	7.9	289.2	2.0
12	01	01	1	10	79.8	0.133	0.607	0.010	99.	116.	-2.6	0.09	1.12	0.25	0.94	173.	7.9	292.5	2.0
12	01	01	1	11	115.8	0.137	0.932	0.006	246.	121.	-2.0	0.09	1.12	0.22	0.92	172.	7.9	295.4	2.0
12	01	01	1	12	133.7	0.139	1.197	0.005	453.	125.	-1.8	0.09	1.12	0.21	0.92	146.	7.9	297.5	2.0
12	01	01	1	13	133.2	0.160	1.354	0.005	657.	153.	-2.7	0.09	1.12	0.21	1.14	117.	7.9	299.9	2.0
12	01	01	1	14	113.5	0.159	1.454	0.005	955.	151.	-3.1	0.09	1.12	0.23	1.16	285.	7.9	300.9	2.0
12	01	01	1	15	76.2	0.166	1.350	0.005	1138.	163.	-5.3	0.09	1.12	0.26	1.3

```
 72.    7.9  302.0    2.0
 12 01 01   1 16   23.5  0.175  0.925  0.005 1183.  175.    -19.9  0.09   1.12   0.35    1.65
 107.    7.9  301.4    2.0
 12 01 01   1 17   -6.1  0.107 -9.000 -9.000 -999.   86.     18.0  0.09   1.12   0.63    1.31
 107.    7.9  298.1    2.0
 12 01 01   1 18  -11.1  0.141 -9.000 -9.000 -999.  127.     22.1  0.09   1.12   1.00    1.69
 86.    7.9  293.1    2.0
 12 01 01   1 19   -3.2  0.076 -9.000 -9.000 -999.   51.     11.8  0.09   1.12   1.00    0.91
 64.    7.9  292.0    2.0
 12 01 01   1 20   -2.3  0.066 -9.000 -9.000 -999.   41.     11.2  0.09   1.12   1.00    0.74
 73.    7.9  288.8    2.0
 12 01 01   1 21  -10.0  0.133 -9.000 -9.000 -999.  116.     20.5  0.09   1.12   1.00    1.60
 14.    7.9  288.1    2.0
 12 01 01   1 22  -19.4  0.201 -9.000 -9.000 -999.  216.     44.5  0.09   1.12   1.00    2.36
 22.    7.9  287.5    2.0
 12 01 01   1 23  -23.7  0.246 -9.000 -9.000 -999.  293.     66.5  0.09   1.12   1.00    2.86
 40.    7.9  287.0    2.0
 12 01 01   1 24  -12.3  0.147 -9.000 -9.000 -999.  139.     23.8  0.09   1.12   1.00    1.76
 40.    7.9  283.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01    7.9 1   43.    2.03   286.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       13:48:15

                      PAGE 150
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5 YEARS FOR
                   SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                                 VOL3        , VOL4        , VOL5        ,
                VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
                VOL11       , VOL12       , VOL13       ,
                VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
                VOL19       , VOL20       , VOL21       ,
                VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
                VOL27       , VOL28       ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF DPM      IN
                                       MICROGRAMS/M**3                          **

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
       (M)        CONC
 - - -
```

447066.60 3764465.73 0.00090 447099.65
3764456.17 0.00106
447145.28 3764468.27 0.00100 447175.54
3764468.03 0.00104
447205.32 3764468.27 0.00104 447232.43
3764467.55 0.00102
447264.02 3764467.30 0.00097 447294.77
3764466.94 0.00092
447364.97 3764456.41 0.00083 447406.61
3764460.65 0.00074
447441.47 3764460.04 0.00069 447466.88
3764460.20 0.00066
447490.00 3764460.56 0.00063 447515.50
3764460.40 0.00060
447573.06 3764454.29 0.00056 447598.49
3764445.22 0.00055
447652.90 3764439.70 0.00051 447692.92
3764439.51 0.00049
447713.82 3764439.11 0.00048 447731.95
3764438.72 0.00047
447751.07 3764438.72 0.00046 447768.82
3764437.53 0.00045
447789.12 3764437.73 0.00044 447805.68
3764437.34 0.00044
447824.02 3764437.20 0.00043 447841.61
3764437.87 0.00043
447861.72 3764437.53 0.00042 447881.66
3764435.18 0.00041
447902.78 3764436.19 0.00041 447920.87
3764435.35 0.00040
447942.16 3764435.35 0.00040 447962.77
3764434.85 0.00039
447980.70 3764435.18 0.00039 448004.66
3764435.18 0.00038
448021.25 3764434.68 0.00038 447662.70
3764379.63 0.00056
447681.30 3764320.98 0.00059 447682.64
3764285.79 0.00062
447662.53 3764238.37 0.00068 447661.70
3764207.37 0.00072
447683.14 3764162.29 0.00076 447680.97
3764145.87 0.00079
447679.63 3764130.28 0.00082 447680.80
3764112.02 0.00086
447681.47 3764096.43 0.00089 447680.80
3764078.84 0.00094
447679.96 3764064.26 0.00098 447680.97
3764045.82 0.00104
447680.63 3764029.74 0.00110 447657.17
3763992.03 0.00133
447656.33 3763967.06 0.00151 447657.17
3763928.69 0.00188
447657.17 3763902.21 0.00223 447657.51
3763869.03 0.00269
447656.16 3763834.94 0.00308 447655.93
3763808.27 0.00318
447657.09 3763786.00 0.00311 447701.21
3763782.14 0.00232
447856.92 3763749.71 0.00126 447854.99
3763730.13 0.00127
447854.35 3763698.35 0.00126 447855.31
3763676.84 0.00126
447675.51 3763287.46 0.00265 448481.33
3763485.29 0.00050
448479.95 3763195.53 0.00061 448478.56
3762907.16 0.00130

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): VOL1 , VOL2 ,
VOL3 , VOL4 , VOL5 ,
VOL6 , VOL7 , VOL8 , VOL9 , VOL10 ,
VOL11 , VOL12 , VOL13 ,
VOL14 , VOL15 , VOL16 , VOL17 , VOL18 ,
VOL19 , VOL20 , VOL21 ,
VOL22 , VOL23 , VOL24 , VOL25 , VOL26 ,
VOL27 , VOL28 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	0.00729	448462.73	3762339.82	0.00570
448464.47	3762265.93	0.00382	448461.57	3762165.17	0.00302
448472.57	3762064.71	0.00149	448460.48	3762016.72	0.00102
448234.63	3761951.18	0.00089	448081.42	3761952.78	0.00098
448025.53	3761955.99	0.00102	447506.75	3761967.63	0.00110
447269.29	3761967.74	0.00106	447389.46	3761908.79	0.00068
447019.14	3761964.34	0.00085	447060.33	3761963.58	0.00088
446975.31	3761963.20	0.00079	446940.92	3761953.76	0.00068
446865.72	3761974.54	0.00065	446795.06	3761957.91	0.00044
446757.65	3761965.85	0.00039	446709.33	3761967.74	0.00033
446796.42	3762028.62	0.00063	446796.97	3762045.28	0.00068
446796.70	3762089.51	0.00079	446796.15	3762105.89	0.00083
446796.70	3762137.29	0.00088	446796.15	3762153.39	0.00090
446772.40	3762215.37	0.00074	446795.06	3762321.03	0.00084
446796.42	3762450.98	0.00049	446796.42	3762471.18	0.00045
446797.24	3762496.03	0.00041	446798.06	3762516.51	0.00039
446797.79	3762539.98	0.00036	446797.52	3762560.19	0.00035
446798.61	3762584.76	0.00033	446798.06	3762604.42	0.00032

```
        446799.70    3762654.11        0.00030                      446799.97
        3762674.58         0.00029
        446800.25    3762700.25        0.00029                      446800.25
        3762721.27         0.00029
        446799.97    3762735.74        0.00028                      446797.79
        3762748.02         0.00028
        446802.16    3762913.47        0.00029                      446802.16
        3762932.58         0.00030
        446802.43    3762949.24        0.00030                      446802.98
        3762967.26         0.00031
        446802.70    3762986.09        0.00032                      446802.16
        3763003.29         0.00032
        446802.16    3763021.86        0.00033                      446802.70
        3763040.70         0.00034
        446802.98    3763059.26        0.00035                      446803.52
        3763077.01         0.00037
        446756.29    3763085.26        0.00034                      446807.68
        3763646.39         0.00099
        446808.32    3763674.66        0.00100                      446807.68
        3763694.57         0.00099
        446808.32    3763710.63        0.00099                      446808.32
        3763726.37         0.00098
        446808.00    3763742.11        0.00097                      446808.32
        3763756.89         0.00098
        446808.64    3763798.32        0.00097                      446810.25
        3764484.08         0.00029
        446781.34    3764475.08        0.00027                      446722.56
        3764455.81         0.00023
        446170.32    3764559.79        0.00009                      446872.29
        3763190.26         0.00074
        446925.22    3763179.19        0.00079                      446984.86
        3763194.88         0.00105
        447010.56    3763193.28        0.00105                      447036.58
        3763193.60         0.00109
        447053.61    3763193.28        0.00112                      447076.42
        3763192.31         0.00117
        447093.45    3763192.63        0.00122                      447122.05
        3763192.63         0.00129
        447138.75    3763192.31        0.00133                      447167.99
        3763192.31         0.00143
        447170.68    3763172.18        0.00126                      447170.41
        3763158.25         0.00118
        447169.31    3763144.87        0.00113                      447147.46
        3763107.45         0.00092
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5 YEARS FOR
                   SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):     VOL1        , VOL2        ,
                                  VOL3        , VOL4        , VOL5        ,
               VOL6        , VOL7        , VOL8        , VOL9        , VOL10       ,
               VOL11       , VOL12       , VOL13       ,
               VOL14       , VOL15       , VOL16       , VOL17       , VOL18       ,
               VOL19       , VOL20       , VOL21       ,
               VOL22       , VOL23       , VOL24       , VOL25       , VOL26       ,
               VOL27       , VOL28       ,  . . .      ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                  ** CONC OF DPM      IN
```

MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.00088	447146.92	3763064.30	0.00085
447149.92	3763038.90	0.00082	447148.56	3763019.78	0.00079
447148.56	3762997.39	0.00076	447206.08	3762958.49	0.00100
447209.33	3762922.51	0.00102	447208.40	3762890.70	0.00100
447145.83	3762888.87	0.00067	447122.55	3762889.07	0.00061
447094.33	3762890.05	0.00055	447071.04	3762890.45	0.00051
447043.61	3762889.66	0.00047	447017.76	3762888.87	0.00044
446992.11	3762889.07	0.00041	446964.28	3762888.28	0.00039
446940.41	3762888.47	0.00037	446911.20	3762888.08	0.00035
446885.35	3762889.66	0.00033	446862.07	3762888.87	0.00032
446871.45	3762779.57	0.00032	446926.31	3762768.72	0.00035
446983.74	3762774.24	0.00040	447009.00	3762774.05	0.00042
447030.51	3762774.44	0.00044	447055.37	3762774.05	0.00047
447076.88	3762774.24	0.00050	447101.16	3762774.44	0.00053
447123.85	3762774.05	0.00057	447148.12	3762775.03	0.00061
447170.23	3762774.84	0.00066	447196.78	3762775.48	0.00073
447242.12	3762776.57	0.00089	447262.33	3762776.03	0.00097
447294.56	3762776.30	0.00114	447313.13	3762775.48	0.00124
447313.40	3762749.53	0.00119	447327.86	3762713.09	0.00136
447327.36	3762679.87	0.00137	447327.74	3762657.02	0.00136
447327.28	3762636.82	0.00135	447327.51	3762612.90	0.00139
447327.28	3762592.24	0.00145	447327.04	3762569.71	0.00157
447327.28	3762547.89	0.00172	447326.58	3762524.67	0.00188
447326.58	3762506.09	0.00202	447327.51	3762477.53	0.00229
447325.88	3762454.31	0.00259	447225.58	3762432.95	0.00249
447200.27	3762430.63	0.00249	447156.85	3762430.16	0.00255
447131.77	3762430.86	0.00253	447102.74	3762430.63	0.00240
447079.06	3762430.86	0.00219	447034.94	3762433.65	0.00186
446995.47	3762433.65	0.00178	446972.71	3762434.34	0.00173
446941.37	3762434.58	0.00158	446916.06	3762436.90	0.00128

```
        446876.35    3762436.90        0.00091                      446848.85
        3762647.05         0.00033
        446848.85    3762563.17        0.00039                      446849.17
        3762509.82         0.00047
        446849.17    3762455.82        0.00063                      446848.85
        3762702.00         0.00031
        446849.49    3762754.71
        0.00031

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       13:48:15

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER   5
                                  YEARS ***


                                   ** CONC OF DPM      IN
                                   MICROGRAMS/M**3                          **


           NETWORK
GROUP ID                        AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL,
ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.00729 AT (  448480.49,  3762357.96,   224.76,
224.76,    0.00)  DC
          2ND HIGHEST VALUE IS       0.00570 AT (  448462.73,  3762339.82,   224.57,
          224.57,    0.00)  DC
          3RD HIGHEST VALUE IS       0.00561 AT (  448507.91,  3762487.71,   225.77,
          225.77,    0.00)  DC
          4TH HIGHEST VALUE IS       0.00382 AT (  448464.47,  3762265.93,   223.32,
          223.32,    0.00)  DC
          5TH HIGHEST VALUE IS       0.00318 AT (  447655.93,  3763808.27,   237.51,
          237.51,    0.00)  DC
          6TH HIGHEST VALUE IS       0.00311 AT (  447657.09,  3763786.00,   237.62,
          237.62,    0.00)  DC
          7TH HIGHEST VALUE IS       0.00308 AT (  447656.16,  3763834.94,   237.37,
          237.37,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00302 AT (  448461.57,  3762165.17,   221.96,
          221.96,    0.00)  DC
          9TH HIGHEST VALUE IS       0.00269 AT (  447657.51,  3763869.03,   237.32,
          237.32,    0.00)  DC
         10TH HIGHEST VALUE IS       0.00265 AT (  447675.51,  3763287.46,   232.04,
         232.04,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       13:48:15

                     PAGE 154
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***
```

```
 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of         1628 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of         1278 Calm Hours Identified

A Total of          350 Missing Hours Identified (  0.80 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186    2215       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
ME W187    2215       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/19/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\14822 Ops HRA\14822 Ops HRA.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 1 PERIOD
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID OTHER
   RUNORNOT RUN
   ERRORFIL "14822 Ops HRA.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 2CIDLE
** DESCRSRC 2C Idle
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
** 447327.637, 3763415.729, 233.12, 3.49, 4.00
** 447327.637, 3763285.645, 232.22, 3.49, 4.00
** ------------------------------------------------------------------------
   LOCATION L0000119     VOLUME   447327.637 3763411.434 233.11
   LOCATION L0000120     VOLUME   447327.637 3763402.844 233.08
   LOCATION L0000121     VOLUME   447327.637 3763394.254 233.04
   LOCATION L0000122     VOLUME   447327.637 3763385.664 232.99
   LOCATION L0000123     VOLUME   447327.637 3763377.074 232.93
   LOCATION L0000124     VOLUME   447327.637 3763368.484 232.88
   LOCATION L0000125     VOLUME   447327.637 3763359.894 232.80
   LOCATION L0000126     VOLUME   447327.637 3763351.304 232.71
   LOCATION L0000127     VOLUME   447327.637 3763342.714 232.63
   LOCATION L0000128     VOLUME   447327.637 3763334.124 232.55
   LOCATION L0000129     VOLUME   447327.637 3763325.534 232.52
   LOCATION L0000130     VOLUME   447327.637 3763316.944 232.49
   LOCATION L0000131     VOLUME   447327.637 3763308.354 232.45
   LOCATION L0000132     VOLUME   447327.637 3763299.764 232.40
   LOCATION L0000133     VOLUME   447327.637 3763291.174 232.35
** End of LINE VOLUME Source ID = 2CIDLE
** ------------------------------------------------------------------------
```

```
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 3CIDLE
** DESCRSRC 3C Idle
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
** 447353.346, 3763116.330, 231.59, 3.49, 4.00
** 447353.346, 3762985.165, 229.80, 3.49, 4.00
** ----------------------------------------------------------------------
   LOCATION L0000104     VOLUME   447353.346 3763112.035 231.50
   LOCATION L0000105     VOLUME   447353.346 3763103.445 231.42
   LOCATION L0000106     VOLUME   447353.346 3763094.855 231.33
   LOCATION L0000107     VOLUME   447353.346 3763086.265 231.24
   LOCATION L0000108     VOLUME   447353.346 3763077.675 231.15
   LOCATION L0000109     VOLUME   447353.346 3763069.085 231.07
   LOCATION L0000110     VOLUME   447353.346 3763060.495 230.95
   LOCATION L0000111     VOLUME   447353.346 3763051.905 230.82
   LOCATION L0000112     VOLUME   447353.346 3763043.315 230.70
   LOCATION L0000113     VOLUME   447353.346 3763034.725 230.57
   LOCATION L0000114     VOLUME   447353.346 3763026.135 230.43
   LOCATION L0000115     VOLUME   447353.346 3763017.545 230.30
   LOCATION L0000116     VOLUME   447353.346 3763008.955 230.17
   LOCATION L0000117     VOLUME   447353.346 3763000.365 230.06
   LOCATION L0000118     VOLUME   447353.346 3762991.775 229.98
** End of LINE VOLUME Source ID = 3CIDLE
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 5AIDLE
** DESCRSRC 5A Idle
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
** 447457.778, 3762694.668, 227.01, 3.49, 4.00
** 447457.778, 3762564.555, 225.54, 3.49, 4.00
** ----------------------------------------------------------------------
   LOCATION L0000089     VOLUME   447457.778 3762690.373 226.92
   LOCATION L0000090     VOLUME   447457.778 3762681.783 226.83
   LOCATION L0000091     VOLUME   447457.778 3762673.193 226.74
   LOCATION L0000092     VOLUME   447457.778 3762664.603 226.65
   LOCATION L0000093     VOLUME   447457.778 3762656.013 226.57
   LOCATION L0000094     VOLUME   447457.778 3762647.423 226.48
   LOCATION L0000095     VOLUME   447457.778 3762638.833 226.39
   LOCATION L0000096     VOLUME   447457.778 3762630.243 226.30
   LOCATION L0000097     VOLUME   447457.778 3762621.653 226.22
   LOCATION L0000098     VOLUME   447457.778 3762613.063 226.13
   LOCATION L0000099     VOLUME   447457.778 3762604.473 226.05
   LOCATION L0000100     VOLUME   447457.778 3762595.883 225.97
   LOCATION L0000101     VOLUME   447457.778 3762587.293 225.88
   LOCATION L0000102     VOLUME   447457.778 3762578.703 225.80
   LOCATION L0000103     VOLUME   447457.778 3762570.113 225.71
** End of LINE VOLUME Source ID = 5AIDLE
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 2CON
** DESCRSRC 2C Onsite
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
```

```
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 4
** 447601.398, 3763477.313, 233.48, 3.49, 4.00
** 447308.150, 3763475.890, 233.48, 3.49, 4.00
** 447308.150, 3763206.842, 231.95, 3.49, 4.00
** 447601.398, 3763208.265, 231.89, 3.49, 4.00
** ------------------------------------------------------------------
   LOCATION L0000134     VOLUME   447597.103 3763477.292 233.48
   LOCATION L0000135     VOLUME   447588.513 3763477.251 233.48
   LOCATION L0000136     VOLUME   447579.923 3763477.209 233.48
   LOCATION L0000137     VOLUME   447571.333 3763477.167 233.48
   LOCATION L0000138     VOLUME   447562.743 3763477.125 233.48
   LOCATION L0000139     VOLUME   447554.153 3763477.084 233.48
   LOCATION L0000140     VOLUME   447545.563 3763477.042 233.48
   LOCATION L0000141     VOLUME   447536.974 3763477.000 233.48
   LOCATION L0000142     VOLUME   447528.384 3763476.959 233.48
   LOCATION L0000143     VOLUME   447519.794 3763476.917 233.48
   LOCATION L0000144     VOLUME   447511.204 3763476.875 233.48
   LOCATION L0000145     VOLUME   447502.614 3763476.834 233.48
   LOCATION L0000146     VOLUME   447494.024 3763476.792 233.48
   LOCATION L0000147     VOLUME   447485.434 3763476.750 233.48
   LOCATION L0000148     VOLUME   447476.844 3763476.709 233.48
   LOCATION L0000149     VOLUME   447468.254 3763476.667 233.48
   LOCATION L0000150     VOLUME   447459.664 3763476.625 233.48
   LOCATION L0000151     VOLUME   447451.075 3763476.583 233.48
   LOCATION L0000152     VOLUME   447442.485 3763476.542 233.48
   LOCATION L0000153     VOLUME   447433.895 3763476.500 233.48
   LOCATION L0000154     VOLUME   447425.305 3763476.458 233.48
   LOCATION L0000155     VOLUME   447416.715 3763476.417 233.48
   LOCATION L0000156     VOLUME   447408.125 3763476.375 233.48
   LOCATION L0000157     VOLUME   447399.535 3763476.333 233.48
   LOCATION L0000158     VOLUME   447390.945 3763476.292 233.48
   LOCATION L0000159     VOLUME   447382.355 3763476.250 233.48
   LOCATION L0000160     VOLUME   447373.766 3763476.208 233.48
   LOCATION L0000161     VOLUME   447365.176 3763476.166 233.48
   LOCATION L0000162     VOLUME   447356.586 3763476.125 233.48
   LOCATION L0000163     VOLUME   447347.996 3763476.083 233.48
   LOCATION L0000164     VOLUME   447339.406 3763476.041 233.48
   LOCATION L0000165     VOLUME   447330.816 3763476.000 233.48
   LOCATION L0000166     VOLUME   447322.226 3763475.958 233.48
   LOCATION L0000167     VOLUME   447313.636 3763475.916 233.48
   LOCATION L0000168     VOLUME   447308.150 3763472.786 233.47
   LOCATION L0000169     VOLUME   447308.150 3763464.196 233.47
   LOCATION L0000170     VOLUME   447308.150 3763455.606 233.46
   LOCATION L0000171     VOLUME   447308.150 3763447.016 233.37
   LOCATION L0000172     VOLUME   447308.150 3763438.426 233.29
   LOCATION L0000173     VOLUME   447308.150 3763429.836 233.21
   LOCATION L0000174     VOLUME   447308.150 3763421.246 233.12
   LOCATION L0000175     VOLUME   447308.150 3763412.656 233.03
   LOCATION L0000176     VOLUME   447308.150 3763404.066 232.95
   LOCATION L0000177     VOLUME   447308.150 3763395.476 232.87
   LOCATION L0000178     VOLUME   447308.150 3763386.886 232.87
   LOCATION L0000179     VOLUME   447308.150 3763378.296 232.87
   LOCATION L0000180     VOLUME   447308.150 3763369.706 232.87
   LOCATION L0000181     VOLUME   447308.150 3763361.116 232.81
   LOCATION L0000182     VOLUME   447308.150 3763352.526 232.73
   LOCATION L0000183     VOLUME   447308.150 3763343.936 232.64
   LOCATION L0000184     VOLUME   447308.150 3763335.346 232.55
   LOCATION L0000185     VOLUME   447308.150 3763326.756 232.47
   LOCATION L0000186     VOLUME   447308.150 3763318.166 232.38
   LOCATION L0000187     VOLUME   447308.150 3763309.576 232.29
   LOCATION L0000188     VOLUME   447308.150 3763300.986 232.26
   LOCATION L0000189     VOLUME   447308.150 3763292.396 232.25
   LOCATION L0000190     VOLUME   447308.150 3763283.806 232.25
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   LOCATION L0000191     VOLUME   447308.150 3763275.216 232.23
   LOCATION L0000192     VOLUME   447308.150 3763266.626 232.15
   LOCATION L0000193     VOLUME   447308.150 3763258.036 232.07
   LOCATION L0000194     VOLUME   447308.150 3763249.446 231.98
   LOCATION L0000195     VOLUME   447308.150 3763240.856 231.95
   LOCATION L0000196     VOLUME   447308.150 3763232.266 231.95
   LOCATION L0000197     VOLUME   447308.150 3763223.676 231.95
   LOCATION L0000198     VOLUME   447308.150 3763215.086 231.95
   LOCATION L0000199     VOLUME   447308.495 3763206.843 231.95
   LOCATION L0000200     VOLUME   447317.085 3763206.885 231.95
   LOCATION L0000201     VOLUME   447325.675 3763206.927 231.95
   LOCATION L0000202     VOLUME   447334.265 3763206.968 231.95
   LOCATION L0000203     VOLUME   447342.855 3763207.010 231.98
   LOCATION L0000204     VOLUME   447351.445 3763207.052 232.04
   LOCATION L0000205     VOLUME   447360.035 3763207.094 232.10
   LOCATION L0000206     VOLUME   447368.625 3763207.135 232.16
   LOCATION L0000207     VOLUME   447377.215 3763207.177 232.16
   LOCATION L0000208     VOLUME   447385.804 3763207.219 232.17
   LOCATION L0000209     VOLUME   447394.394 3763207.260 232.17
   LOCATION L0000210     VOLUME   447402.984 3763207.302 232.17
   LOCATION L0000211     VOLUME   447411.574 3763207.344 232.17
   LOCATION L0000212     VOLUME   447420.164 3763207.385 232.17
   LOCATION L0000213     VOLUME   447428.754 3763207.427 232.17
   LOCATION L0000214     VOLUME   447437.344 3763207.469 232.17
   LOCATION L0000215     VOLUME   447445.934 3763207.511 232.17
   LOCATION L0000216     VOLUME   447454.524 3763207.552 232.17
   LOCATION L0000217     VOLUME   447463.114 3763207.594 232.17
   LOCATION L0000218     VOLUME   447471.703 3763207.636 232.17
   LOCATION L0000219     VOLUME   447480.293 3763207.677 232.17
   LOCATION L0000220     VOLUME   447488.883 3763207.719 232.17
   LOCATION L0000221     VOLUME   447497.473 3763207.761 232.17
   LOCATION L0000222     VOLUME   447506.063 3763207.802 232.17
   LOCATION L0000223     VOLUME   447514.653 3763207.844 232.17
   LOCATION L0000224     VOLUME   447523.243 3763207.886 232.14
   LOCATION L0000225     VOLUME   447531.833 3763207.928 232.08
   LOCATION L0000226     VOLUME   447540.423 3763207.969 232.02
   LOCATION L0000227     VOLUME   447549.013 3763208.011 231.96
   LOCATION L0000228     VOLUME   447557.602 3763208.053 231.95
   LOCATION L0000229     VOLUME   447566.192 3763208.094 231.95
   LOCATION L0000230     VOLUME   447574.782 3763208.136 231.95
   LOCATION L0000231     VOLUME   447583.372 3763208.178 231.94
   LOCATION L0000232     VOLUME   447591.962 3763208.219 231.92
   LOCATION L0000233     VOLUME   447600.552 3763208.261 231.90
** End of LINE VOLUME Source ID = 2CON
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 3CON
** DESCRSRC 3C Onsite
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 4
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** 447568.657, 3762919.288, 228.58, 3.49, 4.00
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   LOCATION L0000235     VOLUME   447589.939 3763210.838 231.93
   LOCATION L0000236     VOLUME   447581.351 3763210.655 231.95
   LOCATION L0000237     VOLUME   447572.763 3763210.473 231.95
   LOCATION L0000238     VOLUME   447564.175 3763210.290 231.95
   LOCATION L0000239     VOLUME   447555.587 3763210.107 231.95
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LOCATION L0000240     VOLUME   447546.999 3763209.925 231.97
LOCATION L0000241     VOLUME   447538.411 3763209.742 232.04
LOCATION L0000242     VOLUME   447529.823 3763209.559 232.11
LOCATION L0000243     VOLUME   447521.235 3763209.376 232.17
LOCATION L0000244     VOLUME   447512.647 3763209.194 232.19
LOCATION L0000245     VOLUME   447504.059 3763209.011 232.18
LOCATION L0000246     VOLUME   447495.471 3763208.828 232.18
LOCATION L0000247     VOLUME   447486.883 3763208.645 232.18
LOCATION L0000248     VOLUME   447478.295 3763208.463 232.18
LOCATION L0000249     VOLUME   447469.706 3763208.280 232.18
LOCATION L0000250     VOLUME   447461.118 3763208.097 232.17
LOCATION L0000251     VOLUME   447452.530 3763207.915 232.17
LOCATION L0000252     VOLUME   447443.942 3763207.732 232.17
LOCATION L0000253     VOLUME   447435.354 3763207.549 232.17
LOCATION L0000254     VOLUME   447426.766 3763207.366 232.17
LOCATION L0000255     VOLUME   447418.178 3763207.184 232.16
LOCATION L0000256     VOLUME   447409.590 3763207.001 232.16
LOCATION L0000257     VOLUME   447401.002 3763206.818 232.16
LOCATION L0000258     VOLUME   447392.414 3763206.636 232.16
LOCATION L0000259     VOLUME   447383.826 3763206.453 232.16
LOCATION L0000260     VOLUME   447375.238 3763206.270 232.16
LOCATION L0000261     VOLUME   447366.650 3763206.087 232.14
LOCATION L0000262     VOLUME   447358.062 3763205.905 232.08
LOCATION L0000263     VOLUME   447349.474 3763205.722 232.02
LOCATION L0000264     VOLUME   447340.886 3763205.539 231.96
LOCATION L0000265     VOLUME   447335.197 3763202.518 231.95
LOCATION L0000266     VOLUME   447335.197 3763193.928 231.95
LOCATION L0000267     VOLUME   447335.197 3763185.338 231.95
LOCATION L0000268     VOLUME   447335.197 3763176.748 231.95
LOCATION L0000269     VOLUME   447335.197 3763168.158 231.95
LOCATION L0000270     VOLUME   447335.197 3763159.568 231.95
LOCATION L0000271     VOLUME   447335.197 3763150.978 231.90
LOCATION L0000272     VOLUME   447335.197 3763142.388 231.81
LOCATION L0000273     VOLUME   447335.197 3763133.798 231.72
LOCATION L0000274     VOLUME   447335.197 3763125.208 231.64
LOCATION L0000275     VOLUME   447335.197 3763116.618 231.55
LOCATION L0000276     VOLUME   447335.197 3763108.028 231.46
LOCATION L0000277     VOLUME   447335.197 3763099.438 231.38
LOCATION L0000278     VOLUME   447335.197 3763090.848 231.29
LOCATION L0000279     VOLUME   447335.197 3763082.258 231.20
LOCATION L0000280     VOLUME   447335.197 3763073.668 231.11
LOCATION L0000281     VOLUME   447335.197 3763065.078 231.02
LOCATION L0000282     VOLUME   447335.197 3763056.488 230.92
LOCATION L0000283     VOLUME   447335.197 3763047.898 230.82
LOCATION L0000284     VOLUME   447335.197 3763039.308 230.73
LOCATION L0000285     VOLUME   447335.197 3763030.718 230.59
LOCATION L0000286     VOLUME   447335.197 3763022.128 230.42
LOCATION L0000287     VOLUME   447335.197 3763013.538 230.26
LOCATION L0000288     VOLUME   447335.197 3763004.948 230.11
LOCATION L0000289     VOLUME   447335.197 3762996.358 230.02
LOCATION L0000290     VOLUME   447335.197 3762987.768 229.94
LOCATION L0000291     VOLUME   447335.197 3762979.178 229.85
LOCATION L0000292     VOLUME   447335.197 3762970.588 229.76
LOCATION L0000293     VOLUME   447335.197 3762961.998 229.67
LOCATION L0000294     VOLUME   447335.197 3762953.408 229.59
LOCATION L0000295     VOLUME   447335.197 3762944.818 229.48
LOCATION L0000296     VOLUME   447335.197 3762936.228 229.31
LOCATION L0000297     VOLUME   447335.197 3762927.638 229.14
LOCATION L0000298     VOLUME   447335.437 3762919.288 228.97
LOCATION L0000299     VOLUME   447344.027 3762919.288 228.97
LOCATION L0000300     VOLUME   447352.617 3762919.288 228.97
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LOCATION L0000304     VOLUME   447386.977 3762919.288 228.95
LOCATION L0000305     VOLUME   447395.567 3762919.288 228.94
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   LOCATION L0000307     VOLUME   447412.747 3762919.288 228.94
   LOCATION L0000308     VOLUME   447421.337 3762919.288 228.94
   LOCATION L0000309     VOLUME   447429.927 3762919.288 228.94
   LOCATION L0000310     VOLUME   447438.517 3762919.288 228.94
   LOCATION L0000311     VOLUME   447447.107 3762919.288 228.94
   LOCATION L0000312     VOLUME   447455.697 3762919.288 228.94
   LOCATION L0000313     VOLUME   447464.287 3762919.288 228.89
   LOCATION L0000314     VOLUME   447472.877 3762919.288 228.81
   LOCATION L0000315     VOLUME   447481.467 3762919.288 228.73
   LOCATION L0000316     VOLUME   447490.057 3762919.288 228.66
   LOCATION L0000317     VOLUME   447498.647 3762919.288 228.65
   LOCATION L0000318     VOLUME   447507.237 3762919.288 228.64
   LOCATION L0000319     VOLUME   447515.827 3762919.288 228.63
   LOCATION L0000320     VOLUME   447524.417 3762919.288 228.63
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   LOCATION L0000324     VOLUME   447558.777 3762919.288 228.63
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** End of LINE VOLUME Source ID = 3CON
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 5AON
** DESCRSRC 5A Onsite
** PREFIX
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** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 3
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** 447424.880, 3762768.393, 227.68, 3.49, 4.00
** 447562.962, 3762768.393, 227.36, 3.49, 4.00
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   LOCATION L0000327     VOLUME   447426.250 3762436.783 224.34
   LOCATION L0000328     VOLUME   447426.214 3762445.373 224.42
   LOCATION L0000329     VOLUME   447426.179 3762453.963 224.51
   LOCATION L0000330     VOLUME   447426.143 3762462.553 224.60
   LOCATION L0000331     VOLUME   447426.108 3762471.143 224.69
   LOCATION L0000332     VOLUME   447426.072 3762479.732 224.79
   LOCATION L0000333     VOLUME   447426.037 3762488.322 224.89
   LOCATION L0000334     VOLUME   447426.001 3762496.912 224.99
   LOCATION L0000335     VOLUME   447425.966 3762505.502 225.15
   LOCATION L0000336     VOLUME   447425.930 3762514.092 225.32
   LOCATION L0000337     VOLUME   447425.895 3762522.682 225.48
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   LOCATION L0000340     VOLUME   447425.788 3762548.452 225.78
   LOCATION L0000341     VOLUME   447425.753 3762557.042 225.86
   LOCATION L0000342     VOLUME   447425.717 3762565.632 225.95
   LOCATION L0000343     VOLUME   447425.682 3762574.222 226.04
   LOCATION L0000344     VOLUME   447425.646 3762582.812 226.13
   LOCATION L0000345     VOLUME   447425.611 3762591.402 226.17
   LOCATION L0000346     VOLUME   447425.575 3762599.991 226.18
   LOCATION L0000347     VOLUME   447425.540 3762608.581 226.19
   LOCATION L0000348     VOLUME   447425.504 3762617.171 226.21
   LOCATION L0000349     VOLUME   447425.469 3762625.761 226.30
   LOCATION L0000350     VOLUME   447425.433 3762634.351 226.39
   LOCATION L0000351     VOLUME   447425.398 3762642.941 226.47
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   LOCATION L0000354     VOLUME   447425.292 3762668.711 226.74
   LOCATION L0000355     VOLUME   447425.256 3762677.301 226.83
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   LOCATION L0000358     VOLUME   447425.150 3762703.071 227.36
   LOCATION L0000359     VOLUME   447425.114 3762711.660 227.43
   LOCATION L0000360     VOLUME   447425.079 3762720.250 227.45
   LOCATION L0000361     VOLUME   447425.043 3762728.840 227.46
   LOCATION L0000362     VOLUME   447425.008 3762737.430 227.48
   LOCATION L0000363     VOLUME   447424.972 3762746.020 227.56
   LOCATION L0000364     VOLUME   447424.937 3762754.610 227.63
   LOCATION L0000365     VOLUME   447424.901 3762763.200 227.70
   LOCATION L0000366     VOLUME   447428.276 3762768.393 227.72
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   LOCATION L0000370     VOLUME   447462.636 3762768.393 227.40
   LOCATION L0000371     VOLUME   447471.226 3762768.393 227.40
   LOCATION L0000372     VOLUME   447479.816 3762768.393 227.40
   LOCATION L0000373     VOLUME   447488.406 3762768.393 227.40
   LOCATION L0000374     VOLUME   447496.996 3762768.393 227.40
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   LOCATION L0000378     VOLUME   447531.356 3762768.393 227.40
   LOCATION L0000379     VOLUME   447539.946 3762768.393 227.40
   LOCATION L0000380     VOLUME   447548.536 3762768.393 227.40
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** End of LINE VOLUME Source ID = 5AON
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 6AIDLE
** DESCRSRC 6A Idle
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
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** Nodes = 2
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** 448222.059, 3762712.875, 226.23, 3.49, 4.00
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   LOCATION L0000385     VOLUME   447951.758 3762711.594 227.46
   LOCATION L0000386     VOLUME   447960.348 3762711.635 227.47
   LOCATION L0000387     VOLUME   447968.937 3762711.676 227.49
   LOCATION L0000388     VOLUME   447977.527 3762711.716 227.49
   LOCATION L0000389     VOLUME   447986.117 3762711.757 227.49
   LOCATION L0000390     VOLUME   447994.707 3762711.798 227.49
   LOCATION L0000391     VOLUME   448003.297 3762711.839 227.49
   LOCATION L0000392     VOLUME   448011.887 3762711.879 227.47
   LOCATION L0000393     VOLUME   448020.477 3762711.920 227.45
   LOCATION L0000394     VOLUME   448029.067 3762711.961 227.44
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   LOCATION L0000399     VOLUME   448072.016 3762712.164 227.17
   LOCATION L0000400     VOLUME   448080.606 3762712.205 227.15
   LOCATION L0000401     VOLUME   448089.196 3762712.246 227.14
   LOCATION L0000402     VOLUME   448097.786 3762712.286 227.07
   LOCATION L0000403     VOLUME   448106.376 3762712.327 227.00
   LOCATION L0000404     VOLUME   448114.966 3762712.368 226.93
   LOCATION L0000405     VOLUME   448123.556 3762712.409 226.89
   LOCATION L0000406     VOLUME   448132.146 3762712.449 226.87
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   LOCATION L0000408     VOLUME   448149.325 3762712.531 226.83
   LOCATION L0000409     VOLUME   448157.915 3762712.571 226.77
   LOCATION L0000410     VOLUME   448166.505 3762712.612 226.70
   LOCATION L0000411     VOLUME   448175.095 3762712.653 226.63
   LOCATION L0000412     VOLUME   448183.685 3762712.693 226.56
   LOCATION L0000413     VOLUME   448192.275 3762712.734 226.49
   LOCATION L0000414     VOLUME   448200.865 3762712.775 226.43
   LOCATION L0000415     VOLUME   448209.455 3762712.816 226.36
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** End of LINE VOLUME Source ID = 6AIDLE
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 6AON
** DESCRSRC 6A Onsite
** PREFIX
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** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
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** 448397.155, 3762754.158, 228.61, 3.49, 4.00
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   LOCATION L0000420     VOLUME   447624.333 3762767.861 227.39
   LOCATION L0000421     VOLUME   447632.922 3762767.708 227.38
   LOCATION L0000422     VOLUME   447641.511 3762767.556 227.36
   LOCATION L0000423     VOLUME   447650.099 3762767.404 227.28
   LOCATION L0000424     VOLUME   447658.688 3762767.251 227.19
   LOCATION L0000425     VOLUME   447667.277 3762767.099 227.11
   LOCATION L0000426     VOLUME   447675.865 3762766.947 227.08
   LOCATION L0000427     VOLUME   447684.454 3762766.795 227.08
   LOCATION L0000428     VOLUME   447693.043 3762766.642 227.08
   LOCATION L0000429     VOLUME   447701.631 3762766.490 227.08
   LOCATION L0000430     VOLUME   447710.220 3762766.338 227.08
   LOCATION L0000431     VOLUME   447718.808 3762766.185 227.08
   LOCATION L0000432     VOLUME   447727.397 3762766.033 227.08
   LOCATION L0000433     VOLUME   447735.986 3762765.881 227.14
   LOCATION L0000434     VOLUME   447744.574 3762765.729 227.23
   LOCATION L0000435     VOLUME   447753.163 3762765.576 227.31
   LOCATION L0000436     VOLUME   447761.752 3762765.424 227.37
   LOCATION L0000437     VOLUME   447770.340 3762765.272 227.37
   LOCATION L0000438     VOLUME   447778.929 3762765.119 227.37
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   LOCATION L0000450     VOLUME   447881.993 3762763.292 227.93
   LOCATION L0000451     VOLUME   447890.581 3762763.140 227.94
   LOCATION L0000452     VOLUME   447899.170 3762762.988 227.95
   LOCATION L0000453     VOLUME   447907.759 3762762.835 227.95
   LOCATION L0000454     VOLUME   447916.347 3762762.683 228.02
   LOCATION L0000455     VOLUME   447924.936 3762762.531 228.09
   LOCATION L0000456     VOLUME   447933.525 3762762.378 228.16
   LOCATION L0000457     VOLUME   447942.113 3762762.226 228.22
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   LOCATION L0000465     VOLUME   448010.823 3762761.008 228.22
   LOCATION L0000466     VOLUME   448019.411 3762760.856 228.20
   LOCATION L0000467     VOLUME   448028.000 3762760.703 228.18
   LOCATION L0000468     VOLUME   448036.589 3762760.551 228.12
   LOCATION L0000469     VOLUME   448045.177 3762760.399 228.05
   LOCATION L0000470     VOLUME   448053.766 3762760.246 227.97
   LOCATION L0000471     VOLUME   448062.354 3762760.094 227.92
   LOCATION L0000472     VOLUME   448070.943 3762759.942 227.90
   LOCATION L0000473     VOLUME   448079.532 3762759.790 227.88
   LOCATION L0000474     VOLUME   448088.120 3762759.637 227.86
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   LOCATION L0000476     VOLUME   448105.298 3762759.333 227.72
   LOCATION L0000477     VOLUME   448113.886 3762759.180 227.66
   LOCATION L0000478     VOLUME   448122.475 3762759.028 227.60
   LOCATION L0000479     VOLUME   448131.064 3762758.876 227.58
   LOCATION L0000480     VOLUME   448139.652 3762758.724 227.56
   LOCATION L0000481     VOLUME   448148.241 3762758.571 227.53
   LOCATION L0000482     VOLUME   448156.830 3762758.419 227.47
   LOCATION L0000483     VOLUME   448165.418 3762758.267 227.40
   LOCATION L0000484     VOLUME   448174.007 3762758.115 227.34
   LOCATION L0000485     VOLUME   448182.596 3762757.962 227.30
   LOCATION L0000486     VOLUME   448191.184 3762757.810 227.29
   LOCATION L0000487     VOLUME   448199.773 3762757.658 227.29
   LOCATION L0000488     VOLUME   448208.362 3762757.505 227.29
   LOCATION L0000489     VOLUME   448216.950 3762757.353 227.29
   LOCATION L0000490     VOLUME   448225.539 3762757.201 227.29
   LOCATION L0000491     VOLUME   448234.127 3762757.049 227.29
   LOCATION L0000492     VOLUME   448242.716 3762756.896 227.31
   LOCATION L0000493     VOLUME   448251.305 3762756.744 227.37
   LOCATION L0000494     VOLUME   448259.893 3762756.592 227.42
   LOCATION L0000495     VOLUME   448268.482 3762756.439 227.48
   LOCATION L0000496     VOLUME   448277.071 3762756.287 227.51
   LOCATION L0000497     VOLUME   448285.659 3762756.135 227.53
   LOCATION L0000498     VOLUME   448294.248 3762755.983 227.56
   LOCATION L0000499     VOLUME   448302.837 3762755.830 227.59
   LOCATION L0000500     VOLUME   448311.425 3762755.678 227.62
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   LOCATION L0000505     VOLUME   448354.369 3762754.917 227.94
   LOCATION L0000506     VOLUME   448362.957 3762754.764 228.06
   LOCATION L0000507     VOLUME   448371.546 3762754.612 228.24
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** End of LINE VOLUME Source ID = 6AON
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** LINE VOLUME Source ID = 1MC100
** DESCRSRC 2C,3C,5A Mill Creek 100%
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 9
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** 447618.590, 3763210.448, 231.87, 3.49, 4.00
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** DESCRSRC 6A Ontario Ranch 15%
** PREFIX
** Length of Side = 14.00
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** DESCRSRC 6A Ontario Ranch 30%
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
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   LOCATION L0002078     VOLUME   448434.156 3762439.308 225.58
   LOCATION L0002079     VOLUME   448434.288 3762453.307 225.72
   LOCATION L0002080     VOLUME   448434.420 3762467.306 225.87
   LOCATION L0002081     VOLUME   448434.552 3762481.306 226.01
   LOCATION L0002082     VOLUME   448434.683 3762495.305 226.15
   LOCATION L0002083     VOLUME   448434.815 3762509.305 226.29
   LOCATION L0002084     VOLUME   448434.947 3762523.304 226.44
   LOCATION L0002085     VOLUME   448435.079 3762537.303 226.58
   LOCATION L0002086     VOLUME   448435.211 3762551.303 226.72
   LOCATION L0002087     VOLUME   448435.342 3762565.302 226.86
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   LOCATION L0002094     VOLUME   448436.265 3762663.298 227.93
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   LOCATION L0002096     VOLUME   448436.529 3762691.297 228.27
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   LOCATION L0002101     VOLUME   448437.188 3762761.293 228.85
   LOCATION L0002102     VOLUME   448437.320 3762775.293 228.90
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   LOCATION L0002104     VOLUME   448437.583 3762803.292 228.90
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LOCATION L0002112     VOLUME   448439.171 3762915.279 229.11
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LOCATION L0002115     VOLUME   448439.982 3762957.271 229.34
LOCATION L0002116     VOLUME   448440.253 3762971.268 229.62
LOCATION L0002117     VOLUME   448440.523 3762985.266 229.82
LOCATION L0002118     VOLUME   448440.793 3762999.263 229.96
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LOCATION L0002130     VOLUME   448443.836 3763167.236 231.76
LOCATION L0002131     VOLUME   448444.083 3763181.233 231.90
LOCATION L0002132     VOLUME   448444.330 3763195.231 232.04
LOCATION L0002133     VOLUME   448444.577 3763209.229 232.19
LOCATION L0002134     VOLUME   448444.824 3763223.227 232.33
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LOCATION L0002136     VOLUME   448445.319 3763251.223 232.62
LOCATION L0002137     VOLUME   448445.566 3763265.220 232.78
LOCATION L0002138     VOLUME   448445.813 3763279.218 232.96
LOCATION L0002139     VOLUME   448446.060 3763293.216 233.23
LOCATION L0002140     VOLUME   448446.307 3763307.214 233.49
LOCATION L0002141     VOLUME   448446.555 3763321.212 233.63
LOCATION L0002142     VOLUME   448446.802 3763335.209 233.77
LOCATION L0002143     VOLUME   448447.049 3763349.207 233.91
LOCATION L0002144     VOLUME   448447.296 3763363.205 234.05
LOCATION L0002145     VOLUME   448447.543 3763377.203 234.20
LOCATION L0002146     VOLUME   448447.790 3763391.201 234.34
LOCATION L0002147     VOLUME   448448.037 3763405.199 234.48
LOCATION L0002148     VOLUME   448448.285 3763419.196 234.62
LOCATION L0002149     VOLUME   448448.532 3763433.194 234.77
LOCATION L0002150     VOLUME   448448.779 3763447.192 234.91
LOCATION L0002151     VOLUME   448449.026 3763461.190 235.05
LOCATION L0002152     VOLUME   448449.273 3763475.188 235.19
LOCATION L0002153     VOLUME   448449.520 3763489.185 235.36
LOCATION L0002154     VOLUME   448449.768 3763503.183 235.65
LOCATION L0002155     VOLUME   448450.015 3763517.181 235.93
LOCATION L0002156     VOLUME   448450.262 3763531.179 236.22
LOCATION L0002157     VOLUME   448450.509 3763545.177 236.50
LOCATION L0002158     VOLUME   448450.756 3763559.175 236.78
LOCATION L0002159     VOLUME   448451.003 3763573.172 237.06
LOCATION L0002160     VOLUME   448451.250 3763587.170 237.23
LOCATION L0002161     VOLUME   448451.490 3763601.168 237.37
LOCATION L0002162     VOLUME   448451.704 3763615.167 237.51
LOCATION L0002163     VOLUME   448451.918 3763629.165 237.65
LOCATION L0002164     VOLUME   448452.132 3763643.163 237.72
LOCATION L0002165     VOLUME   448452.346 3763657.162 237.74
LOCATION L0002166     VOLUME   448452.560 3763671.160 237.84
LOCATION L0002167     VOLUME   448452.774 3763685.158 238.11
LOCATION L0002168     VOLUME   448452.988 3763699.157 238.32
LOCATION L0002169     VOLUME   448453.202 3763713.155 238.32
LOCATION L0002170     VOLUME   448453.416 3763727.153 238.32
LOCATION L0002171     VOLUME   448453.630 3763741.152 238.46
LOCATION L0002172     VOLUME   448453.844 3763755.150 238.60
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LOCATION L0002174     VOLUME   448454.272 3763783.147 238.88
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LOCATION L0002177 VOLUME 448454.913 3763825.142 239.16
LOCATION L0002178 VOLUME 448455.127 3763839.140 239.15
LOCATION L0002179 VOLUME 448455.341 3763853.139 239.09
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LOCATION L0002181 VOLUME 448455.769 3763881.135 238.91
LOCATION L0002182 VOLUME 448455.983 3763895.134 238.94
LOCATION L0002183 VOLUME 448456.197 3763909.132 238.96
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LOCATION L0002200 VOLUME 448459.834 3764147.104 240.80
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LOCATION L0002205 VOLUME 448460.904 3764217.096 242.26
LOCATION L0002206 VOLUME 448461.118 3764231.095 242.83
LOCATION L0002207 VOLUME 448461.332 3764245.093 243.22
LOCATION L0002208 VOLUME 448461.546 3764259.091 243.51
LOCATION L0002209 VOLUME 448461.760 3764273.090 243.66
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LOCATION L0002211 VOLUME 448462.188 3764301.086 243.64
LOCATION L0002212 VOLUME 448462.402 3764315.085 243.56
LOCATION L0002213 VOLUME 448462.616 3764329.083 243.46
LOCATION L0002214 VOLUME 448462.829 3764343.082 243.26
LOCATION L0002215 VOLUME 448463.043 3764357.080 243.06
LOCATION L0002216 VOLUME 448463.257 3764371.078 242.92
LOCATION L0002217 VOLUME 448463.471 3764385.077 242.78
LOCATION L0002218 VOLUME 448463.685 3764399.075 242.77
LOCATION L0002219 VOLUME 448463.809 3764413.073 242.78
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LOCATION L0002223 VOLUME 448462.364 3764469.054 243.16
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LOCATION L0002225 VOLUME 448461.642 3764497.045 243.44
LOCATION L0002226 VOLUME 448461.281 3764511.040 243.58
LOCATION L0002227 VOLUME 448460.920 3764525.036 243.73
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LOCATION L0002229 VOLUME 448460.197 3764553.026 244.01
LOCATION L0002230 VOLUME 448459.836 3764567.022 244.15
LOCATION L0002231 VOLUME 448459.475 3764581.017 244.34
LOCATION L0002232 VOLUME 448459.114 3764595.012 244.53
LOCATION L0002233 VOLUME 448458.753 3764609.008 244.72
LOCATION L0002234 VOLUME 448458.392 3764623.003 244.92
LOCATION L0002235 VOLUME 448458.030 3764636.998 245.08
LOCATION L0002236 VOLUME 448457.669 3764650.994 245.23
LOCATION L0002237 VOLUME 448457.308 3764664.989 245.40
LOCATION L0002238 VOLUME 448456.947 3764678.984 245.58
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LOCATION L0002240 VOLUME 448456.225 3764706.975 245.99
LOCATION L0002241 VOLUME 448455.863 3764720.970 246.16

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   LOCATION L0002245     VOLUME   448454.419 3764776.952 246.54
   LOCATION L0002246     VOLUME   448454.058 3764790.947 246.68
   LOCATION L0002247     VOLUME   448453.696 3764804.942 246.83
   LOCATION L0002248     VOLUME   448453.335 3764818.938 246.96
   LOCATION L0002249     VOLUME   448453.217 3764832.936 247.09
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   LOCATION L0002257     VOLUME   448453.217 3764944.936 247.41
   LOCATION L0002258     VOLUME   448453.217 3764958.936 247.44
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   LOCATION L0002260     VOLUME   448453.217 3764986.936 247.70
   LOCATION L0002261     VOLUME   448453.217 3765000.936 248.10
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   LOCATION L0002263     VOLUME   448453.217 3765028.936 248.67
   LOCATION L0002264     VOLUME   448453.217 3765042.936 248.83
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** End of LINE VOLUME Source ID = 2H25
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 1OR60
** DESCRSRC 2C,3C,5A Ontario Ranch 60%
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 6
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** 448783.323, 3762407.170, 222.51, 3.49, 6.51
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   LOCATION L0001119     VOLUME   448502.903 3762387.921 225.06
   LOCATION L0001120     VOLUME   448516.903 3762387.784 225.06
   LOCATION L0001121     VOLUME   448530.902 3762387.647 225.06
   LOCATION L0001122     VOLUME   448544.901 3762387.511 225.06
   LOCATION L0001123     VOLUME   448558.901 3762387.374 225.05
   LOCATION L0001124     VOLUME   448572.900 3762387.238 225.07
   LOCATION L0001125     VOLUME   448586.899 3762387.101 225.12
   LOCATION L0001126     VOLUME   448600.899 3762386.964 225.13
   LOCATION L0001127     VOLUME   448614.898 3762386.828 224.90
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   LOCATION L0001129     VOLUME   448642.844 3762388.262 224.32
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   LOCATION L0001131     VOLUME   448670.773 3762390.257 223.52
   LOCATION L0001132     VOLUME   448684.737 3762391.254 223.10
   LOCATION L0001133     VOLUME   448698.702 3762392.252 222.74
   LOCATION L0001134     VOLUME   448712.607 3762393.700 222.42
   LOCATION L0001135     VOLUME   448726.360 3762396.320 222.28
   LOCATION L0001136     VOLUME   448740.113 3762398.940 222.25
   LOCATION L0001137     VOLUME   448753.866 3762401.559 222.24
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   LOCATION L0001139     VOLUME   448781.371 3762406.798 222.52
   LOCATION L0001140     VOLUME   448794.977 3762410.084 222.68
   LOCATION L0001141     VOLUME   448808.559 3762413.479 222.87
   LOCATION L0001142     VOLUME   448822.141 3762416.875 222.79
   LOCATION L0001143     VOLUME   448835.723 3762420.270 222.68
   LOCATION L0001144     VOLUME   448849.305 3762423.666 222.64
   LOCATION L0001145     VOLUME   448862.887 3762427.061 222.64
   LOCATION L0001146     VOLUME   448876.211 3762431.296 222.72
   LOCATION L0001147     VOLUME   448889.352 3762436.125 222.81
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   LOCATION L0001156     VOLUME   449007.621 3762479.580 223.55
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   LOCATION L0001162     VOLUME   449086.467 3762508.551 224.15
   LOCATION L0001163     VOLUME   449099.608 3762513.379 224.20
   LOCATION L0001164     VOLUME   449112.749 3762518.208 224.25
   LOCATION L0001165     VOLUME   449125.890 3762523.036 224.30
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   LOCATION L0001173     VOLUME   449231.018 3762561.664 224.44
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   LOCATION L0001176     VOLUME   449270.441 3762576.149 224.42
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** End of LINE VOLUME Source ID = 1OR60
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 2OR60
** DESCRSRC 6A Ontario Ranch 60%
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 6
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** 448708.783, 3762392.972, 222.80, 3.49, 6.51
** 448783.323, 3762407.170, 222.51, 3.49, 6.51
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   LOCATION L0001824     VOLUME   448488.904 3762388.057 225.06
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   LOCATION L0001827     VOLUME   448530.902 3762387.647 225.06
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   LOCATION L0001831     VOLUME   448586.899 3762387.101 225.12
   LOCATION L0001832     VOLUME   448600.899 3762386.964 225.13
   LOCATION L0001833     VOLUME   448614.898 3762386.828 224.90
   LOCATION L0001834     VOLUME   448628.880 3762387.265 224.68
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   LOCATION L0001836     VOLUME   448656.809 3762389.260 223.93
   LOCATION L0001837     VOLUME   448670.773 3762390.257 223.52
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   LOCATION L0001839     VOLUME   448698.702 3762392.252 222.74
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   LOCATION L0001841     VOLUME   448726.360 3762396.320 222.28
   LOCATION L0001842     VOLUME   448740.113 3762398.940 222.25
   LOCATION L0001843     VOLUME   448753.866 3762401.559 222.24
   LOCATION L0001844     VOLUME   448767.618 3762404.179 222.38
   LOCATION L0001845     VOLUME   448781.371 3762406.798 222.52
   LOCATION L0001846     VOLUME   448794.977 3762410.084 222.68
   LOCATION L0001847     VOLUME   448808.559 3762413.479 222.87
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   LOCATION L0001849     VOLUME   448835.723 3762420.270 222.68
   LOCATION L0001850     VOLUME   448849.305 3762423.666 222.64
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   LOCATION L0001855     VOLUME   448915.634 3762445.781 222.91
   LOCATION L0001856     VOLUME   448928.775 3762450.610 222.95
   LOCATION L0001857     VOLUME   448941.916 3762455.438 223.08
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   LOCATION L0001862     VOLUME   449007.621 3762479.580 223.55
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   LOCATION L0001864     VOLUME   449033.903 3762489.237 223.80
   LOCATION L0001865     VOLUME   449047.044 3762494.066 223.98
   LOCATION L0001866     VOLUME   449060.185 3762498.894 224.05
   LOCATION L0001867     VOLUME   449073.326 3762503.723 224.10
   LOCATION L0001868     VOLUME   449086.467 3762508.551 224.15
   LOCATION L0001869     VOLUME   449099.608 3762513.379 224.20
   LOCATION L0001870     VOLUME   449112.749 3762518.208 224.25
   LOCATION L0001871     VOLUME   449125.890 3762523.036 224.30
   LOCATION L0001872     VOLUME   449139.031 3762527.865 224.35
   LOCATION L0001873     VOLUME   449152.172 3762532.693 224.40
   LOCATION L0001874     VOLUME   449165.313 3762537.522 224.45
   LOCATION L0001875     VOLUME   449178.454 3762542.350 224.45
   LOCATION L0001876     VOLUME   449191.595 3762547.178 224.48
   LOCATION L0001877     VOLUME   449204.736 3762552.007 224.50
   LOCATION L0001878     VOLUME   449217.877 3762556.835 224.46
   LOCATION L0001879     VOLUME   449231.018 3762561.664 224.44
   LOCATION L0001880     VOLUME   449244.159 3762566.492 224.49
   LOCATION L0001881     VOLUME   449257.300 3762571.321 224.50
   LOCATION L0001882     VOLUME   449270.441 3762576.149 224.42
   LOCATION L0001883     VOLUME   449283.582 3762580.977 224.34
** End of LINE VOLUME Source ID = 2OR60
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 2MC45
** DESCRSRC 6A MillCreek 45%
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
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** SZINIT = 3.25
** Nodes = 6
** 447576.163, 3762769.751, 227.38, 3.49, 4.00
** 447591.876, 3762664.814, 226.09, 3.49, 4.00
** 447601.415, 3762603.086, 225.46, 3.49, 4.00
** 447613.761, 3762526.768, 224.63, 3.49, 4.00
** 447623.862, 3762498.149, 224.31, 3.49, 4.00
** 447619.934, 3762425.198, 223.65, 3.49, 4.00
** ----------------------------------------------------------------
   LOCATION L0002266     VOLUME   447576.799 3762765.503 227.37
   LOCATION L0002267     VOLUME   447578.071 3762757.008 227.29
   LOCATION L0002268     VOLUME   447579.343 3762748.513 227.20
   LOCATION L0002269     VOLUME   447580.615 3762740.017 227.11
   LOCATION L0002270     VOLUME   447581.887 3762731.522 227.03
   LOCATION L0002271     VOLUME   447583.159 3762723.027 226.94
   LOCATION L0002272     VOLUME   447584.431 3762714.532 226.85
   LOCATION L0002273     VOLUME   447585.703 3762706.036 226.77
   LOCATION L0002274     VOLUME   447586.975 3762697.541 226.59
   LOCATION L0002275     VOLUME   447588.247 3762689.046 226.42
   LOCATION L0002276     VOLUME   447589.519 3762680.550 226.25
   LOCATION L0002277     VOLUME   447590.791 3762672.055 226.12
   LOCATION L0002278     VOLUME   447592.069 3762663.561 226.03
   LOCATION L0002279     VOLUME   447593.381 3762655.071 225.95
   LOCATION L0002280     VOLUME   447594.693 3762646.582 225.86
   LOCATION L0002281     VOLUME   447596.005 3762638.093 225.77
   LOCATION L0002282     VOLUME   447597.317 3762629.604 225.69
   LOCATION L0002283     VOLUME   447598.629 3762621.115 225.60
   LOCATION L0002284     VOLUME   447599.941 3762612.625 225.51
   LOCATION L0002285     VOLUME   447601.253 3762604.136 225.43
   LOCATION L0002286     VOLUME   447602.617 3762595.655 225.34
   LOCATION L0002287     VOLUME   447603.989 3762587.175 225.26
   LOCATION L0002288     VOLUME   447605.361 3762578.696 225.17
   LOCATION L0002289     VOLUME   447606.733 3762570.216 225.08
   LOCATION L0002290     VOLUME   447608.104 3762561.736 225.00
   LOCATION L0002291     VOLUME   447609.476 3762553.256 224.91
   LOCATION L0002292     VOLUME   447610.848 3762544.777 224.83
   LOCATION L0002293     VOLUME   447612.220 3762536.297 224.74
   LOCATION L0002294     VOLUME   447613.591 3762527.817 224.65
   LOCATION L0002295     VOLUME   447616.266 3762519.670 224.57
   LOCATION L0002296     VOLUME   447619.125 3762511.570 224.49
   LOCATION L0002297     VOLUME   447621.984 3762503.469 224.41
   LOCATION L0002298     VOLUME   447623.703 3762495.205 224.32
   LOCATION L0002299     VOLUME   447623.241 3762486.628 224.23
   LOCATION L0002300     VOLUME   447622.780 3762478.050 224.15
   LOCATION L0002301     VOLUME   447622.318 3762469.472 224.06
   LOCATION L0002302     VOLUME   447621.856 3762460.895 223.97
   LOCATION L0002303     VOLUME   447621.394 3762452.317 223.89
   LOCATION L0002304     VOLUME   447620.932 3762443.740 223.80
   LOCATION L0002305     VOLUME   447620.470 3762435.162 223.72
   LOCATION L0002306     VOLUME   447620.008 3762426.585 223.66
** End of LINE VOLUME Source ID = 2MC45
   LOCATION 5CREF        VOLUME     447588.083  3762458.599      223.950
** DESCRSRC 5C Refuel
   LOCATION 5CSPILL      VOLUME     447588.083  3762458.599      223.950
** DESCRSRC 5C Spill
   LOCATION 5CLOAD       POINT      447587.960  3762475.120      224.120
** DESCRSRC 5C Load
   LOCATION 5CBRE        POINT      447587.960  3762475.120      224.120
** DESCRSRC 5C Breathing
   LOCATION 10BREF       VOLUME     448360.834  3762176.338      222.000
** DESCRSRC 10B Refuel
   LOCATION 10BSPILL     VOLUME     448360.849  3762176.357      222.000
** DESCRSRC 10B Spill
   LOCATION 10BBREAT     POINT      448348.589  3762163.060      222.000
** DESCRSRC 10B Breathing
   LOCATION 10BLOAD      POINT      448348.589  3762163.060      222.000
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** DESCRSRC 10B Load
   LOCATION 4BREF        VOLUME     446867.676  3762342.136      222.770
** DESCRSRC 4B Refuel
   LOCATION 4BSPILL      VOLUME     446867.691  3762342.155      222.770
** DESCRSRC 4B Spill
   LOCATION 4BBREAT      POINT      446883.241  3762327.058      222.610
** DESCRSRC 4B Breathing
   LOCATION 4BLOAD       POINT      446883.241  3762327.058      222.610
** DESCRSRC 4B Load
   LOCATION 6BREF        VOLUME     448359.971  3762465.173      225.850
** DESCRSRC 6B Refuel
   LOCATION 6BSPILL      VOLUME     448359.986  3762465.191      225.850
** DESCRSRC 6B Spill
   LOCATION 6BBREAT      POINT      448344.715  3762485.143      226.050
** DESCRSRC 6B Breathing
   LOCATION 6BLOAD       POINT      448344.715  3762485.143      226.050
** DESCRSRC 6B Load
   LOCATION 8REF         VOLUME     448364.668  3762348.930      224.970
** DESCRSRC 8 Refuel
   LOCATION 8SPILL       VOLUME     448364.683  3762348.949      224.970
** DESCRSRC 8 Spill
   LOCATION 8BREAT       POINT      448350.586  3762332.501      224.800
** DESCRSRC 8 Breathing
   LOCATION 8LOAD        POINT      448350.586  3762332.501      224.800
** DESCRSRC 8 Load
   LOCATION 5BREF        VOLUME     447583.848  3762350.105      222.850
** DESCRSRC 5B Refuel
   LOCATION 5BSPILL      VOLUME     447583.863  3762350.123      222.850
** DESCRSRC 5B Spill
   LOCATION 5BBREAT      POINT      447570.940  3762334.850      222.660
** DESCRSRC 5B Breathing
   LOCATION 5BLOAD       POINT      447570.940  3762334.850      222.660
** DESCRSRC 5B Load
** Source Parameters **
** LINE VOLUME Source ID = 2CIDLE
   SRCPARAM L0000119     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000120     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000121     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000122     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000123     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000124     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000125     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000126     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000127     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000128     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000129     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000130     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000131     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000132     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000133     0.0666666667      3.49      4.00      3.25
** ----------------------------------------------------------------------
** LINE VOLUME Source ID = 3CIDLE
   SRCPARAM L0000104     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000105     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000106     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000107     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000108     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000109     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000110     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000111     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000112     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000113     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000114     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000115     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000116     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000117     0.0666666667      3.49      4.00      3.25
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   SRCPARAM L0000118     0.0666666667      3.49      4.00      3.25
** --------------------------------------------------------------------
** LINE VOLUME Source ID = 5AIDLE
   SRCPARAM L0000089     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000090     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000091     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000092     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000093     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000094     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000095     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000096     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000097     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000098     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000099     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000100     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000101     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000102     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000103     0.0666666667      3.49      4.00      3.25
** --------------------------------------------------------------------
** LINE VOLUME Source ID = 2CON
   SRCPARAM L0000134          0.01      3.49      4.00      3.25
   SRCPARAM L0000135          0.01      3.49      4.00      3.25
   SRCPARAM L0000136          0.01      3.49      4.00      3.25
   SRCPARAM L0000137          0.01      3.49      4.00      3.25
   SRCPARAM L0000138          0.01      3.49      4.00      3.25
   SRCPARAM L0000139          0.01      3.49      4.00      3.25
   SRCPARAM L0000140          0.01      3.49      4.00      3.25
   SRCPARAM L0000141          0.01      3.49      4.00      3.25
   SRCPARAM L0000142          0.01      3.49      4.00      3.25
   SRCPARAM L0000143          0.01      3.49      4.00      3.25
   SRCPARAM L0000144          0.01      3.49      4.00      3.25
   SRCPARAM L0000145          0.01      3.49      4.00      3.25
   SRCPARAM L0000146          0.01      3.49      4.00      3.25
   SRCPARAM L0000147          0.01      3.49      4.00      3.25
   SRCPARAM L0000148          0.01      3.49      4.00      3.25
   SRCPARAM L0000149          0.01      3.49      4.00      3.25
   SRCPARAM L0000150          0.01      3.49      4.00      3.25
   SRCPARAM L0000151          0.01      3.49      4.00      3.25
   SRCPARAM L0000152          0.01      3.49      4.00      3.25
   SRCPARAM L0000153          0.01      3.49      4.00      3.25
   SRCPARAM L0000154          0.01      3.49      4.00      3.25
   SRCPARAM L0000155          0.01      3.49      4.00      3.25
   SRCPARAM L0000156          0.01      3.49      4.00      3.25
   SRCPARAM L0000157          0.01      3.49      4.00      3.25
   SRCPARAM L0000158          0.01      3.49      4.00      3.25
   SRCPARAM L0000159          0.01      3.49      4.00      3.25
   SRCPARAM L0000160          0.01      3.49      4.00      3.25
   SRCPARAM L0000161          0.01      3.49      4.00      3.25
   SRCPARAM L0000162          0.01      3.49      4.00      3.25
   SRCPARAM L0000163          0.01      3.49      4.00      3.25
   SRCPARAM L0000164          0.01      3.49      4.00      3.25
   SRCPARAM L0000165          0.01      3.49      4.00      3.25
   SRCPARAM L0000166          0.01      3.49      4.00      3.25
   SRCPARAM L0000167          0.01      3.49      4.00      3.25
   SRCPARAM L0000168          0.01      3.49      4.00      3.25
   SRCPARAM L0000169          0.01      3.49      4.00      3.25
   SRCPARAM L0000170          0.01      3.49      4.00      3.25
   SRCPARAM L0000171          0.01      3.49      4.00      3.25
   SRCPARAM L0000172          0.01      3.49      4.00      3.25
   SRCPARAM L0000173          0.01      3.49      4.00      3.25
   SRCPARAM L0000174          0.01      3.49      4.00      3.25
   SRCPARAM L0000175          0.01      3.49      4.00      3.25
   SRCPARAM L0000176          0.01      3.49      4.00      3.25
   SRCPARAM L0000177          0.01      3.49      4.00      3.25
   SRCPARAM L0000178          0.01      3.49      4.00      3.25
   SRCPARAM L0000179          0.01      3.49      4.00      3.25
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   SRCPARAM L0000180          0.01      3.49      4.00      3.25
   SRCPARAM L0000181          0.01      3.49      4.00      3.25
   SRCPARAM L0000182          0.01      3.49      4.00      3.25
   SRCPARAM L0000183          0.01      3.49      4.00      3.25
   SRCPARAM L0000184          0.01      3.49      4.00      3.25
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   SRCPARAM L0000187          0.01      3.49      4.00      3.25
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   SRCPARAM L0000189          0.01      3.49      4.00      3.25
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   SRCPARAM L0000191          0.01      3.49      4.00      3.25
   SRCPARAM L0000192          0.01      3.49      4.00      3.25
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   SRCPARAM L0000212          0.01      3.49      4.00      3.25
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   SRCPARAM L0000221          0.01      3.49      4.00      3.25
   SRCPARAM L0000222          0.01      3.49      4.00      3.25
   SRCPARAM L0000223          0.01      3.49      4.00      3.25
   SRCPARAM L0000224          0.01      3.49      4.00      3.25
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   SRCPARAM L0000226          0.01      3.49      4.00      3.25
   SRCPARAM L0000227          0.01      3.49      4.00      3.25
   SRCPARAM L0000228          0.01      3.49      4.00      3.25
   SRCPARAM L0000229          0.01      3.49      4.00      3.25
   SRCPARAM L0000230          0.01      3.49      4.00      3.25
   SRCPARAM L0000231          0.01      3.49      4.00      3.25
   SRCPARAM L0000232          0.01      3.49      4.00      3.25
   SRCPARAM L0000233          0.01      3.49      4.00      3.25
** ------------------------------------------------------------------
** LINE VOLUME Source ID = 3CON
   SRCPARAM L0000234     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000235     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000236     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000237     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000238     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000239     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000240     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000241     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000242     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000243     0.0108695652      3.49      4.00      3.25
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SRCPARAM L0000244     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000245     0.0108695652      3.49      4.00      3.25
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SRCPARAM L0000272     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000273     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000274     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000275     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000276     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000277     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000278     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000279     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000280     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000281     0.0108695652      3.49      4.00      3.25
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SRCPARAM L0000285     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000286     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000287     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000288     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000289     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000290     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000291     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000292     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000293     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000294     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000295     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000296     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000297     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000298     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000299     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000300     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000301     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000302     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000303     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000304     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000305     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000306     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000307     0.0108695652      3.49      4.00      3.25
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SRCPARAM L0000309     0.0108695652      3.49      4.00      3.25
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   SRCPARAM L0000310     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000311     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000312     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000313     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000314     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000315     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000316     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000317     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000318     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000319     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000320     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000321     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000322     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000323     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000324     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000325     0.0108695652      3.49      4.00      3.25
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** LINE VOLUME Source ID = 5AON
   SRCPARAM L0000326     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000327     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000328     0.0178571429      3.49      4.00      3.25
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   SRCPARAM L0000330     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000331     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000332     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000333     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000334     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000335     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000336     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000337     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000338     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000339     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000340     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000341     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000342     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000343     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000344     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000345     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000346     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000347     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000348     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000349     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000350     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000351     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000352     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000353     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000354     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000355     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000356     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000357     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000358     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000359     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000360     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000361     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000362     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000363     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000364     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000365     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000366     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000367     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000368     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000369     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000370     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000371     0.0178571429      3.49      4.00      3.25
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   SRCPARAM L0000373     0.0178571429      3.49      4.00      3.25
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   SRCPARAM L0000374     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000375     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000376     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000377     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000378     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000379     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000380     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000381     0.0178571429      3.49      4.00      3.25
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** LINE VOLUME Source ID = 6AIDLE
   SRCPARAM L0000382     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000383     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000384     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000385     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000386     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000387     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000388     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000389     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000390     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000391     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000392     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000393     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000394     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000395     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000396     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000397     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000398     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000399     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000400     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000401     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000402     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000403     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000404     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000405     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000406     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000407     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000408     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000409     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000410     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000411     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000412     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000413     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000414     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000415     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000416     0.0285714286      3.49      4.00      3.25
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** LINE VOLUME Source ID = 6AON
   SRCPARAM L0000417     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000418     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000419     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000420     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000421     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000422     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000423     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000424     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000425     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000426     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000427     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000428     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000429     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000430     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000431     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000432     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000433     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000434     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000435     0.0107526882      3.49      4.00      3.25
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SRCPARAM L0000436     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000437     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000438     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000439     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000440     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000441     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000442     0.0107526882      3.49      4.00      3.25
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SRCPARAM L0000445     0.0107526882      3.49      4.00      3.25
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SRCPARAM L0000447     0.0107526882      3.49      4.00      3.25
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** LINE VOLUME Source ID = 1MC100
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   SRCPARAM L0000542     0.0080645161      3.49      4.00      3.25
   SRCPARAM L0000543     0.0080645161      3.49      4.00      3.25
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   SRCPARAM L0000848     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0000850     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0000858     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0000861     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0000862     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0000863     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0000864     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0000865     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0000866     0.0042918455      3.49      6.51      3.25
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** LINE VOLUME Source ID = 2OR15
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   SRCPARAM L0001181     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001182     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001183     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001184     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001185     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001186     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001187     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001188     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001189     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0001191     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0001199     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001200     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001201     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001202     0.0042918455      3.49      6.51      3.25
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SRCPARAM L0001203     0.0042918455      3.49      6.51      3.25
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SRCPARAM L0001266     0.0042918455      3.49      6.51      3.25
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SRCPARAM L0001268     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0001410     0.0042918455      3.49      6.51      3.25
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** LINE VOLUME Source ID = 1OR85
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   SRCPARAM L0000871     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0000873     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0000881     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000882     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000883     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0000889     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000890     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0000896     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000897     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0000899     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000900     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0000902     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000903     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0000915     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000916     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000917     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0001712     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0001734     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0001748     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0001750     0.0175438596      3.49      6.51      3.25
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** LINE VOLUME Source ID = 2H25
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   SRCPARAM L0002081     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0002086     0.0052356021      3.49      6.51      3.25
SRCPARAM L0002087     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0002112     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0002147     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0002181     0.0052356021      3.49      6.51      3.25
SRCPARAM L0002182     0.0052356021      3.49      6.51      3.25
SRCPARAM L0002183     0.0052356021      3.49      6.51      3.25
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   SRCPARAM L0002258     0.0052356021      3.49      6.51      3.25
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   SRCPARAM L0002260     0.0052356021      3.49      6.51      3.25
   SRCPARAM L0002261     0.0052356021      3.49      6.51      3.25
   SRCPARAM L0002262     0.0052356021      3.49      6.51      3.25
   SRCPARAM L0002263     0.0052356021      3.49      6.51      3.25
   SRCPARAM L0002264     0.0052356021      3.49      6.51      3.25
   SRCPARAM L0002265     0.0052356021      3.49      6.51      3.25
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** LINE VOLUME Source ID = 1OR60
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   SRCPARAM L0001118     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001119     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0001149     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001150     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0001825     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0001830     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001831     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001832     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001833     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0001847     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001848     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001849     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0001851     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001852     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001853     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001854     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001855     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001856     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001857     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001858     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0001861     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001862     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001863     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001864     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001865     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001866     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001867     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001868     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001869     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001870     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001871     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001872     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001873     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001874     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001875     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001876     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001877     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001878     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001879     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001880     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001881     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001882     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001883     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0002269     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002270     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002271     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002272     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002273     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002274     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002275     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002276     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002277     0.0243902439      3.49      4.00      3.25
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   SRCPARAM L0002280     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002281     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002282     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002283     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002284     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002285     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002286     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002287     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002288     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002289     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002290     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002291     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002292     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002293     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002294     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002295     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002296     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002297     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002298     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002299     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002300     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002301     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002302     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002303     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002304     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002305     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002306     0.0243902439      3.49      4.00      3.25
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   SRCPARAM 5CSPILL            1.0     0.000     4.651     2.330
   SRCPARAM 5CLOAD             1.0     3.660   291.480     0.001     0.051
   SRCPARAM 5CBRE              1.0     3.660   288.710         0     0.051
   SRCPARAM 10BREF             1.0     1.000     4.651     2.330
   SRCPARAM 10BSPILL           1.0     0.000     4.651     2.330
   SRCPARAM 10BBREAT           1.0     3.660   288.710         0     0.051
   SRCPARAM 10BLOAD            1.0     3.660   291.480     0.001     0.051
   SRCPARAM 4BREF              1.0     1.000     4.651     2.330
   SRCPARAM 4BSPILL            1.0     0.000     4.651     2.330
   SRCPARAM 4BBREAT            1.0     3.660   288.710         0     0.051
   SRCPARAM 4BLOAD             1.0     3.660   291.480     0.001     0.051
   SRCPARAM 6BREF              1.0     1.000     4.651     2.330
   SRCPARAM 6BSPILL            1.0     0.000     4.651     2.330
   SRCPARAM 6BBREAT            1.0     3.660   288.710         0     0.051
   SRCPARAM 6BLOAD             1.0     3.660   291.480     0.001     0.051
   SRCPARAM 8REF               1.0     1.000     4.651     2.330
   SRCPARAM 8SPILL             1.0     0.000     4.651     2.330
   SRCPARAM 8BREAT             1.0     3.660   288.710         0     0.051
   SRCPARAM 8LOAD              1.0     3.660   291.480     0.001     0.051
   SRCPARAM 5BREF              1.0     1.000     4.651     2.330
   SRCPARAM 5BSPILL            1.0     0.000     4.651     2.330
   SRCPARAM 5BBREAT            1.0     3.660   288.710         0     0.051
   SRCPARAM 5BLOAD             1.0     3.660   291.480     0.001     0.051
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   SRCGROUP 10BLOAD  10BLOAD
   SRCGROUP 10BREF   10BREF
   SRCGROUP 10BSPILL 10BSPILL
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   SRCGROUP 1H25     L0000930 L0000931 L0000932 L0000933 L0000934 L0000935
   SRCGROUP 1H25     L0000936 L0000937 L0000938 L0000939 L0000940 L0000941
   SRCGROUP 1H25     L0000942 L0000943 L0000944 L0000945 L0000946 L0000947
   SRCGROUP 1H25     L0000948 L0000949 L0000950 L0000951 L0000952 L0000953
   SRCGROUP 1H25     L0000954 L0000955 L0000956 L0000957 L0000958 L0000959
   SRCGROUP 1H25     L0000960 L0000961 L0000962 L0000963 L0000964 L0000965
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SRCGROUP 2OR15    L0001298 L0001299 L0001300 L0001301 L0001302 L0001303
SRCGROUP 2OR15    L0001304 L0001305 L0001306 L0001307 L0001308 L0001309
SRCGROUP 2OR15    L0001310 L0001311 L0001312 L0001313 L0001314 L0001315
SRCGROUP 2OR15    L0001316 L0001317 L0001318 L0001319 L0001320 L0001321
SRCGROUP 2OR15    L0001322 L0001323 L0001324 L0001325 L0001326 L0001327
SRCGROUP 2OR15    L0001328 L0001329 L0001330 L0001331 L0001332 L0001333
SRCGROUP 2OR15    L0001334 L0001335 L0001336 L0001337 L0001338 L0001339
SRCGROUP 2OR15    L0001340 L0001341 L0001342 L0001343 L0001344 L0001345
SRCGROUP 2OR15    L0001346 L0001347 L0001348 L0001349 L0001350 L0001351
SRCGROUP 2OR15    L0001352 L0001353 L0001354 L0001355 L0001356 L0001357
SRCGROUP 2OR15    L0001358 L0001359 L0001360 L0001361 L0001362 L0001363
SRCGROUP 2OR15    L0001364 L0001365 L0001366 L0001367 L0001368 L0001369
SRCGROUP 2OR15    L0001370 L0001371 L0001372 L0001373 L0001374 L0001375
SRCGROUP 2OR15    L0001376 L0001377 L0001378 L0001379 L0001380 L0001381
SRCGROUP 2OR15    L0001382 L0001383 L0001384 L0001385 L0001386 L0001387
```

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SRCGROUP 2OR15    L0001388 L0001389 L0001390 L0001391 L0001392 L0001393
SRCGROUP 2OR15    L0001394 L0001395 L0001396 L0001397 L0001398 L0001399
SRCGROUP 2OR15    L0001400 L0001401 L0001402 L0001403 L0001404 L0001405
SRCGROUP 2OR15    L0001406 L0001407 L0001408 L0001409 L0001410
SRCGROUP 2OR30    L0001701 L0001702 L0001703 L0001704 L0001705 L0001706
SRCGROUP 2OR30    L0001707 L0001708 L0001709 L0001710 L0001711 L0001712
SRCGROUP 2OR30    L0001713 L0001714 L0001715 L0001716 L0001717 L0001718
SRCGROUP 2OR30    L0001719 L0001720 L0001721 L0001722 L0001723 L0001724
SRCGROUP 2OR30    L0001725 L0001726 L0001727 L0001728 L0001729 L0001730
SRCGROUP 2OR30    L0001731 L0001732 L0001733 L0001734 L0001735 L0001736
SRCGROUP 2OR30    L0001737 L0001738 L0001739 L0001740 L0001741 L0001742
SRCGROUP 2OR30    L0001743 L0001744 L0001745 L0001746 L0001747 L0001748
SRCGROUP 2OR30    L0001749 L0001750 L0001751 L0001752 L0001753 L0001754
SRCGROUP 2OR30    L0001755 L0001756 L0001757
SRCGROUP 2OR60    L0001821 L0001822 L0001823 L0001824 L0001825 L0001826
SRCGROUP 2OR60    L0001827 L0001828 L0001829 L0001830 L0001831 L0001832
SRCGROUP 2OR60    L0001833 L0001834 L0001835 L0001836 L0001837 L0001838
SRCGROUP 2OR60    L0001839 L0001840 L0001841 L0001842 L0001843 L0001844
SRCGROUP 2OR60    L0001845 L0001846 L0001847 L0001848 L0001849 L0001850
SRCGROUP 2OR60    L0001851 L0001852 L0001853 L0001854 L0001855 L0001856
SRCGROUP 2OR60    L0001857 L0001858 L0001859 L0001860 L0001861 L0001862
SRCGROUP 2OR60    L0001863 L0001864 L0001865 L0001866 L0001867 L0001868
SRCGROUP 2OR60    L0001869 L0001870 L0001871 L0001872 L0001873 L0001874
SRCGROUP 2OR60    L0001875 L0001876 L0001877 L0001878 L0001879 L0001880
SRCGROUP 2OR60    L0001881 L0001882 L0001883
SRCGROUP 3CIDLE   L0000104 L0000105 L0000106 L0000107 L0000108 L0000109
SRCGROUP 3CIDLE   L0000110 L0000111 L0000112 L0000113 L0000114 L0000115
SRCGROUP 3CIDLE   L0000116 L0000117 L0000118
SRCGROUP 3CON     L0000234 L0000235 L0000236 L0000237 L0000238 L0000239
SRCGROUP 3CON     L0000240 L0000241 L0000242 L0000243 L0000244 L0000245
SRCGROUP 3CON     L0000246 L0000247 L0000248 L0000249 L0000250 L0000251
SRCGROUP 3CON     L0000252 L0000253 L0000254 L0000255 L0000256 L0000257
SRCGROUP 3CON     L0000258 L0000259 L0000260 L0000261 L0000262 L0000263
SRCGROUP 3CON     L0000264 L0000265 L0000266 L0000267 L0000268 L0000269
SRCGROUP 3CON     L0000270 L0000271 L0000272 L0000273 L0000274 L0000275
SRCGROUP 3CON     L0000276 L0000277 L0000278 L0000279 L0000280 L0000281
SRCGROUP 3CON     L0000282 L0000283 L0000284 L0000285 L0000286 L0000287
SRCGROUP 3CON     L0000288 L0000289 L0000290 L0000291 L0000292 L0000293
SRCGROUP 3CON     L0000294 L0000295 L0000296 L0000297 L0000298 L0000299
SRCGROUP 3CON     L0000300 L0000301 L0000302 L0000303 L0000304 L0000305
SRCGROUP 3CON     L0000306 L0000307 L0000308 L0000309 L0000310 L0000311
SRCGROUP 3CON     L0000312 L0000313 L0000314 L0000315 L0000316 L0000317
SRCGROUP 3CON     L0000318 L0000319 L0000320 L0000321 L0000322 L0000323
SRCGROUP 3CON     L0000324 L0000325
SRCGROUP 4BBREAT  4BBREAT
SRCGROUP 4BLOAD   4BLOAD
SRCGROUP 4BREF    4BREF
SRCGROUP 4BSPILL  4BSPILL
SRCGROUP 5AIDLE   L0000089 L0000090 L0000091 L0000092 L0000093 L0000094
SRCGROUP 5AIDLE   L0000095 L0000096 L0000097 L0000098 L0000099 L0000100
SRCGROUP 5AIDLE   L0000101 L0000102 L0000103
SRCGROUP 5AON     L0000326 L0000327 L0000328 L0000329 L0000330 L0000331
SRCGROUP 5AON     L0000332 L0000333 L0000334 L0000335 L0000336 L0000337
SRCGROUP 5AON     L0000338 L0000339 L0000340 L0000341 L0000342 L0000343
SRCGROUP 5AON     L0000344 L0000345 L0000346 L0000347 L0000348 L0000349
SRCGROUP 5AON     L0000350 L0000351 L0000352 L0000353 L0000354 L0000355
SRCGROUP 5AON     L0000356 L0000357 L0000358 L0000359 L0000360 L0000361
SRCGROUP 5AON     L0000362 L0000363 L0000364 L0000365 L0000366 L0000367
SRCGROUP 5AON     L0000368 L0000369 L0000370 L0000371 L0000372 L0000373
SRCGROUP 5AON     L0000374 L0000375 L0000376 L0000377 L0000378 L0000379
SRCGROUP 5AON     L0000380 L0000381
SRCGROUP 5BBREAT  5BBREAT
SRCGROUP 5BLOAD   5BLOAD
SRCGROUP 5BREF    5BREF
SRCGROUP 5BSPILL  5BSPILL
SRCGROUP 5CBRE    5CBRE
```

```
   SRCGROUP 5CLOAD   5CLOAD
   SRCGROUP 5CREF    5CREF
   SRCGROUP 5CSPILL  5CSPILL
   SRCGROUP 6AIDLE   L0000382 L0000383 L0000384 L0000385 L0000386 L0000387
   SRCGROUP 6AIDLE   L0000388 L0000389 L0000390 L0000391 L0000392 L0000393
   SRCGROUP 6AIDLE   L0000394 L0000395 L0000396 L0000397 L0000398 L0000399
   SRCGROUP 6AIDLE   L0000400 L0000401 L0000402 L0000403 L0000404 L0000405
   SRCGROUP 6AIDLE   L0000406 L0000407 L0000408 L0000409 L0000410 L0000411
   SRCGROUP 6AIDLE   L0000412 L0000413 L0000414 L0000415 L0000416
   SRCGROUP 6AON     L0000417 L0000418 L0000419 L0000420 L0000421 L0000422
   SRCGROUP 6AON     L0000423 L0000424 L0000425 L0000426 L0000427 L0000428
   SRCGROUP 6AON     L0000429 L0000430 L0000431 L0000432 L0000433 L0000434
   SRCGROUP 6AON     L0000435 L0000436 L0000437 L0000438 L0000439 L0000440
   SRCGROUP 6AON     L0000441 L0000442 L0000443 L0000444 L0000445 L0000446
   SRCGROUP 6AON     L0000447 L0000448 L0000449 L0000450 L0000451 L0000452
   SRCGROUP 6AON     L0000453 L0000454 L0000455 L0000456 L0000457 L0000458
   SRCGROUP 6AON     L0000459 L0000460 L0000461 L0000462 L0000463 L0000464
   SRCGROUP 6AON     L0000465 L0000466 L0000467 L0000468 L0000469 L0000470
   SRCGROUP 6AON     L0000471 L0000472 L0000473 L0000474 L0000475 L0000476
   SRCGROUP 6AON     L0000477 L0000478 L0000479 L0000480 L0000481 L0000482
   SRCGROUP 6AON     L0000483 L0000484 L0000485 L0000486 L0000487 L0000488
   SRCGROUP 6AON     L0000489 L0000490 L0000491 L0000492 L0000493 L0000494
   SRCGROUP 6AON     L0000495 L0000496 L0000497 L0000498 L0000499 L0000500
   SRCGROUP 6AON     L0000501 L0000502 L0000503 L0000504 L0000505 L0000506
   SRCGROUP 6AON     L0000507 L0000508 L0000509
   SRCGROUP 6BBREAT  6BBREAT
   SRCGROUP 6BLOAD   6BLOAD
   SRCGROUP 6BREF    6BREF
   SRCGROUP 6BSPILL  6BSPILL
   SRCGROUP 8BREAT   8BREAT
   SRCGROUP 8LOAD    8LOAD
   SRCGROUP 8REF     8REF
   SRCGROUP 8SPILL   8SPILL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Ops HRA.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
```

```
PLOTFILE 1 ALL 1ST "14822 OPS HRA.AD\ALL_1H.PLT" 31
PLOTFILE PERIOD ALL "14822 OPS HRA.AD\ALL_PER.PLT" 32
PLOTFILE PERIOD 10BBREAT "14822 OPS HRA.AD\10BBREAT_PER.PLT" 33
PLOTFILE 1 10BBREAT 1ST "14822 OPS HRA.AD\10BBREAT_1H.PLT" 34
PLOTFILE 1 10BLOAD 1ST "14822 OPS HRA.AD\10BLOAD_1H.PLT" 35
PLOTFILE PERIOD 10BLOAD "14822 OPS HRA.AD\10BLOAD_PER.PLT" 36
PLOTFILE PERIOD 10BREF "14822 OPS HRA.AD\10BREF_PER.PLT" 37
PLOTFILE 1 10BREF 1ST "14822 OPS HRA.AD\10BREF_1H.PLT" 38
PLOTFILE 1 10BSPILL 1ST "14822 OPS HRA.AD\10BSPILL_1H.PLT" 39
PLOTFILE PERIOD 10BSPILL "14822 OPS HRA.AD\10BSPILL_PER.PLT" 40
PLOTFILE PERIOD 1H25 "14822 OPS HRA.AD\1H25_PER.PLT" 41
PLOTFILE 1 1H25 1ST "14822 OPS HRA.AD\1H25_1H.PLT" 42
PLOTFILE 1 1MC100 1ST "14822 OPS HRA.AD\1MC100_1H.PLT" 43
PLOTFILE PERIOD 1MC100 "14822 OPS HRA.AD\1MC100_PER.PLT" 44
PLOTFILE PERIOD 1OR15 "14822 OPS HRA.AD\1OR15_PER.PLT" 45
PLOTFILE 1 1OR15 1ST "14822 OPS HRA.AD\1OR15_1H.PLT" 46
PLOTFILE 1 1OR60 1ST "14822 OPS HRA.AD\1OR60_1H.PLT" 47
PLOTFILE PERIOD 1OR60 "14822 OPS HRA.AD\1OR60_PER.PLT" 48
PLOTFILE PERIOD 1OR85 "14822 OPS HRA.AD\1OR85_PER.PLT" 49
PLOTFILE 1 1OR85 1ST "14822 OPS HRA.AD\1OR85_1H.PLT" 50
PLOTFILE 1 2CIDLE 1ST "14822 OPS HRA.AD\2CIDLE_1H.PLT" 51
PLOTFILE PERIOD 2CIDLE "14822 OPS HRA.AD\2CIDLE_PER.PLT" 52
PLOTFILE PERIOD 2CON "14822 OPS HRA.AD\2CON_PER.PLT" 53
PLOTFILE 1 2CON 1ST "14822 OPS HRA.AD\2CON_1H.PLT" 54
PLOTFILE 1 2H25 1ST "14822 OPS HRA.AD\2H25_1H.PLT" 55
PLOTFILE PERIOD 2H25 "14822 OPS HRA.AD\2H25_PER.PLT" 56
PLOTFILE PERIOD 2MC45 "14822 OPS HRA.AD\2MC45_PER.PLT" 57
PLOTFILE 1 2MC45 1ST "14822 OPS HRA.AD\2MC45_1H.PLT" 58
PLOTFILE 1 2OR15 1ST "14822 OPS HRA.AD\2OR15_1H.PLT" 59
PLOTFILE PERIOD 2OR15 "14822 OPS HRA.AD\2OR15_PER.PLT" 60
PLOTFILE PERIOD 2OR30 "14822 OPS HRA.AD\2OR30_PER.PLT" 61
PLOTFILE 1 2OR30 1ST "14822 OPS HRA.AD\2OR30_1H.PLT" 62
PLOTFILE 1 2OR60 1ST "14822 OPS HRA.AD\2OR60_1H.PLT" 63
PLOTFILE PERIOD 2OR60 "14822 OPS HRA.AD\2OR60_PER.PLT" 64
PLOTFILE PERIOD 3CIDLE "14822 OPS HRA.AD\3CIDLE_PER.PLT" 65
PLOTFILE 1 3CIDLE 1ST "14822 OPS HRA.AD\3CIDLE_1H.PLT" 66
PLOTFILE 1 3CON 1ST "14822 OPS HRA.AD\3CON_1H.PLT" 67
PLOTFILE PERIOD 3CON "14822 OPS HRA.AD\3CON_PER.PLT" 68
PLOTFILE PERIOD 4BBREAT "14822 OPS HRA.AD\4BBREAT_PER.PLT" 69
PLOTFILE 1 4BBREAT 1ST "14822 OPS HRA.AD\4BBREAT_1H.PLT" 70
PLOTFILE 1 4BLOAD 1ST "14822 OPS HRA.AD\4BLOAD_1H.PLT" 71
PLOTFILE PERIOD 4BLOAD "14822 OPS HRA.AD\4BLOAD_PER.PLT" 72
PLOTFILE PERIOD 4BREF "14822 OPS HRA.AD\4BREF_PER.PLT" 73
PLOTFILE 1 4BREF 1ST "14822 OPS HRA.AD\4BREF_1H.PLT" 74
PLOTFILE 1 4BSPILL 1ST "14822 OPS HRA.AD\4BSPILL_1H.PLT" 75
PLOTFILE PERIOD 4BSPILL "14822 OPS HRA.AD\4BSPILL_PER.PLT" 76
PLOTFILE PERIOD 5AIDLE "14822 OPS HRA.AD\5AIDLE_PER.PLT" 77
PLOTFILE 1 5AIDLE 1ST "14822 OPS HRA.AD\5AIDLE_1H.PLT" 78
PLOTFILE 1 5AON 1ST "14822 OPS HRA.AD\5AON_1H.PLT" 79
PLOTFILE PERIOD 5AON "14822 OPS HRA.AD\5AON_PER.PLT" 80
PLOTFILE PERIOD 5BBREAT "14822 OPS HRA.AD\5BBREAT_PER.PLT" 81
PLOTFILE 1 5BBREAT 1ST "14822 OPS HRA.AD\5BBREAT_1H.PLT" 82
PLOTFILE 1 5BLOAD 1ST "14822 OPS HRA.AD\5BLOAD_1H.PLT" 83
PLOTFILE PERIOD 5BLOAD "14822 OPS HRA.AD\5BLOAD_PER.PLT" 84
PLOTFILE PERIOD 5BREF "14822 OPS HRA.AD\5BREF_PER.PLT" 85
PLOTFILE 1 5BREF 1ST "14822 OPS HRA.AD\5BREF_1H.PLT" 86
PLOTFILE 1 5BSPILL 1ST "14822 OPS HRA.AD\5BSPILL_1H.PLT" 87
PLOTFILE PERIOD 5BSPILL "14822 OPS HRA.AD\5BSPILL_PER.PLT" 88
PLOTFILE PERIOD 5CBRE "14822 OPS HRA.AD\5CBRE_PER.PLT" 89
PLOTFILE 1 5CBRE 1ST "14822 OPS HRA.AD\5CBRE_1H.PLT" 90
PLOTFILE 1 5CLOAD 1ST "14822 OPS HRA.AD\5CLOAD_1H.PLT" 91
PLOTFILE PERIOD 5CLOAD "14822 OPS HRA.AD\5CLOAD_PER.PLT" 92
PLOTFILE PERIOD 5CREF "14822 OPS HRA.AD\5CREF_PER.PLT" 93
PLOTFILE 1 5CREF 1ST "14822 OPS HRA.AD\5CREF_1H.PLT" 94
PLOTFILE 1 5CSPILL 1ST "14822 OPS HRA.AD\5CSPILL_1H.PLT" 95
PLOTFILE PERIOD 5CSPILL "14822 OPS HRA.AD\5CSPILL_PER.PLT" 96
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   PLOTFILE PERIOD 6AIDLE "14822 OPS HRA.AD\6AIDLE_PER.PLT" 97
   PLOTFILE 1 6AIDLE 1ST "14822 OPS HRA.AD\6AIDLE_1H.PLT" 98
   PLOTFILE 1 6AON 1ST "14822 OPS HRA.AD\6AON_1H.PLT" 99
   PLOTFILE PERIOD 6AON "14822 OPS HRA.AD\6AON_PER.PLT" 100
   PLOTFILE PERIOD 6BBREAT "14822 OPS HRA.AD\6BBREAT_PER.PLT" 101
   PLOTFILE 1 6BBREAT 1ST "14822 OPS HRA.AD\6BBREAT_1H.PLT" 102
   PLOTFILE 1 6BLOAD 1ST "14822 OPS HRA.AD\6BLOAD_1H.PLT" 103
   PLOTFILE PERIOD 6BLOAD "14822 OPS HRA.AD\6BLOAD_PER.PLT" 104
   PLOTFILE PERIOD 6BREF "14822 OPS HRA.AD\6BREF_PER.PLT" 105
   PLOTFILE 1 6BREF 1ST "14822 OPS HRA.AD\6BREF_1H.PLT" 106
   PLOTFILE 1 6BSPILL 1ST "14822 OPS HRA.AD\6BSPILL_1H.PLT" 107
   PLOTFILE PERIOD 6BSPILL "14822 OPS HRA.AD\6BSPILL_PER.PLT" 108
   PLOTFILE PERIOD 8BREAT "14822 OPS HRA.AD\8BREAT_PER.PLT" 109
   PLOTFILE 1 8BREAT 1ST "14822 OPS HRA.AD\8BREAT_1H.PLT" 110
   PLOTFILE 1 8LOAD 1ST "14822 OPS HRA.AD\8LOAD_1H.PLT" 111
   PLOTFILE PERIOD 8LOAD "14822 OPS HRA.AD\8LOAD_PER.PLT" 112
   PLOTFILE PERIOD 8REF "14822 OPS HRA.AD\8REF_PER.PLT" 113
   PLOTFILE 1 8REF 1ST "14822 OPS HRA.AD\8REF_1H.PLT" 114
   PLOTFILE 1 8SPILL 1ST "14822 OPS HRA.AD\8SPILL_1H.PLT" 115
   PLOTFILE PERIOD 8SPILL "14822 OPS HRA.AD\8SPILL_PER.PLT" 116
   SUMMFILE "14822 Ops HRA.sum"
OU FINISHED
**
**************************************
** Project Parameters
**************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

```
** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.0.0
** Lakes Environmental Software Inc.
** Date: 10/19/2022
** File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\14822 Ops HRA\14822 Ops HRA.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops
   MODELOPT DFAULT CONC
   AVERTIME 1 PERIOD
   URBANOPT 2035210 San_Bernardino_County
   POLLUTID OTHER
   RUNORNOT RUN
   ERRORFIL "14822 Ops HRA.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 2CIDLE
** DESCRSRC 2C Idle
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
** 447327.637, 3763415.729, 233.12, 3.49, 4.00
** 447327.637, 3763285.645, 232.22, 3.49, 4.00
** ------------------------------------------------------------------------
   LOCATION L0000119     VOLUME   447327.637 3763411.434 233.11
   LOCATION L0000120     VOLUME   447327.637 3763402.844 233.08
   LOCATION L0000121     VOLUME   447327.637 3763394.254 233.04
   LOCATION L0000122     VOLUME   447327.637 3763385.664 232.99
   LOCATION L0000123     VOLUME   447327.637 3763377.074 232.93
   LOCATION L0000124     VOLUME   447327.637 3763368.484 232.88
   LOCATION L0000125     VOLUME   447327.637 3763359.894 232.80
   LOCATION L0000126     VOLUME   447327.637 3763351.304 232.71
   LOCATION L0000127     VOLUME   447327.637 3763342.714 232.63
   LOCATION L0000128     VOLUME   447327.637 3763334.124 232.55
   LOCATION L0000129     VOLUME   447327.637 3763325.534 232.52
   LOCATION L0000130     VOLUME   447327.637 3763316.944 232.49
   LOCATION L0000131     VOLUME   447327.637 3763308.354 232.45
   LOCATION L0000132     VOLUME   447327.637 3763299.764 232.40
   LOCATION L0000133     VOLUME   447327.637 3763291.174 232.35
** End of LINE VOLUME Source ID = 2CIDLE
```

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** ----------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 3CIDLE
** DESCRSRC 3C Idle
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
** 447353.346, 3763116.330, 231.59, 3.49, 4.00
** 447353.346, 3762985.165, 229.80, 3.49, 4.00
** ----------------------------------------------------------------
   LOCATION L0000104     VOLUME   447353.346 3763112.035 231.50
   LOCATION L0000105     VOLUME   447353.346 3763103.445 231.42
   LOCATION L0000106     VOLUME   447353.346 3763094.855 231.33
   LOCATION L0000107     VOLUME   447353.346 3763086.265 231.24
   LOCATION L0000108     VOLUME   447353.346 3763077.675 231.15
   LOCATION L0000109     VOLUME   447353.346 3763069.085 231.07
   LOCATION L0000110     VOLUME   447353.346 3763060.495 230.95
   LOCATION L0000111     VOLUME   447353.346 3763051.905 230.82
   LOCATION L0000112     VOLUME   447353.346 3763043.315 230.70
   LOCATION L0000113     VOLUME   447353.346 3763034.725 230.57
   LOCATION L0000114     VOLUME   447353.346 3763026.135 230.43
   LOCATION L0000115     VOLUME   447353.346 3763017.545 230.30
   LOCATION L0000116     VOLUME   447353.346 3763008.955 230.17
   LOCATION L0000117     VOLUME   447353.346 3763000.365 230.06
   LOCATION L0000118     VOLUME   447353.346 3762991.775 229.98
** End of LINE VOLUME Source ID = 3CIDLE
** ----------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 5AIDLE
** DESCRSRC 5A Idle
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
** 447457.778, 3762694.668, 227.01, 3.49, 4.00
** 447457.778, 3762564.555, 225.54, 3.49, 4.00
** ----------------------------------------------------------------
   LOCATION L0000089     VOLUME   447457.778 3762690.373 226.92
   LOCATION L0000090     VOLUME   447457.778 3762681.783 226.83
   LOCATION L0000091     VOLUME   447457.778 3762673.193 226.74
   LOCATION L0000092     VOLUME   447457.778 3762664.603 226.65
   LOCATION L0000093     VOLUME   447457.778 3762656.013 226.57
   LOCATION L0000094     VOLUME   447457.778 3762647.423 226.48
   LOCATION L0000095     VOLUME   447457.778 3762638.833 226.39
   LOCATION L0000096     VOLUME   447457.778 3762630.243 226.30
   LOCATION L0000097     VOLUME   447457.778 3762621.653 226.22
   LOCATION L0000098     VOLUME   447457.778 3762613.063 226.13
   LOCATION L0000099     VOLUME   447457.778 3762604.473 226.05
   LOCATION L0000100     VOLUME   447457.778 3762595.883 225.97
   LOCATION L0000101     VOLUME   447457.778 3762587.293 225.88
   LOCATION L0000102     VOLUME   447457.778 3762578.703 225.80
   LOCATION L0000103     VOLUME   447457.778 3762570.113 225.71
** End of LINE VOLUME Source ID = 5AIDLE
** ----------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 2CON
** DESCRSRC 2C Onsite
** PREFIX
** Length of Side = 8.59
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** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 4
** 447601.398, 3763477.313, 233.48, 3.49, 4.00
** 447308.150, 3763475.890, 233.48, 3.49, 4.00
** 447308.150, 3763206.842, 231.95, 3.49, 4.00
** 447601.398, 3763208.265, 231.89, 3.49, 4.00
** ------------------------------------------------------------------
   LOCATION L0000134     VOLUME   447597.103 3763477.292 233.48
   LOCATION L0000135     VOLUME   447588.513 3763477.251 233.48
   LOCATION L0000136     VOLUME   447579.923 3763477.209 233.48
   LOCATION L0000137     VOLUME   447571.333 3763477.167 233.48
   LOCATION L0000138     VOLUME   447562.743 3763477.125 233.48
   LOCATION L0000139     VOLUME   447554.153 3763477.084 233.48
   LOCATION L0000140     VOLUME   447545.563 3763477.042 233.48
   LOCATION L0000141     VOLUME   447536.974 3763477.000 233.48
   LOCATION L0000142     VOLUME   447528.384 3763476.959 233.48
   LOCATION L0000143     VOLUME   447519.794 3763476.917 233.48
   LOCATION L0000144     VOLUME   447511.204 3763476.875 233.48
   LOCATION L0000145     VOLUME   447502.614 3763476.834 233.48
   LOCATION L0000146     VOLUME   447494.024 3763476.792 233.48
   LOCATION L0000147     VOLUME   447485.434 3763476.750 233.48
   LOCATION L0000148     VOLUME   447476.844 3763476.709 233.48
   LOCATION L0000149     VOLUME   447468.254 3763476.667 233.48
   LOCATION L0000150     VOLUME   447459.664 3763476.625 233.48
   LOCATION L0000151     VOLUME   447451.075 3763476.583 233.48
   LOCATION L0000152     VOLUME   447442.485 3763476.542 233.48
   LOCATION L0000153     VOLUME   447433.895 3763476.500 233.48
   LOCATION L0000154     VOLUME   447425.305 3763476.458 233.48
   LOCATION L0000155     VOLUME   447416.715 3763476.417 233.48
   LOCATION L0000156     VOLUME   447408.125 3763476.375 233.48
   LOCATION L0000157     VOLUME   447399.535 3763476.333 233.48
   LOCATION L0000158     VOLUME   447390.945 3763476.292 233.48
   LOCATION L0000159     VOLUME   447382.355 3763476.250 233.48
   LOCATION L0000160     VOLUME   447373.766 3763476.208 233.48
   LOCATION L0000161     VOLUME   447365.176 3763476.166 233.48
   LOCATION L0000162     VOLUME   447356.586 3763476.125 233.48
   LOCATION L0000163     VOLUME   447347.996 3763476.083 233.48
   LOCATION L0000164     VOLUME   447339.406 3763476.041 233.48
   LOCATION L0000165     VOLUME   447330.816 3763476.000 233.48
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   LOCATION L0000174     VOLUME   447308.150 3763421.246 233.12
   LOCATION L0000175     VOLUME   447308.150 3763412.656 233.03
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   LOCATION L0000177     VOLUME   447308.150 3763395.476 232.87
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   LOCATION L0000180     VOLUME   447308.150 3763369.706 232.87
   LOCATION L0000181     VOLUME   447308.150 3763361.116 232.81
   LOCATION L0000182     VOLUME   447308.150 3763352.526 232.73
   LOCATION L0000183     VOLUME   447308.150 3763343.936 232.64
   LOCATION L0000184     VOLUME   447308.150 3763335.346 232.55
   LOCATION L0000185     VOLUME   447308.150 3763326.756 232.47
   LOCATION L0000186     VOLUME   447308.150 3763318.166 232.38
   LOCATION L0000187     VOLUME   447308.150 3763309.576 232.29
   LOCATION L0000188     VOLUME   447308.150 3763300.986 232.26
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   LOCATION L0000195     VOLUME   447308.150 3763240.856 231.95
   LOCATION L0000196     VOLUME   447308.150 3763232.266 231.95
   LOCATION L0000197     VOLUME   447308.150 3763223.676 231.95
   LOCATION L0000198     VOLUME   447308.150 3763215.086 231.95
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   LOCATION L0000202     VOLUME   447334.265 3763206.968 231.95
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   LOCATION L0000204     VOLUME   447351.445 3763207.052 232.04
   LOCATION L0000205     VOLUME   447360.035 3763207.094 232.10
   LOCATION L0000206     VOLUME   447368.625 3763207.135 232.16
   LOCATION L0000207     VOLUME   447377.215 3763207.177 232.16
   LOCATION L0000208     VOLUME   447385.804 3763207.219 232.17
   LOCATION L0000209     VOLUME   447394.394 3763207.260 232.17
   LOCATION L0000210     VOLUME   447402.984 3763207.302 232.17
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   LOCATION L0000212     VOLUME   447420.164 3763207.385 232.17
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   LOCATION L0000216     VOLUME   447454.524 3763207.552 232.17
   LOCATION L0000217     VOLUME   447463.114 3763207.594 232.17
   LOCATION L0000218     VOLUME   447471.703 3763207.636 232.17
   LOCATION L0000219     VOLUME   447480.293 3763207.677 232.17
   LOCATION L0000220     VOLUME   447488.883 3763207.719 232.17
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   LOCATION L0000222     VOLUME   447506.063 3763207.802 232.17
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   LOCATION L0000225     VOLUME   447531.833 3763207.928 232.08
   LOCATION L0000226     VOLUME   447540.423 3763207.969 232.02
   LOCATION L0000227     VOLUME   447549.013 3763208.011 231.96
   LOCATION L0000228     VOLUME   447557.602 3763208.053 231.95
   LOCATION L0000229     VOLUME   447566.192 3763208.094 231.95
   LOCATION L0000230     VOLUME   447574.782 3763208.136 231.95
   LOCATION L0000231     VOLUME   447583.372 3763208.178 231.94
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** DESCRSRC 3C Onsite
** PREFIX
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** Configuration = Adjacent
** Emission Rate = 1.0
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** SZINIT = 3.25
** Nodes = 4
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   LOCATION L0000236     VOLUME   447581.351 3763210.655 231.95
   LOCATION L0000237     VOLUME   447572.763 3763210.473 231.95
   LOCATION L0000238     VOLUME   447564.175 3763210.290 231.95
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LOCATION L0000242     VOLUME   447529.823 3763209.559 232.11
LOCATION L0000243     VOLUME   447521.235 3763209.376 232.17
LOCATION L0000244     VOLUME   447512.647 3763209.194 232.19
LOCATION L0000245     VOLUME   447504.059 3763209.011 232.18
LOCATION L0000246     VOLUME   447495.471 3763208.828 232.18
LOCATION L0000247     VOLUME   447486.883 3763208.645 232.18
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LOCATION L0000250     VOLUME   447461.118 3763208.097 232.17
LOCATION L0000251     VOLUME   447452.530 3763207.915 232.17
LOCATION L0000252     VOLUME   447443.942 3763207.732 232.17
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LOCATION L0000255     VOLUME   447418.178 3763207.184 232.16
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LOCATION L0000257     VOLUME   447401.002 3763206.818 232.16
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LOCATION L0000261     VOLUME   447366.650 3763206.087 232.14
LOCATION L0000262     VOLUME   447358.062 3763205.905 232.08
LOCATION L0000263     VOLUME   447349.474 3763205.722 232.02
LOCATION L0000264     VOLUME   447340.886 3763205.539 231.96
LOCATION L0000265     VOLUME   447335.197 3763202.518 231.95
LOCATION L0000266     VOLUME   447335.197 3763193.928 231.95
LOCATION L0000267     VOLUME   447335.197 3763185.338 231.95
LOCATION L0000268     VOLUME   447335.197 3763176.748 231.95
LOCATION L0000269     VOLUME   447335.197 3763168.158 231.95
LOCATION L0000270     VOLUME   447335.197 3763159.568 231.95
LOCATION L0000271     VOLUME   447335.197 3763150.978 231.90
LOCATION L0000272     VOLUME   447335.197 3763142.388 231.81
LOCATION L0000273     VOLUME   447335.197 3763133.798 231.72
LOCATION L0000274     VOLUME   447335.197 3763125.208 231.64
LOCATION L0000275     VOLUME   447335.197 3763116.618 231.55
LOCATION L0000276     VOLUME   447335.197 3763108.028 231.46
LOCATION L0000277     VOLUME   447335.197 3763099.438 231.38
LOCATION L0000278     VOLUME   447335.197 3763090.848 231.29
LOCATION L0000279     VOLUME   447335.197 3763082.258 231.20
LOCATION L0000280     VOLUME   447335.197 3763073.668 231.11
LOCATION L0000281     VOLUME   447335.197 3763065.078 231.02
LOCATION L0000282     VOLUME   447335.197 3763056.488 230.92
LOCATION L0000283     VOLUME   447335.197 3763047.898 230.82
LOCATION L0000284     VOLUME   447335.197 3763039.308 230.73
LOCATION L0000285     VOLUME   447335.197 3763030.718 230.59
LOCATION L0000286     VOLUME   447335.197 3763022.128 230.42
LOCATION L0000287     VOLUME   447335.197 3763013.538 230.26
LOCATION L0000288     VOLUME   447335.197 3763004.948 230.11
LOCATION L0000289     VOLUME   447335.197 3762996.358 230.02
LOCATION L0000290     VOLUME   447335.197 3762987.768 229.94
LOCATION L0000291     VOLUME   447335.197 3762979.178 229.85
LOCATION L0000292     VOLUME   447335.197 3762970.588 229.76
LOCATION L0000293     VOLUME   447335.197 3762961.998 229.67
LOCATION L0000294     VOLUME   447335.197 3762953.408 229.59
LOCATION L0000295     VOLUME   447335.197 3762944.818 229.48
LOCATION L0000296     VOLUME   447335.197 3762936.228 229.31
LOCATION L0000297     VOLUME   447335.197 3762927.638 229.14
LOCATION L0000298     VOLUME   447335.437 3762919.288 228.97
LOCATION L0000299     VOLUME   447344.027 3762919.288 228.97
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   LOCATION L0000310     VOLUME   447438.517 3762919.288 228.94
   LOCATION L0000311     VOLUME   447447.107 3762919.288 228.94
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   LOCATION L0000314     VOLUME   447472.877 3762919.288 228.81
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   LOCATION L0000319     VOLUME   447515.827 3762919.288 228.63
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** End of LINE VOLUME Source ID = 3CON
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 5AON
** DESCRSRC 5A Onsite
** PREFIX
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   LOCATION L0000328     VOLUME   447426.214 3762445.373 224.42
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   LOCATION L0000330     VOLUME   447426.143 3762462.553 224.60
   LOCATION L0000331     VOLUME   447426.108 3762471.143 224.69
   LOCATION L0000332     VOLUME   447426.072 3762479.732 224.79
   LOCATION L0000333     VOLUME   447426.037 3762488.322 224.89
   LOCATION L0000334     VOLUME   447426.001 3762496.912 224.99
   LOCATION L0000335     VOLUME   447425.966 3762505.502 225.15
   LOCATION L0000336     VOLUME   447425.930 3762514.092 225.32
   LOCATION L0000337     VOLUME   447425.895 3762522.682 225.48
   LOCATION L0000338     VOLUME   447425.859 3762531.272 225.60
   LOCATION L0000339     VOLUME   447425.824 3762539.862 225.69
   LOCATION L0000340     VOLUME   447425.788 3762548.452 225.78
   LOCATION L0000341     VOLUME   447425.753 3762557.042 225.86
   LOCATION L0000342     VOLUME   447425.717 3762565.632 225.95
   LOCATION L0000343     VOLUME   447425.682 3762574.222 226.04
   LOCATION L0000344     VOLUME   447425.646 3762582.812 226.13
   LOCATION L0000345     VOLUME   447425.611 3762591.402 226.17
   LOCATION L0000346     VOLUME   447425.575 3762599.991 226.18
   LOCATION L0000347     VOLUME   447425.540 3762608.581 226.19
   LOCATION L0000348     VOLUME   447425.504 3762617.171 226.21
   LOCATION L0000349     VOLUME   447425.469 3762625.761 226.30
   LOCATION L0000350     VOLUME   447425.433 3762634.351 226.39
   LOCATION L0000351     VOLUME   447425.398 3762642.941 226.47
   LOCATION L0000352     VOLUME   447425.363 3762651.531 226.56
   LOCATION L0000353     VOLUME   447425.327 3762660.121 226.65
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   LOCATION L0000358     VOLUME   447425.150 3762703.071 227.36
   LOCATION L0000359     VOLUME   447425.114 3762711.660 227.43
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   LOCATION L0000362     VOLUME   447425.008 3762737.430 227.48
   LOCATION L0000363     VOLUME   447424.972 3762746.020 227.56
   LOCATION L0000364     VOLUME   447424.937 3762754.610 227.63
   LOCATION L0000365     VOLUME   447424.901 3762763.200 227.70
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   LOCATION L0000370     VOLUME   447462.636 3762768.393 227.40
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** End of LINE VOLUME Source ID = 5AON
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** LINE VOLUME Source ID = 6AIDLE
** DESCRSRC 6A Idle
** PREFIX
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** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
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** Nodes = 2
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   LOCATION L0000386     VOLUME   447960.348 3762711.635 227.47
   LOCATION L0000387     VOLUME   447968.937 3762711.676 227.49
   LOCATION L0000388     VOLUME   447977.527 3762711.716 227.49
   LOCATION L0000389     VOLUME   447986.117 3762711.757 227.49
   LOCATION L0000390     VOLUME   447994.707 3762711.798 227.49
   LOCATION L0000391     VOLUME   448003.297 3762711.839 227.49
   LOCATION L0000392     VOLUME   448011.887 3762711.879 227.47
   LOCATION L0000393     VOLUME   448020.477 3762711.920 227.45
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   LOCATION L0000398     VOLUME   448063.426 3762712.124 227.19
   LOCATION L0000399     VOLUME   448072.016 3762712.164 227.17
   LOCATION L0000400     VOLUME   448080.606 3762712.205 227.15
   LOCATION L0000401     VOLUME   448089.196 3762712.246 227.14
   LOCATION L0000402     VOLUME   448097.786 3762712.286 227.07
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   LOCATION L0000405     VOLUME   448123.556 3762712.409 226.89
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   LOCATION L0000410     VOLUME   448166.505 3762712.612 226.70
   LOCATION L0000411     VOLUME   448175.095 3762712.653 226.63
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   LOCATION L0000413     VOLUME   448192.275 3762712.734 226.49
   LOCATION L0000414     VOLUME   448200.865 3762712.775 226.43
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** End of LINE VOLUME Source ID = 6AIDLE
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 6AON
** DESCRSRC 6A Onsite
** PREFIX
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** Configuration = Adjacent
** Emission Rate = 1.0
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** SZINIT = 3.25
** Nodes = 2
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   LOCATION L0000420     VOLUME   447624.333 3762767.861 227.39
   LOCATION L0000421     VOLUME   447632.922 3762767.708 227.38
   LOCATION L0000422     VOLUME   447641.511 3762767.556 227.36
   LOCATION L0000423     VOLUME   447650.099 3762767.404 227.28
   LOCATION L0000424     VOLUME   447658.688 3762767.251 227.19
   LOCATION L0000425     VOLUME   447667.277 3762767.099 227.11
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   LOCATION L0000452     VOLUME   447899.170 3762762.988 227.95
   LOCATION L0000453     VOLUME   447907.759 3762762.835 227.95
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   LOCATION L0000456     VOLUME   447933.525 3762762.378 228.16
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   LOCATION L0000474     VOLUME   448088.120 3762759.637 227.86
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   LOCATION L0000484     VOLUME   448174.007 3762758.115 227.34
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   LOCATION L0000490     VOLUME   448225.539 3762757.201 227.29
   LOCATION L0000491     VOLUME   448234.127 3762757.049 227.29
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   LOCATION L0000493     VOLUME   448251.305 3762756.744 227.37
   LOCATION L0000494     VOLUME   448259.893 3762756.592 227.42
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   LOCATION L0000496     VOLUME   448277.071 3762756.287 227.51
   LOCATION L0000497     VOLUME   448285.659 3762756.135 227.53
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   LOCATION L0000499     VOLUME   448302.837 3762755.830 227.59
   LOCATION L0000500     VOLUME   448311.425 3762755.678 227.62
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   LOCATION L0000506     VOLUME   448362.957 3762754.764 228.06
   LOCATION L0000507     VOLUME   448371.546 3762754.612 228.24
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** End of LINE VOLUME Source ID = 6AON
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** LINE VOLUME Source ID = 1MC100
** DESCRSRC 2C,3C,5A Mill Creek 100%
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 9
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   LOCATION L0000513     VOLUME   447618.590 3763450.318 233.42
   LOCATION L0000514     VOLUME   447618.590 3763441.728 233.33
   LOCATION L0000515     VOLUME   447618.590 3763433.138 233.24
   LOCATION L0000516     VOLUME   447618.590 3763424.548 233.17
   LOCATION L0000517     VOLUME   447618.590 3763415.958 233.14
   LOCATION L0000518     VOLUME   447618.590 3763407.368 233.11
   LOCATION L0000519     VOLUME   447618.590 3763398.778 233.09
   LOCATION L0000520     VOLUME   447618.590 3763390.188 233.04
   LOCATION L0000521     VOLUME   447618.590 3763381.598 232.98
   LOCATION L0000522     VOLUME   447618.590 3763373.008 232.91
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   LOCATION L0000526     VOLUME   447618.590 3763338.648 232.59
   LOCATION L0000527     VOLUME   447618.590 3763330.058 232.54
   LOCATION L0000528     VOLUME   447618.590 3763321.468 232.52
   LOCATION L0000529     VOLUME   447618.590 3763312.878 232.49
   LOCATION L0000530     VOLUME   447618.590 3763304.288 232.45
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   LOCATION L0000532     VOLUME   447618.590 3763287.108 232.27
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LOCATION L0000606 VOLUME 447593.020 3762657.985 225.98
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LOCATION L0000614 VOLUME 447603.877 3762590.128 225.29
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LOCATION L0000621 VOLUME 447613.377 3762530.753 224.68
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LOCATION L0000623 VOLUME 447618.160 3762514.376 224.52
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LOCATION L0000627 VOLUME 447623.094 3762481.340 224.18
LOCATION L0000628 VOLUME 447622.418 3762472.777 224.09
LOCATION L0000629 VOLUME 447621.742 3762464.213 224.01
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LOCATION L0000631 VOLUME 447620.390 3762447.086 223.83
LOCATION L0000632 VOLUME 447619.714 3762438.523 223.75

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** PREFIX
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** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
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   LOCATION L0000638     VOLUME   447559.566 3762406.536 223.42
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   LOCATION L0000640     VOLUME   447531.568 3762406.198 223.42
   LOCATION L0000641     VOLUME   447517.569 3762406.029 223.43
   LOCATION L0000642     VOLUME   447503.570 3762405.860 223.57
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   LOCATION L0000655     VOLUME   447321.583 3762403.663 223.70
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   LOCATION L0000657     VOLUME   447293.585 3762403.325 223.69
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   LOCATION L0000664     VOLUME   447195.592 3762402.142 223.43
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   LOCATION L0000668     VOLUME   447139.596 3762401.466 223.17
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   LOCATION L0000672     VOLUME   447083.600 3762400.790 222.71
   LOCATION L0000673     VOLUME   447069.601 3762400.621 222.45
   LOCATION L0000674     VOLUME   447055.602 3762400.452 222.42
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LOCATION L0000704     VOLUME   446641.507 3762358.315 223.01
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LOCATION L0000707     VOLUME   446602.683 3762342.293 223.26
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** End of LINE VOLUME Source ID = 2OR15
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** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 2
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   LOCATION L0000870     VOLUME   447675.168 3762405.179 223.77
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   LOCATION L0000872     VOLUME   447703.163 3762404.655 224.01
   LOCATION L0000873     VOLUME   447717.160 3762404.392 224.01
   LOCATION L0000874     VOLUME   447731.158 3762404.130 224.02
   LOCATION L0000875     VOLUME   447745.155 3762403.868 224.16
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   LOCATION L0000881     VOLUME   447829.141 3762402.293 224.60
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   LOCATION L0000890     VOLUME   447955.118 3762399.932 225.49
   LOCATION L0000891     VOLUME   447969.116 3762399.670 225.55
   LOCATION L0000892     VOLUME   447983.114 3762399.407 225.55
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   LOCATION L0000894     VOLUME   448011.109 3762398.883 225.55
   LOCATION L0000895     VOLUME   448025.106 3762398.620 225.55
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   LOCATION L0000897     VOLUME   448053.101 3762398.096 225.42
   LOCATION L0000898     VOLUME   448067.099 3762397.833 225.27
   LOCATION L0000899     VOLUME   448081.096 3762397.571 225.06
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   LOCATION L0000905     VOLUME   448165.082 3762395.997 224.89
   LOCATION L0000906     VOLUME   448179.079 3762395.734 224.94
   LOCATION L0000907     VOLUME   448193.077 3762395.472 225.03
   LOCATION L0000908     VOLUME   448207.074 3762395.210 225.12
   LOCATION L0000909     VOLUME   448221.072 3762394.947 225.25
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   LOCATION L0000911     VOLUME   448249.067 3762394.423 225.43
   LOCATION L0000912     VOLUME   448263.064 3762394.160 225.43
   LOCATION L0000913     VOLUME   448277.062 3762393.898 225.46
   LOCATION L0000914     VOLUME   448291.059 3762393.636 225.52
   LOCATION L0000915     VOLUME   448305.057 3762393.373 225.55
   LOCATION L0000916     VOLUME   448319.054 3762393.111 225.55
   LOCATION L0000917     VOLUME   448333.052 3762392.849 225.54
   LOCATION L0000918     VOLUME   448347.050 3762392.586 225.47
   LOCATION L0000919     VOLUME   448361.047 3762392.324 225.40
   LOCATION L0000920     VOLUME   448375.045 3762392.061 225.32
   LOCATION L0000921     VOLUME   448389.042 3762391.799 225.25
   LOCATION L0000922     VOLUME   448403.040 3762391.537 225.18
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** End of LINE VOLUME Source ID = 1OR85
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 2OR30
** DESCRSRC 6A Ontario Ranch 30%
** PREFIX
** Length of Side = 14.00
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   LOCATION L0001704     VOLUME   447675.168 3762405.179 223.77
   LOCATION L0001705     VOLUME   447689.165 3762404.917 223.91
   LOCATION L0001706     VOLUME   447703.163 3762404.655 224.01
   LOCATION L0001707     VOLUME   447717.160 3762404.392 224.01
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** End of LINE VOLUME Source ID = 2OR30
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** LINE VOLUME Source ID = 1H25
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** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
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LOCATION L0001032 VOLUME 448456.197 3763909.132 238.96
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LOCATION L0001102 VOLUME 448453.217 3764888.936 247.38

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** PREFIX
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** Configuration = Adjacent
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** SZINIT = 3.25
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   LOCATION L0002080     VOLUME   448434.420 3762467.306 225.87
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   LOCATION L0002085     VOLUME   448435.079 3762537.303 226.58
   LOCATION L0002086     VOLUME   448435.211 3762551.303 226.72
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LOCATION L0002115     VOLUME   448439.982 3762957.271 229.34
LOCATION L0002116     VOLUME   448440.253 3762971.268 229.62
LOCATION L0002117     VOLUME   448440.523 3762985.266 229.82
LOCATION L0002118     VOLUME   448440.793 3762999.263 229.96
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LOCATION L0002129     VOLUME   448443.589 3763153.238 231.62
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LOCATION L0002142     VOLUME   448446.802 3763335.209 233.77
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LOCATION L0002144     VOLUME   448447.296 3763363.205 234.05
LOCATION L0002145     VOLUME   448447.543 3763377.203 234.20
LOCATION L0002146     VOLUME   448447.790 3763391.201 234.34
LOCATION L0002147     VOLUME   448448.037 3763405.199 234.48
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LOCATION L0002151     VOLUME   448449.026 3763461.190 235.05
LOCATION L0002152     VOLUME   448449.273 3763475.188 235.19
LOCATION L0002153     VOLUME   448449.520 3763489.185 235.36
LOCATION L0002154     VOLUME   448449.768 3763503.183 235.65
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LOCATION L0002156     VOLUME   448450.262 3763531.179 236.22
LOCATION L0002157     VOLUME   448450.509 3763545.177 236.50
LOCATION L0002158     VOLUME   448450.756 3763559.175 236.78
LOCATION L0002159     VOLUME   448451.003 3763573.172 237.06
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LOCATION L0002161     VOLUME   448451.490 3763601.168 237.37
LOCATION L0002162     VOLUME   448451.704 3763615.167 237.51
LOCATION L0002163     VOLUME   448451.918 3763629.165 237.65
LOCATION L0002164     VOLUME   448452.132 3763643.163 237.72
LOCATION L0002165     VOLUME   448452.346 3763657.162 237.74
LOCATION L0002166     VOLUME   448452.560 3763671.160 237.84
LOCATION L0002167     VOLUME   448452.774 3763685.158 238.11
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LOCATION L0002171     VOLUME   448453.630 3763741.152 238.46
LOCATION L0002172     VOLUME   448453.844 3763755.150 238.60
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** End of LINE VOLUME Source ID = 2H25
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** Line Source Represented by Adjacent Volume Sources
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** PREFIX
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** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
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   LOCATION L0001123     VOLUME   448558.901 3762387.374 225.05
   LOCATION L0001124     VOLUME   448572.900 3762387.238 225.07
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   LOCATION L0001126     VOLUME   448600.899 3762386.964 225.13
   LOCATION L0001127     VOLUME   448614.898 3762386.828 224.90
   LOCATION L0001128     VOLUME   448628.880 3762387.265 224.68
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   LOCATION L0001140     VOLUME   448794.977 3762410.084 222.68
   LOCATION L0001141     VOLUME   448808.559 3762413.479 222.87
   LOCATION L0001142     VOLUME   448822.141 3762416.875 222.79
   LOCATION L0001143     VOLUME   448835.723 3762420.270 222.68
   LOCATION L0001144     VOLUME   448849.305 3762423.666 222.64
   LOCATION L0001145     VOLUME   448862.887 3762427.061 222.64
   LOCATION L0001146     VOLUME   448876.211 3762431.296 222.72
   LOCATION L0001147     VOLUME   448889.352 3762436.125 222.81
   LOCATION L0001148     VOLUME   448902.493 3762440.953 222.86
   LOCATION L0001149     VOLUME   448915.634 3762445.781 222.91
   LOCATION L0001150     VOLUME   448928.775 3762450.610 222.95
   LOCATION L0001151     VOLUME   448941.916 3762455.438 223.08
   LOCATION L0001152     VOLUME   448955.057 3762460.267 223.26
   LOCATION L0001153     VOLUME   448968.198 3762465.095 223.40
   LOCATION L0001154     VOLUME   448981.339 3762469.924 223.46
   LOCATION L0001155     VOLUME   448994.480 3762474.752 223.50
   LOCATION L0001156     VOLUME   449007.621 3762479.580 223.55
   LOCATION L0001157     VOLUME   449020.762 3762484.409 223.62
   LOCATION L0001158     VOLUME   449033.903 3762489.237 223.80
   LOCATION L0001159     VOLUME   449047.044 3762494.066 223.98
   LOCATION L0001160     VOLUME   449060.185 3762498.894 224.05
   LOCATION L0001161     VOLUME   449073.326 3762503.723 224.10
   LOCATION L0001162     VOLUME   449086.467 3762508.551 224.15
   LOCATION L0001163     VOLUME   449099.608 3762513.379 224.20
   LOCATION L0001164     VOLUME   449112.749 3762518.208 224.25
   LOCATION L0001165     VOLUME   449125.890 3762523.036 224.30
   LOCATION L0001166     VOLUME   449139.031 3762527.865 224.35
   LOCATION L0001167     VOLUME   449152.172 3762532.693 224.40
   LOCATION L0001168     VOLUME   449165.313 3762537.522 224.45
   LOCATION L0001169     VOLUME   449178.454 3762542.350 224.45
   LOCATION L0001170     VOLUME   449191.595 3762547.178 224.48
   LOCATION L0001171     VOLUME   449204.736 3762552.007 224.50
   LOCATION L0001172     VOLUME   449217.877 3762556.835 224.46
   LOCATION L0001173     VOLUME   449231.018 3762561.664 224.44
   LOCATION L0001174     VOLUME   449244.159 3762566.492 224.49
   LOCATION L0001175     VOLUME   449257.300 3762571.321 224.50
   LOCATION L0001176     VOLUME   449270.441 3762576.149 224.42
   LOCATION L0001177     VOLUME   449283.582 3762580.977 224.34
** End of LINE VOLUME Source ID = 1OR60
** ----------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 2OR60
** DESCRSRC 6A Ontario Ranch 60%
** PREFIX
** Length of Side = 14.00
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 6
** 448439.906, 3762388.535, 224.96, 3.49, 6.51
** 448621.820, 3762386.760, 224.36, 3.49, 6.51
** 448708.783, 3762392.972, 222.80, 3.49, 6.51
** 448783.323, 3762407.170, 222.51, 3.49, 6.51
** 448868.512, 3762428.467, 222.75, 3.49, 6.51
** 449293.569, 3762584.647, 224.33, 3.49, 6.51
** ----------------------------------------------------------------
   LOCATION L0001821     VOLUME   448446.906 3762388.467 225.07
   LOCATION L0001822     VOLUME   448460.905 3762388.330 225.06
   LOCATION L0001823     VOLUME   448474.905 3762388.194 225.06
   LOCATION L0001824     VOLUME   448488.904 3762388.057 225.06
   LOCATION L0001825     VOLUME   448502.903 3762387.921 225.06
   LOCATION L0001826     VOLUME   448516.903 3762387.784 225.06
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   LOCATION L0001827     VOLUME   448530.902 3762387.647 225.06
   LOCATION L0001828     VOLUME   448544.901 3762387.511 225.06
   LOCATION L0001829     VOLUME   448558.901 3762387.374 225.05
   LOCATION L0001830     VOLUME   448572.900 3762387.238 225.07
   LOCATION L0001831     VOLUME   448586.899 3762387.101 225.12
   LOCATION L0001832     VOLUME   448600.899 3762386.964 225.13
   LOCATION L0001833     VOLUME   448614.898 3762386.828 224.90
   LOCATION L0001834     VOLUME   448628.880 3762387.265 224.68
   LOCATION L0001835     VOLUME   448642.844 3762388.262 224.32
   LOCATION L0001836     VOLUME   448656.809 3762389.260 223.93
   LOCATION L0001837     VOLUME   448670.773 3762390.257 223.52
   LOCATION L0001838     VOLUME   448684.737 3762391.254 223.10
   LOCATION L0001839     VOLUME   448698.702 3762392.252 222.74
   LOCATION L0001840     VOLUME   448712.607 3762393.700 222.42
   LOCATION L0001841     VOLUME   448726.360 3762396.320 222.28
   LOCATION L0001842     VOLUME   448740.113 3762398.940 222.25
   LOCATION L0001843     VOLUME   448753.866 3762401.559 222.24
   LOCATION L0001844     VOLUME   448767.618 3762404.179 222.38
   LOCATION L0001845     VOLUME   448781.371 3762406.798 222.52
   LOCATION L0001846     VOLUME   448794.977 3762410.084 222.68
   LOCATION L0001847     VOLUME   448808.559 3762413.479 222.87
   LOCATION L0001848     VOLUME   448822.141 3762416.875 222.79
   LOCATION L0001849     VOLUME   448835.723 3762420.270 222.68
   LOCATION L0001850     VOLUME   448849.305 3762423.666 222.64
   LOCATION L0001851     VOLUME   448862.887 3762427.061 222.64
   LOCATION L0001852     VOLUME   448876.211 3762431.296 222.72
   LOCATION L0001853     VOLUME   448889.352 3762436.125 222.81
   LOCATION L0001854     VOLUME   448902.493 3762440.953 222.86
   LOCATION L0001855     VOLUME   448915.634 3762445.781 222.91
   LOCATION L0001856     VOLUME   448928.775 3762450.610 222.95
   LOCATION L0001857     VOLUME   448941.916 3762455.438 223.08
   LOCATION L0001858     VOLUME   448955.057 3762460.267 223.26
   LOCATION L0001859     VOLUME   448968.198 3762465.095 223.40
   LOCATION L0001860     VOLUME   448981.339 3762469.924 223.46
   LOCATION L0001861     VOLUME   448994.480 3762474.752 223.50
   LOCATION L0001862     VOLUME   449007.621 3762479.580 223.55
   LOCATION L0001863     VOLUME   449020.762 3762484.409 223.62
   LOCATION L0001864     VOLUME   449033.903 3762489.237 223.80
   LOCATION L0001865     VOLUME   449047.044 3762494.066 223.98
   LOCATION L0001866     VOLUME   449060.185 3762498.894 224.05
   LOCATION L0001867     VOLUME   449073.326 3762503.723 224.10
   LOCATION L0001868     VOLUME   449086.467 3762508.551 224.15
   LOCATION L0001869     VOLUME   449099.608 3762513.379 224.20
   LOCATION L0001870     VOLUME   449112.749 3762518.208 224.25
   LOCATION L0001871     VOLUME   449125.890 3762523.036 224.30
   LOCATION L0001872     VOLUME   449139.031 3762527.865 224.35
   LOCATION L0001873     VOLUME   449152.172 3762532.693 224.40
   LOCATION L0001874     VOLUME   449165.313 3762537.522 224.45
   LOCATION L0001875     VOLUME   449178.454 3762542.350 224.45
   LOCATION L0001876     VOLUME   449191.595 3762547.178 224.48
   LOCATION L0001877     VOLUME   449204.736 3762552.007 224.50
   LOCATION L0001878     VOLUME   449217.877 3762556.835 224.46
   LOCATION L0001879     VOLUME   449231.018 3762561.664 224.44
   LOCATION L0001880     VOLUME   449244.159 3762566.492 224.49
   LOCATION L0001881     VOLUME   449257.300 3762571.321 224.50
   LOCATION L0001882     VOLUME   449270.441 3762576.149 224.42
   LOCATION L0001883     VOLUME   449283.582 3762580.977 224.34
** End of LINE VOLUME Source ID = 2OR60
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = 2MC45
** DESCRSRC 6A MillCreek 45%
** PREFIX
** Length of Side = 8.59
** Configuration = Adjacent
** Emission Rate = 1.0
```

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** Vertical Dimension = 6.99
** SZINIT = 3.25
** Nodes = 6
** 447576.163, 3762769.751, 227.38, 3.49, 4.00
** 447591.876, 3762664.814, 226.09, 3.49, 4.00
** 447601.415, 3762603.086, 225.46, 3.49, 4.00
** 447613.761, 3762526.768, 224.63, 3.49, 4.00
** 447623.862, 3762498.149, 224.31, 3.49, 4.00
** 447619.934, 3762425.198, 223.65, 3.49, 4.00
** ----------------------------------------------------------------
   LOCATION L0002266     VOLUME   447576.799 3762765.503 227.37
   LOCATION L0002267     VOLUME   447578.071 3762757.008 227.29
   LOCATION L0002268     VOLUME   447579.343 3762748.513 227.20
   LOCATION L0002269     VOLUME   447580.615 3762740.017 227.11
   LOCATION L0002270     VOLUME   447581.887 3762731.522 227.03
   LOCATION L0002271     VOLUME   447583.159 3762723.027 226.94
   LOCATION L0002272     VOLUME   447584.431 3762714.532 226.85
   LOCATION L0002273     VOLUME   447585.703 3762706.036 226.77
   LOCATION L0002274     VOLUME   447586.975 3762697.541 226.59
   LOCATION L0002275     VOLUME   447588.247 3762689.046 226.42
   LOCATION L0002276     VOLUME   447589.519 3762680.550 226.25
   LOCATION L0002277     VOLUME   447590.791 3762672.055 226.12
   LOCATION L0002278     VOLUME   447592.069 3762663.561 226.03
   LOCATION L0002279     VOLUME   447593.381 3762655.071 225.95
   LOCATION L0002280     VOLUME   447594.693 3762646.582 225.86
   LOCATION L0002281     VOLUME   447596.005 3762638.093 225.77
   LOCATION L0002282     VOLUME   447597.317 3762629.604 225.69
   LOCATION L0002283     VOLUME   447598.629 3762621.115 225.60
   LOCATION L0002284     VOLUME   447599.941 3762612.625 225.51
   LOCATION L0002285     VOLUME   447601.253 3762604.136 225.43
   LOCATION L0002286     VOLUME   447602.617 3762595.655 225.34
   LOCATION L0002287     VOLUME   447603.989 3762587.175 225.26
   LOCATION L0002288     VOLUME   447605.361 3762578.696 225.17
   LOCATION L0002289     VOLUME   447606.733 3762570.216 225.08
   LOCATION L0002290     VOLUME   447608.104 3762561.736 225.00
   LOCATION L0002291     VOLUME   447609.476 3762553.256 224.91
   LOCATION L0002292     VOLUME   447610.848 3762544.777 224.83
   LOCATION L0002293     VOLUME   447612.220 3762536.297 224.74
   LOCATION L0002294     VOLUME   447613.591 3762527.817 224.65
   LOCATION L0002295     VOLUME   447616.266 3762519.670 224.57
   LOCATION L0002296     VOLUME   447619.125 3762511.570 224.49
   LOCATION L0002297     VOLUME   447621.984 3762503.469 224.41
   LOCATION L0002298     VOLUME   447623.703 3762495.205 224.32
   LOCATION L0002299     VOLUME   447623.241 3762486.628 224.23
   LOCATION L0002300     VOLUME   447622.780 3762478.050 224.15
   LOCATION L0002301     VOLUME   447622.318 3762469.472 224.06
   LOCATION L0002302     VOLUME   447621.856 3762460.895 223.97
   LOCATION L0002303     VOLUME   447621.394 3762452.317 223.89
   LOCATION L0002304     VOLUME   447620.932 3762443.740 223.80
   LOCATION L0002305     VOLUME   447620.470 3762435.162 223.72
   LOCATION L0002306     VOLUME   447620.008 3762426.585 223.66
** End of LINE VOLUME Source ID = 2MC45
   LOCATION 5CREF        VOLUME     447588.083  3762458.599      223.950
** DESCRSRC 5C Refuel
   LOCATION 5CSPILL      VOLUME     447588.083  3762458.599      223.950
** DESCRSRC 5C Spill
   LOCATION 5CLOAD       POINT      447587.960  3762475.120      224.120
** DESCRSRC 5C Load
   LOCATION 5CBRE        POINT      447587.960  3762475.120      224.120
** DESCRSRC 5C Breathing
   LOCATION 10BREF       VOLUME     448360.834  3762176.338      222.000
** DESCRSRC 10B Refuel
   LOCATION 10BSPILL     VOLUME     448360.849  3762176.357      222.000
** DESCRSRC 10B Spill
   LOCATION 10BBREAT     POINT      448348.589  3762163.060      222.000
** DESCRSRC 10B Breathing
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   LOCATION 10BLOAD      POINT      448348.589  3762163.060      222.000
** DESCRSRC 10B Load
   LOCATION 4BREF        VOLUME     446867.676  3762342.136      222.770
** DESCRSRC 4B Refuel
   LOCATION 4BSPILL      VOLUME     446867.691  3762342.155      222.770
** DESCRSRC 4B Spill
   LOCATION 4BBREAT      POINT      446883.241  3762327.058      222.610
** DESCRSRC 4B Breathing
   LOCATION 4BLOAD       POINT      446883.241  3762327.058      222.610
** DESCRSRC 4B Load
   LOCATION 6BREF        VOLUME     448359.971  3762465.173      225.850
** DESCRSRC 6B Refuel
   LOCATION 6BSPILL      VOLUME     448359.986  3762465.191      225.850
** DESCRSRC 6B Spill
   LOCATION 6BBREAT      POINT      448344.715  3762485.143      226.050
** DESCRSRC 6B Breathing
   LOCATION 6BLOAD       POINT      448344.715  3762485.143      226.050
** DESCRSRC 6B Load
   LOCATION 8REF         VOLUME     448364.668  3762348.930      224.970
** DESCRSRC 8 Refuel
   LOCATION 8SPILL       VOLUME     448364.683  3762348.949      224.970
** DESCRSRC 8 Spill
   LOCATION 8BREAT       POINT      448350.586  3762332.501      224.800
** DESCRSRC 8 Breathing
   LOCATION 8LOAD        POINT      448350.586  3762332.501      224.800
** DESCRSRC 8 Load
   LOCATION 5BREF        VOLUME     447583.848  3762350.105      222.850
** DESCRSRC 5B Refuel
   LOCATION 5BSPILL      VOLUME     447583.863  3762350.123      222.850
** DESCRSRC 5B Spill
   LOCATION 5BBREAT      POINT      447570.940  3762334.850      222.660
** DESCRSRC 5B Breathing
   LOCATION 5BLOAD       POINT      447570.940  3762334.850      222.660
** DESCRSRC 5B Load
** Source Parameters **
** LINE VOLUME Source ID = 2CIDLE
   SRCPARAM L0000119     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000120     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000121     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000122     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000123     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000124     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000125     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000126     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000127     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000128     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000129     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000130     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000131     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000132     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000133     0.0666666667      3.49      4.00      3.25
** ----------------------------------------------------------------
** LINE VOLUME Source ID = 3CIDLE
   SRCPARAM L0000104     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000105     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000106     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000107     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000108     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000109     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000110     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000111     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000112     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000113     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000114     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000115     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000116     0.0666666667      3.49      4.00      3.25
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   SRCPARAM L0000117     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000118     0.0666666667      3.49      4.00      3.25
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** LINE VOLUME Source ID = 5AIDLE
   SRCPARAM L0000089     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000090     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000091     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000092     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000093     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000094     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000095     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000096     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000097     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000098     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000099     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000100     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000101     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000102     0.0666666667      3.49      4.00      3.25
   SRCPARAM L0000103     0.0666666667      3.49      4.00      3.25
** ----------------------------------------------------------------
** LINE VOLUME Source ID = 2CON
   SRCPARAM L0000134          0.01      3.49      4.00      3.25
   SRCPARAM L0000135          0.01      3.49      4.00      3.25
   SRCPARAM L0000136          0.01      3.49      4.00      3.25
   SRCPARAM L0000137          0.01      3.49      4.00      3.25
   SRCPARAM L0000138          0.01      3.49      4.00      3.25
   SRCPARAM L0000139          0.01      3.49      4.00      3.25
   SRCPARAM L0000140          0.01      3.49      4.00      3.25
   SRCPARAM L0000141          0.01      3.49      4.00      3.25
   SRCPARAM L0000142          0.01      3.49      4.00      3.25
   SRCPARAM L0000143          0.01      3.49      4.00      3.25
   SRCPARAM L0000144          0.01      3.49      4.00      3.25
   SRCPARAM L0000145          0.01      3.49      4.00      3.25
   SRCPARAM L0000146          0.01      3.49      4.00      3.25
   SRCPARAM L0000147          0.01      3.49      4.00      3.25
   SRCPARAM L0000148          0.01      3.49      4.00      3.25
   SRCPARAM L0000149          0.01      3.49      4.00      3.25
   SRCPARAM L0000150          0.01      3.49      4.00      3.25
   SRCPARAM L0000151          0.01      3.49      4.00      3.25
   SRCPARAM L0000152          0.01      3.49      4.00      3.25
   SRCPARAM L0000153          0.01      3.49      4.00      3.25
   SRCPARAM L0000154          0.01      3.49      4.00      3.25
   SRCPARAM L0000155          0.01      3.49      4.00      3.25
   SRCPARAM L0000156          0.01      3.49      4.00      3.25
   SRCPARAM L0000157          0.01      3.49      4.00      3.25
   SRCPARAM L0000158          0.01      3.49      4.00      3.25
   SRCPARAM L0000159          0.01      3.49      4.00      3.25
   SRCPARAM L0000160          0.01      3.49      4.00      3.25
   SRCPARAM L0000161          0.01      3.49      4.00      3.25
   SRCPARAM L0000162          0.01      3.49      4.00      3.25
   SRCPARAM L0000163          0.01      3.49      4.00      3.25
   SRCPARAM L0000164          0.01      3.49      4.00      3.25
   SRCPARAM L0000165          0.01      3.49      4.00      3.25
   SRCPARAM L0000166          0.01      3.49      4.00      3.25
   SRCPARAM L0000167          0.01      3.49      4.00      3.25
   SRCPARAM L0000168          0.01      3.49      4.00      3.25
   SRCPARAM L0000169          0.01      3.49      4.00      3.25
   SRCPARAM L0000170          0.01      3.49      4.00      3.25
   SRCPARAM L0000171          0.01      3.49      4.00      3.25
   SRCPARAM L0000172          0.01      3.49      4.00      3.25
   SRCPARAM L0000173          0.01      3.49      4.00      3.25
   SRCPARAM L0000174          0.01      3.49      4.00      3.25
   SRCPARAM L0000175          0.01      3.49      4.00      3.25
   SRCPARAM L0000176          0.01      3.49      4.00      3.25
   SRCPARAM L0000177          0.01      3.49      4.00      3.25
   SRCPARAM L0000178          0.01      3.49      4.00      3.25
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   SRCPARAM L0000179          0.01      3.49      4.00      3.25
   SRCPARAM L0000180          0.01      3.49      4.00      3.25
   SRCPARAM L0000181          0.01      3.49      4.00      3.25
   SRCPARAM L0000182          0.01      3.49      4.00      3.25
   SRCPARAM L0000183          0.01      3.49      4.00      3.25
   SRCPARAM L0000184          0.01      3.49      4.00      3.25
   SRCPARAM L0000185          0.01      3.49      4.00      3.25
   SRCPARAM L0000186          0.01      3.49      4.00      3.25
   SRCPARAM L0000187          0.01      3.49      4.00      3.25
   SRCPARAM L0000188          0.01      3.49      4.00      3.25
   SRCPARAM L0000189          0.01      3.49      4.00      3.25
   SRCPARAM L0000190          0.01      3.49      4.00      3.25
   SRCPARAM L0000191          0.01      3.49      4.00      3.25
   SRCPARAM L0000192          0.01      3.49      4.00      3.25
   SRCPARAM L0000193          0.01      3.49      4.00      3.25
   SRCPARAM L0000194          0.01      3.49      4.00      3.25
   SRCPARAM L0000195          0.01      3.49      4.00      3.25
   SRCPARAM L0000196          0.01      3.49      4.00      3.25
   SRCPARAM L0000197          0.01      3.49      4.00      3.25
   SRCPARAM L0000198          0.01      3.49      4.00      3.25
   SRCPARAM L0000199          0.01      3.49      4.00      3.25
   SRCPARAM L0000200          0.01      3.49      4.00      3.25
   SRCPARAM L0000201          0.01      3.49      4.00      3.25
   SRCPARAM L0000202          0.01      3.49      4.00      3.25
   SRCPARAM L0000203          0.01      3.49      4.00      3.25
   SRCPARAM L0000204          0.01      3.49      4.00      3.25
   SRCPARAM L0000205          0.01      3.49      4.00      3.25
   SRCPARAM L0000206          0.01      3.49      4.00      3.25
   SRCPARAM L0000207          0.01      3.49      4.00      3.25
   SRCPARAM L0000208          0.01      3.49      4.00      3.25
   SRCPARAM L0000209          0.01      3.49      4.00      3.25
   SRCPARAM L0000210          0.01      3.49      4.00      3.25
   SRCPARAM L0000211          0.01      3.49      4.00      3.25
   SRCPARAM L0000212          0.01      3.49      4.00      3.25
   SRCPARAM L0000213          0.01      3.49      4.00      3.25
   SRCPARAM L0000214          0.01      3.49      4.00      3.25
   SRCPARAM L0000215          0.01      3.49      4.00      3.25
   SRCPARAM L0000216          0.01      3.49      4.00      3.25
   SRCPARAM L0000217          0.01      3.49      4.00      3.25
   SRCPARAM L0000218          0.01      3.49      4.00      3.25
   SRCPARAM L0000219          0.01      3.49      4.00      3.25
   SRCPARAM L0000220          0.01      3.49      4.00      3.25
   SRCPARAM L0000221          0.01      3.49      4.00      3.25
   SRCPARAM L0000222          0.01      3.49      4.00      3.25
   SRCPARAM L0000223          0.01      3.49      4.00      3.25
   SRCPARAM L0000224          0.01      3.49      4.00      3.25
   SRCPARAM L0000225          0.01      3.49      4.00      3.25
   SRCPARAM L0000226          0.01      3.49      4.00      3.25
   SRCPARAM L0000227          0.01      3.49      4.00      3.25
   SRCPARAM L0000228          0.01      3.49      4.00      3.25
   SRCPARAM L0000229          0.01      3.49      4.00      3.25
   SRCPARAM L0000230          0.01      3.49      4.00      3.25
   SRCPARAM L0000231          0.01      3.49      4.00      3.25
   SRCPARAM L0000232          0.01      3.49      4.00      3.25
   SRCPARAM L0000233          0.01      3.49      4.00      3.25
** ------------------------------------------------------------------
** LINE VOLUME Source ID = 3CON
   SRCPARAM L0000234     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000235     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000236     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000237     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000238     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000239     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000240     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000241     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000242     0.0108695652      3.49      4.00      3.25
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SRCPARAM L0000243     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000244     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000245     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000246     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000247     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000248     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000249     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000250     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000251     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000252     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000253     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000254     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000255     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000256     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000257     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000258     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000259     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000260     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000261     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000262     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000263     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000264     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000265     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000266     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000267     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000268     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000269     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000270     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000271     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000272     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000273     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000274     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000275     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000276     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000277     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000278     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000279     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000280     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000281     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000282     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000283     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000284     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000285     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000286     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000287     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000288     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000289     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000290     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000291     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000292     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000293     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000294     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000295     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000296     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000297     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000298     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000299     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000300     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000301     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000302     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000303     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000304     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000305     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000306     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000307     0.0108695652      3.49      4.00      3.25
SRCPARAM L0000308     0.0108695652      3.49      4.00      3.25
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   SRCPARAM L0000309     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000310     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000311     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000312     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000313     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000314     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000315     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000316     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000317     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000318     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000319     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000320     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000321     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000322     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000323     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000324     0.0108695652      3.49      4.00      3.25
   SRCPARAM L0000325     0.0108695652      3.49      4.00      3.25
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** LINE VOLUME Source ID = 5AON
   SRCPARAM L0000326     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000327     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000328     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000329     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000330     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000331     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000332     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000333     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000334     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000335     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000336     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000337     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000338     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000339     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000340     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000341     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000342     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000343     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000344     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000345     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000346     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000347     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000348     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000349     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000350     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000351     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000352     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000353     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000354     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000355     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000356     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000357     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000358     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000359     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000360     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000361     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000362     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000363     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000364     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000365     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000366     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000367     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000368     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000369     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000370     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000371     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000372     0.0178571429      3.49      4.00      3.25
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   SRCPARAM L0000373     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000374     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000375     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000376     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000377     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000378     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000379     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000380     0.0178571429      3.49      4.00      3.25
   SRCPARAM L0000381     0.0178571429      3.49      4.00      3.25
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** LINE VOLUME Source ID = 6AIDLE
   SRCPARAM L0000382     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000383     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000384     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000385     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000386     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000387     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000388     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000389     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000390     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000391     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000392     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000393     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000394     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000395     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000396     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000397     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000398     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000399     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000400     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000401     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000402     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000403     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000404     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000405     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000406     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000407     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000408     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000409     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000410     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000411     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000412     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000413     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000414     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000415     0.0285714286      3.49      4.00      3.25
   SRCPARAM L0000416     0.0285714286      3.49      4.00      3.25
** ------------------------------------------------------------------
** LINE VOLUME Source ID = 6AON
   SRCPARAM L0000417     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000418     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000419     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000420     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000421     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000422     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000423     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000424     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000425     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000426     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000427     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000428     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000429     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000430     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000431     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000432     0.0107526882      3.49      4.00      3.25
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   SRCPARAM L0000434     0.0107526882      3.49      4.00      3.25
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SRCPARAM L0000435     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000436     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000437     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000438     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000439     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000440     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000441     0.0107526882      3.49      4.00      3.25
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SRCPARAM L0000457     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000458     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000459     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000460     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000461     0.0107526882      3.49      4.00      3.25
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SRCPARAM L0000463     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000464     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000465     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000466     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000467     0.0107526882      3.49      4.00      3.25
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SRCPARAM L0000470     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000471     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000472     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000473     0.0107526882      3.49      4.00      3.25
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SRCPARAM L0000475     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000476     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000477     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000478     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000479     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000480     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000481     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000482     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000483     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000484     0.0107526882      3.49      4.00      3.25
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SRCPARAM L0000488     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000489     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000490     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000491     0.0107526882      3.49      4.00      3.25
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SRCPARAM L0000495     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000496     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000497     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000498     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000499     0.0107526882      3.49      4.00      3.25
SRCPARAM L0000500     0.0107526882      3.49      4.00      3.25
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   SRCPARAM L0000506     0.0107526882      3.49      4.00      3.25
   SRCPARAM L0000507     0.0107526882      3.49      4.00      3.25
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   SRCPARAM L0000509     0.0107526882      3.49      4.00      3.25
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** LINE VOLUME Source ID = 1MC100
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SRCPARAM L0000620     0.0080645161      3.49      4.00      3.25
SRCPARAM L0000621     0.0080645161      3.49      4.00      3.25
SRCPARAM L0000622     0.0080645161      3.49      4.00      3.25
SRCPARAM L0000623     0.0080645161      3.49      4.00      3.25
SRCPARAM L0000624     0.0080645161      3.49      4.00      3.25
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SRCPARAM L0000630     0.0080645161      3.49      4.00      3.25
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   SRCPARAM L0000633     0.0080645161      3.49      4.00      3.25
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** LINE VOLUME Source ID = 1OR15
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   SRCPARAM L0000638     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0000640     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0000641     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0000642     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0000643     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0000648     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0000650     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0000654     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0000655     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0000694     0.0042918455      3.49      6.51      3.25
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SRCPARAM L0000697     0.0042918455      3.49      6.51      3.25
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SRCPARAM L0000700     0.0042918455      3.49      6.51      3.25
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SRCPARAM L0000702     0.0042918455      3.49      6.51      3.25
SRCPARAM L0000703     0.0042918455      3.49      6.51      3.25
SRCPARAM L0000704     0.0042918455      3.49      6.51      3.25
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SRCPARAM L0000722     0.0042918455      3.49      6.51      3.25
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SRCPARAM L0000733     0.0042918455      3.49      6.51      3.25
SRCPARAM L0000734     0.0042918455      3.49      6.51      3.25
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SRCPARAM L0000737     0.0042918455      3.49      6.51      3.25
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SRCPARAM L0001361     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001362     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001363     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001364     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001365     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001366     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001367     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001368     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001369     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001370     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001371     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001372     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001373     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001374     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001375     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001376     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001377     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001378     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001379     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001380     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001381     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001382     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001383     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001384     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001385     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001386     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001387     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001388     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001389     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001390     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001391     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001392     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001393     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001394     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001395     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001396     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001397     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001398     0.0042918455      3.49      6.51      3.25
SRCPARAM L0001399     0.0042918455      3.49      6.51      3.25
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   SRCPARAM L0001400     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001401     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001402     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001403     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001404     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001405     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001406     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001407     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001408     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001409     0.0042918455      3.49      6.51      3.25
   SRCPARAM L0001410     0.0042918455      3.49      6.51      3.25
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** LINE VOLUME Source ID = 1OR85
   SRCPARAM L0000867     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000868     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000869     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000870     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000871     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000872     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000873     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000874     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000875     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000876     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000877     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000878     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000879     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000880     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000881     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000882     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000883     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000884     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000885     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000886     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000887     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000888     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000889     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000890     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000891     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000892     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000893     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000894     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000895     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000896     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000897     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000898     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000899     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000900     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000901     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000902     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000903     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000904     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000905     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000906     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000907     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000908     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000909     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000910     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000911     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000912     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000913     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000914     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000915     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000916     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000917     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000918     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000919     0.0175438596      3.49      6.51      3.25
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   SRCPARAM L0000920     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000921     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000922     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0000923     0.0175438596      3.49      6.51      3.25
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** LINE VOLUME Source ID = 2OR30
   SRCPARAM L0001701     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001702     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001703     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001704     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001705     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001706     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001707     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001708     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001709     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001710     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001711     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001712     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001713     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001714     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001715     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001716     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001717     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001718     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001719     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001720     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001721     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001722     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001723     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001724     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001725     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001726     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001727     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001728     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001729     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001730     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001731     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001732     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001733     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001734     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001735     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001736     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001737     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001738     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001739     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001740     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001741     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001742     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001743     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001744     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001745     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001746     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001747     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001748     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001749     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001750     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001751     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001752     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001753     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001754     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001755     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001756     0.0175438596      3.49      6.51      3.25
   SRCPARAM L0001757     0.0175438596      3.49      6.51      3.25
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** LINE VOLUME Source ID = 1H25
   SRCPARAM L0000924     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0000927     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000928     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000929     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000930     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000931     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000932     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000933     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000934     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000935     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000936     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000937     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000938     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000939     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000940     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000941     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000942     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000943     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000944     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000945     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000946     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000947     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000948     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000949     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000950     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000951     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0000962     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000963     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0000982     0.0052356021      3.49      6.51      3.25
SRCPARAM L0000983     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0000990     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0001034     0.0052356021      3.49      6.51      3.25
SRCPARAM L0001035     0.0052356021      3.49      6.51      3.25
SRCPARAM L0001036     0.0052356021      3.49      6.51      3.25
SRCPARAM L0001037     0.0052356021      3.49      6.51      3.25
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   SRCPARAM L0002078     0.0052356021      3.49      6.51      3.25
   SRCPARAM L0002079     0.0052356021      3.49      6.51      3.25
   SRCPARAM L0002080     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0002082     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0002084     0.0052356021      3.49      6.51      3.25
SRCPARAM L0002085     0.0052356021      3.49      6.51      3.25
SRCPARAM L0002086     0.0052356021      3.49      6.51      3.25
SRCPARAM L0002087     0.0052356021      3.49      6.51      3.25
SRCPARAM L0002088     0.0052356021      3.49      6.51      3.25
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SRCPARAM L0002119     0.0052356021      3.49      6.51      3.25
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   SRCPARAM L0002264     0.0052356021      3.49      6.51      3.25
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   SRCPARAM L0001128     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001129     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001130     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001131     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001132     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001133     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001134     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001135     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001136     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001137     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001138     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001139     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001140     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001141     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001142     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001143     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001144     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001145     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001146     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001147     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001148     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001149     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001150     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001151     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001152     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001153     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001154     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0001156     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001157     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001158     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001159     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001160     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001161     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001162     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001163     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001164     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001165     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001166     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001167     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001168     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001169     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001170     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001171     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001172     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001173     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001174     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001175     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001176     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001177     0.0158730159      3.49      6.51      3.25
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** LINE VOLUME Source ID = 2OR60
   SRCPARAM L0001821     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001822     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001823     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001824     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001825     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001826     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001827     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001828     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001829     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001830     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001831     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001832     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0001833     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001834     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001835     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001836     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001837     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001838     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001839     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001840     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001841     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001842     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001843     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001844     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001845     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001846     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001847     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001848     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001849     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001850     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001851     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001852     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001853     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001854     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001855     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001856     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001857     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001858     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001859     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0001861     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001862     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001863     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001864     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001865     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001866     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001867     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001868     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001869     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001870     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001871     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001872     0.0158730159      3.49      6.51      3.25
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   SRCPARAM L0001877     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001878     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001879     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001880     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001881     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001882     0.0158730159      3.49      6.51      3.25
   SRCPARAM L0001883     0.0158730159      3.49      6.51      3.25
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** LINE VOLUME Source ID = 2MC45
   SRCPARAM L0002266     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002267     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002268     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002269     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002270     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002271     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002272     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002273     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002274     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002275     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002276     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002277     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002278     0.0243902439      3.49      4.00      3.25
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   SRCPARAM L0002279     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002280     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002281     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002282     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002283     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002284     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002285     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002286     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002287     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002288     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002289     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002290     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002291     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002292     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002293     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002294     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002295     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002296     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002297     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002298     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002299     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002300     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002301     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002302     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002303     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002304     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002305     0.0243902439      3.49      4.00      3.25
   SRCPARAM L0002306     0.0243902439      3.49      4.00      3.25
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   SRCPARAM 5CREF              1.0     1.000     4.651     2.330
   SRCPARAM 5CSPILL            1.0     0.000     4.651     2.330
   SRCPARAM 5CLOAD             1.0     3.660   291.480     0.001     0.051
   SRCPARAM 5CBRE              1.0     3.660   288.710         0     0.051
   SRCPARAM 10BREF             1.0     1.000     4.651     2.330
   SRCPARAM 10BSPILL           1.0     0.000     4.651     2.330
   SRCPARAM 10BBREAT           1.0     3.660   288.710         0     0.051
   SRCPARAM 10BLOAD            1.0     3.660   291.480     0.001     0.051
   SRCPARAM 4BREF              1.0     1.000     4.651     2.330
   SRCPARAM 4BSPILL            1.0     0.000     4.651     2.330
   SRCPARAM 4BBREAT            1.0     3.660   288.710         0     0.051
   SRCPARAM 4BLOAD             1.0     3.660   291.480     0.001     0.051
   SRCPARAM 6BREF              1.0     1.000     4.651     2.330
   SRCPARAM 6BSPILL            1.0     0.000     4.651     2.330
   SRCPARAM 6BBREAT            1.0     3.660   288.710         0     0.051
   SRCPARAM 6BLOAD             1.0     3.660   291.480     0.001     0.051
   SRCPARAM 8REF               1.0     1.000     4.651     2.330
   SRCPARAM 8SPILL             1.0     0.000     4.651     2.330
   SRCPARAM 8BREAT             1.0     3.660   288.710         0     0.051
   SRCPARAM 8LOAD              1.0     3.660   291.480     0.001     0.051
   SRCPARAM 5BREF              1.0     1.000     4.651     2.330
   SRCPARAM 5BSPILL            1.0     0.000     4.651     2.330
   SRCPARAM 5BBREAT            1.0     3.660   288.710         0     0.051
   SRCPARAM 5BLOAD             1.0     3.660   291.480     0.001     0.051
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   SRCGROUP 10BLOAD  10BLOAD
   SRCGROUP 10BREF   10BREF
   SRCGROUP 10BSPILL 10BSPILL
   SRCGROUP 1H25     L0000924 L0000925 L0000926 L0000927 L0000928 L0000929
   SRCGROUP 1H25     L0000930 L0000931 L0000932 L0000933 L0000934 L0000935
   SRCGROUP 1H25     L0000936 L0000937 L0000938 L0000939 L0000940 L0000941
   SRCGROUP 1H25     L0000942 L0000943 L0000944 L0000945 L0000946 L0000947
   SRCGROUP 1H25     L0000948 L0000949 L0000950 L0000951 L0000952 L0000953
   SRCGROUP 1H25     L0000954 L0000955 L0000956 L0000957 L0000958 L0000959
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SRCGROUP 1MC100   L0000630 L0000631 L0000632 L0000633
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SRCGROUP 1OR15    L0000736 L0000737 L0000738 L0000739 L0000740 L0000741
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SRCGROUP 1OR15    L0000754 L0000755 L0000756 L0000757 L0000758 L0000759
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SRCGROUP 1OR85    L0000873 L0000874 L0000875 L0000876 L0000877 L0000878
SRCGROUP 1OR85    L0000879 L0000880 L0000881 L0000882 L0000883 L0000884
SRCGROUP 1OR85    L0000885 L0000886 L0000887 L0000888 L0000889 L0000890
SRCGROUP 1OR85    L0000891 L0000892 L0000893 L0000894 L0000895 L0000896
SRCGROUP 1OR85    L0000897 L0000898 L0000899 L0000900 L0000901 L0000902
SRCGROUP 1OR85    L0000903 L0000904 L0000905 L0000906 L0000907 L0000908
SRCGROUP 1OR85    L0000909 L0000910 L0000911 L0000912 L0000913 L0000914
SRCGROUP 1OR85    L0000915 L0000916 L0000917 L0000918 L0000919 L0000920
SRCGROUP 1OR85    L0000921 L0000922 L0000923
SRCGROUP 2CIDLE   L0000119 L0000120 L0000121 L0000122 L0000123 L0000124
SRCGROUP 2CIDLE   L0000125 L0000126 L0000127 L0000128 L0000129 L0000130
SRCGROUP 2CIDLE   L0000131 L0000132 L0000133
SRCGROUP 2CON     L0000134 L0000135 L0000136 L0000137 L0000138 L0000139
SRCGROUP 2CON     L0000140 L0000141 L0000142 L0000143 L0000144 L0000145
SRCGROUP 2CON     L0000146 L0000147 L0000148 L0000149 L0000150 L0000151
SRCGROUP 2CON     L0000152 L0000153 L0000154 L0000155 L0000156 L0000157
SRCGROUP 2CON     L0000158 L0000159 L0000160 L0000161 L0000162 L0000163
SRCGROUP 2CON     L0000164 L0000165 L0000166 L0000167 L0000168 L0000169
SRCGROUP 2CON     L0000170 L0000171 L0000172 L0000173 L0000174 L0000175
SRCGROUP 2CON     L0000176 L0000177 L0000178 L0000179 L0000180 L0000181
SRCGROUP 2CON     L0000182 L0000183 L0000184 L0000185 L0000186 L0000187
SRCGROUP 2CON     L0000188 L0000189 L0000190 L0000191 L0000192 L0000193
SRCGROUP 2CON     L0000194 L0000195 L0000196 L0000197 L0000198 L0000199
SRCGROUP 2CON     L0000200 L0000201 L0000202 L0000203 L0000204 L0000205
SRCGROUP 2CON     L0000206 L0000207 L0000208 L0000209 L0000210 L0000211
SRCGROUP 2CON     L0000212 L0000213 L0000214 L0000215 L0000216 L0000217
SRCGROUP 2CON     L0000218 L0000219 L0000220 L0000221 L0000222 L0000223
SRCGROUP 2CON     L0000224 L0000225 L0000226 L0000227 L0000228 L0000229
SRCGROUP 2CON     L0000230 L0000231 L0000232 L0000233
SRCGROUP 2H25     L0002075 L0002076 L0002077 L0002078 L0002079 L0002080
SRCGROUP 2H25     L0002081 L0002082 L0002083 L0002084 L0002085 L0002086
SRCGROUP 2H25     L0002087 L0002088 L0002089 L0002090 L0002091 L0002092
SRCGROUP 2H25     L0002093 L0002094 L0002095 L0002096 L0002097 L0002098
SRCGROUP 2H25     L0002099 L0002100 L0002101 L0002102 L0002103 L0002104
SRCGROUP 2H25     L0002105 L0002106 L0002107 L0002108 L0002109 L0002110
SRCGROUP 2H25     L0002111 L0002112 L0002113 L0002114 L0002115 L0002116
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SRCGROUP 2H25     L0002123 L0002124 L0002125 L0002126 L0002127 L0002128
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SRCGROUP 2H25     L0002135 L0002136 L0002137 L0002138 L0002139 L0002140
SRCGROUP 2H25     L0002141 L0002142 L0002143 L0002144 L0002145 L0002146
SRCGROUP 2H25     L0002147 L0002148 L0002149 L0002150 L0002151 L0002152
SRCGROUP 2H25     L0002153 L0002154 L0002155 L0002156 L0002157 L0002158
SRCGROUP 2H25     L0002159 L0002160 L0002161 L0002162 L0002163 L0002164
SRCGROUP 2H25     L0002165 L0002166 L0002167 L0002168 L0002169 L0002170
SRCGROUP 2H25     L0002171 L0002172 L0002173 L0002174 L0002175 L0002176
SRCGROUP 2H25     L0002177 L0002178 L0002179 L0002180 L0002181 L0002182
SRCGROUP 2H25     L0002183 L0002184 L0002185 L0002186 L0002187 L0002188
SRCGROUP 2H25     L0002189 L0002190 L0002191 L0002192 L0002193 L0002194
SRCGROUP 2H25     L0002195 L0002196 L0002197 L0002198 L0002199 L0002200
SRCGROUP 2H25     L0002201 L0002202 L0002203 L0002204 L0002205 L0002206
SRCGROUP 2H25     L0002207 L0002208 L0002209 L0002210 L0002211 L0002212
SRCGROUP 2H25     L0002213 L0002214 L0002215 L0002216 L0002217 L0002218
SRCGROUP 2H25     L0002219 L0002220 L0002221 L0002222 L0002223 L0002224
SRCGROUP 2H25     L0002225 L0002226 L0002227 L0002228 L0002229 L0002230
SRCGROUP 2H25     L0002231 L0002232 L0002233 L0002234 L0002235 L0002236
SRCGROUP 2H25     L0002237 L0002238 L0002239 L0002240 L0002241 L0002242
SRCGROUP 2H25     L0002243 L0002244 L0002245 L0002246 L0002247 L0002248
SRCGROUP 2H25     L0002249 L0002250 L0002251 L0002252 L0002253 L0002254
SRCGROUP 2H25     L0002255 L0002256 L0002257 L0002258 L0002259 L0002260
SRCGROUP 2H25     L0002261 L0002262 L0002263 L0002264 L0002265
SRCGROUP 2MC45    L0002266 L0002267 L0002268 L0002269 L0002270 L0002271
SRCGROUP 2MC45    L0002272 L0002273 L0002274 L0002275 L0002276 L0002277
SRCGROUP 2MC45    L0002278 L0002279 L0002280 L0002281 L0002282 L0002283
SRCGROUP 2MC45    L0002284 L0002285 L0002286 L0002287 L0002288 L0002289
SRCGROUP 2MC45    L0002290 L0002291 L0002292 L0002293 L0002294 L0002295
SRCGROUP 2MC45    L0002296 L0002297 L0002298 L0002299 L0002300 L0002301
SRCGROUP 2MC45    L0002302 L0002303 L0002304 L0002305 L0002306
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SRCGROUP 2OR15    L0001184 L0001185 L0001186 L0001187 L0001188 L0001189
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SRCGROUP 2OR15    L0001286 L0001287 L0001288 L0001289 L0001290 L0001291
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SRCGROUP 2OR15    L0001310 L0001311 L0001312 L0001313 L0001314 L0001315
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SRCGROUP 2OR15    L0001322 L0001323 L0001324 L0001325 L0001326 L0001327
SRCGROUP 2OR15    L0001328 L0001329 L0001330 L0001331 L0001332 L0001333
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SRCGROUP 2OR15    L0001340 L0001341 L0001342 L0001343 L0001344 L0001345
SRCGROUP 2OR15    L0001346 L0001347 L0001348 L0001349 L0001350 L0001351
SRCGROUP 2OR15    L0001352 L0001353 L0001354 L0001355 L0001356 L0001357
SRCGROUP 2OR15    L0001358 L0001359 L0001360 L0001361 L0001362 L0001363
SRCGROUP 2OR15    L0001364 L0001365 L0001366 L0001367 L0001368 L0001369
SRCGROUP 2OR15    L0001370 L0001371 L0001372 L0001373 L0001374 L0001375
SRCGROUP 2OR15    L0001376 L0001377 L0001378 L0001379 L0001380 L0001381
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SRCGROUP 2OR15    L0001394 L0001395 L0001396 L0001397 L0001398 L0001399
SRCGROUP 2OR15    L0001400 L0001401 L0001402 L0001403 L0001404 L0001405
SRCGROUP 2OR15    L0001406 L0001407 L0001408 L0001409 L0001410
SRCGROUP 2OR30    L0001701 L0001702 L0001703 L0001704 L0001705 L0001706
SRCGROUP 2OR30    L0001707 L0001708 L0001709 L0001710 L0001711 L0001712
SRCGROUP 2OR30    L0001713 L0001714 L0001715 L0001716 L0001717 L0001718
SRCGROUP 2OR30    L0001719 L0001720 L0001721 L0001722 L0001723 L0001724
SRCGROUP 2OR30    L0001725 L0001726 L0001727 L0001728 L0001729 L0001730
SRCGROUP 2OR30    L0001731 L0001732 L0001733 L0001734 L0001735 L0001736
SRCGROUP 2OR30    L0001737 L0001738 L0001739 L0001740 L0001741 L0001742
SRCGROUP 2OR30    L0001743 L0001744 L0001745 L0001746 L0001747 L0001748
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SRCGROUP 2OR60    L0001839 L0001840 L0001841 L0001842 L0001843 L0001844
SRCGROUP 2OR60    L0001845 L0001846 L0001847 L0001848 L0001849 L0001850
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SRCGROUP 2OR60    L0001857 L0001858 L0001859 L0001860 L0001861 L0001862
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SRCGROUP 2OR60    L0001869 L0001870 L0001871 L0001872 L0001873 L0001874
SRCGROUP 2OR60    L0001875 L0001876 L0001877 L0001878 L0001879 L0001880
SRCGROUP 2OR60    L0001881 L0001882 L0001883
SRCGROUP 3CIDLE   L0000104 L0000105 L0000106 L0000107 L0000108 L0000109
SRCGROUP 3CIDLE   L0000110 L0000111 L0000112 L0000113 L0000114 L0000115
SRCGROUP 3CIDLE   L0000116 L0000117 L0000118
SRCGROUP 3CON     L0000234 L0000235 L0000236 L0000237 L0000238 L0000239
SRCGROUP 3CON     L0000240 L0000241 L0000242 L0000243 L0000244 L0000245
SRCGROUP 3CON     L0000246 L0000247 L0000248 L0000249 L0000250 L0000251
SRCGROUP 3CON     L0000252 L0000253 L0000254 L0000255 L0000256 L0000257
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SRCGROUP 3CON     L0000264 L0000265 L0000266 L0000267 L0000268 L0000269
SRCGROUP 3CON     L0000270 L0000271 L0000272 L0000273 L0000274 L0000275
SRCGROUP 3CON     L0000276 L0000277 L0000278 L0000279 L0000280 L0000281
SRCGROUP 3CON     L0000282 L0000283 L0000284 L0000285 L0000286 L0000287
SRCGROUP 3CON     L0000288 L0000289 L0000290 L0000291 L0000292 L0000293
SRCGROUP 3CON     L0000294 L0000295 L0000296 L0000297 L0000298 L0000299
SRCGROUP 3CON     L0000300 L0000301 L0000302 L0000303 L0000304 L0000305
SRCGROUP 3CON     L0000306 L0000307 L0000308 L0000309 L0000310 L0000311
SRCGROUP 3CON     L0000312 L0000313 L0000314 L0000315 L0000316 L0000317
SRCGROUP 3CON     L0000318 L0000319 L0000320 L0000321 L0000322 L0000323
SRCGROUP 3CON     L0000324 L0000325
SRCGROUP 4BBREAT  4BBREAT
SRCGROUP 4BLOAD   4BLOAD
SRCGROUP 4BREF    4BREF
SRCGROUP 4BSPILL  4BSPILL
SRCGROUP 5AIDLE   L0000089 L0000090 L0000091 L0000092 L0000093 L0000094
SRCGROUP 5AIDLE   L0000095 L0000096 L0000097 L0000098 L0000099 L0000100
SRCGROUP 5AIDLE   L0000101 L0000102 L0000103
SRCGROUP 5AON     L0000326 L0000327 L0000328 L0000329 L0000330 L0000331
SRCGROUP 5AON     L0000332 L0000333 L0000334 L0000335 L0000336 L0000337
SRCGROUP 5AON     L0000338 L0000339 L0000340 L0000341 L0000342 L0000343
SRCGROUP 5AON     L0000344 L0000345 L0000346 L0000347 L0000348 L0000349
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SRCGROUP 5AON     L0000356 L0000357 L0000358 L0000359 L0000360 L0000361
SRCGROUP 5AON     L0000362 L0000363 L0000364 L0000365 L0000366 L0000367
SRCGROUP 5AON     L0000368 L0000369 L0000370 L0000371 L0000372 L0000373
SRCGROUP 5AON     L0000374 L0000375 L0000376 L0000377 L0000378 L0000379
SRCGROUP 5AON     L0000380 L0000381
SRCGROUP 5BBREAT  5BBREAT
SRCGROUP 5BLOAD   5BLOAD
SRCGROUP 5BREF    5BREF
SRCGROUP 5BSPILL  5BSPILL
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   SRCGROUP 5CBRE    5CBRE
   SRCGROUP 5CLOAD   5CLOAD
   SRCGROUP 5CREF    5CREF
   SRCGROUP 5CSPILL  5CSPILL
   SRCGROUP 6AIDLE   L0000382 L0000383 L0000384 L0000385 L0000386 L0000387
   SRCGROUP 6AIDLE   L0000388 L0000389 L0000390 L0000391 L0000392 L0000393
   SRCGROUP 6AIDLE   L0000394 L0000395 L0000396 L0000397 L0000398 L0000399
   SRCGROUP 6AIDLE   L0000400 L0000401 L0000402 L0000403 L0000404 L0000405
   SRCGROUP 6AIDLE   L0000406 L0000407 L0000408 L0000409 L0000410 L0000411
   SRCGROUP 6AIDLE   L0000412 L0000413 L0000414 L0000415 L0000416
   SRCGROUP 6AON     L0000417 L0000418 L0000419 L0000420 L0000421 L0000422
   SRCGROUP 6AON     L0000423 L0000424 L0000425 L0000426 L0000427 L0000428
   SRCGROUP 6AON     L0000429 L0000430 L0000431 L0000432 L0000433 L0000434
   SRCGROUP 6AON     L0000435 L0000436 L0000437 L0000438 L0000439 L0000440
   SRCGROUP 6AON     L0000441 L0000442 L0000443 L0000444 L0000445 L0000446
   SRCGROUP 6AON     L0000447 L0000448 L0000449 L0000450 L0000451 L0000452
   SRCGROUP 6AON     L0000453 L0000454 L0000455 L0000456 L0000457 L0000458
   SRCGROUP 6AON     L0000459 L0000460 L0000461 L0000462 L0000463 L0000464
   SRCGROUP 6AON     L0000465 L0000466 L0000467 L0000468 L0000469 L0000470
   SRCGROUP 6AON     L0000471 L0000472 L0000473 L0000474 L0000475 L0000476
   SRCGROUP 6AON     L0000477 L0000478 L0000479 L0000480 L0000481 L0000482
   SRCGROUP 6AON     L0000483 L0000484 L0000485 L0000486 L0000487 L0000488
   SRCGROUP 6AON     L0000489 L0000490 L0000491 L0000492 L0000493 L0000494
   SRCGROUP 6AON     L0000495 L0000496 L0000497 L0000498 L0000499 L0000500
   SRCGROUP 6AON     L0000501 L0000502 L0000503 L0000504 L0000505 L0000506
   SRCGROUP 6AON     L0000507 L0000508 L0000509
   SRCGROUP 6BBREAT  6BBREAT
   SRCGROUP 6BLOAD   6BLOAD
   SRCGROUP 6BREF    6BREF
   SRCGROUP 6BSPILL  6BSPILL
   SRCGROUP 8BREAT   8BREAT
   SRCGROUP 8LOAD    8LOAD
   SRCGROUP 8REF     8REF
   SRCGROUP 8SPILL   8SPILL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "14822 Ops HRA.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE KONT_V9_ADJU\KONT_v9.SFC
   PROFFILE KONT_V9_ADJU\KONT_v9.PFL
   SURFDATA 3102 2012
   UAIRDATA 3190 2012
   PROFBASE 289.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
```

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RECTABLE 1 1ST
PLOTFILE 1 ALL 1ST "14822 OPS HRA.AD\ALL_1H.PLT" 31
PLOTFILE PERIOD ALL "14822 OPS HRA.AD\ALL_PER.PLT" 32
PLOTFILE PERIOD 10BBREAT "14822 OPS HRA.AD\10BBREAT_PER.PLT" 33
PLOTFILE 1 10BBREAT 1ST "14822 OPS HRA.AD\10BBREAT_1H.PLT" 34
PLOTFILE 1 10BLOAD 1ST "14822 OPS HRA.AD\10BLOAD_1H.PLT" 35
PLOTFILE PERIOD 10BLOAD "14822 OPS HRA.AD\10BLOAD_PER.PLT" 36
PLOTFILE PERIOD 10BREF "14822 OPS HRA.AD\10BREF_PER.PLT" 37
PLOTFILE 1 10BREF 1ST "14822 OPS HRA.AD\10BREF_1H.PLT" 38
PLOTFILE 1 10BSPILL 1ST "14822 OPS HRA.AD\10BSPILL_1H.PLT" 39
PLOTFILE PERIOD 10BSPILL "14822 OPS HRA.AD\10BSPILL_PER.PLT" 40
PLOTFILE PERIOD 1H25 "14822 OPS HRA.AD\1H25_PER.PLT" 41
PLOTFILE 1 1H25 1ST "14822 OPS HRA.AD\1H25_1H.PLT" 42
PLOTFILE 1 1MC100 1ST "14822 OPS HRA.AD\1MC100_1H.PLT" 43
PLOTFILE PERIOD 1MC100 "14822 OPS HRA.AD\1MC100_PER.PLT" 44
PLOTFILE PERIOD 1OR15 "14822 OPS HRA.AD\1OR15_PER.PLT" 45
PLOTFILE 1 1OR15 1ST "14822 OPS HRA.AD\1OR15_1H.PLT" 46
PLOTFILE 1 1OR60 1ST "14822 OPS HRA.AD\1OR60_1H.PLT" 47
PLOTFILE PERIOD 1OR60 "14822 OPS HRA.AD\1OR60_PER.PLT" 48
PLOTFILE PERIOD 1OR85 "14822 OPS HRA.AD\1OR85_PER.PLT" 49
PLOTFILE 1 1OR85 1ST "14822 OPS HRA.AD\1OR85_1H.PLT" 50
PLOTFILE 1 2CIDLE 1ST "14822 OPS HRA.AD\2CIDLE_1H.PLT" 51
PLOTFILE PERIOD 2CIDLE "14822 OPS HRA.AD\2CIDLE_PER.PLT" 52
PLOTFILE PERIOD 2CON "14822 OPS HRA.AD\2CON_PER.PLT" 53
PLOTFILE 1 2CON 1ST "14822 OPS HRA.AD\2CON_1H.PLT" 54
PLOTFILE 1 2H25 1ST "14822 OPS HRA.AD\2H25_1H.PLT" 55
PLOTFILE PERIOD 2H25 "14822 OPS HRA.AD\2H25_PER.PLT" 56
PLOTFILE PERIOD 2MC45 "14822 OPS HRA.AD\2MC45_PER.PLT" 57
PLOTFILE 1 2MC45 1ST "14822 OPS HRA.AD\2MC45_1H.PLT" 58
PLOTFILE 1 2OR15 1ST "14822 OPS HRA.AD\2OR15_1H.PLT" 59
PLOTFILE PERIOD 2OR15 "14822 OPS HRA.AD\2OR15_PER.PLT" 60
PLOTFILE PERIOD 2OR30 "14822 OPS HRA.AD\2OR30_PER.PLT" 61
PLOTFILE 1 2OR30 1ST "14822 OPS HRA.AD\2OR30_1H.PLT" 62
PLOTFILE 1 2OR60 1ST "14822 OPS HRA.AD\2OR60_1H.PLT" 63
PLOTFILE PERIOD 2OR60 "14822 OPS HRA.AD\2OR60_PER.PLT" 64
PLOTFILE PERIOD 3CIDLE "14822 OPS HRA.AD\3CIDLE_PER.PLT" 65
PLOTFILE 1 3CIDLE 1ST "14822 OPS HRA.AD\3CIDLE_1H.PLT" 66
PLOTFILE 1 3CON 1ST "14822 OPS HRA.AD\3CON_1H.PLT" 67
PLOTFILE PERIOD 3CON "14822 OPS HRA.AD\3CON_PER.PLT" 68
PLOTFILE PERIOD 4BBREAT "14822 OPS HRA.AD\4BBREAT_PER.PLT" 69
PLOTFILE 1 4BBREAT 1ST "14822 OPS HRA.AD\4BBREAT_1H.PLT" 70
PLOTFILE 1 4BLOAD 1ST "14822 OPS HRA.AD\4BLOAD_1H.PLT" 71
PLOTFILE PERIOD 4BLOAD "14822 OPS HRA.AD\4BLOAD_PER.PLT" 72
PLOTFILE PERIOD 4BREF "14822 OPS HRA.AD\4BREF_PER.PLT" 73
PLOTFILE 1 4BREF 1ST "14822 OPS HRA.AD\4BREF_1H.PLT" 74
PLOTFILE 1 4BSPILL 1ST "14822 OPS HRA.AD\4BSPILL_1H.PLT" 75
PLOTFILE PERIOD 4BSPILL "14822 OPS HRA.AD\4BSPILL_PER.PLT" 76
PLOTFILE PERIOD 5AIDLE "14822 OPS HRA.AD\5AIDLE_PER.PLT" 77
PLOTFILE 1 5AIDLE 1ST "14822 OPS HRA.AD\5AIDLE_1H.PLT" 78
PLOTFILE 1 5AON 1ST "14822 OPS HRA.AD\5AON_1H.PLT" 79
PLOTFILE PERIOD 5AON "14822 OPS HRA.AD\5AON_PER.PLT" 80
PLOTFILE PERIOD 5BBREAT "14822 OPS HRA.AD\5BBREAT_PER.PLT" 81
PLOTFILE 1 5BBREAT 1ST "14822 OPS HRA.AD\5BBREAT_1H.PLT" 82
PLOTFILE 1 5BLOAD 1ST "14822 OPS HRA.AD\5BLOAD_1H.PLT" 83
PLOTFILE PERIOD 5BLOAD "14822 OPS HRA.AD\5BLOAD_PER.PLT" 84
PLOTFILE PERIOD 5BREF "14822 OPS HRA.AD\5BREF_PER.PLT" 85
PLOTFILE 1 5BREF 1ST "14822 OPS HRA.AD\5BREF_1H.PLT" 86
PLOTFILE 1 5BSPILL 1ST "14822 OPS HRA.AD\5BSPILL_1H.PLT" 87
PLOTFILE PERIOD 5BSPILL "14822 OPS HRA.AD\5BSPILL_PER.PLT" 88
PLOTFILE PERIOD 5CBRE "14822 OPS HRA.AD\5CBRE_PER.PLT" 89
PLOTFILE 1 5CBRE 1ST "14822 OPS HRA.AD\5CBRE_1H.PLT" 90
PLOTFILE 1 5CLOAD 1ST "14822 OPS HRA.AD\5CLOAD_1H.PLT" 91
PLOTFILE PERIOD 5CLOAD "14822 OPS HRA.AD\5CLOAD_PER.PLT" 92
PLOTFILE PERIOD 5CREF "14822 OPS HRA.AD\5CREF_PER.PLT" 93
PLOTFILE 1 5CREF 1ST "14822 OPS HRA.AD\5CREF_1H.PLT" 94
PLOTFILE 1 5CSPILL 1ST "14822 OPS HRA.AD\5CSPILL_1H.PLT" 95
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   PLOTFILE PERIOD 5CSPILL "14822 OPS HRA.AD\5CSPILL_PER.PLT" 96
   PLOTFILE PERIOD 6AIDLE "14822 OPS HRA.AD\6AIDLE_PER.PLT" 97
   PLOTFILE 1 6AIDLE 1ST "14822 OPS HRA.AD\6AIDLE_1H.PLT" 98
   PLOTFILE 1 6AON 1ST "14822 OPS HRA.AD\6AON_1H.PLT" 99
   PLOTFILE PERIOD 6AON "14822 OPS HRA.AD\6AON_PER.PLT" 100
   PLOTFILE PERIOD 6BBREAT "14822 OPS HRA.AD\6BBREAT_PER.PLT" 101
   PLOTFILE 1 6BBREAT 1ST "14822 OPS HRA.AD\6BBREAT_1H.PLT" 102
   PLOTFILE 1 6BLOAD 1ST "14822 OPS HRA.AD\6BLOAD_1H.PLT" 103
   PLOTFILE PERIOD 6BLOAD "14822 OPS HRA.AD\6BLOAD_PER.PLT" 104
   PLOTFILE PERIOD 6BREF "14822 OPS HRA.AD\6BREF_PER.PLT" 105
   PLOTFILE 1 6BREF 1ST "14822 OPS HRA.AD\6BREF_1H.PLT" 106
   PLOTFILE 1 6BSPILL 1ST "14822 OPS HRA.AD\6BSPILL_1H.PLT" 107
   PLOTFILE PERIOD 6BSPILL "14822 OPS HRA.AD\6BSPILL_PER.PLT" 108
   PLOTFILE PERIOD 8BREAT "14822 OPS HRA.AD\8BREAT_PER.PLT" 109
   PLOTFILE 1 8BREAT 1ST "14822 OPS HRA.AD\8BREAT_1H.PLT" 110
   PLOTFILE 1 8LOAD 1ST "14822 OPS HRA.AD\8LOAD_1H.PLT" 111
   PLOTFILE PERIOD 8LOAD "14822 OPS HRA.AD\8LOAD_PER.PLT" 112
   PLOTFILE PERIOD 8REF "14822 OPS HRA.AD\8REF_PER.PLT" 113
   PLOTFILE 1 8REF 1ST "14822 OPS HRA.AD\8REF_1H.PLT" 114
   PLOTFILE 1 8SPILL 1ST "14822 OPS HRA.AD\8SPILL_1H.PLT" 115
   PLOTFILE PERIOD 8SPILL "14822 OPS HRA.AD\8SPILL_PER.PLT" 116
   SUMMFILE "14822 Ops HRA.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of           18 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    4149       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    4149       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
 OU W565    4229       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4230       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4231       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4232       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4233       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4234       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4235       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4236       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4237       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4238       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4239       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4240       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4241       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4242       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4243       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4244       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************

FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:5
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** MODEL SETUP OPTIONS SUMMARY ***

- - - -

**Approximate Storage Requirements of Model = 5.0 MB of RAM.

**Input Runstream File:
aermod.inp
**Output Print File:
aermod.out

**Detailed Error/Message File: 14822 Ops
HRA.err
**File for Summary of Results: 14822 Ops
HRA.sum

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER EMISSION RATE STACK PART. CATS.	EMISSION RATE (GRAMS/SEC)	BLDG URBAN SOURCE	CAP/ HOR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)
5CLOAD	0	0.10000E+01	NO	NO	447588.0	3762475.1	224.1	3.66	291.48	0.00	0.05
5CBRE	0	0.10000E+01	NO	NO	447588.0	3762475.1	224.1	3.66	288.71	0.00	0.05
10BBREAT	0	0.10000E+01	NO	NO	448348.6	3762163.1	222.0	3.66	288.71	0.00	0.05
10BLOAD	0	0.10000E+01	NO	NO	448348.6	3762163.1	222.0	3.66	291.48	0.00	0.05
4BBREAT	0	0.10000E+01	NO	NO	446883.2	3762327.1	222.6	3.66	288.71	0.00	0.05
4BLOAD	0	0.10000E+01	NO	NO	446883.2	3762327.1	222.6	3.66	291.48	0.00	0.05
6BBREAT	0	0.10000E+01	NO	NO	448344.7	3762485.1	226.1	3.66	288.71	0.00	0.05
6BLOAD	0	0.10000E+01	NO	NO	448344.7	3762485.1	226.1	3.66	291.48	0.00	0.05
8BREAT	0	0.10000E+01	NO	NO	448350.6	3762332.5	224.8	3.66	288.71	0.00	0.05
8LOAD	0	0.10000E+01	NO	NO	448350.6	3762332.5	224.8	3.66	291.48	0.00	0.05
5BBREAT	0	0.10000E+01	NO	NO	447570.9	3762334.8	222.7	3.66	288.71	0.00	0.05
5BLOAD	0	0.10000E+01	NO	NO	447570.9	3762334.8	222.7	3.66	291.48	0.00	0.05

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN PART. SCALAR CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SOURCE VARY BY
L0000119	0	0.66667E-01	447327.6	3763411.4	233.1	3.49	4.00	3.25	YES
L0000120	0	0.66667E-01	447327.6	3763402.8	233.1	3.49	4.00	3.25	YES
L0000121	0	0.66667E-01	447327.6	3763394.3	233.0	3.49	4.00	3.25	YES
L0000122	0	0.66667E-01	447327.6	3763385.7	233.0	3.49	4.00	3.25	YES
L0000123	0	0.66667E-01	447327.6	3763377.1	232.9	3.49	4.00	3.25	YES
L0000124	0	0.66667E-01	447327.6	3763368.5	232.9	3.49	4.00	3.25	YES
L0000125	0	0.66667E-01	447327.6	3763359.9	232.8	3.49	4.00	3.25	YES
L0000126	0	0.66667E-01	447327.6	3763351.3	232.7	3.49	4.00	3.25	YES
L0000127	0	0.66667E-01	447327.6	3763342.7	232.6	3.49	4.00	3.25	YES
L0000128	0	0.66667E-01	447327.6	3763334.1	232.6	3.49	4.00	3.25	YES
L0000129	0	0.66667E-01	447327.6	3763325.5	232.5	3.49	4.00	3.25	YES
L0000130	0	0.66667E-01	447327.6	3763316.9	232.5	3.49	4.00	3.25	YES
L0000131	0	0.66667E-01	447327.6	3763308.4	232.5	3.49	4.00	3.25	YES
L0000132	0	0.66667E-01	447327.6	3763299.8	232.4	3.49	4.00	3.25	YES
L0000133	0	0.66667E-01	447327.6	3763291.2	232.4	3.49	4.00	3.25	YES
L0000104	0	0.66667E-01	447353.3	3763112.0	231.5	3.49	4.00	3.25	YES
L0000105	0	0.66667E-01	447353.3	3763103.4	231.4	3.49	4.00	3.25	YES
L0000106	0	0.66667E-01	447353.3	3763094.9	231.3	3.49	4.00	3.25	YES
L0000107	0	0.66667E-01	447353.3	3763086.3	231.2	3.49	4.00	3.25	YES
L0000108	0	0.66667E-01	447353.3	3763077.7	231.2	3.49	4.00	3.25	YES
L0000109	0	0.66667E-01	447353.3	3763069.1	231.1	3.49	4.00	3.25	YES
L0000110	0	0.66667E-01	447353.3	3763060.5	231.0	3.49	4.00	3.25	YES
L0000111	0	0.66667E-01	447353.3	3763051.9	230.8	3.49	4.00	3.25	YES
L0000112	0	0.66667E-01	447353.3	3763043.3	230.7	3.49	4.00	3.25	YES
L0000113	0	0.66667E-01	447353.3	3763034.7	230.6	3.49	4.00	3.25	YES
L0000114	0	0.66667E-01	447353.3	3763026.1	230.4	3.49	4.00	3.25	YES
L0000115	0	0.66667E-01	447353.3	3763017.5	230.3	3.49	4.00	3.25	YES
L0000116	0	0.66667E-01	447353.3	3763009.0	230.2	3.49	4.00	3.25	YES

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 L0000117         0   0.66667E-01  447353.3 3763000.4   230.1     3.49     4.00     3.25
 YES
 L0000118         0   0.66667E-01  447353.3 3762991.8   230.0     3.49     4.00     3.25
 YES
 L0000089         0   0.66667E-01  447457.8 3762690.4   226.9     3.49     4.00     3.25
 YES
 L0000090         0   0.66667E-01  447457.8 3762681.8   226.8     3.49     4.00     3.25
 YES
 L0000091         0   0.66667E-01  447457.8 3762673.2   226.7     3.49     4.00     3.25
 YES
 L0000092         0   0.66667E-01  447457.8 3762664.6   226.7     3.49     4.00     3.25
 YES
 L0000093         0   0.66667E-01  447457.8 3762656.0   226.6     3.49     4.00     3.25
 YES
 L0000094         0   0.66667E-01  447457.8 3762647.4   226.5     3.49     4.00     3.25
 YES
 L0000095         0   0.66667E-01  447457.8 3762638.8   226.4     3.49     4.00     3.25
 YES
 L0000096         0   0.66667E-01  447457.8 3762630.2   226.3     3.49     4.00     3.25
 YES
 L0000097         0   0.66667E-01  447457.8 3762621.7   226.2     3.49     4.00     3.25
 YES
 L0000098         0   0.66667E-01  447457.8 3762613.1   226.1     3.49     4.00     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 L0000099         0   0.66667E-01  447457.8 3762604.5   226.1     3.49     4.00     3.25
 YES
 L0000100         0   0.66667E-01  447457.8 3762595.9   226.0     3.49     4.00     3.25
 YES
 L0000101         0   0.66667E-01  447457.8 3762587.3   225.9     3.49     4.00     3.25
 YES
 L0000102         0   0.66667E-01  447457.8 3762578.7   225.8     3.49     4.00     3.25
 YES
 L0000103         0   0.66667E-01  447457.8 3762570.1   225.7     3.49     4.00     3.25
 YES
 L0000134         0   0.10000E-01  447597.1 3763477.3   233.5     3.49     4.00     3.25
 YES
 L0000135         0   0.10000E-01  447588.5 3763477.3   233.5     3.49     4.00     3.25
 YES
 L0000136         0   0.10000E-01  447579.9 3763477.2   233.5     3.49     4.00     3.25
 YES
 L0000137         0   0.10000E-01  447571.3 3763477.2   233.5     3.49     4.00     3.25
 YES
 L0000138         0   0.10000E-01  447562.7 3763477.1   233.5     3.49     4.00     3.25
 YES
 L0000139         0   0.10000E-01  447554.2 3763477.1   233.5     3.49     4.00     3.25
 YES
```

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 L0000140         0   0.10000E-01  447545.6 3763477.0   233.5     3.49     4.00     3.25
 YES
 L0000141         0   0.10000E-01  447537.0 3763477.0   233.5     3.49     4.00     3.25
 YES
 L0000142         0   0.10000E-01  447528.4 3763477.0   233.5     3.49     4.00     3.25
 YES
 L0000143         0   0.10000E-01  447519.8 3763476.9   233.5     3.49     4.00     3.25
 YES
 L0000144         0   0.10000E-01  447511.2 3763476.9   233.5     3.49     4.00     3.25
 YES
 L0000145         0   0.10000E-01  447502.6 3763476.8   233.5     3.49     4.00     3.25
 YES
 L0000146         0   0.10000E-01  447494.0 3763476.8   233.5     3.49     4.00     3.25
 YES
 L0000147         0   0.10000E-01  447485.4 3763476.8   233.5     3.49     4.00     3.25
 YES
 L0000148         0   0.10000E-01  447476.8 3763476.7   233.5     3.49     4.00     3.25
 YES
 L0000149         0   0.10000E-01  447468.3 3763476.7   233.5     3.49     4.00     3.25
 YES
 L0000150         0   0.10000E-01  447459.7 3763476.6   233.5     3.49     4.00     3.25
 YES
 L0000151         0   0.10000E-01  447451.1 3763476.6   233.5     3.49     4.00     3.25
 YES
 L0000152         0   0.10000E-01  447442.5 3763476.5   233.5     3.49     4.00     3.25
 YES
 L0000153         0   0.10000E-01  447433.9 3763476.5   233.5     3.49     4.00     3.25
 YES
 L0000154         0   0.10000E-01  447425.3 3763476.5   233.5     3.49     4.00     3.25
 YES
 L0000155         0   0.10000E-01  447416.7 3763476.4   233.5     3.49     4.00     3.25
 YES
 L0000156         0   0.10000E-01  447408.1 3763476.4   233.5     3.49     4.00     3.25
 YES
 L0000157         0   0.10000E-01  447399.5 3763476.3   233.5     3.49     4.00     3.25
 YES
 L0000158         0   0.10000E-01  447390.9 3763476.3   233.5     3.49     4.00     3.25
 YES
 L0000159         0   0.10000E-01  447382.4 3763476.2   233.5     3.49     4.00     3.25
 YES
 L0000160         0   0.10000E-01  447373.8 3763476.2   233.5     3.49     4.00     3.25
 YES
 L0000161         0   0.10000E-01  447365.2 3763476.2   233.5     3.49     4.00     3.25
 YES
 L0000162         0   0.10000E-01  447356.6 3763476.1   233.5     3.49     4.00     3.25
 YES
 L0000163         0   0.10000E-01  447348.0 3763476.1   233.5     3.49     4.00     3.25
 YES
 L0000164         0   0.10000E-01  447339.4 3763476.0   233.5     3.49     4.00     3.25
 YES
 L0000165         0   0.10000E-01  447330.8 3763476.0   233.5     3.49     4.00     3.25
 YES
 L0000166         0   0.10000E-01  447322.2 3763476.0   233.5     3.49     4.00     3.25
 YES
 L0000167         0   0.10000E-01  447313.6 3763475.9   233.5     3.49     4.00     3.25
 YES
 L0000168         0   0.10000E-01  447308.1 3763472.8   233.5     3.49     4.00     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART. SCALAR VARY CATS. BY	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ
L0000169	0	0.10000E-01	447308.1	3763464.2	233.5	3.49	4.00	3.25
YES								
L0000170	0	0.10000E-01	447308.1	3763455.6	233.5	3.49	4.00	3.25
YES								
L0000171	0	0.10000E-01	447308.1	3763447.0	233.4	3.49	4.00	3.25
YES								
L0000172	0	0.10000E-01	447308.1	3763438.4	233.3	3.49	4.00	3.25
YES								
L0000173	0	0.10000E-01	447308.1	3763429.8	233.2	3.49	4.00	3.25
YES								
L0000174	0	0.10000E-01	447308.1	3763421.2	233.1	3.49	4.00	3.25
YES								
L0000175	0	0.10000E-01	447308.1	3763412.7	233.0	3.49	4.00	3.25
YES								
L0000176	0	0.10000E-01	447308.1	3763404.1	233.0	3.49	4.00	3.25
YES								
L0000177	0	0.10000E-01	447308.1	3763395.5	232.9	3.49	4.00	3.25
YES								
L0000178	0	0.10000E-01	447308.1	3763386.9	232.9	3.49	4.00	3.25
YES								
L0000179	0	0.10000E-01	447308.1	3763378.3	232.9	3.49	4.00	3.25
YES								
L0000180	0	0.10000E-01	447308.1	3763369.7	232.9	3.49	4.00	3.25
YES								
L0000181	0	0.10000E-01	447308.1	3763361.1	232.8	3.49	4.00	3.25
YES								
L0000182	0	0.10000E-01	447308.1	3763352.5	232.7	3.49	4.00	3.25
YES								
L0000183	0	0.10000E-01	447308.1	3763343.9	232.6	3.49	4.00	3.25
YES								
L0000184	0	0.10000E-01	447308.1	3763335.3	232.6	3.49	4.00	3.25
YES								
L0000185	0	0.10000E-01	447308.1	3763326.8	232.5	3.49	4.00	3.25
YES								
L0000186	0	0.10000E-01	447308.1	3763318.2	232.4	3.49	4.00	3.25
YES								
L0000187	0	0.10000E-01	447308.1	3763309.6	232.3	3.49	4.00	3.25
YES								
L0000188	0	0.10000E-01	447308.1	3763301.0	232.3	3.49	4.00	3.25
YES								
L0000189	0	0.10000E-01	447308.1	3763292.4	232.2	3.49	4.00	3.25
YES								
L0000190	0	0.10000E-01	447308.1	3763283.8	232.2	3.49	4.00	3.25
YES								
L0000191	0	0.10000E-01	447308.1	3763275.2	232.2	3.49	4.00	3.25
YES								
L0000192	0	0.10000E-01	447308.1	3763266.6	232.2	3.49	4.00	3.25
YES								
L0000193	0	0.10000E-01	447308.1	3763258.0	232.1	3.49	4.00	3.25
YES								
L0000194	0	0.10000E-01	447308.1	3763249.4	232.0	3.49	4.00	3.25
YES								
L0000195	0	0.10000E-01	447308.1	3763240.9	232.0	3.49	4.00	3.25
YES								

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 L0000196         0   0.10000E-01  447308.1 3763232.3   232.0     3.49     4.00     3.25
 YES
 L0000197         0   0.10000E-01  447308.1 3763223.7   232.0     3.49     4.00     3.25
 YES
 L0000198         0   0.10000E-01  447308.1 3763215.1   232.0     3.49     4.00     3.25
 YES
 L0000199         0   0.10000E-01  447308.5 3763206.8   232.0     3.49     4.00     3.25
 YES
 L0000200         0   0.10000E-01  447317.1 3763206.9   232.0     3.49     4.00     3.25
 YES
 L0000201         0   0.10000E-01  447325.7 3763206.9   232.0     3.49     4.00     3.25
 YES
 L0000202         0   0.10000E-01  447334.3 3763207.0   232.0     3.49     4.00     3.25
 YES
 L0000203         0   0.10000E-01  447342.9 3763207.0   232.0     3.49     4.00     3.25
 YES
 L0000204         0   0.10000E-01  447351.4 3763207.1   232.0     3.49     4.00     3.25
 YES
 L0000205         0   0.10000E-01  447360.0 3763207.1   232.1     3.49     4.00     3.25
 YES
 L0000206         0   0.10000E-01  447368.6 3763207.1   232.2     3.49     4.00     3.25
 YES
 L0000207         0   0.10000E-01  447377.2 3763207.2   232.2     3.49     4.00     3.25
 YES
 L0000208         0   0.10000E-01  447385.8 3763207.2   232.2     3.49     4.00     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - -

 L0000209         0   0.10000E-01  447394.4 3763207.3   232.2     3.49     4.00     3.25
 YES
 L0000210         0   0.10000E-01  447403.0 3763207.3   232.2     3.49     4.00     3.25
 YES
 L0000211         0   0.10000E-01  447411.6 3763207.3   232.2     3.49     4.00     3.25
 YES
 L0000212         0   0.10000E-01  447420.2 3763207.4   232.2     3.49     4.00     3.25
 YES
 L0000213         0   0.10000E-01  447428.8 3763207.4   232.2     3.49     4.00     3.25
 YES
 L0000214         0   0.10000E-01  447437.3 3763207.5   232.2     3.49     4.00     3.25
 YES
 L0000215         0   0.10000E-01  447445.9 3763207.5   232.2     3.49     4.00     3.25
 YES
 L0000216         0   0.10000E-01  447454.5 3763207.6   232.2     3.49     4.00     3.25
 YES
 L0000217         0   0.10000E-01  447463.1 3763207.6   232.2     3.49     4.00     3.25
 YES
 L0000218         0   0.10000E-01  447471.7 3763207.6   232.2     3.49     4.00     3.25
 YES
```

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 L0000219         0   0.10000E-01  447480.3 3763207.7   232.2     3.49     4.00     3.25
 YES
 L0000220         0   0.10000E-01  447488.9 3763207.7   232.2     3.49     4.00     3.25
 YES
 L0000221         0   0.10000E-01  447497.5 3763207.8   232.2     3.49     4.00     3.25
 YES
 L0000222         0   0.10000E-01  447506.1 3763207.8   232.2     3.49     4.00     3.25
 YES
 L0000223         0   0.10000E-01  447514.7 3763207.8   232.2     3.49     4.00     3.25
 YES
 L0000224         0   0.10000E-01  447523.2 3763207.9   232.1     3.49     4.00     3.25
 YES
 L0000225         0   0.10000E-01  447531.8 3763207.9   232.1     3.49     4.00     3.25
 YES
 L0000226         0   0.10000E-01  447540.4 3763208.0   232.0     3.49     4.00     3.25
 YES
 L0000227         0   0.10000E-01  447549.0 3763208.0   232.0     3.49     4.00     3.25
 YES
 L0000228         0   0.10000E-01  447557.6 3763208.1   232.0     3.49     4.00     3.25
 YES
 L0000229         0   0.10000E-01  447566.2 3763208.1   232.0     3.49     4.00     3.25
 YES
 L0000230         0   0.10000E-01  447574.8 3763208.1   232.0     3.49     4.00     3.25
 YES
 L0000231         0   0.10000E-01  447583.4 3763208.2   231.9     3.49     4.00     3.25
 YES
 L0000232         0   0.10000E-01  447592.0 3763208.2   231.9     3.49     4.00     3.25
 YES
 L0000233         0   0.10000E-01  447600.6 3763208.3   231.9     3.49     4.00     3.25
 YES
 L0000234         0   0.10870E-01  447598.5 3763211.0   231.9     3.49     4.00     3.25
 YES
 L0000235         0   0.10870E-01  447589.9 3763210.8   231.9     3.49     4.00     3.25
 YES
 L0000236         0   0.10870E-01  447581.4 3763210.7   232.0     3.49     4.00     3.25
 YES
 L0000237         0   0.10870E-01  447572.8 3763210.5   232.0     3.49     4.00     3.25
 YES
 L0000238         0   0.10870E-01  447564.2 3763210.3   232.0     3.49     4.00     3.25
 YES
 L0000239         0   0.10870E-01  447555.6 3763210.1   232.0     3.49     4.00     3.25
 YES
 L0000240         0   0.10870E-01  447547.0 3763209.9   232.0     3.49     4.00     3.25
 YES
 L0000241         0   0.10870E-01  447538.4 3763209.7   232.0     3.49     4.00     3.25
 YES
 L0000242         0   0.10870E-01  447529.8 3763209.6   232.1     3.49     4.00     3.25
 YES
 L0000243         0   0.10870E-01  447521.2 3763209.4   232.2     3.49     4.00     3.25
 YES
 L0000244         0   0.10870E-01  447512.6 3763209.2   232.2     3.49     4.00     3.25
 YES
 L0000245         0   0.10870E-01  447504.1 3763209.0   232.2     3.49     4.00     3.25
 YES
 L0000246         0   0.10870E-01  447495.5 3763208.8   232.2     3.49     4.00     3.25
 YES
 L0000247         0   0.10870E-01  447486.9 3763208.6   232.2     3.49     4.00     3.25
 YES
 L0000248         0   0.10870E-01  447478.3 3763208.5   232.2     3.49     4.00     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART. SCALAR VARY BY CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ
L0000249	0	0.10870E-01	447469.7	3763208.3	232.2	3.49	4.00	3.25
YES								
L0000250	0	0.10870E-01	447461.1	3763208.1	232.2	3.49	4.00	3.25
YES								
L0000251	0	0.10870E-01	447452.5	3763207.9	232.2	3.49	4.00	3.25
YES								
L0000252	0	0.10870E-01	447443.9	3763207.7	232.2	3.49	4.00	3.25
YES								
L0000253	0	0.10870E-01	447435.4	3763207.5	232.2	3.49	4.00	3.25
YES								
L0000254	0	0.10870E-01	447426.8	3763207.4	232.2	3.49	4.00	3.25
YES								
L0000255	0	0.10870E-01	447418.2	3763207.2	232.2	3.49	4.00	3.25
YES								
L0000256	0	0.10870E-01	447409.6	3763207.0	232.2	3.49	4.00	3.25
YES								
L0000257	0	0.10870E-01	447401.0	3763206.8	232.2	3.49	4.00	3.25
YES								
L0000258	0	0.10870E-01	447392.4	3763206.6	232.2	3.49	4.00	3.25
YES								
L0000259	0	0.10870E-01	447383.8	3763206.5	232.2	3.49	4.00	3.25
YES								
L0000260	0	0.10870E-01	447375.2	3763206.3	232.2	3.49	4.00	3.25
YES								
L0000261	0	0.10870E-01	447366.6	3763206.1	232.1	3.49	4.00	3.25
YES								
L0000262	0	0.10870E-01	447358.1	3763205.9	232.1	3.49	4.00	3.25
YES								
L0000263	0	0.10870E-01	447349.5	3763205.7	232.0	3.49	4.00	3.25
YES								
L0000264	0	0.10870E-01	447340.9	3763205.5	232.0	3.49	4.00	3.25
YES								
L0000265	0	0.10870E-01	447335.2	3763202.5	232.0	3.49	4.00	3.25
YES								
L0000266	0	0.10870E-01	447335.2	3763193.9	232.0	3.49	4.00	3.25
YES								
L0000267	0	0.10870E-01	447335.2	3763185.3	232.0	3.49	4.00	3.25
YES								
L0000268	0	0.10870E-01	447335.2	3763176.7	232.0	3.49	4.00	3.25
YES								
L0000269	0	0.10870E-01	447335.2	3763168.2	232.0	3.49	4.00	3.25
YES								
L0000270	0	0.10870E-01	447335.2	3763159.6	232.0	3.49	4.00	3.25
YES								
L0000271	0	0.10870E-01	447335.2	3763151.0	231.9	3.49	4.00	3.25
YES								
L0000272	0	0.10870E-01	447335.2	3763142.4	231.8	3.49	4.00	3.25
YES								
L0000273	0	0.10870E-01	447335.2	3763133.8	231.7	3.49	4.00	3.25
YES								
L0000274	0	0.10870E-01	447335.2	3763125.2	231.6	3.49	4.00	3.25
YES								

L0000275 0 0.10870E-01 447335.2 3763116.6 231.6 3.49 4.00 3.25
YES
L0000276 0 0.10870E-01 447335.2 3763108.0 231.5 3.49 4.00 3.25
YES
L0000277 0 0.10870E-01 447335.2 3763099.4 231.4 3.49 4.00 3.25
YES
L0000278 0 0.10870E-01 447335.2 3763090.8 231.3 3.49 4.00 3.25
YES
L0000279 0 0.10870E-01 447335.2 3763082.3 231.2 3.49 4.00 3.25
YES
L0000280 0 0.10870E-01 447335.2 3763073.7 231.1 3.49 4.00 3.25
YES
L0000281 0 0.10870E-01 447335.2 3763065.1 231.0 3.49 4.00 3.25
YES
L0000282 0 0.10870E-01 447335.2 3763056.5 230.9 3.49 4.00 3.25
YES
L0000283 0 0.10870E-01 447335.2 3763047.9 230.8 3.49 4.00 3.25
YES
L0000284 0 0.10870E-01 447335.2 3763039.3 230.7 3.49 4.00 3.25
YES
L0000285 0 0.10870E-01 447335.2 3763030.7 230.6 3.49 4.00 3.25
YES
L0000286 0 0.10870E-01 447335.2 3763022.1 230.4 3.49 4.00 3.25
YES
L0000287 0 0.10870E-01 447335.2 3763013.5 230.3 3.49 4.00 3.25
YES
L0000288 0 0.10870E-01 447335.2 3763004.9 230.1 3.49 4.00 3.25
YES

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SCALAR VARY BY
L0000289	0	0.10870E-01	447335.2	3762996.4	230.0	3.49	4.00	3.25	YES
L0000290	0	0.10870E-01	447335.2	3762987.8	229.9	3.49	4.00	3.25	YES
L0000291	0	0.10870E-01	447335.2	3762979.2	229.9	3.49	4.00	3.25	YES
L0000292	0	0.10870E-01	447335.2	3762970.6	229.8	3.49	4.00	3.25	YES
L0000293	0	0.10870E-01	447335.2	3762962.0	229.7	3.49	4.00	3.25	YES
L0000294	0	0.10870E-01	447335.2	3762953.4	229.6	3.49	4.00	3.25	YES
L0000295	0	0.10870E-01	447335.2	3762944.8	229.5	3.49	4.00	3.25	YES
L0000296	0	0.10870E-01	447335.2	3762936.2	229.3	3.49	4.00	3.25	YES
L0000297	0	0.10870E-01	447335.2	3762927.6	229.1	3.49	4.00	3.25	YES

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 L0000298         0   0.10870E-01  447335.4 3762919.3   229.0     3.49     4.00     3.25
 YES
 L0000299         0   0.10870E-01  447344.0 3762919.3   229.0     3.49     4.00     3.25
 YES
 L0000300         0   0.10870E-01  447352.6 3762919.3   229.0     3.49     4.00     3.25
 YES
 L0000301         0   0.10870E-01  447361.2 3762919.3   229.0     3.49     4.00     3.25
 YES
 L0000302         0   0.10870E-01  447369.8 3762919.3   229.0     3.49     4.00     3.25
 YES
 L0000303         0   0.10870E-01  447378.4 3762919.3   229.0     3.49     4.00     3.25
 YES
 L0000304         0   0.10870E-01  447387.0 3762919.3   229.0     3.49     4.00     3.25
 YES
 L0000305         0   0.10870E-01  447395.6 3762919.3   228.9     3.49     4.00     3.25
 YES
 L0000306         0   0.10870E-01  447404.2 3762919.3   228.9     3.49     4.00     3.25
 YES
 L0000307         0   0.10870E-01  447412.7 3762919.3   228.9     3.49     4.00     3.25
 YES
 L0000308         0   0.10870E-01  447421.3 3762919.3   228.9     3.49     4.00     3.25
 YES
 L0000309         0   0.10870E-01  447429.9 3762919.3   228.9     3.49     4.00     3.25
 YES
 L0000310         0   0.10870E-01  447438.5 3762919.3   228.9     3.49     4.00     3.25
 YES
 L0000311         0   0.10870E-01  447447.1 3762919.3   228.9     3.49     4.00     3.25
 YES
 L0000312         0   0.10870E-01  447455.7 3762919.3   228.9     3.49     4.00     3.25
 YES
 L0000313         0   0.10870E-01  447464.3 3762919.3   228.9     3.49     4.00     3.25
 YES
 L0000314         0   0.10870E-01  447472.9 3762919.3   228.8     3.49     4.00     3.25
 YES
 L0000315         0   0.10870E-01  447481.5 3762919.3   228.7     3.49     4.00     3.25
 YES
 L0000316         0   0.10870E-01  447490.1 3762919.3   228.7     3.49     4.00     3.25
 YES
 L0000317         0   0.10870E-01  447498.6 3762919.3   228.7     3.49     4.00     3.25
 YES
 L0000318         0   0.10870E-01  447507.2 3762919.3   228.6     3.49     4.00     3.25
 YES
 L0000319         0   0.10870E-01  447515.8 3762919.3   228.6     3.49     4.00     3.25
 YES
 L0000320         0   0.10870E-01  447524.4 3762919.3   228.6     3.49     4.00     3.25
 YES
 L0000321         0   0.10870E-01  447533.0 3762919.3   228.6     3.49     4.00     3.25
 YES
 L0000322         0   0.10870E-01  447541.6 3762919.3   228.6     3.49     4.00     3.25
 YES
 L0000323         0   0.10870E-01  447550.2 3762919.3   228.6     3.49     4.00     3.25
 YES
 L0000324         0   0.10870E-01  447558.8 3762919.3   228.6     3.49     4.00     3.25
 YES
 L0000325         0   0.10870E-01  447567.4 3762919.3   228.6     3.49     4.00     3.25
 YES
 L0000326         0   0.17857E-01  447426.3 3762428.2   224.2     3.49     4.00     3.25
 YES
 L0000327         0   0.17857E-01  447426.2 3762436.8   224.3     3.49     4.00     3.25
 YES
 L0000328         0   0.17857E-01  447426.2 3762445.4   224.4     3.49     4.00     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:5
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART. SCALAR VARY BY CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
L0000329	0	0.17857E-01	447426.2	3762454.0	224.5	3.49	4.00	3.25	YES
L0000330	0	0.17857E-01	447426.1	3762462.6	224.6	3.49	4.00	3.25	YES
L0000331	0	0.17857E-01	447426.1	3762471.1	224.7	3.49	4.00	3.25	YES
L0000332	0	0.17857E-01	447426.1	3762479.7	224.8	3.49	4.00	3.25	YES
L0000333	0	0.17857E-01	447426.0	3762488.3	224.9	3.49	4.00	3.25	YES
L0000334	0	0.17857E-01	447426.0	3762496.9	225.0	3.49	4.00	3.25	YES
L0000335	0	0.17857E-01	447426.0	3762505.5	225.2	3.49	4.00	3.25	YES
L0000336	0	0.17857E-01	447425.9	3762514.1	225.3	3.49	4.00	3.25	YES
L0000337	0	0.17857E-01	447425.9	3762522.7	225.5	3.49	4.00	3.25	YES
L0000338	0	0.17857E-01	447425.9	3762531.3	225.6	3.49	4.00	3.25	YES
L0000339	0	0.17857E-01	447425.8	3762539.9	225.7	3.49	4.00	3.25	YES
L0000340	0	0.17857E-01	447425.8	3762548.5	225.8	3.49	4.00	3.25	YES
L0000341	0	0.17857E-01	447425.8	3762557.0	225.9	3.49	4.00	3.25	YES
L0000342	0	0.17857E-01	447425.7	3762565.6	226.0	3.49	4.00	3.25	YES
L0000343	0	0.17857E-01	447425.7	3762574.2	226.0	3.49	4.00	3.25	YES
L0000344	0	0.17857E-01	447425.6	3762582.8	226.1	3.49	4.00	3.25	YES
L0000345	0	0.17857E-01	447425.6	3762591.4	226.2	3.49	4.00	3.25	YES
L0000346	0	0.17857E-01	447425.6	3762600.0	226.2	3.49	4.00	3.25	YES
L0000347	0	0.17857E-01	447425.5	3762608.6	226.2	3.49	4.00	3.25	YES
L0000348	0	0.17857E-01	447425.5	3762617.2	226.2	3.49	4.00	3.25	YES
L0000349	0	0.17857E-01	447425.5	3762625.8	226.3	3.49	4.00	3.25	YES
L0000350	0	0.17857E-01	447425.4	3762634.4	226.4	3.49	4.00	3.25	YES
L0000351	0	0.17857E-01	447425.4	3762642.9	226.5	3.49	4.00	3.25	YES
L0000352	0	0.17857E-01	447425.4	3762651.5	226.6	3.49	4.00	3.25	YES
L0000353	0	0.17857E-01	447425.3	3762660.1	226.7	3.49	4.00	3.25	YES

L0000354 0 0.17857E-01 447425.3 3762668.7 226.7 3.49 4.00 3.25
YES
L0000355 0 0.17857E-01 447425.3 3762677.3 226.8 3.49 4.00 3.25
YES
L0000356 0 0.17857E-01 447425.2 3762685.9 227.0 3.49 4.00 3.25
YES
L0000357 0 0.17857E-01 447425.2 3762694.5 227.2 3.49 4.00 3.25
YES
L0000358 0 0.17857E-01 447425.1 3762703.1 227.4 3.49 4.00 3.25
YES
L0000359 0 0.17857E-01 447425.1 3762711.7 227.4 3.49 4.00 3.25
YES
L0000360 0 0.17857E-01 447425.1 3762720.2 227.5 3.49 4.00 3.25
YES
L0000361 0 0.17857E-01 447425.0 3762728.8 227.5 3.49 4.00 3.25
YES
L0000362 0 0.17857E-01 447425.0 3762737.4 227.5 3.49 4.00 3.25
YES
L0000363 0 0.17857E-01 447425.0 3762746.0 227.6 3.49 4.00 3.25
YES
L0000364 0 0.17857E-01 447424.9 3762754.6 227.6 3.49 4.00 3.25
YES
L0000365 0 0.17857E-01 447424.9 3762763.2 227.7 3.49 4.00 3.25
YES
L0000366 0 0.17857E-01 447428.3 3762768.4 227.7 3.49 4.00 3.25
YES
L0000367 0 0.17857E-01 447436.9 3762768.4 227.6 3.49 4.00 3.25
YES
L0000368 0 0.17857E-01 447445.5 3762768.4 227.5 3.49 4.00 3.25
YES

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ
L0000369	0	0.17857E-01	447454.0	3762768.4	227.5	3.49	4.00	3.25
YES								
L0000370	0	0.17857E-01	447462.6	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000371	0	0.17857E-01	447471.2	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000372	0	0.17857E-01	447479.8	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000373	0	0.17857E-01	447488.4	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000374	0	0.17857E-01	447497.0	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000375	0	0.17857E-01	447505.6	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000376	0	0.17857E-01	447514.2	3762768.4	227.4	3.49	4.00	3.25
YES								

L0000377	0	0.17857E-01	447522.8	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000378	0	0.17857E-01	447531.4	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000379	0	0.17857E-01	447539.9	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000380	0	0.17857E-01	447548.5	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000381	0	0.17857E-01	447557.1	3762768.4	227.4	3.49	4.00	3.25
YES								
L0000382	0	0.28571E-01	447926.0	3762711.5	227.4	3.49	4.00	3.25
YES								
L0000383	0	0.28571E-01	447934.6	3762711.5	227.4	3.49	4.00	3.25
YES								
L0000384	0	0.28571E-01	447943.2	3762711.6	227.4	3.49	4.00	3.25
YES								
L0000385	0	0.28571E-01	447951.8	3762711.6	227.5	3.49	4.00	3.25
YES								
L0000386	0	0.28571E-01	447960.3	3762711.6	227.5	3.49	4.00	3.25
YES								
L0000387	0	0.28571E-01	447968.9	3762711.7	227.5	3.49	4.00	3.25
YES								
L0000388	0	0.28571E-01	447977.5	3762711.7	227.5	3.49	4.00	3.25
YES								
L0000389	0	0.28571E-01	447986.1	3762711.8	227.5	3.49	4.00	3.25
YES								
L0000390	0	0.28571E-01	447994.7	3762711.8	227.5	3.49	4.00	3.25
YES								
L0000391	0	0.28571E-01	448003.3	3762711.8	227.5	3.49	4.00	3.25
YES								
L0000392	0	0.28571E-01	448011.9	3762711.9	227.5	3.49	4.00	3.25
YES								
L0000393	0	0.28571E-01	448020.5	3762711.9	227.5	3.49	4.00	3.25
YES								
L0000394	0	0.28571E-01	448029.1	3762712.0	227.4	3.49	4.00	3.25
YES								
L0000395	0	0.28571E-01	448037.7	3762712.0	227.4	3.49	4.00	3.25
YES								
L0000396	0	0.28571E-01	448046.2	3762712.0	227.3	3.49	4.00	3.25
YES								
L0000397	0	0.28571E-01	448054.8	3762712.1	227.2	3.49	4.00	3.25
YES								
L0000398	0	0.28571E-01	448063.4	3762712.1	227.2	3.49	4.00	3.25
YES								
L0000399	0	0.28571E-01	448072.0	3762712.2	227.2	3.49	4.00	3.25
YES								
L0000400	0	0.28571E-01	448080.6	3762712.2	227.2	3.49	4.00	3.25
YES								
L0000401	0	0.28571E-01	448089.2	3762712.2	227.1	3.49	4.00	3.25
YES								
L0000402	0	0.28571E-01	448097.8	3762712.3	227.1	3.49	4.00	3.25
YES								
L0000403	0	0.28571E-01	448106.4	3762712.3	227.0	3.49	4.00	3.25
YES								
L0000404	0	0.28571E-01	448115.0	3762712.4	226.9	3.49	4.00	3.25
YES								
L0000405	0	0.28571E-01	448123.6	3762712.4	226.9	3.49	4.00	3.25
YES								
L0000406	0	0.28571E-01	448132.1	3762712.4	226.9	3.49	4.00	3.25
YES								
L0000407	0	0.28571E-01	448140.7	3762712.5	226.9	3.49	4.00	3.25
YES								
L0000408	0	0.28571E-01	448149.3	3762712.5	226.8	3.49	4.00	3.25
YES								

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE SCALAR VARY BY	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
L0000409	0	0.28571E-01	448157.9	3762712.6	226.8	3.49	4.00	3.25	YES
L0000410	0	0.28571E-01	448166.5	3762712.6	226.7	3.49	4.00	3.25	YES
L0000411	0	0.28571E-01	448175.1	3762712.7	226.6	3.49	4.00	3.25	YES
L0000412	0	0.28571E-01	448183.7	3762712.7	226.6	3.49	4.00	3.25	YES
L0000413	0	0.28571E-01	448192.3	3762712.7	226.5	3.49	4.00	3.25	YES
L0000414	0	0.28571E-01	448200.9	3762712.8	226.4	3.49	4.00	3.25	YES
L0000415	0	0.28571E-01	448209.5	3762712.8	226.4	3.49	4.00	3.25	YES
L0000416	0	0.28571E-01	448218.0	3762712.9	226.4	3.49	4.00	3.25	YES
L0000417	0	0.10753E-01	447598.6	3762768.3	227.4	3.49	4.00	3.25	YES
L0000418	0	0.10753E-01	447607.2	3762768.2	227.4	3.49	4.00	3.25	YES
L0000419	0	0.10753E-01	447615.7	3762768.0	227.4	3.49	4.00	3.25	YES
L0000420	0	0.10753E-01	447624.3	3762767.9	227.4	3.49	4.00	3.25	YES
L0000421	0	0.10753E-01	447632.9	3762767.7	227.4	3.49	4.00	3.25	YES
L0000422	0	0.10753E-01	447641.5	3762767.6	227.4	3.49	4.00	3.25	YES
L0000423	0	0.10753E-01	447650.1	3762767.4	227.3	3.49	4.00	3.25	YES
L0000424	0	0.10753E-01	447658.7	3762767.3	227.2	3.49	4.00	3.25	YES
L0000425	0	0.10753E-01	447667.3	3762767.1	227.1	3.49	4.00	3.25	YES
L0000426	0	0.10753E-01	447675.9	3762766.9	227.1	3.49	4.00	3.25	YES
L0000427	0	0.10753E-01	447684.5	3762766.8	227.1	3.49	4.00	3.25	YES
L0000428	0	0.10753E-01	447693.0	3762766.6	227.1	3.49	4.00	3.25	YES
L0000429	0	0.10753E-01	447701.6	3762766.5	227.1	3.49	4.00	3.25	YES
L0000430	0	0.10753E-01	447710.2	3762766.3	227.1	3.49	4.00	3.25	YES
L0000431	0	0.10753E-01	447718.8	3762766.2	227.1	3.49	4.00	3.25	YES
L0000432	0	0.10753E-01	447727.4	3762766.0	227.1	3.49	4.00	3.25	YES

L0000433 0 0.10753E-01 447736.0 3762765.9 227.1 3.49 4.00 3.25
YES
L0000434 0 0.10753E-01 447744.6 3762765.7 227.2 3.49 4.00 3.25
YES
L0000435 0 0.10753E-01 447753.2 3762765.6 227.3 3.49 4.00 3.25
YES
L0000436 0 0.10753E-01 447761.8 3762765.4 227.4 3.49 4.00 3.25
YES
L0000437 0 0.10753E-01 447770.3 3762765.3 227.4 3.49 4.00 3.25
YES
L0000438 0 0.10753E-01 447778.9 3762765.1 227.4 3.49 4.00 3.25
YES
L0000439 0 0.10753E-01 447787.5 3762765.0 227.4 3.49 4.00 3.25
YES
L0000440 0 0.10753E-01 447796.1 3762764.8 227.4 3.49 4.00 3.25
YES
L0000441 0 0.10753E-01 447804.7 3762764.7 227.4 3.49 4.00 3.25
YES
L0000442 0 0.10753E-01 447813.3 3762764.5 227.4 3.49 4.00 3.25
YES
L0000443 0 0.10753E-01 447821.9 3762764.4 227.4 3.49 4.00 3.25
YES
L0000444 0 0.10753E-01 447830.5 3762764.2 227.5 3.49 4.00 3.25
YES
L0000445 0 0.10753E-01 447839.0 3762764.1 227.6 3.49 4.00 3.25
YES
L0000446 0 0.10753E-01 447847.6 3762763.9 227.6 3.49 4.00 3.25
YES
L0000447 0 0.10753E-01 447856.2 3762763.7 227.7 3.49 4.00 3.25
YES
L0000448 0 0.10753E-01 447864.8 3762763.6 227.8 3.49 4.00 3.25
YES
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 09:18:50

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SCALAR VARY BY
L0000449	0	0.10753E-01	447873.4	3762763.4	227.9	3.49	4.00	3.25	YES
L0000450	0	0.10753E-01	447882.0	3762763.3	227.9	3.49	4.00	3.25	YES
L0000451	0	0.10753E-01	447890.6	3762763.1	227.9	3.49	4.00	3.25	YES
L0000452	0	0.10753E-01	447899.2	3762763.0	228.0	3.49	4.00	3.25	YES
L0000453	0	0.10753E-01	447907.8	3762762.8	228.0	3.49	4.00	3.25	YES
L0000454	0	0.10753E-01	447916.3	3762762.7	228.0	3.49	4.00	3.25	YES
L0000455	0	0.10753E-01	447924.9	3762762.5	228.1	3.49	4.00	3.25	YES

L0000456	0	0.10753E-01	447933.5	3762762.4	228.2	3.49	4.00	3.25
YES								
L0000457	0	0.10753E-01	447942.1	3762762.2	228.2	3.49	4.00	3.25
YES								
L0000458	0	0.10753E-01	447950.7	3762762.1	228.2	3.49	4.00	3.25
YES								
L0000459	0	0.10753E-01	447959.3	3762761.9	228.2	3.49	4.00	3.25
YES								
L0000460	0	0.10753E-01	447967.9	3762761.8	228.2	3.49	4.00	3.25
YES								
L0000461	0	0.10753E-01	447976.5	3762761.6	228.2	3.49	4.00	3.25
YES								
L0000462	0	0.10753E-01	447985.1	3762761.5	228.2	3.49	4.00	3.25
YES								
L0000463	0	0.10753E-01	447993.6	3762761.3	228.2	3.49	4.00	3.25
YES								
L0000464	0	0.10753E-01	448002.2	3762761.2	228.2	3.49	4.00	3.25
YES								
L0000465	0	0.10753E-01	448010.8	3762761.0	228.2	3.49	4.00	3.25
YES								
L0000466	0	0.10753E-01	448019.4	3762760.9	228.2	3.49	4.00	3.25
YES								
L0000467	0	0.10753E-01	448028.0	3762760.7	228.2	3.49	4.00	3.25
YES								
L0000468	0	0.10753E-01	448036.6	3762760.6	228.1	3.49	4.00	3.25
YES								
L0000469	0	0.10753E-01	448045.2	3762760.4	228.1	3.49	4.00	3.25
YES								
L0000470	0	0.10753E-01	448053.8	3762760.2	228.0	3.49	4.00	3.25
YES								
L0000471	0	0.10753E-01	448062.4	3762760.1	227.9	3.49	4.00	3.25
YES								
L0000472	0	0.10753E-01	448070.9	3762759.9	227.9	3.49	4.00	3.25
YES								
L0000473	0	0.10753E-01	448079.5	3762759.8	227.9	3.49	4.00	3.25
YES								
L0000474	0	0.10753E-01	448088.1	3762759.6	227.9	3.49	4.00	3.25
YES								
L0000475	0	0.10753E-01	448096.7	3762759.5	227.8	3.49	4.00	3.25
YES								
L0000476	0	0.10753E-01	448105.3	3762759.3	227.7	3.49	4.00	3.25
YES								
L0000477	0	0.10753E-01	448113.9	3762759.2	227.7	3.49	4.00	3.25
YES								
L0000478	0	0.10753E-01	448122.5	3762759.0	227.6	3.49	4.00	3.25
YES								
L0000479	0	0.10753E-01	448131.1	3762758.9	227.6	3.49	4.00	3.25
YES								
L0000480	0	0.10753E-01	448139.7	3762758.7	227.6	3.49	4.00	3.25
YES								
L0000481	0	0.10753E-01	448148.2	3762758.6	227.5	3.49	4.00	3.25
YES								
L0000482	0	0.10753E-01	448156.8	3762758.4	227.5	3.49	4.00	3.25
YES								
L0000483	0	0.10753E-01	448165.4	3762758.3	227.4	3.49	4.00	3.25
YES								
L0000484	0	0.10753E-01	448174.0	3762758.1	227.3	3.49	4.00	3.25
YES								
L0000485	0	0.10753E-01	448182.6	3762758.0	227.3	3.49	4.00	3.25
YES								
L0000486	0	0.10753E-01	448191.2	3762757.8	227.3	3.49	4.00	3.25
YES								
L0000487	0	0.10753E-01	448199.8	3762757.7	227.3	3.49	4.00	3.25
YES								
L0000488	0	0.10753E-01	448208.4	3762757.5	227.3	3.49	4.00	3.25
YES								

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE SCALAR VARY BY	EMISSION RATE PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
L0000489	0		0.10753E-01	448217.0	3762757.4	227.3	3.49	4.00	3.25	YES
L0000490	0		0.10753E-01	448225.5	3762757.2	227.3	3.49	4.00	3.25	YES
L0000491	0		0.10753E-01	448234.1	3762757.0	227.3	3.49	4.00	3.25	YES
L0000492	0		0.10753E-01	448242.7	3762756.9	227.3	3.49	4.00	3.25	YES
L0000493	0		0.10753E-01	448251.3	3762756.7	227.4	3.49	4.00	3.25	YES
L0000494	0		0.10753E-01	448259.9	3762756.6	227.4	3.49	4.00	3.25	YES
L0000495	0		0.10753E-01	448268.5	3762756.4	227.5	3.49	4.00	3.25	YES
L0000496	0		0.10753E-01	448277.1	3762756.3	227.5	3.49	4.00	3.25	YES
L0000497	0		0.10753E-01	448285.7	3762756.1	227.5	3.49	4.00	3.25	YES
L0000498	0		0.10753E-01	448294.2	3762756.0	227.6	3.49	4.00	3.25	YES
L0000499	0		0.10753E-01	448302.8	3762755.8	227.6	3.49	4.00	3.25	YES
L0000500	0		0.10753E-01	448311.4	3762755.7	227.6	3.49	4.00	3.25	YES
L0000501	0		0.10753E-01	448320.0	3762755.5	227.7	3.49	4.00	3.25	YES
L0000502	0		0.10753E-01	448328.6	3762755.4	227.7	3.49	4.00	3.25	YES
L0000503	0		0.10753E-01	448337.2	3762755.2	227.8	3.49	4.00	3.25	YES
L0000504	0		0.10753E-01	448345.8	3762755.1	227.9	3.49	4.00	3.25	YES
L0000505	0		0.10753E-01	448354.4	3762754.9	227.9	3.49	4.00	3.25	YES
L0000506	0		0.10753E-01	448363.0	3762754.8	228.1	3.49	4.00	3.25	YES
L0000507	0		0.10753E-01	448371.5	3762754.6	228.2	3.49	4.00	3.25	YES
L0000508	0		0.10753E-01	448380.1	3762754.5	228.4	3.49	4.00	3.25	YES
L0000509	0		0.10753E-01	448388.7	3762754.3	228.6	3.49	4.00	3.25	YES
L0000510	0		0.80645E-02	447618.6	3763476.1	233.5	3.49	4.00	3.25	YES
L0000511	0		0.80645E-02	447618.6	3763467.5	233.5	3.49	4.00	3.25	YES

L0000512 0 0.80645E-02 447618.6 3763458.9 233.5 3.49 4.00 3.25
YES
L0000513 0 0.80645E-02 447618.6 3763450.3 233.4 3.49 4.00 3.25
YES
L0000514 0 0.80645E-02 447618.6 3763441.7 233.3 3.49 4.00 3.25
YES
L0000515 0 0.80645E-02 447618.6 3763433.1 233.2 3.49 4.00 3.25
YES
L0000516 0 0.80645E-02 447618.6 3763424.5 233.2 3.49 4.00 3.25
YES
L0000517 0 0.80645E-02 447618.6 3763416.0 233.1 3.49 4.00 3.25
YES
L0000518 0 0.80645E-02 447618.6 3763407.4 233.1 3.49 4.00 3.25
YES
L0000519 0 0.80645E-02 447618.6 3763398.8 233.1 3.49 4.00 3.25
YES
L0000520 0 0.80645E-02 447618.6 3763390.2 233.0 3.49 4.00 3.25
YES
L0000521 0 0.80645E-02 447618.6 3763381.6 233.0 3.49 4.00 3.25
YES
L0000522 0 0.80645E-02 447618.6 3763373.0 232.9 3.49 4.00 3.25
YES
L0000523 0 0.80645E-02 447618.6 3763364.4 232.9 3.49 4.00 3.25
YES
L0000524 0 0.80645E-02 447618.6 3763355.8 232.8 3.49 4.00 3.25
YES
L0000525 0 0.80645E-02 447618.6 3763347.2 232.7 3.49 4.00 3.25
YES
L0000526 0 0.80645E-02 447618.6 3763338.6 232.6 3.49 4.00 3.25
YES
L0000527 0 0.80645E-02 447618.6 3763330.1 232.5 3.49 4.00 3.25
YES
L0000528 0 0.80645E-02 447618.6 3763321.5 232.5 3.49 4.00 3.25
YES

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ
L0000529	0	0.80645E-02	447618.6	3763312.9	232.5	3.49	4.00	3.25
YES								
L0000530	0	0.80645E-02	447618.6	3763304.3	232.5	3.49	4.00	3.25
YES								
L0000531	0	0.80645E-02	447618.6	3763295.7	232.4	3.49	4.00	3.25
YES								
L0000532	0	0.80645E-02	447618.6	3763287.1	232.3	3.49	4.00	3.25
YES								
L0000533	0	0.80645E-02	447618.6	3763278.5	232.2	3.49	4.00	3.25
YES								
L0000534	0	0.80645E-02	447618.6	3763269.9	232.1	3.49	4.00	3.25
YES								

L0000535	0	0.80645E-02	447618.6	3763261.3	232.1	3.49	4.00	3.25
YES								
L0000536	0	0.80645E-02	447618.6	3763252.7	232.0	3.49	4.00	3.25
YES								
L0000537	0	0.80645E-02	447618.6	3763244.2	232.0	3.49	4.00	3.25
YES								
L0000538	0	0.80645E-02	447618.6	3763235.6	231.9	3.49	4.00	3.25
YES								
L0000539	0	0.80645E-02	447618.6	3763227.0	231.9	3.49	4.00	3.25
YES								
L0000540	0	0.80645E-02	447618.6	3763218.4	231.9	3.49	4.00	3.25
YES								
L0000541	0	0.80645E-02	447618.6	3763209.8	231.8	3.49	4.00	3.25
YES								
L0000542	0	0.80645E-02	447618.4	3763201.2	231.8	3.49	4.00	3.25
YES								
L0000543	0	0.80645E-02	447618.2	3763192.6	231.7	3.49	4.00	3.25
YES								
L0000544	0	0.80645E-02	447618.1	3763184.0	231.6	3.49	4.00	3.25
YES								
L0000545	0	0.80645E-02	447617.9	3763175.4	231.6	3.49	4.00	3.25
YES								
L0000546	0	0.80645E-02	447617.7	3763166.9	231.6	3.49	4.00	3.25
YES								
L0000547	0	0.80645E-02	447617.6	3763158.3	231.6	3.49	4.00	3.25
YES								
L0000548	0	0.80645E-02	447617.4	3763149.7	231.5	3.49	4.00	3.25
YES								
L0000549	0	0.80645E-02	447617.2	3763141.1	231.4	3.49	4.00	3.25
YES								
L0000550	0	0.80645E-02	447617.1	3763132.5	231.3	3.49	4.00	3.25
YES								
L0000551	0	0.80645E-02	447616.9	3763123.9	231.2	3.49	4.00	3.25
YES								
L0000552	0	0.80645E-02	447616.7	3763115.3	231.2	3.49	4.00	3.25
YES								
L0000553	0	0.80645E-02	447615.9	3763106.8	231.1	3.49	4.00	3.25
YES								
L0000554	0	0.80645E-02	447614.1	3763098.4	231.0	3.49	4.00	3.25
YES								
L0000555	0	0.80645E-02	447612.2	3763090.0	230.9	3.49	4.00	3.25
YES								
L0000556	0	0.80645E-02	447610.3	3763081.7	230.7	3.49	4.00	3.25
YES								
L0000557	0	0.80645E-02	447608.5	3763073.3	230.6	3.49	4.00	3.25
YES								
L0000558	0	0.80645E-02	447606.6	3763064.9	230.4	3.49	4.00	3.25
YES								
L0000559	0	0.80645E-02	447604.7	3763056.5	230.4	3.49	4.00	3.25
YES								
L0000560	0	0.80645E-02	447602.9	3763048.1	230.3	3.49	4.00	3.25
YES								
L0000561	0	0.80645E-02	447601.0	3763039.7	230.2	3.49	4.00	3.25
YES								
L0000562	0	0.80645E-02	447599.1	3763031.3	230.2	3.49	4.00	3.25
YES								
L0000563	0	0.80645E-02	447597.3	3763023.0	230.1	3.49	4.00	3.25
YES								
L0000564	0	0.80645E-02	447595.4	3763014.6	229.9	3.49	4.00	3.25
YES								
L0000565	0	0.80645E-02	447593.6	3763006.2	229.8	3.49	4.00	3.25
YES								
L0000566	0	0.80645E-02	447591.7	3762997.8	229.7	3.49	4.00	3.25
YES								
L0000567	0	0.80645E-02	447589.8	3762989.4	229.6	3.49	4.00	3.25
YES								

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
L0000568	0	0.80645E-02	447588.0	3762981.0	229.5	3.49	4.00	3.25	YES
L0000569	0	0.80645E-02	447586.1	3762972.6	229.4	3.49	4.00	3.25	YES
L0000570	0	0.80645E-02	447584.2	3762964.3	229.2	3.49	4.00	3.25	YES
L0000571	0	0.80645E-02	447582.4	3762955.9	229.1	3.49	4.00	3.25	YES
L0000572	0	0.80645E-02	447580.5	3762947.5	228.9	3.49	4.00	3.25	YES
L0000573	0	0.80645E-02	447578.7	3762939.1	228.8	3.49	4.00	3.25	YES
L0000574	0	0.80645E-02	447576.8	3762930.7	228.8	3.49	4.00	3.25	YES
L0000575	0	0.80645E-02	447574.9	3762922.3	228.7	3.49	4.00	3.25	YES
L0000576	0	0.80645E-02	447573.2	3762913.9	228.6	3.49	4.00	3.25	YES
L0000577	0	0.80645E-02	447572.8	3762905.3	228.5	3.49	4.00	3.25	YES
L0000578	0	0.80645E-02	447572.3	3762896.8	228.4	3.49	4.00	3.25	YES
L0000579	0	0.80645E-02	447571.8	3762888.2	228.3	3.49	4.00	3.25	YES
L0000580	0	0.80645E-02	447571.4	3762879.6	228.2	3.49	4.00	3.25	YES
L0000581	0	0.80645E-02	447570.9	3762871.0	228.1	3.49	4.00	3.25	YES
L0000582	0	0.80645E-02	447570.4	3762862.5	228.1	3.49	4.00	3.25	YES
L0000583	0	0.80645E-02	447570.0	3762853.9	228.0	3.49	4.00	3.25	YES
L0000584	0	0.80645E-02	447569.5	3762845.3	228.0	3.49	4.00	3.25	YES
L0000585	0	0.80645E-02	447569.8	3762836.7	228.0	3.49	4.00	3.25	YES
L0000586	0	0.80645E-02	447570.5	3762828.2	228.0	3.49	4.00	3.25	YES
L0000587	0	0.80645E-02	447571.1	3762819.6	227.9	3.49	4.00	3.25	YES
L0000588	0	0.80645E-02	447571.8	3762811.1	227.8	3.49	4.00	3.25	YES
L0000589	0	0.80645E-02	447572.5	3762802.5	227.8	3.49	4.00	3.25	YES
L0000590	0	0.80645E-02	447573.2	3762793.9	227.7	3.49	4.00	3.25	YES

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 L0000591         0   0.80645E-02  447573.9 3762785.4   227.6     3.49     4.00     3.25
 YES
 L0000592         0   0.80645E-02  447574.6 3762776.8   227.5     3.49     4.00     3.25
 YES
 L0000593         0   0.80645E-02  447575.4 3762768.3   227.4     3.49     4.00     3.25
 YES
 L0000594         0   0.80645E-02  447576.7 3762759.8   227.3     3.49     4.00     3.25
 YES
 L0000595         0   0.80645E-02  447578.1 3762751.3   227.2     3.49     4.00     3.25
 YES
 L0000596         0   0.80645E-02  447579.4 3762742.8   227.1     3.49     4.00     3.25
 YES
 L0000597         0   0.80645E-02  447580.8 3762734.3   227.1     3.49     4.00     3.25
 YES
 L0000598         0   0.80645E-02  447582.2 3762725.8   227.0     3.49     4.00     3.25
 YES
 L0000599         0   0.80645E-02  447583.5 3762717.4   226.9     3.49     4.00     3.25
 YES
 L0000600         0   0.80645E-02  447584.9 3762708.9   226.8     3.49     4.00     3.25
 YES
 L0000601         0   0.80645E-02  447586.2 3762700.4   226.7     3.49     4.00     3.25
 YES
 L0000602         0   0.80645E-02  447587.6 3762691.9   226.5     3.49     4.00     3.25
 YES
 L0000603         0   0.80645E-02  447588.9 3762683.4   226.3     3.49     4.00     3.25
 YES
 L0000604         0   0.80645E-02  447590.3 3762674.9   226.2     3.49     4.00     3.25
 YES
 L0000605         0   0.80645E-02  447591.7 3762666.5   226.1     3.49     4.00     3.25
 YES
 L0000606         0   0.80645E-02  447593.0 3762658.0   226.0     3.49     4.00     3.25
 YES
 L0000607         0   0.80645E-02  447594.4 3762649.5   225.9     3.49     4.00     3.25
 YES
 L0000608         0   0.80645E-02  447595.7 3762641.0   225.8     3.49     4.00     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
 - - -
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L0000614	0	0.80645E-02	447603.9	3762590.1	225.3	3.49	4.00	3.25
YES								
L0000615	0	0.80645E-02	447605.2	3762581.6	225.2	3.49	4.00	3.25
YES								
L0000616	0	0.80645E-02	447606.6	3762573.2	225.1	3.49	4.00	3.25
YES								
L0000617	0	0.80645E-02	447607.9	3762564.7	225.0	3.49	4.00	3.25
YES								
L0000618	0	0.80645E-02	447609.3	3762556.2	224.9	3.49	4.00	3.25
YES								
L0000619	0	0.80645E-02	447610.7	3762547.7	224.9	3.49	4.00	3.25
YES								
L0000620	0	0.80645E-02	447612.0	3762539.2	224.8	3.49	4.00	3.25
YES								
L0000621	0	0.80645E-02	447613.4	3762530.8	224.7	3.49	4.00	3.25
YES								
L0000622	0	0.80645E-02	447614.9	3762522.3	224.6	3.49	4.00	3.25
YES								
L0000623	0	0.80645E-02	447618.2	3762514.4	224.5	3.49	4.00	3.25
YES								
L0000624	0	0.80645E-02	447621.5	3762506.4	224.4	3.49	4.00	3.25
YES								
L0000625	0	0.80645E-02	447624.4	3762498.5	224.4	3.49	4.00	3.25
YES								
L0000626	0	0.80645E-02	447623.8	3762489.9	224.3	3.49	4.00	3.25
YES								
L0000627	0	0.80645E-02	447623.1	3762481.3	224.2	3.49	4.00	3.25
YES								
L0000628	0	0.80645E-02	447622.4	3762472.8	224.1	3.49	4.00	3.25
YES								
L0000629	0	0.80645E-02	447621.7	3762464.2	224.0	3.49	4.00	3.25
YES								
L0000630	0	0.80645E-02	447621.1	3762455.6	223.9	3.49	4.00	3.25
YES								
L0000631	0	0.80645E-02	447620.4	3762447.1	223.8	3.49	4.00	3.25
YES								
L0000632	0	0.80645E-02	447619.7	3762438.5	223.8	3.49	4.00	3.25
YES								
L0000633	0	0.80645E-02	447619.0	3762430.0	223.7	3.49	4.00	3.25
YES								
L0000634	0	0.42918E-02	447615.6	3762407.2	223.5	3.49	6.51	3.25
YES								
L0000635	0	0.42918E-02	447601.6	3762407.0	223.4	3.49	6.51	3.25
YES								
L0000636	0	0.42918E-02	447587.6	3762406.9	223.4	3.49	6.51	3.25
YES								
L0000637	0	0.42918E-02	447573.6	3762406.7	223.4	3.49	6.51	3.25
YES								
L0000638	0	0.42918E-02	447559.6	3762406.5	223.4	3.49	6.51	3.25
YES								
L0000639	0	0.42918E-02	447545.6	3762406.4	223.4	3.49	6.51	3.25
YES								
L0000640	0	0.42918E-02	447531.6	3762406.2	223.4	3.49	6.51	3.25
YES								
L0000641	0	0.42918E-02	447517.6	3762406.0	223.4	3.49	6.51	3.25
YES								
L0000642	0	0.42918E-02	447503.6	3762405.9	223.6	3.49	6.51	3.25
YES								
L0000643	0	0.42918E-02	447489.6	3762405.7	223.7	3.49	6.51	3.25
YES								
L0000644	0	0.42918E-02	447475.6	3762405.5	223.7	3.49	6.51	3.25
YES								
L0000645	0	0.42918E-02	447461.6	3762405.4	223.7	3.49	6.51	3.25
YES								
L0000646	0	0.42918E-02	447447.6	3762405.2	223.7	3.49	6.51	3.25
YES								

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	EMISSION RATE SCALAR VARY BY
L0000647	0	0.42918E-02	447433.6	3762405.0	223.7	3.49	6.51	3.25	YES
L0000648	0	0.42918E-02	447419.6	3762404.8	223.7	3.49	6.51	3.25	YES
L0000649	0	0.42918E-02	447405.6	3762404.7	223.7	3.49	6.51	3.25	YES
L0000650	0	0.42918E-02	447391.6	3762404.5	223.7	3.49	6.51	3.25	YES
L0000651	0	0.42918E-02	447377.6	3762404.3	223.7	3.49	6.51	3.25	YES
L0000652	0	0.42918E-02	447363.6	3762404.2	223.7	3.49	6.51	3.25	YES
L0000653	0	0.42918E-02	447349.6	3762404.0	223.7	3.49	6.51	3.25	YES
L0000654	0	0.42918E-02	447335.6	3762403.8	223.7	3.49	6.51	3.25	YES
L0000655	0	0.42918E-02	447321.6	3762403.7	223.7	3.49	6.51	3.25	YES
L0000656	0	0.42918E-02	447307.6	3762403.5	223.7	3.49	6.51	3.25	YES
L0000657	0	0.42918E-02	447293.6	3762403.3	223.7	3.49	6.51	3.25	YES
L0000658	0	0.42918E-02	447279.6	3762403.2	223.7	3.49	6.51	3.25	YES
L0000659	0	0.42918E-02	447265.6	3762403.0	223.7	3.49	6.51	3.25	YES
L0000660	0	0.42918E-02	447251.6	3762402.8	223.7	3.49	6.51	3.25	YES
L0000661	0	0.42918E-02	447237.6	3762402.6	223.7	3.49	6.51	3.25	YES
L0000662	0	0.42918E-02	447223.6	3762402.5	223.7	3.49	6.51	3.25	YES
L0000663	0	0.42918E-02	447209.6	3762402.3	223.6	3.49	6.51	3.25	YES
L0000664	0	0.42918E-02	447195.6	3762402.1	223.4	3.49	6.51	3.25	YES
L0000665	0	0.42918E-02	447181.6	3762402.0	223.4	3.49	6.51	3.25	YES
L0000666	0	0.42918E-02	447167.6	3762401.8	223.4	3.49	6.51	3.25	YES
L0000667	0	0.42918E-02	447153.6	3762401.6	223.3	3.49	6.51	3.25	YES
L0000668	0	0.42918E-02	447139.6	3762401.5	223.2	3.49	6.51	3.25	YES
L0000669	0	0.42918E-02	447125.6	3762401.3	223.1	3.49	6.51	3.25	YES

L0000670 0 0.42918E-02 447111.6 3762401.1 223.0 3.49 6.51 3.25
YES
L0000671 0 0.42918E-02 447097.6 3762401.0 223.0 3.49 6.51 3.25
YES
L0000672 0 0.42918E-02 447083.6 3762400.8 222.7 3.49 6.51 3.25
YES
L0000673 0 0.42918E-02 447069.6 3762400.6 222.5 3.49 6.51 3.25
YES
L0000674 0 0.42918E-02 447055.6 3762400.5 222.4 3.49 6.51 3.25
YES
L0000675 0 0.42918E-02 447041.6 3762400.3 222.4 3.49 6.51 3.25
YES
L0000676 0 0.42918E-02 447027.6 3762400.1 222.4 3.49 6.51 3.25
YES
L0000677 0 0.42918E-02 447013.6 3762399.9 222.4 3.49 6.51 3.25
YES
L0000678 0 0.42918E-02 446999.6 3762399.8 222.5 3.49 6.51 3.25
YES
L0000679 0 0.42918E-02 446985.6 3762399.6 222.6 3.49 6.51 3.25
YES
L0000680 0 0.42918E-02 446971.6 3762399.4 222.8 3.49 6.51 3.25
YES
L0000681 0 0.42918E-02 446957.6 3762399.3 222.9 3.49 6.51 3.25
YES
L0000682 0 0.42918E-02 446943.6 3762399.1 223.0 3.49 6.51 3.25
YES
L0000683 0 0.42918E-02 446929.6 3762398.9 223.0 3.49 6.51 3.25
YES
L0000684 0 0.42918E-02 446915.6 3762398.8 223.1 3.49 6.51 3.25
YES
L0000685 0 0.42918E-02 446901.6 3762398.6 223.2 3.49 6.51 3.25
YES
L0000686 0 0.42918E-02 446887.6 3762398.4 223.3 3.49 6.51 3.25
YES
L0000687 0 0.42918E-02 446873.6 3762398.3 223.3 3.49 6.51 3.25
YES
L0000688 0 0.42918E-02 446859.6 3762398.1 223.3 3.49 6.51 3.25
YES

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SCALAR VARY CATS. BY
L0000689	0	0.42918E-02	446845.6	3762397.9	223.3	3.49	6.51	3.25	YES
L0000690	0	0.42918E-02	446831.6	3762397.7	223.3	3.49	6.51	3.25	YES
L0000691	0	0.42918E-02	446817.6	3762397.6	223.2	3.49	6.51	3.25	YES
L0000692	0	0.42918E-02	446803.6	3762397.4	223.1	3.49	6.51	3.25	YES

L0000693	0	0.42918E-02	446789.6	3762397.2	222.9	3.49	6.51	3.25
YES								
L0000694	0	0.42918E-02	446775.7	3762396.6	222.8	3.49	6.51	3.25
YES								
L0000695	0	0.42918E-02	446762.0	3762393.6	222.7	3.49	6.51	3.25
YES								
L0000696	0	0.42918E-02	446748.3	3762390.5	222.7	3.49	6.51	3.25
YES								
L0000697	0	0.42918E-02	446734.7	3762387.5	222.7	3.49	6.51	3.25
YES								
L0000698	0	0.42918E-02	446721.0	3762384.5	222.8	3.49	6.51	3.25
YES								
L0000699	0	0.42918E-02	446707.3	3762381.4	222.9	3.49	6.51	3.25
YES								
L0000700	0	0.42918E-02	446693.7	3762378.4	222.8	3.49	6.51	3.25
YES								
L0000701	0	0.42918E-02	446680.3	3762374.3	222.8	3.49	6.51	3.25
YES								
L0000702	0	0.42918E-02	446667.4	3762369.0	222.9	3.49	6.51	3.25
YES								
L0000703	0	0.42918E-02	446654.4	3762363.7	223.0	3.49	6.51	3.25
YES								
L0000704	0	0.42918E-02	446641.5	3762358.3	223.0	3.49	6.51	3.25
YES								
L0000705	0	0.42918E-02	446628.6	3762353.0	223.1	3.49	6.51	3.25
YES								
L0000706	0	0.42918E-02	446615.6	3762347.6	223.2	3.49	6.51	3.25
YES								
L0000707	0	0.42918E-02	446602.7	3762342.3	223.3	3.49	6.51	3.25
YES								
L0000708	0	0.42918E-02	446589.7	3762337.0	223.3	3.49	6.51	3.25
YES								
L0000709	0	0.42918E-02	446577.0	3762331.2	223.4	3.49	6.51	3.25
YES								
L0000710	0	0.42918E-02	446565.4	3762323.4	223.4	3.49	6.51	3.25
YES								
L0000711	0	0.42918E-02	446553.8	3762315.5	223.5	3.49	6.51	3.25
YES								
L0000712	0	0.42918E-02	446542.2	3762307.7	223.0	3.49	6.51	3.25
YES								
L0000713	0	0.42918E-02	446530.6	3762299.9	223.0	3.49	6.51	3.25
YES								
L0000714	0	0.42918E-02	446519.0	3762292.1	223.0	3.49	6.51	3.25
YES								
L0000715	0	0.42918E-02	446507.4	3762284.2	223.0	3.49	6.51	3.25
YES								
L0000716	0	0.42918E-02	446495.8	3762276.4	223.0	3.49	6.51	3.25
YES								
L0000717	0	0.42918E-02	446484.1	3762268.6	223.0	3.49	6.51	3.25
YES								
L0000718	0	0.42918E-02	446472.5	3762260.8	223.0	3.49	6.51	3.25
YES								
L0000719	0	0.42918E-02	446460.9	3762253.0	222.9	3.49	6.51	3.25
YES								
L0000720	0	0.42918E-02	446449.3	3762245.1	222.9	3.49	6.51	3.25
YES								
L0000721	0	0.42918E-02	446437.7	3762237.3	223.0	3.49	6.51	3.25
YES								
L0000722	0	0.42918E-02	446426.1	3762229.5	223.0	3.49	6.51	3.25
YES								
L0000723	0	0.42918E-02	446414.7	3762221.4	223.0	3.49	6.51	3.25
YES								
L0000724	0	0.42918E-02	446403.3	3762213.2	223.0	3.49	6.51	3.25
YES								
L0000725	0	0.42918E-02	446391.9	3762205.1	223.0	3.49	6.51	3.25
YES								

L0000726 0 0.42918E-02 446380.6 3762196.9 223.0 3.49 6.51 3.25
YES
L0000727 0 0.42918E-02 446369.2 3762188.7 223.0 3.49 6.51 3.25
YES
L0000728 0 0.42918E-02 446357.8 3762180.5 223.0 3.49 6.51 3.25
YES
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 09:18:50

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ	SCALAR VARY BY
L0000729	0	0.42918E-02	446346.5	3762172.4	222.9	3.49	6.51	3.25	YES
L0000730	0	0.42918E-02	446335.1	3762164.2	222.5	3.49	6.51	3.25	YES
L0000731	0	0.42918E-02	446323.7	3762156.0	222.1	3.49	6.51	3.25	YES
L0000732	0	0.42918E-02	446312.4	3762147.8	222.0	3.49	6.51	3.25	YES
L0000733	0	0.42918E-02	446301.0	3762139.7	222.0	3.49	6.51	3.25	YES
L0000734	0	0.42918E-02	446289.6	3762131.5	222.0	3.49	6.51	3.25	YES
L0000735	0	0.42918E-02	446278.3	3762123.3	221.8	3.49	6.51	3.25	YES
L0000736	0	0.42918E-02	446266.9	3762115.1	221.5	3.49	6.51	3.25	YES
L0000737	0	0.42918E-02	446255.5	3762107.0	221.0	3.49	6.51	3.25	YES
L0000738	0	0.42918E-02	446244.2	3762098.8	221.0	3.49	6.51	3.25	YES
L0000739	0	0.42918E-02	446232.8	3762090.6	221.0	3.49	6.51	3.25	YES
L0000740	0	0.42918E-02	446220.9	3762083.3	220.9	3.49	6.51	3.25	YES
L0000741	0	0.42918E-02	446208.7	3762076.4	221.0	3.49	6.51	3.25	YES
L0000742	0	0.42918E-02	446196.5	3762069.5	220.9	3.49	6.51	3.25	YES
L0000743	0	0.42918E-02	446184.4	3762062.6	220.7	3.49	6.51	3.25	YES
L0000744	0	0.42918E-02	446172.2	3762055.7	220.7	3.49	6.51	3.25	YES
L0000745	0	0.42918E-02	446160.0	3762048.8	220.6	3.49	6.51	3.25	YES
L0000746	0	0.42918E-02	446147.6	3762042.4	220.2	3.49	6.51	3.25	YES
L0000747	0	0.42918E-02	446134.4	3762037.7	219.9	3.49	6.51	3.25	YES
L0000748	0	0.42918E-02	446121.2	3762033.0	219.7	3.49	6.51	3.25	YES

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 L0000749         0   0.42918E-02  446108.0 3762028.2   219.6     3.49     6.51     3.25
 YES
 L0000750         0   0.42918E-02  446094.5 3762024.6   219.4     3.49     6.51     3.25
 YES
 L0000751         0   0.42918E-02  446081.0 3762020.9   219.0     3.49     6.51     3.25
 YES
 L0000752         0   0.42918E-02  446067.5 3762017.3   218.6     3.49     6.51     3.25
 YES
 L0000753         0   0.42918E-02  446054.0 3762013.6   218.2     3.49     6.51     3.25
 YES
 L0000754         0   0.42918E-02  446040.3 3762010.9   218.0     3.49     6.51     3.25
 YES
 L0000755         0   0.42918E-02  446026.3 3762009.9   217.8     3.49     6.51     3.25
 YES
 L0000756         0   0.42918E-02  446012.4 3762008.8   217.8     3.49     6.51     3.25
 YES
 L0000757         0   0.42918E-02  445998.4 3762007.8   217.7     3.49     6.51     3.25
 YES
 L0000758         0   0.42918E-02  445984.5 3762006.7   217.6     3.49     6.51     3.25
 YES
 L0000759         0   0.42918E-02  445970.5 3762005.6   217.2     3.49     6.51     3.25
 YES
 L0000760         0   0.42918E-02  445956.5 3762004.6   217.0     3.49     6.51     3.25
 YES
 L0000761         0   0.42918E-02  445942.6 3762003.5   217.0     3.49     6.51     3.25
 YES
 L0000762         0   0.42918E-02  445928.6 3762002.5   217.0     3.49     6.51     3.25
 YES
 L0000763         0   0.42918E-02  445914.7 3762001.4   217.0     3.49     6.51     3.25
 YES
 L0000764         0   0.42918E-02  445900.7 3762000.4   217.0     3.49     6.51     3.25
 YES
 L0000765         0   0.42918E-02  445886.7 3761999.4   217.0     3.49     6.51     3.25
 YES
 L0000766         0   0.42918E-02  445872.7 3761999.5   217.0     3.49     6.51     3.25
 YES
 L0000767         0   0.42918E-02  445858.7 3761999.7   217.0     3.49     6.51     3.25
 YES
 L0000768         0   0.42918E-02  445844.7 3761999.9   217.0     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - -

 L0000769         0   0.42918E-02  445830.7 3762000.0   217.0     3.49     6.51     3.25
 YES
 L0000770         0   0.42918E-02  445816.7 3762000.2   217.0     3.49     6.51     3.25
 YES
 L0000771         0   0.42918E-02  445802.7 3762000.3   217.0     3.49     6.51     3.25
 YES
```

L0000772	0	0.42918E-02	445788.7	3762000.5	217.0	3.49	6.51	3.25
YES								
L0000773	0	0.42918E-02	445774.7	3762000.7	217.0	3.49	6.51	3.25
YES								
L0000774	0	0.42918E-02	445760.7	3762000.8	217.0	3.49	6.51	3.25
YES								
L0000775	0	0.42918E-02	445746.7	3762001.0	217.0	3.49	6.51	3.25
YES								
L0000776	0	0.42918E-02	445732.7	3762001.1	217.0	3.49	6.51	3.25
YES								
L0000777	0	0.42918E-02	445718.7	3762001.3	217.0	3.49	6.51	3.25
YES								
L0000778	0	0.42918E-02	445704.7	3762001.5	216.8	3.49	6.51	3.25
YES								
L0000779	0	0.42918E-02	445690.7	3762001.6	216.5	3.49	6.51	3.25
YES								
L0000780	0	0.42918E-02	445676.7	3762001.8	216.5	3.49	6.51	3.25
YES								
L0000781	0	0.42918E-02	445662.7	3762001.9	216.5	3.49	6.51	3.25
YES								
L0000782	0	0.42918E-02	445648.7	3762002.1	216.3	3.49	6.51	3.25
YES								
L0000783	0	0.42918E-02	445634.7	3762002.2	216.1	3.49	6.51	3.25
YES								
L0000784	0	0.42918E-02	445620.7	3762002.4	216.0	3.49	6.51	3.25
YES								
L0000785	0	0.42918E-02	445606.7	3762002.6	216.0	3.49	6.51	3.25
YES								
L0000786	0	0.42918E-02	445592.8	3762002.7	216.0	3.49	6.51	3.25
YES								
L0000787	0	0.42918E-02	445578.8	3762002.9	216.0	3.49	6.51	3.25
YES								
L0000788	0	0.42918E-02	445564.8	3762003.0	215.9	3.49	6.51	3.25
YES								
L0000789	0	0.42918E-02	445550.8	3762003.2	215.7	3.49	6.51	3.25
YES								
L0000790	0	0.42918E-02	445536.8	3762003.4	215.6	3.49	6.51	3.25
YES								
L0000791	0	0.42918E-02	445522.8	3762003.5	215.6	3.49	6.51	3.25
YES								
L0000792	0	0.42918E-02	445508.8	3762003.7	215.6	3.49	6.51	3.25
YES								
L0000793	0	0.42918E-02	445494.8	3762003.8	215.6	3.49	6.51	3.25
YES								
L0000794	0	0.42918E-02	445480.8	3762004.0	215.6	3.49	6.51	3.25
YES								
L0000795	0	0.42918E-02	445466.8	3762004.2	215.6	3.49	6.51	3.25
YES								
L0000796	0	0.42918E-02	445452.8	3762004.3	215.6	3.49	6.51	3.25
YES								
L0000797	0	0.42918E-02	445438.8	3762004.5	215.6	3.49	6.51	3.25
YES								
L0000798	0	0.42918E-02	445424.8	3762004.6	215.6	3.49	6.51	3.25
YES								
L0000799	0	0.42918E-02	445410.8	3762004.8	215.6	3.49	6.51	3.25
YES								
L0000800	0	0.42918E-02	445396.8	3762005.0	215.6	3.49	6.51	3.25
YES								
L0000801	0	0.42918E-02	445382.8	3762005.1	215.6	3.49	6.51	3.25
YES								
L0000802	0	0.42918E-02	445368.8	3762005.3	215.6	3.49	6.51	3.25
YES								
L0000803	0	0.42918E-02	445354.8	3762005.4	215.6	3.49	6.51	3.25
YES								
L0000804	0	0.42918E-02	445340.8	3762005.6	215.6	3.49	6.51	3.25
YES								

L0000805 0 0.42918E-02 445326.8 3762005.7 215.7 3.49 6.51 3.25
YES
L0000806 0 0.42918E-02 445312.8 3762005.9 215.7 3.49 6.51 3.25
YES
L0000807 0 0.42918E-02 445298.8 3762006.1 215.7 3.49 6.51 3.25
YES
L0000808 0 0.42918E-02 445284.8 3762006.2 215.7 3.49 6.51 3.25
YES

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ
L0000809	0	0.42918E-02	445270.8	3762006.4	215.7	3.49	6.51	3.25
YES								
L0000810	0	0.42918E-02	445256.8	3762006.5	215.7	3.49	6.51	3.25
YES								
L0000811	0	0.42918E-02	445242.8	3762006.7	215.7	3.49	6.51	3.25
YES								
L0000812	0	0.42918E-02	445228.8	3762006.9	215.7	3.49	6.51	3.25
YES								
L0000813	0	0.42918E-02	445214.8	3762007.0	215.7	3.49	6.51	3.25
YES								
L0000814	0	0.42918E-02	445200.8	3762007.2	215.7	3.49	6.51	3.25
YES								
L0000815	0	0.42918E-02	445186.8	3762007.3	215.7	3.49	6.51	3.25
YES								
L0000816	0	0.42918E-02	445172.8	3762007.5	215.7	3.49	6.51	3.25
YES								
L0000817	0	0.42918E-02	445158.8	3762007.7	215.7	3.49	6.51	3.25
YES								
L0000818	0	0.42918E-02	445144.8	3762007.8	215.7	3.49	6.51	3.25
YES								
L0000819	0	0.42918E-02	445130.8	3762008.0	215.7	3.49	6.51	3.25
YES								
L0000820	0	0.42918E-02	445116.8	3762008.1	215.7	3.49	6.51	3.25
YES								
L0000821	0	0.42918E-02	445102.8	3762008.3	215.7	3.49	6.51	3.25
YES								
L0000822	0	0.42918E-02	445088.8	3762008.4	215.7	3.49	6.51	3.25
YES								
L0000823	0	0.42918E-02	445074.8	3762008.6	215.4	3.49	6.51	3.25
YES								
L0000824	0	0.42918E-02	445060.8	3762008.8	215.0	3.49	6.51	3.25
YES								
L0000825	0	0.42918E-02	445046.8	3762008.9	215.0	3.49	6.51	3.25
YES								
L0000826	0	0.42918E-02	445032.8	3762009.1	215.0	3.49	6.51	3.25
YES								
L0000827	0	0.42918E-02	445018.8	3762009.2	215.0	3.49	6.51	3.25
YES								

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 L0000828         0   0.42918E-02  445004.8 3762009.4   215.0     3.49     6.51     3.25
 YES
 L0000829         0   0.42918E-02  444990.8 3762009.6   215.0     3.49     6.51     3.25
 YES
 L0000830         0   0.42918E-02  444976.8 3762009.7   215.0     3.49     6.51     3.25
 YES
 L0000831         0   0.42918E-02  444962.8 3762009.9   215.0     3.49     6.51     3.25
 YES
 L0000832         0   0.42918E-02  444948.8 3762010.0   215.0     3.49     6.51     3.25
 YES
 L0000833         0   0.42918E-02  444934.8 3762010.2   215.0     3.49     6.51     3.25
 YES
 L0000834         0   0.42918E-02  444920.8 3762010.4   215.0     3.49     6.51     3.25
 YES
 L0000835         0   0.42918E-02  444906.8 3762010.5   215.0     3.49     6.51     3.25
 YES
 L0000836         0   0.42918E-02  444892.8 3762010.7   215.0     3.49     6.51     3.25
 YES
 L0000837         0   0.42918E-02  444878.8 3762010.8   215.0     3.49     6.51     3.25
 YES
 L0000838         0   0.42918E-02  444864.8 3762011.0   215.0     3.49     6.51     3.25
 YES
 L0000839         0   0.42918E-02  444850.8 3762011.2   215.0     3.49     6.51     3.25
 YES
 L0000840         0   0.42918E-02  444836.8 3762011.3   215.0     3.49     6.51     3.25
 YES
 L0000841         0   0.42918E-02  444822.8 3762011.5   215.0     3.49     6.51     3.25
 YES
 L0000842         0   0.42918E-02  444808.8 3762011.6   215.0     3.49     6.51     3.25
 YES
 L0000843         0   0.42918E-02  444794.8 3762011.8   215.0     3.49     6.51     3.25
 YES
 L0000844         0   0.42918E-02  444780.8 3762011.9   215.0     3.49     6.51     3.25
 YES
 L0000845         0   0.42918E-02  444766.8 3762012.1   214.9     3.49     6.51     3.25
 YES
 L0000846         0   0.42918E-02  444752.8 3762012.3   214.7     3.49     6.51     3.25
 YES
 L0000847         0   0.42918E-02  444738.8 3762012.4   214.3     3.49     6.51     3.25
 YES
 L0000848         0   0.42918E-02  444724.8 3762012.6   214.0     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
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L0000851	0	0.42918E-02	444682.8	3762013.1	214.0	3.49	6.51	3.25
YES								
L0000852	0	0.42918E-02	444668.8	3762013.2	214.0	3.49	6.51	3.25
YES								
L0000853	0	0.42918E-02	444654.8	3762013.4	214.0	3.49	6.51	3.25
YES								
L0000854	0	0.42918E-02	444640.8	3762013.5	213.9	3.49	6.51	3.25
YES								
L0000855	0	0.42918E-02	444626.8	3762013.7	213.9	3.49	6.51	3.25
YES								
L0000856	0	0.42918E-02	444612.8	3762013.9	213.9	3.49	6.51	3.25
YES								
L0000857	0	0.42918E-02	444598.8	3762014.0	214.0	3.49	6.51	3.25
YES								
L0000858	0	0.42918E-02	444584.8	3762014.2	214.0	3.49	6.51	3.25
YES								
L0000859	0	0.42918E-02	444570.8	3762014.3	214.3	3.49	6.51	3.25
YES								
L0000860	0	0.42918E-02	444556.8	3762014.5	214.7	3.49	6.51	3.25
YES								
L0000861	0	0.42918E-02	444542.8	3762014.6	215.0	3.49	6.51	3.25
YES								
L0000862	0	0.42918E-02	444528.8	3762014.8	215.0	3.49	6.51	3.25
YES								
L0000863	0	0.42918E-02	444514.8	3762015.0	215.0	3.49	6.51	3.25
YES								
L0000864	0	0.42918E-02	444500.8	3762015.1	215.0	3.49	6.51	3.25
YES								
L0000865	0	0.42918E-02	444486.8	3762015.3	215.0	3.49	6.51	3.25
YES								
L0000866	0	0.42918E-02	444472.8	3762015.4	215.0	3.49	6.51	3.25
YES								
L0001178	0	0.42918E-02	447615.6	3762407.2	223.5	3.49	6.51	3.25
YES								
L0001179	0	0.42918E-02	447601.6	3762407.0	223.4	3.49	6.51	3.25
YES								
L0001180	0	0.42918E-02	447587.6	3762406.9	223.4	3.49	6.51	3.25
YES								
L0001181	0	0.42918E-02	447573.6	3762406.7	223.4	3.49	6.51	3.25
YES								
L0001182	0	0.42918E-02	447559.6	3762406.5	223.4	3.49	6.51	3.25
YES								
L0001183	0	0.42918E-02	447545.6	3762406.4	223.4	3.49	6.51	3.25
YES								
L0001184	0	0.42918E-02	447531.6	3762406.2	223.4	3.49	6.51	3.25
YES								
L0001185	0	0.42918E-02	447517.6	3762406.0	223.4	3.49	6.51	3.25
YES								
L0001186	0	0.42918E-02	447503.6	3762405.9	223.6	3.49	6.51	3.25
YES								
L0001187	0	0.42918E-02	447489.6	3762405.7	223.7	3.49	6.51	3.25
YES								
L0001188	0	0.42918E-02	447475.6	3762405.5	223.7	3.49	6.51	3.25
YES								
L0001189	0	0.42918E-02	447461.6	3762405.4	223.7	3.49	6.51	3.25
YES								
L0001190	0	0.42918E-02	447447.6	3762405.2	223.7	3.49	6.51	3.25
YES								
L0001191	0	0.42918E-02	447433.6	3762405.0	223.7	3.49	6.51	3.25
YES								
L0001192	0	0.42918E-02	447419.6	3762404.8	223.7	3.49	6.51	3.25
YES								
L0001193	0	0.42918E-02	447405.6	3762404.7	223.7	3.49	6.51	3.25
YES								
L0001194	0	0.42918E-02	447391.6	3762404.5	223.7	3.49	6.51	3.25
YES								

L0001195 0 0.42918E-02 447377.6 3762404.3 223.7 3.49 6.51 3.25
YES
L0001196 0 0.42918E-02 447363.6 3762404.2 223.7 3.49 6.51 3.25
YES
L0001197 0 0.42918E-02 447349.6 3762404.0 223.7 3.49 6.51 3.25
YES
L0001198 0 0.42918E-02 447335.6 3762403.8 223.7 3.49 6.51 3.25
YES
L0001199 0 0.42918E-02 447321.6 3762403.7 223.7 3.49 6.51 3.25
YES
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 09:18:50

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SCALAR VARY BY
L0001200	0	0.42918E-02	447307.6	3762403.5	223.7	3.49	6.51	3.25	YES
L0001201	0	0.42918E-02	447293.6	3762403.3	223.7	3.49	6.51	3.25	YES
L0001202	0	0.42918E-02	447279.6	3762403.2	223.7	3.49	6.51	3.25	YES
L0001203	0	0.42918E-02	447265.6	3762403.0	223.7	3.49	6.51	3.25	YES
L0001204	0	0.42918E-02	447251.6	3762402.8	223.7	3.49	6.51	3.25	YES
L0001205	0	0.42918E-02	447237.6	3762402.6	223.7	3.49	6.51	3.25	YES
L0001206	0	0.42918E-02	447223.6	3762402.5	223.7	3.49	6.51	3.25	YES
L0001207	0	0.42918E-02	447209.6	3762402.3	223.6	3.49	6.51	3.25	YES
L0001208	0	0.42918E-02	447195.6	3762402.1	223.4	3.49	6.51	3.25	YES
L0001209	0	0.42918E-02	447181.6	3762402.0	223.4	3.49	6.51	3.25	YES
L0001210	0	0.42918E-02	447167.6	3762401.8	223.4	3.49	6.51	3.25	YES
L0001211	0	0.42918E-02	447153.6	3762401.6	223.3	3.49	6.51	3.25	YES
L0001212	0	0.42918E-02	447139.6	3762401.5	223.2	3.49	6.51	3.25	YES
L0001213	0	0.42918E-02	447125.6	3762401.3	223.1	3.49	6.51	3.25	YES
L0001214	0	0.42918E-02	447111.6	3762401.1	223.0	3.49	6.51	3.25	YES
L0001215	0	0.42918E-02	447097.6	3762401.0	223.0	3.49	6.51	3.25	YES
L0001216	0	0.42918E-02	447083.6	3762400.8	222.7	3.49	6.51	3.25	YES
L0001217	0	0.42918E-02	447069.6	3762400.6	222.5	3.49	6.51	3.25	YES

```
 L0001218         0   0.42918E-02  447055.6 3762400.5   222.4     3.49     6.51     3.25
 YES
 L0001219         0   0.42918E-02  447041.6 3762400.3   222.4     3.49     6.51     3.25
 YES
 L0001220         0   0.42918E-02  447027.6 3762400.1   222.4     3.49     6.51     3.25
 YES
 L0001221         0   0.42918E-02  447013.6 3762399.9   222.4     3.49     6.51     3.25
 YES
 L0001222         0   0.42918E-02  446999.6 3762399.8   222.5     3.49     6.51     3.25
 YES
 L0001223         0   0.42918E-02  446985.6 3762399.6   222.6     3.49     6.51     3.25
 YES
 L0001224         0   0.42918E-02  446971.6 3762399.4   222.8     3.49     6.51     3.25
 YES
 L0001225         0   0.42918E-02  446957.6 3762399.3   222.9     3.49     6.51     3.25
 YES
 L0001226         0   0.42918E-02  446943.6 3762399.1   223.0     3.49     6.51     3.25
 YES
 L0001227         0   0.42918E-02  446929.6 3762398.9   223.0     3.49     6.51     3.25
 YES
 L0001228         0   0.42918E-02  446915.6 3762398.8   223.1     3.49     6.51     3.25
 YES
 L0001229         0   0.42918E-02  446901.6 3762398.6   223.2     3.49     6.51     3.25
 YES
 L0001230         0   0.42918E-02  446887.6 3762398.4   223.3     3.49     6.51     3.25
 YES
 L0001231         0   0.42918E-02  446873.6 3762398.3   223.3     3.49     6.51     3.25
 YES
 L0001232         0   0.42918E-02  446859.6 3762398.1   223.3     3.49     6.51     3.25
 YES
 L0001233         0   0.42918E-02  446845.6 3762397.9   223.3     3.49     6.51     3.25
 YES
 L0001234         0   0.42918E-02  446831.6 3762397.7   223.3     3.49     6.51     3.25
 YES
 L0001235         0   0.42918E-02  446817.6 3762397.6   223.2     3.49     6.51     3.25
 YES
 L0001236         0   0.42918E-02  446803.6 3762397.4   223.1     3.49     6.51     3.25
 YES
 L0001237         0   0.42918E-02  446789.6 3762397.2   222.9     3.49     6.51     3.25
 YES
 L0001238         0   0.42918E-02  446775.7 3762396.6   222.8     3.49     6.51     3.25
 YES
 L0001239         0   0.42918E-02  446762.0 3762393.6   222.7     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
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 L0001240         0   0.42918E-02  446748.3 3762390.5   222.7     3.49     6.51     3.25
 YES
```

L0001241	0	0.42918E-02	446734.7	3762387.5	222.7	3.49	6.51	3.25
YES								
L0001242	0	0.42918E-02	446721.0	3762384.5	222.8	3.49	6.51	3.25
YES								
L0001243	0	0.42918E-02	446707.3	3762381.4	222.9	3.49	6.51	3.25
YES								
L0001244	0	0.42918E-02	446693.7	3762378.4	222.8	3.49	6.51	3.25
YES								
L0001245	0	0.42918E-02	446680.3	3762374.3	222.8	3.49	6.51	3.25
YES								
L0001246	0	0.42918E-02	446667.4	3762369.0	222.9	3.49	6.51	3.25
YES								
L0001247	0	0.42918E-02	446654.4	3762363.7	223.0	3.49	6.51	3.25
YES								
L0001248	0	0.42918E-02	446641.5	3762358.3	223.0	3.49	6.51	3.25
YES								
L0001249	0	0.42918E-02	446628.6	3762353.0	223.1	3.49	6.51	3.25
YES								
L0001250	0	0.42918E-02	446615.6	3762347.6	223.2	3.49	6.51	3.25
YES								
L0001251	0	0.42918E-02	446602.7	3762342.3	223.3	3.49	6.51	3.25
YES								
L0001252	0	0.42918E-02	446589.7	3762337.0	223.3	3.49	6.51	3.25
YES								
L0001253	0	0.42918E-02	446577.0	3762331.2	223.4	3.49	6.51	3.25
YES								
L0001254	0	0.42918E-02	446565.4	3762323.4	223.4	3.49	6.51	3.25
YES								
L0001255	0	0.42918E-02	446553.8	3762315.5	223.5	3.49	6.51	3.25
YES								
L0001256	0	0.42918E-02	446542.2	3762307.7	223.0	3.49	6.51	3.25
YES								
L0001257	0	0.42918E-02	446530.6	3762299.9	223.0	3.49	6.51	3.25
YES								
L0001258	0	0.42918E-02	446519.0	3762292.1	223.0	3.49	6.51	3.25
YES								
L0001259	0	0.42918E-02	446507.4	3762284.2	223.0	3.49	6.51	3.25
YES								
L0001260	0	0.42918E-02	446495.8	3762276.4	223.0	3.49	6.51	3.25
YES								
L0001261	0	0.42918E-02	446484.1	3762268.6	223.0	3.49	6.51	3.25
YES								
L0001262	0	0.42918E-02	446472.5	3762260.8	223.0	3.49	6.51	3.25
YES								
L0001263	0	0.42918E-02	446460.9	3762253.0	222.9	3.49	6.51	3.25
YES								
L0001264	0	0.42918E-02	446449.3	3762245.1	222.9	3.49	6.51	3.25
YES								
L0001265	0	0.42918E-02	446437.7	3762237.3	223.0	3.49	6.51	3.25
YES								
L0001266	0	0.42918E-02	446426.1	3762229.5	223.0	3.49	6.51	3.25
YES								
L0001267	0	0.42918E-02	446414.7	3762221.4	223.0	3.49	6.51	3.25
YES								
L0001268	0	0.42918E-02	446403.3	3762213.2	223.0	3.49	6.51	3.25
YES								
L0001269	0	0.42918E-02	446391.9	3762205.1	223.0	3.49	6.51	3.25
YES								
L0001270	0	0.42918E-02	446380.6	3762196.9	223.0	3.49	6.51	3.25
YES								
L0001271	0	0.42918E-02	446369.2	3762188.7	223.0	3.49	6.51	3.25
YES								
L0001272	0	0.42918E-02	446357.8	3762180.5	223.0	3.49	6.51	3.25
YES								
L0001273	0	0.42918E-02	446346.5	3762172.4	222.9	3.49	6.51	3.25
YES								

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 L0001274         0   0.42918E-02  446335.1 3762164.2   222.5     3.49     6.51     3.25
 YES
 L0001275         0   0.42918E-02  446323.7 3762156.0   222.1     3.49     6.51     3.25
 YES
 L0001276         0   0.42918E-02  446312.4 3762147.8   222.0     3.49     6.51     3.25
 YES
 L0001277         0   0.42918E-02  446301.0 3762139.7   222.0     3.49     6.51     3.25
 YES
 L0001278         0   0.42918E-02  446289.6 3762131.5   222.0     3.49     6.51     3.25
 YES
 L0001279         0   0.42918E-02  446278.3 3762123.3   221.8     3.49     6.51     3.25
 YES
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 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
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 L0001280         0   0.42918E-02  446266.9 3762115.1   221.5     3.49     6.51     3.25
 YES
 L0001281         0   0.42918E-02  446255.5 3762107.0   221.0     3.49     6.51     3.25
 YES
 L0001282         0   0.42918E-02  446244.2 3762098.8   221.0     3.49     6.51     3.25
 YES
 L0001283         0   0.42918E-02  446232.8 3762090.6   221.0     3.49     6.51     3.25
 YES
 L0001284         0   0.42918E-02  446220.9 3762083.3   220.9     3.49     6.51     3.25
 YES
 L0001285         0   0.42918E-02  446208.7 3762076.4   221.0     3.49     6.51     3.25
 YES
 L0001286         0   0.42918E-02  446196.5 3762069.5   220.9     3.49     6.51     3.25
 YES
 L0001287         0   0.42918E-02  446184.4 3762062.6   220.7     3.49     6.51     3.25
 YES
 L0001288         0   0.42918E-02  446172.2 3762055.7   220.7     3.49     6.51     3.25
 YES
 L0001289         0   0.42918E-02  446160.0 3762048.8   220.6     3.49     6.51     3.25
 YES
 L0001290         0   0.42918E-02  446147.6 3762042.4   220.2     3.49     6.51     3.25
 YES
 L0001291         0   0.42918E-02  446134.4 3762037.7   219.9     3.49     6.51     3.25
 YES
 L0001292         0   0.42918E-02  446121.2 3762033.0   219.7     3.49     6.51     3.25
 YES
 L0001293         0   0.42918E-02  446108.0 3762028.2   219.6     3.49     6.51     3.25
 YES
 L0001294         0   0.42918E-02  446094.5 3762024.6   219.4     3.49     6.51     3.25
 YES
 L0001295         0   0.42918E-02  446081.0 3762020.9   219.0     3.49     6.51     3.25
 YES
 L0001296         0   0.42918E-02  446067.5 3762017.3   218.6     3.49     6.51     3.25
 YES
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 L0001297         0   0.42918E-02  446054.0 3762013.6   218.2     3.49     6.51     3.25
 YES
 L0001298         0   0.42918E-02  446040.3 3762010.9   218.0     3.49     6.51     3.25
 YES
 L0001299         0   0.42918E-02  446026.3 3762009.9   217.8     3.49     6.51     3.25
 YES
 L0001300         0   0.42918E-02  446012.4 3762008.8   217.8     3.49     6.51     3.25
 YES
 L0001301         0   0.42918E-02  445998.4 3762007.8   217.7     3.49     6.51     3.25
 YES
 L0001302         0   0.42918E-02  445984.5 3762006.7   217.6     3.49     6.51     3.25
 YES
 L0001303         0   0.42918E-02  445970.5 3762005.6   217.2     3.49     6.51     3.25
 YES
 L0001304         0   0.42918E-02  445956.5 3762004.6   217.0     3.49     6.51     3.25
 YES
 L0001305         0   0.42918E-02  445942.6 3762003.5   217.0     3.49     6.51     3.25
 YES
 L0001306         0   0.42918E-02  445928.6 3762002.5   217.0     3.49     6.51     3.25
 YES
 L0001307         0   0.42918E-02  445914.7 3762001.4   217.0     3.49     6.51     3.25
 YES
 L0001308         0   0.42918E-02  445900.7 3762000.4   217.0     3.49     6.51     3.25
 YES
 L0001309         0   0.42918E-02  445886.7 3761999.4   217.0     3.49     6.51     3.25
 YES
 L0001310         0   0.42918E-02  445872.7 3761999.5   217.0     3.49     6.51     3.25
 YES
 L0001311         0   0.42918E-02  445858.7 3761999.7   217.0     3.49     6.51     3.25
 YES
 L0001312         0   0.42918E-02  445844.7 3761999.9   217.0     3.49     6.51     3.25
 YES
 L0001313         0   0.42918E-02  445830.7 3762000.0   217.0     3.49     6.51     3.25
 YES
 L0001314         0   0.42918E-02  445816.7 3762000.2   217.0     3.49     6.51     3.25
 YES
 L0001315         0   0.42918E-02  445802.7 3762000.3   217.0     3.49     6.51     3.25
 YES
 L0001316         0   0.42918E-02  445788.7 3762000.5   217.0     3.49     6.51     3.25
 YES
 L0001317         0   0.42918E-02  445774.7 3762000.7   217.0     3.49     6.51     3.25
 YES
 L0001318         0   0.42918E-02  445760.7 3762000.8   217.0     3.49     6.51     3.25
 YES
 L0001319         0   0.42918E-02  445746.7 3762001.0   217.0     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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L0001320	0	0.42918E-02	445732.7	3762001.1	217.0	3.49	6.51	3.25
YES								
L0001321	0	0.42918E-02	445718.7	3762001.3	217.0	3.49	6.51	3.25
YES								
L0001322	0	0.42918E-02	445704.7	3762001.5	216.8	3.49	6.51	3.25
YES								
L0001323	0	0.42918E-02	445690.7	3762001.6	216.5	3.49	6.51	3.25
YES								
L0001324	0	0.42918E-02	445676.7	3762001.8	216.5	3.49	6.51	3.25
YES								
L0001325	0	0.42918E-02	445662.7	3762001.9	216.5	3.49	6.51	3.25
YES								
L0001326	0	0.42918E-02	445648.7	3762002.1	216.3	3.49	6.51	3.25
YES								
L0001327	0	0.42918E-02	445634.7	3762002.2	216.1	3.49	6.51	3.25
YES								
L0001328	0	0.42918E-02	445620.7	3762002.4	216.0	3.49	6.51	3.25
YES								
L0001329	0	0.42918E-02	445606.7	3762002.6	216.0	3.49	6.51	3.25
YES								
L0001330	0	0.42918E-02	445592.8	3762002.7	216.0	3.49	6.51	3.25
YES								
L0001331	0	0.42918E-02	445578.8	3762002.9	216.0	3.49	6.51	3.25
YES								
L0001332	0	0.42918E-02	445564.8	3762003.0	215.9	3.49	6.51	3.25
YES								
L0001333	0	0.42918E-02	445550.8	3762003.2	215.7	3.49	6.51	3.25
YES								
L0001334	0	0.42918E-02	445536.8	3762003.4	215.6	3.49	6.51	3.25
YES								
L0001335	0	0.42918E-02	445522.8	3762003.5	215.6	3.49	6.51	3.25
YES								
L0001336	0	0.42918E-02	445508.8	3762003.7	215.6	3.49	6.51	3.25
YES								
L0001337	0	0.42918E-02	445494.8	3762003.8	215.6	3.49	6.51	3.25
YES								
L0001338	0	0.42918E-02	445480.8	3762004.0	215.6	3.49	6.51	3.25
YES								
L0001339	0	0.42918E-02	445466.8	3762004.2	215.6	3.49	6.51	3.25
YES								
L0001340	0	0.42918E-02	445452.8	3762004.3	215.6	3.49	6.51	3.25
YES								
L0001341	0	0.42918E-02	445438.8	3762004.5	215.6	3.49	6.51	3.25
YES								
L0001342	0	0.42918E-02	445424.8	3762004.6	215.6	3.49	6.51	3.25
YES								
L0001343	0	0.42918E-02	445410.8	3762004.8	215.6	3.49	6.51	3.25
YES								
L0001344	0	0.42918E-02	445396.8	3762005.0	215.6	3.49	6.51	3.25
YES								
L0001345	0	0.42918E-02	445382.8	3762005.1	215.6	3.49	6.51	3.25
YES								
L0001346	0	0.42918E-02	445368.8	3762005.3	215.6	3.49	6.51	3.25
YES								
L0001347	0	0.42918E-02	445354.8	3762005.4	215.6	3.49	6.51	3.25
YES								
L0001348	0	0.42918E-02	445340.8	3762005.6	215.6	3.49	6.51	3.25
YES								
L0001349	0	0.42918E-02	445326.8	3762005.7	215.7	3.49	6.51	3.25
YES								
L0001350	0	0.42918E-02	445312.8	3762005.9	215.7	3.49	6.51	3.25
YES								
L0001351	0	0.42918E-02	445298.8	3762006.1	215.7	3.49	6.51	3.25
YES								
L0001352	0	0.42918E-02	445284.8	3762006.2	215.7	3.49	6.51	3.25
YES								

L0001353 0 0.42918E-02 445270.8 3762006.4 215.7 3.49 6.51 3.25
YES
L0001354 0 0.42918E-02 445256.8 3762006.5 215.7 3.49 6.51 3.25
YES
L0001355 0 0.42918E-02 445242.8 3762006.7 215.7 3.49 6.51 3.25
YES
L0001356 0 0.42918E-02 445228.8 3762006.9 215.7 3.49 6.51 3.25
YES
L0001357 0 0.42918E-02 445214.8 3762007.0 215.7 3.49 6.51 3.25
YES
L0001358 0 0.42918E-02 445200.8 3762007.2 215.7 3.49 6.51 3.25
YES
L0001359 0 0.42918E-02 445186.8 3762007.3 215.7 3.49 6.51 3.25
YES

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SCALAR VARY BY
L0001360	0	0.42918E-02	445172.8	3762007.5	215.7	3.49	6.51	3.25	YES
L0001361	0	0.42918E-02	445158.8	3762007.7	215.7	3.49	6.51	3.25	YES
L0001362	0	0.42918E-02	445144.8	3762007.8	215.7	3.49	6.51	3.25	YES
L0001363	0	0.42918E-02	445130.8	3762008.0	215.7	3.49	6.51	3.25	YES
L0001364	0	0.42918E-02	445116.8	3762008.1	215.7	3.49	6.51	3.25	YES
L0001365	0	0.42918E-02	445102.8	3762008.3	215.7	3.49	6.51	3.25	YES
L0001366	0	0.42918E-02	445088.8	3762008.4	215.7	3.49	6.51	3.25	YES
L0001367	0	0.42918E-02	445074.8	3762008.6	215.4	3.49	6.51	3.25	YES
L0001368	0	0.42918E-02	445060.8	3762008.8	215.0	3.49	6.51	3.25	YES
L0001369	0	0.42918E-02	445046.8	3762008.9	215.0	3.49	6.51	3.25	YES
L0001370	0	0.42918E-02	445032.8	3762009.1	215.0	3.49	6.51	3.25	YES
L0001371	0	0.42918E-02	445018.8	3762009.2	215.0	3.49	6.51	3.25	YES
L0001372	0	0.42918E-02	445004.8	3762009.4	215.0	3.49	6.51	3.25	YES
L0001373	0	0.42918E-02	444990.8	3762009.6	215.0	3.49	6.51	3.25	YES
L0001374	0	0.42918E-02	444976.8	3762009.7	215.0	3.49	6.51	3.25	YES
L0001375	0	0.42918E-02	444962.8	3762009.9	215.0	3.49	6.51	3.25	YES

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 L0001376         0   0.42918E-02  444948.8 3762010.0   215.0     3.49     6.51     3.25
 YES
 L0001377         0   0.42918E-02  444934.8 3762010.2   215.0     3.49     6.51     3.25
 YES
 L0001378         0   0.42918E-02  444920.8 3762010.4   215.0     3.49     6.51     3.25
 YES
 L0001379         0   0.42918E-02  444906.8 3762010.5   215.0     3.49     6.51     3.25
 YES
 L0001380         0   0.42918E-02  444892.8 3762010.7   215.0     3.49     6.51     3.25
 YES
 L0001381         0   0.42918E-02  444878.8 3762010.8   215.0     3.49     6.51     3.25
 YES
 L0001382         0   0.42918E-02  444864.8 3762011.0   215.0     3.49     6.51     3.25
 YES
 L0001383         0   0.42918E-02  444850.8 3762011.2   215.0     3.49     6.51     3.25
 YES
 L0001384         0   0.42918E-02  444836.8 3762011.3   215.0     3.49     6.51     3.25
 YES
 L0001385         0   0.42918E-02  444822.8 3762011.5   215.0     3.49     6.51     3.25
 YES
 L0001386         0   0.42918E-02  444808.8 3762011.6   215.0     3.49     6.51     3.25
 YES
 L0001387         0   0.42918E-02  444794.8 3762011.8   215.0     3.49     6.51     3.25
 YES
 L0001388         0   0.42918E-02  444780.8 3762011.9   215.0     3.49     6.51     3.25
 YES
 L0001389         0   0.42918E-02  444766.8 3762012.1   214.9     3.49     6.51     3.25
 YES
 L0001390         0   0.42918E-02  444752.8 3762012.3   214.7     3.49     6.51     3.25
 YES
 L0001391         0   0.42918E-02  444738.8 3762012.4   214.3     3.49     6.51     3.25
 YES
 L0001392         0   0.42918E-02  444724.8 3762012.6   214.0     3.49     6.51     3.25
 YES
 L0001393         0   0.42918E-02  444710.8 3762012.7   214.0     3.49     6.51     3.25
 YES
 L0001394         0   0.42918E-02  444696.8 3762012.9   214.0     3.49     6.51     3.25
 YES
 L0001395         0   0.42918E-02  444682.8 3762013.1   214.0     3.49     6.51     3.25
 YES
 L0001396         0   0.42918E-02  444668.8 3762013.2   214.0     3.49     6.51     3.25
 YES
 L0001397         0   0.42918E-02  444654.8 3762013.4   214.0     3.49     6.51     3.25
 YES
 L0001398         0   0.42918E-02  444640.8 3762013.5   213.9     3.49     6.51     3.25
 YES
 L0001399         0   0.42918E-02  444626.8 3762013.7   213.9     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
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L0001400	0	0.42918E-02	444612.8	3762013.9	213.9	3.49	6.51	3.25
YES								
L0001401	0	0.42918E-02	444598.8	3762014.0	214.0	3.49	6.51	3.25
YES								
L0001402	0	0.42918E-02	444584.8	3762014.2	214.0	3.49	6.51	3.25
YES								
L0001403	0	0.42918E-02	444570.8	3762014.3	214.3	3.49	6.51	3.25
YES								
L0001404	0	0.42918E-02	444556.8	3762014.5	214.7	3.49	6.51	3.25
YES								
L0001405	0	0.42918E-02	444542.8	3762014.6	215.0	3.49	6.51	3.25
YES								
L0001406	0	0.42918E-02	444528.8	3762014.8	215.0	3.49	6.51	3.25
YES								
L0001407	0	0.42918E-02	444514.8	3762015.0	215.0	3.49	6.51	3.25
YES								
L0001408	0	0.42918E-02	444500.8	3762015.1	215.0	3.49	6.51	3.25
YES								
L0001409	0	0.42918E-02	444486.8	3762015.3	215.0	3.49	6.51	3.25
YES								
L0001410	0	0.42918E-02	444472.8	3762015.4	215.0	3.49	6.51	3.25
YES								
L0000867	0	0.17544E-01	447633.2	3762406.0	223.7	3.49	6.51	3.25
YES								
L0000868	0	0.17544E-01	447647.2	3762405.7	223.7	3.49	6.51	3.25
YES								
L0000869	0	0.17544E-01	447661.2	3762405.4	223.7	3.49	6.51	3.25
YES								
L0000870	0	0.17544E-01	447675.2	3762405.2	223.8	3.49	6.51	3.25
YES								
L0000871	0	0.17544E-01	447689.2	3762404.9	223.9	3.49	6.51	3.25
YES								
L0000872	0	0.17544E-01	447703.2	3762404.7	224.0	3.49	6.51	3.25
YES								
L0000873	0	0.17544E-01	447717.2	3762404.4	224.0	3.49	6.51	3.25
YES								
L0000874	0	0.17544E-01	447731.2	3762404.1	224.0	3.49	6.51	3.25
YES								
L0000875	0	0.17544E-01	447745.2	3762403.9	224.2	3.49	6.51	3.25
YES								
L0000876	0	0.17544E-01	447759.2	3762403.6	224.3	3.49	6.51	3.25
YES								
L0000877	0	0.17544E-01	447773.1	3762403.3	224.3	3.49	6.51	3.25
YES								
L0000878	0	0.17544E-01	447787.1	3762403.1	224.3	3.49	6.51	3.25
YES								
L0000879	0	0.17544E-01	447801.1	3762402.8	224.4	3.49	6.51	3.25
YES								
L0000880	0	0.17544E-01	447815.1	3762402.6	224.6	3.49	6.51	3.25
YES								
L0000881	0	0.17544E-01	447829.1	3762402.3	224.6	3.49	6.51	3.25
YES								
L0000882	0	0.17544E-01	447843.1	3762402.0	224.6	3.49	6.51	3.25
YES								
L0000883	0	0.17544E-01	447857.1	3762401.8	224.7	3.49	6.51	3.25
YES								
L0000884	0	0.17544E-01	447871.1	3762401.5	224.8	3.49	6.51	3.25
YES								
L0000885	0	0.17544E-01	447885.1	3762401.2	225.0	3.49	6.51	3.25
YES								
L0000886	0	0.17544E-01	447899.1	3762401.0	225.1	3.49	6.51	3.25
YES								
L0000887	0	0.17544E-01	447913.1	3762400.7	225.2	3.49	6.51	3.25
YES								

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 L0000888         0   0.17544E-01  447927.1 3762400.5   225.3     3.49     6.51     3.25
 YES
 L0000889         0   0.17544E-01  447941.1 3762400.2   225.4     3.49     6.51     3.25
 YES
 L0000890         0   0.17544E-01  447955.1 3762399.9   225.5     3.49     6.51     3.25
 YES
 L0000891         0   0.17544E-01  447969.1 3762399.7   225.6     3.49     6.51     3.25
 YES
 L0000892         0   0.17544E-01  447983.1 3762399.4   225.6     3.49     6.51     3.25
 YES
 L0000893         0   0.17544E-01  447997.1 3762399.1   225.6     3.49     6.51     3.25
 YES
 L0000894         0   0.17544E-01  448011.1 3762398.9   225.6     3.49     6.51     3.25
 YES
 L0000895         0   0.17544E-01  448025.1 3762398.6   225.6     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
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 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
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 L0000896         0   0.17544E-01  448039.1 3762398.4   225.5     3.49     6.51     3.25
 YES
 L0000897         0   0.17544E-01  448053.1 3762398.1   225.4     3.49     6.51     3.25
 YES
 L0000898         0   0.17544E-01  448067.1 3762397.8   225.3     3.49     6.51     3.25
 YES
 L0000899         0   0.17544E-01  448081.1 3762397.6   225.1     3.49     6.51     3.25
 YES
 L0000900         0   0.17544E-01  448095.1 3762397.3   224.9     3.49     6.51     3.25
 YES
 L0000901         0   0.17544E-01  448109.1 3762397.0   224.9     3.49     6.51     3.25
 YES
 L0000902         0   0.17544E-01  448123.1 3762396.8   224.9     3.49     6.51     3.25
 YES
 L0000903         0   0.17544E-01  448137.1 3762396.5   224.8     3.49     6.51     3.25
 YES
 L0000904         0   0.17544E-01  448151.1 3762396.3   224.9     3.49     6.51     3.25
 YES
 L0000905         0   0.17544E-01  448165.1 3762396.0   224.9     3.49     6.51     3.25
 YES
 L0000906         0   0.17544E-01  448179.1 3762395.7   224.9     3.49     6.51     3.25
 YES
 L0000907         0   0.17544E-01  448193.1 3762395.5   225.0     3.49     6.51     3.25
 YES
 L0000908         0   0.17544E-01  448207.1 3762395.2   225.1     3.49     6.51     3.25
 YES
 L0000909         0   0.17544E-01  448221.1 3762394.9   225.2     3.49     6.51     3.25
 YES
 L0000910         0   0.17544E-01  448235.1 3762394.7   225.4     3.49     6.51     3.25
 YES
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 L0000911         0   0.17544E-01  448249.1 3762394.4   225.4     3.49     6.51     3.25
 YES
 L0000912         0   0.17544E-01  448263.1 3762394.2   225.4     3.49     6.51     3.25
 YES
 L0000913         0   0.17544E-01  448277.1 3762393.9   225.5     3.49     6.51     3.25
 YES
 L0000914         0   0.17544E-01  448291.1 3762393.6   225.5     3.49     6.51     3.25
 YES
 L0000915         0   0.17544E-01  448305.1 3762393.4   225.6     3.49     6.51     3.25
 YES
 L0000916         0   0.17544E-01  448319.1 3762393.1   225.6     3.49     6.51     3.25
 YES
 L0000917         0   0.17544E-01  448333.1 3762392.8   225.5     3.49     6.51     3.25
 YES
 L0000918         0   0.17544E-01  448347.0 3762392.6   225.5     3.49     6.51     3.25
 YES
 L0000919         0   0.17544E-01  448361.0 3762392.3   225.4     3.49     6.51     3.25
 YES
 L0000920         0   0.17544E-01  448375.0 3762392.1   225.3     3.49     6.51     3.25
 YES
 L0000921         0   0.17544E-01  448389.0 3762391.8   225.2     3.49     6.51     3.25
 YES
 L0000922         0   0.17544E-01  448403.0 3762391.5   225.2     3.49     6.51     3.25
 YES
 L0000923         0   0.17544E-01  448417.0 3762391.3   225.1     3.49     6.51     3.25
 YES
 L0001701         0   0.17544E-01  447633.2 3762406.0   223.7     3.49     6.51     3.25
 YES
 L0001702         0   0.17544E-01  447647.2 3762405.7   223.7     3.49     6.51     3.25
 YES
 L0001703         0   0.17544E-01  447661.2 3762405.4   223.7     3.49     6.51     3.25
 YES
 L0001704         0   0.17544E-01  447675.2 3762405.2   223.8     3.49     6.51     3.25
 YES
 L0001705         0   0.17544E-01  447689.2 3762404.9   223.9     3.49     6.51     3.25
 YES
 L0001706         0   0.17544E-01  447703.2 3762404.7   224.0     3.49     6.51     3.25
 YES
 L0001707         0   0.17544E-01  447717.2 3762404.4   224.0     3.49     6.51     3.25
 YES
 L0001708         0   0.17544E-01  447731.2 3762404.1   224.0     3.49     6.51     3.25
 YES
 L0001709         0   0.17544E-01  447745.2 3762403.9   224.2     3.49     6.51     3.25
 YES
 L0001710         0   0.17544E-01  447759.2 3762403.6   224.3     3.49     6.51     3.25
 YES
 L0001711         0   0.17544E-01  447773.1 3762403.3   224.3     3.49     6.51     3.25
 YES
 L0001712         0   0.17544E-01  447787.1 3762403.1   224.3     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.              (METERS) (METERS) (METERS) (METERS) (METERS)
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(METERS) BY

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L0001744 0 0.17544E-01 448235.1 3762394.7 225.4 3.49 6.51 3.25
YES
L0001745 0 0.17544E-01 448249.1 3762394.4 225.4 3.49 6.51 3.25
YES
L0001746 0 0.17544E-01 448263.1 3762394.2 225.4 3.49 6.51 3.25
YES
L0001747 0 0.17544E-01 448277.1 3762393.9 225.5 3.49 6.51 3.25
YES
L0001748 0 0.17544E-01 448291.1 3762393.6 225.5 3.49 6.51 3.25
YES
L0001749 0 0.17544E-01 448305.1 3762393.4 225.6 3.49 6.51 3.25
YES
L0001750 0 0.17544E-01 448319.1 3762393.1 225.6 3.49 6.51 3.25
YES
L0001751 0 0.17544E-01 448333.1 3762392.8 225.5 3.49 6.51 3.25
YES
L0001752 0 0.17544E-01 448347.0 3762392.6 225.5 3.49 6.51 3.25
YES

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	SCALAR VARY BY
L0001753	0	0.17544E-01	448361.0	3762392.3	225.4	3.49	6.51	3.25	YES
L0001754	0	0.17544E-01	448375.0	3762392.1	225.3	3.49	6.51	3.25	YES
L0001755	0	0.17544E-01	448389.0	3762391.8	225.2	3.49	6.51	3.25	YES
L0001756	0	0.17544E-01	448403.0	3762391.5	225.2	3.49	6.51	3.25	YES
L0001757	0	0.17544E-01	448417.0	3762391.3	225.1	3.49	6.51	3.25	YES
L0000924	0	0.52356E-02	448433.8	3762397.3	225.2	3.49	6.51	3.25	YES
L0000925	0	0.52356E-02	448433.9	3762411.3	225.3	3.49	6.51	3.25	YES
L0000926	0	0.52356E-02	448434.0	3762425.3	225.4	3.49	6.51	3.25	YES
L0000927	0	0.52356E-02	448434.2	3762439.3	225.6	3.49	6.51	3.25	YES
L0000928	0	0.52356E-02	448434.3	3762453.3	225.7	3.49	6.51	3.25	YES
L0000929	0	0.52356E-02	448434.4	3762467.3	225.9	3.49	6.51	3.25	YES
L0000930	0	0.52356E-02	448434.6	3762481.3	226.0	3.49	6.51	3.25	YES
L0000931	0	0.52356E-02	448434.7	3762495.3	226.2	3.49	6.51	3.25	YES
L0000932	0	0.52356E-02	448434.8	3762509.3	226.3	3.49	6.51	3.25	YES

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 L0000933         0   0.52356E-02  448434.9 3762523.3   226.4     3.49     6.51     3.25
 YES
 L0000934         0   0.52356E-02  448435.1 3762537.3   226.6     3.49     6.51     3.25
 YES
 L0000935         0   0.52356E-02  448435.2 3762551.3   226.7     3.49     6.51     3.25
 YES
 L0000936         0   0.52356E-02  448435.3 3762565.3   226.9     3.49     6.51     3.25
 YES
 L0000937         0   0.52356E-02  448435.5 3762579.3   227.0     3.49     6.51     3.25
 YES
 L0000938         0   0.52356E-02  448435.6 3762593.3   227.2     3.49     6.51     3.25
 YES
 L0000939         0   0.52356E-02  448435.7 3762607.3   227.3     3.49     6.51     3.25
 YES
 L0000940         0   0.52356E-02  448435.9 3762621.3   227.4     3.49     6.51     3.25
 YES
 L0000941         0   0.52356E-02  448436.0 3762635.3   227.6     3.49     6.51     3.25
 YES
 L0000942         0   0.52356E-02  448436.1 3762649.3   227.7     3.49     6.51     3.25
 YES
 L0000943         0   0.52356E-02  448436.3 3762663.3   227.9     3.49     6.51     3.25
 YES
 L0000944         0   0.52356E-02  448436.4 3762677.3   228.1     3.49     6.51     3.25
 YES
 L0000945         0   0.52356E-02  448436.5 3762691.3   228.3     3.49     6.51     3.25
 YES
 L0000946         0   0.52356E-02  448436.7 3762705.3   228.4     3.49     6.51     3.25
 YES
 L0000947         0   0.52356E-02  448436.8 3762719.3   228.5     3.49     6.51     3.25
 YES
 L0000948         0   0.52356E-02  448436.9 3762733.3   228.6     3.49     6.51     3.25
 YES
 L0000949         0   0.52356E-02  448437.1 3762747.3   228.7     3.49     6.51     3.25
 YES
 L0000950         0   0.52356E-02  448437.2 3762761.3   228.9     3.49     6.51     3.25
 YES
 L0000951         0   0.52356E-02  448437.3 3762775.3   228.9     3.49     6.51     3.25
 YES
 L0000952         0   0.52356E-02  448437.5 3762789.3   228.9     3.49     6.51     3.25
 YES
 L0000953         0   0.52356E-02  448437.6 3762803.3   228.9     3.49     6.51     3.25
 YES
 L0000954         0   0.52356E-02  448437.7 3762817.3   228.9     3.49     6.51     3.25
 YES
 L0000955         0   0.52356E-02  448437.8 3762831.3   228.9     3.49     6.51     3.25
 YES
 L0000956         0   0.52356E-02  448438.0 3762845.3   228.9     3.49     6.51     3.25
 YES
 L0000957         0   0.52356E-02  448438.1 3762859.3   228.9     3.49     6.51     3.25
 YES
 L0000958         0   0.52356E-02  448438.4 3762873.3   229.0     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
```

SOURCE ID	SCALAR VARY CATS.		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)	BY
L0000959	0	0.52356E-02	448438.6	3762887.3	229.1	3.49	6.51	3.25	YES
L0000960	0	0.52356E-02	448438.9	3762901.3	229.1	3.49	6.51	3.25	YES
L0000961	0	0.52356E-02	448439.2	3762915.3	229.1	3.49	6.51	3.25	YES
L0000962	0	0.52356E-02	448439.4	3762929.3	229.1	3.49	6.51	3.25	YES
L0000963	0	0.52356E-02	448439.7	3762943.3	229.1	3.49	6.51	3.25	YES
L0000964	0	0.52356E-02	448440.0	3762957.3	229.3	3.49	6.51	3.25	YES
L0000965	0	0.52356E-02	448440.3	3762971.3	229.6	3.49	6.51	3.25	YES
L0000966	0	0.52356E-02	448440.5	3762985.3	229.8	3.49	6.51	3.25	YES
L0000967	0	0.52356E-02	448440.8	3762999.3	230.0	3.49	6.51	3.25	YES
L0000968	0	0.52356E-02	448441.1	3763013.3	230.1	3.49	6.51	3.25	YES
L0000969	0	0.52356E-02	448441.3	3763027.3	230.3	3.49	6.51	3.25	YES
L0000970	0	0.52356E-02	448441.6	3763041.3	230.5	3.49	6.51	3.25	YES
L0000971	0	0.52356E-02	448441.9	3763055.3	230.7	3.49	6.51	3.25	YES
L0000972	0	0.52356E-02	448442.1	3763069.3	230.8	3.49	6.51	3.25	YES
L0000973	0	0.52356E-02	448442.4	3763083.2	231.0	3.49	6.51	3.25	YES
L0000974	0	0.52356E-02	448442.6	3763097.2	231.1	3.49	6.51	3.25	YES
L0000975	0	0.52356E-02	448442.8	3763111.2	231.3	3.49	6.51	3.25	YES
L0000976	0	0.52356E-02	448443.1	3763125.2	231.4	3.49	6.51	3.25	YES
L0000977	0	0.52356E-02	448443.3	3763139.2	231.5	3.49	6.51	3.25	YES
L0000978	0	0.52356E-02	448443.6	3763153.2	231.6	3.49	6.51	3.25	YES
L0000979	0	0.52356E-02	448443.8	3763167.2	231.8	3.49	6.51	3.25	YES
L0000980	0	0.52356E-02	448444.1	3763181.2	231.9	3.49	6.51	3.25	YES
L0000981	0	0.52356E-02	448444.3	3763195.2	232.0	3.49	6.51	3.25	YES
L0000982	0	0.52356E-02	448444.6	3763209.2	232.2	3.49	6.51	3.25	YES
L0000983	0	0.52356E-02	448444.8	3763223.2	232.3	3.49	6.51	3.25	YES
L0000984	0	0.52356E-02	448445.1	3763237.2	232.5	3.49	6.51	3.25	YES
L0000985	0	0.52356E-02	448445.3	3763251.2	232.6	3.49	6.51	3.25	YES
L0000986	0	0.52356E-02	448445.6	3763265.2	232.8	3.49	6.51	3.25	YES
L0000987	0	0.52356E-02	448445.8	3763279.2	233.0	3.49	6.51	3.25	YES
L0000988	0	0.52356E-02	448446.1	3763293.2	233.2	3.49	6.51	3.25	YES

L0000989 0 0.52356E-02 448446.3 3763307.2 233.5 3.49 6.51 3.25
YES
L0000990 0 0.52356E-02 448446.6 3763321.2 233.6 3.49 6.51 3.25
YES
L0000991 0 0.52356E-02 448446.8 3763335.2 233.8 3.49 6.51 3.25
YES
L0000992 0 0.52356E-02 448447.0 3763349.2 233.9 3.49 6.51 3.25
YES
L0000993 0 0.52356E-02 448447.3 3763363.2 234.1 3.49 6.51 3.25
YES
L0000994 0 0.52356E-02 448447.5 3763377.2 234.2 3.49 6.51 3.25
YES
L0000995 0 0.52356E-02 448447.8 3763391.2 234.3 3.49 6.51 3.25
YES
L0000996 0 0.52356E-02 448448.0 3763405.2 234.5 3.49 6.51 3.25
YES
L0000997 0 0.52356E-02 448448.3 3763419.2 234.6 3.49 6.51 3.25
YES
L0000998 0 0.52356E-02 448448.5 3763433.2 234.8 3.49 6.51 3.25
YES
FF *** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 09:18:50

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART.	EMISSION RATE (GRAMS/SEC) SCALAR VARY BY	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ
L0000999	0	0.52356E-02	448448.8	3763447.2	234.9	3.49	6.51	3.25
YES								
L0001000	0	0.52356E-02	448449.0	3763461.2	235.1	3.49	6.51	3.25
YES								
L0001001	0	0.52356E-02	448449.3	3763475.2	235.2	3.49	6.51	3.25
YES								
L0001002	0	0.52356E-02	448449.5	3763489.2	235.4	3.49	6.51	3.25
YES								
L0001003	0	0.52356E-02	448449.8	3763503.2	235.7	3.49	6.51	3.25
YES								
L0001004	0	0.52356E-02	448450.0	3763517.2	235.9	3.49	6.51	3.25
YES								
L0001005	0	0.52356E-02	448450.3	3763531.2	236.2	3.49	6.51	3.25
YES								
L0001006	0	0.52356E-02	448450.5	3763545.2	236.5	3.49	6.51	3.25
YES								
L0001007	0	0.52356E-02	448450.8	3763559.2	236.8	3.49	6.51	3.25
YES								
L0001008	0	0.52356E-02	448451.0	3763573.2	237.1	3.49	6.51	3.25
YES								
L0001009	0	0.52356E-02	448451.2	3763587.2	237.2	3.49	6.51	3.25
YES								
L0001010	0	0.52356E-02	448451.5	3763601.2	237.4	3.49	6.51	3.25
YES								
L0001011	0	0.52356E-02	448451.7	3763615.2	237.5	3.49	6.51	3.25
YES								

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 L0001012         0   0.52356E-02  448451.9 3763629.2   237.7     3.49     6.51     3.25
 YES
 L0001013         0   0.52356E-02  448452.1 3763643.2   237.7     3.49     6.51     3.25
 YES
 L0001014         0   0.52356E-02  448452.3 3763657.2   237.7     3.49     6.51     3.25
 YES
 L0001015         0   0.52356E-02  448452.6 3763671.2   237.8     3.49     6.51     3.25
 YES
 L0001016         0   0.52356E-02  448452.8 3763685.2   238.1     3.49     6.51     3.25
 YES
 L0001017         0   0.52356E-02  448453.0 3763699.2   238.3     3.49     6.51     3.25
 YES
 L0001018         0   0.52356E-02  448453.2 3763713.2   238.3     3.49     6.51     3.25
 YES
 L0001019         0   0.52356E-02  448453.4 3763727.2   238.3     3.49     6.51     3.25
 YES
 L0001020         0   0.52356E-02  448453.6 3763741.2   238.5     3.49     6.51     3.25
 YES
 L0001021         0   0.52356E-02  448453.8 3763755.1   238.6     3.49     6.51     3.25
 YES
 L0001022         0   0.52356E-02  448454.1 3763769.1   238.7     3.49     6.51     3.25
 YES
 L0001023         0   0.52356E-02  448454.3 3763783.1   238.9     3.49     6.51     3.25
 YES
 L0001024         0   0.52356E-02  448454.5 3763797.1   239.0     3.49     6.51     3.25
 YES
 L0001025         0   0.52356E-02  448454.7 3763811.1   239.1     3.49     6.51     3.25
 YES
 L0001026         0   0.52356E-02  448454.9 3763825.1   239.2     3.49     6.51     3.25
 YES
 L0001027         0   0.52356E-02  448455.1 3763839.1   239.2     3.49     6.51     3.25
 YES
 L0001028         0   0.52356E-02  448455.3 3763853.1   239.1     3.49     6.51     3.25
 YES
 L0001029         0   0.52356E-02  448455.6 3763867.1   239.0     3.49     6.51     3.25
 YES
 L0001030         0   0.52356E-02  448455.8 3763881.1   238.9     3.49     6.51     3.25
 YES
 L0001031         0   0.52356E-02  448456.0 3763895.1   238.9     3.49     6.51     3.25
 YES
 L0001032         0   0.52356E-02  448456.2 3763909.1   239.0     3.49     6.51     3.25
 YES
 L0001033         0   0.52356E-02  448456.4 3763923.1   239.0     3.49     6.51     3.25
 YES
 L0001034         0   0.52356E-02  448456.6 3763937.1   239.0     3.49     6.51     3.25
 YES
 L0001035         0   0.52356E-02  448456.8 3763951.1   239.1     3.49     6.51     3.25
 YES
 L0001036         0   0.52356E-02  448457.1 3763965.1   239.2     3.49     6.51     3.25
 YES
 L0001037         0   0.52356E-02  448457.3 3763979.1   239.2     3.49     6.51     3.25
 YES
 L0001038         0   0.52356E-02  448457.5 3763993.1   239.3     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

             NUMBER EMISSION RATE                      BASE    RELEASE    INIT.    INIT.
```

SOURCE ID	URBAN PART. SCALAR VARY BY	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	SZ (METERS)	
L0001039	0	0.52356E-02	448457.7	3764007.1	239.4	3.49	6.51	3.25	YES
L0001040	0	0.52356E-02	448457.9	3764021.1	239.5	3.49	6.51	3.25	YES
L0001041	0	0.52356E-02	448458.1	3764035.1	239.7	3.49	6.51	3.25	YES
L0001042	0	0.52356E-02	448458.3	3764049.1	239.8	3.49	6.51	3.25	YES
L0001043	0	0.52356E-02	448458.5	3764063.1	240.0	3.49	6.51	3.25	YES
L0001044	0	0.52356E-02	448458.8	3764077.1	240.2	3.49	6.51	3.25	YES
L0001045	0	0.52356E-02	448459.0	3764091.1	240.4	3.49	6.51	3.25	YES
L0001046	0	0.52356E-02	448459.2	3764105.1	240.5	3.49	6.51	3.25	YES
L0001047	0	0.52356E-02	448459.4	3764119.1	240.5	3.49	6.51	3.25	YES
L0001048	0	0.52356E-02	448459.6	3764133.1	240.7	3.49	6.51	3.25	YES
L0001049	0	0.52356E-02	448459.8	3764147.1	240.8	3.49	6.51	3.25	YES
L0001050	0	0.52356E-02	448460.0	3764161.1	241.0	3.49	6.51	3.25	YES
L0001051	0	0.52356E-02	448460.3	3764175.1	241.2	3.49	6.51	3.25	YES
L0001052	0	0.52356E-02	448460.5	3764189.1	241.5	3.49	6.51	3.25	YES
L0001053	0	0.52356E-02	448460.7	3764203.1	241.8	3.49	6.51	3.25	YES
L0001054	0	0.52356E-02	448460.9	3764217.1	242.3	3.49	6.51	3.25	YES
L0001055	0	0.52356E-02	448461.1	3764231.1	242.8	3.49	6.51	3.25	YES
L0001056	0	0.52356E-02	448461.3	3764245.1	243.2	3.49	6.51	3.25	YES
L0001057	0	0.52356E-02	448461.5	3764259.1	243.5	3.49	6.51	3.25	YES
L0001058	0	0.52356E-02	448461.8	3764273.1	243.7	3.49	6.51	3.25	YES
L0001059	0	0.52356E-02	448462.0	3764287.1	243.7	3.49	6.51	3.25	YES
L0001060	0	0.52356E-02	448462.2	3764301.1	243.6	3.49	6.51	3.25	YES
L0001061	0	0.52356E-02	448462.4	3764315.1	243.6	3.49	6.51	3.25	YES
L0001062	0	0.52356E-02	448462.6	3764329.1	243.5	3.49	6.51	3.25	YES
L0001063	0	0.52356E-02	448462.8	3764343.1	243.3	3.49	6.51	3.25	YES
L0001064	0	0.52356E-02	448463.0	3764357.1	243.1	3.49	6.51	3.25	YES
L0001065	0	0.52356E-02	448463.3	3764371.1	242.9	3.49	6.51	3.25	YES
L0001066	0	0.52356E-02	448463.5	3764385.1	242.8	3.49	6.51	3.25	YES
L0001067	0	0.52356E-02	448463.7	3764399.1	242.8	3.49	6.51	3.25	YES

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 L0001068         0   0.52356E-02  448463.8 3764413.1   242.8     3.49     6.51     3.25
 YES
 L0001069         0   0.52356E-02  448463.4 3764427.1   242.8     3.49     6.51     3.25
 YES
 L0001070         0   0.52356E-02  448463.1 3764441.1   242.9     3.49     6.51     3.25
 YES
 L0001071         0   0.52356E-02  448462.7 3764455.1   243.0     3.49     6.51     3.25
 YES
 L0001072         0   0.52356E-02  448462.4 3764469.1   243.2     3.49     6.51     3.25
 YES
 L0001073         0   0.52356E-02  448462.0 3764483.0   243.3     3.49     6.51     3.25
 YES
 L0001074         0   0.52356E-02  448461.6 3764497.0   243.4     3.49     6.51     3.25
 YES
 L0001075         0   0.52356E-02  448461.3 3764511.0   243.6     3.49     6.51     3.25
 YES
 L0001076         0   0.52356E-02  448460.9 3764525.0   243.7     3.49     6.51     3.25
 YES
 L0001077         0   0.52356E-02  448460.6 3764539.0   243.9     3.49     6.51     3.25
 YES
 L0001078         0   0.52356E-02  448460.2 3764553.0   244.0     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - -

 L0001079         0   0.52356E-02  448459.8 3764567.0   244.2     3.49     6.51     3.25
 YES
 L0001080         0   0.52356E-02  448459.5 3764581.0   244.3     3.49     6.51     3.25
 YES
 L0001081         0   0.52356E-02  448459.1 3764595.0   244.5     3.49     6.51     3.25
 YES
 L0001082         0   0.52356E-02  448458.8 3764609.0   244.7     3.49     6.51     3.25
 YES
 L0001083         0   0.52356E-02  448458.4 3764623.0   244.9     3.49     6.51     3.25
 YES
 L0001084         0   0.52356E-02  448458.0 3764637.0   245.1     3.49     6.51     3.25
 YES
 L0001085         0   0.52356E-02  448457.7 3764651.0   245.2     3.49     6.51     3.25
 YES
 L0001086         0   0.52356E-02  448457.3 3764665.0   245.4     3.49     6.51     3.25
 YES
 L0001087         0   0.52356E-02  448456.9 3764679.0   245.6     3.49     6.51     3.25
 YES
 L0001088         0   0.52356E-02  448456.6 3764693.0   245.8     3.49     6.51     3.25
 YES
 L0001089         0   0.52356E-02  448456.2 3764707.0   246.0     3.49     6.51     3.25
 YES
 L0001090         0   0.52356E-02  448455.9 3764721.0   246.2     3.49     6.51     3.25
 YES
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 L0001091         0   0.52356E-02  448455.5 3764735.0   246.2     3.49     6.51     3.25
 YES
 L0001092         0   0.52356E-02  448455.1 3764749.0   246.2     3.49     6.51     3.25
 YES
 L0001093         0   0.52356E-02  448454.8 3764763.0   246.4     3.49     6.51     3.25
 YES
 L0001094         0   0.52356E-02  448454.4 3764777.0   246.5     3.49     6.51     3.25
 YES
 L0001095         0   0.52356E-02  448454.1 3764790.9   246.7     3.49     6.51     3.25
 YES
 L0001096         0   0.52356E-02  448453.7 3764804.9   246.8     3.49     6.51     3.25
 YES
 L0001097         0   0.52356E-02  448453.3 3764818.9   247.0     3.49     6.51     3.25
 YES
 L0001098         0   0.52356E-02  448453.2 3764832.9   247.1     3.49     6.51     3.25
 YES
 L0001099         0   0.52356E-02  448453.2 3764846.9   247.2     3.49     6.51     3.25
 YES
 L0001100         0   0.52356E-02  448453.2 3764860.9   247.3     3.49     6.51     3.25
 YES
 L0001101         0   0.52356E-02  448453.2 3764874.9   247.4     3.49     6.51     3.25
 YES
 L0001102         0   0.52356E-02  448453.2 3764888.9   247.4     3.49     6.51     3.25
 YES
 L0001103         0   0.52356E-02  448453.2 3764902.9   247.4     3.49     6.51     3.25
 YES
 L0001104         0   0.52356E-02  448453.2 3764916.9   247.4     3.49     6.51     3.25
 YES
 L0001105         0   0.52356E-02  448453.2 3764930.9   247.4     3.49     6.51     3.25
 YES
 L0001106         0   0.52356E-02  448453.2 3764944.9   247.4     3.49     6.51     3.25
 YES
 L0001107         0   0.52356E-02  448453.2 3764958.9   247.4     3.49     6.51     3.25
 YES
 L0001108         0   0.52356E-02  448453.2 3764972.9   247.6     3.49     6.51     3.25
 YES
 L0001109         0   0.52356E-02  448453.2 3764986.9   247.7     3.49     6.51     3.25
 YES
 L0001110         0   0.52356E-02  448453.2 3765000.9   248.1     3.49     6.51     3.25
 YES
 L0001111         0   0.52356E-02  448453.2 3765014.9   248.5     3.49     6.51     3.25
 YES
 L0001112         0   0.52356E-02  448453.2 3765028.9   248.7     3.49     6.51     3.25
 YES
 L0001113         0   0.52356E-02  448453.2 3765042.9   248.8     3.49     6.51     3.25
 YES
 L0001114         0   0.52356E-02  448453.2 3765056.9   249.0     3.49     6.51     3.25
 YES
 L0002075         0   0.52356E-02  448433.8 3762397.3   225.2     3.49     6.51     3.25
 YES
 L0002076         0   0.52356E-02  448433.9 3762411.3   225.3     3.49     6.51     3.25
 YES
 L0002077         0   0.52356E-02  448434.0 3762425.3   225.4     3.49     6.51     3.25
 YES
 L0002078         0   0.52356E-02  448434.2 3762439.3   225.6     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***
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SOURCE ID	NUMBER URBAN PART. SCALAR VARY CATS. BY	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
L0002079	0	0.52356E-02	448434.3	3762453.3	225.7	3.49	6.51	3.25	YES
L0002080	0	0.52356E-02	448434.4	3762467.3	225.9	3.49	6.51	3.25	YES
L0002081	0	0.52356E-02	448434.6	3762481.3	226.0	3.49	6.51	3.25	YES
L0002082	0	0.52356E-02	448434.7	3762495.3	226.2	3.49	6.51	3.25	YES
L0002083	0	0.52356E-02	448434.8	3762509.3	226.3	3.49	6.51	3.25	YES
L0002084	0	0.52356E-02	448434.9	3762523.3	226.4	3.49	6.51	3.25	YES
L0002085	0	0.52356E-02	448435.1	3762537.3	226.6	3.49	6.51	3.25	YES
L0002086	0	0.52356E-02	448435.2	3762551.3	226.7	3.49	6.51	3.25	YES
L0002087	0	0.52356E-02	448435.3	3762565.3	226.9	3.49	6.51	3.25	YES
L0002088	0	0.52356E-02	448435.5	3762579.3	227.0	3.49	6.51	3.25	YES
L0002089	0	0.52356E-02	448435.6	3762593.3	227.2	3.49	6.51	3.25	YES
L0002090	0	0.52356E-02	448435.7	3762607.3	227.3	3.49	6.51	3.25	YES
L0002091	0	0.52356E-02	448435.9	3762621.3	227.4	3.49	6.51	3.25	YES
L0002092	0	0.52356E-02	448436.0	3762635.3	227.6	3.49	6.51	3.25	YES
L0002093	0	0.52356E-02	448436.1	3762649.3	227.7	3.49	6.51	3.25	YES
L0002094	0	0.52356E-02	448436.3	3762663.3	227.9	3.49	6.51	3.25	YES
L0002095	0	0.52356E-02	448436.4	3762677.3	228.1	3.49	6.51	3.25	YES
L0002096	0	0.52356E-02	448436.5	3762691.3	228.3	3.49	6.51	3.25	YES
L0002097	0	0.52356E-02	448436.7	3762705.3	228.4	3.49	6.51	3.25	YES
L0002098	0	0.52356E-02	448436.8	3762719.3	228.5	3.49	6.51	3.25	YES
L0002099	0	0.52356E-02	448436.9	3762733.3	228.6	3.49	6.51	3.25	YES
L0002100	0	0.52356E-02	448437.1	3762747.3	228.7	3.49	6.51	3.25	YES
L0002101	0	0.52356E-02	448437.2	3762761.3	228.9	3.49	6.51	3.25	YES
L0002102	0	0.52356E-02	448437.3	3762775.3	228.9	3.49	6.51	3.25	YES
L0002103	0	0.52356E-02	448437.5	3762789.3	228.9	3.49	6.51	3.25	YES
L0002104	0	0.52356E-02	448437.6	3762803.3	228.9	3.49	6.51	3.25	YES
L0002105	0	0.52356E-02	448437.7	3762817.3	228.9	3.49	6.51	3.25	YES
L0002106	0	0.52356E-02	448437.8	3762831.3	228.9	3.49	6.51	3.25	YES

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 L0002107         0   0.52356E-02  448438.0 3762845.3   228.9     3.49     6.51     3.25
 YES
 L0002108         0   0.52356E-02  448438.1 3762859.3   228.9     3.49     6.51     3.25
 YES
 L0002109         0   0.52356E-02  448438.4 3762873.3   229.0     3.49     6.51     3.25
 YES
 L0002110         0   0.52356E-02  448438.6 3762887.3   229.1     3.49     6.51     3.25
 YES
 L0002111         0   0.52356E-02  448438.9 3762901.3   229.1     3.49     6.51     3.25
 YES
 L0002112         0   0.52356E-02  448439.2 3762915.3   229.1     3.49     6.51     3.25
 YES
 L0002113         0   0.52356E-02  448439.4 3762929.3   229.1     3.49     6.51     3.25
 YES
 L0002114         0   0.52356E-02  448439.7 3762943.3   229.1     3.49     6.51     3.25
 YES
 L0002115         0   0.52356E-02  448440.0 3762957.3   229.3     3.49     6.51     3.25
 YES
 L0002116         0   0.52356E-02  448440.3 3762971.3   229.6     3.49     6.51     3.25
 YES
 L0002117         0   0.52356E-02  448440.5 3762985.3   229.8     3.49     6.51     3.25
 YES
 L0002118         0   0.52356E-02  448440.8 3762999.3   230.0     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 L0002119         0   0.52356E-02  448441.1 3763013.3   230.1     3.49     6.51     3.25
 YES
 L0002120         0   0.52356E-02  448441.3 3763027.3   230.3     3.49     6.51     3.25
 YES
 L0002121         0   0.52356E-02  448441.6 3763041.3   230.5     3.49     6.51     3.25
 YES
 L0002122         0   0.52356E-02  448441.9 3763055.3   230.7     3.49     6.51     3.25
 YES
 L0002123         0   0.52356E-02  448442.1 3763069.3   230.8     3.49     6.51     3.25
 YES
 L0002124         0   0.52356E-02  448442.4 3763083.2   231.0     3.49     6.51     3.25
 YES
 L0002125         0   0.52356E-02  448442.6 3763097.2   231.1     3.49     6.51     3.25
 YES
 L0002126         0   0.52356E-02  448442.8 3763111.2   231.3     3.49     6.51     3.25
 YES
 L0002127         0   0.52356E-02  448443.1 3763125.2   231.4     3.49     6.51     3.25
 YES
 L0002128         0   0.52356E-02  448443.3 3763139.2   231.5     3.49     6.51     3.25
 YES
 L0002129         0   0.52356E-02  448443.6 3763153.2   231.6     3.49     6.51     3.25
 YES
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 L0002130         0   0.52356E-02  448443.8 3763167.2   231.8     3.49     6.51     3.25
 YES
 L0002131         0   0.52356E-02  448444.1 3763181.2   231.9     3.49     6.51     3.25
 YES
 L0002132         0   0.52356E-02  448444.3 3763195.2   232.0     3.49     6.51     3.25
 YES
 L0002133         0   0.52356E-02  448444.6 3763209.2   232.2     3.49     6.51     3.25
 YES
 L0002134         0   0.52356E-02  448444.8 3763223.2   232.3     3.49     6.51     3.25
 YES
 L0002135         0   0.52356E-02  448445.1 3763237.2   232.5     3.49     6.51     3.25
 YES
 L0002136         0   0.52356E-02  448445.3 3763251.2   232.6     3.49     6.51     3.25
 YES
 L0002137         0   0.52356E-02  448445.6 3763265.2   232.8     3.49     6.51     3.25
 YES
 L0002138         0   0.52356E-02  448445.8 3763279.2   233.0     3.49     6.51     3.25
 YES
 L0002139         0   0.52356E-02  448446.1 3763293.2   233.2     3.49     6.51     3.25
 YES
 L0002140         0   0.52356E-02  448446.3 3763307.2   233.5     3.49     6.51     3.25
 YES
 L0002141         0   0.52356E-02  448446.6 3763321.2   233.6     3.49     6.51     3.25
 YES
 L0002142         0   0.52356E-02  448446.8 3763335.2   233.8     3.49     6.51     3.25
 YES
 L0002143         0   0.52356E-02  448447.0 3763349.2   233.9     3.49     6.51     3.25
 YES
 L0002144         0   0.52356E-02  448447.3 3763363.2   234.1     3.49     6.51     3.25
 YES
 L0002145         0   0.52356E-02  448447.5 3763377.2   234.2     3.49     6.51     3.25
 YES
 L0002146         0   0.52356E-02  448447.8 3763391.2   234.3     3.49     6.51     3.25
 YES
 L0002147         0   0.52356E-02  448448.0 3763405.2   234.5     3.49     6.51     3.25
 YES
 L0002148         0   0.52356E-02  448448.3 3763419.2   234.6     3.49     6.51     3.25
 YES
 L0002149         0   0.52356E-02  448448.5 3763433.2   234.8     3.49     6.51     3.25
 YES
 L0002150         0   0.52356E-02  448448.8 3763447.2   234.9     3.49     6.51     3.25
 YES
 L0002151         0   0.52356E-02  448449.0 3763461.2   235.1     3.49     6.51     3.25
 YES
 L0002152         0   0.52356E-02  448449.3 3763475.2   235.2     3.49     6.51     3.25
 YES
 L0002153         0   0.52356E-02  448449.5 3763489.2   235.4     3.49     6.51     3.25
 YES
 L0002154         0   0.52356E-02  448449.8 3763503.2   235.7     3.49     6.51     3.25
 YES
 L0002155         0   0.52356E-02  448450.0 3763517.2   235.9     3.49     6.51     3.25
 YES
 L0002156         0   0.52356E-02  448450.3 3763531.2   236.2     3.49     6.51     3.25
 YES
 L0002157         0   0.52356E-02  448450.5 3763545.2   236.5     3.49     6.51     3.25
 YES
 L0002158         0   0.52356E-02  448450.8 3763559.2   236.8     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART. SCALAR VARY CATS. BY	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ
L0002159	0	0.52356E-02	448451.0	3763573.2	237.1	3.49	6.51	3.25
YES								
L0002160	0	0.52356E-02	448451.2	3763587.2	237.2	3.49	6.51	3.25
YES								
L0002161	0	0.52356E-02	448451.5	3763601.2	237.4	3.49	6.51	3.25
YES								
L0002162	0	0.52356E-02	448451.7	3763615.2	237.5	3.49	6.51	3.25
YES								
L0002163	0	0.52356E-02	448451.9	3763629.2	237.7	3.49	6.51	3.25
YES								
L0002164	0	0.52356E-02	448452.1	3763643.2	237.7	3.49	6.51	3.25
YES								
L0002165	0	0.52356E-02	448452.3	3763657.2	237.7	3.49	6.51	3.25
YES								
L0002166	0	0.52356E-02	448452.6	3763671.2	237.8	3.49	6.51	3.25
YES								
L0002167	0	0.52356E-02	448452.8	3763685.2	238.1	3.49	6.51	3.25
YES								
L0002168	0	0.52356E-02	448453.0	3763699.2	238.3	3.49	6.51	3.25
YES								
L0002169	0	0.52356E-02	448453.2	3763713.2	238.3	3.49	6.51	3.25
YES								
L0002170	0	0.52356E-02	448453.4	3763727.2	238.3	3.49	6.51	3.25
YES								
L0002171	0	0.52356E-02	448453.6	3763741.2	238.5	3.49	6.51	3.25
YES								
L0002172	0	0.52356E-02	448453.8	3763755.1	238.6	3.49	6.51	3.25
YES								
L0002173	0	0.52356E-02	448454.1	3763769.1	238.7	3.49	6.51	3.25
YES								
L0002174	0	0.52356E-02	448454.3	3763783.1	238.9	3.49	6.51	3.25
YES								
L0002175	0	0.52356E-02	448454.5	3763797.1	239.0	3.49	6.51	3.25
YES								
L0002176	0	0.52356E-02	448454.7	3763811.1	239.1	3.49	6.51	3.25
YES								
L0002177	0	0.52356E-02	448454.9	3763825.1	239.2	3.49	6.51	3.25
YES								
L0002178	0	0.52356E-02	448455.1	3763839.1	239.2	3.49	6.51	3.25
YES								
L0002179	0	0.52356E-02	448455.3	3763853.1	239.1	3.49	6.51	3.25
YES								
L0002180	0	0.52356E-02	448455.6	3763867.1	239.0	3.49	6.51	3.25
YES								
L0002181	0	0.52356E-02	448455.8	3763881.1	238.9	3.49	6.51	3.25
YES								
L0002182	0	0.52356E-02	448456.0	3763895.1	238.9	3.49	6.51	3.25
YES								
L0002183	0	0.52356E-02	448456.2	3763909.1	239.0	3.49	6.51	3.25
YES								
L0002184	0	0.52356E-02	448456.4	3763923.1	239.0	3.49	6.51	3.25
YES								
L0002185	0	0.52356E-02	448456.6	3763937.1	239.0	3.49	6.51	3.25
YES								

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 L0002186         0   0.52356E-02  448456.8 3763951.1   239.1     3.49     6.51     3.25
 YES
 L0002187         0   0.52356E-02  448457.1 3763965.1   239.2     3.49     6.51     3.25
 YES
 L0002188         0   0.52356E-02  448457.3 3763979.1   239.2     3.49     6.51     3.25
 YES
 L0002189         0   0.52356E-02  448457.5 3763993.1   239.3     3.49     6.51     3.25
 YES
 L0002190         0   0.52356E-02  448457.7 3764007.1   239.4     3.49     6.51     3.25
 YES
 L0002191         0   0.52356E-02  448457.9 3764021.1   239.5     3.49     6.51     3.25
 YES
 L0002192         0   0.52356E-02  448458.1 3764035.1   239.7     3.49     6.51     3.25
 YES
 L0002193         0   0.52356E-02  448458.3 3764049.1   239.8     3.49     6.51     3.25
 YES
 L0002194         0   0.52356E-02  448458.5 3764063.1   240.0     3.49     6.51     3.25
 YES
 L0002195         0   0.52356E-02  448458.8 3764077.1   240.2     3.49     6.51     3.25
 YES
 L0002196         0   0.52356E-02  448459.0 3764091.1   240.4     3.49     6.51     3.25
 YES
 L0002197         0   0.52356E-02  448459.2 3764105.1   240.5     3.49     6.51     3.25
 YES
 L0002198         0   0.52356E-02  448459.4 3764119.1   240.5     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
   SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
   SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
     (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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 L0002199         0   0.52356E-02  448459.6 3764133.1   240.7     3.49     6.51     3.25
 YES
 L0002200         0   0.52356E-02  448459.8 3764147.1   240.8     3.49     6.51     3.25
 YES
 L0002201         0   0.52356E-02  448460.0 3764161.1   241.0     3.49     6.51     3.25
 YES
 L0002202         0   0.52356E-02  448460.3 3764175.1   241.2     3.49     6.51     3.25
 YES
 L0002203         0   0.52356E-02  448460.5 3764189.1   241.5     3.49     6.51     3.25
 YES
 L0002204         0   0.52356E-02  448460.7 3764203.1   241.8     3.49     6.51     3.25
 YES
 L0002205         0   0.52356E-02  448460.9 3764217.1   242.3     3.49     6.51     3.25
 YES
 L0002206         0   0.52356E-02  448461.1 3764231.1   242.8     3.49     6.51     3.25
 YES
 L0002207         0   0.52356E-02  448461.3 3764245.1   243.2     3.49     6.51     3.25
 YES
 L0002208         0   0.52356E-02  448461.5 3764259.1   243.5     3.49     6.51     3.25
 YES
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 L0002209         0   0.52356E-02  448461.8 3764273.1   243.7     3.49     6.51     3.25
 YES
 L0002210         0   0.52356E-02  448462.0 3764287.1   243.7     3.49     6.51     3.25
 YES
 L0002211         0   0.52356E-02  448462.2 3764301.1   243.6     3.49     6.51     3.25
 YES
 L0002212         0   0.52356E-02  448462.4 3764315.1   243.6     3.49     6.51     3.25
 YES
 L0002213         0   0.52356E-02  448462.6 3764329.1   243.5     3.49     6.51     3.25
 YES
 L0002214         0   0.52356E-02  448462.8 3764343.1   243.3     3.49     6.51     3.25
 YES
 L0002215         0   0.52356E-02  448463.0 3764357.1   243.1     3.49     6.51     3.25
 YES
 L0002216         0   0.52356E-02  448463.3 3764371.1   242.9     3.49     6.51     3.25
 YES
 L0002217         0   0.52356E-02  448463.5 3764385.1   242.8     3.49     6.51     3.25
 YES
 L0002218         0   0.52356E-02  448463.7 3764399.1   242.8     3.49     6.51     3.25
 YES
 L0002219         0   0.52356E-02  448463.8 3764413.1   242.8     3.49     6.51     3.25
 YES
 L0002220         0   0.52356E-02  448463.4 3764427.1   242.8     3.49     6.51     3.25
 YES
 L0002221         0   0.52356E-02  448463.1 3764441.1   242.9     3.49     6.51     3.25
 YES
 L0002222         0   0.52356E-02  448462.7 3764455.1   243.0     3.49     6.51     3.25
 YES
 L0002223         0   0.52356E-02  448462.4 3764469.1   243.2     3.49     6.51     3.25
 YES
 L0002224         0   0.52356E-02  448462.0 3764483.0   243.3     3.49     6.51     3.25
 YES
 L0002225         0   0.52356E-02  448461.6 3764497.0   243.4     3.49     6.51     3.25
 YES
 L0002226         0   0.52356E-02  448461.3 3764511.0   243.6     3.49     6.51     3.25
 YES
 L0002227         0   0.52356E-02  448460.9 3764525.0   243.7     3.49     6.51     3.25
 YES
 L0002228         0   0.52356E-02  448460.6 3764539.0   243.9     3.49     6.51     3.25
 YES
 L0002229         0   0.52356E-02  448460.2 3764553.0   244.0     3.49     6.51     3.25
 YES
 L0002230         0   0.52356E-02  448459.8 3764567.0   244.2     3.49     6.51     3.25
 YES
 L0002231         0   0.52356E-02  448459.5 3764581.0   244.3     3.49     6.51     3.25
 YES
 L0002232         0   0.52356E-02  448459.1 3764595.0   244.5     3.49     6.51     3.25
 YES
 L0002233         0   0.52356E-02  448458.8 3764609.0   244.7     3.49     6.51     3.25
 YES
 L0002234         0   0.52356E-02  448458.4 3764623.0   244.9     3.49     6.51     3.25
 YES
 L0002235         0   0.52356E-02  448458.0 3764637.0   245.1     3.49     6.51     3.25
 YES
 L0002236         0   0.52356E-02  448457.7 3764651.0   245.2     3.49     6.51     3.25
 YES
 L0002237         0   0.52356E-02  448457.3 3764665.0   245.4     3.49     6.51     3.25
 YES
 L0002238         0   0.52356E-02  448456.9 3764679.0   245.6     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART. SCALAR VARY BY CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ
L0002239	0	0.52356E-02	448456.6	3764693.0	245.8	3.49	6.51	3.25
YES								
L0002240	0	0.52356E-02	448456.2	3764707.0	246.0	3.49	6.51	3.25
YES								
L0002241	0	0.52356E-02	448455.9	3764721.0	246.2	3.49	6.51	3.25
YES								
L0002242	0	0.52356E-02	448455.5	3764735.0	246.2	3.49	6.51	3.25
YES								
L0002243	0	0.52356E-02	448455.1	3764749.0	246.2	3.49	6.51	3.25
YES								
L0002244	0	0.52356E-02	448454.8	3764763.0	246.4	3.49	6.51	3.25
YES								
L0002245	0	0.52356E-02	448454.4	3764777.0	246.5	3.49	6.51	3.25
YES								
L0002246	0	0.52356E-02	448454.1	3764790.9	246.7	3.49	6.51	3.25
YES								
L0002247	0	0.52356E-02	448453.7	3764804.9	246.8	3.49	6.51	3.25
YES								
L0002248	0	0.52356E-02	448453.3	3764818.9	247.0	3.49	6.51	3.25
YES								
L0002249	0	0.52356E-02	448453.2	3764832.9	247.1	3.49	6.51	3.25
YES								
L0002250	0	0.52356E-02	448453.2	3764846.9	247.2	3.49	6.51	3.25
YES								
L0002251	0	0.52356E-02	448453.2	3764860.9	247.3	3.49	6.51	3.25
YES								
L0002252	0	0.52356E-02	448453.2	3764874.9	247.4	3.49	6.51	3.25
YES								
L0002253	0	0.52356E-02	448453.2	3764888.9	247.4	3.49	6.51	3.25
YES								
L0002254	0	0.52356E-02	448453.2	3764902.9	247.4	3.49	6.51	3.25
YES								
L0002255	0	0.52356E-02	448453.2	3764916.9	247.4	3.49	6.51	3.25
YES								
L0002256	0	0.52356E-02	448453.2	3764930.9	247.4	3.49	6.51	3.25
YES								
L0002257	0	0.52356E-02	448453.2	3764944.9	247.4	3.49	6.51	3.25
YES								
L0002258	0	0.52356E-02	448453.2	3764958.9	247.4	3.49	6.51	3.25
YES								
L0002259	0	0.52356E-02	448453.2	3764972.9	247.6	3.49	6.51	3.25
YES								
L0002260	0	0.52356E-02	448453.2	3764986.9	247.7	3.49	6.51	3.25
YES								
L0002261	0	0.52356E-02	448453.2	3765000.9	248.1	3.49	6.51	3.25
YES								
L0002262	0	0.52356E-02	448453.2	3765014.9	248.5	3.49	6.51	3.25
YES								
L0002263	0	0.52356E-02	448453.2	3765028.9	248.7	3.49	6.51	3.25
YES								
L0002264	0	0.52356E-02	448453.2	3765042.9	248.8	3.49	6.51	3.25
YES								

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 L0002265         0   0.52356E-02  448453.2 3765056.9   249.0     3.49     6.51     3.25
 YES
 L0001115         0   0.15873E-01  448446.9 3762388.5   225.1     3.49     6.51     3.25
 YES
 L0001116         0   0.15873E-01  448460.9 3762388.3   225.1     3.49     6.51     3.25
 YES
 L0001117         0   0.15873E-01  448474.9 3762388.2   225.1     3.49     6.51     3.25
 YES
 L0001118         0   0.15873E-01  448488.9 3762388.1   225.1     3.49     6.51     3.25
 YES
 L0001119         0   0.15873E-01  448502.9 3762387.9   225.1     3.49     6.51     3.25
 YES
 L0001120         0   0.15873E-01  448516.9 3762387.8   225.1     3.49     6.51     3.25
 YES
 L0001121         0   0.15873E-01  448530.9 3762387.6   225.1     3.49     6.51     3.25
 YES
 L0001122         0   0.15873E-01  448544.9 3762387.5   225.1     3.49     6.51     3.25
 YES
 L0001123         0   0.15873E-01  448558.9 3762387.4   225.1     3.49     6.51     3.25
 YES
 L0001124         0   0.15873E-01  448572.9 3762387.2   225.1     3.49     6.51     3.25
 YES
 L0001125         0   0.15873E-01  448586.9 3762387.1   225.1     3.49     6.51     3.25
 YES
 L0001126         0   0.15873E-01  448600.9 3762387.0   225.1     3.49     6.51     3.25
 YES
 L0001127         0   0.15873E-01  448614.9 3762386.8   224.9     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - -

 L0001128         0   0.15873E-01  448628.9 3762387.3   224.7     3.49     6.51     3.25
 YES
 L0001129         0   0.15873E-01  448642.8 3762388.3   224.3     3.49     6.51     3.25
 YES
 L0001130         0   0.15873E-01  448656.8 3762389.3   223.9     3.49     6.51     3.25
 YES
 L0001131         0   0.15873E-01  448670.8 3762390.3   223.5     3.49     6.51     3.25
 YES
 L0001132         0   0.15873E-01  448684.7 3762391.3   223.1     3.49     6.51     3.25
 YES
 L0001133         0   0.15873E-01  448698.7 3762392.3   222.7     3.49     6.51     3.25
 YES
 L0001134         0   0.15873E-01  448712.6 3762393.7   222.4     3.49     6.51     3.25
 YES
 L0001135         0   0.15873E-01  448726.4 3762396.3   222.3     3.49     6.51     3.25
 YES
 L0001136         0   0.15873E-01  448740.1 3762398.9   222.2     3.49     6.51     3.25
 YES
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 L0001137         0   0.15873E-01  448753.9 3762401.6   222.2     3.49     6.51     3.25
 YES
 L0001138         0   0.15873E-01  448767.6 3762404.2   222.4     3.49     6.51     3.25
 YES
 L0001139         0   0.15873E-01  448781.4 3762406.8   222.5     3.49     6.51     3.25
 YES
 L0001140         0   0.15873E-01  448795.0 3762410.1   222.7     3.49     6.51     3.25
 YES
 L0001141         0   0.15873E-01  448808.6 3762413.5   222.9     3.49     6.51     3.25
 YES
 L0001142         0   0.15873E-01  448822.1 3762416.9   222.8     3.49     6.51     3.25
 YES
 L0001143         0   0.15873E-01  448835.7 3762420.3   222.7     3.49     6.51     3.25
 YES
 L0001144         0   0.15873E-01  448849.3 3762423.7   222.6     3.49     6.51     3.25
 YES
 L0001145         0   0.15873E-01  448862.9 3762427.1   222.6     3.49     6.51     3.25
 YES
 L0001146         0   0.15873E-01  448876.2 3762431.3   222.7     3.49     6.51     3.25
 YES
 L0001147         0   0.15873E-01  448889.4 3762436.1   222.8     3.49     6.51     3.25
 YES
 L0001148         0   0.15873E-01  448902.5 3762441.0   222.9     3.49     6.51     3.25
 YES
 L0001149         0   0.15873E-01  448915.6 3762445.8   222.9     3.49     6.51     3.25
 YES
 L0001150         0   0.15873E-01  448928.8 3762450.6   223.0     3.49     6.51     3.25
 YES
 L0001151         0   0.15873E-01  448941.9 3762455.4   223.1     3.49     6.51     3.25
 YES
 L0001152         0   0.15873E-01  448955.1 3762460.3   223.3     3.49     6.51     3.25
 YES
 L0001153         0   0.15873E-01  448968.2 3762465.1   223.4     3.49     6.51     3.25
 YES
 L0001154         0   0.15873E-01  448981.3 3762469.9   223.5     3.49     6.51     3.25
 YES
 L0001155         0   0.15873E-01  448994.5 3762474.8   223.5     3.49     6.51     3.25
 YES
 L0001156         0   0.15873E-01  449007.6 3762479.6   223.6     3.49     6.51     3.25
 YES
 L0001157         0   0.15873E-01  449020.8 3762484.4   223.6     3.49     6.51     3.25
 YES
 L0001158         0   0.15873E-01  449033.9 3762489.2   223.8     3.49     6.51     3.25
 YES
 L0001159         0   0.15873E-01  449047.0 3762494.1   224.0     3.49     6.51     3.25
 YES
 L0001160         0   0.15873E-01  449060.2 3762498.9   224.1     3.49     6.51     3.25
 YES
 L0001161         0   0.15873E-01  449073.3 3762503.7   224.1     3.49     6.51     3.25
 YES
 L0001162         0   0.15873E-01  449086.5 3762508.6   224.2     3.49     6.51     3.25
 YES
 L0001163         0   0.15873E-01  449099.6 3762513.4   224.2     3.49     6.51     3.25
 YES
 L0001164         0   0.15873E-01  449112.7 3762518.2   224.2     3.49     6.51     3.25
 YES
 L0001165         0   0.15873E-01  449125.9 3762523.0   224.3     3.49     6.51     3.25
 YES
 L0001166         0   0.15873E-01  449139.0 3762527.9   224.4     3.49     6.51     3.25
 YES
 L0001167         0   0.15873E-01  449152.2 3762532.7   224.4     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:5
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE PART. SCALAR VARY BY CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
L0001168	0	0.15873E-01	449165.3	3762537.5	224.5	3.49	6.51	3.25	YES
L0001169	0	0.15873E-01	449178.5	3762542.3	224.5	3.49	6.51	3.25	YES
L0001170	0	0.15873E-01	449191.6	3762547.2	224.5	3.49	6.51	3.25	YES
L0001171	0	0.15873E-01	449204.7	3762552.0	224.5	3.49	6.51	3.25	YES
L0001172	0	0.15873E-01	449217.9	3762556.8	224.5	3.49	6.51	3.25	YES
L0001173	0	0.15873E-01	449231.0	3762561.7	224.4	3.49	6.51	3.25	YES
L0001174	0	0.15873E-01	449244.2	3762566.5	224.5	3.49	6.51	3.25	YES
L0001175	0	0.15873E-01	449257.3	3762571.3	224.5	3.49	6.51	3.25	YES
L0001176	0	0.15873E-01	449270.4	3762576.1	224.4	3.49	6.51	3.25	YES
L0001177	0	0.15873E-01	449283.6	3762581.0	224.3	3.49	6.51	3.25	YES
L0001821	0	0.15873E-01	448446.9	3762388.5	225.1	3.49	6.51	3.25	YES
L0001822	0	0.15873E-01	448460.9	3762388.3	225.1	3.49	6.51	3.25	YES
L0001823	0	0.15873E-01	448474.9	3762388.2	225.1	3.49	6.51	3.25	YES
L0001824	0	0.15873E-01	448488.9	3762388.1	225.1	3.49	6.51	3.25	YES
L0001825	0	0.15873E-01	448502.9	3762387.9	225.1	3.49	6.51	3.25	YES
L0001826	0	0.15873E-01	448516.9	3762387.8	225.1	3.49	6.51	3.25	YES
L0001827	0	0.15873E-01	448530.9	3762387.6	225.1	3.49	6.51	3.25	YES
L0001828	0	0.15873E-01	448544.9	3762387.5	225.1	3.49	6.51	3.25	YES
L0001829	0	0.15873E-01	448558.9	3762387.4	225.1	3.49	6.51	3.25	YES
L0001830	0	0.15873E-01	448572.9	3762387.2	225.1	3.49	6.51	3.25	YES
L0001831	0	0.15873E-01	448586.9	3762387.1	225.1	3.49	6.51	3.25	YES
L0001832	0	0.15873E-01	448600.9	3762387.0	225.1	3.49	6.51	3.25	YES
L0001833	0	0.15873E-01	448614.9	3762386.8	224.9	3.49	6.51	3.25	YES
L0001834	0	0.15873E-01	448628.9	3762387.3	224.7	3.49	6.51	3.25	YES
L0001835	0	0.15873E-01	448642.8	3762388.3	224.3	3.49	6.51	3.25	YES

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 L0001836         0   0.15873E-01  448656.8 3762389.3   223.9     3.49     6.51     3.25
 YES
 L0001837         0   0.15873E-01  448670.8 3762390.3   223.5     3.49     6.51     3.25
 YES
 L0001838         0   0.15873E-01  448684.7 3762391.3   223.1     3.49     6.51     3.25
 YES
 L0001839         0   0.15873E-01  448698.7 3762392.3   222.7     3.49     6.51     3.25
 YES
 L0001840         0   0.15873E-01  448712.6 3762393.7   222.4     3.49     6.51     3.25
 YES
 L0001841         0   0.15873E-01  448726.4 3762396.3   222.3     3.49     6.51     3.25
 YES
 L0001842         0   0.15873E-01  448740.1 3762398.9   222.2     3.49     6.51     3.25
 YES
 L0001843         0   0.15873E-01  448753.9 3762401.6   222.2     3.49     6.51     3.25
 YES
 L0001844         0   0.15873E-01  448767.6 3762404.2   222.4     3.49     6.51     3.25
 YES
 L0001845         0   0.15873E-01  448781.4 3762406.8   222.5     3.49     6.51     3.25
 YES
 L0001846         0   0.15873E-01  448795.0 3762410.1   222.7     3.49     6.51     3.25
 YES
 L0001847         0   0.15873E-01  448808.6 3762413.5   222.9     3.49     6.51     3.25
 YES
 L0001848         0   0.15873E-01  448822.1 3762416.9   222.8     3.49     6.51     3.25
 YES
 L0001849         0   0.15873E-01  448835.7 3762420.3   222.7     3.49     6.51     3.25
 YES
 L0001850         0   0.15873E-01  448849.3 3762423.7   222.6     3.49     6.51     3.25
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
              URBAN  EMISSION RATE
  SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
 - - -
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L0001859	0	0.15873E-01	448968.2	3762465.1	223.4	3.49	6.51	3.25
YES								
L0001860	0	0.15873E-01	448981.3	3762469.9	223.5	3.49	6.51	3.25
YES								
L0001861	0	0.15873E-01	448994.5	3762474.8	223.5	3.49	6.51	3.25
YES								
L0001862	0	0.15873E-01	449007.6	3762479.6	223.6	3.49	6.51	3.25
YES								
L0001863	0	0.15873E-01	449020.8	3762484.4	223.6	3.49	6.51	3.25
YES								
L0001864	0	0.15873E-01	449033.9	3762489.2	223.8	3.49	6.51	3.25
YES								
L0001865	0	0.15873E-01	449047.0	3762494.1	224.0	3.49	6.51	3.25
YES								
L0001866	0	0.15873E-01	449060.2	3762498.9	224.1	3.49	6.51	3.25
YES								
L0001867	0	0.15873E-01	449073.3	3762503.7	224.1	3.49	6.51	3.25
YES								
L0001868	0	0.15873E-01	449086.5	3762508.6	224.2	3.49	6.51	3.25
YES								
L0001869	0	0.15873E-01	449099.6	3762513.4	224.2	3.49	6.51	3.25
YES								
L0001870	0	0.15873E-01	449112.7	3762518.2	224.2	3.49	6.51	3.25
YES								
L0001871	0	0.15873E-01	449125.9	3762523.0	224.3	3.49	6.51	3.25
YES								
L0001872	0	0.15873E-01	449139.0	3762527.9	224.4	3.49	6.51	3.25
YES								
L0001873	0	0.15873E-01	449152.2	3762532.7	224.4	3.49	6.51	3.25
YES								
L0001874	0	0.15873E-01	449165.3	3762537.5	224.5	3.49	6.51	3.25
YES								
L0001875	0	0.15873E-01	449178.5	3762542.3	224.5	3.49	6.51	3.25
YES								
L0001876	0	0.15873E-01	449191.6	3762547.2	224.5	3.49	6.51	3.25
YES								
L0001877	0	0.15873E-01	449204.7	3762552.0	224.5	3.49	6.51	3.25
YES								
L0001878	0	0.15873E-01	449217.9	3762556.8	224.5	3.49	6.51	3.25
YES								
L0001879	0	0.15873E-01	449231.0	3762561.7	224.4	3.49	6.51	3.25
YES								
L0001880	0	0.15873E-01	449244.2	3762566.5	224.5	3.49	6.51	3.25
YES								
L0001881	0	0.15873E-01	449257.3	3762571.3	224.5	3.49	6.51	3.25
YES								
L0001882	0	0.15873E-01	449270.4	3762576.1	224.4	3.49	6.51	3.25
YES								
L0001883	0	0.15873E-01	449283.6	3762581.0	224.3	3.49	6.51	3.25
YES								
L0002266	0	0.24390E-01	447576.8	3762765.5	227.4	3.49	4.00	3.25
YES								
L0002267	0	0.24390E-01	447578.1	3762757.0	227.3	3.49	4.00	3.25
YES								
L0002268	0	0.24390E-01	447579.3	3762748.5	227.2	3.49	4.00	3.25
YES								
L0002269	0	0.24390E-01	447580.6	3762740.0	227.1	3.49	4.00	3.25
YES								
L0002270	0	0.24390E-01	447581.9	3762731.5	227.0	3.49	4.00	3.25
YES								
L0002271	0	0.24390E-01	447583.2	3762723.0	226.9	3.49	4.00	3.25
YES								
L0002272	0	0.24390E-01	447584.4	3762714.5	226.9	3.49	4.00	3.25
YES								

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER URBAN SOURCE SCALAR VARY BY	EMISSION RATE PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	
L0002273	0		0.24390E-01	447585.7	3762706.0	226.8	3.49	4.00	3.25	YES
L0002274	0		0.24390E-01	447587.0	3762697.5	226.6	3.49	4.00	3.25	YES
L0002275	0		0.24390E-01	447588.2	3762689.0	226.4	3.49	4.00	3.25	YES
L0002276	0		0.24390E-01	447589.5	3762680.5	226.2	3.49	4.00	3.25	YES
L0002277	0		0.24390E-01	447590.8	3762672.1	226.1	3.49	4.00	3.25	YES
L0002278	0		0.24390E-01	447592.1	3762663.6	226.0	3.49	4.00	3.25	YES
L0002279	0		0.24390E-01	447593.4	3762655.1	226.0	3.49	4.00	3.25	YES
L0002280	0		0.24390E-01	447594.7	3762646.6	225.9	3.49	4.00	3.25	YES
L0002281	0		0.24390E-01	447596.0	3762638.1	225.8	3.49	4.00	3.25	YES
L0002282	0		0.24390E-01	447597.3	3762629.6	225.7	3.49	4.00	3.25	YES
L0002283	0		0.24390E-01	447598.6	3762621.1	225.6	3.49	4.00	3.25	YES
L0002284	0		0.24390E-01	447599.9	3762612.6	225.5	3.49	4.00	3.25	YES
L0002285	0		0.24390E-01	447601.3	3762604.1	225.4	3.49	4.00	3.25	YES
L0002286	0		0.24390E-01	447602.6	3762595.7	225.3	3.49	4.00	3.25	YES
L0002287	0		0.24390E-01	447604.0	3762587.2	225.3	3.49	4.00	3.25	YES
L0002288	0		0.24390E-01	447605.4	3762578.7	225.2	3.49	4.00	3.25	YES
L0002289	0		0.24390E-01	447606.7	3762570.2	225.1	3.49	4.00	3.25	YES
L0002290	0		0.24390E-01	447608.1	3762561.7	225.0	3.49	4.00	3.25	YES
L0002291	0		0.24390E-01	447609.5	3762553.3	224.9	3.49	4.00	3.25	YES
L0002292	0		0.24390E-01	447610.8	3762544.8	224.8	3.49	4.00	3.25	YES
L0002293	0		0.24390E-01	447612.2	3762536.3	224.7	3.49	4.00	3.25	YES
L0002294	0		0.24390E-01	447613.6	3762527.8	224.7	3.49	4.00	3.25	YES
L0002295	0		0.24390E-01	447616.3	3762519.7	224.6	3.49	4.00	3.25	YES
L0002296	0		0.24390E-01	447619.1	3762511.6	224.5	3.49	4.00	3.25	YES

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 L0002297         0   0.24390E-01  447622.0 3762503.5   224.4     3.49     4.00     3.25
 YES
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 YES
 L0002299         0   0.24390E-01  447623.2 3762486.6   224.2     3.49     4.00     3.25
 YES
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 L0002301         0   0.24390E-01  447622.3 3762469.5   224.1     3.49     4.00     3.25
 YES
 L0002302         0   0.24390E-01  447621.9 3762460.9   224.0     3.49     4.00     3.25
 YES
 L0002303         0   0.24390E-01  447621.4 3762452.3   223.9     3.49     4.00     3.25
 YES
 L0002304         0   0.24390E-01  447620.9 3762443.7   223.8     3.49     4.00     3.25
 YES
 L0002305         0   0.24390E-01  447620.5 3762435.2   223.7     3.49     4.00     3.25
 YES
 L0002306         0   0.24390E-01  447620.0 3762426.6   223.7     3.49     4.00     3.25
 YES
 5CREF            0   0.10000E+01  447588.1 3762458.6   224.0     1.00     4.65     2.33
 YES
 5CSPILL          0   0.10000E+01  447588.1 3762458.6   224.0     0.00     4.65     2.33
 YES
 10BREF           0   0.10000E+01  448360.8 3762176.3   222.0     1.00     4.65     2.33
 YES
 10BSPILL         0   0.10000E+01  448360.8 3762176.4   222.0     0.00     4.65     2.33
 YES
 4BREF            0   0.10000E+01  446867.7 3762342.1   222.8     1.00     4.65     2.33
 YES
 4BSPILL          0   0.10000E+01  446867.7 3762342.2   222.8     0.00     4.65     2.33
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                *** VOLUME SOURCE DATA ***

             NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.
             URBAN  EMISSION RATE
  SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ
  SOURCE  SCALAR VARY
    ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
    (METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - -

 6BREF            0   0.10000E+01  448360.0 3762465.2   225.9     1.00     4.65     2.33
 YES
 6BSPILL          0   0.10000E+01  448360.0 3762465.2   225.9     0.00     4.65     2.33
 YES
 8REF             0   0.10000E+01  448364.7 3762348.9   225.0     1.00     4.65     2.33
 YES
 8SPILL           0   0.10000E+01  448364.7 3762348.9   225.0     0.00     4.65     2.33
 YES
 5BREF            0   0.10000E+01  447583.8 3762350.1   222.9     1.00     4.65     2.33
 YES
 5BSPILL          0   0.10000E+01  447583.9 3762350.1   222.9     0.00     4.65     2.33
 YES
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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10BREF	10BREF ,
10BSPILL	10BSPILL ,
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** SOURCE IDs DEFINING SOURCE GROUPS ***

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FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                        SOURCE IDs
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FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                          SOURCE IDs
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FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                          SOURCE IDs
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FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                          SOURCE IDs
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs

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FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE  55
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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3CON	L0000234 , L0000235 , L0000236 , L0000237 , L0000238 , L0000239 , L0000240 , L0000241 ,
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4BBREAT	4BBREAT ,
4BLOAD	4BLOAD ,
4BREF	4BREF ,
4BSPILL	4BSPILL ,
5AIDLE	L0000089 , L0000090 , L0000091 , L0000092 , L0000093 , L0000094 , L0000095 , L0000096 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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5BBREAT	5BBREAT ,
5BLOAD	5BLOAD ,
5BREF	5BREF ,
5BSPILL	5BSPILL ,
5CBRE	5CBRE ,
5CLOAD	5CLOAD ,
5CREF	5CREF ,
5CSPILL	5CSPILL ,
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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	L0000505 , L0000506 , L0000507 , L0000508 , L0000509 ,
6BBREAT	6BBREAT ,
6BLOAD	6BLOAD ,
6BREF	6BREF ,
6BSPILL	6BSPILL ,
8BREAT	8BREAT ,
8LOAD	8LOAD ,
8REF	8REF ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs

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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs

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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs

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FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                          SOURCE IDs
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FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                          SOURCE IDs
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FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                          SOURCE IDs
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FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE  66
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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	L0002079 , L0002080 , L0002081 , L0002082 , L0002083 , L0002084 , L0002085 , L0002086 ,
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	L0002095 , L0002096 , L0002097 , L0002098 , L0002099 , L0002100 , L0002101 , L0002102 ,
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	L0002111 , L0002112 , L0002113 , L0002114 , L0002115 , L0002116 , L0002117 , L0002118 ,
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs

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10BREF , 10BSPILL ,

10BBREAT , 10BLOAD , 4BREF , 4BSPILL , 4BBREAT , 4BLOAD ,
6BREF , 6BSPILL ,

6BBREAT , 6BLOAD , 8REF , 8SPILL , 8BREAT , 8LOAD ,
5BREF , 5BSPILL ,

5BBREAT , 5BLOAD ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
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		L0000091 , L0000092 , L0000093 , L0000094 , L0000095 , L0000096 , L0000097 , L0000098 ,
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs

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*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs

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            L0000815    , L0000816    ,

            L0000817    , L0000818    , L0000819    , L0000820    , L0000821    , L0000822    ,
            L0000823    , L0000824    ,

            L0000825    , L0000826    , L0000827    , L0000828    , L0000829    , L0000830    ,
            L0000831    , L0000832    ,

            L0000833    , L0000834    , L0000835    , L0000836    , L0000837    , L0000838    ,
            L0000839    , L0000840    ,

            L0000841    , L0000842    , L0000843    , L0000844    , L0000845    , L0000846    ,
            L0000847    , L0000848    ,

            L0000849    , L0000850    , L0000851    , L0000852    , L0000853    , L0000854    ,
            L0000855    , L0000856    ,

            L0000857    , L0000858    , L0000859    , L0000860    , L0000861    , L0000862    ,
            L0000863    , L0000864    ,

            L0000865    , L0000866    , L0001178    , L0001179    , L0001180    , L0001181    ,
            L0001182    , L0001183    ,

            L0001184    , L0001185    , L0001186    , L0001187    , L0001188    , L0001189    ,
            L0001190    , L0001191    ,

            L0001192    , L0001193    , L0001194    , L0001195    , L0001196    , L0001197    ,
            L0001198    , L0001199    ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE  74
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINED AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                  SOURCE IDs
  --------   ---------                                  ----------


            L0001200    , L0001201    , L0001202    , L0001203    , L0001204    , L0001205    ,
            L0001206    , L0001207    ,

            L0001208    , L0001209    , L0001210    , L0001211    , L0001212    , L0001213    ,
            L0001214    , L0001215    ,

            L0001216    , L0001217    , L0001218    , L0001219    , L0001220    , L0001221    ,
            L0001222    , L0001223    ,

            L0001224    , L0001225    , L0001226    , L0001227    , L0001228    , L0001229    ,
            L0001230    , L0001231    ,

            L0001232    , L0001233    , L0001234    , L0001235    , L0001236    , L0001237
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            L0001238    , L0001239    ,

            L0001240    , L0001241    , L0001242    , L0001243    , L0001244    , L0001245    ,
            L0001246    , L0001247    ,

            L0001248    , L0001249    , L0001250    , L0001251    , L0001252    , L0001253    ,
            L0001254    , L0001255    ,

            L0001256    , L0001257    , L0001258    , L0001259    , L0001260    , L0001261    ,
            L0001262    , L0001263    ,

            L0001264    , L0001265    , L0001266    , L0001267    , L0001268    , L0001269    ,
            L0001270    , L0001271    ,

            L0001272    , L0001273    , L0001274    , L0001275    , L0001276    , L0001277    ,
            L0001278    , L0001279    ,

            L0001280    , L0001281    , L0001282    , L0001283    , L0001284    , L0001285    ,
            L0001286    , L0001287    ,

            L0001288    , L0001289    , L0001290    , L0001291    , L0001292    , L0001293    ,
            L0001294    , L0001295    ,

            L0001296    , L0001297    , L0001298    , L0001299    , L0001300    , L0001301    ,
            L0001302    , L0001303    ,

            L0001304    , L0001305    , L0001306    , L0001307    , L0001308    , L0001309    ,
            L0001310    , L0001311    ,

            L0001312    , L0001313    , L0001314    , L0001315    , L0001316    , L0001317    ,
            L0001318    , L0001319    ,

            L0001320    , L0001321    , L0001322    , L0001323    , L0001324    , L0001325    ,
            L0001326    , L0001327    ,

            L0001328    , L0001329    , L0001330    , L0001331    , L0001332    , L0001333    ,
            L0001334    , L0001335    ,

            L0001336    , L0001337    , L0001338    , L0001339    , L0001340    , L0001341    ,
            L0001342    , L0001343    ,

            L0001344    , L0001345    , L0001346    , L0001347    , L0001348    , L0001349    ,
            L0001350    , L0001351    ,

            L0001352    , L0001353    , L0001354    , L0001355    , L0001356    , L0001357    ,
            L0001358    , L0001359    ,
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE  75
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                        *** SOURCE IDs DEFINED AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                  SOURCE IDs
  --------   ---------                                  ----------


            L0001360    , L0001361    , L0001362    , L0001363    , L0001364    , L0001365    ,
            L0001366    , L0001367    ,

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            L0001374    , L0001375    ,
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L0001376 , L0001377 , L0001378 , L0001379 , L0001380 , L0001381 ,
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L0001384 , L0001385 , L0001386 , L0001387 , L0001388 , L0001389 ,
L0001390 , L0001391 ,

L0001392 , L0001393 , L0001394 , L0001395 , L0001396 , L0001397 ,
L0001398 , L0001399 ,

L0001400 , L0001401 , L0001402 , L0001403 , L0001404 , L0001405 ,
L0001406 , L0001407 ,

L0001408 , L0001409 , L0001410 , L0000867 , L0000868 , L0000869 ,
L0000870 , L0000871 ,

L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 ,
L0000878 , L0000879 ,

L0000880 , L0000881 , L0000882 , L0000883 , L0000884 , L0000885 ,
L0000886 , L0000887 ,

L0000888 , L0000889 , L0000890 , L0000891 , L0000892 , L0000893 ,
L0000894 , L0000895 ,

L0000896 , L0000897 , L0000898 , L0000899 , L0000900 , L0000901 ,
L0000902 , L0000903 ,

L0000904 , L0000905 , L0000906 , L0000907 , L0000908 , L0000909 ,
L0000910 , L0000911 ,

L0000912 , L0000913 , L0000914 , L0000915 , L0000916 , L0000917 ,
L0000918 , L0000919 ,

L0000920 , L0000921 , L0000922 , L0000923 , L0001701 , L0001702 ,
L0001703 , L0001704 ,

L0001705 , L0001706 , L0001707 , L0001708 , L0001709 , L0001710 ,
L0001711 , L0001712 ,

L0001713 , L0001714 , L0001715 , L0001716 , L0001717 , L0001718 ,
L0001719 , L0001720 ,

L0001721 , L0001722 , L0001723 , L0001724 , L0001725 , L0001726 ,
L0001727 , L0001728 ,

L0001729 , L0001730 , L0001731 , L0001732 , L0001733 , L0001734 ,
L0001735 , L0001736 ,

L0001737 , L0001738 , L0001739 , L0001740 , L0001741 , L0001742 ,
L0001743 , L0001744 ,

L0001745 , L0001746 , L0001747 , L0001748 , L0001749 , L0001750 ,
L0001751 , L0001752 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs

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L0001753 , L0001754 , L0001755 , L0001756 , L0001757 , L0000924 ,
L0000925 , L0000926 ,

L0000927 , L0000928 , L0000929 , L0000930 , L0000931 , L0000932 ,
L0000933 , L0000934 ,

L0000935 , L0000936 , L0000937 , L0000938 , L0000939 , L0000940 ,
L0000941 , L0000942 ,

L0000943 , L0000944 , L0000945 , L0000946 , L0000947 , L0000948 ,
L0000949 , L0000950 ,

L0000951 , L0000952 , L0000953 , L0000954 , L0000955 , L0000956 ,
L0000957 , L0000958 ,

L0000959 , L0000960 , L0000961 , L0000962 , L0000963 , L0000964 ,
L0000965 , L0000966 ,

L0000967 , L0000968 , L0000969 , L0000970 , L0000971 , L0000972 ,
L0000973 , L0000974 ,

L0000975 , L0000976 , L0000977 , L0000978 , L0000979 , L0000980 ,
L0000981 , L0000982 ,

L0000983 , L0000984 , L0000985 , L0000986 , L0000987 , L0000988 ,
L0000989 , L0000990 ,

L0000991 , L0000992 , L0000993 , L0000994 , L0000995 , L0000996 ,
L0000997 , L0000998 ,

L0000999 , L0001000 , L0001001 , L0001002 , L0001003 , L0001004 ,
L0001005 , L0001006 ,

L0001007 , L0001008 , L0001009 , L0001010 , L0001011 , L0001012 ,
L0001013 , L0001014 ,

L0001015 , L0001016 , L0001017 , L0001018 , L0001019 , L0001020 ,
L0001021 , L0001022 ,

L0001023 , L0001024 , L0001025 , L0001026 , L0001027 , L0001028 ,
L0001029 , L0001030 ,

L0001031 , L0001032 , L0001033 , L0001034 , L0001035 , L0001036 ,
L0001037 , L0001038 ,

L0001039 , L0001040 , L0001041 , L0001042 , L0001043 , L0001044 ,
L0001045 , L0001046 ,

L0001047 , L0001048 , L0001049 , L0001050 , L0001051 , L0001052 ,
L0001053 , L0001054 ,

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L0001061 , L0001062 ,

L0001063 , L0001064 , L0001065 , L0001066 , L0001067 , L0001068 ,
L0001069 , L0001070 ,

L0001071 , L0001072 , L0001073 , L0001074 , L0001075 , L0001076 ,
L0001077 , L0001078 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
		L0001079 , L0001080 , L0001081 , L0001082 , L0001083 , L0001084 , L0001085 , L0001086 ,
		L0001087 , L0001088 , L0001089 , L0001090 , L0001091 , L0001092 , L0001093 , L0001094 ,
		L0001095 , L0001096 , L0001097 , L0001098 , L0001099 , L0001100 , L0001101 , L0001102 ,
		L0001103 , L0001104 , L0001105 , L0001106 , L0001107 , L0001108 , L0001109 , L0001110 ,
		L0001111 , L0001112 , L0001113 , L0001114 , L0002075 , L0002076 , L0002077 , L0002078 ,
		L0002079 , L0002080 , L0002081 , L0002082 , L0002083 , L0002084 , L0002085 , L0002086 ,
		L0002087 , L0002088 , L0002089 , L0002090 , L0002091 , L0002092 , L0002093 , L0002094 ,
		L0002095 , L0002096 , L0002097 , L0002098 , L0002099 , L0002100 , L0002101 , L0002102 ,
		L0002103 , L0002104 , L0002105 , L0002106 , L0002107 , L0002108 , L0002109 , L0002110 ,
		L0002111 , L0002112 , L0002113 , L0002114 , L0002115 , L0002116 , L0002117 , L0002118 ,
		L0002119 , L0002120 , L0002121 , L0002122 , L0002123 , L0002124 , L0002125 , L0002126 ,
		L0002127 , L0002128 , L0002129 , L0002130 , L0002131 , L0002132 , L0002133 , L0002134 ,
		L0002135 , L0002136 , L0002137 , L0002138 , L0002139 , L0002140 , L0002141 , L0002142 ,
		L0002143 , L0002144 , L0002145 , L0002146 , L0002147 , L0002148 , L0002149 , L0002150 ,
		L0002151 , L0002152 , L0002153 , L0002154 , L0002155 , L0002156 , L0002157 , L0002158 ,
		L0002159 , L0002160 , L0002161 , L0002162 , L0002163 , L0002164 , L0002165 , L0002166 ,
		L0002167 , L0002168 , L0002169 , L0002170 , L0002171 , L0002172 , L0002173 , L0002174 ,
		L0002175 , L0002176 , L0002177 , L0002178 , L0002179 , L0002180 , L0002181 , L0002182 ,
		L0002183 , L0002184 , L0002185 , L0002186 , L0002187 , L0002188

L0002189 , L0002190 ,

L0002191 , L0002192 , L0002193 , L0002194 , L0002195 , L0002196 ,
L0002197 , L0002198 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs

L0002199 , L0002200 , L0002201 , L0002202 , L0002203 , L0002204 ,
L0002205 , L0002206 ,

L0002207 , L0002208 , L0002209 , L0002210 , L0002211 , L0002212 ,
L0002213 , L0002214 ,

L0002215 , L0002216 , L0002217 , L0002218 , L0002219 , L0002220 ,
L0002221 , L0002222 ,

L0002223 , L0002224 , L0002225 , L0002226 , L0002227 , L0002228 ,
L0002229 , L0002230 ,

L0002231 , L0002232 , L0002233 , L0002234 , L0002235 , L0002236 ,
L0002237 , L0002238 ,

L0002239 , L0002240 , L0002241 , L0002242 , L0002243 , L0002244 ,
L0002245 , L0002246 ,

L0002247 , L0002248 , L0002249 , L0002250 , L0002251 , L0002252 ,
L0002253 , L0002254 ,

L0002255 , L0002256 , L0002257 , L0002258 , L0002259 , L0002260 ,
L0002261 , L0002262 ,

L0002263 , L0002264 , L0002265 , L0001115 , L0001116 , L0001117 ,
L0001118 , L0001119 ,

L0001120 , L0001121 , L0001122 , L0001123 , L0001124 , L0001125 ,
L0001126 , L0001127 ,

L0001128 , L0001129 , L0001130 , L0001131 , L0001132 , L0001133 ,
L0001134 , L0001135 ,

L0001136 , L0001137 , L0001138 , L0001139 , L0001140 , L0001141 ,
L0001142 , L0001143 ,

L0001144 , L0001145 , L0001146 , L0001147 , L0001148 , L0001149 ,
L0001150 , L0001151 ,

L0001152 , L0001153 , L0001154 , L0001155 , L0001156 , L0001157 ,
L0001158 , L0001159 ,

L0001160 , L0001161 , L0001162 , L0001163 , L0001164 , L0001165 ,
L0001166 , L0001167 ,

L0001168 , L0001169 , L0001170 , L0001171 , L0001172 , L0001173 ,
L0001174 , L0001175 ,

L0001176 , L0001177 , L0001821 , L0001822 , L0001823 , L0001824 ,
L0001825 , L0001826 ,

L0001827 , L0001828 , L0001829 , L0001830 , L0001831 , L0001832 ,
L0001833 , L0001834 ,

L0001835 , L0001836 , L0001837 , L0001838 , L0001839 , L0001840 ,
L0001841 , L0001842 ,

L0001843 , L0001844 , L0001845 , L0001846 , L0001847 , L0001848 ,
L0001849 , L0001850 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs

L0001851 , L0001852 , L0001853 , L0001854 , L0001855 , L0001856 ,
L0001857 , L0001858 ,

L0001859 , L0001860 , L0001861 , L0001862 , L0001863 , L0001864 ,
L0001865 , L0001866 ,

L0001867 , L0001868 , L0001869 , L0001870 , L0001871 , L0001872 ,
L0001873 , L0001874 ,

L0001875 , L0001876 , L0001877 , L0001878 , L0001879 , L0001880 ,
L0001881 , L0001882 ,

L0001883 , L0002266 , L0002267 , L0002268 , L0002269 , L0002270 ,
L0002271 , L0002272 ,

L0002273 , L0002274 , L0002275 , L0002276 , L0002277 , L0002278 ,
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L0002281 , L0002282 , L0002283 , L0002284 , L0002285 , L0002286 ,
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L0002289 , L0002290 , L0002291 , L0002292 , L0002293 , L0002294 ,
L0002295 , L0002296 ,

L0002297 , L0002298 , L0002299 , L0002300 , L0002301 , L0002302 ,
L0002303 , L0002304 ,

L0002305 , L0002306 , 5CREF , 5CSPILL , 5CLOAD , 5CBRE ,
10BREF , 10BSPILL ,

10BBREAT , 10BLOAD , 4BREF , 4BSPILL , 4BBREAT , 4BLOAD ,
6BREF , 6BSPILL ,

6BBREAT , 6BLOAD , 8REF , 8SPILL , 8BREAT , 8LOAD ,
5BREF , 5BSPILL ,

5BBREAT , 5BLOAD ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447362.2, 3764292.7, 240.7, 240.7, 0.0); (447376.0, 3764151.0,
239.6, 239.6, 0.0);
(447389.8, 3764043.0, 237.8, 237.8, 0.0); (447450.2, 3764031.0,
237.5, 237.5, 0.0);
(447410.2, 3764019.0, 237.5, 237.5, 0.0); (446891.9, 3764451.2,
241.5, 241.5, 0.0);
(446959.3, 3764451.2, 241.5, 241.5, 0.0); (446995.3, 3764468.1,
241.8, 241.8, 0.0);
(447007.4, 3764467.3, 241.9, 241.9, 0.0); (447023.5, 3764466.1,
241.9, 241.9, 0.0);
(447036.6, 3764466.2, 241.9, 241.9, 0.0); (447052.7, 3764465.6,
242.0, 242.0, 0.0);
(447066.6, 3764465.7, 242.1, 242.1, 0.0); (447099.6, 3764456.2,
242.1, 242.1, 0.0);
(447145.3, 3764468.3, 242.1, 242.1, 0.0); (447175.5, 3764468.0,
241.7, 241.7, 0.0);
(447205.3, 3764468.3, 241.3, 241.3, 0.0); (447232.4, 3764467.5,
242.0, 242.0, 0.0);
(447264.0, 3764467.3, 243.3, 243.3, 0.0); (447294.8, 3764466.9,
243.8, 243.8, 0.0);
(447365.0, 3764456.4, 243.3, 243.3, 0.0); (447406.6, 3764460.6,
243.1, 243.1, 0.0);
(447441.5, 3764460.0, 243.2, 243.2, 0.0); (447466.9, 3764460.2,
243.2, 243.2, 0.0);
(447490.0, 3764460.6, 242.9, 242.9, 0.0); (447515.5, 3764460.4,
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(447573.1, 3764454.3, 241.6, 241.6, 0.0); (447598.5, 3764445.2,
241.8, 241.8, 0.0);
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243.8, 243.8, 0.0);
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243.9, 243.9, 0.0);
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243.8, 243.8, 0.0);
(447902.8, 3764436.2, 243.8, 243.8, 0.0); (447920.9, 3764435.3,
243.8, 243.8, 0.0);
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(448021.2, 3764434.7, 243.0, 243.0, 0.0); (447662.7, 3764379.6,
243.6, 243.6, 0.0);
(447681.3, 3764321.0, 243.4, 243.4, 0.0); (447682.6, 3764285.8,
242.3, 242.3, 0.0);
(447662.5, 3764238.4, 241.1, 241.1, 0.0); (447661.7, 3764207.4,
240.2, 240.2, 0.0);
(447683.1, 3764162.3, 239.1, 239.1, 0.0); (447681.0, 3764145.9,
238.7, 238.7, 0.0);
(447679.6, 3764130.3, 238.2, 238.2, 0.0); (447680.8, 3764112.0,
237.8, 237.8, 0.0);

(447681.5, 3764096.4, 237.6, 237.6, 0.0); (447680.8, 3764078.8, 237.4, 237.4, 0.0);
(447680.0, 3764064.3, 237.4, 237.4, 0.0); (447681.0, 3764045.8, 237.5, 237.5, 0.0);
(447680.6, 3764029.7, 237.5, 237.5, 0.0); (447657.2, 3763992.0, 237.3, 237.3, 0.0);
(447656.3, 3763967.1, 237.5, 237.5, 0.0); (447657.2, 3763928.7, 237.5, 237.5, 0.0);
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(447656.2, 3763834.9, 237.4, 237.4, 0.0); (447655.9, 3763808.3, 237.5, 237.5, 0.0);
(447657.1, 3763786.0, 237.6, 237.6, 0.0); (447701.2, 3763782.1, 237.7, 237.7, 0.0);
(447856.9, 3763749.7, 236.2, 236.2, 0.0); (447855.0, 3763730.1, 236.0, 236.0, 0.0);
(447854.3, 3763698.3, 235.6, 235.6, 0.0); (447855.3, 3763676.8, 235.4, 235.4, 0.0);
(447675.5, 3763287.5, 232.0, 232.0, 0.0); (448481.3, 3763485.3, 235.6, 235.6, 0.0);
(448480.0, 3763195.5, 232.0, 232.0, 0.0); (448478.6, 3762907.2, 229.4, 229.4, 0.0);
(448497.9, 3762714.1, 228.1, 228.1, 0.0); (448507.9, 3762487.7, 225.8, 225.8, 0.0);
(448480.5, 3762358.0, 224.8, 224.8, 0.0); (448462.7, 3762339.8, 224.6, 224.6, 0.0);
(448464.5, 3762265.9, 223.3, 223.3, 0.0); (448461.6, 3762165.2, 222.0, 222.0, 0.0);
(448472.6, 3762064.7, 220.0, 220.0, 0.0); (448460.5, 3762016.7, 219.4, 219.4, 0.0);
(448234.6, 3761951.2, 220.0, 220.0, 0.0); (448081.4, 3761952.8, 220.9, 220.9, 0.0);
(448025.5, 3761956.0, 221.0, 221.0, 0.0); (447506.8, 3761967.6, 220.0, 220.0, 0.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(447269.3, 3761967.7, 219.7, 219.7, 0.0); (447389.5, 3761908.8, 220.0, 220.0, 0.0);
(447019.1, 3761964.3, 219.0, 219.0, 0.0); (447060.3, 3761963.6, 219.0, 219.0, 0.0);
(446975.3, 3761963.2, 219.0, 219.0, 0.0); (446940.9, 3761953.8, 219.0, 219.0, 0.0);
(446865.7, 3761974.5, 219.9, 219.9, 0.0); (446795.1, 3761957.9, 220.0, 220.0, 0.0);
(446757.6, 3761965.8, 220.0, 220.0, 0.0); (446709.3, 3761967.7, 220.0, 220.0, 0.0);
(446796.4, 3762028.6, 220.0, 220.0, 0.0); (446797.0, 3762045.3, 220.1, 220.1, 0.0);
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(446885.3, 3762889.7, 228.6, 228.6, 0.0); (446862.1, 3762888.9, 228.6, 228.6, 0.0);

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(446871.5, 3762779.6, 228.6, 228.6, 0.0); (446926.3, 3762768.7, 228.6, 228.6, 0.0);
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*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

1 1 1

FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-16.4	0.171	-9.000	-9.000	-999.	170.	32.3	0.09	1.12	1.00	2.03	43.	7.9	285.9	2.0
12	01	01	1	02	-18.8	0.194	-9.000	-9.000	-999.	205.	41.3	0.09	1.12	1.00	2.28	34.	7.9	285.4	2.0
12	01	01	1	03	-17.8	0.182	-9.000	-9.000	-999.	187.	36.5	0.09	1.12	1.00	2.15	24.	7.9	282.0	2.0
12	01	01	1	04	-9.4	0.128	-9.000	-9.000	-999.	110.	19.6	0.09	1.12	1.00	1.55	41.	7.9	283.1	2.0
12	01	01	1	05	-16.9	0.173	-9.000	-9.000	-999.	173.	33.0	0.09	1.12	1.00	2.05	39.	7.9	280.4	2.0
12	01	01	1	06	-8.0	0.117	-9.000	-9.000	-999.	97.	17.8	0.09	1.12	1.00	1.43	21.	7.9	282.0	2.0
12	01	01	1	07	-7.6	0.115	-9.000	-9.000	-999.	93.	17.4	0.09	1.12	1.00	1.40	31.	7.9	282.5	2.0
12	01	01	1	08	-13.6	0.184	-9.000	-9.000	-999.	190.	40.5	0.09	1.12	0.54	2.16	34.	7.9	284.2	2.0
12	01	01	1	09	28.4	0.126	0.300	0.011	33.	108.	-6.2	0.09	1.12	0.32	1.03	29.	7.9	289.2	2.0
12	01	01	1	10	79.8	0.133	0.607	0.010	99.	116.	-2.6	0.09	1.12	0.25	0.94	173.	7.9	292.5	2.0
12	01	01	1	11	115.8	0.137	0.932	0.006	246.	121.	-2.0	0.09	1.12	0.22	0.92	172.	7.9	295.4	2.0
12	01	01	1	12	133.7	0.139	1.197	0.005	453.	125.	-1.8	0.09	1.12	0.21	0.92	146.	7.9	297.5	2.0
12	01	01	1	13	133.2	0.160	1.354	0.005	657.	153.	-2.7	0.09	1.12	0.21	1.14	117.	7.9	299.9	2.0
12	01	01	1	14	113.5	0.159	1.454	0.005	955.	151.	-3.1	0.09	1.12	0.23	1.16	285.	7.9	300.9	2.0
12	01	01	1	15	76.2	0.166	1.350	0.005	1138.	163.	-5.3	0.09	1.12	0.26	1.33	72.	7.9	302.0	2.0
12	01	01	1	16	23.5	0.175	0.925	0.005	1183.	175.	-19.9	0.09	1.12	0.35	1.65	107.	7.9	301.4	2.0
12	01	01	1	17	-6.1	0.107	-9.000	-9.000	-999.	86.	18.0	0.09	1.12	0.63	1.31	107.	7.9	298.1	2.0
12	01	01	1	18	-11.1	0.141	-9.000	-9.000	-999.	127.	22.1	0.09	1.12	1.00	1.69	86.	7.9	293.1	2.0
12	01	01	1	19	-3.2	0.076	-9.000	-9.000	-999.	51.	11.8	0.09	1.12	1.00	0.91	64.	7.9	292.0	2.0
12	01	01	1	20	-2.3	0.066	-9.000	-9.000	-999.	41.	11.2	0.09	1.12	1.00	0.74	73.	7.9	288.8	2.0
12	01	01	1	21	-10.0	0.133	-9.000	-9.000	-999.	116.	20.5	0.09	1.12	1.00	1.60	14.	7.9	288.1	2.0
12	01	01	1	22	-19.4	0.201	-9.000	-9.000	-999.	216.	44.5	0.09	1.12	1.00	2.36	22.	7.9	287.5	2.0
12	01	01	1	23	-23.7	0.246	-9.000	-9.000	-999.	293.	66.5	0.09	1.12	1.00	2.86	40.	7.9	287.0	2.0
12	01	01	1	24	-12.3	0.147	-9.000	-9.000	-999.	139.	23.8	0.09	1.12	1.00	1.76	40.	7.9	283.8	2.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
12	01	01	01	7.9	1	43.	2.03	286.0	99.0	-99.00	-99.00

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BBREAT ***
INCLUDING SOURCE(S): 10BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.13241	447375.98	3764150.98	0.14755
447389.75	3764043.04	0.16289	447450.16	3764031.05	0.16793
447410.18	3764019.05	0.16737	446891.90	3764451.22	0.10575
446959.28	3764451.22	0.10801	446995.28	3764468.13	0.10788
447007.41	3764467.30	0.10817	447023.51	3764466.09	0.10871
447036.59	3764466.21	0.10909	447052.68	3764465.61	0.10951
447066.60	3764465.73	0.10980	447099.65	3764456.17	0.11126
447145.28	3764468.27	0.11172	447175.54	3764468.03	0.11302
447205.32	3764468.27	0.11415	447232.43	3764467.55	0.11410
447264.02	3764467.30	0.11334	447294.77	3764466.94	0.11344
447364.97	3764456.41	0.11647	447406.61	3764460.65	0.11739
447441.47	3764460.04	0.11814	447466.88	3764460.20	0.11880
447490.00	3764460.56	0.11961	447515.50	3764460.40	0.12070
447573.06	3764454.29	0.12370	447598.49	3764445.22	0.12472
447652.90	3764439.70	0.12439	447692.92	3764439.51	0.12511
447713.82	3764439.11	0.12542	447731.95	3764438.72	0.12557
447751.07	3764438.72	0.12581	447768.82	3764437.53	0.12598
447789.12	3764437.73	0.12591	447805.68	3764437.34	0.12606
447824.02	3764437.20	0.12626	447841.61	3764437.87	0.12655
447861.72	3764437.53	0.12706	447881.66	3764435.18	0.12778
447902.78	3764436.19	0.12821	447920.87	3764435.35	0.12875
447942.16	3764435.35	0.12933	447962.77	3764434.85	0.12997

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        447980.70    3764435.18        0.13047                      448004.66
        3764435.18         0.13153
        448021.25    3764434.68        0.13316                      447662.70
        3764379.63         0.12877
        447681.30    3764320.98        0.13465                      447682.64
        3764285.79         0.13970
        447662.53    3764238.37        0.14600                      447661.70
        3764207.37         0.15077
        447683.14    3764162.29        0.15868                      447680.97
        3764145.87         0.16138
        447679.63    3764130.28        0.16409                      447680.80
        3764112.02         0.16733
        447681.47    3764096.43        0.16982                      447680.80
        3764078.84         0.17238
        447679.96    3764064.26        0.17427                      447680.97
        3764045.82         0.17668
        447680.63    3764029.74        0.17872                      447657.17
        3763992.03         0.18346
        447656.33    3763967.06        0.18672                      447657.17
        3763928.69         0.19238
        447657.17    3763902.21        0.19640                      447657.51
        3763869.03         0.20255
        447656.16    3763834.94        0.20814                      447655.93
        3763808.27         0.21244
        447657.09    3763786.00        0.21625                      447701.21
        3763782.14         0.21956
        447856.92    3763749.71        0.24182                      447854.99
        3763730.13         0.24696
        447854.35    3763698.35        0.25583                      447855.31
        3763676.84         0.26221
        447675.51    3763287.46        0.38390                      448481.33
        3763485.29         0.37205
        448479.95    3763195.53        0.60654                      448478.56
        3762907.16         1.13766
        448497.89    3762714.10        2.00751                      448507.91
        3762487.71         5.84954
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE  86
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 10BBREAT ***
                               INCLUDING SOURCE(S):     10BBREAT    ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
- - - -
```

3761967.63 1.15946
447269.29 3761967.74 0.76198 447389.46
3761908.79 0.92828
447019.14 3761964.34 0.53661 447060.33
3761963.58 0.56568
446975.31 3761963.20 0.50826 446940.92
3761953.76 0.48783
446865.72 3761974.54 0.44708 446795.06
3761957.91 0.41396
446757.65 3761965.85 0.39771 446709.33
3761967.74 0.37832
446796.42 3762028.62 0.41280 446796.97
3762045.28 0.41247
446796.70 3762089.51 0.41068 446796.15
3762105.89 0.40964
446796.70 3762137.29 0.40817 446796.15
3762153.39 0.40697
446772.40 3762215.37 0.39287 446795.06
3762321.03 0.39335
446796.42 3762450.98 0.37996 446796.42
3762471.18 0.37756
446797.24 3762496.03 0.37486 446798.06
3762516.51 0.37263
446797.79 3762539.98 0.36960 446797.52
3762560.19 0.36695
446798.61 3762584.76 0.36420 446798.06
3762604.42 0.36143
446799.70 3762654.11 0.32005 446799.97
3762674.58 0.31557
446800.25 3762700.25 0.31002 446800.25
3762721.27 0.30625
446799.97 3762735.74 0.30382 446797.79
3762748.02 0.30126
446802.16 3762913.47 0.27772 446802.16
3762932.58 0.27490
446802.43 3762949.24 0.27252 446802.98
3762967.26 0.27002
446802.70 3762986.09 0.26691 446802.16
3763003.29 0.26364
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3763040.70 0.25693
446802.98 3763059.26 0.25365 446803.52
3763077.01 0.25082
446756.29 3763085.26 0.24359 446807.68
3763646.39 0.16887
446808.32 3763674.66 0.16590 446807.68
3763694.57 0.16365
446808.32 3763710.63 0.16207 446808.32
3763726.37 0.16049
446808.00 3763742.11 0.15900 446808.32
3763756.89 0.15765
446808.64 3763798.32 0.15332 446810.25
3764484.08 0.10110
446781.34 3764475.08 0.10057 446722.56
3764455.81 0.09966
446170.32 3764559.79 0.07954 446872.29
3763190.26 0.23985
446925.22 3763179.19 0.25005 446984.86
3763194.88 0.25858
447010.56 3763193.28 0.26264 447036.58
3763193.60 0.26738
447053.61 3763193.28 0.27054 447076.42
3763192.31 0.27476
447093.45 3763192.63 0.27753 447122.05
3763192.63 0.28386
447138.75 3763192.31 0.28758 447167.99

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BBREAT ***
INCLUDING SOURCE(S): 10BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.31523	447146.92	3763064.30	0.32102
447149.92	3763038.90	0.32972	447148.56	3763019.78	0.33505
447148.56	3762997.39	0.34226	447206.08	3762958.49	0.37471
447209.33	3762922.51	0.38924	447208.40	3762890.70	0.39939
447145.83	3762888.87	0.37676	447122.55	3762889.07	0.36859
447094.33	3762890.05	0.35880	447071.04	3762890.45	0.35110
447043.61	3762889.66	0.34272	447017.76	3762888.87	0.33511
446992.11	3762889.07	0.32756	446964.28	3762888.28	0.31993
446940.41	3762888.47	0.31378	446911.20	3762888.08	0.30697
446885.35	3762889.66	0.30006	446862.07	3762888.87	0.29449
446871.45	3762779.57	0.31566	446926.31	3762768.72	0.33356
446983.74	3762774.24	0.35060	447009.00	3762774.05	0.35938
447030.51	3762774.44	0.36822	447055.37	3762774.05	0.37821
447076.88	3762774.24	0.38602	447101.16	3762774.44	0.39412
447123.85	3762774.05	0.40331	447148.12	3762775.03	0.41232
447170.23	3762774.84	0.42135	447196.78	3762775.48	0.43333
447242.12	3762776.57	0.45429	447262.33	3762776.03	0.46478
447294.56	3762776.30	0.48221	447313.13	3762775.48	0.49241
447313.40	3762749.53	0.50304	447327.86	3762713.09	0.52916
447327.36	3762679.87	0.54926	447327.74	3762657.02	0.56225

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        447327.28    3762636.82        0.64740                      447327.51
        3762612.90         0.65814
        447327.28    3762592.24        0.66691                      447327.04
        3762569.71         0.67640
        447327.28    3762547.89        0.68595                      447326.58
        3762524.67         0.69508
        447326.58    3762506.09        0.70285                      447327.51
        3762477.53         0.71568
        447325.88    3762454.31        0.72339                      447225.58
        3762432.95         0.63366
        447200.27    3762430.63        0.61283                      447156.85
        3762430.16         0.57866
        447131.77    3762430.86        0.56004                      447102.74
        3762430.63         0.53993
        447079.06    3762430.86        0.52429                      447034.94
        3762433.65         0.49650
        446995.47    3762433.65        0.47402                      446972.71
        3762434.34         0.46166
        446941.37    3762434.58        0.44555                      446916.06
        3762436.90         0.43288
        446876.35    3762436.90        0.41469                      446848.85
        3762647.05         0.33653
        446848.85    3762563.17        0.38575                      446849.17
        3762509.82         0.39327
        446849.17    3762455.82        0.40049                      446848.85
        3762702.00         0.32334
        446849.49    3762754.71        0.31371                      446739.81
        3762428.53         0.36154
        446711.81    3762423.61        0.35228                      446687.25
        3762416.25         0.34474
        446662.20    3762412.32        0.33698                      446636.17
        3762403.97         0.32955
        449981.72    3762732.45        1.08273                      446486.82
        3762231.95         0.29805
        446261.97    3762068.01        0.25176                      446443.15
        3762291.63         0.28411
        446071.80    3762055.49        0.21804                      446072.08
        3761983.13         0.21909
        446138.18    3762002.17        0.22989                      445884.94
        3762039.75         0.19157
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE  88
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP: 10BLOAD  ***
                                INCLUDING SOURCE(S):     10BLOAD     ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - -
```

3764451.22	0.10575		
446959.28	3764451.22	0.10801	446995.28
3764468.13	0.10788		
447007.41	3764467.30	0.10817	447023.51
3764466.09	0.10871		
447036.59	3764466.21	0.10909	447052.68
3764465.61	0.10951		
447066.60	3764465.73	0.10980	447099.65
3764456.17	0.11126		
447145.28	3764468.27	0.11172	447175.54
3764468.03	0.11302		
447205.32	3764468.27	0.11415	447232.43
3764467.55	0.11410		
447264.02	3764467.30	0.11334	447294.77
3764466.94	0.11344		
447364.97	3764456.41	0.11647	447406.61
3764460.65	0.11739		
447441.47	3764460.04	0.11814	447466.88
3764460.20	0.11880		
447490.00	3764460.56	0.11961	447515.50
3764460.40	0.12070		
447573.06	3764454.29	0.12370	447598.49
3764445.22	0.12472		
447652.90	3764439.70	0.12439	447692.92
3764439.51	0.12511		
447713.82	3764439.11	0.12542	447731.95
3764438.72	0.12557		
447751.07	3764438.72	0.12581	447768.82
3764437.53	0.12598		
447789.12	3764437.73	0.12591	447805.68
3764437.34	0.12606		
447824.02	3764437.20	0.12626	447841.61
3764437.87	0.12655		
447861.72	3764437.53	0.12706	447881.66
3764435.18	0.12778		
447902.78	3764436.19	0.12821	447920.87
3764435.35	0.12875		
447942.16	3764435.35	0.12933	447962.77
3764434.85	0.12997		
447980.70	3764435.18	0.13047	448004.66
3764435.18	0.13153		
448021.25	3764434.68	0.13316	447662.70
3764379.63	0.12877		
447681.30	3764320.98	0.13465	447682.64
3764285.79	0.13970		
447662.53	3764238.37	0.14600	447661.70
3764207.37	0.15077		
447683.14	3764162.29	0.15868	447680.97
3764145.87	0.16138		
447679.63	3764130.28	0.16409	447680.80
3764112.02	0.16733		
447681.47	3764096.43	0.16982	447680.80
3764078.84	0.17238		
447679.96	3764064.26	0.17426	447680.97
3764045.82	0.17668		
447680.63	3764029.74	0.17872	447657.17
3763992.03	0.18346		
447656.33	3763967.06	0.18671	447657.17
3763928.69	0.19238		
447657.17	3763902.21	0.19640	447657.51
3763869.03	0.20255		
447656.16	3763834.94	0.20814	447655.93
3763808.27	0.21244		
447657.09	3763786.00	0.21625	447701.21
3763782.14	0.21956		
447856.92	3763749.71	0.24182	447854.99

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BLOAD ***
INCLUDING SOURCE(S): 10BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	14.60435	448462.73	3762339.82	17.49869
448464.47	3762265.93	45.71358	448461.57	3762165.17	94.23073
448472.57	3762064.71	22.65580	448460.48	3762016.72	16.50673
448234.63	3761951.18	12.83118	448081.42	3761952.78	6.97915
448025.53	3761955.99	5.45492	447506.75	3761967.63	1.15946
447269.29	3761967.74	0.76198	447389.46	3761908.79	0.92828
447019.14	3761964.34	0.53661	447060.33	3761963.58	0.56568
446975.31	3761963.20	0.50826	446940.92	3761953.76	0.48783
446865.72	3761974.54	0.44708	446795.06	3761957.91	0.41397
446757.65	3761965.85	0.39771	446709.33	3761967.74	0.37832
446796.42	3762028.62	0.41280	446796.97	3762045.28	0.41247
446796.70	3762089.51	0.41068	446796.15	3762105.89	0.40964
446796.70	3762137.29	0.40817	446796.15	3762153.39	0.40697
446772.40	3762215.37	0.39287	446795.06	3762321.03	0.39335
446796.42	3762450.98	0.37996	446796.42	3762471.18	0.37756
446797.24	3762496.03	0.37486	446798.06	3762516.51	0.37263
446797.79	3762539.98	0.36960	446797.52	3762560.19	0.36696
446798.61	3762584.76	0.36420	446798.06	3762604.42	0.36144

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        446799.70    3762654.11        0.32005                      446799.97
        3762674.58         0.31557
        446800.25    3762700.25        0.31002                      446800.25
        3762721.27         0.30625
        446799.97    3762735.74        0.30382                      446797.79
        3762748.02         0.30126
        446802.16    3762913.47        0.27772                      446802.16
        3762932.58         0.27490
        446802.43    3762949.24        0.27252                      446802.98
        3762967.26         0.27002
        446802.70    3762986.09        0.26691                      446802.16
        3763003.29         0.26364
        446802.16    3763021.86        0.26026                      446802.70
        3763040.70         0.25693
        446802.98    3763059.26        0.25365                      446803.52
        3763077.01         0.25082
        446756.29    3763085.26        0.24359                      446807.68
        3763646.39         0.16887
        446808.32    3763674.66        0.16590                      446807.68
        3763694.57         0.16365
        446808.32    3763710.63        0.16207                      446808.32
        3763726.37         0.16049
        446808.00    3763742.11        0.15900                      446808.32
        3763756.89         0.15765
        446808.64    3763798.32        0.15332                      446810.25
        3764484.08         0.10110
        446781.34    3764475.08        0.10057                      446722.56
        3764455.81         0.09966
        446170.32    3764559.79        0.07954                      446872.29
        3763190.26         0.23985
        446925.22    3763179.19        0.25005                      446984.86
        3763194.88         0.25858
        447010.56    3763193.28        0.26264                      447036.58
        3763193.60         0.26738
        447053.61    3763193.28        0.27054                      447076.42
        3763192.31         0.27476
        447093.45    3763192.63        0.27753                      447122.05
        3763192.63         0.28386
        447138.75    3763192.31        0.28758                      447167.99
        3763192.31         0.29399
        447170.68    3763172.18        0.29990                      447170.41
        3763158.25         0.30370
        447169.31    3763144.87        0.30665                      447147.46
        3763107.45         0.30945
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE  90
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 10BLOAD  ***
                               INCLUDING SOURCE(S):     10BLOAD     ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - -
```

3763064.30 0.32102
447149.92 3763038.90 0.32972 447148.56
3763019.78 0.33505
447148.56 3762997.39 0.34226 447206.08
3762958.49 0.37471
447209.33 3762922.51 0.38924 447208.40
3762890.70 0.39939
447145.83 3762888.87 0.37676 447122.55
3762889.07 0.36859
447094.33 3762890.05 0.35880 447071.04
3762890.45 0.35110
447043.61 3762889.66 0.34272 447017.76
3762888.87 0.33511
446992.11 3762889.07 0.32756 446964.28
3762888.28 0.31993
446940.41 3762888.47 0.31378 446911.20
3762888.08 0.30697
446885.35 3762889.66 0.30006 446862.07
3762888.87 0.29449
446871.45 3762779.57 0.31566 446926.31
3762768.72 0.33356
446983.74 3762774.24 0.35060 447009.00
3762774.05 0.35938
447030.51 3762774.44 0.36822 447055.37
3762774.05 0.37822
447076.88 3762774.24 0.38602 447101.16
3762774.44 0.39412
447123.85 3762774.05 0.40331 447148.12
3762775.03 0.41232
447170.23 3762774.84 0.42135 447196.78
3762775.48 0.43333
447242.12 3762776.57 0.45429 447262.33
3762776.03 0.46478
447294.56 3762776.30 0.48221 447313.13
3762775.48 0.49242
447313.40 3762749.53 0.50304 447327.86
3762713.09 0.52916
447327.36 3762679.87 0.54926 447327.74
3762657.02 0.56226
447327.28 3762636.82 0.64740 447327.51
3762612.90 0.65815
447327.28 3762592.24 0.66691 447327.04
3762569.71 0.67640
447327.28 3762547.89 0.68596 447326.58
3762524.67 0.69509
447326.58 3762506.09 0.70285 447327.51
3762477.53 0.71568
447325.88 3762454.31 0.72340 447225.58
3762432.95 0.63366
447200.27 3762430.63 0.61283 447156.85
3762430.16 0.57867
447131.77 3762430.86 0.56005 447102.74
3762430.63 0.53993
447079.06 3762430.86 0.52429 447034.94
3762433.65 0.49651
446995.47 3762433.65 0.47402 446972.71
3762434.34 0.46166
446941.37 3762434.58 0.44555 446916.06
3762436.90 0.43289
446876.35 3762436.90 0.41469 446848.85
3762647.05 0.33653
446848.85 3762563.17 0.38575 446849.17
3762509.82 0.39327
446849.17 3762455.82 0.40049 446848.85
3762702.00 0.32334
446849.49 3762754.71 0.31371 446739.81

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BREF ***
INCLUDING SOURCE(S): 10BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.13715	447375.98	3764150.98	0.15350
447389.75	3764043.04	0.17039	447450.16	3764031.05	0.17554
447410.18	3764019.05	0.17520	446891.90	3764451.22	0.10928
446959.28	3764451.22	0.11192	446995.28	3764468.13	0.11190
447007.41	3764467.30	0.11222	447023.51	3764466.09	0.11281
447036.59	3764466.21	0.11323	447052.68	3764465.61	0.11367
447066.60	3764465.73	0.11398	447099.65	3764456.17	0.11549
447145.28	3764468.27	0.11587	447175.54	3764468.03	0.11719
447205.32	3764468.27	0.11830	447232.43	3764467.55	0.11804
447264.02	3764467.30	0.11693	447294.77	3764466.94	0.11683
447364.97	3764456.41	0.11987	447406.61	3764460.65	0.12086
447441.47	3764460.04	0.12176	447466.88	3764460.20	0.12262
447490.00	3764460.56	0.12369	447515.50	3764460.40	0.12512
447573.06	3764454.29	0.12894	447598.49	3764445.22	0.13015
447652.90	3764439.70	0.12979	447692.92	3764439.51	0.13042
447713.82	3764439.11	0.13057	447731.95	3764438.72	0.13052

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      447751.07    3764438.72        0.13054                      447768.82
      3764437.53         0.13048
      447789.12    3764437.73        0.13009                      447805.68
      3764437.34         0.13001
      447824.02    3764437.20        0.12999                      447841.61
      3764437.87         0.13011
      447861.72    3764437.53        0.13048                      447881.66
      3764435.18         0.13114
      447902.78    3764436.19        0.13153                      447920.87
      3764435.35         0.13210
      447942.16    3764435.35        0.13278                      447962.77
      3764434.85         0.13357
      447980.70    3764435.18        0.13425                      448004.66
      3764435.18         0.13566
      448021.25    3764434.68        0.13770                      447662.70
      3764379.63         0.13432
      447681.30    3764320.98        0.14051                      447682.64
      3764285.79         0.14593
      447662.53    3764238.37        0.15258                      447661.70
      3764207.37         0.15770
      447683.14    3764162.29        0.16635                      447680.97
      3764145.87         0.16925
      447679.63    3764130.28        0.17218                      447680.80
      3764112.02         0.17569
      447681.47    3764096.43        0.17835                      447680.80
      3764078.84         0.18106
      447679.96    3764064.26        0.18299                      447680.97
      3764045.82         0.18547
      447680.63    3764029.74        0.18754                      447657.17
      3763992.03         0.19224
      447656.33    3763967.06        0.19552                      447657.17
      3763928.69         0.20135
      447657.17    3763902.21        0.20549                      447657.51
      3763869.03         0.21202
      447656.16    3763834.94        0.21782                      447655.93
      3763808.27         0.22226
      447657.09    3763786.00        0.22622                      447701.21
      3763782.14         0.22989
      447856.92    3763749.71        0.25576                      447854.99
      3763730.13         0.26136
      447854.35    3763698.35        0.27098                      447855.31
      3763676.84         0.27793
      447675.51    3763287.46        0.41100                      448481.33
      3763485.29         0.39382
      448479.95    3763195.53        0.65573                      448478.56
      3762907.16         1.25987
      448497.89    3762714.10        2.25606                      448507.91
      3762487.71         6.19100
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE  92
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP: 10BREF   ***
                              INCLUDING SOURCE(S):     10BREF      ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
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      (M)        CONC
- - - -
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BREF ***
INCLUDING SOURCE(S): 10BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC (** CONC OF OTHER IN MICROGRAMS/M**3 **)	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.33049	447146.92	3763064.30	0.33667
447149.92	3763038.90	0.34618	447148.56	3763019.78	0.35190
447148.56	3762997.39	0.35986	447206.08	3762958.49	0.39672
447209.33	3762922.51	0.41363	447208.40	3762890.70	0.42441
447145.83	3762888.87	0.39927	447122.55	3762889.07	0.39026
447094.33	3762890.05	0.37944	447071.04	3762890.45	0.37091
447043.61	3762889.66	0.36169	447017.76	3762888.87	0.35331
446992.11	3762889.07	0.34499	446964.28	3762888.28	0.33663
446940.41	3762888.47	0.33029	446911.20	3762888.08	0.32367
446885.35	3762889.66	0.31609	446862.07	3762888.87	0.30998
446871.45	3762779.57	0.32875	446926.31	3762768.72	0.34774
446983.74	3762774.24	0.36673	447009.00	3762774.05	0.37669
447030.51	3762774.44	0.38810	447055.37	3762774.05	0.40020
447076.88	3762774.24	0.40865	447101.16	3762774.44	0.41627

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        447123.85    3762774.05       0.42644                    447148.12
        3762775.03         0.43570
        447170.23    3762774.84       0.44522                    447196.78
        3762775.48         0.45891
        447242.12    3762776.57       0.48226                    447262.33
        3762776.03         0.49417
        447294.56    3762776.30       0.51440                    447313.13
        3762775.48         0.52558
        447313.40    3762749.53       0.53542                    447327.86
        3762713.09         0.56350
        447327.36    3762679.87       0.58900                    447327.74
        3762657.02         0.60427
        447327.28    3762636.82       0.63925                    447327.51
        3762612.90         0.64918
        447327.28    3762592.24       0.65724                    447327.04
        3762569.71         0.66599
        447327.28    3762547.89       0.67487                    447326.58
        3762524.67         0.68335
        447326.58    3762506.09       0.69064                    447327.51
        3762477.53         0.70282
        447325.88    3762454.31       0.71015                    447225.58
        3762432.95         0.62253
        447200.27    3762430.63       0.60221                    447156.85
        3762430.16         0.56888
        447131.77    3762430.86       0.55071                    447102.74
        3762430.63         0.53107
        447079.06    3762430.86       0.51580                    447034.94
        3762433.65         0.48866
        446995.47    3762433.65       0.46669                    446972.71
        3762434.34         0.45461
        446941.37    3762434.58       0.43886                    446916.06
        3762436.90         0.42647
        446876.35    3762436.90       0.40867                    446848.85
        3762647.05         0.35177
        446848.85    3762563.17       0.38007                    446849.17
        3762509.82         0.38753
        446849.17    3762455.82       0.39472                    446848.85
        3762702.00         0.33414
        446849.49    3762754.71       0.32529                    446739.81
        3762428.53         0.35664
        446711.81    3762423.61       0.34757                    446687.25
        3762416.25         0.34019
        446662.20    3762412.32       0.33258                    446636.17
        3762403.97         0.32529
        449981.72    3762732.45       1.18104                    446486.82
        3762231.95         0.29419
        446261.97    3762068.01       0.24860                    446443.15
        3762291.63         0.28060
        446071.80    3762055.49       0.21551                    446072.08
        3761983.13         0.21649
        446138.18    3762002.17       0.22709                    445884.94
        3762039.75         0.18949
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE  94
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 10BSPILL ***
                               INCLUDING SOURCE(S):     10BSPILL    ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***
```

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.13800	447375.98	3764150.98	0.15486
447389.75	3764043.04	0.17237	447450.16	3764031.05	0.17725
447410.18	3764019.05	0.17723	446891.90	3764451.22	0.11003
446959.28	3764451.22	0.11296	446995.28	3764468.13	0.11306
447007.41	3764467.30	0.11340	447023.51	3764466.09	0.11401
447036.59	3764466.21	0.11443	447052.68	3764465.61	0.11486
447066.60	3764465.73	0.11515	447099.65	3764456.17	0.11663
447145.28	3764468.27	0.11687	447175.54	3764468.03	0.11816
447205.32	3764468.27	0.11923	447232.43	3764467.55	0.11887
447264.02	3764467.30	0.11762	447294.77	3764466.94	0.11741
447364.97	3764456.41	0.12017	447406.61	3764460.65	0.12101
447441.47	3764460.04	0.12189	447466.88	3764460.20	0.12284
447490.00	3764460.56	0.12409	447515.50	3764460.40	0.12580
447573.06	3764454.29	0.13039	447598.49	3764445.22	0.13184
447652.90	3764439.70	0.13174	447692.92	3764439.51	0.13221
447713.82	3764439.11	0.13215	447731.95	3764438.72	0.13185
447751.07	3764438.72	0.13158	447768.82	3764437.53	0.13123
447789.12	3764437.73	0.13052	447805.68	3764437.34	0.13022
447824.02	3764437.20	0.13000	447841.61	3764437.87	0.13000
447861.72	3764437.53	0.13032	447881.66	3764435.18	0.13099
447902.78	3764436.19	0.13146	447920.87	3764435.35	0.13212
447942.16	3764435.35	0.13294	447962.77	3764434.85	0.13386
447980.70	3764435.18	0.13466	448004.66	3764435.18	0.13620
448021.25	3764434.68	0.13838	447662.70	3764379.63	0.13629
447681.30	3764320.98	0.14258	447682.64	3764285.79	0.14805
447662.53	3764238.37	0.15454	447661.70	3764207.37	0.15964
447683.14	3764162.29	0.16858	447680.97	3764145.87	0.17146
447679.63	3764130.28	0.17439	447680.80	3764112.02	0.17793
447681.47	3764096.43	0.18059	447680.80	3764078.84	0.18324
447679.96	3764064.26	0.18511	447680.97		

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BSPILL ***
INCLUDING SOURCE(S): 10BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	15.56415	448462.73	3762339.82	19.00843
448464.47	3762265.93	55.10028	448461.57	3762165.17	91.72149
448472.57	3762064.71	22.05342	448460.48	3762016.72	16.09027
448234.63	3761951.18	11.88100	448081.42	3761952.78	6.52645
448025.53	3761955.99	5.09084	447506.75	3761967.63	1.11564
447269.29	3761967.74	0.74038	447389.46	3761908.79	0.89443
447019.14	3761964.34	0.52467	447060.33	3761963.58	0.55263
446975.31	3761963.20	0.49733	446940.92	3761953.76	0.47746
446865.72	3761974.54	0.43823	446795.06	3761957.91	0.40598
446757.65	3761965.85	0.39029	446709.33	3761967.74	0.37147
446796.42	3762028.62	0.40529	446796.97	3762045.28	0.40502
446796.70	3762089.51	0.40327	446796.15	3762105.89	0.40227

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        446796.70    3762137.29        0.40091                    446796.15
        3762153.39         0.39978
        446772.40    3762215.37        0.38621                    446795.06
        3762321.03         0.38704
        446796.42    3762450.98        0.37368                    446796.42
        3762471.18         0.37123
        446797.24    3762496.03        0.36845                    446798.06
        3762516.51         0.36615
        446797.79    3762539.98        0.36305                    446797.52
        3762560.19         0.36036
        446798.61    3762584.76        0.35754                    446798.06
        3762604.42         0.35476
        446799.70    3762654.11        0.34120                    446799.97
        3762674.58         0.33378
        446800.25    3762700.25        0.32533                    446800.25
        3762721.27         0.32150
        446799.97    3762735.74        0.31952                    446797.79
        3762748.02         0.31729
        446802.16    3762913.47        0.30069                    446802.16
        3762932.58         0.29830
        446802.43    3762949.24        0.29628                    446802.98
        3762967.26         0.29413
        446802.70    3762986.09        0.29073                    446802.16
        3763003.29         0.28663
        446802.16    3763021.86        0.28235                    446802.70
        3763040.70         0.27806
        446802.98    3763059.26        0.27386                    446803.52
        3763077.01         0.27045
        446756.29    3763085.26        0.26555                    446807.68
        3763646.39         0.17920
        446808.32    3763674.66        0.17596                    446807.68
        3763694.57         0.17342
        446808.32    3763710.63        0.17158                    446808.32
        3763726.37         0.16972
        446808.00    3763742.11        0.16794                    446808.32
        3763756.89         0.16629
        446808.64    3763798.32        0.16094                    446810.25
        3764484.08         0.10469
        446781.34    3764475.08        0.10400                    446722.56
        3764455.81         0.10299
        446170.32    3764559.79        0.08085                    446872.29
        3763190.26         0.25348
        446925.22    3763179.19        0.26424                    446984.86
        3763194.88         0.27436
        447010.56    3763193.28        0.27838                    447036.58
        3763193.60         0.28378
        447053.61    3763193.28        0.28732                    447076.42
        3763192.31         0.29197
        447093.45    3763192.63        0.29491                    447122.05
        3763192.63         0.30271
        447138.75    3763192.31        0.30721                    447167.99
        3763192.31         0.31493
        447170.68    3763172.18        0.32132                    447170.41
        3763158.25         0.32544
        447169.31    3763144.87        0.32826                    447147.46
        3763107.45         0.32918
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE  96
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 10BSPILL ***
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INCLUDING SOURCE(S): 10BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.33513	447146.92	3763064.30	0.34151
447149.92	3763038.90	0.35152	447148.56	3763019.78	0.35762
447148.56	3762997.39	0.36634	447206.08	3762958.49	0.40535
447209.33	3762922.51	0.42378	447208.40	3762890.70	0.43518
447145.83	3762888.87	0.40933	447122.55	3762889.07	0.40004
447094.33	3762890.05	0.38886	447071.04	3762890.45	0.38002
447043.61	3762889.66	0.37046	447017.76	3762888.87	0.36175
446992.11	3762889.07	0.35309	446964.28	3762888.28	0.34441
446940.41	3762888.47	0.33794	446911.20	3762888.08	0.33136
446885.35	3762889.66	0.32347	446862.07	3762888.87	0.31712
446871.45	3762779.57	0.33502	446926.31	3762768.72	0.35450
446983.74	3762774.24	0.37432	447009.00	3762774.05	0.38484
447030.51	3762774.44	0.39753	447055.37	3762774.05	0.41060
447076.88	3762774.24	0.41931	447101.16	3762774.44	0.42662
447123.85	3762774.05	0.43720	447148.12	3762775.03	0.44654
447170.23	3762774.84	0.45627	447196.78	3762775.48	0.47068
447242.12	3762776.57	0.49498	447262.33	3762776.03	0.50742
447294.56	3762776.30	0.52869	447313.13	3762775.48	0.54020
447313.40	3762749.53	0.54998	447327.86	3762713.09	0.57924
447327.36	3762679.87	0.60767	447327.74	3762657.02	0.62458
447327.28	3762636.82	0.63754	447327.51	3762612.90	0.64710
447327.28	3762592.24	0.65484	447327.04	3762569.71	0.66328
447327.28	3762547.89	0.67191	447326.58	3762524.67	0.68022
447326.58	3762506.09	0.68746	447327.51	3762477.53	0.69966
447325.88	3762454.31	0.70713	447225.58	3762432.95	0.62031
447200.27	3762430.63	0.60015	447156.85	3762430.16	0.56702
447131.77	3762430.86	0.54895	447102.74	3762430.63	0.52943
447079.06	3762430.86	0.51424	447034.94		

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1H25 ***
INCLUDING SOURCE(S): L0000924 , L0000925 , L0000926 , L0000927 , L0000928 ,
L0000929 , L0000930 , L0000931 , L0000932 , L0000933 ,
L0000934 , L0000935 , L0000936 ,
L0000937 , L0000938 , L0000939 , L0000940 , L0000941 ,
L0000942 , L0000943 , L0000944 ,
L0000945 , L0000946 , L0000947 , L0000948 , L0000949 ,
L0000950 , L0000951 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.49434	447375.98	3764150.98	0.52699
447389.75	3764043.04	0.55617	447450.16	3764031.05	0.60408
447410.18	3764019.05	0.57483	446891.90	3764451.22	0.28866
446959.28	3764451.22	0.30654	446995.28	3764468.13	0.31468
447007.41	3764467.30	0.31799	447023.51	3764466.09	0.32295
447036.59	3764466.21	0.32697	447052.68	3764465.61	0.33202
447066.60	3764465.73	0.33618	447099.65		

3764456.17 0.34830
447145.28 3764468.27 0.36327 447175.54
3764468.03 0.37591
447205.32 3764468.27 0.38856 447232.43
3764467.55 0.39883
447264.02 3764467.30 0.40851 447294.77
3764466.94 0.42018
447364.97 3764456.41 0.46120 447406.61
3764460.65 0.48536
447441.47 3764460.04 0.50694 447466.88
3764460.20 0.52414
447490.00 3764460.56 0.54132 447515.50
3764460.40 0.56280
447573.06 3764454.29 0.61582 447598.49
3764445.22 0.64154
447652.90 3764439.70 0.69266 447692.92
3764439.51 0.73934
447713.82 3764439.11 0.76581 447731.95
3764438.72 0.78935
447751.07 3764438.72 0.81622 447768.82
3764437.53 0.84094
447789.12 3764437.73 0.87086 447805.68
3764437.34 0.89758
447824.02 3764437.20 0.92815 447841.61
3764437.87 0.96066
447861.72 3764437.53 1.00161 447881.66
3764435.18 1.04583
447902.78 3764436.19 1.09360 447920.87
3764435.35 1.13822
447942.16 3764435.35 1.19421 447962.77
3764434.85 1.25310
447980.70 3764435.18 1.30792 448004.66
3764435.18 1.38941
448021.25 3764434.68 1.45630 447662.70
3764379.63 0.71637
447681.30 3764320.98 0.75499 447682.64
3764285.79 0.77366
447662.53 3764238.37 0.76481 447661.70
3764207.37 0.77379
447683.14 3764162.29 0.81672 447680.97
3764145.87 0.81924
447679.63 3764130.28 0.82253 447680.80
3764112.02 0.82863
447681.47 3764096.43 0.83369 447680.80
3764078.84 0.83668
447679.96 3764064.26 0.83819 447680.97
3764045.82 0.84223
447680.63 3764029.74 0.84438 447657.17
3763992.03 0.82013
447656.33 3763967.06 0.82241 447657.17
3763928.69 0.82785
447657.17 3763902.21 0.83087 447657.51
3763869.03 0.83636
447656.16 3763834.94 0.83725 447655.93
3763808.27 0.83839
447657.09 3763786.00 0.84137 447701.21
3763782.14 0.90098
447856.92 3763749.71 1.19296 447854.99
3763730.13 1.19175
447854.35 3763698.35 1.19411 447855.31
3763676.84 1.19834
447675.51 3763287.46 0.90159 448481.33
3763485.29 20.83028
448479.95 3763195.53 19.54972 448478.56
3762907.16 18.25998
448497.89 3762714.10 13.23328 448507.91

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1H25 ***
INCLUDING SOURCE(S): L0000924 , L0000925 , L0000926 , L0000927 , L0000928 ,
L0000929 , L0000930 , L0000931 , L0000932 , L0000933 ,
L0000934 , L0000935 , L0000936 ,
L0000937 , L0000938 , L0000939 , L0000940 , L0000941 ,
L0000942 , L0000943 , L0000944 ,
L0000945 , L0000946 , L0000947 , L0000948 , L0000949 ,
L0000950 , L0000951 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	4.05519	448462.73	3762339.82	3.59162
448464.47	3762265.93	1.89101	448461.57	3762165.17	1.18194
448472.57	3762064.71	0.85847	448460.48	3762016.72	0.76582
448234.63	3761951.18	0.68458	448081.42	3761952.78	0.65674
448025.53	3761955.99	0.64049	447506.75	3761967.63	0.43754
447269.29	3761967.74	0.36609	447389.46	3761908.79	0.38676
447019.14	3761964.34	0.30646	447060.33	3761963.58	0.31507
446975.31	3761963.20	0.29743	446940.92	3761953.76	0.28971
446865.72	3761974.54	0.27813	446795.06	3761957.91	0.26431
446757.65	3761965.85	0.25872	446709.33	3761967.74	0.25109
446796.42	3762028.62	0.27039	446796.97	3762045.28	0.27186
446796.70	3762089.51	0.27575	446796.15	3762105.89	0.27696
446796.70	3762137.29	0.27955	446796.15	3762153.39	0.28071
446772.40	3762215.37	0.28100	446795.06	3762321.03	0.29346
446796.42	3762450.98	0.30346	446796.42	3762471.18	0.30493
446797.24	3762496.03	0.30689	446798.06	3762516.51	0.30851
446797.79	3762539.98	0.30999	446797.52	3762560.19	0.31120
446798.61	3762584.76	0.31298	446798.06	3762604.42	0.31409
446799.70	3762654.11	0.31753	446799.97		

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       3762674.58        0.31879
       446800.25    3762700.25        0.32031                     446800.25
       3762721.27        0.32137
       446799.97    3762735.74        0.32198                     446797.79
       3762748.02        0.32197
       446802.16    3762913.47        0.32955                     446802.16
       3762932.58        0.33015
       446802.43    3762949.24        0.33073                     446802.98
       3762967.26        0.33141
       446802.70    3762986.09        0.33187                     446802.16
       3763003.29        0.33222
       446802.16    3763021.86        0.33274                     446802.70
       3763040.70        0.33339
       446802.98    3763059.26        0.33393                     446803.52
       3763077.01        0.33448
       446756.29    3763085.26        0.32111                     446807.68
       3763646.39        0.32485
       446808.32    3763674.66        0.32410                     446807.68
       3763694.57        0.32302
       446808.32    3763710.63        0.32263                     446808.32
       3763726.37        0.32188
       446808.00    3763742.11        0.32122                     446808.32
       3763756.89        0.32075
       446808.64    3763798.32        0.31868                     446810.25
       3764484.08        0.26635
       446781.34    3764475.08        0.26077                     446722.56
       3764455.81        0.25041
       446170.32    3764559.79        0.16542                     446872.29
       3763190.26        0.35592
       446925.22    3763179.19        0.37328                     446984.86
       3763194.88        0.39555
       447010.56    3763193.28        0.40501                     447036.58
       3763193.60        0.41544
       447053.61    3763193.28        0.42248                     447076.42
       3763192.31        0.43195
       447093.45    3763192.63        0.43919                     447122.05
       3763192.63        0.45271
       447138.75    3763192.31        0.46058                     447167.99
       3763192.31        0.47516
       447170.68    3763172.18        0.47615                     447170.41
       3763158.25        0.47580
       447169.31    3763144.87        0.47478                     447147.46
       3763107.45        0.46217
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE  99
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 1H25     ***
                               INCLUDING SOURCE(S):     L0000924    , L0000925    ,
                               L0000926    , L0000927    , L0000928    ,
                 L0000929    , L0000930    , L0000931    , L0000932    , L0000933    ,
                 L0000934    , L0000935    , L0000936    ,
                 L0000937    , L0000938    , L0000939    , L0000940    , L0000941    ,
                 L0000942    , L0000943    , L0000944    ,
                 L0000945    , L0000946    , L0000947    , L0000948    , L0000949    ,
                 L0000950    , L0000951    ,  . . .      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **
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X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.46107	447146.92	3763064.30	0.46081
447149.92	3763038.90	0.46146	447148.56	3763019.78	0.46030
447148.56	3762997.39	0.45950	447206.08	3762958.49	0.48509
447209.33	3762922.51	0.48387	447208.40	3762890.70	0.48082
447145.83	3762888.87	0.45098	447122.55	3762889.07	0.44067
447094.33	3762890.05	0.42870	447071.04	3762890.45	0.41917
447043.61	3762889.66	0.40828	447017.76	3762888.87	0.39841
446992.11	3762889.07	0.38903	446964.28	3762888.28	0.37917
446940.41	3762888.47	0.37103	446911.20	3762888.08	0.36137
446885.35	3762889.66	0.35327	446862.07	3762888.87	0.34613
446871.45	3762779.57	0.34405	446926.31	3762768.72	0.36020
446983.74	3762774.24	0.37937	447009.00	3762774.05	0.38812
447030.51	3762774.44	0.39575	447055.37	3762774.05	0.40488
447076.88	3762774.24	0.41317	447101.16	3762774.44	0.42293
447123.85	3762774.05	0.43222	447148.12	3762775.03	0.44271
447170.23	3762774.84	0.45250	447196.78	3762775.48	0.46471
447242.12	3762776.57	0.48685	447262.33	3762776.03	0.49713
447294.56	3762776.30	0.51435	447313.13	3762775.48	0.52465
447313.40	3762749.53	0.52157	447327.86	3762713.09	0.52473
447327.36	3762679.87	0.51936	447327.74	3762657.02	0.51607
447327.28	3762636.82	0.51260	447327.51	3762612.90	0.50876
447327.28	3762592.24	0.50526	447327.04	3762569.71	0.50138
447327.28	3762547.89	0.49779	447326.58	3762524.67	0.49341
447326.58	3762506.09	0.49012	447327.51	3762477.53	0.48529
447325.88	3762454.31	0.48017	447225.58	3762432.95	0.43271
447200.27	3762430.63	0.42237	447156.85	3762430.16	0.40595
447131.77	3762430.86	0.39710	447102.74	3762430.63	0.38700
447079.06	3762430.86	0.37905	447034.94	3762433.65	0.36537
446995.47	3762433.65	0.35356	446972.71	3762434.34	0.34711
446941.37	3762434.58	0.33856	446916.06	3762436.90	0.33205
446876.35	3762436.90	0.32176	446848.85		

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1MC100 ***
INCLUDING SOURCE(S): L0000510 , L0000511 , L0000512 , L0000513 , L0000514 ,
L0000515 , L0000516 , L0000517 , L0000518 , L0000519 ,
L0000520 , L0000521 , L0000522 ,
L0000523 , L0000524 , L0000525 , L0000526 , L0000527 ,
L0000528 , L0000529 , L0000530 ,
L0000531 , L0000532 , L0000533 , L0000534 , L0000535 ,
L0000536 , L0000537 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.40118	447375.98	3764150.98	0.50764
447389.75	3764043.04	0.66389	447450.16	3764031.05	0.71612
447410.18	3764019.05	0.71669	446891.90	3764451.22	0.26806
446959.28	3764451.22	0.27688	446995.28	3764468.13	0.27526
447007.41	3764467.30	0.27638	447023.51	3764466.09	0.27858
447036.59	3764466.21	0.28008	447052.68	3764465.61	0.28174
447066.60	3764465.73	0.28286	447099.65	3764456.17	0.28933
447145.28	3764468.27	0.29061	447175.54	3764468.03	0.29638
447205.32	3764468.27	0.30149	447232.43	3764467.55	0.30092
447264.02	3764467.30	0.29715	447294.77		

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        3764466.94        0.29750
447364.97    3764456.41        0.31130                    447406.61
        3764460.65        0.31487
447441.47    3764460.04        0.31775                    447466.88
        3764460.20        0.32022
447490.00    3764460.56        0.32328                    447515.50
        3764460.40        0.32747
447573.06    3764454.29        0.33964                    447598.49
        3764445.22        0.34364
447652.90    3764439.70        0.33940                    447692.92
        3764439.51        0.34118
447713.82    3764439.11        0.34197                    447731.95
        3764438.72        0.34216
447751.07    3764438.72        0.34290                    447768.82
        3764437.53        0.34351
447789.12    3764437.73        0.34304                    447805.68
        3764437.34        0.34369
447824.02    3764437.20        0.34462                    447841.61
        3764437.87        0.34585
447861.72    3764437.53        0.34808                    447881.66
        3764435.18        0.35133
447902.78    3764436.19        0.35286                    447920.87
        3764435.35        0.35495
447942.16    3764435.35        0.35691                    447962.77
        3764434.85        0.35896
447980.70    3764435.18        0.36030                    448004.66
        3764435.18        0.36335
448021.25    3764434.68        0.36865                    447662.70
        3764379.63        0.36325
447681.30    3764320.98        0.39632                    447682.64
        3764285.79        0.42641
447662.53    3764238.37        0.46915                    447661.70
        3764207.37        0.50281
447683.14    3764162.29        0.56023                    447680.97
        3764145.87        0.58240
447679.63    3764130.28        0.61561                    447680.80
        3764112.02        0.65534
447681.47    3764096.43        0.68219                    447680.80
        3764078.84        0.71310
447679.96    3764064.26        0.73374                    447680.97
        3764045.82        0.75965
447680.63    3764029.74        0.78125                    447657.17
        3763992.03        0.85287
447656.33    3763967.06        0.89682                    447657.17
        3763928.69        0.97842
447657.17    3763902.21        1.04364                    447657.51
        3763869.03        1.15976
447656.16    3763834.94        1.27755                    447655.93
        3763808.27        1.38056
447657.09    3763786.00        1.47542                    447701.21
        3763782.14        1.50818
447856.92    3763749.71        1.79755                    447854.99
        3763730.13        1.94677
447854.35    3763698.35        2.23761                    447855.31
        3763676.84        2.48079
447675.51    3763287.46       33.04254                    448481.33
        3763485.29        1.99715
448479.95    3763195.53        2.21646                    448478.56
        3762907.16        2.04091
448497.89    3762714.10        1.63208                    448507.91
        3762487.71        1.12827
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1MC100 ***
INCLUDING SOURCE(S): L0000510 , L0000511 , L0000512 , L0000513 , L0000514 ,
L0000515 , L0000516 , L0000517 , L0000518 , L0000519 ,
L0000520 , L0000521 , L0000522 ,
L0000523 , L0000524 , L0000525 , L0000526 , L0000527 ,
L0000528 , L0000529 , L0000530 ,
L0000531 , L0000532 , L0000533 , L0000534 , L0000535 ,
L0000536 , L0000537 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	0.95167	448462.73	3762339.82	0.94783
448464.47	3762265.93	0.85129	448461.57	3762165.17	0.75233
448472.57	3762064.71	0.66289	448460.48	3762016.72	0.63729
448234.63	3761951.18	0.74112	448081.42	3761952.78	0.86594
448025.53	3761955.99	0.91913	447506.75	3761967.63	1.28579
447269.29	3761967.74	1.22423	447389.46	3761908.79	1.12969
447019.14	3761964.34	1.00018	447060.33	3761963.58	1.03832
446975.31	3761963.20	0.95714	446940.92	3761953.76	0.91530
446865.72	3761974.54	0.86679	446795.06	3761957.91	0.79240
446757.65	3761965.85	0.76629	446709.33	3761967.74	0.72847
446796.42	3762028.62	0.84067	446796.97	3762045.28	0.85237
446796.70	3762089.51	0.88305	446796.15	3762105.89	0.89320
446796.70	3762137.29	0.91430	446796.15	3762153.39	0.92400
446772.40	3762215.37	0.93191	446795.06	3762321.03	1.02489
446796.42	3762450.98	1.09476	446796.42	3762471.18	1.10379
446797.24	3762496.03	1.11579	446798.06	3762516.51	1.12538
446797.79	3762539.98	1.13298	446797.52	3762560.19	1.13869
446798.61	3762584.76	1.14785	446798.06	3762604.42	1.15170
446799.70	3762654.11	1.16533	446799.97	3762674.58	1.16888
446800.25	3762700.25	1.17219	446800.25	3762721.27	1.17345
446799.97	3762735.74	1.17323	446797.79	3762748.02	1.16834
446802.16	3762913.47	1.15627	446802.16		

3762932.58 1.15106
446802.43 3762949.24 1.14669 446802.98
3762967.26 1.14210
446802.70 3762986.09 1.13499 446802.16
3763003.29 1.12754
446802.16 3763021.86 1.11867 446802.70
3763040.70 1.11037
446802.98 3763059.26 1.10032 446803.52
3763077.01 1.09245
446756.29 3763085.26 1.00298 446807.68
3763646.39 0.67573
446808.32 3763674.66 0.65717 446807.68
3763694.57 0.64280
446808.32 3763710.63 0.63250 446808.32
3763726.37 0.62277
446808.00 3763742.11 0.61315 446808.32
3763756.89 0.60464
446808.64 3763798.32 0.57628 446810.25
3764484.08 0.24882
446781.34 3764475.08 0.24729 446722.56
3764455.81 0.24488
446170.32 3764559.79 0.16818 446872.29
3763190.26 1.15180
446925.22 3763179.19 1.29226 446984.86
3763194.88 1.46185
447010.56 3763193.28 1.55195 447036.58
3763193.60 1.65312
447053.61 3763193.28 1.72421 447076.42
3763192.31 1.83024
447093.45 3763192.63 1.91095 447122.05
3763192.63 2.07391
447138.75 3763192.31 2.17922 447167.99
3763192.31 2.37996
447170.68 3763172.18 2.44764 447170.41
3763158.25 2.47849
447169.31 3763144.87 2.49810 447147.46
3763107.45 2.39916

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1MC100 ***
INCLUDING SOURCE(S): L0000510 , L0000511 , L0000512 , L0000513 , L0000514 ,
L0000515 , L0000516 , L0000517 , L0000518 , L0000519 ,
L0000520 , L0000521 , L0000522 ,
L0000523 , L0000524 , L0000525 , L0000526 , L0000527 ,
L0000528 , L0000529 , L0000530 ,
L0000531 , L0000532 , L0000533 , L0000534 , L0000535 ,
L0000536 , L0000537 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	2.43239	447146.92		

3763064.30 2.47141
447149.92 3763038.90 2.54293 447148.56
3763019.78 2.56353
447148.56 3762997.39 2.60139 447206.08
3762958.49 3.21759
447209.33 3762922.51 3.30789 447208.40
3762890.70 3.32794
447145.83 3762888.87 2.70528 447122.55
3762889.07 2.51873
447094.33 3762890.05 2.31755 447071.04
3762890.45 2.16964
447043.61 3762889.66 2.01377 447017.76
3762888.87 1.88210
446992.11 3762889.07 1.76377 446964.28
3762888.28 1.64943
446940.41 3762888.47 1.56018 446911.20
3762888.08 1.46178
446885.35 3762889.66 1.38037 446862.07
3762888.87 1.31346
446871.45 3762779.57 1.35642 446926.31
3762768.72 1.52978
446983.74 3762774.24 1.75045 447009.00
3762774.05 1.86324
447030.51 3762774.44 1.96809 447055.37
3762774.05 2.10105
447076.88 3762774.24 2.22796 447101.16
3762774.44 2.38624
447123.85 3762774.05 2.54988 447148.12
3762775.03 2.74555
447170.23 3762774.84 2.94445 447196.78
3762775.48 3.21475
447242.12 3762776.57 3.77694 447262.33
3762776.03 4.07884
447294.56 3762776.30 4.64912 447313.13
3762775.48 5.03835
447313.40 3762749.53 5.00355 447327.86
3762713.09 5.24544
447327.36 3762679.87 5.11733 447327.74
3762657.02 5.03151
447327.28 3762636.82 4.92884 447327.51
3762612.90 4.81310
447327.28 3762592.24 4.69771 447327.04
3762569.71 4.56494
447327.28 3762547.89 4.43832 447326.58
3762524.67 4.28097
447326.58 3762506.09 4.16072 447327.51
3762477.53 3.98153
447325.88 3762454.31 3.79896 447225.58
3762432.95 2.70698
447200.27 3762430.63 2.52257 447156.85
3762430.16 2.25801
447131.77 3762430.86 2.12695 447102.74
3762430.63 1.98606
447079.06 3762430.86 1.88154 447034.94
3762433.65 1.71253
446995.47 3762433.65 1.57684 446972.71
3762434.34 1.50667
446941.37 3762434.58 1.41728 446916.06
3762436.90 1.35217
446876.35 3762436.90 1.25502 446848.85
3762647.05 1.28163
446848.85 3762563.17 1.25582 446849.17
3762509.82 1.23370
446849.17 3762455.82 1.20536 446848.85
3762702.00 1.29114
446849.49 3762754.71 1.29590 446739.81

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR15 ***
INCLUDING SOURCE(S): L0000634 , L0000635 , L0000636 , L0000637 , L0000638 ,
L0000639 , L0000640 , L0000641 , L0000642 , L0000643 ,
L0000644 , L0000645 , L0000646 ,
L0000647 , L0000648 , L0000649 , L0000650 , L0000651 ,
L0000652 , L0000653 , L0000654 ,
L0000655 , L0000656 , L0000657 , L0000658 , L0000659 ,
L0000660 , L0000661 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.17191	447375.98	3764150.98	0.19528
447389.75	3764043.04	0.21915	447450.16	3764031.05	0.22338
447410.18	3764019.05	0.22522	446891.90	3764451.22	0.14627
446959.28	3764451.22	0.14713	446995.28	3764468.13	0.14537
447007.41	3764467.30	0.14543	447023.51	3764466.09	0.14573
447036.59	3764466.21	0.14587	447052.68	3764465.61	0.14601
447066.60	3764465.73	0.14603	447099.65	3764456.17	0.14734
447145.28	3764468.27	0.14663	447175.54	3764468.03	0.14764
447205.32	3764468.27	0.14844	447232.43	3764467.55	0.14786
447264.02	3764467.30	0.14638	447294.77	3764466.94	0.14598
447364.97	3764456.41	0.14856	447406.61	3764460.65	0.14876
447441.47	3764460.04	0.14902	447466.88	3764460.20	0.14933
447490.00	3764460.56	0.14982	447515.50		

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        3764460.40        0.15058
        447573.06    3764454.29        0.15306                    447598.49
        3764445.22        0.15409
        447652.90    3764439.70        0.15350                    447692.92
        3764439.51        0.15395
        447713.82    3764439.11        0.15414                    447731.95
        3764438.72        0.15421
        447751.07    3764438.72        0.15434                    447768.82
        3764437.53        0.15447
        447789.12    3764437.73        0.15432                    447805.68
        3764437.34        0.15439
        447824.02    3764437.20        0.15447                    447841.61
        3764437.87        0.15458
        447861.72    3764437.53        0.15488                    447881.66
        3764435.18        0.15541
        447902.78    3764436.19        0.15550                    447920.87
        3764435.35        0.15577
        447942.16    3764435.35        0.15597                    447962.77
        3764434.85        0.15621
        447980.70    3764435.18        0.15633                    448004.66
        3764435.18        0.15678
        448021.25    3764434.68        0.15776                    447662.70
        3764379.63        0.15990
        447681.30    3764320.98        0.16785                    447682.64
        3764285.79        0.17422
        447662.53    3764238.37        0.18277                    447661.70
        3764207.37        0.18898
        447683.14    3764162.29        0.19871                    447680.97
        3764145.87        0.20229
        447679.63    3764130.28        0.20585                    447680.80
        3764112.02        0.21007
        447681.47    3764096.43        0.21347                    447680.80
        3764078.84        0.21717
        447679.96    3764064.26        0.22006                    447680.97
        3764045.82        0.22376
        447680.63    3764029.74        0.22700                    447657.17
        3763992.03        0.23537
        447656.33    3763967.06        0.24080                    447657.17
        3763928.69        0.24995
        447657.17    3763902.21        0.25658                    447657.51
        3763869.03        0.26614
        447656.16    3763834.94        0.27567                    447655.93
        3763808.27        0.28327
        447657.09    3763786.00        0.28994                    447701.21
        3763782.14        0.29171
        447856.92    3763749.71        0.30997                    447854.99
        3763730.13        0.31749
        447854.35    3763698.35        0.33035                    447855.31
        3763676.84        0.33954
        447675.51    3763287.46        0.59473                    448481.33
        3763485.29        0.44645
        448479.95    3763195.53        0.66126                    448478.56
        3762907.16        0.90125
        448497.89    3762714.10        0.89355                    448507.91
        3762487.71        0.74036
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 104
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                         *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                         SOURCE GROUP: 1OR15    ***
                             INCLUDING SOURCE(S):     L0000634    , L0000635    ,
```

L0000636 , L0000637 , L0000638 ,
L0000639 , L0000640 , L0000641 , L0000642 , L0000643 ,
L0000644 , L0000645 , L0000646 ,
L0000647 , L0000648 , L0000649 , L0000650 , L0000651 ,
L0000652 , L0000653 , L0000654 ,
L0000655 , L0000656 , L0000657 , L0000658 , L0000659 ,
L0000660 , L0000661 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	0.64849	448462.73	3762339.82	0.64451
448464.47	3762265.93	0.58020	448461.57	3762165.17	0.50718
448472.57	3762064.71	0.44374	448460.48	3762016.72	0.42642
448234.63	3761951.18	0.48845	448081.42	3761952.78	0.57353
448025.53	3761955.99	0.61241	447506.75	3761967.63	1.18751
447269.29	3761967.74	1.50739	447389.46	3761908.79	1.17646
447019.14	3761964.34	1.78957	447060.33	3761963.58	1.73697
446975.31	3761963.20	1.83868	446940.92	3761953.76	1.83902
446865.72	3761974.54	2.05586	446795.06	3761957.91	2.08560
446757.65	3761965.85	2.20468	446709.33	3761967.74	2.32664
446796.42	3762028.62	2.54511	446796.97	3762045.28	2.67478
446796.70	3762089.51	3.09415	446796.15	3762105.89	3.26921
446796.70	3762137.29	3.64204	446796.15	3762153.39	3.86315
446772.40	3762215.37	5.14426	446795.06	3762321.03	9.46875
446796.42	3762450.98	11.37334	446796.42	3762471.18	8.55733
446797.24	3762496.03	6.53767	446798.06	3762516.51	5.46398
446797.79	3762539.98	4.58883	446797.52	3762560.19	4.03110
446798.61	3762584.76	3.51437	446798.06	3762604.42	3.17996
446799.70	3762654.11	2.54241	446799.97	3762674.58	2.29522
446800.25	3762700.25	1.99685	446800.25	3762721.27	1.85832
446799.97	3762735.74	1.77709	446797.79	3762748.02	1.71098
446802.16	3762913.47	1.15643	446802.16	3762932.58	1.10917
446802.43	3762949.24	1.07053	446802.98	3762967.26	1.03116
446802.70	3762986.09	0.98138	446802.16	3763003.29	0.93765
446802.16	3763021.86	0.88746	446802.70		

```
        3763040.70        0.85247
        446802.98    3763059.26        0.81996                    446803.52
        3763077.01        0.79144
        446756.29    3763085.26        0.78746                    446807.68
        3763646.39        0.31854
        446808.32    3763674.66        0.30808                    446807.68
        3763694.57        0.30076
        446808.32    3763710.63        0.29537                    446808.32
        3763726.37        0.29020
        446808.00    3763742.11        0.28536                    446808.32
        3763756.89        0.28093
        446808.64    3763798.32        0.26799                    446810.25
        3764484.08        0.14161
        446781.34    3764475.08        0.14216                    446722.56
        3764455.81        0.14367
        446170.32    3764559.79        0.12436                    446872.29
        3763190.26        0.63788
        446925.22    3763179.19        0.65760                    446984.86
        3763194.88        0.65113
        447010.56    3763193.28        0.65389                    447036.58
        3763193.60        0.65690
        447053.61    3763193.28        0.65907                    447076.42
        3763192.31        0.66198
        447093.45    3763192.63        0.66228                    447122.05
        3763192.63        0.66713
        447138.75    3763192.31        0.66990                    447167.99
        3763192.31        0.67362
        447170.68    3763172.18        0.69978                    447170.41
        3763158.25        0.71881
        447169.31    3763144.87        0.73638                    447147.46
        3763107.45        0.78401
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 105
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 1OR15    ***
                               INCLUDING SOURCE(S):     L0000634    , L0000635    ,
                               L0000636    , L0000637    , L0000638    ,
                 L0000639    , L0000640    , L0000641    , L0000642    , L0000643    ,
                 L0000644    , L0000645    , L0000646    ,
                 L0000647    , L0000648    , L0000649    , L0000650    , L0000651    ,
                 L0000652    , L0000653    , L0000654    ,
                 L0000655    , L0000656    , L0000657    , L0000658    , L0000659    ,
                 L0000660    , L0000661    ,  . . .      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)   Y-COORD
      (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
        447146.64    3763084.24        0.82085                    447146.92
        3763064.30        0.85638
        447149.92    3763038.90        0.90711                    447148.56
        3763019.78        0.94663
        447148.56    3762997.39        0.99814                    447206.08
        3762958.49        1.11511
        447209.33    3762922.51        1.22645                    447208.40
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3762890.70 1.33390
447145.83 3762888.87 1.31841 447122.55
3762889.07 1.30909
447094.33 3762890.05 1.29488 447071.04
3762890.45 1.28434
447043.61 3762889.66 1.27627 447017.76
3762888.87 1.26854
446992.11 3762889.07 1.25734 446964.28
3762888.28 1.24848
446940.41 3762888.47 1.23980 446911.20
3762888.08 1.25180
446885.35 3762889.66 1.23460 446862.07
3762888.87 1.22573
446871.45 3762779.57 1.62980 446926.31
3762768.72 1.73279
446983.74 3762774.24 1.75667 447009.00
3762774.05 1.78541
447030.51 3762774.44 1.84278 447055.37
3762774.05 1.88692
447076.88 3762774.24 1.89348 447101.16
3762774.44 1.89786
447123.85 3762774.05 1.91906 447148.12
3762775.03 1.90810
447170.23 3762774.84 1.91813 447196.78
3762775.48 1.93499
447242.12 3762776.57 1.95532 447262.33
3762776.03 1.98359
447294.56 3762776.30 2.00434 447313.13
3762775.48 2.01259
447313.40 3762749.53 2.20024 447327.86
3762713.09 2.51541
447327.36 3762679.87 2.83349 447327.74
3762657.02 3.11206
447327.28 3762636.82 3.38939 447327.51
3762612.90 3.77895
447327.28 3762592.24 4.18274 447327.04
3762569.71 4.71533
447327.28 3762547.89 5.36527 447326.58
3762524.67 6.27205
447326.58 3762506.09 7.24620 447327.51
3762477.53 9.52408
447325.88 3762454.31 12.83148 447225.58
3762432.95 18.62743
447200.27 3762430.63 19.50442 447156.85
3762430.16 19.54872
447131.77 3762430.86 19.15281 447102.74
3762430.63 19.13634
447079.06 3762430.86 18.94928 447034.94
3762433.65 17.73574
446995.47 3762433.65 17.61496 446972.71
3762434.34 17.30946
446941.37 3762434.58 17.12405 446916.06
3762436.90 16.28873
446876.35 3762436.90 16.09811 446848.85
3762647.05 2.73278
446848.85 3762563.17 4.20739 446849.17
3762509.82 6.23317
446849.17 3762455.82 11.51737 446848.85
3762702.00 2.05298
446849.49 3762754.71 1.72570 446739.81
3762428.53 14.02401
446711.81 3762423.61 13.34345 446687.25
3762416.25 13.28597
446662.20 3762412.32 12.08891 446636.17
3762403.97 11.63679
449981.72 3762732.45 0.28197 446486.82

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR60 ***
INCLUDING SOURCE(S): L0001115 , L0001116 , L0001117 , L0001118 , L0001119 ,
L0001120 , L0001121 , L0001122 , L0001123 , L0001124 ,
L0001125 , L0001126 , L0001127 ,
L0001128 , L0001129 , L0001130 , L0001131 , L0001132 ,
L0001133 , L0001134 , L0001135 ,
L0001136 , L0001137 , L0001138 , L0001139 , L0001140 ,
L0001141 , L0001142 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.13349	447375.98	3764150.98	0.14694
447389.75	3764043.04	0.16060	447450.16	3764031.05	0.16695
447410.18	3764019.05	0.16508	446891.90	3764451.22	0.10291
446959.28	3764451.22	0.10537	446995.28	3764468.13	0.10556
447007.41	3764467.30	0.10593	447023.51	3764466.09	0.10658
447036.59	3764466.21	0.10707	447052.68	3764465.61	0.10763
447066.60	3764465.73	0.10807	447099.65	3764456.17	0.10981
447145.28	3764468.27	0.11095	447175.54	3764468.03	0.11266
447205.32	3764468.27	0.11423	447232.43	3764467.55	0.11465
447264.02	3764467.30	0.11449	447294.77	3764466.94	0.11515
447364.97	3764456.41	0.11929	447406.61	3764460.65	0.12095
447441.47	3764460.04	0.12232	447466.88	3764460.20	0.12344
447490.00	3764460.56	0.12467	447515.50	3764460.40	0.12623
447573.06	3764454.29	0.13040	447598.49	3764445.22	0.13197
447652.90	3764439.70	0.13292	447692.92	3764439.51	0.13467
447713.82	3764439.11	0.13552	447731.95		

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        3764438.72        0.13613
        447751.07    3764438.72        0.13687                     447768.82
        3764437.53        0.13749
        447789.12    3764437.73        0.13792                     447805.68
        3764437.34        0.13845
        447824.02    3764437.20        0.13906                     447841.61
        3764437.87        0.13972
        447861.72    3764437.53        0.14062                     447881.66
        3764435.18        0.14171
        447902.78    3764436.19        0.14245                     447920.87
        3764435.35        0.14324
        447942.16    3764435.35        0.14406                     447962.77
        3764434.85        0.14490
        447980.70    3764435.18        0.14555                     448004.66
        3764435.18        0.14680
        448021.25    3764434.68        0.14865                     447662.70
        3764379.63        0.13743
        447681.30    3764320.98        0.14369                     447682.64
        3764285.79        0.14865
        447662.53    3764238.37        0.15411                     447661.70
        3764207.37        0.15866
        447683.14    3764162.29        0.16696                     447680.97
        3764145.87        0.16946
        447679.63    3764130.28        0.17201                     447680.80
        3764112.02        0.17513
        447681.47    3764096.43        0.17750                     447680.80
        3764078.84        0.17987
        447679.96    3764064.26        0.18156                     447680.97
        3764045.82        0.18381
        447680.63    3764029.74        0.18564                     447657.17
        3763992.03        0.18889
        447656.33    3763967.06        0.19171                     447657.17
        3763928.69        0.19673
        447657.17    3763902.21        0.20023                     447657.51
        3763869.03        0.20564
        447656.16    3763834.94        0.21034                     447655.93
        3763808.27        0.21394
        447657.09    3763786.00        0.21720                     447701.21
        3763782.14        0.22274
        447856.92    3763749.71        0.25408                     447854.99
        3763730.13        0.25865
        447854.35    3763698.35        0.26664                     447855.31
        3763676.84        0.27247
        447675.51    3763287.46        0.34744                     448481.33
        3763485.29        0.47570
        448479.95    3763195.53        0.79136                     448478.56
        3762907.16        1.58564
        448497.89    3762714.10        2.96550                     448507.91
        3762487.71       11.93187
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 107
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP: 1OR60    ***
                              INCLUDING SOURCE(S):     L0001115    , L0001116    ,
                              L0001117    , L0001118    , L0001119    ,
               L0001120    , L0001121    , L0001122    , L0001123    , L0001124    ,
               L0001125    , L0001126    , L0001127    ,
               L0001128    , L0001129    , L0001130    , L0001131    , L0001132    ,
               L0001133    , L0001134    , L0001135    ,
               L0001136    , L0001137    , L0001138    , L0001139    , L0001140    ,
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L0001141 , L0001142 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	36.79263	448462.73	3762339.82	22.09698
448464.47	3762265.93	9.60054	448461.57	3762165.17	5.34416
448472.57	3762064.71	3.67879	448460.48	3762016.72	3.10355
448234.63	3761951.18	1.87503	448081.42	3761952.78	1.40509
448025.53	3761955.99	1.26312	447506.75	3761967.63	0.54635
447269.29	3761967.74	0.41217	447389.46	3761908.79	0.46950
447019.14	3761964.34	0.32053	447060.33	3761963.58	0.33314
446975.31	3761963.20	0.30792	446940.92	3761953.76	0.29848
446865.72	3761974.54	0.28002	446795.06	3761957.91	0.26386
446757.65	3761965.85	0.25603	446709.33	3761967.74	0.24641
446796.42	3762028.62	0.26457	446796.97	3762045.28	0.26474
446796.70	3762089.51	0.26484	446796.15	3762105.89	0.26469
446796.70	3762137.29	0.26469	446796.15	3762153.39	0.26448
446772.40	3762215.37	0.25889	446795.06	3762321.03	0.26206
446796.42	3762450.98	0.25895	446796.42	3762471.18	0.25826
446797.24	3762496.03	0.25754	446798.06	3762516.51	0.25692
446797.79	3762539.98	0.25592	446797.52	3762560.19	0.25501
446798.61	3762584.76	0.25416	446798.06	3762604.42	0.25314
446799.70	3762654.11	0.24960	446799.97	3762674.58	0.24595
446800.25	3762700.25	0.24338	446800.25	3762721.27	0.24136
446799.97	3762735.74	0.24037	446797.79	3762748.02	0.23915
446802.16	3762913.47	0.23024	446802.16	3762932.58	0.22895
446802.43	3762949.24	0.22786	446802.98	3762967.26	0.22673
446802.70	3762986.09	0.22534	446802.16	3763003.29	0.22248
446802.16	3763021.86	0.22077	446802.70	3763040.70	0.21842
446802.98	3763059.26	0.21620	446803.52	3763077.01	0.21371
446756.29	3763085.26	0.20951	446807.68	3763646.39	0.15377
446808.32	3763674.66	0.15169	446807.68		

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR60 ***
INCLUDING SOURCE(S): L0001115 , L0001116 , L0001117 , L0001118 , L0001119 ,
L0001120 , L0001121 , L0001122 , L0001123 , L0001124 ,
L0001125 , L0001126 , L0001127 ,
L0001128 , L0001129 , L0001130 , L0001131 , L0001132 ,
L0001133 , L0001134 , L0001135 ,
L0001136 , L0001137 , L0001138 , L0001139 , L0001140 ,
L0001141 , L0001142 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.25848	447146.92	3763064.30	0.26165
447149.92	3763038.90	0.26651	447148.56	3763019.78	0.26924
447148.56	3762997.39	0.27299	447206.08	3762958.49	0.30397
447209.33	3762922.51	0.31618	447208.40	3762890.70	0.32167
447145.83	3762888.87	0.30417	447122.55	3762889.07	0.29795
447094.33	3762890.05	0.29006	447071.04	3762890.45	0.28426
447043.61	3762889.66	0.27781	447017.76		

3762888.87 0.27243
446992.11 3762889.07 0.26670 446964.28
3762888.28 0.26079
446940.41 3762888.47 0.25588 446911.20
3762888.08 0.25067
446885.35 3762889.66 0.24551 446862.07
3762888.87 0.24118
446871.45 3762779.57 0.25116 446926.31
3762768.72 0.26343
446983.74 3762774.24 0.27590 447009.00
3762774.05 0.28262
447030.51 3762774.44 0.28910 447055.37
3762774.05 0.29632
447076.88 3762774.24 0.30201 447101.16
3762774.44 0.30749
447123.85 3762774.05 0.31396 447148.12
3762775.03 0.32058
447170.23 3762774.84 0.32665 447196.78
3762775.48 0.33558
447242.12 3762776.57 0.35053 447262.33
3762776.03 0.35771
447294.56 3762776.30 0.36993 447313.13
3762775.48 0.37713
447313.40 3762749.53 0.38117 447327.86
3762713.09 0.39372
447327.36 3762679.87 0.40457 447327.74
3762657.02 0.41029
447327.28 3762636.82 0.41266 447327.51
3762612.90 0.41574
447327.28 3762592.24 0.41809 447327.04
3762569.71 0.42056
447327.28 3762547.89 0.42307 447326.58
3762524.67 0.42517
447326.58 3762506.09 0.42701 447327.51
3762477.53 0.43015
447325.88 3762454.31 0.43134 447225.58
3762432.95 0.38751
447200.27 3762430.63 0.37740 447156.85
3762430.16 0.36084
447131.77 3762430.86 0.35177 447102.74
3762430.63 0.34177
447079.06 3762430.86 0.33393 447034.94
3762433.65 0.32002
446995.47 3762433.65 0.30848 446972.71
3762434.34 0.30211
446941.37 3762434.58 0.29372 446916.06
3762436.90 0.28714
446876.35 3762436.90 0.27741 446848.85
3762647.05 0.26062
446848.85 3762563.17 0.26586 446849.17
3762509.82 0.26830
446849.17 3762455.82 0.27040 446848.85
3762702.00 0.25266
446849.49 3762754.71 0.24837 446739.81
3762428.53 0.24800
446711.81 3762423.61 0.24269 446687.25
3762416.25 0.23826
446662.20 3762412.32 0.23379 446636.17
3762403.97 0.22939
449981.72 3762732.45 2.37976 446486.82
3762231.95 0.20810
446261.97 3762068.01 0.17950 446443.15
3762291.63 0.20117
446071.80 3762055.49 0.15940 446072.08
3761983.13 0.15949
446138.18 3762002.17 0.16609 445884.94

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR85 ***
INCLUDING SOURCE(S): L0000867 , L0000868 , L0000869 , L0000870 , L0000871 ,
L0000872 , L0000873 , L0000874 , L0000875 , L0000876 ,
L0000877 , L0000878 , L0000879 ,
L0000880 , L0000881 , L0000882 , L0000883 , L0000884 ,
L0000885 , L0000886 , L0000887 ,
L0000888 , L0000889 , L0000890 , L0000891 , L0000892 ,
L0000893 , L0000894 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.17378	447375.98	3764150.98	0.19785
447389.75	3764043.04	0.22338	447450.16	3764031.05	0.23116
447410.18	3764019.05	0.23074	446891.90	3764451.22	0.13613
446959.28	3764451.22	0.13886	446995.28	3764468.13	0.13827
447007.41	3764467.30	0.13860	447023.51	3764466.09	0.13929
447036.59	3764466.21	0.13976	447052.68	3764465.61	0.14027
447066.60	3764465.73	0.14061	447099.65	3764456.17	0.14262
447145.28	3764468.27	0.14305	447175.54	3764468.03	0.14488
447205.32	3764468.27	0.14648	447232.43	3764467.55	0.14626
447264.02	3764467.30	0.14495	447294.77	3764466.94	0.14498
447364.97	3764456.41	0.14928	447406.61	3764460.65	0.15048
447441.47	3764460.04	0.15147	447466.88	3764460.20	0.15237
447490.00	3764460.56	0.15350	447515.50	3764460.40	0.15505
447573.06	3764454.29	0.15945	447598.49	3764445.22	0.16092
447652.90	3764439.70	0.16032	447692.92	3764439.51	0.16139
447713.82	3764439.11	0.16184	447731.95	3764438.72	0.16203
447751.07	3764438.72	0.16236	447768.82	3764437.53	0.16258
447789.12	3764437.73	0.16241	447805.68	3764437.34	0.16255
447824.02	3764437.20	0.16273	447841.61		

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       3764437.87        0.16302
       447861.72    3764437.53        0.16357                      447881.66
       3764435.18        0.16438
       447902.78    3764436.19        0.16470                      447920.87
       3764435.35        0.16519
       447942.16    3764435.35        0.16564                      447962.77
       3764434.85        0.16615
       447980.70    3764435.18        0.16651                      448004.66
       3764435.18        0.16753
       448021.25    3764434.68        0.16956                      447662.70
       3764379.63        0.16682
       447681.30    3764320.98        0.17566                      447682.64
       3764285.79        0.18335
       447662.53    3764238.37        0.19321                      447661.70
       3764207.37        0.20074
       447683.14    3764162.29        0.21325                      447680.97
       3764145.87        0.21765
       447679.63    3764130.28        0.22211                      447680.80
       3764112.02        0.22740
       447681.47    3764096.43        0.23149                      447680.80
       3764078.84        0.23573
       447679.96    3764064.26        0.23884                      447680.97
       3764045.82        0.24282
       447680.63    3764029.74        0.24621                      447657.17
       3763992.03        0.25455
       447656.33    3763967.06        0.26008                      447657.17
       3763928.69        0.26978
       447657.17    3763902.21        0.27674                      447657.51
       3763869.03        0.28751
       447656.16    3763834.94        0.29745                      447655.93
       3763808.27        0.30517
       447657.09    3763786.00        0.31203                      447701.21
       3763782.14        0.31675
       447856.92    3763749.71        0.35265                      447854.99
       3763730.13        0.36210
       447854.35    3763698.35        0.37850                      447855.31
       3763676.84        0.39044
       447675.51    3763287.46        0.67878                      448481.33
       3763485.29        0.57251
       448479.95    3763195.53        1.03091                      448478.56
       3762907.16        2.50678
       448497.89    3762714.10        4.99458                      448507.91
       3762487.71       15.04863
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 110
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 1OR85    ***
                               INCLUDING SOURCE(S):     L0000867    , L0000868    ,
                               L0000869    , L0000870    , L0000871    ,
                 L0000872    , L0000873    , L0000874    , L0000875    , L0000876    ,
                 L0000877    , L0000878    , L0000879    ,
                 L0000880    , L0000881    , L0000882    , L0000883    , L0000884    ,
                 L0000885    , L0000886    , L0000887    ,
                 L0000888    , L0000889    , L0000890    , L0000891    , L0000892    ,
                 L0000893    , L0000894    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **
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X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	15.23980	448462.73	3762339.82	14.20723
448464.47	3762265.93	7.34620	448461.57	3762165.17	4.35034
448472.57	3762064.71	2.91646	448460.48	3762016.72	2.57637
448234.63	3761951.18	2.87888	448081.42	3761952.78	3.23280
448025.53	3761955.99	3.32473	447506.75	3761967.63	2.33780
447269.29	3761967.74	1.48958	447389.46	3761908.79	1.73560
447019.14	3761964.34	0.92403	447060.33	3761963.58	0.99322
446975.31	3761963.20	0.85739	446940.92	3761953.76	0.80823
446865.72	3761974.54	0.72288	446795.06	3761957.91	0.64937
446757.65	3761965.85	0.61683	446709.33	3761967.74	0.57772
446796.42	3762028.62	0.65744	446796.97	3762045.28	0.65928
446796.70	3762089.51	0.66255	446796.15	3762105.89	0.66279
446796.70	3762137.29	0.66445	446796.15	3762153.39	0.66427
446772.40	3762215.37	0.64163	446795.06	3762321.03	0.65844
446796.42	3762450.98	0.64337	446796.42	3762471.18	0.63972
446797.24	3762496.03	0.63558	446798.06	3762516.51	0.63195
446797.79	3762539.98	0.62636	446797.52	3762560.19	0.62129
446798.61	3762584.76	0.61613	446798.06	3762604.42	0.61050
446799.70	3762654.11	0.59820	446799.97	3762674.58	0.59254
446800.25	3762700.25	0.58522	446800.25	3762721.27	0.57903
446799.97	3762735.74	0.57453	446797.79	3762748.02	0.56923
446802.16	3762913.47	0.52103	446802.16	3762932.58	0.51493
446802.43	3762949.24	0.50977	446802.98	3762967.26	0.50432
446802.70	3762986.09	0.49811	446802.16	3763003.29	0.49226
446802.16	3763021.86	0.48110	446802.70	3763040.70	0.47196
446802.98	3763059.26	0.45993	446803.52	3763077.01	0.45026
446756.29	3763085.26	0.44463	446807.68	3763646.39	0.24592
446808.32	3763674.66	0.24055	446807.68	3763694.57	0.23652
446808.32	3763710.63	0.23370	446808.32	3763726.37	0.23090
446808.00	3763742.11	0.22827	446808.32	3763756.89	0.22588
446808.64	3763798.32	0.21834	446810.25		

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR85 ***
INCLUDING SOURCE(S): L0000867 , L0000868 , L0000869 , L0000870 , L0000871 ,
L0000872 , L0000873 , L0000874 , L0000875 , L0000876 ,
L0000877 , L0000878 , L0000879 ,
L0000880 , L0000881 , L0000882 , L0000883 , L0000884 ,
L0000885 , L0000886 , L0000887 ,
L0000888 , L0000889 , L0000890 , L0000891 , L0000892 ,
L0000893 , L0000894 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.56912	447146.92	3763064.30	0.58470
447149.92	3763038.90	0.60851	447148.56	3763019.78	0.62347
447148.56	3762997.39	0.67590	447206.08	3762958.49	0.80512
447209.33	3762922.51	0.86176	447208.40	3762890.70	0.90471
447145.83	3762888.87	0.82476	447122.55	3762889.07	0.79669
447094.33	3762890.05	0.76385	447071.04	3762890.45	0.73847
447043.61	3762889.66	0.71094	447017.76	3762888.87	0.68632
446992.11	3762889.07	0.66252	446964.28	3762888.28	0.64086
446940.41	3762888.47	0.62095	446911.20	3762888.08	0.60687
446885.35	3762889.66	0.58629	446862.07		

3762888.87 0.56949
446871.45 3762779.57 0.61772 446926.31
3762768.72 0.67209
446983.74 3762774.24 0.72913 447009.00
3762774.05 0.75807
447030.51 3762774.44 0.78397 447055.37
3762774.05 0.81606
447076.88 3762774.24 0.84498 447101.16
3762774.44 0.87938
447123.85 3762774.05 0.91414 447148.12
3762775.03 0.95221
447170.23 3762774.84 0.99006 447196.78
3762775.48 1.03765
447242.12 3762776.57 1.12651 447262.33
3762776.03 1.17111
447294.56 3762776.30 1.24556 447313.13
3762775.48 1.29304
447313.40 3762749.53 1.34440 447327.86
3762713.09 1.46521
447327.36 3762679.87 1.54013 447327.74
3762657.02 1.59528
447327.28 3762636.82 1.64162 447327.51
3762612.90 1.70034
447327.28 3762592.24 1.74868 447327.04
3762569.71 1.80079
447327.28 3762547.89 1.85271 447326.58
3762524.67 1.90061
447326.58 3762506.09 1.94024 447327.51
3762477.53 2.00329
447325.88 3762454.31 2.03334 447225.58
3762432.95 1.51731
447200.27 3762430.63 1.41945 447156.85
3762430.16 1.27295
447131.77 3762430.86 1.19941 447102.74
3762430.63 1.12326
447079.06 3762430.86 1.06680 447034.94
3762433.65 0.97331
446995.47 3762433.65 0.90173 446972.71
3762434.34 0.86429
446941.37 3762434.58 0.81720 446916.06
3762436.90 0.78171
446876.35 3762436.90 0.73162 446848.85
3762647.05 0.64386
446848.85 3762563.17 0.66960 446849.17
3762509.82 0.68428
446849.17 3762455.82 0.69665 446848.85
3762702.00 0.62552
446849.49 3762754.71 0.60605 446739.81
3762428.53 0.59568
446711.81 3762423.61 0.57344 446687.25
3762416.25 0.55537
446662.20 3762412.32 0.53754 446636.17
3762403.97 0.52042
449981.72 3762732.45 0.81230 446486.82
3762231.95 0.44206
446261.97 3762068.01 0.34875 446443.15
3762291.63 0.41891
446071.80 3762055.49 0.29182 446072.08
3761983.13 0.29158
446138.18 3762002.17 0.30972 445884.94
3762039.75 0.24943

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2CIDLE ***
INCLUDING SOURCE(S): L0000119 , L0000120 , L0000121 , L0000122 , L0000123 , L0000124 , L0000125 , L0000126 , L0000127 , L0000128 , L0000129 , L0000130 , L0000131 , L0000132 , L0000133 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.73210	447375.98	3764150.98	1.00008
447389.75	3764043.04	1.45277	447450.16	3764031.05	1.59034
447410.18	3764019.05	1.64497	446891.90	3764451.22	0.46549
446959.28	3764451.22	0.48110	446995.28	3764468.13	0.47442
447007.41	3764467.30	0.47618	447023.51	3764466.09	0.48018
447036.59	3764466.21	0.48278	447052.68	3764465.61	0.48558
447066.60	3764465.73	0.48730	447099.65	3764456.17	0.50022
447145.28	3764468.27	0.50036	447175.54	3764468.03	0.51138
447205.32	3764468.27	0.52060	447232.43	3764467.55	0.51730
447264.02	3764467.30	0.50672	447294.77	3764466.94	0.50459
447364.97	3764456.41	0.52557	447406.61	3764460.65	0.52804
447441.47	3764460.04	0.53081	447466.88	3764460.20	0.53422
447490.00	3764460.56	0.53948	447515.50	3764460.40	0.54739
447573.06	3764454.29	0.57201	447598.49	3764445.22	0.58143
447652.90	3764439.70	0.57822	447692.92	3764439.51	0.58263
447713.82	3764439.11	0.58419	447731.95	3764438.72	0.58445
447751.07	3764438.72	0.58501	447768.82	3764437.53	0.58537
447789.12	3764437.73	0.58323	447805.68	3764437.34	0.58280
447824.02	3764437.20	0.58223	447841.61	3764437.87	0.58171
447861.72	3764437.53	0.58230	447881.66	3764435.18	0.58458
447902.78	3764436.19	0.58324	447920.87	3764435.35	0.58346
447942.16	3764435.35	0.58270	447962.77	3764434.85	0.58225
447980.70	3764435.18	0.58108	448004.66	3764435.18	0.58149

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        448021.25    3764434.68        0.58654                      447662.70
        3764379.63         0.63264
        447681.30    3764320.98        0.70470                      447682.64
        3764285.79         0.76576
        447662.53    3764238.37        0.85639                      447661.70
        3764207.37         0.92735
        447683.14    3764162.29        1.04334                      447680.97
        3764145.87         1.09010
        447679.63    3764130.28        1.13805                      447680.80
        3764112.02         1.25534
        447681.47    3764096.43        1.31909                      447680.80
        3764078.84         1.40722
        447679.96    3764064.26        1.45516                      447680.97
        3764045.82         1.50996
        447680.63    3764029.74        1.55084                      447657.17
        3763992.03         1.76593
        447656.33    3763967.06        1.85511                      447657.17
        3763928.69         2.04131
        447657.17    3763902.21        2.19585                      447657.51
        3763869.03         2.51915
        447656.16    3763834.94        2.81641                      447655.93
        3763808.27         3.06078
        447657.09    3763786.00        3.30523                      447701.21
        3763782.14         3.30099
        447856.92    3763749.71        3.72057                      447854.99
        3763730.13         4.01384
        447854.35    3763698.35        4.52756                      447855.31
        3763676.84         4.89246
        447675.51    3763287.46        8.79602                      448481.33
        3763485.29         1.77692
        448479.95    3763195.53        1.09294                      448478.56
        3762907.16         0.73011
        448497.89    3762714.10        0.59172                      448507.91
        3762487.71         0.48386
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 113
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP: 2CIDLE   ***
                              INCLUDING SOURCE(S):     L0000119    , L0000120    ,
                              L0000121    , L0000122    , L0000123    ,
                 L0000124    , L0000125    , L0000126    , L0000127    , L0000128    ,
                 L0000129    , L0000130    , L0000131    ,
                 L0000132    , L0000133    ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
- - - -
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3761952.78 0.41587
448025.53 3761955.99 0.42928 447506.75
3761967.63 0.52785
447269.29 3761967.74 0.55210 447389.46
3761908.79 0.50620
447019.14 3761964.34 0.55923 447060.33
3761963.58 0.55791
446975.31 3761963.20 0.55896 446940.92
3761953.76 0.55280
446865.72 3761974.54 0.56678 446795.06
3761957.91 0.55312
446757.65 3761965.85 0.55574 446709.33
3761967.74 0.55270
446796.42 3762028.62 0.60096 446796.97
3762045.28 0.61319
446796.70 3762089.51 0.64864 446796.15
3762105.89 0.66191
446796.70 3762137.29 0.68866 446796.15
3762153.39 0.70286
446772.40 3762215.37 0.75799 446795.06
3762321.03 0.88162
446796.42 3762450.98 1.06916 446796.42
3762471.18 1.10282
446797.24 3762496.03 1.14664 446798.06
3762516.51 1.18450
446797.79 3762539.98 1.22802 446797.52
3762560.19 1.26658
446798.61 3762584.76 1.31692 446798.06
3762604.42 1.35749
446799.70 3762654.11 1.47020 446799.97
3762674.58 1.51844
446800.25 3762700.25 1.58059 446800.25
3762721.27 1.63129
446799.97 3762735.74 1.66579 446797.79
3762748.02 1.69036
446802.16 3762913.47 2.11655 446802.16
3762932.58 2.16194
446802.43 3762949.24 2.20180 446802.98
3762967.26 2.24509
446802.70 3762986.09 2.28445 446802.16
3763003.29 2.31743
446802.16 3763021.86 2.35445 446802.70
3763040.70 2.39337
446802.98 3763059.26 2.42769 446803.52
3763077.01 2.45972
446756.29 3763085.26 2.15486 446807.68
3763646.39 1.87915
446808.32 3763674.66 1.80393 446807.68
3763694.57 1.74686
446808.32 3763710.63 1.70603 446808.32
3763726.37 1.66408
446808.00 3763742.11 1.62176 446808.32
3763756.89 1.58469
446808.64 3763798.32 1.48179 446810.25
3764484.08 0.42539
446781.34 3764475.08 0.42351 446722.56
3764455.81 0.42052
446170.32 3764559.79 0.25941 446872.29
3763190.26 3.27010
446925.22 3763179.19 3.98802 446984.86
3763194.88 5.21161
447010.56 3763193.28 5.88918 447036.58
3763193.60 6.72005
447053.61 3763193.28 7.35256 447076.42
3763192.31 8.32859
447093.45 3763192.63 9.19383 447122.05

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2CIDLE ***
INCLUDING SOURCE(S): L0000119 , L0000120 , L0000121 , L0000122 , L0000123 , L0000124 , L0000125 , L0000126 , L0000127 , L0000128 , L0000129 , L0000130 , L0000131 , L0000132 , L0000133 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	8.01168	447146.92	3763064.30	7.32867
447149.92	3763038.90	6.58326	447148.56	3763019.78	6.03907
447148.56	3762997.39	5.48793	447206.08	3762958.49	4.87080
447209.33	3762922.51	4.19215	447208.40	3762890.70	3.70654
447145.83	3762888.87	3.60210	447122.55	3762889.07	3.54795
447094.33	3762890.05	3.47112	447071.04	3762890.45	3.38774
447043.61	3762889.66	3.26259	447017.76	3762888.87	3.13464
446992.11	3762889.07	3.00878	446964.28	3762888.28	2.86007
446940.41	3762888.47	2.73593	446911.20	3762888.08	2.58064
446885.35	3762889.66	2.45555	446862.07	3762888.87	2.33654
446871.45	3762779.57	1.98468	446926.31	3762768.72	2.09626
446983.74	3762774.24	2.26476	447009.00	3762774.05	2.31904
447030.51	3762774.44	2.36166	447055.37	3762774.05	2.40081
447076.88	3762774.24	2.43368	447101.16	3762774.44	2.46571
447123.85	3762774.05	2.48353	447148.12	3762775.03	2.50702
447170.23	3762774.84	2.51469	447196.78	3762775.48	2.52241
447242.12	3762776.57	2.52167	447262.33	3762776.03	2.50779

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       447294.56    3762776.30        2.48745                     447313.13
       3762775.48         2.46584
       447313.40    3762749.53        2.28574                     447327.86
       3762713.09         2.05428
       447327.36    3762679.87        1.88034                     447327.74
       3762657.02         1.77447
       447327.28    3762636.82        1.68871                     447327.51
       3762612.90         1.59454
       447327.28    3762592.24        1.52083                     447327.04
       3762569.71         1.44648
       447327.28    3762547.89        1.37970                     447326.58
       3762524.67         1.31427
       447326.58    3762506.09        1.26521                     447327.51
       3762477.53         1.19434
       447325.88    3762454.31        1.14210                     447225.58
       3762432.95         1.11741
       447200.27    3762430.63        1.11575                     447156.85
       3762430.16         1.11821
       447131.77    3762430.86        1.12104                     447102.74
       3762430.63         1.12056
       447079.06    3762430.86        1.11987                     447034.94
       3762433.65         1.12261
       446995.47    3762433.65        1.11728                     446972.71
       3762434.34         1.11444
       446941.37    3762434.58        1.10793                     446916.06
       3762436.90         1.10489
       446876.35    3762436.90        1.08900                     446848.85
       3762647.05         1.53222
       446848.85    3762563.17        1.32667                     446849.17
       3762509.82         1.21331
       446849.17    3762455.82        1.10973                     446848.85
       3762702.00         1.68540
       446849.49    3762754.71        1.84314                     446739.81
       3762428.53         0.99651
       446711.81    3762423.61        0.97085                     446687.25
       3762416.25         0.94442
       446662.20    3762412.32        0.92230                     446636.17
       3762403.97         0.89488
       449981.72    3762732.45        0.21590                     446486.82
       3762231.95         0.66714
       446261.97    3762068.01        0.49812                     446443.15
       3762291.63         0.68238
       446071.80    3762055.49        0.43019                     446072.08
       3761983.13         0.41295
       446138.18    3762002.17        0.43776                     445884.94
       3762039.75         0.37046
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 115
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 2CON     ***
                               INCLUDING SOURCE(S):     L0000134    , L0000135    ,
                               L0000136    , L0000137    , L0000138    ,
               L0000139    , L0000140    , L0000141    , L0000142    , L0000143    ,
               L0000144    , L0000145    , L0000146    ,
               L0000147    , L0000148    , L0000149    , L0000150    , L0000151    ,
               L0000152    , L0000153    , L0000154    ,
               L0000155    , L0000156    , L0000157    , L0000158    , L0000159    ,
               L0000160    , L0000161    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***
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** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.72533	447375.98	3764150.98	0.99513
447389.75	3764043.04	1.48280	447450.16	3764031.05	1.58085
447410.18	3764019.05	1.60962	446891.90	3764451.22	0.44587
446959.28	3764451.22	0.46321	446995.28	3764468.13	0.45841
447007.41	3764467.30	0.46051	447023.51	3764466.09	0.46483
447036.59	3764466.21	0.46773	447052.68	3764465.61	0.47090
447066.60	3764465.73	0.47298	447099.65	3764456.17	0.48626
447145.28	3764468.27	0.48765	447175.54	3764468.03	0.49911
447205.32	3764468.27	0.50898	447232.43	3764467.55	0.50663
447264.02	3764467.30	0.49745	447294.77	3764466.94	0.49660
447364.97	3764456.41	0.52040	447406.61	3764460.65	0.52437
447441.47	3764460.04	0.52797	447466.88	3764460.20	0.53165
447490.00	3764460.56	0.53696	447515.50	3764460.40	0.54479
447573.06	3764454.29	0.56929	447598.49	3764445.22	0.57840
447652.90	3764439.70	0.57384	447692.92	3764439.51	0.57873
447713.82	3764439.11	0.58074	447731.95	3764438.72	0.58146
447751.07	3764438.72	0.58267	447768.82	3764437.53	0.58368
447789.12	3764437.73	0.58224	447805.68	3764437.34	0.58253
447824.02	3764437.20	0.58279	447841.61	3764437.87	0.58309
447861.72	3764437.53	0.58464	447881.66	3764435.18	0.58790
447902.78	3764436.19	0.58739	447920.87	3764435.35	0.58834
447942.16	3764435.35	0.58834	447962.77	3764434.85	0.58861
447980.70	3764435.18	0.58800	448004.66	3764435.18	0.58926
448021.25	3764434.68	0.59529	447662.70	3764379.63	0.62843
447681.30	3764320.98	0.70265	447682.64	3764285.79	0.76677
447662.53	3764238.37	0.86150	447661.70	3764207.37	0.93671
447683.14	3764162.29	1.06331	447680.97	3764145.87	1.11402
447679.63	3764130.28	1.23411	447680.80	3764112.02	1.30538
447681.47	3764096.43	1.35984	447680.80	3764078.84	1.42364

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        447679.96    3764064.26        1.47639                     447680.97
        3764045.82         1.54562
        447680.63    3764029.74        1.61164                     447657.17
        3763992.03         1.80029
        447656.33    3763967.06        1.93376                     447657.17
        3763928.69         2.17813
        447657.17    3763902.21        2.37875                     447657.51
        3763869.03         2.69483
        447656.16    3763834.94        3.08358                     447655.93
        3763808.27         3.45140
        447657.09    3763786.00        3.82112                     447701.21
        3763782.14         3.85117
        447856.92    3763749.71        4.27474                     447854.99
        3763730.13         4.65171
        447854.35    3763698.35        5.31797                     447855.31
        3763676.84         5.79153
        447675.51    3763287.46       18.43324                     448481.33
        3763485.29         2.01581
        448479.95    3763195.53        1.31558                     448478.56
        3762907.16         0.83354
        448497.89    3762714.10        0.65963                     448507.91
        3762487.71         0.53009
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                    PAGE 116
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 2CON     ***
                               INCLUDING SOURCE(S):     L0000134    , L0000135    ,
                               L0000136    , L0000137    , L0000138    ,
                 L0000139    , L0000140    , L0000141    , L0000142    , L0000143    ,
                 L0000144    , L0000145    , L0000146    ,
                 L0000147    , L0000148    , L0000149    , L0000150    , L0000151    ,
                 L0000152    , L0000153    , L0000154    ,
                 L0000155    , L0000156    , L0000157    , L0000158    , L0000159    ,
                 L0000160    , L0000161    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)       CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - -
        448480.49    3762357.96        0.48602                     448462.73
        3762339.82         0.48561
        448464.47    3762265.93        0.45548                     448461.57
        3762165.17         0.42014
        448472.57    3762064.71        0.38441                     448460.48
        3762016.72         0.37310
        448234.63    3761951.18        0.40535                     448081.42
        3761952.78         0.44113
        448025.53    3761955.99        0.45488                     447506.75
        3761967.63         0.55143
        447269.29    3761967.74        0.57151                     447389.46
        3761908.79         0.52517
        447019.14    3761964.34        0.57314                     447060.33
        3761963.58         0.57300
        446975.31    3761963.20        0.57131                     446940.92
        3761953.76         0.56367
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 446865.72    3761974.54        0.57407                    446795.06
 3761957.91         0.55660
 446757.65    3761965.85        0.55684                    446709.33
 3761967.74         0.55082
 446796.42    3762028.62        0.60298                    446796.97
 3762045.28         0.61479
 446796.70    3762089.51        0.64871                    446796.15
 3762105.89         0.66127
 446796.70    3762137.29        0.68664                    446796.15
 3762153.39         0.69994
 446772.40    3762215.37        0.74830                    446795.06
 3762321.03         0.86401
 446796.42    3762450.98        1.02870                    446796.42
 3762471.18         1.05736
 446797.24    3762496.03        1.09454                    446798.06
 3762516.51         1.12637
 446797.79    3762539.98        1.16211                    446797.52
 3762560.19         1.19337
 446798.61    3762584.76        1.23425                    446798.06
 3762604.42         1.26626
 446799.70    3762654.11        1.35482                    446799.97
 3762674.58         1.39174
 446800.25    3762700.25        1.43859                    446800.25
 3762721.27         1.47599
 446799.97    3762735.74        1.50093                    446797.79
 3762748.02         1.51723
 446802.16    3762913.47        1.81219                    446802.16
 3762932.58         1.84179
 446802.43    3762949.24        1.86784                    446802.98
 3762967.26         1.89621
 446802.70    3762986.09        1.92118                    446802.16
 3763003.29         1.94176
 446802.16    3763021.86        1.96532                    446802.70
 3763040.70         1.99045
 446802.98    3763059.26        2.01224                    446803.52
 3763077.01         2.03261
 446756.29    3763085.26        1.79736                    446807.68
 3763646.39         1.58415
 446808.32    3763674.66        1.53011                    446807.68
 3763694.57         1.48846
 446808.32    3763710.63        1.45889                    446808.32
 3763726.37         1.42814
 446808.00    3763742.11        1.39685                    446808.32
 3763756.89         1.36951
 446808.64    3763798.32        1.29261                    446810.25
 3764484.08         0.40601
 446781.34    3764475.08        0.40323                    446722.56
 3764455.81         0.39862
 446170.32    3764559.79        0.24658                    446872.29
 3763190.26         2.60339
 446925.22    3763179.19        3.11788                    446984.86
 3763194.88         3.95339
 447010.56    3763193.28        4.41243                    447036.58
 3763193.60         4.96769
 447053.61    3763193.28        5.38919                    447076.42
 3763192.31         6.04191
 447093.45    3763192.63        6.62023                    447122.05
 3763192.63         7.78744
 447138.75    3763192.31        8.62101                    447167.99
 3763192.31        10.48433
 447170.68    3763172.18       10.15077                    447170.41
 3763158.25         9.73397
 447169.31    3763144.87        9.28289                    447147.46
 3763107.45         7.36177
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2CON *** INCLUDING SOURCE(S): L0000134 , L0000135 , L0000136 , L0000137 , L0000138 , L0000139 , L0000140 , L0000141 , L0000142 , L0000143 , L0000144 , L0000145 , L0000146 , L0000147 , L0000148 , L0000149 , L0000150 , L0000151 , L0000152 , L0000153 , L0000154 , L0000155 , L0000156 , L0000157 , L0000158 , L0000159 , L0000160 , L0000161 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	6.82423	447146.92	3763064.30	6.40320
447149.92	3763038.90	5.94108	447148.56	3763019.78	5.54134
447148.56	3762997.39	5.13336	447206.08	3762958.49	5.04468
447209.33	3762922.51	4.40644	447208.40	3762890.70	3.91814
447145.83	3762888.87	3.58121	447122.55	3762889.07	3.45238
447094.33	3762890.05	3.29596	447071.04	3762890.45	3.15926
447043.61	3762889.66	2.98825	447017.76	3762888.87	2.83012
446992.11	3762889.07	2.68306	446964.28	3762888.28	2.52423
446940.41	3762888.47	2.39699	446911.20	3762888.08	2.24625
446885.35	3762889.66	2.12700	446862.07	3762888.87	2.01929
446871.45	3762779.57	1.78718	446926.31	3762768.72	1.92434
446983.74	3762774.24	2.12143	447009.00	3762774.05	2.19835
447030.51	3762774.44	2.26336	447055.37	3762774.05	2.33305
447076.88	3762774.24	2.39484	447101.16	3762774.44	2.46254
447123.85	3762774.05	2.51631	447148.12	3762775.03	2.57924
447170.23	3762774.84	2.62387	447196.78	3762775.48	2.67560
447242.12	3762776.57	2.74664	447262.33	3762776.03	2.76108
447294.56	3762776.30	2.78224	447313.13	3762775.48	2.78030
447313.40	3762749.53	2.56162	447327.86	3762713.09	2.29365
447327.36	3762679.87	2.08374	447327.74	3762657.02	1.95755

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      447327.28    3762636.82        1.85564                     447327.51
      3762612.90         1.74478
      447327.28    3762592.24        1.65839                     447327.04
      3762569.71         1.57176
      447327.28    3762547.89        1.49450                     447326.58
      3762524.67         1.41900
      447326.58    3762506.09        1.36277                     447327.51
      3762477.53         1.28211
      447325.88    3762454.31        1.22260                     447225.58
      3762432.95         1.18047
      447200.27    3762430.63        1.17458                     447156.85
      3762430.16         1.16941
      447131.77    3762430.86        1.16734                     447102.74
      3762430.63         1.16046
      447079.06    3762430.86        1.15414                     447034.94
      3762433.65         1.14556
      446995.47    3762433.65        1.12945                     446972.71
      3762434.34         1.12022
      446941.37    3762434.58        1.10504                     446916.06
      3762436.90         1.09483
      446876.35    3762436.90        1.06883                     446848.85
      3762647.05         1.42994
      446848.85    3762563.17        1.26385                     446849.17
      3762509.82         1.16867
      446849.17    3762455.82        1.07914                     446848.85
      3762702.00         1.54832
      446849.49    3762754.71        1.66575                     446739.81
      3762428.53         0.95228
      446711.81    3762423.61        0.92421                     446687.25
      3762416.25         0.89675
      446662.20    3762412.32        0.87320                     446636.17
      3762403.97         0.84548
      449981.72    3762732.45        0.22822                     446486.82
      3762231.95         0.63469
      446261.97    3762068.01        0.47427                     446443.15
      3762291.63         0.64273
      446071.80    3762055.49        0.40727                     446072.08
      3761983.13         0.39275
      446138.18    3762002.17        0.41668                     445884.94
      3762039.75         0.35011
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 118
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 2H25     ***
                               INCLUDING SOURCE(S):     L0002075    , L0002076    ,
                               L0002077    , L0002078    , L0002079    ,
                 L0002080    , L0002081    , L0002082    , L0002083    , L0002084    ,
                 L0002085    , L0002086    , L0002087    ,
                 L0002088    , L0002089    , L0002090    , L0002091    , L0002092    ,
                 L0002093    , L0002094    , L0002095    ,
                 L0002096    , L0002097    , L0002098    , L0002099    , L0002100    ,
                 L0002101    , L0002102    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                        **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
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- - - -

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2H25 ***
INCLUDING SOURCE(S): L0002075 , L0002076 , L0002077 , L0002078 , L0002079 ,
L0002080 , L0002081 , L0002082 , L0002083 , L0002084 ,
L0002085 , L0002086 , L0002087 ,
L0002088 , L0002089 , L0002090 , L0002091 , L0002092 ,
L0002093 , L0002094 , L0002095 ,
L0002096 , L0002097 , L0002098 , L0002099 , L0002100 ,
L0002101 , L0002102 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	4.05519	448462.73	3762339.82	3.59162
448464.47	3762265.93	1.89101	448461.57	3762165.17	1.18194
448472.57	3762064.71	0.85847	448460.48	3762016.72	0.76582
448234.63	3761951.18	0.68458	448081.42	3761952.78	0.65674
448025.53	3761955.99	0.64049	447506.75	3761967.63	0.43754
447269.29	3761967.74	0.36609	447389.46	3761908.79	0.38676
447019.14	3761964.34	0.30646	447060.33	3761963.58	0.31507
446975.31	3761963.20	0.29743	446940.92	3761953.76	0.28971
446865.72	3761974.54	0.27813	446795.06	3761957.91	0.26431
446757.65	3761965.85	0.25872	446709.33	3761967.74	0.25109
446796.42	3762028.62	0.27039	446796.97	3762045.28	0.27186

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 446796.70    3762089.51        0.27575                      446796.15
 3762105.89         0.27696
 446796.70    3762137.29        0.27955                      446796.15
 3762153.39         0.28071
 446772.40    3762215.37        0.28100                      446795.06
 3762321.03         0.29346
 446796.42    3762450.98        0.30346                      446796.42
 3762471.18         0.30493
 446797.24    3762496.03        0.30689                      446798.06
 3762516.51         0.30851
 446797.79    3762539.98        0.30999                      446797.52
 3762560.19         0.31120
 446798.61    3762584.76        0.31298                      446798.06
 3762604.42         0.31409
 446799.70    3762654.11        0.31753                      446799.97
 3762674.58         0.31879
 446800.25    3762700.25        0.32031                      446800.25
 3762721.27         0.32137
 446799.97    3762735.74        0.32198                      446797.79
 3762748.02         0.32197
 446802.16    3762913.47        0.32955                      446802.16
 3762932.58         0.33015
 446802.43    3762949.24        0.33073                      446802.98
 3762967.26         0.33141
 446802.70    3762986.09        0.33187                      446802.16
 3763003.29         0.33222
 446802.16    3763021.86        0.33274                      446802.70
 3763040.70         0.33339
 446802.98    3763059.26        0.33393                      446803.52
 3763077.01         0.33448
 446756.29    3763085.26        0.32111                      446807.68
 3763646.39         0.32485
 446808.32    3763674.66        0.32410                      446807.68
 3763694.57         0.32302
 446808.32    3763710.63        0.32263                      446808.32
 3763726.37         0.32188
 446808.00    3763742.11        0.32122                      446808.32
 3763756.89         0.32075
 446808.64    3763798.32        0.31868                      446810.25
 3764484.08         0.26635
 446781.34    3764475.08        0.26077                      446722.56
 3764455.81         0.25041
 446170.32    3764559.79        0.16542                      446872.29
 3763190.26         0.35592
 446925.22    3763179.19        0.37328                      446984.86
 3763194.88         0.39555
 447010.56    3763193.28        0.40501                      447036.58
 3763193.60         0.41544
 447053.61    3763193.28        0.42248                      447076.42
 3763192.31         0.43195
 447093.45    3763192.63        0.43919                      447122.05
 3763192.63         0.45271
 447138.75    3763192.31        0.46058                      447167.99
 3763192.31         0.47516
 447170.68    3763172.18        0.47615                      447170.41
 3763158.25         0.47580
 447169.31    3763144.87        0.47478                      447147.46
 3763107.45         0.46217
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 120
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2H25 ***
INCLUDING SOURCE(S): L0002075 , L0002076 , L0002077 , L0002078 , L0002079 , L0002080 , L0002081 , L0002082 , L0002083 , L0002084 , L0002085 , L0002086 , L0002087 , L0002088 , L0002089 , L0002090 , L0002091 , L0002092 , L0002093 , L0002094 , L0002095 , L0002096 , L0002097 , L0002098 , L0002099 , L0002100 , L0002101 , L0002102 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.46107	447146.92	3763064.30	0.46081
447149.92	3763038.90	0.46146	447148.56	3763019.78	0.46030
447148.56	3762997.39	0.45950	447206.08	3762958.49	0.48509
447209.33	3762922.51	0.48387	447208.40	3762890.70	0.48082
447145.83	3762888.87	0.45098	447122.55	3762889.07	0.44067
447094.33	3762890.05	0.42870	447071.04	3762890.45	0.41917
447043.61	3762889.66	0.40828	447017.76	3762888.87	0.39841
446992.11	3762889.07	0.38903	446964.28	3762888.28	0.37917
446940.41	3762888.47	0.37103	446911.20	3762888.08	0.36137
446885.35	3762889.66	0.35327	446862.07	3762888.87	0.34613
446871.45	3762779.57	0.34405	446926.31	3762768.72	0.36020
446983.74	3762774.24	0.37937	447009.00	3762774.05	0.38812
447030.51	3762774.44	0.39575	447055.37	3762774.05	0.40488
447076.88	3762774.24	0.41317	447101.16	3762774.44	0.42293
447123.85	3762774.05	0.43222	447148.12	3762775.03	0.44271
447170.23	3762774.84	0.45250	447196.78	3762775.48	0.46471
447242.12	3762776.57	0.48685	447262.33	3762776.03	0.49713
447294.56	3762776.30	0.51435	447313.13	3762775.48	0.52465
447313.40	3762749.53	0.52157	447327.86	3762713.09	0.52473
447327.36	3762679.87	0.51936	447327.74	3762657.02	0.51607
447327.28	3762636.82	0.51260	447327.51	3762612.90	0.50876
447327.28	3762592.24	0.50526	447327.04	3762569.71	0.50138
447327.28	3762547.89	0.49779	447326.58	3762524.67	0.49341

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        447326.58    3762506.09        0.49012                      447327.51
        3762477.53         0.48529
        447325.88    3762454.31        0.48017                      447225.58
        3762432.95         0.43271
        447200.27    3762430.63        0.42237                      447156.85
        3762430.16         0.40595
        447131.77    3762430.86        0.39710                      447102.74
        3762430.63         0.38700
        447079.06    3762430.86        0.37905                      447034.94
        3762433.65         0.36537
        446995.47    3762433.65        0.35356                      446972.71
        3762434.34         0.34711
        446941.37    3762434.58        0.33856                      446916.06
        3762436.90         0.33205
        446876.35    3762436.90        0.32176                      446848.85
        3762647.05         0.33008
        446848.85    3762563.17        0.32442                      446849.17
        3762509.82         0.32067
        446849.17    3762455.82        0.31650                      446848.85
        3762702.00         0.33352
        446849.49    3762754.71        0.33649                      446739.81
        3762428.53         0.28912
        446711.81    3762423.61        0.28291                      446687.25
        3762416.25         0.27744
        446662.20    3762412.32        0.27228                      446636.17
        3762403.97         0.26685
        449981.72    3762732.45        0.44702                      446486.82
        3762231.95         0.23280
        446261.97    3762068.01        0.19633                      446443.15
        3762291.63         0.22909
        446071.80    3762055.49        0.17549                      446072.08
        3761983.13         0.17343
        446138.18    3762002.17        0.18068                      445884.94
        3762039.75         0.15809
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                              *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                              SOURCE GROUP: 2MC45    ***
                                  INCLUDING SOURCE(S):     L0002266    , L0002267    ,
                                  L0002268    , L0002269    , L0002270    ,
                  L0002271    , L0002272    , L0002273    , L0002274    , L0002275    ,
                  L0002276    , L0002277    , L0002278    ,
                  L0002279    , L0002280    , L0002281    , L0002282    , L0002283    ,
                  L0002284    , L0002285    , L0002286    ,
                  L0002287    , L0002288    , L0002289    , L0002290    , L0002291    ,
                  L0002292    , L0002293    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)   Y-COORD
      (M)        CONC
- - - -
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447410.18 3764019.05 0.32601 446891.90
3764451.22 0.17827
446959.28 3764451.22 0.18125 446995.28
3764468.13 0.17951
447007.41 3764467.30 0.17981 447023.51
3764466.09 0.18057
447036.59 3764466.21 0.18105 447052.68
3764465.61 0.18154
447066.60 3764465.73 0.18180 447099.65
3764456.17 0.18436
447145.28 3764468.27 0.18423 447175.54
3764468.03 0.18667
447205.32 3764468.27 0.18883 447232.43
3764467.55 0.18829
447264.02 3764467.30 0.18618 447294.77
3764466.94 0.18621
447364.97 3764456.41 0.19264 447406.61
3764460.65 0.19423
447441.47 3764460.04 0.19537 447466.88
3764460.20 0.19631
447490.00 3764460.56 0.19750 447515.50
3764460.40 0.19912
447573.06 3764454.29 0.20379 447598.49
3764445.22 0.20513
447652.90 3764439.70 0.20239 447692.92
3764439.51 0.20268
447713.82 3764439.11 0.20278 447731.95
3764438.72 0.20265
447751.07 3764438.72 0.20278 447768.82
3764437.53 0.20286
447789.12 3764437.73 0.20245 447805.68
3764437.34 0.20260
447824.02 3764437.20 0.20291 447841.61
3764437.87 0.20343
447861.72 3764437.53 0.20444 447881.66
3764435.18 0.20594
447902.78 3764436.19 0.20682 447920.87
3764435.35 0.20795
447942.16 3764435.35 0.20918 447962.77
3764434.85 0.21051
447980.70 3764435.18 0.21156 448004.66
3764435.18 0.21368
448021.25 3764434.68 0.21678 447662.70
3764379.63 0.21175
447681.30 3764320.98 0.22438 447682.64
3764285.79 0.23601
447662.53 3764238.37 0.25202 447661.70
3764207.37 0.26387
447683.14 3764162.29 0.28273 447680.97
3764145.87 0.28986
447679.63 3764130.28 0.29709 447680.80
3764112.02 0.30562
447681.47 3764096.43 0.31228 447680.80
3764078.84 0.31933
447679.96 3764064.26 0.32459 447680.97
3764045.82 0.33126
447680.63 3764029.74 0.33705 447657.17
3763992.03 0.35287
447656.33 3763967.06 0.36264 447657.17
3763928.69 0.37980
447657.17 3763902.21 0.39236 447657.51
3763869.03 0.41186
447656.16 3763834.94 0.43054 447655.93
3763808.27 0.44526
447657.09 3763786.00 0.45841 447701.21
3763782.14 0.46305

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2MC45 ***
INCLUDING SOURCE(S): L0002266 , L0002267 , L0002268 , L0002269 , L0002270 ,
L0002271 , L0002272 , L0002273 , L0002274 , L0002275 ,
L0002276 , L0002277 , L0002278 ,
L0002279 , L0002280 , L0002281 , L0002282 , L0002283 ,
L0002284 , L0002285 , L0002286 ,
L0002287 , L0002288 , L0002289 , L0002290 , L0002291 ,
L0002292 , L0002293 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	1.43811	448462.73	3762339.82	1.42764
448464.47	3762265.93	1.24587	448461.57	3762165.17	1.07216
448472.57	3762064.71	0.92536	448460.48	3762016.72	0.88615
448234.63	3761951.18	1.08867	448081.42	3761952.78	1.34237
448025.53	3761955.99	1.45575	447506.75	3761967.63	2.27570
447269.29	3761967.74	2.06570	447389.46	3761908.79	1.92199
447019.14	3761964.34	1.48422	447060.33	3761963.58	1.57689
446975.31	3761963.20	1.38604	446940.92	3761953.76	1.30186
446865.72	3761974.54	1.18124	446795.06	3761957.91	1.04562
446757.65	3761965.85	0.99235	446709.33	3761967.74	0.92331
446796.42	3762028.62	1.09439	446796.97	3762045.28	1.10570
446796.70	3762089.51	1.13269	446796.15	3762105.89	1.14043
446796.70	3762137.29	1.15753	446796.15	3762153.39	1.16400
446772.40	3762215.37	1.13852	446795.06	3762321.03	1.21945

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        446796.42    3762450.98        1.23634                     446796.42
        3762471.18         1.23541
        446797.24    3762496.03        1.23506                     446798.06
        3762516.51         1.23403
        446797.79    3762539.98        1.22844                     446797.52
        3762560.19         1.22254
        446798.61    3762584.76        1.21778                     446798.06
        3762604.42         1.20933
        446799.70    3762654.11        1.19169                     446799.97
        3762674.58         1.18184
        446800.25    3762700.25        1.16818                     446800.25
        3762721.27         1.15591
        446799.97    3762735.74        1.14648                     446797.79
        3762748.02         1.13384
        446802.16    3762913.47        1.02220                     446802.16
        3762932.58         1.00672
        446802.43    3762949.24        0.99357                     446802.98
        3762967.26         0.97963
        446802.70    3762986.09        0.96345                     446802.16
        3763003.29         0.94811
        446802.16    3763021.86        0.92736                     446802.70
        3763040.70         0.90448
        446802.98    3763059.26        0.88387                     446803.52
        3763077.01         0.86444
        446756.29    3763085.26        0.82066                     446807.68
        3763646.39         0.38967
        446808.32    3763674.66        0.37821                     446807.68
        3763694.57         0.36975
        446808.32    3763710.63        0.36383                     446808.32
        3763726.37         0.35799
        446808.00    3763742.11        0.35251                     446808.32
        3763756.89         0.34755
        446808.64    3763798.32        0.33227                     446810.25
        3764484.08         0.16959
        446781.34    3764475.08        0.16947                     446722.56
        3764455.81         0.16965
        446170.32    3764559.79        0.12869                     446872.29
        3763190.26         0.76639
        446925.22    3763179.19        0.83151                     446984.86
        3763194.88         0.89753
        447010.56    3763193.28        0.92152                     447036.58
        3763193.60         0.95666
        447053.61    3763193.28        0.98085                     447076.42
        3763192.31         1.01442
        447093.45    3763192.63        1.02724                     447122.05
        3763192.63         1.08604
        447138.75    3763192.31        1.11546                     447167.99
        3763192.31         1.17267
        447170.68    3763172.18        1.23261                     447170.41
        3763158.25         1.27421
        447169.31    3763144.87        1.30530                     447147.46
        3763107.45         1.33266
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 123
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 2MC45    ***
                               INCLUDING SOURCE(S):     L0002266    , L0002267    ,
                               L0002268    , L0002269    , L0002270    ,
                 L0002271    , L0002272    , L0002273    , L0002274    , L0002275    ,
                 L0002276    , L0002277    , L0002278    ,
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L0002279 , L0002280 , L0002281 , L0002282 , L0002283 ,
L0002284 , L0002285 , L0002286 ,
L0002287 , L0002288 , L0002289 , L0002290 , L0002291 ,
L0002292 , L0002293 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.39907	447146.92	3763064.30	1.46495
447149.92	3763038.90	1.58737	447148.56	3763019.78	1.65762
447148.56	3762997.39	1.75942	447206.08	3762958.49	2.25211
447209.33	3762922.51	2.48947	447208.40	3762890.70	2.66506
447145.83	3762888.87	2.23170	447122.55	3762889.07	2.09376
447094.33	3762890.05	1.94100	447071.04	3762890.45	1.82838
447043.61	3762889.66	1.71090	447017.76	3762888.87	1.61038
446992.11	3762889.07	1.51750	446964.28	3762888.28	1.42732
446940.41	3762888.47	1.35896	446911.20	3762888.08	1.28885
446885.35	3762889.66	1.22101	446862.07	3762888.87	1.16681
446871.45	3762779.57	1.29448	446926.31	3762768.72	1.47421
446983.74	3762774.24	1.68555	447009.00	3762774.05	1.79826
447030.51	3762774.44	1.90357	447055.37	3762774.05	2.03913
447076.88	3762774.24	2.16740	447101.16	3762774.44	2.32752
447123.85	3762774.05	2.49722	447148.12	3762775.03	2.69586
447170.23	3762774.84	2.90377	447196.78	3762775.48	3.18546
447242.12	3762776.57	3.77598	447262.33	3762776.03	4.10481
447294.56	3762776.30	4.72119	447313.13	3762775.48	5.15638
447313.40	3762749.53	5.47231	447327.86	3762713.09	6.36239
447327.36	3762679.87	6.72342	447327.74	3762657.02	6.95584
447327.28	3762636.82	7.09694	447327.51	3762612.90	7.25281
447327.28	3762592.24	7.32740	447327.04	3762569.71	7.36522
447327.28	3762547.89	7.37825	447326.58	3762524.67	7.30578
447326.58	3762506.09	7.23888	447327.51	3762477.53	7.11682
447325.88	3762454.31	6.88676	447225.58	3762432.95	4.27988
447200.27	3762430.63	3.86596	447156.85	3762430.16	3.28834

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR15 ***
INCLUDING SOURCE(S): L0001178 , L0001179 , L0001180 , L0001181 , L0001182 ,
L0001183 , L0001184 , L0001185 , L0001186 , L0001187 ,
L0001188 , L0001189 , L0001190 ,
L0001191 , L0001192 , L0001193 , L0001194 , L0001195 ,
L0001196 , L0001197 , L0001198 ,
L0001199 , L0001200 , L0001201 , L0001202 , L0001203 ,
L0001204 , L0001205 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447131.77	3762430.86	3.01342	447102.74	3762430.63	2.73425
447079.06	3762430.86	2.53434	447034.94	3762433.65	2.21975
446995.47	3762433.65	1.98588	446972.71	3762434.34	1.86835
446941.37	3762434.58	1.72387	446916.06	3762436.90	1.61957
446876.35	3762436.90	1.47377	446848.85	3762647.05	1.32750
446848.85	3762563.17	1.36554	446849.17	3762509.82	1.38033
446849.17	3762455.82	1.38571	446848.85	3762702.00	1.29246
446849.49	3762754.71	1.25268	446739.81	3762428.53	1.10266
446711.81	3762423.61	1.04516	446687.25	3762416.25	0.99853
446662.20	3762412.32	0.95445	446636.17	3762403.97	0.91191
449981.72	3762732.45	0.46727	446486.82	3762231.95	0.71099
446261.97	3762068.01	0.51767	446443.15	3762291.63	0.67113
446071.80	3762055.49	0.41694	446072.08	3761983.13	0.41384
446138.18	3762002.17	0.44556	445884.94	3762039.75	0.34532
447362.21	3764292.67	0.17191	447375.98	3764150.98	0.19528
447389.75	3764043.04	0.21915	447450.16	3764031.05	0.22338
447410.18	3764019.05	0.22522	446891.90	3764451.22	0.14627
446959.28	3764451.22	0.14713	446995.28	3764468.13	0.14537
447007.41	3764467.30	0.14543	447023.51	3764466.09	0.14573

447036.59 3764466.21 0.14587 447052.68
3764465.61 0.14601
447066.60 3764465.73 0.14603 447099.65
3764456.17 0.14734
447145.28 3764468.27 0.14663 447175.54
3764468.03 0.14764
447205.32 3764468.27 0.14844 447232.43
3764467.55 0.14786
447264.02 3764467.30 0.14638 447294.77
3764466.94 0.14598
447364.97 3764456.41 0.14856 447406.61
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3764438.72 0.15421
447751.07 3764438.72 0.15434 447768.82
3764437.53 0.15447
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3764437.87 0.15458
447861.72 3764437.53 0.15488 447881.66
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447902.78 3764436.19 0.15550 447920.87
3764435.35 0.15577
447942.16 3764435.35 0.15597 447962.77
3764434.85 0.15621
447980.70 3764435.18 0.15633 448004.66
3764435.18 0.15678
448021.25 3764434.68 0.15776 447662.70
3764379.63 0.15990
447681.30 3764320.98 0.16785 447682.64
3764285.79 0.17422
447662.53 3764238.37 0.18277 447661.70
3764207.37 0.18898
447683.14 3764162.29 0.19871 447680.97
3764145.87 0.20229
447679.63 3764130.28 0.20585 447680.80
3764112.02 0.21007
447681.47 3764096.43 0.21347 447680.80
3764078.84 0.21717
447679.96 3764064.26 0.22006 447680.97
3764045.82 0.22376
447680.63 3764029.74 0.22700 447657.17
3763992.03 0.23537
447656.33 3763967.06 0.24080 447657.17
3763928.69 0.24995
447657.17 3763902.21 0.25658 447657.51
3763869.03 0.26614
447656.16 3763834.94 0.27567 447655.93
3763808.27 0.28327
447657.09 3763786.00 0.28994 447701.21
3763782.14 0.29171
447856.92 3763749.71 0.30997 447854.99
3763730.13 0.31749
447854.35 3763698.35 0.33035 447855.31
3763676.84 0.33954
447675.51 3763287.46 0.59473 448481.33
3763485.29 0.44645

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR15 ***
INCLUDING SOURCE(S): L0001178 , L0001179 , L0001180 , L0001181 , L0001182 ,
L0001183 , L0001184 , L0001185 , L0001186 , L0001187 ,
L0001188 , L0001189 , L0001190 ,
L0001191 , L0001192 , L0001193 , L0001194 , L0001195 ,
L0001196 , L0001197 , L0001198 ,
L0001199 , L0001200 , L0001201 , L0001202 , L0001203 ,
L0001204 , L0001205 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	0.64849	448462.73	3762339.82	0.64451
448464.47	3762265.93	0.58020	448461.57	3762165.17	0.50718
448472.57	3762064.71	0.44374	448460.48	3762016.72	0.42642
448234.63	3761951.18	0.48845	448081.42	3761952.78	0.57353
448025.53	3761955.99	0.61241	447506.75	3761967.63	1.18751
447269.29	3761967.74	1.50739	447389.46	3761908.79	1.17646
447019.14	3761964.34	1.78957	447060.33	3761963.58	1.73697
446975.31	3761963.20	1.83868	446940.92	3761953.76	1.83902
446865.72	3761974.54	2.05586	446795.06	3761957.91	2.08560
446757.65	3761965.85	2.20468	446709.33	3761967.74	2.32664
446796.42	3762028.62	2.54511	446796.97	3762045.28	2.67478
446796.70	3762089.51	3.09415	446796.15	3762105.89	3.26921
446796.70	3762137.29	3.64204	446796.15	3762153.39	3.86315
446772.40	3762215.37	5.14426	446795.06	3762321.03	9.46875
446796.42	3762450.98	11.37334	446796.42	3762471.18	8.55733
446797.24	3762496.03	6.53767	446798.06	3762516.51	5.46398
446797.79	3762539.98	4.58883	446797.52	3762560.19	4.03110

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      446798.61    3762584.76        3.51437                      446798.06
      3762604.42         3.17996
      446799.70    3762654.11        2.54241                      446799.97
      3762674.58         2.29522
      446800.25    3762700.25        1.99685                      446800.25
      3762721.27         1.85832
      446799.97    3762735.74        1.77709                      446797.79
      3762748.02         1.71098
      446802.16    3762913.47        1.15643                      446802.16
      3762932.58         1.10917
      446802.43    3762949.24        1.07053                      446802.98
      3762967.26         1.03116
      446802.70    3762986.09        0.98138                      446802.16
      3763003.29         0.93765
      446802.16    3763021.86        0.88746                      446802.70
      3763040.70         0.85247
      446802.98    3763059.26        0.81996                      446803.52
      3763077.01         0.79144
      446756.29    3763085.26        0.78746                      446807.68
      3763646.39         0.31854
      446808.32    3763674.66        0.30808                      446807.68
      3763694.57         0.30076
      446808.32    3763710.63        0.29537                      446808.32
      3763726.37         0.29020
      446808.00    3763742.11        0.28536                      446808.32
      3763756.89         0.28093
      446808.64    3763798.32        0.26799                      446810.25
      3764484.08         0.14161
      446781.34    3764475.08        0.14216                      446722.56
      3764455.81         0.14367
      446170.32    3764559.79        0.12436                      446872.29
      3763190.26         0.63788
      446925.22    3763179.19        0.65760                      446984.86
      3763194.88         0.65113
      447010.56    3763193.28        0.65389                      447036.58
      3763193.60         0.65690
      447053.61    3763193.28        0.65907                      447076.42
      3763192.31         0.66198
      447093.45    3763192.63        0.66228                      447122.05
      3763192.63         0.66713
      447138.75    3763192.31        0.66990                      447167.99
      3763192.31         0.67362
      447170.68    3763172.18        0.69978                      447170.41
      3763158.25         0.71881
      447169.31    3763144.87        0.73638                      447147.46
      3763107.45         0.78401
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 126
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 2OR15    ***
                               INCLUDING SOURCE(S):     L0001178    , L0001179    ,
                               L0001180    , L0001181    , L0001182    ,
               L0001183    , L0001184    , L0001185    , L0001186    , L0001187    ,
               L0001188    , L0001189    , L0001190    ,
               L0001191    , L0001192    , L0001193    , L0001194    , L0001195    ,
               L0001196    , L0001197    , L0001198    ,
               L0001199    , L0001200    , L0001201    , L0001202    , L0001203    ,
               L0001204    , L0001205    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***
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** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.82085	447146.92	3763064.30	0.85638
447149.92	3763038.90	0.90711	447148.56	3763019.78	0.94663
447148.56	3762997.39	0.99814	447206.08	3762958.49	1.11511
447209.33	3762922.51	1.22645	447208.40	3762890.70	1.33390
447145.83	3762888.87	1.31841	447122.55	3762889.07	1.30909
447094.33	3762890.05	1.29488	447071.04	3762890.45	1.28434
447043.61	3762889.66	1.27627	447017.76	3762888.87	1.26854
446992.11	3762889.07	1.25734	446964.28	3762888.28	1.24848
446940.41	3762888.47	1.23980	446911.20	3762888.08	1.25180
446885.35	3762889.66	1.23460	446862.07	3762888.87	1.22573
446871.45	3762779.57	1.62980	446926.31	3762768.72	1.73279
446983.74	3762774.24	1.75667	447009.00	3762774.05	1.78541
447030.51	3762774.44	1.84278	447055.37	3762774.05	1.88692
447076.88	3762774.24	1.89348	447101.16	3762774.44	1.89786
447123.85	3762774.05	1.91906	447148.12	3762775.03	1.90810
447170.23	3762774.84	1.91813	447196.78	3762775.48	1.93499
447242.12	3762776.57	1.95532	447262.33	3762776.03	1.98359
447294.56	3762776.30	2.00434	447313.13	3762775.48	2.01259
447313.40	3762749.53	2.20024	447327.86	3762713.09	2.51541
447327.36	3762679.87	2.83349	447327.74	3762657.02	3.11206
447327.28	3762636.82	3.38939	447327.51	3762612.90	3.77895
447327.28	3762592.24	4.18274	447327.04	3762569.71	4.71533
447327.28	3762547.89	5.36527	447326.58	3762524.67	6.27205
447326.58	3762506.09	7.24620	447327.51	3762477.53	9.52408
447325.88	3762454.31	12.83148	447225.58	3762432.95	18.62743
447200.27	3762430.63	19.50442	447156.85	3762430.16	19.54872
447131.77	3762430.86	19.15281	447102.74	3762430.63	19.13634
447079.06	3762430.86	18.94928	447034.94	3762433.65	17.73574
446995.47	3762433.65	17.61496	446972.71	3762434.34	17.30946

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR30 ***
INCLUDING SOURCE(S): L0001701 , L0001702 , L0001703 , L0001704 , L0001705 ,
L0001706 , L0001707 , L0001708 , L0001709 , L0001710 ,
L0001711 , L0001712 , L0001713 ,
L0001714 , L0001715 , L0001716 , L0001717 , L0001718 ,
L0001719 , L0001720 , L0001721 ,
L0001722 , L0001723 , L0001724 , L0001725 , L0001726 ,
L0001727 , L0001728 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.17378	447375.98	3764150.98	0.19785
447389.75	3764043.04	0.22338	447450.16	3764031.05	0.23116
447410.18	3764019.05	0.23074	446891.90	3764451.22	0.13613
446959.28	3764451.22	0.13886	446995.28	3764468.13	0.13827
447007.41	3764467.30	0.13860	447023.51	3764466.09	0.13929
447036.59	3764466.21	0.13976	447052.68	3764465.61	0.14027
447066.60	3764465.73	0.14061	447099.65	3764456.17	0.14262
447145.28	3764468.27	0.14305	447175.54	3764468.03	0.14488

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 447205.32    3764468.27        0.14648                    447232.43
 3764467.55         0.14626
 447264.02    3764467.30        0.14495                    447294.77
 3764466.94         0.14498
 447364.97    3764456.41        0.14928                    447406.61
 3764460.65         0.15048
 447441.47    3764460.04        0.15147                    447466.88
 3764460.20         0.15237
 447490.00    3764460.56        0.15350                    447515.50
 3764460.40         0.15505
 447573.06    3764454.29        0.15945                    447598.49
 3764445.22         0.16092
 447652.90    3764439.70        0.16032                    447692.92
 3764439.51         0.16139
 447713.82    3764439.11        0.16184                    447731.95
 3764438.72         0.16203
 447751.07    3764438.72        0.16236                    447768.82
 3764437.53         0.16258
 447789.12    3764437.73        0.16241                    447805.68
 3764437.34         0.16255
 447824.02    3764437.20        0.16273                    447841.61
 3764437.87         0.16302
 447861.72    3764437.53        0.16357                    447881.66
 3764435.18         0.16438
 447902.78    3764436.19        0.16470                    447920.87
 3764435.35         0.16519
 447942.16    3764435.35        0.16564                    447962.77
 3764434.85         0.16615
 447980.70    3764435.18        0.16651                    448004.66
 3764435.18         0.16753
 448021.25    3764434.68        0.16956                    447662.70
 3764379.63         0.16682
 447681.30    3764320.98        0.17566                    447682.64
 3764285.79         0.18335
 447662.53    3764238.37        0.19321                    447661.70
 3764207.37         0.20074
 447683.14    3764162.29        0.21325                    447680.97
 3764145.87         0.21765
 447679.63    3764130.28        0.22211                    447680.80
 3764112.02         0.22740
 447681.47    3764096.43        0.23149                    447680.80
 3764078.84         0.23573
 447679.96    3764064.26        0.23884                    447680.97
 3764045.82         0.24282
 447680.63    3764029.74        0.24621                    447657.17
 3763992.03         0.25455
 447656.33    3763967.06        0.26008                    447657.17
 3763928.69         0.26978
 447657.17    3763902.21        0.27674                    447657.51
 3763869.03         0.28751
 447656.16    3763834.94        0.29745                    447655.93
 3763808.27         0.30517
 447657.09    3763786.00        0.31203                    447701.21
 3763782.14         0.31675
 447856.92    3763749.71        0.35265                    447854.99
 3763730.13         0.36210
 447854.35    3763698.35        0.37850                    447855.31
 3763676.84         0.39044
 447675.51    3763287.46        0.67878                    448481.33
 3763485.29         0.57251
 448479.95    3763195.53        1.03091                    448478.56
 3762907.16         2.50678
 448497.89    3762714.10        4.99458                    448507.91
 3762487.71        15.04863
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR30 ***
INCLUDING SOURCE(S): L0001701 , L0001702 , L0001703 , L0001704 , L0001705 ,
L0001706 , L0001707 , L0001708 , L0001709 , L0001710 ,
L0001711 , L0001712 , L0001713 ,
L0001714 , L0001715 , L0001716 , L0001717 , L0001718 ,
L0001719 , L0001720 , L0001721 ,
L0001722 , L0001723 , L0001724 , L0001725 , L0001726 ,
L0001727 , L0001728 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	15.23980	448462.73	3762339.82	14.20723
448464.47	3762265.93	7.34620	448461.57	3762165.17	4.35034
448472.57	3762064.71	2.91646	448460.48	3762016.72	2.57637
448234.63	3761951.18	2.87888	448081.42	3761952.78	3.23280
448025.53	3761955.99	3.32473	447506.75	3761967.63	2.33780
447269.29	3761967.74	1.48958	447389.46	3761908.79	1.73560
447019.14	3761964.34	0.92403	447060.33	3761963.58	0.99322
446975.31	3761963.20	0.85739	446940.92	3761953.76	0.80823
446865.72	3761974.54	0.72288	446795.06	3761957.91	0.64937
446757.65	3761965.85	0.61683	446709.33	3761967.74	0.57772
446796.42	3762028.62	0.65744	446796.97	3762045.28	0.65928
446796.70	3762089.51	0.66255	446796.15	3762105.89	0.66279
446796.70	3762137.29	0.66445	446796.15	3762153.39	0.66427
446772.40	3762215.37	0.64163	446795.06	3762321.03	0.65844
446796.42	3762450.98	0.64337	446796.42	3762471.18	0.63972
446797.24	3762496.03	0.63558	446798.06	3762516.51	0.63195
446797.79	3762539.98	0.62636	446797.52	3762560.19	0.62129
446798.61	3762584.76	0.61613	446798.06	3762604.42	0.61050
446799.70	3762654.11	0.59820	446799.97	3762674.58	0.59254
446800.25	3762700.25	0.58522	446800.25	3762721.27	0.57903

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      446799.97    3762735.74        0.57453                      446797.79
      3762748.02         0.56923
      446802.16    3762913.47        0.52103                      446802.16
      3762932.58         0.51493
      446802.43    3762949.24        0.50977                      446802.98
      3762967.26         0.50432
      446802.70    3762986.09        0.49811                      446802.16
      3763003.29         0.49226
      446802.16    3763021.86        0.48110                      446802.70
      3763040.70         0.47196
      446802.98    3763059.26        0.45993                      446803.52
      3763077.01         0.45026
      446756.29    3763085.26        0.44463                      446807.68
      3763646.39         0.24592
      446808.32    3763674.66        0.24055                      446807.68
      3763694.57         0.23652
      446808.32    3763710.63        0.23370                      446808.32
      3763726.37         0.23090
      446808.00    3763742.11        0.22827                      446808.32
      3763756.89         0.22588
      446808.64    3763798.32        0.21834                      446810.25
      3764484.08         0.12980
      446781.34    3764475.08        0.12936                      446722.56
      3764455.81         0.12872
      446170.32    3764559.79        0.10004                      446872.29
      3763190.26         0.38883
      446925.22    3763179.19        0.41136                      446984.86
      3763194.88         0.43075
      447010.56    3763193.28        0.43989                      447036.58
      3763193.60         0.45080
      447053.61    3763193.28        0.45809                      447076.42
      3763192.31         0.46788
      447093.45    3763192.63        0.47426                      447122.05
      3763192.63         0.48937
      447138.75    3763192.31        0.49829                      447167.99
      3763192.31         0.51370
      447170.68    3763172.18        0.52864                      447170.41
      3763158.25         0.53842
      447169.31    3763144.87        0.54607                      447147.46
      3763107.45         0.55381
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 129
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 2OR30    ***
                               INCLUDING SOURCE(S):     L0001701    , L0001702    ,
                               L0001703    , L0001704    , L0001705    ,
                 L0001706    , L0001707    , L0001708    , L0001709    , L0001710    ,
                 L0001711    , L0001712    , L0001713    ,
                 L0001714    , L0001715    , L0001716    , L0001717    , L0001718    ,
                 L0001719    , L0001720    , L0001721    ,
                 L0001722    , L0001723    , L0001724    , L0001725    , L0001726    ,
                 L0001727    , L0001728    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                        **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
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- - - -

446849.17 3762455.82 0.69665 446848.85
3762702.00 0.62552
446849.49 3762754.71 0.60605 446739.81
3762428.53 0.59568
446711.81 3762423.61 0.57344 446687.25
3762416.25 0.55537
446662.20 3762412.32 0.53754 446636.17
3762403.97 0.52042
449981.72 3762732.45 0.81230 446486.82
3762231.95 0.44206
446261.97 3762068.01 0.34875 446443.15
3762291.63 0.41891
446071.80 3762055.49 0.29182 446072.08
3761983.13 0.29158
446138.18 3762002.17 0.30972 445884.94
3762039.75 0.24943

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR60 ***
INCLUDING SOURCE(S): L0001821 , L0001822 , L0001823 , L0001824 , L0001825 ,
L0001826 , L0001827 , L0001828 , L0001829 , L0001830 ,
L0001831 , L0001832 , L0001833 ,
L0001834 , L0001835 , L0001836 , L0001837 , L0001838 ,
L0001839 , L0001840 , L0001841 ,
L0001842 , L0001843 , L0001844 , L0001845 , L0001846 ,
L0001847 , L0001848 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.13349	447375.98	3764150.98	0.14694
447389.75	3764043.04	0.16060	447450.16	3764031.05	0.16695
447410.18	3764019.05	0.16508	446891.90	3764451.22	0.10291
446959.28	3764451.22	0.10537	446995.28	3764468.13	0.10556
447007.41	3764467.30	0.10593	447023.51	3764466.09	0.10658
447036.59	3764466.21	0.10707	447052.68	3764465.61	0.10763
447066.60	3764465.73	0.10807	447099.65	3764456.17	0.10981
447145.28	3764468.27	0.11095	447175.54	3764468.03	0.11266
447205.32	3764468.27	0.11423	447232.43	3764467.55	0.11465
447264.02	3764467.30	0.11449	447294.77	3764466.94	0.11515
447364.97	3764456.41	0.11929	447406.61	3764460.65	0.12095

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 447441.47    3764460.04        0.12232                      447466.88
 3764460.20         0.12344
 447490.00    3764460.56        0.12467                      447515.50
 3764460.40         0.12623
 447573.06    3764454.29        0.13040                      447598.49
 3764445.22         0.13197
 447652.90    3764439.70        0.13292                      447692.92
 3764439.51         0.13467
 447713.82    3764439.11        0.13552                      447731.95
 3764438.72         0.13613
 447751.07    3764438.72        0.13687                      447768.82
 3764437.53         0.13749
 447789.12    3764437.73        0.13792                      447805.68
 3764437.34         0.13845
 447824.02    3764437.20        0.13906                      447841.61
 3764437.87         0.13972
 447861.72    3764437.53        0.14062                      447881.66
 3764435.18         0.14171
 447902.78    3764436.19        0.14245                      447920.87
 3764435.35         0.14324
 447942.16    3764435.35        0.14406                      447962.77
 3764434.85         0.14490
 447980.70    3764435.18        0.14555                      448004.66
 3764435.18         0.14680
 448021.25    3764434.68        0.14865                      447662.70
 3764379.63         0.13743
 447681.30    3764320.98        0.14369                      447682.64
 3764285.79         0.14865
 447662.53    3764238.37        0.15411                      447661.70
 3764207.37         0.15866
 447683.14    3764162.29        0.16696                      447680.97
 3764145.87         0.16946
 447679.63    3764130.28        0.17201                      447680.80
 3764112.02         0.17513
 447681.47    3764096.43        0.17750                      447680.80
 3764078.84         0.17987
 447679.96    3764064.26        0.18156                      447680.97
 3764045.82         0.18381
 447680.63    3764029.74        0.18564                      447657.17
 3763992.03         0.18889
 447656.33    3763967.06        0.19171                      447657.17
 3763928.69         0.19673
 447657.17    3763902.21        0.20023                      447657.51
 3763869.03         0.20564
 447656.16    3763834.94        0.21034                      447655.93
 3763808.27         0.21394
 447657.09    3763786.00        0.21720                      447701.21
 3763782.14         0.22274
 447856.92    3763749.71        0.25408                      447854.99
 3763730.13         0.25865
 447854.35    3763698.35        0.26664                      447855.31
 3763676.84         0.27247
 447675.51    3763287.46        0.34744                      448481.33
 3763485.29         0.47570
 448479.95    3763195.53        0.79136                      448478.56
 3762907.16         1.58564
 448497.89    3762714.10        2.96550                      448507.91
 3762487.71        11.93187
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 131
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR60 ***

INCLUDING SOURCE(S): L0001821 , L0001822 , L0001823 , L0001824 , L0001825 , L0001826 , L0001827 , L0001828 , L0001829 , L0001830 , L0001831 , L0001832 , L0001833 , L0001834 , L0001835 , L0001836 , L0001837 , L0001838 , L0001839 , L0001840 , L0001841 , L0001842 , L0001843 , L0001844 , L0001845 , L0001846 , L0001847 , L0001848 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	36.79263	448462.73	3762339.82	22.09698
448464.47	3762265.93	9.60054	448461.57	3762165.17	5.34416
448472.57	3762064.71	3.67879	448460.48	3762016.72	3.10355
448234.63	3761951.18	1.87503	448081.42	3761952.78	1.40509
448025.53	3761955.99	1.26312	447506.75	3761967.63	0.54635
447269.29	3761967.74	0.41217	447389.46	3761908.79	0.46950
447019.14	3761964.34	0.32053	447060.33	3761963.58	0.33314
446975.31	3761963.20	0.30792	446940.92	3761953.76	0.29848
446865.72	3761974.54	0.28002	446795.06	3761957.91	0.26386
446757.65	3761965.85	0.25603	446709.33	3761967.74	0.24641
446796.42	3762028.62	0.26457	446796.97	3762045.28	0.26474
446796.70	3762089.51	0.26484	446796.15	3762105.89	0.26469
446796.70	3762137.29	0.26469	446796.15	3762153.39	0.26448
446772.40	3762215.37	0.25889	446795.06	3762321.03	0.26206
446796.42	3762450.98	0.25895	446796.42	3762471.18	0.25826
446797.24	3762496.03	0.25754	446798.06	3762516.51	0.25692
446797.79	3762539.98	0.25592	446797.52	3762560.19	0.25501
446798.61	3762584.76	0.25416	446798.06	3762604.42	0.25314
446799.70	3762654.11	0.24960	446799.97	3762674.58	0.24595
446800.25	3762700.25	0.24338	446800.25	3762721.27	0.24136
446799.97	3762735.74	0.24037	446797.79	3762748.02	0.23915
446802.16	3762913.47	0.23024	446802.16	3762932.58	0.22895
446802.43	3762949.24	0.22786	446802.98	3762967.26	0.22673

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        446802.70    3762986.09        0.22534                     446802.16
        3763003.29         0.22248
        446802.16    3763021.86        0.22077                     446802.70
        3763040.70         0.21842
        446802.98    3763059.26        0.21620                     446803.52
        3763077.01         0.21371
        446756.29    3763085.26        0.20951                     446807.68
        3763646.39         0.15377
        446808.32    3763674.66        0.15169                     446807.68
        3763694.57         0.15008
        446808.32    3763710.63        0.14896                     446808.32
        3763726.37         0.14783
        446808.00    3763742.11        0.14675                     446808.32
        3763756.89         0.14577
        446808.64    3763798.32        0.14262                     446810.25
        3764484.08         0.09838
        446781.34    3764475.08        0.09784                     446722.56
        3764455.81         0.09697
        446170.32    3764559.79        0.07721                     446872.29
        3763190.26         0.20137
        446925.22    3763179.19        0.20955                     446984.86
        3763194.88         0.21714
        447010.56    3763193.28        0.22078                     447036.58
        3763193.60         0.22485
        447053.61    3763193.28        0.22757                     447076.42
        3763192.31         0.23126
        447093.45    3763192.63        0.23383                     447122.05
        3763192.63         0.23915
        447138.75    3763192.31        0.24231                     447167.99
        3763192.31         0.24787
        447170.68    3763172.18        0.25144                     447170.41
        3763158.25         0.25358
        447169.31    3763144.87        0.25517                     447147.46
        3763107.45         0.25533
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                              *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                              SOURCE GROUP: 2OR60    ***
                                  INCLUDING SOURCE(S):     L0001821    , L0001822    ,
                                  L0001823    , L0001824    , L0001825    ,
                  L0001826    , L0001827    , L0001828    , L0001829    , L0001830    ,
                  L0001831    , L0001832    , L0001833    ,
                  L0001834    , L0001835    , L0001836    , L0001837    , L0001838    ,
                  L0001839    , L0001840    , L0001841    ,
                  L0001842    , L0001843    , L0001844    , L0001845    , L0001846    ,
                  L0001847    , L0001848    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)       CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
        447146.64    3763084.24        0.25848                     447146.92
        3763064.30         0.26165
        447149.92    3763038.90        0.26651                     447148.56
        3763019.78         0.26924
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447148.56 3762997.39 0.27299 447206.08
3762958.49 0.30397
447209.33 3762922.51 0.31618 447208.40
3762890.70 0.32167
447145.83 3762888.87 0.30417 447122.55
3762889.07 0.29795
447094.33 3762890.05 0.29006 447071.04
3762890.45 0.28426
447043.61 3762889.66 0.27781 447017.76
3762888.87 0.27243
446992.11 3762889.07 0.26670 446964.28
3762888.28 0.26079
446940.41 3762888.47 0.25588 446911.20
3762888.08 0.25067
446885.35 3762889.66 0.24551 446862.07
3762888.87 0.24118
446871.45 3762779.57 0.25116 446926.31
3762768.72 0.26343
446983.74 3762774.24 0.27590 447009.00
3762774.05 0.28262
447030.51 3762774.44 0.28910 447055.37
3762774.05 0.29632
447076.88 3762774.24 0.30201 447101.16
3762774.44 0.30749
447123.85 3762774.05 0.31396 447148.12
3762775.03 0.32058
447170.23 3762774.84 0.32665 447196.78
3762775.48 0.33558
447242.12 3762776.57 0.35053 447262.33
3762776.03 0.35771
447294.56 3762776.30 0.36993 447313.13
3762775.48 0.37713
447313.40 3762749.53 0.38117 447327.86
3762713.09 0.39372
447327.36 3762679.87 0.40457 447327.74
3762657.02 0.41029
447327.28 3762636.82 0.41266 447327.51
3762612.90 0.41574
447327.28 3762592.24 0.41809 447327.04
3762569.71 0.42056
447327.28 3762547.89 0.42307 447326.58
3762524.67 0.42517
447326.58 3762506.09 0.42701 447327.51
3762477.53 0.43015
447325.88 3762454.31 0.43134 447225.58
3762432.95 0.38751
447200.27 3762430.63 0.37740 447156.85
3762430.16 0.36084
447131.77 3762430.86 0.35177 447102.74
3762430.63 0.34177
447079.06 3762430.86 0.33393 447034.94
3762433.65 0.32002
446995.47 3762433.65 0.30848 446972.71
3762434.34 0.30211
446941.37 3762434.58 0.29372 446916.06
3762436.90 0.28714
446876.35 3762436.90 0.27741 446848.85
3762647.05 0.26062
446848.85 3762563.17 0.26586 446849.17
3762509.82 0.26830
446849.17 3762455.82 0.27040 446848.85
3762702.00 0.25266
446849.49 3762754.71 0.24837 446739.81
3762428.53 0.24800
446711.81 3762423.61 0.24269 446687.25
3762416.25 0.23826

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3CIDLE ***
INCLUDING SOURCE(S): L0000104 , L0000105 , L0000106 , L0000107 , L0000108 , L0000109 , L0000110 , L0000111 , L0000112 , L0000113 , L0000114 , L0000115 , L0000116 , L0000117 , L0000118 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
446662.20	3762412.32	0.23379	446636.17	3762403.97	0.22939
449981.72	3762732.45	2.37976	446486.82	3762231.95	0.20810
446261.97	3762068.01	0.17950	446443.15	3762291.63	0.20117
446071.80	3762055.49	0.15940	446072.08	3761983.13	0.15949
446138.18	3762002.17	0.16609	445884.94	3762039.75	0.14304
447362.21	3764292.67	0.43811	447375.98	3764150.98	0.55101
447389.75	3764043.04	0.69012	447450.16	3764031.05	0.72015
447410.18	3764019.05	0.72947	446891.90	3764451.22	0.31189
446959.28	3764451.22	0.31896	446995.28	3764468.13	0.31483
447007.41	3764467.30	0.31559	447023.51	3764466.09	0.31754
447036.59	3764466.21	0.31879	447052.68	3764465.61	0.32012
447066.60	3764465.73	0.32091	447099.65	3764456.17	0.32744
447145.28	3764468.27	0.32746	447175.54	3764468.03	0.33324
447205.32	3764468.27	0.33804	447232.43	3764467.55	0.33617
447264.02	3764467.30	0.33025	447294.77	3764466.94	0.32879
447364.97	3764456.41	0.33930	447406.61	3764460.65	0.34021
447441.47	3764460.04	0.34103	447466.88	3764460.20	0.34241
447490.00	3764460.56	0.34493	447515.50	3764460.40	0.34896
447573.06	3764454.29	0.36207	447598.49	3764445.22	0.36686
447652.90	3764439.70	0.36525	447692.92	3764439.51	0.36916
447713.82	3764439.11	0.37093	447731.95		

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        3764438.72        0.37189
        447751.07    3764438.72        0.37316                    447768.82
        3764437.53        0.37419
        447789.12    3764437.73        0.37397                    447805.68
        3764437.34        0.37453
        447824.02    3764437.20        0.37508                    447841.61
        3764437.87        0.37564
        447861.72    3764437.53        0.37686                    447881.66
        3764435.18        0.37890
        447902.78    3764436.19        0.37902                    447920.87
        3764435.35        0.37980
        447942.16    3764435.35        0.38015                    447962.77
        3764434.85        0.38062
        447980.70    3764435.18        0.38062                    448004.66
        3764435.18        0.38186
        448021.25    3764434.68        0.38579                    447662.70
        3764379.63        0.39142
        447681.30    3764320.98        0.42686                    447682.64
        3764285.79        0.45658
        447662.53    3764238.37        0.49729                    447661.70
        3764207.37        0.52931
        447683.14    3764162.29        0.58301                    447680.97
        3764145.87        0.60339
        447679.63    3764130.28        0.62428                    447680.80
        3764112.02        0.64941
        447681.47    3764096.43        0.66962                    447680.80
        3764078.84        0.69164
        447679.96    3764064.26        0.70874                    447680.97
        3764045.82        0.73081
        447680.63    3764029.74        0.75046                    447657.17
        3763992.03        0.80481
        447656.33    3763967.06        0.84029                    447657.17
        3763928.69        0.90338
        447657.17    3763902.21        0.95124                    447657.51
        3763869.03        1.02489
        447656.16    3763834.94        1.10144                    447655.93
        3763808.27        1.16526
        447657.09    3763786.00        1.22360                    447701.21
        3763782.14        1.23014
        447856.92    3763749.71        1.37914                    447854.99
        3763730.13        1.46567
        447854.35    3763698.35        1.60936                    447855.31
        3763676.84        1.72235
        447675.51    3763287.46        9.59762                    448481.33
        3763485.29        1.99832
        448479.95    3763195.53        1.88041                    448478.56
        3762907.16        1.15506
        448497.89    3762714.10        0.83430                    448507.91
        3762487.71        0.64252
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                    PAGE 134
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP: 3CIDLE   ***
                              INCLUDING SOURCE(S):     L0000104    , L0000105    ,
                              L0000106    , L0000107    , L0000108    ,
               L0000109    , L0000110    , L0000111    , L0000112    , L0000113    ,
               L0000114    , L0000115    , L0000116    ,
               L0000117    , L0000118    ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***
```

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	0.58509	448462.73	3762339.82	0.58541
448464.47	3762265.93	0.54719	448461.57	3762165.17	0.50340
448472.57	3762064.71	0.45887	448460.48	3762016.72	0.44574
448234.63	3761951.18	0.50244	448081.42	3761952.78	0.56507
448025.53	3761955.99	0.59042	447506.75	3761967.63	0.79129
447269.29	3761967.74	0.83654	447389.46	3761908.79	0.75008
447019.14	3761964.34	0.84131	447060.33	3761963.58	0.84129
446975.31	3761963.20	0.83724	446940.92	3761953.76	0.82244
446865.72	3761974.54	0.83717	446795.06	3761957.91	0.80071
446757.65	3761965.85	0.79721	446709.33	3761967.74	0.78123
446796.42	3762028.62	0.88109	446796.97	3762045.28	0.90175
446796.70	3762089.51	0.96105	446796.15	3762105.89	0.98304
446796.70	3762137.29	1.02786	446796.15	3762153.39	1.05122
446772.40	3762215.37	1.12822	446795.06	3762321.03	1.33883
446796.42	3762450.98	1.61562	446796.42	3762471.18	1.66107
446797.24	3762496.03	1.71975	446798.06	3762516.51	1.76898
446797.79	3762539.98	1.82058	446797.52	3762560.19	1.86389
446798.61	3762584.76	1.92118	446798.06	3762604.42	1.96125
446799.70	3762654.11	2.07089	446799.97	3762674.58	2.11154
446800.25	3762700.25	2.15932	446800.25	3762721.27	2.19322
446799.97	3762735.74	2.21302	446797.79	3762748.02	2.21690
446802.16	3762913.47	2.37342	446802.16	3762932.58	2.37501
446802.43	3762949.24	2.37587	446802.98	3762967.26	2.37600
446802.70	3762986.09	2.36723	446802.16	3763003.29	2.35484
446802.16	3763021.86	2.34270	446802.70	3763040.70	2.33108
446802.98	3763059.26	2.31451	446803.52	3763077.01	2.29737
446756.29	3763085.26	1.98717	446807.68	3763646.39	1.11943
446808.32	3763674.66	1.07251	446807.68	3763694.57	1.03930
446808.32	3763710.63	1.01500	446808.32	3763726.37	0.98248

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        446808.00    3763742.11        0.95915                      446808.32
        3763756.89         0.93856
        446808.64    3763798.32        0.85844                      446810.25
        3764484.08         0.29157
        446781.34    3764475.08        0.29134                      446722.56
        3764455.81         0.29165
        446170.32    3764559.79        0.20076                      446872.29
        3763190.26         2.59735
        446925.22    3763179.19        3.15566                      446984.86
        3763194.88         3.86533
        447010.56    3763193.28        4.30827                      447036.58
        3763193.60         4.82246
        447053.61    3763193.28        5.21675                      447076.42
        3763192.31         5.83327
        447093.45    3763192.63        6.34779                      447122.05
        3763192.63         7.39181
        447138.75    3763192.31        8.12832                      447167.99
        3763192.31         9.66937
        447170.68    3763172.18       10.75332                      447170.41
        3763158.25        11.38528
        447169.31    3763144.87       11.91263                      447147.46
        3763107.45        11.35616
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 135
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP: 3CIDLE   ***
                                INCLUDING SOURCE(S):     L0000104    , L0000105    ,
                                L0000106    , L0000107    , L0000108    ,
                  L0000109    , L0000110    , L0000111    , L0000112    , L0000113    ,
                  L0000114    , L0000115    , L0000116    ,
                  L0000117    , L0000118    ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)   Y-COORD
      (M)        CONC
 - - -
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```
        3762888.87        2.87301
        446871.45    3762779.57        2.80669                    446926.31
        3762768.72        3.31105
        446983.74    3762774.24        4.04614                    447009.00
        3762774.05        4.41764
        447030.51    3762774.44        4.76486                    447055.37
        3762774.05        5.19520
        447076.88    3762774.24        5.60644                    447101.16
        3762774.44        6.10532
        447123.85    3762774.05        6.57463                    447148.12
        3762775.03        7.12397
        447170.23    3762774.84        7.58875                    447196.78
        3762775.48        8.13525
        447242.12    3762776.57        8.89758                    447262.33
        3762776.03        9.07033
        447294.56    3762776.30        9.23438                    447313.13
        3762775.48        9.18279
        447313.40    3762749.53        7.80749                    447327.86
        3762713.09        6.32075
        447327.36    3762679.87        5.33472                    447327.74
        3762657.02        4.79397
        447327.28    3762636.82        4.38543                    447327.51
        3762612.90        3.96624
        447327.28    3762592.24        3.65703                    447327.04
        3762569.71        3.36161
        447327.28    3762547.89        3.10978                    447326.58
        3762524.67        2.87446
        447326.58    3762506.09        2.70542                    447327.51
        3762477.53        2.47214
        447325.88    3762454.31        2.30738                    447225.58
        3762432.95        2.20857
        447200.27    3762430.63        2.19404                    447156.85
        3762430.16        2.17913
        447131.77    3762430.86        2.17030                    447102.74
        3762430.63        2.14560
        447079.06    3762430.86        2.12140                    447034.94
        3762433.65        2.07816
        446995.47    3762433.65        2.01308                    446972.71
        3762434.34        1.97391
        446941.37    3762434.58        1.91299                    446916.06
        3762436.90        1.86726
        446876.35    3762436.90        1.77516                    446848.85
        3762647.05        2.31454
        446848.85    3762563.17        2.07360                    446849.17
        3762509.82        1.91872
        446849.17    3762455.82        1.76334                    446848.85
        3762702.00        2.45870
        446849.49    3762754.71        2.57828                    446739.81
        3762428.53        1.43658
        446711.81    3762423.61        1.36857                    446687.25
        3762416.25        1.30756
        446662.20    3762412.32        1.25380                    446636.17
        3762403.97        1.19612
        449981.72    3762732.45        0.26515                    446486.82
        3762231.95        0.84800
        446261.97    3762068.01        0.59461                    446443.15
        3762291.63        0.83817
        446071.80    3762055.49        0.48706                    446072.08
        3761983.13        0.47278
        446138.18    3762002.17        0.50849                    445884.94
        3762039.75        0.40424
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3CON ***
INCLUDING SOURCE(S): L0000234 , L0000235 , L0000236 , L0000237 , L0000238 ,
L0000239 , L0000240 , L0000241 , L0000242 , L0000243 ,
L0000244 , L0000245 , L0000246 ,
L0000247 , L0000248 , L0000249 , L0000250 , L0000251 ,
L0000252 , L0000253 , L0000254 ,
L0000255 , L0000256 , L0000257 , L0000258 , L0000259 ,
L0000260 , L0000261 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.45238	447375.98	3764150.98	0.57363
447389.75	3764043.04	0.72429	447450.16	3764031.05	0.76028
447410.18	3764019.05	0.76853	446891.90	3764451.22	0.31405
446959.28	3764451.22	0.32222	446995.28	3764468.13	0.31850
447007.41	3764467.30	0.31941	447023.51	3764466.09	0.32155
447036.59	3764466.21	0.32296	447052.68	3764465.61	0.32444
447066.60	3764465.73	0.32536	447099.65	3764456.17	0.33229
447145.28	3764468.27	0.33258	447175.54	3764468.03	0.33878
447205.32	3764468.27	0.34405	447232.43	3764467.55	0.34241
447264.02	3764467.30	0.33671	447294.77	3764466.94	0.33582
447364.97	3764456.41	0.34830	447406.61	3764460.65	0.35006
447441.47	3764460.04	0.35148	447466.88	3764460.20	0.35314
447490.00	3764460.56	0.35584	447515.50	3764460.40	0.35999
447573.06	3764454.29	0.37335	447598.49	3764445.22	0.37805
447652.90	3764439.70	0.37523	447692.92	3764439.51	0.37878
447713.82	3764439.11	0.38042	447731.95	3764438.72	0.38128
447751.07	3764438.72	0.38257	447768.82	3764437.53	0.38364
447789.12	3764437.73	0.38346	447805.68	3764437.34	0.38418
447824.02	3764437.20	0.38498	447841.61	3764437.87	0.38586
447861.72	3764437.53	0.38754	447881.66	3764435.18	0.39012
447902.78	3764436.19	0.39068	447920.87	3764435.35	0.39189
447942.16	3764435.35	0.39269	447962.77		

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3CON ***
INCLUDING SOURCE(S): L0000234 , L0000235 , L0000236 , L0000237 , L0000238 ,
L0000239 , L0000240 , L0000241 , L0000242 , L0000243 ,
L0000244 , L0000245 , L0000246 ,
L0000247 , L0000248 , L0000249 , L0000250 , L0000251 ,
L0000252 , L0000253 , L0000254 ,
L0000255 , L0000256 , L0000257 , L0000258 , L0000259 ,
L0000260 , L0000261 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	0.62077	448462.73		

3762339.82 0.62089
448464.47 3762265.93 0.57810 448461.57
3762165.17 0.52926
448472.57 3762064.71 0.48015 448460.48
3762016.72 0.46551
448234.63 3761951.18 0.52324 448081.42
3761952.78 0.58711
448025.53 3761955.99 0.61270 447506.75
3761967.63 0.80588
447269.29 3761967.74 0.84256 447389.46
3761908.79 0.75810
447019.14 3761964.34 0.83268 447060.33
3761963.58 0.83604
446975.31 3761963.20 0.82478 446940.92
3761953.76 0.80741
446865.72 3761974.54 0.81335 446795.06
3761957.91 0.77265
446757.65 3761965.85 0.76571 446709.33
3761967.74 0.74673
446796.42 3762028.62 0.84488 446796.97
3762045.28 0.86329
446796.70 3762089.51 0.91549 446796.15
3762105.89 0.93458
446796.70 3762137.29 0.97349 446796.15
3762153.39 0.99346
446772.40 3762215.37 1.05393 446795.06
3762321.03 1.23208
446796.42 3762450.98 1.44962 446796.42
3762471.18 1.48428
446797.24 3762496.03 1.52902 446798.06
3762516.51 1.56635
446797.79 3762539.98 1.60474 446797.52
3762560.19 1.63678
446798.61 3762584.76 1.67964 446798.06
3762604.42 1.70900
446799.70 3762654.11 1.79062 446799.97
3762674.58 1.82079
446800.25 3762700.25 1.85637 446800.25
3762721.27 1.88170
446799.97 3762735.74 1.89650 446797.79
3762748.02 1.89895
446802.16 3762913.47 2.01880 446802.16
3762932.58 2.01987
446802.43 3762949.24 2.02048 446802.98
3762967.26 2.02067
446802.70 3762986.09 2.01413 446802.16
3763003.29 2.00500
446802.16 3763021.86 1.99645 446802.70
3763040.70 1.98873
446802.98 3763059.26 1.97750 446803.52
3763077.01 1.96619
446756.29 3763085.26 1.72058 446807.68
3763646.39 1.02199
446808.32 3763674.66 0.98082 446807.68
3763694.57 0.94906
446808.32 3763710.63 0.92700 446808.32
3763726.37 0.90649
446808.00 3763742.11 0.88647 446808.32
3763756.89 0.86876
446808.64 3763798.32 0.81482 446810.25
3764484.08 0.29242
446781.34 3764475.08 0.29167 446722.56
3764455.81 0.29087
446170.32 3764559.79 0.19773 446872.29
3763190.26 2.23482
446925.22 3763179.19 2.67647 446984.86

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3CON ***
INCLUDING SOURCE(S): L0000234 , L0000235 , L0000236 , L0000237 , L0000238 ,
L0000239 , L0000240 , L0000241 , L0000242 , L0000243 ,
L0000244 , L0000245 , L0000246 ,
L0000247 , L0000248 , L0000249 , L0000250 , L0000251 ,
L0000252 , L0000253 , L0000254 ,
L0000255 , L0000256 , L0000257 , L0000258 , L0000259 ,
L0000260 , L0000261 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	8.57725	447146.92	3763064.30	8.74094
447149.92	3763038.90	9.03825	447148.56	3763019.78	8.98108
447148.56	3762997.39	8.94878	447206.08	3762958.49	13.32763
447209.33	3762922.51	12.79601	447208.40	3762890.70	11.67996
447145.83	3762888.87	7.78698	447122.55	3762889.07	6.85395
447094.33	3762890.05	5.93995	447071.04	3762890.45	5.31388
447043.61	3762889.66	4.68985	447017.76	3762888.87	4.19774
446992.11	3762889.07	3.78519	446964.28	3762888.28	3.40122
446940.41	3762888.47	3.11782	446911.20	3762888.08	2.81621
446885.35	3762889.66	2.58753	446862.07	3762888.87	2.40369
446871.45	3762779.57	2.35716	446926.31	3762768.72	2.74637
446983.74	3762774.24	3.30690	447009.00	3762774.05	3.59362
447030.51	3762774.44	3.86487	447055.37		

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        3762774.05        4.20957
        447076.88    3762774.24        4.54781                    447101.16
        3762774.44        4.97596
        447123.85    3762774.05        5.41033                    447148.12
        3762775.03        5.95112
        447170.23    3762774.84        6.47650                    447196.78
        3762775.48        7.18596
        447242.12    3762776.57        8.54374                    447262.33
        3762776.03        9.12200
        447294.56    3762776.30       10.04527                    447313.13
        3762775.48       10.45196
        447313.40    3762749.53        8.78072                    447327.86
        3762713.09        7.16141
        447327.36    3762679.87        5.94983                    447327.74
        3762657.02        5.30039
        447327.28    3762636.82        4.81142                    447327.51
        3762612.90        4.31812
        447327.28    3762592.24        3.95611                    447327.04
        3762569.71        3.61346
        447327.28    3762547.89        3.32474                    447326.58
        3762524.67        3.05581
        447326.58    3762506.09        2.86480                    447327.51
        3762477.53        2.60414
        447325.88    3762454.31        2.41967                    447225.58
        3762432.95        2.24153
        447200.27    3762430.63        2.20646                    447156.85
        3762430.16        2.15490
        447131.77    3762430.86        2.12438                    447102.74
        3762430.63        2.07602
        447079.06    3762430.86        2.03371                    447034.94
        3762433.65        1.95906
        446995.47    3762433.65        1.87383                    446972.71
        3762434.34        1.82531
        446941.37    3762434.58        1.75526                    446916.06
        3762436.90        1.70331
        446876.35    3762436.90        1.60901                    446848.85
        3762647.05        1.99170
        446848.85    3762563.17        1.81738                    446849.17
        3762509.82        1.70330
        446849.17    3762455.82        1.58597                    446848.85
        3762702.00        2.09538
        446849.49    3762754.71        2.18239                    446739.81
        3762428.53        1.29248
        446711.81    3762423.61        1.23202                    446687.25
        3762416.25        1.17850
        446662.20    3762412.32        1.13100                    446636.17
        3762403.97        1.08064
        449981.72    3762732.45        0.27429                    446486.82
        3762231.95        0.78107
        446261.97    3762068.01        0.55508                    446443.15
        3762291.63        0.76915
        446071.80    3762055.49        0.45666                    446072.08
        3761983.13        0.44432
        446138.18    3762002.17        0.47698                    445884.94
        3762039.75        0.38099
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 139
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP: 4BBREAT  ***
                              INCLUDING SOURCE(S):     4BBREAT     ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.19383	447375.98	3764150.98	0.22414
447389.75	3764043.04	0.25527	447450.16	3764031.05	0.26202
447410.18	3764019.05	0.26356	446891.90	3764451.22	0.15789
446959.28	3764451.22	0.15786	446995.28	3764468.13	0.15523
447007.41	3764467.30	0.15510	447023.51	3764466.09	0.15529
447036.59	3764466.21	0.15536	447052.68	3764465.61	0.15538
447066.60	3764465.73	0.15531	447099.65	3764456.17	0.15682
447145.28	3764468.27	0.15629	447175.54	3764468.03	0.15808
447205.32	3764468.27	0.15970	447232.43	3764467.55	0.15932
447264.02	3764467.30	0.15788	447294.77	3764466.94	0.15819
447364.97	3764456.41	0.16401	447406.61	3764460.65	0.16582
447441.47	3764460.04	0.16737	447466.88	3764460.20	0.16859
447490.00	3764460.56	0.16991	447515.50	3764460.40	0.17155
447573.06	3764454.29	0.17578	447598.49	3764445.22	0.17732
447652.90	3764439.70	0.17667	447692.92	3764439.51	0.17709
447713.82	3764439.11	0.17718	447731.95	3764438.72	0.17709
447751.07	3764438.72	0.17706	447768.82	3764437.53	0.17700
447789.12	3764437.73	0.17654	447805.68	3764437.34	0.17642
447824.02	3764437.20	0.17630	447841.61	3764437.87	0.17625
447861.72	3764437.53	0.17641	447881.66	3764435.18	0.17687
447902.78	3764436.19	0.17682	447920.87	3764435.35	0.17702
447942.16	3764435.35	0.17714	447962.77	3764434.85	0.17733
447980.70	3764435.18	0.17741	448004.66	3764435.18	0.17793
448021.25	3764434.68	0.17925	447662.70	3764379.63	0.18414
447681.30	3764320.98	0.19338	447682.64	3764285.79	0.20113
447662.53	3764238.37	0.21176	447661.70	3764207.37	0.21940
447683.14	3764162.29	0.23116	447680.97	3764145.87	0.23562
447679.63	3764130.28	0.24007	447680.80	3764112.02	0.24529

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        447681.47    3764096.43        0.24945                      447680.80
        3764078.84         0.25393
        447679.96    3764064.26        0.25737                      447680.97
        3764045.82         0.26171
        447680.63    3764029.74        0.26552                      447657.17
        3763992.03         0.27590
        447656.33    3763967.06        0.28226                      447657.17
        3763928.69         0.29305
        447657.17    3763902.21        0.30087                      447657.51
        3763869.03         0.31242
        447656.16    3763834.94        0.32371                      447655.93
        3763808.27         0.33260
        447657.09    3763786.00        0.34037                      447701.21
        3763782.14         0.34124
        447856.92    3763749.71        0.35686                      447854.99
        3763730.13         0.36537
        447854.35    3763698.35        0.37975                      447855.31
        3763676.84         0.38994
        447675.51    3763287.46        0.71037                      448481.33
        3763485.29         0.54081
        448479.95    3763195.53        0.91059                      448478.56
        3762907.16         1.27326
        448497.89    3762714.10        1.27665                      448507.91
        3762487.71         0.96779
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 140
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP: 4BBREAT  ***
                                INCLUDING SOURCE(S):     4BBREAT     ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
        448480.49    3762357.96        0.85486                      448462.73
        3762339.82         0.85095
        448464.47    3762265.93        0.76697                      448461.57
        3762165.17         0.66947
        448472.57    3762064.71        0.58331                      448460.48
        3762016.72         0.55811
        448234.63    3761951.18        0.64087                      448081.42
        3761952.78         0.75151
        448025.53    3761955.99        0.80215                      447506.75
        3761967.63         1.68052
        447269.29    3761967.74        2.70151                      447389.46
        3761908.79         1.87119
        447019.14    3761964.34        4.57742                      447060.33
        3761963.58         4.23226
        446975.31    3761963.20        4.87412                      446940.92
        3761953.76         4.87653
        446865.72    3761974.54        5.74088                      446795.06
        3761957.91         5.38619
        446757.65    3761965.85        5.52017                      446709.33
        3761967.74         5.33869
        446796.42    3762028.62        7.72677                      446796.97
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        3762045.28        8.51098
        446796.70    3762089.51       11.34189                       446796.15
        3762105.89       12.71730
        446796.70    3762137.29       16.16989                       446796.15
        3762153.39       18.43701
        446772.40    3762215.37       27.12972                       446795.06
        3762321.03       59.06190
        446796.42    3762450.98       20.51253                       446796.42
        3762471.18       16.99648
        446797.24    3762496.03       13.77641                       446798.06
        3762516.51       11.74333
        446797.79    3762539.98        9.87981                       446797.52
        3762560.19        8.61185
        446798.61    3762584.76        7.40223                       446798.06
        3762604.42        6.58592
        446799.70    3762654.11        5.07332                       446799.97
        3762674.58        3.90190
        446800.25    3762700.25        3.42165                       446800.25
        3762721.27        3.11990
        446799.97    3762735.74        2.94209                       446797.79
        3762748.02        2.79733
        446802.16    3762913.47        1.64737                       446802.16
        3762932.58        1.56249
        446802.43    3762949.24        1.49431                       446802.98
        3762967.26        1.42600
        446802.70    3762986.09        1.35539                       446802.16
        3763003.29        1.29146
        446802.16    3763021.86        1.22763                       446802.70
        3763040.70        1.16734
        446802.98    3763059.26        1.11220                       446803.52
        3763077.01        1.06508
        446756.29    3763085.26        1.04119                       446807.68
        3763646.39        0.37396
        446808.32    3763674.66        0.36062                       446807.68
        3763694.57        0.35124
        446808.32    3763710.63        0.34442                       446808.32
        3763726.37        0.33790
        446808.00    3763742.11        0.33185                       446808.32
        3763756.89        0.32631
        446808.64    3763798.32        0.30982                       446810.25
        3764484.08        0.15333
        446781.34    3764475.08        0.15416                       446722.56
        3764455.81        0.15594
        446170.32    3764559.79        0.12940                       446872.29
        3763190.26        0.81580
        446925.22    3763179.19        0.84313                       446984.86
        3763194.88        0.83442
        447010.56    3763193.28        0.83753                       447036.58
        3763193.60        0.84311
        447053.61    3763193.28        0.84711                       447076.42
        3763192.31        0.85244
        447093.45    3763192.63        0.85338                       447122.05
        3763192.63        0.86316
        447138.75    3763192.31        0.86836                       447167.99
        3763192.31        0.87502
        447170.68    3763172.18        0.91499                       447170.41
        3763158.25        0.94438
        447169.31    3763144.87        0.97125                       447147.46
        3763107.45        1.04461
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                ***       09:18:50

                    PAGE 141
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BBREAT ***
INCLUDING SOURCE(S): 4BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.10317	447146.92	3763064.30	1.16070
447149.92	3763038.90	1.24396	447148.56	3763019.78	1.30968
447148.56	3762997.39	1.39639	447206.08	3762958.49	1.56995
447209.33	3762922.51	1.75038	447208.40	3762890.70	1.92685
447145.83	3762888.87	1.95058	447122.55	3762889.07	1.95057
447094.33	3762890.05	1.94179	447071.04	3762890.45	1.93351
447043.61	3762889.66	1.92873	447017.76	3762888.87	1.92130
446992.11	3762889.07	1.90496	446964.28	3762888.28	1.89215
446940.41	3762888.47	1.87931	446911.20	3762888.08	1.87050
446885.35	3762889.66	1.83868	446862.07	3762888.87	1.82158
446871.45	3762779.57	2.64883	446926.31	3762768.72	2.85819
446983.74	3762774.24	2.87328	447009.00	3762774.05	2.90512
447030.51	3762774.44	2.94008	447055.37	3762774.05	2.96743
447076.88	3762774.24	2.96344	447101.16	3762774.44	2.94066
447123.85	3762774.05	2.93802	447148.12	3762775.03	2.90861
447170.23	3762774.84	2.89674	447196.78	3762775.48	2.88462
447242.12	3762776.57	2.86666	447262.33	3762776.03	2.87745
447294.56	3762776.30	2.88960	447313.13	3762775.48	2.90660
447313.40	3762749.53	3.25320	447327.86	3762713.09	3.88680
447327.36	3762679.87	4.63920	447327.74	3762657.02	5.14393
447327.28	3762636.82	5.64028	447327.51	3762612.90	6.27675
447327.28	3762592.24	6.86194	447327.04	3762569.71	7.52023
447327.28	3762547.89	8.14524	447326.58	3762524.67	8.78776
447326.58	3762506.09	9.23222	447327.51	3762477.53	9.72590
447325.88	3762454.31	10.01721	447225.58	3762432.95	15.44278
447200.27	3762430.63	17.47671	447156.85	3762430.16	21.76810

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        447131.77    3762430.86       24.75046                    447102.74
        3762430.63        28.87671
        447079.06    3762430.86       32.60851                    447034.94
        3762433.65        38.89965
        446995.47    3762433.65       43.66901                    446972.71
        3762434.34        44.28991
        446941.37    3762434.58       43.90535                    446916.06
        3762436.90        41.70531
        446876.35    3762436.90       38.68859                    446848.85
        3762647.05         5.64375
        446848.85    3762563.17        9.50616                    446849.17
        3762509.82        14.69799
        446849.17    3762455.82       26.36955                    446848.85
        3762702.00         3.59001
        446849.49    3762754.71        2.85962                    446739.81
        3762428.53        15.87435
        446711.81    3762423.61       13.06416                    446687.25
        3762416.25        11.21334
        446662.20    3762412.32        9.52470                    446636.17
        3762403.97         8.21449
        449981.72    3762732.45        0.34448                    446486.82
        3762231.95         4.23782
        446261.97    3762068.01        1.90689                    446443.15
        3762291.63         3.50199
        446071.80    3762055.49        1.22121                    446072.08
        3761983.13         1.20399
        446138.18    3762002.17        1.39059                    445884.94
        3762039.75         0.86238
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                ***       09:18:50

                     PAGE 142
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 4BLOAD   ***
                               INCLUDING SOURCE(S):     4BLOAD      ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
- - - -
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3764467.55 0.15932
447264.02 3764467.30 0.15788 447294.77
3764466.94 0.15819
447364.97 3764456.41 0.16401 447406.61
3764460.65 0.16582
447441.47 3764460.04 0.16737 447466.88
3764460.20 0.16859
447490.00 3764460.56 0.16991 447515.50
3764460.40 0.17155
447573.06 3764454.29 0.17578 447598.49
3764445.22 0.17732
447652.90 3764439.70 0.17667 447692.92
3764439.51 0.17709
447713.82 3764439.11 0.17718 447731.95
3764438.72 0.17709
447751.07 3764438.72 0.17706 447768.82
3764437.53 0.17700
447789.12 3764437.73 0.17655 447805.68
3764437.34 0.17642
447824.02 3764437.20 0.17630 447841.61
3764437.87 0.17625
447861.72 3764437.53 0.17641 447881.66
3764435.18 0.17687
447902.78 3764436.19 0.17682 447920.87
3764435.35 0.17702
447942.16 3764435.35 0.17714 447962.77
3764434.85 0.17733
447980.70 3764435.18 0.17741 448004.66
3764435.18 0.17793
448021.25 3764434.68 0.17925 447662.70
3764379.63 0.18414
447681.30 3764320.98 0.19338 447682.64
3764285.79 0.20113
447662.53 3764238.37 0.21176 447661.70
3764207.37 0.21940
447683.14 3764162.29 0.23116 447680.97
3764145.87 0.23562
447679.63 3764130.28 0.24008 447680.80
3764112.02 0.24530
447681.47 3764096.43 0.24945 447680.80
3764078.84 0.25393
447679.96 3764064.26 0.25737 447680.97
3764045.82 0.26172
447680.63 3764029.74 0.26552 447657.17
3763992.03 0.27590
447656.33 3763967.06 0.28226 447657.17
3763928.69 0.29305
447657.17 3763902.21 0.30087 447657.51
3763869.03 0.31242
447656.16 3763834.94 0.32371 447655.93
3763808.27 0.33260
447657.09 3763786.00 0.34037 447701.21
3763782.14 0.34124
447856.92 3763749.71 0.35686 447854.99
3763730.13 0.36538
447854.35 3763698.35 0.37975 447855.31
3763676.84 0.38994
447675.51 3763287.46 0.71037 448481.33
3763485.29 0.54081
448479.95 3763195.53 0.91060 448478.56
3762907.16 1.27327
448497.89 3762714.10 1.27665 448507.91
3762487.71 0.96779

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BLOAD ***
INCLUDING SOURCE(S): 4BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	0.85486	448462.73	3762339.82	0.85096
448464.47	3762265.93	0.76697	448461.57	3762165.17	0.66947
448472.57	3762064.71	0.58331	448460.48	3762016.72	0.55811
448234.63	3761951.18	0.64087	448081.42	3761952.78	0.75151
448025.53	3761955.99	0.80215	447506.75	3761967.63	1.68054
447269.29	3761967.74	2.70153	447389.46	3761908.79	1.87120
447019.14	3761964.34	4.57745	447060.33	3761963.58	4.23230
446975.31	3761963.20	4.87416	446940.92	3761953.76	4.87656
446865.72	3761974.54	5.74092	446795.06	3761957.91	5.38623
446757.65	3761965.85	5.52020	446709.33	3761967.74	5.33872
446796.42	3762028.62	7.72682	446796.97	3762045.28	8.51104
446796.70	3762089.51	11.34198	446796.15	3762105.89	12.71741
446796.70	3762137.29	16.17002	446796.15	3762153.39	18.43714
446772.40	3762215.37	27.12992	446795.06	3762321.03	59.06188
446796.42	3762450.98	20.51307	446796.42	3762471.18	16.99692
446797.24	3762496.03	13.77676	446798.06	3762516.51	11.74362
446797.79	3762539.98	9.88004	446797.52	3762560.19	8.61205
446798.61	3762584.76	7.40239	446798.06	3762604.42	6.58605
446799.70	3762654.11	5.07341	446799.97	3762674.58	3.90194
446800.25	3762700.25	3.42168	446800.25	3762721.27	3.11993
446799.97	3762735.74	2.94211	446797.79	3762748.02	2.79735
446802.16	3762913.47	1.64737	446802.16	3762932.58	1.56250
446802.43	3762949.24	1.49432	446802.98	3762967.26	1.42600
446802.70	3762986.09	1.35539	446802.16	3763003.29	1.29147

446802.16	3763021.86	1.22764	446802.70	
3763040.70	1.16734			
446802.98	3763059.26	1.11220	446803.52	
3763077.01	1.06508			
446756.29	3763085.26	1.04119	446807.68	
3763646.39	0.37396			
446808.32	3763674.66	0.36062	446807.68	
3763694.57	0.35124			
446808.32	3763710.63	0.34442	446808.32	
3763726.37	0.33790			
446808.00	3763742.11	0.33185	446808.32	
3763756.89	0.32631			
446808.64	3763798.32	0.30982	446810.25	
3764484.08	0.15333			
446781.34	3764475.08	0.15415	446722.56	
3764455.81	0.15594			
446170.32	3764559.79	0.12940	446872.29	
3763190.26	0.81580			
446925.22	3763179.19	0.84313	446984.86	
3763194.88	0.83443			
447010.56	3763193.28	0.83754	447036.58	
3763193.60	0.84312			
447053.61	3763193.28	0.84712	447076.42	
3763192.31	0.85244			
447093.45	3763192.63	0.85339	447122.05	
3763192.63	0.86317			
447138.75	3763192.31	0.86837	447167.99	
3763192.31	0.87503			
447170.68	3763172.18	0.91500	447170.41	
3763158.25	0.94439			
447169.31	3763144.87	0.97126	447147.46	
3763107.45	1.04462			

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BLOAD ***
INCLUDING SOURCE(S): 4BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.10318	447146.92		
3763064.30	1.16071				
447149.92	3763038.90	1.24397	447148.56		
3763019.78	1.30970				
447148.56	3762997.39	1.39641	447206.08		
3762958.49	1.56997				
447209.33	3762922.51	1.75040	447208.40		
3762890.70	1.92688				
447145.83	3762888.87	1.95061	447122.55		
3762889.07	1.95060				
447094.33	3762890.05	1.94182	447071.04		
3762890.45	1.93354				
447043.61	3762889.66	1.92875	447017.76		

3762888.87 1.92133
446992.11 3762889.07 1.90498 446964.28
3762888.28 1.89217
446940.41 3762888.47 1.87933 446911.20
3762888.08 1.87052
446885.35 3762889.66 1.83869 446862.07
3762888.87 1.82159
446871.45 3762779.57 2.64886 446926.31
3762768.72 2.85823
446983.74 3762774.24 2.87333 447009.00
3762774.05 2.90517
447030.51 3762774.44 2.94013 447055.37
3762774.05 2.96748
447076.88 3762774.24 2.96349 447101.16
3762774.44 2.94072
447123.85 3762774.05 2.93808 447148.12
3762775.03 2.90867
447170.23 3762774.84 2.89680 447196.78
3762775.48 2.88468
447242.12 3762776.57 2.86671 447262.33
3762776.03 2.87750
447294.56 3762776.30 2.88965 447313.13
3762775.48 2.90665
447313.40 3762749.53 3.25326 447327.86
3762713.09 3.88686
447327.36 3762679.87 4.63929 447327.74
3762657.02 5.14402
447327.28 3762636.82 5.64037 447327.51
3762612.90 6.27685
447327.28 3762592.24 6.86205 447327.04
3762569.71 7.52034
447327.28 3762547.89 8.14535 447326.58
3762524.67 8.78787
447326.58 3762506.09 9.23234 447327.51
3762477.53 9.72602
447325.88 3762454.31 10.01734 447225.58
3762432.95 15.44301
447200.27 3762430.63 17.47699 447156.85
3762430.16 21.76847
447131.77 3762430.86 24.75091 447102.74
3762430.63 28.87728
447079.06 3762430.86 32.60920 447034.94
3762433.65 38.90062
446995.47 3762433.65 43.67029 446972.71
3762434.34 44.29133
446941.37 3762434.58 43.90683 446916.06
3762436.90 41.70665
446876.35 3762436.90 38.68959 446848.85
3762647.05 5.64387
446848.85 3762563.17 9.50640 446849.17
3762509.82 14.69839
446849.17 3762455.82 26.37025 446848.85
3762702.00 3.59005
446849.49 3762754.71 2.85965 446739.81
3762428.53 15.87478
446711.81 3762423.61 13.06451 446687.25
3762416.25 11.21363
446662.20 3762412.32 9.52493 446636.17
3762403.97 8.21467
449981.72 3762732.45 0.34448 446486.82
3762231.95 4.23787
446261.97 3762068.01 1.90690 446443.15
3762291.63 3.50203
446071.80 3762055.49 1.22122 446072.08
3761983.13 1.20400
446138.18 3762002.17 1.39060 445884.94

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BREF *** INCLUDING SOURCE(S): 4BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.20391	447375.98	3764150.98	0.23735
447389.75	3764043.04	0.27150	447450.16	3764031.05	0.27801
447410.18	3764019.05	0.28031	446891.90	3764451.22	0.16595
446959.28	3764451.22	0.16497	446995.28	3764468.13	0.16179
447007.41	3764467.30	0.16156	447023.51	3764466.09	0.16170
447036.59	3764466.21	0.16175	447052.68	3764465.61	0.16173
447066.60	3764465.73	0.16162	447099.65	3764456.17	0.16317
447145.28	3764468.27	0.16251	447175.54	3764468.03	0.16441
447205.32	3764468.27	0.16610	447232.43	3764467.55	0.16546
447264.02	3764467.30	0.16360	447294.77	3764466.94	0.16391
447364.97	3764456.41	0.17098	447406.61	3764460.65	0.17358
447441.47	3764460.04	0.17573	447466.88	3764460.20	0.17735
447490.00	3764460.56	0.17896	447515.50	3764460.40	0.18082
447573.06	3764454.29	0.18504	447598.49	3764445.22	0.18624
447652.90	3764439.70	0.18425	447692.92	3764439.51	0.18387
447713.82	3764439.11	0.18358	447731.95	3764438.72	0.18317
447751.07	3764438.72	0.18288	447768.82	3764437.53	0.18260
447789.12	3764437.73	0.18192	447805.68	3764437.34	0.18168
447824.02	3764437.20	0.18149	447841.61	3764437.87	0.18144
447861.72	3764437.53	0.18165	447881.66	3764435.18	0.18220
447902.78	3764436.19	0.18224	447920.87	3764435.35	0.18253
447942.16	3764435.35	0.18276	447962.77	3764434.85	0.18307

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        447980.70    3764435.18        0.18324                      448004.66
        3764435.18         0.18394
        448021.25    3764434.68        0.18552                      447662.70
        3764379.63         0.19136
        447681.30    3764320.98        0.20032                      447682.64
        3764285.79         0.20848
        447662.53    3764238.37        0.22004                      447661.70
        3764207.37         0.22820
        447683.14    3764162.29        0.24060                      447680.97
        3764145.87         0.24545
        447679.63    3764130.28        0.25032                      447680.80
        3764112.02         0.25601
        447681.47    3764096.43        0.26049                      447680.80
        3764078.84         0.26529
        447679.96    3764064.26        0.26891                      447680.97
        3764045.82         0.27345
        447680.63    3764029.74        0.27742                      447657.17
        3763992.03         0.28856
        447656.33    3763967.06        0.29518                      447657.17
        3763928.69         0.30657
        447657.17    3763902.21        0.31485                      447657.51
        3763869.03         0.32732
        447656.16    3763834.94        0.33934                      447655.93
        3763808.27         0.34874
        447657.09    3763786.00        0.35700                      447701.21
        3763782.14         0.35812
        447856.92    3763749.71        0.37320                      447854.99
        3763730.13         0.38183
        447854.35    3763698.35        0.39621                      447855.31
        3763676.84         0.40625
        447675.51    3763287.46        0.73491                      448481.33
        3763485.29         0.53664
        448479.95    3763195.53        0.92151                      448478.56
        3762907.16         1.28054
        448497.89    3762714.10        1.23096                      448507.91
        3762487.71         0.93497
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 146
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP: 4BREF    ***
                                INCLUDING SOURCE(S):     4BREF       ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
- - - -
```

3761967.63 1.56179
447269.29 3761967.74 2.49600 447389.46
3761908.79 1.74764
447019.14 3761964.34 4.20921 447060.33
3761963.58 3.89907
446975.31 3761963.20 4.47372 446940.92
3761953.76 4.48224
446865.72 3761974.54 5.26084 446795.06
3761957.91 4.99166
446757.65 3761965.85 5.18293 446709.33
3761967.74 5.14801
446796.42 3762028.62 7.11104 446796.97
3762045.28 7.82075
446796.70 3762089.51 10.38914 446796.15
3762105.89 11.66288
446796.70 3762137.29 14.88649 446796.15
3762153.39 17.07308
446772.40 3762215.37 28.06362 446795.06
3762321.03 86.10048
446796.42 3762450.98 27.03439 446796.42
3762471.18 21.59963
446797.24 3762496.03 16.89482 446798.06
3762516.51 14.06543
446797.79 3762539.98 11.57524 446797.52
3762560.19 9.93367
446798.61 3762584.76 8.40470 446798.06
3762604.42 7.39919
446799.70 3762654.11 5.58160 446799.97
3762674.58 4.80317
446800.25 3762700.25 4.15729 446800.25
3762721.27 3.76646
446799.97 3762735.74 3.54047 446797.79
3762748.02 3.35773
446802.16 3762913.47 1.93882 446802.16
3762932.58 1.83567
446802.43 3762949.24 1.75302 446802.98
3762967.26 1.67040
446802.70 3762986.09 1.58391 446802.16
3763003.29 1.50462
446802.16 3763021.86 1.42559 446802.70
3763040.70 1.35114
446802.98 3763059.26 1.28351 446803.52
3763077.01 1.22634
446756.29 3763085.26 1.20467 446807.68
3763646.39 0.40902
446808.32 3763674.66 0.39400 446807.68
3763694.57 0.38338
446808.32 3763710.63 0.37573 446808.32
3763726.37 0.36843
446808.00 3763742.11 0.36174 446808.32
3763756.89 0.35558
446808.64 3763798.32 0.33690 446810.25
3764484.08 0.16243
446781.34 3764475.08 0.16369 446722.56
3764455.81 0.16595
446170.32 3764559.79 0.13624 446872.29
3763190.26 0.91647
446925.22 3763179.19 0.94154 446984.86
3763194.88 0.92719
447010.56 3763193.28 0.92757 447036.58
3763193.60 0.93275
447053.61 3763193.28 0.93655 447076.42
3763192.31 0.94143
447093.45 3763192.63 0.94134 447122.05
3763192.63 0.95151
447138.75 3763192.31 0.95635 447167.99

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BREF ***
INCLUDING SOURCE(S): 4BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.21689	447146.92	3763064.30	1.28158
447149.92	3763038.90	1.37523	447148.56	3763019.78	1.44948
447148.56	3762997.39	1.54755	447206.08	3762958.49	1.72525
447209.33	3762922.51	1.91976	447208.40	3762890.70	2.10832
447145.83	3762888.87	2.16921	447122.55	3762889.07	2.18120
447094.33	3762890.05	2.18484	447071.04	3762890.45	2.18562
447043.61	3762889.66	2.19115	447017.76	3762888.87	2.19210
446992.11	3762889.07	2.18211	446964.28	3762888.28	2.17751
446940.41	3762888.47	2.17319	446911.20	3762888.08	2.17807
446885.35	3762889.66	2.14976	446862.07	3762888.87	2.13671
446871.45	3762779.57	3.14581	446926.31	3762768.72	3.36098
446983.74	3762774.24	3.33315	447009.00	3762774.05	3.35132
447030.51	3762774.44	3.37642	447055.37	3762774.05	3.38447
447076.88	3762774.24	3.35519	447101.16	3762774.44	3.29945
447123.85	3762774.05	3.26883	447148.12	3762775.03	3.20636
447170.23	3762774.84	3.16586	447196.78	3762775.48	3.12067
447242.12	3762776.57	3.05060	447262.33	3762776.03	3.04096
447294.56	3762776.30	3.02337	447313.13	3762775.48	3.02552
447313.40	3762749.53	3.37657	447327.86	3762713.09	4.01075
447327.36	3762679.87	4.72222	447327.74	3762657.02	5.30211

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        447327.28    3762636.82        5.88298                      447327.51
        3762612.90         6.64047
        447327.28    3762592.24        7.33966                      447327.04
        3762569.71         8.11836
        447327.28    3762547.89        8.83567                      447326.58
        3762524.67         9.52615
        447326.58    3762506.09        9.95167                      447327.51
        3762477.53        10.29111
        447325.88    3762454.31       10.35440                      447225.58
        3762432.95        15.87906
        447200.27    3762430.63       18.03535                      447156.85
        3762430.16        22.78748
        447131.77    3762430.86       26.21787                      447102.74
        3762430.63        31.02603
        447079.06    3762430.86       35.57022                      447034.94
        3762433.65        44.17095
        446995.47    3762433.65       51.98548                      446972.71
        3762434.34        54.40548
        446941.37    3762434.58       55.95749                      446916.06
        3762436.90        54.14468
        446876.35    3762436.90       53.09124                      446848.85
        3762647.05         6.19521
        446848.85    3762563.17       10.87296                      446849.17
        3762509.82        17.64515
        446849.17    3762455.82       34.87226                      446848.85
        3762702.00         4.34803
        446849.49    3762754.71        3.41855                      446739.81
        3762428.53        20.11918
        446711.81    3762423.61       16.01111                      446687.25
        3762416.25        13.39840
        446662.20    3762412.32       11.13413                      446636.17
        3762403.97         9.42407
        449981.72    3762732.45        0.34160                      446486.82
        3762231.95         4.48622
        446261.97    3762068.01        1.95818                      446443.15
        3762291.63         3.72231
        446071.80    3762055.49        1.24534                      446072.08
        3761983.13         1.22653
        446138.18    3762002.17        1.41948                      445884.94
        3762039.75         0.87566
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 148
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 4BSPILL  ***
                               INCLUDING SOURCE(S):     4BSPILL     ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
- - - -
```

3764451.22 0.16704
446959.28 3764451.22 0.16539 446995.28
3764468.13 0.16222
447007.41 3764467.30 0.16204 447023.51
3764466.09 0.16232
447036.59 3764466.21 0.16248 447052.68
3764465.61 0.16258
447066.60 3764465.73 0.16256 447099.65
3764456.17 0.16422
447145.28 3764468.27 0.16339 447175.54
3764468.03 0.16506
447205.32 3764468.27 0.16648 447232.43
3764467.55 0.16549
447264.02 3764467.30 0.16329 447294.77
3764466.94 0.16347
447364.97 3764456.41 0.17117 447406.61
3764460.65 0.17449
447441.47 3764460.04 0.17734 447466.88
3764460.20 0.17942
447490.00 3764460.56 0.18139 447515.50
3764460.40 0.18349
447573.06 3764454.29 0.18758 447598.49
3764445.22 0.18840
447652.90 3764439.70 0.18527 447692.92
3764439.51 0.18422
447713.82 3764439.11 0.18366 447731.95
3764438.72 0.18308
447751.07 3764438.72 0.18269 447768.82
3764437.53 0.18236
447789.12 3764437.73 0.18168 447805.68
3764437.34 0.18150
447824.02 3764437.20 0.18141 447841.61
3764437.87 0.18148
447861.72 3764437.53 0.18185 447881.66
3764435.18 0.18256
447902.78 3764436.19 0.18274 447920.87
3764435.35 0.18314
447942.16 3764435.35 0.18346 447962.77
3764434.85 0.18383
447980.70 3764435.18 0.18404 448004.66
3764435.18 0.18477
448021.25 3764434.68 0.18641 447662.70
3764379.63 0.19181
447681.30 3764320.98 0.20029 447682.64
3764285.79 0.20846
447662.53 3764238.37 0.22020 447661.70
3764207.37 0.22844
447683.14 3764162.29 0.24103 447680.97
3764145.87 0.24599
447679.63 3764130.28 0.25099 447680.80
3764112.02 0.25684
447681.47 3764096.43 0.26142 447680.80
3764078.84 0.26631
447679.96 3764064.26 0.26998 447680.97
3764045.82 0.27460
447680.63 3764029.74 0.27863 447657.17
3763992.03 0.28981
447656.33 3763967.06 0.29653 447657.17
3763928.69 0.30812
447657.17 3763902.21 0.31654 447657.51
3763869.03 0.32929
447656.16 3763834.94 0.34150 447655.93
3763808.27 0.35105
447657.09 3763786.00 0.35944 447701.21
3763782.14 0.36092
447856.92 3763749.71 0.37675 447854.99

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BSPILL ***
INCLUDING SOURCE(S): 4BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	0.77206	448462.73	3762339.82	0.76266
448464.47	3762265.93	0.67278	448461.57	3762165.17	0.58600
448472.57	3762064.71	0.52301	448460.48	3762016.72	0.50790
448234.63	3761951.18	0.59590	448081.42	3761952.78	0.69922
448025.53	3761955.99	0.74595	447506.75	3761967.63	1.54768
447269.29	3761967.74	2.48448	447389.46	3761908.79	1.73846
447019.14	3761964.34	4.21154	447060.33	3761963.58	3.90336
446975.31	3761963.20	4.46469	446940.92	3761953.76	4.46826
446865.72	3761974.54	5.24702	446795.06	3761957.91	4.95740
446757.65	3761965.85	5.15370	446709.33	3761967.74	5.16144
446796.42	3762028.62	7.06490	446796.97	3762045.28	7.77261
446796.70	3762089.51	10.33844	446796.15	3762105.89	11.62167
446796.70	3762137.29	14.88358	446796.15	3762153.39	17.11392
446772.40	3762215.37	28.51491	446795.06	3762321.03	86.17963
446796.42	3762450.98	27.00277	446796.42	3762471.18	21.56193
446797.24	3762496.03	16.85045	446798.06	3762516.51	14.01697
446797.79	3762539.98	11.52770	446797.52	3762560.19	9.88884
446798.61	3762584.76	8.36404	446798.06	3762604.42	7.36285

446799.70	3762654.11	5.55501	446799.97	
3762674.58	4.95848			
446800.25	3762700.25	4.28382	446800.25	
3762721.27	3.88022			
446799.97	3762735.74	3.64769	446797.79	
3762748.02	3.45949			
446802.16	3762913.47	2.00103	446802.16	
3762932.58	1.89468			
446802.43	3762949.24	1.80947	446802.98	
3762967.26	1.72429			
446802.70	3762986.09	1.63468	446802.16	
3763003.29	1.55222			
446802.16	3763021.86	1.47010	446802.70	
3763040.70	1.39248			
446802.98	3763059.26	1.32216	446803.52	
3763077.01	1.26294			
446756.29	3763085.26	1.24175	446807.68	
3763646.39	0.41772			
446808.32	3763674.66	0.40233	446807.68	
3763694.57	0.39144			
446808.32	3763710.63	0.38361	446808.32	
3763726.37	0.37613			
446808.00	3763742.11	0.36929	446808.32	
3763756.89	0.36300			
446808.64	3763798.32	0.34382	446810.25	
3764484.08	0.16486			
446781.34	3764475.08	0.16644	446722.56	
3764455.81	0.16870			
446170.32	3764559.79	0.13830	446872.29	
3763190.26	0.93909			
446925.22	3763179.19	0.96080	446984.86	
3763194.88	0.94284			
447010.56	3763193.28	0.94155	447036.58	
3763193.60	0.94672			
447053.61	3763193.28	0.95088	447076.42	
3763192.31	0.95647			
447093.45	3763192.63	0.95685	447122.05	
3763192.63	0.96785			
447138.75	3763192.31	0.97267	447167.99	
3763192.31	0.97690			
447170.68	3763172.18	1.02177	447170.41	
3763158.25	1.05528			
447169.31	3763144.87	1.08534	447147.46	
3763107.45	1.16944			

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BSPILL ***
INCLUDING SOURCE(S): 4BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.23559	447146.92		

3763064.30 1.30129
447149.92 3763038.90 1.39655 447148.56
3763019.78 1.47201
447148.56 3762997.39 1.57163 447206.08
3762958.49 1.74829
447209.33 3762922.51 1.94205 447208.40
3762890.70 2.12881
447145.83 3762888.87 2.19988 447122.55
3762889.07 2.21475
447094.33 3762890.05 2.22156 447071.04
3762890.45 2.22469
447043.61 3762889.66 2.23264 447017.76
3762888.87 2.23518
446992.11 3762889.07 2.22646 446964.28
3762888.28 2.22456
446940.41 3762888.47 2.22474 446911.20
3762888.08 2.23690
446885.35 3762889.66 2.21262 446862.07
3762888.87 2.20230
446871.45 3762779.57 3.23834 446926.31
3762768.72 3.43975
446983.74 3762774.24 3.39888 447009.00
3762774.05 3.41447
447030.51 3762774.44 3.43766 447055.37
3762774.05 3.44007
447076.88 3762774.24 3.40453 447101.16
3762774.44 3.34047
447123.85 3762774.05 3.30055 447148.12
3762775.03 3.22672
447170.23 3762774.84 3.17399 447196.78
3762775.48 3.11290
447242.12 3762776.57 3.01619 447262.33
3762776.03 2.99490
447294.56 3762776.30 2.96112 447313.13
3762775.48 2.95430
447313.40 3762749.53 3.28151 447327.86
3762713.09 3.87164
447327.36 3762679.87 4.57683 447327.74
3762657.02 5.17391
447327.28 3762636.82 5.78824 447327.51
3762612.90 6.61497
447327.28 3762592.24 7.39867 447327.04
3762569.71 8.29119
447327.28 3762547.89 9.12868 447326.58
3762524.67 9.93584
447326.58 3762506.09 10.43103 447327.51
3762477.53 10.80553
447325.88 3762454.31 10.82670 447225.58
3762432.95 16.67539
447200.27 3762430.63 18.98109 447156.85
3762430.16 24.06812
447131.77 3762430.86 27.70062 447102.74
3762430.63 32.70476
447079.06 3762430.86 37.28896 447034.94
3762433.65 45.07748
446995.47 3762433.65 51.14646 446972.71
3762434.34 52.41986
446941.37 3762434.58 53.75978 446916.06
3762436.90 53.07341
446876.35 3762436.90 52.59941 446848.85
3762647.05 6.16890
446848.85 3762563.17 10.81710 446849.17
3762509.82 17.54515
446849.17 3762455.82 34.69131 446848.85
3762702.00 4.48017
446849.49 3762754.71 3.52228 446739.81

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5AIDLE ***
INCLUDING SOURCE(S): L0000089 , L0000090 , L0000091 , L0000092 , L0000093 ,
L0000094 , L0000095 , L0000096 , L0000097 , L0000098 ,
L0000099 , L0000100 , L0000101 ,
L0000102 , L0000103 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.24681	447375.98	3764150.98	0.29043
447389.75	3764043.04	0.33876	447450.16	3764031.05	0.34878
447410.18	3764019.05	0.35173	446891.90	3764451.22	0.19074
446959.28	3764451.22	0.19355	446995.28	3764468.13	0.19140
447007.41	3764467.30	0.19169	447023.51	3764466.09	0.19251
447036.59	3764466.21	0.19305	447052.68	3764465.61	0.19360
447066.60	3764465.73	0.19393	447099.65	3764456.17	0.19691
447145.28	3764468.27	0.19709	447175.54	3764468.03	0.19996
447205.32	3764468.27	0.20242	447232.43	3764467.55	0.20183
447264.02	3764467.30	0.19945	447294.77	3764466.94	0.19916
447364.97	3764456.41	0.20462	447406.61	3764460.65	0.20510
447441.47	3764460.04	0.20528	447466.88	3764460.20	0.20562
447490.00	3764460.56	0.20641	447515.50	3764460.40	0.20778
447573.06	3764454.29	0.21262	447598.49	3764445.22	0.21414

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        447652.90    3764439.70        0.21192                    447692.92
        3764439.51         0.21332
        447713.82    3764439.11        0.21408                    447731.95
        3764438.72         0.21455
        447751.07    3764438.72        0.21534                    447768.82
        3764437.53         0.21605
        447789.12    3764437.73        0.21632                    447805.68
        3764437.34         0.21703
        447824.02    3764437.20        0.21791                    447841.61
        3764437.87         0.21891
        447861.72    3764437.53        0.22042                    447881.66
        3764435.18         0.22237
        447902.78    3764436.19        0.22353                    447920.87
        3764435.35         0.22485
        447942.16    3764435.35        0.22615                    447962.77
        3764434.85         0.22744
        447980.70    3764435.18        0.22833                    448004.66
        3764435.18         0.23007
        448021.25    3764434.68        0.23278                    447662.70
        3764379.63         0.22236
        447681.30    3764320.98        0.23683                    447682.64
        3764285.79         0.24957
        447662.53    3764238.37        0.26642                    447661.70
        3764207.37         0.27942
        447683.14    3764162.29        0.30084                    447680.97
        3764145.87         0.30859
        447679.63    3764130.28        0.31646                    447680.80
        3764112.02         0.32584
        447681.47    3764096.43        0.33319                    447680.80
        3764078.84         0.34095
        447679.96    3764064.26        0.34676                    447680.97
        3764045.82         0.35421
        447680.63    3764029.74        0.36065                    447657.17
        3763992.03         0.37739
        447656.33    3763967.06        0.38827                    447657.17
        3763928.69         0.40744
        447657.17    3763902.21        0.42148                    447657.51
        3763869.03         0.44321
        447656.16    3763834.94        0.46413                    447655.93
        3763808.27         0.48076
        447657.09    3763786.00        0.49570                    447701.21
        3763782.14         0.50333
        447856.92    3763749.71        0.56267                    447854.99
        3763730.13         0.58182
        447854.35    3763698.35        0.61518                    447855.31
        3763676.84         0.63954
        447675.51    3763287.46        1.51486                    448481.33
        3763485.29         0.90660
        448479.95    3763195.53        1.87710                    448478.56
        3762907.16         2.42597
        448497.89    3762714.10        2.01349                    448507.91
        3762487.71         1.28847
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 152
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 5AIDLE   ***
                               INCLUDING SOURCE(S):     L0000089    , L0000090    ,
                               L0000091    , L0000092    , L0000093    ,
                 L0000094    , L0000095    , L0000096    , L0000097    , L0000098    ,
                 L0000099    , L0000100    , L0000101    ,
```

L0000102 , L0000103 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	1.06335	448462.73	3762339.82	1.05792
448464.47	3762265.93	0.94898	448461.57	3762165.17	0.83974
448472.57	3762064.71	0.74113	448460.48	3762016.72	0.71424
448234.63	3761951.18	0.85818	448081.42	3761952.78	1.03479
448025.53	3761955.99	1.11388	447506.75	3761967.63	1.87805
447269.29	3761967.74	1.96622	447389.46	3761908.79	1.68820
447019.14	3761964.34	1.69669	447060.33	3761963.58	1.76113
446975.31	3761963.20	1.61527	446940.92	3761953.76	1.52853
446865.72	3761974.54	1.43047	446795.06	3761957.91	1.26938
446757.65	3761965.85	1.21186	446709.33	3761967.74	1.12986
446796.42	3762028.62	1.36718	446796.97	3762045.28	1.39057
446796.70	3762089.51	1.45009	446796.15	3762105.89	1.46896
446796.70	3762137.29	1.50811	446796.15	3762153.39	1.52492
446772.40	3762215.37	1.51315	446795.06	3762321.03	1.67372
446796.42	3762450.98	1.73824	446796.42	3762471.18	1.74182
446797.24	3762496.03	1.74746	446798.06	3762516.51	1.75068
446797.79	3762539.98	1.74611	446797.52	3762560.19	1.73974
446798.61	3762584.76	1.73568	446798.06	3762604.42	1.72387
446799.70	3762654.11	1.69780	446799.97	3762674.58	1.68162
446800.25	3762700.25	1.65849	446800.25	3762721.27	1.63713
446799.97	3762735.74	1.62052	446797.79	3762748.02	1.59827
446802.16	3762913.47	1.39645	446802.16	3762932.58	1.36877
446802.43	3762949.24	1.34524	446802.98	3762967.26	1.32032
446802.70	3762986.09	1.29183	446802.16	3763003.29	1.26508
446802.16	3763021.86	1.23776	446802.70	3763040.70	1.21136
446802.98	3763059.26	1.18491	446803.52	3763077.01	1.16041
446756.29	3763085.26	1.06080	446807.68	3763646.39	0.45395
446808.32	3763674.66	0.43879	446807.68		

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5AIDLE ***
INCLUDING SOURCE(S): L0000089 , L0000090 , L0000091 , L0000092 , L0000093 ,
L0000094 , L0000095 , L0000096 , L0000097 , L0000098 ,
L0000099 , L0000100 , L0000101 ,
L0000102 , L0000103 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.98958	447146.92	3763064.30	2.14277
447149.92	3763038.90	2.41531	447148.56	3763019.78	2.55663
447148.56	3762997.39	2.71829	447206.08	3762958.49	3.52629
447209.33	3762922.51	4.01987	447208.40	3762890.70	4.47312
447145.83	3762888.87	3.64840	447122.55	3762889.07	3.38074
447094.33	3762890.05	3.08455	447071.04	3762890.45	2.86881
447043.61	3762889.66	2.64717	447017.76	3762888.87	2.45943
446992.11	3762889.07	2.28732	446964.28	3762888.28	2.12294

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446940.41    3762888.47        1.99296                    446911.20
3762888.08         1.85103
446885.35    3762889.66        1.73315                    446862.07
3762888.87         1.64074
446871.45    3762779.57        1.88193                    446926.31
3762768.72         2.21871
446983.74    3762774.24        2.63381                    447009.00
3762774.05         2.86523
447030.51    3762774.44        3.08705                    447055.37
3762774.05         3.38145
447076.88    3762774.24        3.66818                    447101.16
3762774.44         4.03742
447123.85    3762774.05        4.44306                    447148.12
3762775.03         4.93217
447170.23    3762774.84        5.46541                    447196.78
3762775.48         6.21365
447242.12    3762776.57        7.87334                    447262.33
3762776.03         8.85513
447294.56    3762776.30       10.74701                    447313.13
3762775.48        12.14469
447313.40    3762749.53       14.15122                    447327.86
3762713.09        19.80356
447327.36    3762679.87       23.39950                    447327.74
3762657.02        25.68694
447327.28    3762636.82       26.98051                    447327.51
3762612.90        27.94229
447327.28    3762592.24       27.80503                    447327.04
3762569.71        26.83172
447327.28    3762547.89       25.33446                    447326.58
3762524.67        22.97003
447326.58    3762506.09       21.00925                    447327.51
3762477.53        18.01895
447325.88    3762454.31       15.50816                    447225.58
3762432.95         8.39657
447200.27    3762430.63        7.36728                    447156.85
3762430.16         5.98891
447131.77    3762430.86        5.35377                    447102.74
3762430.63         4.71776
447079.06    3762430.86        4.27527                    447034.94
3762433.65         3.60769
446995.47    3762433.65        3.12796                    446972.71
3762434.34         2.89522
446941.37    3762434.58        2.61590                    446916.06
3762436.90         2.42049
446876.35    3762436.90        2.15212                    446848.85
3762647.05         1.94300
446848.85    3762563.17        1.99824                    446849.17
3762509.82         2.00986
446849.17    3762455.82        2.00122                    446848.85
3762702.00         1.88169
446849.49    3762754.71        1.81349                    446739.81
3762428.53         1.50867
446711.81    3762423.61        1.41425                    446687.25
3762416.25         1.33842
446662.20    3762412.32        1.26833                    446636.17
3762403.97         1.20110
449981.72    3762732.45        0.40725                    446486.82
3762231.95         0.88881
446261.97    3762068.01        0.61785                    446443.15
3762291.63         0.83604
446071.80    3762055.49        0.48713                    446072.08
3761983.13         0.48198
446138.18    3762002.17        0.52274                    445884.94
3762039.75         0.39671
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5AON ***
INCLUDING SOURCE(S): L0000326 , L0000327 , L0000328 , L0000329 , L0000330 , L0000331 , L0000332 , L0000333 , L0000334 , L0000335 , L0000336 , L0000337 , L0000338 , L0000339 , L0000340 , L0000341 , L0000342 , L0000343 , L0000344 , L0000345 , L0000346 , L0000347 , L0000348 , L0000349 , L0000350 , L0000351 , L0000352 , L0000353 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.25390	447375.98	3764150.98	0.29989
447389.75	3764043.04	0.35124	447450.16	3764031.05	0.36198
447410.18	3764019.05	0.36511	446891.90	3764451.22	0.19536
446959.28	3764451.22	0.19839	446995.28	3764468.13	0.19622
447007.41	3764467.30	0.19654	447023.51	3764466.09	0.19743
447036.59	3764466.21	0.19801	447052.68	3764465.61	0.19861
447066.60	3764465.73	0.19898	447099.65	3764456.17	0.20211
447145.28	3764468.27	0.20228	447175.54	3764468.03	0.20524
447205.32	3764468.27	0.20775	447232.43	3764467.55	0.20707
447264.02	3764467.30	0.20447	447294.77	3764466.94	0.20408
447364.97	3764456.41	0.20961	447406.61	3764460.65	0.21009
447441.47	3764460.04	0.21029	447466.88	3764460.20	0.21068
447490.00	3764460.56	0.21156	447515.50	3764460.40	0.21307
447573.06	3764454.29	0.21832	447598.49	3764445.22	0.22001
447652.90	3764439.70	0.21790	447692.92	3764439.51	0.21949
447713.82	3764439.11	0.22034	447731.95	3764438.72	0.22087
447751.07	3764438.72	0.22172	447768.82	3764437.53	0.22249
447789.12	3764437.73	0.22278	447805.68	3764437.34	0.22353
447824.02	3764437.20	0.22443	447841.61	3764437.87	0.22544
447861.72	3764437.53	0.22697	447881.66	3764435.18	0.22894

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      447902.78    3764436.19        0.23006                      447920.87
      3764435.35         0.23136
      447942.16    3764435.35        0.23260                      447962.77
      3764434.85         0.23383
      447980.70    3764435.18        0.23466                      448004.66
      3764435.18         0.23634
      448021.25    3764434.68        0.23905                      447662.70
      3764379.63         0.22897
      447681.30    3764320.98        0.24429                      447682.64
      3764285.79         0.25771
      447662.53    3764238.37        0.27543                      447661.70
      3764207.37         0.28912
      447683.14    3764162.29        0.31180                      447680.97
      3764145.87         0.31999
      447679.63    3764130.28        0.32832                      447680.80
      3764112.02         0.33828
      447681.47    3764096.43        0.34611                      447680.80
      3764078.84         0.35439
      447679.96    3764064.26        0.36062                      447680.97
      3764045.82         0.36861
      447680.63    3764029.74        0.37553                      447657.17
      3763992.03         0.39350
      447656.33    3763967.06        0.40524                      447657.17
      3763928.69         0.42596
      447657.17    3763902.21        0.44118                      447657.51
      3763869.03         0.46473
      447656.16    3763834.94        0.48753                      447655.93
      3763808.27         0.50573
      447657.09    3763786.00        0.52213                      447701.21
      3763782.14         0.53018
      447856.92    3763749.71        0.59197                      447854.99
      3763730.13         0.61287
      447854.35    3763698.35        0.64934                      447855.31
      3763676.84         0.67602
      447675.51    3763287.46        1.80416                      448481.33
      3763485.29         0.98574
      448479.95    3763195.53        1.84882                      448478.56
      3762907.16         2.28269
      448497.89    3762714.10        1.87081                      448507.91
      3762487.71         1.25979
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 5AON     ***
                               INCLUDING SOURCE(S):     L0000326    , L0000327    ,
                               L0000328    , L0000329    , L0000330    ,
                 L0000331    , L0000332    , L0000333    , L0000334    , L0000335    ,
                 L0000336    , L0000337    , L0000338    ,
                 L0000339    , L0000340    , L0000341    , L0000342    , L0000343    ,
                 L0000344    , L0000345    , L0000346    ,
                 L0000347    , L0000348    , L0000349    , L0000350    , L0000351    ,
                 L0000352    , L0000353    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                        **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5AON ***
INCLUDING SOURCE(S): L0000326 , L0000327 , L0000328 , L0000329 , L0000330 ,
L0000331 , L0000332 , L0000333 , L0000334 , L0000335 ,
L0000336 , L0000337 , L0000338 ,
L0000339 , L0000340 , L0000341 , L0000342 , L0000343 ,
L0000344 , L0000345 , L0000346 ,
L0000347 , L0000348 , L0000349 , L0000350 , L0000351 ,
L0000352 , L0000353 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	2.23442	447146.92	3763064.30	2.39058
447149.92	3763038.90	2.61255	447148.56	3763019.78	2.75759
447148.56	3762997.39	2.94851	447206.08	3762958.49	3.98556
447209.33	3762922.51	4.58623	447208.40	3762890.70	5.09572
447145.83	3762888.87	4.00483	447122.55	3762889.07	3.67578
447094.33	3762890.05	3.32257	447071.04	3762890.45	3.07064
447043.61	3762889.66	2.81564	447017.76	3762888.87	2.60319
446992.11	3762889.07	2.41136	446964.28	3762888.28	2.22979
446940.41	3762888.47	2.08770	446911.20	3762888.08	1.93354
446885.35	3762889.66	1.80660	446862.07	3762888.87	1.70729
446871.45	3762779.57	1.95144	446926.31	3762768.72	2.30680

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 446983.74    3762774.24        2.75120                    447009.00
 3762774.05         2.99992
 447030.51    3762774.44        3.23972                    447055.37
 3762774.05         3.55948
 447076.88    3762774.24        3.87372                    447101.16
 3762774.44         4.28241
 447123.85    3762774.05        4.73602                    447148.12
 3762775.03         5.29451
 447170.23    3762774.84        5.91350                    447196.78
 3762775.48         6.81097
 447242.12    3762776.57        8.94289                    447262.33
 3762776.03        10.30242
 447294.56    3762776.30       13.25652                    447313.13
 3762775.48        15.74048
 447313.40    3762749.53       17.74079                    447327.86
 3762713.09        23.85829
 447327.36    3762679.87       25.48916                    447327.74
 3762657.02        26.26377
 447327.28    3762636.82       26.41087                    447327.51
 3762612.90        26.53431
 447327.28    3762592.24       26.31380                    447327.04
 3762569.71        25.88063
 447327.28    3762547.89       25.40726                    447326.58
 3762524.67        24.42051
 447326.58    3762506.09       23.60610                    447327.51
 3762477.53        22.19005
 447325.88    3762454.31       20.15017                    447225.58
 3762432.95         8.96592
 447200.27    3762430.63        7.75583                    447156.85
 3762430.16         6.22292
 447131.77    3762430.86        5.54327                    447102.74
 3762430.63         4.87412
 447079.06    3762430.86        4.41255                    447034.94
 3762433.65         3.72012
 446995.47    3762433.65        3.22349                    446972.71
 3762434.34         2.98261
 446941.37    3762434.58        2.69342                    446916.06
 3762436.90         2.49109
 446876.35    3762436.90        2.21291                    446848.85
 3762647.05         2.00058
 446848.85    3762563.17        2.05365                    446849.17
 3762509.82         2.06589
 446849.17    3762455.82        2.05684                    446848.85
 3762702.00         1.94194
 446849.49    3762754.71        1.87618                    446739.81
 3762428.53         1.54599
 446711.81    3762423.61        1.44824                    446687.25
 3762416.25         1.36978
 446662.20    3762412.32        1.29731                    446636.17
 3762403.97         1.22784
 449981.72    3762732.45        0.39798                    446486.82
 3762231.95         0.90491
 446261.97    3762068.01        0.62652                    446443.15
 3762291.63         0.85130
 446071.80    3762055.49        0.49337                    446072.08
 3761983.13         0.48784
 446138.18    3762002.17        0.52935                    445884.94
 3762039.75         0.40131
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BBREAT ***
INCLUDING SOURCE(S): 5BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.17764	447375.98	3764150.98	0.20306
447389.75	3764043.04	0.23010	447450.16	3764031.05	0.23654
447410.18	3764019.05	0.23749	446891.90	3764451.22	0.14255
446959.28	3764451.22	0.14417	446995.28	3764468.13	0.14269
447007.41	3764467.30	0.14283	447023.51	3764466.09	0.14329
447036.59	3764466.21	0.14357	447052.68	3764465.61	0.14386
447066.60	3764465.73	0.14401	447099.65	3764456.17	0.14577
447145.28	3764468.27	0.14579	447175.54	3764468.03	0.14761
447205.32	3764468.27	0.14923	447232.43	3764467.55	0.14898
447264.02	3764467.30	0.14764	447294.77	3764466.94	0.14775
447364.97	3764456.41	0.15212	447406.61	3764460.65	0.15301
447441.47	3764460.04	0.15353	447466.88	3764460.20	0.15395
447490.00	3764460.56	0.15457	447515.50	3764460.40	0.15546
447573.06	3764454.29	0.15819	447598.49	3764445.22	0.15890
447652.90	3764439.70	0.15671	447692.92	3764439.51	0.15681
447713.82	3764439.11	0.15684	447731.95	3764438.72	0.15674
447751.07	3764438.72	0.15682	447768.82	3764437.53	0.15687
447789.12	3764437.73	0.15660	447805.68	3764437.34	0.15672
447824.02	3764437.20	0.15694	447841.61	3764437.87	0.15732
447861.72	3764437.53	0.15803	447881.66	3764435.18	0.15909
447902.78	3764436.19	0.15973	447920.87	3764435.35	0.16055
447942.16	3764435.35	0.16146	447962.77	3764434.85	0.16245
447980.70	3764435.18	0.16326	448004.66	3764435.18	0.16487
448021.25	3764434.68	0.16714	447662.70	3764379.63	0.16282
447681.30	3764320.98	0.17102	447682.64	3764285.79	0.17863
447662.53	3764238.37	0.18903	447661.70	3764207.37	0.19655
447683.14	3764162.29	0.20826	447680.97		

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BBREAT ***
INCLUDING SOURCE(S): 5BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	2.31550	448462.73	3762339.82	2.30757
448464.47	3762265.93	1.93989	448461.57	3762165.17	1.54843
448472.57	3762064.71	1.25505	448460.48	3762016.72	1.18086
448234.63	3761951.18	1.50618	448081.42	3761952.78	1.99112
448025.53	3761955.99	2.24029	447506.75	3761967.63	5.43170
447269.29	3761967.74	4.10782	447389.46	3761908.79	4.08353
447019.14	3761964.34	2.13647	447060.33	3761963.58	2.37136
446975.31	3761963.20	1.91570	446940.92	3761953.76	1.75486
446865.72	3761974.54	1.49815	446795.06	3761957.91	1.28271

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 446757.65    3761965.85        1.19350                    446709.33
 3761967.74         1.08869
 446796.42    3762028.62        1.31229                    446796.97
 3762045.28         1.31866
 446796.70    3762089.51        1.32963                    446796.15
 3762105.89         1.33079
 446796.70    3762137.29        1.33609                    446796.15
 3762153.39         1.33555
 446772.40    3762215.37        1.26780                    446795.06
 3762321.03         1.30656
 446796.42    3762450.98        1.23846                    446796.42
 3762471.18         1.22361
 446797.24    3762496.03        1.20642                    446798.06
 3762516.51         1.19180
 446797.79    3762539.98        1.17158                    446797.52
 3762560.19         1.15370
 446798.61    3762584.76        1.13461                    446798.06
 3762604.42         1.11564
 446799.70    3762654.11        1.07281                    446799.97
 3762674.58         0.93076
 446800.25    3762700.25        0.89835                    446800.25
 3762721.27         0.87619
 446799.97    3762735.74        0.86194                    446797.79
 3762748.02         0.84738
 446802.16    3762913.47        0.71207                    446802.16
 3762932.58         0.69666
 446802.43    3762949.24        0.68370                    446802.98
 3762967.26         0.67014
 446802.70    3762986.09        0.65426                    446802.16
 3763003.29         0.63852
 446802.16    3763021.86        0.62234                    446802.70
 3763040.70         0.60650
 446802.98    3763059.26        0.59123                    446803.52
 3763077.01         0.57794
 446756.29    3763085.26        0.55282                    446807.68
 3763646.39         0.29293
 446808.32    3763674.66        0.28495                    446807.68
 3763694.57         0.27910
 446808.32    3763710.63        0.27492                    446808.32
 3763726.37         0.27082
 446808.00    3763742.11        0.26696                    446808.32
 3763756.89         0.26344
 446808.64    3763798.32        0.25269                    446810.25
 3764484.08         0.13684
 446781.34    3764475.08        0.13693                    446722.56
 3764455.81         0.13740
 446170.32    3764559.79        0.11070                    446872.29
 3763190.26         0.51930
 446925.22    3763179.19        0.55190                    446984.86
 3763194.88         0.57413
 447010.56    3763193.28        0.58604                    447036.58
 3763193.60         0.59951
 447053.61    3763193.28        0.60840                    447076.42
 3763192.31         0.62012
 447093.45    3763192.63        0.62706                    447122.05
 3763192.63         0.64409
 447138.75    3763192.31        0.65385                    447167.99
 3763192.31         0.66975
 447170.68    3763172.18        0.69567                    447170.41
 3763158.25         0.71364
 447169.31    3763144.87        0.72898                    447147.46
 3763107.45         0.75723
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:5
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BBREAT ***
INCLUDING SOURCE(S): 5BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.78828	447146.92	3763064.30	0.81921
447149.92	3763038.90	0.86563	447148.56	3763019.78	0.89788
447148.56	3762997.39	0.94124	447206.08	3762958.49	1.10392
447209.33	3762922.51	1.20682	447208.40	3762890.70	1.29293
447145.83	3762888.87	1.18391	447122.55	3762889.07	1.14317
447094.33	3762890.05	1.09396	447071.04	3762890.45	1.05584
447043.61	3762889.66	1.01556	447017.76	3762888.87	0.97925
446992.11	3762889.07	0.94308	446964.28	3762888.28	0.90744
446940.41	3762888.47	0.87865	446911.20	3762888.08	0.84725
446885.35	3762889.66	0.81530	446862.07	3762888.87	0.79043
446871.45	3762779.57	0.91876	446926.31	3762768.72	1.02013
446983.74	3762774.24	1.11747	447009.00	3762774.05	1.17020
447030.51	3762774.44	1.22364	447055.37	3762774.05	1.28610
447076.88	3762774.24	1.33597	447101.16	3762774.44	1.38885
447123.85	3762774.05	1.44983	447148.12	3762775.03	1.50935
447170.23	3762774.84	1.57092	447196.78	3762775.48	1.65196
447242.12	3762776.57	1.79444	447262.33	3762776.03	1.86764
447294.56	3762776.30	1.98502	447313.13	3762775.48	2.05474
447313.40	3762749.53	2.21482	447327.86	3762713.09	2.56554
447327.36	3762679.87	3.37229	447327.74	3762657.02	3.64697
447327.28	3762636.82	3.90684	447327.51	3762612.90	4.25560
447327.28	3762592.24	4.57865	447327.04	3762569.71	4.96226
447327.28	3762547.89	5.37478	447326.58	3762524.67	5.82488
447326.58	3762506.09	6.21930	447327.51	3762477.53	6.89243
447325.88	3762454.31	7.36330	447225.58		

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        3762432.95        4.64169
        447200.27    3762430.63        4.16561                      447156.85
        3762430.16        3.49137
        447131.77    3762430.86        3.17246                      447102.74
        3762430.63        2.86120
        447079.06    3762430.86        2.64051                      447034.94
        3762433.65        2.28922
        446995.47    3762433.65        2.03809                      446972.71
        3762434.34        1.91157
        446941.37    3762434.58        1.75723                      446916.06
        3762436.90        1.64423
        446876.35    3762436.90        1.49287                      446848.85
        3762647.05        1.18460
        446848.85    3762563.17        1.27753                      446849.17
        3762509.82        1.33369
        446849.17    3762455.82        1.38513                      446848.85
        3762702.00        0.97342
        446849.49    3762754.71        0.91262                      446739.81
        3762428.53        1.11650
        446711.81    3762423.61        1.05944                      446687.25
        3762416.25        1.01443
        446662.20    3762412.32        0.97001                      446636.17
        3762403.97        0.92852
        449981.72    3762732.45        0.54936                      446486.82
        3762231.95        0.75281
        446261.97    3762068.01        0.55181                      446443.15
        3762291.63        0.69836
        446071.80    3762055.49        0.43943                      446072.08
        3761983.13        0.43904
        446138.18    3762002.17        0.47385                      445884.94
        3762039.75        0.36114
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 5BLOAD   ***
                               INCLUDING SOURCE(S):     5BLOAD      ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                  ** CONC OF OTHER    IN
                                  MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - -
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447145.28 3764468.27 0.14579 447175.54
3764468.03 0.14761
447205.32 3764468.27 0.14923 447232.43
3764467.55 0.14898
447264.02 3764467.30 0.14764 447294.77
3764466.94 0.14775
447364.97 3764456.41 0.15212 447406.61
3764460.65 0.15301
447441.47 3764460.04 0.15353 447466.88
3764460.20 0.15395
447490.00 3764460.56 0.15457 447515.50
3764460.40 0.15546
447573.06 3764454.29 0.15818 447598.49
3764445.22 0.15890
447652.90 3764439.70 0.15671 447692.92
3764439.51 0.15681
447713.82 3764439.11 0.15684 447731.95
3764438.72 0.15674
447751.07 3764438.72 0.15682 447768.82
3764437.53 0.15687
447789.12 3764437.73 0.15660 447805.68
3764437.34 0.15672
447824.02 3764437.20 0.15694 447841.61
3764437.87 0.15732
447861.72 3764437.53 0.15803 447881.66
3764435.18 0.15909
447902.78 3764436.19 0.15973 447920.87
3764435.35 0.16055
447942.16 3764435.35 0.16146 447962.77
3764434.85 0.16245
447980.70 3764435.18 0.16326 448004.66
3764435.18 0.16487
448021.25 3764434.68 0.16714 447662.70
3764379.63 0.16282
447681.30 3764320.98 0.17102 447682.64
3764285.79 0.17863
447662.53 3764238.37 0.18903 447661.70
3764207.37 0.19655
447683.14 3764162.29 0.20826 447680.97
3764145.87 0.21268
447679.63 3764130.28 0.21713 447680.80
3764112.02 0.22234
447681.47 3764096.43 0.22639 447680.80
3764078.84 0.23064
447679.96 3764064.26 0.23379 447680.97
3764045.82 0.23773
447680.63 3764029.74 0.24114 447657.17
3763992.03 0.25057
447656.33 3763967.06 0.25620 447657.17
3763928.69 0.26600
447657.17 3763902.21 0.27308 447657.51
3763869.03 0.28405
447656.16 3763834.94 0.29431 447655.93
3763808.27 0.30224
447657.09 3763786.00 0.30924 447701.21
3763782.14 0.31144
447856.92 3763749.71 0.34460 447854.99
3763730.13 0.35395
447854.35 3763698.35 0.37018 447855.31
3763676.84 0.38197
447675.51 3763287.46 0.70193 448481.33
3763485.29 0.50193
448479.95 3763195.53 0.86937 448478.56
3762907.16 1.91099
448497.89 3762714.10 2.92288 448507.91
3762487.71 2.68946

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BLOAD ***
INCLUDING SOURCE(S): 5BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	2.31552	448462.73	3762339.82	2.30759
448464.47	3762265.93	1.93991	448461.57	3762165.17	1.54845
448472.57	3762064.71	1.25506	448460.48	3762016.72	1.18088
448234.63	3761951.18	1.50619	448081.42	3761952.78	1.99114
448025.53	3761955.99	2.24031	447506.75	3761967.63	5.43173
447269.29	3761967.74	4.10783	447389.46	3761908.79	4.08355
447019.14	3761964.34	2.13648	447060.33	3761963.58	2.37137
446975.31	3761963.20	1.91571	446940.92	3761953.76	1.75487
446865.72	3761974.54	1.49816	446795.06	3761957.91	1.28272
446757.65	3761965.85	1.19351	446709.33	3761967.74	1.08869
446796.42	3762028.62	1.31230	446796.97	3762045.28	1.31867
446796.70	3762089.51	1.32964	446796.15	3762105.89	1.33080
446796.70	3762137.29	1.33610	446796.15	3762153.39	1.33556
446772.40	3762215.37	1.26781	446795.06	3762321.03	1.30657
446796.42	3762450.98	1.23848	446796.42	3762471.18	1.22362
446797.24	3762496.03	1.20643	446798.06	3762516.51	1.19181
446797.79	3762539.98	1.17159	446797.52	3762560.19	1.15371
446798.61	3762584.76	1.13462	446798.06	3762604.42	1.11565
446799.70	3762654.11	1.07282	446799.97	3762674.58	0.93076
446800.25	3762700.25	0.89835	446800.25	3762721.27	0.87620
446799.97	3762735.74	0.86194	446797.79	3762748.02	0.84739
446802.16	3762913.47	0.71208	446802.16	3762932.58	0.69666
446802.43	3762949.24	0.68370	446802.98		

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        3762967.26        0.67014
        446802.70    3762986.09        0.65426                      446802.16
        3763003.29        0.63852
        446802.16    3763021.86        0.62234                      446802.70
        3763040.70        0.60650
        446802.98    3763059.26        0.59123                      446803.52
        3763077.01        0.57794
        446756.29    3763085.26        0.55282                      446807.68
        3763646.39        0.29293
        446808.32    3763674.66        0.28495                      446807.68
        3763694.57        0.27910
        446808.32    3763710.63        0.27492                      446808.32
        3763726.37        0.27082
        446808.00    3763742.11        0.26696                      446808.32
        3763756.89        0.26344
        446808.64    3763798.32        0.25269                      446810.25
        3764484.08        0.13684
        446781.34    3764475.08        0.13693                      446722.56
        3764455.81        0.13740
        446170.32    3764559.79        0.11070                      446872.29
        3763190.26        0.51931
        446925.22    3763179.19        0.55191                      446984.86
        3763194.88        0.57413
        447010.56    3763193.28        0.58604                      447036.58
        3763193.60        0.59951
        447053.61    3763193.28        0.60840                      447076.42
        3763192.31        0.62012
        447093.45    3763192.63        0.62706                      447122.05
        3763192.63        0.64409
        447138.75    3763192.31        0.65385                      447167.99
        3763192.31        0.66975
        447170.68    3763172.18        0.69567                      447170.41
        3763158.25        0.71364
        447169.31    3763144.87        0.72899                      447147.46
        3763107.45        0.75723
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 162
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 5BLOAD   ***
                               INCLUDING SOURCE(S):     5BLOAD      ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - -
```

447094.33 3762890.05 1.09396 447071.04
3762890.45 1.05585
447043.61 3762889.66 1.01556 447017.76
3762888.87 0.97926
446992.11 3762889.07 0.94308 446964.28
3762888.28 0.90744
446940.41 3762888.47 0.87865 446911.20
3762888.08 0.84725
446885.35 3762889.66 0.81530 446862.07
3762888.87 0.79043
446871.45 3762779.57 0.91876 446926.31
3762768.72 1.02013
446983.74 3762774.24 1.11747 447009.00
3762774.05 1.17020
447030.51 3762774.44 1.22364 447055.37
3762774.05 1.28610
447076.88 3762774.24 1.33598 447101.16
3762774.44 1.38886
447123.85 3762774.05 1.44984 447148.12
3762775.03 1.50936
447170.23 3762774.84 1.57093 447196.78
3762775.48 1.65197
447242.12 3762776.57 1.79445 447262.33
3762776.03 1.86765
447294.56 3762776.30 1.98503 447313.13
3762775.48 2.05476
447313.40 3762749.53 2.21483 447327.86
3762713.09 2.56556
447327.36 3762679.87 3.37234 447327.74
3762657.02 3.64703
447327.28 3762636.82 3.90691 447327.51
3762612.90 4.25567
447327.28 3762592.24 4.57873 447327.04
3762569.71 4.96235
447327.28 3762547.89 5.37488 447326.58
3762524.67 5.82500
447326.58 3762506.09 6.21943 447327.51
3762477.53 6.89257
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3762432.95 4.64177
447200.27 3762430.63 4.16568 447156.85
3762430.16 3.49143
447131.77 3762430.86 3.17250 447102.74
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447079.06 3762430.86 2.64055 447034.94
3762433.65 2.28925
446995.47 3762433.65 2.03812 446972.71
3762434.34 1.91159
446941.37 3762434.58 1.75725 446916.06
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446876.35 3762436.90 1.49288 446848.85
3762647.05 1.18461
446848.85 3762563.17 1.27754 446849.17
3762509.82 1.33370
446849.17 3762455.82 1.38514 446848.85
3762702.00 0.97342
446849.49 3762754.71 0.91262 446739.81
3762428.53 1.11651
446711.81 3762423.61 1.05945 446687.25
3762416.25 1.01444
446662.20 3762412.32 0.97002 446636.17
3762403.97 0.92853
449981.72 3762732.45 0.54936 446486.82
3762231.95 0.75281
446261.97 3762068.01 0.55181 446443.15
3762291.63 0.69837

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BREF ***
INCLUDING SOURCE(S): 5BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.18753	447375.98	3764150.98	0.21508
447389.75	3764043.04	0.24505	447450.16	3764031.05	0.25359
447410.18	3764019.05	0.25371	446891.90	3764451.22	0.14970
446959.28	3764451.22	0.15138	446995.28	3764468.13	0.14940
447007.41	3764467.30	0.14937	447023.51	3764466.09	0.14966
447036.59	3764466.21	0.14978	447052.68	3764465.61	0.14985
447066.60	3764465.73	0.14981	447099.65	3764456.17	0.15129
447145.28	3764468.27	0.15100	447175.54	3764468.03	0.15306
447205.32	3764468.27	0.15503	447232.43	3764467.55	0.15482
447264.02	3764467.30	0.15350	447294.77	3764466.94	0.15400
447364.97	3764456.41	0.16004	447406.61	3764460.65	0.16167
447441.47	3764460.04	0.16255	447466.88	3764460.20	0.16311
447490.00	3764460.56	0.16376	447515.50	3764460.40	0.16460
447573.06	3764454.29	0.16695	447598.49	3764445.22	0.16722
447652.90	3764439.70	0.16356	447692.92	3764439.51	0.16316
447713.82	3764439.11	0.16299	447731.95	3764438.72	0.16272
447751.07	3764438.72	0.16269	447768.82	3764437.53	0.16261
447789.12	3764437.73	0.16216	447805.68	3764437.34	0.16217
447824.02	3764437.20	0.16227	447841.61	3764437.87	0.16255
447861.72	3764437.53	0.16315	447881.66	3764435.18	0.16408
447902.78	3764436.19	0.16457	447920.87		

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        3764434.85        0.16703
        447980.70    3764435.18        0.16785                      448004.66
        3764435.18        0.16964
        448021.25    3764434.68        0.17233                      447662.70
        3764379.63        0.16966
        447681.30    3764320.98        0.17810                      447682.64
        3764285.79        0.18650
        447662.53    3764238.37        0.19832                      447661.70
        3764207.37        0.20677
        447683.14    3764162.29        0.21952                      447680.97
        3764145.87        0.22454
        447679.63    3764130.28        0.22962                      447680.80
        3764112.02        0.23550
        447681.47    3764096.43        0.23998                      447680.80
        3764078.84        0.24465
        447679.96    3764064.26        0.24802                      447680.97
        3764045.82        0.25218
        447680.63    3764029.74        0.25577                      447657.17
        3763992.03        0.26658
        447656.33    3763967.06        0.27252                      447657.17
        3763928.69        0.28294
        447657.17    3763902.21        0.29049                      447657.51
        3763869.03        0.30250
        447656.16    3763834.94        0.31351                      447655.93
        3763808.27        0.32188
        447657.09    3763786.00        0.32922                      447701.21
        3763782.14        0.32992
        447856.92    3763749.71        0.36471                      447854.99
        3763730.13        0.37505
        447854.35    3763698.35        0.39306                      447855.31
        3763676.84        0.40620
        447675.51    3763287.46        0.77227                      448481.33
        3763485.29        0.52140
        448479.95    3763195.53        0.87807                      448478.56
        3762907.16        1.93366
        448497.89    3762714.10        3.03800                      448507.91
        3762487.71        2.83092
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 164
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP: 5BREF    ***
                                INCLUDING SOURCE(S):     5BREF       ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
- - - -
```

448234.63 3761951.18 1.47274 448081.42
3761952.78 1.95456
448025.53 3761955.99 2.20172 447506.75
3761967.63 5.03312
447269.29 3761967.74 3.92416 447389.46
3761908.79 3.86991
447019.14 3761964.34 2.04875 447060.33
3761963.58 2.27425
446975.31 3761963.20 1.83759 446940.92
3761953.76 1.68505
446865.72 3761974.54 1.43804 446795.06
3761957.91 1.23405
446757.65 3761965.85 1.14899 446709.33
3761967.74 1.04931
446796.42 3762028.62 1.26040 446796.97
3762045.28 1.26634
446796.70 3762089.51 1.27692 446796.15
3762105.89 1.27864
446796.70 3762137.29 1.28530 446796.15
3762153.39 1.28588
446772.40 3762215.37 1.22632 446795.06
3762321.03 1.26972
446796.42 3762450.98 1.20862 446796.42
3762471.18 1.19467
446797.24 3762496.03 1.17850 446798.06
3762516.51 1.16474
446797.79 3762539.98 1.14567 446797.52
3762560.19 1.12888
446798.61 3762584.76 1.11121 446798.06
3762604.42 1.09360
446799.70 3762654.11 1.05457 446799.97
3762674.58 0.99632
446800.25 3762700.25 0.95699 446800.25
3762721.27 0.93530
446799.97 3762735.74 0.92257 446797.79
3762748.02 0.90883
446802.16 3762913.47 0.78424 446802.16
3762932.58 0.76841
446802.43 3762949.24 0.75502 446802.98
3762967.26 0.74093
446802.70 3762986.09 0.72287 446802.16
3763003.29 0.70367
446802.16 3763021.86 0.68392 446802.70
3763040.70 0.66445
446802.98 3763059.26 0.64584 446803.52
3763077.01 0.63020
446756.29 3763085.26 0.60903 446807.68
3763646.39 0.31212
446808.32 3763674.66 0.30361 446807.68
3763694.57 0.29728
446808.32 3763710.63 0.29281 446808.32
3763726.37 0.28839
446808.00 3763742.11 0.28428 446808.32
3763756.89 0.28051
446808.64 3763798.32 0.26864 446810.25
3764484.08 0.14303
446781.34 3764475.08 0.14280 446722.56
3764455.81 0.14284
446170.32 3764559.79 0.11477 446872.29
3763190.26 0.55613
446925.22 3763179.19 0.59220 446984.86
3763194.88 0.62114
447010.56 3763193.28 0.63463 447036.58
3763193.60 0.65112
447053.61 3763193.28 0.66181 447076.42
3763192.31 0.67561

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BREF ***
INCLUDING SOURCE(S): 5BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447093.45	3763192.63	0.68358	447122.05	3763192.63	0.70437
447138.75	3763192.31	0.71604	447167.99	3763192.31	0.73488
447170.68	3763172.18	0.76438	447170.41	3763158.25	0.78490
447169.31	3763144.87	0.80175	447147.46	3763107.45	0.82980
447146.64	3763084.24	0.86376	447146.92	3763064.30	0.89821
447149.92	3763038.90	0.95057	447148.56	3763019.78	0.98605
447148.56	3762997.39	1.03471	447206.08	3762958.49	1.22744
447209.33	3762922.51	1.34667	447208.40	3762890.70	1.44312
447145.83	3762888.87	1.31190	447122.55	3762889.07	1.26438
447094.33	3762890.05	1.20759	447071.04	3762890.45	1.16394
447043.61	3762889.66	1.11834	447017.76	3762888.87	1.07736
446992.11	3762889.07	1.03641	446964.28	3762888.28	0.99622
446940.41	3762888.47	0.96505	446911.20	3762888.08	0.93240
446885.35	3762889.66	0.89591	446862.07	3762888.87	0.86755
446871.45	3762779.57	0.99666	446926.31	3762768.72	1.11008
446983.74	3762774.24	1.22371	447009.00	3762774.05	1.28593
447030.51	3762774.44	1.35515	447055.37	3762774.05	1.43252
447076.88	3762774.24	1.48949	447101.16	3762774.44	1.54424
447123.85	3762774.05	1.61467	447148.12	3762775.03	1.67984
447170.23	3762774.84	1.74867	447196.78	3762775.48	1.84499
447242.12	3762776.57	2.01399	447262.33	3762776.03	2.10321
447294.56	3762776.30	2.25045	447313.13	3762775.48	2.33572
447313.40	3762749.53	2.51391	447327.86		

3762713.09	2.92534		
447327.36	3762679.87	3.42749	447327.74
3762657.02	3.70138		
447327.28	3762636.82	3.95863	447327.51
3762612.90	4.30255		
447327.28	3762592.24	4.61780	447327.04
3762569.71	4.98748		
447327.28	3762547.89	5.37902	447326.58
3762524.67	5.79374		
447326.58	3762506.09	6.14930	447327.51
3762477.53	6.74123		
447325.88	3762454.31	7.12826	447225.58
3762432.95	4.45849		
447200.27	3762430.63	4.00381	447156.85
3762430.16	3.36225		
447131.77	3762430.86	3.05890	447102.74
3762430.63	2.76228		
447079.06	3762430.86	2.55135	447034.94
3762433.65	2.21634		
446995.47	3762433.65	1.97615	446972.71
3762434.34	1.85504		
446941.37	3762434.58	1.70732	446916.06
3762436.90	1.59894		
446876.35	3762436.90	1.45341	446848.85
3762647.05	1.16467		
446848.85	3762563.17	1.24968	446849.17
3762509.82	1.30203		
446849.17	3762455.82	1.35024	446848.85
3762702.00	1.04126		
446849.49	3762754.71	0.98294	446739.81
3762428.53	1.09034		
446711.81	3762423.61	1.03513	446687.25
3762416.25	0.99145		
446662.20	3762412.32	0.94847	446636.17
3762403.97	0.90820		
449981.72	3762732.45	0.56591	446486.82
3762231.95	0.73523		
446261.97	3762068.01	0.53862	446443.15
3762291.63	0.68365		
446071.80	3762055.49	0.43044	446072.08
3761983.13	0.42915		
446138.18	3762002.17	0.46278	445884.94
3762039.75	0.35462		

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BSPILL ***
INCLUDING SOURCE(S): 5BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.18960	447375.98	3764150.98	0.21764

** CONC OF OTHER IN MICROGRAMS/M**3 **

447389.75 3764043.04 0.24838 447450.16
3764031.05 0.25814
447410.18 3764019.05 0.25758 446891.90
3764451.22 0.15184
446959.28 3764451.22 0.15354 446995.28
3764468.13 0.15102
447007.41 3764467.30 0.15080 447023.51
3764466.09 0.15083
447036.59 3764466.21 0.15074 447052.68
3764465.61 0.15055
447066.60 3764465.73 0.15031 447099.65
3764456.17 0.15148
447145.28 3764468.27 0.15109 447175.54
3764468.03 0.15332
447205.32 3764468.27 0.15552 447232.43
3764467.55 0.15547
447264.02 3764467.30 0.15428 447294.77
3764466.94 0.15496
447364.97 3764456.41 0.16175 447406.61
3764460.65 0.16393
447441.47 3764460.04 0.16517 447466.88
3764460.20 0.16587
447490.00 3764460.56 0.16651 447515.50
3764460.40 0.16718
447573.06 3764454.29 0.16868 447598.49
3764445.22 0.16845
447652.90 3764439.70 0.16381 447692.92
3764439.51 0.16334
447713.82 3764439.11 0.16328 447731.95
3764438.72 0.16315
447751.07 3764438.72 0.16330 447768.82
3764437.53 0.16337
447789.12 3764437.73 0.16305 447805.68
3764437.34 0.16312
447824.02 3764437.20 0.16322 447841.61
3764437.87 0.16344
447861.72 3764437.53 0.16389 447881.66
3764435.18 0.16463
447902.78 3764436.19 0.16487 447920.87
3764435.35 0.16537
447942.16 3764435.35 0.16594 447962.77
3764434.85 0.16672
447980.70 3764435.18 0.16745 448004.66
3764435.18 0.16923
448021.25 3764434.68 0.17204 447662.70
3764379.63 0.16979
447681.30 3764320.98 0.17826 447682.64
3764285.79 0.18687
447662.53 3764238.37 0.19905 447661.70
3764207.37 0.20776
447683.14 3764162.29 0.22087 447680.97
3764145.87 0.22606
447679.63 3764130.28 0.23130 447680.80
3764112.02 0.23737
447681.47 3764096.43 0.24197 447680.80
3764078.84 0.24673
447679.96 3764064.26 0.25014 447680.97
3764045.82 0.25432
447680.63 3764029.74 0.25792 447657.17
3763992.03 0.26902
447656.33 3763967.06 0.27497 447657.17
3763928.69 0.28546
447657.17 3763902.21 0.29304 447657.51
3763869.03 0.30528
447656.16 3763834.94 0.31638 447655.93
3763808.27 0.32476

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BSPILL ***
INCLUDING SOURCE(S): 5BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447657.09	3763786.00	0.33210	447701.21	3763782.14	0.33253
447856.92	3763749.71	0.36674	447854.99	3763730.13	0.37729
447854.35	3763698.35	0.39569	447855.31	3763676.84	0.40914
447675.51	3763287.46	0.78598	448481.33	3763485.29	0.52262
448479.95	3763195.53	0.86521	448478.56	3762907.16	1.88816
448497.89	3762714.10	3.04512	448507.91	3762487.71	2.87260
448480.49	3762357.96	2.15966	448462.73	3762339.82	2.11690
448464.47	3762265.93	1.71091	448461.57	3762165.17	1.40154
448472.57	3762064.71	1.18737	448460.48	3762016.72	1.13099
448234.63	3761951.18	1.46028	448081.42	3761952.78	1.94292
448025.53	3761955.99	2.19026	447506.75	3761967.63	4.99800
447269.29	3761967.74	3.95499	447389.46	3761908.79	3.88283
447019.14	3761964.34	2.04706	447060.33	3761963.58	2.27667
446975.31	3761963.20	1.83390	446940.92	3761953.76	1.68100
446865.72	3761974.54	1.43300	446795.06	3761957.91	1.22948
446757.65	3761965.85	1.14436	446709.33	3761967.74	1.04473
446796.42	3762028.62	1.25414	446796.97	3762045.28	1.25963
446796.70	3762089.51	1.26931	446796.15	3762105.89	1.27106
446796.70	3762137.29	1.27829	446796.15	3762153.39	1.27941
446772.40	3762215.37	1.22249	446795.06	3762321.03	1.26647
446796.42	3762450.98	1.20536	446796.42	3762471.18	1.19119
446797.24	3762496.03	1.17461	446798.06	3762516.51	1.16046
446797.79	3762539.98	1.14096	446797.52		

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      3762560.19        1.12390
      446798.61    3762584.76        1.10605                      446798.06
      3762604.42        1.08850
      446799.70    3762654.11        1.05032                      446799.97
      3762674.58        1.02831
      446800.25    3762700.25        0.98427                      446800.25
      3762721.27        0.96214
      446799.97    3762735.74        0.94968                      446797.79
      3762748.02        0.93597
      446802.16    3762913.47        0.81236                      446802.16
      3762932.58        0.79624
      446802.43    3762949.24        0.78262                      446802.98
      3762967.26        0.76829
      446802.70    3762986.09        0.74932                      446802.16
      3763003.29        0.72867
      446802.16    3763021.86        0.70751                      446802.70
      3763040.70        0.68669
      446802.98    3763059.26        0.66682                      446803.52
      3763077.01        0.65020
      446756.29    3763085.26        0.63063                      446807.68
      3763646.39        0.31775
      446808.32    3763674.66        0.30909                      446807.68
      3763694.57        0.30259
      446808.32    3763710.63        0.29801                      446808.32
      3763726.37        0.29347
      446808.00    3763742.11        0.28926                      446808.32
      3763756.89        0.28538
      446808.64    3763798.32        0.27302                      446810.25
      3764484.08        0.14424
      446781.34    3764475.08        0.14361                      446722.56
      3764455.81        0.14326
      446170.32    3764559.79        0.11561                      446872.29
      3763190.26        0.56500
      446925.22    3763179.19        0.60185                      446984.86
      3763194.88        0.63350
      447010.56    3763193.28        0.64792                      447036.58
      3763193.60        0.66566
      447053.61    3763193.28        0.67705                      447076.42
      3763192.31        0.69156
      447093.45    3763192.63        0.69975                      447122.05
      3763192.63        0.72112
      447138.75    3763192.31        0.73289                      447167.99
      3763192.31        0.75158
      447170.68    3763172.18        0.78236                      447170.41
      3763158.25        0.80388
      447169.31    3763144.87        0.82137                      447147.46
      3763107.45        0.85010
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 168
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP: 5BSPILL  ***
                              INCLUDING SOURCE(S):     5BSPILL     ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

     X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
     (M)        CONC
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CBRE ***
INCLUDING SOURCE(S): 5CBRE ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
446849.17	3762455.82	1.34632	446848.85	3762702.00	1.07202
446849.49	3762754.71	1.01287	446739.81	3762428.53	1.08759
446711.81	3762423.61	1.03255	446687.25	3762416.25	0.98899
446662.20	3762412.32	0.94612	446636.17	3762403.97	0.90594
449981.72	3762732.45	0.57061	446486.82	3762231.95	0.73356
446261.97	3762068.01	0.53669	446443.15	3762291.63	0.68191
446071.80	3762055.49	0.42925	446072.08	3761983.13	0.42735
446138.18	3762002.17	0.46081	445884.94	3762039.75	0.35382
447362.21	3764292.67	0.20249	447375.98	3764150.98	0.23408
447389.75	3764043.04	0.26829	447450.16	3764031.05	0.27690
447410.18	3764019.05	0.27782	446891.90	3764451.22	0.15979
446959.28	3764451.22	0.16203	446995.28	3764468.13	0.16040
447007.41	3764467.30	0.16060	447023.51	3764466.09	0.16119
447036.59	3764466.21	0.16155	447052.68	3764465.61	0.16191
447066.60	3764465.73	0.16210	447099.65	3764456.17	0.16418
447145.28	3764468.27	0.16408	447175.54	3764468.03	0.16616
447205.32	3764468.27	0.16801	447232.43	3764467.55	0.16762
447264.02	3764467.30	0.16595	447294.77	3764466.94	0.16603
447364.97	3764456.41	0.17140	447406.61	3764460.65	0.17263
447441.47	3764460.04	0.17345	447466.88	3764460.20	0.17412
447490.00	3764460.56	0.17499	447515.50	3764460.40	0.17621
447573.06	3764454.29	0.17978	447598.49	3764445.22	0.18077
447652.90	3764439.70	0.17832	447692.92		

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        3764439.51        0.17847
        447713.82    3764439.11        0.17852                    447731.95
        3764438.72        0.17840
        447751.07    3764438.72        0.17849                    447768.82
        3764437.53        0.17854
        447789.12    3764437.73        0.17820                    447805.68
        3764437.34        0.17832
        447824.02    3764437.20        0.17858                    447841.61
        3764437.87        0.17902
        447861.72    3764437.53        0.17986                    447881.66
        3764435.18        0.18112
        447902.78    3764436.19        0.18188                    447920.87
        3764435.35        0.18285
        447942.16    3764435.35        0.18391                    447962.77
        3764434.85        0.18508
        447980.70    3764435.18        0.18601                    448004.66
        3764435.18        0.18788
        448021.25    3764434.68        0.19056                    447662.70
        3764379.63        0.18587
        447681.30    3764320.98        0.19603                    447682.64
        3764285.79        0.20541
        447662.53    3764238.37        0.21827                    447661.70
        3764207.37        0.22767
        447683.14    3764162.29        0.24244                    447680.97
        3764145.87        0.24804
        447679.63    3764130.28        0.25371                    447680.80
        3764112.02        0.26038
        447681.47    3764096.43        0.26556                    447680.80
        3764078.84        0.27101
        447679.96    3764064.26        0.27505                    447680.97
        3764045.82        0.28015
        447680.63    3764029.74        0.28457                    447657.17
        3763992.03        0.29671
        447656.33    3763967.06        0.30408                    447657.17
        3763928.69        0.31694
        447657.17    3763902.21        0.32628                    447657.51
        3763869.03        0.34077
        447656.16    3763834.94        0.35447                    447655.93
        3763808.27        0.36514
        447657.09    3763786.00        0.37460                    447701.21
        3763782.14        0.37769
        447856.92    3763749.71        0.42093                    447854.99
        3763730.13        0.43363
        447854.35    3763698.35        0.45577                    447855.31
        3763676.84        0.47195
        447675.51    3763287.46        0.95286                    448481.33
        3763485.29        0.63259
        448479.95    3763195.53        1.24656                    448478.56
        3762907.16        2.74637
        448497.89    3762714.10        2.96083                    448507.91
        3762487.71        2.21989
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 170
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 5CBRE    ***
                               INCLUDING SOURCE(S):     5CBRE       ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                  ** CONC OF OTHER    IN
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MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	1.73527	448462.73	3762339.82	1.71567
448464.47	3762265.93	1.45967	448461.57	3762165.17	1.22520
448472.57	3762064.71	1.04170	448460.48	3762016.72	0.99400
448234.63	3761951.18	1.24644	448081.42	3761952.78	1.58245
448025.53	3761955.99	1.74087	447506.75	3761967.63	3.09993
447269.29	3761967.74	2.74675	447389.46	3761908.79	2.55441
447019.14	3761964.34	1.78139	447060.33	3761963.58	1.92554
446975.31	3761963.20	1.63518	446940.92	3761953.76	1.51816
446865.72	3761974.54	1.34024	446795.06	3761957.91	1.16611
446757.65	3761965.85	1.09576	446709.33	3761967.74	1.00900
446796.42	3762028.62	1.20885	446796.97	3762045.28	1.21844
446796.70	3762089.51	1.23934	446796.15	3762105.89	1.24442
446796.70	3762137.29	1.25686	446796.15	3762153.39	1.26047
446772.40	3762215.37	1.21558	446795.06	3762321.03	1.28368
446796.42	3762450.98	1.26704	446796.42	3762471.18	1.25974
446797.24	3762496.03	1.25116	446798.06	3762516.51	1.24316
446797.79	3762539.98	1.22970	446797.52	3762560.19	1.21714
446798.61	3762584.76	1.20434	446798.06	3762604.42	1.18956
446799.70	3762654.11	1.15665	446799.97	3762674.58	1.14109
446800.25	3762700.25	1.12076	446800.25	3762721.27	1.10350
446799.97	3762735.74	1.09094	446797.79	3762748.02	1.07626
446802.16	3762913.47	0.93964	446802.16	3762932.58	0.92256
446802.43	3762949.24	0.90808	446802.98	3762967.26	0.89279
446802.70	3762986.09	0.87567	446802.16	3763003.29	0.85973
446802.16	3763021.86	0.84341	446802.70	3763040.70	0.82761
446802.98	3763059.26	0.70129	446803.52	3763077.01	0.68589
446756.29	3763085.26	0.74379	446807.68	3763646.39	0.33859
446808.32	3763674.66	0.32910	446807.68	3763694.57	0.32211
446808.32	3763710.63	0.31716	446808.32	3763726.37	0.31228
446808.00	3763742.11	0.30768	446808.32	3763756.89	0.30351

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CBRE ***
INCLUDING SOURCE(S): 5CBRE ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
446808.64	3763798.32	0.29072	446810.25	3764484.08	0.15271
446781.34	3764475.08	0.15271	446722.56	3764455.81	0.15309
446170.32	3764559.79	0.11974	446872.29	3763190.26	0.62225
446925.22	3763179.19	0.66779	446984.86	3763194.88	0.70253
447010.56	3763193.28	0.72079	447036.58	3763193.60	0.74194
447053.61	3763193.28	0.75616	447076.42	3763192.31	0.77532
447093.45	3763192.63	0.78743	447122.05	3763192.63	0.81596
447138.75	3763192.31	0.83266	447167.99	3763192.31	0.86073
447170.68	3763172.18	0.89760	447170.41	3763158.25	0.92276
447169.31	3763144.87	0.94398	447147.46	3763107.45	0.97731

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.02031	447146.92	3763064.30	1.06368
447149.92	3763038.90	1.12966	447148.56	3763019.78	1.17429
447148.56	3762997.39	1.23502	447206.08	3762958.49	1.49697
447209.33	3762922.51	1.92254	447208.40	3762890.70	2.06119
447145.83	3762888.87	1.82154	447122.55	3762889.07	1.73702
447094.33	3762890.05	1.63859	447071.04	3762890.45	1.56363
447043.61	3762889.66	1.48374	447017.76	3762888.87	1.41310
446992.11	3762889.07	1.34533	446964.28	3762888.28	1.27832
446940.41	3762888.47	1.22314	446911.20	3762888.08	1.16094
446885.35	3762889.66	1.10692	446862.07	3762888.87	1.06385
446871.45	3762779.57	1.20667	446926.31	3762768.72	1.36349
446983.74	3762774.24	1.53429	447009.00	3762774.05	1.62461
447030.51	3762774.44	1.70717	447055.37		

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        3762774.05        1.81200
        447076.88    3762774.24        1.90826                    447101.16
        3762774.44        2.02520
        447123.85    3762774.05        2.14654                    447148.12
        3762775.03        2.28127
        447170.23    3762774.84        2.41902                    447196.78
        3762775.48        2.59524
        447242.12    3762776.57        2.93329                    447262.33
        3762776.03        3.10893
        447294.56    3762776.30        3.40404                    447313.13
        3762775.48        3.59716
        447313.40    3762749.53        3.90683                    447327.86
        3762713.09        4.62062
        447327.36    3762679.87        5.16232                    447327.74
        3762657.02        5.57679
        447327.28    3762636.82        5.94019                    447327.51
        3762612.90        6.40554
        447327.28    3762592.24        6.79271                    447327.04
        3762569.71        7.20486
        447327.28    3762547.89        7.60301                    447326.58
        3762524.67        7.94269
        447326.58    3762506.09        8.20215                    447327.51
        3762477.53        8.57507
        447325.88    3762454.31        8.65210                    447225.58
        3762432.95        4.93183
        447200.27    3762430.63        4.38327                    447156.85
        3762430.16        3.63923
        447131.77    3762430.86        3.29643                    447102.74
        3762430.63        2.95976
        447079.06    3762430.86        2.72314                    447034.94
        3762433.65        2.35553
        446995.47    3762433.65        2.09095                    446972.71
        3762434.34        1.95916
        446941.37    3762434.58        1.79902                    446916.06
        3762436.90        1.68341
        446876.35    3762436.90        1.52539                    446848.85
        3762647.05        1.28657
        446848.85    3762563.17        1.35792                    446849.17
        3762509.82        1.39543
        446849.17    3762455.82        1.42348                    446848.85
        3762702.00        1.23322
        446849.49    3762754.71        1.18180                    446739.81
        3762428.53        1.13175
        446711.81    3762423.61        1.07195                    446687.25
        3762416.25        1.02408
        446662.20    3762412.32        0.97817                    446636.17
        3762403.97        0.93452
        449981.72    3762732.45        0.50969                    446486.82
        3762231.95        0.73696
        446261.97    3762068.01        0.53607                    446443.15
        3762291.63        0.69042
        446071.80    3762055.49        0.42901                    446072.08
        3761983.13        0.42696
        446138.18    3762002.17        0.46040                    445884.94
        3762039.75        0.35379
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 172
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP: 5CLOAD   ***
                              INCLUDING SOURCE(S):     5CLOAD      ,
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*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.20249	447375.98	3764150.98	0.23408
447389.75	3764043.04	0.26829	447450.16	3764031.05	0.27690
447410.18	3764019.05	0.27782	446891.90	3764451.22	0.15979
446959.28	3764451.22	0.16203	446995.28	3764468.13	0.16040
447007.41	3764467.30	0.16060	447023.51	3764466.09	0.16119
447036.59	3764466.21	0.16155	447052.68	3764465.61	0.16191
447066.60	3764465.73	0.16210	447099.65	3764456.17	0.16418
447145.28	3764468.27	0.16408	447175.54	3764468.03	0.16616
447205.32	3764468.27	0.16801	447232.43	3764467.55	0.16762
447264.02	3764467.30	0.16595	447294.77	3764466.94	0.16603
447364.97	3764456.41	0.17140	447406.61	3764460.65	0.17263
447441.47	3764460.04	0.17345	447466.88	3764460.20	0.17412
447490.00	3764460.56	0.17499	447515.50	3764460.40	0.17621
447573.06	3764454.29	0.17978	447598.49	3764445.22	0.18077
447652.90	3764439.70	0.17832	447692.92	3764439.51	0.17847
447713.82	3764439.11	0.17852	447731.95	3764438.72	0.17840
447751.07	3764438.72	0.17849	447768.82	3764437.53	0.17854
447789.12	3764437.73	0.17820	447805.68	3764437.34	0.17832
447824.02	3764437.20	0.17858	447841.61	3764437.87	0.17902
447861.72	3764437.53	0.17986	447881.66	3764435.18	0.18112
447902.78	3764436.19	0.18188	447920.87	3764435.35	0.18285
447942.16	3764435.35	0.18391	447962.77	3764434.85	0.18508
447980.70	3764435.18	0.18601	448004.66	3764435.18	0.18788
448021.25	3764434.68	0.19056	447662.70	3764379.63	0.18587
447681.30	3764320.98	0.19603	447682.64	3764285.79	0.20541
447662.53	3764238.37	0.21827	447661.70	3764207.37	0.22767
447683.14	3764162.29	0.24244	447680.97	3764145.87	0.24804
447679.63	3764130.28	0.25371	447680.80	3764112.02	0.26038

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CLOAD ***
INCLUDING SOURCE(S): 5CLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447681.47	3764096.43	0.26556	447680.80	3764078.84	0.27101
447679.96	3764064.26	0.27505	447680.97	3764045.82	0.28015
447680.63	3764029.74	0.28457	447657.17	3763992.03	0.29671
447656.33	3763967.06	0.30408	447657.17	3763928.69	0.31694
447657.17	3763902.21	0.32628	447657.51	3763869.03	0.34077
447656.16	3763834.94	0.35447	447655.93	3763808.27	0.36514
447657.09	3763786.00	0.37460	447701.21	3763782.14	0.37769
447856.92	3763749.71	0.42093	447854.99	3763730.13	0.43363
447854.35	3763698.35	0.45577	447855.31	3763676.84	0.47195
447675.51	3763287.46	0.95286	448481.33	3763485.29	0.63260
448479.95	3763195.53	1.24657	448478.56	3762907.16	2.74639
448497.89	3762714.10	2.96085	448507.91	3762487.71	2.21991
448480.49	3762357.96	1.73529	448462.73	3762339.82	1.71568
448464.47	3762265.93	1.45969	448461.57	3762165.17	1.22521
448472.57	3762064.71	1.04171	448460.48	3762016.72	0.99401
448234.63	3761951.18	1.24645	448081.42	3761952.78	1.58246
448025.53	3761955.99	1.74088	447506.75	3761967.63	3.09994
447269.29	3761967.74	2.74676	447389.46	3761908.79	2.55442
447019.14	3761964.34	1.78139	447060.33	3761963.58	1.92555
446975.31	3761963.20	1.63518	446940.92	3761953.76	1.51816
446865.72	3761974.54	1.34025	446795.06	3761957.91	1.16611
446757.65	3761965.85	1.09576	446709.33	3761967.74	1.00900
446796.42	3762028.62	1.20885	446796.97		

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        3762045.28        1.21844
446796.70    3762089.51        1.23935                    446796.15
        3762105.89        1.24442
446796.70    3762137.29        1.25687                    446796.15
        3762153.39        1.26047
446772.40    3762215.37        1.21559                    446795.06
        3762321.03        1.28369
446796.42    3762450.98        1.26705                    446796.42
        3762471.18        1.25975
446797.24    3762496.03        1.25117                    446798.06
        3762516.51        1.24317
446797.79    3762539.98        1.22971                    446797.52
        3762560.19        1.21715
446798.61    3762584.76        1.20435                    446798.06
        3762604.42        1.18957
446799.70    3762654.11        1.15666                    446799.97
        3762674.58        1.14110
446800.25    3762700.25        1.12077                    446800.25
        3762721.27        1.10351
446799.97    3762735.74        1.09095                    446797.79
        3762748.02        1.07627
446802.16    3762913.47        0.93965                    446802.16
        3762932.58        0.92256
446802.43    3762949.24        0.90808                    446802.98
        3762967.26        0.89280
446802.70    3762986.09        0.87568                    446802.16
        3763003.29        0.85974
446802.16    3763021.86        0.84341                    446802.70
        3763040.70        0.82762
446802.98    3763059.26        0.70129                    446803.52
        3763077.01        0.68589
446756.29    3763085.26        0.74380                    446807.68
        3763646.39        0.33859
446808.32    3763674.66        0.32910                    446807.68
        3763694.57        0.32211
446808.32    3763710.63        0.31716                    446808.32
        3763726.37        0.31228
446808.00    3763742.11        0.30768                    446808.32
        3763756.89        0.30351
446808.64    3763798.32        0.29072                    446810.25
        3764484.08        0.15271
446781.34    3764475.08        0.15271                    446722.56
        3764455.81        0.15309
446170.32    3764559.79        0.11974                    446872.29
        3763190.26        0.62226
446925.22    3763179.19        0.66779                    446984.86
        3763194.88        0.70253
447010.56    3763193.28        0.72080                    447036.58
        3763193.60        0.74194
447053.61    3763193.28        0.75616                    447076.42
        3763192.31        0.77532
447093.45    3763192.63        0.78743                    447122.05
        3763192.63        0.81596
447138.75    3763192.31        0.83266                    447167.99
        3763192.31        0.86073
447170.68    3763172.18        0.89760                    447170.41
        3763158.25        0.92276
447169.31    3763144.87        0.94398                    447147.46
        3763107.45        0.97732
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                ***       09:18:50

                    PAGE 174
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CLOAD ***
INCLUDING SOURCE(S): 5CLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.02031	447146.92	3763064.30	1.06368
447149.92	3763038.90	1.12967	447148.56	3763019.78	1.17429
447148.56	3762997.39	1.23502	447206.08	3762958.49	1.49697
447209.33	3762922.51	1.92256	447208.40	3762890.70	2.06121
447145.83	3762888.87	1.82156	447122.55	3762889.07	1.73704
447094.33	3762890.05	1.63860	447071.04	3762890.45	1.56364
447043.61	3762889.66	1.48376	447017.76	3762888.87	1.41312
446992.11	3762889.07	1.34534	446964.28	3762888.28	1.27833
446940.41	3762888.47	1.22315	446911.20	3762888.08	1.16095
446885.35	3762889.66	1.10693	446862.07	3762888.87	1.06386
446871.45	3762779.57	1.20668	446926.31	3762768.72	1.36350
446983.74	3762774.24	1.53431	447009.00	3762774.05	1.62463
447030.51	3762774.44	1.70719	447055.37	3762774.05	1.81201
447076.88	3762774.24	1.90828	447101.16	3762774.44	2.02522
447123.85	3762774.05	2.14657	447148.12	3762775.03	2.28130
447170.23	3762774.84	2.41905	447196.78	3762775.48	2.59527
447242.12	3762776.57	2.93333	447262.33	3762776.03	3.10897
447294.56	3762776.30	3.40410	447313.13	3762775.48	3.59721
447313.40	3762749.53	3.90689	447327.86	3762713.09	4.62070
447327.36	3762679.87	5.16241	447327.74	3762657.02	5.57689
447327.28	3762636.82	5.94031	447327.51	3762612.90	6.40567
447327.28	3762592.24	6.79285	447327.04	3762569.71	7.20501
447327.28	3762547.89	7.60317	447326.58	3762524.67	7.94286
447326.58	3762506.09	8.20232	447327.51	3762477.53	8.57525
447325.88	3762454.31	8.65226	447225.58	3762432.95	4.93190
447200.27	3762430.63	4.38334	447156.85	3762430.16	3.63927

447131.77	3762430.86	3.29647	447102.74	
3762430.63	2.95980			
447079.06	3762430.86	2.72317	447034.94	
3762433.65	2.35556			
446995.47	3762433.65	2.09097	446972.71	
3762434.34	1.95918			
446941.37	3762434.58	1.79904	446916.06	
3762436.90	1.68343			
446876.35	3762436.90	1.52540	446848.85	
3762647.05	1.28658			
446848.85	3762563.17	1.35793	446849.17	
3762509.82	1.39544			
446849.17	3762455.82	1.42350	446848.85	
3762702.00	1.23324			
446849.49	3762754.71	1.18181	446739.81	
3762428.53	1.13176			
446711.81	3762423.61	1.07196	446687.25	
3762416.25	1.02408			
446662.20	3762412.32	0.97818	446636.17	
3762403.97	0.93453			
449981.72	3762732.45	0.50970	446486.82	
3762231.95	0.73697			
446261.97	3762068.01	0.53607	446443.15	
3762291.63	0.69043			
446071.80	3762055.49	0.42901	446072.08	
3761983.13	0.42696			
446138.18	3762002.17	0.46040	445884.94	
3762039.75	0.35379			

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CREF ***
INCLUDING SOURCE(S): 5CREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	** CONC OF OTHER IN MICROGRAMS/M**3 ** CONC	X-COORD (M)	Y-COORD (M) CONC
447362.21	3764292.67	0.20792	447375.98	
3764150.98	0.24060			
447389.75	3764043.04	0.27676	447450.16	
3764031.05	0.28736			
447410.18	3764019.05	0.28734	446891.90	
3764451.22	0.16375			
446959.28	3764451.22	0.16627	446995.28	
3764468.13	0.16434			
447007.41	3764467.30	0.16441	447023.51	
3764466.09	0.16484			
447036.59	3764466.21	0.16505	447052.68	
3764465.61	0.16518			
447066.60	3764465.73	0.16515	447099.65	
3764456.17	0.16684			
447145.28	3764468.27	0.16626	447175.54	
3764468.03	0.16842			
447205.32	3764468.27	0.17050	447232.43	

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3764467.55        0.17008
447264.02    3764467.30        0.16837                    447294.77
3764466.94        0.16883
447364.97    3764456.41        0.17580                    447406.61
3764460.65        0.17780
447441.47    3764460.04        0.17897                    447466.88
3764460.20        0.17976
447490.00    3764460.56        0.18065                    447515.50
3764460.40        0.18177
447573.06    3764454.29        0.18482                    447598.49
3764445.22        0.18527
447652.90    3764439.70        0.18119                    447692.92
3764439.51        0.18078
447713.82    3764439.11        0.18060                    447731.95
3764438.72        0.18028
447751.07    3764438.72        0.18023                    447768.82
3764437.53        0.18014
447789.12    3764437.73        0.17960                    447805.68
3764437.34        0.17960
447824.02    3764437.20        0.17972                    447841.61
3764437.87        0.18005
447861.72    3764437.53        0.18077                    447881.66
3764435.18        0.18190
447902.78    3764436.19        0.18251                    447920.87
3764435.35        0.18339
447942.16    3764435.35        0.18439                    447962.77
3764434.85        0.18557
447980.70    3764435.18        0.18659                    448004.66
3764435.18        0.18873
448021.25    3764434.68        0.19186                    447662.70
3764379.63        0.18841
447681.30    3764320.98        0.19841                    447682.64
3764285.79        0.20832
447662.53    3764238.37        0.22235                    447661.70
3764207.37        0.23243
447683.14    3764162.29        0.24781                    447680.97
3764145.87        0.25386
447679.63    3764130.28        0.26001                    447680.80
3764112.02        0.26715
447681.47    3764096.43        0.27261                    447680.80
3764078.84        0.27830
447679.96    3764064.26        0.28242                    447680.97
3764045.82        0.28751
447680.63    3764029.74        0.29190                    447657.17
3763992.03        0.30511
447656.33    3763967.06        0.31243                    447657.17
3763928.69        0.32535
447657.17    3763902.21        0.33473                    447657.51
3763869.03        0.34974
447656.16    3763834.94        0.36355                    447655.93
3763808.27        0.37411
447657.09    3763786.00        0.38342                    447701.21
3763782.14        0.38456
447856.92    3763749.71        0.42885                    447854.99
3763730.13        0.44206
447854.35    3763698.35        0.46512                    447855.31
3763676.84        0.48200
447675.51    3763287.46        0.98634                    448481.33
3763485.29        0.61390
448479.95    3763195.53        1.14528                    448478.56
3762907.16        2.61113
448497.89    3762714.10        3.21307                    448507.91
3762487.71        2.24227
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CREF ***
INCLUDING SOURCE(S): 5CREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	1.67432	448462.73	3762339.82	1.65433
448464.47	3762265.93	1.41899	448461.57	3762165.17	1.21407
448472.57	3762064.71	1.04101	448460.48	3762016.72	0.99521
448234.63	3761951.18	1.26187	448081.42	3761952.78	1.61809
448025.53	3761955.99	1.78847	447506.75	3761967.63	3.25652
447269.29	3761967.74	2.93080	447389.46	3761908.79	2.68675
447019.14	3761964.34	1.83861	447060.33	3761963.58	1.99929
446975.31	3761963.20	1.67770	446940.92	3761953.76	1.55235
446865.72	3761974.54	1.35538	446795.06	3761957.91	1.17414
446757.65	3761965.85	1.09992	446709.33	3761967.74	1.01015
446796.42	3762028.62	1.21054	446796.97	3762045.28	1.21873
446796.70	3762089.51	1.23561	446796.15	3762105.89	1.23950
446796.70	3762137.29	1.25000	446796.15	3762153.39	1.25277
446772.40	3762215.37	1.20602	446795.06	3762321.03	1.27450
446796.42	3762450.98	1.25477	446796.42	3762471.18	1.24656
446797.24	3762496.03	1.23675	446798.06	3762516.51	1.22775
446797.79	3762539.98	1.21316	446797.52	3762560.19	1.19962
446798.61	3762584.76	1.18556	446798.06	3762604.42	1.16993
446799.70	3762654.11	1.13520	446799.97	3762674.58	1.11921
446800.25	3762700.25	1.09865	446800.25	3762721.27	1.08145
446799.97	3762735.74	1.06906	446797.79	3762748.02	1.05470
446802.16	3762913.47	0.92224	446802.16	3762932.58	0.90554
446802.43	3762949.24	0.89136	446802.98	3762967.26	0.87635
446802.70	3762986.09	0.85952	446802.16	3763003.29	0.84383

446802.16 3763021.86 0.82773 446802.70
3763040.70 0.77839
446802.98 3763059.26 0.75649 446803.52
3763077.01 0.73828
446756.29 3763085.26 0.73053 446807.68
3763646.39 0.35130
446808.32 3763674.66 0.34165 446807.68
3763694.57 0.33441
446808.32 3763710.63 0.32936 446808.32
3763726.37 0.32436
446808.00 3763742.11 0.31970 446808.32
3763756.89 0.31545
446808.64 3763798.32 0.30188 446810.25
3764484.08 0.15583
446781.34 3764475.08 0.15558 446722.56
3764455.81 0.15581
446170.32 3764559.79 0.12217 446872.29
3763190.26 0.65013
446925.22 3763179.19 0.69617 446984.86
3763194.88 0.73389
447010.56 3763193.28 0.75185 447036.58
3763193.60 0.77470
447053.61 3763193.28 0.78998 447076.42
3763192.31 0.81036
447093.45 3763192.63 0.82305 447122.05
3763192.63 0.85493
447138.75 3763192.31 0.87325 447167.99
3763192.31 0.90362
447170.68 3763172.18 0.94267 447170.41
3763158.25 0.96939
447169.31 3763144.87 0.99104 447147.46
3763107.45 1.02122

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CREF ***
INCLUDING SOURCE(S): 5CREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.06519	447146.92	3763064.30	1.11063
447149.92	3763038.90	1.18152	447148.56	3763019.78	1.22945
447148.56	3762997.39	1.29706	447206.08	3762958.49	1.58564
447209.33	3762922.51	1.76019	447208.40	3762890.70	1.97803
447145.83	3762888.87	1.75815	447122.55	3762889.07	1.68008
447094.33	3762890.05	1.58859	447071.04	3762890.45	1.51861
447043.61	3762889.66	1.44374	447017.76		

3762888.87 1.37714
446992.11 3762889.07 1.31282 446964.28
3762888.28 1.24897
446940.41 3762888.47 1.19614 446911.20
3762888.08 1.13641
446885.35 3762889.66 1.08433 446862.07
3762888.87 1.04273
446871.45 3762779.57 1.18128 446926.31
3762768.72 1.33315
446983.74 3762774.24 1.49795 447009.00
3762774.05 1.58481
447030.51 3762774.44 1.66399 447055.37
3762774.05 1.76424
447076.88 3762774.24 1.85595 447101.16
3762774.44 1.96687
447123.85 3762774.05 2.08149 447148.12
3762775.03 2.20779
447170.23 3762774.84 2.33627 447196.78
3762775.48 2.49917
447242.12 3762776.57 2.80777 447262.33
3762776.03 2.96695
447294.56 3762776.30 3.23201 447313.13
3762775.48 3.40503
447313.40 3762749.53 3.69753 447327.86
3762713.09 4.36226
447327.36 3762679.87 4.88051 447327.74
3762657.02 5.27877
447327.28 3762636.82 5.63088 447327.51
3762612.90 6.08228
447327.28 3762592.24 6.46170 447327.04
3762569.71 6.87149
447327.28 3762547.89 7.27619 447326.58
3762524.67 7.64193
447326.58 3762506.09 7.93292 447327.51
3762477.53 8.36712
447325.88 3762454.31 8.50185 447225.58
3762432.95 4.87096
447200.27 3762430.63 4.33158 447156.85
3762430.16 3.59853
447131.77 3762430.86 3.26005 447102.74
3762430.63 2.92838
447079.06 3762430.86 2.69533 447034.94
3762433.65 2.33189
446995.47 3762433.65 2.07046 446972.71
3762434.34 1.94005
446941.37 3762434.58 1.78142 446916.06
3762436.90 1.66680
446876.35 3762436.90 1.51072 446848.85
3762647.05 1.26151
446848.85 3762563.17 1.33681 446849.17
3762509.82 1.37759
446849.17 3762455.82 1.40878 446848.85
3762702.00 1.20762
446849.49 3762754.71 1.15713 446739.81
3762428.53 1.12226
446711.81 3762423.61 1.06320 446687.25
3762416.25 1.01599
446662.20 3762412.32 0.97056 446636.17
3762403.97 0.92742
449981.72 3762732.45 0.51976 446486.82
3762231.95 0.73162
446261.97 3762068.01 0.53160 446443.15
3762291.63 0.68590
446071.80 3762055.49 0.42578 446072.08
3761983.13 0.42355
446138.18 3762002.17 0.45661 445884.94

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CSPILL ***
INCLUDING SOURCE(S): 5CSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.21016	447375.98	3764150.98	0.24337
447389.75	3764043.04	0.28059	447450.16	3764031.05	0.29271
447410.18	3764019.05	0.29186	446891.90	3764451.22	0.16569
446959.28	3764451.22	0.16881	446995.28	3764468.13	0.16666
447007.41	3764467.30	0.16659	447023.51	3764466.09	0.16679
447036.59	3764466.21	0.16679	447052.68	3764465.61	0.16664
447066.60	3764465.73	0.16635	447099.65	3764456.17	0.16754
447145.28	3764468.27	0.16651	447175.54	3764468.03	0.16872
447205.32	3764468.27	0.17097	447232.43	3764467.55	0.17068
447264.02	3764467.30	0.16912	447294.77	3764466.94	0.16982
447364.97	3764456.41	0.17763	447406.61	3764460.65	0.18024
447441.47	3764460.04	0.18184	447466.88	3764460.20	0.18283
447490.00	3764460.56	0.18377	447515.50	3764460.40	0.18476
447573.06	3764454.29	0.18701	447598.49	3764445.22	0.18693
447652.90	3764439.70	0.18172	447692.92	3764439.51	0.18120
447713.82	3764439.11	0.18111	447731.95	3764438.72	0.18092
447751.07	3764438.72	0.18104	447768.82	3764437.53	0.18108
447789.12	3764437.73	0.18064	447805.68	3764437.34	0.18067
447824.02	3764437.20	0.18075	447841.61	3764437.87	0.18097
447861.72	3764437.53	0.18151	447881.66	3764435.18	0.18240
447902.78	3764436.19	0.18275	447920.87	3764435.35	0.18341
447942.16	3764435.35	0.18421	447962.77	3764434.85	0.18527

```
        447980.70    3764435.18        0.18624                      448004.66
        3764435.18         0.18849
        448021.25    3764434.68        0.19186                      447662.70
        3764379.63         0.18880
        447681.30    3764320.98        0.19883                      447682.64
        3764285.79         0.20904
        447662.53    3764238.37        0.22352                      447661.70
        3764207.37         0.23393
        447683.14    3764162.29        0.24973                      447680.97
        3764145.87         0.25600
        447679.63    3764130.28        0.26237                      447680.80
        3764112.02         0.26980
        447681.47    3764096.43        0.27544                      447680.80
        3764078.84         0.28128
        447679.96    3764064.26        0.28544                      447680.97
        3764045.82         0.29055
        447680.63    3764029.74        0.29496                      447657.17
        3763992.03         0.30861
        447656.33    3763967.06        0.31594                      447657.17
        3763928.69         0.32895
        447657.17    3763902.21        0.33840                      447657.51
        3763869.03         0.35375
        447656.16    3763834.94        0.36769                      447655.93
        3763808.27         0.37826
        447657.09    3763786.00        0.38755                      447701.21
        3763782.14         0.38812
        447856.92    3763749.71        0.43228                      447854.99
        3763730.13         0.44582
        447854.35    3763698.35        0.46955                      447855.31
        3763676.84         0.48698
        447675.51    3763287.46        1.00628                      448481.33
        3763485.29         0.61029
        448479.95    3763195.53        1.11880                      448478.56
        3762907.16         2.58335
        448497.89    3762714.10        3.33762                      448507.91
        3762487.71         2.19723
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 179
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 5CSPILL  ***
                               INCLUDING SOURCE(S):     5CSPILL     ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
        448480.49    3762357.96        1.61003                      448462.73
        3762339.82         1.59413
        448464.47    3762265.93        1.38725                      448461.57
        3762165.17         1.20187
        448472.57    3762064.71        1.03209                      448460.48
        3762016.72         0.98665
        448234.63    3761951.18        1.25550                      448081.42
        3761952.78         1.61181
        448025.53    3761955.99        1.78272                      447506.75
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3761967.63 3.23713
447269.29 3761967.74 2.95461 447389.46
3761908.79 2.67999
447019.14 3761964.34 1.84837 447060.33
3761963.58 2.01298
446975.31 3761963.20 1.68298 446940.92
3761953.76 1.55534
446865.72 3761974.54 1.35297 446795.06
3761957.91 1.17118
446757.65 3761965.85 1.09678 446709.33
3761967.74 1.00710
446796.42 3762028.62 1.20677 446796.97
3762045.28 1.21475
446796.70 3762089.51 1.23066 446796.15
3762105.89 1.23416
446796.70 3762137.29 1.24383 446796.15
3762153.39 1.24619
446772.40 3762215.37 1.19913 446795.06
3762321.03 1.27051
446796.42 3762450.98 1.25137 446796.42
3762471.18 1.24321
446797.24 3762496.03 1.23352 446798.06
3762516.51 1.22461
446797.79 3762539.98 1.21004 446797.52
3762560.19 1.19641
446798.61 3762584.76 1.18206 446798.06
3762604.42 1.16611
446799.70 3762654.11 1.13047 446799.97
3762674.58 1.11423
446800.25 3762700.25 1.09355 446800.25
3762721.27 1.07646
446799.97 3762735.74 1.06426 446797.79
3762748.02 1.05014
446802.16 3762913.47 0.92093 446802.16
3762932.58 0.90426
446802.43 3762949.24 0.89008 446802.98
3762967.26 0.87508
446802.70 3762986.09 0.85828 446802.16
3763003.29 0.84264
446802.16 3763021.86 0.82660 446802.70
3763040.70 0.80935
446802.98 3763059.26 0.78539 446803.52
3763077.01 0.76588
446756.29 3763085.26 0.72961 446807.68
3763646.39 0.35774
446808.32 3763674.66 0.34801 446807.68
3763694.57 0.34062
446808.32 3763710.63 0.33554 446808.32
3763726.37 0.33049
446808.00 3763742.11 0.32581 446808.32
3763756.89 0.32152
446808.64 3763798.32 0.30759 446810.25
3764484.08 0.15673
446781.34 3764475.08 0.15623 446722.56
3764455.81 0.15645
446170.32 3764559.79 0.12293 446872.29
3763190.26 0.66502
446925.22 3763179.19 0.71069 446984.86
3763194.88 0.74944
447010.56 3763193.28 0.76708 447036.58
3763193.60 0.79116
447053.61 3763193.28 0.80731 447076.42
3763192.31 0.82886
447093.45 3763192.63 0.84226 447122.05
3763192.63 0.87668
447138.75 3763192.31 0.89623 447167.99

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CSPILL ***
INCLUDING SOURCE(S): 5CSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.09119	447146.92	3763064.30	1.13832
447149.92	3763038.90	1.21362	447148.56	3763019.78	1.26420
447148.56	3762997.39	1.33629	447206.08	3762958.49	1.64053
447209.33	3762922.51	1.82718	447208.40	3762890.70	1.97141
447145.83	3762888.87	1.75466	447122.55	3762889.07	1.67753
447094.33	3762890.05	1.58678	447071.04	3762890.45	1.51710
447043.61	3762889.66	1.44235	447017.76	3762888.87	1.37571
446992.11	3762889.07	1.31131	446964.28	3762888.28	1.24740
446940.41	3762888.47	1.19455	446911.20	3762888.08	1.13484
446885.35	3762889.66	1.08280	446862.07	3762888.87	1.04124
446871.45	3762779.57	1.17785	446926.31	3762768.72	1.32970
446983.74	3762774.24	1.49507	447009.00	3762774.05	1.58204
447030.51	3762774.44	1.66132	447055.37	3762774.05	1.76164
447076.88	3762774.24	1.85343	447101.16	3762774.44	1.96446
447123.85	3762774.05	2.07919	447148.12	3762775.03	2.20563
447170.23	3762774.84	2.33415	447196.78	3762775.48	2.49681
447242.12	3762776.57	2.80337	447262.33	3762776.03	2.96086
447294.56	3762776.30	3.22277	447313.13	3762775.48	3.39444
447313.40	3762749.53	3.68769	447327.86	3762713.09	4.35344
447327.36	3762679.87	4.87518	447327.74	3762657.02	5.27464

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 447327.28    3762636.82        5.62602                     447327.51
 3762612.90         6.07350
 447327.28    3762592.24        6.44652                     447327.04
 3762569.71         6.84718
 447327.28    3762547.89        7.24407                     447326.58
 3762524.67         7.60698
 447326.58    3762506.09        7.90013                     447327.51
 3762477.53         8.33953
 447325.88    3762454.31        8.47497                     447225.58
 3762432.95         4.85502
 447200.27    3762430.63        4.31762                     447156.85
 3762430.16         3.58777
 447131.77    3762430.86        3.25055                     447102.74
 3762430.63         2.92022
 447079.06    3762430.86        2.68814                     447034.94
 3762433.65         2.32582
 446995.47    3762433.65        2.06510                     446972.71
 3762434.34         1.93501
 446941.37    3762434.58        1.77666                     446916.06
 3762436.90         1.66228
 446876.35    3762436.90        1.50665                     446848.85
 3762647.05         1.25609
 446848.85    3762563.17        1.33300                     446849.17
 3762509.82         1.37399
 446849.17    3762455.82        1.40493                     446848.85
 3762702.00         1.20201
 446849.49    3762754.71        1.15274                     446739.81
 3762428.53         1.11939
 446711.81    3762423.61        1.06050                     446687.25
 3762416.25         1.01345
 446662.20    3762412.32        0.96814                     446636.17
 3762403.97         0.92512
 449981.72    3762732.45        0.51977                     446486.82
 3762231.95         0.72902
 446261.97    3762068.01        0.52871                     446443.15
 3762291.63         0.68427
 446071.80    3762055.49        0.42376                     446072.08
 3761983.13         0.42132
 446138.18    3762002.17        0.45414                     445884.94
 3762039.75         0.34993
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 181
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP: 6AIDLE   ***
                                INCLUDING SOURCE(S):     L0000382    , L0000383    ,
                                L0000384    , L0000385    , L0000386    ,
                  L0000387    , L0000388    , L0000389    , L0000390    , L0000391    ,
                  L0000392    , L0000393    , L0000394    ,
                  L0000395    , L0000396    , L0000397    , L0000398    , L0000399    ,
                  L0000400    , L0000401    , L0000402    ,
                  L0000403    , L0000404    , L0000405    , L0000406    , L0000407    ,
                  L0000408    , L0000409    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                        ** CONC OF OTHER    IN
                                        MICROGRAMS/M**3                         **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6AIDLE ***
INCLUDING SOURCE(S): L0000382 , L0000383 , L0000384 , L0000385 , L0000386 ,
L0000387 , L0000388 , L0000389 , L0000390 , L0000391 ,
L0000392 , L0000393 , L0000394 ,
L0000395 , L0000396 , L0000397 , L0000398 , L0000399 ,
L0000400 , L0000401 , L0000402 ,
L0000403 , L0000404 , L0000405 , L0000406 , L0000407 ,
L0000408 , L0000409 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	2.66167	448462.73	3762339.82	2.64438
448464.47	3762265.93	2.20340	448461.57	3762165.17	1.76990
448472.57	3762064.71	1.42208	448460.48	3762016.72	1.31617
448234.63	3761951.18	1.39143	448081.42	3761952.78	1.49937
448025.53	3761955.99	1.53379	447506.75	3761967.63	1.30357
447269.29	3761967.74	0.98219	447389.46	3761908.79	1.06891
447019.14	3761964.34	0.70692	447060.33	3761963.58	0.74490
446975.31	3761963.20	0.66854	446940.92	3761953.76	0.63826
446865.72	3761974.54	0.58749	446795.06	3761957.91	0.53798
446757.65	3761965.85	0.51646	446709.33	3761967.74	0.48939
446796.42	3762028.62	0.54854	446796.97	3762045.28	0.55102

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        446796.70    3762089.51        0.55675                      446796.15
        3762105.89         0.55815
        446796.70    3762137.29        0.56175                      446796.15
        3762153.39         0.56292
        446772.40    3762215.37        0.55196                      446795.06
        3762321.03         0.57489
        446796.42    3762450.98        0.58093                      446796.42
        3762471.18         0.58120
        446797.24    3762496.03        0.58192                      446798.06
        3762516.51         0.58241
        446797.79    3762539.98        0.58174                      446797.52
        3762560.19         0.58090
        446798.61    3762584.76        0.58072                      446798.06
        3762604.42         0.57932
        446799.70    3762654.11        0.57713                      446799.97
        3762674.58         0.57546
        446800.25    3762700.25        0.57298                      446800.25
        3762721.27         0.57060
        446799.97    3762735.74        0.56866                      446797.79
        3762748.02         0.56548
        446802.16    3762913.47        0.54178                      446802.16
        3762932.58         0.53805
        446802.43    3762949.24        0.53490                      446802.98
        3762967.26         0.53158
        446802.70    3762986.09        0.52744                      446802.16
        3763003.29         0.52339
        446802.16    3763021.86        0.51934                      446802.70
        3763040.70         0.51550
        446802.98    3763059.26        0.51149                      446803.52
        3763077.01         0.50779
        446756.29    3763085.26        0.47876                      446807.68
        3763646.39         0.30632
        446808.32    3763674.66        0.29981                      446807.68
        3763694.57         0.29477
        446808.32    3763710.63        0.29132                      446808.32
        3763726.37         0.28783
        446808.00    3763742.11        0.28454                      446808.32
        3763756.89         0.28157
        446808.64    3763798.32        0.27192                      446810.25
        3764484.08         0.15755
        446781.34    3764475.08        0.15647                      446722.56
        3764455.81         0.15473
        446170.32    3764559.79        0.11609                      446872.29
        3763190.26         0.51682
        446925.22    3763179.19        0.55138                      446984.86
        3763194.88         0.59466
        447010.56    3763193.28        0.60677                      447036.58
        3763193.60         0.62748
        447053.61    3763193.28        0.64181                      447076.42
        3763192.31         0.66004
        447093.45    3763192.63        0.66470                      447122.05
        3763192.63         0.70238
        447138.75    3763192.31        0.72135                      447167.99
        3763192.31         0.75634
        447170.68    3763172.18        0.77869                      447170.41
        3763158.25         0.78946
        447169.31    3763144.87        0.79671                      447147.46
        3763107.45         0.78747
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 183
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6AIDLE ***
INCLUDING SOURCE(S): L0000382 , L0000383 , L0000384 , L0000385 , L0000386 ,
L0000387 , L0000388 , L0000389 , L0000390 , L0000391 ,
L0000392 , L0000393 , L0000394 ,
L0000395 , L0000396 , L0000397 , L0000398 , L0000399 ,
L0000400 , L0000401 , L0000402 ,
L0000403 , L0000404 , L0000405 , L0000406 , L0000407 ,
L0000408 , L0000409 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.80591	447146.92	3763064.30	0.81800
447149.92	3763038.90	0.83688	447148.56	3763019.78	0.84612
447148.56	3762997.39	0.85895	447206.08	3762958.49	0.97386
447209.33	3762922.51	1.00347	447208.40	3762890.70	1.02172
447145.83	3762888.87	0.91285	447122.55	3762889.07	0.87663
447094.33	3762890.05	0.83543	447071.04	3762890.45	0.80389
447043.61	3762889.66	0.76960	447017.76	3762888.87	0.73940
446992.11	3762889.07	0.71098	446964.28	3762888.28	0.68238
446940.41	3762888.47	0.65909	446911.20	3762888.08	0.63247
446885.35	3762889.66	0.60984	446862.07	3762888.87	0.59105
446871.45	3762779.57	0.61999	446926.31	3762768.72	0.67266
446983.74	3762774.24	0.73235	447009.00	3762774.05	0.76202
447030.51	3762774.44	0.78881	447055.37	3762774.05	0.82189
447076.88	3762774.24	0.85214	447101.16	3762774.44	0.88844
447123.85	3762774.05	0.92499	447148.12	3762775.03	0.96628
447170.23	3762774.84	1.00703	447196.78	3762775.48	1.05950
447242.12	3762776.57	1.15996	447262.33	3762776.03	1.21043
447294.56	3762776.30	1.29800	447313.13	3762775.48	1.35382
447313.40	3762749.53	1.37118	447327.86	3762713.09	1.43927
447327.36	3762679.87	1.45301	447327.74	3762657.02	1.46231
447327.28	3762636.82	1.46606	447327.51	3762612.90	1.47109
447327.28	3762592.24	1.47253	447327.04	3762569.71	1.47252
447327.28	3762547.89	1.47262	447326.58	3762524.67	1.46784

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        447326.58    3762506.09        1.46482                      447327.51
        3762477.53         1.46103
        447325.88    3762454.31        1.44836                      447225.58
        3762432.95         1.16322
        447200.27    3762430.63        1.10594                      447156.85
        3762430.16         1.01797
        447131.77    3762430.86        0.97239                      447102.74
        3762430.63         0.92320
        447079.06    3762430.86        0.88587                      447034.94
        3762433.65         0.82310
        446995.47    3762433.65        0.77269                      446972.71
        3762434.34         0.74593
        446941.37    3762434.58        0.71160                      446916.06
        3762436.90         0.68572
        446876.35    3762436.90        0.64768                      446848.85
        3762647.05         0.61777
        446848.85    3762563.17        0.62293                      446849.17
        3762509.82         0.62442
        446849.17    3762455.82        0.62404                      446848.85
        3762702.00         0.61184
        446849.49    3762754.71        0.60528                      446739.81
        3762428.53         0.53937
        446711.81    3762423.61        0.52081                      446687.25
        3762416.25         0.50529
        446662.20    3762412.32        0.49033                      446636.17
        3762403.97         0.47549
        449981.72    3762732.45        0.61837                      446486.82
        3762231.95         0.39981
        446261.97    3762068.01        0.31781                      446443.15
        3762291.63         0.38387
        446071.80    3762055.49        0.26967                      446072.08
        3761983.13         0.26828
        446138.18    3762002.17        0.28393                      445884.94
        3762039.75         0.23290
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP: 6AON     ***
                                INCLUDING SOURCE(S):     L0000417    , L0000418    ,
                                L0000419    , L0000420    , L0000421    ,
                  L0000422    , L0000423    , L0000424    , L0000425    , L0000426    ,
                  L0000427    , L0000428    , L0000429    ,
                  L0000430    , L0000431    , L0000432    , L0000433    , L0000434    ,
                  L0000435    , L0000436    , L0000437    ,
                  L0000438    , L0000439    , L0000440    , L0000441    , L0000442    ,
                  L0000443    , L0000444    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                        ** CONC OF OTHER    IN
                                        MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)   Y-COORD
      (M)        CONC
- - - -
```

447410.18 3764019.05 0.34778 446891.90
3764451.22 0.17972
446959.28 3764451.22 0.18467 446995.28
3764468.13 0.18421
447007.41 3764467.30 0.18487 447023.51
3764466.09 0.18614
447036.59 3764466.21 0.18703 447052.68
3764465.61 0.18803
447066.60 3764465.73 0.18874 447099.65
3764456.17 0.19229
447145.28 3764468.27 0.19356 447175.54
3764468.03 0.19683
447205.32 3764468.27 0.19972 447232.43
3764467.55 0.19970
447264.02 3764467.30 0.19806 447294.77
3764466.94 0.19847
447364.97 3764456.41 0.20592 447406.61
3764460.65 0.20812
447441.47 3764460.04 0.20994 447466.88
3764460.20 0.21153
447490.00 3764460.56 0.21347 447515.50
3764460.40 0.21610
447573.06 3764454.29 0.22358 447598.49
3764445.22 0.22618
447652.90 3764439.70 0.22549 447692.92
3764439.51 0.22741
447713.82 3764439.11 0.22824 447731.95
3764438.72 0.22864
447751.07 3764438.72 0.22927 447768.82
3764437.53 0.22973
447789.12 3764437.73 0.22955 447805.68
3764437.34 0.22987
447824.02 3764437.20 0.23027 447841.61
3764437.87 0.23082
447861.72 3764437.53 0.23184 447881.66
3764435.18 0.23333
447902.78 3764436.19 0.23397 447920.87
3764435.35 0.23491
447942.16 3764435.35 0.23580 447962.77
3764434.85 0.23679
447980.70 3764435.18 0.23749 448004.66
3764435.18 0.23933
448021.25 3764434.68 0.24279 447662.70
3764379.63 0.23688
447681.30 3764320.98 0.25244 447682.64
3764285.79 0.26592
447662.53 3764238.37 0.28340 447661.70
3764207.37 0.29698
447683.14 3764162.29 0.32003 447680.97
3764145.87 0.32815
447679.63 3764130.28 0.33643 447680.80
3764112.02 0.34644
447681.47 3764096.43 0.35427 447680.80
3764078.84 0.36247
447679.96 3764064.26 0.36855 447680.97
3764045.82 0.37642
447680.63 3764029.74 0.38316 447657.17
3763992.03 0.39939
447656.33 3763967.06 0.41060 447657.17
3763928.69 0.43050
447657.17 3763902.21 0.44498 447657.51
3763869.03 0.46748
447656.16 3763834.94 0.48876 447655.93
3763808.27 0.50562
447657.09 3763786.00 0.52089 447701.21
3763782.14 0.53318

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6AON ***
INCLUDING SOURCE(S): L0000417 , L0000418 , L0000419 , L0000420 , L0000421 ,
L0000422 , L0000423 , L0000424 , L0000425 , L0000426 ,
L0000427 , L0000428 , L0000429 ,
L0000430 , L0000431 , L0000432 , L0000433 , L0000434 ,
L0000435 , L0000436 , L0000437 ,
L0000438 , L0000439 , L0000440 , L0000441 , L0000442 ,
L0000443 , L0000444 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	2.24449	448462.73	3762339.82	2.20712
448464.47	3762265.93	1.83516	448461.57	3762165.17	1.48062
448472.57	3762064.71	1.20533	448460.48	3762016.72	1.11993
448234.63	3761951.18	1.17832	448081.42	3761952.78	1.27499
448025.53	3761955.99	1.30779	447506.75	3761967.63	1.23656
447269.29	3761967.74	1.02804	447389.46	3761908.79	1.05053
447019.14	3761964.34	0.78281	447060.33	3761963.58	0.82006
446975.31	3761963.20	0.74346	446940.92	3761953.76	0.71000
446865.72	3761974.54	0.65913	446795.06	3761957.91	0.60211
446757.65	3761965.85	0.57869	446709.33	3761967.74	0.54799
446796.42	3762028.62	0.62170	446796.97	3762045.28	0.62632
446796.70	3762089.51	0.63764	446796.15	3762105.89	0.64091
446796.70	3762137.29	0.64821	446796.15	3762153.39	0.65108
446772.40	3762215.37	0.64211	446795.06	3762321.03	0.67892

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        446796.42    3762450.98        0.69460                    446796.42
        3762471.18         0.69607
        446797.24    3762496.03        0.69843                    446798.06
        3762516.51         0.70025
        446797.79    3762539.98        0.70058                    446797.52
        3762560.19         0.70048
        446798.61    3762584.76        0.70154                    446798.06
        3762604.42         0.70060
        446799.70    3762654.11        0.70014                    446799.97
        3762674.58         0.69881
        446800.25    3762700.25        0.69650                    446800.25
        3762721.27         0.69401
        446799.97    3762735.74        0.69181                    446797.79
        3762748.02         0.68771
        446802.16    3762913.47        0.65794                    446802.16
        3762932.58         0.65282
        446802.43    3762949.24        0.64847                    446802.98
        3762967.26         0.64387
        446802.70    3762986.09        0.63807                    446802.16
        3763003.29         0.63238
        446802.16    3763021.86        0.62666                    446802.70
        3763040.70         0.62122
        446802.98    3763059.26        0.61552                    446803.52
        3763077.01         0.61023
        446756.29    3763085.26        0.56994                    446807.68
        3763646.39         0.34803
        446808.32    3763674.66        0.33975                    446807.68
        3763694.57         0.33342
        446808.32    3763710.63        0.32908                    446808.32
        3763726.37         0.32472
        446808.00    3763742.11        0.32063                    446808.32
        3763756.89         0.31694
        446808.64    3763798.32        0.30506                    446810.25
        3764484.08         0.16940
        446781.34    3764475.08        0.16845                    446722.56
        3764455.81         0.16697
        446170.32    3764559.79        0.12356                    446872.29
        3763190.26         0.62640
        446925.22    3763179.19        0.67959                    446984.86
        3763194.88         0.73244
        447010.56    3763193.28        0.76189                    447036.58
        3763193.60         0.79239
        447053.61    3763193.28        0.81370                    447076.42
        3763192.31         0.84398
        447093.45    3763192.63        0.86674                    447122.05
        3763192.63         0.90780
        447138.75    3763192.31        0.93335                    447167.99
        3763192.31         0.97991
        447170.68    3763172.18        1.00781                    447170.41
        3763158.25         1.02379
        447169.31    3763144.87        1.03754                    447147.46
        3763107.45         1.03834
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 6AON     ***
                               INCLUDING SOURCE(S):     L0000417    , L0000418    ,
                               L0000419    , L0000420    , L0000421    ,
                 L0000422    , L0000423    , L0000424    , L0000425    , L0000426    ,
                 L0000427    , L0000428    , L0000429    ,
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L0000430 , L0000431 , L0000432 , L0000433 , L0000434 ,
L0000435 , L0000436 , L0000437 ,
L0000438 , L0000439 , L0000440 , L0000441 , L0000442 ,
L0000443 , L0000444 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	1.06220	447146.92	3763064.30	1.08482
447149.92	3763038.90	1.11977	447148.56	3763019.78	1.13779
447148.56	3762997.39	1.16237	447206.08	3762958.49	1.37665
447209.33	3762922.51	1.43814	447208.40	3762890.70	1.47650
447145.83	3762888.87	1.26508	447122.55	3762889.07	1.19845
447094.33	3762890.05	1.12480	447071.04	3762890.45	1.06988
447043.61	3762889.66	1.01155	447017.76	3762888.87	0.96133
446992.11	3762889.07	0.91506	446964.28	3762888.28	0.86939
446940.41	3762888.47	0.83289	446911.20	3762888.08	0.79186
446885.35	3762889.66	0.75761	446862.07	3762888.87	0.72951
446871.45	3762779.57	0.76926	446926.31	3762768.72	0.84915
446983.74	3762774.24	0.94424	447009.00	3762774.05	0.99282
447030.51	3762774.44	1.03760	447055.37	3762774.05	1.09402
447076.88	3762774.24	1.14692	447101.16	3762774.44	1.21201
447123.85	3762774.05	1.27926	447148.12	3762775.03	1.35777
447170.23	3762774.84	1.43757	447196.78	3762775.48	1.54441
447242.12	3762776.57	1.76240	447262.33	3762776.03	1.87892
447294.56	3762776.30	2.09443	447313.13	3762775.48	2.24082
447313.40	3762749.53	2.27422	447327.86	3762713.09	2.43405
447327.36	3762679.87	2.43738	447327.74	3762657.02	2.43519
447327.28	3762636.82	2.41853	447327.51	3762612.90	2.39741
447327.28	3762592.24	2.36982	447327.04	3762569.71	2.33392
447327.28	3762547.89	2.29757	447326.58	3762524.67	2.24708
447326.58	3762506.09	2.20785	447327.51	3762477.53	2.14815
447325.88	3762454.31	2.08316	447225.58	3762432.95	1.58404
447200.27	3762430.63	1.48952	447156.85	3762430.16	1.34798

447131.77 3762430.86 1.27588 447102.74
3762430.63 1.19840
447079.06 3762430.86 1.14036 447034.94
3762433.65 1.04472
446995.47 3762433.65 0.96880 446972.71
3762434.34 0.92919
446941.37 3762434.58 0.87888 446916.06
3762436.90 0.84161
446876.35 3762436.90 0.78716 446848.85
3762647.05 0.75865
446848.85 3762563.17 0.76070 446849.17
3762509.82 0.75930
446849.17 3762455.82 0.75509 446848.85
3762702.00 0.75324
446849.49 3762754.71 0.74618 446739.81
3762428.53 0.63676
446711.81 3762423.61 0.61165 446687.25
3762416.25 0.59074
446662.20 3762412.32 0.57089 446636.17
3762403.97 0.55123
449981.72 3762732.45 0.56072 446486.82
3762231.95 0.45121
446261.97 3762068.01 0.35002 446443.15
3762291.63 0.43260
446071.80 3762055.49 0.29371 446072.08
3761983.13 0.29162
446138.18 3762002.17 0.30984 445884.94
3762039.75 0.25139

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BBREAT ***
INCLUDING SOURCE(S): 6BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.17245	447375.98	3764150.98	0.19453
447389.75	3764043.04	0.21742	447450.16	3764031.05	0.22669
447410.18	3764019.05	0.22464	446891.90	3764451.22	0.12942
446959.28	3764451.22	0.13299	446995.28	3764468.13	0.13323
447007.41	3764467.30	0.13375	447023.51	3764466.09	0.13467
447036.59	3764466.21	0.13535	447052.68	3764465.61	0.13612
447066.60	3764465.73	0.13671	447099.65	3764456.17	0.13913
447145.28	3764468.27	0.14046	447175.54	3764468.03	0.14269
447205.32	3764468.27	0.14468	447232.43		

3764467.55 0.14495
447264.02 3764467.30 0.14427 447294.77
3764466.94 0.14474
447364.97 3764456.41 0.14961 447406.61
3764460.65 0.15117
447441.47 3764460.04 0.15244 447466.88
3764460.20 0.15354
447490.00 3764460.56 0.15484 447515.50
3764460.40 0.15657
447573.06 3764454.29 0.16143 447598.49
3764445.22 0.16315
447652.90 3764439.70 0.16313 447692.92
3764439.51 0.16458
447713.82 3764439.11 0.16523 447731.95
3764438.72 0.16560
447751.07 3764438.72 0.16610 447768.82
3764437.53 0.16648
447789.12 3764437.73 0.16648 447805.68
3764437.34 0.16677
447824.02 3764437.20 0.16712 447841.61
3764437.87 0.16757
447861.72 3764437.53 0.16833 447881.66
3764435.18 0.16939
447902.78 3764436.19 0.16996 447920.87
3764435.35 0.17070
447942.16 3764435.35 0.17147 447962.77
3764434.85 0.17232
447980.70 3764435.18 0.17298 448004.66
3764435.18 0.17447
448021.25 3764434.68 0.17692 447662.70
3764379.63 0.16984
447681.30 3764320.98 0.17898 447682.64
3764285.79 0.18669
447662.53 3764238.37 0.19618 447661.70
3764207.37 0.20364
447683.14 3764162.29 0.21646 447680.97
3764145.87 0.22074
447679.63 3764130.28 0.22508 447680.80
3764112.02 0.23031
447681.47 3764096.43 0.23434 447680.80
3764078.84 0.23847
447679.96 3764064.26 0.24149 447680.97
3764045.82 0.24541
447680.63 3764029.74 0.24870 447657.17
3763992.03 0.25595
447656.33 3763967.06 0.26120 447657.17
3763928.69 0.27046
447657.17 3763902.21 0.27703 447657.51
3763869.03 0.28713
447656.16 3763834.94 0.29628 447655.93
3763808.27 0.30336
447657.09 3763786.00 0.30970 447701.21
3763782.14 0.31702
447856.92 3763749.71 0.36163 447854.99
3763730.13 0.37091
447854.35 3763698.35 0.38714 447855.31
3763676.84 0.39900
447675.51 3763287.46 0.60559 448481.33
3763485.29 0.64888
448479.95 3763195.53 1.28585 448478.56
3762907.16 3.73963
448497.89 3762714.10 10.90883 448507.91
3762487.71 48.65251

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BBREAT ***
INCLUDING SOURCE(S): 6BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	16.76417	448462.73	3762339.82	16.26085
448464.47	3762265.93	9.71869	448461.57	3762165.17	5.68890
448472.57	3762064.71	3.65903	448460.48	3762016.72	3.12777
448234.63	3761951.18	2.82624	448081.42	3761952.78	2.71042
448025.53	3761955.99	2.59394	447506.75	3761967.63	1.07327
447269.29	3761967.74	0.73588	447389.46	3761908.79	0.86597
447019.14	3761964.34	0.52760	447060.33	3761963.58	0.55485
446975.31	3761963.20	0.50072	446940.92	3761953.76	0.48064
446865.72	3761974.54	0.44333	446795.06	3761957.91	0.41052
446757.65	3761965.85	0.39522	446709.33	3761967.74	0.37650
446796.42	3762028.62	0.41331	446796.97	3762045.28	0.41399
446796.70	3762089.51	0.41520	446796.15	3762105.89	0.41523
446796.70	3762137.29	0.41587	446796.15	3762153.39	0.41577
446772.40	3762215.37	0.40573	446795.06	3762321.03	0.41417
446796.42	3762450.98	0.41000	446796.42	3762471.18	0.40891
446797.24	3762496.03	0.40779	446798.06	3762516.51	0.40680
446797.79	3762539.98	0.40500	446797.52	3762560.19	0.40332
446798.61	3762584.76	0.40176	446798.06	3762604.42	0.39980
446799.70	3762654.11	0.39566	446799.97	3762674.58	0.39365
446800.25	3762700.25	0.39101	446800.25	3762721.27	0.38872
446799.97	3762735.74	0.38701	446797.79	3762748.02	0.38477
446802.16	3762913.47	0.36625	446802.16	3762932.58	0.36376
446802.43	3762949.24	0.36167	446802.98	3762967.26	0.35947
446802.70	3762986.09	0.35685	446802.16	3763003.29	0.35434

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        446802.16    3763021.86        0.35180                    446802.70
        3763040.70         0.34939
        446802.98    3763059.26        0.34691                    446803.52
        3763077.01         0.34463
        446756.29    3763085.26        0.32921                    446807.68
        3763646.39         0.21537
        446808.32    3763674.66        0.21157                    446807.68
        3763694.57         0.20863
        446808.32    3763710.63        0.20661                    446808.32
        3763726.37         0.20456
        446808.00    3763742.11        0.20265                    446808.32
        3763756.89         0.20090
        446808.64    3763798.32        0.19520                    446810.25
        3764484.08         0.12283
        446781.34    3764475.08        0.12206                    446722.56
        3764455.81         0.12088
        446170.32    3764559.79        0.09448                    446872.29
        3763190.26         0.30650
        446925.22    3763179.19        0.32230                    446984.86
        3763194.88         0.33791
        447010.56    3763193.28        0.34473                    447036.58
        3763193.60         0.35297
        447053.61    3763193.28        0.35845                    447076.42
        3763192.31         0.36582
        447093.45    3763192.63        0.37082                    447122.05
        3763192.63         0.38223
        447138.75    3763192.31        0.38898                    447167.99
        3763192.31         0.40084
        447170.68    3763172.18        0.40897                    447170.41
        3763158.25         0.41398
        447169.31    3763144.87        0.41749                    447147.46
        3763107.45         0.41734
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 189
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 6BBREAT  ***
                               INCLUDING SOURCE(S):     6BBREAT     ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                  ** CONC OF OTHER    IN
                                  MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
        447146.64    3763084.24        0.42443                    447146.92
        3763064.30         0.43183
        447149.92    3763038.90        0.49873                    447148.56
        3763019.78         0.50340
        447148.56    3762997.39        0.50976                    447206.08
        3762958.49         0.55809
        447209.33    3762922.51        0.57194                    447208.40
        3762890.70         0.58130
        447145.83    3762888.87        0.53808                    447122.55
        3762889.07         0.52304
        447094.33    3762890.05        0.50550                    447071.04
        3762890.45         0.49181
        447043.61    3762889.66        0.47669                    447017.76
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3762888.87 0.46311
446992.11 3762889.07 0.45004 446964.28
3762888.28 0.43669
446940.41 3762888.47 0.42560 446911.20
3762888.08 0.41274
446885.35 3762889.66 0.40154 446862.07
3762888.87 0.39219
446871.45 3762779.57 0.41137 446926.31
3762768.72 0.43809
446983.74 3762774.24 0.46637 447009.00
3762774.05 0.48022
447030.51 3762774.44 0.49248 447055.37
3762774.05 0.50742
447076.88 3762774.24 0.52079 447101.16
3762774.44 0.53652
447123.85 3762774.05 0.55211 447148.12
3762775.03 0.56923
447170.23 3762774.84 0.58586 447196.78
3762775.48 0.60667
447242.12 3762776.57 0.64501 447262.33
3762776.03 0.66371
447294.56 3762776.30 0.69498 447313.13
3762775.48 0.71441
447313.40 3762749.53 0.72459 447327.86
3762713.09 0.75466
447327.36 3762679.87 0.76660 447327.74
3762657.02 0.77525
447327.28 3762636.82 0.78168 447327.51
3762612.90 0.78989
447327.28 3762592.24 0.79599 447327.04
3762569.71 0.80223
447327.28 3762547.89 0.80840 447326.58
3762524.67 0.81321
447326.58 3762506.09 0.81742 447327.51
3762477.53 0.82436
447325.88 3762454.31 0.82612 447225.58
3762432.95 0.70767
447200.27 3762430.63 0.68171 447156.85
3762430.16 0.64023
447131.77 3762430.86 0.61807 447102.74
3762430.63 0.59392
447079.06 3762430.86 0.57526 447034.94
3762433.65 0.54293
446995.47 3762433.65 0.51663 446972.71
3762434.34 0.50238
446941.37 3762434.58 0.48389 446916.06
3762436.90 0.46960
446876.35 3762436.90 0.44862 446848.85
3762647.05 0.41765
446848.85 3762563.17 0.42605 446849.17
3762509.82 0.43052
446849.17 3762455.82 0.43407 446848.85
3762702.00 0.41129
446849.49 3762754.71 0.40512 446739.81
3762428.53 0.38719
446711.81 3762423.61 0.37644 446687.25
3762416.25 0.36750
446662.20 3762412.32 0.35863 446636.17
3762403.97 0.34993
449981.72 3762732.45 1.03302 446486.82
3762231.95 0.30755
446261.97 3762068.01 0.25476 446443.15
3762291.63 0.29536
446071.80 3762055.49 0.22035 446072.08
3761983.13 0.22013
446138.18 3762002.17 0.23134 445884.94

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BLOAD ***
INCLUDING SOURCE(S): 6BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.17245	447375.98	3764150.98	0.19453
447389.75	3764043.04	0.21742	447450.16	3764031.05	0.22669
447410.18	3764019.05	0.22464	446891.90	3764451.22	0.12942
446959.28	3764451.22	0.13299	446995.28	3764468.13	0.13323
447007.41	3764467.30	0.13375	447023.51	3764466.09	0.13467
447036.59	3764466.21	0.13535	447052.68	3764465.61	0.13612
447066.60	3764465.73	0.13671	447099.65	3764456.17	0.13913
447145.28	3764468.27	0.14046	447175.54	3764468.03	0.14269
447205.32	3764468.27	0.14468	447232.43	3764467.55	0.14495
447264.02	3764467.30	0.14427	447294.77	3764466.94	0.14474
447364.97	3764456.41	0.14961	447406.61	3764460.65	0.15117
447441.47	3764460.04	0.15244	447466.88	3764460.20	0.15354
447490.00	3764460.56	0.15484	447515.50	3764460.40	0.15657
447573.06	3764454.29	0.16143	447598.49	3764445.22	0.16315
447652.90	3764439.70	0.16313	447692.92	3764439.51	0.16458
447713.82	3764439.11	0.16523	447731.95	3764438.72	0.16560
447751.07	3764438.72	0.16610	447768.82	3764437.53	0.16648
447789.12	3764437.73	0.16648	447805.68	3764437.34	0.16677
447824.02	3764437.20	0.16712	447841.61	3764437.87	0.16757
447861.72	3764437.53	0.16833	447881.66	3764435.18	0.16939
447902.78	3764436.19	0.16996	447920.87	3764435.35	0.17070
447942.16	3764435.35	0.17147	447962.77	3764434.85	0.17232

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        447980.70    3764435.18        0.17298                      448004.66
        3764435.18         0.17447
        448021.25    3764434.68        0.17692                      447662.70
        3764379.63         0.16984
        447681.30    3764320.98        0.17898                      447682.64
        3764285.79         0.18669
        447662.53    3764238.37        0.19618                      447661.70
        3764207.37         0.20364
        447683.14    3764162.29        0.21646                      447680.97
        3764145.87         0.22074
        447679.63    3764130.28        0.22508                      447680.80
        3764112.02         0.23031
        447681.47    3764096.43        0.23434                      447680.80
        3764078.84         0.23847
        447679.96    3764064.26        0.24149                      447680.97
        3764045.82         0.24541
        447680.63    3764029.74        0.24870                      447657.17
        3763992.03         0.25595
        447656.33    3763967.06        0.26120                      447657.17
        3763928.69         0.27046
        447657.17    3763902.21        0.27703                      447657.51
        3763869.03         0.28713
        447656.16    3763834.94        0.29628                      447655.93
        3763808.27         0.30336
        447657.09    3763786.00        0.30970                      447701.21
        3763782.14         0.31702
        447856.92    3763749.71        0.36163                      447854.99
        3763730.13         0.37091
        447854.35    3763698.35        0.38714                      447855.31
        3763676.84         0.39900
        447675.51    3763287.46        0.60559                      448481.33
        3763485.29         0.64888
        448479.95    3763195.53        1.28586                      448478.56
        3762907.16         3.73972
        448497.89    3762714.10       10.90924                      448507.91
        3762487.71        48.65334
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 191
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP: 6BLOAD   ***
                                INCLUDING SOURCE(S):     6BLOAD      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - -
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3761967.63 1.07327
447269.29 3761967.74 0.73589 447389.46
3761908.79 0.86597
447019.14 3761964.34 0.52760 447060.33
3761963.58 0.55486
446975.31 3761963.20 0.50072 446940.92
3761953.76 0.48065
446865.72 3761974.54 0.44333 446795.06
3761957.91 0.41052
446757.65 3761965.85 0.39522 446709.33
3761967.74 0.37650
446796.42 3762028.62 0.41331 446796.97
3762045.28 0.41399
446796.70 3762089.51 0.41520 446796.15
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3762153.39 0.41577
446772.40 3762215.37 0.40573 446795.06
3762321.03 0.41417
446796.42 3762450.98 0.41001 446796.42
3762471.18 0.40891
446797.24 3762496.03 0.40779 446798.06
3762516.51 0.40680
446797.79 3762539.98 0.40500 446797.52
3762560.19 0.40332
446798.61 3762584.76 0.40176 446798.06
3762604.42 0.39980
446799.70 3762654.11 0.39566 446799.97
3762674.58 0.39365
446800.25 3762700.25 0.39101 446800.25
3762721.27 0.38872
446799.97 3762735.74 0.38701 446797.79
3762748.02 0.38477
446802.16 3762913.47 0.36625 446802.16
3762932.58 0.36377
446802.43 3762949.24 0.36167 446802.98
3762967.26 0.35947
446802.70 3762986.09 0.35685 446802.16
3763003.29 0.35434
446802.16 3763021.86 0.35180 446802.70
3763040.70 0.34939
446802.98 3763059.26 0.34692 446803.52
3763077.01 0.34463
446756.29 3763085.26 0.32921 446807.68
3763646.39 0.21537
446808.32 3763674.66 0.21157 446807.68
3763694.57 0.20863
446808.32 3763710.63 0.20661 446808.32
3763726.37 0.20456
446808.00 3763742.11 0.20265 446808.32
3763756.89 0.20090
446808.64 3763798.32 0.19520 446810.25
3764484.08 0.12283
446781.34 3764475.08 0.12206 446722.56
3764455.81 0.12088
446170.32 3764559.79 0.09448 446872.29
3763190.26 0.30650
446925.22 3763179.19 0.32230 446984.86
3763194.88 0.33791
447010.56 3763193.28 0.34473 447036.58
3763193.60 0.35297
447053.61 3763193.28 0.35845 447076.42
3763192.31 0.36582
447093.45 3763192.63 0.37082 447122.05
3763192.63 0.38223
447138.75 3763192.31 0.38898 447167.99

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BLOAD ***
INCLUDING SOURCE(S): 6BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.42443	447146.92	3763064.30	0.43183
447149.92	3763038.90	0.49874	447148.56	3763019.78	0.50340
447148.56	3762997.39	0.50976	447206.08	3762958.49	0.55810
447209.33	3762922.51	0.57194	447208.40	3762890.70	0.58131
447145.83	3762888.87	0.53808	447122.55	3762889.07	0.52304
447094.33	3762890.05	0.50550	447071.04	3762890.45	0.49181
447043.61	3762889.66	0.47670	447017.76	3762888.87	0.46312
446992.11	3762889.07	0.45004	446964.28	3762888.28	0.43669
446940.41	3762888.47	0.42560	446911.20	3762888.08	0.41274
446885.35	3762889.66	0.40154	446862.07	3762888.87	0.39219
446871.45	3762779.57	0.41137	446926.31	3762768.72	0.43809
446983.74	3762774.24	0.46637	447009.00	3762774.05	0.48022
447030.51	3762774.44	0.49248	447055.37	3762774.05	0.50742
447076.88	3762774.24	0.52079	447101.16	3762774.44	0.53653
447123.85	3762774.05	0.55212	447148.12	3762775.03	0.56923
447170.23	3762774.84	0.58586	447196.78	3762775.48	0.60668
447242.12	3762776.57	0.64502	447262.33	3762776.03	0.66372
447294.56	3762776.30	0.69498	447313.13	3762775.48	0.71441
447313.40	3762749.53	0.72459	447327.86	3762713.09	0.75467
447327.36	3762679.87	0.76660	447327.74	3762657.02	0.77526

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        447327.28    3762636.82        0.78168                     447327.51
        3762612.90         0.78989
        447327.28    3762592.24        0.79599                     447327.04
        3762569.71         0.80223
        447327.28    3762547.89        0.80840                     447326.58
        3762524.67         0.81322
        447326.58    3762506.09        0.81742                     447327.51
        3762477.53         0.82436
        447325.88    3762454.31        0.82612                     447225.58
        3762432.95         0.70768
        447200.27    3762430.63        0.68172                     447156.85
        3762430.16         0.64024
        447131.77    3762430.86        0.61807                     447102.74
        3762430.63         0.59393
        447079.06    3762430.86        0.57526                     447034.94
        3762433.65         0.54293
        446995.47    3762433.65        0.51664                     446972.71
        3762434.34         0.50238
        446941.37    3762434.58        0.48389                     446916.06
        3762436.90         0.46960
        446876.35    3762436.90        0.44862                     446848.85
        3762647.05         0.41765
        446848.85    3762563.17        0.42605                     446849.17
        3762509.82         0.43052
        446849.17    3762455.82        0.43407                     446848.85
        3762702.00         0.41129
        446849.49    3762754.71        0.40512                     446739.81
        3762428.53         0.38719
        446711.81    3762423.61        0.37644                     446687.25
        3762416.25         0.36750
        446662.20    3762412.32        0.35863                     446636.17
        3762403.97         0.34993
        449981.72    3762732.45        1.03303                     446486.82
        3762231.95         0.30755
        446261.97    3762068.01        0.25476                     446443.15
        3762291.63         0.29536
        446071.80    3762055.49        0.22035                     446072.08
        3761983.13         0.22013
        446138.18    3762002.17        0.23134                     445884.94
        3762039.75         0.19338
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP: 6BREF    ***
                                INCLUDING SOURCE(S):     6BREF       ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
- - - -
```

3764451.22 0.13109
446959.28 3764451.22 0.13505 446995.28
3764468.13 0.13543
447007.41 3764467.30 0.13597 447023.51
3764466.09 0.13698
447036.59 3764466.21 0.13773 447052.68
3764465.61 0.13856
447066.60 3764465.73 0.13919 447099.65
3764456.17 0.14176
447145.28 3764468.27 0.14331 447175.54
3764468.03 0.14578
447205.32 3764468.27 0.14794 447232.43
3764467.55 0.14799
447264.02 3764467.30 0.14686 447294.77
3764466.94 0.14711
447364.97 3764456.41 0.15180 447406.61
3764460.65 0.15317
447441.47 3764460.04 0.15426 447466.88
3764460.20 0.15531
447490.00 3764460.56 0.15667 447515.50
3764460.40 0.15858
447573.06 3764454.29 0.16411 447598.49
3764445.22 0.16597
447652.90 3764439.70 0.16604 447692.92
3764439.51 0.16783
447713.82 3764439.11 0.16857 447731.95
3764438.72 0.16893
447751.07 3764438.72 0.16940 447768.82
3764437.53 0.16966
447789.12 3764437.73 0.16944 447805.68
3764437.34 0.16952
447824.02 3764437.20 0.16961 447841.61
3764437.87 0.16981
447861.72 3764437.53 0.17029 447881.66
3764435.18 0.17110
447902.78 3764436.19 0.17141 447920.87
3764435.35 0.17198
447942.16 3764435.35 0.17262 447962.77
3764434.85 0.17343
447980.70 3764435.18 0.17413 448004.66
3764435.18 0.17586
448021.25 3764434.68 0.17876 447662.70
3764379.63 0.17253
447681.30 3764320.98 0.18177 447682.64
3764285.79 0.18977
447662.53 3764238.37 0.19946 447661.70
3764207.37 0.20732
447683.14 3764162.29 0.22104 447680.97
3764145.87 0.22564
447679.63 3764130.28 0.23038 447680.80
3764112.02 0.23608
447681.47 3764096.43 0.24037 447680.80
3764078.84 0.24469
447679.96 3764064.26 0.24773 447680.97
3764045.82 0.25164
447680.63 3764029.74 0.25490 447657.17
3763992.03 0.26251
447656.33 3763967.06 0.26771 447657.17
3763928.69 0.27709
447657.17 3763902.21 0.28375 447657.51
3763869.03 0.29442
447656.16 3763834.94 0.30372 447655.93
3763808.27 0.31076
447657.09 3763786.00 0.31708 447701.21
3763782.14 0.32405
447856.92 3763749.71 0.37219 447854.99

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BREF *** INCLUDING SOURCE(S): 6BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	21.63094	448462.73	3762339.82	21.09728
448464.47	3762265.93	11.77409	448461.57	3762165.17	6.49218
448472.57	3762064.71	4.03592	448460.48	3762016.72	3.40848
448234.63	3761951.18	3.00164	448081.42	3761952.78	2.88388
448025.53	3761955.99	2.73743	447506.75	3761967.63	1.05110
447269.29	3761967.74	0.71758	447389.46	3761908.79	0.84864
447019.14	3761964.34	0.51476	447060.33	3761963.58	0.54127
446975.31	3761963.20	0.48865	446940.92	3761953.76	0.46922
446865.72	3761974.54	0.43282	446795.06	3761957.91	0.40105
446757.65	3761965.85	0.38621	446709.33	3761967.74	0.36808
446796.42	3762028.62	0.40379	446796.97	3762045.28	0.40450
446796.70	3762089.51	0.40580	446796.15	3762105.89	0.40592
446796.70	3762137.29	0.40672	446796.15	3762153.39	0.40671
446772.40	3762215.37	0.39723	446795.06	3762321.03	0.40539
446796.42	3762450.98	0.40066	446796.42	3762471.18	0.39947
446797.24	3762496.03	0.39822	446798.06	3762516.51	0.39714
446797.79	3762539.98	0.39526	446797.52	3762560.19	0.39352
446798.61	3762584.76	0.39187	446798.06	3762604.42	0.38986

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        446799.70    3762654.11        0.38558                      446799.97
        3762674.58         0.38351
        446800.25    3762700.25        0.38079                      446800.25
        3762721.27         0.37843
        446799.97    3762735.74        0.37667                      446797.79
        3762748.02         0.37443
        446802.16    3762913.47        0.35563                      446802.16
        3762932.58         0.35319
        446802.43    3762949.24        0.35114                      446802.98
        3762967.26         0.34902
        446802.70    3762986.09        0.34650                      446802.16
        3763003.29         0.34410
        446802.16    3763021.86        0.34170                      446802.70
        3763040.70         0.33943
        446802.98    3763059.26        0.33711                      446803.52
        3763077.01         0.33498
        446756.29    3763085.26        0.32016                      446807.68
        3763646.39         0.22110
        446808.32    3763674.66        0.21725                      446807.68
        3763694.57         0.21420
        446808.32    3763710.63        0.21219                      446808.32
        3763726.37         0.21015
        446808.00    3763742.11        0.20830                      446808.32
        3763756.89         0.20662
        446808.64    3763798.32        0.20064                      446810.25
        3764484.08         0.12411
        446781.34    3764475.08        0.12318                      446722.56
        3764455.81         0.12182
        446170.32    3764559.79        0.09647                      446872.29
        3763190.26         0.32023
        446925.22    3763179.19        0.33614                      446984.86
        3763194.88         0.35461
        447010.56    3763193.28        0.36034                      447036.58
        3763193.60         0.36914
        447053.61    3763193.28        0.37480                      447076.42
        3763192.31         0.38208
        447093.45    3763192.63        0.38661                      447122.05
        3763192.63         0.39982
        447138.75    3763192.31        0.40744                      447167.99
        3763192.31         0.42066
        447170.68    3763172.18        0.42997                      447170.41
        3763158.25         0.43597
        447169.31    3763144.87        0.43934                      447147.46
        3763107.45         0.43586
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 195
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 6BREF    ***
                               INCLUDING SOURCE(S):     6BREF       ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - -
```

3763064.30 0.45191
447149.92 3763038.90 0.48264 447148.56
3763019.78 0.48695
447148.56 3762997.39 0.49283 447206.08
3762958.49 0.53857
447209.33 3762922.51 0.55145 447208.40
3762890.70 0.56016
447145.83 3762888.87 0.51918 447122.55
3762889.07 0.50491
447094.33 3762890.05 0.48826 447071.04
3762890.45 0.47526
447043.61 3762889.66 0.46090 447017.76
3762888.87 0.44799
446992.11 3762889.07 0.43556 446964.28
3762888.28 0.42286
446940.41 3762888.47 0.41231 446911.20
3762888.08 0.40006
446885.35 3762889.66 0.38939 446862.07
3762888.87 0.38048
446871.45 3762779.57 0.39955 446926.31
3762768.72 0.42509
446983.74 3762774.24 0.45192 447009.00
3762774.05 0.46507
447030.51 3762774.44 0.47670 447055.37
3762774.05 0.49086
447076.88 3762774.24 0.50352 447101.16
3762774.44 0.51841
447123.85 3762774.05 0.53315 447148.12
3762775.03 0.54930
447170.23 3762774.84 0.56500 447196.78
3762775.48 0.58462
447242.12 3762776.57 0.62070 447262.33
3762776.03 0.63829
447294.56 3762776.30 0.66766 447313.13
3762775.48 0.68590
447313.40 3762749.53 0.69579 447327.86
3762713.09 0.72466
447327.36 3762679.87 0.73665 447327.74
3762657.02 0.74538
447327.28 3762636.82 0.75198 447327.51
3762612.90 0.76040
447327.28 3762592.24 0.76674 447327.04
3762569.71 0.77324
447327.28 3762547.89 0.77971 447326.58
3762524.67 0.78489
447326.58 3762506.09 0.78936 447327.51
3762477.53 0.79672
447325.88 3762454.31 0.79899 447225.58
3762432.95 0.68663
447200.27 3762430.63 0.66188 447156.85
3762430.16 0.62225
447131.77 3762430.86 0.60101 447102.74
3762430.63 0.57790
447079.06 3762430.86 0.56002 447034.94
3762433.65 0.52895
446995.47 3762433.65 0.50366 446972.71
3762434.34 0.48992
446941.37 3762434.58 0.47207 446916.06
3762436.90 0.45826
446876.35 3762436.90 0.43803 446848.85
3762647.05 0.40670
446848.85 3762563.17 0.41536 446849.17
3762509.82 0.42004
446849.17 3762455.82 0.42385 446848.85
3762702.00 0.40017
446849.49 3762754.71 0.39382 446739.81

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BSPILL ***
INCLUDING SOURCE(S): 6BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.17863	447375.98	3764150.98	0.20207
447389.75	3764043.04	0.22699	447450.16	3764031.05	0.23746
447410.18	3764019.05	0.23495	446891.90	3764451.22	0.13225
446959.28	3764451.22	0.13624	446995.28	3764468.13	0.13660
447007.41	3764467.30	0.13715	447023.51	3764466.09	0.13820
447036.59	3764466.21	0.13899	447052.68	3764465.61	0.13986
447066.60	3764465.73	0.14054	447099.65	3764456.17	0.14324
447145.28	3764468.27	0.14501	447175.54	3764468.03	0.14765
447205.32	3764468.27	0.14992	447232.43	3764467.55	0.14989
447264.02	3764467.30	0.14858	447294.77	3764466.94	0.14865
447364.97	3764456.41	0.15317	447406.61	3764460.65	0.15431
447441.47	3764460.04	0.15518	447466.88	3764460.20	0.15609
447490.00	3764460.56	0.15737	447515.50	3764460.40	0.15927
447573.06	3764454.29	0.16516	447598.49	3764445.22	0.16721
447652.90	3764439.70	0.16779	447692.92	3764439.51	0.17014
447713.82	3764439.11	0.17107	447731.95	3764438.72	0.17151

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        447751.07    3764438.72        0.17198                      447768.82
        3764437.53         0.17214
        447789.12    3764437.73        0.17169                      447805.68
        3764437.34         0.17152
        447824.02    3764437.20        0.17129                      447841.61
        3764437.87         0.17116
        447861.72    3764437.53        0.17129                      447881.66
        3764435.18         0.17180
        447902.78    3764436.19        0.17186                      447920.87
        3764435.35         0.17230
        447942.16    3764435.35        0.17288                      447962.77
        3764434.85         0.17372
        447980.70    3764435.18        0.17451                      448004.66
        3764435.18         0.17645
        448021.25    3764434.68        0.17958                      447662.70
        3764379.63         0.17411
        447681.30    3764320.98        0.18344                      447682.64
        3764285.79         0.19149
        447662.53    3764238.37        0.20099                      447661.70
        3764207.37         0.20898
        447683.14    3764162.29        0.22325                      447680.97
        3764145.87         0.22797
        447679.63    3764130.28        0.23284                      447680.80
        3764112.02         0.23876
        447681.47    3764096.43        0.24320                      447680.80
        3764078.84         0.24763
        447679.96    3764064.26        0.25070                      447680.97
        3764045.82         0.25464
        447680.63    3764029.74        0.25791                      447657.17
        3763992.03         0.26600
        447656.33    3763967.06        0.27133                      447657.17
        3763928.69         0.28103
        447657.17    3763902.21        0.28794                      447657.51
        3763869.03         0.29918
        447656.16    3763834.94        0.30887                      447655.93
        3763808.27         0.31613
        447657.09    3763786.00        0.32261                      447701.21
        3763782.14         0.32903
        447856.92    3763749.71        0.37846                      447854.99
        3763730.13         0.38848
        447854.35    3763698.35        0.40609                      447855.31
        3763676.84         0.41905
        447675.51    3763287.46        0.64955                      448481.33
        3763485.29         0.67128
        448479.95    3763195.53        1.34868                      448478.56
        3762907.16         3.37893
        448497.89    3762714.10        9.04227                      448507.91
        3762487.71        72.80872
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 197
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP: 6BSPILL  ***
                              INCLUDING SOURCE(S):     6BSPILL     ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF OTHER    IN
                                       MICROGRAMS/M**3                        **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
```

(M) CONC

448480.49 3762357.96 21.46275 448462.73
3762339.82 21.05252
448464.47 3762265.93 11.79746 448461.57
3762165.17 6.49223
448472.57 3762064.71 4.03048 448460.48
3762016.72 3.40029
448234.63 3761951.18 2.98151 448081.42
3761952.78 2.90741
448025.53 3761955.99 2.75903 447506.75
3761967.63 1.04829
447269.29 3761967.74 0.71514 447389.46
3761908.79 0.84627
447019.14 3761964.34 0.51245 447060.33
3761963.58 0.53895
446975.31 3761963.20 0.48637 446940.92
3761953.76 0.46703
446865.72 3761974.54 0.43058 446795.06
3761957.91 0.39897
446757.65 3761965.85 0.38419 446709.33
3761967.74 0.36616
446796.42 3762028.62 0.40178 446796.97
3762045.28 0.40257
446796.70 3762089.51 0.40415 446796.15
3762105.89 0.40441
446796.70 3762137.29 0.40546 446796.15
3762153.39 0.40558
446772.40 3762215.37 0.39645 446795.06
3762321.03 0.40463
446796.42 3762450.98 0.39967 446796.42
3762471.18 0.39849
446797.24 3762496.03 0.39727 446798.06
3762516.51 0.39621
446797.79 3762539.98 0.39438 446797.52
3762560.19 0.39268
446798.61 3762584.76 0.39107 446798.06
3762604.42 0.38907
446799.70 3762654.11 0.38478 446799.97
3762674.58 0.38268
446800.25 3762700.25 0.37991 446800.25
3762721.27 0.37750
446799.97 3762735.74 0.37571 446797.79
3762748.02 0.37344
446802.16 3762913.47 0.35412 446802.16
3762932.58 0.35164
446802.43 3762949.24 0.34958 446802.98
3762967.26 0.34745
446802.70 3762986.09 0.34494 446802.16
3763003.29 0.34257
446802.16 3763021.86 0.34022 446802.70
3763040.70 0.33802
446802.98 3763059.26 0.33579 446803.52
3763077.01 0.33375
446756.29 3763085.26 0.31894 446807.68
3763646.39 0.22453
446808.32 3763674.66 0.22066 446807.68
3763694.57 0.21755
446808.32 3763710.63 0.21557 446808.32
3763726.37 0.21357
446808.00 3763742.11 0.21179 446808.32
3763756.89 0.21017
446808.64 3763798.32 0.20418 446810.25
3764484.08 0.12510
446781.34 3764475.08 0.12403 446722.56

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BSPILL ***
INCLUDING SOURCE(S): 6BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.45743	447146.92	3763064.30	0.46705
447149.92	3763038.90	0.48170	447148.56	3763019.78	0.48584
447148.56	3762997.39	0.49150	447206.08	3762958.49	0.53695
447209.33	3762922.51	0.54940	447208.40	3762890.70	0.55779
447145.83	3762888.87	0.51686	447122.55	3762889.07	0.50263
447094.33	3762890.05	0.48604	447071.04	3762890.45	0.47309
447043.61	3762889.66	0.45880	447017.76	3762888.87	0.44596
446992.11	3762889.07	0.43360	446964.28	3762888.28	0.42098
446940.41	3762888.47	0.41049	446911.20	3762888.08	0.39833
446885.35	3762889.66	0.38772	446862.07	3762888.87	0.37888
446871.45	3762779.57	0.39831	446926.31	3762768.72	0.42376
446983.74	3762774.24	0.45040	447009.00	3762774.05	0.46346
447030.51	3762774.44	0.47502	447055.37	3762774.05	0.48909
447076.88	3762774.24	0.50166	447101.16	3762774.44	0.51644

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        447123.85    3762774.05        0.53109                     447148.12
        3762775.03         0.54712
        447170.23    3762774.84        0.56271                     447196.78
        3762775.48         0.58218
        447242.12    3762776.57        0.61802                     447262.33
        3762776.03         0.63549
        447294.56    3762776.30        0.66467                     447313.13
        3762775.48         0.68280
        447313.40    3762749.53        0.69281                     447327.86
        3762713.09         0.72186
        447327.36    3762679.87        0.73418                     447327.74
        3762657.02         0.74312
        447327.28    3762636.82        0.74990                     447327.51
        3762612.90         0.75848
        447327.28    3762592.24        0.76490                     447327.04
        3762569.71         0.77144
        447327.28    3762547.89        0.77788                     447326.58
        3762524.67         0.78301
        447326.58    3762506.09        0.78742                     447327.51
        3762477.53         0.79472
        447325.88    3762454.31        0.79699                     447225.58
        3762432.95         0.68496
        447200.27    3762430.63        0.66028                     447156.85
        3762430.16         0.62076
        447131.77    3762430.86        0.59957                     447102.74
        3762430.63         0.57652
        447079.06    3762430.86        0.55870                     447034.94
        3762433.65         0.52769
        446995.47    3762433.65        0.50246                     446972.71
        3762434.34         0.48875
        446941.37    3762434.58        0.47093                     446916.06
        3762436.90         0.45714
        446876.35    3762436.90        0.43695                     446848.85
        3762647.05         0.40586
        446848.85    3762563.17        0.41448                     446849.17
        3762509.82         0.41905
        446849.17    3762455.82        0.42281                     446848.85
        3762702.00         0.39922
        446849.49    3762754.71        0.39271                     446739.81
        3762428.53         0.37785
        446711.81    3762423.61        0.36749                     446687.25
        3762416.25         0.35889
        446662.20    3762412.32        0.35033                     446636.17
        3762403.97         0.34194
        449981.72    3762732.45        1.12158                     446486.82
        3762231.95         0.30146
        446261.97    3762068.01        0.24981                     446443.15
        3762291.63         0.28947
        446071.80    3762055.49        0.21650                     446072.08
        3761983.13         0.21595
        446138.18    3762002.17        0.22683                     445884.94
        3762039.75         0.19028
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                    PAGE 199
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 8BREAT   ***
                               INCLUDING SOURCE(S):     8BREAT      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***
```

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.15270	447375.98	3764150.98	0.17125
447389.75	3764043.04	0.19039	447450.16	3764031.05	0.19743
447410.18	3764019.05	0.19621	446891.90	3764451.22	0.11798
446959.28	3764451.22	0.12095	446995.28	3764468.13	0.12102
447007.41	3764467.30	0.12143	447023.51	3764466.09	0.12217
447036.59	3764466.21	0.12270	447052.68	3764465.61	0.12330
447066.60	3764465.73	0.12374	447099.65	3764456.17	0.12568
447145.28	3764468.27	0.12655	447175.54	3764468.03	0.12830
447205.32	3764468.27	0.12984	447232.43	3764467.55	0.12992
447264.02	3764467.30	0.12915	447294.77	3764466.94	0.12939
447364.97	3764456.41	0.13328	447406.61	3764460.65	0.13448
447441.47	3764460.04	0.13546	447466.88	3764460.20	0.13633
447490.00	3764460.56	0.13738	447515.50	3764460.40	0.13879
447573.06	3764454.29	0.14271	447598.49	3764445.22	0.14407
447652.90	3764439.70	0.14388	447692.92	3764439.51	0.14496
447713.82	3764439.11	0.14543	447731.95	3764438.72	0.14567
447751.07	3764438.72	0.14604	447768.82	3764437.53	0.14630
447789.12	3764437.73	0.14625	447805.68	3764437.34	0.14646
447824.02	3764437.20	0.14672	447841.61	3764437.87	0.14707
447861.72	3764437.53	0.14769	447881.66	3764435.18	0.14857
447902.78	3764436.19	0.14905	447920.87	3764435.35	0.14968
447942.16	3764435.35	0.15034	447962.77	3764434.85	0.15106
447980.70	3764435.18	0.15163	448004.66	3764435.18	0.15290
448021.25	3764434.68	0.15493	447662.70	3764379.63	0.14936
447681.30	3764320.98	0.15680	447682.64	3764285.79	0.16313
447662.53	3764238.37	0.17096	447661.70	3764207.37	0.17702
447683.14	3764162.29	0.18729	447680.97	3764145.87	0.19077
447679.63	3764130.28	0.19429	447680.80	3764112.02	0.19849
447681.47	3764096.43	0.20172	447680.80	3764078.84	0.20503
447679.96	3764064.26	0.20745	447680.97		

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8BREAT ***
INCLUDING SOURCE(S): 8BREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	83.57240	448462.73	3762339.82	100.02516
448464.47	3762265.93	33.99585	448461.57	3762165.17	14.15244
448472.57	3762064.71	7.23195	448460.48	3762016.72	5.82175
448234.63	3761951.18	5.01012	448081.42	3761952.78	4.23387
448025.53	3761955.99	3.78456	447506.75	3761967.63	1.12241
447269.29	3761967.74	0.75021	447389.46	3761908.79	0.89942
447019.14	3761964.34	0.53236	447060.33	3761963.58	0.56058
446975.31	3761963.20	0.50468	446940.92	3761953.76	0.48433
446865.72	3761974.54	0.44543	446795.06	3761957.91	0.41234
446757.65	3761965.85	0.39658	446709.33	3761967.74	0.37752
446796.42	3762028.62	0.41354	446796.97	3762045.28	0.41380
446796.70	3762089.51	0.41379	446796.15	3762105.89	0.41336

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        446796.70    3762137.29        0.41310                    446796.15
        3762153.39         0.41251
        446772.40    3762215.37        0.40060                    446795.06
        3762321.03         0.40532
        446796.42    3762450.98        0.39661                    446796.42
        3762471.18         0.39485
        446797.24    3762496.03        0.39289                    446798.06
        3762516.51         0.39120
        446797.79    3762539.98        0.38866                    446797.52
        3762560.19         0.38640
        446798.61    3762584.76        0.38413                    446798.06
        3762604.42         0.38167
        446799.70    3762654.11        0.37641                    446799.97
        3762674.58         0.37400
        446800.25    3762700.25        0.37090                    446800.25
        3762721.27         0.36828
        446799.97    3762735.74        0.36636                    446797.79
        3762748.02         0.36404
        446802.16    3762913.47        0.34380                    446802.16
        3762932.58         0.34120
        446802.43    3762949.24        0.33901                    446802.98
        3762967.26         0.33670
        446802.70    3762986.09        0.33400                    446802.16
        3763003.29         0.33144
        446802.16    3763021.86        0.32883                    446802.70
        3763040.70         0.32633
        446802.98    3763059.26        0.32378                    446803.52
        3763077.01         0.32142
        446756.29    3763085.26        0.30785                    446807.68
        3763646.39         0.19296
        446808.32    3763674.66        0.18956                    446807.68
        3763694.57         0.18695
        446808.32    3763710.63        0.18514                    446808.32
        3763726.37         0.18333
        446808.00    3763742.11        0.18161                    446808.32
        3763756.89         0.18006
        446808.64    3763798.32        0.17503                    446810.25
        3764484.08         0.11231
        446781.34    3764475.08        0.11163                    446722.56
        3764455.81         0.11054
        446170.32    3764559.79        0.08747                    446872.29
        3763190.26         0.27477
        446925.22    3763179.19        0.28781                    446984.86
        3763194.88         0.30001
        447010.56    3763193.28        0.30542                    447036.58
        3763193.60         0.31191
        447053.61    3763193.28        0.31623                    447076.42
        3763192.31         0.32200
        447093.45    3763192.63        0.32583                    447122.05
        3763192.63         0.33470
        447138.75    3763192.31        0.33992                    447167.99
        3763192.31         0.34900
        447170.68    3763172.18        0.35612                    447170.41
        3763158.25         0.36060
        447169.31    3763144.87        0.36387                    447147.46
        3763107.45         0.36519
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 201
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                         *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                         SOURCE GROUP: 8BREAT   ***
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INCLUDING SOURCE(S): 8BREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.37168	447146.92	3763064.30	0.37837
447149.92	3763038.90	0.38865	447148.56	3763019.78	0.39469
447148.56	3762997.39	0.40310	447206.08	3762958.49	0.50514
447209.33	3762922.51	0.51873	447208.40	3762890.70	0.52846
447145.83	3762888.87	0.49262	447122.55	3762889.07	0.47997
447094.33	3762890.05	0.46511	447071.04	3762890.45	0.45346
447043.61	3762889.66	0.44059	447017.76	3762888.87	0.42897
446992.11	3762889.07	0.41770	446964.28	3762888.28	0.40616
446940.41	3762888.47	0.39652	446911.20	3762888.08	0.38531
446885.35	3762889.66	0.37545	446862.07	3762888.87	0.36725
446871.45	3762779.57	0.38706	446926.31	3762768.72	0.41114
446983.74	3762774.24	0.43594	447009.00	3762774.05	0.44810
447030.51	3762774.44	0.45883	447055.37	3762774.05	0.47188
447076.88	3762774.24	0.48349	447101.16	3762774.44	0.49709
447123.85	3762774.05	0.51055	447148.12	3762775.03	0.52518
447170.23	3762774.84	0.53940	447196.78	3762775.48	0.55705
447242.12	3762776.57	0.58930	447262.33	3762776.03	0.60499
447294.56	3762776.30	0.63095	447313.13	3762775.48	0.64706
447313.40	3762749.53	0.65793	447327.86	3762713.09	0.68657
447327.36	3762679.87	0.70013	447327.74	3762657.02	0.70996
447327.28	3762636.82	0.71773	447327.51	3762612.90	0.72762
447327.28	3762592.24	0.73546	447327.04	3762569.71	0.74383
447327.28	3762547.89	0.75226	447326.58	3762524.67	0.75985
447326.58	3762506.09	0.76636	447327.51	3762477.53	0.77703
447325.88	3762454.31	0.78222	447225.58	3762432.95	0.67624
447200.27	3762430.63	0.65242	447156.85	3762430.16	0.61389
447131.77	3762430.86	0.59316	447102.74	3762430.63	0.57064
447079.06	3762430.86	0.55318	447034.94		

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8LOAD ***
INCLUDING SOURCE(S): 8LOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.15270	447375.98	3764150.98	0.17125
447389.75	3764043.04	0.19039	447450.16	3764031.05	0.19743
447410.18	3764019.05	0.19621	446891.90	3764451.22	0.11798
446959.28	3764451.22	0.12095	446995.28	3764468.13	0.12102
447007.41	3764467.30	0.12143	447023.51	3764466.09	0.12217
447036.59	3764466.21	0.12270	447052.68	3764465.61	0.12330
447066.60	3764465.73	0.12374	447099.65	3764456.17	0.12568
447145.28	3764468.27	0.12655	447175.54	3764468.03	0.12830
447205.32	3764468.27	0.12984	447232.43	3764467.55	0.12992
447264.02	3764467.30	0.12915	447294.77	3764466.94	0.12939

447364.97 3764456.41 0.13328 447406.61
3764460.65 0.13448
447441.47 3764460.04 0.13546 447466.88
3764460.20 0.13633
447490.00 3764460.56 0.13738 447515.50
3764460.40 0.13879
447573.06 3764454.29 0.14271 447598.49
3764445.22 0.14407
447652.90 3764439.70 0.14387 447692.92
3764439.51 0.14496
447713.82 3764439.11 0.14543 447731.95
3764438.72 0.14567
447751.07 3764438.72 0.14604 447768.82
3764437.53 0.14630
447789.12 3764437.73 0.14625 447805.68
3764437.34 0.14645
447824.02 3764437.20 0.14672 447841.61
3764437.87 0.14707
447861.72 3764437.53 0.14769 447881.66
3764435.18 0.14857
447902.78 3764436.19 0.14905 447920.87
3764435.35 0.14968
447942.16 3764435.35 0.15034 447962.77
3764434.85 0.15106
447980.70 3764435.18 0.15163 448004.66
3764435.18 0.15290
448021.25 3764434.68 0.15493 447662.70
3764379.63 0.14936
447681.30 3764320.98 0.15680 447682.64
3764285.79 0.16313
447662.53 3764238.37 0.17096 447661.70
3764207.37 0.17702
447683.14 3764162.29 0.18729 447680.97
3764145.87 0.19077
447679.63 3764130.28 0.19429 447680.80
3764112.02 0.19849
447681.47 3764096.43 0.20172 447680.80
3764078.84 0.20503
447679.96 3764064.26 0.20745 447680.97
3764045.82 0.21056
447680.63 3764029.74 0.21318 447657.17
3763992.03 0.21914
447656.33 3763967.06 0.22333 447657.17
3763928.69 0.23067
447657.17 3763902.21 0.23588 447657.51
3763869.03 0.24391
447656.16 3763834.94 0.25118 447655.93
3763808.27 0.25677
447657.09 3763786.00 0.26177 447701.21
3763782.14 0.26677
447856.92 3763749.71 0.29899 447854.99
3763730.13 0.30600
447854.35 3763698.35 0.31817 447855.31
3763676.84 0.32699
447675.51 3763287.46 0.48837 448481.33
3763485.29 0.49526
448479.95 3763195.53 0.88473 448478.56
3762907.16 2.18338
448497.89 3762714.10 4.44375 448507.91
3762487.71 21.94552

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8LOAD ***
INCLUDING SOURCE(S): 8LOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	83.57344	448462.73	3762339.82	100.02588
448464.47	3762265.93	33.99634	448461.57	3762165.17	14.15260
448472.57	3762064.71	7.23201	448460.48	3762016.72	5.82180
448234.63	3761951.18	5.01014	448081.42	3761952.78	4.23389
448025.53	3761955.99	3.78457	447506.75	3761967.63	1.12241
447269.29	3761967.74	0.75022	447389.46	3761908.79	0.89942
447019.14	3761964.34	0.53236	447060.33	3761963.58	0.56058
446975.31	3761963.20	0.50468	446940.92	3761953.76	0.48433
446865.72	3761974.54	0.44543	446795.06	3761957.91	0.41234
446757.65	3761965.85	0.39659	446709.33	3761967.74	0.37752
446796.42	3762028.62	0.41354	446796.97	3762045.28	0.41381
446796.70	3762089.51	0.41379	446796.15	3762105.89	0.41337
446796.70	3762137.29	0.41310	446796.15	3762153.39	0.41251
446772.40	3762215.37	0.40060	446795.06	3762321.03	0.40532
446796.42	3762450.98	0.39661	446796.42	3762471.18	0.39485
446797.24	3762496.03	0.39289	446798.06	3762516.51	0.39120
446797.79	3762539.98	0.38866	446797.52	3762560.19	0.38640
446798.61	3762584.76	0.38413	446798.06	3762604.42	0.38167
446799.70	3762654.11	0.37641	446799.97	3762674.58	0.37400
446800.25	3762700.25	0.37090	446800.25	3762721.27	0.36828
446799.97	3762735.74	0.36636	446797.79	3762748.02	0.36404
446802.16	3762913.47	0.34381	446802.16	3762932.58	0.34120
446802.43	3762949.24	0.33901	446802.98	3762967.26	0.33670
446802.70	3762986.09	0.33400	446802.16	3763003.29	0.33144
446802.16	3763021.86	0.32883	446802.70	3763040.70	0.32633
446802.98	3763059.26	0.32378	446803.52		

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8LOAD ***
INCLUDING SOURCE(S): 8LOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.37168	447146.92	3763064.30	0.37837
447149.92	3763038.90	0.38865	447148.56	3763019.78	0.39469
447148.56	3762997.39	0.40310	447206.08	3762958.49	0.50514
447209.33	3762922.51	0.51873	447208.40	3762890.70	0.52846
447145.83	3762888.87	0.49262	447122.55	3762889.07	0.47998
447094.33	3762890.05	0.46511	447071.04	3762890.45	0.45347
447043.61	3762889.66	0.44059	447017.76	3762888.87	0.42897
446992.11	3762889.07	0.41770	446964.28	3762888.28	0.40616
446925.22	3763179.19	0.28781	446984.86	3763194.88	0.30001
447010.56	3763193.28	0.30542	447036.58	3763193.60	0.31191
447053.61	3763193.28	0.31623	447076.42	3763192.31	0.32200
447093.45	3763192.63	0.32583	447122.05	3763192.63	0.33470
447138.75	3763192.31	0.33992	447167.99	3763192.31	0.34900
447170.68	3763172.18	0.35612	447170.41	3763158.25	0.36060
447169.31	3763144.87	0.36387	447147.46	3763107.45	0.36519
446756.29	3763085.26	0.30785	446807.68	3763646.39	0.19296
446808.32	3763674.66	0.18956	446807.68	3763694.57	0.18695
446808.32	3763710.63	0.18514	446808.32	3763726.37	0.18333
446808.00	3763742.11	0.18161	446808.32	3763756.89	0.18006
446808.64	3763798.32	0.17503	446810.25	3764484.08	0.11231
446781.34	3764475.08	0.11163	446722.56	3764455.81	0.11054
446170.32	3764559.79	0.08747	446872.29	3763190.26	0.27477

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 446940.41    3762888.47        0.39652                    446911.20
 3762888.08         0.38531
 446885.35    3762889.66        0.37545                    446862.07
 3762888.87         0.36725
 446871.45    3762779.57        0.38707                    446926.31
 3762768.72         0.41114
 446983.74    3762774.24        0.43594                    447009.00
 3762774.05         0.44810
 447030.51    3762774.44        0.45883                    447055.37
 3762774.05         0.47189
 447076.88    3762774.24        0.48349                    447101.16
 3762774.44         0.49709
 447123.85    3762774.05        0.51055                    447148.12
 3762775.03         0.52518
 447170.23    3762774.84        0.53940                    447196.78
 3762775.48         0.55706
 447242.12    3762776.57        0.58931                    447262.33
 3762776.03         0.60499
 447294.56    3762776.30        0.63096                    447313.13
 3762775.48         0.64706
 447313.40    3762749.53        0.65793                    447327.86
 3762713.09         0.68657
 447327.36    3762679.87        0.70013                    447327.74
 3762657.02         0.70996
 447327.28    3762636.82        0.71773                    447327.51
 3762612.90         0.72762
 447327.28    3762592.24        0.73547                    447327.04
 3762569.71         0.74383
 447327.28    3762547.89        0.75226                    447326.58
 3762524.67         0.75985
 447326.58    3762506.09        0.76637                    447327.51
 3762477.53         0.77704
 447325.88    3762454.31        0.78223                    447225.58
 3762432.95         0.67625
 447200.27    3762430.63        0.65242                    447156.85
 3762430.16         0.61390
 447131.77    3762430.86        0.59316                    447102.74
 3762430.63         0.57065
 447079.06    3762430.86        0.55319                    447034.94
 3762433.65         0.52269
 446995.47    3762433.65        0.49799                    446972.71
 3762434.34         0.48453
 446941.37    3762434.58        0.46707                    446916.06
 3762436.90         0.45347
 446876.35    3762436.90        0.43366                    446848.85
 3762647.05         0.39665
 446848.85    3762563.17        0.40729                    446849.17
 3762509.82         0.41361
 446849.17    3762455.82        0.41914                    446848.85
 3762702.00         0.38919
 446849.49    3762754.71        0.38216                    446739.81
 3762428.53         0.37576
 446711.81    3762423.61        0.36567                    446687.25
 3762416.25         0.35736
 446662.20    3762412.32        0.34899                    446636.17
 3762403.97         0.34087
 449981.72    3762732.45        1.11674                    446486.82
 3762231.95         0.30346
 446261.97    3762068.01        0.25346                    446443.15
 3762291.63         0.29043
 446071.80    3762055.49        0.21927                    446072.08
 3761983.13         0.21961
 446138.18    3762002.17        0.23066                    445884.94
 3762039.75         0.19248
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8REF ***
INCLUDING SOURCE(S): 8REF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.16023	447375.98	3764150.98	0.18053
447389.75	3764043.04	0.20170	447450.16	3764031.05	0.20949
447410.18	3764019.05	0.20815	446891.90	3764451.22	0.12239
446959.28	3764451.22	0.12582	446995.28	3764468.13	0.12605
447007.41	3764467.30	0.12651	447023.51	3764466.09	0.12735
447036.59	3764466.21	0.12798	447052.68	3764465.61	0.12866
447066.60	3764465.73	0.12916	447099.65	3764456.17	0.13130
447145.28	3764468.27	0.13236	447175.54	3764468.03	0.13435
447205.32	3764468.27	0.13606	447232.43	3764467.55	0.13592
447264.02	3764467.30	0.13473	447294.77	3764466.94	0.13476
447364.97	3764456.41	0.13864	447406.61	3764460.65	0.13979
447441.47	3764460.04	0.14076	447466.88	3764460.20	0.14172
447490.00	3764460.56	0.14296	447515.50	3764460.40	0.14468
447573.06	3764454.29	0.14956	447598.49	3764445.22	0.15117
447652.90	3764439.70	0.15112	447692.92	3764439.51	0.15246
447713.82	3764439.11	0.15296	447731.95	3764438.72	0.15315
447751.07	3764438.72	0.15342	447768.82	3764437.53	0.15352
447789.12	3764437.73	0.15320	447805.68	3764437.34	0.15318
447824.02	3764437.20	0.15318	447841.61	3764437.87	0.15332
447861.72	3764437.53	0.15372	447881.66	3764435.18	0.15443
447902.78	3764436.19	0.15475	447920.87	3764435.35	0.15530
447942.16	3764435.35	0.15593	447962.77	3764434.85	0.15672
447980.70	3764435.18	0.15740	448004.66	3764435.18	0.15899
448021.25	3764434.68	0.16154	447662.70		

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        3764379.63        0.15671
        447681.30    3764320.98        0.16463                    447682.64
        3764285.79        0.17150
        447662.53    3764238.37        0.17979                    447661.70
        3764207.37        0.18644
        447683.14    3764162.29        0.19800                    447680.97
        3764145.87        0.20186
        447679.63    3764130.28        0.20580                    447680.80
        3764112.02        0.21057
        447681.47    3764096.43        0.21415                    447680.80
        3764078.84        0.21776
        447679.96    3764064.26        0.22029                    447680.97
        3764045.82        0.22354
        447680.63    3764029.74        0.22625                    447657.17
        3763992.03        0.23259
        447656.33    3763967.06        0.23691                    447657.17
        3763928.69        0.24470
        447657.17    3763902.21        0.25025                    447657.51
        3763869.03        0.25915
        447656.16    3763834.94        0.26694                    447655.93
        3763808.27        0.27284
        447657.09    3763786.00        0.27812                    447701.21
        3763782.14        0.28328
        447856.92    3763749.71        0.32140                    447854.99
        3763730.13        0.32923
        447854.35    3763698.35        0.34287                    447855.31
        3763676.84        0.35282
        447675.51    3763287.46        0.53250                    448481.33
        3763485.29        0.53736
        448479.95    3763195.53        0.99113                    448478.56
        3762907.16        2.26483
        448497.89    3762714.10        4.74438                    448507.91
        3762487.71       25.53921
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 206
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 8REF     ***
                               INCLUDING SOURCE(S):     8REF        ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - -
        448480.49    3762357.96      100.44727                    448462.73
        3762339.82       103.42381
        448464.47    3762265.93       32.09261                    448461.57
        3762165.17        13.48818
        448472.57    3762064.71        6.90908                    448460.48
        3762016.72        5.54143
        448234.63    3761951.18        4.66227                    448081.42
        3761952.78        4.02498
        448025.53    3761955.99        3.60565                    447506.75
        3761967.63        1.07950
        447269.29    3761967.74        0.72598                    447389.46
        3761908.79        0.86836
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447019.14    3761964.34        0.51801                  447060.33
3761963.58         0.54501
446975.31    3761963.20        0.49149                  446940.92
3761953.76         0.47187
446865.72    3761974.54        0.43471                  446795.06
3761957.91         0.40272
446757.65    3761965.85        0.38765                  446709.33
3761967.74         0.36932
446796.42    3762028.62        0.40468                  446796.97
3762045.28         0.40514
446796.70    3762089.51        0.40556                  446796.15
3762105.89         0.40531
446796.70    3762137.29        0.40534                  446796.15
3762153.39         0.40491
446772.40    3762215.37        0.39368                  446795.06
3762321.03         0.39868
446796.42    3762450.98        0.39050                  446796.42
3762471.18         0.38881
446797.24    3762496.03        0.38693                  446798.06
3762516.51         0.38533
446797.79    3762539.98        0.38288                  446797.52
3762560.19         0.38067
446798.61    3762584.76        0.37844                  446798.06
3762604.42         0.37603
446799.70    3762654.11        0.37081                  446799.97
3762674.58         0.36841
446800.25    3762700.25        0.36533                  446800.25
3762721.27         0.36273
446799.97    3762735.74        0.36084                  446797.79
3762748.02         0.35856
446802.16    3762913.47        0.33917                  446802.16
3762932.58         0.33674
446802.43    3762949.24        0.33471                  446802.98
3762967.26         0.33258
446802.70    3762986.09        0.33008                  446802.16
3763003.29         0.32771
446802.16    3763021.86        0.32530                  446802.70
3763040.70         0.32300
446802.98    3763059.26        0.32065                  446803.52
3763077.01         0.31847
446756.29    3763085.26        0.30496                  446807.68
3763646.39         0.20325
446808.32    3763674.66        0.19973                  446807.68
3763694.57         0.19696
446808.32    3763710.63        0.19511                  446808.32
3763726.37         0.19323
446808.00    3763742.11        0.19150                  446808.32
3763756.89         0.18992
446808.64    3763798.32        0.18446                  446810.25
3764484.08         0.11615
446781.34    3764475.08        0.11530                  446722.56
3764455.81         0.11394
446170.32    3764559.79        0.09065                  446872.29
3763190.26         0.29329
446925.22    3763179.19        0.30703                  446984.86
3763194.88         0.32191
447010.56    3763193.28        0.32675                  447036.58
3763193.60         0.33400
447053.61    3763193.28        0.33866                  447076.42
3763192.31         0.34464
447093.45    3763192.63        0.34833                  447122.05
3763192.63         0.35908
447138.75    3763192.31        0.36525                  447167.99
3763192.31         0.37588
447170.68    3763172.18        0.38418                  447170.41
3763158.25         0.38959
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*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8REF ***
INCLUDING SOURCE(S): 8REF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	0.39886	447146.92	3763064.30	0.40681
447149.92	3763038.90	0.41968	447148.56	3763019.78	0.42700
447148.56	3762997.39	0.43788	447206.08	3762958.49	0.50090
447209.33	3762922.51	0.51372	447208.40	3762890.70	0.52270
447145.83	3762888.87	0.48684	447122.55	3762889.07	0.47422
447094.33	3762890.05	0.45942	447071.04	3762890.45	0.44782
447043.61	3762889.66	0.43499	447017.76	3762888.87	0.42341
446992.11	3762889.07	0.41221	446964.28	3762888.28	0.40075
446940.41	3762888.47	0.39118	446911.20	3762888.08	0.38006
446885.35	3762889.66	0.37031	446862.07	3762888.87	0.36218
446871.45	3762779.57	0.38114	446926.31	3762768.72	0.40474
446983.74	3762774.24	0.42910	447009.00	3762774.05	0.44106
447030.51	3762774.44	0.45161	447055.37	3762774.05	0.46445
447076.88	3762774.24	0.47587	447101.16	3762774.44	0.48927
447123.85	3762774.05	0.50253	447148.12	3762775.03	0.51698
447170.23	3762774.84	0.53100	447196.78	3762775.48	0.54846
447242.12	3762776.57	0.58039	447262.33	3762776.03	0.59591
447294.56	3762776.30	0.62166	447313.13	3762775.48	0.63763
447313.40	3762749.53	0.64762	447327.86	3762713.09	0.67491
447327.36	3762679.87	0.68750	447327.74	3762657.02	0.69675
447327.28	3762636.82	0.70409	447327.51	3762612.90	0.71351
447327.28	3762592.24	0.72102	447327.04		

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8SPILL ***
INCLUDING SOURCE(S): 8SPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	0.16204	447375.98	3764150.98	0.18303
447389.75	3764043.04	0.20500	447450.16	3764031.05	0.21294
447410.18	3764019.05	0.21167	446891.90	3764451.22	0.12336
446959.28	3764451.22	0.12687	446995.28	3764468.13	0.12719

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447327.28	3762569.71	0.72907	447326.58	3762547.89	0.73720
447327.51	3762524.67	0.74451	447325.88	3762506.09	0.75073
447225.58	3762477.53	0.76090	447200.27	3762454.31	0.76580
447156.85	3762432.95	0.66288	447131.77	3762430.63	0.63973
447102.74	3762430.16	0.60232	447079.06	3762430.63	0.58216
447034.94	3762430.86	0.54329	446972.71	3762433.65	0.51360
446916.06	3762434.34	0.48951	446848.85	3762434.58	0.47638
446876.35	3762436.90	0.45931	446848.85	3762436.90	0.44602
446849.17	3762647.05	0.42668	446848.85	3762563.17	0.39061
446849.17	3762509.82	0.40111	446848.85	3762455.82	0.40722
446849.49	3762702.00	0.41252	446739.81	3762754.71	0.38322
446687.25	3762428.53	0.37631	446636.17	3762423.61	0.37008
446486.82	3762416.25	0.36019	446443.15	3762412.32	0.35204
446072.08	3762403.97	0.34383	445884.94	3762732.45	0.33585
446138.18	3762291.63	1.20331	446261.97	3762231.95	0.29894
446848.85	3762039.75	0.24970	446711.81	3762002.17	0.19006
446672.71	3761983.13	0.22726	446687.25	3762068.01	0.21644
446636.17	3762056.17	0.21630	446739.81	3762291.63	0.28626
446848.85	3762231.95	0.23984	446848.85	3762403.97	0.33585
446848.85	3762416.25	0.35204	446848.85	3762428.53	0.37008
446848.85	3762687.25	0.36019	446848.85	3762636.17	0.34383
446848.85	3762732.45	0.33585	446848.85	3762754.71	0.37631
446848.85	3762702.00	0.38322	446848.85	3762455.82	0.40722
446848.85	3762509.82	0.40111	446848.85	3762563.17	0.39061
446848.85	3762647.05	0.42668	446848.85	3762436.90	0.44602
446849.17	3762436.90	0.45931	446849.49	3762434.58	0.47638
446849.49	3762434.34	0.48951	446848.85	3762433.65	0.51360
446848.85	3762430.86	0.54329	446848.85	3762433.65	0.56027
446848.85	3762430.63	0.58216	446848.85	3762430.86	0.60232
446848.85	3762430.16	0.63973	446848.85	3762430.63	0.66288
446848.85	3762432.95	0.76580	446848.85	3762454.31	0.76090
446848.85	3762477.53	0.75073	446848.85	3762506.09	0.74451
446848.85	3762524.67	0.73720	446848.85	3762547.89	0.72907
446848.85	3762569.71				

447007.41 3764467.30 0.12768 447023.51
3764466.09 0.12860
447036.59 3764466.21 0.12928 447052.68
3764465.61 0.13002
447066.60 3764465.73 0.13058 447099.65
3764456.17 0.13283
447145.28 3764468.27 0.13398 447175.54
3764468.03 0.13601
447205.32 3764468.27 0.13772 447232.43
3764467.55 0.13745
447264.02 3764467.30 0.13600 447294.77
3764466.94 0.13588
447364.97 3764456.41 0.13955 447406.61
3764460.65 0.14049
447441.47 3764460.04 0.14129 447466.88
3764460.20 0.14217
447490.00 3764460.56 0.14343 447515.50
3764460.40 0.14526
447573.06 3764454.29 0.15073 447598.49
3764445.22 0.15259
447652.90 3764439.70 0.15308 447692.92
3764439.51 0.15476
447713.82 3764439.11 0.15530 447731.95
3764438.72 0.15542
447751.07 3764438.72 0.15555 447768.82
3764437.53 0.15544
447789.12 3764437.73 0.15480 447805.68
3764437.34 0.15450
447824.02 3764437.20 0.15418 447841.61
3764437.87 0.15403
447861.72 3764437.53 0.15417 447881.66
3764435.18 0.15470
447902.78 3764436.19 0.15490 447920.87
3764435.35 0.15542
447942.16 3764435.35 0.15610 447962.77
3764434.85 0.15698
447980.70 3764435.18 0.15778 448004.66
3764435.18 0.15958
448021.25 3764434.68 0.16233 447662.70
3764379.63 0.15857
447681.30 3764320.98 0.16658 447682.64
3764285.79 0.17348
447662.53 3764238.37 0.18148 447661.70
3764207.37 0.18817
447683.14 3764162.29 0.20015 447680.97
3764145.87 0.20405
447679.63 3764130.28 0.20809 447680.80
3764112.02 0.21298
447681.47 3764096.43 0.21662 447680.80
3764078.84 0.22023
447679.96 3764064.26 0.22273 447680.97
3764045.82 0.22595
447680.63 3764029.74 0.22862 447657.17
3763992.03 0.23496
447656.33 3763967.06 0.23932 447657.17
3763928.69 0.24726
447657.17 3763902.21 0.25294 447657.51
3763869.03 0.26220
447656.16 3763834.94 0.27028 447655.93
3763808.27 0.27639
447657.09 3763786.00 0.28185 447701.21
3763782.14 0.28645
447856.92 3763749.71 0.32685 447854.99
3763730.13 0.33474
447854.35 3763698.35 0.34860 447855.31
3763676.84 0.35876

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8SPILL ***
INCLUDING SOURCE(S): 8SPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	102.16181	448462.73	3762339.82	100.28846
448464.47	3762265.93	31.84360	448461.57	3762165.17	13.52618
448472.57	3762064.71	6.92052	448460.48	3762016.72	5.53860
448234.63	3761951.18	4.64763	448081.42	3761952.78	4.05958
448025.53	3761955.99	3.63420	447506.75	3761967.63	1.07523
447269.29	3761967.74	0.72220	447389.46	3761908.79	0.86512
447019.14	3761964.34	0.51538	447060.33	3761963.58	0.54218
446975.31	3761963.20	0.48905	446940.92	3761953.76	0.46954
446865.72	3761974.54	0.43282	446795.06	3761957.91	0.40099
446757.65	3761965.85	0.38611	446709.33	3761967.74	0.36795
446796.42	3762028.62	0.40350	446796.97	3762045.28	0.40407
446796.70	3762089.51	0.40471	446796.15	3762105.89	0.40453
446796.70	3762137.29	0.40462	446796.15	3762153.39	0.40419
446772.40	3762215.37	0.39290	446795.06	3762321.03	0.39773
446796.42	3762450.98	0.38970	446796.42	3762471.18	0.38803
446797.24	3762496.03	0.38616	446798.06	3762516.51	0.38455
446797.79	3762539.98	0.38208	446797.52	3762560.19	0.37985
446798.61	3762584.76	0.37757	446798.06	3762604.42	0.37511
446799.70	3762654.11	0.36976	446799.97	3762674.58	0.36731
446800.25	3762700.25	0.36414	446800.25		

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        3762721.27        0.36147
        446799.97    3762735.74        0.35953                      446797.79
        3762748.02        0.35721
        446802.16    3762913.47        0.33772                      446802.16
        3762932.58        0.33537
        446802.43    3762949.24        0.33341                      446802.98
        3762967.26        0.33138
        446802.70    3762986.09        0.32899                      446802.16
        3763003.29        0.32671
        446802.16    3763021.86        0.32441                      446802.70
        3763040.70        0.32222
        446802.98    3763059.26        0.31997                      446803.52
        3763077.01        0.31787
        446756.29    3763085.26        0.30434                      446807.68
        3763646.39        0.20645
        446808.32    3763674.66        0.20302                      446807.68
        3763694.57        0.20026
        446808.32    3763710.63        0.19846                      446808.32
        3763726.37        0.19662
        446808.00    3763742.11        0.19494                      446808.32
        3763756.89        0.19339
        446808.64    3763798.32        0.18784                      446810.25
        3764484.08        0.11710
        446781.34    3764475.08        0.11626                      446722.56
        3764455.81        0.11477
        446170.32    3764559.79        0.09183                      446872.29
        3763190.26        0.30114
        446925.22    3763179.19        0.31514                      446984.86
        3763194.88        0.33078
        447010.56    3763193.28        0.33538                      447036.58
        3763193.60        0.34281
        447053.61    3763193.28        0.34754                      447076.42
        3763192.31        0.35351
        447093.45    3763192.63        0.35706                      447122.05
        3763192.63        0.36841
        447138.75    3763192.31        0.37491                      447167.99
        3763192.31        0.38607
        447170.68    3763172.18        0.39492                      447170.41
        3763158.25        0.40077
        447169.31    3763144.87        0.40417                      447147.46
        3763107.45        0.40257
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 210
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: 8SPILL   ***
                               INCLUDING SOURCE(S):     8SPILL      ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                  ** CONC OF OTHER    IN
                                  MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD
      (M)        CONC
- - - -
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447148.56 3762997.39 0.45306 447206.08
3762958.49 0.50023
447209.33 3762922.51 0.51289 447208.40
3762890.70 0.52160
447145.83 3762888.87 0.48557 447122.55
3762889.07 0.47290
447094.33 3762890.05 0.45804 447071.04
3762890.45 0.44640
447043.61 3762889.66 0.43352 447017.76
3762888.87 0.42190
446992.11 3762889.07 0.41067 446964.28
3762888.28 0.39918
446940.41 3762888.47 0.38961 446911.20
3762888.08 0.37848
446885.35 3762889.66 0.36875 446862.07
3762888.87 0.36063
446871.45 3762779.57 0.37951 446926.31
3762768.72 0.40298
446983.74 3762774.24 0.42718 447009.00
3762774.05 0.43907
447030.51 3762774.44 0.44956 447055.37
3762774.05 0.46233
447076.88 3762774.24 0.47371 447101.16
3762774.44 0.48705
447123.85 3762774.05 0.50027 447148.12
3762775.03 0.51468
447170.23 3762774.84 0.52867 447196.78
3762775.48 0.54611
447242.12 3762776.57 0.57804 447262.33
3762776.03 0.59357
447294.56 3762776.30 0.61936 447313.13
3762775.48 0.63535
447313.40 3762749.53 0.64498 447327.86
3762713.09 0.67190
447327.36 3762679.87 0.68434 447327.74
3762657.02 0.69360
447327.28 3762636.82 0.70102 447327.51
3762612.90 0.71061
447327.28 3762592.24 0.71831 447327.04
3762569.71 0.72658
447327.28 3762547.89 0.73491 447326.58
3762524.67 0.74243
447326.58 3762506.09 0.74878 447327.51
3762477.53 0.75908
447325.88 3762454.31 0.76406 447225.58
3762432.95 0.66143
447200.27 3762430.63 0.63834 447156.85
3762430.16 0.60102
447131.77 3762430.86 0.58091 447102.74
3762430.63 0.55908
447079.06 3762430.86 0.54216 447034.94
3762433.65 0.51254
446995.47 3762433.65 0.48850 446972.71
3762434.34 0.47539
446941.37 3762434.58 0.45836 446916.06
3762436.90 0.44509
446876.35 3762436.90 0.42579 446848.85
3762647.05 0.38949
446848.85 3762563.17 0.40021 446849.17
3762509.82 0.40639
446849.17 3762455.82 0.41168 446848.85
3762702.00 0.38191
446849.49 3762754.71 0.37480 446739.81
3762428.53 0.36931
446711.81 3762423.61 0.35943 446687.25
3762416.25 0.35129

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000119 , L0000120 , L0000121 , L0000122 , L0000123 ,
L0000124 , L0000125 , L0000126 , L0000127 , L0000128 ,
L0000129 , L0000130 , L0000131 ,
L0000132 , L0000133 , L0000104 , L0000105 , L0000106 ,
L0000107 , L0000108 , L0000109 ,
L0000110 , L0000111 , L0000112 , L0000113 , L0000114 ,
L0000115 , L0000116 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447362.21	3764292.67	10.12272	447375.98	3764150.98	11.99264
447389.75	3764043.04	14.42124	447450.16	3764031.05	15.15602
447410.18	3764019.05	15.19650	446891.90	3764451.22	7.38371
446959.28	3764451.22	7.55939	446995.28	3764468.13	7.51913
447007.41	3764467.30	7.54108	447023.51	3764466.09	7.58714
447036.59	3764466.21	7.61916	447052.68	3764465.61	7.65459
447066.60	3764465.73	7.67893	447099.65	3764456.17	7.81875
447145.28	3764468.27	7.86280	447175.54	3764468.03	7.99786
447205.32	3764468.27	8.11922	447232.43	3764467.55	8.12247
447264.02	3764467.30	8.06013	447294.77	3764466.94	8.08458
447364.97	3764456.41	8.42149	447406.61	3764460.65	8.53130
447441.47	3764460.04	8.62327	447466.88	3764460.20	8.70185
447490.00	3764460.56	8.79342	447515.50	3764460.40	8.91572
447573.06	3764454.29	9.25284	447598.49	3764445.22	9.38114

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        447652.90    3764439.70        9.42456                      447692.92
        3764439.51         9.56313
        447713.82    3764439.11        9.63505                      447731.95
        3764438.72         9.68844
        447751.07    3764438.72        9.75600                      447768.82
        3764437.53         9.81516
        447789.12    3764437.73        9.86261                      447805.68
        3764437.34         9.92221
        447824.02    3764437.20        9.99194                      447841.61
        3764437.87        10.07028
        447861.72    3764437.53       10.18112                      447881.66
        3764435.18        10.31600
        447902.78    3764436.19       10.42801                      447920.87
        3764435.35        10.54570
        447942.16    3764435.35       10.68437                      447962.77
        3764434.85        10.83301
        447980.70    3764435.18       10.96419                      448004.66
        3764435.18        11.18397
        448021.25    3764434.68       11.42258                      447662.70
        3764379.63         9.89409
        447681.30    3764320.98       10.54312                      447682.64
        3764285.79        11.08077
        447662.53    3764238.37       11.74705                      447661.70
        3764207.37        12.29190
        447683.14    3764162.29       13.24792                      447680.97
        3764145.87        13.57982
        447679.63    3764130.28       13.99823                      447680.80
        3764112.02        14.48960
        447681.47    3764096.43       14.84052                      447680.80
        3764078.84        15.23533
        447679.96    3764064.26       15.51323                      447680.97
        3764045.82        15.86753
        447680.63    3764029.74       16.16999                      447657.17
        3763992.03        17.04122
        447656.33    3763967.06       17.59897                      447657.17
        3763928.69        18.62752
        447657.17    3763902.21       19.42435                      447657.51
        3763869.03        20.76490
        447656.16    3763834.94       22.12377                      447655.93
        3763808.27        23.28214
        447657.09    3763786.00       24.39378                      447701.21
        3763782.14        24.73875
        447856.92    3763749.71       28.14360                      447854.99
        3763730.13        29.49977
        447854.35    3763698.35       31.91375                      447855.31
        3763676.84        33.70296
        447675.51    3763287.46      117.24626                      448481.33
        3763485.29        72.46994
        448479.95    3763195.53       87.32451                      448478.56
        3762907.16       132.25761
        448497.89    3762714.10      171.07732                      448507.91
        3762487.71       472.00594
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 212
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP: ALL      ***
                               INCLUDING SOURCE(S):     L0000119    , L0000120    ,
                               L0000121    , L0000122    , L0000123    ,
                 L0000124    , L0000125    , L0000126    , L0000127    , L0000128    ,
                 L0000129    , L0000130    , L0000131    ,
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L0000132 , L0000133 , L0000104 , L0000105 , L0000106 ,
L0000107 , L0000108 , L0000109 ,
L0000110 , L0000111 , L0000112 , L0000113 , L0000114 ,
L0000115 , L0000116 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
448480.49	3762357.96	651.11672	448462.73	3762339.82	663.24059
448464.47	3762265.93	443.40345	448461.57	3762165.17	499.71520
448472.57	3762064.71	167.62403	448460.48	3762016.72	132.44298
448234.63	3761951.18	113.45788	448081.42	3761952.78	92.69827
448025.53	3761955.99	86.79893	447506.75	3761967.63	74.84186
447269.29	3761967.74	66.36180	447389.46	3761908.79	62.88681
447019.14	3761964.34	56.38708	447060.33	3761963.58	57.36647
446975.31	3761963.20	55.20852	446940.92	3761953.76	53.32655
446865.72	3761974.54	54.16667	446795.06	3761957.91	50.06015
446757.65	3761965.85	49.79049	446709.33	3761967.74	48.17105
446796.42	3762028.62	60.77195	446796.97	3762045.28	64.22773
446796.70	3762089.51	76.37049	446796.15	3762105.89	82.17758
446796.70	3762137.29	96.65442	446796.15	3762153.39	106.18119
446772.40	3762215.37	148.07143	446795.06	3762321.03	338.03974
446796.42	3762450.98	147.14615	446796.42	3762471.18	123.65040
446797.24	3762496.03	103.83223	446798.06	3762516.51	92.01335
446797.79	3762539.98	81.54312	446797.52	3762560.19	74.58463
446798.61	3762584.76	68.10421	446798.06	3762604.42	63.73353
446799.70	3762654.11	55.66269	446799.97	3762674.58	51.08128
446800.25	3762700.25	48.03855	446800.25	3762721.27	46.24693
446799.97	3762735.74	45.18105	446797.79	3762748.02	44.21091
446802.16	3762913.47	36.95262	446802.16	3762932.58	36.29676
446802.43	3762949.24	35.76294	446802.98	3762967.26	35.22021
446802.70	3762986.09	34.57697	446802.16	3763003.29	33.95986
446802.16	3763021.86	33.31826	446802.70	3763040.70	32.70082
446802.98	3763059.26	31.89067	446803.52	3763077.01	31.38039

446756.29 3763085.26 29.57417 446807.68
3763646.39 16.87879
446808.32 3763674.66 16.37803 446807.68
3763694.57 16.00349
446808.32 3763710.63 15.73862 446808.32
3763726.37 15.46694
446808.00 3763742.11 15.21349 446808.32
3763756.89 14.98679
446808.64 3763798.32 14.28256 446810.25
3764484.08 6.97724
446781.34 3764475.08 6.95006 446722.56
3764455.81 6.91262
446170.32 3764559.79 5.18888 446872.29
3763190.26 30.63315
446925.22 3763179.19 34.06647 446984.86
3763194.88 38.39329
447010.56 3763193.28 40.78804 447036.58
3763193.60 43.70275
447053.61 3763193.28 45.85849 447076.42
3763192.31 49.14120
447093.45 3763192.63 51.84755 447122.05
3763192.63 57.54248
447138.75 3763192.31 61.43325 447167.99
3763192.31 69.54308
447170.68 3763172.18 70.82255 447170.41
3763158.25 71.07761
447169.31 3763144.87 71.02553 447147.46
3763107.45 65.79661

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000119 , L0000120 , L0000121 , L0000122 , L0000123 ,
L0000124 , L0000125 , L0000126 , L0000127 , L0000128 ,
L0000129 , L0000130 , L0000131 ,
L0000132 , L0000133 , L0000104 , L0000105 , L0000106 ,
L0000107 , L0000108 , L0000109 ,
L0000110 , L0000111 , L0000112 , L0000113 , L0000114 ,
L0000115 , L0000116 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
447146.64	3763084.24	66.23712	447146.92	3763064.30	66.95420
447149.92	3763038.90	68.74123	447148.56	3763019.78	68.92028
447148.56	3762997.39	69.57425	447206.08	3762958.49	87.83803
447209.33	3762922.51	88.27251	447208.40	3762890.70	86.80368
447145.83	3762888.87	72.22119	447122.55	3762889.07	68.00752

447094.33 3762890.05 63.49633 447071.04
3762890.45 60.20874
447043.61 3762889.66 56.79956 447017.76
3762888.87 53.92762
446992.11 3762889.07 51.30481 446964.28
3762888.28 48.78001
446940.41 3762888.47 46.80777 446911.20
3762888.08 44.72930
446885.35 3762889.66 42.81802 446862.07
3762888.87 41.30302
446871.45 3762779.57 47.26221 446926.31
3762768.72 52.11414
446983.74 3762774.24 56.78830 447009.00
3762774.05 59.33330
447030.51 3762774.44 61.82291 447055.37
3762774.05 64.77982
447076.88 3762774.24 67.31192 447101.16
3762774.44 70.29606
447123.85 3762774.05 73.52593 447148.12
3762775.03 77.09067
447170.23 3762774.84 80.77561 447196.78
3762775.48 85.72740
447242.12 3762776.57 95.55572 447262.33
3762776.03 100.79438
447294.56 3762776.30 110.39530 447313.13
3762775.48 117.03745
447313.40 3762749.53 121.79213 447327.86
3762713.09 139.35161
447327.36 3762679.87 150.78224 447327.74
3762657.02 158.28840
447327.28 3762636.82 164.24170 447327.51
3762612.90 171.31507
447327.28 3762592.24 176.50903 447327.04
3762569.71 181.56553
447327.28 3762547.89 186.26935 447326.58
3762524.67 189.89722
447326.58 3762506.09 192.93454 447327.51
3762477.53 198.15851
447325.88 3762454.31 202.17925 447225.58
3762432.95 184.95871
447200.27 3762430.63 187.64942 447156.85
3762430.16 195.72143
447131.77 3762430.86 203.05122 447102.74
3762430.63 216.14633
447079.06 3762430.86 228.83834 447034.94
3762433.65 249.82636
446995.47 3762433.65 268.85122 446972.71
3762434.34 271.07088
446941.37 3762434.58 270.20910 446916.06
3762436.90 259.73810
446876.35 3762436.90 249.09160 446848.85
3762647.05 61.17547
446848.85 3762563.17 81.43789 446849.17
3762509.82 109.38720
446849.17 3762455.82 177.56582 446848.85
3762702.00 51.52011
446849.49 3762754.71 47.24300 446739.81
3762428.53 126.66094
446711.81 3762423.61 110.27335 446687.25
3762416.25 100.25077
446662.20 3762412.32 89.03535 446636.17
3762403.97 81.19597
449981.72 3762732.45 30.82679 446486.82
3762231.95 73.89118
446261.97 3762068.01 56.44633 446443.15
3762291.63 55.51036

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BBREAT ***
INCLUDING SOURCE(S): 10BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	14.35784	(14083005)	447375.98	3764150.98	15.12750	(13090423)
447389.75	3764043.04	15.05125	(13090423)	447450.16	3764031.05	15.52158	(13090423)
447410.18	3764019.05	15.29617	(13090423)	446891.90	3764451.22	12.03117	(14081603)
446959.28	3764451.22	12.29109	(14091701)	446995.28	3764468.13	12.36404	(14091701)
447007.41	3764467.30	12.36839	(12051703)	447023.51	3764466.09	12.43917	(12051703)
447036.59	3764466.21	12.45075	(12051703)	447052.68	3764465.61	12.55497	(14081405)
447066.60	3764465.73	12.66515	(14081405)	447099.65	3764456.17	12.78653	(14081405)
447145.28	3764468.27	12.86860	(13070222)	447175.54	3764468.03	12.62422	(15092601)
447205.32	3764468.27	12.83365	(15092601)	447232.43	3764467.55	13.16056	(15092601)
447264.02	3764467.30	13.71881	(12083105)	447294.77	3764466.94	13.94770	(12083105)
447364.97	3764456.41	14.06786	(15080324)	447406.61	3764460.65	13.95951	(15080324)
447441.47	3764460.04	14.12985	(12080901)	447466.88	3764460.20	14.28016	(12080901)
447490.00	3764460.56	14.18967	(12080901)	447515.50	3764460.40	14.12933	(12091304)
447573.06	3764454.29	14.05226	(16072603)	447598.49	3764445.22	14.26547	(14022020)
447652.90	3764439.70	14.95412	(12081001)	447692.92	3764439.51	14.95842	(12081604)
447713.82	3764439.11	14.96950	(12081604)	447731.95	3764438.72	15.13032	(13091705)
447751.07	3764438.72	15.17106	(13091705)	447768.82	3764437.53	15.40985	(16062701)
447789.12	3764437.73	15.56254	(16062701)	447805.68	3764437.34	15.53627	(16062701)
447824.02	3764437.20	15.50187	(12071001)	447841.61	3764437.87	15.51814	(15080504)
447861.72	3764437.53	15.65591	(15080504)	447881.66	3764435.18	15.69130	(12092102)
447902.78	3764436.19	15.85042	(12092102)	447920.87			

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       3764435.35       15.85158  (12092102)
       447942.16   3764435.35       15.70421  (14081503)               447962.77
       3764434.85       15.70250  (14081503)
       447980.70   3764435.18       15.63950  (13090305)               448004.66
       3764435.18       15.88940  (12081106)
       448021.25   3764434.68       15.78361  (12081106)               447662.70
       3764379.63       15.62417  (12081001)
       447681.30   3764320.98       16.12718  (12081001)               447682.64
       3764285.79       16.06071  (12081001)
       447662.53   3764238.37       15.90221  (14022020)               447661.70
       3764207.37       15.83042  (16072603)
       447683.14   3764162.29       15.78900  (16072603)               447680.97
       3764145.87       15.80775  (16072603)
       447679.63   3764130.28       15.78272  (16072603)               447680.80
       3764112.02       15.76113  (16072603)
       447681.47   3764096.43       15.80528  (16072603)               447680.80
       3764078.84       15.89292  (16072603)
       447679.96   3764064.26       16.01335  (16072603)               447680.97
       3764045.82       16.19403  (16072603)
       447680.63   3764029.74       16.34110  (16072603)               447657.17
       3763992.03       16.71272  (12080704)
       447656.33   3763967.06       17.08337  (12080704)               447657.17
       3763928.69       17.52123  (12080704)
       447657.17   3763902.21       17.77593  (12080704)               447657.51
       3763869.03       17.84882  (12080704)
       447656.16   3763834.94       18.39608  (12072004)               447655.93
       3763808.27       18.89440  (15092502)
       447657.09   3763786.00       19.27902  (15092502)               447701.21
       3763782.14       19.62756  (12080704)
       447856.92   3763749.71       20.10658  (12081001)               447854.99
       3763730.13       20.20036  (12081001)
       447854.35   3763698.35       20.32467  (12081001)               447855.31
       3763676.84       20.47587  (15062904)
       447675.51   3763287.46       22.75378  (15061924)               448481.33
       3763485.29       26.64350  (12080824)
       448479.95   3763195.53       31.30049  (12090506)               448478.56
       3762907.16       41.79749  (12091005)
       448497.89   3762714.10       55.17165  (12082923)               448507.91
       3762487.71       62.29654  (12071302)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 215
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  10BBREAT ***
                                INCLUDING SOURCE(S):     10BBREAT    ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96      147.46284  (14041207)               448462.73
       3762339.82      175.97143  (14041207)
       448464.47   3762265.93      292.27775  (16082707)               448461.57
       3762165.17      563.74993  (14120316)
       448472.57   3762064.71      204.27786  (12080622)               448460.48
       3762016.72      311.10934  (12121716)
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448234.63 3761951.18 116.78759 (13020917) 448081.42
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448025.53 3761955.99 57.88081 (15100921) 447506.75
3761967.63 17.83384 (14051523)
447269.29 3761967.74 12.63281 (14120121) 447389.46
3761908.79 14.57598 (13121117)
447019.14 3761964.34 9.57157 (14011518) 447060.33
3761963.58 9.94433 (14011518)
446975.31 3761963.20 9.18034 (14011518) 446940.92
3761953.76 8.83615 (14011518)
446865.72 3761974.54 8.34746 (14011518) 446795.06
3761957.91 7.80201 (14011518)
446757.65 3761965.85 7.56777 (14011518) 446709.33
3761967.74 7.26000 (14011518)
446796.42 3762028.62 7.88808 (16021518) 446796.97
3762045.28 7.88222 (16021518)
446796.70 3762089.51 7.78105 (15031521) 446796.15
3762105.89 7.75012 (15031521)
446796.70 3762137.29 7.60902 (15031521) 446796.15
3762153.39 7.54160 (16041722)
446772.40 3762215.37 7.44985 (14100421) 446795.06
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446797.24 3762496.03 7.47850 (15040323) 446798.06
3762516.51 7.36096 (15040323)
446797.79 3762539.98 7.39802 (12101719) 446797.52
3762560.19 7.42478 (12101719)
446798.61 3762584.76 7.40590 (12101719) 446798.06
3762604.42 7.33453 (12101719)
446799.70 3762654.11 12.16897 (14100706) 446799.97
3762674.58 12.55747 (14100706)
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3762721.27 13.17208 (16092622)
446799.97 3762735.74 13.10713 (16092622) 446797.79
3762748.02 12.99368 (16092622)
446802.16 3762913.47 11.89224 (15082801) 446802.16
3762932.58 11.91796 (15082801)
446802.43 3762949.24 11.88172 (15082801) 446802.98
3762967.26 11.78610 (13051323)
446802.70 3762986.09 11.83782 (16092723) 446802.16
3763003.29 12.03158 (16092723)
446802.16 3763021.86 12.18648 (16092723) 446802.70
3763040.70 12.28956 (16092723)
446802.98 3763059.26 12.30374 (16092723) 446803.52
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446808.32 3763674.66 13.14670 (16072901) 446807.68
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446808.32 3763710.63 12.89079 (16091102) 446808.32
3763726.37 12.84684 (15092802)
446808.00 3763742.11 12.80391 (15092802) 446808.32
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446808.64 3763798.32 12.69679 (16092001) 446810.25
3764484.08 11.68585 (14081603)
446781.34 3764475.08 11.57175 (15082503) 446722.56
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446170.32 3764559.79 9.70850 (15090724) 446872.29
3763190.26 14.10788 (16072703)
446925.22 3763179.19 14.86037 (16072103) 446984.86
3763194.88 14.99301 (16072103)
447010.56 3763193.28 15.42391 (13013121) 447036.58
3763193.60 15.62460 (14051122)
447053.61 3763193.28 15.84711 (15091101) 447076.42
3763192.31 16.40437 (15091101)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BBREAT ***
INCLUDING SOURCE(S): 10BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447093.45	3763192.63	16.83937	(15091101)	447122.05	3763192.63	17.25220	(14091702)
447138.75	3763192.31	17.49739	(14091702)	447167.99	3763192.31	17.82132	(14091702)
447170.68	3763172.18	17.85231	(14091702)	447170.41	3763158.25	17.74985	(14091702)
447169.31	3763144.87	17.70569	(14091702)	447147.46	3763107.45	17.43948	(14051122)
447146.64	3763084.24	17.64210	(13013121)	447146.92	3763064.30	17.79391	(16072103)
447149.92	3763038.90	17.83718	(16072103)	447148.56	3763019.78	17.75365	(16072103)
447148.56	3762997.39	17.40781	(16072103)	447206.08	3762958.49	17.75742	(16072103)
447209.33	3762922.51	17.63943	(15091006)	447208.40	3762890.70	17.80345	(15091006)
447145.83	3762888.87	16.74039	(14091421)	447122.55	3762889.07	16.32693	(16111421)
447094.33	3762890.05	16.14342	(16092723)	447071.04	3762890.45	15.95532	(16092723)
447043.61	3762889.66	15.65247	(16092723)	447017.76	3762888.87	15.30025	(16092723)
446992.11	3762889.07	14.90959	(16092723)	446964.28	3762888.28	14.52394	(13051323)
446940.41	3762888.47	14.14495	(15082801)	446911.20	3762888.08	13.56568	(15082801)
446885.35	3762889.66	13.25308	(15082801)	446862.07	3762888.87	12.92534	(15082801)
446871.45	3762779.57	13.60859	(15081502)	446926.31	3762768.72	14.31615	(15081502)
446983.74	3762774.24	15.04994	(14091321)	447009.00	3762774.05	15.25012	(14091321)
447030.51	3762774.44	15.02989	(14091321)	447055.37	3762774.05	15.09290	(15050124)
447076.88	3762774.24	15.39409	(15050124)	447101.16	3762774.44	16.09796	(15082801)
447123.85	3762774.05	16.51241	(15082801)	447148.12	3762775.03	17.12253	(15082801)
447170.23	3762774.84	17.58382	(15082801)	447196.78	3762775.48	17.97132	(16092723)
447242.12	3762776.57	18.90754	(16092723)	447262.33	3762776.03	19.18895	(16092723)
447294.56	3762776.30	19.42121	(16092723)	447313.13	3762775.48	19.68164	(16111421)
447313.40	3762749.53	20.35050	(16092723)	447327.86			

3762713.09 20.60684 (16092723)
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3762430.63 10.19894 (15040323)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BLOAD ***
INCLUDING SOURCE(S): 10BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	14.35775	(14083005)	447375.98	3764150.98	15.12742	(13090423)

447389.75 3764043.04 15.05118 (13090423) 447450.16
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446959.28 3764451.22 12.29102 (14091701) 446995.28
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447264.02 3764467.30 13.71871 (12083105) 447294.77
3764466.94 13.94760 (12083105)
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447490.00 3764460.56 14.18958 (12080901) 447515.50
3764460.40 14.12923 (12091304)
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447652.90 3764439.70 14.95403 (12081001) 447692.92
3764439.51 14.95832 (12081604)
447713.82 3764439.11 14.96941 (12081604) 447731.95
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447751.07 3764438.72 15.17083 (13091705) 447768.82
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447789.12 3764437.73 15.56243 (16062701) 447805.68
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3764435.35 15.85147 (12092102)
447942.16 3764435.35 15.70410 (14081503) 447962.77
3764434.85 15.70239 (14081503)
447980.70 3764435.18 15.63939 (13090305) 448004.66
3764435.18 15.88928 (12081106)
448021.25 3764434.68 15.78350 (12081106) 447662.70
3764379.63 15.62407 (12081001)
447681.30 3764320.98 16.12707 (12081001) 447682.64
3764285.79 16.06061 (12081001)
447662.53 3764238.37 15.90211 (14022020) 447661.70
3764207.37 15.83033 (16072603)
447683.14 3764162.29 15.78892 (16072603) 447680.97
3764145.87 15.80767 (16072603)
447679.63 3764130.28 15.78264 (16072603) 447680.80
3764112.02 15.76105 (16072603)
447681.47 3764096.43 15.80520 (16072603) 447680.80
3764078.84 15.89284 (16072603)
447679.96 3764064.26 16.01328 (16072603) 447680.97
3764045.82 16.19395 (16072603)
447680.63 3764029.74 16.34102 (16072603) 447657.17
3763992.03 16.71264 (12080704)
447656.33 3763967.06 17.08329 (12080704) 447657.17
3763928.69 17.52114 (12080704)
447657.17 3763902.21 17.77585 (12080704) 447657.51
3763869.03 17.84874 (12080704)
447656.16 3763834.94 18.39600 (12072004) 447655.93
3763808.27 18.89431 (15092502)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BLOAD ***
INCLUDING SOURCE(S): 10BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447657.09	3763786.00	19.27893	(15092502)	447701.21	3763782.14	19.62747	(12080704)
447856.92	3763749.71	20.10650	(12081001)	447854.99	3763730.13	20.20028	(12081001)
447854.35	3763698.35	20.32459	(12081001)	447855.31	3763676.84	20.47580	(15062904)
447675.51	3763287.46	22.75374	(15061924)	448481.33	3763485.29	26.64339	(12080824)
448479.95	3763195.53	31.30043	(12090506)	448478.56	3762907.16	41.79750	(12091005)
448497.89	3762714.10	55.17165	(12082923)	448507.91	3762487.71	62.29623	(12071302)
448480.49	3762357.96	147.37932	(14041207)	448462.73	3762339.82	175.85653	(14041207)
448464.47	3762265.93	292.54160	(16082707)	448461.57	3762165.17	563.62000	(14120316)
448472.57	3762064.71	204.27673	(12080622)	448460.48	3762016.72	310.56416	(12121716)
448234.63	3761951.18	116.77322	(13020917)	448081.42	3761952.78	67.60220	(12100204)
448025.53	3761955.99	57.88053	(15100921)	447506.75	3761967.63	17.83374	(14051523)
447269.29	3761967.74	12.63263	(14120121)	447389.46	3761908.79	14.57585	(13121117)
447019.14	3761964.34	9.57153	(14011518)	447060.33	3761963.58	9.94428	(14011518)
446975.31	3761963.20	9.18029	(14011518)	446940.92	3761953.76	8.83610	(14011518)
446865.72	3761974.54	8.34741	(14011518)	446795.06	3761957.91	7.80197	(14011518)
446757.65	3761965.85	7.56773	(14011518)	446709.33	3761967.74	7.25996	(14011518)
446796.42	3762028.62	7.88804	(16021518)	446796.97	3762045.28	7.88218	(16021518)
446796.70	3762089.51	7.78102	(15031521)	446796.15	3762105.89	7.75009	(15031521)
446796.70	3762137.29	7.60898	(15031521)	446796.15	3762153.39	7.54156	(16041722)
446772.40	3762215.37	7.44981	(14100421)	446795.06	3762321.03	7.80629	(15090905)
446796.42	3762450.98	7.61587	(15032622)	446796.42	3762471.18	7.55951	(15040323)
446797.24	3762496.03	7.47844	(15040323)	446798.06	3762516.51	7.36090	(15040323)
446797.79	3762539.98	7.39799	(12101719)	446797.52			

3762560.19 7.42475 (12101719)
446798.61 3762584.76 7.40587 (12101719) 446798.06
3762604.42 7.33450 (12101719)
446799.70 3762654.11 12.16900 (14100706) 446799.97
3762674.58 12.55749 (14100706)
446800.25 3762700.25 13.04476 (16092622) 446800.25
3762721.27 13.17208 (16092622)
446799.97 3762735.74 13.10713 (16092622) 446797.79
3762748.02 12.99369 (16092622)
446802.16 3762913.47 11.89228 (15082801) 446802.16
3762932.58 11.91800 (15082801)
446802.43 3762949.24 11.88176 (15082801) 446802.98
3762967.26 11.78613 (13051323)
446802.70 3762986.09 11.83785 (16092723) 446802.16
3763003.29 12.03161 (16092723)
446802.16 3763021.86 12.18650 (16092723) 446802.70
3763040.70 12.28958 (16092723)
446802.98 3763059.26 12.30376 (16092723) 446803.52
3763077.01 12.20298 (16111421)
446756.29 3763085.26 11.28860 (16092723) 446807.68
3763646.39 13.27998 (16072901)
446808.32 3763674.66 13.14666 (16072901) 446807.68
3763694.57 13.01216 (16072901)
446808.32 3763710.63 12.89072 (16091102) 446808.32
3763726.37 12.84679 (15092802)
446808.00 3763742.11 12.80387 (15092802) 446808.32
3763756.89 12.74401 (15092802)
446808.64 3763798.32 12.69675 (16092001) 446810.25
3764484.08 11.68578 (14081603)
446781.34 3764475.08 11.57167 (15082503) 446722.56
3764455.81 11.38914 (12081302)
446170.32 3764559.79 9.70844 (15090724) 446872.29
3763190.26 14.10787 (16072703)
446925.22 3763179.19 14.86034 (16072103) 446984.86
3763194.88 14.99298 (16072103)
447010.56 3763193.28 15.42386 (13013121) 447036.58
3763193.60 15.62456 (14051122)
447053.61 3763193.28 15.84710 (15091101) 447076.42
3763192.31 16.40436 (15091101)
447093.45 3763192.63 16.83934 (15091101) 447122.05
3763192.63 17.25217 (14091702)
447138.75 3763192.31 17.49736 (14091702) 447167.99
3763192.31 17.82129 (14091702)
447170.68 3763172.18 17.85228 (14091702) 447170.41
3763158.25 17.74983 (14091702)
447169.31 3763144.87 17.70567 (14091702) 447147.46
3763107.45 17.43945 (14051122)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BLOAD ***
INCLUDING SOURCE(S): 10BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)

- - - -

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BREF ***
INCLUDING SOURCE(S): 10BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	18.58240	(14083005)	447375.98	3764150.98	19.49236	(13090423)
447389.75	3764043.04	19.24872	(15082523)	447450.16	3764031.05	19.76610	(13090423)
447410.18	3764019.05	19.24358	(15082523)	446891.90	3764451.22	15.75861	(14081603)
446959.28	3764451.22	15.84630	(12092724)	446995.28	3764468.13	16.14138	(12083005)
447007.41	3764467.30	16.16299	(12083005)	447023.51	3764466.09	16.12151	(12051703)
447036.59	3764466.21	16.23306	(12051703)	447052.68	3764465.61	16.30533	(12051703)
447066.60	3764465.73	16.46324	(13090723)	447099.65	3764456.17	16.85192	(13090723)
447145.28	3764468.27	17.00041	(13070222)	447175.54	3764468.03	16.58640	(13070222)
447205.32	3764468.27	16.53322	(13090423)	447232.43	3764467.55	17.34454	(13090423)
447264.02	3764467.30	18.00116	(13090423)	447294.77	3764466.94	18.51788	(14083005)
447364.97	3764456.41	18.30237	(15092502)	447406.61	3764460.65	18.54141	(15092502)
447441.47	3764460.04	18.40702	(12121605)	447466.88	3764460.20	18.87580	(12080704)
447490.00	3764460.56	18.94547	(12080704)	447515.50	3764460.40	18.48486	(12080704)
447573.06	3764454.29	18.53969	(16072603)	447598.49	3764445.22	18.67310	(16072603)
447652.90	3764439.70	19.79808	(12081001)	447692.92			

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      3764439.51       19.77993  (12081001)
      447713.82   3764439.11       20.01043  (12081604)               447731.95
      3764438.72       19.95723  (12081604)
      447751.07   3764438.72       20.04833  (13091705)               447768.82
      3764437.53       20.11678  (13091705)
      447789.12   3764437.73       20.59681  (16062701)               447805.68
      3764437.34       20.71278  (16062701)
      447824.02   3764437.20       20.59468  (12071001)               447841.61
      3764437.87       20.74375  (12071001)
      447861.72   3764437.53       20.62152  (15080504)               447881.66
      3764435.18       20.85071  (15080504)
      447902.78   3764436.19       20.83836  (12092102)               447920.87
      3764435.35       21.08198  (12092102)
      447942.16   3764435.35       20.90434  (12092102)               447962.77
      3764434.85       20.82805  (16062804)
      447980.70   3764435.18       20.68855  (16062804)               448004.66
      3764435.18       20.72833  (12083006)
      448021.25   3764434.68       20.49872  (12081106)               447662.70
      3764379.63       20.59732  (12081001)
      447681.30   3764320.98       21.24288  (12081001)               447682.64
      3764285.79       21.07993  (15062904)
      447662.53   3764238.37       20.86005  (16072603)               447661.70
      3764207.37       20.70980  (16072603)
      447683.14   3764162.29       20.47379  (16072603)               447680.97
      3764145.87       20.35237  (16072603)
      447679.63   3764130.28       20.15518  (16072603)               447680.80
      3764112.02       19.95980  (16072603)
      447681.47   3764096.43       19.89181  (16072603)               447680.80
      3764078.84       19.91311  (13062605)
      447679.96   3764064.26       20.14603  (13062605)               447680.97
      3764045.82       20.44402  (13062605)
      447680.63   3764029.74       20.69482  (13062605)               447657.17
      3763992.03       21.14528  (12080704)
      447656.33   3763967.06       21.49647  (12080704)               447657.17
      3763928.69       21.86998  (14080203)
      447657.17   3763902.21       22.29738  (14080203)               447657.51
      3763869.03       22.63710  (12072004)
      447656.16   3763834.94       23.35465  (12072004)               447655.93
      3763808.27       23.85982  (12072004)
      447657.09   3763786.00       24.19705  (12072004)               447701.21
      3763782.14       24.67818  (12072004)
      447856.92   3763749.71       24.79797  (15062904)               447854.99
      3763730.13       24.93710  (15062904)
      447854.35   3763698.35       25.01797  (15062904)               447855.31
      3763676.84       25.27089  (15072504)
      447675.51   3763287.46       26.32512  (16072804)               448481.33
      3763485.29       32.77616  (13082522)
      448479.95   3763195.53       37.10881  (13082522)               448478.56
      3762907.16       46.39296  (12071821)
      448497.89   3762714.10       61.03535  (12082821)               448507.91
      3762487.71       92.88914  (12071302)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                    PAGE 221
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  10BREF   ***
                               INCLUDING SOURCE(S):     10BREF      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
```

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	199.72843	(14041207)	448462.73	3762339.82	232.59706	(14041207)
448464.47	3762265.93	428.62793	(16082707)	448461.57	3762165.17	649.25962	(14120316)
448472.57	3762064.71	280.69346	(12110519)	448460.48	3762016.72	440.41000	(12121716)
448234.63	3761951.18	140.78728	(12100123)	448081.42	3761952.78	87.60872	(12100204)
448025.53	3761955.99	76.18287	(15100921)	447506.75	3761967.63	24.49449	(15031523)
447269.29	3761967.74	17.47161	(14120121)	447389.46	3761908.79	20.18455	(13121117)
447019.14	3761964.34	13.11580	(14120121)	447060.33	3761963.58	13.77055	(14120121)
446975.31	3761963.20	12.52386	(14011518)	446940.92	3761953.76	12.09277	(14120121)
446865.72	3761974.54	11.65438	(14011518)	446795.06	3761957.91	10.85649	(14011518)
446757.65	3761965.85	10.60750	(14011518)	446709.33	3761967.74	10.20957	(14011518)
446796.42	3762028.62	11.04937	(16021518)	446796.97	3762045.28	11.08520	(16021518)
446796.70	3762089.51	10.95317	(15031521)	446796.15	3762105.89	10.93563	(15031521)
446796.70	3762137.29	10.64129	(15031521)	446796.15	3762153.39	10.44314	(15031001)
446772.40	3762215.37	10.42827	(16041722)	446795.06	3762321.03	10.99814	(15090905)
446796.42	3762450.98	10.74569	(15032622)	446796.42	3762471.18	10.64939	(15032622)
446797.24	3762496.03	10.57793	(15040323)	446798.06	3762516.51	10.36830	(15040323)
446797.79	3762539.98	10.24292	(16122321)	446797.52	3762560.19	10.33911	(12101719)
446798.61	3762584.76	10.47152	(12101719)	446798.06	3762604.42	10.42169	(12101719)
446799.70	3762654.11	12.22014	(15010901)	446799.97	3762674.58	12.94833	(16102420)
446800.25	3762700.25	13.54970	(16102420)	446800.25	3762721.27	13.56150	(16111321)
446799.97	3762735.74	13.49092	(12112807)	446797.79	3762748.02	13.45359	(15120518)
446802.16	3762913.47	12.44274	(12112420)	446802.16	3762932.58	12.45177	(12112420)
446802.43	3762949.24	12.35514	(12112420)	446802.98	3762967.26	12.29269	(13051203)
446802.70	3762986.09	12.30968	(13051203)	446802.16	3763003.29	12.47599	(13092722)
446802.16	3763021.86	12.57625	(13092722)	446802.70	3763040.70	12.70570	(14042702)
446802.98	3763059.26	12.98306	(15021422)	446803.52	3763077.01	13.22867	(16110920)
446756.29	3763085.26	11.72290	(16110920)	446807.68	3763646.39	15.79131	(16072901)
446808.32	3763674.66	15.87384	(16072901)	446807.68	3763694.57	15.81963	(16072901)
446808.32	3763710.63	15.73783	(16091102)	446808.32	3763726.37	15.72522	(16091102)
446808.00	3763742.11	15.58855	(16091102)	446808.32	3763756.89	15.65021	(15082702)

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       446808.64   3763798.32       15.72167  (15082702)               446810.25
       3764484.08       15.16416  (15061824)
       446781.34   3764475.08       14.92730  (15061824)               446722.56
       3764455.81       14.81665  (12081302)
       446170.32   3764559.79       12.69846  (16092001)               446872.29
       3763190.26       15.89823  (14083105)
       446925.22   3763179.19       16.86034  (14083105)               446984.86
       3763194.88       17.31008  (16072103)
       447010.56   3763193.28       18.01670  (12092322)               447036.58
       3763193.60       18.22028  (12092322)
       447053.61   3763193.28       18.28624  (12092322)               447076.42
       3763192.31       18.54783  (16122218)
       447093.45   3763192.63       19.09176  (16122218)               447122.05
       3763192.63       19.15236  (16122218)
       447138.75   3763192.31       19.22754  (14091702)               447167.99
       3763192.31       19.94245  (14091702)
       447170.68   3763172.18       19.56028  (14091702)               447170.41
       3763158.25       19.39351  (16102419)
       447169.31   3763144.87       19.60450  (16102419)               447147.46
       3763107.45       20.31166  (12092322)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 222
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  10BREF   ***
                               INCLUDING SOURCE(S):     10BREF      ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                         **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       447146.64   3763084.24       20.47249  (12092322)               447146.92
       3763064.30       20.32843  (16072103)
       447149.92   3763038.90       19.84216  (16072103)               447148.56
       3763019.78       19.68205  (14083105)
       447148.56   3762997.39       19.35928  (15091006)               447206.08
       3762958.49       19.30154  (15091006)
       447209.33   3762922.51       19.07994  (15091006)               447208.40
       3762890.70       18.98250  (16110920)
       447145.83   3762888.87       18.08660  (16110920)               447122.55
       3762889.07       17.52237  (16110920)
       447094.33   3762890.05       16.80532  (15021422)               447071.04
       3762890.45       16.47224  (14042702)
       447043.61   3762889.66       16.16207  (13092722)               447017.76
       3762888.87       15.89761  (13051203)
       446992.11   3762889.07       15.72763  (13051203)               446964.28
       3762888.28       15.41558  (13051203)
       446940.41   3762888.47       14.92058  (13051203)               446911.20
       3762888.08       14.16906  (12112420)
       446885.35   3762889.66       13.87805  (12112420)               446862.07
       3762888.87       13.54777  (12112420)
       446871.45   3762779.57       14.07215  (15120518)               446926.31
       3762768.72       14.85041  (14051305)
       446983.74   3762774.24       15.54137  (14051305)               447009.00
       3762774.05       15.63954  (14120205)
       447030.51   3762774.44       15.40245  (16112007)               447055.37
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      3762774.05       15.39618  (16112007)
      447076.88   3762774.24       15.83864  (12112420)                447101.16
      3762774.44       16.76589  (12112420)
      447123.85   3762774.05       17.19404  (12112420)                447148.12
      3762775.03       17.80979  (12112420)
      447170.23   3762774.84       18.40353  (13051203)                447196.78
      3762775.48       18.73258  (13051203)
      447242.12   3762776.57       19.48589  (13092722)                447262.33
      3762776.03       19.70770  (13092722)
      447294.56   3762776.30       20.02135  (16110920)                447313.13
      3762775.48       20.75971  (16110920)
      447313.40   3762749.53       20.87893  (13092722)                447327.86
      3762713.09       21.15828  (13092722)
      447327.36   3762679.87       19.91300  (12112420)                447327.74
      3762657.02       19.19597  (16112007)
      447327.28   3762636.82       17.06652  (15120517)                447327.51
      3762612.90       17.11526  (16102407)
      447327.28   3762592.24       17.18961  (14022724)                447327.04
      3762569.71       17.39541  (16112103)
      447327.28   3762547.89       17.67154  (12020622)                447326.58
      3762524.67       17.91228  (12020622)
      447326.58   3762506.09       17.76802  (12020622)                447327.51
      3762477.53       18.22790  (12101719)
      447325.88   3762454.31       18.63406  (12101719)                447225.58
      3762432.95       16.01834  (15040323)
      447200.27   3762430.63       15.75061  (15040323)                447156.85
      3762430.16       15.15791  (15040323)
      447131.77   3762430.86       14.79322  (15040323)                447102.74
      3762430.63       14.38517  (15040323)
      447079.06   3762430.86       14.04818  (15040323)                447034.94
      3762433.65       13.42165  (15040323)
      446995.47   3762433.65       12.89573  (15032622)                446972.71
      3762434.34       12.63353  (15032622)
      446941.37   3762434.58       12.28214  (15032622)                446916.06
      3762436.90       11.99249  (15032622)
      446876.35   3762436.90       11.56558  (15032622)                446848.85
      3762647.05       12.60446  (16102420)
      446848.85   3762563.17       10.94196  (12101719)                446849.17
      3762509.82       10.79972  (15040323)
      446849.17   3762455.82       11.21750  (15032622)                446848.85
      3762702.00       14.01503  (16111321)
      446849.49   3762754.71       14.31847  (15120518)                446739.81
      3762428.53       10.09515  (15032622)
      446711.81   3762423.61        9.75964  (15032622)                446687.25
      3762416.25        9.41865  (15112622)
      446662.20   3762412.32        9.17372  (15112622)                446636.17
      3762403.97        9.02693  (13022424)
      449981.72   3762732.45        9.74331  (16082822)                446486.82
      3762231.95        8.26044  (15110319)
      446261.97   3762068.01        7.26118  (15031521)                446443.15
      3762291.63        8.02782  (15090905)
      446071.80   3762055.49        6.42544  (15031521)                446072.08
      3761983.13        6.49529  (16021518)
      446138.18   3762002.17        6.75083  (16021518)                445884.94
      3762039.75        5.74921  (15031521)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 223
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  10BSPILL ***
                              INCLUDING SOURCE(S):     10BSPILL    ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	22.59998	(14070404)	447375.98	3764150.98	23.62026	(13090423)
447389.75	3764043.04	23.26057	(15082523)	447450.16	3764031.05	23.87564	(13090423)
447410.18	3764019.05	23.13248	(15082523)	446891.90	3764451.22	19.22021	(14081603)
446959.28	3764451.22	19.25819	(16072804)	446995.28	3764468.13	19.71266	(12083005)
447007.41	3764467.30	19.67921	(12083005)	447023.51	3764466.09	19.62153	(12051703)
447036.59	3764466.21	19.79669	(12051703)	447052.68	3764465.61	19.85889	(12051703)
447066.60	3764465.73	20.08512	(13090723)	447099.65	3764456.17	20.67415	(13090723)
447145.28	3764468.27	20.80064	(13070222)	447175.54	3764468.03	20.07115	(13070222)
447205.32	3764468.27	19.96258	(13090423)	447232.43	3764467.55	21.22989	(13090423)
447264.02	3764467.30	22.02447	(13090423)	447294.77	3764466.94	22.72188	(14083005)
447364.97	3764456.41	22.25891	(15092502)	447406.61	3764460.65	22.67985	(15092502)
447441.47	3764460.04	22.54440	(12121605)	447466.88	3764460.20	23.08967	(12080704)
447490.00	3764460.56	23.23494	(12080704)	447515.50	3764460.40	22.44376	(13062605)
447573.06	3764454.29	22.67527	(16072603)	447598.49	3764445.22	22.75659	(16072603)
447652.90	3764439.70	24.22163	(12081001)	447692.92	3764439.51	24.12648	(12081604)
447713.82	3764439.11	24.55923	(12081604)	447731.95	3764438.72	24.37704	(12081604)
447751.07	3764438.72	24.55399	(16082102)	447768.82	3764437.53	24.57316	(16082102)
447789.12	3764437.73	25.21873	(16062701)	447805.68	3764437.34	25.36383	(16062701)
447824.02	3764437.20	25.22182	(12071001)	447841.61	3764437.87	25.48005	(12071001)
447861.72	3764437.53	25.16837	(15080504)	447881.66	3764435.18	25.56895	(15080504)
447902.78	3764436.19	25.41404	(12092102)	447920.87	3764435.35	25.84253	(12092102)
447942.16	3764435.35	25.47162	(12092102)	447962.77	3764434.85	25.56154	(16062804)
447980.70	3764435.18	25.27336	(16062804)	448004.66	3764435.18	25.50522	(12083006)
448021.25	3764434.68	24.86839	(12081106)	447662.70	3764379.63	25.10503	(12081001)
447681.30	3764320.98	25.88643	(12081001)	447682.64	3764285.79	25.82137	(15062904)
447662.53	3764238.37	25.43846	(16072603)	447661.70	3764207.37	25.23811	(16072603)
447683.14	3764162.29	24.84446	(16072603)	447680.97	3764145.87	24.66959	(16072603)
447679.63	3764130.28	24.36851	(16072603)	447680.80	3764112.02	24.05391	(16072603)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BSPILL ***
INCLUDING SOURCE(S): 10BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	233.33018	(14041207)	448462.73	3762339.82	265.70116	(14041207)
448464.47	3762265.93	496.48070	(16082707)	448461.57	3762165.17	714.10432	(14120316)
448472.57	3762064.71	346.49559	(12110519)	448460.48	3762016.72	500.29277	(12121716)
448234.63	3761951.18	174.35613	(12100123)	448081.42	3761952.78	108.52310	(12100204)
448025.53	3761955.99	94.39701	(15100921)	447506.75	3761967.63	30.55395	(15031523)
447269.29	3761967.74	21.76421	(13121806)	447389.46	3761908.79	25.14213	(13121117)
447019.14	3761964.34	16.24910	(14120121)	447060.33	3761963.58	17.12464	(14120121)
446975.31	3761963.20	15.42516	(14031623)	446940.92	3761953.76	14.96421	(14120121)
446865.72	3761974.54	14.49970	(14011518)	446795.06	3761957.91	13.46361	(14011518)
446757.65	3761965.85	13.22300	(14011518)	446709.33	3761967.74	12.74721	(14011518)
446796.42	3762028.62	13.77027	(16021518)	446796.97			

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      3762045.28       13.82699  (16021518)
      446796.70   3762089.51       13.68359  (15031521)                446796.15
      3762105.89       13.64651  (15031521)
      446796.70   3762137.29       13.13024  (12020719)                446796.15
      3762153.39       12.94400  (15031001)
      446772.40   3762215.37       12.97815  (16041722)                446795.06
      3762321.03       13.70722  (15090905)
      446796.42   3762450.98       13.41192  (15032622)                446796.42
      3762471.18       13.27540  (15040323)
      446797.24   3762496.03       13.17325  (15040323)                446798.06
      3762516.51       12.77994  (15040323)
      446797.79   3762539.98       12.71337  (16122321)                446797.52
      3762560.19       12.85927  (16122321)
      446798.61   3762584.76       13.08473  (12101719)                446798.06
      3762604.42       13.02490  (12101719)
      446799.70   3762654.11       13.38153  (16102420)                446799.97
      3762674.58       14.48863  (16102420)
      446800.25   3762700.25       15.35743  (16102420)                446800.25
      3762721.27       15.17693  (16011007)
      446799.97   3762735.74       15.21394  (12112807)                446797.79
      3762748.02       15.16084  (12112807)
      446802.16   3762913.47       13.96811  (12112420)                446802.16
      3762932.58       14.03046  (12112420)
      446802.43   3762949.24       13.90721  (12112420)                446802.98
      3762967.26       13.62361  (15031023)
      446802.70   3762986.09       13.93285  (13092722)                446802.16
      3763003.29       14.24630  (13092722)
      446802.16   3763021.86       14.39618  (13092722)                446802.70
      3763040.70       14.47573  (14042702)
      446802.98   3763059.26       14.64092  (13122901)                446803.52
      3763077.01       15.11490  (16110920)
      446756.29   3763085.26       13.18243  (13122901)                446807.68
      3763646.39       18.69515  (12092801)
      446808.32   3763674.66       18.86972  (12092801)                446807.68
      3763694.57       18.75874  (12092801)
      446808.32   3763710.63       18.73368  (16091102)                446808.32
      3763726.37       18.75852  (16091102)
      446808.00   3763742.11       18.57985  (16091102)                446808.32
      3763756.89       18.66163  (15082702)
      446808.64   3763798.32       18.83665  (15082702)                446810.25
      3764484.08       18.57354  (15061824)
      446781.34   3764475.08       18.17721  (15061824)                446722.56
      3764455.81       18.08796  (12092221)
      446170.32   3764559.79       15.46006  (16092001)                446872.29
      3763190.26       18.53792  (14083105)
      446925.22   3763179.19       19.80486  (14083105)                446984.86
      3763194.88       20.21216  (12092322)
      447010.56   3763193.28       21.16779  (12092322)                447036.58
      3763193.60       21.34362  (12092322)
      447053.61   3763193.28       21.31699  (12092322)                447076.42
      3763192.31       21.64229  (16123105)
      447093.45   3763192.63       22.34151  (16102419)                447122.05
      3763192.63       22.37950  (16102419)
      447138.75   3763192.31       22.29046  (16122219)                447167.99
      3763192.31       22.85378  (14091620)
      447170.68   3763172.18       22.51612  (16122219)                447170.41
      3763158.25       22.48835  (16102419)
      447169.31   3763144.87       22.78643  (16102419)                447147.46
      3763107.45       23.75083  (12092322)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 225
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 10BSPILL ***
INCLUDING SOURCE(S): 10BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	23.95422	(12092322)	447146.92	3763064.30	23.40853	(16072103)
447149.92	3763038.90	22.92146	(14083105)	447148.56	3763019.78	22.78626	(14083105)
447148.56	3762997.39	22.02967	(15091006)	447206.08	3762958.49	21.64719	(15091006)
447209.33	3762922.51	21.33270	(15091006)	447208.40	3762890.70	21.58250	(16110920)
447145.83	3762888.87	20.60529	(16110920)	447122.55	3762889.07	19.84195	(16110920)
447094.33	3762890.05	19.02462	(14042702)	447071.04	3762890.45	18.74872	(14042702)
447043.61	3762889.66	18.57238	(13092722)	447017.76	3762888.87	18.25310	(13092722)
446992.11	3762889.07	17.77749	(13092722)	446964.28	3762888.28	17.34758	(15031023)
446940.41	3762888.47	16.74128	(12112420)	446911.20	3762888.08	16.09231	(12112420)
446885.35	3762889.66	15.75946	(12112420)	446862.07	3762888.87	15.34070	(12112420)
446871.45	3762779.57	15.81382	(12031505)	446926.31	3762768.72	16.77162	(14120205)
446983.74	3762774.24	17.56140	(14120205)	447009.00	3762774.05	17.83540	(16112007)
447030.51	3762774.44	17.51091	(16112007)	447055.37	3762774.05	17.38415	(16112007)
447076.88	3762774.24	17.59474	(12112420)	447101.16	3762774.44	18.84463	(12112420)
447123.85	3762774.05	19.36946	(12112420)	447148.12	3762775.03	20.13097	(12112420)
447170.23	3762774.84	20.59270	(12112420)	447196.78	3762775.48	21.01522	(13092722)
447242.12	3762776.57	22.17954	(13092722)	447262.33	3762776.03	22.35778	(13092722)
447294.56	3762776.30	22.20918	(13122901)	447313.13	3762775.48	23.11909	(16110920)
447313.40	3762749.53	23.63532	(13092722)	447327.86	3762713.09	23.82699	(13092722)
447327.36	3762679.87	21.94482	(14051202)	447327.74	3762657.02	21.29793	(15120517)
447327.28	3762636.82	21.29072	(15120517)	447327.51	3762612.90	21.35266	(16102407)
447327.28	3762592.24	21.46034	(14022724)	447327.04	3762569.71	21.68422	(16112103)
447327.28	3762547.89	21.96322	(12020622)	447326.58	3762524.67	22.32184	(12020622)
447326.58	3762506.09	21.92972	(12020622)	447327.51	3762477.53	22.55183	(12101719)
447325.88	3762454.31	23.27454	(12101719)	447225.58	3762432.95	19.72496	(16122321)
447200.27	3762430.63	19.40929	(15040323)	447156.85	3762430.16	18.80355	(15040323)

447131.77 3762430.86 18.39157 (15040323) 447102.74
3762430.63 17.92209 (15040323)
447079.06 3762430.86 17.51849 (15040323) 447034.94
3762433.65 16.74509 (15040323)
446995.47 3762433.65 16.06326 (15040323) 446972.71
3762434.34 15.73078 (15032622)
446941.37 3762434.58 15.31434 (15032622) 446916.06
3762436.90 14.95908 (15032622)
446876.35 3762436.90 14.43280 (15032622) 446848.85
3762647.05 13.77670 (16102420)
446848.85 3762563.17 13.63986 (12101719) 446849.17
3762509.82 13.26962 (15040323)
446849.17 3762455.82 13.97580 (15032622) 446848.85
3762702.00 15.68896 (16011007)
446849.49 3762754.71 15.96443 (15120518) 446739.81
3762428.53 12.46831 (15032622)
446711.81 3762423.61 12.04533 (15112622) 446687.25
3762416.25 11.69441 (15112622)
446662.20 3762412.32 11.34637 (15112622) 446636.17
3762403.97 11.24206 (13022424)
449981.72 3762732.45 12.16599 (16082822) 446486.82
3762231.95 10.30705 (15110319)
446261.97 3762068.01 9.08043 (15031521) 446443.15
3762291.63 9.97244 (14100421)
446071.80 3762055.49 8.03815 (15031521) 446072.08
3761983.13 8.11129 (16021518)
446138.18 3762002.17 8.40986 (16021518) 445884.94
3762039.75 7.19216 (15031521)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1H25 ***
INCLUDING SOURCE(S): L0000924 , L0000925 , L0000926 , L0000927 , L0000928 ,
L0000929 , L0000930 , L0000931 , L0000932 , L0000933 ,
L0000934 , L0000935 , L0000936 ,
L0000937 , L0000938 , L0000939 , L0000940 , L0000941 ,
L0000942 , L0000943 , L0000944 ,
L0000945 , L0000946 , L0000947 , L0000948 , L0000949 ,
L0000950 , L0000951 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	5.48039	(12081704)	447375.98	3764150.98	5.41404	(15062905)
447389.75	3764043.04	5.09397	(13081603)	447450.16	3764031.05	5.28107	(15062905)
447410.18	3764019.05	5.10641	(13081603)	446891.90	3764451.22	3.97643	(16072901)
446959.28	3764451.22	4.15133	(16092001)	446995.28	3764468.13	4.29845	(15090724)
447007.41	3764467.30	4.35170	(15090724)	447023.51	3764466.09	4.40044	(15090724)

447036.59 3764466.21 4.43693 (15090724) 447052.68
3764465.61 4.49052 (15090724)
447066.60 3764465.73 4.54043 (15090724) 447099.65
3764456.17 4.63327 (15090724)
447145.28 3764468.27 4.76717 (15062905) 447175.54
3764468.03 4.80836 (15062905)
447205.32 3764468.27 4.86045 (12081704) 447232.43
3764467.55 5.06697 (12081704)
447264.02 3764467.30 5.38575 (12081704) 447294.77
3764466.94 5.56387 (12081704)
447364.97 3764456.41 5.78301 (12092221) 447406.61
3764460.65 5.98374 (14081603)
447441.47 3764460.04 6.21592 (14081603) 447466.88
3764460.20 6.35180 (14081603)
447490.00 3764460.56 6.43048 (14081603) 447515.50
3764460.40 6.51520 (12083005)
447573.06 3764454.29 6.61496 (12083005) 447598.49
3764445.22 6.85806 (13070222)
447652.90 3764439.70 7.62258 (13070222) 447692.92
3764439.51 7.93997 (13070222)
447713.82 3764439.11 8.16154 (15092601) 447731.95
3764438.72 8.37647 (15092601)
447751.07 3764438.72 8.57050 (15092601) 447768.82
3764437.53 8.78422 (15092601)
447789.12 3764437.73 9.04976 (14083005) 447805.68
3764437.34 9.25509 (15092502)
447824.02 3764437.20 9.53561 (15092502) 447841.61
3764437.87 9.77966 (15092502)
447861.72 3764437.53 10.03846 (15092502) 447881.66
3764435.18 10.31097 (12080901)
447902.78 3764436.19 10.65742 (12080901) 447920.87
3764435.35 10.93812 (12080901)
447942.16 3764435.35 11.24141 (12080901) 447962.77
3764434.85 11.59282 (16072603)
447980.70 3764435.18 11.92306 (16072603) 448004.66
3764435.18 12.33260 (12081001)
448021.25 3764434.68 12.30921 (12081001) 447662.70
3764379.63 7.82259 (13070222)
447681.30 3764320.98 7.96887 (13070222) 447682.64
3764285.79 7.80571 (13070222)
447662.53 3764238.37 7.43811 (12083005) 447661.70
3764207.37 7.25019 (12083005)
447683.14 3764162.29 7.06724 (12083005) 447680.97
3764145.87 6.91378 (12083005)
447679.63 3764130.28 6.74921 (12083005) 447680.80
3764112.02 6.64550 (12083005)
447681.47 3764096.43 6.56674 (12083005) 447680.80
3764078.84 6.53377 (12083005)
447679.96 3764064.26 6.55917 (12083005) 447680.97
3764045.82 6.63222 (12083005)
447680.63 3764029.74 6.66713 (12083005) 447657.17
3763992.03 6.45805 (14081603)
447656.33 3763967.06 6.52289 (14081603) 447657.17
3763928.69 6.61430 (12092221)
447657.17 3763902.21 6.67167 (12092221) 447657.51
3763869.03 6.61157 (12092221)
447656.16 3763834.94 6.63378 (12092221) 447655.93
3763808.27 6.70212 (12081704)
447657.09 3763786.00 6.76638 (12081704) 447701.21
3763782.14 7.13861 (12081704)
447856.92 3763749.71 7.96096 (12083005) 447854.99
3763730.13 7.83596 (12083005)
447854.35 3763698.35 7.69932 (12083005) 447855.31
3763676.84 7.62569 (12083005)
447675.51 3763287.46 4.09112 (12101421) 448481.33
3763485.29 67.40223 (12121716)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1H25 ***
INCLUDING SOURCE(S): L0000924 , L0000925 , L0000926 , L0000927 , L0000928 ,
L0000929 , L0000930 , L0000931 , L0000932 , L0000933 ,
L0000934 , L0000935 , L0000936 ,
L0000937 , L0000938 , L0000939 , L0000940 , L0000941 ,
L0000942 , L0000943 , L0000944 ,
L0000945 , L0000946 , L0000947 , L0000948 , L0000949 ,
L0000950 , L0000951 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	46.92998	(12121716)	448462.73	3762339.82	35.84683	(12121716)
448464.47	3762265.93	22.49511	(14113016)	448461.57	3762165.17	15.10724	(15112121)
448472.57	3762064.71	11.81828	(15112121)	448460.48	3762016.72	10.92760	(15112121)
448234.63	3761951.18	8.34647	(15092103)	448081.42	3761952.78	6.51072	(16091922)
448025.53	3761955.99	5.96654	(15090901)	447506.75	3761967.63	3.18987	(15092023)
447269.29	3761967.74	2.63049	(15090902)	447389.46	3761908.79	2.88338	(15090902)
447019.14	3761964.34	2.24655	(12091503)	447060.33	3761963.58	2.29882	(12091503)
446975.31	3761963.20	2.19267	(12091503)	446940.92	3761953.76	2.15160	(12091503)
446865.72	3761974.54	2.06793	(12091503)	446795.06	3761957.91	1.99514	(15090904)
446757.65	3761965.85	1.96088	(15090904)	446709.33	3761967.74	1.91761	(15090904)
446796.42	3762028.62	1.99875	(15090904)	446796.97	3762045.28	1.99981	(15090904)
446796.70	3762089.51	2.00407	(15090904)	446796.15	3762105.89	2.00373	(15090904)
446796.70	3762137.29	2.00451	(15090904)	446796.15	3762153.39	2.00401	(15090904)
446772.40	3762215.37	1.98223	(15090904)	446795.06	3762321.03	2.00361	(15090904)
446796.42	3762450.98	2.00427	(15090904)	446796.42	3762471.18	2.00380	(15090904)
446797.24	3762496.03	2.00571	(15090903)	446798.06	3762516.51	2.00878	(15090903)
446797.79	3762539.98	2.01044	(15090903)	446797.52	3762560.19	2.01149	(15090903)

```
      446798.61   3762584.76        2.01410  (15090903)               446798.06
      3762604.42        2.01530  (15090903)
      446799.70   3762654.11        2.02119  (15090903)               446799.97
      3762674.58        2.02333  (15101221)
      446800.25   3762700.25        2.02607  (15101221)               446800.25
      3762721.27        2.02696  (15101221)
      446799.97   3762735.74        2.02692  (15101221)               446797.79
      3762748.02        2.02472  (15101221)
      446802.16   3762913.47        2.02432  (15101221)               446802.16
      3762932.58        2.02405  (15100919)
      446802.43   3762949.24        2.02515  (15100919)               446802.98
      3762967.26        2.02656  (15100919)
      446802.70   3762986.09        2.02741  (15100919)               446802.16
      3763003.29        2.02818  (15100919)
      446802.16   3763021.86        2.02958  (15100919)               446802.70
      3763040.70        2.03157  (15100919)
      446802.98   3763059.26        2.03319  (15100919)               446803.52
      3763077.01        2.03477  (15100919)
      446756.29   3763085.26        1.98441  (15100919)               446807.68
      3763646.39        2.78107  (16092723)
      446808.32   3763674.66        2.80325  (14091421)               446807.68
      3763694.57        2.84071  (14091421)
      446808.32   3763710.63        2.84909  (14091421)               446808.32
      3763726.37        2.86836  (14091421)
      446808.00   3763742.11        2.86133  (14091421)               446808.32
      3763756.89        2.85411  (14091421)
      446808.64   3763798.32        2.90188  (14091421)               446810.25
      3764484.08        3.84122  (16072901)
      446781.34   3764475.08        3.77832  (16072901)               446722.56
      3764455.81        3.62668  (14091702)
      446170.32   3764559.79        2.86909  (12091002)               446872.29
      3763190.26        2.10994  (15100919)
      446925.22   3763179.19        2.17124  (15100919)               446984.86
      3763194.88        2.24853  (15100919)
      447010.56   3763193.28        2.28097  (15100919)               447036.58
      3763193.60        2.31662  (15100919)
      447053.61   3763193.28        2.34316  (15101221)               447076.42
      3763192.31        2.37911  (15101221)
      447093.45   3763192.63        2.40612  (15101221)               447122.05
      3763192.63        2.45617  (15101221)
      447138.75   3763192.31        2.48469  (15101221)               447167.99
      3763192.31        2.53721  (15101221)
      447170.68   3763172.18        2.54340  (15101221)               447170.41
      3763158.25        2.54404  (15101221)
      447169.31   3763144.87        2.54221  (15101221)               447147.46
      3763107.45        2.50229  (15101221)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 228
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  1H25     ***
                              INCLUDING SOURCE(S):     L0000924    , L0000925    ,
                              L0000926    , L0000927    , L0000928    ,
               L0000929    , L0000930    , L0000931    , L0000932    , L0000933    ,
               L0000934    , L0000935    , L0000936    ,
               L0000937    , L0000938    , L0000939    , L0000940    , L0000941    ,
               L0000942    , L0000943    , L0000944    ,
               L0000945    , L0000946    , L0000947    , L0000948    , L0000949    ,
               L0000950    , L0000951    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***
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** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	2.50162	(15101221)	447146.92	3763064.30	2.50368	(15101221)
447149.92	3763038.90	2.50934	(15101221)	447148.56	3763019.78	2.50816	(15101221)
447148.56	3762997.39	2.50839	(15101221)	447206.08	3762958.49	2.60294	(15101221)
447209.33	3762922.51	2.60309	(15101221)	447208.40	3762890.70	2.59748	(15101221)
447145.83	3762888.87	2.49155	(15101221)	447122.55	3762889.07	2.45438	(15101221)
447094.33	3762890.05	2.41084	(15101221)	447071.04	3762890.45	2.37599	(15101221)
447043.61	3762889.66	2.33597	(15101221)	447017.76	3762888.87	2.29938	(15101221)
446992.11	3762889.07	2.26416	(15101221)	446964.28	3762888.28	2.22688	(15101221)
446940.41	3762888.47	2.19542	(15101221)	446911.20	3762888.08	2.15754	(15101221)
446885.35	3762889.66	2.12551	(15101221)	446862.07	3762888.87	2.09721	(15101221)
446871.45	3762779.57	2.10802	(15101221)	446926.31	3762768.72	2.17313	(15101221)
446983.74	3762774.24	2.24586	(15101221)	447009.00	3762774.05	2.27892	(15101221)
447030.51	3762774.44	2.30683	(15101221)	447055.37	3762774.05	2.34060	(15101221)
447076.88	3762774.24	2.37194	(15090904)	447101.16	3762774.44	2.41229	(15090904)
447123.85	3762774.05	2.44969	(15090904)	447148.12	3762775.03	2.49106	(15090904)
447170.23	3762774.84	2.52942	(15090904)	447196.78	3762775.48	2.57576	(15090904)
447242.12	3762776.57	2.65853	(15090904)	447262.33	3762776.03	2.69802	(13082904)
447294.56	3762776.30	2.76645	(13082904)	447313.13	3762775.48	2.80739	(13082904)
447313.40	3762749.53	2.80715	(13090706)	447327.86	3762713.09	2.84169	(13090706)
447327.36	3762679.87	2.83658	(13090706)	447327.74	3762657.02	2.83534	(13090706)
447327.28	3762636.82	2.83172	(13090706)	447327.51	3762612.90	2.82825	(13090706)
447327.28	3762592.24	2.82514	(13090706)	447327.04	3762569.71	2.82149	(13090706)
447327.28	3762547.89	2.81877	(13090706)	447326.58	3762524.67	2.81356	(13090706)
447326.58	3762506.09	2.81040	(13090706)	447327.51	3762477.53	2.80601	(13090706)
447325.88	3762454.31	2.79741	(13090706)	447225.58	3762432.95	2.59707	(12091503)
447200.27	3762430.63	2.55132	(12091503)	447156.85	3762430.16	2.47491	(12091503)
447131.77	3762430.86	2.43260	(12091503)	447102.74	3762430.63	2.38670	(15090904)
447079.06	3762430.86	2.35198	(15090904)	447034.94	3762433.65	2.29192	(15090904)
446995.47	3762433.65	2.24048	(15090904)	446972.71	3762434.34	2.21201	(15090904)

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       446941.37   3762434.58        2.17453  (15090904)               446916.06
       3762436.90        2.14473  (15090904)
       446876.35   3762436.90        2.09723  (15090904)               446848.85
       3762647.05        2.07277  (15101221)
       446848.85   3762563.17        2.06443  (14091405)               446849.17
       3762509.82        2.06548  (15090904)
       446849.17   3762455.82        2.06571  (15090904)               446848.85
       3762702.00        2.07921  (15101221)
       446849.49   3762754.71        2.08237  (15101221)               446739.81
       3762428.53        1.94343  (15090903)
       446711.81   3762423.61        1.91833  (15090903)               446687.25
       3762416.25        1.89646  (15090903)
       446662.20   3762412.32        1.87534  (15090903)               446636.17
       3762403.97        1.85380  (15090903)
       449981.72   3762732.45        2.10699  (15101302)               446486.82
       3762231.95        1.73363  (15090903)
       446261.97   3762068.01        1.58512  (15100921)               446443.15
       3762291.63        1.70532  (15090903)
       446071.80   3762055.49        1.47890  (15100921)               446072.08
       3761983.13        1.47937  (15100921)
       446138.18   3762002.17        1.51575  (15100921)               445884.94
       3762039.75        1.38613  (15100921)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 229
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  1MC100   ***
                               INCLUDING SOURCE(S):     L0000510    , L0000511    ,
                               L0000512    , L0000513    , L0000514    ,
                  L0000515    , L0000516    , L0000517    , L0000518    , L0000519    ,
                  L0000520    , L0000521    , L0000522    ,
                  L0000523    , L0000524    , L0000525    , L0000526    , L0000527    ,
                  L0000528    , L0000529    , L0000530    ,
                  L0000531    , L0000532    , L0000533    , L0000534    , L0000535    ,
                  L0000536    , L0000537    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - -
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 447205.32   3764468.27       17.48749  (16082102)                447232.43
 3764467.55        18.44361  (15032722)
 447264.02   3764467.30       19.87563  (15032722)                447294.77
 3764466.94        20.42324  (14040923)
 447364.97   3764456.41       21.38624  (12083006)                447406.61
 3764460.65        21.48696  (14072401)
 447441.47   3764460.04       22.05459  (16062805)                447466.88
 3764460.20        22.24559  (15062202)
 447490.00   3764460.56       22.16351  (13090206)                447515.50
 3764460.40        21.97107  (15062704)
 447573.06   3764454.29       21.66141  (12083004)                447598.49
 3764445.22        22.44594  (12082822)
 447652.90   3764439.70       23.44558  (12102719)                447692.92
 3764439.51        23.36964  (12080905)
 447713.82   3764439.11       22.88577  (12080905)                447731.95
 3764438.72        23.43822  (12080824)
 447751.07   3764438.72       23.59948  (12080824)                447768.82
 3764437.53        23.55358  (12080824)
 447789.12   3764437.73       23.41442  (12090802)                447805.68
 3764437.34        23.19922  (12090506)
 447824.02   3764437.20       23.26790  (13070104)                447841.61
 3764437.87        23.02584  (13070104)
 447861.72   3764437.53       22.80724  (15090723)                447881.66
 3764435.18        22.54596  (13082502)
 447902.78   3764436.19       22.20673  (15101706)                447920.87
 3764435.35        22.04205  (16072903)
 447942.16   3764435.35       21.79669  (12080823)                447962.77
 3764434.85        21.61984  (12080823)
 447980.70   3764435.18       21.21937  (12080823)                448004.66
 3764435.18        20.57155  (16062624)
 448021.25   3764434.68       19.84557  (16062624)                447662.70
 3764379.63        25.50941  (12080905)
 447681.30   3764320.98       26.87188  (12080905)                447682.64
 3764285.79        26.56603  (14082624)
 447662.53   3764238.37       26.53182  (14082624)                447661.70
 3764207.37        26.20663  (14082624)
 447683.14   3764162.29       25.80186  (15081301)                447680.97
 3764145.87        25.72437  (15081301)
 447679.63   3764130.28       24.58623  (15081301)                447680.80
 3764112.02        23.31695  (15081301)
 447681.47   3764096.43       23.07831  (15080524)                447680.80
 3764078.84        23.02938  (15080524)
 447679.96   3764064.26       23.49457  (15080524)                447680.97
 3764045.82        24.25212  (15080524)
 447680.63   3764029.74       25.12477  (15080524)                447657.17
 3763992.03        25.79938  (15080524)
 447656.33   3763967.06       27.25135  (15080524)                447657.17
 3763928.69        29.43949  (15080524)
 447657.17   3763902.21       31.06442  (15080524)                447657.51
 3763869.03        31.77634  (15080524)
 447656.16   3763834.94       34.16810  (15080524)                447655.93
 3763808.27        36.67113  (15080524)
 447657.09   3763786.00       39.29592  (15080524)                447701.21
 3763782.14        38.57304  (14080321)
 447856.92   3763749.71       25.58682  (12081701)                447854.99
 3763730.13        25.69004  (12081701)
 447854.35   3763698.35       25.94349  (13090201)                447855.31
 3763676.84        25.91055  (13090201)
 447675.51   3763287.46       96.82719  (12121716)                448481.33
 3763485.29        11.24043  (14102523)
 448479.95   3763195.53        8.82794  (13063024)                448478.56
 3762907.16         7.27238  (15082521)
 448497.89   3762714.10        7.08720  (15082521)                448507.91
 3762487.71         6.97419  (12092023)
```

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1MC100 ***
INCLUDING SOURCE(S): L0000510 , L0000511 , L0000512 , L0000513 , L0000514 ,
L0000515 , L0000516 , L0000517 , L0000518 , L0000519 ,
L0000520 , L0000521 , L0000522 ,
L0000523 , L0000524 , L0000525 , L0000526 , L0000527 ,
L0000528 , L0000529 , L0000530 ,
L0000531 , L0000532 , L0000533 , L0000534 , L0000535 ,
L0000536 , L0000537 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	7.12637	(14081623)	448462.73	3762339.82	7.25925	(15082623)
448464.47	3762265.93	7.25635	(15082623)	448461.57	3762165.17	7.22965	(12080622)
448472.57	3762064.71	6.94445	(15102521)	448460.48	3762016.72	6.99733	(13042022)
448234.63	3761951.18	8.79124	(12071323)	448081.42	3761952.78	11.99566	(12121716)
448025.53	3761955.99	14.27115	(12121716)	447506.75	3761967.63	16.74215	(15101301)
447269.29	3761967.74	13.12486	(15090901)	447389.46	3761908.79	13.98793	(14090704)
447019.14	3761964.34	9.44381	(12091405)	447060.33	3761963.58	9.95262	(12082901)
446975.31	3761963.20	8.98232	(12091505)	446940.92	3761953.76	8.63812	(15021220)
446865.72	3761974.54	8.06609	(13100623)	446795.06	3761957.91	7.53199	(12091503)
446757.65	3761965.85	7.31957	(12091503)	446709.33	3761967.74	7.00111	(16092702)
446796.42	3762028.62	7.70531	(12091503)	446796.97	3762045.28	7.72881	(12091503)
446796.70	3762089.51	7.82486	(16092702)	446796.15	3762105.89	7.84625	(15090904)
446796.70	3762137.29	7.93229	(15090904)	446796.15	3762153.39	7.95965	(15090904)
446772.40	3762215.37	7.80292	(15090904)	446795.06	3762321.03	8.13060	(15090903)
446796.42	3762450.98	8.27403	(15100921)	446796.42	3762471.18	8.26302	(15100921)
446797.24	3762496.03	8.25476	(14080302)	446798.06	3762516.51	8.27403	(15101023)
446797.79	3762539.98	8.29967	(15100919)	446797.52	3762560.19	8.32506	(15100919)
446798.61	3762584.76	8.35619	(15100919)	446798.06	3762604.42	8.36008	(15100919)
446799.70	3762654.11	8.35522	(15100919)	446799.97	3762674.58	8.32988	(15100919)
446800.25	3762700.25	8.28086	(15100919)	446800.25	3762721.27	8.25471	(14051523)

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      446799.97   3762735.74        8.26120  (14051523)               446797.79
      3762748.02        8.24611  (14051523)
      446802.16   3762913.47        8.20495  (15090905)               446802.16
      3762932.58        8.20111  (15090905)
      446802.43   3762949.24        8.19427  (15090905)               446802.98
      3762967.26        8.18360  (15090905)
      446802.70   3762986.09        8.16042  (15090905)               446802.16
      3763003.29        8.13364  (15090905)
      446802.16   3763021.86        8.09954  (15090905)               446802.70
      3763040.70        8.07215  (13112618)
      446802.98   3763059.26        8.04333  (13112618)               446803.52
      3763077.01        8.02378  (13112618)
      446756.29   3763085.26        7.68042  (13112618)               446807.68
      3763646.39       11.85716  (13062901)
      446808.32   3763674.66       11.89922  (13062901)               446807.68
      3763694.57       11.92590  (13062901)
      446808.32   3763710.63       11.90638  (13062901)               446808.32
      3763726.37       11.81533  (13062901)
      446808.00   3763742.11       11.68796  (16092823)               446808.32
      3763756.89       11.63726  (16092823)
      446808.64   3763798.32       11.72096  (16092823)               446810.25
      3764484.08       13.31546  (13090423)
      446781.34   3764475.08       13.01293  (15082523)               446722.56
      3764455.81       12.50677  (13090723)
      446170.32   3764559.79        8.97852  (13081603)               446872.29
      3763190.26       10.52205  (12092322)
      446925.22   3763179.19       11.37457  (12092322)               446984.86
      3763194.88       12.35206  (14091620)
      447010.56   3763193.28       12.96348  (14091620)               447036.58
      3763193.60       13.45299  (15082702)
      447053.61   3763193.28       13.98691  (15082702)               447076.42
      3763192.31       14.57606  (15120720)
      447093.45   3763192.63       15.40714  (15120720)               447122.05
      3763192.63       15.93431  (12081402)
      447138.75   3763192.31       16.26067  (15101401)               447167.99
      3763192.31       17.21157  (16092823)
      447170.68   3763172.18       17.21611  (15101401)               447170.41
      3763158.25       17.08684  (15101401)
      447169.31   3763144.87       17.13471  (12081402)               447147.46
      3763107.45       16.81679  (15120720)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 231
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  1MC100   ***
                               INCLUDING SOURCE(S):     L0000510    , L0000511    ,
                               L0000512    , L0000513    , L0000514    ,
               L0000515    , L0000516    , L0000517    , L0000518    , L0000519    ,
               L0000520    , L0000521    , L0000522    ,
               L0000523    , L0000524    , L0000525    , L0000526    , L0000527    ,
               L0000528    , L0000529    , L0000530    ,
               L0000531    , L0000532    , L0000533    , L0000534    , L0000535    ,
               L0000536    , L0000537    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                        **

    X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
    (M)        CONC     (YYMMDDHH)
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR15 ***
INCLUDING SOURCE(S): L0000634 , L0000635 , L0000636 , L0000637 , L0000638 ,
L0000639 , L0000640 , L0000641 , L0000642 , L0000643 ,
L0000644 , L0000645 , L0000646 ,
L0000647 , L0000648 , L0000649 , L0000650 , L0000651 ,
L0000652 , L0000653 , L0000654 ,
L0000655 , L0000656 , L0000657 , L0000658 , L0000659 ,
L0000660 , L0000661 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	3.65778	(12090824)	447375.98	3764150.98	3.87188	(15080404)
447389.75	3764043.04	4.03289	(15081804)	447450.16	3764031.05	4.08113	(14022021)
447410.18	3764019.05	4.08062	(14022021)	446891.90	3764451.22	3.08994	(12080823)
446959.28	3764451.22	3.13751	(12080823)	446995.28	3764468.13	3.15305	(14100622)
447007.41	3764467.30	3.16773	(14100622)	447023.51	3764466.09	3.18015	(14100622)
447036.59	3764466.21	3.18678	(14100622)	447052.68	3764465.61	3.19726	(16072205)
447066.60	3764465.73	3.21525	(16072205)	447099.65	3764456.17	3.26676	(13090302)
447145.28	3764468.27	3.29023	(13090302)	447175.54	3764468.03	3.28512	(13090302)
447205.32	3764468.27	3.27645	(15080603)	447232.43	3764467.55	3.32475	(15080603)
447264.02	3764467.30	3.40282	(15092823)	447294.77	3764466.94	3.44829	(15092823)
447364.97	3764456.41	3.49635	(12083101)	447406.61	3764460.65	3.50229	(12083101)

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      447441.47   3764460.04        3.53403  (13081801)               447466.88
      3764460.20        3.55603  (13081801)
      447490.00   3764460.56        3.56074  (13081801)               447515.50
      3764460.40        3.55208  (13081801)
      447573.06   3764454.29        3.55530  (15081804)               447598.49
      3764445.22        3.60596  (15081804)
      447652.90   3764439.70        3.71844  (15092723)               447692.92
      3764439.51        3.73931  (15092723)
      447713.82   3764439.11        3.74939  (14090106)               447731.95
      3764438.72        3.76583  (14090106)
      447751.07   3764438.72        3.78117  (16082901)               447768.82
      3764437.53        3.80405  (16082901)
      447789.12   3764437.73        3.82586  (16082901)               447805.68
      3764437.34        3.83531  (16082901)
      447824.02   3764437.20        3.84198  (15120617)               447841.61
      3764437.87        3.84939  (15120617)
      447861.72   3764437.53        3.86614  (14101803)               447881.66
      3764435.18        3.88433  (14101803)
      447902.78   3764436.19        3.90567  (16082101)               447920.87
      3764435.35        3.92463  (16082101)
      447942.16   3764435.35        3.93812  (16082101)               447962.77
      3764434.85        3.94513  (16082101)
      447980.70   3764435.18        3.94443  (16082101)               448004.66
      3764435.18        3.93297  (12111420)
      448021.25   3764434.68        3.90812  (12111420)               447662.70
      3764379.63        3.85205  (15092723)
      447681.30   3764320.98        3.96767  (16082901)               447682.64
      3764285.79        3.99055  (16082901)
      447662.53   3764238.37        4.00396  (16082901)               447661.70
      3764207.37        4.00464  (16082901)
      447683.14   3764162.29        4.06501  (14101803)               447680.97
      3764145.87        4.07090  (14101803)
      447679.63   3764130.28        4.07904  (13091501)               447680.80
      3764112.02        4.09380  (12082104)
      447681.47   3764096.43        4.11627  (12082104)               447680.80
      3764078.84        4.14724  (12082104)
      447679.96   3764064.26        4.18169  (12082104)               447680.97
      3764045.82        4.22838  (12082104)
      447680.63   3764029.74        4.26962  (12082104)               447657.17
      3763992.03        4.33641  (14091221)
      447656.33   3763967.06        4.41489  (14091221)               447657.17
      3763928.69        4.54934  (12081401)
      447657.17   3763902.21        4.65238  (12081401)               447657.51
      3763869.03        4.74331  (12081401)
      447656.16   3763834.94        4.86049  (12081401)               447655.93
      3763808.27        4.95865  (12081401)
      447657.09   3763786.00        5.06595  (12081204)               447701.21
      3763782.14        5.15377  (12081204)
      447856.92   3763749.71        5.10310  (12112923)               447854.99
      3763730.13        5.16294  (12112923)
      447854.35   3763698.35        5.26205  (13071404)               447855.31
      3763676.84        5.34270  (13071404)
      447675.51   3763287.46        6.81446  (12083003)               448481.33
      3763485.29        6.58063  (14120817)
      448479.95   3763195.53        7.61314  (13070604)               448478.56
      3762907.16        8.87170  (13090823)
      448497.89   3762714.10        7.88974  (15100920)               448507.91
      3762487.71        6.49562  (12072002)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 233
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR15 ***
INCLUDING SOURCE(S): L0000634 , L0000635 , L0000636 , L0000637 , L0000638 , L0000639 , L0000640 , L0000641 , L0000642 , L0000643 , L0000644 , L0000645 , L0000646 , L0000647 , L0000648 , L0000649 , L0000650 , L0000651 , L0000652 , L0000653 , L0000654 , L0000655 , L0000656 , L0000657 , L0000658 , L0000659 , L0000660 , L0000661 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	6.11780	(15081222)	448462.73	3762339.82	6.07351	(12090422)
448464.47	3762265.93	5.48693	(14081023)	448461.57	3762165.17	4.66503	(12081622)
448472.57	3762064.71	3.82830	(14082722)	448460.48	3762016.72	3.64836	(15082521)
448234.63	3761951.18	3.62275	(12092023)	448081.42	3761952.78	4.10013	(14100221)
448025.53	3761955.99	4.23106	(14100221)	447506.75	3761967.63	5.11472	(14100221)
447269.29	3761967.74	5.94832	(14100221)	447389.46	3761908.79	5.20012	(12110518)
447019.14	3761964.34	6.98077	(14100221)	447060.33	3761963.58	6.76165	(14100221)
446975.31	3761963.20	7.21048	(14100221)	446940.92	3761953.76	7.30898	(14100221)
446865.72	3761974.54	8.18257	(14100221)	446795.06	3761957.91	8.55514	(14100221)
446757.65	3761965.85	8.99136	(14100221)	446709.33	3761967.74	9.48956	(14100221)
446796.42	3762028.62	9.85697	(12081622)	446796.97	3762045.28	10.15216	(12081622)
446796.70	3762089.51	11.99117	(13090522)	446796.15	3762105.89	12.27213	(12080822)
446796.70	3762137.29	13.02811	(12080822)	446796.15	3762153.39	13.41159	(12080822)
446772.40	3762215.37	16.30417	(15080601)	446795.06	3762321.03	25.99538	(12062806)
446796.42	3762450.98	31.90877	(13090323)	446796.42	3762471.18	25.96045	(13090323)
446797.24	3762496.03	21.33949	(13090523)	446798.06	3762516.51	18.69205	(13090523)
446797.79	3762539.98	16.36356	(13063024)	446797.52	3762560.19	14.96297	(16082306)
446798.61	3762584.76	13.91838	(12081104)	446798.06	3762604.42	13.18184	(12081104)
446799.70	3762654.11	11.61166	(13090506)	446799.97	3762674.58	10.88859	(12070924)
446800.25	3762700.25	11.81009	(13072204)	446800.25	3762721.27	11.29383	(13072204)
446799.97	3762735.74	10.90858	(14091221)	446797.79	3762748.02	10.58914	(14091221)
446802.16	3762913.47	7.47674	(14091221)	446802.16	3762932.58	7.23801	(14091221)
446802.43	3762949.24	7.04120	(14091221)	446802.98	3762967.26	6.83950	(14091221)

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      446802.70   3762986.09        6.62959  (15103019)               446802.16
      3763003.29        6.54300  (15103019)
      446802.16   3763021.86        6.32951  (14110620)               446802.70
      3763040.70        6.23245  (14110620)
      446802.98   3763059.26        6.13531  (15101323)               446803.52
      3763077.01        6.03380  (15101323)
      446756.29   3763085.26        5.73284  (15101323)               446807.68
      3763646.39        4.09861  (16062624)
      446808.32   3763674.66        4.03865  (16062624)               446807.68
      3763694.57        4.00142  (16062624)
      446808.32   3763710.63        3.96723  (16062624)               446808.32
      3763726.37        3.93375  (16062624)
      446808.00   3763742.11        3.89617  (16062624)               446808.32
      3763756.89        3.86290  (16062624)
      446808.64   3763798.32        3.79600  (16062624)               446810.25
      3764484.08        3.00315  (14070405)
      446781.34   3764475.08        2.99671  (16102922)               446722.56
      3764455.81        2.98457  (16102922)
      446170.32   3764559.79        2.58083  (15083004)               446872.29
      3763190.26        5.88513  (15101323)
      446925.22   3763179.19        6.13883  (14110620)               446984.86
      3763194.88        6.17568  (15103019)
      447010.56   3763193.28        6.32274  (15103019)               447036.58
      3763193.60        6.38226  (15103019)
      447053.61   3763193.28        6.43885  (14091221)               447076.42
      3763192.31        6.54697  (14091221)
      447093.45   3763192.63        6.61914  (14091221)               447122.05
      3763192.63        6.63943  (12080202)
      447138.75   3763192.31        6.65824  (12080202)               447167.99
      3763192.31        6.65980  (12080202)
      447170.68   3763172.18        6.78990  (13072204)               447170.41
      3763158.25        6.88648  (13072204)
      447169.31   3763144.87        7.00422  (13072204)               447147.46
      3763107.45        7.36478  (13081424)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 234
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  1OR15    ***
                                INCLUDING SOURCE(S):     L0000634    , L0000635    ,
                                L0000636    , L0000637    , L0000638    ,
                  L0000639    , L0000640    , L0000641    , L0000642    , L0000643    ,
                  L0000644    , L0000645    , L0000646    ,
                  L0000647    , L0000648    , L0000649    , L0000650    , L0000651    ,
                  L0000652    , L0000653    , L0000654    ,
                  L0000655    , L0000656    , L0000657    , L0000658    , L0000659    ,
                  L0000660    , L0000661    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                       ** CONC OF OTHER    IN
                                       MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -
       447146.64   3763084.24        7.57995  (13081424)               447146.92
       3763064.30        7.72538  (13081424)
       447149.92   3763038.90        7.96349  (14070602)               447148.56
       3763019.78        8.14355  (14070602)
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447148.56 3762997.39 8.38976 (16083105) 447206.08
3762958.49 8.83966 (14102523)
447209.33 3762922.51 9.21982 (14102523) 447208.40
3762890.70 9.63492 (12083003)
447145.83 3762888.87 9.59859 (14102523) 447122.55
3762889.07 9.54285 (16083105)
447094.33 3762890.05 9.48576 (16083105) 447071.04
3762890.45 9.39174 (16083105)
447043.61 3762889.66 9.23924 (16083105) 447017.76
3762888.87 9.08887 (14070602)
446992.11 3762889.07 8.94264 (14070602) 446964.28
3762888.28 8.79302 (13072204)
446940.41 3762888.47 8.63354 (13072204) 446911.20
3762888.08 8.52723 (14091221)
446885.35 3762889.66 8.41555 (14091221) 446862.07
3762888.87 8.30638 (14091221)
446871.45 3762779.57 10.43720 (13072204) 446926.31
3762768.72 11.27067 (16083105)
446983.74 3762774.24 11.62567 (16083105) 447009.00
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447030.51 3762774.44 11.26428 (13070405) 447055.37
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447076.88 3762774.24 11.30278 (16081404) 447101.16
3762774.44 11.83865 (16081404)
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447313.40 3762749.53 13.35929 (12081224) 447327.86
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447327.36 3762679.87 12.29703 (15082522) 447327.74
3762657.02 13.02118 (15082522)
447327.28 3762636.82 13.57146 (12080922) 447327.51
3762612.90 14.54575 (12080922)
447327.28 3762592.24 15.55233 (12080922) 447327.04
3762569.71 16.65832 (12080922)
447327.28 3762547.89 17.99531 (12081123) 447326.58
3762524.67 19.91805 (14072824)
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3762477.53 26.65050 (12081422)
447325.88 3762454.31 33.13699 (15100920) 447225.58
3762432.95 47.36789 (12062806)
447200.27 3762430.63 49.88859 (12062806) 447156.85
3762430.16 50.01039 (12062806)
447131.77 3762430.86 48.87622 (12062806) 447102.74
3762430.63 48.83218 (12062806)
447079.06 3762430.86 48.30379 (12062806) 447034.94
3762433.65 44.91230 (12062806)
446995.47 3762433.65 44.54901 (12062806) 446972.71
3762434.34 43.69888 (12062806)
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3762647.05 12.16653 (15082723)
446848.85 3762563.17 15.60929 (13063024) 446849.17
3762509.82 20.71702 (13090323)
446849.17 3762455.82 31.92198 (15090924) 446848.85
3762702.00 12.52783 (14070602)
446849.49 3762754.71 10.90208 (13072204) 446739.81
3762428.53 40.71807 (16082707)
446711.81 3762423.61 40.07298 (16082707) 446687.25
3762416.25 39.86349 (12062806)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR60 ***
INCLUDING SOURCE(S): L0001115 , L0001116 , L0001117 , L0001118 , L0001119 ,
L0001120 , L0001121 , L0001122 , L0001123 , L0001124 ,
L0001125 , L0001126 , L0001127 ,
L0001128 , L0001129 , L0001130 , L0001131 , L0001132 ,
L0001133 , L0001134 , L0001135 ,
L0001136 , L0001137 , L0001138 , L0001139 , L0001140 ,
L0001141 , L0001142 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	8.47922	(12081704)	447375.98	3764150.98	8.74567	(13081603)
447389.75	3764043.04	8.85920	(15090724)	447450.16	3764031.05	8.85771	(15090724)
447410.18	3764019.05	8.90051	(15090724)	446891.90	3764451.22	7.59644	(12010218)
446959.28	3764451.22	7.72505	(16092001)	446995.28	3764468.13	7.75880	(15090724)
447007.41	3764467.30	7.79464	(15090724)	447023.51	3764466.09	7.81564	(15090724)
447036.59	3764466.21	7.82267	(15090724)	447052.68	3764465.61	7.83688	(15090724)
447066.60	3764465.73	7.84288	(15090724)	447099.65	3764456.17	7.85644	(15090724)
447145.28	3764468.27	7.90051	(13081603)	447175.54	3764468.03	7.87434	(15062905)
447205.32	3764468.27	7.86861	(12081704)	447232.43	3764467.55	8.02347	(12081704)
447264.02	3764467.30	8.22500	(12081704)	447294.77	3764466.94	8.28661	(12081704)
447364.97	3764456.41	8.31865	(12081302)	447406.61	3764460.65	8.29808	(12081302)
447441.47	3764460.04	8.29884	(15092403)	447466.88	3764460.20	8.31442	(14081603)
447490.00	3764460.56	8.34737	(14081603)	447515.50	3764460.40	8.34752	(14081603)
447573.06	3764454.29	8.27101	(14081603)	447598.49	3764445.22	8.33566	(12092724)

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      447652.90   3764439.70        8.57502  (14091701)               447692.92
      3764439.51        8.55805  (14091701)
      447713.82   3764439.11        8.54866  (14081405)               447731.95
      3764438.72        8.58361  (14081405)
      447751.07   3764438.72        8.61130  (13070222)               447768.82
      3764437.53        8.65211  (13070222)
      447789.12   3764437.73        8.68853  (13070222)               447805.68
      3764437.34        8.70085  (13070222)
      447824.02   3764437.20        8.70522  (15092601)               447841.61
      3764437.87        8.73743  (15092601)
      447861.72   3764437.53        8.76024  (15092601)               447881.66
      3764435.18        8.78068  (12083105)
      447902.78   3764436.19        8.80767  (12083105)               447920.87
      3764435.35        8.82352  (12083105)
      447942.16   3764435.35        8.82600  (12083105)               447962.77
      3764434.85        8.81738  (12083105)
      447980.70   3764435.18        8.83381  (15080324)               448004.66
      3764435.18        8.83532  (15080324)
      448021.25   3764434.68        8.77908  (15092502)               447662.70
      3764379.63        8.84505  (14091701)
      447681.30   3764320.98        9.00934  (14091701)               447682.64
      3764285.79        8.97368  (12092724)
      447662.53   3764238.37        8.98245  (14081603)               447661.70
      3764207.37        8.95211  (14081603)
      447683.14   3764162.29        8.93791  (15061824)               447680.97
      3764145.87        8.93916  (13082922)
      447679.63   3764130.28        8.92831  (13082922)               447680.80
      3764112.02        8.91965  (13082922)
      447681.47   3764096.43        8.93013  (13082922)               447680.80
      3764078.84        8.98740  (12092221)
      447679.96   3764064.26        9.05625  (12092221)               447680.97
      3764045.82        9.14753  (12092221)
      447680.63   3764029.74        9.22811  (12092221)               447657.17
      3763992.03        9.27506  (12092221)
      447656.33   3763967.06        9.37027  (15063002)               447657.17
      3763928.69        9.55910  (15063002)
      447657.17   3763902.21        9.67687  (15063002)               447657.51
      3763869.03        9.76681  (13062901)
      447656.16   3763834.94        9.93262  (13081603)               447655.93
      3763808.27       10.09327  (13081603)
      447657.09   3763786.00       10.23481  (15090724)               447701.21
      3763782.14       10.33505  (13081603)
      447856.92   3763749.71       10.43164  (12092221)               447854.99
      3763730.13       10.47494  (12092221)
      447854.35   3763698.35       10.53150  (12092221)               447855.31
      3763676.84       10.56010  (12092221)
      447675.51   3763287.46       11.61560  (16072103)               448481.33
      3763485.29       12.83717  (12081001)
      448479.95   3763195.53       14.62606  (15082605)               448478.56
      3762907.16       19.01258  (13082922)
      448497.89   3762714.10       25.39861  (15082702)               448507.91
      3762487.71       49.06585  (15011116)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 236
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  1OR60    ***
                               INCLUDING SOURCE(S):     L0001115    , L0001116    ,
                               L0001117    , L0001118    , L0001119    ,
                 L0001120    , L0001121    , L0001122    , L0001123    , L0001124    ,
                 L0001125    , L0001126    , L0001127    ,
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L0001128 , L0001129 , L0001130 , L0001131 , L0001132 ,
L0001133 , L0001134 , L0001135 ,
L0001136 , L0001137 , L0001138 , L0001139 , L0001140 ,
L0001141 , L0001142 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	164.15185	(12121716)	448462.73	3762339.82	92.49137	(16092701)
448464.47	3762265.93	49.60757	(15101023)	448461.57	3762165.17	30.90366	(15090903)
448472.57	3762064.71	22.30750	(16092702)	448460.48	3762016.72	19.74379	(12091503)
448234.63	3761951.18	16.51169	(15090904)	448081.42	3761952.78	15.52247	(15100921)
448025.53	3761955.99	14.75229	(15100921)	447506.75	3761967.63	8.78350	(12020618)
447269.29	3761967.74	7.16292	(14011319)	447389.46	3761908.79	7.73105	(15101024)
447019.14	3761964.34	5.91777	(13121117)	447060.33	3761963.58	6.10058	(13121117)
446975.31	3761963.20	5.72324	(13121117)	446940.92	3761953.76	5.57524	(13121117)
446865.72	3761974.54	5.34574	(14051523)	446795.06	3761957.91	5.08350	(14051523)
446757.65	3761965.85	4.97105	(14051523)	446709.33	3761967.74	4.81442	(14051523)
446796.42	3762028.62	5.06589	(14051523)	446796.97	3762045.28	5.08996	(14120121)
446796.70	3762089.51	5.15368	(14120121)	446796.15	3762105.89	5.14689	(14120121)
446796.70	3762137.29	5.20855	(14011518)	446796.15	3762153.39	5.25366	(14011518)
446772.40	3762215.37	5.20630	(14011518)	446795.06	3762321.03	5.22564	(15031521)
446796.42	3762450.98	5.07259	(16041722)	446796.42	3762471.18	5.07791	(16041722)
446797.24	3762496.03	5.05667	(16041722)	446798.06	3762516.51	5.06934	(14100421)
446797.79	3762539.98	5.07792	(15090905)	446797.52	3762560.19	5.13261	(15090905)
446798.61	3762584.76	5.17420	(15090905)	446798.06	3762604.42	5.17817	(15090905)
446799.70	3762654.11	5.37325	(15090905)	446799.97	3762674.58	5.82216	(15090905)
446800.25	3762700.25	5.99158	(14080304)	446800.25	3762721.27	6.22416	(14080304)
446799.97	3762735.74	6.23235	(14080304)	446797.79	3762748.02	6.21844	(14080304)
446802.16	3762913.47	5.67912	(14100321)	446802.16	3762932.58	5.70752	(14100321)
446802.43	3762949.24	5.71429	(14100321)	446802.98	3762967.26	5.70261	(14100321)
446802.70	3762986.09	5.68395	(14100321)	446802.16	3763003.29	5.91764	(14100321)
446802.16	3763021.86	5.93742	(14100321)	446802.70	3763040.70	6.03448	(14100321)
446802.98	3763059.26	6.16322	(15010901)	446803.52	3763077.01	6.31950	(15010901)

446756.29 3763085.26 5.60746 (16102420) 446807.68
3763646.39 8.22300 (14091421)
446808.32 3763674.66 8.24719 (14091421) 446807.68
3763694.57 8.24804 (14091421)
446808.32 3763710.63 8.21497 (14091421) 446808.32
3763726.37 8.16686 (14091421)
446808.00 3763742.11 8.09008 (14091421) 446808.32
3763756.89 8.02285 (16021622)
446808.64 3763798.32 8.03115 (16072703) 446810.25
3764484.08 7.45058 (14081705)
446781.34 3764475.08 7.46269 (16072901) 446722.56
3764455.81 7.42002 (15081403)
446170.32 3764559.79 6.62536 (16081724) 446872.29
3763190.26 8.49845 (16092622)
446925.22 3763179.19 8.80927 (15081502) 446984.86
3763194.88 9.05147 (15081502)
447010.56 3763193.28 9.34945 (15081502) 447036.58
3763193.60 9.47004 (15081502)
447053.61 3763193.28 9.56381 (15081502) 447076.42
3763192.31 9.71962 (14091321)
447093.45 3763192.63 9.88846 (14091321) 447122.05
3763192.63 9.91746 (14091321)
447138.75 3763192.31 9.94820 (14091321) 447167.99
3763192.31 10.00315 (14091321)
447170.68 3763172.18 10.03235 (14091321) 447170.41
3763158.25 10.00062 (14091321)
447169.31 3763144.87 10.02641 (14091321) 447147.46
3763107.45 10.17600 (15081502)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR60 ***
INCLUDING SOURCE(S): L0001115 , L0001116 , L0001117 , L0001118 , L0001119 ,
L0001120 , L0001121 , L0001122 , L0001123 , L0001124 ,
L0001125 , L0001126 , L0001127 ,
L0001128 , L0001129 , L0001130 , L0001131 , L0001132 ,
L0001133 , L0001134 , L0001135 ,
L0001136 , L0001137 , L0001138 , L0001139 , L0001140 ,
L0001141 , L0001142 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M) Y-COORD (M) CONC (YYMMDDHH) X-COORD (M) Y-COORD (M) CONC (YYMMDDHH)
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447094.33   3762890.05       7.67258  (14100321)              447071.04
3762890.45       7.55165  (14100321)
447043.61   3762889.66       7.40243  (14100321)              447017.76
3762888.87       7.19016  (14100321)
446992.11   3762889.07       7.05134  (14100321)              446964.28
3762888.28       6.89362  (14100321)
446940.41   3762888.47       6.73751  (14100321)              446911.20
3762888.08       6.44322  (14100321)
446885.35   3762889.66       6.32756  (16092423)              446862.07
3762888.87       6.25316  (16092423)
446871.45   3762779.57       6.41809  (14080304)              446926.31
3762768.72       6.67907  (14080304)
446983.74   3762774.24       6.93758  (16092423)              447009.00
3762774.05       6.95519  (16092423)
447030.51   3762774.44       6.81950  (16092423)              447055.37
3762774.05       6.79947  (16092423)
447076.88   3762774.24       6.92351  (16092423)              447101.16
3762774.44       7.28231  (16092423)
447123.85   3762774.05       7.41178  (16092423)              447148.12
3762775.03       7.63547  (16092423)
447170.23   3762774.84       7.89391  (16092423)              447196.78
3762775.48       7.92407  (16092423)
447242.12   3762776.57       8.18573  (16092423)              447262.33
3762776.03       8.29634  (16092423)
447294.56   3762776.30       8.39038  (16092423)              447313.13
3762775.48       8.50794  (16092423)
447313.40   3762749.53       8.66321  (16092423)              447327.86
3762713.09       8.61763  (16092423)
447327.36   3762679.87       7.80074  (15032622)              447327.74
3762657.02       7.48115  (15032622)
447327.28   3762636.82       7.43286  (15032622)              447327.51
3762612.90       7.61137  (15090905)
447327.28   3762592.24       7.75319  (15090905)              447327.04
3762569.71       7.85184  (15090905)
447327.28   3762547.89       7.89121  (15090905)              447326.58
3762524.67       7.85889  (15090905)
447326.58   3762506.09       7.78666  (15090905)              447327.51
3762477.53       7.74502  (16041722)
447325.88   3762454.31       7.78222  (16041722)              447225.58
3762432.95       7.07726  (16041722)
447200.27   3762430.63       6.91487  (16041722)              447156.85
3762430.16       6.65784  (16041722)
447131.77   3762430.86       6.51927  (16041722)              447102.74
3762430.63       6.36238  (16041722)
447079.06   3762430.86       6.23988  (16041722)              447034.94
3762433.65       6.02810  (16041722)
446995.47   3762433.65       5.84441  (16041722)              446972.71
3762434.34       5.74432  (16041722)
446941.37   3762434.58       5.61033  (16041722)              446916.06
3762436.90       5.50959  (16041722)
446876.35   3762436.90       5.35137  (16041722)              446848.85
3762647.05       5.46890  (15090905)
446848.85   3762563.17       5.33390  (15090905)              446849.17
3762509.82       5.24978  (14100421)
446849.17   3762455.82       5.26776  (16041722)              446848.85
3762702.00       6.27419  (14080304)
446849.49   3762754.71       6.49240  (14080304)              446739.81
3762428.53       4.84776  (16041722)
446711.81   3762423.61       4.74732  (16041722)              446687.25
3762416.25       4.66463  (15031521)
446662.20   3762412.32       4.60366  (15031521)              446636.17
3762403.97       4.55707  (15031521)
449981.72   3762732.45      13.25017  (15081321)              446486.82
3762231.95       4.35826  (16021518)
446261.97   3762068.01       3.75299  (14011518)              446443.15
3762291.63       4.18752  (16021518)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR85 ***
INCLUDING SOURCE(S): L0000867 , L0000868 , L0000869 , L0000870 , L0000871 ,
L0000872 , L0000873 , L0000874 , L0000875 , L0000876 ,
L0000877 , L0000878 , L0000879 ,
L0000880 , L0000881 , L0000882 , L0000883 , L0000884 ,
L0000885 , L0000886 , L0000887 ,
L0000888 , L0000889 , L0000890 , L0000891 , L0000892 ,
L0000893 , L0000894 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	9.84668	(16072603)	447375.98	3764150.98	10.25123	(12080704)
447389.75	3764043.04	10.37212	(12080704)	447450.16	3764031.05	10.31429	(16072603)
447410.18	3764019.05	10.38783	(12080704)	446891.90	3764451.22	9.18995	(13090723)
446959.28	3764451.22	9.22715	(13090423)	446995.28	3764468.13	9.28536	(13090423)
447007.41	3764467.30	9.30840	(13090423)	447023.51	3764466.09	9.30303	(13090423)
447036.59	3764466.21	9.28197	(13090423)	447052.68	3764465.61	9.25989	(13090423)
447066.60	3764465.73	9.26066	(14083005)	447099.65	3764456.17	9.32159	(12072004)
447145.28	3764468.27	9.30858	(12072004)	447175.54	3764468.03	9.27180	(12080704)
447205.32	3764468.27	9.25395	(12080704)	447232.43	3764467.55	9.36175	(12080704)
447264.02	3764467.30	9.51328	(16072603)	447294.77	3764466.94	9.61683	(16072603)
447364.97	3764456.41	9.63705	(12081001)	447406.61	3764460.65	9.58914	(12081001)
447441.47	3764460.04	9.56350	(12081604)	447466.88	3764460.20	9.51803	(16062701)
447490.00	3764460.56	9.50074	(16062701)	447515.50	3764460.40	9.43191	(16062701)
447573.06	3764454.29	9.29881	(15032722)	447598.49	3764445.22	9.35050	(12092102)
447652.90	3764439.70	9.57975	(16062804)	447692.92	3764439.51	9.57136	(12081106)
447713.82	3764439.11	9.60314	(12081106)	447731.95	3764438.72	9.62947	(12081106)
447751.07	3764438.72	9.62559	(12081106)	447768.82	3764437.53	9.62924	(12081106)

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      447789.12   3764437.73        9.63795  (15062301)               447805.68
      3764437.34        9.65655  (15062301)
      447824.02   3764437.20        9.68085  (13090206)               447841.61
      3764437.87        9.71062  (13090206)
      447861.72   3764437.53        9.72676  (13090206)               447881.66
      3764435.18        9.73169  (13090206)
      447902.78   3764436.19        9.73571  (15083004)               447920.87
      3764435.35        9.73811  (15083004)
      447942.16   3764435.35        9.71924  (15083004)               447962.77
      3764434.85        9.73045  (12082822)
      447980.70   3764435.18        9.76727  (12082822)               448004.66
      3764435.18        9.77296  (12082822)
      448021.25   3764434.68        9.70062  (12082822)               447662.70
      3764379.63        9.88421  (16062804)
      447681.30   3764320.98       10.08591  (16062804)               447682.64
      3764285.79       10.07290  (16062804)
      447662.53   3764238.37       10.04565  (16062804)               447661.70
      3764207.37       10.00067  (15032722)
      447683.14   3764162.29       10.02454  (12083006)               447680.97
      3764145.87       10.00536  (12083006)
      447679.63   3764130.28        9.97790  (12083006)               447680.80
      3764112.02        9.96167  (12083006)
      447681.47   3764096.43        9.97900  (12083006)               447680.80
      3764078.84       10.02603  (15032722)
      447679.96   3764064.26       10.10936  (15032722)               447680.97
      3764045.82       10.22030  (15032722)
      447680.63   3764029.74       10.32712  (15032722)               447657.17
      3763992.03       10.51898  (15032722)
      447656.33   3763967.06       10.69067  (15032722)               447657.17
      3763928.69       10.91931  (15032722)
      447657.17   3763902.21       11.08210  (15032722)               447657.51
      3763869.03       11.20435  (15032722)
      447656.16   3763834.94       11.41754  (15032722)               447655.93
      3763808.27       11.61472  (15032722)
      447657.09   3763786.00       11.78101  (15032722)               447701.21
      3763782.14       11.84600  (15032722)
      447856.92   3763749.71       11.54527  (16062805)               447854.99
      3763730.13       11.60981  (16062805)
      447854.35   3763698.35       11.71859  (12083006)               447855.31
      3763676.84       11.79627  (12083006)
      447675.51   3763287.46       13.75263  (15072504)               448481.33
      3763485.29       13.36899  (13072124)
      448479.95   3763195.53       14.84917  (15081522)               448478.56
      3762907.16       14.53937  (12080723)
      448497.89   3762714.10       21.02673  (13090523)               448507.91
      3762487.71       49.70433  (14090804)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 239
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  1OR85    ***
                                INCLUDING SOURCE(S):     L0000867    , L0000868    ,
                                L0000869    , L0000870    , L0000871    ,
               L0000872    , L0000873    , L0000874    , L0000875    , L0000876    ,
               L0000877    , L0000878    , L0000879    ,
               L0000880    , L0000881    , L0000882    , L0000883    , L0000884    ,
               L0000885    , L0000886    , L0000887    ,
               L0000888    , L0000889    , L0000890    , L0000891    , L0000892    ,
               L0000893    , L0000894    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***
```

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	115.16229	(15102517)	448462.73	3762339.82	89.63584	(15102517)
448464.47	3762265.93	54.18178	(12121716)	448461.57	3762165.17	36.01660	(12121716)
448472.57	3762064.71	25.21344	(12121716)	448460.48	3762016.72	22.10257	(12121716)
448234.63	3761951.18	18.74403	(12121716)	448081.42	3761952.78	18.55970	(12121716)
448025.53	3761955.99	18.10879	(12121716)	447506.75	3761967.63	16.16847	(15090904)
447269.29	3761967.74	14.72167	(15100921)	447389.46	3761908.79	14.14382	(15090904)
447019.14	3761964.34	11.64112	(14022022)	447060.33	3761963.58	12.08934	(14022022)
446975.31	3761963.20	11.19367	(15031424)	446940.92	3761953.76	10.76611	(15031424)
446865.72	3761974.54	10.32332	(15101024)	446795.06	3761957.91	9.53930	(15101024)
446757.65	3761965.85	9.20912	(12020618)	446709.33	3761967.74	8.86588	(12020618)
446796.42	3762028.62	9.92849	(14011319)	446796.97	3762045.28	10.06166	(14011319)
446796.70	3762089.51	10.40068	(13121117)	446796.15	3762105.89	10.47858	(14051523)
446796.70	3762137.29	10.72952	(14051523)	446796.15	3762153.39	10.76387	(14051523)
446772.40	3762215.37	10.76055	(14011518)	446795.06	3762321.03	11.53631	(16021518)
446796.42	3762450.98	11.33306	(15090905)	446796.42	3762471.18	11.52729	(15090905)
446797.24	3762496.03	11.61363	(15090905)	446798.06	3762516.51	11.54847	(15090905)
446797.79	3762539.98	11.30979	(15090905)	446797.52	3762560.19	11.08701	(15032622)
446798.61	3762584.76	11.19988	(15032622)	446798.06	3762604.42	11.15276	(15032622)
446799.70	3762654.11	10.78013	(15040323)	446799.97	3762674.58	10.66501	(12101719)
446800.25	3762700.25	10.64418	(12101719)	446800.25	3762721.27	10.51452	(12101719)
446799.97	3762735.74	10.36917	(12101719)	446797.79	3762748.02	10.19878	(12101719)
446802.16	3762913.47	9.29303	(15120517)	446802.16	3762932.58	9.15150	(15120517)
446802.43	3762949.24	8.99411	(15120517)	446802.98	3762967.26	8.79895	(14051202)
446802.70	3762986.09	8.68835	(13092722)	446802.16	3763003.29	8.61766	(13092722)
446802.16	3763021.86	8.71015	(13092722)	446802.70	3763040.70	8.75568	(16110920)
446802.98	3763059.26	9.12189	(16110920)	446803.52	3763077.01	9.30852	(16110920)
446756.29	3763085.26	7.81171	(13092722)	446807.68	3763646.39	11.30054	(15082702)
446808.32	3763674.66	11.07259	(15082702)	446807.68	3763694.57	11.01549	(15050123)
446808.32	3763710.63	10.93008	(15050123)	446808.32	3763726.37	10.83411	(15050123)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1OR85 ***
INCLUDING SOURCE(S): L0000867 , L0000868 , L0000869 , L0000870 , L0000871 ,
L0000872 , L0000873 , L0000874 , L0000875 , L0000876 ,
L0000877 , L0000878 , L0000879 ,
L0000880 , L0000881 , L0000882 , L0000883 , L0000884 ,
L0000885 , L0000886 , L0000887 ,
L0000888 , L0000889 , L0000890 , L0000891 , L0000892 ,
L0000893 , L0000894 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	16.30135	(14091702)	447146.92	3763064.30	16.37480	(14091702)
447149.92	3763038.90	16.42303	(12092322)	447148.56	3763019.78	16.70087	(12092322)
447148.56	3762997.39	14.82206	(14091620)	447206.08	3762958.49	13.59773	(14091620)
447209.33	3762922.51	13.47097	(14091521)	447208.40	3762890.70	13.46935	(14091521)
447145.83	3762888.87	12.85840	(13092602)	447122.55	3762889.07	12.67213	(13092602)
447094.33	3762890.05	12.42363	(16110920)	447071.04	3762890.45	12.21063	(16110920)
447043.61	3762889.66	11.92329	(16110920)	447017.76	3762888.87	11.70285	(13092722)
446992.11	3762889.07	11.49215	(13092722)	446964.28	3762888.28	11.10762	(13092722)
446808.00	3763742.11	10.70476	(15050123)	446808.32	3763756.89	10.57884	(15050123)
446808.64	3763798.32	10.54554	(13062901)	446810.25	3764484.08	9.04937	(13090723)
446781.34	3764475.08	9.04190	(12083005)	446722.56	3764455.81	9.02108	(16072804)
446170.32	3764559.79	8.35250	(13081603)	446872.29	3763190.26	13.48323	(16072103)
446925.22	3763179.19	13.95455	(12092322)	446984.86	3763194.88	13.84011	(14091702)
447010.56	3763193.28	14.32250	(14091702)	447036.58	3763193.60	14.46109	(14091702)
447053.61	3763193.28	14.55183	(14091702)	447076.42	3763192.31	14.69063	(14091702)
447093.45	3763192.63	14.80701	(14091702)	447122.05	3763192.63	14.60597	(12101421)
447138.75	3763192.31	14.63446	(15082702)	447167.99	3763192.31	14.72188	(15082702)
447170.68	3763172.18	14.82998	(15082702)	447170.41	3763158.25	14.85533	(15082702)
447169.31	3763144.87	15.05644	(15082903)	447147.46	3763107.45	16.00640	(14091702)

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 446940.41   3762888.47       10.83340  (13092722)               446911.20
 3762888.08       10.33975  (15120517)
 446885.35   3762889.66       10.13110  (15120517)               446862.07
 3762888.87        9.94978  (15120517)
 446871.45   3762779.57       10.83780  (12020622)               446926.31
 3762768.72       11.52793  (12020622)
 446983.74   3762774.24       12.09019  (16112103)               447009.00
 3762774.05       12.38909  (16112103)
 447030.51   3762774.44       12.73177  (15120517)               447055.37
 3762774.05       13.14723  (15120517)
 447076.88   3762774.24       13.48295  (15120517)               447101.16
 3762774.44       13.83266  (15120517)
 447123.85   3762774.05       14.14199  (15120517)               447148.12
 3762775.03       14.40279  (15120517)
 447170.23   3762774.84       14.62580  (15120517)               447196.78
 3762775.48       15.02358  (13092722)
 447242.12   3762776.57       15.67509  (13092722)               447262.33
 3762776.03       15.92070  (13092722)
 447294.56   3762776.30       16.47441  (13092602)               447313.13
 3762775.48       16.78490  (13092602)
 447313.40   3762749.53       17.41415  (13092602)               447327.86
 3762713.09       18.92510  (13092722)
 447327.36   3762679.87       20.20774  (15120517)               447327.74
 3762657.02       21.26623  (15120517)
 447327.28   3762636.82       21.97759  (15120517)               447327.51
 3762612.90       23.03304  (12020622)
 447327.28   3762592.24       24.06119  (12020622)               447327.04
 3762569.71       25.08527  (12101719)
 447327.28   3762547.89       26.29192  (12101719)               447326.58
 3762524.67       27.05581  (15040323)
 447326.58   3762506.09       28.05034  (15032622)               447327.51
 3762477.53       28.73450  (15090905)
 447325.88   3762454.31       29.87137  (15090905)               447225.58
 3762432.95       23.16729  (15090905)
 447200.27   3762430.63       21.81415  (15090905)               447156.85
 3762430.16       19.86467  (15090905)
 447131.77   3762430.86       18.90236  (15090905)               447102.74
 3762430.63       17.87981  (14100421)
 447079.06   3762430.86       17.12939  (14100421)               447034.94
 3762433.65       15.89788  (14100421)
 446995.47   3762433.65       14.91342  (14100421)               446972.71
 3762434.34       14.39932  (14100421)
 446941.37   3762434.58       13.74043  (14100421)               446916.06
 3762436.90       13.25739  (14100421)
 446876.35   3762436.90       12.53554  (14100421)               446848.85
 3762647.05       11.41052  (15040323)
 446848.85   3762563.17       11.90924  (15032622)               446849.17
 3762509.82       12.34126  (15090905)
 446849.17   3762455.82       12.23045  (15090905)               446848.85
 3762702.00       11.21029  (12101719)
 446849.49   3762754.71       10.82411  (12020622)               446739.81
 3762428.53       10.51351  (16041722)
 446711.81   3762423.61       10.18057  (16041722)               446687.25
 3762416.25        9.89522  (16041722)
 446662.20   3762412.32        9.61521  (16041722)               446636.17
 3762403.97        9.32177  (16041722)
 449981.72   3762732.45        5.63042  (15082923)               446486.82
 3762231.95        8.18275  (14011518)
 446261.97   3762068.01        6.35477  (14120121)               446443.15
 3762291.63        7.91606  (16021518)
 446071.80   3762055.49        5.52899  (14120121)               446072.08
 3761983.13        5.46760  (14051523)
 446138.18   3762002.17        5.75163  (14051523)               445884.94
 3762039.75        4.85802  (14120121)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                          *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP: 2CIDLE   ***
                              INCLUDING SOURCE(S):   L0000119   , L0000120   ,
                              L0000121   , L0000122   , L0000123   ,
               L0000124   , L0000125   , L0000126   , L0000127   , L0000128   ,
               L0000129   , L0000130   , L0000131   ,
               L0000132   , L0000133   ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                  ** CONC OF OTHER   IN
                                  MICROGRAMS/M**3   **

     X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M) Y-COORD
     (M)   CONC   (YYMMDDHH)
- - - -

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       3764434.85       25.25341  (14022021)
       447980.70   3764435.18       24.72914  (14022021)               448004.66
       3764435.18       24.35227  (15103019)
       448021.25   3764434.68       23.52487  (15103019)               447662.70
       3764379.63       30.53532  (14082605)
       447681.30   3764320.98       32.28635  (16062702)               447682.64
       3764285.79       32.11923  (16062702)
       447662.53   3764238.37       31.95011  (16062702)               447661.70
       3764207.37       31.23285  (16062702)
       447683.14   3764162.29       29.90253  (12052204)               447680.97
       3764145.87       29.78064  (15081422)
       447679.63   3764130.28       29.65863  (15081422)               447680.80
       3764112.02       24.10719  (15081422)
       447681.47   3764096.43       22.80687  (15081422)               447680.80
       3764078.84       20.77184  (12071302)
       447679.96   3764064.26       21.26289  (12071302)               447680.97
       3764045.82       22.39815  (12071302)
       447680.63   3764029.74       24.28315  (13081601)               447657.17
       3763992.03       23.03321  (12071302)
       447656.33   3763967.06       25.98896  (14081102)               447657.17
       3763928.69       29.66206  (13090903)
       447657.17   3763902.21       32.04114  (13090903)               447657.51
       3763869.03       28.85321  (16092822)
       447656.16   3763834.94       31.74180  (13090101)               447655.93
       3763808.27       36.11525  (13090101)
       447657.09   3763786.00       39.61792  (16082424)               447701.21
       3763782.14       40.21173  (15082824)
       447856.92   3763749.71       25.69629  (15082922)               447854.99
       3763730.13       26.41253  (13082723)
       447854.35   3763698.35       27.53172  (15061923)               447855.31
       3763676.84       27.97436  (15061923)
       447675.51   3763287.46       62.53175  (15102517)               448481.33
       3763485.29       11.56551  (15101322)
       448479.95   3763195.53       11.72686  (14082722)               448478.56
       3762907.16       10.65463  (12092023)
       448497.89   3762714.10        9.60653  (15082624)               448507.91
       3762487.71        8.47995  (12080622)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                      PAGE 242
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                             SOURCE GROUP:  2CIDLE   ***
                                 INCLUDING SOURCE(S):     L0000119    , L0000120    ,
                                 L0000121    , L0000122    , L0000123    ,
                  L0000124    , L0000125    , L0000126    , L0000127    , L0000128    ,
                  L0000129    , L0000130    , L0000131    ,
                  L0000132    , L0000133    ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                        ** CONC OF OTHER    IN
                                        MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96        7.86167  (15102521)               448462.73
       3762339.82        7.85385  (15102521)
       448464.47   3762265.93        7.55189  (13042022)               448461.57
       3762165.17        7.02170  (15102123)
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448472.57   3762064.71       6.64145  (13110118)              448460.48
3762016.72       6.44880  (13051122)
448234.63   3761951.18       6.94553  (14110618)              448081.42
3761952.78       9.90029  (12121716)
448025.53   3761955.99       9.34870  (12121716)              447506.75
3761967.63       8.83471  (13050222)
447269.29   3761967.74       8.91042  (16021522)              447389.46
3761908.79       8.32663  (13112720)
447019.14   3761964.34       8.66068  (15090923)              447060.33
3761963.58       8.68460  (15090923)
446975.31   3761963.20       8.59343  (14090704)              446940.92
3761953.76       8.36942  (14050301)
446865.72   3761974.54       8.47769  (16091922)              446795.06
3761957.91       8.26200  (15090901)
446757.65   3761965.85       8.12294  (15090901)              446709.33
3761967.74       7.99753  (13083002)
446796.42   3762028.62       8.75694  (15090901)              446796.97
3762045.28       8.86922  (15090901)
446796.70   3762089.51       9.16734  (13083002)              446796.15
3762105.89       9.33525  (13083002)
446796.70   3762137.29       9.64925  (13083002)              446796.15
3762153.39       9.80237  (13083002)
446772.40   3762215.37      10.23667  (16061824)              446795.06
3762321.03      11.58117  (16061824)
446796.42   3762450.98      13.45593  (12082901)              446796.42
3762471.18      13.72651  (12082901)
446797.24   3762496.03      14.06628  (12091405)              446798.06
3762516.51      14.49789  (12091405)
446797.79   3762539.98      14.93377  (12091405)              446797.52
3762560.19      15.33975  (12091505)
446798.61   3762584.76      15.79793  (12091505)              446798.06
3762604.42      16.19656  (15021220)
446799.70   3762654.11      17.37897  (16102021)              446799.97
3762674.58      17.78592  (16102021)
446800.25   3762700.25      18.32021  (15092006)              446800.25
3762721.27      18.88013  (15092006)
446799.97   3762735.74      19.21308  (12091503)              446797.79
3762748.02      19.56254  (12091503)
446802.16   3762913.47      24.00407  (14091405)              446802.16
3762932.58      24.69823  (12100204)
446802.43   3762949.24      25.37370  (15090903)              446802.98
3762967.26      26.09134  (15090903)
446802.70   3762986.09      26.97797  (15100921)              446802.16
3763003.29      27.51520  (15100921)
446802.16   3763021.86      27.78029  (15100921)              446802.70
3763040.70      28.05882  (14080302)
446802.98   3763059.26      28.60157  (15101023)              446803.52
3763077.01      29.22652  (15101023)
446756.29   3763085.26      26.35774  (15031424)              446807.68
3763646.39      28.33378  (13092722)
446808.32   3763674.66      27.90808  (13092602)              446807.68
3763694.57      27.11237  (13092602)
446808.32   3763710.63      26.33552  (16112718)              446808.32
3763726.37      26.32003  (14091521)
446808.00   3763742.11      26.13151  (15090824)              446808.32
3763756.89      25.96757  (15090824)
446808.64   3763798.32      24.72110  (15101223)              446810.25
3764484.08      22.92531  (14082924)
446781.34   3764475.08      23.06197  (15082605)              446722.56
3764455.81      22.39406  (15082523)
446170.32   3764559.79      16.00783  (15082702)              446872.29
3763190.26      38.18984  (12020618)
446925.22   3763179.19      44.17271  (15101024)              446984.86
3763194.88      53.63199  (15101024)
447010.56   3763193.28      58.47384  (15101023)              447036.58
3763193.60      64.66440  (15101023)
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2CIDLE ***
INCLUDING SOURCE(S): L0000119 , L0000120 , L0000121 , L0000122 , L0000123 , L0000124 , L0000125 , L0000126 , L0000127 , L0000128 , L0000129 , L0000130 , L0000131 , L0000132 , L0000133 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	71.04405	(12091505)	447146.92	3763064.30	66.28266	(16092705)
447149.92	3763038.90	61.65383	(12100123)	447148.56	3763019.78	57.87249	(12100123)
447148.56	3762997.39	53.55623	(16061824)	447206.08	3762958.49	51.41921	(16091922)
447209.33	3762922.51	45.41707	(14090704)	447208.40	3762890.70	41.49952	(14090704)
447145.83	3762888.87	39.38479	(15090901)	447122.55	3762889.07	38.01696	(13083002)
447094.33	3762890.05	36.64769	(16061824)	447071.04	3762890.45	35.69593	(12100123)
447043.61	3762889.66	33.87461	(12082901)	447017.76	3762888.87	32.74175	(12091505)
446992.11	3762889.07	31.55924	(16102021)	446964.28	3762888.28	30.10732	(16102021)
446940.41	3762888.47	29.00363	(15092006)	446911.20	3762888.08	27.84059	(12091503)
446885.35	3762889.66	26.79910	(15090922)	446862.07	3762888.87	25.72923	(15090904)
446871.45	3762779.57	22.13099	(13100623)	446926.31	3762768.72	23.35879	(12091505)
446983.74	3762774.24	25.25229	(12082901)	447009.00	3762774.05	26.08358	(12100123)
447030.51	3762774.44	26.54893	(16061824)	447055.37	3762774.05	27.12430	(13083002)
447076.88	3762774.24	27.86551	(13083002)	447101.16	3762774.44	28.79355	(15090901)
447123.85	3762774.05	29.16227	(15090901)	447148.12	3762775.03	29.68190	(16091922)
447170.23	3762774.84	29.85805	(14090704)	447196.78			

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      3762775.48       30.48877  (15090923)
      447242.12   3762776.57       31.35111  (15092103)               447262.33
      3762776.03       31.27127  (15101301)
      447294.56   3762776.30       31.45286  (15101301)               447313.13
      3762775.48       31.17346  (12112321)
      447313.40   3762749.53       29.29829  (12112321)               447327.86
      3762713.09       27.05950  (16100624)
      447327.36   3762679.87       25.11820  (16100624)               447327.74
      3762657.02       23.93406  (16100624)
      447327.28   3762636.82       22.95824  (16100624)               447327.51
      3762612.90       21.87836  (16100624)
      447327.28   3762592.24       21.02934  (16100624)               447327.04
      3762569.71       20.16573  (16100624)
      447327.28   3762547.89       19.38604  (16100624)               447326.58
      3762524.67       18.61124  (16100624)
      447326.58   3762506.09       18.02845  (16100624)               447327.51
      3762477.53       17.17842  (16100624)
      447325.88   3762454.31       16.53764  (16100624)               447225.58
      3762432.95       15.91874  (15101301)
      447200.27   3762430.63       15.86016  (15092103)               447156.85
      3762430.16       15.58838  (15092103)
      447131.77   3762430.86       15.58364  (15090923)               447102.74
      3762430.63       15.43543  (14090704)
      447079.06   3762430.86       15.20456  (14090704)               447034.94
      3762433.65       15.12552  (16091922)
      446995.47   3762433.65       14.92439  (15090901)               446972.71
      3762434.34       14.83948  (15090901)
      446941.37   3762434.58       14.39575  (13083002)               446916.06
      3762436.90       14.31522  (13083002)
      446876.35   3762436.90       13.90653  (16061824)               446848.85
      3762647.05       17.99683  (12091505)
      446848.85   3762563.17       16.01680  (12082901)               446849.17
      3762509.82       15.05788  (12100123)
      446849.17   3762455.82       14.03779  (12100123)               446848.85
      3762702.00       19.49494  (16102021)
      446849.49   3762754.71       20.81572  (13100623)               446739.81
      3762428.53       12.51613  (12091405)
      446711.81   3762423.61       12.24213  (12091505)               446687.25
      3762416.25       11.93768  (12091505)
      446662.20   3762412.32       11.67443  (15021220)               446636.17
      3762403.97       11.39411  (15021220)
      449981.72   3762732.45        3.56119  (15091023)               446486.82
      3762231.95        8.91944  (16102021)
      446261.97   3762068.01        6.93231  (15092006)               446443.15
      3762291.63        9.05504  (15092006)
      446071.80   3762055.49        6.20576  (16092702)               446072.08
      3761983.13        5.98162  (15090922)
      446138.18   3762002.17        6.25383  (12091503)               445884.94
      3762039.75        5.57112  (15090904)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 244
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  2CON     ***
                              INCLUDING SOURCE(S):     L0000134    , L0000135    ,
                              L0000136    , L0000137    , L0000138    ,
                 L0000139    , L0000140    , L0000141    , L0000142    , L0000143    ,
                 L0000144    , L0000145    , L0000146    ,
                 L0000147    , L0000148    , L0000149    , L0000150    , L0000151    ,
                 L0000152    , L0000153    , L0000154    ,
                 L0000155    , L0000156    , L0000157    , L0000158    , L0000159    ,
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L0000160 , L0000161 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	25.12469	(12083004)	447375.98	3764150.98	28.16466	(12083004)
447389.75	3764043.04	24.25554	(14081423)	447450.16	3764031.05	23.94917	(12102718)
447410.18	3764019.05	24.61857	(12082722)	446891.90	3764451.22	19.39715	(14082924)
446959.28	3764451.22	19.92581	(13071601)	446995.28	3764468.13	20.30004	(15072504)
447007.41	3764467.30	20.55909	(15072504)	447023.51	3764466.09	20.63798	(15072504)
447036.59	3764466.21	20.67682	(14101023)	447052.68	3764465.61	20.93018	(14101023)
447066.60	3764465.73	21.07004	(16102921)	447099.65	3764456.17	21.34907	(14080503)
447145.28	3764468.27	21.59836	(15032722)	447175.54	3764468.03	21.00074	(12080203)
447205.32	3764468.27	21.00750	(12083006)	447232.43	3764467.55	21.85805	(16072222)
447264.02	3764467.30	23.28144	(16062805)	447294.77	3764466.94	23.80211	(15062202)
447364.97	3764456.41	23.76616	(12083004)	447406.61	3764460.65	23.62331	(12082822)
447441.47	3764460.04	23.35113	(14082624)	447466.88	3764460.20	23.24780	(14082624)
447490.00	3764460.56	23.13192	(13082522)	447515.50	3764460.40	22.91370	(13082522)
447573.06	3764454.29	21.79430	(13070104)	447598.49	3764445.22	22.17926	(15090723)
447652.90	3764439.70	23.18310	(12080823)	447692.92	3764439.51	22.99837	(15092424)
447713.82	3764439.11	22.77098	(15092424)	447731.95	3764438.72	22.75721	(13080424)
447751.07	3764438.72	22.67334	(12092201)	447768.82	3764437.53	22.85912	(12092201)
447789.12	3764437.73	22.87347	(12092201)	447805.68	3764437.34	22.97313	(16062702)
447824.02	3764437.20	22.94512	(16062702)	447841.61	3764437.87	22.63816	(16062702)
447861.72	3764437.53	22.45466	(13072124)	447881.66	3764435.18	22.42713	(13072124)
447902.78	3764436.19	22.13157	(13072124)	447920.87	3764435.35	21.78952	(13071901)
447942.16	3764435.35	21.62289	(15101323)	447962.77	3764434.85	21.69459	(15101323)
447980.70	3764435.18	21.56959	(15101323)	448004.66	3764435.18	21.14888	(14110620)
448021.25	3764434.68	20.32476	(14110620)	447662.70	3764379.63	25.18729	(12080823)
447681.30	3764320.98	26.03634	(15092424)	447682.64	3764285.79	25.85007	(13080424)
447662.53	3764238.37	25.72743	(15092424)	447661.70	3764207.37	25.46962	(12092201)
447683.14	3764162.29	25.01777	(12092201)	447680.97	3764145.87	24.74919	(12092201)
447679.63	3764130.28	20.56388	(13090201)	447680.80			

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2CON ***
INCLUDING SOURCE(S): L0000134 , L0000135 , L0000136 , L0000137 , L0000138 ,
L0000139 , L0000140 , L0000141 , L0000142 , L0000143 ,
L0000144 , L0000145 , L0000146 ,
L0000147 , L0000148 , L0000149 , L0000150 , L0000151 ,
L0000152 , L0000153 , L0000154 ,
L0000155 , L0000156 , L0000157 , L0000158 , L0000159 ,
L0000160 , L0000161 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	7.67770	(12102620)	448462.73	3762339.82	7.74147	(13042022)
448464.47	3762265.93	7.35247	(13042022)	448461.57	3762165.17	6.99320	(13110118)
448472.57	3762064.71	6.50493	(16082922)	448460.48	3762016.72	6.38216	(16082922)
448234.63	3761951.18	7.57241	(12121716)	448081.42	3761952.78	7.97585	(12121716)
448025.53	3761955.99	7.36072	(15100722)	447506.75	3761967.63	8.28000	(13050222)
447269.29	3761967.74	8.33534	(15101301)	447389.46	3761908.79	7.86758	(16100624)
447019.14	3761964.34	7.89216	(14050301)	447060.33			

3761963.58 8.03058 (14090704)
446975.31 3761963.20 7.87379 (16091922) 446940.92
3761953.76 7.74163 (16091922)
446865.72 3761974.54 7.78489 (15090901) 446795.06
3761957.91 7.43820 (13083002)
446757.65 3761965.85 7.32779 (13083002) 446709.33
3761967.74 7.22968 (16061824)
446796.42 3762028.62 7.83748 (13083002) 446796.97
3762045.28 7.92590 (13083002)
446796.70 3762089.51 8.21608 (16061824) 446796.15
3762105.89 8.34583 (16061824)
446796.70 3762137.29 8.58617 (16061824) 446796.15
3762153.39 8.70013 (16061824)
446772.40 3762215.37 9.09895 (12100123) 446795.06
3762321.03 10.06874 (12082901)
446796.42 3762450.98 11.37578 (12091505) 446796.42
3762471.18 11.57797 (12091505)
446797.24 3762496.03 11.91113 (15021220) 446798.06
3762516.51 12.17393 (16102021)
446797.79 3762539.98 12.47794 (16102021) 446797.52
3762560.19 12.69957 (16102021)
446798.61 3762584.76 12.96173 (13100623) 446798.06
3762604.42 13.24380 (15092006)
446799.70 3762654.11 14.02221 (12091503) 446799.97
3762674.58 14.34042 (12091503)
446800.25 3762700.25 14.66913 (15090922) 446800.25
3762721.27 14.99087 (16092702)
446799.97 3762735.74 15.16374 (16092702) 446797.79
3762748.02 15.33757 (15090904)
446802.16 3762913.47 17.92787 (15100921) 446802.16
3762932.58 18.26138 (15100921)
446802.43 3762949.24 18.46428 (15100921) 446802.98
3762967.26 18.58935 (15100921)
446802.70 3762986.09 18.63960 (14080302) 446802.16
3763003.29 18.76097 (15101023)
446802.16 3763021.86 19.04058 (15101023) 446802.70
3763040.70 19.21481 (15101023)
446802.98 3763059.26 19.39173 (15100919) 446803.52
3763077.01 19.54931 (15100919)
446756.29 3763085.26 18.24194 (14100401) 446807.68
3763646.39 19.17186 (13092722)
446808.32 3763674.66 18.83730 (13092722) 446807.68
3763694.57 18.68386 (13092602)
446808.32 3763710.63 18.55237 (13092602) 446808.32
3763726.37 18.31744 (13092602)
446808.00 3763742.11 17.99557 (13092602) 446808.32
3763756.89 17.99638 (14091521)
446808.64 3763798.32 17.72367 (15090824) 446810.25
3764484.08 18.72735 (15082523)
446781.34 3764475.08 18.65418 (15082523) 446722.56
3764455.81 17.82803 (15061924)
446170.32 3764559.79 13.24037 (15082702) 446872.29
3763190.26 23.14286 (14051523)
446925.22 3763179.19 25.40641 (14051602) 446984.86
3763194.88 28.94482 (14051523)
447010.56 3763193.28 30.94596 (15100919) 447036.58
3763193.60 33.13233 (15100919)
447053.61 3763193.28 34.69262 (15100919) 447076.42
3763192.31 37.18373 (14051523)
447093.45 3763192.63 39.48683 (14051523) 447122.05
3763192.63 44.13574 (14051523)
447138.75 3763192.31 47.49295 (14051523) 447167.99
3763192.31 55.00841 (14051523)
447170.68 3763172.18 52.88759 (14051523) 447170.41
3763158.25 51.45102 (15100919)
447169.31 3763144.87 50.55748 (15090904) 447147.46

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2CON ***
INCLUDING SOURCE(S): L0000134 , L0000135 , L0000136 , L0000137 , L0000138 ,
L0000139 , L0000140 , L0000141 , L0000142 , L0000143 ,
L0000144 , L0000145 , L0000146 ,
L0000147 , L0000148 , L0000149 , L0000150 , L0000151 ,
L0000152 , L0000153 , L0000154 ,
L0000155 , L0000156 , L0000157 , L0000158 , L0000159 ,
L0000160 , L0000161 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	42.71078	(12091503)	447146.92	3763064.30	41.21857	(12091503)
447149.92	3763038.90	39.20658	(13100623)	447148.56	3763019.78	37.58783	(15021220)
447148.56	3762997.39	35.88089	(15090902)	447206.08	3762958.49	36.47571	(13083002)
447209.33	3762922.51	33.54885	(15090901)	447208.40	3762890.70	31.11766	(15090901)
447145.83	3762888.87	28.42020	(16061824)	447122.55	3762889.07	27.66965	(12082901)
447094.33	3762890.05	26.45319	(12091405)	447071.04	3762890.45	25.59354	(15021220)
447043.61	3762889.66	24.55442	(16102021)	447017.76	3762888.87	23.62055	(15092006)
446992.11	3762889.07	22.87748	(12091503)	446964.28	3762888.28	21.89907	(16092702)
446940.41	3762888.47	21.16770	(15090904)	446911.20	3762888.08	20.36844	(15090904)
446885.35	3762889.66	19.55267	(15090904)	446862.07	3762888.87	18.74522	(14091405)
446871.45	3762779.57	17.16251	(16092702)	446926.31	3762768.72	18.00843	(15092006)
446983.74	3762774.24	19.36903	(15021220)	447009.00	3762774.05	19.88574	(12091505)
447030.51	3762774.44	20.35751	(12091405)	447055.37	3762774.05	20.99546	(12082901)
447076.88	3762774.24	21.48867	(12082901)	447101.16	3762774.44	22.01387	(16061824)
447123.85	3762774.05	22.49341	(13083002)	447148.12	3762775.03	23.09559	(13083002)
447170.23	3762774.84	23.72477	(15090901)	447196.78	3762775.48	24.03149	(15090901)
447242.12	3762776.57	24.65469	(14090704)	447262.33	3762776.03	24.80560	(14090704)
447294.56	3762776.30	25.26055	(15092103)	447313.13	3762775.48	25.27799	(15092103)
447313.40	3762749.53	23.97777	(15092103)	447327.86			

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      3762713.09       22.37519  (15101301)
      447327.36   3762679.87       21.01213  (15101301)               447327.74
      3762657.02       20.17865  (15101301)
      447327.28   3762636.82       19.47691  (15101301)               447327.51
      3762612.90       18.69483  (15101301)
      447327.28   3762592.24       18.07375  (15101301)               447327.04
      3762569.71       17.43538  (15101301)
      447327.28   3762547.89       16.85435  (15101301)               447326.58
      3762524.67       16.26820  (15101301)
      447326.58   3762506.09       15.82434  (15101301)               447327.51
      3762477.53       15.16828  (15101301)
      447325.88   3762454.31       14.66727  (15101301)               447225.58
      3762432.95       13.86555  (15090923)
      447200.27   3762430.63       13.75756  (15090923)               447156.85
      3762430.16       13.56806  (14090704)
      447131.77   3762430.86       13.44419  (16091922)               447102.74
      3762430.63       13.35936  (16091922)
      447079.06   3762430.86       13.24897  (15090901)               447034.94
      3762433.65       13.05855  (15090901)
      446995.47   3762433.65       12.72008  (13083002)               446972.71
      3762434.34       12.50237  (13083002)
      446941.37   3762434.58       12.32194  (16061824)               446916.06
      3762436.90       12.17978  (12100123)
      446876.35   3762436.90       11.89904  (12082901)               446848.85
      3762647.05       14.46809  (13100623)
      446848.85   3762563.17       13.26750  (15021220)               446849.17
      3762509.82       12.54445  (12091505)
      446849.17   3762455.82       11.80958  (12091405)               446848.85
      3762702.00       15.44213  (12091503)
      446849.49   3762754.71       16.31781  (16092702)               446739.81
      3762428.53       10.70508  (15021220)
      446711.81   3762423.61       10.47906  (16102021)               446687.25
      3762416.25       10.21448  (16102021)
      446662.20   3762412.32        9.96128  (13100623)               446636.17
      3762403.97        9.74207  (15092006)
      449981.72   3762732.45        3.54017  (15091023)               446486.82
      3762231.95        7.81355  (15092006)
      446261.97   3762068.01        6.26988  (12091503)               446443.15
      3762291.63        7.96614  (12091503)
      446071.80   3762055.49        5.61505  (15090904)               446072.08
      3761983.13        5.40624  (16092702)
      446138.18   3762002.17        5.67178  (15090922)               445884.94
      3762039.75        5.00680  (16111022)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 247
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  2H25     ***
                               INCLUDING SOURCE(S):     L0002075    , L0002076    ,
                               L0002077    , L0002078    , L0002079    ,
                 L0002080    , L0002081    , L0002082    , L0002083    , L0002084    ,
                 L0002085    , L0002086    , L0002087    ,
                 L0002088    , L0002089    , L0002090    , L0002091    , L0002092    ,
                 L0002093    , L0002094    , L0002095    ,
                 L0002096    , L0002097    , L0002098    , L0002099    , L0002100    ,
                 L0002101    , L0002102    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                          **
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	5.48039	(12081704)	447375.98	3764150.98	5.41404	(15062905)
447389.75	3764043.04	5.09397	(13081603)	447450.16	3764031.05	5.28107	(15062905)
447410.18	3764019.05	5.10641	(13081603)	446891.90	3764451.22	3.97643	(16072901)
446959.28	3764451.22	4.15133	(16092001)	446995.28	3764468.13	4.29845	(15090724)
447007.41	3764467.30	4.35170	(15090724)	447023.51	3764466.09	4.40044	(15090724)
447036.59	3764466.21	4.43693	(15090724)	447052.68	3764465.61	4.49052	(15090724)
447066.60	3764465.73	4.54043	(15090724)	447099.65	3764456.17	4.63327	(15090724)
447145.28	3764468.27	4.76717	(15062905)	447175.54	3764468.03	4.80836	(15062905)
447205.32	3764468.27	4.86045	(12081704)	447232.43	3764467.55	5.06697	(12081704)
447264.02	3764467.30	5.38575	(12081704)	447294.77	3764466.94	5.56387	(12081704)
447364.97	3764456.41	5.78301	(12092221)	447406.61	3764460.65	5.98374	(14081603)
447441.47	3764460.04	6.21592	(14081603)	447466.88	3764460.20	6.35180	(14081603)
447490.00	3764460.56	6.43048	(14081603)	447515.50	3764460.40	6.51520	(12083005)
447573.06	3764454.29	6.61496	(12083005)	447598.49	3764445.22	6.85806	(13070222)
447652.90	3764439.70	7.62258	(13070222)	447692.92	3764439.51	7.93997	(13070222)
447713.82	3764439.11	8.16154	(15092601)	447731.95	3764438.72	8.37647	(15092601)
447751.07	3764438.72	8.57050	(15092601)	447768.82	3764437.53	8.78422	(15092601)
447789.12	3764437.73	9.04976	(14083005)	447805.68	3764437.34	9.25509	(15092502)
447824.02	3764437.20	9.53561	(15092502)	447841.61	3764437.87	9.77966	(15092502)
447861.72	3764437.53	10.03846	(15092502)	447881.66	3764435.18	10.31097	(12080901)
447902.78	3764436.19	10.65742	(12080901)	447920.87	3764435.35	10.93812	(12080901)
447942.16	3764435.35	11.24141	(12080901)	447962.77	3764434.85	11.59282	(16072603)
447980.70	3764435.18	11.92306	(16072603)	448004.66	3764435.18	12.33260	(12081001)
448021.25	3764434.68	12.30921	(12081001)	447662.70	3764379.63	7.82259	(13070222)
447681.30	3764320.98	7.96887	(13070222)	447682.64	3764285.79	7.80571	(13070222)
447662.53	3764238.37	7.43811	(12083005)	447661.70	3764207.37	7.25019	(12083005)
447683.14	3764162.29	7.06724	(12083005)	447680.97	3764145.87	6.91378	(12083005)
447679.63	3764130.28	6.74921	(12083005)	447680.80	3764112.02	6.64550	(12083005)
447681.47	3764096.43	6.56674	(12083005)	447680.80	3764078.84	6.53377	(12083005)
447679.96	3764064.26	6.55917	(12083005)	447680.97	3764045.82	6.63222	(12083005)
447680.63	3764029.74	6.66713	(12083005)	447657.17			

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2H25 ***
INCLUDING SOURCE(S): L0002075 , L0002076 , L0002077 , L0002078 , L0002079 ,
L0002080 , L0002081 , L0002082 , L0002083 , L0002084 ,
L0002085 , L0002086 , L0002087 ,
L0002088 , L0002089 , L0002090 , L0002091 , L0002092 ,
L0002093 , L0002094 , L0002095 ,
L0002096 , L0002097 , L0002098 , L0002099 , L0002100 ,
L0002101 , L0002102 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	46.92998	(12121716)	448462.73	3762339.82	35.84683	(12121716)
448464.47	3762265.93	22.49511	(14113016)	448461.57	3762165.17	15.10724	(15112121)
448472.57	3762064.71	11.81828	(15112121)	448460.48	3762016.72	10.92760	(15112121)
448234.63	3761951.18	8.34647	(15092103)	448081.42	3761952.78	6.51072	(16091922)
448025.53	3761955.99	5.96654	(15090901)	447506.75	3761967.63	3.18987	(15092023)
447269.29	3761967.74	2.63049	(15090902)	447389.46	3761908.79	2.88338	(15090902)
447019.14	3761964.34	2.24655	(12091503)	447060.33	3761963.58	2.29882	(12091503)
446975.31	3761963.20	2.19267	(12091503)	446940.92	3761953.76	2.15160	(12091503)
446865.72	3761974.54	2.06793	(12091503)	446795.06	3761957.91	1.99514	(15090904)
446757.65	3761965.85	1.96088	(15090904)	446709.33			

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      3761967.74        1.91761  (15090904)
      446796.42   3762028.62        1.99875  (15090904)                446796.97
      3762045.28        1.99981  (15090904)
      446796.70   3762089.51        2.00407  (15090904)                446796.15
      3762105.89        2.00373  (15090904)
      446796.70   3762137.29        2.00451  (15090904)                446796.15
      3762153.39        2.00401  (15090904)
      446772.40   3762215.37        1.98223  (15090904)                446795.06
      3762321.03        2.00361  (15090904)
      446796.42   3762450.98        2.00427  (15090904)                446796.42
      3762471.18        2.00380  (15090904)
      446797.24   3762496.03        2.00571  (15090903)                446798.06
      3762516.51        2.00878  (15090903)
      446797.79   3762539.98        2.01044  (15090903)                446797.52
      3762560.19        2.01149  (15090903)
      446798.61   3762584.76        2.01410  (15090903)                446798.06
      3762604.42        2.01530  (15090903)
      446799.70   3762654.11        2.02119  (15090903)                446799.97
      3762674.58        2.02333  (15101221)
      446800.25   3762700.25        2.02607  (15101221)                446800.25
      3762721.27        2.02696  (15101221)
      446799.97   3762735.74        2.02692  (15101221)                446797.79
      3762748.02        2.02472  (15101221)
      446802.16   3762913.47        2.02432  (15101221)                446802.16
      3762932.58        2.02405  (15100919)
      446802.43   3762949.24        2.02515  (15100919)                446802.98
      3762967.26        2.02656  (15100919)
      446802.70   3762986.09        2.02741  (15100919)                446802.16
      3763003.29        2.02818  (15100919)
      446802.16   3763021.86        2.02958  (15100919)                446802.70
      3763040.70        2.03157  (15100919)
      446802.98   3763059.26        2.03319  (15100919)                446803.52
      3763077.01        2.03477  (15100919)
      446756.29   3763085.26        1.98441  (15100919)                446807.68
      3763646.39        2.78107  (16092723)
      446808.32   3763674.66        2.80325  (14091421)                446807.68
      3763694.57        2.84071  (14091421)
      446808.32   3763710.63        2.84909  (14091421)                446808.32
      3763726.37        2.86836  (14091421)
      446808.00   3763742.11        2.86133  (14091421)                446808.32
      3763756.89        2.85411  (14091421)
      446808.64   3763798.32        2.90188  (14091421)                446810.25
      3764484.08        3.84122  (16072901)
      446781.34   3764475.08        3.77832  (16072901)                446722.56
      3764455.81        3.62668  (14091702)
      446170.32   3764559.79        2.86909  (12091002)                446872.29
      3763190.26        2.10994  (15100919)
      446925.22   3763179.19        2.17124  (15100919)                446984.86
      3763194.88        2.24853  (15100919)
      447010.56   3763193.28        2.28097  (15100919)                447036.58
      3763193.60        2.31662  (15100919)
      447053.61   3763193.28        2.34316  (15101221)                447076.42
      3763192.31        2.37911  (15101221)
      447093.45   3763192.63        2.40612  (15101221)                447122.05
      3763192.63        2.45617  (15101221)
      447138.75   3763192.31        2.48469  (15101221)                447167.99
      3763192.31        2.53721  (15101221)
      447170.68   3763172.18        2.54340  (15101221)                447170.41
      3763158.25        2.54404  (15101221)
      447169.31   3763144.87        2.54221  (15101221)                447147.46
      3763107.45        2.50229  (15101221)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2H25 ***
INCLUDING SOURCE(S): L0002075 , L0002076 , L0002077 , L0002078 , L0002079 ,
L0002080 , L0002081 , L0002082 , L0002083 , L0002084 ,
L0002085 , L0002086 , L0002087 ,
L0002088 , L0002089 , L0002090 , L0002091 , L0002092 ,
L0002093 , L0002094 , L0002095 ,
L0002096 , L0002097 , L0002098 , L0002099 , L0002100 ,
L0002101 , L0002102 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	2.50162	(15101221)	447146.92	3763064.30	2.50368	(15101221)
447149.92	3763038.90	2.50934	(15101221)	447148.56	3763019.78	2.50816	(15101221)
447148.56	3762997.39	2.50839	(15101221)	447206.08	3762958.49	2.60294	(15101221)
447209.33	3762922.51	2.60309	(15101221)	447208.40	3762890.70	2.59748	(15101221)
447145.83	3762888.87	2.49155	(15101221)	447122.55	3762889.07	2.45438	(15101221)
447094.33	3762890.05	2.41084	(15101221)	447071.04	3762890.45	2.37599	(15101221)
447043.61	3762889.66	2.33597	(15101221)	447017.76	3762888.87	2.29938	(15101221)
446992.11	3762889.07	2.26416	(15101221)	446964.28	3762888.28	2.22688	(15101221)
446940.41	3762888.47	2.19542	(15101221)	446911.20	3762888.08	2.15754	(15101221)
446885.35	3762889.66	2.12551	(15101221)	446862.07	3762888.87	2.09721	(15101221)
446871.45	3762779.57	2.10802	(15101221)	446926.31	3762768.72	2.17313	(15101221)
446983.74	3762774.24	2.24586	(15101221)	447009.00	3762774.05	2.27892	(15101221)
447030.51	3762774.44	2.30683	(15101221)	447055.37	3762774.05	2.34060	(15101221)
447076.88	3762774.24	2.37194	(15090904)	447101.16	3762774.44	2.41229	(15090904)
447123.85	3762774.05	2.44969	(15090904)	447148.12	3762775.03	2.49106	(15090904)
447170.23	3762774.84	2.52942	(15090904)	447196.78	3762775.48	2.57576	(15090904)
447242.12	3762776.57	2.65853	(15090904)	447262.33	3762776.03	2.69802	(13082904)
447294.56	3762776.30	2.76645	(13082904)	447313.13	3762775.48	2.80739	(13082904)
447313.40	3762749.53	2.80715	(13090706)	447327.86	3762713.09	2.84169	(13090706)
447327.36	3762679.87	2.83658	(13090706)	447327.74	3762657.02	2.83534	(13090706)
447327.28	3762636.82	2.83172	(13090706)	447327.51	3762612.90	2.82825	(13090706)
447327.28	3762592.24	2.82514	(13090706)	447327.04			

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      3762569.71        2.82149  (13090706)
      447327.28   3762547.89        2.81877  (13090706)               447326.58
      3762524.67        2.81356  (13090706)
      447326.58   3762506.09        2.81040  (13090706)               447327.51
      3762477.53        2.80601  (13090706)
      447325.88   3762454.31        2.79741  (13090706)               447225.58
      3762432.95        2.59707  (12091503)
      447200.27   3762430.63        2.55132  (12091503)               447156.85
      3762430.16        2.47491  (12091503)
      447131.77   3762430.86        2.43260  (12091503)               447102.74
      3762430.63        2.38670  (15090904)
      447079.06   3762430.86        2.35198  (15090904)               447034.94
      3762433.65        2.29192  (15090904)
      446995.47   3762433.65        2.24048  (15090904)               446972.71
      3762434.34        2.21201  (15090904)
      446941.37   3762434.58        2.17453  (15090904)               446916.06
      3762436.90        2.14473  (15090904)
      446876.35   3762436.90        2.09723  (15090904)               446848.85
      3762647.05        2.07277  (15101221)
      446848.85   3762563.17        2.06443  (14091405)               446849.17
      3762509.82        2.06548  (15090904)
      446849.17   3762455.82        2.06571  (15090904)               446848.85
      3762702.00        2.07921  (15101221)
      446849.49   3762754.71        2.08237  (15101221)               446739.81
      3762428.53        1.94343  (15090903)
      446711.81   3762423.61        1.91833  (15090903)               446687.25
      3762416.25        1.89646  (15090903)
      446662.20   3762412.32        1.87534  (15090903)               446636.17
      3762403.97        1.85380  (15090903)
      449981.72   3762732.45        2.10699  (15101302)               446486.82
      3762231.95        1.73363  (15090903)
      446261.97   3762068.01        1.58512  (15100921)               446443.15
      3762291.63        1.70532  (15090903)
      446071.80   3762055.49        1.47890  (15100921)               446072.08
      3761983.13        1.47937  (15100921)
      446138.18   3762002.17        1.51575  (15100921)               445884.94
      3762039.75        1.38613  (15100921)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                      PAGE 250
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                             SOURCE GROUP:  2MC45    ***
                                 INCLUDING SOURCE(S):     L0002266    , L0002267    ,
                                 L0002268    , L0002269    , L0002270    ,
                  L0002271    , L0002272    , L0002273    , L0002274    , L0002275    ,
                  L0002276    , L0002277    , L0002278    ,
                  L0002279    , L0002280    , L0002281    , L0002282    , L0002283    ,
                  L0002284    , L0002285    , L0002286    ,
                  L0002287    , L0002288    , L0002289    , L0002290    , L0002291    ,
                  L0002292    , L0002293    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                         **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       447362.21   3764292.67       19.71638  (12081106)               447375.98
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3764150.98 21.32006 (12083006)
447389.75 3764043.04 22.00384 (12083006) 447450.16
3764031.05 22.12876 (16062805)
447410.18 3764019.05 22.05043 (14072401) 446891.90
3764451.22 16.62520 (12080704)
446959.28 3764451.22 16.85481 (16072603) 446995.28
3764468.13 16.92638 (15062904)
447007.41 3764467.30 17.12999 (12081001) 447023.51
3764466.09 17.32328 (12081001)
447036.59 3764466.21 17.37935 (12081001) 447052.68
3764465.61 17.38983 (12081001)
447066.60 3764465.73 17.47982 (12081604) 447099.65
3764456.17 17.53684 (16082102)
447145.28 3764468.27 17.66150 (16062701) 447175.54
3764468.03 17.48685 (12071001)
447205.32 3764468.27 17.31639 (14040923) 447232.43
3764467.55 17.85181 (12092102)
447264.02 3764467.30 18.53679 (12092102) 447294.77
3764466.94 18.67555 (12051402)
447364.97 3764456.41 18.91396 (12081106) 447406.61
3764460.65 18.71006 (15062301)
447441.47 3764460.04 18.87087 (13090206) 447466.88
3764460.20 19.13917 (13090206)
447490.00 3764460.56 18.93056 (13090206) 447515.50
3764460.40 18.76448 (15083004)
447573.06 3764454.29 18.35528 (12082822) 447598.49
3764445.22 18.80206 (12082822)
447652.90 3764439.70 19.27668 (12102719) 447692.92
3764439.51 19.39904 (12080905)
447713.82 3764439.11 19.33848 (12080905) 447731.95
3764438.72 19.10469 (12080905)
447751.07 3764438.72 19.25483 (15092701) 447768.82
3764437.53 19.35733 (15092701)
447789.12 3764437.73 19.52416 (12080824) 447805.68
3764437.34 19.52662 (12080824)
447824.02 3764437.20 19.33660 (12090802) 447841.61
3764437.87 19.22800 (12090802)
447861.72 3764437.53 19.06674 (16102922) 447881.66
3764435.18 19.28328 (16102922)
447902.78 3764436.19 19.21691 (16102922) 447920.87
3764435.35 18.96413 (16102922)
447942.16 3764435.35 18.67003 (13082502) 447962.77
3764434.85 18.68274 (13082502)
447980.70 3764435.18 18.60566 (14070405) 448004.66
3764435.18 18.50445 (16072903)
448021.25 3764434.68 18.25578 (16072903) 447662.70
3764379.63 20.24942 (12080905)
447681.30 3764320.98 21.36883 (12080905) 447682.64
3764285.79 21.32530 (12080905)
447662.53 3764238.37 21.09964 (12080905) 447661.70
3764207.37 20.99975 (12080905)
447683.14 3764162.29 21.01761 (12080905) 447680.97
3764145.87 20.93717 (12080905)
447679.63 3764130.28 20.81636 (12080905) 447680.80
3764112.02 20.75111 (14082624)
447681.47 3764096.43 20.83271 (14082624) 447680.80
3764078.84 21.03288 (14082624)
447679.96 3764064.26 21.31936 (14082624) 447680.97
3764045.82 21.72461 (14082624)
447680.63 3764029.74 22.11740 (14082624) 447657.17
3763992.03 22.63692 (14082624)
447656.33 3763967.06 23.34874 (14082624) 447657.17
3763928.69 24.37491 (14082624)
447657.17 3763902.21 25.12478 (14082624) 447657.51
3763869.03 25.73374 (14082624)
447656.16 3763834.94 26.77149 (14082624) 447655.93

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2MC45 ***
INCLUDING SOURCE(S): L0002266 , L0002267 , L0002268 , L0002269 , L0002270 ,
L0002271 , L0002272 , L0002273 , L0002274 , L0002275 ,
L0002276 , L0002277 , L0002278 ,
L0002279 , L0002280 , L0002281 , L0002282 , L0002283 ,
L0002284 , L0002285 , L0002286 ,
L0002287 , L0002288 , L0002289 , L0002290 , L0002291 ,
L0002292 , L0002293 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	14.51917	(15091023)	448462.73	3762339.82	14.66386	(15101802)
448464.47	3762265.93	14.50441	(12092023)	448461.57	3762165.17	13.87608	(16110320)
448472.57	3762064.71	13.02135	(15082623)	448460.48	3762016.72	12.77076	(15082623)
448234.63	3761951.18	15.79417	(13042022)	448081.42	3761952.78	19.14347	(12071323)
448025.53	3761955.99	26.85937	(12121716)	447506.75	3761967.63	27.73652	(15092103)
447269.29	3761967.74	21.89774	(12100123)	447389.46	3761908.79	22.62503	(16091922)
447019.14	3761964.34	16.06963	(15090922)	447060.33	3761963.58	16.86215	(12091503)
446975.31	3761963.20	15.24233	(15090904)	446940.92	3761953.76	14.65617	(15090904)
446865.72	3761974.54	13.54804	(14091405)	446795.06	3761957.91	12.48169	(14051524)
446757.65	3761965.85	12.20035	(15090903)	446709.33	3761967.74	11.74577	(15100921)
446796.42	3762028.62	13.35981	(15100921)	446796.97	3762045.28	13.52865	(15100921)
446796.70	3762089.51	13.68342	(15100921)	446796.15	3762105.89	13.74507	(14080302)
446796.70	3762137.29	13.90559	(15101023)	446796.15			

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      3762153.39       14.07752  (15101023)
      446772.40   3762215.37       13.97031  (15031424)                446795.06
      3762321.03       15.00518  (12020618)
      446796.42   3762450.98       15.83559  (14120121)                446796.42
      3762471.18       16.09332  (14011518)
      446797.24   3762496.03       16.33283  (14011518)                446798.06
      3762516.51       16.44933  (16021518)
      446797.79   3762539.98       16.49003  (16021518)                446797.52
      3762560.19       16.34069  (16021518)
      446798.61   3762584.76       16.13977  (15031521)                446798.06
      3762604.42       16.06140  (16041722)
      446799.70   3762654.11       16.57034  (15090905)                446799.97
      3762674.58       16.62366  (15090905)
      446800.25   3762700.25       16.43483  (15090905)                446800.25
      3762721.27       16.27985  (15032622)
      446799.97   3762735.74       16.33860  (15032622)                446797.79
      3762748.02       16.27407  (15032622)
      446802.16   3762913.47       15.37695  (16112103)                446802.16
      3762932.58       15.30544  (15120517)
      446802.43   3762949.24       15.33087  (15120517)                446802.98
      3762967.26       15.25204  (15120517)
      446802.70   3762986.09       15.03190  (15120517)                446802.16
      3763003.29       14.73817  (14051202)
      446802.16   3763021.86       14.89951  (13092722)                446802.70
      3763040.70       15.08151  (16110920)
      446802.98   3763059.26       15.42060  (16110920)                446803.52
      3763077.01       15.63053  (16110920)
      446756.29   3763085.26       13.32340  (13092722)                446807.68
      3763646.39       20.35835  (12092221)
      446808.32   3763674.66       20.29105  (12092221)                446807.68
      3763694.57       20.18159  (12092221)
      446808.32   3763710.63       19.96482  (13082922)                446808.32
      3763726.37       19.96844  (13082922)
      446808.00   3763742.11       19.85759  (13082922)                446808.32
      3763756.89       19.73138  (13082922)
      446808.64   3763798.32       19.45866  (13082922)                446810.25
      3764484.08       15.93493  (15092502)
      446781.34   3764475.08       15.77802  (15092502)                446722.56
      3764455.81       15.63144  (13090423)
      446170.32   3764559.79       12.73707  (12081302)                446872.29
      3763190.26       22.58752  (14091620)
      446925.22   3763179.19       24.76766  (14091620)                446984.86
      3763194.88       24.83701  (16110621)
      447010.56   3763193.28       26.73801  (16110621)                447036.58
      3763193.60       27.81877  (15120720)
      447053.61   3763193.28       28.55746  (15120720)                447076.42
      3763192.31       29.69993  (12081402)
      447093.45   3763192.63       31.41758  (12081402)                447122.05
      3763192.63       31.63806  (16092823)
      447138.75   3763192.31       32.14763  (16092823)                447167.99
      3763192.31       32.29667  (15062722)
      447170.68   3763172.18       32.86367  (15062722)                447170.41
      3763158.25       32.93358  (15062722)
      447169.31   3763144.87       33.41452  (16092823)                447147.46
      3763107.45       34.85085  (12081402)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 252
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  2MC45    ***
                              INCLUDING SOURCE(S):     L0002266    , L0002267    ,
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L0002268 , L0002269 , L0002270 ,
L0002271 , L0002272 , L0002273 , L0002274 , L0002275 ,
L0002276 , L0002277 , L0002278 ,
L0002279 , L0002280 , L0002281 , L0002282 , L0002283 ,
L0002284 , L0002285 , L0002286 ,
L0002287 , L0002288 , L0002289 , L0002290 , L0002291 ,
L0002292 , L0002293 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	34.97392	(15120720)	447146.92	3763064.30	34.74623	(16110621)
447149.92	3763038.90	33.20083	(16110621)	447148.56	3763019.78	33.05138	(14100721)
447148.56	3762997.39	31.88758	(14091620)	447206.08	3762958.49	33.54150	(14100721)
447209.33	3762922.51	33.77302	(15101223)	447208.40	3762890.70	33.79501	(14091521)
447145.83	3762888.87	28.89546	(13092602)	447122.55	3762889.07	27.43214	(16110920)
447094.33	3762890.05	25.81171	(16110920)	447071.04	3762890.45	24.66438	(13092722)
447043.61	3762889.66	23.43881	(13092722)	447017.76	3762888.87	22.27283	(13092722)
446992.11	3762889.07	21.35603	(15120517)	446964.28	3762888.28	20.45349	(15120517)
446940.41	3762888.47	19.56950	(15120517)	446911.20	3762888.08	18.32845	(15120517)
446885.35	3762889.66	17.52599	(16112103)	446862.07	3762888.87	16.93864	(12020622)
446871.45	3762779.57	17.85322	(12101719)	446926.31	3762768.72	19.57575	(12101719)
446983.74	3762774.24	21.69658	(12101719)	447009.00	3762774.05	22.69896	(12101719)
447030.51	3762774.44	23.59383	(12101719)	447055.37	3762774.05	24.68752	(12101719)
447076.88	3762774.24	25.76249	(12020622)	447101.16	3762774.44	27.17636	(12020622)
447123.85	3762774.05	28.57978	(12020622)	447148.12	3762775.03	30.15130	(12020622)
447170.23	3762774.84	31.68001	(12020622)	447196.78	3762775.48	33.76202	(15120517)
447242.12	3762776.57	38.33195	(15120517)	447262.33	3762776.03	40.59059	(15120517)
447294.56	3762776.30	44.65143	(13092722)	447313.13	3762775.48	47.55152	(13092722)
447313.40	3762749.53	47.82586	(15120517)	447327.86	3762713.09	49.93284	(12020622)
447327.36	3762679.87	50.04936	(13112618)	447327.74	3762657.02	50.16969	(15090905)
447327.28	3762636.82	50.08210	(15090905)	447327.51	3762612.90	49.56416	(15090905)
447327.28	3762592.24	49.11559	(16021518)	447327.04	3762569.71	48.70289	(16021518)
447327.28	3762547.89	47.96382	(16021518)	447326.58	3762524.67	47.38366	(14051523)
447326.58	3762506.09	46.71503	(14051523)	447327.51	3762477.53	46.20623	(15100919)
447325.88	3762454.31	45.46836	(15100919)	447225.58			

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       3762432.95       34.13154  (14100401)
       447200.27   3762430.63       32.12709  (14100401)                447156.85
       3762430.16       29.01520  (14100401)
       447131.77   3762430.86       27.53949  (14051602)                447102.74
       3762430.63       26.02717  (14051602)
       447079.06   3762430.86       24.86099  (14051602)                447034.94
       3762433.65       22.94799  (14051523)
       446995.47   3762433.65       21.53513  (14051523)                446972.71
       3762434.34       20.78209  (14051523)
       446941.37   3762434.58       19.78923  (14051523)                446916.06
       3762436.90       19.03568  (14051523)
       446876.35   3762436.90       17.87464  (14051523)                446848.85
       3762647.05       17.81678  (15090905)
       446848.85   3762563.17       17.65711  (16021518)                446849.17
       3762509.82       17.66646  (14011518)
       446849.17   3762455.82       17.10864  (14120121)                446848.85
       3762702.00       17.59158  (15090905)
       446849.49   3762754.71       17.52036  (15040323)                446739.81
       3762428.53       14.52466  (14120121)
       446711.81   3762423.61       13.98443  (14120121)                446687.25
       3762416.25       13.52251  (14051523)
       446662.20   3762412.32       13.08728  (14120121)                446636.17
       3762403.97       12.66850  (14051523)
       449981.72   3762732.45        4.07956  (13010418)                446486.82
       3762231.95       10.15123  (14051602)
       446261.97   3762068.01        7.91033  (15101024)                446443.15
       3762291.63        9.96845  (13121117)
       446071.80   3762055.49        6.68946  (12020618)                446072.08
       3761983.13        6.63197  (15101024)
       446138.18   3762002.17        7.02590  (15101024)                445884.94
       3762039.75        5.78713  (14011319)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 253
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  2OR15    ***
                               INCLUDING SOURCE(S):     L0001178    , L0001179    ,
                               L0001180    , L0001181    , L0001182    ,
                 L0001183    , L0001184    , L0001185    , L0001186    , L0001187    ,
                 L0001188    , L0001189    , L0001190    ,
                 L0001191    , L0001192    , L0001193    , L0001194    , L0001195    ,
                 L0001196    , L0001197    , L0001198    ,
                 L0001199    , L0001200    , L0001201    , L0001202    , L0001203    ,
                 L0001204    , L0001205    ,  . . .      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - -
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3764468.13 3.15305 (14100622)
447007.41 3764467.30 3.16773 (14100622) 447023.51
3764466.09 3.18015 (14100622)
447036.59 3764466.21 3.18678 (14100622) 447052.68
3764465.61 3.19726 (16072205)
447066.60 3764465.73 3.21525 (16072205) 447099.65
3764456.17 3.26676 (13090302)
447145.28 3764468.27 3.29023 (13090302) 447175.54
3764468.03 3.28512 (13090302)
447205.32 3764468.27 3.27645 (15080603) 447232.43
3764467.55 3.32475 (15080603)
447264.02 3764467.30 3.40282 (15092823) 447294.77
3764466.94 3.44829 (15092823)
447364.97 3764456.41 3.49635 (12083101) 447406.61
3764460.65 3.50229 (12083101)
447441.47 3764460.04 3.53403 (13081801) 447466.88
3764460.20 3.55603 (13081801)
447490.00 3764460.56 3.56074 (13081801) 447515.50
3764460.40 3.55208 (13081801)
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3764445.22 3.60596 (15081804)
447652.90 3764439.70 3.71844 (15092723) 447692.92
3764439.51 3.73931 (15092723)
447713.82 3764439.11 3.74939 (14090106) 447731.95
3764438.72 3.76583 (14090106)
447751.07 3764438.72 3.78117 (16082901) 447768.82
3764437.53 3.80405 (16082901)
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447824.02 3764437.20 3.84198 (15120617) 447841.61
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447902.78 3764436.19 3.90567 (16082101) 447920.87
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3764379.63 3.85205 (15092723)
447681.30 3764320.98 3.96767 (16082901) 447682.64
3764285.79 3.99055 (16082901)
447662.53 3764238.37 4.00396 (16082901) 447661.70
3764207.37 4.00464 (16082901)
447683.14 3764162.29 4.06501 (14101803) 447680.97
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447679.63 3764130.28 4.07904 (13091501) 447680.80
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3763992.03 4.33641 (14091221)
447656.33 3763967.06 4.41489 (14091221) 447657.17
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447657.17 3763902.21 4.65238 (12081401) 447657.51
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447656.16 3763834.94 4.86049 (12081401) 447655.93
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447856.92 3763749.71 5.10310 (12112923) 447854.99
3763730.13 5.16294 (12112923)
447854.35 3763698.35 5.26205 (13071404) 447855.31

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR15 ***
INCLUDING SOURCE(S): L0001178 , L0001179 , L0001180 , L0001181 , L0001182 ,
L0001183 , L0001184 , L0001185 , L0001186 , L0001187 ,
L0001188 , L0001189 , L0001190 ,
L0001191 , L0001192 , L0001193 , L0001194 , L0001195 ,
L0001196 , L0001197 , L0001198 ,
L0001199 , L0001200 , L0001201 , L0001202 , L0001203 ,
L0001204 , L0001205 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	6.11780	(15081222)	448462.73	3762339.82	6.07351	(12090422)
448464.47	3762265.93	5.48693	(14081023)	448461.57	3762165.17	4.66503	(12081622)
448472.57	3762064.71	3.82830	(14082722)	448460.48	3762016.72	3.64836	(15082521)
448234.63	3761951.18	3.62275	(12092023)	448081.42	3761952.78	4.10013	(14100221)
448025.53	3761955.99	4.23106	(14100221)	447506.75	3761967.63	5.11472	(14100221)
447269.29	3761967.74	5.94832	(14100221)	447389.46	3761908.79	5.20012	(12110518)
447019.14	3761964.34	6.98077	(14100221)	447060.33	3761963.58	6.76165	(14100221)
446975.31	3761963.20	7.21048	(14100221)	446940.92	3761953.76	7.30898	(14100221)
446865.72	3761974.54	8.18257	(14100221)	446795.06	3761957.91	8.55514	(14100221)
446757.65	3761965.85	8.99136	(14100221)	446709.33	3761967.74	9.48956	(14100221)
446796.42	3762028.62	9.85697	(12081622)	446796.97	3762045.28	10.15216	(12081622)
446796.70	3762089.51	11.99117	(13090522)	446796.15	3762105.89	12.27213	(12080822)
446796.70	3762137.29	13.02811	(12080822)	446796.15	3762153.39	13.41159	(12080822)
446772.40	3762215.37	16.30417	(15080601)	446795.06	3762321.03	25.99538	(12062806)
446796.42	3762450.98	31.90877	(13090323)	446796.42	3762471.18	25.96045	(13090323)
446797.24	3762496.03	21.33949	(13090523)	446798.06			

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      3762516.51       18.69205  (13090523)
      446797.79   3762539.98       16.36356  (13063024)               446797.52
      3762560.19       14.96297  (16082306)
      446798.61   3762584.76       13.91838  (12081104)               446798.06
      3762604.42       13.18184  (12081104)
      446799.70   3762654.11       11.61166  (13090506)               446799.97
      3762674.58       10.88859  (12070924)
      446800.25   3762700.25       11.81009  (13072204)               446800.25
      3762721.27       11.29383  (13072204)
      446799.97   3762735.74       10.90858  (14091221)               446797.79
      3762748.02       10.58914  (14091221)
      446802.16   3762913.47        7.47674  (14091221)               446802.16
      3762932.58        7.23801  (14091221)
      446802.43   3762949.24        7.04120  (14091221)               446802.98
      3762967.26        6.83950  (14091221)
      446802.70   3762986.09        6.62959  (15103019)               446802.16
      3763003.29        6.54300  (15103019)
      446802.16   3763021.86        6.32951  (14110620)               446802.70
      3763040.70        6.23245  (14110620)
      446802.98   3763059.26        6.13531  (15101323)               446803.52
      3763077.01        6.03380  (15101323)
      446756.29   3763085.26        5.73284  (15101323)               446807.68
      3763646.39        4.09861  (16062624)
      446808.32   3763674.66        4.03865  (16062624)               446807.68
      3763694.57        4.00142  (16062624)
      446808.32   3763710.63        3.96723  (16062624)               446808.32
      3763726.37        3.93375  (16062624)
      446808.00   3763742.11        3.89617  (16062624)               446808.32
      3763756.89        3.86290  (16062624)
      446808.64   3763798.32        3.79600  (16062624)               446810.25
      3764484.08        3.00315  (14070405)
      446781.34   3764475.08        2.99671  (16102922)               446722.56
      3764455.81        2.98457  (16102922)
      446170.32   3764559.79        2.58083  (15083004)               446872.29
      3763190.26        5.88513  (15101323)
      446925.22   3763179.19        6.13883  (14110620)               446984.86
      3763194.88        6.17568  (15103019)
      447010.56   3763193.28        6.32274  (15103019)               447036.58
      3763193.60        6.38226  (15103019)
      447053.61   3763193.28        6.43885  (14091221)               447076.42
      3763192.31        6.54697  (14091221)
      447093.45   3763192.63        6.61914  (14091221)               447122.05
      3763192.63        6.63943  (12080202)
      447138.75   3763192.31        6.65824  (12080202)               447167.99
      3763192.31        6.65980  (12080202)
      447170.68   3763172.18        6.78990  (13072204)               447170.41
      3763158.25        6.88648  (13072204)
      447169.31   3763144.87        7.00422  (13072204)               447147.46
      3763107.45        7.36478  (13081424)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 255
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  2OR15    ***
                              INCLUDING SOURCE(S):     L0001178    , L0001179    ,
                              L0001180    , L0001181    , L0001182    ,
                 L0001183    , L0001184    , L0001185    , L0001186    , L0001187    ,
                 L0001188    , L0001189    , L0001190    ,
                 L0001191    , L0001192    , L0001193    , L0001194    , L0001195    ,
                 L0001196    , L0001197    , L0001198    ,
                 L0001199    , L0001200    , L0001201    , L0001202    , L0001203    ,
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L0001204 , L0001205 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	7.57995	(13081424)	447146.92	3763064.30	7.72538	(13081424)
447149.92	3763038.90	7.96349	(14070602)	447148.56	3763019.78	8.14355	(14070602)
447148.56	3762997.39	8.38976	(16083105)	447206.08	3762958.49	8.83966	(14102523)
447209.33	3762922.51	9.21982	(14102523)	447208.40	3762890.70	9.63492	(12083003)
447145.83	3762888.87	9.59859	(14102523)	447122.55	3762889.07	9.54285	(16083105)
447094.33	3762890.05	9.48576	(16083105)	447071.04	3762890.45	9.39174	(16083105)
447043.61	3762889.66	9.23924	(16083105)	447017.76	3762888.87	9.08887	(14070602)
446992.11	3762889.07	8.94264	(14070602)	446964.28	3762888.28	8.79302	(13072204)
446940.41	3762888.47	8.63354	(13072204)	446911.20	3762888.08	8.52723	(14091221)
446885.35	3762889.66	8.41555	(14091221)	446862.07	3762888.87	8.30638	(14091221)
446871.45	3762779.57	10.43720	(13072204)	446926.31	3762768.72	11.27067	(16083105)
446983.74	3762774.24	11.62567	(16083105)	447009.00	3762774.05	11.71652	(16083105)
447030.51	3762774.44	11.26428	(13070405)	447055.37	3762774.05	11.19964	(16081404)
447076.88	3762774.24	11.30278	(16081404)	447101.16	3762774.44	11.83865	(16081404)
447123.85	3762774.05	11.96018	(16081404)	447148.12	3762775.03	12.30375	(16081404)
447170.23	3762774.84	12.55741	(16081422)	447196.78	3762775.48	12.54686	(16081422)
447242.12	3762776.57	12.60482	(15082723)	447262.33	3762776.03	12.62883	(15082723)
447294.56	3762776.30	12.16321	(12081224)	447313.13	3762775.48	12.23984	(12081224)
447313.40	3762749.53	13.35929	(12081224)	447327.86	3762713.09	13.68963	(15090623)
447327.36	3762679.87	12.29703	(15082522)	447327.74	3762657.02	13.02118	(15082522)
447327.28	3762636.82	13.57146	(12080922)	447327.51	3762612.90	14.54575	(12080922)
447327.28	3762592.24	15.55233	(12080922)	447327.04	3762569.71	16.65832	(12080922)
447327.28	3762547.89	17.99531	(12081123)	447326.58	3762524.67	19.91805	(14072824)
447326.58	3762506.09	22.01513	(14082201)	447327.51	3762477.53	26.65050	(12081422)
447325.88	3762454.31	33.13699	(15100920)	447225.58	3762432.95	47.36789	(12062806)
447200.27	3762430.63	49.88859	(12062806)	447156.85	3762430.16	50.01039	(12062806)
447131.77	3762430.86	48.87622	(12062806)	447102.74	3762430.63	48.83218	(12062806)
447079.06	3762430.86	48.30379	(12062806)	447034.94			

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR30 ***
INCLUDING SOURCE(S): L0001701 , L0001702 , L0001703 , L0001704 , L0001705 ,
L0001706 , L0001707 , L0001708 , L0001709 , L0001710 ,
L0001711 , L0001712 , L0001713 ,
L0001714 , L0001715 , L0001716 , L0001717 , L0001718 ,
L0001719 , L0001720 , L0001721 ,
L0001722 , L0001723 , L0001724 , L0001725 , L0001726 ,
L0001727 , L0001728 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	9.84668	(16072603)	447375.98	3764150.98	10.25123	(12080704)
447389.75	3764043.04	10.37212	(12080704)	447450.16	3764031.05	10.31429	(16072603)
447410.18	3764019.05	10.38783	(12080704)	446891.90	3764451.22	9.18995	(13090723)
446959.28	3764451.22	9.22715	(13090423)	446995.28	3764468.13	9.28536	(13090423)
447007.41	3764467.30	9.30840	(13090423)	447023.51	3764466.09	9.30303	(13090423)
447036.59	3764466.21	9.28197	(13090423)	447052.68	3764465.61	9.25989	(13090423)
447066.60	3764465.73	9.26066	(14083005)	447099.65			

3764456.17 9.32159 (12072004)
447145.28 3764468.27 9.30858 (12072004) 447175.54
3764468.03 9.27180 (12080704)
447205.32 3764468.27 9.25395 (12080704) 447232.43
3764467.55 9.36175 (12080704)
447264.02 3764467.30 9.51328 (16072603) 447294.77
3764466.94 9.61683 (16072603)
447364.97 3764456.41 9.63705 (12081001) 447406.61
3764460.65 9.58914 (12081001)
447441.47 3764460.04 9.56350 (12081604) 447466.88
3764460.20 9.51803 (16062701)
447490.00 3764460.56 9.50074 (16062701) 447515.50
3764460.40 9.43191 (16062701)
447573.06 3764454.29 9.29881 (15032722) 447598.49
3764445.22 9.35050 (12092102)
447652.90 3764439.70 9.57975 (16062804) 447692.92
3764439.51 9.57136 (12081106)
447713.82 3764439.11 9.60314 (12081106) 447731.95
3764438.72 9.62947 (12081106)
447751.07 3764438.72 9.62559 (12081106) 447768.82
3764437.53 9.62924 (12081106)
447789.12 3764437.73 9.63795 (15062301) 447805.68
3764437.34 9.65655 (15062301)
447824.02 3764437.20 9.68085 (13090206) 447841.61
3764437.87 9.71062 (13090206)
447861.72 3764437.53 9.72676 (13090206) 447881.66
3764435.18 9.73169 (13090206)
447902.78 3764436.19 9.73571 (15083004) 447920.87
3764435.35 9.73811 (15083004)
447942.16 3764435.35 9.71924 (15083004) 447962.77
3764434.85 9.73045 (12082822)
447980.70 3764435.18 9.76727 (12082822) 448004.66
3764435.18 9.77296 (12082822)
448021.25 3764434.68 9.70062 (12082822) 447662.70
3764379.63 9.88421 (16062804)
447681.30 3764320.98 10.08591 (16062804) 447682.64
3764285.79 10.07290 (16062804)
447662.53 3764238.37 10.04565 (16062804) 447661.70
3764207.37 10.00067 (15032722)
447683.14 3764162.29 10.02454 (12083006) 447680.97
3764145.87 10.00536 (12083006)
447679.63 3764130.28 9.97790 (12083006) 447680.80
3764112.02 9.96167 (12083006)
447681.47 3764096.43 9.97900 (12083006) 447680.80
3764078.84 10.02603 (15032722)
447679.96 3764064.26 10.10936 (15032722) 447680.97
3764045.82 10.22030 (15032722)
447680.63 3764029.74 10.32712 (15032722) 447657.17
3763992.03 10.51898 (15032722)
447656.33 3763967.06 10.69067 (15032722) 447657.17
3763928.69 10.91931 (15032722)
447657.17 3763902.21 11.08210 (15032722) 447657.51
3763869.03 11.20435 (15032722)
447656.16 3763834.94 11.41754 (15032722) 447655.93
3763808.27 11.61472 (15032722)
447657.09 3763786.00 11.78101 (15032722) 447701.21
3763782.14 11.84600 (15032722)
447856.92 3763749.71 11.54527 (16062805) 447854.99
3763730.13 11.60981 (16062805)
447854.35 3763698.35 11.71859 (12083006) 447855.31
3763676.84 11.79627 (12083006)
447675.51 3763287.46 13.75263 (15072504) 448481.33
3763485.29 13.36899 (13072124)
448479.95 3763195.53 14.84917 (15081522) 448478.56
3762907.16 14.53937 (12080723)
448497.89 3762714.10 21.02673 (13090523) 448507.91

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR30 ***
INCLUDING SOURCE(S): L0001701 , L0001702 , L0001703 , L0001704 , L0001705 ,
L0001706 , L0001707 , L0001708 , L0001709 , L0001710 ,
L0001711 , L0001712 , L0001713 ,
L0001714 , L0001715 , L0001716 , L0001717 , L0001718 ,
L0001719 , L0001720 , L0001721 ,
L0001722 , L0001723 , L0001724 , L0001725 , L0001726 ,
L0001727 , L0001728 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	115.16229	(15102517)	448462.73	3762339.82	89.63584	(15102517)
448464.47	3762265.93	54.18178	(12121716)	448461.57	3762165.17	36.01660	(12121716)
448472.57	3762064.71	25.21344	(12121716)	448460.48	3762016.72	22.10257	(12121716)
448234.63	3761951.18	18.74403	(12121716)	448081.42	3761952.78	18.55970	(12121716)
448025.53	3761955.99	18.10879	(12121716)	447506.75	3761967.63	16.16847	(15090904)
447269.29	3761967.74	14.72167	(15100921)	447389.46	3761908.79	14.14382	(15090904)
447019.14	3761964.34	11.64112	(14022022)	447060.33	3761963.58	12.08934	(14022022)
446975.31	3761963.20	11.19367	(15031424)	446940.92	3761953.76	10.76611	(15031424)
446865.72	3761974.54	10.32332	(15101024)	446795.06	3761957.91	9.53930	(15101024)
446757.65	3761965.85	9.20912	(12020618)	446709.33	3761967.74	8.86588	(12020618)
446796.42	3762028.62	9.92849	(14011319)	446796.97	3762045.28	10.06166	(14011319)
446796.70	3762089.51	10.40068	(13121117)	446796.15	3762105.89	10.47858	(14051523)
446796.70	3762137.29	10.72952	(14051523)	446796.15	3762153.39	10.76387	(14051523)
446772.40	3762215.37	10.76055	(14011518)	446795.06	3762321.03	11.53631	(16021518)
446796.42	3762450.98	11.33306	(15090905)	446796.42	3762471.18	11.52729	(15090905)
446797.24	3762496.03	11.61363	(15090905)	446798.06	3762516.51	11.54847	(15090905)
446797.79	3762539.98	11.30979	(15090905)	446797.52	3762560.19	11.08701	(15032622)
446798.61	3762584.76	11.19988	(15032622)	446798.06	3762604.42	11.15276	(15032622)
446799.70	3762654.11	10.78013	(15040323)	446799.97			

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      3762674.58       10.66501  (12101719)
      446800.25   3762700.25       10.64418  (12101719)               446800.25
      3762721.27       10.51452  (12101719)
      446799.97   3762735.74       10.36917  (12101719)               446797.79
      3762748.02       10.19878  (12101719)
      446802.16   3762913.47        9.29303  (15120517)               446802.16
      3762932.58        9.15150  (15120517)
      446802.43   3762949.24        8.99411  (15120517)               446802.98
      3762967.26        8.79895  (14051202)
      446802.70   3762986.09        8.68835  (13092722)               446802.16
      3763003.29        8.61766  (13092722)
      446802.16   3763021.86        8.71015  (13092722)               446802.70
      3763040.70        8.75568  (16110920)
      446802.98   3763059.26        9.12189  (16110920)               446803.52
      3763077.01        9.30852  (16110920)
      446756.29   3763085.26        7.81171  (13092722)               446807.68
      3763646.39       11.30054  (15082702)
      446808.32   3763674.66       11.07259  (15082702)               446807.68
      3763694.57       11.01549  (15050123)
      446808.32   3763710.63       10.93008  (15050123)               446808.32
      3763726.37       10.83411  (15050123)
      446808.00   3763742.11       10.70476  (15050123)               446808.32
      3763756.89       10.57884  (15050123)
      446808.64   3763798.32       10.54554  (13062901)               446810.25
      3764484.08        9.04937  (13090723)
      446781.34   3764475.08        9.04190  (12083005)               446722.56
      3764455.81        9.02108  (16072804)
      446170.32   3764559.79        8.35250  (13081603)               446872.29
      3763190.26       13.48323  (16072103)
      446925.22   3763179.19       13.95455  (12092322)               446984.86
      3763194.88       13.84011  (14091702)
      447010.56   3763193.28       14.32250  (14091702)               447036.58
      3763193.60       14.46109  (14091702)
      447053.61   3763193.28       14.55183  (14091702)               447076.42
      3763192.31       14.69063  (14091702)
      447093.45   3763192.63       14.80701  (14091702)               447122.05
      3763192.63       14.60597  (12101421)
      447138.75   3763192.31       14.63446  (15082702)               447167.99
      3763192.31       14.72188  (15082702)
      447170.68   3763172.18       14.82998  (15082702)               447170.41
      3763158.25       14.85533  (15082702)
      447169.31   3763144.87       15.05644  (15082903)               447147.46
      3763107.45       16.00640  (14091702)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 258
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  2OR30    ***
                               INCLUDING SOURCE(S):     L0001701    , L0001702    ,
                               L0001703    , L0001704    , L0001705    ,
                 L0001706    , L0001707    , L0001708    , L0001709    , L0001710    ,
                 L0001711    , L0001712    , L0001713    ,
                 L0001714    , L0001715    , L0001716    , L0001717    , L0001718    ,
                 L0001719    , L0001720    , L0001721    ,
                 L0001722    , L0001723    , L0001724    , L0001725    , L0001726    ,
                 L0001727    , L0001728    ,  . . .      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	16.30135	(14091702)	447146.92	3763064.30	16.37480	(14091702)
447149.92	3763038.90	16.42303	(12092322)	447148.56	3763019.78	16.70087	(12092322)
447148.56	3762997.39	14.82206	(14091620)	447206.08	3762958.49	13.59773	(14091620)
447209.33	3762922.51	13.47097	(14091521)	447208.40	3762890.70	13.46935	(14091521)
447145.83	3762888.87	12.85840	(13092602)	447122.55	3762889.07	12.67213	(13092602)
447094.33	3762890.05	12.42363	(16110920)	447071.04	3762890.45	12.21063	(16110920)
447043.61	3762889.66	11.92329	(16110920)	447017.76	3762888.87	11.70285	(13092722)
446992.11	3762889.07	11.49215	(13092722)	446964.28	3762888.28	11.10762	(13092722)
446940.41	3762888.47	10.83340	(13092722)	446911.20	3762888.08	10.33975	(15120517)
446885.35	3762889.66	10.13110	(15120517)	446862.07	3762888.87	9.94978	(15120517)
446871.45	3762779.57	10.83780	(12020622)	446926.31	3762768.72	11.52793	(12020622)
446983.74	3762774.24	12.09019	(16112103)	447009.00	3762774.05	12.38909	(16112103)
447030.51	3762774.44	12.73177	(15120517)	447055.37	3762774.05	13.14723	(15120517)
447076.88	3762774.24	13.48295	(15120517)	447101.16	3762774.44	13.83266	(15120517)
447123.85	3762774.05	14.14199	(15120517)	447148.12	3762775.03	14.40279	(15120517)
447170.23	3762774.84	14.62580	(15120517)	447196.78	3762775.48	15.02358	(13092722)
447242.12	3762776.57	15.67509	(13092722)	447262.33	3762776.03	15.92070	(13092722)
447294.56	3762776.30	16.47441	(13092602)	447313.13	3762775.48	16.78490	(13092602)
447313.40	3762749.53	17.41415	(13092602)	447327.86	3762713.09	18.92510	(13092722)
447327.36	3762679.87	20.20774	(15120517)	447327.74	3762657.02	21.26623	(15120517)
447327.28	3762636.82	21.97759	(15120517)	447327.51	3762612.90	23.03304	(12020622)
447327.28	3762592.24	24.06119	(12020622)	447327.04	3762569.71	25.08527	(12101719)
447327.28	3762547.89	26.29192	(12101719)	447326.58	3762524.67	27.05581	(15040323)
447326.58	3762506.09	28.05034	(15032622)	447327.51	3762477.53	28.73450	(15090905)
447325.88	3762454.31	29.87137	(15090905)	447225.58	3762432.95	23.16729	(15090905)
447200.27	3762430.63	21.81415	(15090905)	447156.85	3762430.16	19.86467	(15090905)
447131.77	3762430.86	18.90236	(15090905)	447102.74	3762430.63	17.87981	(14100421)
447079.06	3762430.86	17.12939	(14100421)	447034.94	3762433.65	15.89788	(14100421)
446995.47	3762433.65	14.91342	(14100421)	446972.71	3762434.34	14.39932	(14100421)
446941.37	3762434.58	13.74043	(14100421)	446916.06	3762436.90	13.25739	(14100421)
446876.35	3762436.90	12.53554	(14100421)	446848.85			

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR60 ***
INCLUDING SOURCE(S): L0001821 , L0001822 , L0001823 , L0001824 , L0001825 ,
L0001826 , L0001827 , L0001828 , L0001829 , L0001830 ,
L0001831 , L0001832 , L0001833 ,
L0001834 , L0001835 , L0001836 , L0001837 , L0001838 ,
L0001839 , L0001840 , L0001841 ,
L0001842 , L0001843 , L0001844 , L0001845 , L0001846 ,
L0001847 , L0001848 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	8.47922	(12081704)	447375.98	3764150.98	8.74567	(13081603)
447389.75	3764043.04	8.85920	(15090724)	447450.16	3764031.05	8.85771	(15090724)
447410.18	3764019.05	8.90051	(15090724)	446891.90	3764451.22	7.59644	(12010218)
446959.28	3764451.22	7.72505	(16092001)	446995.28	3764468.13	7.75880	(15090724)
447007.41	3764467.30	7.79464	(15090724)	447023.51	3764466.09	7.81564	(15090724)
447036.59	3764466.21	7.82267	(15090724)	447052.68	3764465.61	7.83688	(15090724)
447066.60	3764465.73	7.84288	(15090724)	447099.65	3764456.17	7.85644	(15090724)
447145.28	3764468.27	7.90051	(13081603)	447175.54	3764468.03	7.87434	(15062905)
447205.32	3764468.27	7.86861	(12081704)	447232.43	3764467.55	8.02347	(12081704)
447264.02	3764467.30	8.22500	(12081704)	447294.77			

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      3764466.94        8.28661  (12081704)
      447364.97   3764456.41        8.31865  (12081302)                447406.61
      3764460.65        8.29808  (12081302)
      447441.47   3764460.04        8.29884  (15092403)                447466.88
      3764460.20        8.31442  (14081603)
      447490.00   3764460.56        8.34737  (14081603)                447515.50
      3764460.40        8.34752  (14081603)
      447573.06   3764454.29        8.27101  (14081603)                447598.49
      3764445.22        8.33566  (12092724)
      447652.90   3764439.70        8.57502  (14091701)                447692.92
      3764439.51        8.55805  (14091701)
      447713.82   3764439.11        8.54866  (14081405)                447731.95
      3764438.72        8.58361  (14081405)
      447751.07   3764438.72        8.61130  (13070222)                447768.82
      3764437.53        8.65211  (13070222)
      447789.12   3764437.73        8.68853  (13070222)                447805.68
      3764437.34        8.70085  (13070222)
      447824.02   3764437.20        8.70522  (15092601)                447841.61
      3764437.87        8.73743  (15092601)
      447861.72   3764437.53        8.76024  (15092601)                447881.66
      3764435.18        8.78068  (12083105)
      447902.78   3764436.19        8.80767  (12083105)                447920.87
      3764435.35        8.82352  (12083105)
      447942.16   3764435.35        8.82600  (12083105)                447962.77
      3764434.85        8.81738  (12083105)
      447980.70   3764435.18        8.83381  (15080324)                448004.66
      3764435.18        8.83532  (15080324)
      448021.25   3764434.68        8.77908  (15092502)                447662.70
      3764379.63        8.84505  (14091701)
      447681.30   3764320.98        9.00934  (14091701)                447682.64
      3764285.79        8.97368  (12092724)
      447662.53   3764238.37        8.98245  (14081603)                447661.70
      3764207.37        8.95211  (14081603)
      447683.14   3764162.29        8.93791  (15061824)                447680.97
      3764145.87        8.93916  (13082922)
      447679.63   3764130.28        8.92831  (13082922)                447680.80
      3764112.02        8.91965  (13082922)
      447681.47   3764096.43        8.93013  (13082922)                447680.80
      3764078.84        8.98740  (12092221)
      447679.96   3764064.26        9.05625  (12092221)                447680.97
      3764045.82        9.14753  (12092221)
      447680.63   3764029.74        9.22811  (12092221)                447657.17
      3763992.03        9.27506  (12092221)
      447656.33   3763967.06        9.37027  (15063002)                447657.17
      3763928.69        9.55910  (15063002)
      447657.17   3763902.21        9.67687  (15063002)                447657.51
      3763869.03        9.76681  (13062901)
      447656.16   3763834.94        9.93262  (13081603)                447655.93
      3763808.27       10.09327  (13081603)
      447657.09   3763786.00       10.23481  (15090724)                447701.21
      3763782.14       10.33505  (13081603)
      447856.92   3763749.71       10.43164  (12092221)                447854.99
      3763730.13       10.47494  (12092221)
      447854.35   3763698.35       10.53150  (12092221)                447855.31
      3763676.84       10.56010  (12092221)
      447675.51   3763287.46       11.61560  (16072103)                448481.33
      3763485.29       12.83717  (12081001)
      448479.95   3763195.53       14.62606  (15082605)                448478.56
      3762907.16       19.01258  (13082922)
      448497.89   3762714.10       25.39861  (15082702)                448507.91
      3762487.71       49.06585  (15011116)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2OR60 ***
INCLUDING SOURCE(S): L0001821 , L0001822 , L0001823 , L0001824 , L0001825 ,
L0001826 , L0001827 , L0001828 , L0001829 , L0001830 ,
L0001831 , L0001832 , L0001833 ,
L0001834 , L0001835 , L0001836 , L0001837 , L0001838 ,
L0001839 , L0001840 , L0001841 ,
L0001842 , L0001843 , L0001844 , L0001845 , L0001846 ,
L0001847 , L0001848 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	164.15185	(12121716)	448462.73	3762339.82	92.49137	(16092701)
448464.47	3762265.93	49.60757	(15101023)	448461.57	3762165.17	30.90366	(15090903)
448472.57	3762064.71	22.30750	(16092702)	448460.48	3762016.72	19.74379	(12091503)
448234.63	3761951.18	16.51169	(15090904)	448081.42	3761952.78	15.52247	(15100921)
448025.53	3761955.99	14.75229	(15100921)	447506.75	3761967.63	8.78350	(12020618)
447269.29	3761967.74	7.16292	(14011319)	447389.46	3761908.79	7.73105	(15101024)
447019.14	3761964.34	5.91777	(13121117)	447060.33	3761963.58	6.10058	(13121117)
446975.31	3761963.20	5.72324	(13121117)	446940.92	3761953.76	5.57524	(13121117)
446865.72	3761974.54	5.34574	(14051523)	446795.06	3761957.91	5.08350	(14051523)
446757.65	3761965.85	4.97105	(14051523)	446709.33	3761967.74	4.81442	(14051523)
446796.42	3762028.62	5.06589	(14051523)	446796.97	3762045.28	5.08996	(14120121)
446796.70	3762089.51	5.15368	(14120121)	446796.15	3762105.89	5.14689	(14120121)
446796.70	3762137.29	5.20855	(14011518)	446796.15	3762153.39	5.25366	(14011518)
446772.40	3762215.37	5.20630	(14011518)	446795.06	3762321.03	5.22564	(15031521)
446796.42	3762450.98	5.07259	(16041722)	446796.42	3762471.18	5.07791	(16041722)
446797.24	3762496.03	5.05667	(16041722)	446798.06	3762516.51	5.06934	(14100421)
446797.79	3762539.98	5.07792	(15090905)	446797.52	3762560.19	5.13261	(15090905)
446798.61	3762584.76	5.17420	(15090905)	446798.06	3762604.42	5.17817	(15090905)
446799.70	3762654.11	5.37325	(15090905)	446799.97	3762674.58	5.82216	(15090905)
446800.25	3762700.25	5.99158	(14080304)	446800.25	3762721.27	6.22416	(14080304)
446799.97	3762735.74	6.23235	(14080304)	446797.79	3762748.02	6.21844	(14080304)
446802.16	3762913.47	5.67912	(14100321)	446802.16

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      3762932.58        5.70752  (14100321)
      446802.43   3762949.24        5.71429  (14100321)               446802.98
      3762967.26        5.70261  (14100321)
      446802.70   3762986.09        5.68395  (14100321)               446802.16
      3763003.29        5.91764  (14100321)
      446802.16   3763021.86        5.93742  (14100321)               446802.70
      3763040.70        6.03448  (14100321)
      446802.98   3763059.26        6.16322  (15010901)               446803.52
      3763077.01        6.31950  (15010901)
      446756.29   3763085.26        5.60746  (16102420)               446807.68
      3763646.39        8.22300  (14091421)
      446808.32   3763674.66        8.24719  (14091421)               446807.68
      3763694.57        8.24804  (14091421)
      446808.32   3763710.63        8.21497  (14091421)               446808.32
      3763726.37        8.16686  (14091421)
      446808.00   3763742.11        8.09008  (14091421)               446808.32
      3763756.89        8.02285  (16021622)
      446808.64   3763798.32        8.03115  (16072703)               446810.25
      3764484.08        7.45058  (14081705)
      446781.34   3764475.08        7.46269  (16072901)               446722.56
      3764455.81        7.42002  (15081403)
      446170.32   3764559.79        6.62536  (16081724)               446872.29
      3763190.26        8.49845  (16092622)
      446925.22   3763179.19        8.80927  (15081502)               446984.86
      3763194.88        9.05147  (15081502)
      447010.56   3763193.28        9.34945  (15081502)               447036.58
      3763193.60        9.47004  (15081502)
      447053.61   3763193.28        9.56381  (15081502)               447076.42
      3763192.31        9.71962  (14091321)
      447093.45   3763192.63        9.88846  (14091321)               447122.05
      3763192.63        9.91746  (14091321)
      447138.75   3763192.31        9.94820  (14091321)               447167.99
      3763192.31       10.00315  (14091321)
      447170.68   3763172.18       10.03235  (14091321)               447170.41
      3763158.25       10.00062  (14091321)
      447169.31   3763144.87       10.02641  (14091321)               447147.46
      3763107.45       10.17600  (15081502)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                      PAGE 261
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                             SOURCE GROUP:  2OR60    ***
                                 INCLUDING SOURCE(S):     L0001821    , L0001822    ,
                                 L0001823    , L0001824    , L0001825    ,
                  L0001826    , L0001827    , L0001828    , L0001829    , L0001830    ,
                  L0001831    , L0001832    , L0001833    ,
                  L0001834    , L0001835    , L0001836    , L0001837    , L0001838    ,
                  L0001839    , L0001840    , L0001841    ,
                  L0001842    , L0001843    , L0001844    , L0001845    , L0001846    ,
                  L0001847    , L0001848    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       447146.64   3763084.24       10.08535  (16092622)               447146.92
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3763064.30 10.14348 (16092622)
447149.92 3763038.90 10.08763 (16092622) 447148.56
3763019.78 10.01127 (16092622)
447148.56 3762997.39 9.84300 (16111321) 447206.08
3762958.49 8.85076 (15011101)
447209.33 3762922.51 8.14626 (14100321) 447208.40
3762890.70 8.16951 (14100321)
447145.83 3762888.87 7.87078 (14100321) 447122.55
3762889.07 7.74943 (14100321)
447094.33 3762890.05 7.67258 (14100321) 447071.04
3762890.45 7.55165 (14100321)
447043.61 3762889.66 7.40243 (14100321) 447017.76
3762888.87 7.19016 (14100321)
446992.11 3762889.07 7.05134 (14100321) 446964.28
3762888.28 6.89362 (14100321)
446940.41 3762888.47 6.73751 (14100321) 446911.20
3762888.08 6.44322 (14100321)
446885.35 3762889.66 6.32756 (16092423) 446862.07
3762888.87 6.25316 (16092423)
446871.45 3762779.57 6.41809 (14080304) 446926.31
3762768.72 6.67907 (14080304)
446983.74 3762774.24 6.93758 (16092423) 447009.00
3762774.05 6.95519 (16092423)
447030.51 3762774.44 6.81950 (16092423) 447055.37
3762774.05 6.79947 (16092423)
447076.88 3762774.24 6.92351 (16092423) 447101.16
3762774.44 7.28231 (16092423)
447123.85 3762774.05 7.41178 (16092423) 447148.12
3762775.03 7.63547 (16092423)
447170.23 3762774.84 7.89391 (16092423) 447196.78
3762775.48 7.92407 (16092423)
447242.12 3762776.57 8.18573 (16092423) 447262.33
3762776.03 8.29634 (16092423)
447294.56 3762776.30 8.39038 (16092423) 447313.13
3762775.48 8.50794 (16092423)
447313.40 3762749.53 8.66321 (16092423) 447327.86
3762713.09 8.61763 (16092423)
447327.36 3762679.87 7.80074 (15032622) 447327.74
3762657.02 7.48115 (15032622)
447327.28 3762636.82 7.43286 (15032622) 447327.51
3762612.90 7.61137 (15090905)
447327.28 3762592.24 7.75319 (15090905) 447327.04
3762569.71 7.85184 (15090905)
447327.28 3762547.89 7.89121 (15090905) 447326.58
3762524.67 7.85889 (15090905)
447326.58 3762506.09 7.78666 (15090905) 447327.51
3762477.53 7.74502 (16041722)
447325.88 3762454.31 7.78222 (16041722) 447225.58
3762432.95 7.07726 (16041722)
447200.27 3762430.63 6.91487 (16041722) 447156.85
3762430.16 6.65784 (16041722)
447131.77 3762430.86 6.51927 (16041722) 447102.74
3762430.63 6.36238 (16041722)
447079.06 3762430.86 6.23988 (16041722) 447034.94
3762433.65 6.02810 (16041722)
446995.47 3762433.65 5.84441 (16041722) 446972.71
3762434.34 5.74432 (16041722)
446941.37 3762434.58 5.61033 (16041722) 446916.06
3762436.90 5.50959 (16041722)
446876.35 3762436.90 5.35137 (16041722) 446848.85
3762647.05 5.46890 (15090905)
446848.85 3762563.17 5.33390 (15090905) 446849.17
3762509.82 5.24978 (14100421)
446849.17 3762455.82 5.26776 (16041722) 446848.85
3762702.00 6.27419 (14080304)
446849.49 3762754.71 6.49240 (14080304) 446739.81

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3CIDLE ***
INCLUDING SOURCE(S): L0000104 , L0000105 , L0000106 , L0000107 , L0000108 , L0000109 , L0000110 , L0000111 , L0000112 , L0000113 , L0000114 , L0000115 , L0000116 , L0000117 , L0000118 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	24.69424	(12082822)	447375.98	3764150.98	26.88720	(12082822)
447389.75	3764043.04	27.31490	(14082503)	447450.16	3764031.05	27.30324	(13082522)
447410.18	3764019.05	27.63731	(15081301)	446891.90	3764451.22	19.92143	(15062904)
446959.28	3764451.22	20.32403	(12081604)	446995.28	3764468.13	20.39298	(15032722)
447007.41	3764467.30	20.78975	(15032722)	447023.51	3764466.09	21.02231	(15032722)
447036.59	3764466.21	21.05024	(15032722)	447052.68	3764465.61	21.01361	(15032722)
447066.60	3764465.73	20.83504	(15032722)	447099.65	3764456.17	21.44741	(12080203)
447145.28	3764468.27	21.58221	(12083006)	447175.54	3764468.03	21.07939	(14072401)
447205.32	3764468.27	20.95459	(16062805)	447232.43	3764467.55	21.60241	(15062202)
447264.02	3764467.30	22.91799	(15062704)	447294.77	3764466.94	23.41178	(15083004)
447364.97	3764456.41	23.73669	(12082822)	447406.61	3764460.65	22.87319	(12102719)
447441.47	3764460.04	23.03640	(14082624)	447466.88	3764460.20	22.72835	(12080824)
447490.00	3764460.56	22.89930	(12080824)	447515.50	3764460.40	22.41130	(12080824)
447573.06	3764454.29	21.41205	(13070104)	447598.49	3764445.22	21.69153	(15090723)

```
      447652.90   3764439.70       22.72028  (15101706)               447692.92
      3764439.51       22.73781  (12080823)
      447713.82   3764439.11       22.61190  (12080823)               447731.95
      3764438.72       22.37818  (15092424)
      447751.07   3764438.72       22.37655  (16062624)               447768.82
      3764437.53       22.31402  (16062624)
      447789.12   3764437.73       22.23298  (13080424)               447805.68
      3764437.34       22.32476  (14082605)
      447824.02   3764437.20       22.50538  (14082605)               447841.61
      3764437.87       22.33766  (14082605)
      447861.72   3764437.53       22.05492  (16081723)               447881.66
      3764435.18       22.10287  (16062702)
      447902.78   3764436.19       21.81356  (16062702)               447920.87
      3764435.35       21.64270  (14053003)
      447942.16   3764435.35       21.39932  (13072124)               447962.77
      3764434.85       21.46901  (13072124)
      447980.70   3764435.18       21.28981  (13072124)               448004.66
      3764435.18       20.78600  (15062503)
      448021.25   3764434.68       19.99329  (12071205)               447662.70
      3764379.63       24.68161  (16072903)
      447681.30   3764320.98       25.85702  (12080823)               447682.64
      3764285.79       25.34923  (12080823)
      447662.53   3764238.37       25.29372  (12080823)               447661.70
      3764207.37       24.95567  (15092424)
      447683.14   3764162.29       23.83401  (13080424)               447680.97
      3764145.87       23.64638  (12070801)
      447679.63   3764130.28       23.44678  (12070801)               447680.80
      3764112.02       23.26628  (12081701)
      447681.47   3764096.43       23.34194  (12081701)               447680.80
      3764078.84       23.58899  (12081701)
      447679.96   3764064.26       24.05881  (12092201)               447680.97
      3764045.82       24.81158  (12092201)
      447680.63   3764029.74       25.50976  (12092201)               447657.17
      3763992.03       26.44823  (12092201)
      447656.33   3763967.06       27.79916  (12092201)               447657.17
      3763928.69       29.53216  (12092201)
      447657.17   3763902.21       30.69879  (12092201)               447657.51
      3763869.03       31.21473  (12092201)
      447656.16   3763834.94       32.82849  (14082923)               447655.93
      3763808.27       34.73448  (16090701)
      447657.09   3763786.00       36.21164  (16090701)               447701.21
      3763782.14       35.76727  (13071901)
      447856.92   3763749.71       24.68061  (16082424)               447854.99
      3763730.13       23.68687  (16082424)
      447854.35   3763698.35       22.79551  (12073102)               447855.31
      3763676.84       22.16410  (15082824)
      447675.51   3763287.46       51.68212  (13082723)               448481.33
      3763485.29       12.90820  (16072623)
      448479.95   3763195.53       11.95286  (16062824)               448478.56
      3762907.16       12.10564  (14082722)
      448497.89   3762714.10       11.05128  (15101802)               448507.91
      3762487.71       10.03397  (16110320)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                    PAGE 263
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  3CIDLE   ***
                              INCLUDING SOURCE(S):     L0000104    , L0000105    ,
                              L0000106    , L0000107    , L0000108    ,
               L0000109    , L0000110    , L0000111    , L0000112    , L0000113    ,
               L0000114    , L0000115    , L0000116    ,
```

L0000117 , L0000118 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	9.70482	(15082623)	448462.73	3762339.82	9.74580	(15082623)
448464.47	3762265.93	9.23951	(12080622)	448461.57	3762165.17	8.71590	(12080622)
448472.57	3762064.71	8.02223	(15102521)	448460.48	3762016.72	7.86607	(13042022)
448234.63	3761951.18	8.82097	(16082922)	448081.42	3761952.78	10.18136	(12121716)
448025.53	3761955.99	13.21364	(12121716)	447506.75	3761967.63	12.32638	(12081423)
447269.29	3761967.74	12.66293	(15101301)	447389.46	3761908.79	11.63092	(15112121)
447019.14	3761964.34	11.88276	(16091922)	447060.33	3761963.58	11.96579	(14090704)
446975.31	3761963.20	11.64225	(15090901)	446940.92	3761953.76	11.53260	(15090901)
446865.72	3761974.54	11.31835	(13083002)	446795.06	3761957.91	10.70839	(16061824)
446757.65	3761965.85	10.61615	(12100123)	446709.33	3761967.74	10.30227	(12082901)
446796.42	3762028.62	11.54710	(12100123)	446796.97	3762045.28	11.76246	(12100123)
446796.70	3762089.51	12.33502	(12082901)	446796.15	3762105.89	12.53188	(12082901)
446796.70	3762137.29	12.87648	(12082901)	446796.15	3762153.39	13.04597	(12091405)
446772.40	3762215.37	13.81834	(12091505)	446795.06	3762321.03	15.98267	(16102021)
446796.42	3762450.98	18.88387	(15090922)	446796.42	3762471.18	19.32185	(15090922)
446797.24	3762496.03	19.87699	(16092702)	446798.06	3762516.51	20.60145	(15090904)
446797.79	3762539.98	21.24802	(15090904)	446797.52	3762560.19	21.59237	(15090904)
446798.61	3762584.76	22.13290	(16111022)	446798.06	3762604.42	22.74432	(12100204)
446799.70	3762654.11	24.66137	(15100921)	446799.97	3762674.58	25.48016	(15100921)
446800.25	3762700.25	26.01331	(15100921)	446800.25	3762721.27	26.21723	(14080302)
446799.97	3762735.74	26.34882	(15101023)	446797.79	3762748.02	26.74891	(15101023)
446802.16	3762913.47	30.73634	(14051523)	446802.16	3762932.58	31.05293	(14051523)
446802.43	3762949.24	31.09887	(14120121)	446802.98	3762967.26	31.76274	(14011518)
446802.70	3762986.09	32.17852	(14011518)	446802.16	3763003.29	32.34791	(16021518)
446802.16	3763021.86	32.13960	(16021518)	446802.70	3763040.70	31.71470	(15031521)
446802.98	3763059.26	31.42906	(16041722)	446803.52	3763077.01	31.99595	(15090905)
446756.29	3763085.26	28.72733	(15090905)	446807.68	3763646.39	19.49623	(15092021)
446808.32	3763674.66	18.48823	(15060921)	446807.68			

3763694.57 18.23904 (15060921)
446808.32 3763710.63 17.99776 (15060921) 446808.32
3763726.37 18.21577 (15060921)
446808.00 3763742.11 17.82084 (15060921) 446808.32
3763756.89 17.41563 (15060921)
446808.64 3763798.32 17.97490 (15062722) 446810.25
3764484.08 19.25328 (12080704)
446781.34 3764475.08 19.00568 (12080704) 446722.56
3764455.81 18.65932 (15071803)
446170.32 3764559.79 14.54200 (15063002) 446872.29
3763190.26 36.64844 (12101719)
446925.22 3763179.19 42.67410 (12101719) 446984.86
3763194.88 49.81508 (12020622)
447010.56 3763193.28 54.43610 (15120517) 447036.58
3763193.60 60.05668 (15120517)
447053.61 3763193.28 63.90265 (15120517) 447076.42
3763192.31 69.27888 (15120517)
447093.45 3763192.63 73.93391 (13092722) 447122.05
3763192.63 83.96878 (13092602)
447138.75 3763192.31 90.93293 (13092602) 447167.99
3763192.31 106.25511 (15090824)
447170.68 3763172.18 111.96136 (13092602) 447170.41
3763158.25 114.48769 (13092722)
447169.31 3763144.87 118.40121 (15120517) 447147.46
3763107.45 118.82836 (12110208)

*** AERMOD - VERSION 22112 *** *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\AQIA\14822 Ops *** 10/19/22
*** AERMET - VERSION 16216 ***
*** *** 09:18:50

PAGE 264
*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3CIDLE ***
INCLUDING SOURCE(S): L0000104 , L0000105 , L0000106 , L0000107 , L0000108 ,
L0000109 , L0000110 , L0000111 , L0000112 , L0000113 ,
L0000114 , L0000115 , L0000116 ,
L0000117 , L0000118 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M) Y-COORD (M) CONC (YYMMDDHH) X-COORD (M) Y-COORD (M) CONC (YYMMDDHH)
- - - -

```
 446940.41   3762888.47       43.14349  (15101024)                446911.20
 3762888.08       39.40587  (15101024)
 446885.35   3762889.66       36.78652  (12020618)                446862.07
 3762888.87       34.58046  (12020618)
 446871.45   3762779.57       32.06187  (15101023)                446926.31
 3762768.72       36.80206  (15100921)
 446983.74   3762774.24       41.98756  (15090903)                447009.00
 3762774.05       44.23358  (12100204)
 447030.51   3762774.44       46.58968  (16111022)                447055.37
 3762774.05       50.19133  (15090904)
 447076.88   3762774.24       52.82601  (15090904)                447101.16
 3762774.44       56.81471  (15090922)
 447123.85   3762774.05       59.68397  (15092006)                447148.12
 3762775.03       64.39737  (16102021)
 447170.23   3762774.84       68.02441  (12091505)                447196.78
 3762775.48       73.27317  (12100123)
 447242.12   3762776.57       82.22703  (15090901)                447262.33
 3762776.03       85.05776  (16091922)
 447294.56   3762776.30       89.68978  (15090923)                447313.13
 3762775.48       90.90122  (15092103)
 447313.40   3762749.53       79.73007  (15092103)                447327.86
 3762713.09       68.35001  (15101301)
 447327.36   3762679.87       59.34559  (15101301)                447327.74
 3762657.02       54.28804  (15101301)
 447327.28   3762636.82       50.38937  (15101301)                447327.51
 3762612.90       46.28786  (15101301)
 447327.28   3762592.24       43.23900  (15101301)                447327.04
 3762569.71       40.27994  (15101301)
 447327.28   3762547.89       37.70436  (15101301)                447326.58
 3762524.67       35.32260  (16021522)
 447326.58   3762506.09       33.60257  (16021522)                447327.51
 3762477.53       31.18392  (16021522)
 447325.88   3762454.31       29.43875  (16021522)                447225.58
 3762432.95       27.43169  (15090923)
 447200.27   3762430.63       26.95345  (14090704)                447156.85
 3762430.16       26.28163  (16091922)
 447131.77   3762430.86       25.96694  (15090901)                447102.74
 3762430.63       25.37714  (15090901)
 447079.06   3762430.86       24.70538  (13083002)                447034.94
 3762433.65       23.75207  (16061824)
 446995.47   3762433.65       22.89526  (12082901)                446972.71
 3762434.34       22.16277  (12082901)
 446941.37   3762434.58       21.61347  (12091505)                446916.06
 3762436.90       21.10658  (15021220)
 446876.35   3762436.90       20.21461  (16102021)                446848.85
 3762647.05       26.11537  (12100204)
 446848.85   3762563.17       23.48268  (15090904)                446849.17
 3762509.82       21.82088  (15090922)
 446849.17   3762455.82       20.07608  (15092006)                446848.85
 3762702.00       28.75009  (15100921)
 446849.49   3762754.71       29.85507  (14080302)                446739.81
 3762428.53       17.11383  (16092702)
 446711.81   3762423.61       16.51508  (15090904)                446687.25
 3762416.25       16.03506  (15090904)
 446662.20   3762412.32       15.56148  (15090904)                446636.17
 3762403.97       14.96008  (15090904)
 449981.72   3762732.45        3.68666  (14082722)                446486.82
 3762231.95       11.19378  (15090904)
 446261.97   3762068.01        8.32550  (15090904)                446443.15
 3762291.63       11.09614  (14091405)
 446071.80   3762055.49        7.17234  (12100204)                446072.08
 3761983.13        6.84344  (14091405)
 446138.18   3762002.17        7.29312  (16111022)                445884.94
 3762039.75        6.41879  (15100921)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
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*** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: 3CON   ***
INCLUDING SOURCE(S):   L0000234   , L0000235   , L0000236   , L0000237   , L0000238   ,
L0000239   , L0000240   , L0000241   , L0000242   , L0000243   ,
L0000244   , L0000245   , L0000246   ,
L0000247   , L0000248   , L0000249   , L0000250   , L0000251   ,
L0000252   , L0000253   , L0000254   ,
L0000255   , L0000256   , L0000257   , L0000258   , L0000259   ,
L0000260   , L0000261   , . . .   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	21.60964	(12083004)	447375.98	3764150.98	23.86788	(12083004)
447389.75	3764043.04	24.24204	(12083004)	447450.16	3764031.05	23.89640	(15090822)
447410.18	3764019.05	24.22536	(12083004)	446891.90	3764451.22	17.44702	(13062605)
446959.28	3764451.22	17.88424	(12081001)	446995.28	3764468.13	18.16275	(12081001)
447007.41	3764467.30	18.27880	(12081604)	447023.51	3764466.09	18.30333	(12081604)
447036.59	3764466.21	18.32026	(16082102)	447052.68	3764465.61	18.50741	(15032722)
447066.60	3764465.73	18.80117	(15032722)	447099.65	3764456.17	19.14107	(15032722)
447145.28	3764468.27	18.91161	(12080203)	447175.54	3764468.03	18.93358	(12083006)
447205.32	3764468.27	18.66752	(12083006)	447232.43	3764467.55	19.20231	(14072401)
447264.02	3764467.30	20.42087	(16062805)	447294.77	3764466.94	20.84385	(15062202)
447364.97	3764456.41	20.63727	(12083004)	447406.61	3764460.65	20.96293	(12082822)
447441.47	3764460.04	20.82896	(12102719)	447466.88	3764460.20	20.57025	(14082624)
447490.00	3764460.56	20.42105	(14082624)	447515.50	3764460.40	19.80445	(14082624)
447573.06	3764454.29	19.39102	(13082522)	447598.49	3764445.22	19.62605	(12090506)
447652.90	3764439.70	20.75354	(15090723)	447692.92	3764439.51	20.45057	(13082502)
447713.82	3764439.11	20.43938	(16072903)	447731.95	3764438.72	20.52961	(16072903)
447751.07	3764438.72	20.60192	(12080823)	447768.82	3764437.53	20.58925	(12080823)
447789.12	3764437.73	20.46721	(16062624)	447805.68	3764437.34	20.54828	(16062624)
447824.02	3764437.20	20.42479	(16062624)	447841.61	3764437.87	20.18606	(13080424)
447861.72	3764437.53	20.15044	(14082605)	447881.66	3764435.18	20.15790	(14082605)

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      447902.78   3764436.19       19.91673  (14082605)               447920.87
      3764435.35        19.89574  (16062702)
      447942.16   3764435.35       19.81557  (16062702)               447962.77
      3764434.85        19.56412  (14053003)
      447980.70   3764435.18       19.38095  (14053003)               448004.66
      3764435.18        19.20847  (13072124)
      448021.25   3764434.68       18.68996  (13072124)               447662.70
      3764379.63        22.13026  (13082502)
      447681.30   3764320.98       22.97766  (15101706)               447682.64
      3764285.79        22.80057  (16072903)
      447662.53   3764238.37       22.62946  (15101706)               447661.70
      3764207.37        22.43994  (16102718)
      447683.14   3764162.29       21.90316  (16102718)               447680.97
      3764145.87        21.73189  (16102718)
      447679.63   3764130.28       21.48578  (16102718)               447680.80
      3764112.02        21.28056  (13071405)
      447681.47   3764096.43       21.34651  (13071405)               447680.80
      3764078.84        21.57107  (13071405)
      447679.96   3764064.26       21.93669  (13071405)               447680.97
      3764045.82        22.44492  (13071405)
      447680.63   3764029.74       22.93850  (13071405)               447657.17
      3763992.03        23.87628  (13071405)
      447656.33   3763967.06       24.84310  (13071405)               447657.17
      3763928.69        26.06295  (13071405)
      447657.17   3763902.21       27.08767  (12081701)               447657.51
      3763869.03        27.91199  (12081701)
      447656.16   3763834.94       29.24617  (12081701)               447655.93
      3763808.27        30.76597  (12092201)
      447657.09   3763786.00       32.00789  (12092201)               447701.21
      3763782.14        31.28059  (14082923)
      447856.92   3763749.71       21.29716  (13062724)               447854.99
      3763730.13        21.53075  (14022018)
      447854.35   3763698.35       21.94932  (15080604)               447855.31
      3763676.84        22.17546  (15080604)
      447675.51   3763287.46       62.41457  (13082622)               448481.33
      3763485.29        12.57100  (12081324)
      448479.95   3763195.53       10.80308  (15101322)               448478.56
      3762907.16        10.73117  (15082521)
      448497.89   3762714.10        9.92376  (15091223)               448507.91
      3762487.71         9.23451  (15082624)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                    PAGE 266
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  3CON     ***
                               INCLUDING SOURCE(S):     L0000234    , L0000235    ,
                               L0000236    , L0000237    , L0000238    ,
               L0000239    , L0000240    , L0000241    , L0000242    , L0000243    ,
               L0000244    , L0000245    , L0000246    ,
               L0000247    , L0000248    , L0000249    , L0000250    , L0000251    ,
               L0000252    , L0000253    , L0000254    ,
               L0000255    , L0000256    , L0000257    , L0000258    , L0000259    ,
               L0000260    , L0000261    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                        **

    X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
    (M)        CONC     (YYMMDDHH)
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3CON ***
INCLUDING SOURCE(S): L0000234 , L0000235 , L0000236 , L0000237 , L0000238 ,
L0000239 , L0000240 , L0000241 , L0000242 , L0000243 ,
L0000244 , L0000245 , L0000246 ,
L0000247 , L0000248 , L0000249 , L0000250 , L0000251 ,
L0000252 , L0000253 , L0000254 ,
L0000255 , L0000256 , L0000257 , L0000258 , L0000259 ,
L0000260 , L0000261 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	48.71822	(14051602)	447146.92	3763064.30	48.35804	(15100919)
447149.92	3763038.90	48.95219	(15100919)	447148.56	3763019.78	47.76331	(15101023)
447148.56	3762997.39	47.47004	(15032622)	447206.08	3762958.49	78.64223	(12110208)
447209.33	3762922.51	65.30289	(12110208)	447208.40	3762890.70	58.31401	(14051523)
447145.83	3762888.87	43.12045	(15090903)	447122.55	3762889.07	39.90709	(15090903)
447094.33	3762890.05	36.53749	(15100921)	447071.04	3762890.45	34.09152	(15100921)
447043.61	3762889.66	31.76136	(15100919)	447017.76	3762888.87	29.87149	(15100919)
446992.11	3762889.07	28.16620	(15100919)	446964.28	3762888.28	26.43872	(15100919)
446940.41	3762888.47	25.06324	(14100401)	446911.20	3762888.08	23.63624	(14100401)
446885.35	3762889.66	22.44316	(14100401)	446862.07	3762888.87	21.54673	(14051602)
446871.45	3762779.57	21.35483	(15101023)	446926.31	3762768.72	23.65222	(15100921)

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      446983.74   3762774.24       26.71276  (15100921)                447009.00
      3762774.05        28.04830  (15100921)
      447030.51   3762774.44       29.28490  (15090903)                447055.37
      3762774.05        30.76301  (14091405)
      447076.88   3762774.24       32.67580  (15090904)                447101.16
      3762774.44        34.92297  (15090904)
      447123.85   3762774.05       36.94733  (16092702)                447148.12
      3762775.03        39.76777  (12091503)
      447170.23   3762774.84       42.26306  (15092006)                447196.78
      3762775.48        46.08076  (15090902)
      447242.12   3762776.57       53.85488  (12082901)                447262.33
      3762776.03        57.57705  (13083002)
      447294.56   3762776.30       62.69978  (16091922)                447313.13
      3762775.48        64.94289  (14090704)
      447313.40   3762749.53       57.58236  (14090704)                447327.86
      3762713.09        50.59556  (15092103)
      447327.36   3762679.87       44.72059  (15092103)                447327.74
      3762657.02        41.47760  (15092103)
      447327.28   3762636.82       38.93717  (15092103)                447327.51
      3762612.90        36.27669  (15092103)
      447327.28   3762592.24       34.26966  (15092103)                447327.04
      3762569.71        32.29966  (15092103)
      447327.28   3762547.89       30.57625  (15092103)                447326.58
      3762524.67        28.90948  (15092103)
      447326.58   3762506.09       27.68240  (15092103)                447327.51
      3762477.53        25.92170  (15092103)
      447325.88   3762454.31       24.64238  (15092103)                447225.58
      3762432.95        22.44156  (16091922)
      447200.27   3762430.63       22.14996  (16091922)                447156.85
      3762430.16        21.57333  (15090901)
      447131.77   3762430.86       20.97720  (13083002)                447102.74
      3762430.63        20.26364  (16061824)
      447079.06   3762430.86       19.83882  (16061824)                447034.94
      3762433.65        19.07627  (12082901)
      446995.47   3762433.65       18.19598  (12091405)                446972.71
      3762434.34        17.75590  (12091505)
      446941.37   3762434.58       17.26345  (16102021)                446916.06
      3762436.90        16.77551  (16102021)
      446876.35   3762436.90       16.08721  (12091503)                446848.85
      3762647.05        19.12564  (15090903)
      446848.85   3762563.17       17.75599  (15090904)                446849.17
      3762509.82        16.86772  (15090904)
      446849.17   3762455.82       15.98508  (12091503)                446848.85
      3762702.00        20.03797  (15100921)
      446849.49   3762754.71       20.30058  (15101023)                446739.81
      3762428.53        13.87535  (15090904)
      446711.81   3762423.61       13.41497  (15090904)                446687.25
      3762416.25        12.95668  (15090904)
      446662.20   3762412.32       12.49688  (15090904)                446636.17
      3762403.97        12.06991  (16111022)
      449981.72   3762732.45        3.61868  (14082722)                446486.82
      3762231.95         9.51709  (15090904)
      446261.97   3762068.01        7.27258  (16111022)                446443.15
      3762291.63         9.45827  (14051524)
      446071.80   3762055.49        6.40694  (15090903)                446072.08
      3761983.13         6.14185  (12100204)
      446138.18   3762002.17        6.44810  (14091405)                445884.94
      3762039.75         5.75450  (15100921)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 268
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BBREAT ***
INCLUDING SOURCE(S): 4BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	17.28495	(12080823)	447375.98	3764150.98	18.27355	(15092506)
447389.75	3764043.04	18.59021	(16062624)	447450.16	3764031.05	18.12983	(14082605)
447410.18	3764019.05	18.33987	(16040803)	446891.90	3764451.22	16.69887	(12082822)
446959.28	3764451.22	16.38430	(12080905)	446995.28	3764468.13	16.62251	(12080905)
447007.41	3764467.30	16.64037	(12080905)	447023.51	3764466.09	16.49367	(12080905)
447036.59	3764466.21	16.31347	(15092701)	447052.68	3764465.61	16.53458	(15092701)
447066.60	3764465.73	16.63055	(15092701)	447099.65	3764456.17	16.70357	(12080824)
447145.28	3764468.27	16.35291	(12090802)	447175.54	3764468.03	15.95630	(12090802)
447205.32	3764468.27	16.04417	(16102922)	447232.43	3764467.55	16.33664	(16102922)
447264.02	3764467.30	16.43706	(16102922)	447294.77	3764466.94	16.47472	(13082502)
447364.97	3764456.41	16.45804	(16072903)	447406.61	3764460.65	16.34551	(12080823)
447441.47	3764460.04	16.20372	(15092506)	447466.88	3764460.20	16.12350	(15092506)
447490.00	3764460.56	16.04587	(13082404)	447515.50	3764460.40	15.76095	(13082404)
447573.06	3764454.29	15.33270	(13012418)	447598.49	3764445.22	15.47840	(13090302)
447652.90	3764439.70	15.68240	(14082502)	447692.92	3764439.51	15.68131	(15080603)
447713.82	3764439.11	15.55992	(15080603)	447731.95	3764438.72	15.56532	(15092823)
447751.07	3764438.72	15.48372	(15092823)	447768.82	3764437.53	15.52021	(15062204)
447789.12	3764437.73	15.54237	(15062204)	447805.68	3764437.34	15.41892	(15062204)
447824.02	3764437.20	15.28555	(12083101)	447841.61	3764437.87	15.19934	(15062503)
447861.72	3764437.53	15.22249	(15062503)	447881.66	3764435.18	15.22038	(13081801)
447902.78	3764436.19	15.26382	(13081801)	447920.87	3764435.35	15.20052	(13081801)
447942.16	3764435.35	14.98292	(13081801)	447962.77	3764434.85	14.81248	(15080404)
447980.70	3764435.18	14.66514	(15080404)	448004.66	3764435.18	14.56964	(12060105)
448021.25	3764434.68	14.39055	(15081804)	447662.70	3764379.63	16.49843	(15080603)
447681.30	3764320.98	16.88032	(15092823)	447682.64	3764285.79	16.75194	(15092823)
447662.53	3764238.37	16.71850	(15092823)	447661.70	3764207.37	16.63765	(15062204)
447683.14	3764162.29	16.44635	(13012218)	447680.97			

3764145.87 16.45795 (13012218)
447679.63 3764130.28 16.43619 (13012218) 447680.80
3764112.02 16.40384 (13012218)
447681.47 3764096.43 16.42685 (13012218) 447680.80
3764078.84 16.50140 (13072124)
447679.96 3764064.26 16.66844 (15062503) 447680.97
3764045.82 16.92158 (15062503)
447680.63 3764029.74 17.14034 (15062503) 447657.17
3763992.03 17.57859 (15062503)
447656.33 3763967.06 17.95386 (15062503) 447657.17
3763928.69 18.50732 (12071205)
447657.17 3763902.21 18.88996 (12071205) 447657.51
3763869.03 19.11127 (15080404)
447656.16 3763834.94 19.65120 (15080404) 447655.93
3763808.27 20.10271 (15101323)
447657.09 3763786.00 20.54924 (15101323) 447701.21
3763782.14 20.36307 (15081804)
447856.92 3763749.71 18.19846 (14092605) 447854.99
3763730.13 18.37736 (14092605)
447854.35 3763698.35 18.52950 (14092605) 447855.31
3763676.84 18.59026 (14081404)
447675.51 3763287.46 23.43762 (13072204) 448481.33
3763485.29 14.83631 (16081404)
448479.95 3763195.53 14.07497 (12081224) 448478.56
3762907.16 12.67298 (14070803)
448497.89 3762714.10 12.02165 (15100920) 448507.91
3762487.71 7.35059 (15101322)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BBREAT ***
INCLUDING SOURCE(S): 4BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	7.57306	(14081724)	448462.73			
3762339.82		7.72923	(15082823)				
448464.47	3762265.93	7.67239	(15120817)	448461.57			
3762165.17		7.63396	(15092523)				
448472.57	3762064.71	7.59129	(15082521)	448460.48			
3762016.72		7.56909	(15082521)				
448234.63	3761951.18	8.95200	(14091905)	448081.42			
3761952.78		10.46805	(15101802)				
448025.53	3761955.99	11.14494	(15091223)	447506.75			
3761967.63		22.98929	(14110518)				
447269.29	3761967.74	35.67686	(13042022)	447389.46			
3761908.79		26.10097	(12080622)				
447019.14	3761964.34	73.69829	(12121716)	447060.33			
3761963.58		102.28442	(12121716)				
446975.31	3761963.20	56.73025	(13013119)	446940.92			
3761953.76		56.72600	(15103022)				
446865.72	3761974.54	63.27960	(15101301)	446795.06			
3761957.91		57.49570	(14090704)				

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      446757.65   3761965.85       57.24531  (15090901)               446709.33
      3761967.74        53.39096  (16061824)
      446796.42   3762028.62       76.40924  (16091922)               446796.97
      3762045.28        82.86903  (16091922)
      446796.70   3762089.51      104.79878  (15090901)               446796.15
      3762105.89       114.67407  (15090901)
      446796.70   3762137.29      137.24311  (13082603)               446796.15
      3762153.39       165.57356  (13020917)
      446772.40   3762215.37      210.09500  (15090922)               446795.06
      3762321.03       710.40064  (12110208)
      446796.42   3762450.98      287.37614  (12101117)               446796.42
      3762471.18       235.10250  (12101117)
      446797.24   3762496.03      168.65080  (12101117)               446798.06
      3762516.51       138.81943  (14091520)
      446797.79   3762539.98      119.48855  (14091320)               446797.52
      3762560.19       105.46570  (16022318)
      446798.61   3762584.76       91.26619  (16022318)               446798.06
      3762604.42        82.52569  (15060923)
      446799.70   3762654.11       66.41079  (15100501)               446799.97
      3762674.58       100.73485  (13082623)
      446800.25   3762700.25       94.81521  (13082623)               446800.25
      3762721.27        88.61676  (12081523)
      446799.97   3762735.74       84.62654  (12081523)               446797.79
      3762748.02        81.25670  (12081523)
      446802.16   3762913.47       50.80089  (16072222)               446802.16
      3762932.58        48.59402  (16072222)
      446802.43   3762949.24       46.77605  (16072222)               446802.98
      3762967.26        44.90610  (16072222)
      446802.70   3762986.09       43.48350  (12092722)               446802.16
      3763003.29        42.61381  (12092722)
      446802.16   3763021.86       41.74959  (12092722)               446802.70
      3763040.70        40.96530  (12092722)
      446802.98   3763059.26       40.18292  (12092722)               446803.52
      3763077.01        39.28918  (12092722)
      446756.29   3763085.26       36.45794  (12081301)               446807.68
      3763646.39        24.68093  (15062704)
      446808.32   3763674.66       24.08893  (15083004)               446807.68
      3763694.57        23.77791  (15083004)
      446808.32   3763710.63       23.46478  (15083004)               446808.32
      3763726.37        23.16330  (15083004)
      446808.00   3763742.11       22.81177  (15083004)               446808.32
      3763756.89        22.50168  (15083004)
      446808.64   3763798.32       21.98687  (15083004)               446810.25
      3764484.08        16.09620  (12081904)
      446781.34   3764475.08       16.38160  (15083004)               446722.56
      3764455.81        16.44563  (13090206)
      446170.32   3764559.79       14.77368  (14022020)               446872.29
      3763190.26        38.29851  (12083004)
      446925.22   3763179.19       38.46598  (16100305)               446984.86
      3763194.88        37.38940  (13082522)
      447010.56   3763193.28       37.72113  (12090506)               447036.58
      3763193.60        37.69034  (12091005)
      447053.61   3763193.28       37.23391  (12091005)               447076.42
      3763192.31        37.20419  (16102718)
      447093.45   3763192.63       37.25043  (12080823)               447122.05
      3763192.63        36.46223  (15092424)
      447138.75   3763192.31       35.57241  (13080424)               447167.99
      3763192.31        35.42101  (12092201)
      447170.68   3763172.18       36.21933  (12092201)               447170.41
      3763158.25        36.67894  (12092201)
      447169.31   3763144.87       37.39500  (12092201)               447147.46
      3763107.45        40.58557  (12092201)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:5
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BBREAT ***
INCLUDING SOURCE(S): 4BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	41.88664	(12092201)	447146.92	3763064.30	42.60857	(12092201)
447149.92	3763038.90	43.06007	(16062702)	447148.56	3763019.78	43.94970	(16062702)
447148.56	3762997.39	44.52023	(16062702)	447206.08	3762958.49	43.06038	(13082201)
447209.33	3762922.51	44.41192	(13082201)	447208.40	3762890.70	46.72044	(14070503)
447145.83	3762888.87	49.76364	(12100404)	447122.55	3762889.07	50.60889	(12052204)
447094.33	3762890.05	51.85496	(12092201)	447071.04	3762890.45	53.35054	(12092201)
447043.61	3762889.66	54.05341	(12081701)	447017.76	3762888.87	55.20133	(16102718)
446992.11	3762889.07	55.91960	(12091005)	446964.28	3762888.28	56.79358	(14080321)
446940.41	3762888.47	56.76864	(13082522)	446911.20	3762888.08	55.84858	(12080602)
446885.35	3762889.66	55.55020	(15082606)	446862.07	3762888.87	56.36815	(13090301)
446871.45	3762779.57	76.16250	(13090301)	446926.31	3762768.72	77.80680	(13082522)
446983.74	3762774.24	74.00630	(16072701)	447009.00	3762774.05	72.36800	(12081701)
447030.51	3762774.44	69.52987	(12081701)	447055.37	3762774.05	66.36231	(14082923)
447076.88	3762774.24	65.20854	(15081422)	447101.16	3762774.44	64.47927	(13102518)
447123.85	3762774.05	63.01076	(13082201)	447148.12	3762775.03	61.59547	(12080924)
447170.23	3762774.84	60.51650	(12080924)	447196.78	3762775.48	57.00281	(12071403)
447242.12	3762776.57	53.27470	(13071005)	447262.33	3762776.03	50.94349	(13072204)
447294.56	3762776.30	48.56443	(13090722)	447313.13	3762775.48	47.83580	(13090722)
447313.40	3762749.53	49.96096	(14083023)	447327.86	3762713.09	50.62563	(12081804)
447327.36	3762679.87	32.54497	(15082922)	447327.74	3762657.02	33.91477	(15082922)
447327.28	3762636.82	35.05470	(13082723)	447327.51	3762612.90	36.41540	(15061923)
447327.28	3762592.24	37.17227	(13070324)	447327.04	3762569.71	38.68051	(15091222)
447327.28	3762547.89	39.68518	(13082222)	447326.58	3762524.67	41.11678	(14090822)
447326.58	3762506.09	42.02787	(14090822)	447327.51	3762477.53	43.03070	(12012917)
447325.88	3762454.31	44.78689	(12012917)	447225.58			

3762432.95 69.97119 (12012917)
447200.27 3762430.63 78.88356 (12012917) 447156.85
3762430.16 93.92718 (12012917)
447131.77 3762430.86 100.54670 (12012917) 447102.74
3762430.63 111.93144 (12080921)
447079.06 3762430.86 127.96671 (15091222) 447034.94
3762433.65 175.57995 (12022817)
446995.47 3762433.65 291.43087 (16082707) 446972.71
3762434.34 327.66975 (16082707)
446941.37 3762434.58 435.90226 (14090307) 446916.06
3762436.90 489.07927 (15011116)
446876.35 3762436.90 484.77604 (13020817) 446848.85
3762647.05 77.09853 (13020817)
446848.85 3762563.17 123.80400 (13020817) 446849.17
3762509.82 176.54339 (13020817)
446849.17 3762455.82 266.18694 (15060923) 446848.85
3762702.00 96.67217 (12092722)
446849.49 3762754.71 81.63456 (16081402) 446739.81
3762428.53 177.26439 (15090824)
446711.81 3762423.61 146.31656 (13092602) 446687.25
3762416.25 130.41970 (15120517)
446662.20 3762412.32 112.31571 (12020622) 446636.17
3762403.97 100.25960 (12101719)
449981.72 3762732.45 2.92122 (16062824) 446486.82
3762231.95 52.03610 (14051523)
446261.97 3762068.01 25.35321 (15101024) 446443.15
3762291.63 47.17584 (16021518)
446071.80 3762055.49 17.76883 (12020618) 446072.08
3761983.13 17.17942 (15101024)
446138.18 3762002.17 19.20458 (15101024) 445884.94
3762039.75 13.51413 (13121117)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BLOAD ***
INCLUDING SOURCE(S): 4BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	17.28485	(12080823)	447375.98	3764150.98	18.27345	(15092506)
447389.75	3764043.04	18.59012	(16062624)	447450.16	3764031.05	18.12975	(14082605)
447410.18	3764019.05	18.33962	(16040803)	446891.90	3764451.22	16.69877	(12082822)
446959.28	3764451.22	16.38420	(12080905)	446995.28	3764468.13	16.62241	(12080905)
447007.41	3764467.30	16.64027	(12080905)	447023.51	3764466.09	16.49358	(12080905)
447036.59	3764466.21	16.31338	(15092701)	447052.68	3764465.61	16.53447	(15092701)
447066.60	3764465.73	16.63045	(15092701)	447099.65	3764456.17	16.70347	(12080824)

447145.28 3764468.27 16.35281 (12090802) 447175.54
3764468.03 15.95621 (12090802)
447205.32 3764468.27 16.04407 (16102922) 447232.43
3764467.55 16.33654 (16102922)
447264.02 3764467.30 16.43696 (16102922) 447294.77
3764466.94 16.47462 (13082502)
447364.97 3764456.41 16.45793 (16072903) 447406.61
3764460.65 16.34541 (12080823)
447441.47 3764460.04 16.20362 (15092506) 447466.88
3764460.20 16.12340 (15092506)
447490.00 3764460.56 16.04569 (13082404) 447515.50
3764460.40 15.76078 (13082404)
447573.06 3764454.29 15.33246 (13012418) 447598.49
3764445.22 15.47830 (13090302)
447652.90 3764439.70 15.68229 (14082502) 447692.92
3764439.51 15.68121 (15080603)
447713.82 3764439.11 15.55982 (15080603) 447731.95
3764438.72 15.56521 (15092823)
447751.07 3764438.72 15.48361 (15092823) 447768.82
3764437.53 15.52003 (15062204)
447789.12 3764437.73 15.54219 (15062204) 447805.68
3764437.34 15.41875 (15062204)
447824.02 3764437.20 15.28544 (12083101) 447841.61
3764437.87 15.19918 (15062503)
447861.72 3764437.53 15.22232 (15062503) 447881.66
3764435.18 15.22028 (13081801)
447902.78 3764436.19 15.26372 (13081801) 447920.87
3764435.35 15.20041 (13081801)
447942.16 3764435.35 14.98282 (13081801) 447962.77
3764434.85 14.81238 (15080404)
447980.70 3764435.18 14.66505 (15080404) 448004.66
3764435.18 14.56937 (12060105)
448021.25 3764434.68 14.39046 (15081804) 447662.70
3764379.63 16.49832 (15080603)
447681.30 3764320.98 16.88020 (15092823) 447682.64
3764285.79 16.75184 (15092823)
447662.53 3764238.37 16.71840 (15092823) 447661.70
3764207.37 16.63750 (15062204)
447683.14 3764162.29 16.44627 (13012218) 447680.97
3764145.87 16.45787 (13012218)
447679.63 3764130.28 16.43611 (13012218) 447680.80
3764112.02 16.40377 (13012218)
447681.47 3764096.43 16.42677 (13012218) 447680.80
3764078.84 16.50132 (13072124)
447679.96 3764064.26 16.66831 (15062503) 447680.97
3764045.82 16.92145 (15062503)
447680.63 3764029.74 17.14021 (15062503) 447657.17
3763992.03 17.57846 (15062503)
447656.33 3763967.06 17.95373 (15062503) 447657.17
3763928.69 18.50724 (12071205)
447657.17 3763902.21 18.88988 (12071205) 447657.51
3763869.03 19.11119 (15080404)
447656.16 3763834.94 19.65111 (15080404) 447655.93
3763808.27 20.10262 (15101323)
447657.09 3763786.00 20.54914 (15101323) 447701.21
3763782.14 20.36297 (15081804)
447856.92 3763749.71 18.19839 (14092605) 447854.99
3763730.13 18.37729 (14092605)
447854.35 3763698.35 18.52943 (14092605) 447855.31
3763676.84 18.59015 (14081404)
447675.51 3763287.46 23.43758 (13072204) 448481.33
3763485.29 14.83625 (16081404)
448479.95 3763195.53 14.07494 (12081224) 448478.56
3762907.16 12.67299 (14070803)
448497.89 3762714.10 12.02166 (15100920) 448507.91
3762487.71 7.35055 (15101322)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BLOAD ***
INCLUDING SOURCE(S): 4BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	7.57302	(14081724)	448462.73	3762339.82	7.72919	(15082823)
448464.47	3762265.93	7.67236	(15120817)	448461.57	3762165.17	7.63392	(15092523)
448472.57	3762064.71	7.59125	(15082521)	448460.48	3762016.72	7.56905	(15082521)
448234.63	3761951.18	8.95195	(14091905)	448081.42	3761952.78	10.46799	(15101802)
448025.53	3761955.99	11.14488	(15091223)	447506.75	3761967.63	22.98918	(14110518)
447269.29	3761967.74	35.67668	(13042022)	447389.46	3761908.79	26.10085	(12080622)
447019.14	3761964.34	73.63217	(12121716)	447060.33	3761963.58	102.19754	(12121716)
446975.31	3761963.20	56.72998	(13013119)	446940.92	3761953.76	56.72551	(15103022)
446865.72	3761974.54	63.27931	(15101301)	446795.06	3761957.91	57.49540	(14090704)
446757.65	3761965.85	57.24501	(15090901)	446709.33	3761967.74	53.39068	(16061824)
446796.42	3762028.62	76.40886	(16091922)	446796.97	3762045.28	82.86860	(16091922)
446796.70	3762089.51	104.79821	(15090901)	446796.15	3762105.89	114.67344	(15090901)
446796.70	3762137.29	137.24244	(13082603)	446796.15	3762153.39	165.50482	(13020917)
446772.40	3762215.37	210.09399	(15090922)	446795.06	3762321.03	709.34210	(12110208)
446796.42	3762450.98	287.18868	(12101117)	446796.42	3762471.18	234.97482	(12101117)
446797.24	3762496.03	168.57773	(12101117)	446798.06	3762516.51	138.81884	(14091520)
446797.79	3762539.98	119.48800	(14091320)	446797.52	3762560.19	105.46525	(16022318)
446798.61	3762584.76	91.26582	(16022318)	446798.06	3762604.42	82.52538	(15060923)
446799.70	3762654.11	66.40985	(15100501)	446799.97	3762674.58	100.73488	(13082623)
446800.25	3762700.25	94.81517	(13082623)	446800.25	3762721.27	88.61680	(12081523)
446799.97	3762735.74	84.62658	(12081523)	446797.79	3762748.02	81.25674	(12081523)
446802.16	3762913.47	50.80104	(16072222)	446802.16	3762932.58	48.59416	(16072222)
446802.43	3762949.24	46.77619	(16072222)	446802.98			

3762967.26 44.90623 (16072222)
446802.70 3762986.09 43.48356 (12092722) 446802.16
3763003.29 42.61386 (12092722)
446802.16 3763021.86 41.74962 (12092722) 446802.70
3763040.70 40.96532 (12092722)
446802.98 3763059.26 40.18293 (12092722) 446803.52
3763077.01 39.28918 (12092722)
446756.29 3763085.26 36.45801 (12081301) 446807.68
3763646.39 24.68085 (15062704)
446808.32 3763674.66 24.08887 (15083004) 446807.68
3763694.57 23.77784 (15083004)
446808.32 3763710.63 23.46472 (15083004) 446808.32
3763726.37 23.16323 (15083004)
446808.00 3763742.11 22.81170 (15083004) 446808.32
3763756.89 22.50162 (15083004)
446808.64 3763798.32 21.98680 (15083004) 446810.25
3764484.08 16.09610 (12081904)
446781.34 3764475.08 16.38150 (15083004) 446722.56
3764455.81 16.44553 (13090206)
446170.32 3764559.79 14.77359 (14022020) 446872.29
3763190.26 38.29846 (12083004)
446925.22 3763179.19 38.46584 (16100305) 446984.86
3763194.88 37.38936 (13082522)
447010.56 3763193.28 37.72108 (12090506) 447036.58
3763193.60 37.69029 (12091005)
447053.61 3763193.28 37.23386 (12091005) 447076.42
3763192.31 37.20413 (16102718)
447093.45 3763192.63 37.25040 (12080823) 447122.05
3763192.63 36.46218 (15092424)
447138.75 3763192.31 35.57238 (13080424) 447167.99
3763192.31 35.42096 (12092201)
447170.68 3763172.18 36.21928 (12092201) 447170.41
3763158.25 36.67890 (12092201)
447169.31 3763144.87 37.39495 (12092201) 447147.46
3763107.45 40.58552 (12092201)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BLOAD ***
INCLUDING SOURCE(S): 4BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M) Y-COORD (M) CONC (YYMMDDHH) X-COORD (M) Y-COORD (M) CONC (YYMMDDHH)

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447094.33   3762890.05       51.85507  (12092201)                447071.04
3762890.45       53.35064  (12092201)
447043.61   3762889.66       54.05339  (12081701)                447017.76
3762888.87       55.20143  (16102718)
446992.11   3762889.07       55.91972  (12091005)                446964.28
3762888.28       56.79361  (14080321)
446940.41   3762888.47       56.76877  (13082522)                446911.20
3762888.08       55.84863  (12080602)
446885.35   3762889.66       55.55024  (15082606)                446862.07
3762888.87       56.36818  (13090301)
446871.45   3762779.57       76.16253  (13090301)                446926.31
3762768.72       77.80700  (13082522)
446983.74   3762774.24       74.00630  (16072701)                447009.00
3762774.05       72.36800  (12081701)
447030.51   3762774.44       69.52991  (12081701)                447055.37
3762774.05       66.36241  (14082923)
447076.88   3762774.24       65.20853  (15081422)                447101.16
3762774.44       64.47931  (13102518)
447123.85   3762774.05       63.01082  (13082201)                447148.12
3762775.03       61.59551  (12080924)
447170.23   3762774.84       60.51653  (12080924)                447196.78
3762775.48       57.00283  (12071403)
447242.12   3762776.57       53.27477  (13071005)                447262.33
3762776.03       50.94365  (13072204)
447294.56   3762776.30       48.56447  (13090722)                447313.13
3762775.48       47.83583  (13090722)
447313.40   3762749.53       49.96106  (14083023)                447327.86
3762713.09       50.62568  (12081804)
447327.36   3762679.87       32.54481  (15082922)                447327.74
3762657.02       33.91461  (15082922)
447327.28   3762636.82       35.05452  (13082723)                447327.51
3762612.90       36.41522  (15061923)
447327.28   3762592.24       37.17209  (13070324)                447327.04
3762569.71       38.68032  (15091222)
447327.28   3762547.89       39.68497  (13082222)                447326.58
3762524.67       41.11658  (14090822)
447326.58   3762506.09       42.02766  (14090822)                447327.51
3762477.53       43.03072  (12012917)
447325.88   3762454.31       44.78691  (12012917)                447225.58
3762432.95       69.97122  (12012917)
447200.27   3762430.63       78.88358  (12012917)                447156.85
3762430.16       93.92719  (12012917)
447131.77   3762430.86      100.54668  (12012917)                447102.74
3762430.63      111.93094  (12080921)
447079.06   3762430.86      127.96610  (15091222)                447034.94
3762433.65      175.53677  (12022817)
446995.47   3762433.65      291.70574  (16082707)                446972.71
3762434.34      327.94145  (16082707)
446941.37   3762434.58      435.90217  (14090307)                446916.06
3762436.90      489.75229  (15011116)
446876.35   3762436.90      484.04959  (13020817)                446848.85
3762647.05       77.05902  (13020817)
446848.85   3762563.17      123.71766  (13020817)                446849.17
3762509.82      176.38401  (13020817)
446849.17   3762455.82      266.18581  (15060923)                446848.85
3762702.00       96.67225  (12092722)
446849.49   3762754.71       81.63473  (16081402)                446739.81
3762428.53      177.26354  (15090824)
446711.81   3762423.61      146.31447  (13092602)                446687.25
3762416.25      130.41907  (15120517)
446662.20   3762412.32      112.31413  (12020622)                446636.17
3762403.97      100.25919  (12101719)
449981.72   3762732.45        2.92121  (16062824)                446486.82
3762231.95       52.03581  (14051523)
446261.97   3762068.01       25.35310  (15101024)                446443.15
3762291.63       47.17559  (16021518)
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BREF ***
INCLUDING SOURCE(S): 4BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	22.49222	(12080823)	447375.98	3764150.98	23.43874	(16062624)
447389.75	3764043.04	23.18380	(13080424)	447450.16	3764031.05	22.95907	(14082605)
447410.18	3764019.05	23.04182	(13111504)	446891.90	3764451.22	21.63198	(12102719)
446959.28	3764451.22	21.47368	(12080905)	446995.28	3764468.13	21.51993	(12080905)
447007.41	3764467.30	21.29104	(12080905)	447023.51	3764466.09	20.99799	(15092701)
447036.59	3764466.21	21.33503	(15092701)	447052.68	3764465.61	21.55299	(15092701)
447066.60	3764465.73	21.53052	(12080824)	447099.65	3764456.17	21.92453	(12080824)
447145.28	3764468.27	21.34319	(12090802)	447175.54	3764468.03	20.75090	(12090506)
447205.32	3764468.27	20.74685	(16102922)	447232.43	3764467.55	21.00712	(15090723)
447264.02	3764467.30	21.63772	(13082502)	447294.77	3764466.94	21.90801	(13082502)
447364.97	3764456.41	21.81692	(16072903)	447406.61	3764460.65	21.62037	(12080823)
447441.47	3764460.04	21.40626	(15092506)	447466.88	3764460.20	21.32004	(16062624)
447490.00	3764460.56	21.01310	(16062624)	447515.50	3764460.40	20.41326	(16040803)
447573.06	3764454.29	19.68718	(14082605)	447598.49	3764445.22	19.97862	(14082605)
447652.90	3764439.70	20.63059	(15080603)	447692.92	3764439.51	20.44769	(15080603)
447713.82	3764439.11	20.31296	(14053003)	447731.95	3764438.72	20.17576	(14053003)
447751.07	3764438.72	20.30808	(15062204)	447768.82	3764437.53	20.29055	(15062204)
447789.12	3764437.73	20.26816	(13012218)	447805.68	3764437.34	20.29885	(13012218)
447824.02	3764437.20	20.20829	(15062503)	447841.61	3764437.87	20.29060	(15062503)
447861.72	3764437.53	20.05636	(15062503)	447881.66	3764435.18	20.16277	(13081801)
447902.78	3764436.19	19.98528	(13081801)	447920.87			

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       3764435.35       19.78498  (15080404)
       447942.16   3764435.35       19.72075  (15080404)                447962.77
       3764434.85       19.43494  (15101323)
       447980.70   3764435.18       19.45342  (15101323)                448004.66
       3764435.18       19.28723  (15081804)
       448021.25   3764434.68       18.99647  (15081804)                447662.70
       3764379.63       21.73891  (15080603)
       447681.30   3764320.98       21.93098  (14053003)                447682.64
       3764285.79       21.77308  (15062204)
       447662.53   3764238.37       21.52759  (15062204)                447661.70
       3764207.37       21.34189  (13010820)
       447683.14   3764162.29       21.16586  (13072124)                447680.97
       3764145.87       21.01616  (13072124)
       447679.63   3764130.28       20.79836  (13072124)                447680.80
       3764112.02       20.47401  (13072124)
       447681.47   3764096.43       20.45393  (15062503)                447680.80
       3764078.84       20.55401  (13071901)
       447679.96   3764064.26       20.72168  (13071901)                447680.97
       3764045.82       20.88099  (13071901)
       447680.63   3764029.74       21.22634  (12071205)                447657.17
       3763992.03       21.63943  (13071901)
       447656.33   3763967.06       22.27361  (12071205)                447657.17
       3763928.69       22.91309  (15080404)
       447657.17   3763902.21       23.57458  (15080404)                447657.51
       3763869.03       23.86465  (15101323)
       447656.16   3763834.94       24.78033  (15101323)                447655.93
       3763808.27       25.39506  (15101323)
       447657.09   3763786.00       25.91853  (14110620)                447701.21
       3763782.14       25.62036  (14022021)
       447856.92   3763749.71       22.36596  (14092605)                447854.99
       3763730.13       22.34170  (14081404)
       447854.35   3763698.35       22.59174  (14081404)                447855.31
       3763676.84       22.62524  (12080202)
       447675.51   3763287.46       26.25947  (13072204)                448481.33
       3763485.29       17.89036  (16081404)
       448479.95   3763195.53       15.75059  (15090623)                448478.56
       3762907.16       13.51546  (12081123)
       448497.89   3762714.10       11.85940  (13090106)                448507.91
       3762487.71       10.35476  (15101322)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 275
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  4BREF    ***
                                INCLUDING SOURCE(S):     4BREF       ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
- - - -
```

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3761952.78 14.44641 (15101802)
448025.53 3761955.99 15.45910 (14090824) 447506.75
3761967.63 30.88841 (15082623)
447269.29 3761967.74 47.32317 (12102620) 447389.46
3761908.79 34.74855 (15102521)
447019.14 3761964.34 78.81149 (12121716) 447060.33
3761963.58 121.64173 (12121716)
446975.31 3761963.20 74.99920 (13013119) 446940.92
3761953.76 75.08775 (13093021)
446865.72 3761974.54 83.40658 (16100624) 446795.06
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446757.65 3761965.85 76.43097 (13090502) 446709.33
3761967.74 72.92430 (13083002)
446796.42 3762028.62 102.16954 (15090923) 446796.97
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3762748.02 87.58528 (14082205)
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3762932.58 51.04160 (15102420)
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446802.16 3763021.86 44.09536 (16083002) 446802.70
3763040.70 43.62812 (16083002)
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3763694.57 28.55161 (14060204)
446808.32 3763710.63 28.21961 (14060204) 446808.32
3763726.37 27.88640 (14060204)
446808.00 3763742.11 27.46431 (14060204) 446808.32
3763756.89 27.10802 (14060204)
446808.64 3763798.32 26.64325 (14060204) 446810.25
3764484.08 20.70113 (14060204)
446781.34 3764475.08 21.02180 (15083004) 446722.56
3764455.81 21.42254 (13090206)
446170.32 3764559.79 19.52708 (12081001) 446872.29
3763190.26 42.90941 (15082606)
446925.22 3763179.19 44.29294 (15080524) 446984.86
3763194.88 42.14878 (14080321)
447010.56 3763193.28 42.66220 (12071222) 447036.58
3763193.60 42.03102 (16081405)
447053.61 3763193.28 42.07573 (16072701) 447076.42
3763192.31 42.07401 (12082821)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BREF ***
INCLUDING SOURCE(S): 4BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447093.45	3763192.63	42.49473	(12082923)	447122.05	3763192.63	41.58731	(12081701)
447138.75	3763192.31	40.89163	(12081701)	447167.99	3763192.31	39.71967	(12092201)
447170.68	3763172.18	40.08165	(13060205)	447170.41	3763158.25	40.35987	(13060205)
447169.31	3763144.87	41.04764	(13060205)	447147.46	3763107.45	45.07397	(13060205)
447146.64	3763084.24	46.17474	(13060205)	447146.92	3763064.30	46.99426	(14080405)
447149.92	3763038.90	47.90038	(14080405)	447148.56	3763019.78	48.56460	(14080405)
447148.56	3762997.39	49.32342	(15081422)	447206.08	3762958.49	45.94191	(13062004)
447209.33	3762922.51	47.03558	(13062724)	447208.40	3762890.70	48.99125	(14022018)
447145.83	3762888.87	52.69945	(12081903)	447122.55	3762889.07	54.47648	(15081422)
447094.33	3762890.05	55.25680	(15081422)	447071.04	3762890.45	56.33183	(14070501)
447043.61	3762889.66	57.69829	(14080322)	447017.76	3762888.87	58.85290	(14100220)
446992.11	3762889.07	59.86676	(12082821)	446964.28	3762888.28	61.60824	(12071821)
446940.41	3762888.47	59.69945	(12102718)	446911.20	3762888.08	59.25927	(16083005)
446885.35	3762889.66	59.68162	(12082722)	446862.07	3762888.87	59.64153	(12090503)
446871.45	3762779.57	81.56284	(14081423)	446926.31	3762768.72	82.01435	(12071821)
446983.74	3762774.24	78.92319	(12082821)	447009.00	3762774.05	76.58303	(13090201)
447030.51	3762774.44	71.92812	(14073101)	447055.37	3762774.05	68.94360	(15081422)
447076.88	3762774.24	67.00294	(12071302)	447101.16	3762774.44	66.80045	(13081601)
447123.85	3762774.05	65.04742	(13062724)	447148.12	3762775.03	63.10902	(14022018)
447170.23	3762774.84	61.66343	(16060223)	447196.78	3762775.48	58.53654	(16081205)
447242.12	3762776.57	55.31530	(15082824)	447262.33	3762776.03	52.22128	(12080501)
447294.56	3762776.30	49.63408	(12082001)	447313.13	3762775.48	48.06536	(12083024)
447313.40	3762749.53	50.85011	(12080723)	447327.86			

3762713.09 50.42156 (13082224)
447327.36 3762679.87 45.59887 (15082922) 447327.74
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447327.28 3762636.82 48.77444 (15061923) 447327.51
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447326.58 3762506.09 57.23127 (14083022) 447327.51
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3762291.63 69.08678 (14011518)
446071.80 3762055.49 25.49016 (12020618) 446072.08
3761983.13 24.36874 (12101403)
446138.18 3762002.17 27.25609 (16021805) 445884.94
3762039.75 19.47527 (14011319)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BSPILL ***
INCLUDING SOURCE(S): 4BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	27.38262	(12080823)	447375.98	3764150.98	28.38006	(16062624)

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447389.75   3764043.04      28.00125  (13080424)              447450.16
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447410.18   3764019.05      27.79646  (15013003)              446891.90
3764451.22      26.33316  (12102719)
446959.28   3764451.22      26.01356  (12080905)              446995.28
3764468.13      26.13425  (12080905)
447007.41   3764467.30      25.65358  (12080905)              447023.51
3764466.09      25.48820  (15051420)
447036.59   3764466.21      25.86167  (15092701)              447052.68
3764465.61      26.24533  (15092701)
447066.60   3764465.73      26.12386  (15092701)              447099.65
3764456.17      26.76353  (12080824)
447145.28   3764468.27      25.98739  (12090802)              447175.54
3764468.03      25.37578  (12090506)
447205.32   3764468.27      25.34227  (13070104)              447232.43
3764467.55      25.69157  (15090723)
447264.02   3764467.30      26.45219  (13082502)              447294.77
3764466.94      26.84363  (13082502)
447364.97   3764456.41      26.72420  (16072903)              447406.61
3764460.65      26.46529  (12080823)
447441.47   3764460.04      26.20046  (15092506)              447466.88
3764460.20      26.09824  (16062624)
447490.00   3764460.56      25.65568  (16062624)              447515.50
3764460.40      25.00025  (16040803)
447573.06   3764454.29      23.93115  (14082605)              447598.49
3764445.22      24.42493  (14082605)
447652.90   3764439.70      25.13009  (15080603)              447692.92
3764439.51      24.90597  (15080603)
447713.82   3764439.11      24.91102  (14053003)              447731.95
3764438.72      24.66125  (14053003)
447751.07   3764438.72      24.81221  (15062204)              447768.82
3764437.53      24.77175  (15062204)
447789.12   3764437.73      24.85968  (13012218)              447805.68
3764437.34      24.93464  (13012218)
447824.02   3764437.20      24.67728  (15062503)              447841.61
3764437.87      24.89860  (15062503)
447861.72   3764437.53      24.53040  (15062503)              447881.66
3764435.18      24.68925  (12071205)
447902.78   3764436.19      24.43338  (12071205)              447920.87
3764435.35      24.23886  (15080404)
447942.16   3764435.35      24.19105  (15080404)              447962.77
3764434.85      23.81148  (15101323)
447980.70   3764435.18      23.91224  (15101323)              448004.66
3764435.18      23.49730  (15081804)
448021.25   3764434.68      23.22755  (15081804)              447662.70
3764379.63      26.58829  (15080603)
447681.30   3764320.98      26.84139  (14053003)              447682.64
3764285.79      26.51144  (15062204)
447662.53   3764238.37      26.22227  (13010820)              447661.70
3764207.37      25.96950  (13010820)
447683.14   3764162.29      25.68516  (13072124)              447680.97
3764145.87      25.43971  (13072124)
447679.63   3764130.28      25.08949  (13072124)              447680.80
3764112.02      24.62161  (13071901)
447681.47   3764096.43      24.71096  (13071901)              447680.80
3764078.84      24.83545  (13071901)
447679.96   3764064.26      25.01663  (13071901)              447680.97
3764045.82      25.13402  (13071901)
447680.63   3764029.74      25.42485  (12071205)              447657.17
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447656.33   3763967.06      26.69640  (12071205)              447657.17
3763928.69      27.42397  (15080404)
447657.17   3763902.21      28.34060  (15080404)              447657.51
3763869.03      28.58136  (15101323)
447656.16   3763834.94      29.85825  (15101323)              447655.93
3763808.27      30.60076  (15101323)
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 4BSPILL ***
INCLUDING SOURCE(S): 4BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447657.09	3763786.00	31.22735	(14110620)	447701.21	3763782.14	30.88233	(14022021)
447856.92	3763749.71	26.75431	(14062003)	447854.99	3763730.13	26.61125	(14062003)
447854.35	3763698.35	26.93889	(14081404)	447855.31	3763676.84	26.84159	(12080202)
447675.51	3763287.46	30.56900	(16081204)	448481.33	3763485.29	21.34990	(16072803)
448479.95	3763195.53	18.18600	(15090623)	448478.56	3762907.16	15.27308	(12081123)
448497.89	3762714.10	13.14079	(12083121)	448507.91	3762487.71	12.92941	(15101322)
448480.49	3762357.96	13.24348	(15082823)	448462.73	3762339.82	13.53730	(15082823)
448464.47	3762265.93	13.29661	(15120817)	448461.57	3762165.17	13.30947	(15092523)
448472.57	3762064.71	13.31393	(15082521)	448460.48	3762016.72	12.98882	(16072724)
448234.63	3761951.18	15.57416	(13091422)	448081.42	3761952.78	17.94607	(15101802)
448025.53	3761955.99	19.27609	(14090824)	447506.75	3761967.63	38.49272	(15110120)
447269.29	3761967.74	58.90259	(12102620)	447389.46	3761908.79	43.11689	(14041902)
447019.14	3761964.34	89.95870	(16021520)	447060.33	3761963.58	143.81329	(12121716)
446975.31	3761963.20	93.29084	(13013119)	446940.92	3761953.76	93.16241	(13093021)
446865.72	3761974.54	103.60020	(16100624)	446795.06	3761957.91	95.20048	(15090923)
446757.65	3761965.85	94.93014	(13090502)	446709.33	3761967.74	90.14068	(13082603)
446796.42	3762028.62	126.69632	(15090923)	446796.97	3762045.28	135.72771	(14100322)
446796.70	3762089.51	167.16140	(13090502)	446796.15	3762105.89	184.44753	(13090502)
446796.70	3762137.29	221.33965	(16091922)	446796.15	3762153.39	247.84617	(15090901)
446772.40	3762215.37	349.55280	(16102021)	446795.06	3762321.03	997.86983	(14011319)
446796.42	3762450.98	458.29566	(15031223)	446796.42	3762471.18	373.01104	(15030120)
446797.24	3762496.03	315.18699	(14091520)	446798.06	3762516.51	269.18077	(14091320)
446797.79	3762539.98	226.53255	(16022318)	446797.52			

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      3762560.19      195.39870  (15060923)
      446798.61   3762584.76      173.55574  (15060923)               446798.06
      3762604.42      155.38403  (13122824)
      446799.70   3762654.11      124.09451  (15100501)               446799.97
      3762674.58      115.45664  (16070205)
      446800.25   3762700.25      112.82796  (12091701)               446800.25
      3762721.27      105.82825  (12091701)
      446799.97   3762735.74      101.23886  (16092019)               446797.79
      3762748.02       96.91902  (16092019)
      446802.16   3762913.47       59.90667  (15102420)               446802.16
      3762932.58       57.09610  (15102420)
      446802.43   3762949.24       54.75261  (15102420)               446802.98
      3762967.26       52.30977  (15102420)
      446802.70   3762986.09       50.59114  (15102420)               446802.16
      3763003.29       49.73371  (15102420)
      446802.16   3763021.86       49.00242  (14071204)               446802.70
      3763040.70       48.49889  (14071204)
      446802.98   3763059.26       47.97163  (16100620)               446803.52
      3763077.01       47.42918  (14071303)
      446756.29   3763085.26       43.44573  (16092019)               446807.68
      3763646.39       35.04540  (13090301)
      446808.32   3763674.66       34.36686  (13090301)               446807.68
      3763694.57       33.95080  (13090301)
      446808.32   3763710.63       33.56085  (13090301)               446808.32
      3763726.37       33.15853  (13090301)
      446808.00   3763742.11       32.66279  (13090301)               446808.32
      3763756.89       32.24867  (13090301)
      446808.64   3763798.32       31.61694  (13090301)               446810.25
      3764484.08       25.20608  (14060204)
      446781.34   3764475.08       25.46471  (14060204)               446722.56
      3764455.81       26.08214  (13090206)
      446170.32   3764559.79       23.78535  (12081001)               446872.29
      3763190.26       49.60552  (14081423)
      446925.22   3763179.19       51.77842  (15080524)               446984.86
      3763194.88       48.43970  (14080321)
      447010.56   3763193.28       49.76838  (12071222)               447036.58
      3763193.60       48.98198  (16081405)
      447053.61   3763193.28       48.95585  (16072701)               447076.42
      3763192.31       49.45919  (12082821)
      447093.45   3763192.63       49.70753  (12082923)               447122.05
      3763192.63       48.54926  (12081701)
      447138.75   3763192.31       47.57943  (12081701)               447167.99
      3763192.31       46.15500  (13090201)
      447170.68   3763172.18       46.30010  (13060205)               447170.41
      3763158.25       46.57550  (14071402)
      447169.31   3763144.87       47.72856  (14071402)               447147.46
      3763107.45       52.12520  (13060205)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 279
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  4BSPILL  ***
                               INCLUDING SOURCE(S):     4BSPILL     ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                       **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5AIDLE ***
INCLUDING SOURCE(S): L0000089 , L0000090 , L0000091 , L0000092 , L0000093 , L0000094 , L0000095 , L0000096 , L0000097 , L0000098 , L0000099 , L0000100 , L0000101 , L0000102 , L0000103 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446849.17	3762455.82	546.09690	(15031421)	446848.85	3762702.00	120.03501	(15101219)
446849.49	3762754.71	101.03530	(15101219)	446739.81	3762428.53	349.61144	(15040322)
446711.81	3762423.61	288.09929	(13092722)	446687.25	3762416.25	253.47946	(15091505)
446662.20	3762412.32	218.34246	(12020622)	446636.17	3762403.97	193.48248	(12101719)
449981.72	3762732.45	5.15882	(15091722)	446486.82	3762231.95	92.83913	(14011319)
446261.97	3762068.01	44.58209	(12101403)	446443.15	3762291.63	85.69249	(14011518)
446071.80	3762055.49	31.70344	(12020618)	446072.08	3761983.13	30.36838	(12101403)
446138.18	3762002.17	33.97360	(16021805)	445884.94	3762039.75	24.33160	(14011319)
447362.21	3764292.67	19.97028	(15083004)	447375.98	3764150.98	21.55987	(15083004)
447389.75	3764043.04	21.83984	(16082406)	447450.16	3764031.05	22.42603	(12082822)
447410.18	3764019.05	22.15099	(12083004)	446891.90	3764451.22	17.20537	(12081001)
446959.28	3764451.22	17.21777	(12081604)	446995.28	3764468.13	17.30153	(16062701)
447007.41	3764467.30	17.41907	(16062701)	447023.51	3764466.09	17.49777	(12071001)
447036.59	3764466.21	17.56043	(12071001)	447052.68	3764465.61	17.57761	(12071001)
447066.60	3764465.73	17.68957	(14040923)	447099.65	3764456.17	17.97276	(12092102)
447145.28	3764468.27	17.74824	(12083006)	447175.54	3764468.03	17.67556	(12083006)
447205.32	3764468.27	17.46399	(12081106)	447232.43	3764467.55	17.93868	(14072401)
447264.02	3764467.30	18.69623	(15062301)	447294.77	3764466.94	19.04233	(15062202)
447364.97	3764456.41	19.24871	(15083004)	447406.61	3764460.65	18.65848	(13090824)
447441.47	3764460.04	19.34219	(12082822)	447466.88	3764460.20	19.36610	(12082822)
447490.00	3764460.56	19.10089	(12102719)	447515.50			

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      3764460.40       18.68450  (12102719)
      447573.06   3764454.29       18.24411  (12080905)               447598.49
      3764445.22       18.23718  (15092701)
      447652.90   3764439.70       19.35653  (12080824)               447692.92
      3764439.51       19.02005  (12090802)
      447713.82   3764439.11       18.83545  (16102922)               447731.95
      3764438.72       19.11832  (16102922)
      447751.07   3764438.72       19.13688  (16102922)               447768.82
      3764437.53       19.02736  (16102922)
      447789.12   3764437.73       18.94129  (15090723)               447805.68
      3764437.34       19.05446  (13082502)
      447824.02   3764437.20       18.98798  (13082502)               447841.61
      3764437.87       19.01614  (15101706)
      447861.72   3764437.53       19.06062  (16072903)               447881.66
      3764435.18       19.03948  (16072903)
      447902.78   3764436.19       19.05710  (12080823)               447920.87
      3764435.35       18.96373  (12080823)
      447942.16   3764435.35       18.77259  (15092506)               447962.77
      3764434.85       18.70307  (16062624)
      447980.70   3764435.18       18.66454  (16062624)               448004.66
      3764435.18       18.24359  (16062624)
      448021.25   3764434.68       17.73968  (13012418)               447662.70
      3764379.63       20.38198  (12080824)
      447681.30   3764320.98       20.97617  (12090802)               447682.64
      3764285.79       20.82757  (12090802)
      447662.53   3764238.37       20.98519  (12090802)               447661.70
      3764207.37       20.83984  (12090802)
      447683.14   3764162.29       20.59531  (13070104)               447680.97
      3764145.87       20.55788  (13070104)
      447679.63   3764130.28       20.49037  (13070104)               447680.80
      3764112.02       20.46715  (13070104)
      447681.47   3764096.43       20.56802  (13070104)               447680.80
      3764078.84       20.77800  (13070104)
      447679.96   3764064.26       21.06963  (13070104)               447680.97
      3764045.82       21.48329  (13070104)
      447680.63   3764029.74       21.87621  (13070104)               447657.17
      3763992.03       22.44977  (13070104)
      447656.33   3763967.06       23.19509  (13070104)               447657.17
      3763928.69       24.24059  (13070104)
      447657.17   3763902.21       24.99045  (13070104)               447657.51
      3763869.03       25.56658  (13070104)
      447656.16   3763834.94       26.57566  (13070104)               447655.93
      3763808.27       27.55149  (15090723)
      447657.09   3763786.00       28.43358  (15090723)               447701.21
      3763782.14       28.23204  (15101706)
      447856.92   3763749.71       25.66039  (12092201)               447854.99
      3763730.13       25.88262  (12092201)
      447854.35   3763698.35       26.37647  (16062702)               447855.31
      3763676.84       26.73621  (16062702)
      447675.51   3763287.46       40.59331  (12081701)               448481.33
      3763485.29       20.61305  (12083003)
      448479.95   3763195.53       19.46507  (13062701)               448478.56
      3762907.16       13.35892  (15081221)
      448497.89   3762714.10       13.57099  (15101322)               448507.91
      3762487.71       13.33663  (14082722)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 281
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  5AIDLE   ***
                              INCLUDING SOURCE(S):     L0000089    , L0000090    ,
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L0000091 , L0000092 , L0000093 ,
L0000094 , L0000095 , L0000096 , L0000097 , L0000098 ,
L0000099 , L0000100 , L0000101 ,
L0000102 , L0000103 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN
MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	13.12144	(15091023)	448462.73	3762339.82	13.25213	(14091905)
448464.47	3762265.93	13.03971	(12092023)	448461.57	3762165.17	12.51595	(14051421)
448472.57	3762064.71	11.52904	(15082624)	448460.48	3762016.72	11.40330	(15082623)
448234.63	3761951.18	13.52173	(15102521)	448081.42	3761952.78	16.06357	(13110118)
448025.53	3761955.99	17.07321	(16082922)	447506.75	3761967.63	25.38418	(13050222)
447269.29	3761967.74	24.13820	(14050301)	447389.46	3761908.79	22.73735	(15101301)
447019.14	3761964.34	19.56022	(12091505)	447060.33	3761963.58	20.39077	(12082901)
446975.31	3761963.20	18.70745	(15021220)	446940.92	3761953.76	17.88580	(16102021)
446865.72	3761974.54	17.02720	(12091503)	446795.06	3761957.91	15.46582	(16092702)
446757.65	3761965.85	15.09800	(15090904)	446709.33	3761967.74	14.23712	(15090904)
446796.42	3762028.62	16.74382	(15090904)	446796.97	3762045.28	16.91948	(15090904)
446796.70	3762089.51	17.63782	(14091405)	446796.15	3762105.89	17.98349	(12100204)
446796.70	3762137.29	18.74587	(15090903)	446796.15	3762153.39	19.09273	(15100921)
446772.40	3762215.37	19.33919	(14080302)	446795.06	3762321.03	21.49677	(14022022)
446796.42	3762450.98	23.75243	(13121117)	446796.42	3762471.18	24.15357	(14051523)
446797.24	3762496.03	24.29299	(14051523)	446798.06	3762516.51	24.52060	(14120121)
446797.79	3762539.98	25.16519	(14011518)	446797.52	3762560.19	25.28336	(16021518)
446798.61	3762584.76	25.44365	(16021518)	446798.06	3762604.42	25.07006	(15031521)
446799.70	3762654.11	24.86353	(15090905)	446799.97	3762674.58	25.39121	(15090905)
446800.25	3762700.25	25.30948	(15090905)	446800.25	3762721.27	24.63518	(15090905)
446799.97	3762735.74	24.79312	(15032622)	446797.79	3762748.02	24.65513	(15032622)
446802.16	3762913.47	22.42169	(15120517)	446802.16	3762932.58	22.11133	(15120517)
446802.43	3762949.24	21.61566	(15120517)	446802.98	3762967.26	21.28929	(13092722)
446802.70	3762986.09	20.98673	(13092722)	446802.16	3763003.29	20.50246	(13092722)
446802.16	3763021.86	20.41132	(13092602)	446802.70	3763040.70	20.19020	(13092602)
446802.98	3763059.26	19.76059	(13092602)	446803.52	3763077.01	19.24990	(16112718)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5AIDLE ***
INCLUDING SOURCE(S): L0000089 , L0000090 , L0000091 , L0000092 , L0000093 , L0000094 , L0000095 , L0000096 , L0000097 , L0000098 , L0000099 , L0000100 , L0000101 , L0000102 , L0000103 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446756.29	3763085.26	18.06832	(13092602)	446807.68	3763646.39	22.83981	(16072804)
446808.32	3763674.66	22.50605	(16072804)	446807.68	3763694.57	22.23385	(16072804)
446808.32	3763710.63	21.93979	(15061924)	446808.32	3763726.37	21.80970	(15061924)
446808.00	3763742.11	21.55794	(15061924)	446808.32	3763756.89	21.30503	(15061924)
446808.64	3763798.32	21.11328	(13090723)	446810.25	3764484.08	16.54976	(16072603)
446781.34	3764475.08	16.39092	(12080704)	446722.56	3764455.81	16.15318	(12080704)
446170.32	3764559.79	13.39728	(14081603)	446872.29	3763190.26	25.52057	(14100721)
446925.22	3763179.19	29.30197	(16110621)	446984.86	3763194.88	28.95249	(15060921)
447010.56	3763193.28	32.56441	(15062722)	447036.58	3763193.60	33.72210	(15062722)
447053.61	3763193.28	35.11501	(15062722)	447076.42	3763192.31	37.70435	(12071303)
447093.45	3763192.63	40.05022	(12071303)	447122.05	3763192.63	38.99181	(16061822)
447138.75	3763192.31	38.29304	(16061822)	447167.99	3763192.31	37.69798	(12071304)
447170.68	3763172.18	36.82219	(12071304)	447170.41	3763158.25	36.50233	(12071304)
447169.31	3763144.87	37.34643	(12071304)	447147.46	3763107.45	41.45243	(15030520)
447146.64	3763084.24	41.71053	(15030520)	447146.92	3763064.30	40.75360	(15062722)
447149.92	3763038.90	37.58441	(15060921)	447148.56	3763019.78	38.46868	(15060921)
447148.56	3762997.39	40.16938	(15060921)	447206.08	3762958.49	49.79189	(15060921)
447209.33	3762922.51	54.86703	(15060921)	447208.40	3762890.70	60.30741	(15092021)
447145.83	3762888.87	51.11189	(15090824)	447122.55	3762889.07	47.63784	(15090824)
447094.33	3762890.05	43.13891	(14091521)	447071.04	3762890.45	40.34598	(13092602)
447043.61	3762889.66	37.98786	(13092602)	447017.76			

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3762888.87       35.44272  (13092602)
446992.11   3762889.07       33.28717  (13092722)              446964.28
3762888.28       31.32423  (13092722)
446940.41   3762888.47       29.60165  (15120517)              446911.20
3762888.08       28.18720  (15120517)
446885.35   3762889.66       26.78887  (15120517)              446862.07
3762888.87       25.56535  (15120517)
446871.45   3762779.57       28.25329  (12101719)              446926.31
3762768.72       32.28815  (12101719)
446983.74   3762774.24       36.92365  (12101719)              447009.00
3762774.05       39.25494  (12020622)
447030.51   3762774.44       41.87796  (12020622)              447055.37
3762774.05       45.08810  (12020622)
447076.88   3762774.24       47.95695  (12020622)              447101.16
3762774.44       51.56100  (15120517)
447123.85   3762774.05       56.18453  (15120517)              447148.12
3762775.03       61.23610  (15120517)
447170.23   3762774.84       65.97822  (15120517)              447196.78
3762775.48       72.87323  (13092722)
447242.12   3762776.57       88.86093  (13092602)              447262.33
3762776.03       99.08433  (15090824)
447294.56   3762776.30      118.01962  (15101223)              447313.13
3762775.48      129.49270  (15090919)
447313.40   3762749.53      143.30016  (15090824)              447327.86
3762713.09      171.21980  (13092602)
447327.36   3762679.87      212.07782  (12110208)              447327.74
3762657.02      245.14435  (12110208)
447327.28   3762636.82      246.73765  (12110208)              447327.51
3762612.90      221.80012  (12110208)
447327.28   3762592.24      188.16778  (14051523)              447327.04
3762569.71      181.43048  (15101024)
447327.28   3762547.89      173.60206  (15100921)              447326.58
3762524.67      163.07499  (15100921)
447326.58   3762506.09      150.88609  (15090904)              447327.51
3762477.53      135.48709  (15090922)
447325.88   3762454.31      121.05030  (13020917)              447225.58
3762432.95       73.30698  (12100204)
447200.27   3762430.63       67.34192  (15090903)              447156.85
3762430.16       58.87840  (15100921)
447131.77   3762430.86       53.47930  (15100921)              447102.74
3762430.63       48.52710  (15101023)
447079.06   3762430.86       45.32411  (15101023)              447034.94
3762433.65       39.80532  (15031424)
446995.47   3762433.65       36.34100  (15101024)              446972.71
3762434.34       34.45407  (15101024)
446941.37   3762434.58       31.85749  (15101024)              446916.06
3762436.90       29.98392  (12020618)
446876.35   3762436.90       27.47084  (12020618)              446848.85
3762647.05       27.49383  (14100421)
446848.85   3762563.17       28.21270  (14011518)              446849.17
3762509.82       27.14021  (14051523)
446849.17   3762455.82       26.41215  (13121117)              446848.85
3762702.00       27.91719  (15090905)
446849.49   3762754.71       27.23178  (15040323)              446739.81
3762428.53       21.09225  (13121117)
446711.81   3762423.61       20.05828  (13121117)              446687.25
3762416.25       19.17654  (13121117)
446662.20   3762412.32       18.39053  (13121117)              446636.17
3762403.97       17.58680  (13121117)
449981.72   3762732.45        3.94003  (12092321)              446486.82
3762231.95       13.24576  (15101024)
446261.97   3762068.01        9.49461  (14022022)              446443.15
3762291.63       12.75886  (12020618)
446071.80   3762055.49        8.02141  (15101024)              446072.08
3761983.13        7.70641  (14022022)
446138.18   3762002.17        8.25798  (14022022)              445884.94
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5AON ***
INCLUDING SOURCE(S): L0000326 , L0000327 , L0000328 , L0000329 , L0000330 ,
L0000331 , L0000332 , L0000333 , L0000334 , L0000335 ,
L0000336 , L0000337 , L0000338 ,
L0000339 , L0000340 , L0000341 , L0000342 , L0000343 ,
L0000344 , L0000345 , L0000346 ,
L0000347 , L0000348 , L0000349 , L0000350 , L0000351 ,
L0000352 , L0000353 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	19.57000	(15083004)	447375.98	3764150.98	21.04481	(15083004)
447389.75	3764043.04	21.39605	(14060204)	447450.16	3764031.05	22.01488	(12082822)
447410.18	3764019.05	21.91938	(12083004)	446891.90	3764451.22	16.50332	(12081001)
446959.28	3764451.22	16.52811	(16082102)	446995.28	3764468.13	16.65057	(16062701)
447007.41	3764467.30	16.80287	(15032722)	447023.51	3764466.09	16.93466	(15032722)
447036.59	3764466.21	16.94316	(15032722)	447052.68	3764465.61	17.00699	(14040923)
447066.60	3764465.73	17.08800	(14040923)	447099.65	3764456.17	17.38111	(12092102)
447145.28	3764468.27	17.36712	(12083006)	447175.54	3764468.03	17.15418	(12083006)
447205.32	3764468.27	17.04015	(14072401)	447232.43	3764467.55	17.49202	(14072401)
447264.02	3764467.30	18.25035	(15062301)	447294.77	3764466.94	18.81900	(13090206)
447364.97	3764456.41	18.82019	(15083004)	447406.61	3764460.65	18.61968	(12082822)
447441.47	3764460.04	19.13132	(12082822)	447466.88	3764460.20	18.96548	(12082822)
447490.00	3764460.56	18.78608	(12102719)	447515.50	3764460.40	18.48596	(12080905)
447573.06	3764454.29	17.81769	(12080905)	447598.49	3764445.22	18.09942	(15092701)
447652.90	3764439.70	19.05742	(12080824)	447692.92	3764439.51	18.66901	(12090802)
447713.82	3764439.11	18.85504	(16102922)	447731.95	3764438.72	18.96881	(16102922)
447751.07	3764438.72	18.81526	(16102922)	447768.82	3764437.53	18.75511	(15090723)
447789.12	3764437.73	18.88391	(13082502)	447805.68	3764437.34	18.86124	(13082502)
447824.02	3764437.20	18.92150	(15101706)	447841.61			

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      3764437.87       18.94535  (16072903)
      447861.72   3764437.53       18.94593  (16072903)               447881.66
      3764435.18       18.95815  (12080823)
      447902.78   3764436.19       18.85822  (12080823)               447920.87
      3764435.35       18.66591  (15092506)
      447942.16   3764435.35       18.56928  (16062624)               447962.77
      3764434.85       18.55501  (16062624)
      447980.70   3764435.18       18.34929  (16062624)               448004.66
      3764435.18       17.99889  (13012418)
      448021.25   3764434.68       17.64247  (13012418)               447662.70
      3764379.63       20.10093  (12090802)
      447681.30   3764320.98       20.63918  (16102922)               447682.64
      3764285.79       20.59180  (16102922)
      447662.53   3764238.37       20.60851  (12090802)               447661.70
      3764207.37       20.47961  (12090506)
      447683.14   3764162.29       20.49799  (13070104)               447680.97
      3764145.87       20.45208  (13070104)
      447679.63   3764130.28       20.36774  (13070104)               447680.80
      3764112.02       20.29652  (13070104)
      447681.47   3764096.43       20.36070  (13070104)               447680.80
      3764078.84       20.54384  (13070104)
      447679.96   3764064.26       20.81617  (13070104)               447680.97
      3764045.82       21.23429  (15090723)
      447680.63   3764029.74       21.64011  (15090723)               447657.17
      3763992.03       22.31168  (13070104)
      447656.33   3763967.06       23.01687  (13070104)               447657.17
      3763928.69       23.95978  (13070104)
      447657.17   3763902.21       24.70731  (15090723)               447657.51
      3763869.03       25.31666  (15090723)
      447656.16   3763834.94       26.34598  (15090723)               447655.93
      3763808.27       27.29911  (15090723)
      447657.09   3763786.00       28.07691  (15090723)               447701.21
      3763782.14       27.96942  (16072903)
      447856.92   3763749.71       25.20693  (16062702)               447854.99
      3763730.13       25.50640  (16062702)
      447854.35   3763698.35       25.90041  (16062702)               447855.31
      3763676.84       26.04871  (16062702)
      447675.51   3763287.46       32.61659  (13090201)               448481.33
      3763485.29       18.71025  (12083003)
      448479.95   3763195.53       13.96547  (15090924)               448478.56
      3762907.16       11.74969  (15081321)
      448497.89   3762714.10       11.50850  (12092321)               448507.91
      3762487.71       11.24144  (15082521)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 284
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  5AON     ***
                              INCLUDING SOURCE(S):     L0000326    , L0000327    ,
                              L0000328    , L0000329    , L0000330    ,
               L0000331    , L0000332    , L0000333    , L0000334    , L0000335    ,
               L0000336    , L0000337    , L0000338    ,
               L0000339    , L0000340    , L0000341    , L0000342    , L0000343    ,
               L0000344    , L0000345    , L0000346    ,
               L0000347    , L0000348    , L0000349    , L0000350    , L0000351    ,
               L0000352    , L0000353    ,  . . .      ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                  ** CONC OF OTHER    IN
                                  MICROGRAMS/M**3                          **
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	10.90946	(14091905)	448462.73	3762339.82	11.06974	(15101802)
448464.47	3762265.93	10.89884	(12092023)	448461.57	3762165.17	10.54764	(14051421)
448472.57	3762064.71	9.87078	(15082624)	448460.48	3762016.72	9.83265	(15082623)
448234.63	3761951.18	11.56380	(15102521)	448081.42	3761952.78	13.57733	(13110118)
448025.53	3761955.99	14.49622	(13110118)	447506.75	3761967.63	25.04234	(13050222)
447269.29	3761967.74	24.44487	(14090704)	447389.46	3761908.79	22.67655	(15101301)
447019.14	3761964.34	18.87208	(12091405)	447060.33	3761963.58	19.89809	(12082901)
446975.31	3761963.20	17.91413	(15021220)	446940.92	3761953.76	17.11047	(16102021)
446865.72	3761974.54	16.08336	(12091503)	446795.06	3761957.91	14.61379	(16092702)
446757.65	3761965.85	14.12995	(15090904)	446709.33	3761967.74	13.45106	(15090904)
446796.42	3762028.62	15.60880	(15090904)	446796.97	3762045.28	15.79593	(15090904)
446796.70	3762089.51	16.13160	(16111022)	446796.15	3762105.89	16.36434	(14091405)
446796.70	3762137.29	16.86661	(15090903)	446796.15	3762153.39	17.13047	(15090903)
446772.40	3762215.37	17.26539	(15100921)	446795.06	3762321.03	18.46570	(15101023)
446796.42	3762450.98	19.33510	(14051602)	446796.42	3762471.18	19.44316	(13121117)
446797.24	3762496.03	19.76769	(14051523)	446798.06	3762516.51	19.84884	(14051523)
446797.79	3762539.98	19.71709	(14011518)	446797.52	3762560.19	19.99895	(14011518)
446798.61	3762584.76	20.14857	(16021518)	446798.06	3762604.42	20.21826	(16021518)
446799.70	3762654.11	19.63760	(15031521)	446799.97	3762674.58	19.63921	(15090905)
446800.25	3762700.25	19.96340	(15090905)	446800.25	3762721.27	19.99726	(15090905)
446799.97	3762735.74	19.88462	(15090905)	446797.79	3762748.02	19.64282	(15090905)
446802.16	3762913.47	18.28203	(12020622)	446802.16	3762932.58	18.24473	(15120517)
446802.43	3762949.24	18.17074	(15120517)	446802.98	3762967.26	17.96536	(15120517)
446802.70	3762986.09	17.63009	(13092722)	446802.16	3763003.29	17.50885	(13092722)
446802.16	3763021.86	17.27372	(13092722)	446802.70	3763040.70	17.15791	(13092602)
446802.98	3763059.26	17.06467	(13092602)	446803.52	3763077.01	16.85054	(13092602)
446756.29	3763085.26	15.73639	(13092602)	446807.68	3763646.39	20.50217	(16072804)
446808.32	3763674.66	20.20436	(16072804)	446807.68	3763694.57	20.06621	(15061924)
446808.32	3763710.63	19.98440	(15061924)	446808.32	3763726.37	19.85228	(15061924)
446808.00	3763742.11	19.62183	(15061924)	446808.32	3763756.89	19.45812	(13090723)
446808.64	3763798.32	19.30832	(15082523)	446810.25			

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5AON ***
INCLUDING SOURCE(S): L0000326 , L0000327 , L0000328 , L0000329 , L0000330 ,
L0000331 , L0000332 , L0000333 , L0000334 , L0000335 ,
L0000336 , L0000337 , L0000338 ,
L0000339 , L0000340 , L0000341 , L0000342 , L0000343 ,
L0000344 , L0000345 , L0000346 ,
L0000347 , L0000348 , L0000349 , L0000350 , L0000351 ,
L0000352 , L0000353 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	34.53743	(16061822)	447146.92	3763064.30	33.02948	(16061822)
447149.92	3763038.90	33.01810	(15060921)	447148.56	3763019.78	33.73205	(15060921)
447148.56	3762997.39	34.32672	(15060921)	447206.08	3762958.49	41.53154	(15060921)
447209.33	3762922.51	44.51923	(15092021)	447208.40	3762890.70	46.53128	(15101223)
447145.83	3762888.87	38.00684	(14091521)	447122.55	3762889.07	35.32996	(16110920)
447094.33	3762890.05	32.81924	(16110920)	447071.04	3762890.45	30.92819	(13092722)
447043.61	3762889.66	29.05721	(13092722)	447017.76	3762888.87	27.46729	(15120517)
446992.11	3762889.07	26.12661	(15120517)	446964.28	3762888.28	24.76067	(15120517)
446940.41	3762888.47	23.62961	(15120517)	446911.20	3762888.08	22.31287	(15120517)
446885.35	3762889.66	21.20252	(15120517)	446862.07			

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      3762888.87       20.44179  (12020622)
      446871.45   3762779.57       21.99957  (15032622)               446926.31
      3762768.72       24.45393  (15032622)
      446983.74   3762774.24       27.39577  (15032622)               447009.00
      3762774.05       28.95393  (15032622)
      447030.51   3762774.44       30.41901  (15032622)               447055.37
      3762774.05       32.32530  (15032622)
      447076.88   3762774.24       34.16192  (15032622)               447101.16
      3762774.44       36.50593  (15032622)
      447123.85   3762774.05       39.04939  (15032622)               447148.12
      3762775.03       42.13972  (15032622)
      447170.23   3762774.84       45.49252  (15032622)               447196.78
      3762775.48       51.82417  (12110208)
      447242.12   3762776.57       68.26823  (12110208)               447262.33
      3762776.03       78.86565  (12110208)
      447294.56   3762776.30      102.03781  (12110208)               447313.13
      3762775.48      121.98829  (12110208)
      447313.40   3762749.53      119.56439  (12110208)               447327.86
      3762713.09      117.78234  (14051523)
      447327.36   3762679.87      116.73680  (15100919)               447327.74
      3762657.02      114.33909  (15100919)
      447327.28   3762636.82      112.89921  (15101221)               447327.51
      3762612.90      110.84128  (15101221)
      447327.28   3762592.24      107.49895  (14091405)               447327.04
      3762569.71      105.95054  (13082904)
      447327.28   3762547.89      104.29225  (13090706)               447326.58
      3762524.67      101.79858  (13090706)
      447326.58   3762506.09       99.73694  (13090706)               447327.51
      3762477.53       97.20587  (15090902)
      447325.88   3762454.31       93.59984  (15090902)               447225.58
      3762432.95       54.25315  (15090904)
      447200.27   3762430.63       49.09374  (15090904)               447156.85
      3762430.16       42.59331  (15090903)
      447131.77   3762430.86       39.71591  (15100921)               447102.74
      3762430.63       36.58571  (15100921)
      447079.06   3762430.86       34.06864  (15100921)               447034.94
      3762433.65       30.62075  (15101023)
      446995.47   3762433.65       27.94381  (15100919)               446972.71
      3762434.34       26.64422  (15100919)
      446941.37   3762434.58       25.01360  (14100401)               446916.06
      3762436.90       23.90658  (14100401)
      446876.35   3762436.90       22.13705  (14100401)               446848.85
      3762647.05       21.68178  (16021518)
      446848.85   3762563.17       21.75663  (14011518)               446849.17
      3762509.82       21.65026  (14051523)
      446849.17   3762455.82       21.12926  (14051602)               446848.85
      3762702.00       21.70697  (15090905)
      446849.49   3762754.71       21.26382  (15090905)               446739.81
      3762428.53       17.54806  (14051602)
      446711.81   3762423.61       16.80680  (14051602)               446687.25
      3762416.25       16.18155  (14051602)
      446662.20   3762412.32       15.59840  (14051602)               446636.17
      3762403.97       15.01746  (14051602)
      449981.72   3762732.45        3.74170  (12092321)               446486.82
      3762231.95       11.85753  (14100401)
      446261.97   3762068.01        8.86922  (14022022)               446443.15
      3762291.63       11.43574  (12020618)
      446071.80   3762055.49        7.47843  (15101024)               446072.08
      3761983.13        7.30056  (14022022)
      446138.18   3762002.17        7.77477  (14022022)               445884.94
      3762039.75        6.43908  (15101024)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BBREAT ***
INCLUDING SOURCE(S): 5BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	17.68450	(15062301)	447375.98	3764150.98	18.99707	(15062301)
447389.75	3764043.04	19.53334	(16062805)	447450.16	3764031.05	19.81815	(13090206)
447410.18	3764019.05	19.74139	(15062202)	446891.90	3764451.22	15.43981	(14022020)
446959.28	3764451.22	15.67646	(12081604)	446995.28	3764468.13	15.66928	(13091705)
447007.41	3764467.30	15.74975	(13091705)	447023.51	3764466.09	15.91767	(16062701)
447036.59	3764466.21	15.99946	(16062701)	447052.68	3764465.61	16.04439	(16062701)
447066.60	3764465.73	15.99703	(16062701)	447099.65	3764456.17	16.12794	(15080504)
447145.28	3764468.27	16.28401	(12092102)	447175.54	3764468.03	16.09443	(12092102)
447205.32	3764468.27	15.77976	(16062804)	447232.43	3764467.55	16.11074	(12081106)
447264.02	3764467.30	17.06149	(12081106)	447294.77	3764466.94	17.20701	(12081106)
447364.97	3764456.41	16.83275	(16042402)	447406.61	3764460.65	17.12553	(13090206)
447441.47	3764460.04	17.16535	(13090206)	447466.88	3764460.20	17.20116	(15083004)
447490.00	3764460.56	16.92765	(12081904)	447515.50	3764460.40	16.78450	(13090824)
447573.06	3764454.29	16.81390	(12082822)	447598.49	3764445.22	16.83365	(12102719)
447652.90	3764439.70	17.32308	(12080905)	447692.92	3764439.51	17.47501	(12080905)
447713.82	3764439.11	17.24184	(12080905)	447731.95	3764438.72	17.35991	(15092701)
447751.07	3764438.72	17.49822	(15092701)	447768.82	3764437.53	17.50711	(15092701)
447789.12	3764437.73	17.55771	(12080824)	447805.68	3764437.34	17.53522	(12080824)
447824.02	3764437.20	17.40000	(12070901)	447841.61	3764437.87	17.33550	(12070901)
447861.72	3764437.53	17.15224	(16102922)	447881.66	3764435.18	17.46505	(16102922)
447902.78	3764436.19	17.54407	(16102922)	447920.87	3764435.35	17.44430	(16102922)
447942.16	3764435.35	17.10156	(16102922)	447962.77	3764434.85	16.84133	(13082502)
447980.70	3764435.18	16.89267	(14070405)	448004.66	3764435.18	17.04292	(14070405)
448021.25	3764434.68	16.74899	(14070405)	447662.70	3764379.63	18.36189	(12080905)
447681.30	3764320.98	19.04398	(12080905)	447682.64	3764285.79	19.02466	(12080905)

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       447662.53   3764238.37       19.08948  (12080905)               447661.70
       3764207.37       19.06498  (12080905)
       447683.14   3764162.29       18.94577  (12080905)               447680.97
       3764145.87       18.93686  (12080905)
       447679.63   3764130.28       18.89186  (12080905)               447680.80
       3764112.02       18.84057  (12080905)
       447681.47   3764096.43       18.89480  (12080905)               447680.80
       3764078.84       19.04942  (12080905)
       447679.96   3764064.26       19.26878  (12080905)               447680.97
       3764045.82       19.55414  (12080905)
       447680.63   3764029.74       19.84332  (12080905)               447657.17
       3763992.03       20.47660  (12080905)
       447656.33   3763967.06       21.00931  (12080905)               447657.17
       3763928.69       21.74507  (12080905)
       447657.17   3763902.21       22.28284  (12080905)               447657.51
       3763869.03       22.70539  (12080905)
       447656.16   3763834.94       23.45125  (12080905)               447655.93
       3763808.27       24.14610  (12080905)
       447657.09   3763786.00       24.72483  (12080905)               447701.21
       3763782.14       24.71496  (12080824)
       447856.92   3763749.71       23.39541  (13082502)               447854.99
       3763730.13       23.63347  (13082502)
       447854.35   3763698.35       24.06692  (15101706)               447855.31
       3763676.84       24.36674  (15101706)
       447675.51   3763287.46       34.14641  (13082522)               448481.33
       3763485.29       22.09761  (12081401)
       448479.95   3763195.53       23.48562  (16083105)               448478.56
       3762907.16       23.87463  (12081201)
       448497.89   3762714.10       24.17850  (15082522)               448507.91
       3762487.71       15.82622  (15082923)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 287
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  5BBREAT  ***
                                INCLUDING SOURCE(S):     5BBREAT     ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96       16.74298  (14081724)               448462.73
       3762339.82       17.33119  (15082823)
       448464.47   3762265.93       17.11875  (14073023)               448461.57
       3762165.17       17.09191  (15082521)
       448472.57   3762064.71       15.69114  (15101802)               448460.48
       3762016.72       15.80297  (12092023)
       448234.63   3761951.18       21.00779  (14110518)               448081.42
       3761952.78       27.88843  (12080622)
       448025.53   3761955.99       30.24768  (12080622)               447506.75
       3761967.63       59.01010  (15092103)
       447269.29   3761967.74       41.45715  (15092006)               447389.46
       3761908.79       43.45367  (15090901)
       447019.14   3761964.34       26.35970  (15100921)               447060.33
       3761963.58       27.96965  (15090903)
       446975.31   3761963.20       24.04557  (15100921)               446940.92
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3761953.76       22.32148  (14080302)
446865.72   3761974.54       20.03386  (15101023)                446795.06
3761957.91       17.64646  (14022022)
446757.65   3761965.85       16.75695  (15031424)                446709.33
3761967.74       15.79167  (15101024)
446796.42   3762028.62       18.71879  (15101024)                446796.97
3762045.28       18.77755  (15101024)
446796.70   3762089.51       19.22551  (14011319)                446796.15
3762105.89       19.37349  (14011319)
446796.70   3762137.29       19.80775  (14051523)                446796.15
3762153.39       20.05101  (14051523)
446772.40   3762215.37       19.75517  (14011518)                446795.06
3762321.03       20.44977  (15031521)
446796.42   3762450.98       20.36415  (15032622)                446796.42
3762471.18       20.40646  (15032622)
446797.24   3762496.03       20.11123  (15040323)                446798.06
3762516.51       19.81656  (12101719)
446797.79   3762539.98       19.84118  (12101719)                446797.52
3762560.19       19.52247  (12101719)
446798.61   3762584.76       19.14339  (12020622)                446798.06
3762604.42       18.99101  (12020622)
446799.70   3762654.11       18.32512  (15120517)                446799.97
3762674.58       29.56681  (15062003)
446800.25   3762700.25       30.42379  (15050124)                446800.25
3762721.27       30.39281  (15082801)
446799.97   3762735.74       30.07362  (13051323)                446797.79
3762748.02       29.93060  (16092723)
446802.16   3762913.47       25.88717  (12092322)                446802.16
3762932.58       25.33768  (12092322)
446802.43   3762949.24       24.66681  (12092322)                446802.98
3762967.26       24.16350  (16102419)
446802.70   3762986.09       24.18776  (14091702)                446802.16
3763003.29       24.33427  (14091702)
446802.16   3763021.86       24.31299  (14091702)                446802.70
3763040.70       24.30379  (12101421)
446802.98   3763059.26       24.08022  (12101421)                446803.52
3763077.01       24.05032  (12092801)
446756.29   3763085.26       21.74384  (15082903)                446807.68
3763646.39       20.48408  (15061924)
446808.32   3763674.66       20.36151  (13090723)                446807.68
3763694.57       20.24567  (13090723)
446808.32   3763710.63       20.06961  (13090723)                446808.32
3763726.37       19.85362  (13090723)
446808.00   3763742.11       19.56409  (13090723)                446808.32
3763756.89       19.29922  (15082523)
446808.64   3763798.32       18.91062  (15082523)                446810.25
3764484.08       14.98175  (16072603)
446781.34   3764475.08       14.90939  (12080704)                446722.56
3764455.81       14.75388  (12080704)
446170.32   3764559.79       12.72170  (12092724)                446872.29
3763190.26       27.09149  (13062901)
446925.22   3763179.19       28.18512  (13062901)                446984.86
3763194.88       29.52886  (13082922)
447010.56   3763193.28       30.44205  (13082922)                447036.58
3763193.60       30.87226  (16072804)
447053.61   3763193.28       31.10755  (16072804)                447076.42
3763192.31       32.11838  (13090723)
447093.45   3763192.63       32.98518  (13090723)                447122.05
3763192.63       33.32728  (15082523)
447138.75   3763192.31       33.29910  (15082605)                447167.99
3763192.31       33.71111  (15082605)
447170.68   3763172.18       34.46357  (15082605)                447170.41
3763158.25       34.86350  (15082605)
447169.31   3763144.87       35.41890  (15082605)                447147.46
3763107.45       37.26624  (15082523)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BBREAT ***
INCLUDING SOURCE(S): 5BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	38.11392	(13090723)	447146.92	3763064.30	38.48928	(15061924)
447149.92	3763038.90	38.86014	(15061924)	447148.56	3763019.78	39.27166	(16072804)
447148.56	3762997.39	39.68609	(13082922)	447206.08	3762958.49	42.55814	(15080424)
447209.33	3762922.51	43.20240	(15080424)	447208.40	3762890.70	45.43901	(13082922)
447145.83	3762888.87	42.34121	(16092823)	447122.55	3762889.07	41.14352	(15101401)
447094.33	3762890.05	39.61256	(12081402)	447071.04	3762890.45	38.23896	(15120720)
447043.61	3762889.66	37.35470	(15082702)	447017.76	3762888.87	36.01885	(15082702)
446992.11	3762889.07	34.61163	(12092801)	446964.28	3762888.28	33.72466	(12101421)
446940.41	3762888.47	32.64422	(14091702)	446911.20	3762888.08	30.66751	(14091702)
446885.35	3762889.66	29.33714	(16102419)	446862.07	3762888.87	28.85789	(12092322)
446871.45	3762779.57	32.79604	(15091006)	446926.31	3762768.72	35.78711	(15091006)
446983.74	3762774.24	38.60263	(12092322)	447009.00	3762774.05	39.71420	(12092322)
447030.51	3762774.44	39.44388	(16102419)	447055.37	3762774.05	40.96227	(14091620)
447076.88	3762774.24	42.59640	(15082903)	447101.16	3762774.44	44.85546	(15082903)
447123.85	3762774.05	46.03096	(12092801)	447148.12	3762775.03	48.88276	(15082702)
447170.23	3762774.84	50.75981	(15120720)	447196.78	3762775.48	53.04306	(12081402)
447242.12	3762776.57	56.49335	(16092823)	447262.33	3762776.03	58.31144	(12071303)
447294.56	3762776.30	59.99719	(15082502)	447313.13	3762775.48	62.59259	(15080424)
447313.40	3762749.53	65.81925	(15080424)	447327.86	3762713.09	72.83644	(12071303)
447327.36	3762679.87	48.71440	(14120720)	447327.74	3762657.02	52.30623	(15060921)
447327.28	3762636.82	55.90806	(15060921)	447327.51	3762612.90	59.34848	(15092021)
447327.28	3762592.24	64.16934	(15092021)	447327.04	3762569.71	68.28948	(15090919)
447327.28	3762547.89	73.39309	(15101223)	447326.58	3762524.67	78.60846	(15090824)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BLOAD ***
INCLUDING SOURCE(S): 5BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447326.58	3762506.09	80.40299	(15090824)	447327.51	3762477.53	86.81545	(13092602)
447325.88	3762454.31	91.52252	(15120517)	447225.58	3762432.95	62.62031	(12101719)
447200.27	3762430.63	57.11596	(12101719)	447156.85	3762430.16	48.61764	(12101719)
447131.77	3762430.86	44.85094	(15040323)	447102.74	3762430.63	41.24991	(15040323)
447079.06	3762430.86	38.64677	(15032622)	447034.94	3762433.65	34.36773	(15032622)
446995.47	3762433.65	31.16439	(15032622)	446972.71	3762434.34	29.50256	(15032622)
446941.37	3762434.58	27.41834	(15032622)	446916.06	3762436.90	25.90718	(15032622)
446876.35	3762436.90	23.75349	(15032622)	446848.85	3762647.05	20.07836	(15120517)
446848.85	3762563.17	21.05542	(12020622)	446849.17	3762509.82	21.90516	(12101719)
446849.17	3762455.82	22.58211	(15032622)	446848.85	3762702.00	32.87606	(15082801)
446849.49	3762754.71	32.16156	(16092723)	446739.81	3762428.53	18.77499	(15090905)
446711.81	3762423.61	18.02569	(15090905)	446687.25	3762416.25	17.39837	(15090905)
446662.20	3762412.32	16.74125	(15090905)	446636.17	3762403.97	16.06672	(15090905)
449981.72	3762732.45	4.17130	(15082923)	446486.82	3762231.95	13.07350	(16021518)
446261.97	3762068.01	9.53915	(14051523)	446443.15	3762291.63	12.18471	(15031521)
446071.80	3762055.49	7.91918	(14120121)	446072.08	3761983.13	7.87845	(14051523)
446138.18	3762002.17	8.41544	(14051523)	445884.94	3762039.75	6.73348	(14120121)
447362.21	3764292.67	17.68440	(15062301)	447375.98	3764150.98	18.99697	(15062301)
447389.75	3764043.04	19.53325	(16062805)	447450.16	3764031.05	19.81806	(13090206)
447410.18	3764019.05	19.74130	(15062202)	446891.90	3764451.22	15.43971	(14022020)
446959.28	3764451.22	15.67637	(12081604)	446995.28	3764468.13	15.66906	(13091705)
447007.41	3764467.30	15.74953	(13091705)	447023.51	3764466.09	15.91757	(16062701)
447036.59	3764466.21	15.99936	(16062701)	447052.68			

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3764465.61      16.04429  (16062701)
447066.60  3764465.73      15.99693  (16062701)              447099.65
3764456.17      16.12784  (15080504)
447145.28  3764468.27      16.28391  (12092102)              447175.54
3764468.03      16.09434  (12092102)
447205.32  3764468.27      15.77967  (16062804)              447232.43
3764467.55      16.11064  (12081106)
447264.02  3764467.30      17.06137  (12081106)              447294.77
3764466.94      17.20689  (12081106)
447364.97  3764456.41      16.83243  (16042402)              447406.61
3764460.65      17.12542  (13090206)
447441.47  3764460.04      17.16524  (13090206)              447466.88
3764460.20      17.20105  (15083004)
447490.00  3764460.56      16.92754  (12081904)              447515.50
3764460.40      16.78439  (13090824)
447573.06  3764454.29      16.81380  (12082822)              447598.49
3764445.22      16.83355  (12102719)
447652.90  3764439.70      17.32297  (12080905)              447692.92
3764439.51      17.47489  (12080905)
447713.82  3764439.11      17.24173  (12080905)              447731.95
3764438.72      17.35979  (15092701)
447751.07  3764438.72      17.49810  (15092701)              447768.82
3764437.53      17.50699  (15092701)
447789.12  3764437.73      17.55760  (12080824)              447805.68
3764437.34      17.53510  (12080824)
447824.02  3764437.20      17.39988  (12070901)              447841.61
3764437.87      17.33538  (12070901)
447861.72  3764437.53      17.15213  (16102922)              447881.66
3764435.18      17.46494  (16102922)
447902.78  3764436.19      17.54395  (16102922)              447920.87
3764435.35      17.44418  (16102922)
447942.16  3764435.35      17.10145  (16102922)              447962.77
3764434.85      16.84123  (13082502)
447980.70  3764435.18      16.89255  (14070405)              448004.66
3764435.18      17.04280  (14070405)
448021.25  3764434.68      16.74888  (14070405)              447662.70
3764379.63      18.36176  (12080905)
447681.30  3764320.98      19.04385  (12080905)              447682.64
3764285.79      19.02453  (12080905)
447662.53  3764238.37      19.08937  (12080905)              447661.70
3764207.37      19.06487  (12080905)
447683.14  3764162.29      18.94567  (12080905)              447680.97
3764145.87      18.93677  (12080905)
447679.63  3764130.28      18.89177  (12080905)              447680.80
3764112.02      18.84049  (12080905)
447681.47  3764096.43      18.89472  (12080905)              447680.80
3764078.84      19.04934  (12080905)
447679.96  3764064.26      19.26870  (12080905)              447680.97
3764045.82      19.55406  (12080905)
447680.63  3764029.74      19.84324  (12080905)              447657.17
3763992.03      20.47651  (12080905)
447656.33  3763967.06      21.00921  (12080905)              447657.17
3763928.69      21.74498  (12080905)
447657.17  3763902.21      22.28274  (12080905)              447657.51
3763869.03      22.70529  (12080905)
447656.16  3763834.94      23.45114  (12080905)              447655.93
3763808.27      24.14599  (12080905)
447657.09  3763786.00      24.72472  (12080905)              447701.21
3763782.14      24.71485  (12080824)
447856.92  3763749.71      23.39531  (13082502)              447854.99
3763730.13      23.63338  (13082502)
447854.35  3763698.35      24.06683  (15101706)              447855.31
3763676.84      24.36665  (15101706)
447675.51  3763287.46      34.14635  (13082522)              448481.33
3763485.29      22.09754  (12081401)
448479.95  3763195.53      23.48558  (16083105)              448478.56
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BLOAD ***
INCLUDING SOURCE(S): 5BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	16.74289	(14081724)	448462.73	3762339.82	17.33110	(15082823)
448464.47	3762265.93	17.11866	(14073023)	448461.57	3762165.17	17.09183	(15082521)
448472.57	3762064.71	15.69106	(15101802)	448460.48	3762016.72	15.80288	(12092023)
448234.63	3761951.18	21.00769	(14110518)	448081.42	3761952.78	27.88829	(12080622)
448025.53	3761955.99	30.24753	(12080622)	447506.75	3761967.63	59.00979	(15092103)
447269.29	3761967.74	41.45693	(15092006)	447389.46	3761908.79	43.45344	(15090901)
447019.14	3761964.34	26.35957	(15100921)	447060.33	3761963.58	27.96950	(15090903)
446975.31	3761963.20	24.04545	(15100921)	446940.92	3761953.76	22.32136	(14080302)
446865.72	3761974.54	20.03374	(15101023)	446795.06	3761957.91	17.64622	(14022022)
446757.65	3761965.85	16.75686	(15031424)	446709.33	3761967.74	15.79160	(15101024)
446796.42	3762028.62	18.71871	(15101024)	446796.97	3762045.28	18.77747	(15101024)
446796.70	3762089.51	19.22542	(14011319)	446796.15	3762105.89	19.37340	(14011319)
446796.70	3762137.29	19.80764	(14051523)	446796.15	3762153.39	20.05090	(14051523)
446772.40	3762215.37	19.75507	(14011518)	446795.06	3762321.03	20.44968	(15031521)
446796.42	3762450.98	20.36405	(15032622)	446796.42	3762471.18	20.40636	(15032622)
446797.24	3762496.03	20.11106	(15040323)	446798.06	3762516.51	19.81648	(12101719)
446797.79	3762539.98	19.84110	(12101719)	446797.52	3762560.19	19.52239	(12101719)
446798.61	3762584.76	19.14311	(12020622)	446798.06	3762604.42	18.99074	(12020622)
446799.70	3762654.11	18.32504	(15120517)	446799.97	3762674.58	29.56693	(15062003)
446800.25	3762700.25	30.42388	(15050124)	446800.25	3762721.27	30.39293	(15082801)
446799.97	3762735.74	30.07373	(13051323)	446797.79	3762748.02	29.93070	(16092723)

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       446802.16   3762913.47       25.88720  (12092322)               446802.16
       3762932.58        25.33771  (12092322)
       446802.43   3762949.24       24.66685  (12092322)               446802.98
       3762967.26        24.16363  (16102419)
       446802.70   3762986.09       24.18788  (14091702)               446802.16
       3763003.29        24.33438  (14091702)
       446802.16   3763021.86       24.31308  (14091702)               446802.70
       3763040.70        24.30383  (12101421)
       446802.98   3763059.26       24.08026  (12101421)               446803.52
       3763077.01        24.05035  (12092801)
       446756.29   3763085.26       21.74387  (15082903)               446807.68
       3763646.39        20.48401  (15061924)
       446808.32   3763674.66       20.36145  (13090723)               446807.68
       3763694.57        20.24561  (13090723)
       446808.32   3763710.63       20.06954  (13090723)               446808.32
       3763726.37        19.85355  (13090723)
       446808.00   3763742.11       19.56402  (13090723)               446808.32
       3763756.89        19.29915  (15082523)
       446808.64   3763798.32       18.91055  (15082523)               446810.25
       3764484.08        14.98166  (16072603)
       446781.34   3764475.08       14.90930  (12080704)               446722.56
       3764455.81        14.75379  (12080704)
       446170.32   3764559.79       12.72162  (12092724)               446872.29
       3763190.26        27.09147  (13062901)
       446925.22   3763179.19       28.18510  (13062901)               446984.86
       3763194.88        29.52883  (13082922)
       447010.56   3763193.28       30.44202  (13082922)               447036.58
       3763193.60        30.87223  (16072804)
       447053.61   3763193.28       31.10752  (16072804)               447076.42
       3763192.31        32.11834  (13090723)
       447093.45   3763192.63       32.98514  (13090723)               447122.05
       3763192.63        33.32723  (15082523)
       447138.75   3763192.31       33.29905  (15082605)               447167.99
       3763192.31        33.71107  (15082605)
       447170.68   3763172.18       34.46353  (15082605)               447170.41
       3763158.25        34.86346  (15082605)
       447169.31   3763144.87       35.41886  (15082605)               447147.46
       3763107.45        37.26619  (15082523)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 291
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  5BLOAD   ***
                                INCLUDING SOURCE(S):     5BLOAD      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       447146.64   3763084.24       38.11389  (13090723)               447146.92
       3763064.30        38.48925  (15061924)
       447149.92   3763038.90       38.86012  (15061924)               447148.56
       3763019.78        39.27167  (16072804)
       447148.56   3762997.39       39.68610  (13082922)               447206.08
       3762958.49        42.55816  (15080424)
       447209.33   3762922.51       43.20245  (15080424)               447208.40
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3762890.70 45.43913 (13082922)
447145.83 3762888.87 42.34122 (16092823) 447122.55
3762889.07 41.14353 (15101401)
447094.33 3762890.05 39.61258 (12081402) 447071.04
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447043.61 3762889.66 37.35479 (15082702) 447017.76
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446885.35 3762889.66 29.33725 (16102419) 446862.07
3762888.87 28.85791 (12092322)
446871.45 3762779.57 32.79607 (15091006) 446926.31
3762768.72 35.78714 (15091006)
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3762524.67 78.60808 (15090824)
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3762432.95 62.62004 (12101719)
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3762433.65 34.36755 (15032622)
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3762434.34 29.50241 (15032622)
446941.37 3762434.58 27.41820 (15032622) 446916.06
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446849.49 3762754.71 32.16166 (16092723) 446739.81
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446711.81 3762423.61 18.02559 (15090905) 446687.25
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446662.20 3762412.32 16.74116 (15090905) 446636.17
3762403.97 16.06663 (15090905)
449981.72 3762732.45 4.17128 (15082923) 446486.82

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BREF ***
INCLUDING SOURCE(S): 5BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	22.84449	(14072401)	447375.98	3764150.98	24.41021	(14072401)
447389.75	3764043.04	24.67056	(16062805)	447450.16	3764031.05	24.64311	(15062202)
447410.18	3764019.05	25.01808	(16062805)	446891.90	3764451.22	20.05031	(15062904)
446959.28	3764451.22	20.43122	(12081001)	446995.28	3764468.13	20.41524	(12081604)
447007.41	3764467.30	20.46391	(16082102)	447023.51	3764466.09	20.55739	(16082102)
447036.59	3764466.21	20.48346	(16062701)	447052.68	3764465.61	20.79267	(16062701)
447066.60	3764465.73	20.85531	(16062701)	447099.65	3764456.17	21.15588	(12071001)
447145.28	3764468.27	20.99031	(14040923)	447175.54	3764468.03	20.86434	(12092102)
447205.32	3764468.27	20.43382	(16062804)	447232.43	3764467.55	21.02672	(12083006)
447264.02	3764467.30	21.98290	(12081106)	447294.77	3764466.94	22.70854	(12081106)
447364.97	3764456.41	22.34359	(15062301)	447406.61	3764460.65	22.23735	(15062202)
447441.47	3764460.04	22.72455	(13090206)	447466.88	3764460.20	22.65241	(15083004)
447490.00	3764460.56	22.35288	(15083004)	447515.50	3764460.40	21.73236	(14060204)
447573.06	3764454.29	21.98277	(12082822)	447598.49	3764445.22	22.16402	(12082822)
447652.90	3764439.70	22.44959	(16092024)	447692.92	3764439.51	23.08301	(12080905)
447713.82	3764439.11	22.82579	(12080905)	447731.95	3764438.72	22.19535	(12080905)
447751.07	3764438.72	22.83006	(15092701)	447768.82	3764437.53	23.09009	(15092701)
447789.12	3764437.73	23.25679	(12080824)	447805.68	3764437.34	23.44234	(12080824)
447824.02	3764437.20	23.18446	(12080824)	447841.61	3764437.87	23.16861	(12090802)

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       447861.72   3764437.53       22.80696  (12090802)               447881.66
       3764435.18       22.52670  (12090506)
       447902.78   3764436.19       23.06930  (16102922)               447920.87
       3764435.35       23.09722  (16102922)
       447942.16   3764435.35       22.57582  (15090723)               447962.77
       3764434.85       22.50729  (15090723)
       447980.70   3764435.18       22.56007  (13082502)               448004.66
       3764435.18       22.27694  (13082502)
       448021.25   3764434.68       21.98801  (15101706)               447662.70
       3764379.63       23.84655  (12080905)
       447681.30   3764320.98       25.18062  (12080905)               447682.64
       3764285.79       24.98451  (12080905)
       447662.53   3764238.37       24.46973  (12080905)               447661.70
       3764207.37       24.24056  (12080905)
       447683.14   3764162.29       24.10771  (12080905)               447680.97
       3764145.87       23.95195  (12080905)
       447679.63   3764130.28       23.78690  (14082624)               447680.80
       3764112.02       23.62725  (14082624)
       447681.47   3764096.43       23.64595  (14082624)               447680.80
       3764078.84       23.80453  (14082624)
       447679.96   3764064.26       24.08241  (14082624)               447680.97
       3764045.82       24.46649  (14082624)
       447680.63   3764029.74       24.85393  (14082624)               447657.17
       3763992.03       25.33144  (14082624)
       447656.33   3763967.06       26.04465  (14082624)               447657.17
       3763928.69       27.04247  (14082624)
       447657.17   3763902.21       27.76188  (14082624)               447657.51
       3763869.03       28.24771  (14082624)
       447656.16   3763834.94       29.21291  (14082624)               447655.93
       3763808.27       30.16312  (14082624)
       447657.09   3763786.00       30.98100  (14082624)               447701.21
       3763782.14       30.26792  (15092701)
       447856.92   3763749.71       29.15393  (13082502)               447854.99
       3763730.13       29.36854  (13082502)
       447854.35   3763698.35       29.65817  (13082502)               447855.31
       3763676.84       29.76164  (13082502)
       447675.51   3763287.46       38.94861  (13082522)               448481.33
       3763485.29       27.25966  (13061101)
       448479.95   3763195.53       26.95813  (12070924)               448478.56
       3762907.16       26.45834  (13090323)
       448497.89   3762714.10       24.69237  (16072623)               448507.91
       3762487.71       22.83564  (15082923)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 293
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  5BREF    ***
                               INCLUDING SOURCE(S):     5BREF       ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96       24.26273  (15082823)               448462.73
       3762339.82       24.91187  (15082823)
       448464.47   3762265.93       24.62680  (14073023)               448461.57
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446781.34 3764475.08 19.60980 (12080704) 446722.56
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3763194.88 31.85098 (13052304)
447010.56 3763193.28 33.91225 (12071303) 447036.58

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BREF ***
INCLUDING SOURCE(S): 5BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	41.91486	(16061822)	447146.92	3763064.30	41.63615	(16061822)
447149.92	3763038.90	41.97221	(12120303)	447148.56	3763019.78	42.37217	(15030520)
447148.56	3762997.39	42.30771	(12071303)	447206.08	3762958.49	44.09277	(15030520)
447209.33	3762922.51	45.14449	(15030520)	447208.40	3762890.70	46.06136	(14120720)
447145.83	3762888.87	43.93393	(15060921)	447122.55	3762889.07	41.70047	(15060921)
447094.33	3762890.05	39.11729	(15120720)	447071.04	3762890.45	38.79437	(15092021)
447043.61	3762889.66	38.26576	(14100721)	447017.76	3762888.87	37.27904	(14100721)
446992.11	3762889.07	35.83425	(14091620)	446964.28	3762888.28	35.11551	(14091620)
446940.41	3762888.47	33.38667	(15101223)	446911.20	3762888.08	31.92138	(14091521)
446885.35	3762889.66	30.95542	(14091521)	446862.07	3762888.87	29.56478	(14091521)
446871.45	3762779.57	33.24870	(16110920)	446926.31	3762768.72	35.69795	(16110920)
446983.74	3762774.24	37.50543	(16092605)	447009.00	3762774.05	40.30121	(14091521)
447030.51	3762774.44	40.96656	(14091521)	447055.37	3762774.05	41.56738	(14091521)
447076.88	3762774.24	43.13334	(15101223)	447101.16	3762774.44	45.44452	(14091620)
447123.85	3762774.05	46.86141	(14100721)	447148.12	3762775.03	50.10561	(14100721)
447170.23	3762774.84	51.43803	(15092021)	447196.78	3762775.48	52.23290	(15092021)
447242.12	3762776.57	58.40216	(15060921)	447262.33	3762776.03	60.08400	(15062722)

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      447294.56   3762776.30       60.74236  (14120720)               447313.13
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      447313.40   3762749.53       66.81084  (14120720)               447327.86
      3762713.09       73.46555  (14120720)
      447327.36   3762679.87       69.67997  (15060921)               447327.74
      3762657.02       74.43714  (15060921)
      447327.28   3762636.82       77.65002  (15092021)               447327.51
      3762612.90       85.10480  (15092021)
      447327.28   3762592.24       89.53469  (15090919)               447327.04
      3762569.71       96.16697  (15101223)
      447327.28   3762547.89      101.81278  (15090824)               447326.58
      3762524.67      103.74144  (16112718)
      447326.58   3762506.09      109.99696  (13092602)               447327.51
      3762477.53      116.12564  (14051202)
      447325.88   3762454.31      122.72428  (14022724)               447225.58
      3762432.95       82.87925  (12101719)
      447200.27   3762430.63       76.30456  (15040323)               447156.85
      3762430.16       66.38349  (15032622)
      447131.77   3762430.86       61.49414  (15032622)               447102.74
      3762430.63       56.38742  (15032622)
      447079.06   3762430.86       52.58194  (15032622)               447034.94
      3762433.65       46.47836  (15032622)
      446995.47   3762433.65       41.66860  (15032622)               446972.71
      3762434.34       39.24229  (15032622)
      446941.37   3762434.58       36.52258  (15090905)               446916.06
      3762436.90       34.66594  (15090905)
      446876.35   3762436.90       32.40086  (15090905)               446848.85
      3762647.05       27.69377  (14022724)
      446848.85   3762563.17       29.56082  (12101719)               446849.17
      3762509.82       30.13042  (15040323)
      446849.17   3762455.82       30.44217  (15032622)               446848.85
      3762702.00       33.00570  (12112420)
      446849.49   3762754.71       32.33405  (13092722)               446739.81
      3762428.53       26.17048  (15090905)
      446711.81   3762423.61       25.03791  (15090905)               446687.25
      3762416.25       23.98425  (15090905)
      446662.20   3762412.32       22.94250  (15090905)               446636.17
      3762403.97       21.72304  (15090905)
      449981.72   3762732.45        6.00272  (12100120)               446486.82
      3762231.95       18.04744  (14011518)
      446261.97   3762068.01       13.28976  (14051523)               446443.15
      3762291.63       17.06014  (15031521)
      446071.80   3762055.49       11.03526  (13121806)               446072.08
      3761983.13       10.98481  (15031523)
      446138.18   3762002.17       11.70193  (15031523)               445884.94
      3762039.75        9.44981  (14120121)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 295
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  5BSPILL  ***
                                INCLUDING SOURCE(S):     5BSPILL     ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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447362.21	3764292.67	27.72310	(14072401)	447375.98
3764150.98	29.56331	(14072401)		
447389.75	3764043.04	29.66627	(16062805)	447450.16
3764031.05	29.56822	(15062202)		
447410.18	3764019.05	30.16674	(16062805)	446891.90
3764451.22	24.44664	(15062904)		
446959.28	3764451.22	24.83024	(12081001)	446995.28
3764468.13	24.81653	(12081604)		
447007.41	3764467.30	24.97772	(16082102)	447023.51
3764466.09	25.10615	(16082102)		
447036.59	3764466.21	24.83387	(16082102)	447052.68
3764465.61	25.30711	(16062701)		
447066.60	3764465.73	25.35893	(16062701)	447099.65
3764456.17	25.85246	(15032722)		
447145.28	3764468.27	25.56669	(14040923)	447175.54
3764468.03	25.36958	(12092102)		
447205.32	3764468.27	24.86116	(12080203)	447232.43
3764467.55	25.64834	(12083006)		
447264.02	3764467.30	26.74737	(12083006)	447294.77
3764466.94	27.72059	(12081106)		
447364.97	3764456.41	27.37502	(15062301)	447406.61
3764460.65	27.24908	(15062202)		
447441.47	3764460.04	27.79123	(13090206)	447466.88
3764460.20	27.69354	(15083004)		
447490.00	3764460.56	27.20994	(15083004)	447515.50
3764460.40	26.61313	(14060204)		
447573.06	3764454.29	26.79601	(12082822)	447598.49
3764445.22	26.98856	(12082822)		
447652.90	3764439.70	27.50601	(16092024)	447692.92
3764439.51	28.23450	(12080905)		
447713.82	3764439.11	27.73504	(12080905)	447731.95
3764438.72	27.12881	(15051420)		
447751.07	3764438.72	27.78845	(15092701)	447768.82
3764437.53	28.22329	(15092701)		
447789.12	3764437.73	28.43923	(12080824)	447805.68
3764437.34	28.76397	(12080824)		
447824.02	3764437.20	28.25726	(12080824)	447841.61
3764437.87	28.43580	(12090802)		
447861.72	3764437.53	27.78379	(12090802)	447881.66
3764435.18	27.69189	(12090506)		
447902.78	3764436.19	28.16810	(16102922)	447920.87
3764435.35	28.24167	(16102922)		
447942.16	3764435.35	27.71613	(15090723)	447962.77
3764434.85	27.61578	(15090723)		
447980.70	3764435.18	27.68962	(13082502)	448004.66
3764435.18	27.26204	(13082502)		
448021.25	3764434.68	26.94358	(15101706)	447662.70
3764379.63	28.97530	(16092024)		
447681.30	3764320.98	30.80657	(12080905)	447682.64
3764285.79	30.49810	(12080905)		
447662.53	3764238.37	29.55153	(12080905)	447661.70
3764207.37	29.20385	(12080905)		
447683.14	3764162.29	29.12715	(14082624)	447680.97
3764145.87	28.94481	(14082624)		
447679.63	3764130.28	28.69509	(14082624)	447680.80
3764112.02	28.43435	(14082624)		
447681.47	3764096.43	28.41616	(14082624)	447680.80
3764078.84	28.58301	(14082624)		
447679.96	3764064.26	28.91700	(14082624)	447680.97
3764045.82	29.37051	(14082624)		
447680.63	3764029.74	29.84080	(14082624)	447657.17
3763992.03	30.33305	(14082624)		
447656.33	3763967.06	31.21443	(14082624)	447657.17
3763928.69	32.45568	(14082624)		
447657.17	3763902.21	33.34255	(14082624)	447657.51

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5BSPILL ***
INCLUDING SOURCE(S): 5BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	30.17697	(15082823)	448462.73	3762339.82	30.96227	(14082723)
448464.47	3762265.93	30.63233	(14073023)	448461.57	3762165.17	29.98303	(16072724)
448472.57	3762064.71	27.75555	(15101802)	448460.48	3762016.72	28.06116	(15082520)
448234.63	3761951.18	37.52085	(15082623)	448081.42	3761952.78	48.05962	(13083101)
448025.53	3761955.99	52.77117	(15102521)	447506.75	3761967.63	96.56237	(15090923)
447269.29	3761967.74	68.13089	(16092006)	447389.46	3761908.79	71.60877	(13083002)
447019.14	3761964.34	44.53869	(15100921)	447060.33	3761963.58	46.88878	(15090903)
446975.31	3761963.20	40.55655	(15101102)	446940.92	3761953.76	37.86823	(14080302)
446865.72	3761974.54	34.16640	(15021322)	446795.06	3761957.91	30.02283	(14022022)
446757.65	3761965.85	28.55834	(16021805)	446709.33	3761967.74	26.86110	(13011919)
446796.42	3762028.62	32.16861	(15101024)	446796.97	3762045.28	32.24032	(15101024)
446796.70	3762089.51	32.78743	(12020618)	446796.15	3762105.89	33.26761	(14011319)
446796.70	3762137.29	33.87914	(13121117)	446796.15	3762153.39	34.19800	(15031523)
446772.40	3762215.37	33.28903	(14120121)	446795.06	3762321.03	35.33715	(15031521)
446796.42	3762450.98	33.84127	(13022424)	446796.42	3762471.18	34.46411	(15032622)

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      446797.24   3762496.03       34.86673  (15032622)               446798.06
      3762516.51       34.19753  (15040323)
      446797.79   3762539.98       33.62222  (16122321)               446797.52
      3762560.19       34.19528  (12101719)
      446798.61   3762584.76       32.63977  (12101719)               446798.06
      3762604.42       32.52484  (12020622)
      446799.70   3762654.11       31.77503  (16112103)               446799.97
      3762674.58       31.89556  (16102407)
      446800.25   3762700.25       33.95988  (16112007)               446800.25
      3762721.27       33.77304  (14051202)
      446799.97   3762735.74       33.61839  (14051202)               446797.79
      3762748.02       32.94911  (13092722)
      446802.16   3762913.47       27.01375  (14091521)               446802.16
      3762932.58       27.95059  (14091521)
      446802.43   3762949.24       28.19833  (14091521)               446802.98
      3762967.26       27.85501  (14091521)
      446802.70   3762986.09       27.71029  (15090824)               446802.16
      3763003.29       28.13899  (15101223)
      446802.16   3763021.86       28.16977  (15101223)               446802.70
      3763040.70       28.08577  (14091620)
      446802.98   3763059.26       27.88146  (14091620)               446803.52
      3763077.01       28.25264  (14100721)
      446756.29   3763085.26       24.39185  (14091620)               446807.68
      3763646.39       28.85263  (14060102)
      446808.32   3763674.66       28.87451  (15061924)               446807.68
      3763694.57       28.82517  (15061924)
      446808.32   3763710.63       28.48143  (15061924)               446808.32
      3763726.37       28.31639  (13090723)
      446808.00   3763742.11       28.11980  (13090723)               446808.32
      3763756.89       27.83318  (13090723)
      446808.64   3763798.32       27.76673  (15082523)               446810.25
      3764484.08       23.60427  (13062605)
      446781.34   3764475.08       23.89361  (12080704)               446722.56
      3764455.81       23.01876  (14080203)
      446170.32   3764559.79       20.03722  (14081603)               446872.29
      3763190.26       34.52713  (12081402)
      446925.22   3763179.19       37.06378  (16092823)               446984.86
      3763194.88       36.57471  (13052304)
      447010.56   3763193.28       39.02088  (12071303)               447036.58
      3763193.60       39.35426  (15030520)
      447053.61   3763193.28       40.00503  (12120303)               447076.42
      3763192.31       41.05765  (16061822)
      447093.45   3763192.63       42.98691  (16061822)               447122.05
      3763192.63       42.21353  (16083006)
      447138.75   3763192.31       42.64936  (12071304)               447167.99
      3763192.31       42.99098  (14070305)
      447170.68   3763172.18       43.67142  (15071922)               447170.41
      3763158.25       43.94491  (15071922)
      447169.31   3763144.87       44.69413  (12071304)               447147.46
      3763107.45       48.14198  (16061822)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 297
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  5BSPILL  ***
                              INCLUDING SOURCE(S):     5BSPILL     ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                        **
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	48.62155	(16061822)	447146.92	3763064.30	47.99580	(12120303)
447149.92	3763038.90	48.15957	(12120303)	447148.56	3763019.78	48.87210	(15030520)
447148.56	3762997.39	48.11498	(15030520)	447206.08	3762958.49	49.37214	(15030520)
447209.33	3762922.51	50.13702	(15030520)	447208.40	3762890.70	52.44291	(14120720)
447145.83	3762888.87	49.86529	(15060921)	447122.55	3762889.07	46.80351	(15060921)
447094.33	3762890.05	43.98890	(15092021)	447071.04	3762890.45	44.51350	(15092021)
447043.61	3762889.66	43.06622	(14100721)	447017.76	3762888.87	42.09365	(14100721)
446992.11	3762889.07	39.83337	(14120719)	446964.28	3762888.28	39.05149	(15101223)
446940.41	3762888.47	37.97277	(15101223)	446911.20	3762888.08	35.52947	(14091521)
446885.35	3762889.66	34.50928	(14091521)	446862.07	3762888.87	32.68502	(14091521)
446871.45	3762779.57	36.68412	(16110920)	446926.31	3762768.72	39.70232	(13092602)
446983.74	3762774.24	40.71246	(16092605)	447009.00	3762774.05	44.31957	(14091521)
447030.51	3762774.44	44.97441	(14091521)	447055.37	3762774.05	46.03896	(15090824)
447076.88	3762774.24	47.97033	(15101223)	447101.16	3762774.44	50.47574	(15101223)
447123.85	3762774.05	52.11731	(14120719)	447148.12	3762775.03	55.72819	(14100721)
447170.23	3762774.84	58.45602	(15092021)	447196.78	3762775.48	58.64423	(15092021)
447242.12	3762776.57	65.34872	(15060921)	447262.33	3762776.03	65.62934	(15062722)
447294.56	3762776.30	67.79901	(14120720)	447313.13	3762775.48	69.30757	(15031223)
447313.40	3762749.53	74.63589	(14120720)	447327.86	3762713.09	81.60429	(14120720)
447327.36	3762679.87	85.94448	(15060921)	447327.74	3762657.02	91.95018	(15060921)
447327.28	3762636.82	94.86721	(12122017)	447327.51	3762612.90	105.43897	(15092021)
447327.28	3762592.24	110.92650	(15090919)	447327.04	3762569.71	118.90415	(15101223)
447327.28	3762547.89	125.40792	(15090824)	447326.58	3762524.67	127.81374	(16112718)
447326.58	3762506.09	135.69557	(13092602)	447327.51	3762477.53	143.17190	(14051202)
447325.88	3762454.31	151.82353	(14022724)	447225.58	3762432.95	101.59109	(12101719)
447200.27	3762430.63	94.35103	(15040323)	447156.85	3762430.16	82.22295	(15032622)
447131.77	3762430.86	76.29269	(15032622)	447102.74	3762430.63	69.92326	(15032622)
447079.06	3762430.86	65.07550	(15032622)	447034.94	3762433.65	57.31241	(15032622)
446995.47	3762433.65	50.98024	(15032622)	446972.71	3762434.34	47.95952	(15112622)
446941.37	3762434.58	44.92002	(13022424)	446916.06	3762436.90	42.59363	(13022424)
446876.35	3762436.90	39.51638	(15090905)	446848.85			

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CBRE ***
INCLUDING SOURCE(S): 5CBRE ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	18.72934	(14072401)	447375.98	3764150.98	20.22607	(14072401)
447389.75	3764043.04	20.80241	(14072401)	447450.16	3764031.05	20.93329	(15062202)
447410.18	3764019.05	20.97406	(14072401)	446891.90	3764451.22	16.08728	(16072603)
446959.28	3764451.22	16.36253	(12081001)	446995.28	3764468.13	16.51783	(12081001)
447007.41	3764467.30	16.55070	(12081604)	447023.51	3764466.09	16.62557	(12081604)
447036.59	3764466.21	16.58892	(12081604)	447052.68	3764465.61	16.61314	(13091705)
447066.60	3764465.73	16.72124	(16062701)	447099.65	3764456.17	17.06813	(16062701)
447145.28	3764468.27	16.89308	(12071001)	447175.54	3764468.03	16.77639	(15080504)
447205.32	3764468.27	16.78395	(12092102)	447232.43	3764467.55	16.95304	(12092102)
447264.02	3764467.30	17.49909	(12051402)	447294.77	3764466.94	18.23413	(12081106)
447364.97	3764456.41	17.81171	(15062301)	447406.61	3764460.65	17.75924	(15062202)
447441.47	3764460.04	18.23790	(13090206)	447466.88	3764460.20	18.15706	(13090206)
447490.00	3764460.56	18.10524	(15083004)	447515.50	3764460.40	17.68490	(15083004)

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      447573.06   3764454.29       17.71937  (12082822)                447598.49
      3764445.22        17.93544  (12082822)
      447652.90   3764439.70       18.20195  (12102719)                447692.92
      3764439.51        18.56082  (12080905)
      447713.82   3764439.11       18.42048  (12080905)                447731.95
      3764438.72        18.29724  (15092701)
      447751.07   3764438.72       18.50596  (15092701)                447768.82
      3764437.53        18.57159  (15092701)
      447789.12   3764437.73       18.67609  (12080824)                447805.68
      3764437.34        18.67691  (12080824)
      447824.02   3764437.20       18.51096  (12090802)                447841.61
      3764437.87        18.43591  (12090802)
      447861.72   3764437.53       18.27543  (16102922)                447881.66
      3764435.18        18.56266  (16102922)
      447902.78   3764436.19       18.58586  (16102922)                447920.87
      3764435.35        18.41875  (16102922)
      447942.16   3764435.35       17.97401  (16102922)                447962.77
      3764434.85        17.99426  (13082502)
      447980.70   3764435.18       18.01669  (14070405)                448004.66
      3764435.18        18.00579  (14070405)
      448021.25   3764434.68       17.63335  (16072903)                447662.70
      3764379.63        19.41982  (12080905)
      447681.30   3764320.98       20.33732  (12080905)                447682.64
      3764285.79        20.31313  (12080905)
      447662.53   3764238.37       20.23481  (12080905)                447661.70
      3764207.37        20.18373  (12080905)
      447683.14   3764162.29       20.15844  (12080905)                447680.97
      3764145.87        20.11601  (12080905)
      447679.63   3764130.28       20.03353  (12080905)                447680.80
      3764112.02        19.95931  (12080905)
      447681.47   3764096.43       20.01808  (12080905)                447680.80
      3764078.84        20.19041  (12080905)
      447679.96   3764064.26       20.44497  (12080905)                447680.97
      3764045.82        20.79532  (12080905)
      447680.63   3764029.74       21.14163  (12080905)                447657.17
      3763992.03        21.69747  (12080905)
      447656.33   3763967.06       22.32878  (12080905)                447657.17
      3763928.69        23.21812  (12080905)
      447657.17   3763902.21       23.86766  (12080905)                447657.51
      3763869.03        24.37142  (12080905)
      447656.16   3763834.94       25.26708  (12080905)                447655.93
      3763808.27        26.12179  (12080905)
      447657.09   3763786.00       26.85505  (12080905)                447701.21
      3763782.14        26.83343  (12080824)
      447856.92   3763749.71       25.35527  (15101706)                447854.99
      3763730.13        25.65608  (15101706)
      447854.35   3763698.35       26.12426  (15101706)                447855.31
      3763676.84        26.50353  (16072903)
      447675.51   3763287.46       38.90129  (13082522)                448481.33
      3763485.29        23.16997  (13081424)
      448479.95   3763195.53       23.53992  (14032405)                448478.56
      3762907.16        23.88552  (12090723)
      448497.89   3762714.10       16.02556  (15081321)                448507.91
      3762487.71        16.55012  (15082823)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 299
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  5CBRE    ***
                               INCLUDING SOURCE(S):     5CBRE       ,
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*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	17.11860	(14082722)	448462.73	3762339.82	17.63249	(15082521)
448464.47	3762265.93	17.04168	(15091023)	448461.57	3762165.17	16.25681	(12092023)
448472.57	3762064.71	15.16947	(14051421)	448460.48	3762016.72	14.83496	(15082624)
448234.63	3761951.18	18.72213	(12080622)	448081.42	3761952.78	23.04848	(13110118)
448025.53	3761955.99	25.09972	(16082922)	447506.75	3761967.63	37.21518	(15092103)
447269.29	3761967.74	29.66781	(12091405)	447389.46	3761908.79	30.01210	(15090901)
447019.14	3761964.34	21.16621	(15090904)	447060.33	3761963.58	22.36730	(15090904)
446975.31	3761963.20	19.66088	(16111022)	446940.92	3761953.76	18.65310	(12100204)
446865.72	3761974.54	17.72676	(15100921)	446795.06	3761957.91	15.95013	(15100921)
446757.65	3761965.85	15.06073	(14080302)	446709.33	3761967.74	13.98871	(14080302)
446796.42	3762028.62	16.36695	(15101023)	446796.97	3762045.28	16.70746	(15101023)
446796.70	3762089.51	17.13449	(14022022)	446796.15	3762105.89	17.24747	(14022022)
446796.70	3762137.29	17.78142	(15101024)	446796.15	3762153.39	18.03912	(15101024)
446772.40	3762215.37	17.81400	(14011319)	446795.06	3762321.03	19.39231	(14120121)
446796.42	3762450.98	20.05706	(15031521)	446796.42	3762471.18	19.64355	(16041722)
446797.24	3762496.03	19.76196	(16041722)	446798.06	3762516.51	20.17375	(15090905)
446797.79	3762539.98	20.40288	(15090905)	446797.52	3762560.19	20.22917	(15090905)
446798.61	3762584.76	19.69513	(15032622)	446798.06	3762604.42	19.85878	(15032622)
446799.70	3762654.11	19.26866	(15040323)	446799.97	3762674.58	19.33293	(12101719)
446800.25	3762700.25	19.08754	(12101719)	446800.25	3762721.27	18.56978	(12020622)
446799.97	3762735.74	18.57893	(12020622)	446797.79	3762748.02	18.42508	(12020622)
446802.16	3762913.47	16.37106	(13092722)	446802.16	3762932.58	16.16620	(13092602)
446802.43	3762949.24	16.11961	(13092602)	446802.98	3762967.26	15.95028	(13092602)
446802.70	3762986.09	15.62864	(13092602)	446802.16	3763003.29	15.27058	(16112718)
446802.16	3763021.86	14.87374	(14091521)	446802.70	3763040.70	14.95530	(14091521)
446802.98	3763059.26	24.13220	(12092322)	446803.52	3763077.01	24.05003	(12092322)
446756.29	3763085.26	13.77941	(14091521)	446807.68	3763646.39	21.47197	(13082922)
446808.32	3763674.66	20.92162	(13082922)	446807.68	3763694.57	20.72301	(16072804)
446808.32	3763710.63	20.58710	(16072804)	446808.32			

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CBRE ***
INCLUDING SOURCE(S): 5CBRE ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	40.66782	(13082922)	447146.92	3763064.30	41.11596	(16092823)
447149.92	3763038.90	42.19743	(16092823)	447148.56	3763019.78	42.74384	(15101401)
447148.56	3762997.39	43.24387	(12081402)	447206.08	3762958.49	47.34199	(16092823)
447209.33	3762922.51	30.89407	(15060921)	447208.40	3762890.70	32.81998	(15092021)
447145.83	3762888.87	29.46585	(15090919)	447122.55	3762889.07	28.57100	(15101223)
447094.33	3762890.05	27.44217	(15101223)	447071.04	3762890.45	26.39456	(15090824)
447043.61	3762889.66	24.99479	(15090824)	447017.76	3762888.87	23.58751	(14091521)
446992.11	3762889.07	22.13431	(14091521)	446964.28	3762888.28	21.38754	(13092602)
446940.41	3762888.47	20.75216	(13092602)	446911.20	3762888.08	19.84779	(13092602)
446885.35	3762889.66	18.93401	(13092602)	446862.07	3762888.87	18.07557	(13092722)
446871.45	3762779.57	20.34105	(15120517)	446926.31	3762768.72	22.62891	(15120517)
446808.00	3763726.37	20.39476	(16072804)				
446808.00	3763742.11	20.10749	(16072804)	446808.32	3763756.89	19.81404	(16072804)
446808.64	3763798.32	19.45947	(15061924)	446810.25	3764484.08	15.70578	(12080704)
446781.34	3764475.08	15.40363	(12080704)	446722.56	3764455.81	15.30101	(15092502)
446170.32	3764559.79	12.78443	(15082503)	446872.29	3763190.26	27.55918	(15082702)
446925.22	3763179.19	29.72791	(15082702)	446984.86	3763194.88	30.19351	(13062901)
447010.56	3763193.28	31.80154	(13062901)	447036.58	3763193.60	32.08025	(13062901)
447053.61	3763193.28	32.53094	(16060105)	447076.42	3763192.31	33.98871	(13082922)
447093.45	3763192.63	35.29651	(13082922)	447122.05	3763192.63	35.56796	(13082922)
447138.75	3763192.31	35.59579	(16072804)	447167.99	3763192.31	36.53845	(15061924)
447170.68	3763172.18	37.05870	(15061924)	447170.41	3763158.25	37.13733	(15080424)
447169.31	3763144.87	37.91641	(15082502)	447147.46	3763107.45	40.37890	(13082922)

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      446983.74   3762774.24       24.57148  (15120517)               447009.00
      3762774.05       25.94592  (13092722)
      447030.51   3762774.44       27.09855  (13092722)               447055.37
      3762774.05       28.35374  (13092722)
      447076.88   3762774.24       29.81804  (13092602)               447101.16
      3762774.44       31.60833  (13092602)
      447123.85   3762774.05       33.15590  (13092602)               447148.12
      3762775.03       34.48855  (16112718)
      447170.23   3762774.84       36.85217  (14091521)               447196.78
      3762775.48       39.99127  (15090824)
      447242.12   3762776.57       44.40787  (15101223)               447262.33
      3762776.03       45.97667  (15090919)
      447294.56   3762776.30       50.17507  (15092021)               447313.13
      3762775.48       52.24175  (15092021)
      447313.40   3762749.53       56.11495  (15092021)               447327.86
      3762713.09       64.06245  (15101223)
      447327.36   3762679.87       71.19612  (15090824)               447327.74
      3762657.02       73.29107  (14091521)
      447327.28   3762636.82       77.23462  (13092602)               447327.51
      3762612.90       81.05437  (13092722)
      447327.28   3762592.24       86.06795  (15120517)               447327.04
      3762569.71       89.54443  (12020622)
      447327.28   3762547.89       94.65124  (12101719)               447326.58
      3762524.67      111.69088  (12110208)
      447326.58   3762506.09      123.44308  (12110208)               447327.51
      3762477.53      112.05660  (12110208)
      447325.88   3762454.31       99.58151  (16021518)               447225.58
      3762432.95       62.00298  (14011518)
      447200.27   3762430.63       56.24729  (14011518)               447156.85
      3762430.16       48.29418  (16021518)
      447131.77   3762430.86       44.65349  (16021518)               447102.74
      3762430.63       40.91872  (16021518)
      447079.06   3762430.86       38.23336  (16021518)               447034.94
      3762433.65       33.95502  (16021518)
      446995.47   3762433.65       30.75184  (16021518)               446972.71
      3762434.34       29.11801  (16021518)
      446941.37   3762434.58       27.10611  (16021518)               446916.06
      3762436.90       25.59430  (16021518)
      446876.35   3762436.90       23.53297  (16021518)               446848.85
      3762647.05       21.08896  (12101719)
      446848.85   3762563.17       22.05876  (15090905)               446849.17
      3762509.82       22.09732  (15090905)
      446849.17   3762455.82       22.07711  (15031521)               446848.85
      3762702.00       20.45925  (12101719)
      446849.49   3762754.71       19.75650  (16112103)               446739.81
      3762428.53       18.33030  (16021518)
      446711.81   3762423.61       17.55159  (16021518)               446687.25
      3762416.25       16.93961  (16021518)
      446662.20   3762412.32       16.31434  (16021518)               446636.17
      3762403.97       15.72505  (16021518)
      449981.72   3762732.45        4.22350  (15101322)               446486.82
      3762231.95       12.23294  (14051523)
      446261.97   3762068.01        9.02858  (14011319)               446443.15
      3762291.63       11.69992  (14011518)
      446071.80   3762055.49        7.57846  (13121117)               446072.08
      3761983.13        7.36431  (14011319)
      446138.18   3762002.17        7.84927  (12020618)               445884.94
      3762039.75        6.47360  (15031523)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 301
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CLOAD ***
INCLUDING SOURCE(S): 5CLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	18.72924	(14072401)	447375.98	3764150.98	20.22597	(14072401)
447389.75	3764043.04	20.80232	(14072401)	447450.16	3764031.05	20.93321	(15062202)
447410.18	3764019.05	20.97398	(14072401)	446891.90	3764451.22	16.08719	(16072603)
446959.28	3764451.22	16.36244	(12081001)	446995.28	3764468.13	16.51774	(12081001)
447007.41	3764467.30	16.55061	(12081604)	447023.51	3764466.09	16.62547	(12081604)
447036.59	3764466.21	16.58883	(12081604)	447052.68	3764465.61	16.61293	(13091705)
447066.60	3764465.73	16.72114	(16062701)	447099.65	3764456.17	17.06803	(16062701)
447145.28	3764468.27	16.89298	(12071001)	447175.54	3764468.03	16.77629	(15080504)
447205.32	3764468.27	16.78386	(12092102)	447232.43	3764467.55	16.95294	(12092102)
447264.02	3764467.30	17.49878	(12051402)	447294.77	3764466.94	18.23401	(12081106)
447364.97	3764456.41	17.81160	(15062301)	447406.61	3764460.65	17.75914	(15062202)
447441.47	3764460.04	18.23779	(13090206)	447466.88	3764460.20	18.15695	(13090206)
447490.00	3764460.56	18.10513	(15083004)	447515.50	3764460.40	17.68480	(15083004)
447573.06	3764454.29	17.71928	(12082822)	447598.49	3764445.22	17.93534	(12082822)
447652.90	3764439.70	18.20185	(12102719)	447692.92	3764439.51	18.56070	(12080905)
447713.82	3764439.11	18.42036	(12080905)	447731.95	3764438.72	18.29713	(15092701)
447751.07	3764438.72	18.50584	(15092701)	447768.82	3764437.53	18.57147	(15092701)
447789.12	3764437.73	18.67597	(12080824)	447805.68	3764437.34	18.67679	(12080824)
447824.02	3764437.20	18.51084	(12090802)	447841.61	3764437.87	18.43579	(12090802)
447861.72	3764437.53	18.27532	(16102922)	447881.66	3764435.18	18.56254	(16102922)
447902.78	3764436.19	18.58574	(16102922)	447920.87	3764435.35	18.41863	(16102922)
447942.16	3764435.35	17.97390	(16102922)	447962.77	3764434.85	17.99415	(13082502)
447980.70	3764435.18	18.01658	(14070405)	448004.66	3764435.18	18.00568	(14070405)
448021.25	3764434.68	17.63325	(16072903)	447662.70	3764379.63	19.41970	(12080905)
447681.30	3764320.98	20.33719	(12080905)	447682.64	3764285.79	20.31300	(12080905)
447662.53	3764238.37	20.23470	(12080905)	447661.70	3764207.37	20.18363	(12080905)
447683.14	3764162.29	20.15835	(12080905)	447680.97			

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       3764145.87       20.11592  (12080905)
       447679.63   3764130.28       20.03345  (12080905)                447680.80
       3764112.02       19.95923  (12080905)
       447681.47   3764096.43       20.01801  (12080905)                447680.80
       3764078.84       20.19034  (12080905)
       447679.96   3764064.26       20.44490  (12080905)                447680.97
       3764045.82       20.79525  (12080905)
       447680.63   3764029.74       21.14155  (12080905)                447657.17
       3763992.03       21.69740  (12080905)
       447656.33   3763967.06       22.32870  (12080905)                447657.17
       3763928.69       23.21804  (12080905)
       447657.17   3763902.21       23.86757  (12080905)                447657.51
       3763869.03       24.37133  (12080905)
       447656.16   3763834.94       25.26699  (12080905)                447655.93
       3763808.27       26.12169  (12080905)
       447657.09   3763786.00       26.85495  (12080905)                447701.21
       3763782.14       26.83333  (12080824)
       447856.92   3763749.71       25.35518  (15101706)                447854.99
       3763730.13       25.65600  (15101706)
       447854.35   3763698.35       26.12419  (15101706)                447855.31
       3763676.84       26.50347  (16072903)
       447675.51   3763287.46       38.90128  (13082522)                448481.33
       3763485.29       23.16991  (13081424)
       448479.95   3763195.53       23.53989  (14032405)                448478.56
       3762907.16       23.88560  (12090723)
       448497.89   3762714.10       16.02548  (15081321)                448507.91
       3762487.71       16.55004  (15082823)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 302
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  5CLOAD   ***
                                INCLUDING SOURCE(S):     5CLOAD      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96       17.11851  (14082722)                448462.73
       3762339.82       17.63241  (15082521)
       448464.47   3762265.93       17.04160  (15091023)                448461.57
       3762165.17       16.25673  (12092023)
       448472.57   3762064.71       15.16940  (14051421)                448460.48
       3762016.72       14.83488  (15082624)
       448234.63   3761951.18       18.72203  (12080622)                448081.42
       3761952.78       23.04837  (13110118)
       448025.53   3761955.99       25.09960  (16082922)                447506.75
       3761967.63       37.21498  (15092103)
       447269.29   3761967.74       29.66766  (12091405)                447389.46
       3761908.79       30.01194  (15090901)
       447019.14   3761964.34       21.16609  (15090904)                447060.33
       3761963.58       22.36718  (15090904)
       446975.31   3761963.20       19.66079  (16111022)                446940.92
       3761953.76       18.65301  (12100204)
       446865.72   3761974.54       17.72667  (15100921)                446795.06
       3761957.91       15.95005  (15100921)
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      446757.65   3761965.85       15.06064  (14080302)               446709.33
      3761967.74        13.98864  (14080302)
      446796.42   3762028.62       16.36686  (15101023)               446796.97
      3762045.28        16.70737  (15101023)
      446796.70   3762089.51       17.13425  (14022022)               446796.15
      3762105.89        17.24724  (14022022)
      446796.70   3762137.29       17.78134  (15101024)               446796.15
      3762153.39        18.03904  (15101024)
      446772.40   3762215.37       17.81392  (14011319)               446795.06
      3762321.03        19.39204  (14120121)
      446796.42   3762450.98       20.05696  (15031521)               446796.42
      3762471.18        19.64345  (16041722)
      446797.24   3762496.03       19.76185  (16041722)               446798.06
      3762516.51        20.17365  (15090905)
      446797.79   3762539.98       20.40277  (15090905)               446797.52
      3762560.19        20.22907  (15090905)
      446798.61   3762584.76       19.69504  (15032622)               446798.06
      3762604.42        19.85868  (15032622)
      446799.70   3762654.11       19.26850  (15040323)               446799.97
      3762674.58        19.33285  (12101719)
      446800.25   3762700.25       19.08746  (12101719)               446800.25
      3762721.27        18.56952  (12020622)
      446799.97   3762735.74       18.57866  (12020622)               446797.79
      3762748.02        18.42481  (12020622)
      446802.16   3762913.47       16.37090  (13092722)               446802.16
      3762932.58        16.16598  (13092602)
      446802.43   3762949.24       16.11938  (13092602)               446802.98
      3762967.26        15.95005  (13092602)
      446802.70   3762986.09       15.62842  (13092602)               446802.16
      3763003.29        15.27031  (16112718)
      446802.16   3763021.86       14.87366  (14091521)               446802.70
      3763040.70        14.95522  (14091521)
      446802.98   3763059.26       24.13226  (12092322)               446803.52
      3763077.01        24.05008  (12092322)
      446756.29   3763085.26       13.77933  (14091521)               446807.68
      3763646.39        21.47191  (13082922)
      446808.32   3763674.66       20.92157  (13082922)               446807.68
      3763694.57        20.72296  (16072804)
      446808.32   3763710.63       20.58705  (16072804)               446808.32
      3763726.37        20.39470  (16072804)
      446808.00   3763742.11       20.10745  (16072804)               446808.32
      3763756.89        19.81399  (16072804)
      446808.64   3763798.32       19.45942  (15061924)               446810.25
      3764484.08        15.70569  (12080704)
      446781.34   3764475.08       15.40355  (12080704)               446722.56
      3764455.81        15.30093  (15092502)
      446170.32   3764559.79       12.78436  (15082503)               446872.29
      3763190.26        27.55920  (15082702)
      446925.22   3763179.19       29.72792  (15082702)               446984.86
      3763194.88        30.19354  (13062901)
      447010.56   3763193.28       31.80156  (13062901)               447036.58
      3763193.60        32.08028  (13062901)
      447053.61   3763193.28       32.53092  (16060105)               447076.42
      3763192.31        33.98872  (13082922)
      447093.45   3763192.63       35.29651  (13082922)               447122.05
      3763192.63        35.56797  (13082922)
      447138.75   3763192.31       35.59582  (16072804)               447167.99
      3763192.31        36.53846  (15061924)
      447170.68   3763172.18       37.05873  (15061924)               447170.41
      3763158.25        37.13734  (15080424)
      447169.31   3763144.87       37.91643  (15082502)               447147.46
      3763107.45        40.37892  (13082922)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:5
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CLOAD ***
INCLUDING SOURCE(S): 5CLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	40.66786	(13082922)	447146.92	3763064.30	41.11594	(16092823)
447149.92	3763038.90	42.19742	(16092823)	447148.56	3763019.78	42.74384	(15101401)
447148.56	3762997.39	43.24390	(12081402)	447206.08	3762958.49	47.34206	(16092823)
447209.33	3762922.51	30.89390	(15060921)	447208.40	3762890.70	32.81982	(15092021)
447145.83	3762888.87	29.46572	(15090919)	447122.55	3762889.07	28.57085	(15101223)
447094.33	3762890.05	27.44203	(15101223)	447071.04	3762890.45	26.39444	(15090824)
447043.61	3762889.66	24.99467	(15090824)	447017.76	3762888.87	23.58738	(14091521)
446992.11	3762889.07	22.13420	(14091521)	446964.28	3762888.28	21.38724	(13092602)
446940.41	3762888.47	20.75186	(13092602)	446911.20	3762888.08	19.84750	(13092602)
446885.35	3762889.66	18.93374	(13092602)	446862.07	3762888.87	18.07541	(13092722)
446871.45	3762779.57	20.34096	(15120517)	446926.31	3762768.72	22.62880	(15120517)
446983.74	3762774.24	24.57136	(15120517)	447009.00	3762774.05	25.94568	(13092722)
447030.51	3762774.44	27.09830	(13092722)	447055.37	3762774.05	28.35348	(13092722)
447076.88	3762774.24	29.81762	(13092602)	447101.16	3762774.44	31.60788	(13092602)
447123.85	3762774.05	33.15543	(13092602)	447148.12	3762775.03	34.48796	(16112718)
447170.23	3762774.84	36.85197	(14091521)	447196.78	3762775.48	39.99108	(15090824)
447242.12	3762776.57	44.40764	(15101223)	447262.33	3762776.03	45.97647	(15090919)
447294.56	3762776.30	50.17482	(15092021)	447313.13	3762775.48	52.24149	(15092021)
447313.40	3762749.53	56.11467	(15092021)	447327.86	3762713.09	64.06212	(15101223)
447327.36	3762679.87	71.19578	(15090824)	447327.74	3762657.02	73.29067	(14091521)
447327.28	3762636.82	77.23352	(13092602)	447327.51	3762612.90	81.05362	(13092722)
447327.28	3762592.24	86.06754	(15120517)	447327.04	3762569.71	89.54315	(12020622)
447327.28	3762547.89	94.65084	(12101719)	447326.58	3762524.67	111.78460	(12110208)
447326.58	3762506.09	123.54652	(12110208)	447327.51	3762477.53	112.15054	(12110208)
447325.88	3762454.31	99.58098	(16021518)	447225.58			

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       3762432.95       62.00267  (14011518)
       447200.27   3762430.63       56.24700  (14011518)                447156.85
       3762430.16       48.29393  (16021518)
       447131.77   3762430.86       44.65325  (16021518)                447102.74
       3762430.63       40.91850  (16021518)
       447079.06   3762430.86       38.23316  (16021518)                447034.94
       3762433.65       33.95484  (16021518)
       446995.47   3762433.65       30.75168  (16021518)                446972.71
       3762434.34       29.11785  (16021518)
       446941.37   3762434.58       27.10597  (16021518)                446916.06
       3762436.90       25.59417  (16021518)
       446876.35   3762436.90       23.53285  (16021518)                446848.85
       3762647.05       21.08887  (12101719)
       446848.85   3762563.17       22.05865  (15090905)                446849.17
       3762509.82       22.09721  (15090905)
       446849.17   3762455.82       22.07701  (15031521)                446848.85
       3762702.00       20.45916  (12101719)
       446849.49   3762754.71       19.75616  (16112103)                446739.81
       3762428.53       18.33020  (16021518)
       446711.81   3762423.61       17.55150  (16021518)                446687.25
       3762416.25       16.93952  (16021518)
       446662.20   3762412.32       16.31425  (16021518)                446636.17
       3762403.97       15.72497  (16021518)
       449981.72   3762732.45        4.22348  (15101322)                446486.82
       3762231.95       12.23287  (14051523)
       446261.97   3762068.01        9.02854  (14011319)                446443.15
       3762291.63       11.69986  (14011518)
       446071.80   3762055.49        7.57840  (13121117)                446072.08
       3761983.13        7.36428  (14011319)
       446138.18   3762002.17        7.84920  (12020618)                445884.94
       3762039.75        6.47357  (15031523)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 304
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  5CREF    ***
                              INCLUDING SOURCE(S):     5CREF       ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                  ** CONC OF OTHER    IN
                                  MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       447362.21   3764292.67       23.89973  (14072401)                447375.98
       3764150.98       25.49389  (14072401)
       447389.75   3764043.04       25.57468  (14072401)                447450.16
       3764031.05       25.60214  (16081402)
       447410.18   3764019.05       25.77450  (16062805)                446891.90
       3764451.22       20.62503  (16072603)
       446959.28   3764451.22       20.94273  (12081001)                446995.28
       3764468.13       21.07473  (12081001)
       447007.41   3764467.30       21.30232  (12081604)                447023.51
       3764466.09       21.33457  (12081604)
       447036.59   3764466.21       21.13944  (16082102)                447052.68
       3764465.61       21.35852  (16082102)
       447066.60   3764465.73       21.33365  (16082102)                447099.65
       3764456.17       21.65895  (16062701)
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447145.28 3764468.27 21.57465 (15032722) 447175.54
3764468.03 21.29430 (14040923)
447205.32 3764468.27 21.13094 (12092102) 447232.43
3764467.55 21.61655 (16062804)
447264.02 3764467.30 22.86072 (12083006) 447294.77
3764466.94 23.43935 (12081106)
447364.97 3764456.41 23.08881 (15062301) 447406.61
3764460.65 23.13207 (15062202)
447441.47 3764460.04 23.54135 (13090206) 447466.88
3764460.20 23.32370 (15083004)
447490.00 3764460.56 23.30687 (15083004) 447515.50
3764460.40 22.59645 (14060204)
447573.06 3764454.29 22.67971 (12082822) 447598.49
3764445.22 23.02628 (12082822)
447652.90 3764439.70 23.35558 (16092024) 447692.92
3764439.51 23.94770 (12080905)
447713.82 3764439.11 23.62955 (12080905) 447731.95
3764438.72 23.18662 (15092701)
447751.07 3764438.72 23.73882 (15092701) 447768.82
3764437.53 23.89149 (15092701)
447789.12 3764437.73 24.32627 (12080824) 447805.68
3764437.34 24.35690 (12080824)
447824.02 3764437.20 24.14870 (12090802) 447841.61
3764437.87 24.05878 (12090802)
447861.72 3764437.53 23.56883 (12090506) 447881.66
3764435.18 23.80664 (16102922)
447902.78 3764436.19 24.00851 (16102922) 447920.87
3764435.35 23.70059 (16102922)
447942.16 3764435.35 23.59180 (15090723) 447962.77
3764434.85 23.55538 (13082502)
447980.70 3764435.18 23.50938 (13082502) 448004.66
3764435.18 23.34968 (15101706)
448021.25 3764434.68 22.74486 (15101706) 447662.70
3764379.63 24.88050 (12080905)
447681.30 3764320.98 26.28509 (12080905) 447682.64
3764285.79 26.01958 (12080905)
447662.53 3764238.37 25.44369 (12080905) 447661.70
3764207.37 25.13729 (12080905)
447683.14 3764162.29 24.91592 (14082624) 447680.97
3764145.87 24.76150 (14082624)
447679.63 3764130.28 24.54621 (14082624) 447680.80
3764112.02 24.32220 (14082624)
447681.47 3764096.43 24.31694 (14082624) 447680.80
3764078.84 24.47624 (14082624)
447679.96 3764064.26 24.78197 (14082624) 447680.97
3764045.82 25.20516 (14082624)
447680.63 3764029.74 25.63789 (14082624) 447657.17
3763992.03 26.20171 (14082624)
447656.33 3763967.06 27.00799 (14082624) 447657.17
3763928.69 28.12028 (14082624)
447657.17 3763902.21 28.92822 (14082624) 447657.51
3763869.03 29.43905 (14082624)
447656.16 3763834.94 30.53210 (14082624) 447655.93
3763808.27 31.62017 (14082624)
447657.09 3763786.00 32.55394 (14082624) 447701.21
3763782.14 32.15448 (12080824)
447856.92 3763749.71 30.13330 (15101706) 447854.99
3763730.13 30.36977 (15101706)
447854.35 3763698.35 30.71301 (15101706) 447855.31
3763676.84 31.19350 (16102718)
447675.51 3763287.46 41.70823 (12102718) 448481.33
3763485.29 27.69556 (13061703)
448479.95 3763195.53 26.36179 (13070801) 448478.56
3762907.16 24.83115 (15092621)
448497.89 3762714.10 22.62859 (15081221) 448507.91
3762487.71 23.25482 (12092321)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CREF ***
INCLUDING SOURCE(S): 5CREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	24.05732	(15092523)	448462.73	3762339.82	24.90116	(14082722)
448464.47	3762265.93	24.23016	(15091023)	448461.57	3762165.17	22.95701	(14090824)
448472.57	3762064.71	21.83054	(14051421)	448460.48	3762016.72	21.27632	(16110320)
448234.63	3761951.18	27.15685	(12080622)	448081.42	3761952.78	33.01588	(16090503)
448025.53	3761955.99	36.37623	(13051122)	447506.75	3761967.63	54.85813	(15092103)
447269.29	3761967.74	43.44877	(16092705)	447389.46	3761908.79	43.95948	(15090901)
447019.14	3761964.34	30.38508	(16111022)	447060.33	3761963.58	32.45937	(15090904)
446975.31	3761963.20	28.37673	(12100204)	446940.92	3761953.76	27.00832	(12100204)
446865.72	3761974.54	25.56576	(15100921)	446795.06	3761957.91	22.49157	(14080302)
446757.65	3761965.85	21.26055	(14080302)	446709.33	3761967.74	19.97338	(13012221)
446796.42	3762028.62	23.58558	(15021322)	446796.97	3762045.28	23.91391	(15021322)
446796.70	3762089.51	24.30520	(16021805)	446796.15	3762105.89	24.67151	(12101403)
446796.70	3762137.29	25.62758	(15101024)	446796.15	3762153.39	25.66825	(15101024)
446772.40	3762215.37	25.47652	(14011319)	446795.06	3762321.03	27.65459	(14120121)
446796.42	3762450.98	27.35978	(15031001)	446796.42	3762471.18	27.78479	(16041722)
446797.24	3762496.03	27.90921	(14100421)	446798.06	3762516.51	28.64637	(15090905)
446797.79	3762539.98	28.49583	(15090905)	446797.52	3762560.19	27.29669	(15090905)
446798.61	3762584.76	27.93548	(15032622)	446798.06	3762604.42	27.88655	(15032622)
446799.70	3762654.11	27.20851	(12101719)	446799.97	3762674.58	27.20731	(12101719)
446800.25	3762700.25	25.94597	(12101719)	446800.25	3762721.27	26.21196	(12020622)
446799.97	3762735.74	26.03231	(12020622)	446797.79	3762748.02	25.52542	(12020622)
446802.16	3762913.47	22.64722	(14030122)	446802.16	3762932.58	22.66029	(13092602)
446802.43	3762949.24	22.53532	(13092602)	446802.98			

3762967.26 22.04803 (13092602)
446802.70 3762986.09 21.53125 (16112718) 446802.16
3763003.29 20.78686 (16112718)
446802.16 3763021.86 20.45867 (14091521) 446802.70
3763040.70 24.01904 (14091521)
446802.98 3763059.26 24.79041 (14091521) 446803.52
3763077.01 24.95166 (14091521)
446756.29 3763085.26 19.23548 (14091521) 446807.68
3763646.39 24.93420 (13082922)
446808.32 3763674.66 24.46783 (15082502) 446807.68
3763694.57 24.28298 (16072804)
446808.32 3763710.63 24.10540 (16072804) 446808.32
3763726.37 23.81881 (16072804)
446808.00 3763742.11 23.35533 (16072804) 446808.32
3763756.89 23.10616 (14060102)
446808.64 3763798.32 23.28381 (15061924) 446810.25
3764484.08 20.19765 (12080704)
446781.34 3764475.08 19.67736 (12080704) 446722.56
3764455.81 19.56975 (12072004)
446170.32 3764559.79 16.59010 (15061824) 446872.29
3763190.26 29.37915 (16110621)
446925.22 3763179.19 31.65246 (15120720) 446984.86
3763194.88 32.74677 (15101401)
447010.56 3763193.28 34.58953 (16092823) 447036.58
3763193.60 35.21116 (15062722)
447053.61 3763193.28 35.46074 (15062722) 447076.42
3763192.31 36.43589 (12071303)
447093.45 3763192.63 37.87929 (12071303) 447122.05
3763192.63 37.73227 (12120303)
447138.75 3763192.31 38.10958 (16061822) 447167.99
3763192.31 39.71850 (16061822)
447170.68 3763172.18 40.29186 (16061822) 447170.41
3763158.25 40.28580 (16061822)
447169.31 3763144.87 40.45066 (16061822) 447147.46
3763107.45 42.54419 (12071303)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CREF ***
INCLUDING SOURCE(S): 5CREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	42.95000	(13052304)	447146.92	3763064.30	44.28749	(15062722)
447149.92	3763038.90	45.01097	(15062722)	447148.56	3763019.78	44.87290	(15062722)
447148.56	3762997.39	44.73761	(15060921)	447206.08	3762958.49	47.90232	(15062722)
447209.33	3762922.51	48.66312	(15060921)	447208.40	3762890.70	43.15528	(15060921)
447145.83	3762888.87	40.53118	(15090919)	447122.55	3762889.07	38.58736	(15090919)

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447094.33   3762890.05       37.34695  (15101223)                447071.04
3762890.45       36.30216  (15101223)
447043.61   3762889.66       34.78182  (15090824)                447017.76
3762888.87       32.69854  (14091521)
446992.11   3762889.07       30.50730  (14091521)                446964.28
3762888.28       29.03350  (16112718)
446940.41   3762888.47       28.47111  (16112718)                446911.20
3762888.08       27.55092  (13092602)
446885.35   3762889.66       26.47427  (13092602)                446862.07
3762888.87       25.27536  (13092602)
446871.45   3762779.57       28.47250  (15120517)                446926.31
3762768.72       31.19533  (15120517)
446983.74   3762774.24       34.14049  (13092722)                447009.00
3762774.05       35.74173  (13092722)
447030.51   3762774.44       36.90234  (14030122)                447055.37
3762774.05       39.15658  (13092602)
447076.88   3762774.24       41.35374  (13092602)                447101.16
3762774.44       43.15040  (13092602)
447123.85   3762774.05       44.70751  (16112718)                447148.12
3762775.03       46.98416  (14091521)
447170.23   3762774.84       50.68204  (15090824)                447196.78
3762775.48       54.85487  (15090824)
447242.12   3762776.57       58.86945  (15090919)                447262.33
3762776.03       62.37063  (15090919)
447294.56   3762776.30       66.79864  (15092021)                447313.13
3762775.48       68.34802  (15060921)
447313.40   3762749.53       75.04981  (15092021)                447327.86
3762713.09       85.56841  (15090919)
447327.36   3762679.87       94.54461  (15101223)                447327.74
3762657.02       99.76632  (15090824)
447327.28   3762636.82      101.13800  (16112718)                447327.51
3762612.90      108.36731  (13092602)
447327.28   3762592.24      112.66988  (13092722)                447327.04
3762569.71      120.17106  (15120517)
447327.28   3762547.89      125.51886  (12020622)                447326.58
3762524.67      131.46244  (12101719)
447326.58   3762506.09      136.87637  (12110208)                447327.51
3762477.53      153.79824  (12110208)
447325.88   3762454.31      134.49729  (15031521)                447225.58
3762432.95       86.57444  (16021518)
447200.27   3762430.63       78.70064  (16021518)                447156.85
3762430.16       67.43989  (16021518)
447131.77   3762430.86       61.97018  (16021518)                447102.74
3762430.63       56.73487  (15031521)
447079.06   3762430.86       53.05654  (15031521)                447034.94
3762433.65       47.15348  (15031521)
446995.47   3762433.65       42.73725  (15031521)                446972.71
3762434.34       40.47408  (15031521)
446941.37   3762434.58       37.68849  (15031521)                446916.06
3762436.90       35.56313  (15031521)
446876.35   3762436.90       32.72890  (15031521)                446848.85
3762647.05       29.89278  (12101719)
446848.85   3762563.17       30.05799  (15032622)                446849.17
3762509.82       31.38718  (15090905)
446849.17   3762455.82       30.27494  (16041722)                446848.85
3762702.00       28.64967  (12020622)
446849.49   3762754.71       27.53481  (14022724)                446739.81
3762428.53       25.66218  (15031521)
446711.81   3762423.61       24.60158  (15031521)                446687.25
3762416.25       23.73982  (15031521)
446662.20   3762412.32       22.85516  (15031521)                446636.17
3762403.97       21.95899  (15031521)
449981.72   3762732.45        5.96081  (15091722)                446486.82
3762231.95       17.11016  (13121806)
446261.97   3762068.01       12.87294  (14011319)                446443.15
3762291.63       16.71075  (14011518)
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CSPILL ***
INCLUDING SOURCE(S): 5CSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	29.02679	(14072401)	447375.98	3764150.98	30.82073	(14072401)
447389.75	3764043.04	30.68679	(16091823)	447450.16	3764031.05	30.76883	(16081402)
447410.18	3764019.05	30.78652	(16062805)	446891.90	3764451.22	25.04564	(16072603)
446959.28	3764451.22	25.34096	(12081001)	446995.28	3764468.13	25.49919	(12081001)
447007.41	3764467.30	25.93272	(12081604)	447023.51	3764466.09	25.93735	(12081604)
447036.59	3764466.21	25.68723	(16082102)	447052.68	3764465.61	26.02304	(16082102)
447066.60	3764465.73	25.90633	(16082102)	447099.65	3764456.17	26.24544	(16062701)
447145.28	3764468.27	26.17073	(15032722)	447175.54	3764468.03	25.78215	(14040923)
447205.32	3764468.27	25.53921	(12092102)	447232.43	3764467.55	26.34139	(12080203)
447264.02	3764467.30	27.98811	(12083006)	447294.77	3764466.94	28.50230	(12081106)
447364.97	3764456.41	28.14772	(16062805)	447406.61	3764460.65	28.27958	(15062202)
447441.47	3764460.04	28.69876	(13090206)	447466.88	3764460.20	28.32728	(15083004)
447490.00	3764460.56	28.38954	(15083004)	447515.50	3764460.40	27.60533	(14060204)
447573.06	3764454.29	27.50789	(12082822)	447598.49	3764445.22	27.99323	(12082822)
447652.90	3764439.70	28.53916	(16092024)	447692.92	3764439.51	29.20656	(12080905)
447713.82	3764439.11	28.59186	(12080905)	447731.95	3764438.72	28.17458	(15051420)
447751.07	3764438.72	28.86851	(15092701)	447768.82	3764437.53	29.09007	(15092701)
447789.12	3764437.73	29.74645	(12080824)	447805.68	3764437.34	29.77051	(12080824)
447824.02	3764437.20	29.54498	(12090802)	447841.61	3764437.87	29.40505	(12090802)
447861.72	3764437.53	28.91503	(12090506)	447881.66	3764435.18	28.86554	(16102922)
447902.78	3764436.19	29.29352	(16102922)	447920.87			

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       3764435.35       28.73362  (16102922)
       447942.16   3764435.35       28.92530  (15090723)               447962.77
       3764434.85       28.83734  (13082502)
       447980.70   3764435.18       28.78957  (13082502)               448004.66
       3764435.18       28.59405  (15101706)
       448021.25   3764434.68       27.73996  (15101706)               447662.70
       3764379.63       30.19620  (16092024)
       447681.30   3764320.98       32.07646  (12080905)               447682.64
       3764285.79       31.66125  (12080905)
       447662.53   3764238.37       30.62968  (12080905)               447661.70
       3764207.37       30.21047  (14082624)
       447683.14   3764162.29       30.00306  (14082624)               447680.97
       3764145.87       29.75948  (14082624)
       447679.63   3764130.28       29.43170  (14082624)               447680.80
       3764112.02       29.07366  (14082624)
       447681.47   3764096.43       29.01418  (14082624)               447680.80
       3764078.84       29.17332  (14082624)
       447679.96   3764064.26       29.53801  (14082624)               447680.97
       3764045.82       30.03253  (14082624)
       447680.63   3764029.74       30.55489  (14082624)               447657.17
       3763992.03       31.16777  (14082624)
       447656.33   3763967.06       32.16126  (14082624)               447657.17
       3763928.69       33.53219  (14082624)
       447657.17   3763902.21       34.52057  (14082624)               447657.51
       3763869.03       35.08064  (14082624)
       447656.16   3763834.94       36.39906  (14082624)               447655.93
       3763808.27       37.74065  (14082624)
       447657.09   3763786.00       38.89211  (14082624)               447701.21
       3763782.14       38.43831  (12052003)
       447856.92   3763749.71       35.61859  (15101706)               447854.99
       3763730.13       35.84363  (15101706)
       447854.35   3763698.35       36.13249  (15101706)               447855.31
       3763676.84       36.78075  (16102718)
       447675.51   3763287.46       48.53523  (12102718)               448481.33
       3763485.29       32.85622  (13061703)
       448479.95   3763195.53       30.32890  (13091321)               448478.56
       3762907.16       27.61037  (13082222)
       448497.89   3762714.10       28.19605  (15081221)               448507.91
       3762487.71       28.96215  (12092321)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 308
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  5CSPILL  ***
                                INCLUDING SOURCE(S):     5CSPILL     ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - -
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448234.63 3761951.18 33.64133 (12080622) 448081.42
3761952.78 41.07085 (12110519)
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447269.29 3761967.74 54.12539 (16092705) 447389.46
3761908.79 54.39033 (15090901)
447019.14 3761964.34 37.90542 (16111022) 447060.33
3761963.58 40.40511 (15090904)
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3761957.91 28.00570 (14080302)
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3761967.74 24.91445 (13012221)
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446796.70 3762089.51 30.30695 (16021805) 446796.15
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3763646.39 29.18146 (15082502)
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3763694.57 28.41708 (16072804)
446808.32 3763710.63 28.24617 (16072804) 446808.32
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446808.64 3763798.32 27.50288 (15061924) 446810.25
3764484.08 24.58324 (12080704)
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3764455.81 23.70170 (12072004)
446170.32 3764559.79 20.26783 (15061824) 446872.29
3763190.26 33.52249 (16110621)
446925.22 3763179.19 35.72735 (15120720) 446984.86
3763194.88 36.99064 (15060921)
447010.56 3763193.28 39.28808 (16092823) 447036.58
3763193.60 40.77775 (15062722)
447053.61 3763193.28 40.85273 (15062722) 447076.42
3763192.31 40.89242 (16040421)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 5CSPILL ***
INCLUDING SOURCE(S): 5CSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447093.45	3763192.63	42.80587	(12071303)	447122.05	3763192.63	43.43113	(15030520)
447138.75	3763192.31	43.33125	(12120303)	447167.99	3763192.31	45.53815	(16061822)
447170.68	3763172.18	46.01415	(16061822)	447170.41	3763158.25	45.71020	(16061822)
447169.31	3763144.87	45.56986	(16061822)	447147.46	3763107.45	47.90246	(15030520)
447146.64	3763084.24	49.14780	(16040421)	447146.92	3763064.30	50.56883	(15062722)
447149.92	3763038.90	51.21135	(15062722)	447148.56	3763019.78	50.52190	(15062722)
447148.56	3762997.39	51.04045	(15060921)	447206.08	3762958.49	52.36678	(15062722)
447209.33	3762922.51	53.52357	(15060921)	447208.40	3762890.70	53.51242	(12122017)
447145.83	3762888.87	50.47801	(15090919)	447122.55	3762889.07	47.82555	(14120719)
447094.33	3762890.05	46.15295	(15101223)	447071.04	3762890.45	45.13339	(15101223)
447043.61	3762889.66	43.23023	(15090824)	447017.76	3762888.87	40.41044	(14091521)
446992.11	3762889.07	37.03094	(14091521)	446964.28	3762888.28	35.69915	(16112718)
446940.41	3762888.47	35.37264	(16112718)	446911.20	3762888.08	34.24983	(13092602)
446885.35	3762889.66	32.90360	(13092602)	446862.07	3762888.87	31.15913	(16110920)
446871.45	3762779.57	35.46119	(15120517)	446926.31	3762768.72	38.61597	(15120517)
446983.74	3762774.24	42.33534	(13092722)	447009.00	3762774.05	44.28194	(13092722)
447030.51	3762774.44	45.90571	(14030122)	447055.37	3762774.05	48.25634	(13092602)
447076.88	3762774.24	51.34921	(13092602)	447101.16	3762774.44	53.49108	(16112718)
447123.85	3762774.05	55.21371	(16112718)	447148.12	3762775.03	57.03350	(14091521)
447170.23	3762774.84	62.59023	(14091521)	447196.78	3762775.48	68.17889	(15090824)
447242.12	3762776.57	72.72290	(14120719)	447262.33	3762776.03	77.51914	(15090919)
447294.56	3762776.30	82.43540	(15092021)	447313.13	3762775.48	83.57007	(15060921)
447313.40	3762749.53	92.94514	(15092021)	447327.86			

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      3762713.09      106.14316  (15090919)
      447327.36   3762679.87      116.97022  (15101223)               447327.74
      3762657.02      122.55828  (15090824)
      447327.28   3762636.82      124.44638  (16112718)               447327.51
      3762612.90      133.23188  (13092602)
      447327.28   3762592.24      138.66556  (13092722)               447327.04
      3762569.71      148.24309  (15120517)
      447327.28   3762547.89      155.15072  (12020622)               447326.58
      3762524.67      162.38051  (12101719)
      447326.58   3762506.09      165.08034  (15032622)               447327.51
      3762477.53      183.30310  (12110208)
      447325.88   3762454.31      164.48081  (15031521)               447225.58
      3762432.95      106.86775  (16021518)
      447200.27   3762430.63       97.23572  (16021518)               447156.85
      3762430.16       83.17351  (16021518)
      447131.77   3762430.86       76.79902  (15031521)               447102.74
      3762430.63       70.50365  (15031521)
      447079.06   3762430.86       65.97929  (15031521)               447034.94
      3762433.65       58.63012  (15031521)
      446995.47   3762433.65       53.11851  (15031521)               446972.71
      3762434.34       50.26785  (15031521)
      446941.37   3762434.58       46.76759  (15031521)               446916.06
      3762436.90       44.01868  (15031521)
      446876.35   3762436.90       40.46611  (15031521)               446848.85
      3762647.05       37.19217  (12101719)
      446848.85   3762563.17       36.80745  (15112622)               446849.17
      3762509.82       38.81603  (15090905)
      446849.17   3762455.82       37.51525  (15031001)               446848.85
      3762702.00       35.57732  (12020622)
      446849.49   3762754.71       34.32416  (14022724)               446739.81
      3762428.53       31.83787  (15031521)
      446711.81   3762423.61       30.59409  (15031521)               446687.25
      3762416.25       29.59194  (15031521)
      446662.20   3762412.32       28.50363  (15031521)               446636.17
      3762403.97       27.37891  (15031521)
      449981.72   3762732.45        7.43584  (15091722)               446486.82
      3762231.95       21.29292  (13121806)
      446261.97   3762068.01       16.05185  (14011319)               446443.15
      3762291.63       20.62011  (14011518)
      446071.80   3762055.49       13.54056  (13121117)               446072.08
      3761983.13       13.23186  (14011319)
      446138.18   3762002.17       14.07819  (14011319)               445884.94
      3762039.75       11.60427  (15031523)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                    PAGE 310
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  6AIDLE   ***
                              INCLUDING SOURCE(S):     L0000382    , L0000383    ,
                              L0000384    , L0000385    , L0000386    ,
               L0000387    , L0000388    , L0000389    , L0000390    , L0000391    ,
               L0000392    , L0000393    , L0000394    ,
               L0000395    , L0000396    , L0000397    , L0000398    , L0000399    ,
               L0000400    , L0000401    , L0000402    ,
               L0000403    , L0000404    , L0000405    , L0000406    , L0000407    ,
               L0000408    , L0000409    ,  . . .      ,

                                    *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                  ** CONC OF OTHER    IN
                                  MICROGRAMS/M**3                        **
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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	16.52335	(15071803)	447375.98	3764150.98	17.94086	(13090423)
447389.75	3764043.04	17.96233	(15082523)	447450.16	3764031.05	18.18990	(13090423)
447410.18	3764019.05	18.10753	(13090423)	446891.90	3764451.22	13.61379	(13082922)
446959.28	3764451.22	13.88469	(14081603)	446995.28	3764468.13	14.01349	(12083005)
447007.41	3764467.30	14.16917	(12083005)	447023.51	3764466.09	14.25440	(12083005)
447036.59	3764466.21	14.26709	(12083005)	447052.68	3764465.61	14.27520	(12083005)
447066.60	3764465.73	14.48299	(13090723)	447099.65	3764456.17	14.83685	(13090723)
447145.28	3764468.27	14.84039	(13070222)	447175.54	3764468.03	14.68125	(13090423)
447205.32	3764468.27	14.81957	(13090423)	447232.43	3764467.55	15.21669	(13090423)
447264.02	3764467.30	15.81212	(14083005)	447294.77	3764466.94	16.04269	(15092502)
447364.97	3764456.41	16.18526	(12080704)	447406.61	3764460.65	16.43838	(12080704)
447441.47	3764460.04	16.40022	(16072603)	447466.88	3764460.20	16.59603	(16072603)
447490.00	3764460.56	16.48156	(16072603)	447515.50	3764460.40	16.48534	(12081001)
447573.06	3764454.29	16.21113	(12081604)	447598.49	3764445.22	16.36162	(12081604)
447652.90	3764439.70	17.15702	(16062701)	447692.92	3764439.51	17.20199	(12071001)
447713.82	3764439.11	17.27407	(14040923)	447731.95	3764438.72	17.44400	(12092102)
447751.07	3764438.72	17.47140	(12092102)	447768.82	3764437.53	17.47273	(16062804)
447789.12	3764437.73	17.66000	(12083006)	447805.68	3764437.34	17.75352	(12083006)
447824.02	3764437.20	17.96980	(12081106)	447841.61	3764437.87	17.96876	(12081106)
447861.72	3764437.53	17.84682	(14072401)	447881.66	3764435.18	17.86605	(15062301)
447902.78	3764436.19	17.87511	(15062301)	447920.87	3764435.35	17.94627	(15062202)
447942.16	3764435.35	18.16142	(13090206)	447962.77	3764434.85	18.18922	(13090206)
447980.70	3764435.18	18.19920	(15083004)	448004.66	3764435.18	18.00352	(15083004)
448021.25	3764434.68	17.45240	(15083004)	447662.70	3764379.63	18.20366	(16062701)
447681.30	3764320.98	18.86232	(16062701)	447682.64	3764285.79	18.71686	(16062701)
447662.53	3764238.37	18.61129	(16082102)	447661.70	3764207.37	18.55171	(12081604)
447683.14	3764162.29	18.34620	(16082102)	447680.97	3764145.87	18.29916	(12081604)
447679.63	3764130.28	18.21169	(12081604)	447680.80	3764112.02	18.12376	(12081604)
447681.47	3764096.43	18.16717	(12081604)	447680.80	3764078.84	18.30440	(12081604)
447679.96	3764064.26	18.57665	(12081001)	447680.97	3764045.82	18.95074	(12081001)
447680.63	3764029.74	19.30467	(12081001)	447657.17			

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6AIDLE ***
INCLUDING SOURCE(S): L0000382 , L0000383 , L0000384 , L0000385 , L0000386 ,
L0000387 , L0000388 , L0000389 , L0000390 , L0000391 ,
L0000392 , L0000393 , L0000394 ,
L0000395 , L0000396 , L0000397 , L0000398 , L0000399 ,
L0000400 , L0000401 , L0000402 ,
L0000403 , L0000404 , L0000405 , L0000406 , L0000407 ,
L0000408 , L0000409 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	31.19839	(13042022)	448462.73	3762339.82	30.99190	(13042022)
448464.47	3762265.93	26.82700	(16082922)	448461.57	3762165.17	29.58098	(12121716)
448472.57	3762064.71	27.16510	(12121716)	448460.48	3762016.72	25.67069	(12121716)
448234.63	3761951.18	17.58490	(13093021)	448081.42	3761952.78	17.90380	(16100624)
448025.53	3761955.99	18.09468	(15101301)	447506.75	3761967.63	14.73823	(16102021)
447269.29	3761967.74	12.26232	(15090904)	447389.46	3761908.79	12.61928	(15092006)
447019.14	3761964.34	9.91287	(15100921)	447060.33	3761963.58	10.22120	(15090903)
446975.31	3761963.20	9.66309	(15100921)	446940.92	3761953.76	9.35601	(15100921)
446865.72	3761974.54	8.75005	(14080302)	446795.06	3761957.91	8.13543	(14080302)
446757.65	3761965.85	7.81435	(15101023)	446709.33			

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      3761967.74        7.63262  (15101023)
      446796.42   3762028.62        8.44402  (15101023)                446796.97
      3762045.28        8.51982  (15101023)
      446796.70   3762089.51        8.63461  (14022022)                446796.15
      3762105.89        8.68899  (14022022)
      446796.70   3762137.29        8.79994  (15031424)                446796.15
      3762153.39        8.86429  (15031424)
      446772.40   3762215.37        8.97560  (15101024)                446795.06
      3762321.03        9.49157  (14011319)
      446796.42   3762450.98        9.93718  (14051523)                446796.42
      3762471.18        9.97663  (14120121)
      446797.24   3762496.03       10.07127  (14120121)                446798.06
      3762516.51       10.17725  (14011518)
      446797.79   3762539.98       10.36051  (14011518)                446797.52
      3762560.19       10.42144  (14011518)
      446798.61   3762584.76       10.45603  (16021518)                446798.06
      3762604.42       10.50575  (16021518)
      446799.70   3762654.11       10.37664  (15031521)                446799.97
      3762674.58       10.30800  (15031521)
      446800.25   3762700.25       10.08939  (15031521)                446800.25
      3762721.27       10.16315  (16041722)
      446799.97   3762735.74       10.17434  (16041722)                446797.79
      3762748.02       10.12632  (16041722)
      446802.16   3762913.47       10.19862  (15032622)                446802.16
      3762932.58       10.20218  (15032622)
      446802.43   3762949.24       10.14554  (15032622)                446802.98
      3762967.26       10.06869  (15040323)
      446802.70   3762986.09        9.94648  (15040323)                446802.16
      3763003.29        9.78394  (12101719)
      446802.16   3763021.86        9.86161  (12101719)                446802.70
      3763040.70        9.87685  (12101719)
      446802.98   3763059.26        9.82106  (12101719)                446803.52
      3763077.01        9.70925  (12101719)
      446756.29   3763085.26        9.25966  (12101719)                446807.68
      3763646.39       14.60953  (16072103)
      446808.32   3763674.66       14.30305  (16072103)                446807.68
      3763694.57       14.15863  (12092322)
      446808.32   3763710.63       14.10399  (16122218)                446808.32
      3763726.37       14.07402  (16122218)
      446808.00   3763742.11       14.06090  (14091702)                446808.32
      3763756.89       14.12644  (14091702)
      446808.64   3763798.32       14.38465  (14091702)                446810.25
      3764484.08       13.13785  (12092221)
      446781.34   3764475.08       13.11550  (12092221)                446722.56
      3764455.81       12.82905  (12081704)
      446170.32   3764559.79       10.66033  (16072901)                446872.29
      3763190.26       10.12186  (16112103)
      446925.22   3763179.19       10.93791  (16112103)                446984.86
      3763194.88       11.24377  (15120517)
      447010.56   3763193.28       12.16737  (15120517)                447036.58
      3763193.60       12.47001  (15120517)
      447053.61   3763193.28       12.66427  (15120517)                447076.42
      3763192.31       13.19497  (14051202)
      447093.45   3763192.63       14.42422  (12112420)                447122.05
      3763192.63       13.88424  (13092722)
      447138.75   3763192.31       14.02945  (13092722)                447167.99
      3763192.31       14.18870  (13092722)
      447170.68   3763172.18       13.87879  (13092722)                447170.41
      3763158.25       13.77129  (13092722)
      447169.31   3763144.87       13.92653  (15120517)                447147.46
      3763107.45       14.47515  (15120517)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6AIDLE ***
INCLUDING SOURCE(S): L0000382 , L0000383 , L0000384 , L0000385 , L0000386 , L0000387 , L0000388 , L0000389 , L0000390 , L0000391 , L0000392 , L0000393 , L0000394 , L0000395 , L0000396 , L0000397 , L0000398 , L0000399 , L0000400 , L0000401 , L0000402 , L0000403 , L0000404 , L0000405 , L0000406 , L0000407 , L0000408 , L0000409 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	14.11712	(16102407)	447146.92	3763064.30	14.30069	(16112103)
447149.92	3763038.90	14.69143	(12020622)	447148.56	3763019.78	14.85210	(12020622)
447148.56	3762997.39	14.88030	(12020622)	447206.08	3762958.49	16.74365	(12101719)
447209.33	3762922.51	17.14514	(12101719)	447208.40	3762890.70	17.35978	(15040323)
447145.83	3762888.87	15.85450	(15032622)	447122.55	3762889.07	15.34907	(15032622)
447094.33	3762890.05	14.75668	(15032622)	447071.04	3762890.45	14.29361	(15032622)
447043.61	3762889.66	13.77658	(15032622)	447017.76	3762888.87	13.30733	(15032622)
446992.11	3762889.07	12.85918	(15032622)	446964.28	3762888.28	12.39297	(15032622)
446940.41	3762888.47	12.01153	(15032622)	446911.20	3762888.08	11.56315	(15032622)
446885.35	3762889.66	11.19329	(15032622)	446862.07	3762888.87	10.86308	(15032622)
446871.45	3762779.57	11.25035	(15090905)	446926.31	3762768.72	11.95373	(15090905)
446983.74	3762774.24	12.96780	(15090905)	447009.00	3762774.05	13.42666	(15090905)
447030.51	3762774.44	13.84478	(15090905)	447055.37	3762774.05	14.34629	(15090905)
447076.88	3762774.24	14.80930	(15090905)	447101.16	3762774.44	15.36093	(15090905)
447123.85	3762774.05	15.90334	(15090905)	447148.12	3762775.03	16.52934	(15090905)
447170.23	3762774.84	17.12677	(15090905)	447196.78	3762775.48	17.89800	(15090905)
447242.12	3762776.57	19.34725	(15090905)	447262.33	3762776.03	20.05352	(15090905)
447294.56	3762776.30	21.27214	(15090905)	447313.13	3762775.48	22.03248	(15090905)
447313.40	3762749.53	21.78578	(15090905)	447327.86	3762713.09	21.98347	(16041722)
447327.36	3762679.87	22.45193	(15031521)	447327.74	3762657.02	22.76852	(16021518)
447327.28	3762636.82	22.61151	(16021518)	447327.51	3762612.90	22.43962	(14011518)
447327.28	3762592.24	21.85957	(14011518)	447327.04			

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      3762569.71       21.53061  (14120121)
      447327.28   3762547.89       21.55568  (14051523)               447326.58
      3762524.67       21.10328  (14051523)
      447326.58   3762506.09       20.82989  (13121117)               447327.51
      3762477.53       20.33724  (14011319)
      447325.88   3762454.31       19.96264  (12020618)               447225.58
      3762432.95       16.80865  (12020618)
      447200.27   3762430.63       16.14066  (12020618)               447156.85
      3762430.16       15.20902  (14011319)
      447131.77   3762430.86       14.70450  (14011319)               447102.74
      3762430.63       14.11203  (14011319)
      447079.06   3762430.86       13.71612  (13121117)               447034.94
      3762433.65       13.03183  (13121117)
      446995.47   3762433.65       12.40599  (13121117)               446972.71
      3762434.34       12.06549  (15031523)
      446941.37   3762434.58       11.67653  (14051523)               446916.06
      3762436.90       11.38250  (14051523)
      446876.35   3762436.90       10.89496  (14051523)               446848.85
      3762647.05       10.97634  (15031521)
      446848.85   3762563.17       11.04486  (14011518)               446849.17
      3762509.82       10.68768  (14120121)
      446849.17   3762455.82       10.57296  (14051523)               446848.85
      3762702.00       10.65734  (15031521)
      446849.49   3762754.71       10.77864  (14100421)               446739.81
      3762428.53        9.35766  (14051523)
      446711.81   3762423.61        9.08436  (14051523)               446687.25
      3762416.25        8.85884  (14051523)
      446662.20   3762412.32        8.63582  (14051523)               446636.17
      3762403.97        8.41916  (14051523)
      449981.72   3762732.45        5.93146  (15082823)               446486.82
      3762231.95        7.02076  (14011319)
      446261.97   3762068.01        5.66705  (12020618)               446443.15
      3762291.63        6.91620  (13121117)
      446071.80   3762055.49        4.96933  (12020618)               446072.08
      3761983.13        4.86842  (12020618)
      446138.18   3762002.17        5.09854  (14031702)               445884.94
      3762039.75        4.43753  (14011319)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 313
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  6AON     ***
                                INCLUDING SOURCE(S):     L0000417    , L0000418    ,
                                L0000419    , L0000420    , L0000421    ,
                  L0000422    , L0000423    , L0000424    , L0000425    , L0000426    ,
                  L0000427    , L0000428    , L0000429    ,
                  L0000430    , L0000431    , L0000432    , L0000433    , L0000434    ,
                  L0000435    , L0000436    , L0000437    ,
                  L0000438    , L0000439    , L0000440    , L0000441    , L0000442    ,
                  L0000443    , L0000444    ,  . . .      ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                         **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       447362.21   3764292.67       11.03803  (12080704)               447375.98
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3764150.98 11.56002 (15071803)
447389.75 3764043.04 11.78017 (15082605) 447450.16
3764031.05 11.66439 (14080203)
447410.18 3764019.05 11.81504 (15082605) 446891.90
3764451.22 10.20461 (16072804)
446959.28 3764451.22 10.20365 (16072804) 446995.28
3764468.13 10.31707 (13090723)
447007.41 3764467.30 10.37330 (13090723) 447023.51
3764466.09 10.40042 (13090723)
447036.59 3764466.21 10.40362 (13090723) 447052.68
3764465.61 10.41574 (13090723)
447066.60 3764465.73 10.41454 (13090723) 447099.65
3764456.17 10.46954 (13090423)
447145.28 3764468.27 10.49125 (13090423) 447175.54
3764468.03 10.36208 (13090423)
447205.32 3764468.27 10.20340 (13090423) 447232.43
3764467.55 10.35423 (12072004)
447264.02 3764467.30 10.65765 (12072004) 447294.77
3764466.94 10.80685 (12080704)
447364.97 3764456.41 10.74495 (12080704) 447406.61
3764460.65 10.68202 (16072603)
447441.47 3764460.04 10.75575 (12081001) 447466.88
3764460.20 10.75204 (12081001)
447490.00 3764460.56 10.68731 (12081001) 447515.50
3764460.40 10.56421 (12081001)
447573.06 3764454.29 10.38351 (15032722) 447598.49
3764445.22 10.46878 (15032722)
447652.90 3764439.70 10.66936 (15032722) 447692.92
3764439.51 10.68533 (12083006)
447713.82 3764439.11 10.70873 (12083006) 447731.95
3764438.72 10.72876 (12083006)
447751.07 3764438.72 10.72058 (12083006) 447768.82
3764437.53 10.72517 (14072401)
447789.12 3764437.73 10.76790 (14072401) 447805.68
3764437.34 10.79781 (15062301)
447824.02 3764437.20 10.81298 (15062301) 447841.61
3764437.87 10.82384 (13090206)
447861.72 3764437.53 10.83189 (13090206) 447881.66
3764435.18 10.84046 (15083004)
447902.78 3764436.19 10.84290 (15083004) 447920.87
3764435.35 10.87362 (12082822)
447942.16 3764435.35 10.92003 (12082822) 447962.77
3764434.85 10.95069 (12082822)
447980.70 3764435.18 10.96172 (12082822) 448004.66
3764435.18 10.92879 (12082822)
448021.25 3764434.68 10.80300 (12082822) 447662.70
3764379.63 11.06696 (15032722)
447681.30 3764320.98 11.33083 (15032722) 447682.64
3764285.79 11.35271 (15032722)
447662.53 3764238.37 11.40584 (15032722) 447661.70
3764207.37 11.38256 (15032722)
447683.14 3764162.29 11.32153 (15032722) 447680.97
3764145.87 11.29743 (15032722)
447679.63 3764130.28 11.25539 (15032722) 447680.80
3764112.02 11.21632 (15032722)
447681.47 3764096.43 11.23364 (15032722) 447680.80
3764078.84 11.29508 (15032722)
447679.96 3764064.26 11.39368 (15032722) 447680.97
3764045.82 11.53645 (15032722)
447680.63 3764029.74 11.67303 (15032722) 447657.17
3763992.03 11.84565 (15032722)
447656.33 3763967.06 12.10370 (13082423) 447657.17
3763928.69 12.45028 (13082423)
447657.17 3763902.21 12.69920 (13082423) 447657.51
3763869.03 12.88363 (13082423)
447656.16 3763834.94 13.21701 (13082423) 447655.93

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6AON ***
INCLUDING SOURCE(S): L0000417 , L0000418 , L0000419 , L0000420 , L0000421 ,
L0000422 , L0000423 , L0000424 , L0000425 , L0000426 ,
L0000427 , L0000428 , L0000429 ,
L0000430 , L0000431 , L0000432 , L0000433 , L0000434 ,
L0000435 , L0000436 , L0000437 ,
L0000438 , L0000439 , L0000440 , L0000441 , L0000442 ,
L0000443 , L0000444 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	20.55940	(12121716)	448462.73	3762339.82	19.93387	(12121716)
448464.47	3762265.93	16.87221	(12121716)	448461.57	3762165.17	13.86622	(12121716)
448472.57	3762064.71	11.69489	(12121716)	448460.48	3762016.72	10.86569	(12121716)
448234.63	3761951.18	9.77113	(16020918)	448081.42	3761952.78	9.80018	(13050222)
448025.53	3761955.99	9.78251	(13050222)	447506.75	3761967.63	9.77237	(12082901)
447269.29	3761967.74	9.30697	(12091503)	447389.46	3761908.79	8.98840	(12091405)
447019.14	3761964.34	8.44199	(15090904)	447060.33	3761963.58	8.68003	(15090904)
446975.31	3761963.20	8.25239	(14091405)	446940.92	3761953.76	8.06811	(14051524)
446865.72	3761974.54	8.02710	(15090903)	446795.06	3761957.91	7.69361	(15100921)
446757.65	3761965.85	7.61413	(15100921)	446709.33	3761967.74	7.37667	(15100921)
446796.42	3762028.62	8.09169	(15100921)	446796.97	3762045.28	8.13931	(15100921)
446796.70	3762089.51	8.32536	(14080302)	446796.15	3762105.89	8.35560	(14080302)
446796.70	3762137.29	8.61654	(15101023)	446796.15			

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      3762153.39        8.73738  (15101023)
      446772.40   3762215.37        8.89185  (14022022)               446795.06
      3762321.03        9.84096  (15101024)
      446796.42   3762450.98       10.73467  (13121117)               446796.42
      3762471.18       10.87004  (13121117)
      446797.24   3762496.03       11.11106  (14051523)               446798.06
      3762516.51       11.23532  (14051523)
      446797.79   3762539.98       11.22997  (14051523)               446797.52
      3762560.19       11.39459  (14120121)
      446798.61   3762584.76       11.54835  (14011518)               446798.06
      3762604.42       11.79785  (14011518)
      446799.70   3762654.11       12.07683  (16021518)               446799.97
      3762674.58       12.14651  (16021518)
      446800.25   3762700.25       12.04175  (16021518)               446800.25
      3762721.27       11.99702  (15031521)
      446799.97   3762735.74       11.90595  (15031521)               446797.79
      3762748.02       11.74578  (15031521)
      446802.16   3762913.47       11.59315  (15090905)               446802.16
      3762932.58       11.69663  (15032622)
      446802.43   3762949.24       11.71102  (15032622)               446802.98
      3762967.26       11.63867  (15032622)
      446802.70   3762986.09       11.48618  (15040323)               446802.16
      3763003.29       11.32219  (15040323)
      446802.16   3763021.86       11.11391  (12101719)               446802.70
      3763040.70       11.14698  (12101719)
      446802.98   3763059.26       11.08630  (12101719)               446803.52
      3763077.01       10.95265  (12101719)
      446756.29   3763085.26       10.38809  (12101719)               446807.68
      3763646.39       12.55616  (12092322)
      446808.32   3763674.66       12.37382  (14091702)               446807.68
      3763694.57       12.42757  (14091702)
      446808.32   3763710.63       12.39667  (14091702)               446808.32
      3763726.37       12.33759  (14091702)
      446808.00   3763742.11       12.21268  (14091702)               446808.32
      3763756.89       12.08782  (14091702)
      446808.64   3763798.32       11.88533  (14091702)               446810.25
      3764484.08       10.07912  (13082922)
      446781.34   3764475.08       10.05614  (13082922)               446722.56
      3764455.81       10.05319  (12092221)
      446170.32   3764559.79        9.01827  (16072901)               446872.29
      3763190.26       10.68732  (15120517)
      446925.22   3763179.19       11.42397  (15120517)               446984.86
      3763194.88       11.94970  (15120517)
      447010.56   3763193.28       12.19874  (15120517)               447036.58
      3763193.60       12.38630  (15120517)
      447053.61   3763193.28       12.59403  (13092722)               447076.42
      3763192.31       12.92181  (13092722)
      447093.45   3763192.63       13.13431  (13092722)               447122.05
      3763192.63       13.45673  (13092722)
      447138.75   3763192.31       13.62263  (13092722)               447167.99
      3763192.31       13.99993  (13092602)
      447170.68   3763172.18       14.38743  (13092722)               447170.41
      3763158.25       14.70873  (13092722)
      447169.31   3763144.87       14.96463  (13092722)               447147.46
      3763107.45       15.52543  (15120517)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 315
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  6AON     ***
                              INCLUDING SOURCE(S):     L0000417    , L0000418    ,
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L0000419 , L0000420 , L0000421 ,
L0000422 , L0000423 , L0000424 , L0000425 , L0000426 ,
L0000427 , L0000428 , L0000429 ,
L0000430 , L0000431 , L0000432 , L0000433 , L0000434 ,
L0000435 , L0000436 , L0000437 ,
L0000438 , L0000439 , L0000440 , L0000441 , L0000442 ,
L0000443 , L0000444 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	15.98591	(15120517)	447146.92	3763064.30	16.24810	(15120517)
447149.92	3763038.90	16.92247	(12020622)	447148.56	3763019.78	17.41402	(12020622)
447148.56	3762997.39	17.79156	(12020622)	447206.08	3762958.49	20.62867	(12101719)
447209.33	3762922.51	21.70010	(12101719)	447208.40	3762890.70	22.62544	(15032622)
447145.83	3762888.87	20.14367	(15032622)	447122.55	3762889.07	19.28626	(15032622)
447094.33	3762890.05	18.30885	(15032622)	447071.04	3762890.45	17.55637	(15032622)
447043.61	3762889.66	16.72065	(15032622)	447017.76	3762888.87	15.97677	(15032622)
446992.11	3762889.07	15.28806	(15032622)	446964.28	3762888.28	14.66347	(15090905)
446940.41	3762888.47	14.20816	(15090905)	446911.20	3762888.08	13.69219	(15090905)
446885.35	3762889.66	13.22388	(15090905)	446862.07	3762888.87	12.86034	(15090905)
446871.45	3762779.57	13.00748	(16041722)	446926.31	3762768.72	14.05863	(16041722)
446983.74	3762774.24	15.38983	(16041722)	447009.00	3762774.05	16.03866	(16041722)
447030.51	3762774.44	16.63337	(16041722)	447055.37	3762774.05	17.36952	(16041722)
447076.88	3762774.24	18.05695	(16041722)	447101.16	3762774.44	18.89432	(16041722)
447123.85	3762774.05	19.74326	(16041722)	447148.12	3762775.03	20.73349	(16041722)
447170.23	3762774.84	21.71769	(16041722)	447196.78	3762775.48	23.02128	(16041722)
447242.12	3762776.57	25.61591	(16041722)	447262.33	3762776.03	26.96293	(16041722)
447294.56	3762776.30	29.40792	(16041722)	447313.13	3762775.48	31.02682	(16041722)
447313.40	3762749.53	31.46386	(15031521)	447327.86	3762713.09	32.65529	(16021518)
447327.36	3762679.87	30.76998	(14011518)	447327.74	3762657.02	29.56841	(14051523)
447327.28	3762636.82	28.53174	(14051523)	447327.51	3762612.90	26.92950	(13121117)
447327.28	3762592.24	25.65706	(14051602)	447327.04	3762569.71	24.42779	(14100401)
447327.28	3762547.89	23.49139	(14100401)	447326.58	3762524.67	22.18355	(14100401)
447326.58	3762506.09	21.32729	(15100919)	447327.51	3762477.53	20.21931	(15101023)
447325.88	3762454.31	19.23294	(15101023)	447225.58			

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       3762432.95       16.77679  (15101023)
       447200.27   3762430.63       16.24146  (14022022)                447156.85
       3762430.16       15.50266  (15031424)
       447131.77   3762430.86       15.15453  (14100401)                447102.74
       3762430.63       14.74210  (14100401)
       447079.06   3762430.86       14.37648  (14100401)                447034.94
       3762433.65       13.66209  (14100401)
       446995.47   3762433.65       13.00088  (12020618)                446972.71
       3762434.34       12.72024  (12020618)
       446941.37   3762434.58       12.30648  (12020618)                446916.06
       3762436.90       11.96922  (12020618)
       446876.35   3762436.90       11.50213  (14011319)                446848.85
       3762647.05       12.80539  (14011518)
       446848.85   3762563.17       12.12080  (14120121)                446849.17
       3762509.82       11.88066  (14051523)
       446849.17   3762455.82       11.35389  (13121117)                446848.85
       3762702.00       12.86146  (16021518)
       446849.49   3762754.71       12.50796  (15031521)                446739.81
       3762428.53        9.97542  (13121117)
       446711.81   3762423.61        9.68712  (13121117)                446687.25
       3762416.25        9.42204  (13121117)
       446662.20   3762412.32        9.19008  (13121117)                446636.17
       3762403.97        8.93302  (13121117)
       449981.72   3762732.45        5.70263  (15082823)                446486.82
       3762231.95        7.17505  (12020618)
       446261.97   3762068.01        5.80754  (15101024)                446443.15
       3762291.63        7.16831  (14011319)
       446071.80   3762055.49        5.07325  (15101024)                446072.08
       3761983.13        5.00218  (15101024)
       446138.18   3762002.17        5.23287  (15101024)                445884.94
       3762039.75        4.52940  (12020618)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 316
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  6BBREAT  ***
                               INCLUDING SOURCE(S):     6BBREAT     ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       447362.21   3764292.67       15.15148  (13090723)                447375.98
       3764150.98       15.70470  (15061924)
       447389.75   3764043.04       15.77667  (16072804)                447450.16
       3764031.05       16.01559  (15061924)
       447410.18   3764019.05       15.87545  (16072804)                446891.90
       3764451.22       12.19309  (12092221)
       446959.28   3764451.22       12.39027  (15092403)                446995.28
       3764468.13       12.65315  (15061824)
       447007.41   3764467.30       12.76843  (15061824)                447023.51
       3764466.09       12.85518  (14081603)
       447036.59   3764466.21       12.98209  (14081603)                447052.68
       3764465.61       13.13344  (14081603)
       447066.60   3764465.73       13.22930  (14081603)                447099.65
       3764456.17       13.32635  (12092724)
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447145.28   3764468.27      13.47581  (12083005)              447175.54
3764468.03      13.34637  (12083005)
447205.32   3764468.27      13.23904  (13090723)              447232.43
3764467.55      13.78682  (13090723)
447264.02   3764467.30      14.41872  (13070222)              447294.77
3764466.94      14.88109  (13070222)
447364.97   3764456.41      15.02557  (13090423)              447406.61
3764460.65      15.04144  (13090423)
447441.47   3764460.04      15.20941  (14083005)              447466.88
3764460.20      15.10990  (16072504)
447490.00   3764460.56      15.26018  (15092502)              447515.50
3764460.40      15.21307  (15092502)
447573.06   3764454.29      15.10888  (12080704)              447598.49
3764445.22      15.39965  (12080704)
447652.90   3764439.70      16.15212  (16072603)              447692.92
3764439.51      16.26879  (16072603)
447713.82   3764439.11      16.37702  (15062904)              447731.95
3764438.72      16.65876  (12081001)
447751.07   3764438.72      16.79349  (12081001)              447768.82
3764437.53      16.83910  (12081001)
447789.12   3764437.73      17.00923  (12081604)              447805.68
3764437.34      17.02496  (12081604)
447824.02   3764437.20      17.07700  (13091705)              447841.61
3764437.87      17.23021  (16062701)
447861.72   3764437.53      17.33070  (16062701)              447881.66
3764435.18      17.25997  (16062701)
447902.78   3764436.19      17.32236  (12071001)              447920.87
3764435.35      17.36155  (15080504)
447942.16   3764435.35      17.40445  (12092102)              447962.77
3764434.85      17.59625  (12092102)
447980.70   3764435.18      17.57730  (12092102)              448004.66
3764435.18      17.30198  (16062804)
448021.25   3764434.68      16.99702  (12083006)              447662.70
3764379.63      16.93751  (16072603)
447681.30   3764320.98      17.52310  (16072603)              447682.64
3764285.79      17.49244  (12080704)
447662.53   3764238.37      17.42950  (12080704)              447661.70
3764207.37      17.15730  (12080704)
447683.14   3764162.29      17.02209  (12080704)              447680.97
3764145.87      16.82345  (12080704)
447679.63   3764130.28      16.58955  (12080704)              447680.80
3764112.02      16.45764  (14080203)
447681.47   3764096.43      16.46717  (12072004)              447680.80
3764078.84      16.61076  (12072004)
447679.96   3764064.26      16.81208  (12072004)              447680.97
3764045.82      17.09174  (12072004)
447680.63   3764029.74      17.33625  (12072004)              447657.17
3763992.03      17.61478  (15071803)
447656.33   3763967.06      18.10556  (15071803)              447657.17
3763928.69      18.84413  (13090423)
447657.17   3763902.21      19.34820  (13090423)              447657.51
3763869.03      19.58082  (13090423)
447656.16   3763834.94      19.95385  (13090423)              447655.93
3763808.27      20.67191  (15082523)
447657.09   3763786.00      21.21921  (15082523)              447701.21
3763782.14      21.85171  (13090423)
447856.92   3763749.71      21.83984  (12080704)              447854.99
3763730.13      21.94293  (13071601)
447854.35   3763698.35      22.19132  (14080203)              447855.31
3763676.84      22.36848  (14080203)
447675.51   3763287.46      23.66666  (12081402)              448481.33
3763485.29      31.89942  (12090506)
448479.95   3763195.53      39.29110  (12091005)              448478.56
3762907.16      45.87944  (12091102)
448497.89   3762714.10     109.32112  (14041207)              448507.91
3762487.71     295.57021  (14120316)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BBREAT ***
INCLUDING SOURCE(S): 6BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	161.22034	(16072221)	448462.73	3762339.82	266.24171	(12121716)
448464.47	3762265.93	248.15007	(12121716)	448461.57	3762165.17	90.28990	(12121716)
448472.57	3762064.71	45.05442	(16020918)	448460.48	3762016.72	38.73901	(13093021)
448234.63	3761951.18	33.80391	(15090923)	448081.42	3761952.78	30.12902	(16061824)
448025.53	3761955.99	28.48315	(12082901)	447506.75	3761967.63	14.76391	(14080302)
447269.29	3761967.74	11.08587	(14022022)	447389.46	3761908.79	12.35841	(14080302)
447019.14	3761964.34	8.71802	(15101024)	447060.33	3761963.58	9.06809	(15101024)
446975.31	3761963.20	8.33019	(15101024)	446940.92	3761953.76	8.04089	(15101024)
446865.72	3761974.54	7.58714	(12020618)	446795.06	3761957.91	7.12161	(12020618)
446757.65	3761965.85	6.89489	(12020618)	446709.33	3761967.74	6.66313	(14011319)
446796.42	3762028.62	7.25486	(14011319)	446796.97	3762045.28	7.31269	(13121117)
446796.70	3762089.51	7.41794	(15031523)	446796.15	3762105.89	7.46736	(14051523)
446796.70	3762137.29	7.53887	(14051523)	446796.15	3762153.39	7.52732	(14051523)
446772.40	3762215.37	7.43792	(14120121)	446795.06	3762321.03	7.81996	(16021518)
446796.42	3762450.98	7.67953	(15031521)	446796.42	3762471.18	7.54750	(16041722)
446797.24	3762496.03	7.63847	(16041722)	446798.06	3762516.51	7.65817	(16041722)
446797.79	3762539.98	7.66094	(14100421)	446797.52	3762560.19	7.70308	(15090905)
446798.61	3762584.76	7.84498	(15090905)	446798.06	3762604.42	7.89323	(15090905)
446799.70	3762654.11	7.81726	(15090905)	446799.97	3762674.58	7.69366	(15090905)
446800.25	3762700.25	7.57079	(15032622)	446800.25	3762721.27	7.66247	(15032622)
446799.97	3762735.74	7.69323	(15032622)	446797.79	3762748.02	7.68617	(15032622)
446802.16	3762913.47	7.43605	(12101719)	446802.16	3762932.58	7.35304	(12101719)
446802.43	3762949.24	7.25145	(12101719)	446802.98			

3762967.26 7.17135 (12020622)
446802.70 3762986.09 7.20340 (12020622) 446802.16
3763003.29 7.20056 (12020622)
446802.16 3763021.86 7.16933 (12020622) 446802.70
3763040.70 7.10711 (12020622)
446802.98 3763059.26 7.01272 (12020622) 446803.52
3763077.01 6.98668 (16112103)
446756.29 3763085.26 6.71300 (16112103) 446807.68
3763646.39 12.13043 (16072103)
446808.32 3763674.66 11.91400 (13013121) 446807.68
3763694.57 11.89362 (16122218)
446808.32 3763710.63 11.91460 (16122218) 446808.32
3763726.37 11.95380 (15091101)
446808.00 3763742.11 11.95878 (15091101) 446808.32
3763756.89 11.99839 (14091702)
446808.64 3763798.32 12.28188 (14091702) 446810.25
3764484.08 11.86094 (12081704)
446781.34 3764475.08 11.82394 (12081704) 446722.56
3764455.81 11.46715 (15062905)
446170.32 3764559.79 9.59392 (16072901) 446872.29
3763190.26 11.89093 (12020623)
446925.22 3763179.19 12.58529 (13051203) 446984.86
3763194.88 12.98027 (13051203)
447010.56 3763193.28 13.48048 (16092723) 447036.58
3763193.60 13.85981 (16092723)
447053.61 3763193.28 14.13207 (16092723) 447076.42
3763192.31 14.54966 (16092723)
447093.45 3763192.63 14.92507 (16092723) 447122.05
3763192.63 14.91264 (16092723)
447138.75 3763192.31 14.98993 (15021422) 447167.99
3763192.31 15.27185 (16110920)
447170.68 3763172.18 15.25420 (15021422) 447170.41
3763158.25 15.19124 (15021422)
447169.31 3763144.87 15.25354 (16092723) 447147.46
3763107.45 15.60924 (13051203)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BBREAT ***
INCLUDING SOURCE(S): 6BBREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	15.63845	(13051203)	447146.92	3763064.30	15.38393	(13051203)
447149.92	3763038.90	9.68114	(15120517)	447148.56	3763019.78	9.78914	(15120517)
447148.56	3762997.39	9.85310	(15120517)	447206.08	3762958.49	10.56280	(15120517)
447209.33	3762922.51	10.74185	(16112103)	447208.40	3762890.70	10.96472	(12020622)
447145.83	3762888.87	10.26904	(12020622)	447122.55	3762889.07	10.00280	(12020622)

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447094.33   3762890.05       9.68234  (12020622)              447071.04
3762890.45       9.42066  (12020622)
447043.61   3762889.66       9.11184  (12020622)              447017.76
3762888.87       8.93150  (12101719)
446992.11   3762889.07       8.76143  (12101719)              446964.28
3762888.28       8.58197  (12101719)
446940.41   3762888.47       8.41984  (12101719)              446911.20
3762888.08       8.22394  (12101719)
446885.35   3762889.66       8.04214  (12101719)              446862.07
3762888.87       7.88733  (12101719)
446871.45   3762779.57       8.13117  (15040323)              446926.31
3762768.72       8.57751  (15040323)
446983.74   3762774.24       9.01745  (15040323)              447009.00
3762774.05       9.22634  (15040323)
447030.51   3762774.44       9.40374  (15040323)              447055.37
3762774.05       9.61795  (15040323)
447076.88   3762774.24       9.80063  (15040323)              447101.16
3762774.44      10.05360  (12101719)
447123.85   3762774.05      10.34865  (12101719)              447148.12
3762775.03      10.67868  (12101719)
447170.23   3762774.84      10.98162  (12101719)              447196.78
3762775.48      11.35646  (12101719)
447242.12   3762776.57      12.01101  (12101719)              447262.33
3762776.03      12.31213  (12101719)
447294.56   3762776.30      12.79607  (12101719)              447313.13
3762775.48      13.08621  (12101719)
447313.40   3762749.53      13.21604  (12101719)              447327.86
3762713.09      13.46937  (15040323)
447327.36   3762679.87      13.77847  (15032622)              447327.74
3762657.02      13.89587  (15032622)
447327.28   3762636.82      13.81638  (15032622)              447327.51
3762612.90      13.90060  (15090905)
447327.28   3762592.24      14.16876  (15090905)              447327.04
3762569.71      14.26521  (15090905)
447327.28   3762547.89      14.16682  (15090905)              447326.58
3762524.67      13.87100  (14100421)
447326.58   3762506.09      13.82230  (16041722)              447327.51
3762477.53      13.73088  (15031521)
447325.88   3762454.31      13.99369  (15031521)              447225.58
3762432.95      12.32107  (15031521)
447200.27   3762430.63      11.93810  (15031521)              447156.85
3762430.16      11.32244  (15031521)
447131.77   3762430.86      10.99085  (15031521)              447102.74
3762430.63      10.62588  (15031521)
447079.06   3762430.86      10.34100  (15031521)              447034.94
3762433.65       9.84183  (15031521)
446995.47   3762433.65       9.43441  (15031521)              446972.71
3762434.34       9.21083  (15031521)
446941.37   3762434.58       8.92091  (15031521)              446916.06
3762436.90       8.68972  (15031521)
446876.35   3762436.90       8.35517  (15031521)              446848.85
3762647.05       8.19202  (15090905)
446848.85   3762563.17       8.12157  (15090905)              446849.17
3762509.82       8.03101  (16041722)
446849.17   3762455.82       8.04464  (15031521)              446848.85
3762702.00       7.96917  (15032622)
446849.49   3762754.71       8.04675  (15032622)              446739.81
3762428.53       7.37875  (15031521)
446711.81   3762423.61       7.21109  (15031521)              446687.25
3762416.25       7.07290  (15031521)
446662.20   3762412.32       6.92978  (15031521)              446636.17
3762403.97       6.78852  (15031521)
449981.72   3762732.45       7.22271  (15082923)              446486.82
3762231.95       6.03910  (14011518)
446261.97   3762068.01       4.92913  (13121806)              446443.15
3762291.63       5.88513  (16021518)
```

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BLOAD ***
INCLUDING SOURCE(S): 6BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	15.15141	(13090723)	447375.98	3764150.98	15.70464	(15061924)
447389.75	3764043.04	15.77662	(16072804)	447450.16	3764031.05	16.01555	(15061924)
447410.18	3764019.05	15.87541	(16072804)	446891.90	3764451.22	12.19303	(12092221)
446959.28	3764451.22	12.39022	(15092403)	446995.28	3764468.13	12.65309	(15061824)
447007.41	3764467.30	12.76837	(15061824)	447023.51	3764466.09	12.85512	(14081603)
447036.59	3764466.21	12.98202	(14081603)	447052.68	3764465.61	13.13337	(14081603)
447066.60	3764465.73	13.22923	(14081603)	447099.65	3764456.17	13.32628	(12092724)
447145.28	3764468.27	13.47574	(12083005)	447175.54	3764468.03	13.34631	(12083005)
447205.32	3764468.27	13.23898	(13090723)	447232.43	3764467.55	13.78675	(13090723)
447264.02	3764467.30	14.41864	(13070222)	447294.77	3764466.94	14.88100	(13070222)
447364.97	3764456.41	15.02549	(13090423)	447406.61	3764460.65	15.04136	(13090423)
447441.47	3764460.04	15.20933	(14083005)	447466.88	3764460.20	15.10982	(16072504)
447490.00	3764460.56	15.26010	(15092502)	447515.50	3764460.40	15.21299	(15092502)
447573.06	3764454.29	15.10881	(12080704)	447598.49	3764445.22	15.39958	(12080704)
447652.90	3764439.70	16.15204	(16072603)	447692.92	3764439.51	16.26870	(16072603)
447713.82	3764439.11	16.37693	(15062904)	447731.95	3764438.72	16.65867	(12081001)
447751.07	3764438.72	16.79340	(12081001)	447768.82	3764437.53	16.83901	(12081001)
447789.12	3764437.73	17.00913	(12081604)	447805.68	3764437.34	17.02486	(12081604)
447824.02	3764437.20	17.07678	(13091705)	447841.61	3764437.87	17.23011	(16062701)
447861.72	3764437.53	17.33060	(16062701)	447881.66	3764435.18	17.25987	(16062701)
447902.78	3764436.19	17.32226	(12071001)	447920.87			

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       3764435.35       17.36145  (15080504)
       447942.16   3764435.35       17.40436  (12092102)                447962.77
       3764434.85       17.59615  (12092102)
       447980.70   3764435.18       17.57719  (12092102)                448004.66
       3764435.18       17.30189  (16062804)
       448021.25   3764434.68       16.99694  (12083006)                447662.70
       3764379.63       16.93742  (16072603)
       447681.30   3764320.98       17.52301  (16072603)                447682.64
       3764285.79       17.49235  (12080704)
       447662.53   3764238.37       17.42942  (12080704)                447661.70
       3764207.37       17.15723  (12080704)
       447683.14   3764162.29       17.02203  (12080704)                447680.97
       3764145.87       16.82339  (12080704)
       447679.63   3764130.28       16.58951  (12080704)                447680.80
       3764112.02       16.45759  (14080203)
       447681.47   3764096.43       16.46713  (12072004)                447680.80
       3764078.84       16.61072  (12072004)
       447679.96   3764064.26       16.81204  (12072004)                447680.97
       3764045.82       17.09170  (12072004)
       447680.63   3764029.74       17.33621  (12072004)                447657.17
       3763992.03       17.61473  (15071803)
       447656.33   3763967.06       18.10551  (15071803)                447657.17
       3763928.69       18.84408  (13090423)
       447657.17   3763902.21       19.34815  (13090423)                447657.51
       3763869.03       19.58077  (13090423)
       447656.16   3763834.94       19.95380  (13090423)                447655.93
       3763808.27       20.67184  (15082523)
       447657.09   3763786.00       21.21914  (15082523)                447701.21
       3763782.14       21.85165  (13090423)
       447856.92   3763749.71       21.83981  (12080704)                447854.99
       3763730.13       21.94289  (13071601)
       447854.35   3763698.35       22.19129  (14080203)                447855.31
       3763676.84       22.36845  (14080203)
       447675.51   3763287.46       23.66669  (12081402)                448481.33
       3763485.29       31.89937  (12090506)
       448479.95   3763195.53       39.29122  (12091005)                448478.56
       3762907.16       45.87920  (12091102)
       448497.89   3762714.10      109.27354  (14041207)                448507.91
       3762487.71      295.53397  (14120316)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 320
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  6BLOAD   ***
                                INCLUDING SOURCE(S):     6BLOAD      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96      161.21965  (16072221)                448462.73
       3762339.82      265.83810  (12121716)
       448464.47   3762265.93      247.83511  (12121716)                448461.57
       3762165.17       90.19326  (12121716)
       448472.57   3762064.71       45.05416  (16020918)                448460.48
       3762016.72       38.73880  (13093021)
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448234.63   3761951.18       33.80375  (15090923)                448081.42
3761952.78       30.12885  (16061824)
448025.53   3761955.99       28.48299  (12082901)                447506.75
3761967.63       14.76383  (14080302)
447269.29   3761967.74       11.08572  (14022022)                447389.46
3761908.79       12.35834  (14080302)
447019.14   3761964.34        8.71798  (15101024)                447060.33
3761963.58        9.06805  (15101024)
446975.31   3761963.20        8.33015  (15101024)                446940.92
3761953.76        8.04086  (15101024)
446865.72   3761974.54        7.58708  (12020618)                446795.06
3761957.91        7.12156  (12020618)
446757.65   3761965.85        6.89484  (12020618)                446709.33
3761967.74        6.66310  (14011319)
446796.42   3762028.62        7.25482  (14011319)                446796.97
3762045.28        7.31262  (13121117)
446796.70   3762089.51        7.41791  (15031523)                446796.15
3762105.89        7.46732  (14051523)
446796.70   3762137.29        7.53882  (14051523)                446796.15
3762153.39        7.52728  (14051523)
446772.40   3762215.37        7.43782  (14120121)                446795.06
3762321.03        7.81992  (16021518)
446796.42   3762450.98        7.67950  (15031521)                446796.42
3762471.18        7.54745  (16041722)
446797.24   3762496.03        7.63843  (16041722)                446798.06
3762516.51        7.65812  (16041722)
446797.79   3762539.98        7.66090  (14100421)                446797.52
3762560.19        7.70304  (15090905)
446798.61   3762584.76        7.84493  (15090905)                446798.06
3762604.42        7.89319  (15090905)
446799.70   3762654.11        7.81721  (15090905)                446799.97
3762674.58        7.69362  (15090905)
446800.25   3762700.25        7.57075  (15032622)                446800.25
3762721.27        7.66243  (15032622)
446799.97   3762735.74        7.69319  (15032622)                446797.79
3762748.02        7.68613  (15032622)
446802.16   3762913.47        7.43601  (12101719)                446802.16
3762932.58        7.35301  (12101719)
446802.43   3762949.24        7.25142  (12101719)                446802.98
3762967.26        7.17125  (12020622)
446802.70   3762986.09        7.20329  (12020622)                446802.16
3763003.29        7.20045  (12020622)
446802.16   3763021.86        7.16922  (12020622)                446802.70
3763040.70        7.10701  (12020622)
446802.98   3763059.26        7.01262  (12020622)                446803.52
3763077.01        6.98656  (16112103)
446756.29   3763085.26        6.71288  (16112103)                446807.68
3763646.39       12.13042  (16072103)
446808.32   3763674.66       11.91400  (13013121)                446807.68
3763694.57       11.89358  (16122218)
446808.32   3763710.63       11.91455  (16122218)                446808.32
3763726.37       11.95380  (15091101)
446808.00   3763742.11       11.95878  (15091101)                446808.32
3763756.89       11.99838  (14091702)
446808.64   3763798.32       12.28187  (14091702)                446810.25
3764484.08       11.86089  (12081704)
446781.34   3764475.08       11.82388  (12081704)                446722.56
3764455.81       11.46710  (15062905)
446170.32   3764559.79        9.59387  (16072901)                446872.29
3763190.26       11.89097  (12020623)
446925.22   3763179.19       12.58530  (13051203)                446984.86
3763194.88       12.98028  (13051203)
447010.56   3763193.28       13.48054  (16092723)                447036.58
3763193.60       13.85988  (16092723)
447053.61   3763193.28       14.13214  (16092723)                447076.42
3763192.31       14.54972  (16092723)
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BLOAD ***
INCLUDING SOURCE(S): 6BLOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447093.45	3763192.63	14.92513	(16092723)	447122.05	3763192.63	14.91270	(16092723)
447138.75	3763192.31	14.98997	(15021422)	447167.99	3763192.31	15.27184	(16110920)
447170.68	3763172.18	15.25427	(15021422)	447170.41	3763158.25	15.19132	(15021422)
447169.31	3763144.87	15.25363	(16092723)	447147.46	3763107.45	15.60926	(13051203)
447146.64	3763084.24	15.63847	(13051203)	447146.92	3763064.30	15.38395	(13051203)
447149.92	3763038.90	9.68109	(15120517)	447148.56	3763019.78	9.78909	(15120517)
447148.56	3762997.39	9.85305	(15120517)	447206.08	3762958.49	10.56275	(15120517)
447209.33	3762922.51	10.74166	(16112103)	447208.40	3762890.70	10.96456	(12020622)
447145.83	3762888.87	10.26889	(12020622)	447122.55	3762889.07	10.00266	(12020622)
447094.33	3762890.05	9.68220	(12020622)	447071.04	3762890.45	9.42053	(12020622)
447043.61	3762889.66	9.11171	(12020622)	447017.76	3762888.87	8.93146	(12101719)
446992.11	3762889.07	8.76139	(12101719)	446964.28	3762888.28	8.58194	(12101719)
446940.41	3762888.47	8.41980	(12101719)	446911.20	3762888.08	8.22391	(12101719)
446885.35	3762889.66	8.04211	(12101719)	446862.07	3762888.87	7.88729	(12101719)
446871.45	3762779.57	8.13110	(15040323)	446926.31	3762768.72	8.57744	(15040323)
446983.74	3762774.24	9.01738	(15040323)	447009.00	3762774.05	9.22627	(15040323)
447030.51	3762774.44	9.40366	(15040323)	447055.37	3762774.05	9.61787	(15040323)
447076.88	3762774.24	9.80055	(15040323)	447101.16	3762774.44	10.05356	(12101719)
447123.85	3762774.05	10.34860	(12101719)	447148.12	3762775.03	10.67864	(12101719)
447170.23	3762774.84	10.98157	(12101719)	447196.78	3762775.48	11.35641	(12101719)
447242.12	3762776.57	12.01095	(12101719)	447262.33	3762776.03	12.31207	(12101719)
447294.56	3762776.30	12.79601	(12101719)	447313.13	3762775.48	13.08616	(12101719)
447313.40	3762749.53	13.21598	(12101719)	447327.86			

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      3762713.09       13.46926  (15040323)
      447327.36   3762679.87       13.77840  (15032622)               447327.74
      3762657.02       13.89580  (15032622)
      447327.28   3762636.82       13.81631  (15032622)               447327.51
      3762612.90       13.90052  (15090905)
      447327.28   3762592.24       14.16868  (15090905)               447327.04
      3762569.71       14.26513  (15090905)
      447327.28   3762547.89       14.16674  (15090905)               447326.58
      3762524.67       13.87092  (14100421)
      447326.58   3762506.09       13.82222  (16041722)               447327.51
      3762477.53       13.73082  (15031521)
      447325.88   3762454.31       13.99363  (15031521)               447225.58
      3762432.95       12.32101  (15031521)
      447200.27   3762430.63       11.93804  (15031521)               447156.85
      3762430.16       11.32239  (15031521)
      447131.77   3762430.86       10.99080  (15031521)               447102.74
      3762430.63       10.62583  (15031521)
      447079.06   3762430.86       10.34095  (15031521)               447034.94
      3762433.65        9.84178  (15031521)
      446995.47   3762433.65        9.43436  (15031521)               446972.71
      3762434.34        9.21079  (15031521)
      446941.37   3762434.58        8.92087  (15031521)               446916.06
      3762436.90        8.68967  (15031521)
      446876.35   3762436.90        8.35513  (15031521)               446848.85
      3762647.05        8.19197  (15090905)
      446848.85   3762563.17        8.12153  (15090905)               446849.17
      3762509.82        8.03096  (16041722)
      446849.17   3762455.82        8.04460  (15031521)               446848.85
      3762702.00        7.96913  (15032622)
      446849.49   3762754.71        8.04671  (15032622)               446739.81
      3762428.53        7.37872  (15031521)
      446711.81   3762423.61        7.21106  (15031521)               446687.25
      3762416.25        7.07286  (15031521)
      446662.20   3762412.32        6.92975  (15031521)               446636.17
      3762403.97        6.78849  (15031521)
      449981.72   3762732.45        7.22267  (15082923)               446486.82
      3762231.95        6.03906  (14011518)
      446261.97   3762068.01        4.92905  (13121806)               446443.15
      3762291.63        5.88510  (16021518)
      446071.80   3762055.49        4.38685  (14120121)               446072.08
      3761983.13        4.37998  (14051523)
      446138.18   3762002.17        4.57049  (14051523)               445884.94
      3762039.75        3.94057  (14120121)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 322
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  6BREF    ***
                                INCLUDING SOURCE(S):     6BREF       ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       447362.21   3764292.67       18.95481  (13090723)               447375.98
       3764150.98       19.43351  (15061924)
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447389.75   3764043.04      18.77731  (16072804)              447450.16
3764031.05      19.11445  (15061924)
447410.18   3764019.05      18.73052  (16072804)              446891.90
3764451.22      15.27394  (12092221)
446959.28   3764451.22      15.43281  (15041824)              446995.28
3764468.13      16.03822  (13082922)
447007.41   3764467.30      16.22272  (13082922)              447023.51
3764466.09      16.28383  (13082922)
447036.59   3764466.21      16.23397  (13082922)              447052.68
3764465.61      16.36886  (14081603)
447066.60   3764465.73      16.51837  (14081603)              447099.65
3764456.17      16.82642  (16072804)
447145.28   3764468.27      16.88765  (12083005)              447175.54
3764468.03      16.63297  (12083005)
447205.32   3764468.27      16.67201  (15061924)              447232.43
3764467.55      17.45529  (13090723)
447264.02   3764467.30      18.52718  (13090723)              447294.77
3764466.94      19.00864  (13070222)
447364.97   3764456.41      19.09332  (13090423)              447406.61
3764460.65      19.20751  (13090423)
447441.47   3764460.04      19.26829  (14070404)              447466.88
3764460.20      19.21828  (16072504)
447490.00   3764460.56      19.20117  (12072004)              447515.50
3764460.40      19.24428  (12072004)
447573.06   3764454.29      18.77017  (12080704)              447598.49
3764445.22      19.33766  (12080704)
447652.90   3764439.70      20.29383  (13062605)              447692.92
3764439.51      20.72746  (16072603)
447713.82   3764439.11      20.86955  (15062904)              447731.95
3764438.72      20.99497  (12081001)
447751.07   3764438.72      21.40991  (12081001)              447768.82
3764437.53      21.56002  (12081001)
447789.12   3764437.73      21.75914  (12081604)              447805.68
3764437.34      21.86889  (12081604)
447824.02   3764437.20      21.83889  (16082102)              447841.61
3764437.87      21.86890  (16082102)
447861.72   3764437.53      21.90330  (16062701)              447881.66
3764435.18      21.89150  (16062701)
447902.78   3764436.19      22.19662  (15032722)              447920.87
3764435.35      22.12731  (15032722)
447942.16   3764435.35      22.18134  (14040923)              447962.77
3764434.85      22.13051  (12092102)
447980.70   3764435.18      22.29473  (12092102)              448004.66
3764435.18      21.93490  (16062804)
448021.25   3764434.68      21.47148  (12080203)              447662.70
3764379.63      21.55904  (13062605)
447681.30   3764320.98      22.29468  (13062605)              447682.64
3764285.79      22.05780  (12080704)
447662.53   3764238.37      21.53836  (12080704)              447661.70
3764207.37      20.93565  (14080203)
447683.14   3764162.29      20.45845  (14080203)              447680.97
3764145.87      20.24607  (14080203)
447679.63   3764130.28      19.93480  (14080203)              447680.80
3764112.02      19.61040  (14080203)
447681.47   3764096.43      19.49587  (12081005)              447680.80
3764078.84      19.64050  (12081005)
447679.96   3764064.26      19.85831  (12081005)              447680.97
3764045.82      20.15639  (12081005)
447680.63   3764029.74      20.39376  (12081005)              447657.17
3763992.03      20.77400  (14082924)
447656.33   3763967.06      21.38629  (14082924)              447657.17
3763928.69      22.36695  (15082605)
447657.17   3763902.21      22.96130  (15082605)              447657.51
3763869.03      23.00268  (15082605)
447656.16   3763834.94      23.65700  (15082523)              447655.93
3763808.27      24.66917  (15082523)
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       447657.09   3763786.00       25.36581  (15082523)                447701.21
       3763782.14        25.80615  (15082605)
       447856.92   3763749.71       25.06377  (12080801)                447854.99
       3763730.13        24.96423  (12080801)
       447854.35   3763698.35       25.01703  (12081005)                447855.31
       3763676.84        25.25403  (12081005)
       447675.51   3763287.46       24.16760  (15060921)                448481.33
       3763485.29        35.99126  (13082522)
       448479.95   3763195.53       41.32369  (12071821)                448478.56
       3762907.16        61.72338  (14091121)
       448497.89   3762714.10      122.10233  (16062724)                448507.91
       3762487.71       311.16439  (12100120)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:18:50

                     PAGE 323
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  6BREF    ***
                                INCLUDING SOURCE(S):     6BREF       ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96      273.35553  (13050224)                448462.73
       3762339.82       345.10211  (12121716)
       448464.47   3762265.93      345.54785  (12121716)                448461.57
       3762165.17       102.44395  (12090602)
       448472.57   3762064.71       68.51523  (13013119)                448460.48
       3762016.72        58.95367  (13093021)
       448234.63   3761951.18       49.82336  (14090704)                448081.42
       3761952.78        43.94845  (12100123)
       448025.53   3761955.99       40.97906  (12091505)                447506.75
       3761967.63        20.25862  (14080302)
       447269.29   3761967.74       15.55390  (12101403)                447389.46
       3761908.79        17.06266  (13012221)
       447019.14   3761964.34       12.09410  (14031702)                447060.33
       3761963.58        12.73414  (15101024)
       446975.31   3761963.20       11.64000  (12020618)                446940.92
       3761953.76        11.28417  (12020618)
       446865.72   3761974.54       10.65716  (12020618)                446795.06
       3761957.91         9.98590  (14011319)
       446757.65   3761965.85        9.81568  (14011319)                446709.33
       3761967.74         9.46024  (14011319)
       446796.42   3762028.62       10.28383  (13121117)                446796.97
       3762045.28        10.37572  (13121117)
       446796.70   3762089.51       10.46954  (14051523)                446796.15
       3762105.89        10.53367  (14051523)
       446796.70   3762137.29       10.42307  (14051523)                446796.15
       3762153.39        10.49683  (13121806)
       446772.40   3762215.37       10.33162  (14120121)                446795.06
       3762321.03        11.04519  (16021518)
       446796.42   3762450.98       10.50782  (15031001)                446796.42
       3762471.18        10.60527  (16041722)
       446797.24   3762496.03       10.68979  (16041722)                446798.06
       3762516.51        10.67235  (15110319)
       446797.79   3762539.98       10.72535  (14100421)                446797.52
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3762560.19 10.76081 (15090905)
446798.61 3762584.76 11.01960 (15090905) 446798.06
3762604.42 11.05031 (15090905)
446799.70 3762654.11 10.52111 (15090905) 446799.97
3762674.58 10.36796 (13022424)
446800.25 3762700.25 10.57369 (15032622) 446800.25
3762721.27 10.75553 (15032622)
446799.97 3762735.74 10.78849 (15032622) 446797.79
3762748.02 10.74179 (15032622)
446802.16 3762913.47 10.28770 (12101719) 446802.16
3762932.58 10.00542 (12101719)
446802.43 3762949.24 9.88210 (16102420) 446802.98
3762967.26 10.01733 (12020622)
446802.70 3762986.09 10.09434 (12020622) 446802.16
3763003.29 10.07435 (12020622)
446802.16 3763021.86 9.96516 (12020622) 446802.70
3763040.70 9.79171 (16112103)
446802.98 3763059.26 9.80261 (16112103) 446803.52
3763077.01 9.72876 (16112103)
446756.29 3763085.26 9.38336 (16112103) 446807.68
3763646.39 13.79788 (12092322)
446808.32 3763674.66 13.53828 (12092322) 446807.68
3763694.57 13.44582 (16102419)
446808.32 3763710.63 13.50819 (16102419) 446808.32
3763726.37 13.48753 (16102419)
446808.00 3763742.11 13.33725 (16102419) 446808.32
3763756.89 13.17173 (16122219)
446808.64 3763798.32 13.72894 (14091702) 446810.25
3764484.08 14.76105 (15063002)
446781.34 3764475.08 14.76734 (15063002) 446722.56
3764455.81 14.34027 (13062901)
446170.32 3764559.79 12.16573 (16072901) 446872.29
3763190.26 12.26358 (12112420)
446925.22 3763179.19 12.98381 (12112420) 446984.86
3763194.88 13.30893 (13092722)
447010.56 3763193.28 13.97693 (13092722) 447036.58
3763193.60 14.15620 (13092722)
447053.61 3763193.28 14.28328 (13092722) 447076.42
3763192.31 14.82608 (16110920)
447093.45 3763192.63 15.46166 (16110920) 447122.05
3763192.63 15.70855 (16110920)
447138.75 3763192.31 15.85175 (16110920) 447167.99
3763192.31 16.04366 (16110920)
447170.68 3763172.18 15.90369 (16110920) 447170.41
3763158.25 15.59889 (16110920)
447169.31 3763144.87 15.45855 (16110920) 447147.46
3763107.45 15.98604 (13092722)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BREF ***
INCLUDING SOURCE(S): 6BREF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M) Y-COORD (M) CONC (YYMMDDHH) X-COORD (M) Y-COORD (M) CONC (YYMMDDHH)

- - - -

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BSPILL ***
INCLUDING SOURCE(S): 6BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446849.17	3762455.82	11.04709	(15031001)	446848.85	3762702.00	11.16081	(15032622)
446849.49	3762754.71	11.18126	(15040323)	446739.81	3762428.53	10.05922	(15031521)
446711.81	3762423.61	9.87840	(15031521)	446687.25	3762416.25	9.75599	(15031521)
446662.20	3762412.32	9.58766	(15031521)	446636.17	3762403.97	9.45131	(15031521)
449981.72	3762732.45	10.36159	(15082923)	446486.82	3762231.95	8.55720	(14011518)
446261.97	3762068.01	6.98346	(14120121)	446443.15	3762291.63	8.32531	(16021518)
446071.80	3762055.49	6.23648	(14120121)	446072.08	3761983.13	6.08282	(14051523)
446138.18	3762002.17	6.34955	(13121806)	445884.94	3762039.75	5.58652	(14120121)
447362.21	3764292.67	22.82893	(13090723)	447375.98	3764150.98	23.34312	(15061924)
447389.75	3764043.04	22.17783	(16072804)	447450.16	3764031.05	22.63485	(15061924)
447410.18	3764019.05	22.01202	(16072804)	446891.90	3764451.22	18.38266	(12092221)
446959.28	3764451.22	18.65791	(15041824)	446995.28	3764468.13	19.43860	(13082922)
447007.41	3764467.30	19.69775	(13082922)	447023.51	3764466.09	19.74799	(13082922)
447036.59	3764466.21	19.61076	(13082922)	447052.68	3764465.61	19.72855	(14081603)
447066.60	3764465.73	19.92287	(14081603)	447099.65	3764456.17	20.37853	(16072804)
447145.28	3764468.27	20.38773	(12083005)	447175.54	3764468.03	19.99963	(12083005)
447205.32	3764468.27	20.20733	(15061924)	447232.43	3764467.55	21.12167	(13090723)
447264.02	3764467.30	22.54031	(13090723)	447294.77	3764466.94	23.12404	(13070222)
447364.97	3764456.41	23.10133	(13090423)	447406.61	3764460.65	23.27003	(13090423)
447441.47	3764460.04	23.43802	(15071803)	447466.88	3764460.20	23.34091	(16072504)
447490.00	3764460.56	23.16908	(12072004)	447515.50	3764460.40	23.32697	(12072004)
447573.06	3764454.29	22.53129	(12080704)	447598.49	3764445.22	23.37318	(12080704)
447652.90	3764439.70	24.66895	(13062605)	447692.92			

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      3764439.51       25.12569  (16072603)
      447713.82   3764439.11       25.36120  (15062904)               447731.95
      3764438.72       25.45326  (15062904)
      447751.07   3764438.72       26.02252  (12081001)               447768.82
      3764437.53       26.17969  (12081001)
      447789.12   3764437.73       26.47952  (12081604)               447805.68
      3764437.34       26.58727  (12081604)
      447824.02   3764437.20       26.59257  (16082102)               447841.61
      3764437.87       26.61199  (16082102)
      447861.72   3764437.53       26.54908  (16062701)               447881.66
      3764435.18       26.48285  (16062701)
      447902.78   3764436.19       27.08150  (15032722)               447920.87
      3764435.35       26.90292  (15032722)
      447942.16   3764435.35       26.96345  (14040923)               447962.77
      3764434.85       26.75249  (12092102)
      447980.70   3764435.18       27.03026  (12092102)               448004.66
      3764435.18       26.72763  (12080203)
      448021.25   3764434.68       26.12541  (12080203)               447662.70
      3764379.63       26.29298  (13062605)
      447681.30   3764320.98       27.16820  (13062605)               447682.64
      3764285.79       26.55768  (12080704)
      447662.53   3764238.37       25.85296  (12080704)               447661.70
      3764207.37       25.21410  (14080203)
      447683.14   3764162.29       24.46232  (14080203)               447680.97
      3764145.87       24.16265  (14080203)
      447679.63   3764130.28       23.69983  (14080203)               447680.80
      3764112.02       23.19515  (14080203)
      447681.47   3764096.43       23.13964  (12081005)               447680.80
      3764078.84       23.32642  (12081005)
      447679.96   3764064.26       23.59341  (12081005)               447680.97
      3764045.82       23.93763  (12081005)
      447680.63   3764029.74       24.18323  (12081005)               447657.17
      3763992.03       24.46491  (14082924)
      447656.33   3763967.06       25.24016  (14082924)               447657.17
      3763928.69       26.47140  (15082605)
      447657.17   3763902.21       27.22550  (15082605)               447657.51
      3763869.03       27.10190  (15082605)
      447656.16   3763834.94       27.79764  (15082523)               447655.93
      3763808.27       29.20584  (15082523)
      447657.09   3763786.00       30.09887  (15082523)               447701.21
      3763782.14       30.52412  (15082605)
      447856.92   3763749.71       29.50618  (12080801)               447854.99
      3763730.13       29.20232  (12080801)
      447854.35   3763698.35       29.01331  (12081005)               447855.31
      3763676.84       29.29142  (12081005)
      447675.51   3763287.46       27.42087  (15060921)               448481.33
      3763485.29       41.62428  (16071503)
      448479.95   3763195.53       46.15508  (12071821)               448478.56
      3762907.16       76.22820  (14091121)
      448497.89   3762714.10      151.09136  (16062724)               448507.91
      3762487.71      381.67753  (12100120)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                    PAGE 326
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  6BSPILL  ***
                               INCLUDING SOURCE(S):     6BSPILL     ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN                                  5347
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MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	336.42244	(13050224)	448462.73	3762339.82	338.27130	(16082922)
448464.47	3762265.93	400.94159	(12121716)	448461.57	3762165.17	127.05939	(12090602)
448472.57	3762064.71	85.32828	(13013119)	448460.48	3762016.72	72.73935	(15022106)
448234.63	3761951.18	61.99222	(14090704)	448081.42	3761952.78	54.72268	(12100123)
448025.53	3761955.99	51.03634	(16092705)	447506.75	3761967.63	25.21275	(15020719)
447269.29	3761967.74	19.38333	(12101403)	447389.46	3761908.79	21.21046	(13012221)
447019.14	3761964.34	15.05503	(14031702)	447060.33	3761963.58	15.83660	(15101024)
446975.31	3761963.20	14.46350	(12020618)	446940.92	3761953.76	14.04058	(12020618)
446865.72	3761974.54	13.26033	(13112804)	446795.06	3761957.91	12.46383	(13112804)
446757.65	3761965.85	12.26983	(14011319)	446709.33	3761967.74	11.83023	(14011319)
446796.42	3762028.62	12.81006	(13121117)	446796.97	3762045.28	12.96093	(13121117)
446796.70	3762089.51	13.06840	(15031523)	446796.15	3762105.89	13.13110	(14051523)
446796.70	3762137.29	12.90548	(13121806)	446796.15	3762153.39	13.10583	(13121806)
446772.40	3762215.37	12.78972	(14120121)	446795.06	3762321.03	13.77706	(16021518)
446796.42	3762450.98	13.06868	(15031001)	446796.42	3762471.18	13.15461	(16041722)
446797.24	3762496.03	13.31876	(16041722)	446798.06	3762516.51	13.31861	(15110319)
446797.79	3762539.98	13.34580	(14100421)	446797.52	3762560.19	13.28603	(14100421)
446798.61	3762584.76	13.70080	(15090905)	446798.06	3762604.42	13.77942	(15090905)
446799.70	3762654.11	13.02828	(13022424)	446799.97	3762674.58	12.89533	(13022424)
446800.25	3762700.25	13.02697	(15112622)	446800.25	3762721.27	13.37666	(15032622)
446799.97	3762735.74	13.46268	(15032622)	446797.79	3762748.02	13.40018	(15032622)
446802.16	3762913.47	12.75594	(12101719)	446802.16	3762932.58	12.36828	(13022024)
446802.43	3762949.24	12.25324	(16102420)	446802.98	3762967.26	12.38894	(12020622)
446802.70	3762986.09	12.58350	(12020622)	446802.16	3763003.29	12.58360	(12020622)
446802.16	3763021.86	12.40492	(12020622)	446802.70	3763040.70	12.17563	(16112103)
446802.98	3763059.26	12.23775	(16112103)	446803.52	3763077.01	12.12688	(16112103)
446756.29	3763085.26	11.71493	(16112103)	446807.68	3763646.39	16.01349	(12092322)
446808.32	3763674.66	15.72368	(14091521)	446807.68	3763694.57	15.66988	(14091521)
446808.32	3763710.63	15.65790	(16102419)	446808.32	3763726.37	15.65517	(16102419)
446808.00	3763742.11	15.44751	(16102419)	446808.32	3763756.89	15.24627	(16122219)

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 6BSPILL ***
INCLUDING SOURCE(S): 6BSPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446808.64	3763798.32	15.81830	(14091620)	446810.25	3764484.08	17.75934	(15063002)
446781.34	3764475.08	17.84097	(15063002)	446722.56	3764455.81	17.30702	(13062901)
446170.32	3764559.79	14.71946	(16072901)	446872.29	3763190.26	13.57215	(14051202)
446925.22	3763179.19	14.38117	(14051202)	446984.86	3763194.88	14.75126	(13092722)
447010.56	3763193.28	15.61430	(13092722)	447036.58	3763193.60	15.75190	(13092722)
447053.61	3763193.28	15.84247	(13092722)	447076.42	3763192.31	16.24260	(13122901)
447093.45	3763192.63	17.09101	(16110920)	447122.05	3763192.63	17.37486	(16110920)
447138.75	3763192.31	17.51939	(16110920)	447167.99	3763192.31	17.65909	(16110920)
447170.68	3763172.18	17.38981	(16110920)	447170.41	3763158.25	16.89151	(16110920)
447169.31	3763144.87	16.63501	(14030122)	447147.46	3763107.45	17.75676	(13092722)
447146.64	3763084.24	17.31121	(13092722)	447146.92	3763064.30	17.01125	(14051202)
447149.92	3763038.90	16.29622	(14051202)	447148.56	3763019.78	16.84214	(15120517)
447148.56	3762997.39	17.09391	(15120517)	447206.08	3762958.49	18.26038	(16102407)
447209.33	3762922.51	18.49522	(14022724)	447208.40	3762890.70	18.59523	(16112103)
447145.83	3762888.87	17.77859	(12020622)	447122.55	3762889.07	17.37562	(12020622)
447094.33	3762890.05	16.82829	(12020622)	447071.04	3762890.45	16.33849	(12020622)
447043.61	3762889.66	15.70041	(12020622)	447017.76	3762888.87	15.16116	(16102420)
446992.11	3762889.07	14.69181	(16102420)	446964.28	3762888.28	14.34006	(13022024)
446940.41	3762888.47	14.13384	(13022024)	446911.20	3762888.08	13.96522	(12101719)
446885.35	3762889.66	13.77820	(12101719)	446862.07	3762888.87	13.63760	(12101719)
446871.45	3762779.57	13.93500	(15040323)	446926.31	3762768.72	14.67414	(15040323)
446983.74	3762774.24	14.96961	(16092423)	447009.00	3762774.05	15.50370	(16122321)
447030.51	3762774.44	15.97018	(16122321)	447055.37			

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      3762774.05       16.48632  (16122321)
      447076.88   3762774.24       16.93066  (16122321)               447101.16
      3762774.44       17.41439  (16122321)
      447123.85   3762774.05       17.96654  (12101719)               447148.12
      3762775.03       18.60626  (12101719)
      447170.23   3762774.84       19.15125  (12101719)               447196.78
      3762775.48       19.77869  (12101719)
      447242.12   3762776.57       20.71054  (12101719)               447262.33
      3762776.03       21.09087  (12101719)
      447294.56   3762776.30       21.57122  (12101719)               447313.13
      3762775.48       21.84516  (12101719)
      447313.40   3762749.53       22.87479  (12101719)               447327.86
      3762713.09       22.95338  (16122321)
      447327.36   3762679.87       23.45212  (15040323)               447327.74
      3762657.02       23.82153  (15032622)
      447327.28   3762636.82       23.90521  (15032622)               447327.51
      3762612.90       23.05661  (15112622)
      447327.28   3762592.24       23.20227  (13022424)               447327.04
      3762569.71       24.30121  (15090905)
      447327.28   3762547.89       24.53907  (15090905)               447326.58
      3762524.67       23.78530  (14100421)
      447326.58   3762506.09       23.70189  (15110319)               447327.51
      3762477.53       23.76260  (16041722)
      447325.88   3762454.31       23.30324  (15031001)               447225.58
      3762432.95       20.81431  (15031521)
      447200.27   3762430.63       20.24281  (15031521)               447156.85
      3762430.16       19.18047  (15031521)
      447131.77   3762430.86       18.56965  (15031521)               447102.74
      3762430.63       17.93851  (15031521)
      447079.06   3762430.86       17.43145  (15031521)               447034.94
      3762433.65       16.52797  (12020719)
      446995.47   3762433.65       15.84737  (12020719)               446972.71
      3762434.34       15.46520  (12020719)
      446941.37   3762434.58       14.97538  (12020719)               446916.06
      3762436.90       14.55899  (12020719)
      446876.35   3762436.90       13.99982  (12020719)               446848.85
      3762647.05       13.62403  (13022424)
      446848.85   3762563.17       13.99906  (15090905)               446849.17
      3762509.82       13.93245  (15110319)
      446849.17   3762455.82       13.75312  (15031001)               446848.85
      3762702.00       13.80264  (15032622)
      446849.49   3762754.71       13.95366  (15040323)               446739.81
      3762428.53       12.44856  (12020719)
      446711.81   3762423.61       12.19934  (12020719)               446687.25
      3762416.25       12.02583  (15031521)
      446662.20   3762412.32       11.84324  (15031521)               446636.17
      3762403.97       11.72581  (15031521)
      449981.72   3762732.45       12.92847  (12100120)               446486.82
      3762231.95       10.69173  (14011518)
      446261.97   3762068.01        8.71607  (13121806)               446443.15
      3762291.63       10.39198  (16021518)
      446071.80   3762055.49        7.79421  (14120121)               446072.08
      3761983.13        7.52153  (13121806)
      446138.18   3762002.17        7.89406  (13121806)               445884.94
      3762039.75        6.98074  (14120121)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  8BREAT   ***
                              INCLUDING SOURCE(S):     8BREAT      ,
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*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	14.41945	(13090423)	447375.98	3764150.98	15.14408	(13070222)
447389.75	3764043.04	15.24628	(13090723)	447450.16	3764031.05	15.39453	(15082523)
447410.18	3764019.05	15.39502	(13090723)	446891.90	3764451.22	11.77167	(15092403)
446959.28	3764451.22	12.21366	(14081603)	446995.28	3764468.13	12.31209	(14081603)
447007.41	3764467.30	12.41526	(12092724)	447023.51	3764466.09	12.48891	(12092724)
447036.59	3764466.21	12.50329	(12092724)	447052.68	3764465.61	12.58944	(12083005)
447066.60	3764465.73	12.69849	(12083005)	447099.65	3764456.17	12.82351	(12083005)
447145.28	3764468.27	12.89602	(13090723)	447175.54	3764468.03	12.88788	(13090723)
447205.32	3764468.27	12.88064	(13070222)	447232.43	3764467.55	13.22016	(13070222)
447264.02	3764467.30	13.62201	(13090423)	447294.77	3764466.94	14.16947	(15092601)
447364.97	3764456.41	14.31214	(14083005)	447406.61	3764460.65	14.11732	(16072504)
447441.47	3764460.04	14.48753	(15092502)	447466.88	3764460.20	14.49535	(15092502)
447490.00	3764460.56	14.31694	(12080704)	447515.50	3764460.40	14.50005	(12080704)
447573.06	3764454.29	14.19052	(12080704)	447598.49	3764445.22	14.46538	(16072603)
447652.90	3764439.70	15.22497	(14022020)	447692.92	3764439.51	15.49610	(12081001)
447713.82	3764439.11	15.60228	(12081001)	447731.95	3764438.72	15.59602	(12081001)
447751.07	3764438.72	15.68639	(12081604)	447768.82	3764437.53	15.71424	(12081604)
447789.12	3764437.73	15.87976	(13091705)	447805.68	3764437.34	16.05082	(16062701)
447824.02	3764437.20	16.22611	(16062701)	447841.61	3764437.87	16.20862	(16062701)
447861.72	3764437.53	16.15632	(12071001)	447881.66	3764435.18	16.14811	(12071001)
447902.78	3764436.19	16.26803	(15080504)	447920.87	3764435.35	16.32779	(12092102)
447942.16	3764435.35	16.46878	(12092102)	447962.77	3764434.85	16.41636	(12092102)
447980.70	3764435.18	16.25645	(16062804)	448004.66	3764435.18	16.11018	(12051402)
448021.25	3764434.68	15.96846	(12081106)	447662.70	3764379.63	16.03643	(16072603)
447681.30	3764320.98	16.58938	(16072603)	447682.64	3764285.79	16.53569	(16072603)
447662.53	3764238.37	16.16476	(16072603)	447661.70	3764207.37	16.11165	(12080704)
447683.14	3764162.29	15.94968	(12080704)	447680.97	3764145.87	15.95474	(12080704)
447679.63	3764130.28	15.90228	(12080704)	447680.80	3764112.02	15.84439	(12080704)

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       447681.47   3764096.43       15.88134  (12080704)                447680.80
       3764078.84       15.98165  (12080704)
       447679.96   3764064.26       16.13307  (12080704)                447680.97
       3764045.82       16.35384  (12080704)
       447680.63   3764029.74       16.54189  (12080704)                447657.17
       3763992.03       16.61625  (12072004)
       447656.33   3763967.06       17.03427  (12072004)                447657.17
       3763928.69       17.50752  (12072004)
       447657.17   3763902.21       17.77732  (12072004)                447657.51
       3763869.03       18.08900  (15071803)
       447656.16   3763834.94       18.70299  (15071803)                447655.93
       3763808.27       19.29180  (13090423)
       447657.09   3763786.00       19.82211  (13090423)                447701.21
       3763782.14       19.90073  (15071803)
       447856.92   3763749.71       20.23442  (16072603)                447854.99
       3763730.13       20.30261  (16072603)
       447854.35   3763698.35       20.55657  (13062605)                447855.31
       3763676.84       20.72076  (13062605)
       447675.51   3763287.46       22.29736  (13082922)                448481.33
       3763485.29       28.14608  (12080824)
       448479.95   3763195.53       33.41620  (12090506)                448478.56
       3762907.16       31.11813  (15100820)
       448497.89   3762714.10       52.04978  (15082424)                448507.91
       3762487.71      151.25763  (16060806)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:18:50

                     PAGE 329
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  8BREAT   ***
                                INCLUDING SOURCE(S):     8BREAT      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       448480.49   3762357.96      362.37748  (16121216)                448462.73
       3762339.82      547.72832  (14120316)
       448464.47   3762265.93      266.77422  (14110518)                448461.57
       3762165.17      329.47004  (12121716)
       448472.57   3762064.71      166.36327  (12121716)                448460.48
       3762016.72       84.52360  (12121716)
       448234.63   3761951.18       52.97503  (16091922)                448081.42
       3761952.78       42.60739  (15021220)
       448025.53   3761955.99       38.79489  (12091503)                447506.75
       3761967.63       16.07780  (15101024)
       447269.29   3761967.74       11.82162  (12020618)                447389.46
       3761908.79       13.28239  (15031424)
       447019.14   3761964.34        9.08746  (13121117)                447060.33
       3761963.58        9.42915  (13121117)
       446975.31   3761963.20        8.71859  (13121117)                446940.92
       3761953.76        8.42156  (13121117)
       446865.72   3761974.54        7.94617  (14051523)                446795.06
       3761957.91        7.44505  (14051523)
       446757.65   3761965.85        7.23661  (14051523)                446709.33
       3761967.74        6.94626  (14051523)
       446796.42   3762028.62        7.46582  (14120121)                446796.97
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      3762105.89       7.69842  (14011518)
      446796.70   3762137.29       7.80616  (14011518)               446796.15
      3762153.39       7.80870  (14011518)
      446772.40   3762215.37       7.68279  (16021518)               446795.06
      3762321.03       7.50252  (16041722)
      446796.42   3762450.98       7.83464  (15090905)               446796.42
      3762471.18       7.84250  (15090905)
      446797.24   3762496.03       7.78700  (15090905)               446798.06
      3762516.51       7.68396  (15090905)
      446797.79   3762539.98       7.49853  (15090905)               446797.52
      3762560.19       7.56874  (15032622)
      446798.61   3762584.76       7.64521  (15032622)               446798.06
      3762604.42       7.64450  (15032622)
      446799.70   3762654.11       7.52924  (15040323)               446799.97
      3762674.58       7.43371  (15040323)
      446800.25   3762700.25       7.37338  (12101719)               446800.25
      3762721.27       7.42352  (12101719)
      446799.97   3762735.74       7.42805  (12101719)               446797.79
      3762748.02       7.40188  (12101719)
      446802.16   3762913.47       6.96127  (16112103)               446802.16
      3762932.58       6.92743  (16112103)
      446802.43   3762949.24       6.87341  (16112103)               446802.98
      3762967.26       6.85562  (16102407)
      446802.70   3762986.09       6.84964  (15120517)               446802.16
      3763003.29       6.84408  (15120517)
      446802.16   3763021.86       6.81472  (15120517)               446802.70
      3763040.70       6.75939  (15120517)
      446802.98   3763059.26       6.67690  (15120517)               446803.52
      3763077.01       6.57557  (15120517)
      446756.29   3763085.26       6.38340  (15120517)               446807.68
      3763646.39      12.61731  (14091702)
      446808.32   3763674.66      12.60399  (14091702)               446807.68
      3763694.57      12.55353  (14091702)
      446808.32   3763710.63      12.43108  (14091702)               446808.32
      3763726.37      12.27499  (14091702)
      446808.00   3763742.11      12.05561  (14091702)               446808.32
      3763756.89      11.83434  (12101421)
      446808.64   3763798.32      11.97131  (16072901)               446810.25
      3764484.08      11.53487  (12081302)
      446781.34   3764475.08      11.48813  (12081302)               446722.56
      3764455.81      11.26941  (12081704)
      446170.32   3764559.79       9.39630  (12010218)               446872.29
      3763190.26      12.53066  (16092723)
      446925.22   3763179.19      13.09395  (16111421)               446984.86
      3763194.88      13.56256  (15091006)
      447010.56   3763193.28      14.13267  (15091006)               447036.58
      3763193.60      14.40777  (15091006)
      447053.61   3763193.28      14.58697  (15091006)               447076.42
      3763192.31      14.84035  (15091006)
      447093.45   3763192.63      15.03721  (15091006)               447122.05
      3763192.63      15.31775  (16072103)
      447138.75   3763192.31      15.51418  (16072103)               447167.99
      3763192.31      15.81042  (16072103)
      447170.68   3763172.18      15.75735  (16072103)               447170.41
      3763158.25      15.59416  (16072103)
      447169.31   3763144.87      15.59805  (15091006)               447147.46
      3763107.45      16.19149  (15091006)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 330
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*                                  5353
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8BREAT ***
INCLUDING SOURCE(S): 8BREAT ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	16.11425	(15091006)	447146.92	3763064.30	15.87274	(14091421)
447149.92	3763038.90	15.55291	(16111421)	447148.56	3763019.78	15.55929	(16092723)
447148.56	3762997.39	15.29250	(16092723)	447206.08	3762958.49	9.71497	(13092722)
447209.33	3762922.51	9.93043	(13092722)	447208.40	3762890.70	10.02960	(14051202)
447145.83	3762888.87	9.58662	(15120517)	447122.55	3762889.07	9.39733	(15120517)
447094.33	3762890.05	9.15311	(15120517)	447071.04	3762890.45	8.94634	(15120517)
447043.61	3762889.66	8.69673	(15120517)	447017.76	3762888.87	8.45310	(15120517)
446992.11	3762889.07	8.23677	(16102407)	446964.28	3762888.28	8.01093	(16112103)
446940.41	3762888.47	7.86558	(16112103)	446911.20	3762888.08	7.68359	(16112103)
446885.35	3762889.66	7.51269	(16112103)	446862.07	3762888.87	7.36050	(16112103)
446871.45	3762779.57	7.67542	(12101719)	446926.31	3762768.72	8.04814	(12101719)
446983.74	3762774.24	8.53367	(12020622)	447009.00	3762774.05	8.76710	(12020622)
447030.51	3762774.44	8.96676	(12020622)	447055.37	3762774.05	9.19703	(12020622)
447076.88	3762774.24	9.39313	(12020622)	447101.16	3762774.44	9.61061	(12020622)
447123.85	3762774.05	9.81463	(12020622)	447148.12	3762775.03	10.01643	(12020622)
447170.23	3762774.84	10.20557	(16112103)	447196.78	3762775.48	10.50430	(16112103)
447242.12	3762776.57	10.98991	(16112103)	447262.33	3762776.03	11.26892	(16102407)
447294.56	3762776.30	11.75705	(15120517)	447313.13	3762775.48	12.05272	(15120517)
447313.40	3762749.53	12.06450	(16102407)	447327.86	3762713.09	12.54176	(12020622)
447327.36	3762679.87	12.83362	(12020622)	447327.74	3762657.02	12.85165	(12020622)
447327.28	3762636.82	13.04079	(12101719)	447327.51	3762612.90	13.30446	(12101719)
447327.28	3762592.24	13.36650	(12101719)	447327.04	3762569.71	13.25998	(12101719)
447327.28	3762547.89	13.52041	(15040323)	447326.58	3762524.67	13.68550	(15032622)
447326.58	3762506.09	13.76215	(15032622)	447327.51	3762477.53	13.64324	(15032622)
447325.88	3762454.31	13.86100	(15090905)	447225.58	3762432.95	12.36877	(15090905)
447200.27	3762430.63	11.99080	(15090905)	447156.85	3762430.16	11.37720	(15090905)

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       447131.77   3762430.86       11.04688  (15090905)               447102.74
       3762430.63        10.68082  (15090905)
       447079.06   3762430.86       10.39607  (15090905)               447034.94
       3762433.65         9.90605  (15090905)
       446995.47   3762433.65        9.49532  (15090905)               446972.71
       3762434.34         9.27306  (15090905)
       446941.37   3762434.58        8.98024  (15090905)               446916.06
       3762436.90         8.76009  (15090905)
       446876.35   3762436.90        8.42109  (15090905)               446848.85
       3762647.05         7.86690  (15040323)
       446848.85   3762563.17        7.97843  (15032622)               446849.17
       3762509.82         8.06280  (15090905)
       446849.17   3762455.82        8.23581  (15090905)               446848.85
       3762702.00         7.75275  (12101719)
       446849.49   3762754.71        7.70207  (12101719)               446739.81
       3762428.53         7.36539  (15090905)
       446711.81   3762423.61        7.15659  (15090905)               446687.25
       3762416.25         6.95984  (15090905)
       446662.20   3762412.32        6.79417  (14100421)               446636.17
       3762403.97         6.64011  (14100421)
       449981.72   3762732.45        7.10081  (15081321)               446486.82
       3762231.95         6.00738  (15031521)
       446261.97   3762068.01        5.14981  (14011518)               446443.15
       3762291.63         5.70944  (15031521)
       446071.80   3762055.49        4.55304  (14011518)               446072.08
       3761983.13         4.42814  (14011518)
       446138.18   3762002.17        4.65078  (14011518)               445884.94
       3762039.75         4.07087  (14011518)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 331
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  8LOAD    ***
                                INCLUDING SOURCE(S):     8LOAD       ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
- - - -
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      3764467.55       13.22009  (13070222)
      447264.02   3764467.30       13.62194  (13090423)                447294.77
      3764466.94       14.16938  (15092601)
      447364.97   3764456.41       14.31206  (14083005)                447406.61
      3764460.65       14.11724  (16072504)
      447441.47   3764460.04       14.48744  (15092502)                447466.88
      3764460.20       14.49527  (15092502)
      447490.00   3764460.56       14.31686  (12080704)                447515.50
      3764460.40       14.49997  (12080704)
      447573.06   3764454.29       14.19045  (12080704)                447598.49
      3764445.22       14.46531  (16072603)
      447652.90   3764439.70       15.22488  (14022020)                447692.92
      3764439.51       15.49601  (12081001)
      447713.82   3764439.11       15.60219  (12081001)                447731.95
      3764438.72       15.59593  (12081001)
      447751.07   3764438.72       15.68629  (12081604)                447768.82
      3764437.53       15.71415  (12081604)
      447789.12   3764437.73       15.87954  (13091705)                447805.68
      3764437.34       16.05072  (16062701)
      447824.02   3764437.20       16.22601  (16062701)                447841.61
      3764437.87       16.20852  (16062701)
      447861.72   3764437.53       16.15622  (12071001)                447881.66
      3764435.18       16.14801  (12071001)
      447902.78   3764436.19       16.26793  (15080504)                447920.87
      3764435.35       16.32769  (12092102)
      447942.16   3764435.35       16.46868  (12092102)                447962.77
      3764434.85       16.41626  (12092102)
      447980.70   3764435.18       16.25635  (16062804)                448004.66
      3764435.18       16.10991  (12051402)
      448021.25   3764434.68       15.96837  (12081106)                447662.70
      3764379.63       16.03633  (16072603)
      447681.30   3764320.98       16.58929  (16072603)                447682.64
      3764285.79       16.53560  (16072603)
      447662.53   3764238.37       16.16468  (16072603)                447661.70
      3764207.37       16.11157  (12080704)
      447683.14   3764162.29       15.94962  (12080704)                447680.97
      3764145.87       15.95468  (12080704)
      447679.63   3764130.28       15.90222  (12080704)                447680.80
      3764112.02       15.84433  (12080704)
      447681.47   3764096.43       15.88128  (12080704)                447680.80
      3764078.84       15.98159  (12080704)
      447679.96   3764064.26       16.13302  (12080704)                447680.97
      3764045.82       16.35379  (12080704)
      447680.63   3764029.74       16.54183  (12080704)                447657.17
      3763992.03       16.61619  (12072004)
      447656.33   3763967.06       17.03421  (12072004)                447657.17
      3763928.69       17.50746  (12072004)
      447657.17   3763902.21       17.77727  (12072004)                447657.51
      3763869.03       18.08894  (15071803)
      447656.16   3763834.94       18.70293  (15071803)                447655.93
      3763808.27       19.29173  (13090423)
      447657.09   3763786.00       19.82204  (13090423)                447701.21
      3763782.14       19.90066  (15071803)
      447856.92   3763749.71       20.23437  (16072603)                447854.99
      3763730.13       20.30257  (16072603)
      447854.35   3763698.35       20.55652  (13062605)                447855.31
      3763676.84       20.72072  (13062605)
      447675.51   3763287.46       22.29738  (13082922)                448481.33
      3763485.29       28.14603  (12080824)
      448479.95   3763195.53       33.41624  (12090506)                448478.56
      3762907.16       31.11796  (15100820)
      448497.89   3762714.10       52.04953  (15082424)                448507.91
      3762487.71      151.36946  (16060806)
 *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8LOAD ***
INCLUDING SOURCE(S): 8LOAD ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	362.17139	(16121216)	448462.73	3762339.82	547.59509	(14120316)
448464.47	3762265.93	266.77282	(14110518)	448461.57	3762165.17	328.93571	(12121716)
448472.57	3762064.71	166.14510	(12121716)	448460.48	3762016.72	84.41983	(12121716)
448234.63	3761951.18	52.97476	(16091922)	448081.42	3761952.78	42.60717	(15021220)
448025.53	3761955.99	38.79468	(12091503)	447506.75	3761967.63	16.07773	(15101024)
447269.29	3761967.74	11.82152	(12020618)	447389.46	3761908.79	13.28232	(15031424)
447019.14	3761964.34	9.08738	(13121117)	447060.33	3761963.58	9.42907	(13121117)
446975.31	3761963.20	8.71852	(13121117)	446940.92	3761953.76	8.42149	(13121117)
446865.72	3761974.54	7.94612	(14051523)	446795.06	3761957.91	7.44501	(14051523)
446757.65	3761965.85	7.23657	(14051523)	446709.33	3761967.74	6.94622	(14051523)
446796.42	3762028.62	7.46571	(14120121)	446796.97	3762045.28	7.52979	(14120121)
446796.70	3762089.51	7.60096	(14011518)	446796.15	3762105.89	7.69838	(14011518)
446796.70	3762137.29	7.80612	(14011518)	446796.15	3762153.39	7.80866	(14011518)
446772.40	3762215.37	7.68274	(16021518)	446795.06	3762321.03	7.50248	(16041722)
446796.42	3762450.98	7.83460	(15090905)	446796.42	3762471.18	7.84246	(15090905)
446797.24	3762496.03	7.78696	(15090905)	446798.06	3762516.51	7.68392	(15090905)
446797.79	3762539.98	7.49850	(15090905)	446797.52	3762560.19	7.56870	(15032622)
446798.61	3762584.76	7.64517	(15032622)	446798.06	3762604.42	7.64446	(15032622)
446799.70	3762654.11	7.52918	(15040323)	446799.97	3762674.58	7.43365	(15040323)
446800.25	3762700.25	7.37335	(12101719)	446800.25	3762721.27	7.42348	(12101719)
446799.97	3762735.74	7.42802	(12101719)	446797.79	3762748.02	7.40184	(12101719)
446802.16	3762913.47	6.96115	(16112103)	446802.16	3762932.58	6.92731	(16112103)
446802.43	3762949.24	6.87329	(16112103)	446802.98	3762967.26	6.85553	(16102407)
446802.70	3762986.09	6.84961	(15120517)	446802.16	3763003.29	6.84404	(15120517)

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       446802.16   3763021.86        6.81469  (15120517)               446802.70
       3763040.70        6.75936  (15120517)
       446802.98   3763059.26        6.67687  (15120517)               446803.52
       3763077.01        6.57554  (15120517)
       446756.29   3763085.26        6.38337  (15120517)               446807.68
       3763646.39       12.61729  (14091702)
       446808.32   3763674.66       12.60397  (14091702)               446807.68
       3763694.57       12.55351  (14091702)
       446808.32   3763710.63       12.43106  (14091702)               446808.32
       3763726.37       12.27497  (14091702)
       446808.00   3763742.11       12.05559  (14091702)               446808.32
       3763756.89       11.83431  (12101421)
       446808.64   3763798.32       11.97129  (16072901)               446810.25
       3764484.08       11.53481  (12081302)
       446781.34   3764475.08       11.48807  (12081302)               446722.56
       3764455.81       11.26935  (12081704)
       446170.32   3764559.79        9.39625  (12010218)               446872.29
       3763190.26       12.53069  (16092723)
       446925.22   3763179.19       13.09396  (16111421)               446984.86
       3763194.88       13.56256  (15091006)
       447010.56   3763193.28       14.13267  (15091006)               447036.58
       3763193.60       14.40777  (15091006)
       447053.61   3763193.28       14.58696  (15091006)               447076.42
       3763192.31       14.84034  (15091006)
       447093.45   3763192.63       15.03720  (15091006)               447122.05
       3763192.63       15.31777  (16072103)
       447138.75   3763192.31       15.51419  (16072103)               447167.99
       3763192.31       15.81044  (16072103)
       447170.68   3763172.18       15.75737  (16072103)               447170.41
       3763158.25       15.59418  (16072103)
       447169.31   3763144.87       15.59806  (15091006)               447147.46
       3763107.45       16.19149  (15091006)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:18:50

                     PAGE 333
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  8LOAD    ***
                               INCLUDING SOURCE(S):     8LOAD       ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       447146.64   3763084.24       16.11425  (15091006)               447146.92
       3763064.30       15.87279  (14091421)
       447149.92   3763038.90       15.55294  (16111421)               447148.56
       3763019.78       15.55935  (16092723)
       447148.56   3762997.39       15.29257  (16092723)               447206.08
       3762958.49        9.71488  (13092722)
       447209.33   3762922.51        9.93033  (13092722)               447208.40
       3762890.70       10.02943  (14051202)
       447145.83   3762888.87        9.58658  (15120517)               447122.55
       3762889.07        9.39728  (15120517)
       447094.33   3762890.05        9.15306  (15120517)               447071.04
       3762890.45        8.94630  (15120517)
       447043.61   3762889.66        8.69668  (15120517)               447017.76
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3762888.87 8.45306 (15120517)
446992.11 3762889.07 8.23666 (16102407) 446964.28
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446940.41 3762888.47 7.86545 (16112103) 446911.20
3762888.08 7.68345 (16112103)
446885.35 3762889.66 7.51256 (16112103) 446862.07
3762888.87 7.36038 (16112103)
446871.45 3762779.57 7.67539 (12101719) 446926.31
3762768.72 8.04811 (12101719)
446983.74 3762774.24 8.53355 (12020622) 447009.00
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447030.51 3762774.44 8.96663 (12020622) 447055.37
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447076.88 3762774.24 9.39299 (12020622) 447101.16
3762774.44 9.61047 (12020622)
447123.85 3762774.05 9.81449 (12020622) 447148.12
3762775.03 10.01629 (12020622)
447170.23 3762774.84 10.20540 (16112103) 447196.78
3762775.48 10.50412 (16112103)
447242.12 3762776.57 10.98973 (16112103) 447262.33
3762776.03 11.26876 (16102407)
447294.56 3762776.30 11.75699 (15120517) 447313.13
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447313.40 3762749.53 12.06434 (16102407) 447327.86
3762713.09 12.54158 (12020622)
447327.36 3762679.87 12.83343 (12020622) 447327.74
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447327.28 3762636.82 13.04073 (12101719) 447327.51
3762612.90 13.30440 (12101719)
447327.28 3762592.24 13.36644 (12101719) 447327.04
3762569.71 13.25993 (12101719)
447327.28 3762547.89 13.52029 (15040323) 447326.58
3762524.67 13.68543 (15032622)
447326.58 3762506.09 13.76208 (15032622) 447327.51
3762477.53 13.64318 (15032622)
447325.88 3762454.31 13.86092 (15090905) 447225.58
3762432.95 12.36870 (15090905)
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3762430.16 11.37714 (15090905)
447131.77 3762430.86 11.04682 (15090905) 447102.74
3762430.63 10.68077 (15090905)
447079.06 3762430.86 10.39601 (15090905) 447034.94
3762433.65 9.90599 (15090905)
446995.47 3762433.65 9.49526 (15090905) 446972.71
3762434.34 9.27301 (15090905)
446941.37 3762434.58 8.98019 (15090905) 446916.06
3762436.90 8.76004 (15090905)
446876.35 3762436.90 8.42104 (15090905) 446848.85
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446848.85 3762563.17 7.97839 (15032622) 446849.17
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446711.81 3762423.61 7.15656 (15090905) 446687.25
3762416.25 6.95981 (15090905)
446662.20 3762412.32 6.79413 (14100421) 446636.17
3762403.97 6.64007 (14100421)
449981.72 3762732.45 7.10078 (15081321) 446486.82
3762231.95 6.00735 (15031521)
446261.97 3762068.01 5.14978 (14011518) 446443.15
3762291.63 5.70941 (15031521)
446071.80 3762055.49 4.55301 (14011518) 446072.08
3761983.13 4.42812 (14011518)
446138.18 3762002.17 4.65076 (14011518) 445884.94

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8REF ***
INCLUDING SOURCE(S): 8REF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	18.05696	(15082523)	447375.98	3764150.98	19.14948	(13090723)
447389.75	3764043.04	18.50220	(15061924)	447450.16	3764031.05	18.76583	(15082523)
447410.18	3764019.05	18.53439	(15061924)	446891.90	3764451.22	14.86894	(15041824)
446959.28	3764451.22	15.46201	(13082922)	446995.28	3764468.13	15.66961	(14081603)
447007.41	3764467.30	15.75069	(14081603)	447023.51	3764466.09	15.85971	(16072804)
447036.59	3764466.21	15.98798	(16072804)	447052.68	3764465.61	16.09478	(16072804)
447066.60	3764465.73	16.09772	(16072804)	447099.65	3764456.17	16.44363	(12083005)
447145.28	3764468.27	16.43987	(15061924)	447175.54	3764468.03	16.56097	(13090723)
447205.32	3764468.27	16.47175	(13090723)	447232.43	3764467.55	16.91154	(15082523)
447264.02	3764467.30	17.72866	(13070222)	447294.77	3764466.94	18.11379	(13090423)
447364.97	3764456.41	18.39778	(13090423)	447406.61	3764460.65	18.21086	(14083005)
447441.47	3764460.04	18.48955	(12072004)	447466.88	3764460.20	18.82959	(12072004)
447490.00	3764460.56	18.59884	(12072004)	447515.50	3764460.40	18.29735	(14080203)
447573.06	3764454.29	18.30566	(12080704)	447598.49	3764445.22	18.41916	(13062605)
447652.90	3764439.70	19.83429	(16072603)	447692.92	3764439.51	19.91965	(15062904)
447713.82	3764439.11	20.23312	(12081001)	447731.95	3764438.72	20.44401	(12081001)
447751.07	3764438.72	20.32752	(12081604)	447768.82	3764437.53	20.60472	(12081604)
447789.12	3764437.73	20.59268	(12081604)	447805.68	3764437.34	20.79504	(16082102)
447824.02	3764437.20	20.76790	(16062701)	447841.61	3764437.87	21.02354	(16062701)
447861.72	3764437.53	20.89572	(16062701)	447881.66	3764435.18	21.14481	(12071001)
447902.78	3764436.19	20.98232	(12071001)	447920.87	3764435.35	21.17641	(14040923)
447942.16	3764435.35	21.12844	(12092102)	447962.77	3764434.85	21.34154	(12092102)

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       447980.70   3764435.18       21.13069  (12092102)               448004.66
       3764435.18       21.00746  (16062804)
       448021.25   3764434.68       20.77129  (12083006)               447662.70
       3764379.63       20.99630  (16072603)
       447681.30   3764320.98       21.66633  (16072603)               447682.64
       3764285.79       21.21106  (16072603)
       447662.53   3764238.37       20.64398  (12080704)               447661.70
       3764207.37       20.44208  (12080704)
       447683.14   3764162.29       19.89554  (12080704)               447680.97
       3764145.87       19.71008  (12080704)
       447679.63   3764130.28       19.43165  (13071601)               447680.80
       3764112.02       19.18871  (13071601)
       447681.47   3764096.43       19.10720  (13071601)               447680.80
       3764078.84       19.07772  (13071601)
       447679.96   3764064.26       19.32247  (14080203)               447680.97
       3764045.82       19.65153  (14080203)
       447680.63   3764029.74       19.93460  (14080203)               447657.17
       3763992.03       19.93032  (14122220)
       447656.33   3763967.06       20.28500  (14122220)               447657.17
       3763928.69       21.02956  (14082924)
       447657.17   3763902.21       21.77298  (14082924)               447657.51
       3763869.03       22.10369  (14082924)
       447656.16   3763834.94       22.84870  (15082605)               447655.93
       3763808.27       23.64107  (15082605)
       447657.09   3763786.00       24.18642  (15082605)               447701.21
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       447856.92   3763749.71       23.82887  (13062605)               447854.99
       3763730.13       23.83381  (13062605)
       447854.35   3763698.35       24.15629  (12080801)               447855.31
       3763676.84       24.32572  (12080801)
       447675.51   3763287.46       23.84316  (15062722)               448481.33
       3763485.29       33.65362  (13082522)
       448479.95   3763195.53       35.92463  (13100204)               448478.56
       3762907.16       45.17866  (15100820)
       448497.89   3762714.10       78.20453  (14073101)               448507.91
       3762487.71      231.17174  (16060806)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                      PAGE 335
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                             SOURCE GROUP:  8REF     ***
                                 INCLUDING SOURCE(S):     8REF        ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                      ** CONC OF OTHER    IN
                                      MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
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       3762339.82      707.72139  (14120316)
       448464.47   3762265.93      373.75160  (13083101)               448461.57
       3762165.17      392.06870  (12121716)
       448472.57   3762064.71      122.67774  (12121716)               448460.48
       3762016.72       88.79575  (13013119)
       448234.63   3761951.18       69.83822  (16091922)               448081.42
       3761952.78       56.28463  (15021220)
       448025.53   3761955.99       51.11943  (12091503)               447506.75
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8REF ***
INCLUDING SOURCE(S): 8REF ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447146.64	3763084.24	16.94953	(16110920)	447146.92	3763064.30	16.65516	(16110920)
447149.92	3763038.90	15.81962	(16110920)	447148.56	3763019.78	15.53850	(13092722)
447148.56	3762997.39	15.24186	(13092722)	447206.08	3762958.49	13.68697	(13092722)
447209.33	3762922.51	13.87301	(14051202)	447208.40	3762890.70	14.22753	(15120517)
447145.83	3762888.87	13.57332	(15120517)	447122.55	3762889.07	13.23863	(15120517)
447094.33	3762890.05	12.79963	(16102407)	447071.04	3762890.45	12.51316	(16102407)
447043.61	3762889.66	12.14322	(14022724)	447017.76	3762888.87	11.87316	(14022724)
446992.11	3762889.07	11.59668	(16112103)	446964.28	3762888.28	11.35109	(16112103)
446940.41	3762888.47	11.11077	(16112103)	446911.20	3762888.08	10.79181	(16112103)
446885.35	3762889.66	10.57790	(12020622)	446862.07	3762888.87	10.45232	(12020622)
446871.45	3762779.57	10.90330	(12101719)	446926.31	3762768.72	11.41752	(12101719)
446983.74	3762774.24	11.68280	(16102420)	447009.00	3762774.05	12.03830	(12020622)
447030.51	3762774.44	12.40458	(12020622)	447055.37	3762774.05	12.81068	(12020622)
447076.88	3762774.24	13.15675	(12020622)	447101.16	3762774.44	13.53133	(12020622)
447123.85	3762774.05	13.86675	(12020622)	447148.12	3762775.03	14.19459	(12020622)
447170.23	3762774.84	14.47577	(12020622)	447196.78	3762775.48	14.76403	(12020622)
447242.12	3762776.57	15.50220	(16112103)	447262.33	3762776.03	15.85198	(16112103)
447294.56	3762776.30	16.39777	(14022724)	447313.13	3762775.48	16.76174	(14022724)
447313.40	3762749.53	16.99496	(16112103)	447327.86	3762713.09	17.74814	(12020622)
447327.36	3762679.87	17.70521	(12020622)	447327.74	3762657.02	17.95327	(12101719)

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       447327.28   3762636.82       18.46998  (12101719)               447327.51
       3762612.90       18.57872  (12101719)
       447327.28   3762592.24       18.26548  (16122321)               447327.04
       3762569.71       18.63993  (15040323)
       447327.28   3762547.89       18.93965  (15040323)               447326.58
       3762524.67       19.09674  (15032622)
       447326.58   3762506.09       18.84030  (15032622)               447327.51
       3762477.53       18.71941  (15090905)
       447325.88   3762454.31       19.42600  (15090905)               447225.58
       3762432.95       17.12197  (15090905)
       447200.27   3762430.63       16.54292  (15090905)               447156.85
       3762430.16       15.65398  (15090905)
       447131.77   3762430.86       15.18972  (15090905)               447102.74
       3762430.63       14.65989  (15090905)
       447079.06   3762430.86       14.25439  (15090905)               447034.94
       3762433.65       13.58938  (15090905)
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       446876.35   3762436.90       11.48496  (15090905)               446848.85
       3762647.05       11.11369  (15040323)
       446848.85   3762563.17       10.80380  (15112622)               446849.17
       3762509.82       11.34334  (15090905)
       446849.17   3762455.82       11.41857  (15090905)               446848.85
       3762702.00       10.69759  (16122321)
       446849.49   3762754.71       10.92415  (12101719)               446739.81
       3762428.53       10.14733  (14100421)
       446711.81   3762423.61        9.89247  (14100421)               446687.25
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       3762403.97        9.25503  (15110319)
       449981.72   3762732.45       10.20709  (15081321)               446486.82
       3762231.95        8.43479  (15031521)
       446261.97   3762068.01        7.22529  (14011518)               446443.15
       3762291.63        8.03104  (15031521)
       446071.80   3762055.49        6.42464  (14011518)               446072.08
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       3762039.75        5.76087  (14011518)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 337
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  8SPILL   ***
                                INCLUDING SOURCE(S):     8SPILL      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 8SPILL ***
INCLUDING SOURCE(S): 8SPILL ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	615.22808	(14120316)	448462.73	3762339.82	793.46768	(14120316)
448464.47	3762265.93	457.74244	(13083101)	448461.57	3762165.17	453.03144	(12121716)
448472.57	3762064.71	133.32985	(16072302)	448460.48	3762016.72	110.53479	(13013119)
448234.63	3761951.18	86.88563	(16091922)	448081.42	3761952.78	69.97641	(15021220)
448025.53	3761955.99	63.42106	(16100801)	447506.75	3761967.63	27.42189	(12101403)
447269.29	3761967.74	20.54417	(12020618)	447389.46	3761908.79	22.82734	(12101403)
447019.14	3761964.34	15.70585	(15031124)	447060.33	3761963.58	16.38308	(14011319)
446975.31	3761963.20	15.14171	(13121117)	446940.92	3761953.76	14.63532	(13121117)
446865.72	3761974.54	13.87900	(15031523)	446795.06	3761957.91	13.02004	(15031523)
446757.65	3761965.85	12.56231	(14051523)	446709.33	3761967.74	12.12543	(14051523)
446796.42	3762028.62	12.97752	(13121806)	446796.97	3762045.28	13.09968	(13121806)
446796.70	3762089.51	13.19574	(14120121)	446796.15	3762105.89	12.93871	(14120121)
446796.70	3762137.29	13.54762	(14011518)	446796.15	3762153.39	13.69527	(14011518)
446772.40	3762215.37	13.47374	(16021518)	446795.06	3762321.03	12.89154	(12020719)
446796.42	3762450.98	13.28802	(15090905)	446796.42	3762471.18	13.63917	(15090905)
446797.24	3762496.03	13.66981	(15090905)	446798.06	3762516.51	13.35343	(15090905)
446797.79	3762539.98	12.95298	(13022424)	446797.52	3762560.19	12.80293	(13022424)
446798.61	3762584.76	12.95550	(15112622)	446798.06	3762604.42	13.27718	(15032622)

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       446799.97   3762735.74       12.84519  (16122321)               446797.79
       3762748.02       12.95902  (12101719)
       446802.16   3762913.47       12.25140  (12020622)               446802.16
       3762932.58       12.15791  (16112103)
       446802.43   3762949.24       12.16839  (16112103)               446802.98
       3762967.26       12.06226  (14022724)
       446802.70   3762986.09       12.02049  (14022724)               446802.16
       3763003.29       11.99478  (16102407)
       446802.16   3763021.86       11.93158  (15120517)               446802.70
       3763040.70       11.98148  (15120517)
       446802.98   3763059.26       11.85970  (15120517)               446803.52
       3763077.01       11.59573  (15120517)
       446756.29   3763085.26       11.32888  (15120517)               446807.68
       3763646.39       15.95151  (16122219)
       446808.32   3763674.66       16.15815  (14091702)               446807.68
       3763694.57       16.43586  (14091702)
       446808.32   3763710.63       16.40777  (14091702)               446808.32
       3763726.37       16.24229  (14091702)
       446808.00   3763742.11       16.21256  (15082903)               446808.32
       3763756.89       16.12951  (15082903)
       446808.64   3763798.32       15.94652  (13112717)               446810.25
       3764484.08       17.89402  (12092221)
       446781.34   3764475.08       17.30155  (12092221)               446722.56
       3764455.81       17.28346  (15063002)
       446170.32   3764559.79       14.51472  (16091102)               446872.29
       3763190.26       14.29624  (14042702)
       446925.22   3763179.19       15.50862  (16110920)               446984.86
       3763194.88       15.97571  (16110920)
       447010.56   3763193.28       16.58420  (16110920)               447036.58
       3763193.60       16.56512  (13092602)
       447053.61   3763193.28       16.94318  (14092806)               447076.42
       3763192.31       17.46567  (14092806)
       447093.45   3763192.63       17.88712  (14092806)               447122.05
       3763192.63       17.41508  (14092806)
       447138.75   3763192.31       17.52481  (14083105)               447167.99
       3763192.31       17.73515  (14083105)
       447170.68   3763172.18       17.38724  (14083105)               447170.41
       3763158.25       17.25031  (16112718)
       447169.31   3763144.87       17.65281  (16112718)               447147.46
       3763107.45       18.81447  (16110920)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***        09:18:50

                     PAGE 339
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                            *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                            SOURCE GROUP:  8SPILL   ***
                                INCLUDING SOURCE(S):     8SPILL      ,

                                      *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF OTHER    IN
                                    MICROGRAMS/M**3                        **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - -
       447146.64   3763084.24       19.09748  (16110920)               447146.92
```

3763064.30 18.60764 (16110920)
447149.92 3763038.90 17.25943 (16110920) 447148.56
3763019.78 17.16705 (13092722)
447148.56 3762997.39 16.71121 (13092722) 447206.08
3762958.49 17.03094 (13092722)
447209.33 3762922.51 17.25727 (14051202) 447208.40
3762890.70 17.61344 (15120517)
447145.83 3762888.87 16.94160 (15120517) 447122.55
3762889.07 16.49748 (15120517)
447094.33 3762890.05 15.98086 (16102407) 447071.04
3762890.45 15.61528 (16102407)
447043.61 3762889.66 15.16672 (14022724) 447017.76
3762888.87 14.83458 (14022724)
446992.11 3762889.07 14.44917 (16112103) 446964.28
3762888.28 14.16735 (16112103)
446940.41 3762888.47 13.86174 (16112103) 446911.20
3762888.08 13.42811 (16112103)
446885.35 3762889.66 13.09519 (12020622) 446862.07
3762888.87 12.99662 (12020622)
446871.45 3762779.57 13.51330 (12101719) 446926.31
3762768.72 14.10637 (12101719)
446983.74 3762774.24 14.45890 (16102420) 447009.00
3762774.05 14.92769 (16102420)
447030.51 3762774.44 15.30705 (16102420) 447055.37
3762774.05 15.87784 (12020622)
447076.88 3762774.24 16.36386 (12020622) 447101.16
3762774.44 16.87275 (12020622)
447123.85 3762774.05 17.30719 (12020622) 447148.12
3762775.03 17.70553 (12020622)
447170.23 3762774.84 18.01963 (12020622) 447196.78
3762775.48 18.28865 (12020622)
447242.12 3762776.57 19.33107 (16112103) 447262.33
3762776.03 19.76494 (16112103)
447294.56 3762776.30 20.46820 (14022724) 447313.13
3762775.48 20.92771 (14022724)
447313.40 3762749.53 21.18752 (16112103) 447327.86
3762713.09 22.12180 (12020622)
447327.36 3762679.87 21.85575 (12020622) 447327.74
3762657.02 22.09882 (12101719)
447327.28 3762636.82 23.03382 (12101719) 447327.51
3762612.90 23.13127 (12101719)
447327.28 3762592.24 22.69386 (16122321) 447327.04
3762569.71 23.09210 (15040323)
447327.28 3762547.89 23.60463 (15040323) 447326.58
3762524.67 23.77779 (15032622)
447326.58 3762506.09 23.20717 (15032622) 447327.51
3762477.53 23.05755 (13022424)
447325.88 3762454.31 24.09917 (15090905) 447225.58
3762432.95 21.24670 (15090905)
447200.27 3762430.63 20.48088 (15090905) 447156.85
3762430.16 19.33532 (15090905)
447131.77 3762430.86 18.74778 (15090905) 447102.74
3762430.63 18.06343 (15090905)
447079.06 3762430.86 17.54475 (15090905) 447034.94
3762433.65 16.72357 (15090905)
446995.47 3762433.65 15.96364 (14100421) 446972.71
3762434.34 15.60896 (14100421)
446941.37 3762434.58 15.15077 (14100421) 446916.06
3762436.90 14.77312 (14100421)
446876.35 3762436.90 14.24708 (14100421) 446848.85
3762647.05 13.87029 (15040323)
446848.85 3762563.17 13.39404 (15112622) 446849.17
3762509.82 14.02420 (15090905)
446849.17 3762455.82 14.13825 (15090905) 446848.85
3762702.00 13.28068 (16122321)
446849.49 3762754.71 13.66233 (12101719) 446739.81

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000119 , L0000120 , L0000121 , L0000122 , L0000123 ,
L0000124 , L0000125 , L0000126 , L0000127 , L0000128 ,
L0000129 , L0000130 , L0000131 ,
L0000132 , L0000133 , L0000104 , L0000105 , L0000106 ,
L0000107 , L0000108 , L0000109 ,
L0000110 , L0000111 , L0000112 , L0000113 , L0000114 ,
L0000115 , L0000116 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
447362.21	3764292.67	346.30631	(16062805)	447375.98	3764150.98	371.39311	(16062805)
447389.75	3764043.04	364.61737	(16062805)	447450.16	3764031.05	351.77961	(16081402)
447410.18	3764019.05	361.75011	(16062805)	446891.90	3764451.22	305.88976	(16072603)
446959.28	3764451.22	315.51842	(12081001)	446995.28	3764468.13	317.56394	(12081604)
447007.41	3764467.30	320.09923	(12081604)	447023.51	3764466.09	319.49229	(12081604)
447036.59	3764466.21	319.98288	(16082102)	447052.68	3764465.61	320.89988	(16082102)
447066.60	3764465.73	321.89114	(16062701)	447099.65	3764456.17	328.85716	(15032722)
447145.28	3764468.27	325.26574	(14040923)	447175.54	3764468.03	319.45754	(12092102)
447205.32	3764468.27	314.66727	(12080203)	447232.43	3764467.55	324.41674	(12083006)
447264.02	3764467.30	334.63880	(12083006)	447294.77	3764466.94	340.32895	(12081106)
447364.97	3764456.41	330.81973	(15062301)	447406.61	3764460.65	327.50659	(13090206)
447441.47	3764460.04	325.57920	(13090206)	447466.88	3764460.20	323.78315	(15083004)
447490.00	3764460.56	314.88856	(15083004)	447515.50			

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      3764460.40      307.12831  (12083004)
      447573.06   3764454.29      306.03294  (12082822)                447598.49
      3764445.22      304.30935  (12102719)
      447652.90   3764439.70      308.14623  (12080905)                447692.92
      3764439.51      303.99783  (12080905)
      447713.82   3764439.11      297.26384  (15092701)                447731.95
      3764438.72      300.43189  (15092701)
      447751.07   3764438.72      299.48705  (15092701)                447768.82
      3764437.53      300.26556  (12080824)
      447789.12   3764437.73      299.87205  (12080824)                447805.68
      3764437.34      295.89355  (12090802)
      447824.02   3764437.20      294.68568  (12090802)                447841.61
      3764437.87      293.72286  (16062701)
      447861.72   3764437.53      293.31209  (12071001)                447881.66
      3764435.18      294.01464  (12071001)
      447902.78   3764436.19      295.78527  (15080504)                447920.87
      3764435.35      296.21155  (15080504)
      447942.16   3764435.35      299.94087  (12092102)                447962.77
      3764434.85      299.83987  (12092102)
      447980.70   3764435.18      298.41362  (16062804)                448004.66
      3764435.18      296.16260  (16062804)
      448021.25   3764434.68      293.23298  (12083006)                447662.70
      3764379.63      324.11125  (12080905)
      447681.30   3764320.98      331.05329  (12080905)                447682.64
      3764285.79      328.87646  (12080905)
      447662.53   3764238.37      331.48770  (12080905)                447661.70
      3764207.37      329.10532  (12080905)
      447683.14   3764162.29      319.72487  (12080905)                447680.97
      3764145.87      319.08619  (14082624)
      447679.63   3764130.28      314.11326  (14082624)                447680.80
      3764112.02      311.24271  (14082624)
      447681.47   3764096.43      311.17216  (14082624)                447680.80
      3764078.84      312.94386  (14082624)
      447679.96   3764064.26      316.57538  (14082624)                447680.97
      3764045.82      321.15383  (14082624)
      447680.63   3764029.74      326.20328  (14082624)                447657.17
      3763992.03      339.36103  (14082624)
      447656.33   3763967.06      348.86171  (14082624)                447657.17
      3763928.69      361.53343  (14082624)
      447657.17   3763902.21      370.91430  (14082624)                447657.51
      3763869.03      377.36159  (14082624)
      447656.16   3763834.94      390.93204  (14082624)                447655.93
      3763808.27      403.61634  (14082624)
      447657.09   3763786.00      414.62125  (14082624)                447701.21
      3763782.14      411.24471  (12080824)
      447856.92   3763749.71      362.25497  (16072603)                447854.99
      3763730.13      365.05742  (15101706)
      447854.35   3763698.35      370.35217  (15101706)                447855.31
      3763676.84      373.82512  (16072903)
      447675.51   3763287.46      576.75555  (13082522)                448481.33
      3763485.29      547.50311  (13082522)
      448479.95   3763195.53      577.78035  (14080321)                448478.56
      3762907.16      658.01649  (15100820)
      448497.89   3762714.10      887.36002  (15073002)                448507.91
      3762487.71     1499.26907  (16091022)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 341
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                          *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                          SOURCE GROUP:  ALL      ***
                              INCLUDING SOURCE(S):     L0000119    , L0000120    ,
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L0000121 , L0000122 , L0000123 ,
L0000124 , L0000125 , L0000126 , L0000127 , L0000128 ,
L0000129 , L0000130 , L0000131 ,
L0000132 , L0000133 , L0000104 , L0000105 , L0000106 ,
L0000107 , L0000108 , L0000109 ,
L0000110 , L0000111 , L0000112 , L0000113 , L0000114 ,
L0000115 , L0000116 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
448480.49	3762357.96	2056.60227	(14120316)	448462.73	3762339.82	2828.56212	(14120316)
448464.47	3762265.93	1720.01190	(12080622)	448461.57	3762165.17	2524.73130	(14120316)
448472.57	3762064.71	1240.24656	(13042022)	448460.48	3762016.72	1914.79209	(12121716)
448234.63	3761951.18	870.08378	(15090901)	448081.42	3761952.78	511.93262	(15090902)
448025.53	3761955.99	460.30026	(13090706)	447506.75	3761967.63	617.19706	(15092103)
447269.29	3761967.74	444.15088	(13121720)	447389.46	3761908.79	479.54718	(15090901)
447019.14	3761964.34	327.68294	(15101221)	447060.33	3761963.58	481.66249	(12121716)
446975.31	3761963.20	318.08510	(15072005)	446940.92	3761953.76	321.00985	(13093021)
446865.72	3761974.54	350.06838	(14091523)	446795.06	3761957.91	327.59433	(12102004)
446757.65	3761965.85	338.53809	(16091922)	446709.33	3761967.74	335.25830	(13083002)
446796.42	3762028.62	430.14664	(14090704)	446796.97	3762045.28	460.12624	(14090704)
446796.70	3762089.51	566.66475	(16091922)	446796.15	3762105.89	617.34129	(16091922)
446796.70	3762137.29	742.84972	(15090901)	446796.15	3762153.39	813.74032	(15090901)
446772.40	3762215.37	1108.88481	(16102021)	446795.06	3762321.03	2958.28591	(15031523)
446796.42	3762450.98	1434.36397	(12101117)	446796.42	3762471.18	1124.17983	(12101117)
446797.24	3762496.03	931.84846	(14091520)	446798.06	3762516.51	817.94025	(15072002)
446797.79	3762539.98	688.90375	(16022318)	446797.52	3762560.19	610.68391	(15090204)
446798.61	3762584.76	536.48058	(12030418)	446798.06	3762604.42	494.53513	(12030418)
446799.70	3762654.11	400.42291	(12030418)	446799.97	3762674.58	474.81297	(13082623)
446800.25	3762700.25	458.88388	(16072824)	446800.25	3762721.27	434.87698	(12081523)
446799.97	3762735.74	416.11361	(12081523)	446797.79	3762748.02	401.32863	(12081523)
446802.16	3762913.47	311.51057	(13092722)	446802.16	3762932.58	307.27643	(16110920)
446802.43	3762949.24	303.95932	(16110920)	446802.98	3762967.26	299.34603	(16110920)
446802.70	3762986.09	293.87506	(16110920)	446802.16	3763003.29	289.16680	(16110920)
446802.16	3763021.86	284.68380	(16110920)	446802.70			

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       3763040.70      284.68036  (14091521)
       446802.98   3763059.26      304.04756  (14091521)                446803.52
       3763077.01      303.95427  (14091521)
       446756.29   3763085.26      259.96417  (16110920)                446807.68
       3763646.39      312.94130  (13082922)
       446808.32   3763674.66      309.19121  (16072804)                446807.68
       3763694.57      307.74539  (16072804)
       446808.32   3763710.63      304.92661  (16072804)                446808.32
       3763726.37      302.22335  (16072804)
       446808.00   3763742.11      299.78586  (15061924)                446808.32
       3763756.89      299.06899  (15061924)
       446808.64   3763798.32      300.73793  (15061924)                446810.25
       3764484.08      294.42372  (12080704)
       446781.34   3764475.08      287.47650  (12080704)                446722.56
       3764455.81      279.71882  (12072004)
       446170.32   3764559.79      237.31017  (12010218)                446872.29
       3763190.26      357.47887  (15082702)
       446925.22   3763179.19      378.85367  (15120720)                446984.86
       3763194.88      395.80188  (16092823)
       447010.56   3763193.28      415.95616  (16060105)                447036.58
       3763193.60      433.91018  (13082922)
       447053.61   3763193.28      452.96112  (13082922)                447076.42
       3763192.31      474.61666  (13082922)
       447093.45   3763192.63      489.34889  (13082922)                447122.05
       3763192.63      501.87516  (15061924)
       447138.75   3763192.31      517.21457  (15061924)                447167.99
       3763192.31      549.35328  (15082523)
       447170.68   3763172.18      545.69769  (15082523)                447170.41
       3763158.25      540.77404  (15080424)
       447169.31   3763144.87      543.06910  (15080424)                447147.46
       3763107.45      541.27839  (13082922)
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                  ***       09:18:50

                     PAGE 342
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                           *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR
                           SOURCE GROUP:  ALL      ***
                               INCLUDING SOURCE(S):     L0000119    , L0000120    ,
                               L0000121    , L0000122    , L0000123    ,
                 L0000124    , L0000125    , L0000126    , L0000127    , L0000128    ,
                 L0000129    , L0000130    , L0000131    ,
                 L0000132    , L0000133    , L0000104    , L0000105    , L0000106    ,
                 L0000107    , L0000108    , L0000109    ,
                 L0000110    , L0000111    , L0000112    , L0000113    , L0000114    ,
                 L0000115    , L0000116    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF OTHER    IN
                                     MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD
     (M)        CONC     (YYMMDDHH)
 - - -
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3762890.70      523.74696  (15062722)
447145.83   3762888.87      452.84470  (14100721)                447122.55
3762889.07      442.90379  (14100721)
447094.33   3762890.05      426.24062  (14091620)                447071.04
3762890.45      417.47623  (14091620)
447043.61   3762889.66      403.19389  (14091620)                447017.76
3762888.87      391.62071  (14091521)
446992.11   3762889.07      379.46328  (14091521)                446964.28
3762888.28      365.20031  (16110920)
446940.41   3762888.47      360.54002  (16110920)                446911.20
3762888.08      351.14356  (16110920)
446885.35   3762889.66      343.74097  (16110920)                446862.07
3762888.87      336.56414  (16110920)
446871.45   3762779.57      380.79480  (15082606)                446926.31
3762768.72      398.20199  (14040721)
446983.74   3762774.24      418.54867  (14040721)                447009.00
3762774.05      426.38772  (14040721)
447030.51   3762774.44      435.00666  (16110920)                447055.37
3762774.05      448.09536  (16110920)
447076.88   3762774.24      459.26220  (16110920)                447101.16
3762774.44      470.77237  (16110920)
447123.85   3762774.05      483.30883  (14091521)                447148.12
3762775.03      508.34203  (14091521)
447170.23   3762774.84      527.23247  (14091521)                447196.78
3762775.48      553.38920  (14091620)
447242.12   3762776.57      603.26562  (14100721)                447262.33
3762776.03      624.99780  (15092021)
447294.56   3762776.30      699.65546  (15060921)                447313.13
3762775.48      749.11486  (15062722)
447313.40   3762749.53      764.83038  (15060921)                447327.86
3762713.09      817.35644  (15092021)
447327.36   3762679.87      826.73601  (14091521)                447327.74
3762657.02      848.62287  (14091521)
447327.28   3762636.82      841.88385  (14091521)                447327.51
3762612.90      862.36320  (16110920)
447327.28   3762592.24      874.55150  (14040721)                447327.04
3762569.71      883.82926  (14120205)
447327.28   3762547.89      923.61895  (16102420)                447326.58
3762524.67      945.62176  (13112618)
447326.58   3762506.09      967.07414  (15032622)                447327.51
3762477.53     1000.53212  (15090905)
447325.88   3762454.31      978.20403  (14100421)                447225.58
3762432.95      773.26865  (14100421)
447200.27   3762430.63      743.80064  (14100421)                447156.85
3762430.16      698.37612  (14100421)
447131.77   3762430.86      675.74462  (14100421)                447102.74
3762430.63      684.22484  (16072623)
447079.06   3762430.86      753.93201  (14090822)                447034.94
3762433.65      920.53038  (13082622)
446995.47   3762433.65     1215.46718  (16082707)                446972.71
3762434.34     1618.42660  (16082707)
446941.37   3762434.58     1824.84523  (14041207)                446916.06
3762436.90     2302.30407  (14090307)
446876.35   3762436.90     2097.74580  (15011116)                446848.85
3762647.05      440.86616  (15101219)
446848.85   3762563.17      657.54692  (15101219)                446849.17
3762509.82      951.66757  (16092019)
446849.17   3762455.82     1569.11307  (16092019)                446848.85
3762702.00      468.92000  (13090301)
446849.49   3762754.71      410.71055  (13090301)                446739.81
3762428.53     1063.55975  (16112718)
446711.81   3762423.61      910.33813  (13092722)                446687.25
3762416.25      812.47192  (16112103)
446662.20   3762412.32      739.87541  (12101719)                446636.17
3762403.97      715.71892  (15032622)
449981.72   3762732.45      197.08214  (15082923)                446486.82
```

*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
10BBREAT	1ST HIGHEST VALUE IS	94.22986	AT (448461.57, 3762165.17, 221.96, 221.96, 0.00)	DC	
	2ND HIGHEST VALUE IS	45.71238	AT (448464.47, 3762265.93, 223.32, 223.32, 0.00)	DC	
	3RD HIGHEST VALUE IS	22.65545	AT (448472.57, 3762064.71, 220.00, 220.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	17.49800	AT (448462.73, 3762339.82, 224.57, 224.57, 0.00)	DC	
	5TH HIGHEST VALUE IS	16.50652	AT (448460.48, 3762016.72, 219.38, 219.38, 0.00)	DC	
	6TH HIGHEST VALUE IS	14.60379	AT (448480.49, 3762357.96, 224.76, 224.76, 0.00)	DC	
	7TH HIGHEST VALUE IS	12.83109	AT (448234.63, 3761951.18, 220.00, 220.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	6.97910	AT (448081.42, 3761952.78, 220.91, 220.91, 0.00)	DC	
	9TH HIGHEST VALUE IS	5.84954	AT (448507.91, 3762487.71, 225.77, 225.77, 0.00)	DC	
	10TH HIGHEST VALUE IS	5.45488	AT (448025.53, 3761955.99, 221.00, 221.00, 0.00)	DC	
10BLOAD	1ST HIGHEST VALUE IS	94.23073	AT (448461.57, 3762165.17, 221.96, 221.96, 0.00)	DC	
	2ND HIGHEST VALUE IS	45.71358	AT (448464.47, 3762265.93, 223.32, 223.32, 0.00)	DC	
	3RD HIGHEST VALUE IS	22.65580	AT (448472.57, 3762064.71, 220.00, 220.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	17.49869	AT (448462.73, 3762339.82, 224.57, 224.57, 0.00)	DC	
	5TH HIGHEST VALUE IS	16.50673	AT (448460.48, 3762016.72, 219.38, 219.38, 0.00)	DC	
	6TH HIGHEST VALUE IS	14.60435	AT (448480.49, 3762357.96, 224.76, 224.76, 0.00)	DC	
	7TH HIGHEST VALUE IS	12.83118	AT (448234.63, 3761951.18, 220.00, 220.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	6.97915	AT (448081.42, 3761952.78, 220.91, 220.91, 0.00)	DC	

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          9TH HIGHEST VALUE IS       5.84973 AT (  448507.91,  3762487.71,   225.77,
          225.77,    0.00)  DC
         10TH HIGHEST VALUE IS       5.45492 AT (  448025.53,  3761955.99,   221.00,
         221.00,    0.00)  DC

10BREF    1ST HIGHEST VALUE IS      95.17196 AT (  448461.57,  3762165.17,   221.96,
221.96,    0.00)  DC
          2ND HIGHEST VALUE IS      57.08310 AT (  448464.47,  3762265.93,   223.32,
          223.32,    0.00)  DC
          3RD HIGHEST VALUE IS      22.14309 AT (  448472.57,  3762064.71,   220.00,
          220.00,    0.00)  DC
          4TH HIGHEST VALUE IS      19.40695 AT (  448462.73,  3762339.82,   224.57,
          224.57,    0.00)  DC
          5TH HIGHEST VALUE IS      16.05656 AT (  448460.48,  3762016.72,   219.38,
          219.38,    0.00)  DC
          6TH HIGHEST VALUE IS      15.91044 AT (  448480.49,  3762357.96,   224.76,
          224.76,    0.00)  DC
          7TH HIGHEST VALUE IS      11.75389 AT (  448234.63,  3761951.18,   220.00,
          220.00,    0.00)  DC
          8TH HIGHEST VALUE IS       6.49793 AT (  448081.42,  3761952.78,   220.91,
          220.91,    0.00)  DC
          9TH HIGHEST VALUE IS       6.19100 AT (  448507.91,  3762487.71,   225.77,
          225.77,    0.00)  DC
         10TH HIGHEST VALUE IS       5.09498 AT (  448025.53,  3761955.99,   221.00,
         221.00,    0.00)  DC

10BSPILL  1ST HIGHEST VALUE IS      91.72149 AT (  448461.57,  3762165.17,   221.96,
221.96,    0.00)  DC
          2ND HIGHEST VALUE IS      55.10028 AT (  448464.47,  3762265.93,   223.32,
          223.32,    0.00)  DC
          3RD HIGHEST VALUE IS      22.05342 AT (  448472.57,  3762064.71,   220.00,
          220.00,    0.00)  DC
          4TH HIGHEST VALUE IS      19.00843 AT (  448462.73,  3762339.82,   224.57,
          224.57,    0.00)  DC
          5TH HIGHEST VALUE IS      16.09027 AT (  448460.48,  3762016.72,   219.38,
          219.38,    0.00)  DC
          6TH HIGHEST VALUE IS      15.56415 AT (  448480.49,  3762357.96,   224.76,
          224.76,    0.00)  DC
          7TH HIGHEST VALUE IS      11.88100 AT (  448234.63,  3761951.18,   220.00,
          220.00,    0.00)  DC
          8TH HIGHEST VALUE IS       6.52645 AT (  448081.42,  3761952.78,   220.91,
          220.91,    0.00)  DC
          9TH HIGHEST VALUE IS       6.14305 AT (  448507.91,  3762487.71,   225.77,
          225.77,    0.00)  DC
         10TH HIGHEST VALUE IS       5.09084 AT (  448025.53,  3761955.99,   221.00,
         221.00,    0.00)  DC
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                    *** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS
                                    ***


                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **


           NETWORK
GROUP ID                      AVERAGE CONC               RECEPTOR  (XR, YR, ZELEV, ZHILL,
ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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- - - - - - - - - - -

1H25      1ST HIGHEST VALUE IS      20.83028 AT (  448481.33,  3763485.29,   235.57,
235.57,    0.00)  DC
          2ND HIGHEST VALUE IS      19.54972 AT (  448479.95,  3763195.53,   232.04,
          232.04,    0.00)  DC
          3RD HIGHEST VALUE IS      18.25998 AT (  448478.56,  3762907.16,   229.42,
          229.42,    0.00)  DC
          4TH HIGHEST VALUE IS      13.23328 AT (  448497.89,  3762714.10,   228.11,
          228.11,    0.00)  DC
          5TH HIGHEST VALUE IS      10.09010 AT (  448507.91,  3762487.71,   225.77,
          225.77,    0.00)  DC
          6TH HIGHEST VALUE IS       4.05519 AT (  448480.49,  3762357.96,   224.76,
          224.76,    0.00)  DC
          7TH HIGHEST VALUE IS       3.59162 AT (  448462.73,  3762339.82,   224.57,
          224.57,    0.00)  DC
          8TH HIGHEST VALUE IS       1.89101 AT (  448464.47,  3762265.93,   223.32,
          223.32,    0.00)  DC
          9TH HIGHEST VALUE IS       1.45630 AT (  448021.25,  3764434.68,   242.95,
          242.95,    0.00)  DC
         10TH HIGHEST VALUE IS       1.38941 AT (  448004.66,  3764435.18,   243.63,
         243.63,    0.00)  DC

1MC100    1ST HIGHEST VALUE IS      33.04254 AT (  447675.51,  3763287.46,   232.04,
232.04,    0.00)  DC
          2ND HIGHEST VALUE IS       5.24544 AT (  447327.86,  3762713.09,   228.10,
          228.10,    0.00)  DC
          3RD HIGHEST VALUE IS       5.11733 AT (  447327.36,  3762679.87,   227.45,
          227.45,    0.00)  DC
          4TH HIGHEST VALUE IS       5.03835 AT (  447313.13,  3762775.48,   228.32,
          228.32,    0.00)  DC
          5TH HIGHEST VALUE IS       5.03151 AT (  447327.74,  3762657.02,   227.18,
          227.18,    0.00)  DC
          6TH HIGHEST VALUE IS       5.00355 AT (  447313.40,  3762749.53,   228.34,
          228.34,    0.00)  DC
          7TH HIGHEST VALUE IS       4.92884 AT (  447327.28,  3762636.82,   226.88,
          226.88,    0.00)  DC
          8TH HIGHEST VALUE IS       4.81310 AT (  447327.51,  3762612.90,   226.43,
          226.43,    0.00)  DC
          9TH HIGHEST VALUE IS       4.69771 AT (  447327.28,  3762592.24,   226.22,
          226.22,    0.00)  DC
         10TH HIGHEST VALUE IS       4.64912 AT (  447294.56,  3762776.30,   228.30,
         228.30,    0.00)  DC

1OR15     1ST HIGHEST VALUE IS      19.54872 AT (  447156.85,  3762430.16,   223.66,
223.66,    0.00)  DC
          2ND HIGHEST VALUE IS      19.50442 AT (  447200.27,  3762430.63,   223.93,
          223.93,    0.00)  DC
          3RD HIGHEST VALUE IS      19.15281 AT (  447131.77,  3762430.86,   223.62,
          223.62,    0.00)  DC
          4TH HIGHEST VALUE IS      19.13634 AT (  447102.74,  3762430.63,   223.39,
          223.39,    0.00)  DC
          5TH HIGHEST VALUE IS      19.13117 AT (  446486.82,  3762231.95,   222.19,
          222.19,    0.00)  DC
          6TH HIGHEST VALUE IS      18.94928 AT (  447079.06,  3762430.86,   223.12,
          223.12,    0.00)  DC
          7TH HIGHEST VALUE IS      18.62743 AT (  447225.58,  3762432.95,   224.05,
          224.05,    0.00)  DC
          8TH HIGHEST VALUE IS      17.73574 AT (  447034.94,  3762433.65,   223.06,
          223.06,    0.00)  DC
          9TH HIGHEST VALUE IS      17.61496 AT (  446995.47,  3762433.65,   223.07,
          223.07,    0.00)  DC
         10TH HIGHEST VALUE IS      17.46242 AT (  446261.97,  3762068.01,   221.00,
         221.00,    0.00)  DC

1OR60     1ST HIGHEST VALUE IS      36.79263 AT (  448480.49,  3762357.96,   224.76,
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224.76,   0.00) DC
          2ND HIGHEST VALUE IS   22.09698 AT (448462.73, 3762339.82,   224.57,
          224.57,   0.00) DC
          3RD HIGHEST VALUE IS   11.93187 AT (448507.91, 3762487.71,   225.77,
          225.77,   0.00) DC
          4TH HIGHEST VALUE IS   9.60054 AT (448464.47, 3762265.93,   223.32,
          223.32,   0.00) DC
          5TH HIGHEST VALUE IS   5.34416 AT (448461.57, 3762165.17,   221.96,
          221.96,   0.00) DC
          6TH HIGHEST VALUE IS   3.67879 AT (448472.57, 3762064.71,   220.00,
          220.00,   0.00) DC
          7TH HIGHEST VALUE IS   3.10355 AT (448460.48, 3762016.72,   219.38,
          219.38,   0.00) DC
          8TH HIGHEST VALUE IS   2.96550 AT (448497.89, 3762714.10,   228.11,
          228.11,   0.00) DC
          9TH HIGHEST VALUE IS   2.37976 AT (449981.72, 3762732.45,   226.41,
          226.41,   0.00) DC
         10TH HIGHEST VALUE IS   1.87503 AT (448234.63, 3761951.18,   220.00,
         220.00,   0.00) DC
FF *** AERMOD - VERSION 22112 ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***   10/19/22
 *** AERMET - VERSION 16216 ***
 ***   ***   09:18:50

                    PAGE 345
 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                   *** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS
                                   ***

                                  ** CONC OF OTHER   IN
                                  MICROGRAMS/M**3   **

           NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR, ZELEV, ZHILL,
ZFLAG) OF TYPE GRID-ID
- -
- - - - - - - - - - - -

1OR85   1ST HIGHEST VALUE IS   15.23980 AT (448480.49, 3762357.96,   224.76,
224.76,   0.00) DC
          2ND HIGHEST VALUE IS   15.04863 AT (448507.91, 3762487.71,   225.77,
          225.77,   0.00) DC
          3RD HIGHEST VALUE IS   14.20723 AT (448462.73, 3762339.82,   224.57,
          224.57,   0.00) DC
          4TH HIGHEST VALUE IS   7.34620 AT (448464.47, 3762265.93,   223.32,
          223.32,   0.00) DC
          5TH HIGHEST VALUE IS   4.99458 AT (448497.89, 3762714.10,   228.11,
          228.11,   0.00) DC
          6TH HIGHEST VALUE IS   4.35034 AT (448461.57, 3762165.17,   221.96,
          221.96,   0.00) DC
          7TH HIGHEST VALUE IS   3.32473 AT (448025.53, 3761955.99,   221.00,
          221.00,   0.00) DC
          8TH HIGHEST VALUE IS   3.23280 AT (448081.42, 3761952.78,   220.91,
          220.91,   0.00) DC
          9TH HIGHEST VALUE IS   2.91646 AT (448472.57, 3762064.71,   220.00,
          220.00,   0.00) DC
         10TH HIGHEST VALUE IS   2.87888 AT (448234.63, 3761951.18,   220.00,
         220.00,   0.00) DC

2CIDLE   1ST HIGHEST VALUE IS   14.48589 AT (447167.99, 3763192.31,   231.56,
231.56,   0.00) DC
          2ND HIGHEST VALUE IS   13.37918 AT (447170.68, 3763172.18,   231.39,
          231.39,   0.00) DC

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          3RD HIGHEST VALUE IS      12.46034 AT (  447170.41,  3763158.25,   231.25,
          231.25,    0.00)  DC
          4TH HIGHEST VALUE IS      12.06449 AT (  447138.75,  3763192.31,   231.65,
          231.65,    0.00)  DC
          5TH HIGHEST VALUE IS      11.58993 AT (  447169.31,  3763144.87,   231.24,
          231.24,    0.00)  DC
          6TH HIGHEST VALUE IS      10.89883 AT (  447122.05,  3763192.63,   231.72,
          231.72,    0.00)  DC
          7TH HIGHEST VALUE IS       9.19383 AT (  447093.45,  3763192.63,   231.90,
          231.90,    0.00)  DC
          8TH HIGHEST VALUE IS       8.91868 AT (  447147.46,  3763107.45,   231.46,
          231.46,    0.00)  DC
          9TH HIGHEST VALUE IS       8.79602 AT (  447675.51,  3763287.46,   232.04,
          232.04,    0.00)  DC
         10TH HIGHEST VALUE IS       8.32859 AT (  447076.42,  3763192.31,   231.77,
         231.77,    0.00)  DC

2CON      1ST HIGHEST VALUE IS      18.43324 AT (  447675.51,  3763287.46,   232.04,
232.04,    0.00)  DC
          2ND HIGHEST VALUE IS      10.48433 AT (  447167.99,  3763192.31,   231.56,
          231.56,    0.00)  DC
          3RD HIGHEST VALUE IS      10.15077 AT (  447170.68,  3763172.18,   231.39,
          231.39,    0.00)  DC
          4TH HIGHEST VALUE IS       9.73397 AT (  447170.41,  3763158.25,   231.25,
          231.25,    0.00)  DC
          5TH HIGHEST VALUE IS       9.28289 AT (  447169.31,  3763144.87,   231.24,
          231.24,    0.00)  DC
          6TH HIGHEST VALUE IS       8.62101 AT (  447138.75,  3763192.31,   231.65,
          231.65,    0.00)  DC
          7TH HIGHEST VALUE IS       7.78744 AT (  447122.05,  3763192.63,   231.72,
          231.72,    0.00)  DC
          8TH HIGHEST VALUE IS       7.36177 AT (  447147.46,  3763107.45,   231.46,
          231.46,    0.00)  DC
          9TH HIGHEST VALUE IS       6.82423 AT (  447146.64,  3763084.24,   231.35,
          231.35,    0.00)  DC
         10TH HIGHEST VALUE IS       6.62023 AT (  447093.45,  3763192.63,   231.90,
         231.90,    0.00)  DC

2H25      1ST HIGHEST VALUE IS      20.83028 AT (  448481.33,  3763485.29,   235.57,
235.57,    0.00)  DC
          2ND HIGHEST VALUE IS      19.54972 AT (  448479.95,  3763195.53,   232.04,
          232.04,    0.00)  DC
          3RD HIGHEST VALUE IS      18.25998 AT (  448478.56,  3762907.16,   229.42,
          229.42,    0.00)  DC
          4TH HIGHEST VALUE IS      13.23328 AT (  448497.89,  3762714.10,   228.11,
          228.11,    0.00)  DC
          5TH HIGHEST VALUE IS      10.09010 AT (  448507.91,  3762487.71,   225.77,
          225.77,    0.00)  DC
          6TH HIGHEST VALUE IS       4.05519 AT (  448480.49,  3762357.96,   224.76,
          224.76,    0.00)  DC
          7TH HIGHEST VALUE IS       3.59162 AT (  448462.73,  3762339.82,   224.57,
          224.57,    0.00)  DC
          8TH HIGHEST VALUE IS       1.89101 AT (  448464.47,  3762265.93,   223.32,
          223.32,    0.00)  DC
          9TH HIGHEST VALUE IS       1.45630 AT (  448021.25,  3764434.68,   242.95,
          242.95,    0.00)  DC
         10TH HIGHEST VALUE IS       1.38941 AT (  448004.66,  3764435.18,   243.63,
         243.63,    0.00)  DC
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                     PAGE 346
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
2MC45	1ST HIGHEST VALUE IS	7.37825 AT (	447327.28, 3762547.89, 225.77, 225.77, 0.00)	DC	
	2ND HIGHEST VALUE IS	7.36522 AT (	447327.04, 3762569.71, 225.99, 225.99, 0.00)	DC	
	3RD HIGHEST VALUE IS	7.32740 AT (	447327.28, 3762592.24, 226.22, 226.22, 0.00)	DC	
	4TH HIGHEST VALUE IS	7.30578 AT (	447326.58, 3762524.67, 225.54, 225.54, 0.00)	DC	
	5TH HIGHEST VALUE IS	7.25281 AT (	447327.51, 3762612.90, 226.43, 226.43, 0.00)	DC	
	6TH HIGHEST VALUE IS	7.23888 AT (	447326.58, 3762506.09, 225.35, 225.35, 0.00)	DC	
	7TH HIGHEST VALUE IS	7.11682 AT (	447327.51, 3762477.53, 224.87, 224.87, 0.00)	DC	
	8TH HIGHEST VALUE IS	7.09694 AT (	447327.28, 3762636.82, 226.88, 226.88, 0.00)	DC	
	9TH HIGHEST VALUE IS	6.95584 AT (	447327.74, 3762657.02, 227.18, 227.18, 0.00)	DC	
	10TH HIGHEST VALUE IS	6.88676 AT (	447325.88, 3762454.31, 224.52, 224.52, 0.00)	DC	
2OR15	1ST HIGHEST VALUE IS	19.54872 AT (	447156.85, 3762430.16, 223.66, 223.66, 0.00)	DC	
	2ND HIGHEST VALUE IS	19.50442 AT (	447200.27, 3762430.63, 223.93, 223.93, 0.00)	DC	
	3RD HIGHEST VALUE IS	19.15281 AT (	447131.77, 3762430.86, 223.62, 223.62, 0.00)	DC	
	4TH HIGHEST VALUE IS	19.13634 AT (	447102.74, 3762430.63, 223.39, 223.39, 0.00)	DC	
	5TH HIGHEST VALUE IS	19.13117 AT (	446486.82, 3762231.95, 222.19, 222.19, 0.00)	DC	
	6TH HIGHEST VALUE IS	18.94928 AT (	447079.06, 3762430.86, 223.12, 223.12, 0.00)	DC	
	7TH HIGHEST VALUE IS	18.62743 AT (	447225.58, 3762432.95, 224.05, 224.05, 0.00)	DC	
	8TH HIGHEST VALUE IS	17.73574 AT (	447034.94, 3762433.65, 223.06, 223.06, 0.00)	DC	
	9TH HIGHEST VALUE IS	17.61496 AT (	446995.47, 3762433.65, 223.07, 223.07, 0.00)	DC	
	10TH HIGHEST VALUE IS	17.46242 AT (	446261.97, 3762068.01, 221.00, 221.00, 0.00)	DC	
2OR30	1ST HIGHEST VALUE IS	15.23980 AT (	448480.49, 3762357.96, 224.76, 224.76, 0.00)	DC	
	2ND HIGHEST VALUE IS	15.04863 AT (	448507.91, 3762487.71, 225.77, 225.77, 0.00)	DC	
	3RD HIGHEST VALUE IS	14.20723 AT (	448462.73, 3762339.82, 224.57, 224.57, 0.00)	DC	
	4TH HIGHEST VALUE IS	7.34620 AT (	448464.47, 3762265.93, 223.32, 223.32, 0.00)	DC	
	5TH HIGHEST VALUE IS	4.99458 AT (	448497.89, 3762714.10, 228.11, 228.11, 0.00)	DC	

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          6TH HIGHEST VALUE IS       4.35034 AT (  448461.57,  3762165.17,   221.96,
          221.96,    0.00)  DC
          7TH HIGHEST VALUE IS       3.32473 AT (  448025.53,  3761955.99,   221.00,
          221.00,    0.00)  DC
          8TH HIGHEST VALUE IS       3.23280 AT (  448081.42,  3761952.78,   220.91,
          220.91,    0.00)  DC
          9TH HIGHEST VALUE IS       2.91646 AT (  448472.57,  3762064.71,   220.00,
          220.00,    0.00)  DC
         10TH HIGHEST VALUE IS       2.87888 AT (  448234.63,  3761951.18,   220.00,
         220.00,    0.00)  DC

2OR60     1ST HIGHEST VALUE IS      36.79263 AT (  448480.49,  3762357.96,   224.76,
224.76,    0.00)  DC
          2ND HIGHEST VALUE IS      22.09698 AT (  448462.73,  3762339.82,   224.57,
          224.57,    0.00)  DC
          3RD HIGHEST VALUE IS      11.93187 AT (  448507.91,  3762487.71,   225.77,
          225.77,    0.00)  DC
          4TH HIGHEST VALUE IS       9.60054 AT (  448464.47,  3762265.93,   223.32,
          223.32,    0.00)  DC
          5TH HIGHEST VALUE IS       5.34416 AT (  448461.57,  3762165.17,   221.96,
          221.96,    0.00)  DC
          6TH HIGHEST VALUE IS       3.67879 AT (  448472.57,  3762064.71,   220.00,
          220.00,    0.00)  DC
          7TH HIGHEST VALUE IS       3.10355 AT (  448460.48,  3762016.72,   219.38,
          219.38,    0.00)  DC
          8TH HIGHEST VALUE IS       2.96550 AT (  448497.89,  3762714.10,   228.11,
          228.11,    0.00)  DC
          9TH HIGHEST VALUE IS       2.37976 AT (  449981.72,  3762732.45,   226.41,
          226.41,    0.00)  DC
         10TH HIGHEST VALUE IS       1.87503 AT (  448234.63,  3761951.18,   220.00,
         220.00,    0.00)  DC
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                    *** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS
                                    ***


                                   ** CONC OF OTHER    IN
                                   MICROGRAMS/M**3                          **


           NETWORK
GROUP ID                       AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL,
ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - -

3CIDLE    1ST HIGHEST VALUE IS      20.55586 AT (  447206.08,  3762958.49,   229.54,
229.54,    0.00)  DC
          2ND HIGHEST VALUE IS      18.38590 AT (  447209.33,  3762922.51,   229.07,
          229.07,    0.00)  DC
          3RD HIGHEST VALUE IS      15.63487 AT (  447208.40,  3762890.70,   228.92,
          228.92,    0.00)  DC
          4TH HIGHEST VALUE IS      13.05757 AT (  447149.92,  3763038.90,   230.77,
          230.77,    0.00)  DC
          5TH HIGHEST VALUE IS      13.04810 AT (  447148.56,  3763019.78,   230.57,
          230.57,    0.00)  DC
          6TH HIGHEST VALUE IS      13.03672 AT (  447148.56,  3762997.39,   230.25,
          230.25,    0.00)  DC
          7TH HIGHEST VALUE IS      12.35930 AT (  447146.92,  3763064.30,   231.14,
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          231.14,    0.00)  DC
          8TH HIGHEST VALUE IS      11.91263 AT (  447169.31,  3763144.87,   231.24,
          231.24,    0.00)  DC
          9TH HIGHEST VALUE IS      11.90254 AT (  447146.64,  3763084.24,   231.35,
          231.35,    0.00)  DC
         10TH HIGHEST VALUE IS      11.38528 AT (  447170.41,  3763158.25,   231.25,
         231.25,    0.00)  DC

3CON      1ST HIGHEST VALUE IS      18.57327 AT (  447675.51,  3763287.46,   232.04,
232.04,    0.00)  DC
          2ND HIGHEST VALUE IS      13.32763 AT (  447206.08,  3762958.49,   229.54,
          229.54,    0.00)  DC
          3RD HIGHEST VALUE IS      12.79601 AT (  447209.33,  3762922.51,   229.07,
          229.07,    0.00)  DC
          4TH HIGHEST VALUE IS      11.67996 AT (  447208.40,  3762890.70,   228.92,
          228.92,    0.00)  DC
          5TH HIGHEST VALUE IS      10.45196 AT (  447313.13,  3762775.48,   228.32,
          228.32,    0.00)  DC
          6TH HIGHEST VALUE IS      10.04527 AT (  447294.56,  3762776.30,   228.30,
          228.30,    0.00)  DC
          7TH HIGHEST VALUE IS       9.19717 AT (  447169.31,  3763144.87,   231.24,
          231.24,    0.00)  DC
          8TH HIGHEST VALUE IS       9.12200 AT (  447262.33,  3762776.03,   228.41,
          228.41,    0.00)  DC
          9TH HIGHEST VALUE IS       9.03825 AT (  447149.92,  3763038.90,   230.77,
          230.77,    0.00)  DC
         10TH HIGHEST VALUE IS       9.00340 AT (  447170.41,  3763158.25,   231.25,
         231.25,    0.00)  DC

4BBREAT   1ST HIGHEST VALUE IS      59.06190 AT (  446795.06,  3762321.03,   221.98,
221.98,    0.00)  DC
          2ND HIGHEST VALUE IS      44.28991 AT (  446972.71,  3762434.34,   223.16,
          223.16,    0.00)  DC
          3RD HIGHEST VALUE IS      43.90535 AT (  446941.37,  3762434.58,   223.48,
          223.48,    0.00)  DC
          4TH HIGHEST VALUE IS      43.66901 AT (  446995.47,  3762433.65,   223.07,
          223.07,    0.00)  DC
          5TH HIGHEST VALUE IS      41.70531 AT (  446916.06,  3762436.90,   223.73,
          223.73,    0.00)  DC
          6TH HIGHEST VALUE IS      38.89965 AT (  447034.94,  3762433.65,   223.06,
          223.06,    0.00)  DC
          7TH HIGHEST VALUE IS      38.68859 AT (  446876.35,  3762436.90,   223.74,
          223.74,    0.00)  DC
          8TH HIGHEST VALUE IS      32.60851 AT (  447079.06,  3762430.86,   223.12,
          223.12,    0.00)  DC
          9TH HIGHEST VALUE IS      28.87671 AT (  447102.74,  3762430.63,   223.39,
          223.39,    0.00)  DC
         10TH HIGHEST VALUE IS      27.12972 AT (  446772.40,  3762215.37,   221.64,
         221.64,    0.00)  DC

4BLOAD    1ST HIGHEST VALUE IS      59.06188 AT (  446795.06,  3762321.03,   221.98,
221.98,    0.00)  DC
          2ND HIGHEST VALUE IS      44.29133 AT (  446972.71,  3762434.34,   223.16,
          223.16,    0.00)  DC
          3RD HIGHEST VALUE IS      43.90683 AT (  446941.37,  3762434.58,   223.48,
          223.48,    0.00)  DC
          4TH HIGHEST VALUE IS      43.67029 AT (  446995.47,  3762433.65,   223.07,
          223.07,    0.00)  DC
          5TH HIGHEST VALUE IS      41.70665 AT (  446916.06,  3762436.90,   223.73,
          223.73,    0.00)  DC
          6TH HIGHEST VALUE IS      38.90062 AT (  447034.94,  3762433.65,   223.06,
          223.06,    0.00)  DC
          7TH HIGHEST VALUE IS      38.68959 AT (  446876.35,  3762436.90,   223.74,
          223.74,    0.00)  DC
          8TH HIGHEST VALUE IS      32.60920 AT (  447079.06,  3762430.86,   223.12,
          223.12,    0.00)  DC
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*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
4BREF	1ST HIGHEST VALUE IS	86.10048 AT (446795.06, 3762321.03, 221.98, 221.98, 0.00) DC
	2ND HIGHEST VALUE IS	55.95749 AT (446941.37, 3762434.58, 223.48, 223.48, 0.00) DC
	3RD HIGHEST VALUE IS	54.40548 AT (446972.71, 3762434.34, 223.16, 223.16, 0.00) DC
	4TH HIGHEST VALUE IS	54.14468 AT (446916.06, 3762436.90, 223.73, 223.73, 0.00) DC
	5TH HIGHEST VALUE IS	53.09124 AT (446876.35, 3762436.90, 223.74, 223.74, 0.00) DC
	6TH HIGHEST VALUE IS	51.98548 AT (446995.47, 3762433.65, 223.07, 223.07, 0.00) DC
	7TH HIGHEST VALUE IS	44.17095 AT (447034.94, 3762433.65, 223.06, 223.06, 0.00) DC
	8TH HIGHEST VALUE IS	35.57022 AT (447079.06, 3762430.86, 223.12, 223.12, 0.00) DC
	9TH HIGHEST VALUE IS	34.87226 AT (446849.17, 3762455.82, 224.12, 224.12, 0.00) DC
	10TH HIGHEST VALUE IS	31.02603 AT (447102.74, 3762430.63, 223.39, 223.39, 0.00) DC
4BSPILL	1ST HIGHEST VALUE IS	86.17963 AT (446795.06, 3762321.03, 221.98, 221.98, 0.00) DC
	2ND HIGHEST VALUE IS	53.75978 AT (446941.37, 3762434.58, 223.48, 223.48, 0.00) DC
	3RD HIGHEST VALUE IS	53.07341 AT (446916.06, 3762436.90, 223.73, 223.73, 0.00) DC
	4TH HIGHEST VALUE IS	52.59941 AT (446876.35, 3762436.90, 223.74, 223.74, 0.00) DC
	5TH HIGHEST VALUE IS	52.41986 AT (446972.71, 3762434.34, 223.16, 223.16, 0.00) DC
	6TH HIGHEST VALUE IS	51.14646 AT (446995.47, 3762433.65, 223.07, 223.07, 0.00) DC
	7TH HIGHEST VALUE IS	45.07748 AT (447034.94, 3762433.65, 223.06, 223.06, 0.00) DC
	8TH HIGHEST VALUE IS	37.28896 AT (447079.06, 3762430.86, 223.12, 223.12, 0.00) DC
	9TH HIGHEST VALUE IS	34.69131 AT (446849.17, 3762455.82, 224.12, 224.12, 0.00) DC
	10TH HIGHEST VALUE IS	32.70476 AT (447102.74, 3762430.63, 223.39,

223.39,   0.00) DC

5AIDLE   1ST HIGHEST VALUE IS   27.94229 AT (447327.51, 3762612.90,   226.43,
226.43,   0.00) DC
          2ND HIGHEST VALUE IS   27.80503 AT (447327.28, 3762592.24,   226.22,
          226.22,   0.00) DC
          3RD HIGHEST VALUE IS   26.98051 AT (447327.28, 3762636.82,   226.88,
          226.88,   0.00) DC
          4TH HIGHEST VALUE IS   26.83172 AT (447327.04, 3762569.71,   225.99,
          225.99,   0.00) DC
          5TH HIGHEST VALUE IS   25.68694 AT (447327.74, 3762657.02,   227.18,
          227.18,   0.00) DC
          6TH HIGHEST VALUE IS   25.33446 AT (447327.28, 3762547.89,   225.77,
          225.77,   0.00) DC
          7TH HIGHEST VALUE IS   23.39950 AT (447327.36, 3762679.87,   227.45,
          227.45,   0.00) DC
          8TH HIGHEST VALUE IS   22.97003 AT (447326.58, 3762524.67,   225.54,
          225.54,   0.00) DC
          9TH HIGHEST VALUE IS   21.00925 AT (447326.58, 3762506.09,   225.35,
          225.35,   0.00) DC
         10TH HIGHEST VALUE IS   19.80356 AT (447327.86, 3762713.09,   228.10,
         228.10,   0.00) DC

5AON   1ST HIGHEST VALUE IS   26.53431 AT (447327.51, 3762612.90,   226.43,
226.43,   0.00) DC
          2ND HIGHEST VALUE IS   26.41087 AT (447327.28, 3762636.82,   226.88,
          226.88,   0.00) DC
          3RD HIGHEST VALUE IS   26.31380 AT (447327.28, 3762592.24,   226.22,
          226.22,   0.00) DC
          4TH HIGHEST VALUE IS   26.26377 AT (447327.74, 3762657.02,   227.18,
          227.18,   0.00) DC
          5TH HIGHEST VALUE IS   25.88063 AT (447327.04, 3762569.71,   225.99,
          225.99,   0.00) DC
          6TH HIGHEST VALUE IS   25.48916 AT (447327.36, 3762679.87,   227.45,
          227.45,   0.00) DC
          7TH HIGHEST VALUE IS   25.40726 AT (447327.28, 3762547.89,   225.77,
          225.77,   0.00) DC
          8TH HIGHEST VALUE IS   24.42051 AT (447326.58, 3762524.67,   225.54,
          225.54,   0.00) DC
          9TH HIGHEST VALUE IS   23.85829 AT (447327.86, 3762713.09,   228.10,
          228.10,   0.00) DC
         10TH HIGHEST VALUE IS   23.60610 AT (447326.58, 3762506.09,   225.35,
         225.35,   0.00) DC
FF *** AERMOD - VERSION 22112 ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***   10/19/22
 *** AERMET - VERSION 16216 ***
 ***   ***   09:18:50

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 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                  *** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS
                                  ***

                                 ** CONC OF OTHER   IN
                                 MICROGRAMS/M**3   **

           NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR, ZELEV, ZHILL,
ZFLAG) OF TYPE GRID-ID
- -
- - - - - - - - - - -

5BBREAT   1ST HIGHEST VALUE IS   7.36330 AT (447325.88, 3762454.31,   224.52,

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224.52,    0.00)  DC
          2ND HIGHEST VALUE IS       6.89243 AT (  447327.51,  3762477.53,   224.87,
          224.87,    0.00)  DC
          3RD HIGHEST VALUE IS       6.21930 AT (  447326.58,  3762506.09,   225.35,
          225.35,    0.00)  DC
          4TH HIGHEST VALUE IS       5.82488 AT (  447326.58,  3762524.67,   225.54,
          225.54,    0.00)  DC
          5TH HIGHEST VALUE IS       5.43170 AT (  447506.75,  3761967.63,   220.00,
          220.00,    0.00)  DC
          6TH HIGHEST VALUE IS       5.37478 AT (  447327.28,  3762547.89,   225.77,
          225.77,    0.00)  DC
          7TH HIGHEST VALUE IS       4.96226 AT (  447327.04,  3762569.71,   225.99,
          225.99,    0.00)  DC
          8TH HIGHEST VALUE IS       4.64169 AT (  447225.58,  3762432.95,   224.05,
          224.05,    0.00)  DC
          9TH HIGHEST VALUE IS       4.57865 AT (  447327.28,  3762592.24,   226.22,
          226.22,    0.00)  DC
         10TH HIGHEST VALUE IS       4.25560 AT (  447327.51,  3762612.90,   226.43,
         226.43,    0.00)  DC

5BLOAD    1ST HIGHEST VALUE IS       7.36346 AT (  447325.88,  3762454.31,   224.52,
224.52,    0.00)  DC
          2ND HIGHEST VALUE IS       6.89257 AT (  447327.51,  3762477.53,   224.87,
          224.87,    0.00)  DC
          3RD HIGHEST VALUE IS       6.21943 AT (  447326.58,  3762506.09,   225.35,
          225.35,    0.00)  DC
          4TH HIGHEST VALUE IS       5.82500 AT (  447326.58,  3762524.67,   225.54,
          225.54,    0.00)  DC
          5TH HIGHEST VALUE IS       5.43173 AT (  447506.75,  3761967.63,   220.00,
          220.00,    0.00)  DC
          6TH HIGHEST VALUE IS       5.37488 AT (  447327.28,  3762547.89,   225.77,
          225.77,    0.00)  DC
          7TH HIGHEST VALUE IS       4.96235 AT (  447327.04,  3762569.71,   225.99,
          225.99,    0.00)  DC
          8TH HIGHEST VALUE IS       4.64177 AT (  447225.58,  3762432.95,   224.05,
          224.05,    0.00)  DC
          9TH HIGHEST VALUE IS       4.57873 AT (  447327.28,  3762592.24,   226.22,
          226.22,    0.00)  DC
         10TH HIGHEST VALUE IS       4.25567 AT (  447327.51,  3762612.90,   226.43,
         226.43,    0.00)  DC

5BREF     1ST HIGHEST VALUE IS       7.12826 AT (  447325.88,  3762454.31,   224.52,
224.52,    0.00)  DC
          2ND HIGHEST VALUE IS       6.74123 AT (  447327.51,  3762477.53,   224.87,
          224.87,    0.00)  DC
          3RD HIGHEST VALUE IS       6.14930 AT (  447326.58,  3762506.09,   225.35,
          225.35,    0.00)  DC
          4TH HIGHEST VALUE IS       5.79374 AT (  447326.58,  3762524.67,   225.54,
          225.54,    0.00)  DC
          5TH HIGHEST VALUE IS       5.37902 AT (  447327.28,  3762547.89,   225.77,
          225.77,    0.00)  DC
          6TH HIGHEST VALUE IS       5.03312 AT (  447506.75,  3761967.63,   220.00,
          220.00,    0.00)  DC
          7TH HIGHEST VALUE IS       4.98748 AT (  447327.04,  3762569.71,   225.99,
          225.99,    0.00)  DC
          8TH HIGHEST VALUE IS       4.61780 AT (  447327.28,  3762592.24,   226.22,
          226.22,    0.00)  DC
          9TH HIGHEST VALUE IS       4.45849 AT (  447225.58,  3762432.95,   224.05,
          224.05,    0.00)  DC
         10TH HIGHEST VALUE IS       4.30255 AT (  447327.51,  3762612.90,   226.43,
         226.43,    0.00)  DC

5BSPILL   1ST HIGHEST VALUE IS       7.10081 AT (  447325.88,  3762454.31,   224.52,
224.52,    0.00)  DC
          2ND HIGHEST VALUE IS       6.72381 AT (  447327.51,  3762477.53,   224.87,
          224.87,    0.00)  DC
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*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
5CBRE	1ST HIGHEST VALUE IS	8.65210 AT (447325.88, 3762454.31, 224.52, 224.52, 0.00) DC
	2ND HIGHEST VALUE IS	8.57507 AT (447327.51, 3762477.53, 224.87, 224.87, 0.00) DC
	3RD HIGHEST VALUE IS	8.20215 AT (447326.58, 3762506.09, 225.35, 225.35, 0.00) DC
	4TH HIGHEST VALUE IS	7.94269 AT (447326.58, 3762524.67, 225.54, 225.54, 0.00) DC
	5TH HIGHEST VALUE IS	7.60301 AT (447327.28, 3762547.89, 225.77, 225.77, 0.00) DC
	6TH HIGHEST VALUE IS	7.20486 AT (447327.04, 3762569.71, 225.99, 225.99, 0.00) DC
	7TH HIGHEST VALUE IS	6.79271 AT (447327.28, 3762592.24, 226.22, 226.22, 0.00) DC
	8TH HIGHEST VALUE IS	6.40554 AT (447327.51, 3762612.90, 226.43, 226.43, 0.00) DC
	9TH HIGHEST VALUE IS	5.94019 AT (447327.28, 3762636.82, 226.88, 226.88, 0.00) DC
	10TH HIGHEST VALUE IS	5.57679 AT (447327.74, 3762657.02, 227.18, 227.18, 0.00) DC
5CLOAD	1ST HIGHEST VALUE IS	8.65226 AT (447325.88, 3762454.31, 224.52, 224.52, 0.00) DC
	2ND HIGHEST VALUE IS	8.57525 AT (447327.51, 3762477.53, 224.87, 224.87, 0.00) DC
	3RD HIGHEST VALUE IS	8.20232 AT (447326.58, 3762506.09, 225.35, 225.35, 0.00) DC
	4TH HIGHEST VALUE IS	7.94286 AT (447326.58, 3762524.67, 225.54,

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          225.54,    0.00)  DC
          5TH HIGHEST VALUE IS       7.60317 AT (  447327.28,  3762547.89,   225.77,
          225.77,    0.00)  DC
          6TH HIGHEST VALUE IS       7.20501 AT (  447327.04,  3762569.71,   225.99,
          225.99,    0.00)  DC
          7TH HIGHEST VALUE IS       6.79285 AT (  447327.28,  3762592.24,   226.22,
          226.22,    0.00)  DC
          8TH HIGHEST VALUE IS       6.40567 AT (  447327.51,  3762612.90,   226.43,
          226.43,    0.00)  DC
          9TH HIGHEST VALUE IS       5.94031 AT (  447327.28,  3762636.82,   226.88,
          226.88,    0.00)  DC
         10TH HIGHEST VALUE IS       5.57689 AT (  447327.74,  3762657.02,   227.18,
         227.18,    0.00)  DC

5CREF     1ST HIGHEST VALUE IS       8.50185 AT (  447325.88,  3762454.31,   224.52,
224.52,    0.00)  DC
          2ND HIGHEST VALUE IS       8.36712 AT (  447327.51,  3762477.53,   224.87,
          224.87,    0.00)  DC
          3RD HIGHEST VALUE IS       7.93292 AT (  447326.58,  3762506.09,   225.35,
          225.35,    0.00)  DC
          4TH HIGHEST VALUE IS       7.64193 AT (  447326.58,  3762524.67,   225.54,
          225.54,    0.00)  DC
          5TH HIGHEST VALUE IS       7.27619 AT (  447327.28,  3762547.89,   225.77,
          225.77,    0.00)  DC
          6TH HIGHEST VALUE IS       6.87149 AT (  447327.04,  3762569.71,   225.99,
          225.99,    0.00)  DC
          7TH HIGHEST VALUE IS       6.46170 AT (  447327.28,  3762592.24,   226.22,
          226.22,    0.00)  DC
          8TH HIGHEST VALUE IS       6.08228 AT (  447327.51,  3762612.90,   226.43,
          226.43,    0.00)  DC
          9TH HIGHEST VALUE IS       5.63088 AT (  447327.28,  3762636.82,   226.88,
          226.88,    0.00)  DC
         10TH HIGHEST VALUE IS       5.27877 AT (  447327.74,  3762657.02,   227.18,
         227.18,    0.00)  DC

5CSPILL   1ST HIGHEST VALUE IS       8.47497 AT (  447325.88,  3762454.31,   224.52,
224.52,    0.00)  DC
          2ND HIGHEST VALUE IS       8.33953 AT (  447327.51,  3762477.53,   224.87,
          224.87,    0.00)  DC
          3RD HIGHEST VALUE IS       7.90013 AT (  447326.58,  3762506.09,   225.35,
          225.35,    0.00)  DC
          4TH HIGHEST VALUE IS       7.60698 AT (  447326.58,  3762524.67,   225.54,
          225.54,    0.00)  DC
          5TH HIGHEST VALUE IS       7.24407 AT (  447327.28,  3762547.89,   225.77,
          225.77,    0.00)  DC
          6TH HIGHEST VALUE IS       6.84718 AT (  447327.04,  3762569.71,   225.99,
          225.99,    0.00)  DC
          7TH HIGHEST VALUE IS       6.44652 AT (  447327.28,  3762592.24,   226.22,
          226.22,    0.00)  DC
          8TH HIGHEST VALUE IS       6.07350 AT (  447327.51,  3762612.90,   226.43,
          226.43,    0.00)  DC
          9TH HIGHEST VALUE IS       5.62602 AT (  447327.28,  3762636.82,   226.88,
          226.88,    0.00)  DC
         10TH HIGHEST VALUE IS       5.27464 AT (  447327.74,  3762657.02,   227.18,
         227.18,    0.00)  DC
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***        09:18:50

                     PAGE 351
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                    *** THE SUMMARY OF MAXIMUM PERIOD ( 43848 HRS) RESULTS
                                    ***
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** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
6AIDLE	1ST HIGHEST VALUE IS	9.83078 AT	(448478.56, 3762907.16, 229.42, 229.42, 0.00)	DC	
	2ND HIGHEST VALUE IS	9.52694 AT	(448497.89, 3762714.10, 228.11, 228.11, 0.00)	DC	
	3RD HIGHEST VALUE IS	3.50413 AT	(448507.91, 3762487.71, 225.77, 225.77, 0.00)	DC	
	4TH HIGHEST VALUE IS	2.66167 AT	(448480.49, 3762357.96, 224.76, 224.76, 0.00)	DC	
	5TH HIGHEST VALUE IS	2.64450 AT	(448479.95, 3763195.53, 232.04, 232.04, 0.00)	DC	
	6TH HIGHEST VALUE IS	2.64438 AT	(448462.73, 3762339.82, 224.57, 224.57, 0.00)	DC	
	7TH HIGHEST VALUE IS	2.20340 AT	(448464.47, 3762265.93, 223.32, 223.32, 0.00)	DC	
	8TH HIGHEST VALUE IS	1.76990 AT	(448461.57, 3762165.17, 221.96, 221.96, 0.00)	DC	
	9TH HIGHEST VALUE IS	1.53379 AT	(448025.53, 3761955.99, 221.00, 221.00, 0.00)	DC	
	10TH HIGHEST VALUE IS	1.49937 AT	(448081.42, 3761952.78, 220.91, 220.91, 0.00)	DC	
6AON	1ST HIGHEST VALUE IS	10.82956 AT	(448478.56, 3762907.16, 229.42, 229.42, 0.00)	DC	
	2ND HIGHEST VALUE IS	9.82151 AT	(448497.89, 3762714.10, 228.11, 228.11, 0.00)	DC	
	3RD HIGHEST VALUE IS	3.15777 AT	(448479.95, 3763195.53, 232.04, 232.04, 0.00)	DC	
	4TH HIGHEST VALUE IS	3.07086 AT	(448507.91, 3762487.71, 225.77, 225.77, 0.00)	DC	
	5TH HIGHEST VALUE IS	2.43738 AT	(447327.36, 3762679.87, 227.45, 227.45, 0.00)	DC	
	6TH HIGHEST VALUE IS	2.43519 AT	(447327.74, 3762657.02, 227.18, 227.18, 0.00)	DC	
	7TH HIGHEST VALUE IS	2.43405 AT	(447327.86, 3762713.09, 228.10, 228.10, 0.00)	DC	
	8TH HIGHEST VALUE IS	2.41853 AT	(447327.28, 3762636.82, 226.88, 226.88, 0.00)	DC	
	9TH HIGHEST VALUE IS	2.39741 AT	(447327.51, 3762612.90, 226.43, 226.43, 0.00)	DC	
	10TH HIGHEST VALUE IS	2.36982 AT	(447327.28, 3762592.24, 226.22, 226.22, 0.00)	DC	
6BBREAT	1ST HIGHEST VALUE IS	48.65251 AT	(448507.91, 3762487.71, 225.77, 225.77, 0.00)	DC	
	2ND HIGHEST VALUE IS	16.76417 AT	(448480.49, 3762357.96, 224.76, 224.76, 0.00)	DC	
	3RD HIGHEST VALUE IS	16.26085 AT	(448462.73, 3762339.82, 224.57, 224.57, 0.00)	DC	
	4TH HIGHEST VALUE IS	10.90883 AT	(448497.89, 3762714.10, 228.11, 228.11, 0.00)	DC	
	5TH HIGHEST VALUE IS	9.71869 AT	(448464.47, 3762265.93, 223.32, 223.32, 0.00)	DC	
	6TH HIGHEST VALUE IS	5.68890 AT	(448461.57, 3762165.17, 221.96, 221.96, 0.00)	DC	
	7TH HIGHEST VALUE IS	3.73963 AT	(448478.56, 3762907.16, 229.42,		

229.42,   0.00) DC
8TH HIGHEST VALUE IS   3.65903 AT (448472.57, 3762064.71,   220.00,
220.00,   0.00) DC
9TH HIGHEST VALUE IS   3.12777 AT (448460.48, 3762016.72,   219.38,
219.38,   0.00) DC
10TH HIGHEST VALUE IS   2.82624 AT (448234.63, 3761951.18,   220.00,
220.00,   0.00) DC

6BLOAD   1ST HIGHEST VALUE IS   48.65334 AT (448507.91, 3762487.71,   225.77,
225.77,   0.00) DC
2ND HIGHEST VALUE IS   16.76447 AT (448480.49, 3762357.96,   224.76,
224.76,   0.00) DC
3RD HIGHEST VALUE IS   16.26109 AT (448462.73, 3762339.82,   224.57,
224.57,   0.00) DC
4TH HIGHEST VALUE IS   10.90924 AT (448497.89, 3762714.10,   228.11,
228.11,   0.00) DC
5TH HIGHEST VALUE IS   9.71880 AT (448464.47, 3762265.93,   223.32,
223.32,   0.00) DC
6TH HIGHEST VALUE IS   5.68895 AT (448461.57, 3762165.17,   221.96,
221.96,   0.00) DC
7TH HIGHEST VALUE IS   3.73972 AT (448478.56, 3762907.16,   229.42,
229.42,   0.00) DC
8TH HIGHEST VALUE IS   3.65905 AT (448472.57, 3762064.71,   220.00,
220.00,   0.00) DC
9TH HIGHEST VALUE IS   3.12779 AT (448460.48, 3762016.72,   219.38,
219.38,   0.00) DC
10TH HIGHEST VALUE IS   2.82625 AT (448234.63, 3761951.18,   220.00,
220.00,   0.00) DC
FF *** AERMOD - VERSION 22112 ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***   10/19/22
*** AERMET - VERSION 16216 ***
***   ***   09:18:50

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS
***

** CONC OF OTHER   IN
MICROGRAMS/M**3   **

NETWORK
GROUP ID   AVERAGE CONC   RECEPTOR (XR, YR, ZELEV, ZHILL,
ZFLAG) OF TYPE GRID-ID
- - - -

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          9TH HIGHEST VALUE IS       3.40578 AT (  448478.56,  3762907.16,   229.42,
          229.42,    0.00)  DC
         10TH HIGHEST VALUE IS       3.00164 AT (  448234.63,  3761951.18,   220.00,
         220.00,    0.00)  DC

6BSPILL   1ST HIGHEST VALUE IS      72.80872 AT (  448507.91,  3762487.71,   225.77,
225.77,    0.00)  DC
          2ND HIGHEST VALUE IS      21.46275 AT (  448480.49,  3762357.96,   224.76,
          224.76,    0.00)  DC
          3RD HIGHEST VALUE IS      21.05252 AT (  448462.73,  3762339.82,   224.57,
          224.57,    0.00)  DC
          4TH HIGHEST VALUE IS      11.79746 AT (  448464.47,  3762265.93,   223.32,
          223.32,    0.00)  DC
          5TH HIGHEST VALUE IS       9.04227 AT (  448497.89,  3762714.10,   228.11,
          228.11,    0.00)  DC
          6TH HIGHEST VALUE IS       6.49223 AT (  448461.57,  3762165.17,   221.96,
          221.96,    0.00)  DC
          7TH HIGHEST VALUE IS       4.03048 AT (  448472.57,  3762064.71,   220.00,
          220.00,    0.00)  DC
          8TH HIGHEST VALUE IS       3.40029 AT (  448460.48,  3762016.72,   219.38,
          219.38,    0.00)  DC
          9TH HIGHEST VALUE IS       3.37893 AT (  448478.56,  3762907.16,   229.42,
          229.42,    0.00)  DC
         10TH HIGHEST VALUE IS       2.98151 AT (  448234.63,  3761951.18,   220.00,
         220.00,    0.00)  DC

8BREAT    1ST HIGHEST VALUE IS     100.02516 AT (  448462.73,  3762339.82,   224.57,
224.57,    0.00)  DC
          2ND HIGHEST VALUE IS      83.57240 AT (  448480.49,  3762357.96,   224.76,
          224.76,    0.00)  DC
          3RD HIGHEST VALUE IS      33.99585 AT (  448464.47,  3762265.93,   223.32,
          223.32,    0.00)  DC
          4TH HIGHEST VALUE IS      21.94479 AT (  448507.91,  3762487.71,   225.77,
          225.77,    0.00)  DC
          5TH HIGHEST VALUE IS      14.15244 AT (  448461.57,  3762165.17,   221.96,
          221.96,    0.00)  DC
          6TH HIGHEST VALUE IS       7.23195 AT (  448472.57,  3762064.71,   220.00,
          220.00,    0.00)  DC
          7TH HIGHEST VALUE IS       5.82175 AT (  448460.48,  3762016.72,   219.38,
          219.38,    0.00)  DC
          8TH HIGHEST VALUE IS       5.01012 AT (  448234.63,  3761951.18,   220.00,
          220.00,    0.00)  DC
          9TH HIGHEST VALUE IS       4.44362 AT (  448497.89,  3762714.10,   228.11,
          228.11,    0.00)  DC
         10TH HIGHEST VALUE IS       4.23387 AT (  448081.42,  3761952.78,   220.91,
         220.91,    0.00)  DC

8LOAD     1ST HIGHEST VALUE IS     100.02588 AT (  448462.73,  3762339.82,   224.57,
224.57,    0.00)  DC
          2ND HIGHEST VALUE IS      83.57344 AT (  448480.49,  3762357.96,   224.76,
          224.76,    0.00)  DC
          3RD HIGHEST VALUE IS      33.99634 AT (  448464.47,  3762265.93,   223.32,
          223.32,    0.00)  DC
          4TH HIGHEST VALUE IS      21.94552 AT (  448507.91,  3762487.71,   225.77,
          225.77,    0.00)  DC
          5TH HIGHEST VALUE IS      14.15260 AT (  448461.57,  3762165.17,   221.96,
          221.96,    0.00)  DC
          6TH HIGHEST VALUE IS       7.23201 AT (  448472.57,  3762064.71,   220.00,
          220.00,    0.00)  DC
          7TH HIGHEST VALUE IS       5.82180 AT (  448460.48,  3762016.72,   219.38,
          219.38,    0.00)  DC
          8TH HIGHEST VALUE IS       5.01014 AT (  448234.63,  3761951.18,   220.00,
          220.00,    0.00)  DC
          9TH HIGHEST VALUE IS       4.44375 AT (  448497.89,  3762714.10,   228.11,
          228.11,    0.00)  DC
         10TH HIGHEST VALUE IS       4.23389 AT (  448081.42,  3761952.78,   220.91,
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*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
8REF	1ST HIGHEST VALUE IS	103.42381 AT	(448462.73, 3762339.82, 224.57, 224.57, 0.00) DC
	2ND HIGHEST VALUE IS	100.44727 AT	(448480.49, 3762357.96, 224.76, 224.76, 0.00) DC
	3RD HIGHEST VALUE IS	32.09261 AT	(448464.47, 3762265.93, 223.32, 223.32, 0.00) DC
	4TH HIGHEST VALUE IS	25.53921 AT	(448507.91, 3762487.71, 225.77, 225.77, 0.00) DC
	5TH HIGHEST VALUE IS	13.48818 AT	(448461.57, 3762165.17, 221.96, 221.96, 0.00) DC
	6TH HIGHEST VALUE IS	6.90908 AT	(448472.57, 3762064.71, 220.00, 220.00, 0.00) DC
	7TH HIGHEST VALUE IS	5.54143 AT	(448460.48, 3762016.72, 219.38, 219.38, 0.00) DC
	8TH HIGHEST VALUE IS	4.74438 AT	(448497.89, 3762714.10, 228.11, 228.11, 0.00) DC
	9TH HIGHEST VALUE IS	4.66227 AT	(448234.63, 3761951.18, 220.00, 220.00, 0.00) DC
	10TH HIGHEST VALUE IS	4.02498 AT	(448081.42, 3761952.78, 220.91, 220.91, 0.00) DC
8SPILL	1ST HIGHEST VALUE IS	102.16181 AT	(448480.49, 3762357.96, 224.76, 224.76, 0.00) DC
	2ND HIGHEST VALUE IS	100.28846 AT	(448462.73, 3762339.82, 224.57, 224.57, 0.00) DC
	3RD HIGHEST VALUE IS	31.84360 AT	(448464.47, 3762265.93, 223.32, 223.32, 0.00) DC
	4TH HIGHEST VALUE IS	24.44277 AT	(448507.91, 3762487.71, 225.77, 225.77, 0.00) DC
	5TH HIGHEST VALUE IS	13.52618 AT	(448461.57, 3762165.17, 221.96, 221.96, 0.00) DC
	6TH HIGHEST VALUE IS	6.92052 AT	(448472.57, 3762064.71, 220.00, 220.00, 0.00) DC
	7TH HIGHEST VALUE IS	5.53860 AT	(448460.48, 3762016.72, 219.38, 219.38, 0.00) DC
	8TH HIGHEST VALUE IS	4.71099 AT	(448497.89, 3762714.10, 228.11, 228.11, 0.00) DC
	9TH HIGHEST VALUE IS	4.64763 AT	(448234.63, 3761951.18, 220.00, 220.00, 0.00) DC
	10TH HIGHEST VALUE IS	4.05958 AT	(448081.42, 3761952.78, 220.91, 220.91, 0.00) DC
ALL	1ST HIGHEST VALUE IS	663.24059 AT	(448462.73, 3762339.82, 224.57,

224.57,   0.00) DC
          2ND HIGHEST VALUE IS   651.11672 AT (448480.49, 3762357.96,   224.76,
          224.76,   0.00) DC
          3RD HIGHEST VALUE IS   499.71520 AT (448461.57, 3762165.17,   221.96,
          221.96,   0.00) DC
          4TH HIGHEST VALUE IS   472.00594 AT (448507.91, 3762487.71,   225.77,
          225.77,   0.00) DC
          5TH HIGHEST VALUE IS   443.40345 AT (448464.47, 3762265.93,   223.32,
          223.32,   0.00) DC
          6TH HIGHEST VALUE IS   338.03974 AT (446795.06, 3762321.03,   221.98,
          221.98,   0.00) DC
          7TH HIGHEST VALUE IS   271.07088 AT (446972.71, 3762434.34,   223.16,
          223.16,   0.00) DC
          8TH HIGHEST VALUE IS   270.20910 AT (446941.37, 3762434.58,   223.48,
          223.48,   0.00) DC
          9TH HIGHEST VALUE IS   268.85122 AT (446995.47, 3762433.65,   223.07,
          223.07,   0.00) DC
         10TH HIGHEST VALUE IS   259.73810 AT (446916.06, 3762436.90,   223.73,
         223.73,   0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112 ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***   10/19/22
 *** AERMET - VERSION 16216 ***
 ***   ***   09:18:50

                      PAGE 354
 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                          *** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

                                    ** CONC OF OTHER   IN
                                    MICROGRAMS/M**3   **

                                                    DATE
                                                                                NETWORK
GROUP ID   AVERAGE CONC   (YYMMDDHH)   RECEPTOR (XR, YR,
ZELEV, ZHILL, ZFLAG)   OF TYPE GRID-ID
- - - -

223.66,   223.66,   0.00) DC

1OR60   HIGH   1ST HIGH VALUE IS   164.15185 ON 12121716: AT (448480.49, 3762357.96,
224.76,   224.76,   0.00) DC

1OR85   HIGH   1ST HIGH VALUE IS   115.16229 ON 15102517: AT (448480.49, 3762357.96,
224.76,   224.76,   0.00) DC

2CIDLE   HIGH   1ST HIGH VALUE IS   113.66913 ON 15090904: AT (447167.99, 3763192.31,
231.56,   231.56,   0.00) DC

2CON   HIGH   1ST HIGH VALUE IS   55.00841 ON 14051523: AT (447167.99, 3763192.31,
231.56,   231.56,   0.00) DC

2H25   HIGH   1ST HIGH VALUE IS   67.40223 ON 12121716: AT (448481.33, 3763485.29,
235.57,   235.57,   0.00) DC

2MC45   HIGH   1ST HIGH VALUE IS   50.16969 ON 15090905: AT (447327.74, 3762657.02,
227.18,   227.18,   0.00) DC

2OR15   HIGH   1ST HIGH VALUE IS   50.01039 ON 12062806: AT (447156.85, 3762430.16,
223.66,   223.66,   0.00) DC

2OR30   HIGH   1ST HIGH VALUE IS   115.16229 ON 15102517: AT (448480.49, 3762357.96,
224.76,   224.76,   0.00) DC

2OR60   HIGH   1ST HIGH VALUE IS   164.15185 ON 12121716: AT (448480.49, 3762357.96,
224.76,   224.76,   0.00) DC

3CIDLE   HIGH   1ST HIGH VALUE IS   149.46892 ON 15100921: AT (447206.08, 3762958.49,
229.54,   229.54,   0.00) DC

3CON   HIGH   1ST HIGH VALUE IS   78.64223 ON 12110208: AT (447206.08, 3762958.49,
229.54,   229.54,   0.00) DC

4BBREAT HIGH   1ST HIGH VALUE IS   710.40064 ON 12110208: AT (446795.06, 3762321.03,
221.98,   221.98,   0.00) DC

4BLOAD   HIGH   1ST HIGH VALUE IS   709.34210 ON 12110208: AT (446795.06, 3762321.03,
221.98,   221.98,   0.00) DC

4BREF   HIGH   1ST HIGH VALUE IS   821.75857 ON 14011319: AT (446795.06, 3762321.03,
221.98,   221.98,   0.00) DC

4BSPILL HIGH   1ST HIGH VALUE IS   997.86983 ON 14011319: AT (446795.06, 3762321.03,
221.98,   221.98,   0.00) DC

5AIDLE   HIGH   1ST HIGH VALUE IS   246.73765 ON 12110208: AT (447327.28, 3762636.82,
226.88,   226.88,   0.00) DC

5AON   HIGH   1ST HIGH VALUE IS   121.98829 ON 12110208: AT (447313.13, 3762775.48,
228.32,   228.32,   0.00) DC

5BBREAT HIGH   1ST HIGH VALUE IS   91.52252 ON 15120517: AT (447325.88, 3762454.31,
224.52,   224.52,   0.00) DC

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
5BLOAD	HIGH 1ST HIGH VALUE IS	91.52209	ON 15120517:	AT (447325.88, 3762454.31, 224.52, 224.52, 0.00)	DC	
5BREF	HIGH 1ST HIGH VALUE IS	122.72428	ON 14022724:	AT (447325.88, 3762454.31, 224.52, 224.52, 0.00)	DC	
5BSPILL	HIGH 1ST HIGH VALUE IS	151.82353	ON 14022724:	AT (447325.88, 3762454.31, 224.52, 224.52, 0.00)	DC	
5CBRE	HIGH 1ST HIGH VALUE IS	123.44308	ON 12110208:	AT (447326.58, 3762506.09, 225.35, 225.35, 0.00)	DC	
5CLOAD	HIGH 1ST HIGH VALUE IS	123.54652	ON 12110208:	AT (447326.58, 3762506.09, 225.35, 225.35, 0.00)	DC	
5CREF	HIGH 1ST HIGH VALUE IS	153.79824	ON 12110208:	AT (447327.51, 3762477.53, 224.87, 224.87, 0.00)	DC	
5CSPILL	HIGH 1ST HIGH VALUE IS	183.30310	ON 12110208:	AT (447327.51, 3762477.53, 224.87, 224.87, 0.00)	DC	
6AIDLE	HIGH 1ST HIGH VALUE IS	61.45870	ON 14120316:	AT (448497.89, 3762714.10, 228.11, 228.11, 0.00)	DC	
6AON	HIGH 1ST HIGH VALUE IS	74.79564	ON 15102517:	AT (448497.89, 3762714.10, 228.11, 228.11, 0.00)	DC	
6BBREAT	HIGH 1ST HIGH VALUE IS	295.57021	ON 14120316:	AT (448507.91, 3762487.71, 225.77, 225.77, 0.00)	DC	
6BLOAD	HIGH 1ST HIGH VALUE IS	295.53397	ON 14120316:	AT (448507.91, 3762487.71, 225.77, 225.77, 0.00)	DC	
6BREF	HIGH 1ST HIGH VALUE IS	345.54785	ON 12121716:	AT (448464.47, 3762265.93, 223.32, 223.32, 0.00)	DC	
6BSPILL	HIGH 1ST HIGH VALUE IS	400.94159	ON 12121716:	AT (448464.47, 3762265.93, 223.32, 223.32, 0.00)	DC	
8BREAT	HIGH 1ST HIGH VALUE IS	547.72832	ON 14120316:	AT (448462.73, 3762339.82, 224.57, 224.57, 0.00)	DC	
8LOAD	HIGH 1ST HIGH VALUE IS	547.59509	ON 14120316:	AT (448462.73, 3762339.82, 224.57, 224.57, 0.00)	DC	
8REF	HIGH 1ST HIGH VALUE IS	707.72139	ON 14120316:	AT (448462.73, 3762339.82, 224.57, 224.57, 0.00)	DC	
8SPILL	HIGH 1ST HIGH VALUE IS	793.46768	ON 14120316:	AT (448462.73, 3762339.82, 224.57, 224.57, 0.00)	DC	
ALL	HIGH 1ST HIGH VALUE IS	2958.28591	ON 15031523:	AT (446795.06, 3762321.03, 221.98, 221.98, 0.00)	DC	

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 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 22112  ***   *** C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich
Haven\AQIA\14822 Ops ***        10/19/22
 *** AERMET - VERSION  16216 ***
 ***                                                                    ***       09:18:50

                      PAGE 356
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of           18 Warning Message(s)
 A Total of         1628 Informational Message(s)

 A Total of        43848 Hours Were Processed

 A Total of         1278 Calm Hours Identified

 A Total of          350 Missing Hours Identified (  0.80 Percent)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186    4149       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187    4149       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
 OU W565    4229       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4230       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4231       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4232       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4233       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4234       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4235       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4236       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4237       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4238       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4239       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4240       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4241       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4242       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4243       OUPLOT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE
 OU W565    4244       PERPLT: Possible Conflict With Dynamically Allocated FUNIT     PLOTFILE

    ************************************
    *** AERMOD Finishes Successfully ***
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APPENDIX 2.4:

RISK CALCULATIONS

Table 1
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
0-2 Age Bin Exposure Scenario - Construction Activity

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**								
					URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00259	2.59E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	2.0E-06	1.2E-06	5.0E+00	1.4E-03	5.2E-04							
TOTAL								1.2E-06			5.2E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

1.21

** Key to Toxicological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g. teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	260
exposure duration (years)	4.00
inhalation rate (L/kg-day))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	1.00
age sensitivity factor (0 to 2 years old)	10

*HARP - HRACalc v22118 10/19/2022 12:38:47 PM - Cancer Risk - Input File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\HARP\14822 OPS\hra\ResidentHRAInput.hra

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RI	WATER_RI	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_F	EGG_RISK
1	ALL		447362.2	3764293	3.18E-07	30YrCancer	3.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	ALL		447376	3764151	3.84E-07	30YrCancer	3.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	ALL		447389.8	3764043	4.74E-07	30YrCancer	4.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	ALL		447450.2	3764031	5.01E-07	30YrCancer	5.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	ALL		447410.2	3764019	5.04E-07	30YrCancer	5.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	ALL		446891.9	3764451	2.25E-07	30YrCancer	2.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	ALL		446959.3	3764451	2.31E-07	30YrCancer	2.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	ALL		446995.3	3764468	2.30E-07	30YrCancer	2.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	ALL		447007.4	3764467	2.31E-07	30YrCancer	2.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		447023.5	3764466	2.33E-07	30YrCancer	2.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		447036.6	3764466	2.34E-07	30YrCancer	2.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		447052.7	3764466	2.35E-07	30YrCancer	2.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		447066.6	3764466	2.36E-07	30YrCancer	2.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		447099.7	3764456	2.40E-07	30YrCancer	2.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		447145.3	3764468	2.42E-07	30YrCancer	2.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		447175.5	3764468	2.46E-07	30YrCancer	2.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		447205.3	3764468	2.50E-07	30YrCancer	2.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		447232.4	3764468	2.50E-07	30YrCancer	2.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		447264	3764467	2.48E-07	30YrCancer	2.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		447294.8	3764467	2.48E-07	30YrCancer	2.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL		447365	3764456	2.59E-07	30YrCancer	2.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	ALL		447406.6	3764461	2.62E-07	30YrCancer	2.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
23	ALL		447441.5	3764460	2.65E-07	30YrCancer	2.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
24	ALL		447466.9	3764460	2.67E-07	30YrCancer	2.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
25	ALL		447490	3764461	2.70E-07	30YrCancer	2.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	ALL		447515.5	3764460	2.74E-07	30YrCancer	2.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	ALL		447573.1	3764454	2.84E-07	30YrCancer	2.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
28	ALL		447598.5	3764445	2.88E-07	30YrCancer	2.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
29	ALL		447652.9	3764440	2.89E-07	30YrCancer	2.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	ALL		447692.9	3764440	2.94E-07	30YrCancer	2.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
31	ALL		447713.8	3764439	2.96E-07	30YrCancer	2.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
32	ALL		447732	3764439	2.97E-07	30YrCancer	2.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
33	ALL		447751.1	3764439	2.99E-07	30YrCancer	2.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
34	ALL		447768.8	3764438	3.01E-07	30YrCancer	3.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
35	ALL		447789.1	3764438	3.02E-07	30YrCancer	3.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
36	ALL		447805.7	3764437	3.04E-07	30YrCancer	3.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
37	ALL		447824	3764437	3.05E-07	30YrCancer	3.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
38	ALL		447841.6	3764438	3.07E-07	30YrCancer	3.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
39	ALL		447861.7	3764438	3.10E-07	30YrCancer	3.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
40	ALL		447881.7	3764435	3.14E-07	30YrCancer	3.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
41	ALL		447902.8	3764436	3.17E-07	30YrCancer	3.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
42	ALL		447920.9	3764435	3.20E-07	30YrCancer	3.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
43	ALL		447942.2	3764435	3.24E-07	30YrCancer	3.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
44	ALL		447962.8	3764435	3.27E-07	30YrCancer	3.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
45	ALL		447980.7	3764435	3.31E-07	30YrCancer	3.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
46	ALL		448004.7	3764435	3.36E-07	30YrCancer	3.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
47	ALL		448021.3	3764435	3.43E-07	30YrCancer	3.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
48	ALL		447662.7	3764380	3.06E-07	30YrCancer	3.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
49	ALL		447681.3	3764321	3.28E-07	30YrCancer	3.28E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
50	ALL		447682.6	3764286	3.47E-07	30YrCancer	3.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
51	ALL		447662.5	3764238	3.71E-07	30YrCancer	3.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
52	ALL		447661.7	3764207	3.90E-07	30YrCancer	3.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
53	ALL		447683.1	3764162	4.24E-07	30YrCancer	4.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
54	ALL		447681	3764146	4.36E-07	30YrCancer	4.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55	ALL		447679.6	3764130	4.51E-07	30YrCancer	4.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
56	ALL		447680.8	3764112	4.70E-07	30YrCancer	4.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
57	ALL		447681.5	3764096	4.83E-07	30YrCancer	4.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
58	ALL		447680.8	3764079	4.98E-07	30YrCancer	4.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
59	ALL		447680	3764064	5.09E-07	30YrCancer	5.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
60	ALL		447681	3764046	5.22E-07	30YrCancer	5.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
61	ALL		447680.6	3764030	5.33E-07	30YrCancer	5.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
62	ALL		447657.2	3763992	5.68E-07	30YrCancer	5.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
63	ALL		447656.3	3763967	5.89E-07	30YrCancer	5.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
64	ALL		447657.2	3763929	6.28E-07	30YrCancer	6.28E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
65	ALL		447657.2	3763902	6.58E-07	30YrCancer	6.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

66	ALL	447657.5	3763869	7.11E-07	30YrCancer	7.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
67	ALL	447656.2	3763835	7.64E-07	30YrCancer	7.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
68	ALL	447655.9	3763808	8.10E-07	30YrCancer	8.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
69	ALL	447657.1	3763786	8.53E-07	30YrCancer	8.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
70	ALL	447701.2	3763782	8.65E-07	30YrCancer	8.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
71	ALL	447856.9	3763750	9.89E-07	30YrCancer	9.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
72	ALL	447855	3763730	1.04E-06	30YrCancer	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
73	ALL	447854.4	3763698	1.14E-06	30YrCancer	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
74	ALL	447855.3	3763677	1.21E-06	30YrCancer	1.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
75	ALL	447675.5	3763287	4.50E-06	30YrCancer	4.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
76	ALL	448481.3	3763485	2.13E-06	30YrCancer	2.13E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
77	ALL	448480	3763196	2.81E-06	30YrCancer	2.81E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
78	ALL	448478.6	3762907	5.55E-06	30YrCancer	5.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
79	ALL	448497.9	3762714	5.82E-06	30YrCancer	5.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
80	ALL	448507.9	3762488	8.87E-06	30YrCancer	8.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
81	ALL	448480.5	3762358	1.13E-05	30YrCancer	1.13E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
82	ALL	448462.7	3762340	1.09E-05	30YrCancer	1.09E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
83	ALL	448464.5	3762266	7.48E-06	30YrCancer	7.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
84	ALL	448461.6	3762165	7.86E-06	30YrCancer	7.86E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
85	ALL	448472.6	3762065	2.97E-06	30YrCancer	2.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86	ALL	448460.5	3762017	2.42E-06	30YrCancer	2.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87	ALL	448234.6	3761951	2.16E-06	30YrCancer	2.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88	ALL	448081.4	3761953	1.91E-06	30YrCancer	1.91E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89	ALL	448025.5	3761956	1.85E-06	30YrCancer	1.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90	ALL	447506.8	3761968	1.66E-06	30YrCancer	1.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91	ALL	447269.3	3761968	1.46E-06	30YrCancer	1.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92	ALL	447389.5	3761909	1.41E-06	30YrCancer	1.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
93	ALL	447019.1	3761964	1.22E-06	30YrCancer	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94	ALL	447060.3	3761964	1.25E-06	30YrCancer	1.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95	ALL	446975.3	3761963	1.18E-06	30YrCancer	1.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
96	ALL	446940.9	3761954	1.14E-06	30YrCancer	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
97	ALL	446865.7	3761975	1.13E-06	30YrCancer	1.13E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
98	ALL	446795.1	3761958	1.05E-06	30YrCancer	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
99	ALL	446757.7	3761966	1.04E-06	30YrCancer	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100	ALL	446709.3	3761968	1.00E-06	30YrCancer	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
101	ALL	446796.4	3762029	1.22E-06	30YrCancer	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
102	ALL	446797	3762045	1.27E-06	30YrCancer	1.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
103	ALL	446796.7	3762090	1.46E-06	30YrCancer	1.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
104	ALL	446796.2	3762106	1.54E-06	30YrCancer	1.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
105	ALL	446796.7	3762137	1.76E-06	30YrCancer	1.76E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
106	ALL	446796.2	3762153	1.90E-06	30YrCancer	1.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
107	ALL	446772.4	3762215	2.56E-06	30YrCancer	2.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
108	ALL	446795.1	3762321	5.86E-06	30YrCancer	5.86E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
109	ALL	446796.4	3762451	2.77E-06	30YrCancer	2.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
110	ALL	446796.4	3762471	2.38E-06	30YrCancer	2.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
111	ALL	446797.2	3762496	2.05E-06	30YrCancer	2.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
112	ALL	446798.1	3762517	1.87E-06	30YrCancer	1.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
113	ALL	446797.8	3762540	1.70E-06	30YrCancer	1.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
114	ALL	446797.5	3762560	1.59E-06	30YrCancer	1.59E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
115	ALL	446798.6	3762585	1.50E-06	30YrCancer	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
116	ALL	446798.1	3762604	1.43E-06	30YrCancer	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
117	ALL	446799.7	3762654	1.32E-06	30YrCancer	1.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
118	ALL	446800	3762675	1.26E-06	30YrCancer	1.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
119	ALL	446800.3	3762700	1.22E-06	30YrCancer	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
120	ALL	446800.3	3762721	1.19E-06	30YrCancer	1.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
121	ALL	446800	3762736	1.18E-06	30YrCancer	1.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
122	ALL	446797.8	3762748	1.16E-06	30YrCancer	1.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
123	ALL	446802.2	3762913	1.06E-06	30YrCancer	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
124	ALL	446802.2	3762933	1.05E-06	30YrCancer	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
125	ALL	446802.4	3762949	1.04E-06	30YrCancer	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
126	ALL	446803	3762967	1.04E-06	30YrCancer	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
127	ALL	446802.7	3762986	1.03E-06	30YrCancer	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
128	ALL	446802.2	3763003	1.01E-06	30YrCancer	1.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
129	ALL	446802.2	3763022	1.00E-06	30YrCancer	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
130	ALL	446802.7	3763041	9.92E-07	30YrCancer	9.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
131	ALL	446803	3763059	9.80E-07	30YrCancer	9.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
132	ALL	446803.5	3763077	9.70E-07	30YrCancer	9.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

133	ALL	446756.3	3763085	8.93E-07	30YrCancer	8.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
134	ALL	446807.7	3763646	5.54E-07	30YrCancer	5.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
135	ALL	446808.3	3763675	5.36E-07	30YrCancer	5.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
136	ALL	446807.7	3763695	5.24E-07	30YrCancer	5.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
137	ALL	446808.3	3763711	5.14E-07	30YrCancer	5.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
138	ALL	446808.3	3763726	5.05E-07	30YrCancer	5.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
139	ALL	446808	3763742	4.96E-07	30YrCancer	4.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
140	ALL	446808.3	3763757	4.88E-07	30YrCancer	4.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
141	ALL	446808.6	3763798	4.63E-07	30YrCancer	4.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
142	ALL	446810.3	3764484	2.12E-07	30YrCancer	2.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
143	ALL	446781.3	3764475	2.11E-07	30YrCancer	2.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
144	ALL	446722.6	3764456	2.09E-07	30YrCancer	2.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
145	ALL	446170.3	3764560	1.52E-07	30YrCancer	1.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
146	ALL	446872.3	3763190	1.02E-06	30YrCancer	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
147	ALL	446925.2	3763179	1.15E-06	30YrCancer	1.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
148	ALL	446984.9	3763195	1.34E-06	30YrCancer	1.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
149	ALL	447010.6	3763193	1.44E-06	30YrCancer	1.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
150	ALL	447036.6	3763194	1.57E-06	30YrCancer	1.57E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
151	ALL	447053.6	3763193	1.66E-06	30YrCancer	1.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
152	ALL	447076.4	3763192	1.80E-06	30YrCancer	1.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
153	ALL	447093.5	3763193	1.92E-06	30YrCancer	1.92E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
154	ALL	447122.1	3763193	2.17E-06	30YrCancer	2.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
155	ALL	447138.8	3763192	2.34E-06	30YrCancer	2.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
156	ALL	447168	3763192	2.70E-06	30YrCancer	2.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
157	ALL	447170.7	3763172	2.73E-06	30YrCancer	2.73E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
158	ALL	447170.4	3763158	2.73E-06	30YrCancer	2.73E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
159	ALL	447169.3	3763145	2.71E-06	30YrCancer	2.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
160	ALL	447147.5	3763107	2.46E-06	30YrCancer	2.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
161	ALL	447146.6	3763084	2.45E-06	30YrCancer	2.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
162	ALL	447146.9	3763064	2.46E-06	30YrCancer	2.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
163	ALL	447149.9	3763039	2.50E-06	30YrCancer	2.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
164	ALL	447148.6	3763020	2.49E-06	30YrCancer	2.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
165	ALL	447148.6	3762997	2.48E-06	30YrCancer	2.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
166	ALL	447206.1	3762958	3.18E-06	30YrCancer	3.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
167	ALL	447209.3	3762923	3.09E-06	30YrCancer	3.09E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
168	ALL	447208.4	3762891	2.94E-06	30YrCancer	2.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
169	ALL	447145.8	3762889	2.36E-06	30YrCancer	2.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
170	ALL	447122.6	3762889	2.19E-06	30YrCancer	2.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
171	ALL	447094.3	3762890	2.02E-06	30YrCancer	2.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
172	ALL	447071	3762890	1.89E-06	30YrCancer	1.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
173	ALL	447043.6	3762890	1.76E-06	30YrCancer	1.76E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
174	ALL	447017.8	3762889	1.66E-06	30YrCancer	1.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
175	ALL	446992.1	3762889	1.56E-06	30YrCancer	1.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
176	ALL	446964.3	3762888	1.47E-06	30YrCancer	1.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
177	ALL	446940.4	3762888	1.39E-06	30YrCancer	1.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
178	ALL	446911.2	3762888	1.32E-06	30YrCancer	1.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
179	ALL	446885.4	3762890	1.25E-06	30YrCancer	1.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
180	ALL	446862.1	3762889	1.20E-06	30YrCancer	1.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
181	ALL	446871.5	3762780	1.29E-06	30YrCancer	1.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
182	ALL	446926.3	3762769	1.43E-06	30YrCancer	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
183	ALL	446983.7	3762774	1.59E-06	30YrCancer	1.59E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
184	ALL	447009	3762774	1.67E-06	30YrCancer	1.67E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
185	ALL	447030.5	3762774	1.75E-06	30YrCancer	1.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
186	ALL	447055.4	3762774	1.85E-06	30YrCancer	1.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
187	ALL	447076.9	3762774	1.94E-06	30YrCancer	1.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
188	ALL	447101.2	3762774	2.04E-06	30YrCancer	2.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
189	ALL	447123.9	3762774	2.15E-06	30YrCancer	2.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
190	ALL	447148.1	3762775	2.28E-06	30YrCancer	2.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
191	ALL	447170.2	3762775	2.40E-06	30YrCancer	2.40E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
192	ALL	447196.8	3762775	2.56E-06	30YrCancer	2.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
193	ALL	447242.1	3762777	2.89E-06	30YrCancer	2.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
194	ALL	447262.3	3762776	3.05E-06	30YrCancer	3.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
195	ALL	447294.6	3762776	3.34E-06	30YrCancer	3.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
196	ALL	447313.1	3762775	3.54E-06	30YrCancer	3.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
197	ALL	447313.4	3762750	3.61E-06	30YrCancer	3.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
198	ALL	447327.9	3762713	4.05E-06	30YrCancer	4.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
199	ALL	447327.4	3762680	4.28E-06	30YrCancer	4.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

200 ALL	447327.7	3762657	4.45E-06	30YrCancer	4.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
201 ALL	447327.3	3762637	4.56E-06	30YrCancer	4.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
202 ALL	447327.5	3762613	4.67E-06	30YrCancer	4.67E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
203 ALL	447327.3	3762592	4.72E-06	30YrCancer	4.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
204 ALL	447327	3762570	4.73E-06	30YrCancer	4.73E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
205 ALL	447327.3	3762548	4.71E-06	30YrCancer	4.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
206 ALL	447326.6	3762525	4.65E-06	30YrCancer	4.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
207 ALL	447326.6	3762506	4.60E-06	30YrCancer	4.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
208 ALL	447327.5	3762478	4.53E-06	30YrCancer	4.53E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
209 ALL	447325.9	3762454	4.47E-06	30YrCancer	4.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
210 ALL	447225.6	3762433	3.82E-06	30YrCancer	3.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
211 ALL	447200.3	3762431	3.80E-06	30YrCancer	3.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
212 ALL	447156.9	3762430	3.84E-06	30YrCancer	3.84E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
213 ALL	447131.8	3762431	3.90E-06	30YrCancer	3.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
214 ALL	447102.7	3762431	4.06E-06	30YrCancer	4.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
215 ALL	447079.1	3762431	4.22E-06	30YrCancer	4.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
216 ALL	447034.9	3762434	4.49E-06	30YrCancer	4.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
217 ALL	446995.5	3762434	4.75E-06	30YrCancer	4.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
218 ALL	446972.7	3762434	4.77E-06	30YrCancer	4.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
219 ALL	446941.4	3762435	4.76E-06	30YrCancer	4.76E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
220 ALL	446916.1	3762437	4.61E-06	30YrCancer	4.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
221 ALL	446876.4	3762437	4.47E-06	30YrCancer	4.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
222 ALL	446848.9	3762647	1.44E-06	30YrCancer	1.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
223 ALL	446848.9	3762563	1.74E-06	30YrCancer	1.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
224 ALL	446849.2	3762510	2.17E-06	30YrCancer	2.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
225 ALL	446849.2	3762456	3.28E-06	30YrCancer	3.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
226 ALL	446848.9	3762702	1.32E-06	30YrCancer	1.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
227 ALL	446849.5	3762755	1.26E-06	30YrCancer	1.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
228 ALL	446739.8	3762429	2.41E-06	30YrCancer	2.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
229 ALL	446711.8	3762424	2.13E-06	30YrCancer	2.13E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
230 ALL	446687.3	3762416	1.95E-06	30YrCancer	1.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
231 ALL	446662.2	3762412	1.76E-06	30YrCancer	1.76E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
232 ALL	446636.2	3762404	1.62E-06	30YrCancer	1.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
233 ALL	449981.7	3762732	7.21E-07	30YrCancer	7.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
234 ALL	446486.8	3762232	1.48E-06	30YrCancer	1.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
235 ALL	446262	3762068	1.15E-06	30YrCancer	1.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
236 ALL	446443.2	3762292	1.15E-06	30YrCancer	1.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
237 ALL	446071.8	3762055	9.90E-07	30YrCancer	9.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
238 ALL	446072.1	3761983	9.24E-07	30YrCancer	9.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
239 ALL	446138.2	3762002	9.86E-07	30YrCancer	9.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
240 ALL	445884.9	3762040	9.00E-07	30YrCancer	9.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v22118 10/19/2022 12:38:47 PM - Acute Risk - Input File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\HARP\14822 OPS\hra\ResidentHRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE\	RESP	SKIN	EYE	BONE/TEE	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	ALL		447362.2	3764293	NonCancer	0.00E+00	0.00E+00	5.83E-03	0.00E+00	0.00E+00	5.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.83E-03	0.00E+00	0.00E+00	5.83E-03
2	ALL		447376	3764151	NonCancer	0.00E+00	0.00E+00	6.14E-03	0.00E+00	0.00E+00	6.14E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E-03	0.00E+00	0.00E+00	6.14E-03
3	ALL		447389.8	3764043	NonCancer	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03
4	ALL		447450.2	3764031	NonCancer	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03
5	ALL		447410.2	3764019	NonCancer	0.00E+00	0.00E+00	6.09E-03	0.00E+00	0.00E+00	6.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.09E-03	0.00E+00	0.00E+00	6.09E-03
6	ALL		446891.9	3764451	NonCancer	0.00E+00	0.00E+00	5.06E-03	0.00E+00	0.00E+00	5.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.06E-03	0.00E+00	0.00E+00	5.06E-03
7	ALL		446959.3	3764451	NonCancer	0.00E+00	0.00E+00	5.12E-03	0.00E+00	0.00E+00	5.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.12E-03	0.00E+00	0.00E+00	5.12E-03
8	ALL		446995.3	3764468	NonCancer	0.00E+00	0.00E+00	5.18E-03	0.00E+00	0.00E+00	5.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.18E-03	0.00E+00	0.00E+00	5.18E-03
9	ALL		447007.4	3764467	NonCancer	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03
10	ALL		447023.5	3764466	NonCancer	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03
11	ALL		447036.6	3764466	NonCancer	0.00E+00	0.00E+00	5.21E-03	0.00E+00	0.00E+00	5.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.21E-03	0.00E+00	0.00E+00	5.21E-03
12	ALL		447052.7	3764466	NonCancer	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03
13	ALL		447066.6	3764466	NonCancer	0.00E+00	0.00E+00	5.27E-03	0.00E+00	0.00E+00	5.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.27E-03	0.00E+00	0.00E+00	5.27E-03
14	ALL		447099.7	3764456	NonCancer	0.00E+00	0.00E+00	5.37E-03	0.00E+00	0.00E+00	5.37E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.37E-03	0.00E+00	0.00E+00	5.37E-03
15	ALL		447145.3	3764468	NonCancer	0.00E+00	0.00E+00	5.34E-03	0.00E+00	0.00E+00	5.34E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.34E-03	0.00E+00	0.00E+00	5.34E-03
16	ALL		447175.5	3764468	NonCancer	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03
17	ALL		447205.3	3764468	NonCancer	0.00E+00	0.00E+00	5.24E-03	0.00E+00	0.00E+00	5.24E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.24E-03	0.00E+00	0.00E+00	5.24E-03
18	ALL		447232.4	3764468	NonCancer	0.00E+00	0.00E+00	5.40E-03	0.00E+00	0.00E+00	5.40E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.40E-03	0.00E+00	0.00E+00	5.40E-03
19	ALL		447264	3764467	NonCancer	0.00E+00	0.00E+00	5.64E-03	0.00E+00	0.00E+00	5.64E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.64E-03	0.00E+00	0.00E+00	5.64E-03
20	ALL		447294.8	3764467	NonCancer	0.00E+00	0.00E+00	5.78E-03	0.00E+00	0.00E+00	5.78E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-03	0.00E+00	0.00E+00	5.78E-03
21	ALL		447365	3764456	NonCancer	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03
22	ALL		447406.6	3764461	NonCancer	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03
23	ALL		447441.5	3764460	NonCancer	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03
24	ALL		447466.9	3764460	NonCancer	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03
25	ALL		447490	3764461	NonCancer	0.00E+00	0.00E+00	5.76E-03	0.00E+00	0.00E+00	5.76E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.76E-03	0.00E+00	0.00E+00	5.76E-03
26	ALL		447515.5	3764460	NonCancer	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03
27	ALL		447573.1	3764454	NonCancer	0.00E+00	0.00E+00	5.60E-03	0.00E+00	0.00E+00	5.60E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E-03	0.00E+00	0.00E+00	5.60E-03
28	ALL		447598.5	3764445	NonCancer	0.00E+00	0.00E+00	5.69E-03	0.00E+00	0.00E+00	5.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.69E-03	0.00E+00	0.00E+00	5.69E-03
29	ALL		447652.9	3764440	NonCancer	0.00E+00	0.00E+00	5.91E-03	0.00E+00	0.00E+00	5.91E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.91E-03	0.00E+00	0.00E+00	5.91E-03
30	ALL		447692.9	3764440	NonCancer	0.00E+00	0.00E+00	5.98E-03	0.00E+00	0.00E+00	5.98E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.98E-03	0.00E+00	0.00E+00	5.98E-03
31	ALL		447713.8	3764439	NonCancer	0.00E+00	0.00E+00	5.97E-03	0.00E+00	0.00E+00	5.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.97E-03	0.00E+00	0.00E+00	5.97E-03
32	ALL		447732	3764439	NonCancer	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03
33	ALL		447751.1	3764439	NonCancer	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03
34	ALL		447768.8	3764438	NonCancer	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03
35	ALL		447789.1	3764438	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
36	ALL		447805.7	3764437	NonCancer	0.00E+00	0.00E+00	6.15E-03	0.00E+00	0.00E+00	6.15E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.15E-03	0.00E+00	0.00E+00	6.15E-03
37	ALL		447824	3764437	NonCancer	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03
38	ALL		447841.6	3764438	NonCancer	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03
39	ALL		447861.7	3764438	NonCancer	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03
40	ALL		447881.7	3764435	NonCancer	0.00E+00	0.00E+00	6.10E-03	0.00E+00	0.00E+00	6.10E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.10E-03	0.00E+00	0.00E+00	6.10E-03
41	ALL		447902.8	3764436	NonCancer	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03
42	ALL		447920.9	3764435	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
43	ALL		447942.2	3764435	NonCancer	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03
44	ALL		447962.8	3764435	NonCancer	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03
45	ALL		447980.7	3764435	NonCancer	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03
46	ALL		448004.7	3764435	NonCancer	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03
47	ALL		448021.3	3764435	NonCancer	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03
48	ALL		447662.7	3764380	NonCancer	0.00E+00	0.00E+00	6.25E-03	0.00E+00	0.00E+00	6.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.25E-03	0.00E+00	0.00E+00	6.25E-03
49	ALL		447681.3	3764321	NonCancer	0.00E+00	0.00E+00	6.48E-03	0.00E+00	0.00E+00	6.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.48E-03	0.00E+00	0.00E+00	6.48E-03
50	ALL		447682.6	3764286	NonCancer	0.00E+00	0.00E+00	6.41E-03	0.00E+00	0.00E+00	6.41E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.41E-03	0.00E+00	0.00E+00	6.41E-03
51	ALL		447662.5	3764238	NonCancer	0.00E+00	0.00E+00	6.28E-03	0.00E+00	0.00E+00	6.28E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.28E-03	0.00E+00	0.00E+00	6.28E-03
52	ALL		447661.7	3764207	NonCancer	0.00E+00	0.00E+00	6.21E-03	0.00E+00	0.00E+00	6.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.21E-03	0.00E+00	0.00E+00	6.21E-03
53	ALL		447683.1	3764162	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03

54 ALL	447681	3764146 NonCancer	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03
55 ALL	447679.6	3764130 NonCancer	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03
56 ALL	447680.8	3764112 NonCancer	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03
57 ALL	447681.5	3764096 NonCancer	0.00E+00	0.00E+00	5.93E-03	0.00E+00	0.00E+00	5.93E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.93E-03	0.00E+00	0.00E+00	5.93E-03
58 ALL	447680.8	3764079 NonCancer	0.00E+00	0.00E+00	5.96E-03	0.00E+00	0.00E+00	5.96E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.96E-03	0.00E+00	0.00E+00	5.96E-03
59 ALL	447680	3764064 NonCancer	0.00E+00	0.00E+00	6.03E-03	0.00E+00	0.00E+00	6.03E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.03E-03	0.00E+00	0.00E+00	6.03E-03
60 ALL	447681	3764046 NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
61 ALL	447680.6	3764030 NonCancer	0.00E+00	0.00E+00	6.20E-03	0.00E+00	0.00E+00	6.20E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.20E-03	0.00E+00	0.00E+00	6.20E-03
62 ALL	447657.2	3763992 NonCancer	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03
63 ALL	447656.3	3763967 NonCancer	0.00E+00	0.00E+00	6.47E-03	0.00E+00	0.00E+00	6.47E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.47E-03	0.00E+00	0.00E+00	6.47E-03
64 ALL	447657.2	3763929 NonCancer	0.00E+00	0.00E+00	6.70E-03	0.00E+00	0.00E+00	6.70E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.70E-03	0.00E+00	0.00E+00	6.70E-03
65 ALL	447657.2	3763902 NonCancer	0.00E+00	0.00E+00	6.88E-03	0.00E+00	0.00E+00	6.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.88E-03	0.00E+00	0.00E+00	6.88E-03
66 ALL	447657.5	3763869 NonCancer	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	6.97E-03
67 ALL	447656.2	3763835 NonCancer	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03
68 ALL	447655.9	3763808 NonCancer	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03
69 ALL	447657.1	3763786 NonCancer	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03
70 ALL	447701.2	3763782 NonCancer	0.00E+00	0.00E+00	7.63E-03	0.00E+00	0.00E+00	7.63E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.63E-03	0.00E+00	0.00E+00	7.63E-03
71 ALL	447856.9	3763750 NonCancer	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03
72 ALL	447855	3763730 NonCancer	0.00E+00	0.00E+00	7.27E-03	0.00E+00	0.00E+00	7.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-03	0.00E+00	0.00E+00	7.27E-03
73 ALL	447854.4	3763698 NonCancer	0.00E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	7.33E-03
74 ALL	447855.3	3763677 NonCancer	0.00E+00	0.00E+00	7.39E-03	0.00E+00	0.00E+00	7.39E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.39E-03	0.00E+00	0.00E+00	7.39E-03
75 ALL	447675.5	3763287 NonCancer	0.00E+00	0.00E+00	8.48E-03	0.00E+00	0.00E+00	8.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.48E-03	0.00E+00	0.00E+00	8.48E-03
76 ALL	448481.3	3763485 NonCancer	0.00E+00	0.00E+00	8.17E-03	0.00E+00	0.00E+00	8.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.17E-03	0.00E+00	0.00E+00	8.17E-03
77 ALL	448480	3763196 NonCancer	0.00E+00	0.00E+00	8.53E-03	0.00E+00	0.00E+00	8.53E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.53E-03	0.00E+00	0.00E+00	8.53E-03
78 ALL	448478.6	3762907 NonCancer	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02
79 ALL	448497.9	3762714 NonCancer	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	1.51E-02
80 ALL	448507.9	3762488 NonCancer	0.00E+00	0.00E+00	3.25E-02	0.00E+00	0.00E+00	3.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.25E-02	0.00E+00	0.00E+00	3.25E-02
81 ALL	448480.5	3762358 NonCancer	0.00E+00	0.00E+00	4.85E-02	0.00E+00	0.00E+00	4.85E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E-02	0.00E+00	0.00E+00	4.85E-02
82 ALL	448462.7	3762340 NonCancer	0.00E+00	0.00E+00	5.97E-02	0.00E+00	0.00E+00	5.97E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.97E-02	0.00E+00	0.00E+00	5.97E-02
83 ALL	448464.5	3762266 NonCancer	0.00E+00	0.00E+00	5.49E-02	0.00E+00	0.00E+00	5.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.49E-02	0.00E+00	0.00E+00	5.49E-02
84 ALL	448461.6	3762165 NonCancer	0.00E+00	0.00E+00	5.52E-02	0.00E+00	0.00E+00	5.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.52E-02	0.00E+00	0.00E+00	5.52E-02
85 ALL	448472.6	3762065 NonCancer	0.00E+00	0.00E+00	2.49E-02	0.00E+00	0.00E+00	2.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-02	0.00E+00	0.00E+00	2.49E-02
86 ALL	448460.5	3762017 NonCancer	0.00E+00	0.00E+00	2.92E-02	0.00E+00	0.00E+00	2.92E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.92E-02	0.00E+00	0.00E+00	2.92E-02
87 ALL	448234.6	3761951 NonCancer	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	1.56E-02
88 ALL	448081.4	3761953 NonCancer	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	1.28E-02
89 ALL	448025.5	3761956 NonCancer	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	1.23E-02
90 ALL	447506.8	3761968 NonCancer	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02
91 ALL	447269.3	3761968 NonCancer	0.00E+00	0.00E+00	9.15E-03	0.00E+00	0.00E+00	9.15E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.15E-03	0.00E+00	0.00E+00	9.15E-03
92 ALL	447389.5	3761909 NonCancer	0.00E+00	0.00E+00	8.99E-03	0.00E+00	0.00E+00	8.99E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.99E-03	0.00E+00	0.00E+00	8.99E-03
93 ALL	447019.1	3761964 NonCancer	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03
94 ALL	447060.3	3761964 NonCancer	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02
95 ALL	446975.3	3761963 NonCancer	0.00E+00	0.00E+00	8.08E-03	0.00E+00	0.00E+00	8.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.08E-03	0.00E+00	0.00E+00	8.08E-03
96 ALL	446940.9	3761954 NonCancer	0.00E+00	0.00E+00	7.86E-03	0.00E+00	0.00E+00	7.86E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.86E-03	0.00E+00	0.00E+00	7.86E-03
97 ALL	446865.7	3761975 NonCancer	0.00E+00	0.00E+00	7.97E-03	0.00E+00	0.00E+00	7.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.97E-03	0.00E+00	0.00E+00	7.97E-03
98 ALL	446795.1	3761958 NonCancer	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03
99 ALL	446757.7	3761966 NonCancer	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03
100 ALL	446709.3	3761968 NonCancer	0.00E+00	0.00E+00	6.73E-03	0.00E+00	0.00E+00	6.73E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.73E-03	0.00E+00	0.00E+00	6.73E-03
101 ALL	446796.4	3762029 NonCancer	0.00E+00	0.00E+00	8.59E-03	0.00E+00	0.00E+00	8.59E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.59E-03	0.00E+00	0.00E+00	8.59E-03
102 ALL	446797	3762045 NonCancer	0.00E+00	0.00E+00	8.97E-03	0.00E+00	0.00E+00	8.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.97E-03	0.00E+00	0.00E+00	8.97E-03
103 ALL	446796.7	3762090 NonCancer	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02
104 ALL	446796.2	3762106 NonCancer	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	1.09E-02
105 ALL	446796.7	3762137 NonCancer	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02
106 ALL	446796.2	3762153 NonCancer	0.00E+00	0.00E+00	1.35E-02	0.00E+00	0.00E+00	1.35E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-02	0.00E+00	0.00E+00	1.35E-02
107 ALL	446772.4	3762215 NonCancer	0.00E+00	0.00E+00	1.72E-02	0.00E+00	0.00E+00	1.72E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E-02	0.00E+00	0.00E+00	1.72E-02
108 ALL	446795.1	3762321 NonCancer	0.00E+00	0.00E+00	4.32E-02	0.00E+00	0.00E+00	4.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E-02	0.00E+00	0.00E+00	4.32E-02

109 ALL	446796.4	3762451 NonCancer	0.00E+00	0.00E+00	2.19E-02	0.00E+00	0.00E+00	2.19E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-02	0.00E+00	0.00E+00	2.19E-02
110 ALL	446796.4	3762471 NonCancer	0.00E+00	0.00E+00	1.84E-02	0.00E+00	0.00E+00	1.84E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-02	0.00E+00	0.00E+00	1.84E-02
111 ALL	446797.2	3762496 NonCancer	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	1.59E-02
112 ALL	446798.1	3762517 NonCancer	0.00E+00	0.00E+00	1.41E-02	0.00E+00	0.00E+00	1.41E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-02	0.00E+00	0.00E+00	1.41E-02
113 ALL	446797.8	3762540 NonCancer	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02
114 ALL	446797.5	3762560 NonCancer	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	1.13E-02
115 ALL	446798.6	3762585 NonCancer	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02
116 ALL	446798.1	3762604 NonCancer	0.00E+00	0.00E+00	9.83E-03	0.00E+00	0.00E+00	9.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.83E-03	0.00E+00	0.00E+00	9.83E-03
117 ALL	446799.7	3762654 NonCancer	0.00E+00	0.00E+00	8.65E-03	0.00E+00	0.00E+00	8.65E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.65E-03	0.00E+00	0.00E+00	8.65E-03
118 ALL	446800	3762675 NonCancer	0.00E+00	0.00E+00	9.07E-03	0.00E+00	0.00E+00	9.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.07E-03	0.00E+00	0.00E+00	9.07E-03
119 ALL	446800.3	3762700 NonCancer	0.00E+00	0.00E+00	8.94E-03	0.00E+00	0.00E+00	8.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.94E-03	0.00E+00	0.00E+00	8.94E-03
120 ALL	446800.3	3762721 NonCancer	0.00E+00	0.00E+00	8.67E-03	0.00E+00	0.00E+00	8.67E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.67E-03	0.00E+00	0.00E+00	8.67E-03
121 ALL	446800	3762736 NonCancer	0.00E+00	0.00E+00	8.46E-03	0.00E+00	0.00E+00	8.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.46E-03	0.00E+00	0.00E+00	8.46E-03
122 ALL	446797.8	3762748 NonCancer	0.00E+00	0.00E+00	8.23E-03	0.00E+00	0.00E+00	8.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.23E-03	0.00E+00	0.00E+00	8.23E-03
123 ALL	446802.2	3762913 NonCancer	0.00E+00	0.00E+00	6.23E-03	0.00E+00	0.00E+00	6.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.23E-03	0.00E+00	0.00E+00	6.23E-03
124 ALL	446802.2	3762933 NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
125 ALL	446802.4	3762949 NonCancer	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03
126 ALL	446803	3762967 NonCancer	0.00E+00	0.00E+00	5.87E-03	0.00E+00	0.00E+00	5.87E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.87E-03	0.00E+00	0.00E+00	5.87E-03
127 ALL	446802.7	3762986 NonCancer	0.00E+00	0.00E+00	5.77E-03	0.00E+00	0.00E+00	5.77E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.77E-03	0.00E+00	0.00E+00	5.77E-03
128 ALL	446802.2	3763003 NonCancer	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03
129 ALL	446802.2	3763022 NonCancer	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03
130 ALL	446802.7	3763041 NonCancer	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03
131 ALL	446803	3763059 NonCancer	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03
132 ALL	446803.5	3763077 NonCancer	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03
133 ALL	446756.3	3763085 NonCancer	0.00E+00	0.00E+00	5.13E-03	0.00E+00	0.00E+00	5.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.13E-03	0.00E+00	0.00E+00	5.13E-03
134 ALL	446807.7	3763646 NonCancer	0.00E+00	0.00E+00	5.71E-03	0.00E+00	0.00E+00	5.71E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.71E-03	0.00E+00	0.00E+00	5.71E-03
135 ALL	446808.3	3763675 NonCancer	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03
136 ALL	446807.7	3763695 NonCancer	0.00E+00	0.00E+00	5.63E-03	0.00E+00	0.00E+00	5.63E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.63E-03	0.00E+00	0.00E+00	5.63E-03
137 ALL	446808.3	3763711 NonCancer	0.00E+00	0.00E+00	5.59E-03	0.00E+00	0.00E+00	5.59E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.59E-03	0.00E+00	0.00E+00	5.59E-03
138 ALL	446808.3	3763726 NonCancer	0.00E+00	0.00E+00	5.55E-03	0.00E+00	0.00E+00	5.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.55E-03	0.00E+00	0.00E+00	5.55E-03
139 ALL	446808	3763742 NonCancer	0.00E+00	0.00E+00	5.48E-03	0.00E+00	0.00E+00	5.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.48E-03	0.00E+00	0.00E+00	5.48E-03
140 ALL	446808.3	3763757 NonCancer	0.00E+00	0.00E+00	5.43E-03	0.00E+00	0.00E+00	5.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.43E-03	0.00E+00	0.00E+00	5.43E-03
141 ALL	446808.6	3763798 NonCancer	0.00E+00	0.00E+00	5.42E-03	0.00E+00	0.00E+00	5.42E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.42E-03	0.00E+00	0.00E+00	5.42E-03
142 ALL	446810.3	3764484 NonCancer	0.00E+00	0.00E+00	4.91E-03	0.00E+00	0.00E+00	4.91E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.91E-03	0.00E+00	0.00E+00	4.91E-03
143 ALL	446781.3	3764475 NonCancer	0.00E+00	0.00E+00	4.88E-03	0.00E+00	0.00E+00	4.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.88E-03	0.00E+00	0.00E+00	4.88E-03
144 ALL	446722.6	3764456 NonCancer	0.00E+00	0.00E+00	4.83E-03	0.00E+00	0.00E+00	4.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.83E-03	0.00E+00	0.00E+00	4.83E-03
145 ALL	446170.3	3764560 NonCancer	0.00E+00	0.00E+00	4.18E-03	0.00E+00	0.00E+00	4.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.18E-03	0.00E+00	0.00E+00	4.18E-03
146 ALL	446872.3	3763190 NonCancer	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	6.68E-03
147 ALL	446925.2	3763179 NonCancer	0.00E+00	0.00E+00	7.07E-03	0.00E+00	0.00E+00	7.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.07E-03	0.00E+00	0.00E+00	7.07E-03
148 ALL	446984.9	3763195 NonCancer	0.00E+00	0.00E+00	7.06E-03	0.00E+00	0.00E+00	7.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.06E-03	0.00E+00	0.00E+00	7.06E-03
149 ALL	447010.6	3763193 NonCancer	0.00E+00	0.00E+00	7.36E-03	0.00E+00	0.00E+00	7.36E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.36E-03	0.00E+00	0.00E+00	7.36E-03
150 ALL	447036.6	3763194 NonCancer	0.00E+00	0.00E+00	7.42E-03	0.00E+00	0.00E+00	7.42E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.42E-03	0.00E+00	0.00E+00	7.42E-03
151 ALL	447053.6	3763193 NonCancer	0.00E+00	0.00E+00	7.46E-03	0.00E+00	0.00E+00	7.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.46E-03	0.00E+00	0.00E+00	7.46E-03
152 ALL	447076.4	3763192 NonCancer	0.00E+00	0.00E+00	7.61E-03	0.00E+00	0.00E+00	7.61E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.61E-03	0.00E+00	0.00E+00	7.61E-03
153 ALL	447093.5	3763193 NonCancer	0.00E+00	0.00E+00	7.83E-03	0.00E+00	0.00E+00	7.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.83E-03	0.00E+00	0.00E+00	7.83E-03
154 ALL	447122.1	3763193 NonCancer	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	7.79E-03
155 ALL	447138.8	3763192 NonCancer	0.00E+00	0.00E+00	7.78E-03	0.00E+00	0.00E+00	7.78E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.78E-03	0.00E+00	0.00E+00	7.78E-03
156 ALL	447168	3763192 NonCancer	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	7.87E-03
157 ALL	447170.7	3763172 NonCancer	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03
158 ALL	447170.4	3763158 NonCancer	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03
159 ALL	447169.3	3763145 NonCancer	0.00E+00	0.00E+00	7.99E-03	0.00E+00	0.00E+00	7.99E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.99E-03	0.00E+00	0.00E+00	7.99E-03
160 ALL	447147.5	3763107 NonCancer	0.00E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	8.50E-03
161 ALL	447146.6	3763084 NonCancer	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03
162 ALL	447146.9	3763064 NonCancer	0.00E+00	0.00E+00	8.66E-03	0.00E+00	0.00E+00	8.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.66E-03	0.00E+00	0.00E+00	8.66E-03
163 ALL	447149.9	3763039 NonCancer	0.00E+00	0.00E+00	8.58E-03	0.00E+00	0.00E+00	8.58E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.58E-03	0.00E+00	0.00E+00	8.58E-03

164 ALL	447148.6	3763020 NonCancer	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03
165 ALL	447148.6	3762997 NonCancer	0.00E+00	0.00E+00	8.63E-03	0.00E+00	0.00E+00	8.63E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.63E-03	0.00E+00	0.00E+00	8.63E-03
166 ALL	447206.1	3762958 NonCancer	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03
167 ALL	447209.3	3762923 NonCancer	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03
168 ALL	447208.4	3762891 NonCancer	0.00E+00	0.00E+00	8.74E-03	0.00E+00	0.00E+00	8.74E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.74E-03	0.00E+00	0.00E+00	8.74E-03
169 ALL	447145.8	3762889 NonCancer	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03
170 ALL	447122.6	3762889 NonCancer	0.00E+00	0.00E+00	8.36E-03	0.00E+00	0.00E+00	8.36E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.36E-03	0.00E+00	0.00E+00	8.36E-03
171 ALL	447094.3	3762890 NonCancer	0.00E+00	0.00E+00	8.18E-03	0.00E+00	0.00E+00	8.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.18E-03	0.00E+00	0.00E+00	8.18E-03
172 ALL	447071	3762890 NonCancer	0.00E+00	0.00E+00	8.13E-03	0.00E+00	0.00E+00	8.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.13E-03	0.00E+00	0.00E+00	8.13E-03
173 ALL	447043.6	3762890 NonCancer	0.00E+00	0.00E+00	8.02E-03	0.00E+00	0.00E+00	8.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.02E-03	0.00E+00	0.00E+00	8.02E-03
174 ALL	447017.8	3762889 NonCancer	0.00E+00	0.00E+00	7.88E-03	0.00E+00	0.00E+00	7.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.88E-03	0.00E+00	0.00E+00	7.88E-03
175 ALL	446992.1	3762889 NonCancer	0.00E+00	0.00E+00	7.69E-03	0.00E+00	0.00E+00	7.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.69E-03	0.00E+00	0.00E+00	7.69E-03
176 ALL	446964.3	3762888 NonCancer	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03
177 ALL	446940.4	3762888 NonCancer	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03
178 ALL	446911.2	3762888 NonCancer	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03
179 ALL	446885.4	3762890 NonCancer	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03
180 ALL	446862.1	3762889 NonCancer	0.00E+00	0.00E+00	6.95E-03	0.00E+00	0.00E+00	6.95E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.95E-03	0.00E+00	0.00E+00	6.95E-03
181 ALL	446871.5	3762780 NonCancer	0.00E+00	0.00E+00	8.32E-03	0.00E+00	0.00E+00	8.32E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.32E-03	0.00E+00	0.00E+00	8.32E-03
182 ALL	446926.3	3762769 NonCancer	0.00E+00	0.00E+00	8.75E-03	0.00E+00	0.00E+00	8.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.75E-03	0.00E+00	0.00E+00	8.75E-03
183 ALL	446983.7	3762774 NonCancer	0.00E+00	0.00E+00	8.84E-03	0.00E+00	0.00E+00	8.84E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.84E-03	0.00E+00	0.00E+00	8.84E-03
184 ALL	447009	3762774 NonCancer	0.00E+00	0.00E+00	8.96E-03	0.00E+00	0.00E+00	8.96E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.96E-03	0.00E+00	0.00E+00	8.96E-03
185 ALL	447030.5	3762774 NonCancer	0.00E+00	0.00E+00	8.88E-03	0.00E+00	0.00E+00	8.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.88E-03	0.00E+00	0.00E+00	8.88E-03
186 ALL	447055.4	3762774 NonCancer	0.00E+00	0.00E+00	8.89E-03	0.00E+00	0.00E+00	8.89E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.89E-03	0.00E+00	0.00E+00	8.89E-03
187 ALL	447076.9	3762774 NonCancer	0.00E+00	0.00E+00	9.06E-03	0.00E+00	0.00E+00	9.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.06E-03	0.00E+00	0.00E+00	9.06E-03
188 ALL	447101.2	3762774 NonCancer	0.00E+00	0.00E+00	9.31E-03	0.00E+00	0.00E+00	9.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.31E-03	0.00E+00	0.00E+00	9.31E-03
189 ALL	447123.9	3762774 NonCancer	0.00E+00	0.00E+00	9.43E-03	0.00E+00	0.00E+00	9.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.43E-03	0.00E+00	0.00E+00	9.43E-03
190 ALL	447148.1	3762775 NonCancer	0.00E+00	0.00E+00	9.65E-03	0.00E+00	0.00E+00	9.65E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.65E-03	0.00E+00	0.00E+00	9.65E-03
191 ALL	447170.2	3762775 NonCancer	0.00E+00	0.00E+00	9.94E-03	0.00E+00	0.00E+00	9.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.94E-03	0.00E+00	0.00E+00	9.94E-03
192 ALL	447196.8	3762775 NonCancer	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	1.01E-02
193 ALL	447242.1	3762777 NonCancer	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02
194 ALL	447262.3	3762776 NonCancer	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	1.06E-02
195 ALL	447294.6	3762776 NonCancer	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02
196 ALL	447313.1	3762775 NonCancer	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	1.10E-02
197 ALL	447313.4	3762750 NonCancer	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02
198 ALL	447327.9	3762713 NonCancer	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02
199 ALL	447327.4	3762680 NonCancer	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02
200 ALL	447327.7	3762657 NonCancer	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	1.29E-02
201 ALL	447327.3	3762637 NonCancer	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	1.32E-02
202 ALL	447327.5	3762613 NonCancer	0.00E+00	0.00E+00	1.39E-02	0.00E+00	0.00E+00	1.39E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-02	0.00E+00	0.00E+00	1.39E-02
203 ALL	447327.3	3762592 NonCancer	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02
204 ALL	447327	3762570 NonCancer	0.00E+00	0.00E+00	1.52E-02	0.00E+00	0.00E+00	1.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-02	0.00E+00	0.00E+00	1.52E-02
205 ALL	447327.3	3762548 NonCancer	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	1.58E-02
206 ALL	447326.6	3762525 NonCancer	0.00E+00	0.00E+00	1.64E-02	0.00E+00	0.00E+00	1.64E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-02	0.00E+00	0.00E+00	1.64E-02
207 ALL	447326.6	3762506 NonCancer	0.00E+00	0.00E+00	1.69E-02	0.00E+00	0.00E+00	1.69E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-02	0.00E+00	0.00E+00	1.69E-02
208 ALL	447327.5	3762478 NonCancer	0.00E+00	0.00E+00	1.79E-02	0.00E+00	0.00E+00	1.79E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	0.00E+00	0.00E+00	1.79E-02
209 ALL	447325.9	3762454 NonCancer	0.00E+00	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.75E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.75E-02
210 ALL	447225.6	3762433 NonCancer	0.00E+00	0.00E+00	1.43E-02	0.00E+00	0.00E+00	1.43E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-02	0.00E+00	0.00E+00	1.43E-02
211 ALL	447200.3	3762431 NonCancer	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	1.40E-02
212 ALL	447156.9	3762430 NonCancer	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02
213 ALL	447131.8	3762431 NonCancer	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02
214 ALL	447102.7	3762431 NonCancer	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	1.42E-02
215 ALL	447079.1	3762431 NonCancer	0.00E+00	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.48E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.48E-02
216 ALL	447034.9	3762434 NonCancer	0.00E+00	0.00E+00	1.66E-02	0.00E+00	0.00E+00	1.66E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.66E-02	0.00E+00	0.00E+00	1.66E-02
217 ALL	446995.5	3762434 NonCancer	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	2.00E-02
218 ALL	446972.7	3762434 NonCancer	0.00E+00	0.00E+00	2.43E-02	0.00E+00	0.00E+00	2.43E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.43E-02	0.00E+00	0.00E+00	2.43E-02

219 ALL	446941.4	3762435	NonCancer	0.00E+00	0.00E+00	2.74E-02	0.00E+00	0.00E+00	2.74E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-02	0.00E+00	0.00E+00	2.74E-02
220 ALL	446916.1	3762437	NonCancer	0.00E+00	0.00E+00	3.45E-02	0.00E+00	0.00E+00	3.45E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.45E-02	0.00E+00	0.00E+00	3.45E-02
221 ALL	446876.4	3762437	NonCancer	0.00E+00	0.00E+00	3.37E-02	0.00E+00	0.00E+00	3.37E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.37E-02	0.00E+00	0.00E+00	3.37E-02
222 ALL	446848.9	3762647	NonCancer	0.00E+00	0.00E+00	9.46E-03	0.00E+00	0.00E+00	9.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.46E-03	0.00E+00	0.00E+00	9.46E-03
223 ALL	446848.9	3762563	NonCancer	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02
224 ALL	446849.2	3762510	NonCancer	0.00E+00	0.00E+00	1.62E-02	0.00E+00	0.00E+00	1.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-02	0.00E+00	0.00E+00	1.62E-02
225 ALL	446849.2	3762456	NonCancer	0.00E+00	0.00E+00	2.47E-02	0.00E+00	0.00E+00	2.47E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.47E-02	0.00E+00	0.00E+00	2.47E-02
226 ALL	446848.9	3762702	NonCancer	0.00E+00	0.00E+00	9.47E-03	0.00E+00	0.00E+00	9.47E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.47E-03	0.00E+00	0.00E+00	9.47E-03
227 ALL	446849.5	3762755	NonCancer	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03
228 ALL	446739.8	3762429	NonCancer	0.00E+00	0.00E+00	1.68E-02	0.00E+00	0.00E+00	1.68E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-02	0.00E+00	0.00E+00	1.68E-02
229 ALL	446711.8	3762424	NonCancer	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02
230 ALL	446687.3	3762416	NonCancer	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	1.30E-02
231 ALL	446662.2	3762412	NonCancer	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02
232 ALL	446636.2	3762404	NonCancer	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02
233 ALL	449981.7	3762732	NonCancer	0.00E+00	0.00E+00	2.17E-03	0.00E+00	0.00E+00	2.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-03	0.00E+00	0.00E+00	2.17E-03
234 ALL	446486.8	3762232	NonCancer	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03
235 ALL	446262	3762068	NonCancer	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	3.90E-03
236 ALL	446443.2	3762292	NonCancer	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03
237 ALL	446071.8	3762055	NonCancer	0.00E+00	0.00E+00	3.10E-03	0.00E+00	0.00E+00	3.10E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.10E-03	0.00E+00	0.00E+00	3.10E-03
238 ALL	446072.1	3761983	NonCancer	0.00E+00	0.00E+00	3.02E-03	0.00E+00	0.00E+00	3.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.02E-03	0.00E+00	0.00E+00	3.02E-03
239 ALL	446138.2	3762002	NonCancer	0.00E+00	0.00E+00	3.26E-03	0.00E+00	0.00E+00	3.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-03	0.00E+00	0.00E+00	3.26E-03
240 ALL	445884.9	3762040	NonCancer	0.00E+00	0.00E+00	2.58E-03	0.00E+00	0.00E+00	2.58E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-03	0.00E+00	0.00E+00	2.58E-03

*HARP - HRACalc v22118 10/19/2022 12:38:47 PM - Chronic Risk - Input File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\HARP\14822 OPS\hra\ResidentHRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE\	RESP	SKIN	EYE	BONE/TEE	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	ALL		447362.2	3764293	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.47E-07	3.47E-07	3.47E-07	7.77E-05	0.00E+00	0.00E+00	0.00E+00	3.47E-07	2.51E-04	0.00E+00	0.00E+00	2.51E-04
2	ALL		447376	3764151	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.97E-07	3.97E-07	3.97E-07	9.45E-05	0.00E+00	0.00E+00	0.00E+00	3.97E-07	2.87E-04	0.00E+00	0.00E+00	2.87E-04
3	ALL		447389.8	3764043	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.51E-07	4.51E-07	4.51E-07	1.18E-04	0.00E+00	0.00E+00	0.00E+00	4.51E-07	3.25E-04	0.00E+00	0.00E+00	3.25E-04
4	ALL		447450.2	3764031	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.67E-07	4.67E-07	4.67E-07	1.24E-04	0.00E+00	0.00E+00	0.00E+00	4.67E-07	3.37E-04	0.00E+00	0.00E+00	3.37E-04
5	ALL		447410.2	3764019	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.66E-07	4.66E-07	4.66E-07	1.25E-04	0.00E+00	0.00E+00	0.00E+00	4.66E-07	3.36E-04	0.00E+00	0.00E+00	3.36E-04
6	ALL		446891.9	3764451	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.72E-07	2.72E-07	2.72E-07	5.46E-05	0.00E+00	0.00E+00	0.00E+00	2.72E-07	1.97E-04	0.00E+00	0.00E+00	1.97E-04
7	ALL		446959.3	3764451	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.61E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.01E-04	0.00E+00	0.00E+00	2.01E-04
8	ALL		446995.3	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.75E-07	2.75E-07	2.75E-07	5.58E-05	0.00E+00	0.00E+00	0.00E+00	2.75E-07	1.99E-04	0.00E+00	0.00E+00	1.99E-04
9	ALL		447007.4	3764467	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.75E-07	2.75E-07	2.75E-07	5.60E-05	0.00E+00	0.00E+00	0.00E+00	2.75E-07	1.99E-04	0.00E+00	0.00E+00	1.99E-04
10	ALL		447023.5	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.76E-07	2.76E-07	2.76E-07	5.64E-05	0.00E+00	0.00E+00	0.00E+00	2.76E-07	2.00E-04	0.00E+00	0.00E+00	2.00E-04
11	ALL		447036.6	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.67E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.00E-04	0.00E+00	0.00E+00	2.00E-04
12	ALL		447052.7	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.70E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.01E-04	0.00E+00	0.00E+00	2.01E-04
13	ALL		447066.6	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.72E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.01E-04	0.00E+00	0.00E+00	2.01E-04
14	ALL		447099.7	3764456	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.81E-07	2.81E-07	5.84E-05	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.04E-04	0.00E+00	0.00E+00	2.04E-04
15	ALL		447145.3	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.81E-07	2.81E-07	5.88E-05	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.04E-04	0.00E+00	0.00E+00	2.04E-04
16	ALL		447175.5	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.85E-07	2.85E-07	5.99E-05	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.07E-04	0.00E+00	0.00E+00	2.07E-04
17	ALL		447205.3	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.89E-07	2.89E-07	2.89E-07	6.09E-05	0.00E+00	0.00E+00	0.00E+00	2.89E-07	2.09E-04	0.00E+00	0.00E+00	2.09E-04
18	ALL		447232.4	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.88E-07	2.88E-07	2.88E-07	6.09E-05	0.00E+00	0.00E+00	0.00E+00	2.88E-07	2.09E-04	0.00E+00	0.00E+00	2.09E-04
19	ALL		447264	3764467	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.85E-07	2.85E-07	6.03E-05	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.07E-04	0.00E+00	0.00E+00	2.07E-04
20	ALL		447294.8	3764467	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.86E-07	2.86E-07	2.86E-07	6.04E-05	0.00E+00	0.00E+00	0.00E+00	2.86E-07	2.07E-04	0.00E+00	0.00E+00	2.07E-04
21	ALL		447365	3764456	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.96E-07	2.96E-07	2.96E-07	6.30E-05	0.00E+00	0.00E+00	0.00E+00	2.96E-07	2.15E-04	0.00E+00	0.00E+00	2.15E-04
22	ALL		447406.6	3764461	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.00E-07	3.00E-07	3.00E-07	6.38E-05	0.00E+00	0.00E+00	0.00E+00	3.00E-07	2.17E-04	0.00E+00	0.00E+00	2.17E-04
23	ALL		447441.5	3764460	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.02E-07	3.02E-07	3.02E-07	6.45E-05	0.00E+00	0.00E+00	0.00E+00	3.02E-07	2.19E-04	0.00E+00	0.00E+00	2.19E-04
24	ALL		447466.9	3764460	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.04E-07	3.04E-07	3.04E-07	6.50E-05	0.00E+00	0.00E+00	0.00E+00	3.04E-07	2.20E-04	0.00E+00	0.00E+00	2.20E-04
25	ALL		447490	3764461	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.06E-07	3.06E-07	3.06E-07	6.58E-05	0.00E+00	0.00E+00	0.00E+00	3.06E-07	2.22E-04	0.00E+00	0.00E+00	2.22E-04
26	ALL		447515.5	3764460	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.09E-07	3.09E-07	3.09E-07	6.67E-05	0.00E+00	0.00E+00	0.00E+00	3.09E-07	2.24E-04	0.00E+00	0.00E+00	2.24E-04
27	ALL		447573.1	3764454	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-07	3.17E-07	3.17E-07	6.95E-05	0.00E+00	0.00E+00	0.00E+00	3.17E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
28	ALL		447598.5	3764445	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.19E-07	3.19E-07	3.19E-07	7.05E-05	0.00E+00	0.00E+00	0.00E+00	3.19E-07	2.31E-04	0.00E+00	0.00E+00	2.31E-04
29	ALL		447652.9	3764440	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.08E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
30	ALL		447692.9	3764440	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.19E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
31	ALL		447713.8	3764439	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.25E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
32	ALL		447732	3764439	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.29E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
33	ALL		447751.1	3764439	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.34E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
34	ALL		447768.8	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.38E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
35	ALL		447789.1	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.42E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
36	ALL		447805.7	3764437	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.46E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
37	ALL		447824	3764437	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.51E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
38	ALL		447841.6	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.56E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
39	ALL		447861.7	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.64E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.30E-04	0.00E+00	0.00E+00	2.30E-04
40	ALL		447881.7	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-07	3.17E-07	3.17E-07	7.74E-05	0.00E+00	0.00E+00	0.00E+00	3.17E-07	2.31E-04	0.00E+00	0.00E+00	2.31E-04
41	ALL		447902.8	3764436	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-07	3.17E-07	3.17E-07	7.81E-05	0.00E+00	0.00E+00	0.00E+00	3.17E-07	2.31E-04	0.00E+00	0.00E+00	2.31E-04
42	ALL		447920.9	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.18E-07	3.18E-07	3.18E-07	7.89E-05	0.00E+00	0.00E+00	0.00E+00	3.18E-07	2.32E-04	0.00E+00	0.00E+00	2.32E-04
43	ALL		447942.2	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.20E-07	3.20E-07	3.20E-07	7.98E-05	0.00E+00	0.00E+00	0.00E+00	3.20E-07	2.33E-04	0.00E+00	0.00E+00	2.33E-04
44	ALL		447962.8	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.21E-07	3.21E-07	3.21E-07	8.08E-05	0.00E+00	0.00E+00	0.00E+00	3.21E-07	2.34E-04	0.00E+00	0.00E+00	2.34E-04
45	ALL		447980.7	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.23E-07	3.23E-07	3.23E-07	8.16E-05	0.00E+00	0.00E+00	0.00E+00	3.23E-07	2.35E-04	0.00E+00	0.00E+00	2.35E-04
46	ALL		448004.7	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.26E-07	3.26E-07	3.26E-07	8.31E-05	0.00E+00	0.00E+00	0.00E+00	3.26E-07	2.37E-04	0.00E+00	0.00E+00	2.37E-04
47	ALL		448021.3	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.31E-07	3.31E-07	3.31E-07	8.48E-05	0.00E+00	0.00E+00	0.00E+00	3.31E-07	2.41E-04	0.00E+00	0.00E+00	2.41E-04
48	ALL		447662.7	3764380	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.27E-07	3.27E-07	3.27E-07	7.49E-05	0.00E+00	0.00E+00	0.00E+00	3.27E-07	2.37E-04	0.00E+00	0.00E+00	2.37E-04
49	ALL		447681.3	3764321	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.43E-07	3.43E-07	3.43E-07	8.06E-05	0.00E+00	0.00E+00	0.00E+00	3.43E-07	2.49E-04	0.00E+00	0.00E+00	2.49E-04
50	ALL		447682.6	3764286	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.58E-07	3.58E-07	3.58E-07	8.53E-05	0.00E+00	0.00E+00	0.00E+00	3.58E-07	2.60E-04	0.00E+00	0.00E+00	2.60E-04
51	ALL		447662.5	3764238	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.78E-07	3.78E-07	3.78E-07	9.13E-05	0.00E+00	0.00E+00	0.00E+00	3.78E-07	2.74E-04	0.00E+00	0.00E+00	2.74E-04
52	ALL		447661.7	3764207	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.93E-07	3.93E-07	3.93E-07	9.62E-05	0.00E+00	0.00E+00	0.00E+00	3.93E-07	2.85E-04	0.00E+00	0.00E+00	2.85E-04
53	ALL		447683.1	3764162	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.18E-07	4.18E-07	4.18E-07	1.05E-04	0.00E+00	0.00E+00	0.00E+00	4.18E-07	3.03E-04	0.00E+00	0.00E+00	3.03E-04

54	ALL	447681	3764146	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.27E-07	4.27E-07	4.27E-07	1.08E-04	0.00E+00	0.00E+00	0.00E+00	4.27E-07	3.09E-04	0.00E+00	0.00E+00	3.09E-04
55	ALL	447679.6	3764130	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.36E-07	4.36E-07	4.36E-07	1.12E-04	0.00E+00	0.00E+00	0.00E+00	4.36E-07	3.16E-04	0.00E+00	0.00E+00	3.16E-04
56	ALL	447680.8	3764112	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.46E-07	4.46E-07	4.46E-07	1.17E-04	0.00E+00	0.00E+00	0.00E+00	4.46E-07	3.23E-04	0.00E+00	0.00E+00	3.23E-04
57	ALL	447681.5	3764096	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.55E-07	4.55E-07	4.55E-07	1.20E-04	0.00E+00	0.00E+00	0.00E+00	4.55E-07	3.29E-04	0.00E+00	0.00E+00	3.29E-04
58	ALL	447680.8	3764079	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.63E-07	4.63E-07	4.63E-07	1.24E-04	0.00E+00	0.00E+00	0.00E+00	4.63E-07	3.35E-04	0.00E+00	0.00E+00	3.35E-04
59	ALL	447680	3764064	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.69E-07	4.69E-07	4.69E-07	1.26E-04	0.00E+00	0.00E+00	0.00E+00	4.69E-07	3.39E-04	0.00E+00	0.00E+00	3.39E-04
60	ALL	447681	3764046	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.77E-07	4.77E-07	4.77E-07	1.30E-04	0.00E+00	0.00E+00	0.00E+00	4.77E-07	3.45E-04	0.00E+00	0.00E+00	3.45E-04
61	ALL	447680.6	3764030	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.83E-07	4.83E-07	4.83E-07	1.33E-04	0.00E+00	0.00E+00	0.00E+00	4.83E-07	3.50E-04	0.00E+00	0.00E+00	3.50E-04
62	ALL	447657.2	3763992	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.00E-07	5.00E-07	5.00E-07	1.42E-04	0.00E+00	0.00E+00	0.00E+00	5.00E-07	3.62E-04	0.00E+00	0.00E+00	3.62E-04
63	ALL	447656.3	3763967	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.11E-07	5.11E-07	5.11E-07	1.47E-04	0.00E+00	0.00E+00	0.00E+00	5.11E-07	3.70E-04	0.00E+00	0.00E+00	3.70E-04
64	ALL	447657.2	3763929	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.30E-07	5.30E-07	5.30E-07	1.57E-04	0.00E+00	0.00E+00	0.00E+00	5.30E-07	3.83E-04	0.00E+00	0.00E+00	3.83E-04
65	ALL	447657.2	3763902	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.43E-07	5.43E-07	5.43E-07	1.65E-04	0.00E+00	0.00E+00	0.00E+00	5.43E-07	3.93E-04	0.00E+00	0.00E+00	3.93E-04
66	ALL	447657.5	3763869	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.65E-07	5.65E-07	5.65E-07	1.79E-04	0.00E+00	0.00E+00	0.00E+00	5.65E-07	4.08E-04	0.00E+00	0.00E+00	4.08E-04
67	ALL	447656.2	3763835	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.84E-07	5.84E-07	5.84E-07	1.93E-04	0.00E+00	0.00E+00	0.00E+00	5.84E-07	4.23E-04	0.00E+00	0.00E+00	4.23E-04
68	ALL	447655.9	3763808	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.99E-07	5.99E-07	5.99E-07	2.04E-04	0.00E+00	0.00E+00	0.00E+00	5.99E-07	4.33E-04	0.00E+00	0.00E+00	4.33E-04
69	ALL	447657.1	3763786	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.12E-07	6.12E-07	6.12E-07	2.16E-04	0.00E+00	0.00E+00	0.00E+00	6.12E-07	4.43E-04	0.00E+00	0.00E+00	4.43E-04
70	ALL	447701.2	3763782	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.18E-07	6.18E-07	6.18E-07	2.19E-04	0.00E+00	0.00E+00	0.00E+00	6.18E-07	4.47E-04	0.00E+00	0.00E+00	4.47E-04
71	ALL	447856.9	3763750	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.86E-07	6.86E-07	6.86E-07	2.51E-04	0.00E+00	0.00E+00	0.00E+00	6.86E-07	4.96E-04	0.00E+00	0.00E+00	4.96E-04
72	ALL	447855	3763730	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.04E-07	7.04E-07	7.04E-07	2.65E-04	0.00E+00	0.00E+00	0.00E+00	7.04E-07	5.09E-04	0.00E+00	0.00E+00	5.09E-04
73	ALL	447854.4	3763698	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.35E-07	7.35E-07	7.35E-07	2.90E-04	0.00E+00	0.00E+00	0.00E+00	7.35E-07	5.31E-04	0.00E+00	0.00E+00	5.31E-04
74	ALL	447855.3	3763677	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.57E-07	7.57E-07	7.57E-07	3.09E-04	0.00E+00	0.00E+00	0.00E+00	7.57E-07	5.47E-04	0.00E+00	0.00E+00	5.47E-04
75	ALL	447675.5	3763287	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.32E-06	1.32E-06	1.32E-06	1.18E-03	0.00E+00	0.00E+00	0.00E+00	1.32E-06	9.53E-04	0.00E+00	0.00E+00	1.18E-03
76	ALL	448481.3	3763485	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.05E-06	1.05E-06	1.05E-06	5.48E-04	0.00E+00	0.00E+00	0.00E+00	1.05E-06	7.65E-04	0.00E+00	0.00E+00	7.65E-04
77	ALL	448480	3763196	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.90E-06	1.90E-06	7.14E-04	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.39E-03	0.00E+00	0.00E+00	1.39E-03
78	ALL	448478.6	3762907	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.08E-06	4.08E-06	4.08E-06	1.40E-03	0.00E+00	0.00E+00	0.00E+00	4.08E-06	3.00E-03	0.00E+00	0.00E+00	3.00E-03
79	ALL	448497.9	3762714	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.62E-06	7.62E-06	7.62E-06	1.39E-03	0.00E+00	0.00E+00	0.00E+00	7.62E-06	5.60E-03	0.00E+00	0.00E+00	5.60E-03
80	ALL	448507.9	3762488	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.47E-05	3.47E-05	3.47E-05	1.67E-03	0.00E+00	0.00E+00	0.00E+00	3.47E-05	2.43E-02	0.00E+00	0.00E+00	2.43E-02
81	ALL	448480.5	3762358	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.58E-05	4.58E-05	4.58E-05	2.06E-03	0.00E+00	0.00E+00	0.00E+00	4.58E-05	3.26E-02	0.00E+00	0.00E+00	3.26E-02
82	ALL	448462.7	3762340	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.66E-05	4.66E-05	4.66E-05	1.89E-03	0.00E+00	0.00E+00	0.00E+00	4.66E-05	3.41E-02	0.00E+00	0.00E+00	3.41E-02
83	ALL	448464.5	3762266	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.29E-05	3.29E-05	3.29E-05	1.28E-03	0.00E+00	0.00E+00	0.00E+00	3.29E-05	2.39E-02	0.00E+00	0.00E+00	2.39E-02
84	ALL	448461.6	3762165	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.71E-05	3.71E-05	3.71E-05	1.26E-03	0.00E+00	0.00E+00	0.00E+00	3.71E-05	2.74E-02	0.00E+00	0.00E+00	2.74E-02
85	ALL	448472.6	3762065	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.15E-05	1.15E-05	1.15E-05	5.38E-04	0.00E+00	0.00E+00	0.00E+00	1.15E-05	8.44E-03	0.00E+00	0.00E+00	8.44E-03
86	ALL	448460.5	3762017	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.90E-06	8.90E-06	8.90E-06	4.50E-04	0.00E+00	0.00E+00	0.00E+00	8.90E-06	6.52E-03	0.00E+00	0.00E+00	6.52E-03
87	ALL	448234.6	3761951	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.35E-06	7.35E-06	7.35E-06	4.12E-04	0.00E+00	0.00E+00	0.00E+00	7.35E-06	5.42E-03	0.00E+00	0.00E+00	5.42E-03
88	ALL	448081.4	3761953	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.71E-06	5.71E-06	5.71E-06	3.86E-04	0.00E+00	0.00E+00	0.00E+00	5.71E-06	4.19E-03	0.00E+00	0.00E+00	4.19E-03
89	ALL	448025.5	3761956	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.21E-06	5.21E-06	5.21E-06	3.78E-04	0.00E+00	0.00E+00	0.00E+00	5.21E-06	3.83E-03	0.00E+00	0.00E+00	3.83E-03
90	ALL	447506.8	3761968	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.20E-06	4.20E-06	4.20E-06	3.50E-04	0.00E+00	0.00E+00	0.00E+00	4.20E-06	3.09E-03	0.00E+00	0.00E+00	3.09E-03
91	ALL	447269.3	3761968	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.72E-06	3.72E-06	3.72E-06	3.08E-04	0.00E+00	0.00E+00	0.00E+00	3.72E-06	2.73E-03	0.00E+00	0.00E+00	2.73E-03
92	ALL	447389.5	3761909	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.51E-06	3.51E-06	3.51E-06	2.99E-04	0.00E+00	0.00E+00	0.00E+00	3.51E-06	2.58E-03	0.00E+00	0.00E+00	2.58E-03
93	ALL	447019.1	3761964	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.11E-06	3.11E-06	3.11E-06	2.56E-04	0.00E+00	0.00E+00	0.00E+00	3.11E-06	2.29E-03	0.00E+00	0.00E+00	2.29E-03
94	ALL	447060.3	3761964	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-06	3.16E-06	3.16E-06	2.63E-04	0.00E+00	0.00E+00	0.00E+00	3.16E-06	2.33E-03	0.00E+00	0.00E+00	2.33E-03
95	ALL	446975.3	3761963	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.05E-06	3.05E-06	3.05E-06	2.49E-04	0.00E+00	0.00E+00	0.00E+00	3.05E-06	2.25E-03	0.00E+00	0.00E+00	2.25E-03
96	ALL	446940.9	3761954	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.94E-06	2.94E-06	2.94E-06	2.40E-04	0.00E+00	0.00E+00	0.00E+00	2.94E-06	2.17E-03	0.00E+00	0.00E+00	2.17E-03
97	ALL	446865.7	3761975	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.01E-06	3.01E-06	3.01E-06	2.36E-04	0.00E+00	0.00E+00	0.00E+00	3.01E-06	2.22E-03	0.00E+00	0.00E+00	2.22E-03
98	ALL	446795.1	3761958	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.76E-06	2.76E-06	2.19E-04	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.04E-03	0.00E+00	0.00E+00	2.04E-03
99	ALL	446757.7	3761966	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.76E-06	2.76E-06	2.16E-04	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.04E-03	0.00E+00	0.00E+00	2.04E-03
100	ALL	446709.3	3761968	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.68E-06	2.68E-06	2.68E-06	2.09E-04	0.00E+00	0.00E+00	0.00E+00	2.68E-06	1.97E-03	0.00E+00	0.00E+00	1.97E-03
101	ALL	446796.4	3762029	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.47E-06	3.47E-06	3.47E-06	2.48E-04	0.00E+00	0.00E+00	0.00E+00	3.47E-06	2.56E-03	0.00E+00	0.00E+00	2.56E-03
102	ALL	446797	3762045	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.70E-06	3.70E-06	3.70E-06	2.57E-04	0.00E+00	0.00E+00	0.00E+00	3.70E-06	2.74E-03	0.00E+00	0.00E+00	2.74E-03
103	ALL	446796.7	3762090	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.54E-06	4.54E-06	4.54E-06	2.87E-04	0.00E+00	0.00E+00	0.00E+00	4.54E-06	3.36E-03	0.00E+00	0.00E+00	3.36E-03
104	ALL	446796.2	3762106	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.95E-06	4.95E-06	4.95E-06	3.01E-04	0.00E+00	0.00E+00	0.00E+00	4.95E-06	3.67E-03	0.00E+00	0.00E+00	3.67E-03
105	ALL	446796.7	3762137	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.01E-06	6.01E-06	6.01E-06	3.34E-04	0.00E+00	0.00E+00	0.00E+00	6.01E-06	4.44E-03	0.00E+00	0.00E+00	4.44E-03
106	ALL	446796.2	3762153	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.73E-06	6.73E-06	6.73E-06	3.56E-04	0.00E+00	0.00E+00	0.00E+00	6.73E-06	4.96E-03	0.00E+00	0.00E+00	4.96E-03
107	ALL	446772.4	3762215	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.03E-05	1.03E-05	1.03E-05	4.63E-04	0.00E+00	0.00E+00	0.00E+00	1.03E-05	7.45E-03	0.00E+00	0.00E+00	7.45E-03
108	ALL	446795.1	3762321	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.85E-05	2.85E-05	2.85E-05	9.96E-04	0.00E+00	0.00E+00	0.00E+00	2.85E-05	1.99E-02	0.00E+00	0.00E+00	1.99E-02

109 ALL	446796.4	3762451	NonCancer	0.00E+00	0.00E+00	0.00E+00	9.74E-06	9.74E-06	9.74E-06	5.39E-04	0.00E+00	0.00E+00	0.00E+00	9.74E-06	6.90E-03	0.00E+00	0.00E+00	6.90E-03
110 ALL	446796.4	3762471	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.01E-06	8.01E-06	8.01E-06	4.68E-04	0.00E+00	0.00E+00	0.00E+00	8.01E-06	5.71E-03	0.00E+00	0.00E+00	5.71E-03
111 ALL	446797.2	3762496	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.51E-06	6.51E-06	6.51E-06	4.12E-04	0.00E+00	0.00E+00	0.00E+00	6.51E-06	4.66E-03	0.00E+00	0.00E+00	4.66E-03
112 ALL	446798.1	3762517	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.61E-06	5.61E-06	5.61E-06	3.80E-04	0.00E+00	0.00E+00	0.00E+00	5.61E-06	4.03E-03	0.00E+00	0.00E+00	4.03E-03
113 ALL	446797.8	3762540	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.80E-06	4.80E-06	4.80E-06	3.53E-04	0.00E+00	0.00E+00	0.00E+00	4.80E-06	3.46E-03	0.00E+00	0.00E+00	3.46E-03
114 ALL	446797.5	3762560	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.27E-06	4.27E-06	4.27E-06	3.35E-04	0.00E+00	0.00E+00	0.00E+00	4.27E-06	3.08E-03	0.00E+00	0.00E+00	3.08E-03
115 ALL	446798.6	3762585	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.77E-06	3.77E-06	3.77E-06	3.19E-04	0.00E+00	0.00E+00	0.00E+00	3.77E-06	2.73E-03	0.00E+00	0.00E+00	2.73E-03
116 ALL	446798.1	3762604	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.44E-06	3.44E-06	3.44E-06	3.09E-04	0.00E+00	0.00E+00	0.00E+00	3.44E-06	2.49E-03	0.00E+00	0.00E+00	2.49E-03
117 ALL	446799.7	3762654	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.83E-06	2.83E-06	2.83E-06	2.91E-04	0.00E+00	0.00E+00	0.00E+00	2.83E-06	2.06E-03	0.00E+00	0.00E+00	2.06E-03
118 ALL	446800	3762675	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.61E-06	2.61E-06	2.61E-06	2.85E-04	0.00E+00	0.00E+00	0.00E+00	2.61E-06	1.85E-03	0.00E+00	0.00E+00	1.85E-03
119 ALL	446800.3	3762700	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.37E-06	2.37E-06	2.37E-06	2.77E-04	0.00E+00	0.00E+00	0.00E+00	2.37E-06	1.69E-03	0.00E+00	0.00E+00	1.69E-03
120 ALL	446800.3	3762721	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.23E-06	2.23E-06	2.23E-06	2.73E-04	0.00E+00	0.00E+00	0.00E+00	2.23E-06	1.59E-03	0.00E+00	0.00E+00	1.59E-03
121 ALL	446800	3762736	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.14E-06	2.14E-06	2.14E-06	2.71E-04	0.00E+00	0.00E+00	0.00E+00	2.14E-06	1.53E-03	0.00E+00	0.00E+00	1.53E-03
122 ALL	446797.8	3762748	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.07E-06	2.07E-06	2.07E-06	2.68E-04	0.00E+00	0.00E+00	0.00E+00	2.07E-06	1.48E-03	0.00E+00	0.00E+00	1.48E-03
123 ALL	446802.2	3762913	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.51E-06	1.51E-06	1.51E-06	2.53E-04	0.00E+00	0.00E+00	0.00E+00	1.51E-06	1.08E-03	0.00E+00	0.00E+00	1.08E-03
124 ALL	446802.2	3762933	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.46E-06	1.46E-06	2.52E-04	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.05E-03	0.00E+00	0.00E+00	1.05E-03
125 ALL	446802.4	3762949	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.42E-06	1.42E-06	1.42E-06	2.50E-04	0.00E+00	0.00E+00	0.00E+00	1.42E-06	1.02E-03	0.00E+00	0.00E+00	1.02E-03
126 ALL	446803	3762967	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.39E-06	1.39E-06	1.39E-06	2.49E-04	0.00E+00	0.00E+00	0.00E+00	1.39E-06	9.95E-04	0.00E+00	0.00E+00	9.95E-04
127 ALL	446802.7	3762986	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.34E-06	1.34E-06	1.34E-06	2.47E-04	0.00E+00	0.00E+00	0.00E+00	1.34E-06	9.65E-04	0.00E+00	0.00E+00	9.65E-04
128 ALL	446802.2	3763003	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.30E-06	1.30E-06	1.30E-06	2.44E-04	0.00E+00	0.00E+00	0.00E+00	1.30E-06	9.36E-04	0.00E+00	0.00E+00	9.36E-04
129 ALL	446802.2	3763022	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.26E-06	1.26E-06	1.26E-06	2.42E-04	0.00E+00	0.00E+00	0.00E+00	1.26E-06	9.08E-04	0.00E+00	0.00E+00	9.08E-04
130 ALL	446802.7	3763041	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.22E-06	1.22E-06	1.22E-06	2.40E-04	0.00E+00	0.00E+00	0.00E+00	1.22E-06	8.77E-04	0.00E+00	0.00E+00	8.77E-04
131 ALL	446803	3763059	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.18E-06	1.18E-06	1.18E-06	2.38E-04	0.00E+00	0.00E+00	0.00E+00	1.18E-06	8.45E-04	0.00E+00	0.00E+00	8.45E-04
132 ALL	446803.5	3763077	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.15E-06	1.15E-06	1.15E-06	2.36E-04	0.00E+00	0.00E+00	0.00E+00	1.15E-06	8.22E-04	0.00E+00	0.00E+00	8.22E-04
133 ALL	446756.3	3763085	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.12E-06	1.12E-06	1.12E-06	2.16E-04	0.00E+00	0.00E+00	0.00E+00	1.12E-06	8.02E-04	0.00E+00	0.00E+00	8.02E-04
134 ALL	446807.7	3763646	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.45E-07	5.45E-07	5.45E-07	1.37E-04	0.00E+00	0.00E+00	0.00E+00	5.45E-07	3.92E-04	0.00E+00	0.00E+00	3.92E-04
135 ALL	446808.3	3763675	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.30E-07	5.30E-07	5.30E-07	1.33E-04	0.00E+00	0.00E+00	0.00E+00	5.30E-07	3.82E-04	0.00E+00	0.00E+00	3.82E-04
136 ALL	446807.7	3763695	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.20E-07	5.20E-07	5.20E-07	1.29E-04	0.00E+00	0.00E+00	0.00E+00	5.20E-07	3.74E-04	0.00E+00	0.00E+00	3.74E-04
137 ALL	446808.3	3763711	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.13E-07	5.13E-07	5.13E-07	1.27E-04	0.00E+00	0.00E+00	0.00E+00	5.13E-07	3.69E-04	0.00E+00	0.00E+00	3.69E-04
138 ALL	446808.3	3763726	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.05E-07	5.05E-07	5.05E-07	1.25E-04	0.00E+00	0.00E+00	0.00E+00	5.05E-07	3.64E-04	0.00E+00	0.00E+00	3.64E-04
139 ALL	446808	3763742	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.99E-07	4.99E-07	4.99E-07	1.22E-04	0.00E+00	0.00E+00	0.00E+00	4.99E-07	3.59E-04	0.00E+00	0.00E+00	3.59E-04
140 ALL	446808.3	3763757	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.92E-07	4.92E-07	4.92E-07	1.20E-04	0.00E+00	0.00E+00	0.00E+00	4.92E-07	3.54E-04	0.00E+00	0.00E+00	3.54E-04
141 ALL	446808.6	3763798	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.72E-07	4.72E-07	4.72E-07	1.14E-04	0.00E+00	0.00E+00	0.00E+00	4.72E-07	3.40E-04	0.00E+00	0.00E+00	3.40E-04
142 ALL	446810.3	3764484	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.60E-07	2.60E-07	2.60E-07	5.11E-05	0.00E+00	0.00E+00	0.00E+00	2.60E-07	1.89E-04	0.00E+00	0.00E+00	1.89E-04
143 ALL	446781.3	3764475	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.60E-07	2.60E-07	2.60E-07	5.08E-05	0.00E+00	0.00E+00	0.00E+00	2.60E-07	1.88E-04	0.00E+00	0.00E+00	1.88E-04
144 ALL	446722.6	3764456	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.59E-07	2.59E-07	2.59E-07	5.04E-05	0.00E+00	0.00E+00	0.00E+00	2.59E-07	1.88E-04	0.00E+00	0.00E+00	1.88E-04
145 ALL	446170.3	3764560	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.08E-07	2.08E-07	2.08E-07	3.62E-05	0.00E+00	0.00E+00	0.00E+00	2.08E-07	1.50E-04	0.00E+00	0.00E+00	1.50E-04
146 ALL	446872.3	3763190	NonCancer	0.00E+00	0.00E+00	0.00E+00	9.75E-07	9.75E-07	9.75E-07	2.52E-04	0.00E+00	0.00E+00	0.00E+00	9.75E-07	6.99E-04	0.00E+00	0.00E+00	6.99E-04
147 ALL	446925.2	3763179	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.02E-06	1.02E-06	1.02E-06	2.88E-04	0.00E+00	0.00E+00	0.00E+00	1.02E-06	7.33E-04	0.00E+00	0.00E+00	7.33E-04
148 ALL	446984.9	3763195	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.05E-06	1.05E-06	1.05E-06	3.38E-04	0.00E+00	0.00E+00	0.00E+00	1.05E-06	7.55E-04	0.00E+00	0.00E+00	7.55E-04
149 ALL	447010.6	3763193	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.07E-06	1.07E-06	1.07E-06	3.65E-04	0.00E+00	0.00E+00	0.00E+00	1.07E-06	7.66E-04	0.00E+00	0.00E+00	7.66E-04
150 ALL	447036.6	3763194	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.09E-06	1.09E-06	1.09E-06	3.98E-04	0.00E+00	0.00E+00	0.00E+00	1.09E-06	7.82E-04	0.00E+00	0.00E+00	7.82E-04
151 ALL	447053.6	3763193	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.10E-06	1.10E-06	1.10E-06	4.23E-04	0.00E+00	0.00E+00	0.00E+00	1.10E-06	7.92E-04	0.00E+00	0.00E+00	7.92E-04
152 ALL	447076.4	3763192	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.12E-06	1.12E-06	1.12E-06	4.61E-04	0.00E+00	0.00E+00	0.00E+00	1.12E-06	8.06E-04	0.00E+00	0.00E+00	8.06E-04
153 ALL	447093.5	3763193	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.13E-06	1.13E-06	1.13E-06	4.92E-04	0.00E+00	0.00E+00	0.00E+00	1.13E-06	8.13E-04	0.00E+00	0.00E+00	8.13E-04
154 ALL	447122.1	3763193	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.17E-06	1.17E-06	1.17E-06	5.58E-04	0.00E+00	0.00E+00	0.00E+00	1.17E-06	8.35E-04	0.00E+00	0.00E+00	8.35E-04
155 ALL	447138.8	3763192	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.18E-06	1.18E-06	1.18E-06	6.04E-04	0.00E+00	0.00E+00	0.00E+00	1.18E-06	8.48E-04	0.00E+00	0.00E+00	8.48E-04
156 ALL	447168	3763192	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.21E-06	1.21E-06	1.21E-06	6.98E-04	0.00E+00	0.00E+00	0.00E+00	1.21E-06	8.68E-04	0.00E+00	0.00E+00	8.68E-04
157 ALL	447170.7	3763172	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.26E-06	1.26E-06	1.26E-06	7.07E-04	0.00E+00	0.00E+00	0.00E+00	1.26E-06	9.00E-04	0.00E+00	0.00E+00	9.00E-04
158 ALL	447170.4	3763158	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.29E-06	1.29E-06	1.29E-06	7.05E-04	0.00E+00	0.00E+00	0.00E+00	1.29E-06	9.22E-04	0.00E+00	0.00E+00	9.22E-04
159 ALL	447169.3	3763145	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.31E-06	1.31E-06	1.31E-06	7.01E-04	0.00E+00	0.00E+00	0.00E+00	1.31E-06	9.40E-04	0.00E+00	0.00E+00	9.40E-04
160 ALL	447147.5	3763107	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.36E-06	1.36E-06	1.36E-06	6.31E-04	0.00E+00	0.00E+00	0.00E+00	1.36E-06	9.73E-04	0.00E+00	0.00E+00	9.73E-04
161 ALL	447146.6	3763084	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.41E-06	1.41E-06	1.41E-06	6.29E-04	0.00E+00	0.00E+00	0.00E+00	1.41E-06	1.01E-03	0.00E+00	0.00E+00	1.01E-03
162 ALL	447146.9	3763064	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.46E-06	1.46E-06	6.30E-04	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.05E-03	0.00E+00	0.00E+00	1.05E-03
163 ALL	447149.9	3763039	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.55E-06	1.55E-06	1.55E-06	6.39E-04	0.00E+00	0.00E+00	0.00E+00	1.55E-06	1.11E-03	0.00E+00	0.00E+00	1.11E-03

164 ALL	447148.6	3763020 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.61E-06	1.61E-06	1.61E-06	6.33E-04	0.00E+00	0.00E+00	0.00E+00	1.61E-06	1.15E-03	0.00E+00	0.00E+00	1.15E-03
165 ALL	447148.6	3762997 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.69E-06	1.69E-06	6.30E-04	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.21E-03	0.00E+00	0.00E+00	1.21E-03
166 ALL	447206.1	3762958 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.95E-06	1.95E-06	8.13E-04	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.40E-03	0.00E+00	0.00E+00	1.40E-03
167 ALL	447209.3	3762923 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.13E-06	2.13E-06	2.13E-06	7.83E-04	0.00E+00	0.00E+00	0.00E+00	2.13E-06	1.54E-03	0.00E+00	0.00E+00	1.54E-03
168 ALL	447208.4	3762891 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.28E-06	2.28E-06	2.28E-06	7.39E-04	0.00E+00	0.00E+00	0.00E+00	2.28E-06	1.65E-03	0.00E+00	0.00E+00	1.65E-03
169 ALL	447145.8	3762889 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.15E-06	2.15E-06	2.15E-06	5.86E-04	0.00E+00	0.00E+00	0.00E+00	2.15E-06	1.56E-03	0.00E+00	0.00E+00	1.56E-03
170 ALL	447122.6	3762889 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.10E-06	2.10E-06	2.10E-06	5.43E-04	0.00E+00	0.00E+00	0.00E+00	2.10E-06	1.52E-03	0.00E+00	0.00E+00	1.52E-03
171 ALL	447094.3	3762890 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.04E-06	2.04E-06	2.04E-06	4.98E-04	0.00E+00	0.00E+00	0.00E+00	2.04E-06	1.48E-03	0.00E+00	0.00E+00	1.48E-03
172 ALL	447071	3762890 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.00E-06	2.00E-06	2.00E-06	4.65E-04	0.00E+00	0.00E+00	0.00E+00	2.00E-06	1.44E-03	0.00E+00	0.00E+00	1.44E-03
173 ALL	447043.6	3762890 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.95E-06	1.95E-06	4.32E-04	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.41E-03	0.00E+00	0.00E+00	1.41E-03
174 ALL	447017.8	3762889 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.90E-06	1.90E-06	4.04E-04	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.37E-03	0.00E+00	0.00E+00	1.37E-03
175 ALL	446992.1	3762889 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.86E-06	1.86E-06	1.86E-06	3.79E-04	0.00E+00	0.00E+00	0.00E+00	1.86E-06	1.34E-03	0.00E+00	0.00E+00	1.34E-03
176 ALL	446964.3	3762888 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.81E-06	1.81E-06	1.81E-06	3.55E-04	0.00E+00	0.00E+00	0.00E+00	1.81E-06	1.30E-03	0.00E+00	0.00E+00	1.30E-03
177 ALL	446940.4	3762888 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.78E-06	1.78E-06	1.78E-06	3.36E-04	0.00E+00	0.00E+00	0.00E+00	1.78E-06	1.28E-03	0.00E+00	0.00E+00	1.28E-03
178 ALL	446911.2	3762888 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.74E-06	1.74E-06	1.74E-06	3.16E-04	0.00E+00	0.00E+00	0.00E+00	1.74E-06	1.25E-03	0.00E+00	0.00E+00	1.25E-03
179 ALL	446885.4	3762890 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.69E-06	1.69E-06	3.00E-04	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.22E-03	0.00E+00	0.00E+00	1.22E-03
180 ALL	446862.1	3762889 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.66E-06	1.66E-06	1.66E-06	2.86E-04	0.00E+00	0.00E+00	0.00E+00	1.66E-06	1.19E-03	0.00E+00	0.00E+00	1.19E-03
181 ALL	446871.5	3762780 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.09E-06	2.09E-06	2.09E-06	3.01E-04	0.00E+00	0.00E+00	0.00E+00	2.09E-06	1.50E-03	0.00E+00	0.00E+00	1.50E-03
182 ALL	446926.3	3762769 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.27E-06	2.27E-06	2.27E-06	3.35E-04	0.00E+00	0.00E+00	0.00E+00	2.27E-06	1.63E-03	0.00E+00	0.00E+00	1.63E-03
183 ALL	446983.7	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.37E-06	2.37E-06	2.37E-06	3.76E-04	0.00E+00	0.00E+00	0.00E+00	2.37E-06	1.70E-03	0.00E+00	0.00E+00	1.70E-03
184 ALL	447009	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.43E-06	2.43E-06	2.43E-06	3.97E-04	0.00E+00	0.00E+00	0.00E+00	2.43E-06	1.75E-03	0.00E+00	0.00E+00	1.75E-03
185 ALL	447030.5	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.50E-06	2.50E-06	2.50E-06	4.17E-04	0.00E+00	0.00E+00	0.00E+00	2.50E-06	1.80E-03	0.00E+00	0.00E+00	1.80E-03
186 ALL	447055.4	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.57E-06	2.57E-06	2.57E-06	4.41E-04	0.00E+00	0.00E+00	0.00E+00	2.57E-06	1.85E-03	0.00E+00	0.00E+00	1.85E-03
187 ALL	447076.9	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.62E-06	2.62E-06	2.62E-06	4.63E-04	0.00E+00	0.00E+00	0.00E+00	2.62E-06	1.89E-03	0.00E+00	0.00E+00	1.89E-03
188 ALL	447101.2	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.67E-06	2.67E-06	2.67E-06	4.90E-04	0.00E+00	0.00E+00	0.00E+00	2.67E-06	1.92E-03	0.00E+00	0.00E+00	1.92E-03
189 ALL	447123.9	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.73E-06	2.73E-06	2.73E-06	5.18E-04	0.00E+00	0.00E+00	0.00E+00	2.73E-06	1.97E-03	0.00E+00	0.00E+00	1.97E-03
190 ALL	447148.1	3762775 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.78E-06	2.78E-06	2.78E-06	5.50E-04	0.00E+00	0.00E+00	0.00E+00	2.78E-06	2.01E-03	0.00E+00	0.00E+00	2.01E-03
191 ALL	447170.2	3762775 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.84E-06	2.84E-06	2.84E-06	5.82E-04	0.00E+00	0.00E+00	0.00E+00	2.84E-06	2.06E-03	0.00E+00	0.00E+00	2.06E-03
192 ALL	447196.8	3762775 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.92E-06	2.92E-06	2.92E-06	6.25E-04	0.00E+00	0.00E+00	0.00E+00	2.92E-06	2.12E-03	0.00E+00	0.00E+00	2.12E-03
193 ALL	447242.1	3762777 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.08E-06	3.08E-06	3.08E-06	7.07E-04	0.00E+00	0.00E+00	0.00E+00	3.08E-06	2.24E-03	0.00E+00	0.00E+00	2.24E-03
194 ALL	447262.3	3762776 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-06	3.17E-06	3.17E-06	7.49E-04	0.00E+00	0.00E+00	0.00E+00	3.17E-06	2.30E-03	0.00E+00	0.00E+00	2.30E-03
195 ALL	447294.6	3762776 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.32E-06	3.32E-06	3.32E-06	8.25E-04	0.00E+00	0.00E+00	0.00E+00	3.32E-06	2.41E-03	0.00E+00	0.00E+00	2.41E-03
196 ALL	447313.1	3762775 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.41E-06	3.41E-06	3.41E-06	8.76E-04	0.00E+00	0.00E+00	0.00E+00	3.41E-06	2.49E-03	0.00E+00	0.00E+00	2.49E-03
197 ALL	447313.4	3762750 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.68E-06	3.68E-06	3.68E-06	8.88E-04	0.00E+00	0.00E+00	0.00E+00	3.68E-06	2.68E-03	0.00E+00	0.00E+00	2.68E-03
198 ALL	447327.9	3762713 NonCancer	0.00E+00	0.00E+00	0.00E+00	4.25E-06	4.25E-06	4.25E-06	9.92E-04	0.00E+00	0.00E+00	0.00E+00	4.25E-06	3.10E-03	0.00E+00	0.00E+00	3.10E-03
199 ALL	447327.4	3762680 NonCancer	0.00E+00	0.00E+00	0.00E+00	4.80E-06	4.80E-06	4.80E-06	1.04E-03	0.00E+00	0.00E+00	0.00E+00	4.80E-06	3.53E-03	0.00E+00	0.00E+00	3.53E-03
200 ALL	447327.7	3762657 NonCancer	0.00E+00	0.00E+00	0.00E+00	5.22E-06	5.22E-06	5.22E-06	1.08E-03	0.00E+00	0.00E+00	0.00E+00	5.22E-06	3.83E-03	0.00E+00	0.00E+00	3.83E-03
201 ALL	447327.3	3762637 NonCancer	0.00E+00	0.00E+00	0.00E+00	5.62E-06	5.62E-06	5.62E-06	1.10E-03	0.00E+00	0.00E+00	0.00E+00	5.62E-06	4.12E-03	0.00E+00	0.00E+00	4.12E-03
202 ALL	447327.5	3762613 NonCancer	0.00E+00	0.00E+00	0.00E+00	6.14E-06	6.14E-06	6.14E-06	1.12E-03	0.00E+00	0.00E+00	0.00E+00	6.14E-06	4.49E-03	0.00E+00	0.00E+00	4.49E-03
203 ALL	447327.3	3762592 NonCancer	0.00E+00	0.00E+00	0.00E+00	6.62E-06	6.62E-06	6.62E-06	1.12E-03	0.00E+00	0.00E+00	0.00E+00	6.62E-06	4.83E-03	0.00E+00	0.00E+00	4.83E-03
204 ALL	447327	3762570 NonCancer	0.00E+00	0.00E+00	0.00E+00	7.15E-06	7.15E-06	7.15E-06	1.11E-03	0.00E+00	0.00E+00	0.00E+00	7.15E-06	5.21E-03	0.00E+00	0.00E+00	5.21E-03
205 ALL	447327.3	3762548 NonCancer	0.00E+00	0.00E+00	0.00E+00	7.68E-06	7.68E-06	7.68E-06	1.10E-03	0.00E+00	0.00E+00	0.00E+00	7.68E-06	5.58E-03	0.00E+00	0.00E+00	5.58E-03
206 ALL	447326.6	3762525 NonCancer	0.00E+00	0.00E+00	0.00E+00	8.19E-06	8.19E-06	8.19E-06	1.07E-03	0.00E+00	0.00E+00	0.00E+00	8.19E-06	5.94E-03	0.00E+00	0.00E+00	5.94E-03
207 ALL	447326.6	3762506 NonCancer	0.00E+00	0.00E+00	0.00E+00	8.56E-06	8.56E-06	8.56E-06	1.05E-03	0.00E+00	0.00E+00	0.00E+00	8.56E-06	6.20E-03	0.00E+00	0.00E+00	6.20E-03
208 ALL	447327.5	3762478 NonCancer	0.00E+00	0.00E+00	0.00E+00	9.02E-06	9.02E-06	9.02E-06	1.02E-03	0.00E+00	0.00E+00	0.00E+00	9.02E-06	6.54E-03	0.00E+00	0.00E+00	6.54E-03
209 ALL	447325.9	3762454 NonCancer	0.00E+00	0.00E+00	0.00E+00	9.20E-06	9.20E-06	9.20E-06	9.99E-04	0.00E+00	0.00E+00	0.00E+00	9.20E-06	6.69E-03	0.00E+00	0.00E+00	6.69E-03
210 ALL	447225.6	3762433 NonCancer	0.00E+00	0.00E+00	0.00E+00	8.94E-06	8.94E-06	8.94E-06	8.32E-04	0.00E+00	0.00E+00	0.00E+00	8.94E-06	6.46E-03	0.00E+00	0.00E+00	6.46E-03
211 ALL	447200.3	3762431 NonCancer	0.00E+00	0.00E+00	0.00E+00	9.33E-06	9.33E-06	9.33E-06	8.19E-04	0.00E+00	0.00E+00	0.00E+00	9.33E-06	6.72E-03	0.00E+00	0.00E+00	6.72E-03
212 ALL	447156.9	3762430 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.05E-05	1.05E-05	1.05E-05	8.06E-04	0.00E+00	0.00E+00	0.00E+00	1.05E-05	7.50E-03	0.00E+00	0.00E+00	7.50E-03
213 ALL	447131.8	3762431 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.14E-05	1.14E-05	1.14E-05	8.06E-04	0.00E+00	0.00E+00	0.00E+00	1.14E-05	8.14E-03	0.00E+00	0.00E+00	8.14E-03
214 ALL	447102.7	3762431 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.28E-05	1.28E-05	1.28E-05	8.20E-04	0.00E+00	0.00E+00	0.00E+00	1.28E-05	9.09E-03	0.00E+00	0.00E+00	9.09E-03
215 ALL	447079.1	3762431 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.41E-05	1.41E-05	1.41E-05	8.36E-04	0.00E+00	0.00E+00	0.00E+00	1.41E-05	1.00E-02	0.00E+00	0.00E+00	1.00E-02
216 ALL	447034.9	3762434 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.63E-05	1.63E-05	1.63E-05	8.57E-04	0.00E+00	0.00E+00	0.00E+00	1.63E-05	1.17E-02	0.00E+00	0.00E+00	1.17E-02
217 ALL	446995.5	3762434 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.81E-05	1.81E-05	8.82E-04	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.30E-02	0.00E+00	0.00E+00	1.30E-02
218 ALL	446972.7	3762434 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.85E-05	1.85E-05	1.85E-05	8.78E-04	0.00E+00	0.00E+00	0.00E+00	1.85E-05	1.33E-02	0.00E+00	0.00E+00	1.33E-02

219	ALL	446941.4	3762435	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.87E-05	1.87E-05	1.87E-05	8.71E-04	0.00E+00	0.00E+00	0.00E+00	1.87E-05	1.35E-02	0.00E+00	0.00E+00	1.35E-02
220	ALL	446916.1	3762437	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.84E-05	1.84E-05	1.84E-05	8.46E-04	0.00E+00	0.00E+00	0.00E+00	1.84E-05	1.31E-02	0.00E+00	0.00E+00	1.31E-02
221	ALL	446876.4	3762437	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.81E-05	1.81E-05	8.24E-04	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.28E-02	0.00E+00	0.00E+00	1.28E-02
222	ALL	446848.9	3762647	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.12E-06	3.12E-06	3.12E-06	3.18E-04	0.00E+00	0.00E+00	0.00E+00	3.12E-06	2.27E-03	0.00E+00	0.00E+00	2.27E-03
223	ALL	446848.9	3762563	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.67E-06	4.67E-06	4.67E-06	3.65E-04	0.00E+00	0.00E+00	0.00E+00	4.67E-06	3.38E-03	0.00E+00	0.00E+00	3.38E-03
224	ALL	446849.2	3762510	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.85E-06	6.85E-06	6.85E-06	4.35E-04	0.00E+00	0.00E+00	0.00E+00	6.85E-06	4.92E-03	0.00E+00	0.00E+00	4.92E-03
225	ALL	446849.2	3762456	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.23E-05	1.23E-05	1.23E-05	6.23E-04	0.00E+00	0.00E+00	0.00E+00	1.23E-05	8.72E-03	0.00E+00	0.00E+00	8.72E-03
226	ALL	446848.9	3762702	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.51E-06	2.51E-06	2.51E-06	3.01E-04	0.00E+00	0.00E+00	0.00E+00	2.51E-06	1.79E-03	0.00E+00	0.00E+00	1.79E-03
227	ALL	446849.5	3762755	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.17E-06	2.17E-06	2.17E-06	2.92E-04	0.00E+00	0.00E+00	0.00E+00	2.17E-06	1.55E-03	0.00E+00	0.00E+00	1.55E-03
228	ALL	446739.8	3762429	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.46E-06	7.46E-06	7.46E-06	4.89E-04	0.00E+00	0.00E+00	0.00E+00	7.46E-06	5.31E-03	0.00E+00	0.00E+00	5.31E-03
229	ALL	446711.8	3762424	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.11E-06	6.11E-06	6.11E-06	4.41E-04	0.00E+00	0.00E+00	0.00E+00	6.11E-06	4.37E-03	0.00E+00	0.00E+00	4.37E-03
230	ALL	446687.3	3762416	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.24E-06	5.24E-06	5.24E-06	4.12E-04	0.00E+00	0.00E+00	0.00E+00	5.24E-06	3.76E-03	0.00E+00	0.00E+00	3.76E-03
231	ALL	446662.2	3762412	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.49E-06	4.49E-06	4.49E-06	3.75E-04	0.00E+00	0.00E+00	0.00E+00	4.49E-06	3.23E-03	0.00E+00	0.00E+00	3.23E-03
232	ALL	446636.2	3762404	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.91E-06	3.91E-06	3.91E-06	3.50E-04	0.00E+00	0.00E+00	0.00E+00	3.91E-06	2.82E-03	0.00E+00	0.00E+00	2.82E-03
233	ALL	449981.7	3762732	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.60E-06	1.60E-06	1.60E-06	1.59E-04	0.00E+00	0.00E+00	0.00E+00	1.60E-06	1.15E-03	0.00E+00	0.00E+00	1.15E-03
234	ALL	446486.8	3762232	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.19E-06	2.19E-06	2.19E-06	3.49E-04	0.00E+00	0.00E+00	0.00E+00	2.19E-06	1.60E-03	0.00E+00	0.00E+00	1.60E-03
235	ALL	446262	3762068	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.21E-06	1.21E-06	1.21E-06	2.81E-04	0.00E+00	0.00E+00	0.00E+00	1.21E-06	8.85E-04	0.00E+00	0.00E+00	8.85E-04
236	ALL	446443.2	3762292	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.90E-06	1.90E-06	2.67E-04	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.39E-03	0.00E+00	0.00E+00	1.39E-03
237	ALL	446071.8	3762055	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.81E-07	8.81E-07	8.81E-07	2.46E-04	0.00E+00	0.00E+00	0.00E+00	8.81E-07	6.45E-04	0.00E+00	0.00E+00	6.45E-04
238	ALL	446072.1	3761983	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.74E-07	8.74E-07	8.74E-07	2.29E-04	0.00E+00	0.00E+00	0.00E+00	8.74E-07	6.40E-04	0.00E+00	0.00E+00	6.40E-04
239	ALL	446138.2	3762002	NonCancer	0.00E+00	0.00E+00	0.00E+00	9.68E-07	9.68E-07	9.68E-07	2.43E-04	0.00E+00	0.00E+00	0.00E+00	9.68E-07	7.09E-04	0.00E+00	0.00E+00	7.09E-04
240	ALL	445884.9	3762040	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.90E-07	6.90E-07	6.90E-07	2.26E-04	0.00E+00	0.00E+00	0.00E+00	6.90E-07	5.05E-04	0.00E+00	0.00E+00	5.05E-04

*HARP - HRACalc v22118 10/19/2022 12:40:58 PM - Cancer Risk - Input File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\HARP\14822 OPS\hra\WorkerHRAInput.hra

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RIS	WATER_RI	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_F	EGG_RISK
1	ALL		447362.2	3764293	2.64E-08	25YrCancer	2.64E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	ALL		447376	3764151	3.19E-08	25YrCancer	3.19E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	ALL		447389.8	3764043	3.94E-08	25YrCancer	3.94E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	ALL		447450.2	3764031	4.17E-08	25YrCancer	4.17E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	ALL		447410.2	3764019	4.19E-08	25YrCancer	4.19E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	ALL		446891.9	3764451	1.87E-08	25YrCancer	1.87E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	ALL		446959.3	3764451	1.92E-08	25YrCancer	1.92E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	ALL		446995.3	3764468	1.91E-08	25YrCancer	1.91E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	ALL		447007.4	3764467	1.92E-08	25YrCancer	1.92E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		447023.5	3764466	1.93E-08	25YrCancer	1.93E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		447036.6	3764466	1.94E-08	25YrCancer	1.94E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		447052.7	3764466	1.95E-08	25YrCancer	1.95E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		447066.6	3764466	1.96E-08	25YrCancer	1.96E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		447099.7	3764456	2.00E-08	25YrCancer	2.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		447145.3	3764468	2.01E-08	25YrCancer	2.01E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		447175.5	3764468	2.05E-08	25YrCancer	2.05E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		447205.3	3764468	2.08E-08	25YrCancer	2.08E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		447232.4	3764468	2.08E-08	25YrCancer	2.08E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		447264	3764467	2.06E-08	25YrCancer	2.06E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		447294.8	3764467	2.07E-08	25YrCancer	2.07E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL		447365	3764456	2.15E-08	25YrCancer	2.15E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	ALL		447406.6	3764461	2.18E-08	25YrCancer	2.18E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
23	ALL		447441.5	3764460	2.20E-08	25YrCancer	2.20E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
24	ALL		447466.9	3764460	2.22E-08	25YrCancer	2.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
25	ALL		447490	3764461	2.24E-08	25YrCancer	2.24E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	ALL		447515.5	3764460	2.27E-08	25YrCancer	2.27E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	ALL		447573.1	3764454	2.36E-08	25YrCancer	2.36E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
28	ALL		447598.5	3764445	2.40E-08	25YrCancer	2.40E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
29	ALL		447652.9	3764440	2.41E-08	25YrCancer	2.41E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	ALL		447692.9	3764440	2.44E-08	25YrCancer	2.44E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
31	ALL		447713.8	3764439	2.46E-08	25YrCancer	2.46E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
32	ALL		447732	3764439	2.47E-08	25YrCancer	2.47E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
33	ALL		447751.1	3764439	2.49E-08	25YrCancer	2.49E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
34	ALL		447768.8	3764438	2.50E-08	25YrCancer	2.50E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
35	ALL		447789.1	3764438	2.51E-08	25YrCancer	2.51E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
36	ALL		447805.7	3764437	2.52E-08	25YrCancer	2.52E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
37	ALL		447824	3764437	2.54E-08	25YrCancer	2.54E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
38	ALL		447841.6	3764438	2.56E-08	25YrCancer	2.56E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
39	ALL		447861.7	3764438	2.58E-08	25YrCancer	2.58E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
40	ALL		447881.7	3764435	2.61E-08	25YrCancer	2.61E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
41	ALL		447902.8	3764436	2.64E-08	25YrCancer	2.64E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
42	ALL		447920.9	3764435	2.66E-08	25YrCancer	2.66E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
43	ALL		447942.2	3764435	2.69E-08	25YrCancer	2.69E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
44	ALL		447962.8	3764435	2.72E-08	25YrCancer	2.72E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
45	ALL		447980.7	3764435	2.75E-08	25YrCancer	2.75E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
46	ALL		448004.7	3764435	2.80E-08	25YrCancer	2.80E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
47	ALL		448021.3	3764435	2.85E-08	25YrCancer	2.85E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

48	ALL	447662.7	3764380	2.54E-08	25YrCancer	2.54E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
49	ALL	447681.3	3764321	2.73E-08	25YrCancer	2.73E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
50	ALL	447682.6	3764286	2.88E-08	25YrCancer	2.88E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
51	ALL	447662.5	3764238	3.08E-08	25YrCancer	3.08E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
52	ALL	447661.7	3764207	3.24E-08	25YrCancer	3.24E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
53	ALL	447683.1	3764162	3.52E-08	25YrCancer	3.52E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
54	ALL	447681	3764146	3.63E-08	25YrCancer	3.63E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55	ALL	447679.6	3764130	3.75E-08	25YrCancer	3.75E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
56	ALL	447680.8	3764112	3.91E-08	25YrCancer	3.91E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
57	ALL	447681.5	3764096	4.02E-08	25YrCancer	4.02E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
58	ALL	447680.8	3764079	4.14E-08	25YrCancer	4.14E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
59	ALL	447680	3764064	4.23E-08	25YrCancer	4.23E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
60	ALL	447681	3764046	4.34E-08	25YrCancer	4.34E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
61	ALL	447680.6	3764030	4.43E-08	25YrCancer	4.43E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
62	ALL	447657.2	3763992	4.72E-08	25YrCancer	4.72E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
63	ALL	447656.3	3763967	4.89E-08	25YrCancer	4.89E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
64	ALL	447657.2	3763929	5.22E-08	25YrCancer	5.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
65	ALL	447657.2	3763902	5.47E-08	25YrCancer	5.47E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
66	ALL	447657.5	3763869	5.91E-08	25YrCancer	5.91E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
67	ALL	447656.2	3763835	6.36E-08	25YrCancer	6.36E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
68	ALL	447655.9	3763808	6.73E-08	25YrCancer	6.73E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
69	ALL	447657.1	3763786	7.09E-08	25YrCancer	7.09E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
70	ALL	447701.2	3763782	7.19E-08	25YrCancer	7.19E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
71	ALL	447856.9	3763750	8.22E-08	25YrCancer	8.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
72	ALL	447855	3763730	8.68E-08	25YrCancer	8.68E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
73	ALL	447854.4	3763698	9.48E-08	25YrCancer	9.48E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
74	ALL	447855.3	3763677	1.01E-07	25YrCancer	1.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
75	ALL	447675.5	3763287	3.74E-07	25YrCancer	3.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
76	ALL	448481.3	3763485	1.77E-07	25YrCancer	1.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
77	ALL	448480	3763196	2.34E-07	25YrCancer	2.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
78	ALL	448478.6	3762907	4.62E-07	25YrCancer	4.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
79	ALL	448497.9	3762714	4.84E-07	25YrCancer	4.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
80	ALL	448507.9	3762488	7.38E-07	25YrCancer	7.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
81	ALL	448480.5	3762358	9.36E-07	25YrCancer	9.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
82	ALL	448462.7	3762340	9.09E-07	25YrCancer	9.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
83	ALL	448464.5	3762266	6.22E-07	25YrCancer	6.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
84	ALL	448461.6	3762165	6.54E-07	25YrCancer	6.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
85	ALL	448472.6	3762065	2.47E-07	25YrCancer	2.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86	ALL	448460.5	3762017	2.01E-07	25YrCancer	2.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87	ALL	448234.6	3761951	1.79E-07	25YrCancer	1.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88	ALL	448081.4	3761953	1.59E-07	25YrCancer	1.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89	ALL	448025.5	3761956	1.54E-07	25YrCancer	1.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90	ALL	447506.8	3761968	1.38E-07	25YrCancer	1.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91	ALL	447269.3	3761968	1.21E-07	25YrCancer	1.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92	ALL	447389.5	3761909	1.17E-07	25YrCancer	1.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
93	ALL	447019.1	3761964	1.01E-07	25YrCancer	1.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94	ALL	447060.3	3761964	1.04E-07	25YrCancer	1.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95	ALL	446975.3	3761963	9.84E-08	25YrCancer	9.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
96	ALL	446940.9	3761954	9.49E-08	25YrCancer	9.49E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

97	ALL	446865.7	3761975	9.43E-08	25YrCancer	9.43E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
98	ALL	446795.1	3761958	8.73E-08	25YrCancer	8.73E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
99	ALL	446757.7	3761966	8.63E-08	25YrCancer	8.63E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100	ALL	446709.3	3761968	8.36E-08	25YrCancer	8.36E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
101	ALL	446796.4	3762029	1.01E-07	25YrCancer	1.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
102	ALL	446797	3762045	1.06E-07	25YrCancer	1.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
103	ALL	446796.7	3762090	1.21E-07	25YrCancer	1.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
104	ALL	446796.2	3762106	1.28E-07	25YrCancer	1.28E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
105	ALL	446796.7	3762137	1.46E-07	25YrCancer	1.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
106	ALL	446796.2	3762153	1.58E-07	25YrCancer	1.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
107	ALL	446772.4	3762215	2.13E-07	25YrCancer	2.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
108	ALL	446795.1	3762321	4.87E-07	25YrCancer	4.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
109	ALL	446796.4	3762451	2.30E-07	25YrCancer	2.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
110	ALL	446796.4	3762471	1.98E-07	25YrCancer	1.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
111	ALL	446797.2	3762496	1.71E-07	25YrCancer	1.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
112	ALL	446798.1	3762517	1.55E-07	25YrCancer	1.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
113	ALL	446797.8	3762540	1.41E-07	25YrCancer	1.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
114	ALL	446797.5	3762560	1.33E-07	25YrCancer	1.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
115	ALL	446798.6	3762585	1.24E-07	25YrCancer	1.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
116	ALL	446798.1	3762604	1.19E-07	25YrCancer	1.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
117	ALL	446799.7	3762654	1.09E-07	25YrCancer	1.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
118	ALL	446800	3762675	1.05E-07	25YrCancer	1.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
119	ALL	446800.3	3762700	1.01E-07	25YrCancer	1.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
120	ALL	446800.3	3762721	9.92E-08	25YrCancer	9.92E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
121	ALL	446800	3762736	9.80E-08	25YrCancer	9.80E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
122	ALL	446797.8	3762748	9.67E-08	25YrCancer	9.67E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
123	ALL	446802.2	3762913	8.84E-08	25YrCancer	8.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
124	ALL	446802.2	3762933	8.76E-08	25YrCancer	8.76E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
125	ALL	446802.4	3762949	8.69E-08	25YrCancer	8.69E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
126	ALL	446803	3762967	8.62E-08	25YrCancer	8.62E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
127	ALL	446802.7	3762986	8.53E-08	25YrCancer	8.53E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
128	ALL	446802.2	3763003	8.43E-08	25YrCancer	8.43E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
129	ALL	446802.2	3763022	8.34E-08	25YrCancer	8.34E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
130	ALL	446802.7	3763041	8.25E-08	25YrCancer	8.25E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
131	ALL	446803	3763059	8.15E-08	25YrCancer	8.15E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
132	ALL	446803.5	3763077	8.07E-08	25YrCancer	8.07E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
133	ALL	446756.3	3763085	7.43E-08	25YrCancer	7.43E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
134	ALL	446807.7	3763646	4.60E-08	25YrCancer	4.60E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
135	ALL	446808.3	3763675	4.46E-08	25YrCancer	4.46E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
136	ALL	446807.7	3763695	4.35E-08	25YrCancer	4.35E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
137	ALL	446808.3	3763711	4.28E-08	25YrCancer	4.28E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
138	ALL	446808.3	3763726	4.20E-08	25YrCancer	4.20E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
139	ALL	446808	3763742	4.12E-08	25YrCancer	4.12E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
140	ALL	446808.3	3763757	4.06E-08	25YrCancer	4.06E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
141	ALL	446808.6	3763798	3.85E-08	25YrCancer	3.85E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
142	ALL	446810.3	3764484	1.76E-08	25YrCancer	1.76E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
143	ALL	446781.3	3764475	1.75E-08	25YrCancer	1.75E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
144	ALL	446722.6	3764456	1.74E-08	25YrCancer	1.74E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
145	ALL	446170.3	3764560	1.26E-08	25YrCancer	1.26E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

146	ALL	446872.3	3763190	8.45E-08	25YrCancer	8.45E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
147	ALL	446925.2	3763179	9.59E-08	25YrCancer	9.59E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
148	ALL	446984.9	3763195	1.12E-07	25YrCancer	1.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
149	ALL	447010.6	3763193	1.20E-07	25YrCancer	1.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
150	ALL	447036.6	3763194	1.30E-07	25YrCancer	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
151	ALL	447053.6	3763193	1.38E-07	25YrCancer	1.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
152	ALL	447076.4	3763192	1.50E-07	25YrCancer	1.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
153	ALL	447093.5	3763193	1.60E-07	25YrCancer	1.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
154	ALL	447122.1	3763193	1.81E-07	25YrCancer	1.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
155	ALL	447138.8	3763192	1.95E-07	25YrCancer	1.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
156	ALL	447168	3763192	2.24E-07	25YrCancer	2.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
157	ALL	447170.7	3763172	2.27E-07	25YrCancer	2.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
158	ALL	447170.4	3763158	2.27E-07	25YrCancer	2.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
159	ALL	447169.3	3763145	2.26E-07	25YrCancer	2.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
160	ALL	447147.5	3763107	2.04E-07	25YrCancer	2.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
161	ALL	447146.6	3763084	2.04E-07	25YrCancer	2.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
162	ALL	447146.9	3763064	2.05E-07	25YrCancer	2.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
163	ALL	447149.9	3763039	2.08E-07	25YrCancer	2.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
164	ALL	447148.6	3763020	2.07E-07	25YrCancer	2.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
165	ALL	447148.6	3762997	2.06E-07	25YrCancer	2.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
166	ALL	447206.1	3762958	2.65E-07	25YrCancer	2.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
167	ALL	447209.3	3762923	2.57E-07	25YrCancer	2.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
168	ALL	447208.4	3762891	2.44E-07	25YrCancer	2.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
169	ALL	447145.8	3762889	1.96E-07	25YrCancer	1.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
170	ALL	447122.6	3762889	1.82E-07	25YrCancer	1.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
171	ALL	447094.3	3762890	1.68E-07	25YrCancer	1.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
172	ALL	447071	3762890	1.58E-07	25YrCancer	1.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
173	ALL	447043.6	3762890	1.47E-07	25YrCancer	1.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
174	ALL	447017.8	3762889	1.38E-07	25YrCancer	1.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
175	ALL	446992.1	3762889	1.30E-07	25YrCancer	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
176	ALL	446964.3	3762888	1.22E-07	25YrCancer	1.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
177	ALL	446940.4	3762888	1.16E-07	25YrCancer	1.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
178	ALL	446911.2	3762888	1.09E-07	25YrCancer	1.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
179	ALL	446885.4	3762890	1.04E-07	25YrCancer	1.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
180	ALL	446862.1	3762889	9.96E-08	25YrCancer	9.96E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
181	ALL	446871.5	3762780	1.07E-07	25YrCancer	1.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
182	ALL	446926.3	3762769	1.19E-07	25YrCancer	1.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
183	ALL	446983.7	3762774	1.32E-07	25YrCancer	1.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
184	ALL	447009	3762774	1.39E-07	25YrCancer	1.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
185	ALL	447030.5	3762774	1.46E-07	25YrCancer	1.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
186	ALL	447055.4	3762774	1.54E-07	25YrCancer	1.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
187	ALL	447076.9	3762774	1.61E-07	25YrCancer	1.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
188	ALL	447101.2	3762774	1.70E-07	25YrCancer	1.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
189	ALL	447123.9	3762774	1.79E-07	25YrCancer	1.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
190	ALL	447148.1	3762775	1.89E-07	25YrCancer	1.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
191	ALL	447170.2	3762775	2.00E-07	25YrCancer	2.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
192	ALL	447196.8	3762775	2.13E-07	25YrCancer	2.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
193	ALL	447242.1	3762777	2.40E-07	25YrCancer	2.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
194	ALL	447262.3	3762776	2.53E-07	25YrCancer	2.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

195	ALL	447294.6	3762776	2.78E-07	25YrCancer	2.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
196	ALL	447313.1	3762775	2.94E-07	25YrCancer	2.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
197	ALL	447313.4	3762750	3.00E-07	25YrCancer	3.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
198	ALL	447327.9	3762713	3.37E-07	25YrCancer	3.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
199	ALL	447327.4	3762680	3.56E-07	25YrCancer	3.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
200	ALL	447327.7	3762657	3.70E-07	25YrCancer	3.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
201	ALL	447327.3	3762637	3.79E-07	25YrCancer	3.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
202	ALL	447327.5	3762613	3.88E-07	25YrCancer	3.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
203	ALL	447327.3	3762592	3.92E-07	25YrCancer	3.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
204	ALL	447327	3762570	3.93E-07	25YrCancer	3.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
205	ALL	447327.3	3762548	3.92E-07	25YrCancer	3.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
206	ALL	447326.6	3762525	3.86E-07	25YrCancer	3.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
207	ALL	447326.6	3762506	3.82E-07	25YrCancer	3.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
208	ALL	447327.5	3762478	3.77E-07	25YrCancer	3.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
209	ALL	447325.9	3762454	3.72E-07	25YrCancer	3.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
210	ALL	447225.6	3762433	3.18E-07	25YrCancer	3.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
211	ALL	447200.3	3762431	3.16E-07	25YrCancer	3.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
212	ALL	447156.9	3762430	3.19E-07	25YrCancer	3.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
213	ALL	447131.8	3762431	3.25E-07	25YrCancer	3.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
214	ALL	447102.7	3762431	3.38E-07	25YrCancer	3.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
215	ALL	447079.1	3762431	3.51E-07	25YrCancer	3.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
216	ALL	447034.9	3762434	3.73E-07	25YrCancer	3.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
217	ALL	446995.5	3762434	3.95E-07	25YrCancer	3.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
218	ALL	446972.7	3762434	3.97E-07	25YrCancer	3.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
219	ALL	446941.4	3762435	3.96E-07	25YrCancer	3.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
220	ALL	446916.1	3762437	3.83E-07	25YrCancer	3.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
221	ALL	446876.4	3762437	3.71E-07	25YrCancer	3.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
222	ALL	446848.9	3762647	1.20E-07	25YrCancer	1.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
223	ALL	446848.9	3762563	1.45E-07	25YrCancer	1.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
224	ALL	446849.2	3762510	1.80E-07	25YrCancer	1.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
225	ALL	446849.2	3762456	2.73E-07	25YrCancer	2.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
226	ALL	446848.9	3762702	1.10E-07	25YrCancer	1.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
227	ALL	446849.5	3762755	1.05E-07	25YrCancer	1.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
228	ALL	446739.8	3762429	2.00E-07	25YrCancer	2.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
229	ALL	446711.8	3762424	1.77E-07	25YrCancer	1.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
230	ALL	446687.3	3762416	1.62E-07	25YrCancer	1.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
231	ALL	446662.2	3762412	1.46E-07	25YrCancer	1.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
232	ALL	446636.2	3762404	1.35E-07	25YrCancer	1.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
233	ALL	449981.7	3762732	5.99E-08	25YrCancer	5.99E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
234	ALL	446486.8	3762232	1.23E-07	25YrCancer	1.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
235	ALL	446262	3762068	9.53E-08	25YrCancer	9.53E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
236	ALL	446443.2	3762292	9.58E-08	25YrCancer	9.58E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
237	ALL	446071.8	3762055	8.24E-08	25YrCancer	8.24E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
238	ALL	446072.1	3761983	7.68E-08	25YrCancer	7.68E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
239	ALL	446138.2	3762002	8.20E-08	25YrCancer	8.20E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
240	ALL	445884.9	3762040	7.48E-08	25YrCancer	7.48E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v22118 10/19/2022 12:40:58 PM - Acute Risk - Input File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\HARP\14822 OPS\hra\WorkerHRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE\	RESP	SKIN	EYE	BONE/TEET	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	ALL		447362.2	3764293	NonCancer	0.00E+00	0.00E+00	5.83E-03	0.00E+00	0.00E+00	5.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.83E-03	0.00E+00	0.00E+00	5.83E-03
2	ALL		447376	3764151	NonCancer	0.00E+00	0.00E+00	6.14E-03	0.00E+00	0.00E+00	6.14E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E-03	0.00E+00	0.00E+00	6.14E-03
3	ALL		447389.8	3764043	NonCancer	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03
4	ALL		447450.2	3764031	NonCancer	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03
5	ALL		447410.2	3764019	NonCancer	0.00E+00	0.00E+00	6.09E-03	0.00E+00	0.00E+00	6.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.09E-03	0.00E+00	0.00E+00	6.09E-03
6	ALL		446891.9	3764451	NonCancer	0.00E+00	0.00E+00	5.06E-03	0.00E+00	0.00E+00	5.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.06E-03	0.00E+00	0.00E+00	5.06E-03
7	ALL		446959.3	3764451	NonCancer	0.00E+00	0.00E+00	5.12E-03	0.00E+00	0.00E+00	5.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.12E-03	0.00E+00	0.00E+00	5.12E-03
8	ALL		446995.3	3764468	NonCancer	0.00E+00	0.00E+00	5.18E-03	0.00E+00	0.00E+00	5.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.18E-03	0.00E+00	0.00E+00	5.18E-03
9	ALL		447007.4	3764467	NonCancer	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03
10	ALL		447023.5	3764466	NonCancer	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03
11	ALL		447036.6	3764466	NonCancer	0.00E+00	0.00E+00	5.21E-03	0.00E+00	0.00E+00	5.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.21E-03	0.00E+00	0.00E+00	5.21E-03
12	ALL		447052.7	3764466	NonCancer	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03
13	ALL		447066.6	3764466	NonCancer	0.00E+00	0.00E+00	5.27E-03	0.00E+00	0.00E+00	5.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.27E-03	0.00E+00	0.00E+00	5.27E-03
14	ALL		447099.7	3764456	NonCancer	0.00E+00	0.00E+00	5.37E-03	0.00E+00	0.00E+00	5.37E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.37E-03	0.00E+00	0.00E+00	5.37E-03
15	ALL		447145.3	3764468	NonCancer	0.00E+00	0.00E+00	5.34E-03	0.00E+00	0.00E+00	5.34E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.34E-03	0.00E+00	0.00E+00	5.34E-03
16	ALL		447175.5	3764468	NonCancer	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03
17	ALL		447205.3	3764468	NonCancer	0.00E+00	0.00E+00	5.24E-03	0.00E+00	0.00E+00	5.24E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.24E-03	0.00E+00	0.00E+00	5.24E-03
18	ALL		447232.4	3764468	NonCancer	0.00E+00	0.00E+00	5.40E-03	0.00E+00	0.00E+00	5.40E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.40E-03	0.00E+00	0.00E+00	5.40E-03
19	ALL		447264	3764467	NonCancer	0.00E+00	0.00E+00	5.64E-03	0.00E+00	0.00E+00	5.64E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.64E-03	0.00E+00	0.00E+00	5.64E-03
20	ALL		447294.8	3764467	NonCancer	0.00E+00	0.00E+00	5.78E-03	0.00E+00	0.00E+00	5.78E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-03	0.00E+00	0.00E+00	5.78E-03
21	ALL		447365	3764456	NonCancer	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03
22	ALL		447406.6	3764461	NonCancer	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03
23	ALL		447441.5	3764460	NonCancer	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03
24	ALL		447466.9	3764460	NonCancer	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03
25	ALL		447490	3764461	NonCancer	0.00E+00	0.00E+00	5.76E-03	0.00E+00	0.00E+00	5.76E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.76E-03	0.00E+00	0.00E+00	5.76E-03
26	ALL		447515.5	3764460	NonCancer	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03
27	ALL		447573.1	3764454	NonCancer	0.00E+00	0.00E+00	5.60E-03	0.00E+00	0.00E+00	5.60E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E-03	0.00E+00	0.00E+00	5.60E-03
28	ALL		447598.5	3764445	NonCancer	0.00E+00	0.00E+00	5.69E-03	0.00E+00	0.00E+00	5.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.69E-03	0.00E+00	0.00E+00	5.69E-03
29	ALL		447652.9	3764440	NonCancer	0.00E+00	0.00E+00	5.91E-03	0.00E+00	0.00E+00	5.91E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.91E-03	0.00E+00	0.00E+00	5.91E-03
30	ALL		447692.9	3764440	NonCancer	0.00E+00	0.00E+00	5.98E-03	0.00E+00	0.00E+00	5.98E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.98E-03	0.00E+00	0.00E+00	5.98E-03
31	ALL		447713.8	3764439	NonCancer	0.00E+00	0.00E+00	5.97E-03	0.00E+00	0.00E+00	5.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.97E-03	0.00E+00	0.00E+00	5.97E-03
32	ALL		447732	3764439	NonCancer	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03
33	ALL		447751.1	3764439	NonCancer	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03
34	ALL		447768.8	3764438	NonCancer	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03
35	ALL		447789.1	3764438	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
36	ALL		447805.7	3764437	NonCancer	0.00E+00	0.00E+00	6.15E-03	0.00E+00	0.00E+00	6.15E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.15E-03	0.00E+00	0.00E+00	6.15E-03
37	ALL		447824	3764437	NonCancer	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03
38	ALL		447841.6	3764438	NonCancer	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03
39	ALL		447861.7	3764438	NonCancer	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03
40	ALL		447881.7	3764435	NonCancer	0.00E+00	0.00E+00	6.10E-03	0.00E+00	0.00E+00	6.10E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.10E-03	0.00E+00	0.00E+00	6.10E-03
41	ALL		447902.8	3764436	NonCancer	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03
42	ALL		447920.9	3764435	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
43	ALL		447942.2	3764435	NonCancer	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03
44	ALL		447962.8	3764435	NonCancer	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03
45	ALL		447980.7	3764435	NonCancer	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03
46	ALL		448004.7	3764435	NonCancer	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03
47	ALL		448021.3	3764435	NonCancer	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03
48	ALL		447662.7	3764380	NonCancer	0.00E+00	0.00E+00	6.25E-03	0.00E+00	0.00E+00	6.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.25E-03	0.00E+00	0.00E+00	6.25E-03
49	ALL		447681.3	3764321	NonCancer	0.00E+00	0.00E+00	6.48E-03	0.00E+00	0.00E+00	6.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.48E-03	0.00E+00	0.00E+00	6.48E-03
50	ALL		447682.6	3764286	NonCancer	0.00E+00	0.00E+00	6.41E-03	0.00E+00	0.00E+00	6.41E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.41E-03	0.00E+00	0.00E+00	6.41E-03
51	ALL		447662.5	3764238	NonCancer	0.00E+00	0.00E+00	6.28E-03	0.00E+00	0.00E+00	6.28E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.28E-03	0.00E+00	0.00E+00	6.28E-03
52	ALL		447661.7	3764207	NonCancer	0.00E+00	0.00E+00	6.21E-03	0.00E+00	0.00E+00	6.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.21E-03	0.00E+00	0.00E+00	6.21E-03
53	ALL		447683.1	3764162	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03

54	ALL	447681	3764146	NonCancer	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03
55	ALL	447679.6	3764130	NonCancer	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03
56	ALL	447680.8	3764112	NonCancer	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03
57	ALL	447681.5	3764096	NonCancer	0.00E+00	0.00E+00	5.93E-03	0.00E+00	0.00E+00	5.93E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.93E-03	0.00E+00	0.00E+00	5.93E-03
58	ALL	447680.8	3764079	NonCancer	0.00E+00	0.00E+00	5.96E-03	0.00E+00	0.00E+00	5.96E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.96E-03	0.00E+00	0.00E+00	5.96E-03
59	ALL	447680	3764064	NonCancer	0.00E+00	0.00E+00	6.03E-03	0.00E+00	0.00E+00	6.03E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.03E-03	0.00E+00	0.00E+00	6.03E-03
60	ALL	447681	3764046	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
61	ALL	447680.6	3764030	NonCancer	0.00E+00	0.00E+00	6.20E-03	0.00E+00	0.00E+00	6.20E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.20E-03	0.00E+00	0.00E+00	6.20E-03
62	ALL	447657.2	3763992	NonCancer	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03
63	ALL	447656.3	3763967	NonCancer	0.00E+00	0.00E+00	6.47E-03	0.00E+00	0.00E+00	6.47E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.47E-03	0.00E+00	0.00E+00	6.47E-03
64	ALL	447657.2	3763929	NonCancer	0.00E+00	0.00E+00	6.70E-03	0.00E+00	0.00E+00	6.70E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.70E-03	0.00E+00	0.00E+00	6.70E-03
65	ALL	447657.2	3763902	NonCancer	0.00E+00	0.00E+00	6.88E-03	0.00E+00	0.00E+00	6.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.88E-03	0.00E+00	0.00E+00	6.88E-03
66	ALL	447657.5	3763869	NonCancer	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	6.97E-03
67	ALL	447656.2	3763835	NonCancer	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03
68	ALL	447655.9	3763808	NonCancer	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03
69	ALL	447657.1	3763786	NonCancer	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03
70	ALL	447701.2	3763782	NonCancer	0.00E+00	0.00E+00	7.63E-03	0.00E+00	0.00E+00	7.63E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.63E-03	0.00E+00	0.00E+00	7.63E-03
71	ALL	447856.9	3763750	NonCancer	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03
72	ALL	447855	3763730	NonCancer	0.00E+00	0.00E+00	7.27E-03	0.00E+00	0.00E+00	7.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-03	0.00E+00	0.00E+00	7.27E-03
73	ALL	447854.4	3763698	NonCancer	0.00E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	7.33E-03
74	ALL	447855.3	3763677	NonCancer	0.00E+00	0.00E+00	7.39E-03	0.00E+00	0.00E+00	7.39E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.39E-03	0.00E+00	0.00E+00	7.39E-03
75	ALL	447675.5	3763287	NonCancer	0.00E+00	0.00E+00	8.48E-03	0.00E+00	0.00E+00	8.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.48E-03	0.00E+00	0.00E+00	8.48E-03
76	ALL	448481.3	3763485	NonCancer	0.00E+00	0.00E+00	8.17E-03	0.00E+00	0.00E+00	8.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.17E-03	0.00E+00	0.00E+00	8.17E-03
77	ALL	448480	3763196	NonCancer	0.00E+00	0.00E+00	8.53E-03	0.00E+00	0.00E+00	8.53E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.53E-03	0.00E+00	0.00E+00	8.53E-03
78	ALL	448478.6	3762907	NonCancer	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02
79	ALL	448497.9	3762714	NonCancer	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	1.51E-02
80	ALL	448507.9	3762488	NonCancer	0.00E+00	0.00E+00	3.25E-02	0.00E+00	0.00E+00	3.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.25E-02	0.00E+00	0.00E+00	3.25E-02
81	ALL	448480.5	3762358	NonCancer	0.00E+00	0.00E+00	4.85E-02	0.00E+00	0.00E+00	4.85E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E-02	0.00E+00	0.00E+00	4.85E-02
82	ALL	448462.7	3762340	NonCancer	0.00E+00	0.00E+00	5.97E-02	0.00E+00	0.00E+00	5.97E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.97E-02	0.00E+00	0.00E+00	5.97E-02
83	ALL	448464.5	3762266	NonCancer	0.00E+00	0.00E+00	5.49E-02	0.00E+00	0.00E+00	5.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.49E-02	0.00E+00	0.00E+00	5.49E-02
84	ALL	448461.6	3762165	NonCancer	0.00E+00	0.00E+00	5.52E-02	0.00E+00	0.00E+00	5.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.52E-02	0.00E+00	0.00E+00	5.52E-02
85	ALL	448472.6	3762065	NonCancer	0.00E+00	0.00E+00	2.49E-02	0.00E+00	0.00E+00	2.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-02	0.00E+00	0.00E+00	2.49E-02
86	ALL	448460.5	3762017	NonCancer	0.00E+00	0.00E+00	2.92E-02	0.00E+00	0.00E+00	2.92E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.92E-02	0.00E+00	0.00E+00	2.92E-02
87	ALL	448234.6	3761951	NonCancer	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	1.56E-02
88	ALL	448081.4	3761953	NonCancer	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	1.28E-02
89	ALL	448025.5	3761956	NonCancer	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	1.23E-02
90	ALL	447506.8	3761968	NonCancer	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02
91	ALL	447269.3	3761968	NonCancer	0.00E+00	0.00E+00	9.15E-03	0.00E+00	0.00E+00	9.15E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.15E-03	0.00E+00	0.00E+00	9.15E-03
92	ALL	447389.5	3761909	NonCancer	0.00E+00	0.00E+00	8.99E-03	0.00E+00	0.00E+00	8.99E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.99E-03	0.00E+00	0.00E+00	8.99E-03
93	ALL	447019.1	3761964	NonCancer	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03
94	ALL	447060.3	3761964	NonCancer	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02
95	ALL	446975.3	3761963	NonCancer	0.00E+00	0.00E+00	8.08E-03	0.00E+00	0.00E+00	8.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.08E-03	0.00E+00	0.00E+00	8.08E-03
96	ALL	446940.9	3761954	NonCancer	0.00E+00	0.00E+00	7.86E-03	0.00E+00	0.00E+00	7.86E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.86E-03	0.00E+00	0.00E+00	7.86E-03
97	ALL	446865.7	3761975	NonCancer	0.00E+00	0.00E+00	7.97E-03	0.00E+00	0.00E+00	7.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.97E-03	0.00E+00	0.00E+00	7.97E-03
98	ALL	446795.1	3761958	NonCancer	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03
99	ALL	446757.7	3761966	NonCancer	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03
100	ALL	446709.3	3761968	NonCancer	0.00E+00	0.00E+00	6.73E-03	0.00E+00	0.00E+00	6.73E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.73E-03	0.00E+00	0.00E+00	6.73E-03
101	ALL	446796.4	3762029	NonCancer	0.00E+00	0.00E+00	8.59E-03	0.00E+00	0.00E+00	8.59E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.59E-03	0.00E+00	0.00E+00	8.59E-03
102	ALL	446797	3762045	NonCancer	0.00E+00	0.00E+00	8.97E-03	0.00E+00	0.00E+00	8.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.97E-03	0.00E+00	0.00E+00	8.97E-03
103	ALL	446796.7	3762090	NonCancer	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02
104	ALL	446796.2	3762106	NonCancer	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	1.09E-02
105	ALL	446796.7	3762137	NonCancer	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02
106	ALL	446796.2	3762153	NonCancer	0.00E+00	0.00E+00	1.35E-02	0.00E+00	0.00E+00	1.35E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-02	0.00E+00	0.00E+00	1.35E-02
107	ALL	446772.4	3762215	NonCancer	0.00E+00	0.00E+00	1.72E-02	0.00E+00	0.00E+00	1.72E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E-02	0.00E+00	0.00E+00	1.72E-02
108	ALL	446795.1	3762321	NonCancer	0.00E+00	0.00E+00	4.32E-02	0.00E+00	0.00E+00	4.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E-02	0.00E+00	0.00E+00	4.32E-02

109 ALL	446796.4	3762451 NonCancer	0.00E+00	0.00E+00	2.19E-02	0.00E+00	0.00E+00	2.19E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-02	0.00E+00	0.00E+00	2.19E-02
110 ALL	446796.4	3762471 NonCancer	0.00E+00	0.00E+00	1.84E-02	0.00E+00	0.00E+00	1.84E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-02	0.00E+00	0.00E+00	1.84E-02
111 ALL	446797.2	3762496 NonCancer	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	1.59E-02
112 ALL	446798.1	3762517 NonCancer	0.00E+00	0.00E+00	1.41E-02	0.00E+00	0.00E+00	1.41E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-02	0.00E+00	0.00E+00	1.41E-02
113 ALL	446797.8	3762540 NonCancer	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02
114 ALL	446797.5	3762560 NonCancer	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	1.13E-02
115 ALL	446798.6	3762585 NonCancer	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02
116 ALL	446798.1	3762604 NonCancer	0.00E+00	0.00E+00	9.83E-03	0.00E+00	0.00E+00	9.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.83E-03	0.00E+00	0.00E+00	9.83E-03
117 ALL	446799.7	3762654 NonCancer	0.00E+00	0.00E+00	8.65E-03	0.00E+00	0.00E+00	8.65E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.65E-03	0.00E+00	0.00E+00	8.65E-03
118 ALL	446800	3762675 NonCancer	0.00E+00	0.00E+00	9.07E-03	0.00E+00	0.00E+00	9.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.07E-03	0.00E+00	0.00E+00	9.07E-03
119 ALL	446800.3	3762700 NonCancer	0.00E+00	0.00E+00	8.94E-03	0.00E+00	0.00E+00	8.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.94E-03	0.00E+00	0.00E+00	8.94E-03
120 ALL	446800.3	3762721 NonCancer	0.00E+00	0.00E+00	8.67E-03	0.00E+00	0.00E+00	8.67E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.67E-03	0.00E+00	0.00E+00	8.67E-03
121 ALL	446800	3762736 NonCancer	0.00E+00	0.00E+00	8.46E-03	0.00E+00	0.00E+00	8.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.46E-03	0.00E+00	0.00E+00	8.46E-03
122 ALL	446797.8	3762748 NonCancer	0.00E+00	0.00E+00	8.23E-03	0.00E+00	0.00E+00	8.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.23E-03	0.00E+00	0.00E+00	8.23E-03
123 ALL	446802.2	3762913 NonCancer	0.00E+00	0.00E+00	6.23E-03	0.00E+00	0.00E+00	6.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.23E-03	0.00E+00	0.00E+00	6.23E-03
124 ALL	446802.2	3762933 NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
125 ALL	446802.4	3762949 NonCancer	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03
126 ALL	446803	3762967 NonCancer	0.00E+00	0.00E+00	5.87E-03	0.00E+00	0.00E+00	5.87E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.87E-03	0.00E+00	0.00E+00	5.87E-03
127 ALL	446802.7	3762986 NonCancer	0.00E+00	0.00E+00	5.77E-03	0.00E+00	0.00E+00	5.77E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.77E-03	0.00E+00	0.00E+00	5.77E-03
128 ALL	446802.2	3763003 NonCancer	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03
129 ALL	446802.2	3763022 NonCancer	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03
130 ALL	446802.7	3763041 NonCancer	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03
131 ALL	446803	3763059 NonCancer	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03
132 ALL	446803.5	3763077 NonCancer	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03
133 ALL	446756.3	3763085 NonCancer	0.00E+00	0.00E+00	5.13E-03	0.00E+00	0.00E+00	5.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.13E-03	0.00E+00	0.00E+00	5.13E-03
134 ALL	446807.7	3763646 NonCancer	0.00E+00	0.00E+00	5.71E-03	0.00E+00	0.00E+00	5.71E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.71E-03	0.00E+00	0.00E+00	5.71E-03
135 ALL	446808.3	3763675 NonCancer	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03
136 ALL	446807.7	3763695 NonCancer	0.00E+00	0.00E+00	5.63E-03	0.00E+00	0.00E+00	5.63E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.63E-03	0.00E+00	0.00E+00	5.63E-03
137 ALL	446808.3	3763711 NonCancer	0.00E+00	0.00E+00	5.59E-03	0.00E+00	0.00E+00	5.59E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.59E-03	0.00E+00	0.00E+00	5.59E-03
138 ALL	446808.3	3763726 NonCancer	0.00E+00	0.00E+00	5.55E-03	0.00E+00	0.00E+00	5.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.55E-03	0.00E+00	0.00E+00	5.55E-03
139 ALL	446808	3763742 NonCancer	0.00E+00	0.00E+00	5.48E-03	0.00E+00	0.00E+00	5.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.48E-03	0.00E+00	0.00E+00	5.48E-03
140 ALL	446808.3	3763757 NonCancer	0.00E+00	0.00E+00	5.43E-03	0.00E+00	0.00E+00	5.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.43E-03	0.00E+00	0.00E+00	5.43E-03
141 ALL	446808.6	3763798 NonCancer	0.00E+00	0.00E+00	5.42E-03	0.00E+00	0.00E+00	5.42E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.42E-03	0.00E+00	0.00E+00	5.42E-03
142 ALL	446810.3	3764484 NonCancer	0.00E+00	0.00E+00	4.91E-03	0.00E+00	0.00E+00	4.91E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.91E-03	0.00E+00	0.00E+00	4.91E-03
143 ALL	446781.3	3764475 NonCancer	0.00E+00	0.00E+00	4.88E-03	0.00E+00	0.00E+00	4.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.88E-03	0.00E+00	0.00E+00	4.88E-03
144 ALL	446722.6	3764456 NonCancer	0.00E+00	0.00E+00	4.83E-03	0.00E+00	0.00E+00	4.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.83E-03	0.00E+00	0.00E+00	4.83E-03
145 ALL	446170.3	3764560 NonCancer	0.00E+00	0.00E+00	4.18E-03	0.00E+00	0.00E+00	4.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.18E-03	0.00E+00	0.00E+00	4.18E-03
146 ALL	446872.3	3763190 NonCancer	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	6.68E-03
147 ALL	446925.2	3763179 NonCancer	0.00E+00	0.00E+00	7.07E-03	0.00E+00	0.00E+00	7.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.07E-03	0.00E+00	0.00E+00	7.07E-03
148 ALL	446984.9	3763195 NonCancer	0.00E+00	0.00E+00	7.06E-03	0.00E+00	0.00E+00	7.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.06E-03	0.00E+00	0.00E+00	7.06E-03
149 ALL	447010.6	3763193 NonCancer	0.00E+00	0.00E+00	7.36E-03	0.00E+00	0.00E+00	7.36E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.36E-03	0.00E+00	0.00E+00	7.36E-03
150 ALL	447036.6	3763194 NonCancer	0.00E+00	0.00E+00	7.42E-03	0.00E+00	0.00E+00	7.42E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.42E-03	0.00E+00	0.00E+00	7.42E-03
151 ALL	447053.6	3763193 NonCancer	0.00E+00	0.00E+00	7.46E-03	0.00E+00	0.00E+00	7.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.46E-03	0.00E+00	0.00E+00	7.46E-03
152 ALL	447076.4	3763192 NonCancer	0.00E+00	0.00E+00	7.61E-03	0.00E+00	0.00E+00	7.61E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.61E-03	0.00E+00	0.00E+00	7.61E-03
153 ALL	447093.5	3763193 NonCancer	0.00E+00	0.00E+00	7.83E-03	0.00E+00	0.00E+00	7.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.83E-03	0.00E+00	0.00E+00	7.83E-03
154 ALL	447122.1	3763193 NonCancer	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	7.79E-03
155 ALL	447138.8	3763192 NonCancer	0.00E+00	0.00E+00	7.78E-03	0.00E+00	0.00E+00	7.78E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.78E-03	0.00E+00	0.00E+00	7.78E-03
156 ALL	447168	3763192 NonCancer	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	7.87E-03
157 ALL	447170.7	3763172 NonCancer	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03
158 ALL	447170.4	3763158 NonCancer	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03
159 ALL	447169.3	3763145 NonCancer	0.00E+00	0.00E+00	7.99E-03	0.00E+00	0.00E+00	7.99E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.99E-03	0.00E+00	0.00E+00	7.99E-03
160 ALL	447147.5	3763107 NonCancer	0.00E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	8.50E-03
161 ALL	447146.6	3763084 NonCancer	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03
162 ALL	447146.9	3763064 NonCancer	0.00E+00	0.00E+00	8.66E-03	0.00E+00	0.00E+00	8.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.66E-03	0.00E+00	0.00E+00	8.66E-03
163 ALL	447149.9	3763039 NonCancer	0.00E+00	0.00E+00	8.58E-03	0.00E+00	0.00E+00	8.58E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.58E-03	0.00E+00	0.00E+00	8.58E-03

164 ALL	447148.6	3763020 NonCancer	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03
165 ALL	447148.6	3762997 NonCancer	0.00E+00	0.00E+00	8.63E-03	0.00E+00	0.00E+00	8.63E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.63E-03	0.00E+00	0.00E+00	8.63E-03
166 ALL	447206.1	3762958 NonCancer	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03
167 ALL	447209.3	3762923 NonCancer	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03
168 ALL	447208.4	3762891 NonCancer	0.00E+00	0.00E+00	8.74E-03	0.00E+00	0.00E+00	8.74E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.74E-03	0.00E+00	0.00E+00	8.74E-03
169 ALL	447145.8	3762889 NonCancer	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03
170 ALL	447122.6	3762889 NonCancer	0.00E+00	0.00E+00	8.36E-03	0.00E+00	0.00E+00	8.36E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.36E-03	0.00E+00	0.00E+00	8.36E-03
171 ALL	447094.3	3762890 NonCancer	0.00E+00	0.00E+00	8.18E-03	0.00E+00	0.00E+00	8.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.18E-03	0.00E+00	0.00E+00	8.18E-03
172 ALL	447071	3762890 NonCancer	0.00E+00	0.00E+00	8.13E-03	0.00E+00	0.00E+00	8.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.13E-03	0.00E+00	0.00E+00	8.13E-03
173 ALL	447043.6	3762890 NonCancer	0.00E+00	0.00E+00	8.02E-03	0.00E+00	0.00E+00	8.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.02E-03	0.00E+00	0.00E+00	8.02E-03
174 ALL	447017.8	3762889 NonCancer	0.00E+00	0.00E+00	7.88E-03	0.00E+00	0.00E+00	7.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.88E-03	0.00E+00	0.00E+00	7.88E-03
175 ALL	446992.1	3762889 NonCancer	0.00E+00	0.00E+00	7.69E-03	0.00E+00	0.00E+00	7.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.69E-03	0.00E+00	0.00E+00	7.69E-03
176 ALL	446964.3	3762888 NonCancer	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03
177 ALL	446940.4	3762888 NonCancer	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03
178 ALL	446911.2	3762888 NonCancer	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03
179 ALL	446885.4	3762890 NonCancer	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03
180 ALL	446862.1	3762889 NonCancer	0.00E+00	0.00E+00	6.95E-03	0.00E+00	0.00E+00	6.95E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.95E-03	0.00E+00	0.00E+00	6.95E-03
181 ALL	446871.5	3762780 NonCancer	0.00E+00	0.00E+00	8.32E-03	0.00E+00	0.00E+00	8.32E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.32E-03	0.00E+00	0.00E+00	8.32E-03
182 ALL	446926.3	3762769 NonCancer	0.00E+00	0.00E+00	8.75E-03	0.00E+00	0.00E+00	8.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.75E-03	0.00E+00	0.00E+00	8.75E-03
183 ALL	446983.7	3762774 NonCancer	0.00E+00	0.00E+00	8.84E-03	0.00E+00	0.00E+00	8.84E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.84E-03	0.00E+00	0.00E+00	8.84E-03
184 ALL	447009	3762774 NonCancer	0.00E+00	0.00E+00	8.96E-03	0.00E+00	0.00E+00	8.96E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.96E-03	0.00E+00	0.00E+00	8.96E-03
185 ALL	447030.5	3762774 NonCancer	0.00E+00	0.00E+00	8.88E-03	0.00E+00	0.00E+00	8.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.88E-03	0.00E+00	0.00E+00	8.88E-03
186 ALL	447055.4	3762774 NonCancer	0.00E+00	0.00E+00	8.89E-03	0.00E+00	0.00E+00	8.89E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.89E-03	0.00E+00	0.00E+00	8.89E-03
187 ALL	447076.9	3762774 NonCancer	0.00E+00	0.00E+00	9.06E-03	0.00E+00	0.00E+00	9.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.06E-03	0.00E+00	0.00E+00	9.06E-03
188 ALL	447101.2	3762774 NonCancer	0.00E+00	0.00E+00	9.31E-03	0.00E+00	0.00E+00	9.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.31E-03	0.00E+00	0.00E+00	9.31E-03
189 ALL	447123.9	3762774 NonCancer	0.00E+00	0.00E+00	9.43E-03	0.00E+00	0.00E+00	9.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.43E-03	0.00E+00	0.00E+00	9.43E-03
190 ALL	447148.1	3762775 NonCancer	0.00E+00	0.00E+00	9.65E-03	0.00E+00	0.00E+00	9.65E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.65E-03	0.00E+00	0.00E+00	9.65E-03
191 ALL	447170.2	3762775 NonCancer	0.00E+00	0.00E+00	9.94E-03	0.00E+00	0.00E+00	9.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.94E-03	0.00E+00	0.00E+00	9.94E-03
192 ALL	447196.8	3762775 NonCancer	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	1.01E-02
193 ALL	447242.1	3762777 NonCancer	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02
194 ALL	447262.3	3762776 NonCancer	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	1.06E-02
195 ALL	447294.6	3762776 NonCancer	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02
196 ALL	447313.1	3762775 NonCancer	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	1.10E-02
197 ALL	447313.4	3762750 NonCancer	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02
198 ALL	447327.9	3762713 NonCancer	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02
199 ALL	447327.4	3762680 NonCancer	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02
200 ALL	447327.7	3762657 NonCancer	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	1.29E-02
201 ALL	447327.3	3762637 NonCancer	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	1.32E-02
202 ALL	447327.5	3762613 NonCancer	0.00E+00	0.00E+00	1.39E-02	0.00E+00	0.00E+00	1.39E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-02	0.00E+00	0.00E+00	1.39E-02
203 ALL	447327.3	3762592 NonCancer	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02
204 ALL	447327	3762570 NonCancer	0.00E+00	0.00E+00	1.52E-02	0.00E+00	0.00E+00	1.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-02	0.00E+00	0.00E+00	1.52E-02
205 ALL	447327.3	3762548 NonCancer	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	1.58E-02
206 ALL	447326.6	3762525 NonCancer	0.00E+00	0.00E+00	1.64E-02	0.00E+00	0.00E+00	1.64E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-02	0.00E+00	0.00E+00	1.64E-02
207 ALL	447326.6	3762506 NonCancer	0.00E+00	0.00E+00	1.69E-02	0.00E+00	0.00E+00	1.69E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-02	0.00E+00	0.00E+00	1.69E-02
208 ALL	447327.5	3762478 NonCancer	0.00E+00	0.00E+00	1.79E-02	0.00E+00	0.00E+00	1.79E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	0.00E+00	0.00E+00	1.79E-02
209 ALL	447325.9	3762454 NonCancer	0.00E+00	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.75E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.75E-02
210 ALL	447225.6	3762433 NonCancer	0.00E+00	0.00E+00	1.43E-02	0.00E+00	0.00E+00	1.43E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-02	0.00E+00	0.00E+00	1.43E-02
211 ALL	447200.3	3762431 NonCancer	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	1.40E-02
212 ALL	447156.9	3762430 NonCancer	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02
213 ALL	447131.8	3762431 NonCancer	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02
214 ALL	447102.7	3762431 NonCancer	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	1.42E-02
215 ALL	447079.1	3762431 NonCancer	0.00E+00	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.48E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.48E-02
216 ALL	447034.9	3762434 NonCancer	0.00E+00	0.00E+00	1.66E-02	0.00E+00	0.00E+00	1.66E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.66E-02	0.00E+00	0.00E+00	1.66E-02
217 ALL	446995.5	3762434 NonCancer	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	2.00E-02
218 ALL	446972.7	3762434 NonCancer	0.00E+00	0.00E+00	2.43E-02	0.00E+00	0.00E+00	2.43E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.43E-02	0.00E+00	0.00E+00	2.43E-02

219 ALL	446941.4	3762435 NonCancer	0.00E+00	0.00E+00	2.74E-02	0.00E+00	0.00E+00	2.74E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-02	0.00E+00	0.00E+00	2.74E-02
220 ALL	446916.1	3762437 NonCancer	0.00E+00	0.00E+00	3.45E-02	0.00E+00	0.00E+00	3.45E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.45E-02	0.00E+00	0.00E+00	3.45E-02
221 ALL	446876.4	3762437 NonCancer	0.00E+00	0.00E+00	3.37E-02	0.00E+00	0.00E+00	3.37E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.37E-02	0.00E+00	0.00E+00	3.37E-02
222 ALL	446848.9	3762647 NonCancer	0.00E+00	0.00E+00	9.46E-03	0.00E+00	0.00E+00	9.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.46E-03	0.00E+00	0.00E+00	9.46E-03
223 ALL	446848.9	3762563 NonCancer	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02
224 ALL	446849.2	3762510 NonCancer	0.00E+00	0.00E+00	1.62E-02	0.00E+00	0.00E+00	1.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-02	0.00E+00	0.00E+00	1.62E-02
225 ALL	446849.2	3762456 NonCancer	0.00E+00	0.00E+00	2.47E-02	0.00E+00	0.00E+00	2.47E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.47E-02	0.00E+00	0.00E+00	2.47E-02
226 ALL	446848.9	3762702 NonCancer	0.00E+00	0.00E+00	9.47E-03	0.00E+00	0.00E+00	9.47E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.47E-03	0.00E+00	0.00E+00	9.47E-03
227 ALL	446849.5	3762755 NonCancer	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03
228 ALL	446739.8	3762429 NonCancer	0.00E+00	0.00E+00	1.68E-02	0.00E+00	0.00E+00	1.68E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-02	0.00E+00	0.00E+00	1.68E-02
229 ALL	446711.8	3762424 NonCancer	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02
230 ALL	446687.3	3762416 NonCancer	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	1.30E-02
231 ALL	446662.2	3762412 NonCancer	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02
232 ALL	446636.2	3762404 NonCancer	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02
233 ALL	449981.7	3762732 NonCancer	0.00E+00	0.00E+00	2.17E-03	0.00E+00	0.00E+00	2.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-03	0.00E+00	0.00E+00	2.17E-03
234 ALL	446486.8	3762232 NonCancer	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03
235 ALL	446262	3762068 NonCancer	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	3.90E-03
236 ALL	446443.2	3762292 NonCancer	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03
237 ALL	446071.8	3762055 NonCancer	0.00E+00	0.00E+00	3.10E-03	0.00E+00	0.00E+00	3.10E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.10E-03	0.00E+00	0.00E+00	3.10E-03
238 ALL	446072.1	3761983 NonCancer	0.00E+00	0.00E+00	3.02E-03	0.00E+00	0.00E+00	3.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.02E-03	0.00E+00	0.00E+00	3.02E-03
239 ALL	446138.2	3762002 NonCancer	0.00E+00	0.00E+00	3.26E-03	0.00E+00	0.00E+00	3.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-03	0.00E+00	0.00E+00	3.26E-03
240 ALL	445884.9	3762040 NonCancer	0.00E+00	0.00E+00	2.58E-03	0.00E+00	0.00E+00	2.58E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-03	0.00E+00	0.00E+00	2.58E-03

*HARP - HRACalc v22118 10/19/2022 12:40:58 PM - Chronic Risk - Input File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\HARP\14822 OPS\hra\WorkerHRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE\	RESP	SKIN	EYE	BONE/TEET	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	ALL		447362.2	3764293	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.47E-07	3.47E-07	3.47E-07	7.77E-05	0.00E+00	0.00E+00	0.00E+00	3.47E-07	2.51E-04	0.00E+00	0.00E+00	2.51E-04
2	ALL		447376	3764151	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.97E-07	3.97E-07	3.97E-07	9.45E-05	0.00E+00	0.00E+00	0.00E+00	3.97E-07	2.87E-04	0.00E+00	0.00E+00	2.87E-04
3	ALL		447389.8	3764043	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.51E-07	4.51E-07	4.51E-07	1.18E-04	0.00E+00	0.00E+00	0.00E+00	4.51E-07	3.25E-04	0.00E+00	0.00E+00	3.25E-04
4	ALL		447450.2	3764031	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.67E-07	4.67E-07	4.67E-07	1.24E-04	0.00E+00	0.00E+00	0.00E+00	4.67E-07	3.37E-04	0.00E+00	0.00E+00	3.37E-04
5	ALL		447410.2	3764019	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.66E-07	4.66E-07	4.66E-07	1.25E-04	0.00E+00	0.00E+00	0.00E+00	4.66E-07	3.36E-04	0.00E+00	0.00E+00	3.36E-04
6	ALL		446891.9	3764451	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.72E-07	2.72E-07	2.72E-07	5.46E-05	0.00E+00	0.00E+00	0.00E+00	2.72E-07	1.97E-04	0.00E+00	0.00E+00	1.97E-04
7	ALL		446959.3	3764451	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.61E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.01E-04	0.00E+00	0.00E+00	2.01E-04
8	ALL		446995.3	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.75E-07	2.75E-07	2.75E-07	5.58E-05	0.00E+00	0.00E+00	0.00E+00	2.75E-07	1.99E-04	0.00E+00	0.00E+00	1.99E-04
9	ALL		447007.4	3764467	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.75E-07	2.75E-07	2.75E-07	5.60E-05	0.00E+00	0.00E+00	0.00E+00	2.75E-07	1.99E-04	0.00E+00	0.00E+00	1.99E-04
10	ALL		447023.5	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.76E-07	2.76E-07	2.76E-07	5.64E-05	0.00E+00	0.00E+00	0.00E+00	2.76E-07	2.00E-04	0.00E+00	0.00E+00	2.00E-04
11	ALL		447036.6	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.67E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.00E-04	0.00E+00	0.00E+00	2.00E-04
12	ALL		447052.7	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.70E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.01E-04	0.00E+00	0.00E+00	2.01E-04
13	ALL		447066.6	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.72E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.01E-04	0.00E+00	0.00E+00	2.01E-04
14	ALL		447099.7	3764456	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.81E-07	2.81E-07	5.84E-05	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.04E-04	0.00E+00	0.00E+00	2.04E-04
15	ALL		447145.3	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.81E-07	2.81E-07	5.88E-05	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.04E-04	0.00E+00	0.00E+00	2.04E-04
16	ALL		447175.5	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.85E-07	2.85E-07	5.99E-05	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.07E-04	0.00E+00	0.00E+00	2.07E-04
17	ALL		447205.3	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.89E-07	2.89E-07	2.89E-07	6.09E-05	0.00E+00	0.00E+00	0.00E+00	2.89E-07	2.09E-04	0.00E+00	0.00E+00	2.09E-04
18	ALL		447232.4	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.88E-07	2.88E-07	2.88E-07	6.09E-05	0.00E+00	0.00E+00	0.00E+00	2.88E-07	2.09E-04	0.00E+00	0.00E+00	2.09E-04
19	ALL		447264	3764467	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.85E-07	2.85E-07	6.03E-05	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.07E-04	0.00E+00	0.00E+00	2.07E-04
20	ALL		447294.8	3764467	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.86E-07	2.86E-07	2.86E-07	6.04E-05	0.00E+00	0.00E+00	0.00E+00	2.86E-07	2.07E-04	0.00E+00	0.00E+00	2.07E-04
21	ALL		447365	3764456	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.96E-07	2.96E-07	2.96E-07	6.30E-05	0.00E+00	0.00E+00	0.00E+00	2.96E-07	2.15E-04	0.00E+00	0.00E+00	2.15E-04
22	ALL		447406.6	3764461	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.00E-07	3.00E-07	3.00E-07	6.38E-05	0.00E+00	0.00E+00	0.00E+00	3.00E-07	2.17E-04	0.00E+00	0.00E+00	2.17E-04
23	ALL		447441.5	3764460	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.02E-07	3.02E-07	3.02E-07	6.45E-05	0.00E+00	0.00E+00	0.00E+00	3.02E-07	2.19E-04	0.00E+00	0.00E+00	2.19E-04
24	ALL		447466.9	3764460	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.04E-07	3.04E-07	3.04E-07	6.50E-05	0.00E+00	0.00E+00	0.00E+00	3.04E-07	2.20E-04	0.00E+00	0.00E+00	2.20E-04
25	ALL		447490	3764461	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.06E-07	3.06E-07	3.06E-07	6.58E-05	0.00E+00	0.00E+00	0.00E+00	3.06E-07	2.22E-04	0.00E+00	0.00E+00	2.22E-04
26	ALL		447515.5	3764460	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.09E-07	3.09E-07	3.09E-07	6.67E-05	0.00E+00	0.00E+00	0.00E+00	3.09E-07	2.24E-04	0.00E+00	0.00E+00	2.24E-04
27	ALL		447573.1	3764454	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-07	3.17E-07	3.17E-07	6.95E-05	0.00E+00	0.00E+00	0.00E+00	3.17E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
28	ALL		447598.5	3764445	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.19E-07	3.19E-07	3.19E-07	7.05E-05	0.00E+00	0.00E+00	0.00E+00	3.19E-07	2.31E-04	0.00E+00	0.00E+00	2.31E-04
29	ALL		447652.9	3764440	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.08E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
30	ALL		447692.9	3764440	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.19E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
31	ALL		447713.8	3764439	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.25E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
32	ALL		447732	3764439	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.29E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
33	ALL		447751.1	3764439	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.34E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
34	ALL		447768.8	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.38E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
35	ALL		447789.1	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.42E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
36	ALL		447805.7	3764437	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.46E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
37	ALL		447824	3764437	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.51E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
38	ALL		447841.6	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.56E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
39	ALL		447861.7	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.64E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.30E-04	0.00E+00	0.00E+00	2.30E-04
40	ALL		447881.7	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-07	3.17E-07	3.17E-07	7.74E-05	0.00E+00	0.00E+00	0.00E+00	3.17E-07	2.31E-04	0.00E+00	0.00E+00	2.31E-04
41	ALL		447902.8	3764436	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-07	3.17E-07	3.17E-07	7.81E-05	0.00E+00	0.00E+00	0.00E+00	3.17E-07	2.31E-04	0.00E+00	0.00E+00	2.31E-04
42	ALL		447920.9	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.18E-07	3.18E-07	3.18E-07	7.89E-05	0.00E+00	0.00E+00	0.00E+00	3.18E-07	2.32E-04	0.00E+00	0.00E+00	2.32E-04
43	ALL		447942.2	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.20E-07	3.20E-07	3.20E-07	7.98E-05	0.00E+00	0.00E+00	0.00E+00	3.20E-07	2.33E-04	0.00E+00	0.00E+00	2.33E-04
44	ALL		447962.8	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.21E-07	3.21E-07	3.21E-07	8.08E-05	0.00E+00	0.00E+00	0.00E+00	3.21E-07	2.34E-04	0.00E+00	0.00E+00	2.34E-04
45	ALL		447980.7	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.23E-07	3.23E-07	3.23E-07	8.16E-05	0.00E+00	0.00E+00	0.00E+00	3.23E-07	2.35E-04	0.00E+00	0.00E+00	2.35E-04
46	ALL		448004.7	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.26E-07	3.26E-07	3.26E-07	8.31E-05	0.00E+00	0.00E+00	0.00E+00	3.26E-07	2.37E-04	0.00E+00	0.00E+00	2.37E-04
47	ALL		448021.3	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.31E-07	3.31E-07	3.31E-07	8.48E-05	0.00E+00	0.00E+00	0.00E+00	3.31E-07	2.41E-04	0.00E+00	0.00E+00	2.41E-04
48	ALL		447662.7	3764380	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.27E-07	3.27E-07	3.27E-07	7.49E-05	0.00E+00	0.00E+00	0.00E+00	3.27E-07	2.37E-04	0.00E+00	0.00E+00	2.37E-04
49	ALL		447681.3	3764321	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.43E-07	3.43E-07	3.43E-07	8.06E-05	0.00E+00	0.00E+00	0.00E+00	3.43E-07	2.49E-04	0.00E+00	0.00E+00	2.49E-04
50	ALL		447682.6	3764286	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.58E-07	3.58E-07	3.58E-07	8.53E-05	0.00E+00	0.00E+00	0.00E+00	3.58E-07	2.60E-04	0.00E+00	0.00E+00	2.60E-04
51	ALL		447662.5	3764238	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.78E-07	3.78E-07	3.78E-07	9.13E-05	0.00E+00	0.00E+00	0.00E+00	3.78E-07	2.74E-04	0.00E+00	0.00E+00	2.74E-04
52	ALL		447661.7	3764207	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.93E-07	3.93E-07	3.93E-07	9.62E-05	0.00E+00	0.00E+00	0.00E+00	3.93E-07	2.85E-04	0.00E+00	0.00E+00	2.85E-04
53	ALL		447683.1	3764162	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.18E-07	4.18E-07	4.18E-07	1.05E-04	0.00E+00	0.00E+00	0.00E+00	4.18E-07	3.03E-04	0.00E+00	0.00E+00	3.03E-04
54	ALL		447681	3764146	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.27E-07	4.27E-07	4.27E-07	1.08E-04	0.00E+00	0.00E+00	0.00E+00	4.27E-07	3.09E-04	0.00E+00	0.00E+00	3.09E-04
55	ALL		447679.6	3764130	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.36E-07	4.36E-07	4.36E-07	1.12E-04	0.00E+00	0.00E+00	0.00E+00	4.36E-07	3.16E-04	0.00E+00	0.00E+00	3.16E-04
56	ALL		447680.8	3764112	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.46E-07	4.46E-07	4.46E-07	1.17E-04	0.00E+00	0.00E+00	0.00E+00	4.46E-07	3.23E-04	0.00E+00	0.00E+00	3.23E-04
57	ALL		447681.5	3764096	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.55E-07	4.55E-07	4.55E-07	1.20E-04	0.00E+00	0.00E+00	0.00E+00	4.55E-07	3.29E-04	0.00E+00	0.00E+00	3.29E-04
58	ALL		447680.8	3764079	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.63E-07	4.63E-07	4.63E-07	1.24E-04	0.00E+00	0.00E+00	0.00E+00	4.63E-07	3.35E-04	0.00E+00	0.00E+00	3.35E-04
59	ALL		447680	3764064	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.69E-07	4.69E-07	4.69E-07	1.26E-04	0.00E+00	0.00E+00	0.00E+00	4.69E-07	3.39E-04	0.00E+00	0.00E+00	3.39E-04
60	ALL		447681	3764046	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.77E-07	4.77E-07	4.77E-07	1.30E-04	0.00E+00	0.00E+00	0.00E+00	4.77E-07	3.45E-04	0.00E+00	0.00E+00	3.45E-04
61	ALL		447680.6	3764030	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.83E-07	4.83E-07	4.83E-07	1.33E-04	0.00E+00	0.00E+00	0.00E+00	4.83E-07	3.50E-04	0.00E+00	0.00E+00	3.50E-04
62	ALL		447657.2	3763992	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.00E-07	5.00E-07	5.00E-07	1.42E-04	0.00E+00	0.00E+00	0.00E+00	5.00E-07	3.62E-04	0.00E+00	0.00E+00	3.62E-04
63	ALL		447656.3	3763967	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.11E-07	5.11E-07	5.11E-07	1.47E-04	0.00E+00	0.00E+00	0.00E+00	5.11E-07	3.70E-04	0.00E+00	0.00E+00	3.70E-04
64	ALL		447657.2	3763929	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.30E-07	5.30E-07	5.30E-07	1.57E-04	0.00E+00	0.00E+00	0.00E+00	5.30E-07	3.83E-04	0.00E+00	0.00E+00	3.83E-04
65	ALL		447657.2	3763902	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.43E-07	5.43E-07	5.43E-07	1.65E-04	0.00E+00	0.00E+00	0.00E+00	5.43E-07	3.93E-04	0.00E+00	0.00E+00	3.93E-04
66	ALL		447657.5	3763869	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.65E-07	5.65E-07	5.65E-07	1.79E-04	0.00E+00	0.00E+00	0.00E+00	5.65E-07	4.08E-04	0.00E+00	0.00E+00	4.08E-04
67	ALL		447656.2	3763835	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.84E-07	5.84E-07	5.84E-07	1.93E-04	0.00E+00	0.00E+00	0.00E+00	5.84E-07	4.23E-04	0.00E+00	0.00E+00	4.23E-04
68	ALL		447655.9	3763808	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.99E-07	5.99E-07	5.99E-07	2.04E-04	0.00E+00	0.00E+00	0.00E+00	5.99E-07	4.33E-04	0.00E+00	0.00E+00	4.33E-04
69	ALL		447657.1	3763786	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.12E-07	6.12E-07	6.12E-07	2.16E-04	0.00E+00	0.00E+00	0.00E+00	6.12E-07	4.43E-04	0.00E+00	0.00E+00	4.43E-04
70	ALL		447701.2	3763782	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.18E-07	6.18E-07	6.18E-07	2.19E-04	0.00E+00	0.00E+00	0.00E+00	6.18E-07	4.47E-04	0.00E+00	0.00E+00	4.47E-04
71	ALL		447856.9	3763750	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.86E-07	6.86E-07	6.86E-07	2.51E-04	0.00E+00	0.00E+00	0.00E+00	6.86E-07	4.96E-04	0.00E+00	0.00E+00	4.96E-04
72	ALL		447855	3763730	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.04E-07	7.04E-07	7.04E-07	2.65E-04	0.00E+00	0.00E+00	0.00E+00	7.04E-07	5.09E-04	0.00E+00	0.00E+00	5.09E-04

73	ALL	447854.4	3763698	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.35E-07	7.35E-07	7.35E-07	2.90E-04	0.00E+00	0.00E+00	0.00E+00	7.35E-07	5.31E-04	0.00E+00	0.00E+00	5.31E-04
74	ALL	447855.3	3763677	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.57E-07	7.57E-07	7.57E-07	3.09E-04	0.00E+00	0.00E+00	0.00E+00	7.57E-07	5.47E-04	0.00E+00	0.00E+00	5.47E-04
75	ALL	447675.5	3763287	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.32E-06	1.32E-06	1.32E-06	1.18E-03	0.00E+00	0.00E+00	0.00E+00	1.32E-06	9.53E-04	0.00E+00	0.00E+00	1.18E-03
76	ALL	448481.3	3763485	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.05E-06	1.05E-06	1.05E-06	5.48E-04	0.00E+00	0.00E+00	0.00E+00	1.05E-06	7.65E-04	0.00E+00	0.00E+00	7.65E-04
77	ALL	448480	3763196	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.90E-06	1.90E-06	7.14E-04	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.39E-03	0.00E+00	0.00E+00	1.39E-03
78	ALL	448478.6	3762907	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.08E-06	4.08E-06	4.08E-06	1.40E-03	0.00E+00	0.00E+00	0.00E+00	4.08E-06	3.00E-03	0.00E+00	0.00E+00	3.00E-03
79	ALL	448497.9	3762714	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.62E-06	7.62E-06	7.62E-06	1.39E-03	0.00E+00	0.00E+00	0.00E+00	7.62E-06	5.60E-03	0.00E+00	0.00E+00	5.60E-03
80	ALL	448507.9	3762488	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.47E-05	3.47E-05	3.47E-05	1.67E-03	0.00E+00	0.00E+00	0.00E+00	3.47E-05	2.43E-02	0.00E+00	0.00E+00	2.43E-02
81	ALL	448480.5	3762358	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.58E-05	4.58E-05	4.58E-05	2.06E-03	0.00E+00	0.00E+00	0.00E+00	4.58E-05	3.26E-02	0.00E+00	0.00E+00	3.26E-02
82	ALL	448462.7	3762340	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.66E-05	4.66E-05	4.66E-05	1.89E-03	0.00E+00	0.00E+00	0.00E+00	4.66E-05	3.41E-02	0.00E+00	0.00E+00	3.41E-02
83	ALL	448464.5	3762266	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.29E-05	3.29E-05	3.29E-05	1.28E-03	0.00E+00	0.00E+00	0.00E+00	3.29E-05	2.39E-02	0.00E+00	0.00E+00	2.39E-02
84	ALL	448461.6	3762165	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.71E-05	3.71E-05	3.71E-05	1.26E-03	0.00E+00	0.00E+00	0.00E+00	3.71E-05	2.74E-02	0.00E+00	0.00E+00	2.74E-02
85	ALL	448472.6	3762065	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.15E-05	1.15E-05	1.15E-05	5.38E-04	0.00E+00	0.00E+00	0.00E+00	1.15E-05	8.44E-03	0.00E+00	0.00E+00	8.44E-03
86	ALL	448460.5	3762017	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.90E-06	8.90E-06	8.90E-06	4.50E-04	0.00E+00	0.00E+00	0.00E+00	8.90E-06	6.52E-03	0.00E+00	0.00E+00	6.52E-03
87	ALL	448234.6	3761951	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.35E-06	7.35E-06	7.35E-06	4.12E-04	0.00E+00	0.00E+00	0.00E+00	7.35E-06	5.42E-03	0.00E+00	0.00E+00	5.42E-03
88	ALL	448081.4	3761953	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.71E-06	5.71E-06	5.71E-06	3.86E-04	0.00E+00	0.00E+00	0.00E+00	5.71E-06	4.19E-03	0.00E+00	0.00E+00	4.19E-03
89	ALL	448025.5	3761956	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.21E-06	5.21E-06	5.21E-06	3.78E-04	0.00E+00	0.00E+00	0.00E+00	5.21E-06	3.83E-03	0.00E+00	0.00E+00	3.83E-03
90	ALL	447506.8	3761968	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.20E-06	4.20E-06	4.20E-06	3.50E-04	0.00E+00	0.00E+00	0.00E+00	4.20E-06	3.09E-03	0.00E+00	0.00E+00	3.09E-03
91	ALL	447269.3	3761968	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.72E-06	3.72E-06	3.72E-06	3.08E-04	0.00E+00	0.00E+00	0.00E+00	3.72E-06	2.73E-03	0.00E+00	0.00E+00	2.73E-03
92	ALL	447389.5	3761909	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.51E-06	3.51E-06	3.51E-06	2.99E-04	0.00E+00	0.00E+00	0.00E+00	3.51E-06	2.58E-03	0.00E+00	0.00E+00	2.58E-03
93	ALL	447019.1	3761964	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.11E-06	3.11E-06	3.11E-06	2.56E-04	0.00E+00	0.00E+00	0.00E+00	3.11E-06	2.29E-03	0.00E+00	0.00E+00	2.29E-03
94	ALL	447060.3	3761964	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-06	3.16E-06	3.16E-06	2.63E-04	0.00E+00	0.00E+00	0.00E+00	3.16E-06	2.33E-03	0.00E+00	0.00E+00	2.33E-03
95	ALL	446975.3	3761963	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.05E-06	3.05E-06	3.05E-06	2.49E-04	0.00E+00	0.00E+00	0.00E+00	3.05E-06	2.25E-03	0.00E+00	0.00E+00	2.25E-03
96	ALL	446940.9	3761954	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.94E-06	2.94E-06	2.94E-06	2.40E-04	0.00E+00	0.00E+00	0.00E+00	2.94E-06	2.17E-03	0.00E+00	0.00E+00	2.17E-03
97	ALL	446865.7	3761975	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.01E-06	3.01E-06	3.01E-06	2.36E-04	0.00E+00	0.00E+00	0.00E+00	3.01E-06	2.22E-03	0.00E+00	0.00E+00	2.22E-03
98	ALL	446795.1	3761958	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.76E-06	2.76E-06	2.19E-04	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.04E-03	0.00E+00	0.00E+00	2.04E-03
99	ALL	446757.7	3761966	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.76E-06	2.76E-06	2.16E-04	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.04E-03	0.00E+00	0.00E+00	2.04E-03
100	ALL	446709.3	3761968	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.68E-06	2.68E-06	2.68E-06	2.09E-04	0.00E+00	0.00E+00	0.00E+00	2.68E-06	1.97E-03	0.00E+00	0.00E+00	1.97E-03
101	ALL	446796.4	3762029	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.47E-06	3.47E-06	3.47E-06	2.48E-04	0.00E+00	0.00E+00	0.00E+00	3.47E-06	2.56E-03	0.00E+00	0.00E+00	2.56E-03
102	ALL	446797	3762045	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.70E-06	3.70E-06	3.70E-06	2.57E-04	0.00E+00	0.00E+00	0.00E+00	3.70E-06	2.74E-03	0.00E+00	0.00E+00	2.74E-03
103	ALL	446796.7	3762090	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.54E-06	4.54E-06	4.54E-06	2.87E-04	0.00E+00	0.00E+00	0.00E+00	4.54E-06	3.36E-03	0.00E+00	0.00E+00	3.36E-03
104	ALL	446796.2	3762106	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.95E-06	4.95E-06	4.95E-06	3.01E-04	0.00E+00	0.00E+00	0.00E+00	4.95E-06	3.67E-03	0.00E+00	0.00E+00	3.67E-03
105	ALL	446796.7	3762137	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.01E-06	6.01E-06	6.01E-06	3.34E-04	0.00E+00	0.00E+00	0.00E+00	6.01E-06	4.44E-03	0.00E+00	0.00E+00	4.44E-03
106	ALL	446796.2	3762153	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.73E-06	6.73E-06	6.73E-06	3.56E-04	0.00E+00	0.00E+00	0.00E+00	6.73E-06	4.96E-03	0.00E+00	0.00E+00	4.96E-03
107	ALL	446772.4	3762215	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.03E-05	1.03E-05	1.03E-05	4.63E-04	0.00E+00	0.00E+00	0.00E+00	1.03E-05	7.45E-03	0.00E+00	0.00E+00	7.45E-03
108	ALL	446795.1	3762321	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.85E-05	2.85E-05	2.85E-05	9.96E-04	0.00E+00	0.00E+00	0.00E+00	2.85E-05	1.99E-02	0.00E+00	0.00E+00	1.99E-02
109	ALL	446796.4	3762451	NonCancer	0.00E+00	0.00E+00	0.00E+00	9.74E-06	9.74E-06	9.74E-06	5.39E-04	0.00E+00	0.00E+00	0.00E+00	9.74E-06	6.90E-03	0.00E+00	0.00E+00	6.90E-03
110	ALL	446796.4	3762471	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.01E-06	8.01E-06	8.01E-06	4.68E-04	0.00E+00	0.00E+00	0.00E+00	8.01E-06	5.71E-03	0.00E+00	0.00E+00	5.71E-03
111	ALL	446797.2	3762496	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.51E-06	6.51E-06	6.51E-06	4.12E-04	0.00E+00	0.00E+00	0.00E+00	6.51E-06	4.66E-03	0.00E+00	0.00E+00	4.66E-03
112	ALL	446798.1	3762517	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.61E-06	5.61E-06	5.61E-06	3.80E-04	0.00E+00	0.00E+00	0.00E+00	5.61E-06	4.03E-03	0.00E+00	0.00E+00	4.03E-03
113	ALL	446797.8	3762540	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.80E-06	4.80E-06	4.80E-06	3.53E-04	0.00E+00	0.00E+00	0.00E+00	4.80E-06	3.46E-03	0.00E+00	0.00E+00	3.46E-03
114	ALL	446797.5	3762560	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.27E-06	4.27E-06	4.27E-06	3.35E-04	0.00E+00	0.00E+00	0.00E+00	4.27E-06	3.08E-03	0.00E+00	0.00E+00	3.08E-03
115	ALL	446798.6	3762585	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.77E-06	3.77E-06	3.77E-06	3.19E-04	0.00E+00	0.00E+00	0.00E+00	3.77E-06	2.73E-03	0.00E+00	0.00E+00	2.73E-03
116	ALL	446798.1	3762604	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.44E-06	3.44E-06	3.44E-06	3.09E-04	0.00E+00	0.00E+00	0.00E+00	3.44E-06	2.49E-03	0.00E+00	0.00E+00	2.49E-03
117	ALL	446799.7	3762654	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.83E-06	2.83E-06	2.83E-06	2.91E-04	0.00E+00	0.00E+00	0.00E+00	2.83E-06	2.06E-03	0.00E+00	0.00E+00	2.06E-03
118	ALL	446800	3762675	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.61E-06	2.61E-06	2.61E-06	2.85E-04	0.00E+00	0.00E+00	0.00E+00	2.61E-06	1.85E-03	0.00E+00	0.00E+00	1.85E-03
119	ALL	446800.3	3762700	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.37E-06	2.37E-06	2.37E-06	2.77E-04	0.00E+00	0.00E+00	0.00E+00	2.37E-06	1.69E-03	0.00E+00	0.00E+00	1.69E-03
120	ALL	446800.3	3762721	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.23E-06	2.23E-06	2.23E-06	2.73E-04	0.00E+00	0.00E+00	0.00E+00	2.23E-06	1.59E-03	0.00E+00	0.00E+00	1.59E-03
121	ALL	446800	3762736	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.14E-06	2.14E-06	2.14E-06	2.71E-04	0.00E+00	0.00E+00	0.00E+00	2.14E-06	1.53E-03	0.00E+00	0.00E+00	1.53E-03
122	ALL	446797.8	3762748	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.07E-06	2.07E-06	2.07E-06	2.68E-04	0.00E+00	0.00E+00	0.00E+00	2.07E-06	1.48E-03	0.00E+00	0.00E+00	1.48E-03
123	ALL	446802.2	3762913	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.51E-06	1.51E-06	1.51E-06	2.53E-04	0.00E+00	0.00E+00	0.00E+00	1.51E-06	1.08E-03	0.00E+00	0.00E+00	1.08E-03
124	ALL	446802.2	3762933	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.46E-06	1.46E-06	2.52E-04	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.05E-03	0.00E+00	0.00E+00	1.05E-03
125	ALL	446802.4	3762949	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.42E-06	1.42E-06	1.42E-06	2.50E-04	0.00E+00	0.00E+00	0.00E+00	1.42E-06	1.02E-03	0.00E+00	0.00E+00	1.02E-03
126	ALL	446803	3762967	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.39E-06	1.39E-06	1.39E-06	2.49E-04	0.00E+00	0.00E+00	0.00E+00	1.39E-06	9.95E-04	0.00E+00	0.00E+00	9.95E-04
127	ALL	446802.7	3762986	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.34E-06	1.34E-06	1.34E-06	2.47E-04	0.00E+00	0.00E+00	0.00E+00	1.34E-06	9.65E-04	0.00E+00	0.00E+00	9.65E-04
128	ALL	446802.2	3763003	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.30E-06	1.30E-06	1.30E-06	2.44E-04	0.00E+00	0.00E+00	0.00E+00	1.30E-06	9.36E-04	0.00E+00	0.00E+00	9.36E-04
129	ALL	446802.2	3763022	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.26E-06	1.26E-06	1.26E-06	2.42E-04	0.00E+00	0.00E+00	0.00E+00	1.26E-06	9.08E-04	0.00E+00	0.00E+00	9.08E-04
130	ALL	446802.7	3763041	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.22E-06	1.22E-06	1.22E-06	2.40E-04	0.00E+00	0.00E+00	0.00E+00	1.22E-06	8.77E-04	0.00E+00	0.00E+00	8.77E-04
131	ALL	446803	3763059	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.18E-06	1.18E-06	1.18E-06	2.38E-04	0.00E+00	0.00E+00	0.00E+00	1.18E-06	8.45E-04	0.00E+00	0.00E+00	8.45E-04
132	ALL	446803.5	3763077	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.15E-06	1.15E-06	1.15E-06	2.36E-04	0.00E+00	0.00E+00	0.00E+00	1.15E-06	8.22E-04	0.00E+00	0.00E+00	8.22E-04
133	ALL	446756.3	3763085	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.12E-06	1.12E-06	1.12E-06	2.16E-04	0.00E+00	0.00E+00	0.00E+00	1.12E-06	8.02E-04	0.00E+00	0.00E+00	8.02E-04
134	ALL	446807.7	3763646	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.45E-07	5.45E-07	5.45E-07	1.37E-04	0.00E+00	0.00E+00	0.00E+00	5.45E-07	3.92E-04	0.00E+00	0.00E+00	3.92E-04
135	ALL	446808.3	3763675	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.30E-07	5.30E-07	5.30E-07	1.33E-04	0.00E+00	0.00E+00	0.00E+00	5.30E-07	3.82E-04	0.00E+00	0.00E+00	3.82E-04
136	ALL	446807.7	3763695	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.20E-07	5.20E-07	5.20E-07	1.29E-04	0.00E+00	0.00E+00	0.00E+00	5.20E-07	3.74E-04	0.00E+00	0.00E+00	3.74E-04
137	ALL	446808.3	3763711	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.13E-07	5.13E-07	5.13E-07	1.27E-04	0.00E+00	0.00E+00	0.00E+00	5.13E-07	3.69E-04	0.00E+00	0.00E+00	3.69E-04
138	ALL	446808.3	3763726	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.05E-07	5.05E-07	5.05E-07	1.25E-04	0.00E+00	0.00E+00	0.00E+00	5.05E-07	3.64E-04	0.00E+00	0.00E+00	3.64E-04
139	ALL	446808	3763742	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.99E-07	4.99E-07	4.99E-07	1.22E-04	0.00E+00	0.00E+00	0.00E+00	4.99E-07	3.59E-04	0.00E+00	0.00E+00	3.59E-04
140	ALL	446808.3	3763757	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.92E-07	4.92E-07	4.92E-07	1.20E-04	0.00E+00	0.00E+00	0.00E+00	4.92E-07	3.54E-04	0.00E+00	0.00E+00	3.54E-04
141	ALL	446808.6	3763798	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.72E-07	4.72E-07	4.72E-07	1.14E-04	0.00E+00	0.00E+00	0.00E+00	4.72E-07	3.40E-04	0.00E+00	0.00E+00	3.40E-04
142	ALL	446810.3	3764484	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.60E-07	2.60E-07	2.60E-07	5.11E-05	0.00E+00	0.00E+00	0.00E+00	2.60E-07	1.89E-04	0.00E+00	0.00E+00	1.89E-04
143	ALL	446781.3	3764475	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.60E-07	2.60E-07	2.60E-07	5.08E-05	0.00E+00	0.00E+00	0.00E+00	2.60E-07	1.88E-04	0.00E+00	0.00E+00	1.88E-04
144	ALL	446722.6	3764456	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.59E-07	2.59E-07	2.59E-07	5.04E-05	0.00E+00	0.00E+00	0.00E+00	2.59E-07	1.88E-04	0.00E+00	0.00E+00	1.88E-04
145	ALL	446170.3	3764560	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.08E-07	2.08E-07	2.08E-07	3.62E-05	0.00E+00	0.00E+00	0.00E+00	2.08E-07	1.50E-04	0.00E+00	0.00E+00	1.50E-04
146	ALL	446872.3	3763190	NonCancer	0.00E+00	0.00E+00	0.00E+00	9.75E-07	9.75E-07	9.75E-07	2.52E-04	0.00E+00	0.00E+00	0.00E+00	9.75E-07	6.99E-04	0.00E+00	0.00E+00	6.99E-04

147	ALL	446925.2	3763179	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.02E-06	1.02E-06	1.02E-06	2.88E-04	0.00E+00	0.00E+00	0.00E+00	1.02E-06	7.33E-04	0.00E+00	0.00E+00	7.33E-04
148	ALL	446984.9	3763195	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.05E-06	1.05E-06	1.05E-06	3.38E-04	0.00E+00	0.00E+00	0.00E+00	1.05E-06	7.55E-04	0.00E+00	0.00E+00	7.55E-04
149	ALL	447010.6	3763193	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.07E-06	1.07E-06	1.07E-06	3.65E-04	0.00E+00	0.00E+00	0.00E+00	1.07E-06	7.66E-04	0.00E+00	0.00E+00	7.66E-04
150	ALL	447036.6	3763194	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.09E-06	1.09E-06	1.09E-06	3.98E-04	0.00E+00	0.00E+00	0.00E+00	1.09E-06	7.82E-04	0.00E+00	0.00E+00	7.82E-04
151	ALL	447053.6	3763193	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.10E-06	1.10E-06	1.10E-06	4.23E-04	0.00E+00	0.00E+00	0.00E+00	1.10E-06	7.92E-04	0.00E+00	0.00E+00	7.92E-04
152	ALL	447076.4	3763192	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.12E-06	1.12E-06	1.12E-06	4.61E-04	0.00E+00	0.00E+00	0.00E+00	1.12E-06	8.06E-04	0.00E+00	0.00E+00	8.06E-04
153	ALL	447093.5	3763193	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.13E-06	1.13E-06	1.13E-06	4.92E-04	0.00E+00	0.00E+00	0.00E+00	1.13E-06	8.13E-04	0.00E+00	0.00E+00	8.13E-04
154	ALL	447122.1	3763193	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.17E-06	1.17E-06	1.17E-06	5.58E-04	0.00E+00	0.00E+00	0.00E+00	1.17E-06	8.35E-04	0.00E+00	0.00E+00	8.35E-04
155	ALL	447138.8	3763192	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.18E-06	1.18E-06	1.18E-06	6.04E-04	0.00E+00	0.00E+00	0.00E+00	1.18E-06	8.48E-04	0.00E+00	0.00E+00	8.48E-04
156	ALL	447168	3763192	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.21E-06	1.21E-06	1.21E-06	6.98E-04	0.00E+00	0.00E+00	0.00E+00	1.21E-06	8.68E-04	0.00E+00	0.00E+00	8.68E-04
157	ALL	447170.7	3763172	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.26E-06	1.26E-06	1.26E-06	7.07E-04	0.00E+00	0.00E+00	0.00E+00	1.26E-06	9.00E-04	0.00E+00	0.00E+00	9.00E-04
158	ALL	447170.4	3763158	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.29E-06	1.29E-06	1.29E-06	7.05E-04	0.00E+00	0.00E+00	0.00E+00	1.29E-06	9.22E-04	0.00E+00	0.00E+00	9.22E-04
159	ALL	447169.3	3763145	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.31E-06	1.31E-06	1.31E-06	7.01E-04	0.00E+00	0.00E+00	0.00E+00	1.31E-06	9.40E-04	0.00E+00	0.00E+00	9.40E-04
160	ALL	447147.5	3763107	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.36E-06	1.36E-06	1.36E-06	6.31E-04	0.00E+00	0.00E+00	0.00E+00	1.36E-06	9.73E-04	0.00E+00	0.00E+00	9.73E-04
161	ALL	447146.6	3763084	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.41E-06	1.41E-06	1.41E-06	6.29E-04	0.00E+00	0.00E+00	0.00E+00	1.41E-06	1.01E-03	0.00E+00	0.00E+00	1.01E-03
162	ALL	447146.9	3763064	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.46E-06	1.46E-06	6.30E-04	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.05E-03	0.00E+00	0.00E+00	1.05E-03
163	ALL	447149.9	3763039	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.55E-06	1.55E-06	1.55E-06	6.39E-04	0.00E+00	0.00E+00	0.00E+00	1.55E-06	1.11E-03	0.00E+00	0.00E+00	1.11E-03
164	ALL	447148.6	3763020	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.61E-06	1.61E-06	1.61E-06	6.33E-04	0.00E+00	0.00E+00	0.00E+00	1.61E-06	1.15E-03	0.00E+00	0.00E+00	1.15E-03
165	ALL	447148.6	3762997	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.69E-06	1.69E-06	6.30E-04	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.21E-03	0.00E+00	0.00E+00	1.21E-03
166	ALL	447206.1	3762958	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.95E-06	1.95E-06	8.13E-04	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.40E-03	0.00E+00	0.00E+00	1.40E-03
167	ALL	447209.3	3762923	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.13E-06	2.13E-06	2.13E-06	7.83E-04	0.00E+00	0.00E+00	0.00E+00	2.13E-06	1.54E-03	0.00E+00	0.00E+00	1.54E-03
168	ALL	447208.4	3762891	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.28E-06	2.28E-06	2.28E-06	7.39E-04	0.00E+00	0.00E+00	0.00E+00	2.28E-06	1.65E-03	0.00E+00	0.00E+00	1.65E-03
169	ALL	447145.8	3762889	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.15E-06	2.15E-06	2.15E-06	5.86E-04	0.00E+00	0.00E+00	0.00E+00	2.15E-06	1.56E-03	0.00E+00	0.00E+00	1.56E-03
170	ALL	447122.6	3762889	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.10E-06	2.10E-06	2.10E-06	5.43E-04	0.00E+00	0.00E+00	0.00E+00	2.10E-06	1.52E-03	0.00E+00	0.00E+00	1.52E-03
171	ALL	447094.3	3762890	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.04E-06	2.04E-06	2.04E-06	4.98E-04	0.00E+00	0.00E+00	0.00E+00	2.04E-06	1.48E-03	0.00E+00	0.00E+00	1.48E-03
172	ALL	447071	3762890	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.00E-06	2.00E-06	2.00E-06	4.65E-04	0.00E+00	0.00E+00	0.00E+00	2.00E-06	1.44E-03	0.00E+00	0.00E+00	1.44E-03
173	ALL	447043.6	3762890	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.95E-06	1.95E-06	4.32E-04	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.41E-03	0.00E+00	0.00E+00	1.41E-03
174	ALL	447017.8	3762889	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.90E-06	1.90E-06	4.04E-04	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.37E-03	0.00E+00	0.00E+00	1.37E-03
175	ALL	446992.1	3762889	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.86E-06	1.86E-06	1.86E-06	3.79E-04	0.00E+00	0.00E+00	0.00E+00	1.86E-06	1.34E-03	0.00E+00	0.00E+00	1.34E-03
176	ALL	446964.3	3762888	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.81E-06	1.81E-06	1.81E-06	3.55E-04	0.00E+00	0.00E+00	0.00E+00	1.81E-06	1.30E-03	0.00E+00	0.00E+00	1.30E-03
177	ALL	446940.4	3762888	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.78E-06	1.78E-06	1.78E-06	3.36E-04	0.00E+00	0.00E+00	0.00E+00	1.78E-06	1.28E-03	0.00E+00	0.00E+00	1.28E-03
178	ALL	446911.2	3762888	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.74E-06	1.74E-06	1.74E-06	3.16E-04	0.00E+00	0.00E+00	0.00E+00	1.74E-06	1.25E-03	0.00E+00	0.00E+00	1.25E-03
179	ALL	446885.4	3762890	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.69E-06	1.69E-06	3.00E-04	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.22E-03	0.00E+00	0.00E+00	1.22E-03
180	ALL	446862.1	3762889	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.66E-06	1.66E-06	1.66E-06	2.86E-04	0.00E+00	0.00E+00	0.00E+00	1.66E-06	1.19E-03	0.00E+00	0.00E+00	1.19E-03
181	ALL	446871.5	3762780	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.09E-06	2.09E-06	2.09E-06	3.01E-04	0.00E+00	0.00E+00	0.00E+00	2.09E-06	1.50E-03	0.00E+00	0.00E+00	1.50E-03
182	ALL	446926.3	3762769	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.27E-06	2.27E-06	2.27E-06	3.35E-04	0.00E+00	0.00E+00	0.00E+00	2.27E-06	1.63E-03	0.00E+00	0.00E+00	1.63E-03
183	ALL	446983.7	3762774	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.37E-06	2.37E-06	2.37E-06	3.76E-04	0.00E+00	0.00E+00	0.00E+00	2.37E-06	1.70E-03	0.00E+00	0.00E+00	1.70E-03
184	ALL	447009	3762774	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.43E-06	2.43E-06	2.43E-06	3.97E-04	0.00E+00	0.00E+00	0.00E+00	2.43E-06	1.75E-03	0.00E+00	0.00E+00	1.75E-03
185	ALL	447030.5	3762774	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.50E-06	2.50E-06	2.50E-06	4.17E-04	0.00E+00	0.00E+00	0.00E+00	2.50E-06	1.80E-03	0.00E+00	0.00E+00	1.80E-03
186	ALL	447055.4	3762774	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.57E-06	2.57E-06	2.57E-06	4.41E-04	0.00E+00	0.00E+00	0.00E+00	2.57E-06	1.85E-03	0.00E+00	0.00E+00	1.85E-03
187	ALL	447076.9	3762774	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.62E-06	2.62E-06	2.62E-06	4.63E-04	0.00E+00	0.00E+00	0.00E+00	2.62E-06	1.89E-03	0.00E+00	0.00E+00	1.89E-03
188	ALL	447101.2	3762774	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.67E-06	2.67E-06	2.67E-06	4.90E-04	0.00E+00	0.00E+00	0.00E+00	2.67E-06	1.92E-03	0.00E+00	0.00E+00	1.92E-03
189	ALL	447123.9	3762774	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.73E-06	2.73E-06	2.73E-06	5.18E-04	0.00E+00	0.00E+00	0.00E+00	2.73E-06	1.97E-03	0.00E+00	0.00E+00	1.97E-03
190	ALL	447148.1	3762775	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.78E-06	2.78E-06	2.78E-06	5.50E-04	0.00E+00	0.00E+00	0.00E+00	2.78E-06	2.01E-03	0.00E+00	0.00E+00	2.01E-03
191	ALL	447170.2	3762775	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.84E-06	2.84E-06	2.84E-06	5.82E-04	0.00E+00	0.00E+00	0.00E+00	2.84E-06	2.06E-03	0.00E+00	0.00E+00	2.06E-03
192	ALL	447196.8	3762775	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.92E-06	2.92E-06	2.92E-06	6.25E-04	0.00E+00	0.00E+00	0.00E+00	2.92E-06	2.12E-03	0.00E+00	0.00E+00	2.12E-03
193	ALL	447242.1	3762777	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.08E-06	3.08E-06	3.08E-06	7.07E-04	0.00E+00	0.00E+00	0.00E+00	3.08E-06	2.24E-03	0.00E+00	0.00E+00	2.24E-03
194	ALL	447262.3	3762776	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-06	3.17E-06	3.17E-06	7.49E-04	0.00E+00	0.00E+00	0.00E+00	3.17E-06	2.30E-03	0.00E+00	0.00E+00	2.30E-03
195	ALL	447294.6	3762776	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.32E-06	3.32E-06	3.32E-06	8.25E-04	0.00E+00	0.00E+00	0.00E+00	3.32E-06	2.41E-03	0.00E+00	0.00E+00	2.41E-03
196	ALL	447313.1	3762775	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.41E-06	3.41E-06	3.41E-06	8.76E-04	0.00E+00	0.00E+00	0.00E+00	3.41E-06	2.49E-03	0.00E+00	0.00E+00	2.49E-03
197	ALL	447313.4	3762750	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.68E-06	3.68E-06	3.68E-06	8.88E-04	0.00E+00	0.00E+00	0.00E+00	3.68E-06	2.68E-03	0.00E+00	0.00E+00	2.68E-03
198	ALL	447327.9	3762713	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.25E-06	4.25E-06	4.25E-06	9.92E-04	0.00E+00	0.00E+00	0.00E+00	4.25E-06	3.10E-03	0.00E+00	0.00E+00	3.10E-03
199	ALL	447327.4	3762680	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.80E-06	4.80E-06	4.80E-06	1.04E-03	0.00E+00	0.00E+00	0.00E+00	4.80E-06	3.53E-03	0.00E+00	0.00E+00	3.53E-03
200	ALL	447327.7	3762657	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.22E-06	5.22E-06	5.22E-06	1.08E-03	0.00E+00	0.00E+00	0.00E+00	5.22E-06	3.83E-03	0.00E+00	0.00E+00	3.83E-03
201	ALL	447327.3	3762637	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.62E-06	5.62E-06	5.62E-06	1.10E-03	0.00E+00	0.00E+00	0.00E+00	5.62E-06	4.12E-03	0.00E+00	0.00E+00	4.12E-03
202	ALL	447327.5	3762613	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.14E-06	6.14E-06	6.14E-06	1.12E-03	0.00E+00	0.00E+00	0.00E+00	6.14E-06	4.49E-03	0.00E+00	0.00E+00	4.49E-03
203	ALL	447327.3	3762592	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.62E-06	6.62E-06	6.62E-06	1.12E-03	0.00E+00	0.00E+00	0.00E+00	6.62E-06	4.83E-03	0.00E+00	0.00E+00	4.83E-03
204	ALL	447327	3762570	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.15E-06	7.15E-06	7.15E-06	1.11E-03	0.00E+00	0.00E+00	0.00E+00	7.15E-06	5.21E-03	0.00E+00	0.00E+00	5.21E-03
205	ALL	447327.3	3762548	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.68E-06	7.68E-06	7.68E-06	1.10E-03	0.00E+00	0.00E+00	0.00E+00	7.68E-06	5.58E-03	0.00E+00	0.00E+00	5.58E-03
206	ALL	447326.6	3762525	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.19E-06	8.19E-06	8.19E-06	1.07E-03	0.00E+00	0.00E+00	0.00E+00	8.19E-06	5.94E-03	0.00E+00	0.00E+00	5.94E-03
207	ALL	447326.6	3762506	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.56E-06	8.56E-06	8.56E-06	1.05E-03	0.00E+00	0.00E+00	0.00E+00	8.56E-06	6.20E-03	0.00E+00	0.00E+00	6.20E-03
208	ALL	447327.5	3762478	NonCancer	0.00E+00	0.00E+00	0.00E+00	9.02E-06	9.02E-06	9.02E-06	1.02E-03	0.00E+00	0.00E+00	0.00E+00	9.02E-06	6.54E-03	0.00E+00	0.00E+00	6.54E-03
209	ALL	447325.9	3762454	NonCancer	0.00E+00	0.00E+00	0.00E+00	9.20E-06	9.20E-06	9.20E-06	9.99E-04	0.00E+00	0.00E+00	0.00E+00	9.20E-06	6.69E-03	0.00E+00	0.00E+00	6.69E-03
210	ALL	447225.6	3762433	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.94E-06	8.94E-06	8.94E-06	8.32E-04	0.00E+00	0.00E+00	0.00E+00	8.94E-06	6.46E-03	0.00E+00	0.00E+00	6.46E-03
211	ALL	447200.3	3762431	NonCancer	0.00E+00	0.00E+00	0.00E+00	9.33E-06	9.33E-06	9.33E-06	8.19E-04	0.00E+00	0.00E+00	0.00E+00	9.33E-06	6.72E-03	0.00E+00	0.00E+00	6.72E-03
212	ALL	447156.9	3762430	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.05E-05	1.05E-05	1.05E-05	8.06E-04	0.00E+00	0.00E+00	0.00E+00	1.05E-05	7.50E-03	0.00E+00	0.00E+00	7.50E-03
213	ALL	447131.8	3762431	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.14E-05	1.14E-05	1.14E-05	8.06E-04	0.00E+00	0.00E+00	0.00E+00	1.14E-05	8.14E-03	0.00E+00	0.00E+00	8.14E-03
214	ALL	447102.7	3762431	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.28E-05	1.28E-05	1.28E-05	8.20E-04	0.00E+00	0.00E+00	0.00E+00	1.28E-05	9.09E-03	0.00E+00	0.00E+00	9.09E-03
215	ALL	447079.1	3762431	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.41E-05	1.41E-05	1.41E-05	8.36E-04	0.00E+00	0.00E+00	0.00E+00	1.41E-05	1.00E-02	0.00E+00	0.00E+00	1.00E-02
216	ALL	447034.9	3762434	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.63E-05	1.63E-05	1.63E-05	8.57E-04	0.00E+00	0.00E+00	0.00E+00	1.63E-05	1.17E-02	0.00E+00	0.00E+00	1.17E-02
217	ALL	446995.5	3762434	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.81E-05	1.81E-05	8.82E-04	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.30E-02	0.00E+00	0.00E+00	1.30E-02
218	ALL	446972.7	3762434	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.85E-05	1.85E-05	1.85E-05	8.78E-04	0.00E+00	0.00E+00	0.00E+00	1.85E-05	1.33E-02	0.00E+00	0.00E+00	1.33E-02
219	ALL	446941.4	3762435	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.87E-05	1.87E-05	1.87E-05	8.71E-04	0.00E+00	0.00E+00	0.00E+00	1.87E-05	1.35E-02	0.00E+00	0.00E+00	1.35E-02
220	ALL	446916.1	3762437	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.84E-05	1.84E-05	1.84E-05	8.46E-04	0.00E+00	0.00E+00	0.00E+00	1.84E-05	1.31E-02	0.00E+00	0.00E+00	1.31E-02

221	ALL	446876.4	3762437	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.81E-05	1.81E-05	8.24E-04	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.28E-02	0.00E+00	0.00E+00	1.28E-02
222	ALL	446848.9	3762647	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.12E-06	3.12E-06	3.12E-06	3.18E-04	0.00E+00	0.00E+00	0.00E+00	3.12E-06	2.27E-03	0.00E+00	0.00E+00	2.27E-03
223	ALL	446848.9	3762563	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.67E-06	4.67E-06	4.67E-06	3.65E-04	0.00E+00	0.00E+00	0.00E+00	4.67E-06	3.38E-03	0.00E+00	0.00E+00	3.38E-03
224	ALL	446849.2	3762510	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.85E-06	6.85E-06	6.85E-06	4.35E-04	0.00E+00	0.00E+00	0.00E+00	6.85E-06	4.92E-03	0.00E+00	0.00E+00	4.92E-03
225	ALL	446849.2	3762456	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.23E-05	1.23E-05	1.23E-05	6.23E-04	0.00E+00	0.00E+00	0.00E+00	1.23E-05	8.72E-03	0.00E+00	0.00E+00	8.72E-03
226	ALL	446848.9	3762702	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.51E-06	2.51E-06	2.51E-06	3.01E-04	0.00E+00	0.00E+00	0.00E+00	2.51E-06	1.79E-03	0.00E+00	0.00E+00	1.79E-03
227	ALL	446849.5	3762755	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.17E-06	2.17E-06	2.17E-06	2.92E-04	0.00E+00	0.00E+00	0.00E+00	2.17E-06	1.55E-03	0.00E+00	0.00E+00	1.55E-03
228	ALL	446739.8	3762429	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.46E-06	7.46E-06	7.46E-06	4.89E-04	0.00E+00	0.00E+00	0.00E+00	7.46E-06	5.31E-03	0.00E+00	0.00E+00	5.31E-03
229	ALL	446711.8	3762424	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.11E-06	6.11E-06	6.11E-06	4.41E-04	0.00E+00	0.00E+00	0.00E+00	6.11E-06	4.37E-03	0.00E+00	0.00E+00	4.37E-03
230	ALL	446687.3	3762416	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.24E-06	5.24E-06	5.24E-06	4.12E-04	0.00E+00	0.00E+00	0.00E+00	5.24E-06	3.76E-03	0.00E+00	0.00E+00	3.76E-03
231	ALL	446662.2	3762412	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.49E-06	4.49E-06	4.49E-06	3.75E-04	0.00E+00	0.00E+00	0.00E+00	4.49E-06	3.23E-03	0.00E+00	0.00E+00	3.23E-03
232	ALL	446636.2	3762404	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.91E-06	3.91E-06	3.91E-06	3.50E-04	0.00E+00	0.00E+00	0.00E+00	3.91E-06	2.82E-03	0.00E+00	0.00E+00	2.82E-03
233	ALL	449981.7	3762732	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.60E-06	1.60E-06	1.60E-06	1.59E-04	0.00E+00	0.00E+00	0.00E+00	1.60E-06	1.15E-03	0.00E+00	0.00E+00	1.15E-03
234	ALL	446486.8	3762232	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.19E-06	2.19E-06	2.19E-06	3.49E-04	0.00E+00	0.00E+00	0.00E+00	2.19E-06	1.60E-03	0.00E+00	0.00E+00	1.60E-03
235	ALL	446262	3762068	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.21E-06	1.21E-06	1.21E-06	2.81E-04	0.00E+00	0.00E+00	0.00E+00	1.21E-06	8.85E-04	0.00E+00	0.00E+00	8.85E-04
236	ALL	446443.2	3762292	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.90E-06	1.90E-06	2.67E-04	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.39E-03	0.00E+00	0.00E+00	1.39E-03
237	ALL	446071.8	3762055	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.81E-07	8.81E-07	8.81E-07	2.46E-04	0.00E+00	0.00E+00	0.00E+00	8.81E-07	6.45E-04	0.00E+00	0.00E+00	6.45E-04
238	ALL	446072.1	3761983	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.74E-07	8.74E-07	8.74E-07	2.29E-04	0.00E+00	0.00E+00	0.00E+00	8.74E-07	6.40E-04	0.00E+00	0.00E+00	6.40E-04
239	ALL	446138.2	3762002	NonCancer	0.00E+00	0.00E+00	0.00E+00	9.68E-07	9.68E-07	9.68E-07	2.43E-04	0.00E+00	0.00E+00	0.00E+00	9.68E-07	7.09E-04	0.00E+00	0.00E+00	7.09E-04
240	ALL	445884.9	3762040	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.90E-07	6.90E-07	6.90E-07	2.26E-04	0.00E+00	0.00E+00	0.00E+00	6.90E-07	5.05E-04	0.00E+00	0.00E+00	5.05E-04

*HARP - HRACalc v22118 10/19/2022 12:43:00 PM - Cancer Risk - Input File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\HARP\14822 OPS\hra\SchoolHRAInput.hra

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RIS	WATER_RI	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_F	EGG_RISK
1	ALL		447362.2	3764293	2.31E-07	9YrCancerF	2.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	ALL		447376	3764151	2.80E-07	9YrCancerF	2.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	ALL		447389.8	3764043	3.45E-07	9YrCancerF	3.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	ALL		447450.2	3764031	3.65E-07	9YrCancerF	3.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	ALL		447410.2	3764019	3.67E-07	9YrCancerF	3.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	ALL		446891.9	3764451	1.64E-07	9YrCancerF	1.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	ALL		446959.3	3764451	1.68E-07	9YrCancerF	1.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	ALL		446995.3	3764468	1.68E-07	9YrCancerF	1.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	ALL		447007.4	3764467	1.68E-07	9YrCancerF	1.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		447023.5	3764466	1.69E-07	9YrCancerF	1.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		447036.6	3764466	1.70E-07	9YrCancerF	1.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		447052.7	3764466	1.71E-07	9YrCancerF	1.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		447066.6	3764466	1.72E-07	9YrCancerF	1.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		447099.7	3764456	1.75E-07	9YrCancerF	1.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		447145.3	3764468	1.76E-07	9YrCancerF	1.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		447175.5	3764468	1.79E-07	9YrCancerF	1.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		447205.3	3764468	1.82E-07	9YrCancerF	1.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		447232.4	3764468	1.82E-07	9YrCancerF	1.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		447264	3764467	1.80E-07	9YrCancerF	1.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		447294.8	3764467	1.81E-07	9YrCancerF	1.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL		447365	3764456	1.88E-07	9YrCancerF	1.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	ALL		447406.6	3764461	1.91E-07	9YrCancerF	1.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
23	ALL		447441.5	3764460	1.93E-07	9YrCancerF	1.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
24	ALL		447466.9	3764460	1.94E-07	9YrCancerF	1.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
25	ALL		447490	3764461	1.96E-07	9YrCancerF	1.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	ALL		447515.5	3764460	1.99E-07	9YrCancerF	1.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	ALL		447573.1	3764454	2.07E-07	9YrCancerF	2.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
28	ALL		447598.5	3764445	2.10E-07	9YrCancerF	2.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
29	ALL		447652.9	3764440	2.11E-07	9YrCancerF	2.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	ALL		447692.9	3764440	2.14E-07	9YrCancerF	2.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
31	ALL		447713.8	3764439	2.15E-07	9YrCancerF	2.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
32	ALL		447732	3764439	2.16E-07	9YrCancerF	2.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
33	ALL		447751.1	3764439	2.18E-07	9YrCancerF	2.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
34	ALL		447768.8	3764438	2.19E-07	9YrCancerF	2.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
35	ALL		447789.1	3764438	2.20E-07	9YrCancerF	2.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
36	ALL		447805.7	3764437	2.21E-07	9YrCancerF	2.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
37	ALL		447824	3764437	2.22E-07	9YrCancerF	2.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
38	ALL		447841.6	3764438	2.24E-07	9YrCancerF	2.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
39	ALL		447861.7	3764438	2.26E-07	9YrCancerF	2.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
40	ALL		447881.7	3764435	2.29E-07	9YrCancerF	2.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
41	ALL		447902.8	3764436	2.31E-07	9YrCancerF	2.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
42	ALL		447920.9	3764435	2.33E-07	9YrCancerF	2.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
43	ALL		447942.2	3764435	2.36E-07	9YrCancerF	2.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
44	ALL		447962.8	3764435	2.38E-07	9YrCancerF	2.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
45	ALL		447980.7	3764435	2.41E-07	9YrCancerF	2.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
46	ALL		448004.7	3764435	2.45E-07	9YrCancerF	2.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
47	ALL		448021.3	3764435	2.50E-07	9YrCancerF	2.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

48	ALL	447662.7	3764380	2.22E-07	9YrCancerF	2.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
49	ALL	447681.3	3764321	2.39E-07	9YrCancerF	2.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
50	ALL	447682.6	3764286	2.52E-07	9YrCancerF	2.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
51	ALL	447662.5	3764238	2.70E-07	9YrCancerF	2.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
52	ALL	447661.7	3764207	2.84E-07	9YrCancerF	2.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
53	ALL	447683.1	3764162	3.09E-07	9YrCancerF	3.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
54	ALL	447681	3764146	3.17E-07	9YrCancerF	3.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55	ALL	447679.6	3764130	3.28E-07	9YrCancerF	3.28E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
56	ALL	447680.8	3764112	3.42E-07	9YrCancerF	3.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
57	ALL	447681.5	3764096	3.52E-07	9YrCancerF	3.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
58	ALL	447680.8	3764079	3.63E-07	9YrCancerF	3.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
59	ALL	447680	3764064	3.70E-07	9YrCancerF	3.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
60	ALL	447681	3764046	3.80E-07	9YrCancerF	3.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
61	ALL	447680.6	3764030	3.88E-07	9YrCancerF	3.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
62	ALL	447657.2	3763992	4.13E-07	9YrCancerF	4.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
63	ALL	447656.3	3763967	4.28E-07	9YrCancerF	4.28E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
64	ALL	447657.2	3763929	4.57E-07	9YrCancerF	4.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
65	ALL	447657.2	3763902	4.79E-07	9YrCancerF	4.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
66	ALL	447657.5	3763869	5.18E-07	9YrCancerF	5.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
67	ALL	447656.2	3763835	5.56E-07	9YrCancerF	5.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
68	ALL	447655.9	3763808	5.89E-07	9YrCancerF	5.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
69	ALL	447657.1	3763786	6.21E-07	9YrCancerF	6.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
70	ALL	447701.2	3763782	6.30E-07	9YrCancerF	6.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
71	ALL	447856.9	3763750	7.20E-07	9YrCancerF	7.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
72	ALL	447855	3763730	7.60E-07	9YrCancerF	7.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
73	ALL	447854.4	3763698	8.30E-07	9YrCancerF	8.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
74	ALL	447855.3	3763677	8.82E-07	9YrCancerF	8.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
75	ALL	447675.5	3763287	3.28E-06	9YrCancerF	3.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
76	ALL	448481.3	3763485	1.55E-06	9YrCancerF	1.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
77	ALL	448480	3763196	2.05E-06	9YrCancerF	2.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
78	ALL	448478.6	3762907	4.04E-06	9YrCancerF	4.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
79	ALL	448497.9	3762714	4.24E-06	9YrCancerF	4.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
80	ALL	448507.9	3762488	6.46E-06	9YrCancerF	6.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
81	ALL	448480.5	3762358	8.20E-06	9YrCancerF	8.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
82	ALL	448462.7	3762340	7.96E-06	9YrCancerF	7.96E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
83	ALL	448464.5	3762266	5.44E-06	9YrCancerF	5.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
84	ALL	448461.6	3762165	5.72E-06	9YrCancerF	5.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
85	ALL	448472.6	3762065	2.16E-06	9YrCancerF	2.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86	ALL	448460.5	3762017	1.76E-06	9YrCancerF	1.76E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87	ALL	448234.6	3761951	1.57E-06	9YrCancerF	1.57E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88	ALL	448081.4	3761953	1.39E-06	9YrCancerF	1.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89	ALL	448025.5	3761956	1.34E-06	9YrCancerF	1.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90	ALL	447506.8	3761968	1.21E-06	9YrCancerF	1.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91	ALL	447269.3	3761968	1.06E-06	9YrCancerF	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92	ALL	447389.5	3761909	1.02E-06	9YrCancerF	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
93	ALL	447019.1	3761964	8.86E-07	9YrCancerF	8.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94	ALL	447060.3	3761964	9.08E-07	9YrCancerF	9.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95	ALL	446975.3	3761963	8.62E-07	9YrCancerF	8.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
96	ALL	446940.9	3761954	8.31E-07	9YrCancerF	8.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

97	ALL	446865.7	3761975	8.25E-07	9YrCancerF	8.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
98	ALL	446795.1	3761958	7.64E-07	9YrCancerF	7.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
99	ALL	446757.7	3761966	7.55E-07	9YrCancerF	7.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100	ALL	446709.3	3761968	7.31E-07	9YrCancerF	7.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
101	ALL	446796.4	3762029	8.87E-07	9YrCancerF	8.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
102	ALL	446797	3762045	9.26E-07	9YrCancerF	9.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
103	ALL	446796.7	3762090	1.06E-06	9YrCancerF	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
104	ALL	446796.2	3762106	1.12E-06	9YrCancerF	1.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
105	ALL	446796.7	3762137	1.28E-06	9YrCancerF	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
106	ALL	446796.2	3762153	1.38E-06	9YrCancerF	1.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
107	ALL	446772.4	3762215	1.87E-06	9YrCancerF	1.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
108	ALL	446795.1	3762321	4.26E-06	9YrCancerF	4.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
109	ALL	446796.4	3762451	2.01E-06	9YrCancerF	2.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
110	ALL	446796.4	3762471	1.73E-06	9YrCancerF	1.73E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
111	ALL	446797.2	3762496	1.49E-06	9YrCancerF	1.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
112	ALL	446798.1	3762517	1.36E-06	9YrCancerF	1.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
113	ALL	446797.8	3762540	1.24E-06	9YrCancerF	1.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
114	ALL	446797.5	3762560	1.16E-06	9YrCancerF	1.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
115	ALL	446798.6	3762585	1.09E-06	9YrCancerF	1.09E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
116	ALL	446798.1	3762604	1.04E-06	9YrCancerF	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
117	ALL	446799.7	3762654	9.58E-07	9YrCancerF	9.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
118	ALL	446800	3762675	9.21E-07	9YrCancerF	9.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
119	ALL	446800.3	3762700	8.87E-07	9YrCancerF	8.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
120	ALL	446800.3	3762721	8.69E-07	9YrCancerF	8.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
121	ALL	446800	3762736	8.58E-07	9YrCancerF	8.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
122	ALL	446797.8	3762748	8.46E-07	9YrCancerF	8.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
123	ALL	446802.2	3762913	7.74E-07	9YrCancerF	7.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
124	ALL	446802.2	3762933	7.67E-07	9YrCancerF	7.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
125	ALL	446802.4	3762949	7.61E-07	9YrCancerF	7.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
126	ALL	446803	3762967	7.54E-07	9YrCancerF	7.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
127	ALL	446802.7	3762986	7.46E-07	9YrCancerF	7.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
128	ALL	446802.2	3763003	7.38E-07	9YrCancerF	7.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
129	ALL	446802.2	3763022	7.30E-07	9YrCancerF	7.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
130	ALL	446802.7	3763041	7.22E-07	9YrCancerF	7.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
131	ALL	446803	3763059	7.13E-07	9YrCancerF	7.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
132	ALL	446803.5	3763077	7.06E-07	9YrCancerF	7.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
133	ALL	446756.3	3763085	6.50E-07	9YrCancerF	6.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
134	ALL	446807.7	3763646	4.03E-07	9YrCancerF	4.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
135	ALL	446808.3	3763675	3.90E-07	9YrCancerF	3.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
136	ALL	446807.7	3763695	3.81E-07	9YrCancerF	3.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
137	ALL	446808.3	3763711	3.74E-07	9YrCancerF	3.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
138	ALL	446808.3	3763726	3.67E-07	9YrCancerF	3.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
139	ALL	446808	3763742	3.61E-07	9YrCancerF	3.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
140	ALL	446808.3	3763757	3.55E-07	9YrCancerF	3.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
141	ALL	446808.6	3763798	3.37E-07	9YrCancerF	3.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
142	ALL	446810.3	3764484	1.54E-07	9YrCancerF	1.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
143	ALL	446781.3	3764475	1.53E-07	9YrCancerF	1.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
144	ALL	446722.6	3764456	1.52E-07	9YrCancerF	1.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
145	ALL	446170.3	3764560	1.11E-07	9YrCancerF	1.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

146	ALL	446872.3	3763190	7.40E-07	9YrCancerF	7.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
147	ALL	446925.2	3763179	8.39E-07	9YrCancerF	8.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
148	ALL	446984.9	3763195	9.76E-07	9YrCancerF	9.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
149	ALL	447010.6	3763193	1.05E-06	9YrCancerF	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
150	ALL	447036.6	3763194	1.14E-06	9YrCancerF	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
151	ALL	447053.6	3763193	1.21E-06	9YrCancerF	1.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
152	ALL	447076.4	3763192	1.31E-06	9YrCancerF	1.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
153	ALL	447093.5	3763193	1.40E-06	9YrCancerF	1.40E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
154	ALL	447122.1	3763193	1.58E-06	9YrCancerF	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
155	ALL	447138.8	3763192	1.70E-06	9YrCancerF	1.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
156	ALL	447168	3763192	1.96E-06	9YrCancerF	1.96E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
157	ALL	447170.7	3763172	1.99E-06	9YrCancerF	1.99E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
158	ALL	447170.4	3763158	1.99E-06	9YrCancerF	1.99E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
159	ALL	447169.3	3763145	1.97E-06	9YrCancerF	1.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
160	ALL	447147.5	3763107	1.79E-06	9YrCancerF	1.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
161	ALL	447146.6	3763084	1.79E-06	9YrCancerF	1.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
162	ALL	447146.9	3763064	1.79E-06	9YrCancerF	1.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
163	ALL	447149.9	3763039	1.82E-06	9YrCancerF	1.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
164	ALL	447148.6	3763020	1.81E-06	9YrCancerF	1.81E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
165	ALL	447148.6	3762997	1.80E-06	9YrCancerF	1.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
166	ALL	447206.1	3762958	2.32E-06	9YrCancerF	2.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
167	ALL	447209.3	3762923	2.25E-06	9YrCancerF	2.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
168	ALL	447208.4	3762891	2.14E-06	9YrCancerF	2.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
169	ALL	447145.8	3762889	1.72E-06	9YrCancerF	1.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
170	ALL	447122.6	3762889	1.60E-06	9YrCancerF	1.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
171	ALL	447094.3	3762890	1.47E-06	9YrCancerF	1.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
172	ALL	447071	3762890	1.38E-06	9YrCancerF	1.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
173	ALL	447043.6	3762890	1.28E-06	9YrCancerF	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
174	ALL	447017.8	3762889	1.21E-06	9YrCancerF	1.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
175	ALL	446992.1	3762889	1.14E-06	9YrCancerF	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
176	ALL	446964.3	3762888	1.07E-06	9YrCancerF	1.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
177	ALL	446940.4	3762888	1.02E-06	9YrCancerF	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
178	ALL	446911.2	3762888	9.58E-07	9YrCancerF	9.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
179	ALL	446885.4	3762890	9.10E-07	9YrCancerF	9.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
180	ALL	446862.1	3762889	8.72E-07	9YrCancerF	8.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
181	ALL	446871.5	3762780	9.38E-07	9YrCancerF	9.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
182	ALL	446926.3	3762769	1.04E-06	9YrCancerF	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
183	ALL	446983.7	3762774	1.16E-06	9YrCancerF	1.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
184	ALL	447009	3762774	1.22E-06	9YrCancerF	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
185	ALL	447030.5	3762774	1.28E-06	9YrCancerF	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
186	ALL	447055.4	3762774	1.35E-06	9YrCancerF	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
187	ALL	447076.9	3762774	1.41E-06	9YrCancerF	1.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
188	ALL	447101.2	3762774	1.49E-06	9YrCancerF	1.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
189	ALL	447123.9	3762774	1.57E-06	9YrCancerF	1.57E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
190	ALL	447148.1	3762775	1.66E-06	9YrCancerF	1.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
191	ALL	447170.2	3762775	1.75E-06	9YrCancerF	1.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
192	ALL	447196.8	3762775	1.87E-06	9YrCancerF	1.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
193	ALL	447242.1	3762777	2.10E-06	9YrCancerF	2.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
194	ALL	447262.3	3762776	2.22E-06	9YrCancerF	2.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

195	ALL	447294.6	3762776	2.43E-06	9YrCancerF	2.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
196	ALL	447313.1	3762775	2.58E-06	9YrCancerF	2.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
197	ALL	447313.4	3762750	2.63E-06	9YrCancerF	2.63E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
198	ALL	447327.9	3762713	2.95E-06	9YrCancerF	2.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
199	ALL	447327.4	3762680	3.12E-06	9YrCancerF	3.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
200	ALL	447327.7	3762657	3.24E-06	9YrCancerF	3.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
201	ALL	447327.3	3762637	3.32E-06	9YrCancerF	3.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
202	ALL	447327.5	3762613	3.40E-06	9YrCancerF	3.40E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
203	ALL	447327.3	3762592	3.43E-06	9YrCancerF	3.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
204	ALL	447327	3762570	3.44E-06	9YrCancerF	3.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
205	ALL	447327.3	3762548	3.43E-06	9YrCancerF	3.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
206	ALL	447326.6	3762525	3.38E-06	9YrCancerF	3.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
207	ALL	447326.6	3762506	3.35E-06	9YrCancerF	3.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
208	ALL	447327.5	3762478	3.30E-06	9YrCancerF	3.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
209	ALL	447325.9	3762454	3.26E-06	9YrCancerF	3.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
210	ALL	447225.6	3762433	2.78E-06	9YrCancerF	2.78E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
211	ALL	447200.3	3762431	2.77E-06	9YrCancerF	2.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
212	ALL	447156.9	3762430	2.79E-06	9YrCancerF	2.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
213	ALL	447131.8	3762431	2.84E-06	9YrCancerF	2.84E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
214	ALL	447102.7	3762431	2.95E-06	9YrCancerF	2.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
215	ALL	447079.1	3762431	3.07E-06	9YrCancerF	3.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
216	ALL	447034.9	3762434	3.27E-06	9YrCancerF	3.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
217	ALL	446995.5	3762434	3.46E-06	9YrCancerF	3.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
218	ALL	446972.7	3762434	3.47E-06	9YrCancerF	3.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
219	ALL	446941.4	3762435	3.47E-06	9YrCancerF	3.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
220	ALL	446916.1	3762437	3.35E-06	9YrCancerF	3.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
221	ALL	446876.4	3762437	3.25E-06	9YrCancerF	3.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
222	ALL	446848.9	3762647	1.05E-06	9YrCancerF	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
223	ALL	446848.9	3762563	1.27E-06	9YrCancerF	1.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
224	ALL	446849.2	3762510	1.58E-06	9YrCancerF	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
225	ALL	446849.2	3762456	2.39E-06	9YrCancerF	2.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
226	ALL	446848.9	3762702	9.60E-07	9YrCancerF	9.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
227	ALL	446849.5	3762755	9.17E-07	9YrCancerF	9.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
228	ALL	446739.8	3762429	1.75E-06	9YrCancerF	1.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
229	ALL	446711.8	3762424	1.55E-06	9YrCancerF	1.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
230	ALL	446687.3	3762416	1.42E-06	9YrCancerF	1.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
231	ALL	446662.2	3762412	1.28E-06	9YrCancerF	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
232	ALL	446636.2	3762404	1.18E-06	9YrCancerF	1.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
233	ALL	449981.7	3762732	5.25E-07	9YrCancerF	5.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
234	ALL	446486.8	3762232	1.08E-06	9YrCancerF	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
235	ALL	446262	3762068	8.34E-07	9YrCancerF	8.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
236	ALL	446443.2	3762292	8.39E-07	9YrCancerF	8.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
237	ALL	446071.8	3762055	7.21E-07	9YrCancerF	7.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
238	ALL	446072.1	3761983	6.73E-07	9YrCancerF	6.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
239	ALL	446138.2	3762002	7.18E-07	9YrCancerF	7.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
240	ALL	445884.9	3762040	6.55E-07	9YrCancerF	6.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v22118 10/19/2022 12:43:00 PM - Acute Risk - Input File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\HARP\14822 OPS\hra\SchoolHRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE\	RESP	SKIN	EYE	BONE/TEE	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	ALL		447362.2	3764293	NonCancer	0.00E+00	0.00E+00	5.83E-03	0.00E+00	0.00E+00	5.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.83E-03	0.00E+00	0.00E+00	5.83E-03
2	ALL		447376	3764151	NonCancer	0.00E+00	0.00E+00	6.14E-03	0.00E+00	0.00E+00	6.14E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E-03	0.00E+00	0.00E+00	6.14E-03
3	ALL		447389.8	3764043	NonCancer	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03
4	ALL		447450.2	3764031	NonCancer	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03
5	ALL		447410.2	3764019	NonCancer	0.00E+00	0.00E+00	6.09E-03	0.00E+00	0.00E+00	6.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.09E-03	0.00E+00	0.00E+00	6.09E-03
6	ALL		446891.9	3764451	NonCancer	0.00E+00	0.00E+00	5.06E-03	0.00E+00	0.00E+00	5.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.06E-03	0.00E+00	0.00E+00	5.06E-03
7	ALL		446959.3	3764451	NonCancer	0.00E+00	0.00E+00	5.12E-03	0.00E+00	0.00E+00	5.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.12E-03	0.00E+00	0.00E+00	5.12E-03
8	ALL		446995.3	3764468	NonCancer	0.00E+00	0.00E+00	5.18E-03	0.00E+00	0.00E+00	5.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.18E-03	0.00E+00	0.00E+00	5.18E-03
9	ALL		447007.4	3764467	NonCancer	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03
10	ALL		447023.5	3764466	NonCancer	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.20E-03	0.00E+00	0.00E+00	5.20E-03
11	ALL		447036.6	3764466	NonCancer	0.00E+00	0.00E+00	5.21E-03	0.00E+00	0.00E+00	5.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.21E-03	0.00E+00	0.00E+00	5.21E-03
12	ALL		447052.7	3764466	NonCancer	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03
13	ALL		447066.6	3764466	NonCancer	0.00E+00	0.00E+00	5.27E-03	0.00E+00	0.00E+00	5.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.27E-03	0.00E+00	0.00E+00	5.27E-03
14	ALL		447099.7	3764456	NonCancer	0.00E+00	0.00E+00	5.37E-03	0.00E+00	0.00E+00	5.37E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.37E-03	0.00E+00	0.00E+00	5.37E-03
15	ALL		447145.3	3764468	NonCancer	0.00E+00	0.00E+00	5.34E-03	0.00E+00	0.00E+00	5.34E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.34E-03	0.00E+00	0.00E+00	5.34E-03
16	ALL		447175.5	3764468	NonCancer	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E-03	0.00E+00	0.00E+00	5.26E-03
17	ALL		447205.3	3764468	NonCancer	0.00E+00	0.00E+00	5.24E-03	0.00E+00	0.00E+00	5.24E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.24E-03	0.00E+00	0.00E+00	5.24E-03
18	ALL		447232.4	3764468	NonCancer	0.00E+00	0.00E+00	5.40E-03	0.00E+00	0.00E+00	5.40E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.40E-03	0.00E+00	0.00E+00	5.40E-03
19	ALL		447264	3764467	NonCancer	0.00E+00	0.00E+00	5.64E-03	0.00E+00	0.00E+00	5.64E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.64E-03	0.00E+00	0.00E+00	5.64E-03
20	ALL		447294.8	3764467	NonCancer	0.00E+00	0.00E+00	5.78E-03	0.00E+00	0.00E+00	5.78E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-03	0.00E+00	0.00E+00	5.78E-03
21	ALL		447365	3764456	NonCancer	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03
22	ALL		447406.6	3764461	NonCancer	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.75E-03	0.00E+00	0.00E+00	5.75E-03
23	ALL		447441.5	3764460	NonCancer	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03
24	ALL		447466.9	3764460	NonCancer	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03
25	ALL		447490	3764461	NonCancer	0.00E+00	0.00E+00	5.76E-03	0.00E+00	0.00E+00	5.76E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.76E-03	0.00E+00	0.00E+00	5.76E-03
26	ALL		447515.5	3764460	NonCancer	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03
27	ALL		447573.1	3764454	NonCancer	0.00E+00	0.00E+00	5.60E-03	0.00E+00	0.00E+00	5.60E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E-03	0.00E+00	0.00E+00	5.60E-03
28	ALL		447598.5	3764445	NonCancer	0.00E+00	0.00E+00	5.69E-03	0.00E+00	0.00E+00	5.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.69E-03	0.00E+00	0.00E+00	5.69E-03
29	ALL		447652.9	3764440	NonCancer	0.00E+00	0.00E+00	5.91E-03	0.00E+00	0.00E+00	5.91E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.91E-03	0.00E+00	0.00E+00	5.91E-03
30	ALL		447692.9	3764440	NonCancer	0.00E+00	0.00E+00	5.98E-03	0.00E+00	0.00E+00	5.98E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.98E-03	0.00E+00	0.00E+00	5.98E-03
31	ALL		447713.8	3764439	NonCancer	0.00E+00	0.00E+00	5.97E-03	0.00E+00	0.00E+00	5.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.97E-03	0.00E+00	0.00E+00	5.97E-03
32	ALL		447732	3764439	NonCancer	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03
33	ALL		447751.1	3764439	NonCancer	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03
34	ALL		447768.8	3764438	NonCancer	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03
35	ALL		447789.1	3764438	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
36	ALL		447805.7	3764437	NonCancer	0.00E+00	0.00E+00	6.15E-03	0.00E+00	0.00E+00	6.15E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.15E-03	0.00E+00	0.00E+00	6.15E-03
37	ALL		447824	3764437	NonCancer	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.11E-03	0.00E+00	0.00E+00	6.11E-03
38	ALL		447841.6	3764438	NonCancer	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03
39	ALL		447861.7	3764438	NonCancer	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03
40	ALL		447881.7	3764435	NonCancer	0.00E+00	0.00E+00	6.10E-03	0.00E+00	0.00E+00	6.10E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.10E-03	0.00E+00	0.00E+00	6.10E-03
41	ALL		447902.8	3764436	NonCancer	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.13E-03	0.00E+00	0.00E+00	6.13E-03
42	ALL		447920.9	3764435	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
43	ALL		447942.2	3764435	NonCancer	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03
44	ALL		447962.8	3764435	NonCancer	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-03	0.00E+00	0.00E+00	6.07E-03
45	ALL		447980.7	3764435	NonCancer	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-03	0.00E+00	0.00E+00	6.06E-03
46	ALL		448004.7	3764435	NonCancer	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.02E-03	0.00E+00	0.00E+00	6.02E-03
47	ALL		448021.3	3764435	NonCancer	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03
48	ALL		447662.7	3764380	NonCancer	0.00E+00	0.00E+00	6.25E-03	0.00E+00	0.00E+00	6.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.25E-03	0.00E+00	0.00E+00	6.25E-03
49	ALL		447681.3	3764321	NonCancer	0.00E+00	0.00E+00	6.48E-03	0.00E+00	0.00E+00	6.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.48E-03	0.00E+00	0.00E+00	6.48E-03
50	ALL		447682.6	3764286	NonCancer	0.00E+00	0.00E+00	6.41E-03	0.00E+00	0.00E+00	6.41E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.41E-03	0.00E+00	0.00E+00	6.41E-03
51	ALL		447662.5	3764238	NonCancer	0.00E+00	0.00E+00	6.28E-03	0.00E+00	0.00E+00	6.28E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.28E-03	0.00E+00	0.00E+00	6.28E-03
52	ALL		447661.7	3764207	NonCancer	0.00E+00	0.00E+00	6.21E-03	0.00E+00	0.00E+00	6.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.21E-03	0.00E+00	0.00E+00	6.21E-03
53	ALL		447683.1	3764162	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03

54	ALL	447681	3764146	NonCancer	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-03	0.00E+00	0.00E+00	6.08E-03
55	ALL	447679.6	3764130	NonCancer	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03
56	ALL	447680.8	3764112	NonCancer	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.94E-03	0.00E+00	0.00E+00	5.94E-03
57	ALL	447681.5	3764096	NonCancer	0.00E+00	0.00E+00	5.93E-03	0.00E+00	0.00E+00	5.93E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.93E-03	0.00E+00	0.00E+00	5.93E-03
58	ALL	447680.8	3764079	NonCancer	0.00E+00	0.00E+00	5.96E-03	0.00E+00	0.00E+00	5.96E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.96E-03	0.00E+00	0.00E+00	5.96E-03
59	ALL	447680	3764064	NonCancer	0.00E+00	0.00E+00	6.03E-03	0.00E+00	0.00E+00	6.03E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.03E-03	0.00E+00	0.00E+00	6.03E-03
60	ALL	447681	3764046	NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
61	ALL	447680.6	3764030	NonCancer	0.00E+00	0.00E+00	6.20E-03	0.00E+00	0.00E+00	6.20E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.20E-03	0.00E+00	0.00E+00	6.20E-03
62	ALL	447657.2	3763992	NonCancer	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03
63	ALL	447656.3	3763967	NonCancer	0.00E+00	0.00E+00	6.47E-03	0.00E+00	0.00E+00	6.47E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.47E-03	0.00E+00	0.00E+00	6.47E-03
64	ALL	447657.2	3763929	NonCancer	0.00E+00	0.00E+00	6.70E-03	0.00E+00	0.00E+00	6.70E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.70E-03	0.00E+00	0.00E+00	6.70E-03
65	ALL	447657.2	3763902	NonCancer	0.00E+00	0.00E+00	6.88E-03	0.00E+00	0.00E+00	6.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.88E-03	0.00E+00	0.00E+00	6.88E-03
66	ALL	447657.5	3763869	NonCancer	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	6.97E-03
67	ALL	447656.2	3763835	NonCancer	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03
68	ALL	447655.9	3763808	NonCancer	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03
69	ALL	447657.1	3763786	NonCancer	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03
70	ALL	447701.2	3763782	NonCancer	0.00E+00	0.00E+00	7.63E-03	0.00E+00	0.00E+00	7.63E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.63E-03	0.00E+00	0.00E+00	7.63E-03
71	ALL	447856.9	3763750	NonCancer	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03
72	ALL	447855	3763730	NonCancer	0.00E+00	0.00E+00	7.27E-03	0.00E+00	0.00E+00	7.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-03	0.00E+00	0.00E+00	7.27E-03
73	ALL	447854.4	3763698	NonCancer	0.00E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	7.33E-03
74	ALL	447855.3	3763677	NonCancer	0.00E+00	0.00E+00	7.39E-03	0.00E+00	0.00E+00	7.39E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.39E-03	0.00E+00	0.00E+00	7.39E-03
75	ALL	447675.5	3763287	NonCancer	0.00E+00	0.00E+00	8.48E-03	0.00E+00	0.00E+00	8.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.48E-03	0.00E+00	0.00E+00	8.48E-03
76	ALL	448481.3	3763485	NonCancer	0.00E+00	0.00E+00	8.17E-03	0.00E+00	0.00E+00	8.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.17E-03	0.00E+00	0.00E+00	8.17E-03
77	ALL	448480	3763196	NonCancer	0.00E+00	0.00E+00	8.53E-03	0.00E+00	0.00E+00	8.53E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.53E-03	0.00E+00	0.00E+00	8.53E-03
78	ALL	448478.6	3762907	NonCancer	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02
79	ALL	448497.9	3762714	NonCancer	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-02	0.00E+00	0.00E+00	1.51E-02
80	ALL	448507.9	3762488	NonCancer	0.00E+00	0.00E+00	3.25E-02	0.00E+00	0.00E+00	3.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.25E-02	0.00E+00	0.00E+00	3.25E-02
81	ALL	448480.5	3762358	NonCancer	0.00E+00	0.00E+00	4.85E-02	0.00E+00	0.00E+00	4.85E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E-02	0.00E+00	0.00E+00	4.85E-02
82	ALL	448462.7	3762340	NonCancer	0.00E+00	0.00E+00	5.97E-02	0.00E+00	0.00E+00	5.97E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.97E-02	0.00E+00	0.00E+00	5.97E-02
83	ALL	448464.5	3762266	NonCancer	0.00E+00	0.00E+00	5.49E-02	0.00E+00	0.00E+00	5.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.49E-02	0.00E+00	0.00E+00	5.49E-02
84	ALL	448461.6	3762165	NonCancer	0.00E+00	0.00E+00	5.52E-02	0.00E+00	0.00E+00	5.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.52E-02	0.00E+00	0.00E+00	5.52E-02
85	ALL	448472.6	3762065	NonCancer	0.00E+00	0.00E+00	2.49E-02	0.00E+00	0.00E+00	2.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-02	0.00E+00	0.00E+00	2.49E-02
86	ALL	448460.5	3762017	NonCancer	0.00E+00	0.00E+00	2.92E-02	0.00E+00	0.00E+00	2.92E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.92E-02	0.00E+00	0.00E+00	2.92E-02
87	ALL	448234.6	3761951	NonCancer	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	1.56E-02
88	ALL	448081.4	3761953	NonCancer	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-02	0.00E+00	0.00E+00	1.28E-02
89	ALL	448025.5	3761956	NonCancer	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-02	0.00E+00	0.00E+00	1.23E-02
90	ALL	447506.8	3761968	NonCancer	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02
91	ALL	447269.3	3761968	NonCancer	0.00E+00	0.00E+00	9.15E-03	0.00E+00	0.00E+00	9.15E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.15E-03	0.00E+00	0.00E+00	9.15E-03
92	ALL	447389.5	3761909	NonCancer	0.00E+00	0.00E+00	8.99E-03	0.00E+00	0.00E+00	8.99E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.99E-03	0.00E+00	0.00E+00	8.99E-03
93	ALL	447019.1	3761964	NonCancer	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03
94	ALL	447060.3	3761964	NonCancer	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02
95	ALL	446975.3	3761963	NonCancer	0.00E+00	0.00E+00	8.08E-03	0.00E+00	0.00E+00	8.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.08E-03	0.00E+00	0.00E+00	8.08E-03
96	ALL	446940.9	3761954	NonCancer	0.00E+00	0.00E+00	7.86E-03	0.00E+00	0.00E+00	7.86E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.86E-03	0.00E+00	0.00E+00	7.86E-03
97	ALL	446865.7	3761975	NonCancer	0.00E+00	0.00E+00	7.97E-03	0.00E+00	0.00E+00	7.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.97E-03	0.00E+00	0.00E+00	7.97E-03
98	ALL	446795.1	3761958	NonCancer	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.25E-03	0.00E+00	0.00E+00	7.25E-03
99	ALL	446757.7	3761966	NonCancer	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03
100	ALL	446709.3	3761968	NonCancer	0.00E+00	0.00E+00	6.73E-03	0.00E+00	0.00E+00	6.73E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.73E-03	0.00E+00	0.00E+00	6.73E-03
101	ALL	446796.4	3762029	NonCancer	0.00E+00	0.00E+00	8.59E-03	0.00E+00	0.00E+00	8.59E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.59E-03	0.00E+00	0.00E+00	8.59E-03
102	ALL	446797	3762045	NonCancer	0.00E+00	0.00E+00	8.97E-03	0.00E+00	0.00E+00	8.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.97E-03	0.00E+00	0.00E+00	8.97E-03
103	ALL	446796.7	3762090	NonCancer	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-02	0.00E+00	0.00E+00	1.02E-02
104	ALL	446796.2	3762106	NonCancer	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-02	0.00E+00	0.00E+00	1.09E-02
105	ALL	446796.7	3762137	NonCancer	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02
106	ALL	446796.2	3762153	NonCancer	0.00E+00	0.00E+00	1.35E-02	0.00E+00	0.00E+00	1.35E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-02	0.00E+00	0.00E+00	1.35E-02
107	ALL	446772.4	3762215	NonCancer	0.00E+00	0.00E+00	1.72E-02	0.00E+00	0.00E+00	1.72E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E-02	0.00E+00	0.00E+00	1.72E-02
108	ALL	446795.1	3762321	NonCancer	0.00E+00	0.00E+00	4.32E-02	0.00E+00	0.00E+00	4.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E-02	0.00E+00	0.00E+00	4.32E-02

109 ALL	446796.4	3762451 NonCancer	0.00E+00	0.00E+00	2.19E-02	0.00E+00	0.00E+00	2.19E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-02	0.00E+00	0.00E+00	2.19E-02
110 ALL	446796.4	3762471 NonCancer	0.00E+00	0.00E+00	1.84E-02	0.00E+00	0.00E+00	1.84E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-02	0.00E+00	0.00E+00	1.84E-02
111 ALL	446797.2	3762496 NonCancer	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-02	0.00E+00	0.00E+00	1.59E-02
112 ALL	446798.1	3762517 NonCancer	0.00E+00	0.00E+00	1.41E-02	0.00E+00	0.00E+00	1.41E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-02	0.00E+00	0.00E+00	1.41E-02
113 ALL	446797.8	3762540 NonCancer	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02
114 ALL	446797.5	3762560 NonCancer	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-02	0.00E+00	0.00E+00	1.13E-02
115 ALL	446798.6	3762585 NonCancer	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02
116 ALL	446798.1	3762604 NonCancer	0.00E+00	0.00E+00	9.83E-03	0.00E+00	0.00E+00	9.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.83E-03	0.00E+00	0.00E+00	9.83E-03
117 ALL	446799.7	3762654 NonCancer	0.00E+00	0.00E+00	8.65E-03	0.00E+00	0.00E+00	8.65E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.65E-03	0.00E+00	0.00E+00	8.65E-03
118 ALL	446800	3762675 NonCancer	0.00E+00	0.00E+00	9.07E-03	0.00E+00	0.00E+00	9.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.07E-03	0.00E+00	0.00E+00	9.07E-03
119 ALL	446800.3	3762700 NonCancer	0.00E+00	0.00E+00	8.94E-03	0.00E+00	0.00E+00	8.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.94E-03	0.00E+00	0.00E+00	8.94E-03
120 ALL	446800.3	3762721 NonCancer	0.00E+00	0.00E+00	8.67E-03	0.00E+00	0.00E+00	8.67E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.67E-03	0.00E+00	0.00E+00	8.67E-03
121 ALL	446800	3762736 NonCancer	0.00E+00	0.00E+00	8.46E-03	0.00E+00	0.00E+00	8.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.46E-03	0.00E+00	0.00E+00	8.46E-03
122 ALL	446797.8	3762748 NonCancer	0.00E+00	0.00E+00	8.23E-03	0.00E+00	0.00E+00	8.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.23E-03	0.00E+00	0.00E+00	8.23E-03
123 ALL	446802.2	3762913 NonCancer	0.00E+00	0.00E+00	6.23E-03	0.00E+00	0.00E+00	6.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.23E-03	0.00E+00	0.00E+00	6.23E-03
124 ALL	446802.2	3762933 NonCancer	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-03	0.00E+00	0.00E+00	6.12E-03
125 ALL	446802.4	3762949 NonCancer	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-03	0.00E+00	0.00E+00	6.01E-03
126 ALL	446803	3762967 NonCancer	0.00E+00	0.00E+00	5.87E-03	0.00E+00	0.00E+00	5.87E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.87E-03	0.00E+00	0.00E+00	5.87E-03
127 ALL	446802.7	3762986 NonCancer	0.00E+00	0.00E+00	5.77E-03	0.00E+00	0.00E+00	5.77E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.77E-03	0.00E+00	0.00E+00	5.77E-03
128 ALL	446802.2	3763003 NonCancer	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03
129 ALL	446802.2	3763022 NonCancer	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03
130 ALL	446802.7	3763041 NonCancer	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.72E-03	0.00E+00	0.00E+00	5.72E-03
131 ALL	446803	3763059 NonCancer	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.81E-03	0.00E+00	0.00E+00	5.81E-03
132 ALL	446803.5	3763077 NonCancer	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.79E-03	0.00E+00	0.00E+00	5.79E-03
133 ALL	446756.3	3763085 NonCancer	0.00E+00	0.00E+00	5.13E-03	0.00E+00	0.00E+00	5.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.13E-03	0.00E+00	0.00E+00	5.13E-03
134 ALL	446807.7	3763646 NonCancer	0.00E+00	0.00E+00	5.71E-03	0.00E+00	0.00E+00	5.71E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.71E-03	0.00E+00	0.00E+00	5.71E-03
135 ALL	446808.3	3763675 NonCancer	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	5.66E-03
136 ALL	446807.7	3763695 NonCancer	0.00E+00	0.00E+00	5.63E-03	0.00E+00	0.00E+00	5.63E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.63E-03	0.00E+00	0.00E+00	5.63E-03
137 ALL	446808.3	3763711 NonCancer	0.00E+00	0.00E+00	5.59E-03	0.00E+00	0.00E+00	5.59E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.59E-03	0.00E+00	0.00E+00	5.59E-03
138 ALL	446808.3	3763726 NonCancer	0.00E+00	0.00E+00	5.55E-03	0.00E+00	0.00E+00	5.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.55E-03	0.00E+00	0.00E+00	5.55E-03
139 ALL	446808	3763742 NonCancer	0.00E+00	0.00E+00	5.48E-03	0.00E+00	0.00E+00	5.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.48E-03	0.00E+00	0.00E+00	5.48E-03
140 ALL	446808.3	3763757 NonCancer	0.00E+00	0.00E+00	5.43E-03	0.00E+00	0.00E+00	5.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.43E-03	0.00E+00	0.00E+00	5.43E-03
141 ALL	446808.6	3763798 NonCancer	0.00E+00	0.00E+00	5.42E-03	0.00E+00	0.00E+00	5.42E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.42E-03	0.00E+00	0.00E+00	5.42E-03
142 ALL	446810.3	3764484 NonCancer	0.00E+00	0.00E+00	4.91E-03	0.00E+00	0.00E+00	4.91E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.91E-03	0.00E+00	0.00E+00	4.91E-03
143 ALL	446781.3	3764475 NonCancer	0.00E+00	0.00E+00	4.88E-03	0.00E+00	0.00E+00	4.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.88E-03	0.00E+00	0.00E+00	4.88E-03
144 ALL	446722.6	3764456 NonCancer	0.00E+00	0.00E+00	4.83E-03	0.00E+00	0.00E+00	4.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.83E-03	0.00E+00	0.00E+00	4.83E-03
145 ALL	446170.3	3764560 NonCancer	0.00E+00	0.00E+00	4.18E-03	0.00E+00	0.00E+00	4.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.18E-03	0.00E+00	0.00E+00	4.18E-03
146 ALL	446872.3	3763190 NonCancer	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	6.68E-03
147 ALL	446925.2	3763179 NonCancer	0.00E+00	0.00E+00	7.07E-03	0.00E+00	0.00E+00	7.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.07E-03	0.00E+00	0.00E+00	7.07E-03
148 ALL	446984.9	3763195 NonCancer	0.00E+00	0.00E+00	7.06E-03	0.00E+00	0.00E+00	7.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.06E-03	0.00E+00	0.00E+00	7.06E-03
149 ALL	447010.6	3763193 NonCancer	0.00E+00	0.00E+00	7.36E-03	0.00E+00	0.00E+00	7.36E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.36E-03	0.00E+00	0.00E+00	7.36E-03
150 ALL	447036.6	3763194 NonCancer	0.00E+00	0.00E+00	7.42E-03	0.00E+00	0.00E+00	7.42E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.42E-03	0.00E+00	0.00E+00	7.42E-03
151 ALL	447053.6	3763193 NonCancer	0.00E+00	0.00E+00	7.46E-03	0.00E+00	0.00E+00	7.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.46E-03	0.00E+00	0.00E+00	7.46E-03
152 ALL	447076.4	3763192 NonCancer	0.00E+00	0.00E+00	7.61E-03	0.00E+00	0.00E+00	7.61E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.61E-03	0.00E+00	0.00E+00	7.61E-03
153 ALL	447093.5	3763193 NonCancer	0.00E+00	0.00E+00	7.83E-03	0.00E+00	0.00E+00	7.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.83E-03	0.00E+00	0.00E+00	7.83E-03
154 ALL	447122.1	3763193 NonCancer	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.79E-03	0.00E+00	0.00E+00	7.79E-03
155 ALL	447138.8	3763192 NonCancer	0.00E+00	0.00E+00	7.78E-03	0.00E+00	0.00E+00	7.78E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.78E-03	0.00E+00	0.00E+00	7.78E-03
156 ALL	447168	3763192 NonCancer	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.87E-03	0.00E+00	0.00E+00	7.87E-03
157 ALL	447170.7	3763172 NonCancer	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03
158 ALL	447170.4	3763158 NonCancer	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.90E-03	0.00E+00	0.00E+00	7.90E-03
159 ALL	447169.3	3763145 NonCancer	0.00E+00	0.00E+00	7.99E-03	0.00E+00	0.00E+00	7.99E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.99E-03	0.00E+00	0.00E+00	7.99E-03
160 ALL	447147.5	3763107 NonCancer	0.00E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	8.50E-03
161 ALL	447146.6	3763084 NonCancer	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03
162 ALL	447146.9	3763064 NonCancer	0.00E+00	0.00E+00	8.66E-03	0.00E+00	0.00E+00	8.66E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.66E-03	0.00E+00	0.00E+00	8.66E-03
163 ALL	447149.9	3763039 NonCancer	0.00E+00	0.00E+00	8.58E-03	0.00E+00	0.00E+00	8.58E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.58E-03	0.00E+00	0.00E+00	8.58E-03

164 ALL	447148.6	3763020 NonCancer	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03
165 ALL	447148.6	3762997 NonCancer	0.00E+00	0.00E+00	8.63E-03	0.00E+00	0.00E+00	8.63E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.63E-03	0.00E+00	0.00E+00	8.63E-03
166 ALL	447206.1	3762958 NonCancer	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03
167 ALL	447209.3	3762923 NonCancer	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-03	0.00E+00	0.00E+00	8.62E-03
168 ALL	447208.4	3762891 NonCancer	0.00E+00	0.00E+00	8.74E-03	0.00E+00	0.00E+00	8.74E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.74E-03	0.00E+00	0.00E+00	8.74E-03
169 ALL	447145.8	3762889 NonCancer	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.55E-03	0.00E+00	0.00E+00	8.55E-03
170 ALL	447122.6	3762889 NonCancer	0.00E+00	0.00E+00	8.36E-03	0.00E+00	0.00E+00	8.36E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.36E-03	0.00E+00	0.00E+00	8.36E-03
171 ALL	447094.3	3762890 NonCancer	0.00E+00	0.00E+00	8.18E-03	0.00E+00	0.00E+00	8.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.18E-03	0.00E+00	0.00E+00	8.18E-03
172 ALL	447071	3762890 NonCancer	0.00E+00	0.00E+00	8.13E-03	0.00E+00	0.00E+00	8.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.13E-03	0.00E+00	0.00E+00	8.13E-03
173 ALL	447043.6	3762890 NonCancer	0.00E+00	0.00E+00	8.02E-03	0.00E+00	0.00E+00	8.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.02E-03	0.00E+00	0.00E+00	8.02E-03
174 ALL	447017.8	3762889 NonCancer	0.00E+00	0.00E+00	7.88E-03	0.00E+00	0.00E+00	7.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.88E-03	0.00E+00	0.00E+00	7.88E-03
175 ALL	446992.1	3762889 NonCancer	0.00E+00	0.00E+00	7.69E-03	0.00E+00	0.00E+00	7.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.69E-03	0.00E+00	0.00E+00	7.69E-03
176 ALL	446964.3	3762888 NonCancer	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.62E-03	0.00E+00	0.00E+00	7.62E-03
177 ALL	446940.4	3762888 NonCancer	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.44E-03	0.00E+00	0.00E+00	7.44E-03
178 ALL	446911.2	3762888 NonCancer	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.21E-03	0.00E+00	0.00E+00	7.21E-03
179 ALL	446885.4	3762890 NonCancer	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.09E-03	0.00E+00	0.00E+00	7.09E-03
180 ALL	446862.1	3762889 NonCancer	0.00E+00	0.00E+00	6.95E-03	0.00E+00	0.00E+00	6.95E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.95E-03	0.00E+00	0.00E+00	6.95E-03
181 ALL	446871.5	3762780 NonCancer	0.00E+00	0.00E+00	8.32E-03	0.00E+00	0.00E+00	8.32E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.32E-03	0.00E+00	0.00E+00	8.32E-03
182 ALL	446926.3	3762769 NonCancer	0.00E+00	0.00E+00	8.75E-03	0.00E+00	0.00E+00	8.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.75E-03	0.00E+00	0.00E+00	8.75E-03
183 ALL	446983.7	3762774 NonCancer	0.00E+00	0.00E+00	8.84E-03	0.00E+00	0.00E+00	8.84E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.84E-03	0.00E+00	0.00E+00	8.84E-03
184 ALL	447009	3762774 NonCancer	0.00E+00	0.00E+00	8.96E-03	0.00E+00	0.00E+00	8.96E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.96E-03	0.00E+00	0.00E+00	8.96E-03
185 ALL	447030.5	3762774 NonCancer	0.00E+00	0.00E+00	8.88E-03	0.00E+00	0.00E+00	8.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.88E-03	0.00E+00	0.00E+00	8.88E-03
186 ALL	447055.4	3762774 NonCancer	0.00E+00	0.00E+00	8.89E-03	0.00E+00	0.00E+00	8.89E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.89E-03	0.00E+00	0.00E+00	8.89E-03
187 ALL	447076.9	3762774 NonCancer	0.00E+00	0.00E+00	9.06E-03	0.00E+00	0.00E+00	9.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.06E-03	0.00E+00	0.00E+00	9.06E-03
188 ALL	447101.2	3762774 NonCancer	0.00E+00	0.00E+00	9.31E-03	0.00E+00	0.00E+00	9.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.31E-03	0.00E+00	0.00E+00	9.31E-03
189 ALL	447123.9	3762774 NonCancer	0.00E+00	0.00E+00	9.43E-03	0.00E+00	0.00E+00	9.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.43E-03	0.00E+00	0.00E+00	9.43E-03
190 ALL	447148.1	3762775 NonCancer	0.00E+00	0.00E+00	9.65E-03	0.00E+00	0.00E+00	9.65E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.65E-03	0.00E+00	0.00E+00	9.65E-03
191 ALL	447170.2	3762775 NonCancer	0.00E+00	0.00E+00	9.94E-03	0.00E+00	0.00E+00	9.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.94E-03	0.00E+00	0.00E+00	9.94E-03
192 ALL	447196.8	3762775 NonCancer	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-02	0.00E+00	0.00E+00	1.01E-02
193 ALL	447242.1	3762777 NonCancer	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02
194 ALL	447262.3	3762776 NonCancer	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	1.06E-02
195 ALL	447294.6	3762776 NonCancer	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	1.08E-02
196 ALL	447313.1	3762775 NonCancer	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00	1.10E-02
197 ALL	447313.4	3762750 NonCancer	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02
198 ALL	447327.9	3762713 NonCancer	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-02	0.00E+00	0.00E+00	1.25E-02
199 ALL	447327.4	3762680 NonCancer	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02
200 ALL	447327.7	3762657 NonCancer	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-02	0.00E+00	0.00E+00	1.29E-02
201 ALL	447327.3	3762637 NonCancer	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-02	0.00E+00	0.00E+00	1.32E-02
202 ALL	447327.5	3762613 NonCancer	0.00E+00	0.00E+00	1.39E-02	0.00E+00	0.00E+00	1.39E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-02	0.00E+00	0.00E+00	1.39E-02
203 ALL	447327.3	3762592 NonCancer	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02
204 ALL	447327	3762570 NonCancer	0.00E+00	0.00E+00	1.52E-02	0.00E+00	0.00E+00	1.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-02	0.00E+00	0.00E+00	1.52E-02
205 ALL	447327.3	3762548 NonCancer	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-02	0.00E+00	0.00E+00	1.58E-02
206 ALL	447326.6	3762525 NonCancer	0.00E+00	0.00E+00	1.64E-02	0.00E+00	0.00E+00	1.64E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-02	0.00E+00	0.00E+00	1.64E-02
207 ALL	447326.6	3762506 NonCancer	0.00E+00	0.00E+00	1.69E-02	0.00E+00	0.00E+00	1.69E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-02	0.00E+00	0.00E+00	1.69E-02
208 ALL	447327.5	3762478 NonCancer	0.00E+00	0.00E+00	1.79E-02	0.00E+00	0.00E+00	1.79E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	0.00E+00	0.00E+00	1.79E-02
209 ALL	447325.9	3762454 NonCancer	0.00E+00	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.75E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-02	0.00E+00	0.00E+00	1.75E-02
210 ALL	447225.6	3762433 NonCancer	0.00E+00	0.00E+00	1.43E-02	0.00E+00	0.00E+00	1.43E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-02	0.00E+00	0.00E+00	1.43E-02
211 ALL	447200.3	3762431 NonCancer	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-02	0.00E+00	0.00E+00	1.40E-02
212 ALL	447156.9	3762430 NonCancer	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02
213 ALL	447131.8	3762431 NonCancer	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	1.38E-02
214 ALL	447102.7	3762431 NonCancer	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-02	0.00E+00	0.00E+00	1.42E-02
215 ALL	447079.1	3762431 NonCancer	0.00E+00	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.48E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-02	0.00E+00	0.00E+00	1.48E-02
216 ALL	447034.9	3762434 NonCancer	0.00E+00	0.00E+00	1.66E-02	0.00E+00	0.00E+00	1.66E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.66E-02	0.00E+00	0.00E+00	1.66E-02
217 ALL	446995.5	3762434 NonCancer	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	2.00E-02
218 ALL	446972.7	3762434 NonCancer	0.00E+00	0.00E+00	2.43E-02	0.00E+00	0.00E+00	2.43E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.43E-02	0.00E+00	0.00E+00	2.43E-02

219 ALL	446941.4	3762435 NonCancer	0.00E+00	0.00E+00	2.74E-02	0.00E+00	0.00E+00	2.74E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-02	0.00E+00	0.00E+00	2.74E-02
220 ALL	446916.1	3762437 NonCancer	0.00E+00	0.00E+00	3.45E-02	0.00E+00	0.00E+00	3.45E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.45E-02	0.00E+00	0.00E+00	3.45E-02
221 ALL	446876.4	3762437 NonCancer	0.00E+00	0.00E+00	3.37E-02	0.00E+00	0.00E+00	3.37E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.37E-02	0.00E+00	0.00E+00	3.37E-02
222 ALL	446848.9	3762647 NonCancer	0.00E+00	0.00E+00	9.46E-03	0.00E+00	0.00E+00	9.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.46E-03	0.00E+00	0.00E+00	9.46E-03
223 ALL	446848.9	3762563 NonCancer	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	1.24E-02
224 ALL	446849.2	3762510 NonCancer	0.00E+00	0.00E+00	1.62E-02	0.00E+00	0.00E+00	1.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-02	0.00E+00	0.00E+00	1.62E-02
225 ALL	446849.2	3762456 NonCancer	0.00E+00	0.00E+00	2.47E-02	0.00E+00	0.00E+00	2.47E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.47E-02	0.00E+00	0.00E+00	2.47E-02
226 ALL	446848.9	3762702 NonCancer	0.00E+00	0.00E+00	9.47E-03	0.00E+00	0.00E+00	9.47E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.47E-03	0.00E+00	0.00E+00	9.47E-03
227 ALL	446849.5	3762755 NonCancer	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.64E-03	0.00E+00	0.00E+00	8.64E-03
228 ALL	446739.8	3762429 NonCancer	0.00E+00	0.00E+00	1.68E-02	0.00E+00	0.00E+00	1.68E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-02	0.00E+00	0.00E+00	1.68E-02
229 ALL	446711.8	3762424 NonCancer	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-02	0.00E+00	0.00E+00	1.44E-02
230 ALL	446687.3	3762416 NonCancer	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-02	0.00E+00	0.00E+00	1.30E-02
231 ALL	446662.2	3762412 NonCancer	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-02	0.00E+00	0.00E+00	1.16E-02
232 ALL	446636.2	3762404 NonCancer	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	0.00E+00	0.00E+00	1.05E-02
233 ALL	449981.7	3762732 NonCancer	0.00E+00	0.00E+00	2.17E-03	0.00E+00	0.00E+00	2.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-03	0.00E+00	0.00E+00	2.17E-03
234 ALL	446486.8	3762232 NonCancer	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.31E-03	0.00E+00	0.00E+00	6.31E-03
235 ALL	446262	3762068 NonCancer	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.90E-03	0.00E+00	0.00E+00	3.90E-03
236 ALL	446443.2	3762292 NonCancer	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.92E-03	0.00E+00	0.00E+00	5.92E-03
237 ALL	446071.8	3762055 NonCancer	0.00E+00	0.00E+00	3.10E-03	0.00E+00	0.00E+00	3.10E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.10E-03	0.00E+00	0.00E+00	3.10E-03
238 ALL	446072.1	3761983 NonCancer	0.00E+00	0.00E+00	3.02E-03	0.00E+00	0.00E+00	3.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.02E-03	0.00E+00	0.00E+00	3.02E-03
239 ALL	446138.2	3762002 NonCancer	0.00E+00	0.00E+00	3.26E-03	0.00E+00	0.00E+00	3.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-03	0.00E+00	0.00E+00	3.26E-03
240 ALL	445884.9	3762040 NonCancer	0.00E+00	0.00E+00	2.58E-03	0.00E+00	0.00E+00	2.58E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-03	0.00E+00	0.00E+00	2.58E-03

*HARP - HRACalc v22118 10/19/2022 12:43:00 PM - Chronic Risk - Input File: C:\Users\Michael Tirohn\Desktop\HRAs\14822 Rich Haven\HARP\14822 OPS\hra\SchoolHRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE\	RESP	SKIN	EYE	BONE/TEE	ENDO	BLOOD	ODOR	GENERAL	MAXHI
1	ALL		447362.2	3764293	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.47E-07	3.47E-07	3.47E-07	7.77E-05	0.00E+00	0.00E+00	0.00E+00	3.47E-07	2.51E-04	0.00E+00	0.00E+00	2.51E-04
2	ALL		447376	3764151	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.97E-07	3.97E-07	3.97E-07	9.45E-05	0.00E+00	0.00E+00	0.00E+00	3.97E-07	2.87E-04	0.00E+00	0.00E+00	2.87E-04
3	ALL		447389.8	3764043	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.51E-07	4.51E-07	4.51E-07	1.18E-04	0.00E+00	0.00E+00	0.00E+00	4.51E-07	3.25E-04	0.00E+00	0.00E+00	3.25E-04
4	ALL		447450.2	3764031	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.67E-07	4.67E-07	4.67E-07	1.24E-04	0.00E+00	0.00E+00	0.00E+00	4.67E-07	3.37E-04	0.00E+00	0.00E+00	3.37E-04
5	ALL		447410.2	3764019	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.66E-07	4.66E-07	4.66E-07	1.25E-04	0.00E+00	0.00E+00	0.00E+00	4.66E-07	3.36E-04	0.00E+00	0.00E+00	3.36E-04
6	ALL		446891.9	3764451	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.72E-07	2.72E-07	2.72E-07	5.46E-05	0.00E+00	0.00E+00	0.00E+00	2.72E-07	1.97E-04	0.00E+00	0.00E+00	1.97E-04
7	ALL		446959.3	3764451	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.61E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.01E-04	0.00E+00	0.00E+00	2.01E-04
8	ALL		446995.3	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.75E-07	2.75E-07	2.75E-07	5.58E-05	0.00E+00	0.00E+00	0.00E+00	2.75E-07	1.99E-04	0.00E+00	0.00E+00	1.99E-04
9	ALL		447007.4	3764467	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.75E-07	2.75E-07	2.75E-07	5.60E-05	0.00E+00	0.00E+00	0.00E+00	2.75E-07	1.99E-04	0.00E+00	0.00E+00	1.99E-04
10	ALL		447023.5	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.76E-07	2.76E-07	2.76E-07	5.64E-05	0.00E+00	0.00E+00	0.00E+00	2.76E-07	2.00E-04	0.00E+00	0.00E+00	2.00E-04
11	ALL		447036.6	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.67E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.00E-04	0.00E+00	0.00E+00	2.00E-04
12	ALL		447052.7	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.70E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.01E-04	0.00E+00	0.00E+00	2.01E-04
13	ALL		447066.6	3764466	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.77E-07	2.77E-07	5.72E-05	0.00E+00	0.00E+00	0.00E+00	2.77E-07	2.01E-04	0.00E+00	0.00E+00	2.01E-04
14	ALL		447099.7	3764456	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.81E-07	2.81E-07	5.84E-05	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.04E-04	0.00E+00	0.00E+00	2.04E-04
15	ALL		447145.3	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.81E-07	2.81E-07	5.88E-05	0.00E+00	0.00E+00	0.00E+00	2.81E-07	2.04E-04	0.00E+00	0.00E+00	2.04E-04
16	ALL		447175.5	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.85E-07	2.85E-07	5.99E-05	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.07E-04	0.00E+00	0.00E+00	2.07E-04
17	ALL		447205.3	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.89E-07	2.89E-07	2.89E-07	6.09E-05	0.00E+00	0.00E+00	0.00E+00	2.89E-07	2.09E-04	0.00E+00	0.00E+00	2.09E-04
18	ALL		447232.4	3764468	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.88E-07	2.88E-07	2.88E-07	6.09E-05	0.00E+00	0.00E+00	0.00E+00	2.88E-07	2.09E-04	0.00E+00	0.00E+00	2.09E-04
19	ALL		447264	3764467	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.85E-07	2.85E-07	6.03E-05	0.00E+00	0.00E+00	0.00E+00	2.85E-07	2.07E-04	0.00E+00	0.00E+00	2.07E-04
20	ALL		447294.8	3764467	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.86E-07	2.86E-07	2.86E-07	6.04E-05	0.00E+00	0.00E+00	0.00E+00	2.86E-07	2.07E-04	0.00E+00	0.00E+00	2.07E-04
21	ALL		447365	3764456	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.96E-07	2.96E-07	2.96E-07	6.30E-05	0.00E+00	0.00E+00	0.00E+00	2.96E-07	2.15E-04	0.00E+00	0.00E+00	2.15E-04
22	ALL		447406.6	3764461	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.00E-07	3.00E-07	3.00E-07	6.38E-05	0.00E+00	0.00E+00	0.00E+00	3.00E-07	2.17E-04	0.00E+00	0.00E+00	2.17E-04
23	ALL		447441.5	3764460	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.02E-07	3.02E-07	3.02E-07	6.45E-05	0.00E+00	0.00E+00	0.00E+00	3.02E-07	2.19E-04	0.00E+00	0.00E+00	2.19E-04
24	ALL		447466.9	3764460	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.04E-07	3.04E-07	3.04E-07	6.50E-05	0.00E+00	0.00E+00	0.00E+00	3.04E-07	2.20E-04	0.00E+00	0.00E+00	2.20E-04
25	ALL		447490	3764461	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.06E-07	3.06E-07	3.06E-07	6.58E-05	0.00E+00	0.00E+00	0.00E+00	3.06E-07	2.22E-04	0.00E+00	0.00E+00	2.22E-04
26	ALL		447515.5	3764460	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.09E-07	3.09E-07	3.09E-07	6.67E-05	0.00E+00	0.00E+00	0.00E+00	3.09E-07	2.24E-04	0.00E+00	0.00E+00	2.24E-04
27	ALL		447573.1	3764454	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-07	3.17E-07	3.17E-07	6.95E-05	0.00E+00	0.00E+00	0.00E+00	3.17E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
28	ALL		447598.5	3764445	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.19E-07	3.19E-07	3.19E-07	7.05E-05	0.00E+00	0.00E+00	0.00E+00	3.19E-07	2.31E-04	0.00E+00	0.00E+00	2.31E-04
29	ALL		447652.9	3764440	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.08E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
30	ALL		447692.9	3764440	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.19E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
31	ALL		447713.8	3764439	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.25E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
32	ALL		447732	3764439	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.29E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
33	ALL		447751.1	3764439	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.34E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
34	ALL		447768.8	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.38E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
35	ALL		447789.1	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.42E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
36	ALL		447805.7	3764437	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.46E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
37	ALL		447824	3764437	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.51E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
38	ALL		447841.6	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.15E-07	3.15E-07	3.15E-07	7.56E-05	0.00E+00	0.00E+00	0.00E+00	3.15E-07	2.29E-04	0.00E+00	0.00E+00	2.29E-04
39	ALL		447861.7	3764438	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-07	3.16E-07	3.16E-07	7.64E-05	0.00E+00	0.00E+00	0.00E+00	3.16E-07	2.30E-04	0.00E+00	0.00E+00	2.30E-04
40	ALL		447881.7	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-07	3.17E-07	3.17E-07	7.74E-05	0.00E+00	0.00E+00	0.00E+00	3.17E-07	2.31E-04	0.00E+00	0.00E+00	2.31E-04
41	ALL		447902.8	3764436	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-07	3.17E-07	3.17E-07	7.81E-05	0.00E+00	0.00E+00	0.00E+00	3.17E-07	2.31E-04	0.00E+00	0.00E+00	2.31E-04
42	ALL		447920.9	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.18E-07	3.18E-07	3.18E-07	7.89E-05	0.00E+00	0.00E+00	0.00E+00	3.18E-07	2.32E-04	0.00E+00	0.00E+00	2.32E-04
43	ALL		447942.2	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.20E-07	3.20E-07	3.20E-07	7.98E-05	0.00E+00	0.00E+00	0.00E+00	3.20E-07	2.33E-04	0.00E+00	0.00E+00	2.33E-04
44	ALL		447962.8	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.21E-07	3.21E-07	3.21E-07	8.08E-05	0.00E+00	0.00E+00	0.00E+00	3.21E-07	2.34E-04	0.00E+00	0.00E+00	2.34E-04
45	ALL		447980.7	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.23E-07	3.23E-07	3.23E-07	8.16E-05	0.00E+00	0.00E+00	0.00E+00	3.23E-07	2.35E-04	0.00E+00	0.00E+00	2.35E-04
46	ALL		448004.7	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.26E-07	3.26E-07	3.26E-07	8.31E-05	0.00E+00	0.00E+00	0.00E+00	3.26E-07	2.37E-04	0.00E+00	0.00E+00	2.37E-04
47	ALL		448021.3	3764435	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.31E-07	3.31E-07	3.31E-07	8.48E-05	0.00E+00	0.00E+00	0.00E+00	3.31E-07	2.41E-04	0.00E+00	0.00E+00	2.41E-04
48	ALL		447662.7	3764380	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.27E-07	3.27E-07	3.27E-07	7.49E-05	0.00E+00	0.00E+00	0.00E+00	3.27E-07	2.37E-04	0.00E+00	0.00E+00	2.37E-04
49	ALL		447681.3	3764321	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.43E-07	3.43E-07	3.43E-07	8.06E-05	0.00E+00	0.00E+00	0.00E+00	3.43E-07	2.49E-04	0.00E+00	0.00E+00	2.49E-04
50	ALL		447682.6	3764286	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.58E-07	3.58E-07	3.58E-07	8.53E-05	0.00E+00	0.00E+00	0.00E+00	3.58E-07	2.60E-04	0.00E+00	0.00E+00	2.60E-04
51	ALL		447662.5	3764238	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.78E-07	3.78E-07	3.78E-07	9.13E-05	0.00E+00	0.00E+00	0.00E+00	3.78E-07	2.74E-04	0.00E+00	0.00E+00	2.74E-04
52	ALL		447661.7	3764207	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.93E-07	3.93E-07	3.93E-07	9.62E-05	0.00E+00	0.00E+00	0.00E+00	3.93E-07	2.85E-04	0.00E+00	0.00E+00	2.85E-04
53	ALL		447683.1	3764162	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.18E-07	4.18E-07	4.18E-07	1.05E-04	0.00E+00	0.00E+00	0.00E+00	4.18E-07	3.03E-04	0.00E+00	0.00E+00	3.03E-04

54	ALL	447681	3764146	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.27E-07	4.27E-07	4.27E-07	1.08E-04	0.00E+00	0.00E+00	0.00E+00	4.27E-07	3.09E-04	0.00E+00	0.00E+00	3.09E-04
55	ALL	447679.6	3764130	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.36E-07	4.36E-07	4.36E-07	1.12E-04	0.00E+00	0.00E+00	0.00E+00	4.36E-07	3.16E-04	0.00E+00	0.00E+00	3.16E-04
56	ALL	447680.8	3764112	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.46E-07	4.46E-07	4.46E-07	1.17E-04	0.00E+00	0.00E+00	0.00E+00	4.46E-07	3.23E-04	0.00E+00	0.00E+00	3.23E-04
57	ALL	447681.5	3764096	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.55E-07	4.55E-07	4.55E-07	1.20E-04	0.00E+00	0.00E+00	0.00E+00	4.55E-07	3.29E-04	0.00E+00	0.00E+00	3.29E-04
58	ALL	447680.8	3764079	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.63E-07	4.63E-07	4.63E-07	1.24E-04	0.00E+00	0.00E+00	0.00E+00	4.63E-07	3.35E-04	0.00E+00	0.00E+00	3.35E-04
59	ALL	447680	3764064	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.69E-07	4.69E-07	4.69E-07	1.26E-04	0.00E+00	0.00E+00	0.00E+00	4.69E-07	3.39E-04	0.00E+00	0.00E+00	3.39E-04
60	ALL	447681	3764046	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.77E-07	4.77E-07	4.77E-07	1.30E-04	0.00E+00	0.00E+00	0.00E+00	4.77E-07	3.45E-04	0.00E+00	0.00E+00	3.45E-04
61	ALL	447680.6	3764030	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.83E-07	4.83E-07	4.83E-07	1.33E-04	0.00E+00	0.00E+00	0.00E+00	4.83E-07	3.50E-04	0.00E+00	0.00E+00	3.50E-04
62	ALL	447657.2	3763992	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.00E-07	5.00E-07	5.00E-07	1.42E-04	0.00E+00	0.00E+00	0.00E+00	5.00E-07	3.62E-04	0.00E+00	0.00E+00	3.62E-04
63	ALL	447656.3	3763967	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.11E-07	5.11E-07	5.11E-07	1.47E-04	0.00E+00	0.00E+00	0.00E+00	5.11E-07	3.70E-04	0.00E+00	0.00E+00	3.70E-04
64	ALL	447657.2	3763929	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.30E-07	5.30E-07	5.30E-07	1.57E-04	0.00E+00	0.00E+00	0.00E+00	5.30E-07	3.83E-04	0.00E+00	0.00E+00	3.83E-04
65	ALL	447657.2	3763902	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.43E-07	5.43E-07	5.43E-07	1.65E-04	0.00E+00	0.00E+00	0.00E+00	5.43E-07	3.93E-04	0.00E+00	0.00E+00	3.93E-04
66	ALL	447657.5	3763869	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.65E-07	5.65E-07	5.65E-07	1.79E-04	0.00E+00	0.00E+00	0.00E+00	5.65E-07	4.08E-04	0.00E+00	0.00E+00	4.08E-04
67	ALL	447656.2	3763835	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.84E-07	5.84E-07	5.84E-07	1.93E-04	0.00E+00	0.00E+00	0.00E+00	5.84E-07	4.23E-04	0.00E+00	0.00E+00	4.23E-04
68	ALL	447655.9	3763808	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.99E-07	5.99E-07	5.99E-07	2.04E-04	0.00E+00	0.00E+00	0.00E+00	5.99E-07	4.33E-04	0.00E+00	0.00E+00	4.33E-04
69	ALL	447657.1	3763786	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.12E-07	6.12E-07	6.12E-07	2.16E-04	0.00E+00	0.00E+00	0.00E+00	6.12E-07	4.43E-04	0.00E+00	0.00E+00	4.43E-04
70	ALL	447701.2	3763782	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.18E-07	6.18E-07	6.18E-07	2.19E-04	0.00E+00	0.00E+00	0.00E+00	6.18E-07	4.47E-04	0.00E+00	0.00E+00	4.47E-04
71	ALL	447856.9	3763750	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.86E-07	6.86E-07	6.86E-07	2.51E-04	0.00E+00	0.00E+00	0.00E+00	6.86E-07	4.96E-04	0.00E+00	0.00E+00	4.96E-04
72	ALL	447855	3763730	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.04E-07	7.04E-07	7.04E-07	2.65E-04	0.00E+00	0.00E+00	0.00E+00	7.04E-07	5.09E-04	0.00E+00	0.00E+00	5.09E-04
73	ALL	447854.4	3763698	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.35E-07	7.35E-07	7.35E-07	2.90E-04	0.00E+00	0.00E+00	0.00E+00	7.35E-07	5.31E-04	0.00E+00	0.00E+00	5.31E-04
74	ALL	447855.3	3763677	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.57E-07	7.57E-07	7.57E-07	3.09E-04	0.00E+00	0.00E+00	0.00E+00	7.57E-07	5.47E-04	0.00E+00	0.00E+00	5.47E-04
75	ALL	447675.5	3763287	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.32E-06	1.32E-06	1.32E-06	1.18E-03	0.00E+00	0.00E+00	0.00E+00	1.32E-06	9.53E-04	0.00E+00	0.00E+00	1.18E-03
76	ALL	448481.3	3763485	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.05E-06	1.05E-06	1.05E-06	5.48E-04	0.00E+00	0.00E+00	0.00E+00	1.05E-06	7.65E-04	0.00E+00	0.00E+00	7.65E-04
77	ALL	448480	3763196	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.90E-06	1.90E-06	7.14E-04	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.39E-03	0.00E+00	0.00E+00	1.39E-03
78	ALL	448478.6	3762907	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.08E-06	4.08E-06	4.08E-06	1.40E-03	0.00E+00	0.00E+00	0.00E+00	4.08E-06	3.00E-03	0.00E+00	0.00E+00	3.00E-03
79	ALL	448497.9	3762714	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.62E-06	7.62E-06	7.62E-06	1.39E-03	0.00E+00	0.00E+00	0.00E+00	7.62E-06	5.60E-03	0.00E+00	0.00E+00	5.60E-03
80	ALL	448507.9	3762488	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.47E-05	3.47E-05	3.47E-05	1.67E-03	0.00E+00	0.00E+00	0.00E+00	3.47E-05	2.43E-02	0.00E+00	0.00E+00	2.43E-02
81	ALL	448480.5	3762358	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.58E-05	4.58E-05	4.58E-05	2.06E-03	0.00E+00	0.00E+00	0.00E+00	4.58E-05	3.26E-02	0.00E+00	0.00E+00	3.26E-02
82	ALL	448462.7	3762340	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.66E-05	4.66E-05	4.66E-05	1.89E-03	0.00E+00	0.00E+00	0.00E+00	4.66E-05	3.41E-02	0.00E+00	0.00E+00	3.41E-02
83	ALL	448464.5	3762266	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.29E-05	3.29E-05	3.29E-05	1.28E-03	0.00E+00	0.00E+00	0.00E+00	3.29E-05	2.39E-02	0.00E+00	0.00E+00	2.39E-02
84	ALL	448461.6	3762165	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.71E-05	3.71E-05	3.71E-05	1.26E-03	0.00E+00	0.00E+00	0.00E+00	3.71E-05	2.74E-02	0.00E+00	0.00E+00	2.74E-02
85	ALL	448472.6	3762065	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.15E-05	1.15E-05	1.15E-05	5.38E-04	0.00E+00	0.00E+00	0.00E+00	1.15E-05	8.44E-03	0.00E+00	0.00E+00	8.44E-03
86	ALL	448460.5	3762017	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.90E-06	8.90E-06	8.90E-06	4.50E-04	0.00E+00	0.00E+00	0.00E+00	8.90E-06	6.52E-03	0.00E+00	0.00E+00	6.52E-03
87	ALL	448234.6	3761951	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.35E-06	7.35E-06	7.35E-06	4.12E-04	0.00E+00	0.00E+00	0.00E+00	7.35E-06	5.42E-03	0.00E+00	0.00E+00	5.42E-03
88	ALL	448081.4	3761953	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.71E-06	5.71E-06	5.71E-06	3.86E-04	0.00E+00	0.00E+00	0.00E+00	5.71E-06	4.19E-03	0.00E+00	0.00E+00	4.19E-03
89	ALL	448025.5	3761956	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.21E-06	5.21E-06	5.21E-06	3.78E-04	0.00E+00	0.00E+00	0.00E+00	5.21E-06	3.83E-03	0.00E+00	0.00E+00	3.83E-03
90	ALL	447506.8	3761968	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.20E-06	4.20E-06	4.20E-06	3.50E-04	0.00E+00	0.00E+00	0.00E+00	4.20E-06	3.09E-03	0.00E+00	0.00E+00	3.09E-03
91	ALL	447269.3	3761968	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.72E-06	3.72E-06	3.72E-06	3.08E-04	0.00E+00	0.00E+00	0.00E+00	3.72E-06	2.73E-03	0.00E+00	0.00E+00	2.73E-03
92	ALL	447389.5	3761909	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.51E-06	3.51E-06	3.51E-06	2.99E-04	0.00E+00	0.00E+00	0.00E+00	3.51E-06	2.58E-03	0.00E+00	0.00E+00	2.58E-03
93	ALL	447019.1	3761964	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.11E-06	3.11E-06	3.11E-06	2.56E-04	0.00E+00	0.00E+00	0.00E+00	3.11E-06	2.29E-03	0.00E+00	0.00E+00	2.29E-03
94	ALL	447060.3	3761964	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.16E-06	3.16E-06	3.16E-06	2.63E-04	0.00E+00	0.00E+00	0.00E+00	3.16E-06	2.33E-03	0.00E+00	0.00E+00	2.33E-03
95	ALL	446975.3	3761963	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.05E-06	3.05E-06	3.05E-06	2.49E-04	0.00E+00	0.00E+00	0.00E+00	3.05E-06	2.25E-03	0.00E+00	0.00E+00	2.25E-03
96	ALL	446940.9	3761954	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.94E-06	2.94E-06	2.94E-06	2.40E-04	0.00E+00	0.00E+00	0.00E+00	2.94E-06	2.17E-03	0.00E+00	0.00E+00	2.17E-03
97	ALL	446865.7	3761975	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.01E-06	3.01E-06	3.01E-06	2.36E-04	0.00E+00	0.00E+00	0.00E+00	3.01E-06	2.22E-03	0.00E+00	0.00E+00	2.22E-03
98	ALL	446795.1	3761958	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.76E-06	2.76E-06	2.19E-04	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.04E-03	0.00E+00	0.00E+00	2.04E-03
99	ALL	446757.7	3761966	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.76E-06	2.76E-06	2.16E-04	0.00E+00	0.00E+00	0.00E+00	2.76E-06	2.04E-03	0.00E+00	0.00E+00	2.04E-03
100	ALL	446709.3	3761968	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.68E-06	2.68E-06	2.68E-06	2.09E-04	0.00E+00	0.00E+00	0.00E+00	2.68E-06	1.97E-03	0.00E+00	0.00E+00	1.97E-03
101	ALL	446796.4	3762029	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.47E-06	3.47E-06	3.47E-06	2.48E-04	0.00E+00	0.00E+00	0.00E+00	3.47E-06	2.56E-03	0.00E+00	0.00E+00	2.56E-03
102	ALL	446797	3762045	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.70E-06	3.70E-06	3.70E-06	2.57E-04	0.00E+00	0.00E+00	0.00E+00	3.70E-06	2.74E-03	0.00E+00	0.00E+00	2.74E-03
103	ALL	446796.7	3762090	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.54E-06	4.54E-06	4.54E-06	2.87E-04	0.00E+00	0.00E+00	0.00E+00	4.54E-06	3.36E-03	0.00E+00	0.00E+00	3.36E-03
104	ALL	446796.2	3762106	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.95E-06	4.95E-06	4.95E-06	3.01E-04	0.00E+00	0.00E+00	0.00E+00	4.95E-06	3.67E-03	0.00E+00	0.00E+00	3.67E-03
105	ALL	446796.7	3762137	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.01E-06	6.01E-06	6.01E-06	3.34E-04	0.00E+00	0.00E+00	0.00E+00	6.01E-06	4.44E-03	0.00E+00	0.00E+00	4.44E-03
106	ALL	446796.2	3762153	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.73E-06	6.73E-06	6.73E-06	3.56E-04	0.00E+00	0.00E+00	0.00E+00	6.73E-06	4.96E-03	0.00E+00	0.00E+00	4.96E-03
107	ALL	446772.4	3762215	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.03E-05	1.03E-05	1.03E-05	4.63E-04	0.00E+00	0.00E+00	0.00E+00	1.03E-05	7.45E-03	0.00E+00	0.00E+00	7.45E-03
108	ALL	446795.1	3762321	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.85E-05	2.85E-05	2.85E-05	9.96E-04	0.00E+00	0.00E+00	0.00E+00	2.85E-05	1.99E-02	0.00E+00	0.00E+00	1.99E-02

109 ALL	446796.4	3762451 NonCancer	0.00E+00	0.00E+00	0.00E+00	9.74E-06	9.74E-06	9.74E-06	5.39E-04	0.00E+00	0.00E+00	0.00E+00	9.74E-06	6.90E-03	0.00E+00	0.00E+00	6.90E-03
110 ALL	446796.4	3762471 NonCancer	0.00E+00	0.00E+00	0.00E+00	8.01E-06	8.01E-06	8.01E-06	4.68E-04	0.00E+00	0.00E+00	0.00E+00	8.01E-06	5.71E-03	0.00E+00	0.00E+00	5.71E-03
111 ALL	446797.2	3762496 NonCancer	0.00E+00	0.00E+00	0.00E+00	6.51E-06	6.51E-06	6.51E-06	4.12E-04	0.00E+00	0.00E+00	0.00E+00	6.51E-06	4.66E-03	0.00E+00	0.00E+00	4.66E-03
112 ALL	446798.1	3762517 NonCancer	0.00E+00	0.00E+00	0.00E+00	5.61E-06	5.61E-06	5.61E-06	3.80E-04	0.00E+00	0.00E+00	0.00E+00	5.61E-06	4.03E-03	0.00E+00	0.00E+00	4.03E-03
113 ALL	446797.8	3762540 NonCancer	0.00E+00	0.00E+00	0.00E+00	4.80E-06	4.80E-06	4.80E-06	3.53E-04	0.00E+00	0.00E+00	0.00E+00	4.80E-06	3.46E-03	0.00E+00	0.00E+00	3.46E-03
114 ALL	446797.5	3762560 NonCancer	0.00E+00	0.00E+00	0.00E+00	4.27E-06	4.27E-06	4.27E-06	3.35E-04	0.00E+00	0.00E+00	0.00E+00	4.27E-06	3.08E-03	0.00E+00	0.00E+00	3.08E-03
115 ALL	446798.6	3762585 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.77E-06	3.77E-06	3.77E-06	3.19E-04	0.00E+00	0.00E+00	0.00E+00	3.77E-06	2.73E-03	0.00E+00	0.00E+00	2.73E-03
116 ALL	446798.1	3762604 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.44E-06	3.44E-06	3.44E-06	3.09E-04	0.00E+00	0.00E+00	0.00E+00	3.44E-06	2.49E-03	0.00E+00	0.00E+00	2.49E-03
117 ALL	446799.7	3762654 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.83E-06	2.83E-06	2.83E-06	2.91E-04	0.00E+00	0.00E+00	0.00E+00	2.83E-06	2.06E-03	0.00E+00	0.00E+00	2.06E-03
118 ALL	446800	3762675 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.61E-06	2.61E-06	2.61E-06	2.85E-04	0.00E+00	0.00E+00	0.00E+00	2.61E-06	1.85E-03	0.00E+00	0.00E+00	1.85E-03
119 ALL	446800.3	3762700 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.37E-06	2.37E-06	2.37E-06	2.77E-04	0.00E+00	0.00E+00	0.00E+00	2.37E-06	1.69E-03	0.00E+00	0.00E+00	1.69E-03
120 ALL	446800.3	3762721 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.23E-06	2.23E-06	2.23E-06	2.73E-04	0.00E+00	0.00E+00	0.00E+00	2.23E-06	1.59E-03	0.00E+00	0.00E+00	1.59E-03
121 ALL	446800	3762736 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.14E-06	2.14E-06	2.14E-06	2.71E-04	0.00E+00	0.00E+00	0.00E+00	2.14E-06	1.53E-03	0.00E+00	0.00E+00	1.53E-03
122 ALL	446797.8	3762748 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.07E-06	2.07E-06	2.07E-06	2.68E-04	0.00E+00	0.00E+00	0.00E+00	2.07E-06	1.48E-03	0.00E+00	0.00E+00	1.48E-03
123 ALL	446802.2	3762913 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.51E-06	1.51E-06	1.51E-06	2.53E-04	0.00E+00	0.00E+00	0.00E+00	1.51E-06	1.08E-03	0.00E+00	0.00E+00	1.08E-03
124 ALL	446802.2	3762933 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.46E-06	1.46E-06	2.52E-04	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.05E-03	0.00E+00	0.00E+00	1.05E-03
125 ALL	446802.4	3762949 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.42E-06	1.42E-06	1.42E-06	2.50E-04	0.00E+00	0.00E+00	0.00E+00	1.42E-06	1.02E-03	0.00E+00	0.00E+00	1.02E-03
126 ALL	446803	3762967 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.39E-06	1.39E-06	1.39E-06	2.49E-04	0.00E+00	0.00E+00	0.00E+00	1.39E-06	9.95E-04	0.00E+00	0.00E+00	9.95E-04
127 ALL	446802.7	3762986 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.34E-06	1.34E-06	1.34E-06	2.47E-04	0.00E+00	0.00E+00	0.00E+00	1.34E-06	9.65E-04	0.00E+00	0.00E+00	9.65E-04
128 ALL	446802.2	3763003 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.30E-06	1.30E-06	1.30E-06	2.44E-04	0.00E+00	0.00E+00	0.00E+00	1.30E-06	9.36E-04	0.00E+00	0.00E+00	9.36E-04
129 ALL	446802.2	3763022 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.26E-06	1.26E-06	1.26E-06	2.42E-04	0.00E+00	0.00E+00	0.00E+00	1.26E-06	9.08E-04	0.00E+00	0.00E+00	9.08E-04
130 ALL	446802.7	3763041 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.22E-06	1.22E-06	1.22E-06	2.40E-04	0.00E+00	0.00E+00	0.00E+00	1.22E-06	8.77E-04	0.00E+00	0.00E+00	8.77E-04
131 ALL	446803	3763059 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.18E-06	1.18E-06	1.18E-06	2.38E-04	0.00E+00	0.00E+00	0.00E+00	1.18E-06	8.45E-04	0.00E+00	0.00E+00	8.45E-04
132 ALL	446803.5	3763077 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.15E-06	1.15E-06	1.15E-06	2.36E-04	0.00E+00	0.00E+00	0.00E+00	1.15E-06	8.22E-04	0.00E+00	0.00E+00	8.22E-04
133 ALL	446756.3	3763085 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.12E-06	1.12E-06	1.12E-06	2.16E-04	0.00E+00	0.00E+00	0.00E+00	1.12E-06	8.02E-04	0.00E+00	0.00E+00	8.02E-04
134 ALL	446807.7	3763646 NonCancer	0.00E+00	0.00E+00	0.00E+00	5.45E-07	5.45E-07	5.45E-07	1.37E-04	0.00E+00	0.00E+00	0.00E+00	5.45E-07	3.92E-04	0.00E+00	0.00E+00	3.92E-04
135 ALL	446808.3	3763675 NonCancer	0.00E+00	0.00E+00	0.00E+00	5.30E-07	5.30E-07	5.30E-07	1.33E-04	0.00E+00	0.00E+00	0.00E+00	5.30E-07	3.82E-04	0.00E+00	0.00E+00	3.82E-04
136 ALL	446807.7	3763695 NonCancer	0.00E+00	0.00E+00	0.00E+00	5.20E-07	5.20E-07	5.20E-07	1.29E-04	0.00E+00	0.00E+00	0.00E+00	5.20E-07	3.74E-04	0.00E+00	0.00E+00	3.74E-04
137 ALL	446808.3	3763711 NonCancer	0.00E+00	0.00E+00	0.00E+00	5.13E-07	5.13E-07	5.13E-07	1.27E-04	0.00E+00	0.00E+00	0.00E+00	5.13E-07	3.69E-04	0.00E+00	0.00E+00	3.69E-04
138 ALL	446808.3	3763726 NonCancer	0.00E+00	0.00E+00	0.00E+00	5.05E-07	5.05E-07	5.05E-07	1.25E-04	0.00E+00	0.00E+00	0.00E+00	5.05E-07	3.64E-04	0.00E+00	0.00E+00	3.64E-04
139 ALL	446808	3763742 NonCancer	0.00E+00	0.00E+00	0.00E+00	4.99E-07	4.99E-07	4.99E-07	1.22E-04	0.00E+00	0.00E+00	0.00E+00	4.99E-07	3.59E-04	0.00E+00	0.00E+00	3.59E-04
140 ALL	446808.3	3763757 NonCancer	0.00E+00	0.00E+00	0.00E+00	4.92E-07	4.92E-07	4.92E-07	1.20E-04	0.00E+00	0.00E+00	0.00E+00	4.92E-07	3.54E-04	0.00E+00	0.00E+00	3.54E-04
141 ALL	446808.6	3763798 NonCancer	0.00E+00	0.00E+00	0.00E+00	4.72E-07	4.72E-07	4.72E-07	1.14E-04	0.00E+00	0.00E+00	0.00E+00	4.72E-07	3.40E-04	0.00E+00	0.00E+00	3.40E-04
142 ALL	446810.3	3764484 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.60E-07	2.60E-07	2.60E-07	5.11E-05	0.00E+00	0.00E+00	0.00E+00	2.60E-07	1.89E-04	0.00E+00	0.00E+00	1.89E-04
143 ALL	446781.3	3764475 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.60E-07	2.60E-07	2.60E-07	5.08E-05	0.00E+00	0.00E+00	0.00E+00	2.60E-07	1.88E-04	0.00E+00	0.00E+00	1.88E-04
144 ALL	446722.6	3764456 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.59E-07	2.59E-07	2.59E-07	5.04E-05	0.00E+00	0.00E+00	0.00E+00	2.59E-07	1.88E-04	0.00E+00	0.00E+00	1.88E-04
145 ALL	446170.3	3764560 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.08E-07	2.08E-07	2.08E-07	3.62E-05	0.00E+00	0.00E+00	0.00E+00	2.08E-07	1.50E-04	0.00E+00	0.00E+00	1.50E-04
146 ALL	446872.3	3763190 NonCancer	0.00E+00	0.00E+00	0.00E+00	9.75E-07	9.75E-07	9.75E-07	2.52E-04	0.00E+00	0.00E+00	0.00E+00	9.75E-07	6.99E-04	0.00E+00	0.00E+00	6.99E-04
147 ALL	446925.2	3763179 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.02E-06	1.02E-06	1.02E-06	2.88E-04	0.00E+00	0.00E+00	0.00E+00	1.02E-06	7.33E-04	0.00E+00	0.00E+00	7.33E-04
148 ALL	446984.9	3763195 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.05E-06	1.05E-06	1.05E-06	3.38E-04	0.00E+00	0.00E+00	0.00E+00	1.05E-06	7.55E-04	0.00E+00	0.00E+00	7.55E-04
149 ALL	447010.6	3763193 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.07E-06	1.07E-06	1.07E-06	3.65E-04	0.00E+00	0.00E+00	0.00E+00	1.07E-06	7.66E-04	0.00E+00	0.00E+00	7.66E-04
150 ALL	447036.6	3763194 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.09E-06	1.09E-06	1.09E-06	3.98E-04	0.00E+00	0.00E+00	0.00E+00	1.09E-06	7.82E-04	0.00E+00	0.00E+00	7.82E-04
151 ALL	447053.6	3763193 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.10E-06	1.10E-06	1.10E-06	4.23E-04	0.00E+00	0.00E+00	0.00E+00	1.10E-06	7.92E-04	0.00E+00	0.00E+00	7.92E-04
152 ALL	447076.4	3763192 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.12E-06	1.12E-06	1.12E-06	4.61E-04	0.00E+00	0.00E+00	0.00E+00	1.12E-06	8.06E-04	0.00E+00	0.00E+00	8.06E-04
153 ALL	447093.5	3763193 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.13E-06	1.13E-06	1.13E-06	4.92E-04	0.00E+00	0.00E+00	0.00E+00	1.13E-06	8.13E-04	0.00E+00	0.00E+00	8.13E-04
154 ALL	447122.1	3763193 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.17E-06	1.17E-06	1.17E-06	5.58E-04	0.00E+00	0.00E+00	0.00E+00	1.17E-06	8.35E-04	0.00E+00	0.00E+00	8.35E-04
155 ALL	447138.8	3763192 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.18E-06	1.18E-06	1.18E-06	6.04E-04	0.00E+00	0.00E+00	0.00E+00	1.18E-06	8.48E-04	0.00E+00	0.00E+00	8.48E-04
156 ALL	447168	3763192 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.21E-06	1.21E-06	1.21E-06	6.98E-04	0.00E+00	0.00E+00	0.00E+00	1.21E-06	8.68E-04	0.00E+00	0.00E+00	8.68E-04
157 ALL	447170.7	3763172 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.26E-06	1.26E-06	1.26E-06	7.07E-04	0.00E+00	0.00E+00	0.00E+00	1.26E-06	9.00E-04	0.00E+00	0.00E+00	9.00E-04
158 ALL	447170.4	3763158 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.29E-06	1.29E-06	1.29E-06	7.05E-04	0.00E+00	0.00E+00	0.00E+00	1.29E-06	9.22E-04	0.00E+00	0.00E+00	9.22E-04
159 ALL	447169.3	3763145 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.31E-06	1.31E-06	1.31E-06	7.01E-04	0.00E+00	0.00E+00	0.00E+00	1.31E-06	9.40E-04	0.00E+00	0.00E+00	9.40E-04
160 ALL	447147.5	3763107 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.36E-06	1.36E-06	1.36E-06	6.31E-04	0.00E+00	0.00E+00	0.00E+00	1.36E-06	9.73E-04	0.00E+00	0.00E+00	9.73E-04
161 ALL	447146.6	3763084 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.41E-06	1.41E-06	1.41E-06	6.29E-04	0.00E+00	0.00E+00	0.00E+00	1.41E-06	1.01E-03	0.00E+00	0.00E+00	1.01E-03
162 ALL	447146.9	3763064 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.46E-06	1.46E-06	6.30E-04	0.00E+00	0.00E+00	0.00E+00	1.46E-06	1.05E-03	0.00E+00	0.00E+00	1.05E-03
163 ALL	447149.9	3763039 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.55E-06	1.55E-06	1.55E-06	6.39E-04	0.00E+00	0.00E+00	0.00E+00	1.55E-06	1.11E-03	0.00E+00	0.00E+00	1.11E-03

164 ALL	447148.6	3763020 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.61E-06	1.61E-06	1.61E-06	6.33E-04	0.00E+00	0.00E+00	0.00E+00	1.61E-06	1.15E-03	0.00E+00	0.00E+00	1.15E-03
165 ALL	447148.6	3762997 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.69E-06	1.69E-06	6.30E-04	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.21E-03	0.00E+00	0.00E+00	1.21E-03
166 ALL	447206.1	3762958 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.95E-06	1.95E-06	8.13E-04	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.40E-03	0.00E+00	0.00E+00	1.40E-03
167 ALL	447209.3	3762923 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.13E-06	2.13E-06	2.13E-06	7.83E-04	0.00E+00	0.00E+00	0.00E+00	2.13E-06	1.54E-03	0.00E+00	0.00E+00	1.54E-03
168 ALL	447208.4	3762891 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.28E-06	2.28E-06	2.28E-06	7.39E-04	0.00E+00	0.00E+00	0.00E+00	2.28E-06	1.65E-03	0.00E+00	0.00E+00	1.65E-03
169 ALL	447145.8	3762889 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.15E-06	2.15E-06	2.15E-06	5.86E-04	0.00E+00	0.00E+00	0.00E+00	2.15E-06	1.56E-03	0.00E+00	0.00E+00	1.56E-03
170 ALL	447122.6	3762889 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.10E-06	2.10E-06	2.10E-06	5.43E-04	0.00E+00	0.00E+00	0.00E+00	2.10E-06	1.52E-03	0.00E+00	0.00E+00	1.52E-03
171 ALL	447094.3	3762890 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.04E-06	2.04E-06	2.04E-06	4.98E-04	0.00E+00	0.00E+00	0.00E+00	2.04E-06	1.48E-03	0.00E+00	0.00E+00	1.48E-03
172 ALL	447071	3762890 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.00E-06	2.00E-06	2.00E-06	4.65E-04	0.00E+00	0.00E+00	0.00E+00	2.00E-06	1.44E-03	0.00E+00	0.00E+00	1.44E-03
173 ALL	447043.6	3762890 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.95E-06	1.95E-06	4.32E-04	0.00E+00	0.00E+00	0.00E+00	1.95E-06	1.41E-03	0.00E+00	0.00E+00	1.41E-03
174 ALL	447017.8	3762889 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.90E-06	1.90E-06	4.04E-04	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.37E-03	0.00E+00	0.00E+00	1.37E-03
175 ALL	446992.1	3762889 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.86E-06	1.86E-06	1.86E-06	3.79E-04	0.00E+00	0.00E+00	0.00E+00	1.86E-06	1.34E-03	0.00E+00	0.00E+00	1.34E-03
176 ALL	446964.3	3762888 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.81E-06	1.81E-06	1.81E-06	3.55E-04	0.00E+00	0.00E+00	0.00E+00	1.81E-06	1.30E-03	0.00E+00	0.00E+00	1.30E-03
177 ALL	446940.4	3762888 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.78E-06	1.78E-06	1.78E-06	3.36E-04	0.00E+00	0.00E+00	0.00E+00	1.78E-06	1.28E-03	0.00E+00	0.00E+00	1.28E-03
178 ALL	446911.2	3762888 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.74E-06	1.74E-06	1.74E-06	3.16E-04	0.00E+00	0.00E+00	0.00E+00	1.74E-06	1.25E-03	0.00E+00	0.00E+00	1.25E-03
179 ALL	446885.4	3762890 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.69E-06	1.69E-06	3.00E-04	0.00E+00	0.00E+00	0.00E+00	1.69E-06	1.22E-03	0.00E+00	0.00E+00	1.22E-03
180 ALL	446862.1	3762889 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.66E-06	1.66E-06	1.66E-06	2.86E-04	0.00E+00	0.00E+00	0.00E+00	1.66E-06	1.19E-03	0.00E+00	0.00E+00	1.19E-03
181 ALL	446871.5	3762780 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.09E-06	2.09E-06	2.09E-06	3.01E-04	0.00E+00	0.00E+00	0.00E+00	2.09E-06	1.50E-03	0.00E+00	0.00E+00	1.50E-03
182 ALL	446926.3	3762769 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.27E-06	2.27E-06	2.27E-06	3.35E-04	0.00E+00	0.00E+00	0.00E+00	2.27E-06	1.63E-03	0.00E+00	0.00E+00	1.63E-03
183 ALL	446983.7	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.37E-06	2.37E-06	2.37E-06	3.76E-04	0.00E+00	0.00E+00	0.00E+00	2.37E-06	1.70E-03	0.00E+00	0.00E+00	1.70E-03
184 ALL	447009	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.43E-06	2.43E-06	2.43E-06	3.97E-04	0.00E+00	0.00E+00	0.00E+00	2.43E-06	1.75E-03	0.00E+00	0.00E+00	1.75E-03
185 ALL	447030.5	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.50E-06	2.50E-06	2.50E-06	4.17E-04	0.00E+00	0.00E+00	0.00E+00	2.50E-06	1.80E-03	0.00E+00	0.00E+00	1.80E-03
186 ALL	447055.4	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.57E-06	2.57E-06	2.57E-06	4.41E-04	0.00E+00	0.00E+00	0.00E+00	2.57E-06	1.85E-03	0.00E+00	0.00E+00	1.85E-03
187 ALL	447076.9	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.62E-06	2.62E-06	2.62E-06	4.63E-04	0.00E+00	0.00E+00	0.00E+00	2.62E-06	1.89E-03	0.00E+00	0.00E+00	1.89E-03
188 ALL	447101.2	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.67E-06	2.67E-06	2.67E-06	4.90E-04	0.00E+00	0.00E+00	0.00E+00	2.67E-06	1.92E-03	0.00E+00	0.00E+00	1.92E-03
189 ALL	447123.9	3762774 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.73E-06	2.73E-06	2.73E-06	5.18E-04	0.00E+00	0.00E+00	0.00E+00	2.73E-06	1.97E-03	0.00E+00	0.00E+00	1.97E-03
190 ALL	447148.1	3762775 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.78E-06	2.78E-06	2.78E-06	5.50E-04	0.00E+00	0.00E+00	0.00E+00	2.78E-06	2.01E-03	0.00E+00	0.00E+00	2.01E-03
191 ALL	447170.2	3762775 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.84E-06	2.84E-06	2.84E-06	5.82E-04	0.00E+00	0.00E+00	0.00E+00	2.84E-06	2.06E-03	0.00E+00	0.00E+00	2.06E-03
192 ALL	447196.8	3762775 NonCancer	0.00E+00	0.00E+00	0.00E+00	2.92E-06	2.92E-06	2.92E-06	6.25E-04	0.00E+00	0.00E+00	0.00E+00	2.92E-06	2.12E-03	0.00E+00	0.00E+00	2.12E-03
193 ALL	447242.1	3762777 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.08E-06	3.08E-06	3.08E-06	7.07E-04	0.00E+00	0.00E+00	0.00E+00	3.08E-06	2.24E-03	0.00E+00	0.00E+00	2.24E-03
194 ALL	447262.3	3762776 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.17E-06	3.17E-06	3.17E-06	7.49E-04	0.00E+00	0.00E+00	0.00E+00	3.17E-06	2.30E-03	0.00E+00	0.00E+00	2.30E-03
195 ALL	447294.6	3762776 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.32E-06	3.32E-06	3.32E-06	8.25E-04	0.00E+00	0.00E+00	0.00E+00	3.32E-06	2.41E-03	0.00E+00	0.00E+00	2.41E-03
196 ALL	447313.1	3762775 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.41E-06	3.41E-06	3.41E-06	8.76E-04	0.00E+00	0.00E+00	0.00E+00	3.41E-06	2.49E-03	0.00E+00	0.00E+00	2.49E-03
197 ALL	447313.4	3762750 NonCancer	0.00E+00	0.00E+00	0.00E+00	3.68E-06	3.68E-06	3.68E-06	8.88E-04	0.00E+00	0.00E+00	0.00E+00	3.68E-06	2.68E-03	0.00E+00	0.00E+00	2.68E-03
198 ALL	447327.9	3762713 NonCancer	0.00E+00	0.00E+00	0.00E+00	4.25E-06	4.25E-06	4.25E-06	9.92E-04	0.00E+00	0.00E+00	0.00E+00	4.25E-06	3.10E-03	0.00E+00	0.00E+00	3.10E-03
199 ALL	447327.4	3762680 NonCancer	0.00E+00	0.00E+00	0.00E+00	4.80E-06	4.80E-06	4.80E-06	1.04E-03	0.00E+00	0.00E+00	0.00E+00	4.80E-06	3.53E-03	0.00E+00	0.00E+00	3.53E-03
200 ALL	447327.7	3762657 NonCancer	0.00E+00	0.00E+00	0.00E+00	5.22E-06	5.22E-06	5.22E-06	1.08E-03	0.00E+00	0.00E+00	0.00E+00	5.22E-06	3.83E-03	0.00E+00	0.00E+00	3.83E-03
201 ALL	447327.3	3762637 NonCancer	0.00E+00	0.00E+00	0.00E+00	5.62E-06	5.62E-06	5.62E-06	1.10E-03	0.00E+00	0.00E+00	0.00E+00	5.62E-06	4.12E-03	0.00E+00	0.00E+00	4.12E-03
202 ALL	447327.5	3762613 NonCancer	0.00E+00	0.00E+00	0.00E+00	6.14E-06	6.14E-06	6.14E-06	1.12E-03	0.00E+00	0.00E+00	0.00E+00	6.14E-06	4.49E-03	0.00E+00	0.00E+00	4.49E-03
203 ALL	447327.3	3762592 NonCancer	0.00E+00	0.00E+00	0.00E+00	6.62E-06	6.62E-06	6.62E-06	1.12E-03	0.00E+00	0.00E+00	0.00E+00	6.62E-06	4.83E-03	0.00E+00	0.00E+00	4.83E-03
204 ALL	447327	3762570 NonCancer	0.00E+00	0.00E+00	0.00E+00	7.15E-06	7.15E-06	7.15E-06	1.11E-03	0.00E+00	0.00E+00	0.00E+00	7.15E-06	5.21E-03	0.00E+00	0.00E+00	5.21E-03
205 ALL	447327.3	3762548 NonCancer	0.00E+00	0.00E+00	0.00E+00	7.68E-06	7.68E-06	7.68E-06	1.10E-03	0.00E+00	0.00E+00	0.00E+00	7.68E-06	5.58E-03	0.00E+00	0.00E+00	5.58E-03
206 ALL	447326.6	3762525 NonCancer	0.00E+00	0.00E+00	0.00E+00	8.19E-06	8.19E-06	8.19E-06	1.07E-03	0.00E+00	0.00E+00	0.00E+00	8.19E-06	5.94E-03	0.00E+00	0.00E+00	5.94E-03
207 ALL	447326.6	3762506 NonCancer	0.00E+00	0.00E+00	0.00E+00	8.56E-06	8.56E-06	8.56E-06	1.05E-03	0.00E+00	0.00E+00	0.00E+00	8.56E-06	6.20E-03	0.00E+00	0.00E+00	6.20E-03
208 ALL	447327.5	3762478 NonCancer	0.00E+00	0.00E+00	0.00E+00	9.02E-06	9.02E-06	9.02E-06	1.02E-03	0.00E+00	0.00E+00	0.00E+00	9.02E-06	6.54E-03	0.00E+00	0.00E+00	6.54E-03
209 ALL	447325.9	3762454 NonCancer	0.00E+00	0.00E+00	0.00E+00	9.20E-06	9.20E-06	9.20E-06	9.99E-04	0.00E+00	0.00E+00	0.00E+00	9.20E-06	6.69E-03	0.00E+00	0.00E+00	6.69E-03
210 ALL	447225.6	3762433 NonCancer	0.00E+00	0.00E+00	0.00E+00	8.94E-06	8.94E-06	8.94E-06	8.32E-04	0.00E+00	0.00E+00	0.00E+00	8.94E-06	6.46E-03	0.00E+00	0.00E+00	6.46E-03
211 ALL	447200.3	3762431 NonCancer	0.00E+00	0.00E+00	0.00E+00	9.33E-06	9.33E-06	9.33E-06	8.19E-04	0.00E+00	0.00E+00	0.00E+00	9.33E-06	6.72E-03	0.00E+00	0.00E+00	6.72E-03
212 ALL	447156.9	3762430 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.05E-05	1.05E-05	1.05E-05	8.06E-04	0.00E+00	0.00E+00	0.00E+00	1.05E-05	7.50E-03	0.00E+00	0.00E+00	7.50E-03
213 ALL	447131.8	3762431 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.14E-05	1.14E-05	1.14E-05	8.06E-04	0.00E+00	0.00E+00	0.00E+00	1.14E-05	8.14E-03	0.00E+00	0.00E+00	8.14E-03
214 ALL	447102.7	3762431 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.28E-05	1.28E-05	1.28E-05	8.20E-04	0.00E+00	0.00E+00	0.00E+00	1.28E-05	9.09E-03	0.00E+00	0.00E+00	9.09E-03
215 ALL	447079.1	3762431 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.41E-05	1.41E-05	1.41E-05	8.36E-04	0.00E+00	0.00E+00	0.00E+00	1.41E-05	1.00E-02	0.00E+00	0.00E+00	1.00E-02
216 ALL	447034.9	3762434 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.63E-05	1.63E-05	1.63E-05	8.57E-04	0.00E+00	0.00E+00	0.00E+00	1.63E-05	1.17E-02	0.00E+00	0.00E+00	1.17E-02
217 ALL	446995.5	3762434 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.81E-05	1.81E-05	8.82E-04	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.30E-02	0.00E+00	0.00E+00	1.30E-02
218 ALL	446972.7	3762434 NonCancer	0.00E+00	0.00E+00	0.00E+00	1.85E-05	1.85E-05	1.85E-05	8.78E-04	0.00E+00	0.00E+00	0.00E+00	1.85E-05	1.33E-02	0.00E+00	0.00E+00	1.33E-02

219	ALL	446941.4	3762435	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.87E-05	1.87E-05	1.87E-05	8.71E-04	0.00E+00	0.00E+00	0.00E+00	1.87E-05	1.35E-02	0.00E+00	0.00E+00	1.35E-02
220	ALL	446916.1	3762437	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.84E-05	1.84E-05	1.84E-05	8.46E-04	0.00E+00	0.00E+00	0.00E+00	1.84E-05	1.31E-02	0.00E+00	0.00E+00	1.31E-02
221	ALL	446876.4	3762437	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.81E-05	1.81E-05	8.24E-04	0.00E+00	0.00E+00	0.00E+00	1.81E-05	1.28E-02	0.00E+00	0.00E+00	1.28E-02
222	ALL	446848.9	3762647	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.12E-06	3.12E-06	3.12E-06	3.18E-04	0.00E+00	0.00E+00	0.00E+00	3.12E-06	2.27E-03	0.00E+00	0.00E+00	2.27E-03
223	ALL	446848.9	3762563	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.67E-06	4.67E-06	4.67E-06	3.65E-04	0.00E+00	0.00E+00	0.00E+00	4.67E-06	3.38E-03	0.00E+00	0.00E+00	3.38E-03
224	ALL	446849.2	3762510	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.85E-06	6.85E-06	6.85E-06	4.35E-04	0.00E+00	0.00E+00	0.00E+00	6.85E-06	4.92E-03	0.00E+00	0.00E+00	4.92E-03
225	ALL	446849.2	3762456	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.23E-05	1.23E-05	1.23E-05	6.23E-04	0.00E+00	0.00E+00	0.00E+00	1.23E-05	8.72E-03	0.00E+00	0.00E+00	8.72E-03
226	ALL	446848.9	3762702	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.51E-06	2.51E-06	2.51E-06	3.01E-04	0.00E+00	0.00E+00	0.00E+00	2.51E-06	1.79E-03	0.00E+00	0.00E+00	1.79E-03
227	ALL	446849.5	3762755	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.17E-06	2.17E-06	2.17E-06	2.92E-04	0.00E+00	0.00E+00	0.00E+00	2.17E-06	1.55E-03	0.00E+00	0.00E+00	1.55E-03
228	ALL	446739.8	3762429	NonCancer	0.00E+00	0.00E+00	0.00E+00	7.46E-06	7.46E-06	7.46E-06	4.89E-04	0.00E+00	0.00E+00	0.00E+00	7.46E-06	5.31E-03	0.00E+00	0.00E+00	5.31E-03
229	ALL	446711.8	3762424	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.11E-06	6.11E-06	6.11E-06	4.41E-04	0.00E+00	0.00E+00	0.00E+00	6.11E-06	4.37E-03	0.00E+00	0.00E+00	4.37E-03
230	ALL	446687.3	3762416	NonCancer	0.00E+00	0.00E+00	0.00E+00	5.24E-06	5.24E-06	5.24E-06	4.12E-04	0.00E+00	0.00E+00	0.00E+00	5.24E-06	3.76E-03	0.00E+00	0.00E+00	3.76E-03
231	ALL	446662.2	3762412	NonCancer	0.00E+00	0.00E+00	0.00E+00	4.49E-06	4.49E-06	4.49E-06	3.75E-04	0.00E+00	0.00E+00	0.00E+00	4.49E-06	3.23E-03	0.00E+00	0.00E+00	3.23E-03
232	ALL	446636.2	3762404	NonCancer	0.00E+00	0.00E+00	0.00E+00	3.91E-06	3.91E-06	3.91E-06	3.50E-04	0.00E+00	0.00E+00	0.00E+00	3.91E-06	2.82E-03	0.00E+00	0.00E+00	2.82E-03
233	ALL	449981.7	3762732	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.60E-06	1.60E-06	1.60E-06	1.59E-04	0.00E+00	0.00E+00	0.00E+00	1.60E-06	1.15E-03	0.00E+00	0.00E+00	1.15E-03
234	ALL	446486.8	3762232	NonCancer	0.00E+00	0.00E+00	0.00E+00	2.19E-06	2.19E-06	2.19E-06	3.49E-04	0.00E+00	0.00E+00	0.00E+00	2.19E-06	1.60E-03	0.00E+00	0.00E+00	1.60E-03
235	ALL	446262	3762068	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.21E-06	1.21E-06	1.21E-06	2.81E-04	0.00E+00	0.00E+00	0.00E+00	1.21E-06	8.85E-04	0.00E+00	0.00E+00	8.85E-04
236	ALL	446443.2	3762292	NonCancer	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.90E-06	1.90E-06	2.67E-04	0.00E+00	0.00E+00	0.00E+00	1.90E-06	1.39E-03	0.00E+00	0.00E+00	1.39E-03
237	ALL	446071.8	3762055	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.81E-07	8.81E-07	8.81E-07	2.46E-04	0.00E+00	0.00E+00	0.00E+00	8.81E-07	6.45E-04	0.00E+00	0.00E+00	6.45E-04
238	ALL	446072.1	3761983	NonCancer	0.00E+00	0.00E+00	0.00E+00	8.74E-07	8.74E-07	8.74E-07	2.29E-04	0.00E+00	0.00E+00	0.00E+00	8.74E-07	6.40E-04	0.00E+00	0.00E+00	6.40E-04
239	ALL	446138.2	3762002	NonCancer	0.00E+00	0.00E+00	0.00E+00	9.68E-07	9.68E-07	9.68E-07	2.43E-04	0.00E+00	0.00E+00	0.00E+00	9.68E-07	7.09E-04	0.00E+00	0.00E+00	7.09E-04
240	ALL	445884.9	3762040	NonCancer	0.00E+00	0.00E+00	0.00E+00	6.90E-07	6.90E-07	6.90E-07	2.26E-04	0.00E+00	0.00E+00	0.00E+00	6.90E-07	5.05E-04	0.00E+00	0.00E+00	5.05E-04

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Rich-Haven Specific Plan, 2022 Amendment

GREENHOUSE GAS ANALYSIS

CITY OF ONTARIO

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Michael Tirohn
mtirohn@urbanxroads.com

NOVEMBER 8, 2022

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LIST OF ABBREVIATED TERMS

%	Percent
°C	Degrees Celsius
°F	Degrees Fahrenheit
(1)	Reference
2016-2040 RTP/SCS	*Final 2016-2040 Regional Transportation Plan/Sustainable Communities Strategies*
2017 Scoping Plan	*Final 2017 Scoping Plan Update*
AB	Assembly Bill
AB 32	Global Warming Solutions Act of 2006
AB 1493	Pavley Fuel Efficiency Standards
AB 1881	California Water Conservation Landscaping Act of 2006
ACE	Affordable Clean Energy
AFUE	Annual Fuel Utilization Efficiency
Annex I	Industrialized Nations
APA	Administrative Procedure Act
AQIA	*Rich Haven Specific Plan Air Quality Impact Analysis*
BAU	Business As Usual
C_2F_6	Hexafluoroethane
C_2H_6	Ethane
$C_2H_2F_4$	Tetrafluroethane
$C_2H_4F_2$	Ethylidene Fluoride
CAA	Federal Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGAPS	California LBNL GHG Analysis of Policies Spreadsheet
CALGreen	California Green Building Standards Code
CalSTA	California State Transportation Agency
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CBSC	California Building Standards Commission
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CEC	California Energy Commission

CEQA	California Environmental Quality Act
CEQA Guidelines	*2019 CEQA Statute and Guidelines*
CF_4	Tetrafluoromethane
CFC	Chlorofluorocarbons
CFC-113	Trichlorotrifluoroethane
CH_4	Methane
City	City of Ontario
CNRA	California Natural Resources Agency
CNRA 2009	*2009 California Climate Adaptation Strategy*
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
Convention	United Nation's Framework Convention on Climate Change
COP	Conference of the Parties
CPUC	California Public Utilities Commission
CRRC	Cool Roof Rating Council
CTC	California Transportation Commission
DOF	Department of Finance
DWR	Department of Water Resources
EER	Energy Efficiency Ratio
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
EV	Electric Vehicle
g/L	Grams Per Liter
GCC	Global Climate Change
Gg	Gigagram
GHGA	Greenhouse Gas Analysis
GO-Biz	Governor's Office of Business and Economic Development
gpm	Gallons per Minute
GWP	Global Warming Potential
H_2O	Water
HERS	Home Energy Rating System
HFC	Hydrofluorocarbons
HDT	Heavy-Duty Trucks
HFC-23	Fluoroform
HFC-134a	1,1,1,2-tetrafluoroethane
HFC-152a	1,1-difluoroethane
HHDT	Heavy-Heavy-Duty Trucks
hp	Horsepower

HSPF	Heating Seasonal Performance Factor
HVAC	Heating, Ventilation, Air Conditioning
I-215	Interstate 215
IBANK	California Infrastructure and Economic Development Bank
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resource Planning
ISO	Independent System Operator
kWh	Kilowatt Hours
lbs	Pounds
LBNL	Lawrence Berkeley National Laboratory
LCA	Life-Cycle Analysis
LCD	Liquid Crystal Display
LCFS	Low Carbon Fuel Standard or Executive Order S-01-07
LDA	Light-Duty Auto
LDT1/LDT2	Light-Duty Trucks
LEV III	Low-Emission Vehicle
LHDT1/LHDT2	Light-Heavy-Duty Trucks
LULUCF	Land-Use, Land-Use Change and Forestry
MCY	Motorcycle
MDT	Medium-Duty Trucks
MDV	Medium-Duty Vehicles
MH	Motorhome
MHDT	Medium-Heavy-Duty Tucks
MMR	Mandatory Reporting Rule
$MMTCO_2e$	Million Metric Ton of Carbon Dioxide Equivalent
mpg	Miles Per Gallon
MPOs	Metropolitan Planning Organizations
$MMTCO_2e/yr$	Million Metric Ton of Carbon Dioxide Equivalent Per Year
MT/yr	Metric Tons Per Year
$MTCO_2e$	Metric Ton of Carbon Dioxide Equivalent
$MTCO_2e/yr$	Metric Ton of Carbon Dioxide Equivalent Per Year
MW	Megawatts
MWh	Megawatts Per Hour
MWELO	California Department of Water Resources' Model Water Efficient
N_2O	Nitrous Oxide
NDC	Nationally Determined Contributions
NF_3	Nitrogen Trifluoride

NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Safety and Health
NO_X	Nitrogen Oxides
Non-Annex I	Developing Nations
OAL	Office of Administrative Law
OBUS	Other Buses
OPR	Office of Planning and Research
PFC	Perfluorocarbons
ppb	Parts Per Billion
ppm	Parts Per Million
ppt	Parts Per Trillion
Project	Rich-Haven Specific Plan, 2022 Amendment
RPS	Renewable Portfolio Standards
RTP	Regional Transportation Plan
SAR	Second Assessment Report
SB	Senate Bill
SB 32	California Global Warming Solutions Act of 2006
SB 375	Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies
SB 1078	Renewable Portfolio Standards
SB 1368	Statewide Retail Provider Emissions Performance Standards
SBUS	School Buses
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
Scoping Plan	California Air Resources Board Climate Change Scoping Plan
SCS	Sustainable Communities Strategy
SEER	Season Energy Efficiency Ratio
sf	Square Feet
SF_6	Sulfur Hexaflouride
SGC	Strategic Growth Council
SHGC	Solar Heat Gain Coefficient
SLPS	Short-Lived Climate Pollutant Strategy
SP	Service Population
Supreme Court	United States Supreme Court
SWCRB	State Water Resources Control Board
Title 20	Appliance Energy Efficiency Standards

Title 24	California Building Code
U.N.	United Nations
U.S.	United States
UBUS	Urban Buses
UNFCCC	United Nations' Framework Convention on Climate Change
URBEMIS	Urban Emissions
UTR	Utility Tractors
VFP	Vehicle Fueling Positions
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
WCI	Western Climate Initiative
WRI	World Resources Institute
ZE/NZE	Zero and Near-Zero Emissions
ZEV	Zero-Emissions Vehicles

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Rich-Haven Specific Plan, 2022 Amendment Greenhouse Gas Analysis* (GHGA) are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines* (*CEQA Guidelines*) as implemented by City of Ontario (1). Table ES-1 shows the findings of significance for each potential greenhouse gas (GHG) impact under CEQA before and after any required mitigation described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings		
		Unmitigated	Mitigation Measure	Mitigated
Would the Project generate GHG emissions either directly or indirectly, that may have a significant impact on the environment?	6.0	*Potentially Significant*	*MM GHG-1*	*Significant and Unavoidable*
Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	6.0	*Potentially Significant*	*MM GHG-1*	*Less-Than-Significant*

ES.2 STANDARD REGULATORY REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California and the South Coast Air Quality Management District (SCAQMD) aimed at the reduction of GHG emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of GHG emissions include:

- Global Warming Solutions Act of 2006 (Assembly Bill (AB) 32) (2).
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (Senate Bill (SB) 375) (3).
- Pavley Fuel Efficiency Standards (AB 1493). Establishes fuel efficiency ratings for new vehicles (4).
- California Building Code (Title 24 California Code of Regulations (CCR)). Establishes energy efficiency requirements for new construction (5).
- Appliance Energy Efficiency Standards (Title 20 CCR). Establishes energy efficiency requirements for appliances (6).

- Low Carbon Fuel Standard (LCFS). Requires carbon content of fuel sold in California to be 10 percent (%) less by 2020 (7).
- Low Carbon Fuel Standard (LCFS) 2030 Update. Requires carbon content of fuel sold in California to be 20 percent (5) less by 2030 (8)
- California Water Conservation in Landscaping Act of 2006 (AB 1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes (9).
- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (10).
- Renewable Portfolio Standards (SB 1078 – also referred to as RPS). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20% by 2010 and 33% by 2020 (11). This was amended by SB 350 which mandated 50% by 2030. This was further modified by SB 100 which set a target of 60% by 2030 and 100% by 2045.
- California Global Warming Solutions Act of 2006 (SB 32). Requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15 (12).

Regulations that will affect the Project's emissions are accounted for in the Project's GHG calculations provided in this report. In particular, AB 1493, LCFS, and RPS, are accounted for in the Project's emission calculations.

ES.3 PROJECT MITIGATION MEASURES (MM)

GHG MITIGATION MEASURES

MM GHG-1

Project development proposals shall implement Screening Table Measures that the requisite points per the City's Community Climate Action Plan (CCAP) Screening Tables. It is preliminarily estimated that the Project would be required to achieve at least 100 Screening Table points to ensure compliance with the CCAP. For informational purposes, a representative example of how the Project could achieve a minimum of 100 Screening Table Points through implementation of CCAP Screening Table Measures pursuant to Mitigation Measure GHG-1 is provided at Table ES-2 for the residential portions of the Project and Table ES-3 for the commercial and industrial portions of the Project.

TABLE ES-2: EXAMPLE CAP SCREENING TABLE MEASURES (RESIDENTIAL)

Feature	Description	Assigned Point Values	Project Point Values
Reduction Measure PS E1: Residential Energy Efficiency			
Building Envelope			
Insulation	Enhanced Insulation (rigid wall insulation R-13; roof/attic: R-38)	15	15
Windows	Enhanced Window Insulation (0.32 U-Factor, 0.25 SHGC)	7	7

Cool Roof	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	12	12
Heating/Cooling Distribution System	Modest duct insulation (R-6)	7	7
	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	12	12
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	9	9
Water Heaters	Very High Efficiency Water Heater (0.92 energy factor)	18	18
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	12	12
Reduction Measure PS W1: Residential Water Conservation			
Potable Water			
Showers	Water Efficient Showerheads (2.0 gpm)	3	3
Toilets	Water Efficient Toilets (1.5 gpm)	3	3
Faucets	Water Efficient Faucets	3	3
	Total Points Earned by Residential Project:		**101**

TABLE ES-3: EXAMPLE CAP SCREENING TABLE MEASURES (COMMERCIAL & INDUSTRIAL)

Feature	Description	Assigned Point Values	Project Point Values
Reduction Measure PS E3: Commercial/Industrial Energy Efficiency			
Building Envelope			
Insulation	Enhanced Insulation (rigid wall insulation R-13; roof/attic: R-38)	18	18
Windows	Enhanced Window Insulation (0.32 U-Factor, 0.25 SHGC)	8	8
Cool Roof	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	14	14
Heating/Cooling Distribution System	Modest duct insulation (R-6)	8	8
	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	14	14
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	12	12
Water Heaters	Very High Efficiency Water Heater (0.92 energy factor)	19	19
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	14	14
	Total Points Earned by Commercial/Industrial Project:		**107**

The City shall verify that Screening Table Measures achieving the requisite points are incorporated in development plans prior to the issuance of building permit(s) and/or site plans (as applicable). The City shall verify implementation of the selected Screening Table Measures prior to the issuance of Certificate(s) of Occupancy. At the discretion of the City, measures that provide GHG reductions equivalent to GHG emissions reductions achieved via the Screening Table Measures may be implemented. Air Quality Mitigation Measures

The following mitigation measures are identified in the Project Air Quality Impact Analysis. Although the purpose of these measures is to reduce criteria pollutant emissions, it is anticipated that implementation of these measures would also result in a reduction in Project GHG emissions. However, the extent to which GHG emissions would be reduced by implementation of these is not quantifiable.

MM AQ-1

Fugitive dust control measures that surpass SCAQMD Rule 403 minimum requires shall be implemented. Such measures include: use of nontoxic soil stabilizers, applying water every four hours to active soil disturbing activities and tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.

MM AQ-2

Construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or higher exhaust emission limits shall be utilized.

MM AQ-3

Construction equipment shall be properly serviced and maintained to the manufacturer's standards.

MM AQ-4

Nonessential idling of construction equipment shall be limited to no more than five consecutive minutes.

MM AQ-5

Super-Compliant VOC paints for coating of architectural surfaces shall be used whenever possible.

MM AQ-6

The construction contractor shall use off-road diesel construction equipment that complies with EPA/CARB Tier 4 Interim or better emissions standards during all construction phases.

MM AQ-7

Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable CARB anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five (5) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior

to the issuance of an occupancy permit, the City shall conduct a site inspection to ensure that the signs are in place.

MM AQ-8

Prior to tenant occupancy, the Project Applicant or successor(s) in interest shall provide documentation to the City demonstrating that occupants/tenants of the Project site have been provided documentation on funding opportunities, such as the Carl Moyer Program, that provide incentives for using cleaner-than-required engines and equipment.

MM AQ-9

Prior to the issuing of each building permit, the Project Applicant, successor(s) in interest, and contractors shall provide plans and specifications to the City that demonstrate that each project building is designed for passive heating and cooling and is designed to include natural light. Features designed to achieve this shall include the proper placement of windows, overhangs, and skylights.

MM AQ-10

Prior to the issuing of each building permit, the Project Applicant, successor(s) in interest, and contractors shall provide plans and specifications to the City that demonstrate that electrical service is provided to each of the areas in the vicinity of the building that are to be landscaped in order that electrical equipment may be used for landscape maintenance.

MM AQ-11

Once constructed, the Project Applicant, successor(s) in interest shall ensure that all building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements.

MM AQ-12

Once constructed, through requirements in the lease agreements, the Project Applicant or successors in interest shall ensure that all building tenants shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment, through requirements in the lease agreements. Electric-powered service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically or natural gas fueled provided such yard trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles.

MM AQ-13

Through requirements in the lease agreements, tenants that do not already operate 2010 and newer trucks shall apply in good faith for funding to replace/retrofit their trucks. Funding mechanisms include Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible. This measure shall not apply to trucks that are not owned or operated by the facility operator or facility tenants since it would

be infeasible to prohibit access to the site by any truck that is otherwise legal to operate on California roads and highways.

MM AQ-14

Through requirements in the lease agreements, tenants who employ 250 or more employees on a full- or part-time basis shall comply with SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Tenants with less than 250 employees or tenants with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to Rule 2202 with annual reporting of actions and results to the City. The tenant-implemented program would include, but not be limited to the following:

- Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees.
- Create and maintain a "commuter club" to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work.
- Inform employees of public transit and commuting services available to them (e.g., social media, signage).
- Provide on-site transit pass sales and discounted transit passes.
- Guarantee a ride home.
- Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted.

MM AQ-15

Prior to the issuance of a building permit, the Project Applicant or successor(s) in interest shall provide evidence to the City that loading docks are designed to be compatible with SmartWay trucks.

MM AQ-16

Upon occupancy and annually thereafter, the Project Applicant or successor(s) in interest shall provide the following information to all tenants:

- Building energy efficiency, solid waste reduction, recycling, and water conservation.
- Vehicle GHG emissions, electric vehicle charging availability, and alternate transportation opportunities for commuting.
- Participation in the Voluntary Interindustry Commerce Solutions (VICS) "Empty Miles" program to improve goods trucking efficiencies.
- Health effects of diesel particulates, State regulations limiting truck idling time, and the benefits of minimized idling.
- The importance of minimizing traffic, noise, and air pollutant impacts to any residences in the Project vicinity.

Tenants shall ensure that the above information is provided to employees and truck drivers as appropriate.

MM AQ-17

Prior to issuance of a building permit, the Project Applicant or successor(s) in interest shall provide the City with an onsite signage program that clearly identifies the required onsite circulation system. This shall be accomplished through posted signs and painting on driveways and internal roadways.

MM AQ-18

Prior to issuance of an occupancy permit, the City shall confirm that signs clearly identifying approved trucks have been installed along any truck routes to and from the project site.

MM AQ-19

Prior to issuance of an occupancy permit(s) for commercial/retail/industrial tenants, tenants shall install (a) sign(s) on their respective property(ies) with telephone, email, and regular mail contact information for a designated tenant representative (representative) who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the City for perceived Code violations. The representative shall keep records of any complaints received and actions taken to communicate with the complainant and resolve the complaint. The representative shall endeavor to resolve complaints within 24 hours.

MM AQ-20

Prior to issuance of a building permit for the Project industrial uses, the Project Applicant or successor(s) in interest shall provide the City with site and building specifications, drawings, and calculations that demonstrate that main electrical supply lines and panels have been sized to support heavy truck charging facilities when these trucks become available. The calculations shall be based on reasonable predictions from currently available truck manufacturer's data.

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1 INTRODUCTION

This report presents the results of the GHGA prepared by Urban Crossroads, Inc., for the proposed Meridian Rich-Haven Specific Plan, 2022 Amendment (Project). The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of GHG impacts as a result of constructing and operating the Project.

1.1 BACKGROUND AND PROJECT DESCRIPTION

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated herein coincide with the location and boundaries in the 2021 Specific Plan. The location of the Project is presented at Exhibit 1-A.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated proposes a new amendment of the RHSP as described herein.

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This EIR evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.
3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment.

Note that portions of Planning Areas 3A and 4A within the Project site have been developed. Planning Areas 2, 3, 4A, 5C, 6, 10, and portions of 7, 8, and 9 are anticipated to be developed as part of the first phase with an anticipated Opening Year of 2024. Project Buildout and of Phase 2 is anticipated in Year 2027. Project Planning Areas and Phases are illustrated at Exhibit 1-B.

Table 1-1 presents the land uses that were assumed to be developed as part of Phase 1.

TABLE 1-1: PHASE 1 LAND USES

Land Use	Qty	Units
Business Park	316.725	TSF
High-Cube Cold Storage	454.244	TSF
High-Cube Fulfillment	1,404.417	TSF
High-Cube Transload	591.763	TSF
Multifamily (Low Rise) Residential	3,289	DU
Single Family Detached Residential	822	DU
Public Park	1.3	AC
Strip Retail	7.500	TSF
Gasoline Station	48	VFP
Shopping Center	162.137	TSF
High Turnover Restaurant	32.427	TSF
Fast Food Restaurant w/Drive Through	21.618	TSF

TSF = Thousand Square Feet
DU = Dwelling Units
AC = Acre
VFP = Vehicle Fueling Position

Table 1-2 presents the land uses that would be developed as part of Phase 2.

TABLE 1-2: PHASE 2 LAND USES

Land Use	Qty	Units
Multifamily (Low Rise) Residential	2,000	DU
Single Family Detached Residential	603	DU
Public Park	27	AC
Gasoline Station	48	VFP
Shopping Center	525.990	TSF
High Turnover Restaurant	105.198	TSF
Fast Food Restaurant w/Drive Through	70.132	TSF

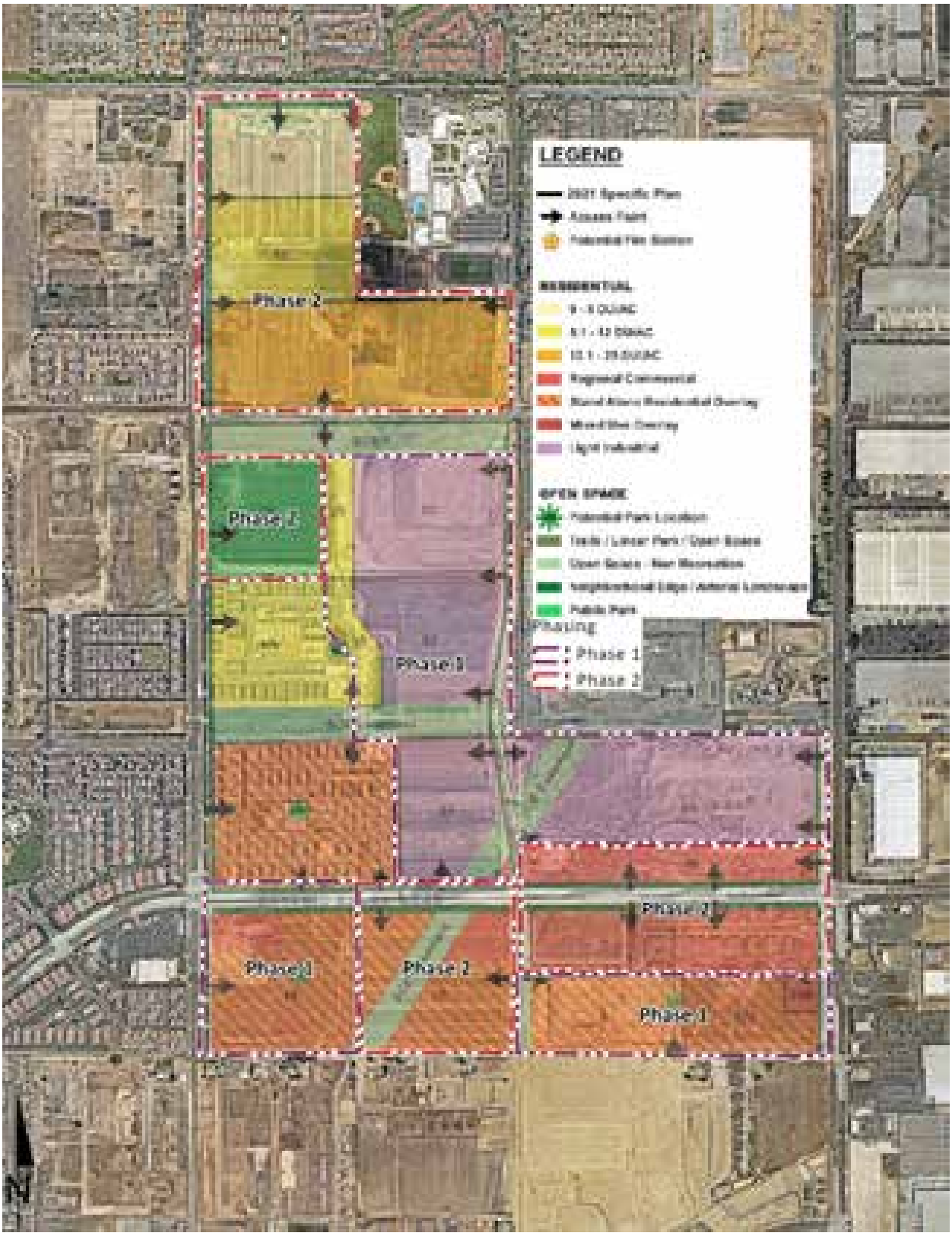
TSF = Thousand Square Feet
DU = Dwelling Units
AC = Acre
VFP = Vehicle Fueling Position

According to the *Rich-Haven Specific Plan, 2022 Amendment Traffic Analysis*, at buildout following the development of Phases 1 and 2, the proposed Project is anticipated to generate a total of 95,552 two-way vehicle trips per day including 94,408 two-way passenger vehicle trips and 1,144 two-way truck trips per day (in actual vehicles) (13).

EXHIBIT 1-A: LOCATION MAP



EXHIBIT 1-B: LAND USE PLAN



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2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE (GCC)

GCC is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GHGA cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

2.2 GLOBAL CLIMATE CHANGE DEFINED

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

2.3 GHGS

2.3.1 GHGS AND HEALTH EFFECTS

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. Many gases demonstrate these properties and as discussed in Table 2-1. For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated (see Table 3-1 later in this report) because these gases are the primary contributors to GCC from development projects.

Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

TABLE 2-1: GREENHOUSE GASES

GHG	Description	Sources	Health Effects
Water	Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is	The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.	There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

GHG	Description	Sources	Health Effects
	unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up) (14).		
CO_2	CO_2 is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (15).	CO_2 is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO_2 is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (16).	Outdoor levels of CO_2 are not high enough to result in negative health effects. According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO_2 can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO_2 in the earth's atmosphere are estimated to be approximately 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15-minute period (17).

GHG	Description	Sources	Health Effects
CH_4	CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.	CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropocentric sources include fossil-fuel combustion and biomass burning (18).	CH_4 is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to high levels of CH_4 can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
N_2O	N_2O, also known as laughing gas, is a colorless GHG. Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).	N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also	N_2O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (19).

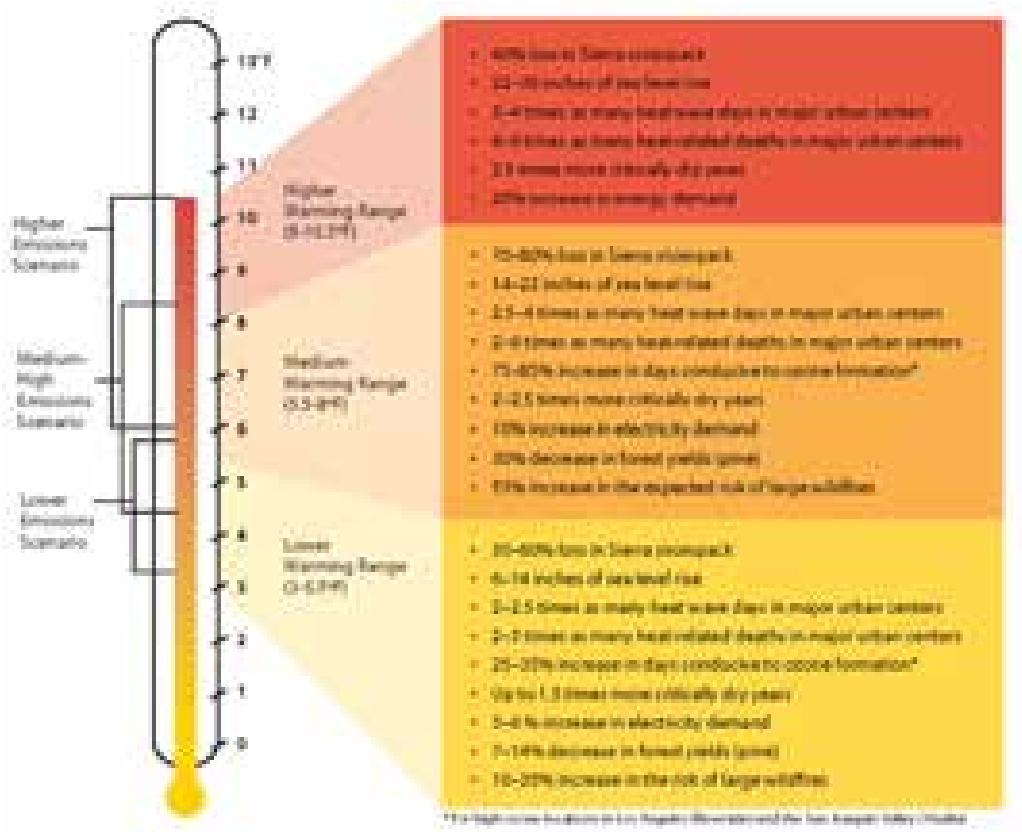
GHG	Description	Sources	Health Effects
		used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction (19).	
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years (20).	In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

GHG	Description	Sources	Health Effects
HFCs	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), fluoroform (CHF_3), 1,1,1,2-tetrafluoroethane (CH_2FCF), and 1,1-difluoroethane (CH_3CF_2). Prior to 1990, the only significant emissions were of CHF_3. CH_2FCF emissions are increasing due to its use as a refrigerant.	HFCs are manmade for applications such as automobile air conditioners and refrigerants.	No health effects are known to result from exposure to HFCs.
PFCs	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The EPA estimates that concentrations of CF_4 in the atmosphere are over 70 parts per trillion (ppt).	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.	No health effects are known to result from exposure to PFCs.
SF_6	SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900) (21). The EPA indicates that concentrations in the 1990s were about 4 ppt.	SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

GHG	Description	Sources	Health Effects
Nitrogen Trifluoride (NF_3)	NF_3 is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF_3 has a 100-year GWP of 17,200 (22).	NF_3 is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display (LCD) panels, types of solar panels, and chemical lasers.	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis (23).

The potential health effects related directly to the emissions of CO_2, CH_4, and N_2O as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (24). Exhibit 2-A presents the potential impacts of global warming (25).

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990)



Source: Barbara H. Allen-Diaz. "Climate change affects us all." *University of California, Agriculture and Natural Resources*, 2009.

2.4 GLOBAL WARMING POTENTIAL

GHGs have varying GWP values. GWP of a GHG indicates the amount of warming a gas causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO_2 is utilized as the reference gas for GWP, and thus has a GWP of 1. CO_2 equivalent (CO_2e) is a term used for describing the difference GHGs in a common unit. CO_2e signifies the amount of CO_2 which would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized at Table 2-2. As shown in the table below, GWP for the Second Assessment Report, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for CO_2 to 23,900 for SF_6 and GWP for the IPCC's 5th Assessment Report range from 1 for CO_2 to 23,500 for SF_6 (26).

TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	GWP (100-year time horizon)	
		2nd Assessment Report	5th Assessment Report
CO_2	See*	1	1
CH_4	12 .4	21	28
N_2O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF_6	3,200	23,900	23,500

*As per Appendix 8.A. of IPCC's 5th Assessment Report, no single lifetime can be given.
Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

2.5 GHG EMISSIONS INVENTORIES

2.5.1 GLOBAL

Worldwide anthropogenic GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2018. Based on the latest available data, the sum of these emissions totaled approximately 28,768,439 gigagram (Gg) CO_2e[1] (27) (28) as summarized on Table 2-3.

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2018 data, the United Nations' Framework Convention on Climate Change (UNFCCC) data for the most recent year were used U.N. Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," The most recent GHG emissions for China and India are from 2014 and 2010, respectively.

2.5.2 UNITED STATES

As noted in Table 2-3, the United States, as a single country, was the number two producer of GHG emissions in 2018.

TABLE 2-3: TOP GHG PRODUCING COUNTRIES AND THE EUROPEAN UNION [2]

Emitting Countries	GHG Emissions (Gg CO_2e)
China	12,300,200
United States	6,676,650
European Union (28-member countries)	4,232,274
Russian Federation	2,220,123
India	2,100,850
Japan	1,238,343
Total	**28,768,439**

2.5.3 STATE OF CALIFORNIA

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the United States (U.S.) emissions inventory total (29). The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2021 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2019 GHG emissions period, California emitted an average 418.2 million metric tons of CO_2e per year ($MMTCO_2e/yr$) or 418,200 Gg CO_2e (6.26% of the total United States GHG emissions) (30).

2.5.4 CITY OF ONTARIO

The City's Climate Action Plan includes a baseline inventory of city-wide GHG emissions for 2008. Based on the 2008 inventory, community activities within the City resulted in emissions of approximately 2.5 $MMTCO_2e/yr$. The largest source of GHG emissions within the City is transportation sources, accounting for approximately 38% of total community emissions for 2008.

2.5.5 PROJECT SITE

The Project site is generally vacant, and thus generates generally negligible GHG emissions.

2.6 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

2.6.1 PUBLIC HEALTH

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35% under the lower warming range to 75 to 85% under the medium

[2] Used http://unfccc.int data for Annex I countries. Consulted the CAIT Climate Data Explorer in https://www.climatewatchdata.org site to reference Non-Annex I countries of China and India.

warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. Based on *Our Changing Climate Assessing the Risks to California by the California Climate Change Center*, large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced (31).

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

2.6.2 WATER RESOURCES

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

2.6.3 AGRICULTURE

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks.

Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

2.6.4 FORESTS AND LANDSCAPES

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90% due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

2.6.5 RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

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3 REGULATORY SETTING

3.1 INTERNATIONAL

Climate change is a global issue involving GHG emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce GHGs.

IPCC

In 1988, the United Nations (U.N.) and the World Meteorological Organization established the IPCC to assess the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

UNITED NATION'S FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

On March 21, 1994, the U.S. joined a number of countries around the world in signing the Convention. Under the UNFCCC, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

INTERNATIONAL CLIMATE CHANGE TREATIES

The Kyoto Protocol is an international agreement linked to the UNFCCC. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of 5% against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the UN Climate Change Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2 degrees Celsius (°C) above pre-industrial levels, subject to a review in 2015. The Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings gradually gained consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the U.N. At the Summit, heads of government, business and civil society announced actions in areas that would

have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the UNFCCC reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties (COP) 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2°C, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will "represent a progression" beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly will not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a) (32).

Following President Biden's day one executive order, the United States officially rejoined the landmark Paris Agreement on February 19, 2021, positioning the country to once again be part of the global climate solution. Meanwhile, city, state, business, and civic leaders across the country and around the world have been ramping up efforts to drive the clean energy advances needed to meet the goals of the agreement and put the brakes on dangerous climate change.

3.2 NATIONAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG ENDANGERMENT

In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the United States Supreme Court (Supreme Court) found that four GHGs, including CO_2, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act (CAA). The Supreme Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs— CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator's findings (33).

CLEAN VEHICLES

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the U.S. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty (MD) passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and MD passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks (HDT) and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20% reduction in CO_2 emissions and fuel consumption by the 2018 model year. For HDT and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10% reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12 and 17% respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10% reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which declared that the MY 2022-2025 GHG standards are not appropriate and should be revised (34). This Final Determination serves to initiate a notice to further consider appropriate standards for MY 2022-2025 light-duty vehicles. On August 2, 2018, the NHTSA in conjunction with the EPA, released a notice of proposed rulemaking, the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule). The SAFE Vehicles Rule was proposed to amend existing Corporate Average Fuel Economy (CAFE) and tailpipe CO_2 standards for passenger cars and light trucks and to establish new standards covering model years 2021 through 2026. As of March 31, 2020, the NHTSA and EPA finalized the SAFE Vehicle Rule which increased stringency of CAFE and CO_2 emissions standards by 1.5% each year through model year 2026 (35). On December 21, 2021, after reviewing all the public comments submitted on NHTSA's April 2021 Notice of Proposed Rulemaking, NHTSA finalizes the CAFE Preemption rulemaking to withdraw its portions of the so-called SAFE I Rule. The final rule concludes that the SAFE I Rule overstepped the agency's legal authority and established overly broad prohibitions that did not account for a variety of important state and local interests. The final rule ensures that the SAFE I Rule will no longer form an improper barrier to states exploring creative solutions to address their local communities' environmental and public health challenges (36).

On March 31, 2022, NHTSA finalized CAFE standards for MY 2024-2026. The standards for passenger cars and light trucks for MYs 2024-2025 were increased at a rate of 8% per year and then increased at a rate of 10% per year for MY 2026 vehicles. NHTSA currently projects that the revised standards would require an industry fleet-wide average of roughly 49 mpg in MY 2026 and would reduce average fuel outlays over the lifetimes of affected vehicles that provide consumers hundreds of dollars in net savings. These standards are directly responsive to the agency's statutory mandate to improve energy conservation and reduce the nation's energy dependence on foreign sources (36).

MANDATORY REPORTING OF GHGS

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under

the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons per year (MT/yr) or more of GHG emissions are required to submit annual reports to the EPA.

NEW SOURCE REVIEW

The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

> *"This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for GHG emissions until at least April 30, 2016."*

The EPA estimates that facilities responsible for nearly 70% of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

STANDARDS OF PERFORMANCE FOR GHG EMISSIONS FOR NEW STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS

As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO_2 for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts (MW) would be required to meet an output-based standard of 1,000 pounds (lbs) of CO_2 per MW-hour (MWh), based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016, the Supreme Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has also signed a measure to repeal the Clean Power Plan, including the CO_2 standards. The Clean Power Plan was officially repealed on June 19, 2019, when the EPA issued the final Affordable Clean Energy rule (ACE). Under ACE, new state-specific emission guidelines were established that provided existing coal-fired electric utility generating units with achievable standards.

On January 19, 2021, the D.C. Circuit Court of Appeals ruled that the EPA's ACE Rule for GHG emissions from power plants rested on an erroneous interpretation of the CAA that barred EPA from considering measures beyond those that apply at and to an individual source. The court

therefore vacated and remanded the ACE Rule and adopted a replacement rule which regulates CO_2 emissions from existing power plants, potentially again considering generation shifting and other measures to more aggressively target power sector emissions.

CAP-AND-TRADE

Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the U.S. include the Acid Rain Program and the N_2O Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO_2 emissions from power plants, auctions CO_2 emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008 and in 2020 has retained all participating states.

The Western Climate Initiative (WCI) partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15% below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec's cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015. While the WCI has yet to publish whether it has successfully reached the 2020 emissions goal initiative set in 2007, SB 32 requires that California, a major partner in the WCI, adopt the goal of reducing statewide GHG emissions to 40% below the 1990 level by 2030.

SMARTWAY PROGRAM

The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (37):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all HDTs will have to comply with the CARB GHG Regulation that is designed

with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10% or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies – less idling of the engine when it is not needed would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel will eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.
- Federal excise tax exemptions.

3.3 MULTISTATE

WESTERN CLIMATE INITIATIVE (WCI)

The WCI is a partnership among seven different US states and four Canadian provinces aimed at developing a regional cap-and-trade economy to reduce GHG emissions. The following comes from the WC's website (38):

> *The WCI was built on existing greenhouse gas reduction efforts in the individual states as well as two existing regional efforts. In 2003, California, Oregon and Washington created the West Coast Global Warming Initiative, and in 2006, Arizona and New Mexico launched the Southwest Climate Change Initiative.*
>
> *During 2007 and 2008, the Premiers of British Columbia, Manitoba, Ontario, and Quebec, and the Governors of Montana and Utah joined the original five states in committing to tackle climate change at a regional level. All 11 jurisdictions collaborated in the development of the Design for the WCI Regional Program, which was released in July 2010.*
>
> *In November 2011, the Western Climate Initiative formed Western Climate Initiative, Inc. (WCI, Inc.), a non-profit corporation that will provide administrative*

and technical services to support the implementation of state and provincial greenhouse gas emissions trading programs.

British Columbia, California, Ontario, Quebec and Manitoba are continuing to work together through the Western Climate Initiative to develop and harmonize their emissions trading program policies. They are also continuing to work with Western, Midwestern, and Northeast states on a range of other climate and clean energy strategies through the North America 2050 Initiative. North America 2050 is a forum for states, provinces and stakeholders to identify leadership opportunities in climate and clean energy policy. (39)

PACIFIC COAST ACTION PLAN ON CLIMATE AND ENERGY

The governors of California, Oregon, Washington and the Premier of British Columbia have joined together to produce the Pacific Coast Action Plan signed on October 28, 2013 to reduce GHG emissions among other goals. The plan organizes their Pacific coast economies around several initiatives including (40):

- Leading national and international policy on climate change
    - Accounting for a price on carbon.
    - Harmonizing 2050 targets for GHG emission reductions and developing midterm targets need for long-term reduction goals.
    - Affirming the need to inform policy with climate science findings.
- Transition the West Coast to clean modes of transportation including 100% zero emissions vehicles by 2050
    - Continuing deployment of high-speed rail.
    - Supporting emerging markets and innovation for alternative fuels in trucks, buses, rail, and ports.
- Invest in clean energy and climate-resilient infrastructure including transforming the energy efficiency market and lead the way to net-zero buildings.

3.4 CALIFORNIA

3.4.1 LEGISLATIVE ACTIONS TO REDUCE GHGS

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32

The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by the year 2020 (this goal has been met[3]). GHGs as defined under AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, NF_3, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

> *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."*

SB 375

On September 30, 2008, SB 375 was signed by Governor Schwarzenegger. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: it (1) requires metropolitan planning organizations (MPOs) to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

SB 375 requires MPOs to prepare a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP) that guides growth while taking into account the transportation, housing, environmental, and economic needs of the region. SB 375 uses CEQA streamlining as an incentive to encourage residential projects, which help achieve AB 32 goals to reduce GHG emissions. Although SB 375 does not prevent CARB from adopting additional regulations, such actions are not anticipated in the foreseeable future.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).

[3] Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 $MMTCO_2e$ (29). This is less than the 2020 emissions target of 431 $MMTCO_2e$.

3. Incorporates the MMs required by an applicable prior environmental document.

AB 1493 - Pavley Fuel Efficiency Standards

Enacted on July 22, 2002, California AB 1493, also known as the Pavley Fuel Efficiency Standards, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 MY. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars (ACC) program. The ACC program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for MY 2017 through 2025. The regulation will reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EV and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California. On March 9, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards for cars and light trucks, which other states can also adopt and enforce. With this authority restored, EPA will continue partnering with states to advance the next generation of clean vehicle technologies.

CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and Governor Jerry Brown signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.

- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

SB 32

On September 8, 2016, Governor Brown signed SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (12).

CARB SCOPING PLAN UPDATE

In November 2017, CARB released the *Final 2017 Scoping Plan Update* (*2017 Scoping Plan*), which identifies the State's post-2020 reduction strategy. The *2017 Scoping Plan* reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the LCFS, and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH_4 emissions from agricultural and other wastes.

The *2017 Scoping Plan* establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030 (41).

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH_4, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the *2017 Scoping Plan* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero-emission vehicles (ZEV) buses and trucks.
- LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.

- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH_4 and HCF emissions by 40% and anthropogenic black carbon emissions by 50% by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Note, however, that the *2017 Scoping Plan* acknowledges that:

> *"[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."*

In addition to the statewide strategies listed above, the *2017 Scoping Plan* also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO_2e ($MTCO_2e$) or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidence-based bright-line numeric thresholds—consistent with the *2017 Scoping Plan* and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and MMs that avoid or minimize project emissions to the degree feasible; or, a performance-based metric using a CAP or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that by 2030, emissions could range from 211 to 428 $MTCO_2e$ per year ($MTCO_2e$/yr), indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State's 80% reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050 (42) (43).

CAP-AND-TRADE PROGRAM

The *2017 Scoping Plan* identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program will help put California on the path to meet its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is

established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from regulated entities by more than 16% between 2013 and 2020, and by an additional 40% by 2030. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25,000 $MTCO_2e$/yr must comply with the Cap-and-Trade Program. Triggering of the 25,000 $MTCO_2e$/yr "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each $MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30% of the prior year's compliance obligation by November of each year (44).

The Cap-and-Trade Program provides a firm cap, which provides the highest certainty of achieving the 2030 target. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the *First Update to the Climate Change Scoping Plan*:

> *"The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative."* (45)

The Cap-and-Trade Program covers approximately 80% of California's GHG emissions (41). The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. The Cap-and-Trade

Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported.

3.4.2 EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

EXECUTIVE ORDER S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

EXECUTIVE ORDER S-01-07 (LCFS)

Governor Schwarzenegger signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. CARB adopted the LCFS on April 23, 2009.

After a series of legal changes to address the court's ruling, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. On November 16, 2015, the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

In 2018, CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector (46).

EXECUTIVE ORDER S-13-08

Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the Order, the *2009*

California Climate Adaptation Strategy (*CNRA 2009*) was adopted, which is the "…first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

EXECUTIVE ORDER B-30-15

On April 29, 2015, Governor Brown issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. The Governor's executive order aligned California's GHG reduction targets with those of leading international governments ahead of the U.N. Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40% below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050 and directs CARB to update the *2017 Scoping Plan* to express the 2030 target in terms of $MMTCO_2e$. The Order also requires the state's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable as to local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

EXECUTIVE ORDER B-55-18 AND SB 100

SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales of electricity are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kW hours (kWh) of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California EPA (CalEPA), the California Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

3.4.3 CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

TITLE 20 CCR SECTIONS 1601 ET SEQ. – APPLIANCE EFFICIENCY REGULATIONS

The Appliance Efficiency Regulations regulate the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these

regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles (RV) or other mobile equipment (CEC 2012).

TITLE 24 CCR PART 6 – CALIFORNIA ENERGY CODE

The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods.

TITLE 24 CCR PART 11 – CALIFORNIA GREEN BUILDING STANDARDS CODE

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023.

Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction waste and demolition ordinances and defers to them as the ruling guidance provided they establish a minimum 65% diversion requirement.

The code also provides exemptions for areas not served by construction waste and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2022 version of Title 24 was adopted by the CEC and will be effective on January 1, 2023.

The 2022 Title 24 standards would result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the SCAB and across the State of California. For example, the 2022 Title 24 standards require solar photovoltaic systems for new homes, encourage the use of heat pumps for space and water heating, and require homes to be electric-ready to ease the adoption of cleaner electric heating, cooking, and EV charging. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (47). The Project would be required to comply with the applicable standards in place at the time building permit document submittals are made. These require, among other items (48):

- EV Charging (new one- and two-family dwellings and townhouses with attached private garages). For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device (4.106.4.1).
- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3).
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
  - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)

- Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor- mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
- Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
- Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).

- Outdoor potable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

Additionally, under California's 2022 Title 24, Part 6 Building Energy Efficiency Standards, solar photovoltaic systems are required for newly constructed low-rise residential buildings and shall be sized sufficient to offset the electricity use of the proposed building as if it was a mixed-fuel building.

CARB REFRIGERANT MANAGEMENT PROGRAM

CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 lbs of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the

installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

TRACTOR-TRAILER GHG REGULATION

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the HD tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors MY 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

PHASE I AND 2 HEAVY-DUTY VEHICLE GHG STANDARDS

In September 2011, CARB has adopted a regulation for GHG emissions from HDTs and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing HD vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer GHG Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements began with MY 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) HD pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB staff has worked jointly with the EPA and the NHTSA on the next phase of federal GHG emission standards for medium-duty trucks (MDT) and HDT vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later MY HDT vehicles, including trailers. The EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for MDT and HDT vehicles may be pursued.

SB 97 AND THE CEQA GUIDELINES UPDATE

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research (OPR) shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a)."

In 2012, Public Resources Code Section 21083.05 was amended to state:

> *"The Office of Planning and Research and the Natural Resources Agency shall periodically update the guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption, to incorporate new information or criteria established by the State Air Resources Board pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code."*

On December 28, 2018, the Natural Resources Agency announced the OAL approved the amendments to the *CEQA Guidelines* for implementing CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing *CEQA Guidelines* to reference climate change.

Section 15064.4 was added the *CEQA Guidelines* and states that in determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use (49).

3.5 REGIONAL

The project is within the South Coast Air Basin (SCAB), which is under the jurisdiction of the SCAQMD.

SCAQMD

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. SCAQMD acts as an expert commenting agency for impacts to air quality.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group identified several different options that are contained in the SCAQMD Draft Guidance Document – *Interim CEQA GHG Significance Threshold*, however no thresholds for CEQA land use development projects were adopted. The Working Group has not convened a meeting since November 2009

nor has the Working Group provided additional guidance since release of the interim guidance in 2008.

3.6 CITY OF ONTARIO

CITY OF ONTARIO CLIMATE ACTION PLAN

The City of Ontario initially adopted its Climate Action Plan on December 16, 2014 (2014 CAP). The 2014 CAP provided guidance on the City of Ontario's GHG Inventory reduction goals, policies, guidelines, and implementation programs. The CAP also established guidance and protocols addressing analysis of GHG emissions impacts and determination of GHG emissions impact significance (50).

As part of the 2014 CAP, the City of Ontario published a guidance document titled "Greenhouse Gas Emissions, CEQA Thresholds and Screening Tables" (December 2014). Under this guidance, "Mixed-Use Projects [such as the proposed RHSP - 2022 SPA considered herein] that garner at least 100 points will be consistent with the reduction quantities in the City's CAP and are considered less than significant for GHG emissions (*Greenhouse Gas Reduction Measures Screening Threshold Tables Directions*, p. 1).

The Ontario Plan (TOP) 2050 includes an update to the 2014 CAP, referred to herein as the 2022 Community Climate Action Plan Update (2022 CCAP Update). The 2022 CCAP Update furthers the City efforts to reduce GHG emissions and improve community resilience to hazardous conditions associated with climate change. The 2022 CCAP Update includes updated emissions inventories; updated emissions forecasts; identifies GHG emissions reduction targets to achieve the GHG reduction goals of the City of Ontario consistent with Senate Bill 32, Executive Order S-03-05, and substantial progress toward the State's carbon neutrality goals of Executive Order B-55-18; and measures, that when quantified, achieve the GHG reduction targets for the City. As noted in the TOP 2050 EIR, the measures included in the 2022 CCAP Update are not substantially different than that of the 2014 CCAP and therefore there is no change in the environmental impacts associated with the CCAP.

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4 DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS

The criteria used to determine the significance of potential Project-related GHG impacts are taken from the Initial Study Checklist in Appendix G of the State *CEQA Guidelines* (14 CCR of Regulations §§15000, et seq.). Based on these significance criteria, a project would result in a significant impact related to GHG if it would (16):

- GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- GHG-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

The evaluation of an impact under CEQA requires measuring data from a project against both existing conditions and a "threshold of significance." For establishing significance thresholds, the Office of Planning and Research's amendments to the CEQA Guidelines Section 15064.7(c) state "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

CEQA Guidelines Section 15064.4(a) further states, ". . . A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance-based standards."

CEQA Guidelines Section 15064.4 provides that a lead agency should consider the following factors, among others, in assessing the significance of impacts from greenhouse gas emissions:

- **Consideration #1**: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2**: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3**: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

4.1 THRESHOLDS OF SIGNIFICANCE

Based on the foregoing guidance, the City has elected to rely on compliance with a local air district threshold in the determination of significance of Project-related GHG emissions. Specifically, the City has selected the interim 3,000 $MTCO_2e$ per year threshold recommended by SCAQMD staff for residential and commercial sector projects against which to compare Project-related GHG emissions.

The 3,000 $MTCO_2e$ per year threshold is based on a 90 percent emission "capture" rate methodology. Prior to its use by the SCAQMD, the 90 percent emissions capture approach was one of the options suggested by the California Air Pollution Control Officers Association (CAPCOA) in their *CEQA & Climate Change* white paper (2008). A 90 percent emission capture rate means that unmitigated GHG emissions from the top 90 percent of all GHG-producing projects within a geographic area – the SCAB in this instance – would be subject to a detailed analysis of potential environmental impacts from GHG emissions, while the bottom 10 percent of all GHG-producing projects would be excluded from detailed analysis. A GHG significance threshold based on a 90 percent emission capture rate is appropriate to address the long-term adverse impacts associated with global climate change because medium and large projects will be required to implement measures to reduce GHG emissions, while small projects, which are generally infill development projects that are not the focus of the State's GHG reduction targets, are allowed to proceed. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial proportion of future development projects and demonstrate that cumulative emissions reductions are being achieved while setting the emission threshold high enough to exclude small projects that will, in aggregate, contribute approximate 1 percent of projected statewide GHG emissions in the Year 2050 (51).

In setting the threshold at 3,000 $MTCO_2e$ per year, SCAQMD researched a database of projects kept by the Governor's Office of Planning and Research (OPR). That database contained 798 projects, 87 of which were removed because they were very large projects and/or outliers that would skew emissions values too high, leaving 711 as the sample population to use in determining the 90th percentile capture rate. The SCAQMD analysis of the 711 projects within the sample population combined commercial, residential, and mixed-use projects. It should be noted that the sample of projects included warehouses and other light industrial land uses but did not include industrial processes (i.e., oil refineries, heavy manufacturing, electric generating stations, mining operations, etc.). Emissions from each of these projects were calculated by SCAQMD to provide a consistent method of emissions calculations across the sample population and from projects within the sample population. In calculating the emissions, the SCAQMD analysis determined that the 90th percentile ranged between 2,983 to 3,143 $MTCO_2e$ per year. The SCAQMD set their significance threshold at the low-end value of the range when rounded to the nearest hundred tons of emissions (i.e., 3,000 $MTCO_2e$ per year) to define small projects that are considered less than significant and do not need to provide further analysis.

The City understands that the 3,000 $MTCO_2e$ per year threshold for residential/commercial uses was proposed by SCAQMD a decade ago and was adopted as an interim policy; however, no permanent, superseding policy or threshold has since been adopted. The 3,000 $MTCO_2e$ per year

threshold was developed and recommended by SCAQMD, an expert agency, based on substantial evidence as provided in the Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold (2008) document and subsequent Working Group meetings (latest of which occurred in 2010). SCAQMD has not withdrawn its support of the interim threshold and all documentation supporting the interim threshold remains on the SCAQMD website on a page that provides guidance to CEQA practitioners for air quality analysis (and where all SCAQMD significance thresholds for regional and local criteria pollutants and toxic air contaminants also are listed). Further, as stated by SCAQMD, this threshold "uses the Executive Order S-3-05 goal [80 percent below 1990 levels by 2050] as the basis for deriving the screening level" and, thus, remains valid for use in 2022 (51). Lastly, this threshold has been used for hundreds, if not thousands of GHG analyses performed for projects located within the SCAQMD jurisdiction.

Thus, for purposes of analysis in this analysis, if Project-related GHG emissions do not exceed the 3,000 MTCO2e per year threshold, then Project-related GHG emissions would clearly have a less-than-significant impact pursuant to Threshold GHG-1. On the other hand, if Project-related GHG emissions exceed 3,000 MTCO2e per year, the Project would be considered a substantial source of GHG emissions.

As noted above in Section 3.6, the 2022 CCAP Update includes updated emissions inventories; updated emissions forecasts; identifies GHG emissions reduction targets to achieve the GHG reduction goals of the City of Ontario consistent with Senate Bill 32, Executive Order S-03-05, and substantial progress toward the State's carbon neutrality goals of Executive Order B-55-18; and measures, that when quantified, achieve the GHG reduction targets for the City. As noted in the TOP 2050 SEIR, the measures included in the 2022 update to the CCAP are not substantially different than that of the 2014 CCAP. Under the 2022 CCAP Update, mixed use developments that garner at least 100 Screening Table points would be consistent with the GHG emissions reduction targets in the City's 2022 CCAP Update. As substantiated herein, with application of Mitigation Measure GHG-1, the Project would attain more than 100 Screening Table points. The Project is therefore determined to be consistent with the 2022 CCAP Update.

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5 PROJECT GREENHOUSE GAS IMPACT

5.1 INTRODUCTION

The Project has been evaluated to determine if it will result in a significant GHG impact. It should be noted that quantification of the Project's GHG emissions is provided herein for informational purposes only.

5.2 METHODOLOGY

5.2.1 CALEEMOD

In May 2022, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (52). Accordingly, the latest version of CalEEMod has been used for this Project to determine GHG emissions. Output from the model runs for construction and operational activity are provided in Appendices 5.1 and 5.2. CalEEMod includes GHG emissions from the following source categories: construction, area, energy, mobile, on-site cargo handling equipment, water, and waste.

5.2.2 LIFE-CYCLE ANALYSIS NOT REQUIRED

A full life-cycle analysis (LCA) for project-level construction-source and operational-source GHG emissions is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time (53). Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the Project development, infrastructure and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood or documented, and would be challenging to mitigate (54). Additionally, the science to calculate life cycle emissions is not yet established or well-defined; therefore, SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

5.3 CONSTRUCTION EMISSIONS

5.3.1 CONSTRUCTION ACTIVITIES

One-time emissions are those emissions that are not recurring over the life of the project. This includes emissions associated with project construction. Project construction actvities would generate CO_2 and CH_4 emissions The report *Rich-Haven Specific Plan, 2022 Amendment Air Quality Impact Analysis Report* (AQIA) prepared by Urban Crossroads, Inc., contains detailed

information regarding Project construction activities (55). As discussed in the AQIA, construction related emissions are expected from the following construction activities:

PHASE 1

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

PHASE 2

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

5.3.2 CONSTRUCTION DURATION

Construction is expected to commence in January 2023 and will end in December 2026. The construction schedule utilized in the analysis, shown in Table 5-1, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[4] The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines*.

TABLE 5-1: CONSTRUCTION SCHEDULE

Phase	Construction Activity	Start Date	End Date	Days
Phase 1	Site Preparation	1/1/2023	4/30/2023	85
	Grading	5/1/2023	11/30/2023	154
	Building Construction	12/1/2023	12/31/2024	283
	Paving	9/1/2024	12/31/2024	87
	Architectural Coating	2/1/2024	12/31/2024	239
Phase 2	Demolition	1/1/2024	3/31/2024	65
	Site Preparation	4/1/2024	8/31/2024	110

[4] As shown in the CalEEMod User's Guide Version 2022.1, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

Phase	Construction Activity	Start Date	End Date	Days
	Grading	9/1/2024	4/30/2025	173
	Building Construction	5/1/2025	12/31/2026	436
	Paving	9/1/2026	12/31/2026	88
	Architectural Coating	6/1/2026	12/31/2026	154

5.3.3 CONSTRUCTION EQUIPMENT

Site specific construction fleet may vary due to specific project needs at the time of construction. A detailed summary of construction equipment assumptions by phase is provided at Table 5-2. Please refer to specific detailed modeling inputs/outputs contained in Appendix 5.1 of this GHGA.

TABLE 5-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase	Construction Activity	Equipment	Amount	Hours Per Day
Phase 1	Site Preparation	Rubber Tired Dozers	9	8
		Crawler Tractors	12	8
	Grading	Excavators	6	8
		Graders	3	8
		Rubber Tired Dozers	3	8
		Scrapers	6	8
		Crawler Tractors	6	8
	Building Construction	Cranes	3	8
		Forklifts	9	8
		Generator Sets	3	8
		Tractors/Loaders/Backhoes	9	8
		Welders	3	8
	Paving	Pavers	6	8
		Paving Equipment	6	8
		Rollers	6	8
	Architectural Coating	Air Compressors	3	8
Phase 2	Demolition	Concrete/Industrial Saws	3	8
		Excavators	9	8
		Rubber Tired Dozers	6	8
	Site Preparation	Rubber Tired Dozers	9	8
		Crawler Tractors	12	8

Phase	Construction Activity	Equipment	Amount	Hours Per Day
	Grading	Excavators	6	8
		Graders	3	8
		Rubber Tired Dozers	3	8
		Scrapers	6	8
		Crawler Tractors	6	8
	Building Construction	Cranes	3	8
		Forklifts	9	8
		Generator Sets	3	8
		Tractors/Loaders/Backhoes	9	8
		Welders	3	8
	Paving	Pavers	6	8
		Paving Equipment	6	8
		Rollers	6	8
	Architectural Coating	Air Compressors	3	8

5.3.4 GHG EMISSIONS FROM ON-ROAD TRIPS

Construction worker and construction vendor trips generate vehicle-source GHG emissions. Estimated worker and vendor trips are presented below in Table 5-3.

TABLE 5-3: CONSTRUCTION TRIP ASSUMPTIONS

Phase	Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Phase 1	Site Preparation	53	152	0
	Grading	60	275	0
	Building Construction	3,874	505	0
	Paving	45	0	0
	Architectural Coating	775	0	0
Phase 2	Demolition	45	33	6
	Site Preparation	53	55	0
	Grading	60	87	0
	Building Construction	1,901	219	0
	Paving	45	0	0
	Architectural Coating	380	0	0

5.3.5 CONSTRUCTION EMISSIONS SUMMARY

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year Project life then adding that number to the annual operational phase GHG emissions (56). Accordingly. , construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 5-4.

TABLE 5-4: AMORTIZED ANNUAL CONSTRUCTION EMISSIONS

Year	Emissions (MT/yr)				
	CO_2	CH_4	N_2O	Refrigerants	Total CO_2e
2023	3,698.00	0.20	0.18	2.38	3,759.00
2024	12,592.00	0.63	0.61	16.24	12,807.00
2025	4,058.00	0.20	0.18	4.24	4,122.00
2026	5,187.00	0.15	0.26	6.06	5,273.00
Total GHG Emissions	25,535.00	1.18	1.23	28.92	25,961.00
Amortized Construction Emissions	**851.17**	**0.04**	**0.04**	**0.96**	**865.37**

5.4 OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- On-Site Equipment Emissions
- Water Supply, Treatment, and Distribution
- TRU Source Emissions
- Solid Waste

5.4.1 AREA SOURCE EMISSIONS

CalEEMod estimates area source GHG emissions resulting from landscape maintenance equipment. Detailed operational model outputs are presented in Appendix 5.2.

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that as October 9, 2021, Governor Gavin Newsom

signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by 2024. For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

5.4.2 ENERGY SOURCE EMISSIONS

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building; the building energy use emissions do not include street lighting5. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are indirect emissions. Unless otherwise noted, CalEEMod default parameters were used.

RENEWABLE PORTFOLIO STANDARD

Indirect emissions from electricity use were modeled based on electricity intensity factors for the Project utility provider, Southern California Edison (SCE). CalEEMOD derives energy intensity factors from 2019 data, which indicates that in 2019 SCE generated 393 pounds of CO2e for each megawatt-hour (MWh) of electricity delivered. SCE had a power mix with 38% renewables in 2019 and is projected to meet the 44% renewables requirement by 2024 (57). The 2019 reported energy intensity factors were used in this analysis of GHG emissions.

5.4.3 MOBILE SOURCE EMISSIONS

Approximately 72 percent of the Project operational-source GHG emissions would be generated by mobile-sources (vehicle traffic) accessing the Project site. Trip characteristics available from the *Rich Haven Specific Plan Traffic Analysis* were utilized in this analysis (58). The mobile-source emissions were calculated based on trip rates and trip lengths. Detailed operational model outputs are presented in Appendices 5.4 through 5.7.

Per the *Rich Haven Specific Plan Traffic Analysis*, at buildout the Project is expected to generate a total of approximately of 95,552 trip-ends per day with 8,079 AM peak hour trips and 8,036 PM peak hour trips (in actual vehicles) (58).

TRIP RATES

The trip generation rates used for this analysis are consistent with the rates provided in the *Rich Haven Specific Plan Traffic Analysis* which are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in the *Trip Generation Manual*, 11th Edition, 2021 (58).

[5] The CalEEMod emissions inventory model does not include indirect emission related to street lighting. Indirect emissions related to street lighting are expected to be negligible and cannot be accurately quantified at this time as there is insufficient information as to the number and type of street lighting that would occur.

TRIP LENGTHS

To determine emissions associated with the retail, active park, and public park land uses from all vehicle types (Light-Duty-Auto vehicles [LDA], Light-Duty Trucks [LDT1][6], Light-Duty Trucks [LDT2][7], Medium-Duty Trucks [MDV], Other Buses [OBUS[8]], Urban Buses [UBUS[9]], Motorcycle [MCY], School Buses [SBUS], and Motor Homes [MH], heavy duty trucks (2-axle/Light-Heavy-Duty Trucks [LHDT1[10] and LHDT2[11]], 3-axle/Medium-Heavy-Duty Trucks [MHDT], and 4+-axle/Heavy-Heavy-Duty Trucks [HHDT]), the CalEEMod default for vehicle type, trip purpose and one-way trip length was employed. In order to determine emissions from passenger car vehicles, CalEEMod defaults for trip length and trip purpose were utilized. Default vehicle trip lengths for primary trips will be populated using data from the local metropolitan planning organizations/Regional Transportation Planning Agencies (MPO/RTPA). Trip type percentages and trip lengths provided by MPO/RTPAs truncate data at their demonstrative borders.

To determine emissions from passenger car vehicles associated with the high-cube fulfillment center and business park uses, the CalEEMod defaults for trip purpose and a trip length were utilized. It should also be noted that for purposes of this analysis, passenger cars related to the high-cube fulfillment center and business park uses include LDA, LDT1, LDT2, MDV, and MCY vehicle types. The CalEEMod default fleet mix was utilized for residential, retail, and recreational land uses. To account for emissions generated by passenger cars accessing the business park, high-cube cold storage, high-cube fulfillment, and high-cube transload land uses the following fleet mix was utilized in this analysis:

TABLE 5-5: PASSENGER CAR FLEET MIX

Land Use	% Vehicle Type				
	LDA	LDT1	LDT2	MDV	MCY
Phase 1 (2024)	54.62%	4.53%	21.75%	16.80%	2.30%
Buildout (2027)	53.99%	4.16%	23.01%	16.58%	2.26%

Note: The Project-specific passenger car fleet mix used in this analysis is based on a proportional split utilizing the default CalEEMod percentages assigned to LDA, LDT1, LDT2, MDV, and MCY vehicle types.

To determine emissions from trucks for the proposed industrial uses, the analysis incorporated the SCAQMD recommended truck trip length of 14.2 miles for 2-axle (LHDT1 and LHDT2) trucks, 15.3 miles for 3-axle (MHDT) trucks, and 39.9 miles for 4+-axle (HHDT) trucks and weighting the average trip lengths using traffic trip percentages taken from the *Rich-Haven Specific Plan, 2022 Amendment Traffic Study*. The trip length function for the industrial uses has been conservatively calculated to 31.31 miles, with an assumption of 100% primary trips for the proposed industrial land uses. This trip length assumption is higher than the CalEEMod default trip length. Heavy trucks are broken down by truck type (or axle type) and are categorized as either Light-Heavy-

[6] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[7] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

[8] OBUS vehicle classes refers to all other buses except school buses and urban buses.

[9] UBUS vehicle classes consist of natural gas buses, gasoline buses, and diesel buses.

[10] Vehicles under the LHDT1 category have a GVWR of less than 8,501-10,000 lbs.

[11] Vehicles under the LHDT2 category have a GVWR of less than 10,001-14,000 lbs.

Duty Trucks (LHDT1[12] & LHDT2 [13])/2-axle, Medium-Heavy-Duty Trucks (MHDT)/3-axle, and Heavy-Heavy-Duty Trucks (HHDT)/4+-axle. To account for emissions generated by trucks, the following fleet mix was utilized in this analysis:

TABLE 5-6: TRUCK FLEET MIX

Land Use	% Vehicle Type			
	LHDT1	LHDT2	MHDT	HHDT
Phase 1 (2024)	15.76%	4.25%	14.25%	65.73%
Buildout (2027)	15.71%	4.30%	14.25%	65.73%

Note: Project-specific truck fleet mix is based on the number of trips generated by each truck type (LHDT1, LHDT2, MHDT, and HHDT) relative to the total number of truck trips.

5.4.4 TRU SOURCE EMISSIONS

In order to account for the possibility of refrigerated uses, trucks associated with the assumed 454,244 square feet of cold-storage land use(s) are assumed to also have TRUs. For modeling purposes 174 trucks (348 two-way truck trips per day) are assumed to have the potential to include TRUs. TRUs are accounted for during on-site and off-site travel. The TRU calculations are based on EMissions FACtor Model version 2021 (EMFAC2021), developed by the CARB. EMFAC2021 does not provide emission rates per hour or mile as with the on-road emission model and only provides emission inventories. Emission results are produced in tons per day while all activity, fuel consumption and horsepower hours were reported at annual levels. The emission inventory is based on specific assumptions including the average horsepower rating of specific types of equipment and the hours of operation annually. These assumptions are not always consistent with assumptions used in the modeling of project-level emissions. Therefore, the emissions inventory was converted into emission rates to accurately calculate emissions from TRU operation associated with project level details. This was accomplished by converting the annual horsepower hours to daily operational characteristics and converting the daily emission levels into hourly emission rates based on the total emission of each criteria pollutant by equipment type and the average daily hours of operation.

5.4.5 ON-SITE CARGO HANDLING EQUIPMENT EMISSIONS

It is common for warehouse buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this particular Project, on-site modeled operational equipment includes up to ten (10) 200 horsepower (hp), compressed natural gas or gasoline-powered tractors/loaders/backhoes operating at 4 hours a day[14] for 365 days of the year.

[12] Vehicles under the LHDT1 category have a GVWR of 8,501 to 10,000 lbs.

[13] Vehicles under the LHDT2 category have a GVWR of 10,001 to 14,000 lbs.

[14] Based on Table II-3, Port and Rail Cargo Handling Equipment Demographics by Type, from CARB's Technology Assessment: Mobile Cargo Handling Equipment document, a single piece of equipment could operate up to 2 hours per day (Total Average Annual Activity divided by Total Number Pieces of Equipment). As such, the analysis conservatively assumes that the tractor/loader/backhoe would operate up to 4 hours per day.

5.4.6 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water. CalEEMod default parameters were used to estimate GHG emissions associated with water supply, treatment and distribution for the Project scenario.

5.4.7 SOLID WASTE

GHG emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CAPCOA 2017). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle). CalEEMod based solid waste generation on a 2008 waste characterization study. Since the publication of the 2008 survey, statewide diversion has increased by approximately 25%. As a conservative measure, the analysis is based on CalEEMod default parameters.

5.4.8 GHG EMISSIONS

The annual GHG emissions associated with the Project at buildout are summarized in Table 5-7. As shown in Table 5-7, construction and operation of the Project would generate a total of 129,314.95 $MTCO_2e$/yr.

TABLE 5-7: PROJECT GHG EMISSIONS

Emission Source	Emissions (MT/yr)				
	CO_2	CH_4	N_2O	Refrigerants	Total CO_2e
Annual construction-related emissions amortized over 30 years	851.17	0.04	0.04	0.96	865.37
Mobile	90,393.00	5.73	6.30	121.40	92,535.00
Area	1,553.00	0.03	0.05	0	1,567.00
Energy	25,030.00	2.30	0.17	0	25,138.00
Water	1,514.00	33.47	0.81	0	2,591.00
Waste	1,015.00	101.30	0	0	3,548.00
Refrigerants	0	0	0	117.00	117.00
TRUs					2479.91
On-Site Equipment					473.67
Total CO_2e (All Sources)	**129,314.95**				

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6 GHG EMISSIONS FINDINGS AND RECOMMENDATIONS

6.1 PROJECT IMPACTS

GHG -1: Would the Project generate GHG emissions either directly or indirectly, that may have a significant impact on the environment?

Implementation of a development project could contribute to global climate change through direct emissions of GHGs from on-site area sources and vehicle trips generated by the project, and indirectly through offsite energy production required for on-site activities, water use, and waste disposal. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis consistent with the requirements outlined in CEQA Guidelines 15064(h)(3).

As previously noted, a project would result in a significant impact related to GHG if it would (59):

GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

The annual GHG emissions associated with the operation of the proposed Project would result in direct and indirect emissions of CO2, CH4, and N2O and would not generate other GHGs of sufficient quantity to affect the analysis. Therefore, this analysis focuses on these three forms of GHG emissions. Direct Project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation. Project-related GHG emissions were quantified with CalEEMod, which relies upon vehicle trip rates and Project-specific land use data to calculate emissions (as discussed previously in Section 5.0 of this report. The emissions are summarized in Table 5-7 (previously presented). As shown construction and operation of the Project would generate a total of approximately 129,314.95 MTCO2e/yr, which would exceed the SCAQMD significance threshold of 3,000 MTCO2e/yr; therefore, Project-related GHG emissions are considered potentially significant. The majority of the GHG emissions (72 percent unmitigated) are associated with non-construction related mobile sources, as shown on Table 5-7, previously presented. Responsibility and authority for regulation of vehicular-source emissions resides with the State of California (CARB, et al.). Neither the Applicant nor the Lead Agency can effect or mandate substantial reductions in vehicular-source GHG emissions, much less reductions that would achieve no net increase condition or achieve the SCAQMD 3,000 MTCO2e/year threshold. In effect, all Project traffic would need to be eliminated or be "zero GHG emissions sources" in order to achieve the SCAQMD threshold. There are no feasible means to or alternatives to eliminate all Project traffic, or to ensure that Project traffic would zero GHG emissions sources. In terms of its practical application, this would constitute a "no build" condition.

LEVEL OF SIGNIFICANCE

Significant and unavoidable impact. No additional feasible mitigation measures are available that can reduce impacts to less than significant. As explained above, the Project incorporates all feasible mitigation measures that could be implemented to further reduce the Project's GHG

emissions below the 3,000 $MTCO_2e$ threshold. There are no additional measures available that would further reduce emissions because the majority of the Project's emissions come from mobile sources which are regulated by the State and not the City of Ontario.

GHG-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

The Project is consistent with TOP 2050, and GHG emissions modeling reflected in TOP 2050 – 2022 CCAP Update. The 2022 CCAP Update provides guidance on how to analyze GHG emissions and determine significance during the CEQA review of proposed development projects within the City. Because the 2022 CCAP Update addresses GHG emissions reductions and is consistent with the requirements of AB 32, SB 32, and international efforts to reduce GHG emissions, compliance with the 2022 CCAP Update fulfills the description of mitigation found in the State CEQA Guidelines. As substantiated herein, with the application of Mitigation Measure GHG-1, the Project would attain more than 100 Screening Table points. The Project is therefore determined to be consistent with the 2022 CCAP Update.

MITIGATION MEASURES

Refer to MM AQ-7 through MM AQ-20 from the Air Quality Impact Analysis. These measures would have the co-benefit of reducing GHG emissions. Additionally, the following mitigation measures are required:

MM GHG-1

Project development proposals shall implement Screening Table Measures that the requisite points per the City's Community Climate Action Plan (CCAP) Screening Tables. It is preliminarily estimated that the Project would be required to achieve at least 100 Screening Table points to ensure compliance with the CCAP. For informational purposes, a representative example of how the Project could achieve a minimum of 100 Screening Table Points through implementation of CCAP Screening Table Measures pursuant to Mitigation Measure GHG-1 is provided at Table 6-1 for the residential portions of the Project and Table 6-2 for the commercial and industrial portions of the Project.

TABLE 6-1: EXAMPLE CAP SCREENING TABLE MEASURES (RESIDENTIAL)

Feature	Description	Assigned Point Values	Project Point Values
Reduction Measure PS E1: Residential Energy Efficiency			
Building Envelope			
Insulation	Enhanced Insulation (rigid wall insulation R-13; roof/attic: R-38)	15	15
Windows	Enhanced Window Insulation (0.32 U-Factor, 0.25 SHGC)	7	7
Cool Roof	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	12	12
	Modest duct insulation (R-6)	7	7

Heating/Cooling Distribution	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	12	12
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	9	9
Water Heaters	Very High Efficiency Water Heater (0.92 energy factor)	18	18
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	12	12
Reduction Measure PS W1: Residential Water Conservation			
Potable Water			
Showers	Water Efficient Showerheads (2.0 gpm)	3	3
Toilets	Water Efficient Toilets (1.5 gpm)	3	3
Faucets	Water Efficient Faucets	3	3
	Total Points Earned by Residential Project:		**101**

TABLE 6-2: EXAMPLE CAP SCREENING TABLE MEASURES (COMMERCIAL & INDUSTRIAL)

Feature	Description	Assigned Point Values	Project Point Values
Reduction Measure PS E3: Commercial/Industrial Energy Efficiency			
Building Envelope			
Insulation	Enhanced Insulation (rigid wall insulation R-13; roof/attic: R-38)	18	18
Windows	Enhanced Window Insulation (0.32 U-Factor, 0.25 SHGC)	8	8
Cool Roof	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	14	14
Heating/Cooling Distribution System	Modest duct insulation (R-6)	8	8
	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	14	14
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	12	12
Water Heaters	Very High Efficiency Water Heater (0.92 energy factor)	19	19
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	14	14
	Total Points Earned by Commercial/Industrial Project:		**107**

Implementation of the design features and operational measures outlined in Tables 6-1 and 6-2 would ensure that the Project is consistent with and supports the 2022 CAP Update. Absent implemented design features and operational measures identified at Table 6-1 (or equivalent

measures acceptable to the Lead Agency) Project GHG emissions would have the potential to either directly or indirectly result in a significant impact on the environment. This is a potentially significant impact.

Project development proposals shall implement Screening Table Measures identified at Tables 6-1 and 6-2, or equivalent measures acceptable to the City. The City shall verify that Screening Table Measures achieving a minimum of 100 points are incorporated in development plans prior to the issuance of building permit(s) and/or site plans (as applicable). Multiple development proposals may, at the discretion of the City, be allowed to collectively demonstrate achievement of at least 100 points per the Screening Tables. The City shall verify implementation of the selected Screening Table Measures prior to the issuance of Certificate(s) of Occupancy. At the discretion of the City, measures that provide GHG reductions equivalent to GHG emissions reductions achieved via the Screening Table Measures may be implemented.

LEVEL OF SIGNIFICANCE

Less than significant impact. Application of MM GHG-1 ensures Project consistency with the 2022 CAP Update. GHG emissions control and reduction strategies identified in the 2022 CAP Update ensure that development proposals within the City do not result in GHG emissions either directly or indirectly, that may have a significant impact on the environment. On this basis, with application of MM GHG-1, the potential for the Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would be less-than-significant.

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8 CERTIFICATIONS

The contents of this GHG study report represent an accurate depiction of the GHG impacts associated with the proposed Rich-Haven Specific Plan, 2022 Amendment Project. The information contained in this GHG report is based on the best available data at the time of preparation. If you have any questions, please contact me directly hqureshi@urbanxroads.com.

Haseeb Qureshi
Associate Principal
Urban Crossroads, Inc.
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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CALEEMOD CONSTRUCTION EMISSIONS MODEL OUTPUTS

14822 Rich Haven Ph1 Construction Mitigated Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Construction Mitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01192837529811, -117.57074736445445
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.8	70.1	97.7	491	0.25	0.98	65.7	66.6	0.94	15.6	16.5	—	96,362	96,362	4.59	4.79	314	98,220

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	29.4	68.6	102	394	0.25	0.98	65.7	66.6	0.94	15.6	16.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	20.2	45.0	62.5	273	0.16	0.57	45.5	46.1	0.55	10.8	11.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.69	8.21	11.4	49.8	0.03	0.10	8.31	8.41	0.10	1.97	2.07	—	10,345	10,345	0.53	0.56	15.8	10,541

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.80	3.03	70.4	120	0.25	0.68	19.0	19.4	0.66	8.58	8.96	—	29,743	29,743	1.59	1.48	27.8	30,251
2024	30.8	70.1	97.7	491	0.24	0.98	65.7	66.6	0.94	15.6	16.5	—	96,362	96,362	4.59	4.79	314	98,220
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	25.2	21.7	74.5	329	0.25	0.68	55.0	55.6	0.66	13.1	13.6	—	76,040	76,040	4.18	4.36	7.50	77,450
2024	29.4	68.6	102	394	0.24	0.98	65.7	66.6	0.94	15.6	16.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.78	3.14	46.9	93.5	0.16	0.41	12.4	12.8	0.40	4.37	4.77	—	22,333	22,333	1.18	1.09	14.3	22,702
2024	20.2	45.0	62.5	273	0.15	0.57	45.5	46.1	0.55	10.8	11.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.69	0.57	8.56	17.1	0.03	0.07	2.26	2.34	0.07	0.80	0.87	—	3,698	3,698	0.20	0.18	2.38	3

2024	3.69	8.21	11.4	49.8	0.03	0.10	8.31	8.41	0.10	1.97	2.07	—	10,345	10,345	0.53	0.56	15.8	10,541

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.47	0.47	11.0	20.9	0.04	0.07	—	0.07	0.07	—	0.07	—	3,863	3,863	0.16	0.03	—	3,877
Dust From Material Movement	—	—	—	—	—	—	3.96	3.96	—	1.88	1.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	2.00	3.82	0.01	0.01	—	0.01	0.01	—	0.01	—	640	640	0.03	0.01	—	642
Dust From Material Movement	—	—	—	—	—	—	0.72	0.72	—	0.34	0.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.28	4.86	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	771	771	0.03	0.03	3.31	783
Vendor	0.54	0.14	5.72	3.08	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,817	4,817	0.40	0.71	13.3	5,052
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.32	3.65	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	707	707	0.03	0.03	0.09	715
Vendor	0.53	0.13	5.94	3.13	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,819	4,819	0.40	0.71	0.35	5,042
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.90	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	167	167	0.01	0.01	0.33	169

Vendor	0.13	0.03	1.39	0.72	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	1,122	1,122	0.09	0.17	1.34	1,175
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	27.6	27.6	< 0.005	< 0.005	0.06	28.0
Vendor	0.02	0.01	0.25	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	186	186	0.02	0.03	0.22	195
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	1.04	25.2	45.8	0.08	0.23	—	0.23	0.23	—	0.23	—	8,500	8,500	0.34	0.07	—	8,529
Dust From Material Movement	—	—	—	—	—	—	3.38	3.38	—	1.24	1.24	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	4.60	8.36	0.01	0.04	—	0.04	0.04	—	0.04	—	1,407	1,407	0.06	0.01	—	1,412
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.32	5.55	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	881	881	0.04	0.03	3.78	895
Vendor	0.98	0.24	10.3	5.58	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,715	8,715	0.73	1.29	24.1	9,140
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.37	4.18	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	808	808	0.04	0.03	0.10	818
Vendor	0.97	0.23	10.7	5.66	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,719	8,719	0.73	1.29	0.63	9,122

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.86	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	346	346	0.02	0.01	0.69	350
Vendor	0.41	0.10	4.56	2.37	0.03	0.05	0.21	0.26	0.05	0.08	0.13	—	3,678	3,678	0.31	0.54	4.40	3,851
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.34	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	57.2	57.2	< 0.005	< 0.005	0.11	58.0
Vendor	0.07	0.02	0.83	0.43	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	609	609	0.05	0.09	0.73	638
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.9	48.6	0.08	0.38	—	0.38	0.36	—	0.36	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	1.87	2.95	< 0.005	0.02	—	0.02	0.02	—	0.02	—	479	479	0.02	< 0.005	—	480
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.34	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	79.2	79.2	< 0.005	< 0.005	—	79.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.0	19.9	23.9	270	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	52,139	52,139	2.52	1.92	6.35	52,781
Vendor	1.77	0.42	19.7	10.4	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	16,011	16,011	1.34	2.37	1.15	16,752
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.33	1.20	1.45	17.3	0.00	0.00	0.19	0.19	0.00	0.00	0.00	—	3,208	3,208	0.15	0.12	6.41	3,253
Vendor	0.11	0.03	1.21	0.63	0.01	0.01	0.06	0.07	0.01	0.02	0.03	—	971	971	0.08	0.14	1.16	1,017
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.22	0.27	3.16	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	531	531	0.03	0.02	1.06	539
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	161	161	0.01	0.02	0.19	168
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.96	22.1	34.8	0.05	0.27	—	0.27	0.25	—	0.25	—	5,652	5,652	0.23	0.05	—	5,671
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.17	4.03	6.35	0.01	0.05	—	0.05	0.05	—	0.05	—	936	936	0.04	0.01	—	939
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.2	20.3	18.8	328	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	55,768	55,768	2.35	1.92	223	56,622
Vendor	1.68	0.45	18.2	9.74	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,833	15,833	1.22	2.36	44.2	16,611
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	21.1	19.1	22.1	248	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	51,115	51,115	2.43	1.92	5.78	51,755
Vendor	1.65	0.42	18.9	9.88	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,840	15,840	1.22	2.36	1.14	16,575
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	15.0	13.5	15.8	186	0.00	0.00	2.26	2.26	0.00	0.00	0.00	—	37,129	37,129	1.74	1.38	68.9	37,652
Vendor	1.19	0.31	13.6	7.04	0.08	0.16	0.65	0.81	0.16	0.24	0.41	—	11,342	11,342	0.87	1.69	13.6	11,882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.73	2.47	2.89	34.0	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,147	6,147	0.29	0.23	11.4	6,234
Vendor	0.22	0.06	2.49	1.28	0.01	0.03	0.12	0.15	0.03	0.04	0.07	—	1,878	1,878	0.14	0.28	2.25	1,967
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	5.15	7.58	0.01	0.06	—	0.06	0.06	—	0.06	—	1,081	1,081	0.04	0.01	—	1,085
Paving	—	0.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.94	1.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	179	179	0.01	< 0.005	—	180
Paving	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.22	3.81	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	648	648	0.03	0.02	2.59	658
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.72	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	144	144	0.01	0.01	0.27	146
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.8	23.8	< 0.005	< 0.005	0.04	24.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	41.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536

Architect Coatings	—	41.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	2.80	2.52	< 0.005	0.08	—	0.08	0.07	—	0.07	—	350	350	0.01	< 0.005	—	351
Architectural Coatings	—	27.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.51	0.46	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.9	57.9	< 0.005	< 0.005	—	58.1
Architectural Coatings	—	4.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.44	4.06	3.76	65.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	11,154	11,154	0.47	0.38	44.6	11,324
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.22	3.82	4.42	49.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	10,223	10,223	0.49	0.38	1.16	10,351
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.74	2.48	2.90	34.1	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,789	6,789	0.32	0.25	12.6	6,884
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.50	0.45	0.53	6.22	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,124	1,124	0.05	0.04	2.09	1,140
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2023	4/30/2023	5.00	85.0	—
Grading	Grading	5/1/2023	11/30/2023	5.00	154	—

Building Construction	Building Construction	12/1/2023	12/31/2024	5.00	283	—
Paving	Paving	9/1/2024	12/31/2024	5.00	87.0	—
Architectural Coating	Architectural Coating	2/1/2024	12/31/2024	5.00	239	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	9.00	8.00	367	0.40
Grading	Excavators	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Interim	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Tier 4 Interim	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	152	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	275	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3,874	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	505	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	775	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	10,305,711	3,435,237	4,496,411	1,498,804	151,589

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	1,700	0.00	—
Grading	—	—	3,080	0.00	—
Paving	0.00	0.00	0.00	0.00	67.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Office Park	0.00	0%
Refrigerated Warehouse-No Rail	0.00	0%
Unrefrigerated Warehouse-No Rail	0.00	0%

Condo/Townhouse	—	0%
Single Family Housing	9.06	0%
Strip Mall	0.00	0%
Gasoline/Service Station	0.00	0%
Regional Shopping Center	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Parking Lot	58.0	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

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Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

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Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site plan
Construction: Construction Phases	Schedule adjusted based on data from the Project team.
Construction: Off-Road Equipment	Equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Construction Mitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01284450351814, -117.57158813842331
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.0	49.3	73.1	256	0.21	0.85	32.3	33.1	0.81	8.35	8.69	—	51,709	51,709	2.35	2.23	127	52,561
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.4	48.6	74.4	215	0.21	0.85	32.3	33.1	0.81	7.65	8.45	—	49,051	49,051	2.00	2.28	3.30	49,771
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.60	22.7	41.8	134	0.12	0.45	21.0	21.5	0.43	4.98	5.41	—	31,329	31,329	1.21	1.55	36.6	31,850

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	4.15	7.62	24.5	0.02	0.08	3.84	3.92	0.08	0.91	0.99	—	5,187	5,187	0.20	0.26	6.06	5,273

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.09	2.85	63.2	115	0.21	0.59	18.1	18.5	0.58	8.35	8.69	—	23,736	23,736	1.06	0.60	11.1	23,953
2025	11.7	10.2	63.0	201	0.21	0.59	26.7	27.2	0.58	6.34	6.79	—	41,436	41,436	1.96	2.03	118	42,209
2026	14.0	49.3	73.1	256	0.17	0.85	32.3	33.1	0.81	7.65	8.45	—	51,709	51,709	2.35	2.23	127	52,561
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.07	2.83	63.3	114	0.21	0.63	9.53	10.1	0.59	3.33	3.91	—	23,665	23,665	1.07	0.60	0.29	23,871
2025	11.2	9.69	63.1	164	0.21	0.59	26.7	27.2	0.58	6.34	6.79	—	39,212	39,212	2.00	2.03	3.07	39,870
2026	13.4	48.6	74.4	215	0.17	0.85	32.3	33.1	0.81	7.65	8.45	—	49,051	49,051	1.46	2.28	3.30	49,771
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.78	1.64	36.7	66.2	0.12	0.35	7.96	8.31	0.34	3.36	3.70	—	13,571	13,571	0.61	0.33	2.63	13,686
2025	6.03	5.24	38.2	108	0.11	0.36	14.9	15.2	0.35	3.78	4.13	—	24,512	24,512	1.21	1.11	25.6	24,900
2026	8.60	22.7	41.8	134	0.10	0.45	21.0	21.5	0.43	4.98	5.41	—	31,329	31,329	0.92	1.55	36.6	31,850
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.30	6.71	12.1	0.02	0.06	1.45	1.52	0.06	0.61	0.68	—	2,247	2,247	0.10	0.05	0.44	2,266
2025	1.10	0.96	6.97	19.8	0.02	0.07	2.72	2.78	0.06	0.69	0.75	—	4,058	4,058	0.20	0.18	4.24	4,122
2026	1.57	4.15	7.62	24.5	0.02	0.08	3.84	3.92	0.08	0.91	0.99	—	5,187	5,187	0.15	0.26	6.06	5,273

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.24	1.24	35.7	54.5	0.10	0.60	—	0.60	0.57	—	0.57	—	10,276	10,276	0.42	0.08	—	10,311
Demolition	—	—	—	—	—	—	0.30	0.30	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.22	6.36	9.71	0.02	0.11	—	0.11	0.10	—	0.10	—	1,830	1,830	0.07	0.01	—	1,836
Demolition	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.16	1.77	< 0.005	0.02	—	0.02	0.02	—	0.02	—	303	303	0.01	< 0.005	—	304
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601
Vendor	0.11	0.03	1.24	0.65	0.01	0.01	0.06	0.07	0.01	0.02	0.04	—	1,035	1,035	0.08	0.15	0.07	1,083
Hauling	0.05	0.01	0.48	0.26	< 0.005	0.01	0.03	0.04	< 0.005	0.01	0.01	—	374	374	0.04	0.06	0.02	393
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.54	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	107	107	0.01	< 0.005	0.20	109
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	184	184	0.01	0.03	0.22	193
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	66.6	66.6	0.01	0.01	0.06	70.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.8	17.8	< 0.005	< 0.005	0.03	18.0
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	0.04	32.0
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.6

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,588	16,588	0.67	0.13	—	16,644
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.61	14.2	27.1	0.05	0.09	—	0.09	0.09	—	0.09	—	4,999	4,999	0.20	0.04	—	5,016
Dust From Material Movement	—	—	—	—	—	—	5.12	5.12	—	2.43	2.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.59	4.94	0.01	0.02	—	0.02	0.02	—	0.02	—	828	828	0.03	0.01	—	830
Dust From Material Movement	—	—	—	—	—	—	0.93	0.93	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.25	4.44	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	756	756	0.03	0.03	3.02	767

Vendor	0.18	0.05	1.98	1.06	0.01	0.02	0.10	0.12	0.02	0.04	0.06	—	1,724	1,724	0.13	0.26	4.81	1,809
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.06	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	212	212	0.01	0.01	0.39	215
Vendor	0.05	0.01	0.62	0.32	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	520	520	0.04	0.08	0.62	544
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.19	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	35.1	35.1	< 0.005	< 0.005	0.07	35.5
Vendor	0.01	< 0.005	0.11	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	86.1	86.1	0.01	0.01	0.10	90.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.59	14.3	25.9	0.04	0.13	—	0.13	0.13	—	0.13	—	4,810	4,810	0.20	0.04	—	4,826
Dust From Material Movement	—	—	—	—	—	—	1.91	1.91	—	0.70	0.70	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.60	4.73	0.01	0.02	—	0.02	0.02	—	0.02	—	796	796	0.03	0.01	—	799
Dust From Material Movement	—	—	—	—	—	—	0.35	0.35	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.29	5.08	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	864	864	0.04	0.03	3.45	877

Vendor	0.29	0.08	3.13	1.68	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,728	2,728	0.21	0.41	7.61	2,862
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.30	0.34	3.84	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	792	792	0.04	0.03	0.09	802
Vendor	0.28	0.07	3.26	1.70	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,729	2,729	0.21	0.41	0.20	2,856
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.96	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	192	192	0.01	0.01	0.36	194
Vendor	0.07	0.02	0.78	0.40	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	651	651	0.05	0.10	0.78	682
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	31.7	31.7	< 0.005	< 0.005	0.06	32.2
Vendor	0.01	< 0.005	0.14	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	108	108	0.01	0.02	0.13	113
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215

Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.58	14.0	25.5	0.04	0.13	—	0.13	0.13	—	0.13	—	4,731	4,731	0.19	0.04	—	4,747
Dust From Material Movement	—	—	—	—	—	—	1.88	1.88	—	0.69	0.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.56	4.65	0.01	0.02	—	0.02	0.02	—	0.02	—	783	783	0.03	0.01	—	786
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.28	0.26	4.67	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	845	845	0.04	0.03	3.14	858
Vendor	0.27	0.08	2.98	1.61	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,684	2,684	0.21	0.41	7.55	2,818
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.29	3.52	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	775	775	0.04	0.03	0.08	785
Vendor	0.26	0.07	3.11	1.62	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,685	2,685	0.21	0.41	0.20	2,812
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.87	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	185	185	0.01	0.01	0.32	187
Vendor	0.06	0.02	0.74	0.38	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	630	630	0.05	0.10	0.77	661
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	30.6	30.6	< 0.005	< 0.005	0.05	31.0
Vendor	0.01	< 0.005	0.13	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	104	104	0.01	0.02	0.13	109
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.64	14.8	23.3	0.04	0.18	—	0.18	0.17	—	0.17	—	3,783	3,783	0.15	0.03	—	3,796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.70	4.25	0.01	0.03	—	0.03	0.03	—	0.03	—	626	626	0.03	0.01	—	629
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.66	8.72	8.36	148	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,789	26,789	1.11	0.94	99.4	27,197
Vendor	0.67	0.19	7.50	4.06	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,756	6,756	0.52	1.02	19.0	7,093
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.17	9.22	112	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,561	24,561	1.15	0.94	2.57	24,873

Vendor	0.66	0.18	7.84	4.07	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,760	6,760	0.52	1.02	0.49	7,078
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.33	3.86	4.79	56.5	0.00	0.00	0.74	0.74	0.00	0.00	0.00	—	11,942	11,942	0.55	0.45	20.6	12,111
Vendor	0.32	0.09	3.78	1.93	0.02	0.05	0.19	0.24	0.05	0.07	0.12	—	3,240	3,240	0.25	0.49	3.95	3,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.70	0.87	10.3	0.00	0.00	0.14	0.14	0.00	0.00	0.00	—	1,977	1,977	0.09	0.07	3.41	2,005
Vendor	0.06	0.02	0.69	0.35	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	536	536	0.04	0.08	0.65	562
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.95	22.0	34.7	0.05	0.26	—	0.26	0.25	—	0.25	—	5,635	5,635	0.23	0.05	—	5,655
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.17	4.02	6.33	0.01	0.05	—	0.05	0.05	—	0.05	—	933	933	0.04	0.01	—	936
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.22	7.50	137	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,242	26,242	1.11	0.90	89.8	26,628
Vendor	0.67	0.14	7.18	3.89	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,643	6,643	0.47	1.02	17.5	6,977
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	8.61	7.67	8.36	103	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,066	24,066	0.38	0.94	2.33	24,359
Vendor	0.66	0.13	7.47	3.95	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,647	6,647	0.47	1.02	0.45	6,964
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.15	5.48	6.53	77.7	0.00	0.00	1.11	1.11	0.00	0.00	0.00	—	17,431	17,431	0.27	0.67	27.7	17,666
Vendor	0.47	0.09	5.37	2.80	0.04	0.07	0.28	0.35	0.07	0.11	0.18	—	4,746	4,746	0.34	0.73	5.38	4,978
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.12	1.00	1.19	14.2	0.00	0.00	0.20	0.20	0.00	0.00	0.00	—	2,886	2,886	0.04	0.11	4.59	2,925

Vendor	0.09	0.02	0.98	0.51	0.01	0.01	0.05	0.06	0.01	0.02	0.03	—	786	786	0.06	0.12	0.89	824
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	5.21	7.67	0.01	0.06	—	0.06	0.06	—	0.06	—	1,093	1,093	0.04	0.01	—	1,096
Paving	—	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.95	1.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	181	181	0.01	< 0.005	—	182
Paving	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.19	0.18	3.24	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	621	621	0.03	0.02	2.13	630
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.20	2.45	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	570	570	0.01	0.02	0.06	577
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.62	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	139	139	< 0.005	0.01	0.22	141
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.1	23.1	< 0.005	< 0.005	0.04	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	35.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	35.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.80	1.63	< 0.005	0.05	—	0.05	0.05	—	0.05	—	225	225	0.01	< 0.005	—	226
Architectural Coatings	—	14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.33	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.3	37.3	< 0.005	< 0.005	—	37.4

Architect Coatings	—	2.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.64	1.50	27.4	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	5,248	5,248	0.22	0.18	18.0	5,326
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.72	1.53	1.67	20.7	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	4,813	4,813	0.08	0.19	0.47	4,872
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.65	0.77	9.18	0.00	0.00	0.13	0.13	0.00	0.00	0.00	—	2,059	2,059	0.03	0.08	3.27	2,087
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.14	1.68	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	341	341	0.01	0.01	0.54	346
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

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4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2024	3/31/2024	5.00	65.0	—
Site Preparation	Site Preparation	4/1/2024	8/31/2024	5.00	110	—
Grading	Grading	9/1/2024	4/30/2025	5.00	173	—
Building Construction	Building Construction	5/1/2025	12/31/2026	5.00	436	—
Paving	Paving	9/1/2026	12/31/2026	5.00	88.0	—
Architectural Coating	Architectural Coating	6/1/2026	12/31/2026	5.00	154	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	3.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	9.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	6.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	9.00	8.00	367	0.40

Grading	Excavators	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Interim	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Tier 4 Interim	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	45.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	33.0	10.2	HHDT,MHDT
Demolition	Hauling	5.31	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2

Site Preparation	Vendor	55.0	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	87.0	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,901	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	219	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	380	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	6,674,096	2,224,699	1,062,144	354,048	142,363

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	30,000	—
Site Preparation	—	—	2,200	0.00	—
Grading	—	—	3,460	0.00	—
Paving	0.00	0.00	0.00	0.00	61.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	6.64	0%
Condo/Townhouse	—	0%
City Park	0.00	0%
Regional Shopping Center	0.00	0%

High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Gasoline/Service Station	0.00	0%
Parking Lot	54.5	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

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Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

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7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859

Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—

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Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site area
Construction: Construction Phases	Construction schedule based on info from the Project team
Construction: Off-Road Equipment	Construction equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings.

APPENDIX 5.2:

CALEEMOD OPERATIONS EMISSIONS MODEL OUTPUTS

14822 Rich Haven Ph1 Ops 2027 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Ops 2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.012654365759644, -117.57100716437458
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
User Defined Industrial	2,767	User Defined Unit	0.00	0.00	0.00	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

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2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	289	446	348	1,925	4.95	11.8	136	148	11.7	25.2	36.9	5,170	629,697	634,867	557	36.0	1,918	661,438
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	230	389	360	1,357	4.71	11.6	136	148	11.4	25.2	36.5	5,170	606,339	611,509	558	36.3	620	636,882
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	201	367	260	1,265	3.40	6.64	100	107	6.54	18.7	25.2	5,170	437,786	442,956	551	30.6	1,016	466,884
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	36.7	66.9	47.4	231	0.62	1.21	18.3	19.5	1.19	3.41	4.60	856	72,480	73,336	91.3	5.07	168	77,298

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	232	208	247	1,514	4.31	3.76	136	140	3.54	25.2	28.7	—	450,131	450,131	25.2	31.0	1,332	461,322
Area	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.44	—	74,904
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	289	446	348	1,925	4.95	11.8	136	148	11.7	25.2	36.9	5,170	629,697	634,867	557	36.0	1,918	661,438
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	218	194	262	1,308	4.09	3.76	136	140	3.55	25.2	28.7	—	427,933	427,933	26.1	31.5	34.6	438,017

Area	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	230	389	360	1,357	4.71	11.6	136	148	11.4	25.2	36.5	5,170	606,339	611,509	558	36.3	620	636,882
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	165	145	214	990	3.12	3.00	100	103	2.83	18.7	21.5	—	327,123	327,123	20.6	25.8	430	335,770
Area	31.7	219	6.31	250	0.04	0.50	—	0.50	0.56	—	0.56	0.00	5,834	5,834	0.13	0.22	—	5,902
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	201	367	260	1,265	3.40	6.64	100	107	6.54	18.7	25.2	5,170	437,786	442,956	551	30.6	1,016	466,884
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.0	26.5	39.0	181	0.57	0.55	18.3	18.8	0.52	3.41	3.92	—	54,159	54,159	3.41	4.28	71.3	55,591
Area	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.04	—	977
Energy	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	16,437	16,437	1.51	0.11	—	16,508
Water	—	—	—	—	—	—	—	—	—	—	—	261	918	1,180	26.9	0.65	—	2,045
Waste	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9
Total	36.7	66.9	47.4	231	0.62	1.21	18.3	19.5	1.19	3.41	4.60	856	72,480	73,336	91.3	5.07	168	77,298

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	3.09	2.89	1.27	25.1	0.05	0.02	0.26	0.28	0.02	0.08	0.10	—	5,338	5,338	0.21	0.14	15.6	5,401
Refrigerated Warehouse-No Rail	1.96	1.84	0.81	15.9	0.03	0.01	0.17	0.18	0.01	0.05	0.06	—	3,391	3,391	0.13	0.09	9.90	3,431
Unrefrigerated Warehouse-No Rail	15.4	14.4	6.33	125	0.26	0.12	1.30	1.42	0.11	0.39	0.50	—	26,602	26,602	1.06	0.70	77.7	26,916
User Defined Industrial	9.99	2.27	101	59.2	0.88	1.52	8.23	9.75	1.46	2.67	4.12	—	98,266	98,266	7.46	14.8	259	103,113
Condo/Townhouse	70.4	64.8	50.1	472	1.15	0.77	6.70	7.47	0.72	2.07	2.80	—	117,821	117,821	5.86	5.58	362	119,994
Single Family Housing	29.5	27.2	21.0	198	0.48	0.32	2.81	3.13	0.30	0.87	1.17	—	49,416	49,416	2.46	2.34	152	50,327
Strip Mall	1.28	1.17	0.95	9.07	0.02	0.01	0.13	0.15	0.01	0.04	0.05	—	2,303	2,303	0.11	0.11	7.10	2,344
Gasoline/Service Station	16.1	14.7	12.0	114	0.28	0.19	1.65	1.84	0.18	0.51	0.69	—	28,986	28,986	1.39	1.35	89.4	29,512
Regional Shopping Center	45.5	42.9	24.7	217	0.46	0.33	2.64	2.97	0.31	0.82	1.12	—	47,534	47,534	3.14	2.61	143	48,533

High Turnover (Sit Down Restaurant)	10.9	9.96	8.12	77.3	0.19	0.13	1.12	1.25	0.12	0.35	0.47	—	19,617	19,617	0.94	0.91	60.5	19,973
Fast Food Restaurant with Drive Thru	28.2	25.8	21.0	200	0.49	0.33	2.90	3.23	0.31	0.90	1.21	—	50,835	50,835	2.43	2.36	157	51,757
City Park	0.01	0.01	0.01	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.9	19.9	< 0.005	< 0.005	0.06	20.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	232	208	247	1,514	4.31	3.76	27.9	31.7	3.54	8.75	12.3	—	450,131	450,131	25.2	31.0	1,332	461,322
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	2.94	2.74	1.40	21.1	0.05	0.02	0.26	0.28	0.02	0.08	0.10	—	4,922	4,922	0.23	0.15	0.40	4,973
Refrigerated Warehouse-No Rail	1.87	1.74	0.89	13.4	0.03	0.01	0.17	0.18	0.01	0.05	0.06	—	3,127	3,127	0.14	0.10	0.26	3,159
Unrefrigerated Warehouse-No Rail	14.7	13.7	6.99	105	0.24	0.12	1.30	1.42	0.11	0.39	0.50	—	24,525	24,525	1.13	0.75	2.01	24,780
User Defined Industrial	9.91	2.20	105	59.3	0.88	1.52	8.23	9.75	1.46	2.67	4.12	—	98,288	98,288	7.46	14.8	6.71	102,886
Condo/Townhouse	66.0	60.3	53.7	404	1.08	0.77	6.70	7.47	0.72	2.07	2.80	—	110,555	110,555	6.14	5.76	9.39	112,435
Single Family Housing	27.7	25.3	22.5	169	0.45	0.32	2.81	3.13	0.30	0.87	1.17	—	46,368	46,368	2.58	2.42	3.94	47,157

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Strip Mall	1.20	1.09	1.02	7.70	0.02	0.01	0.13	0.15	0.01	0.04	0.05	—	2,160	2,160	0.11	0.11	0.18	2,196
Gasoline /Service Station	15.1	13.7	12.9	97.0	0.26	0.19	1.65	1.84	0.18	0.51	0.69	—	27,193	27,193	1.45	1.39	2.32	27,646
Regional Shopping Center	42.5	39.7	26.4	196	0.43	0.33	2.64	2.97	0.31	0.82	1.12	—	44,685	44,685	3.35	2.69	3.70	45,575
High Turnover (Sit Down Restaurant)	10.2	9.28	8.70	65.6	0.18	0.13	1.12	1.25	0.12	0.35	0.47	—	18,403	18,403	0.98	0.94	1.57	18,710
Fast Food Restaurant with Drive Thru	26.4	24.0	22.6	170	0.46	0.33	2.90	3.23	0.31	0.90	1.21	—	47,689	47,689	2.54	2.44	4.06	48,483
City Park	0.01	0.01	0.01	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.6	18.6	< 0.005	< 0.005	< 0.005	18.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	218	194	262	1,308	4.09	3.76	27.9	31.7	3.55	8.75	12.3	—	427,933	427,933	26.1	31.5	34.6	438,017
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.47	0.43	0.23	3.49	0.01	< 0.005	0.04	0.05	< 0.005	0.01	0.02	—	722	722	0.03	0.02	0.97	730
Refrigerated Warehouse-No Rail	0.29	0.27	0.15	2.21	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	458	458	0.02	0.01	0.62	463
Unrefrigerated Warehouse-No Rail	2.53	2.35	1.25	18.9	0.04	0.02	0.23	0.25	0.02	0.07	0.09	—	3,921	3,921	0.18	0.12	5.29	3,967
User Defined Industrial	1.70	0.38	18.2	10.1	0.15	0.26	1.41	1.67	0.25	0.46	0.71	—	15,286	15,286	1.16	2.30	17.4	16,017

Condo/T	10.4	9.51	8.66	66.4	0.17	0.12	1.07	1.19	0.11	0.33	0.44	—	16,118	16,118	0.89	0.84	22.6	16,412
Single Family Housing	4.92	4.49	4.09	31.4	0.08	0.06	0.50	0.56	0.05	0.16	0.21	—	7,611	7,611	0.42	0.40	10.7	7,750
Strip Mall	0.18	0.17	0.16	1.24	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	307	307	0.02	0.02	0.43	312
Gasoline /Service Station	1.75	1.63	1.16	8.82	0.02	0.01	0.12	0.14	0.01	0.04	0.05	—	1,862	1,862	0.13	0.11	2.56	1,900
Regional Shopping Center	3.95	3.70	2.44	18.4	0.04	0.03	0.24	0.26	0.03	0.07	0.10	—	3,661	3,661	0.28	0.22	4.98	3,739
High Turnover (Sit Down Restaurant)	1.14	1.06	0.79	6.01	0.01	0.01	0.09	0.10	0.01	0.03	0.04	—	1,312	1,312	0.09	0.07	1.81	1,338
Fast Food Restaurant with Drive Thru	2.69	2.51	1.80	13.7	0.03	0.02	0.19	0.21	0.02	0.06	0.08	—	2,899	2,899	0.20	0.17	3.98	2,958
City Park	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.41	2.41	< 0.005	< 0.005	< 0.005	2.45
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	30.0	26.5	39.0	181	0.57	0.55	3.92	4.47	0.52	1.23	1.75	—	54,159	54,159	3.41	4.28	71.3	55,591

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,243	5,243	0.50	0.06	—	5,273
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,433	9,433	0.90	0.11	—	9,488
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,745	8,745	0.83	0.10	—	8,796
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,125	15,125	1.44	0.17	—	15,214
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,933	5,933	0.57	0.07	—	5,967
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.2	69.2	0.01	< 0.005	—	69.6
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,496	1,496	0.14	0.02	—	1,505
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.10	0.01	—	1,085
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	719	719	0.07	0.01	—	723

5609

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,099	2,099	0.20	0.02	—	2,111
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,002	50,002	4.77	0.58	—	50,294
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,243	5,243	0.50	0.06	—	5,273
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,433	9,433	0.90	0.11	—	9,488
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,745	8,745	0.83	0.10	—	8,796
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,125	15,125	1.44	0.17	—	15,214
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,933	5,933	0.57	0.07	—	5,967
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.2	69.2	0.01	< 0.005	—	69.6
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,496	1,496	0.14	0.02	—	1,505

5610

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.10	0.01	—	1,085
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	719	719	0.07	0.01	—	723
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,099	2,099	0.20	0.02	—	2,111
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,002	50,002	4.77	0.58	—	50,294
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	868	868	0.08	0.01	—	873
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,562	1,562	0.15	0.02	—	1,571
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,448	1,448	0.14	0.02	—	1,456
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	2,504	2,504	0.24	0.03	—	2,519
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	982	982	0.09	0.01	—	988

5611

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5	< 0.005	< 0.005	—	11.5
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.1	10.1	< 0.005	< 0.005	—	10.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	248	248	0.02	< 0.005	—	249
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	179	179	0.02	< 0.005	—	180
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	119	119	0.01	< 0.005	—	120
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	348	348	0.03	< 0.005	—	350
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,278	8,278	0.79	0.10	—	8,327

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846

Unrefrige Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline /Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846
Unrefrigerated Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794

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City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.05	0.02	0.43	0.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	461	461	0.04	< 0.005	—	462
Refrigerated Warehouse-No Rail	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	635	635	0.06	< 0.005	—	637
Unrefrigerated Warehouse-No Rail	0.20	0.10	1.86	1.56	0.01	0.14	—	0.14	0.14	—	0.14	—	2,014	2,014	0.18	< 0.005	—	2,019
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.33	0.17	2.86	1.22	0.02	0.23	—	0.23	0.23	—	0.23	—	3,288	3,288	0.29	0.01	—	3,297
Single Family Housing	0.14	0.07	1.19	0.50	0.01	0.10	—	0.10	0.10	—	0.10	—	1,365	1,365	0.12	< 0.005	—	1,368
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.35
Gasoline/Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Regional Shopping Center	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	50.7	50.7	< 0.005	< 0.005	—	50.9

High Turnover (Sit Down Restaurant)	0.02	0.01	0.18	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	197	197	0.02	< 0.005	—	197
Fast Food Restaurant with Drive Thru	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	8,159	8,159	0.72	0.02	—	8,181

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	45.7	42.7	3.41	363	0.02	0.27	—	0.27	0.35	—	0.35	—	1,160	1,160	0.05	0.30	—	1,251
Total	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.44	—	74,984

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.08	0.04	0.72	0.31	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	834	834	0.02	< 0.005	—	835
Consumer Products	—	31.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.71	5.34	0.43	45.3	< 0.005	0.03	—	0.03	0.04	—	0.04	—	132	132	0.01	0.03	—	142
Total	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.04	—	977

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	363	471	11.1	0.27	—	828
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	678	880	20.7	0.50	—	1,546
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,023	3,908	91.0	2.19	—	6,835
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	988	1,251	27.0	0.65	—	2,121
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	284	349	6.76	0.16	—	567
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.94	5.00	0.11	< 0.005	—	8.53
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	86.4	109	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	63.6	82.4	1.94	0.05	—	145

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Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.4	54.9	1.29	0.03	—	96.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	363	471	11.1	0.27	—	828
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	678	880	20.7	0.50	—	1,546
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,023	3,908	91.0	2.19	—	6,835
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	988	1,251	27.0	0.65	—	2,121
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	284	349	6.76	0.16	—	567
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.94	5.00	0.11	< 0.005	—	8.53

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Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	86.4	109	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	63.6	82.4	1.94	0.05	—	145
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.4	54.9	1.29	0.03	—	96.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	17.9	60.2	78.0	1.84	0.04	—	137
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	33.3	112	146	3.43	0.08	—	256
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	146	501	647	15.1	0.36	—	1,132
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

5620

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	43.5	164	207	4.48	0.11	—	351
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.9	47.0	57.8	1.12	0.03	—	93.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.18	0.65	0.83	0.02	< 0.005	—	1.41
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.68	0.88	0.02	< 0.005	—	1.55
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.81	14.3	18.1	0.39	0.01	—	30.7
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	3.12	10.5	13.6	0.32	0.01	—	24.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.08	7.01	9.10	0.21	0.01	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.68	1.68	< 0.005	< 0.005	—	1.69
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	261	918	1,180	26.9	0.65	—	2,045

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728

5622

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8

5623

Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	26.3	0.00	26.3	2.63	0.00	—	92.0
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	38.1	0.00	38.1	3.81	0.00	—	133
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	167	0.00	167	16.7	0.00	—	586
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

5624

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	217	0.00	217	21.7	0.00	—	759
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	70.9	0.00	70.9	7.08	0.00	—	248
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.70	0.00	0.70	0.07	0.00	—	2.46
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	34.4	0.00	34.4	3.44	0.00	—	120
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	22.2	0.00	22.2	2.22	0.00	—	77.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77

5626

Refrigerated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	76.7	76.7
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.13	4.13
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.39	8.39
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Office Park	888	669	327	283,479	7,525	5,670	2,769	2,401,918
Refrigerated Warehouse-No Rail	564	319	306	179,702	4,780	2,706	2,594	1,522,619
Unrefrigerated Warehouse-No Rail	4,426	3,725	3,675	1,539,648	37,498	31,561	31,138	13,045,437
User Defined Industrial	1,143	927	874	391,883	35,782	29,024	27,378	12,269,872
Condo/Townhouse	18,580	11,370	9,101	5,911,360	142,672	87,311	69,884	45,393,329

Single Family Housing	7,755	7,793	6,971	2,791,565	59,549	59,839	53,527	21,436,426
Strip Mall	330	237	75.2	102,332	2,796	2,011	637	867,056
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	5,649	35,198	35,198	5,143,326
Regional Shopping Center	5,320	13,204	8,133	2,499,577	20,262	56,219	34,626	10,019,460
High Turnover (Sit Down Restaurant)	1,662	2,155	2,811	692,267	5,554	18,260	23,821	3,642,197
Fast Food Restaurant with Drive Thru	4,074	7,285	4,182	1,660,093	11,305	61,729	35,436	8,013,735
City Park	2.00	2.55	2.85	803	16.9	21.6	24.1	6,800
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	2796
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	329
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	699

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	82

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
10305711	3,435,237	4,496,411	1,498,804	151,589

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Office Park	5,527,449	346	0.0330	0.0040	8,690,939
Refrigerated Warehouse-No Rail	9,945,872	346	0.0330	0.0040	11,966,710
Unrefrigerated Warehouse-No Rail	9,219,763	346	0.0330	0.0040	37,948,738
User Defined Industrial	0.00	346	0.0330	0.0040	0.00
Condo/Townhouse	15,946,932	346	0.0330	0.0040	61,972,315
Single Family Housing	6,255,109	346	0.0330	0.0040	25,720,146
Strip Mall	72,963	346	0.0330	0.0040	44,216

Gasoline/Service Station	64,628	346	0.0330	0.0040	290,596
Regional Shopping Center	1,577,323	346	0.0330	0.0040	955,877
High Turnover (Sit Down Restaurant)	1,137,107	346	0.0330	0.0040	3,705,461
Fast Food Restaurant with Drive Thru	758,071	346	0.0330	0.0040	2,470,307
City Park	0.00	346	0.0330	0.0040	0.00
Parking Lot	2,213,196	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Office Park	56,292,721	0.00
Refrigerated Warehouse-No Rail	105,043,925	0.00
Unrefrigerated Warehouse-No Rail	461,616,625	8,534,332
User Defined Industrial	0.00	0.00
Condo/Townhouse	137,089,385	20,519,706
Single Family Housing	34,261,926	12,397,322
Strip Mall	555,544	69,954
Gasoline/Service Station	637,531	0.00
Regional Shopping Center	12,009,896	1,755,840
High Turnover (Sit Down Restaurant)	9,842,688	0.00
Fast Food Restaurant with Drive Thru	6,561,792	0.00
City Park	0.00	2,020,880
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Office Park	295	0.00
Refrigerated Warehouse-No Rail	427	0.00
Unrefrigerated Warehouse-No Rail	1,876	0.00
User Defined Industrial	0.00	0.00
Condo/Townhouse	735	0.00
Single Family Housing	240	0.00
Strip Mall	7.88	0.00
Gasoline/Service Station	25.9	0.00
Regional Shopping Center	170	0.00
High Turnover (Sit Down Restaurant)	386	0.00
Fast Food Restaurant with Drive Thru	249	0.00
City Park	0.11	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Refrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

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Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

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Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage based on Project site plan
Operations: Vehicle Data	Updated based on Project traffic study
Operations: Fleet Mix	Fleet mix adjusted based on Project traffic study
Operations: Hearths	No wood-burning stoves or fireplaces per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater

14822 Rich Haven Ph2 Ops Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Ops
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01248843179461, -117.57182350609266
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	294	363	244	1,941	4.54	7.50	144	152	7.36	25.7	33.1	2,920	529,145	532,064	321	22.0	1,437	548,067
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	257	327	256	1,519	4.27	7.41	144	152	7.24	25.7	33.0	2,920	502,251	505,171	322	22.6	156	520,102
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	180	260	142	1,028	2.28	3.45	77.0	80.5	3.37	13.7	17.1	2,920	275,935	278,855	312	13.6	424	291,117

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	32.9	47.4	25.9	188	0.42	0.63	14.1	14.7	0.62	2.50	3.12	483	45,684	46,168	51.6	2.25	70.3	48,198

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	268	247	185	1,736	4.17	2.81	144	147	2.63	25.7	28.3	—	428,503	428,503	21.9	20.5	1,315	436,487
Area	23.5	114	38.4	194	0.24	3.06	—	3.06	3.09	—	3.09	0.00	47,109	47,109	0.90	0.14	—	47,172
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	294	363	244	1,941	4.54	7.50	144	152	7.36	25.7	33.1	2,920	529,145	532,064	321	22.0	1,437	548,067
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	251	230	198	1,492	3.91	2.81	144	147	2.64	25.7	28.4	—	402,131	402,131	22.9	21.2	34.1	409,057
Area	4.29	96.3	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	257	327	256	1,519	4.27	7.41	144	152	7.24	25.7	33.0	2,920	502,251	505,171	322	22.6	156	520,102
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	164	152	117	893	2.13	1.55	77.0	78.6	1.45	13.7	15.2	—	218,854	218,854	14.0	12.2	303	223,147
Area	13.4	107	3.66	123	0.02	0.27	—	0.27	0.29	—	0.29	0.00	3,548	3,548	0.08	0.04	—	3,562
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	180	260	142	1,028	2.28	3.45	77.0	80.5	3.37	13.7	17.1	2,920	275,935	278,855	312	13.6	424	291,117
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.0	27.8	21.4	163	0.39	0.28	14.1	14.3	0.26	2.50	2.77	—	36,234	36,234	2.32	2.02	50.1	36,944
Area	2.45	19.5	0.67	22.5	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	587	587	0.01	0.01	—	590
Energy	0.43	0.22	3.75	2.07	0.02	0.30	—	0.30	0.30	—	0.30	—	8,593	8,593	0.79	0.06	—	8,630
Water	—	—	—	—	—	—	—	—	—	—	—	63.9	270	334	6.57	0.16	—	546
Waste	—	—	—	—	—	—	—	—	—	—	—	420	0.00	420	41.9	0.00	—	1,468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	20.1
Total	32.9	47.4	25.9	188	0.42	0.63	14.1	14.7	0.62	2.50	3.12	483	45,684	46,168	51.6	2.25	70.3	48,198

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	21.7	19.9	15.4	145	0.35	0.24	2.06	2.30	0.22	0.64	0.86	—	36,251	36,251	1.80	1.72	111	36,919
Condo/Townhouse	42.4	39.0	30.1	284	0.69	0.46	4.03	4.49	0.43	1.25	1.68	—	70,885	70,885	3.53	3.36	218	72,192
City Park	0.23	0.21	0.17	1.63	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	413	413	0.02	0.02	1.27	420
Regional Shopping Center	60.6	57.1	32.9	290	0.62	0.44	3.52	3.95	0.41	1.09	1.50	—	63,315	63,315	4.18	3.48	190	64,645
High Turnover (Sit Down Restaurant)	35.3	32.3	26.3	251	0.62	0.41	3.63	4.04	0.39	1.12	1.51	—	63,688	63,688	3.05	2.96	196	64,843
Fast Food Restaurant with Drive Thru	91.5	83.8	68.2	650	1.61	1.07	9.40	10.5	1.00	2.91	3.92	—	164,965	164,965	7.89	7.67	509	167,956
Gasoline /Service Station	16.1	14.7	12.0	114	0.28	0.19	1.65	1.84	0.18	0.51	0.69	—	28,986	28,986	1.39	1.35	89.4	29,512
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	268	247	185	1,736	4.17	2.81	24.3	27.1	2.63	7.53	10.2	—	428,503	428,503	21.9	20.5	1,315	436,487
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	20.3	18.5	16.5	124	0.33	0.24	2.06	2.30	0.22	0.64	0.86	—	34,015	34,015	1.89	1.77	2.89	34,593
Condo/Townhouse	39.7	36.3	32.3	243	0.65	0.46	4.03	4.49	0.43	1.25	1.68	—	66,513	66,513	3.69	3.47	5.65	67,644
City Park	0.21	0.20	0.18	1.38	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	387	387	0.02	0.02	0.03	394

Regional Shopping Center	56.6	52.9	35.1	261	0.58	0.44	3.52	3.95	0.41	1.09	1.50	—	59,520	59,520	4.47	3.59	4.93	60,705
High Turnover (Sit Down Restaurant)	33.1	30.1	28.3	213	0.58	0.41	3.63	4.04	0.39	1.12	1.51	—	59,747	59,747	3.18	3.06	5.09	60,742
Fast Food Restaurant with Drive Thru	85.8	78.0	73.2	552	1.51	1.07	9.40	10.5	1.00	2.91	3.92	—	154,756	154,756	8.23	7.91	13.2	157,334
Gasoline /Service Station	15.1	13.7	12.9	97.0	0.26	0.19	1.65	1.84	0.18	0.51	0.69	—	27,193	27,193	1.45	1.39	2.32	27,646
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	251	230	198	1,492	3.91	2.81	24.3	27.1	2.64	7.53	10.2	—	402,131	402,131	22.9	21.2	34.1	409,057
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.61	3.29	3.00	23.0	0.06	0.04	0.37	0.41	0.04	0.11	0.15	—	5,583	5,583	0.31	0.29	7.82	5,685
Condo/Townhouse	6.26	5.71	5.20	39.9	0.10	0.07	0.64	0.71	0.07	0.20	0.27	—	9,683	9,683	0.53	0.50	13.6	9,860
City Park	0.02	0.02	0.02	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	34.7	34.7	< 0.005	< 0.005	0.05	35.4
Regional Shopping Center	5.92	5.55	3.63	27.3	0.06	0.04	0.35	0.39	0.04	0.11	0.15	—	5,404	5,404	0.42	0.33	7.35	5,521
High Turnover (Sit Down Restaurant)	3.69	3.43	2.57	19.5	0.05	0.03	0.28	0.31	0.03	0.09	0.12	—	4,261	4,261	0.28	0.24	5.88	4,346

Fast Food Restaurant with Drive Thru	8.73	8.13	5.85	44.3	0.10	0.07	0.61	0.68	0.07	0.19	0.26	—	9,406	9,406	0.65	0.54	12.9	9,598
Gasoline /Service Station	1.75	1.63	1.16	8.82	0.02	0.01	0.12	0.14	0.01	0.04	0.05	—	1,862	1,862	0.13	0.11	2.56	1,900
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	30.0	27.8	21.4	163	0.39	0.28	2.37	2.65	0.26	0.73	1.00	—	36,234	36,234	2.32	2.02	50.1	36,944

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.41	0.05	—	4,378
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	9,198	9,198	0.88	0.11	—	9,251
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	4,853	4,853	0.46	0.06	—	4,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	3,499	3,499	0.33	0.04	—	3,519

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	2,333	2,333	0.22	0.03	—	2,346
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,973	1,973	0.19	0.02	—	1,984
Total	—	—	—	—	—	—	—	—	—	—	—	—	26,268	26,268	2.50	0.30	—	26,421
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.41	0.05	—	4,378
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	9,198	9,198	0.88	0.11	—	9,251
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	4,853	4,853	0.46	0.06	—	4,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	3,499	3,499	0.33	0.04	—	3,519
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	2,333	2,333	0.22	0.03	—	2,346
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7

5658

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,973	1,973	0.19	0.02	—	1,984
Total	—	—	—	—	—	—	—	—	—	—	—	—	26,268	26,268	2.50	0.30	—	26,421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	721	721	0.07	0.01	—	725
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,523	1,523	0.15	0.02	—	1,532
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	804	804	0.08	0.01	—	808
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	579	579	0.06	0.01	—	583
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	386	386	0.04	< 0.005	—	388
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.1	10.1	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	327	327	0.03	< 0.005	—	328
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,349	4,349	0.41	0.05	—	4,374

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
																		5659

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.28	4.76	2.03	0.03	0.39	—	0.39	0.39	—	0.39	—	6,047	6,047	0.54	0.01	—	6,064
Condo/Townhouse	1.11	0.56	9.51	4.05	0.06	0.77	—	0.77	0.77	—	0.77	—	12,077	12,077	1.07	0.02	—	12,111
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.09	0.05	0.83	0.70	< 0.005	0.06	—	0.06	0.06	—	0.06	—	994	994	0.09	< 0.005	—	997
High Turnover (Sit Down Restaurant)	0.36	0.18	3.23	2.71	0.02	0.25	—	0.25	0.25	—	0.25	—	3,853	3,853	0.34	0.01	—	3,863
Fast Food Restaurant with Drive Thru	0.24	0.12	2.15	1.81	0.01	0.16	—	0.16	0.16	—	0.16	—	2,568	2,568	0.23	< 0.005	—	2,576
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	25,632	25,632	2.27	0.05	—	25,703
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.28	4.76	2.03	0.03	0.39	—	0.39	0.39	—	0.39	—	6,047	6,047	0.54	0.01	—	6,064

Condo/Townhouse	1.11	0.56	9.51	4.05	0.06	0.77	—	0.77	0.77	—	0.77	—	12,077	12,077	1.07	0.02	—	12,111
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.09	0.05	0.83	0.70	< 0.005	0.06	—	0.06	0.06	—	0.06	—	994	994	0.09	< 0.005	—	997
High Turnover (Sit Down Restaurant)	0.36	0.18	3.23	2.71	0.02	0.25	—	0.25	0.25	—	0.25	—	3,853	3,853	0.34	0.01	—	3,863
Fast Food Restaurant with Drive Thru	0.24	0.12	2.15	1.81	0.01	0.16	—	0.16	0.16	—	0.16	—	2,568	2,568	0.23	< 0.005	—	2,576
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	25,632	25,632	2.27	0.05	—	25,703
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.05	0.87	0.37	0.01	0.07	—	0.07	0.07	—	0.07	—	1,001	1,001	0.09	< 0.005	—	1,004
Condo/Townhouse	0.20	0.10	1.74	0.74	0.01	0.14	—	0.14	0.14	—	0.14	—	2,000	2,000	0.18	< 0.005	—	2,005
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.02	0.01	0.15	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	165	165	0.01	< 0.005	—	165

High Turnover (Sit Down Restaurant)	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	638	638	0.06	< 0.005	—	640
Fast Food Restaurant with Drive Thru	0.04	0.02	0.39	0.33	< 0.005	0.03	—	0.03	0.03	—	0.03	—	425	425	0.04	< 0.005	—	426
Gasoline /Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.43	0.22	3.75	2.07	0.02	0.30	—	0.30	0.30	—	0.30	—	4,244	4,244	0.38	0.01	—	4,255

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.29	2.15	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Consumer Products	—	86.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	19.2	18.0	1.67	179	0.01	0.09	—	0.09	0.12	—	0.12	—	521	521	0.02	0.05	—	536

5662

Total	23.5	114	38.4	194	0.24	3.06	—	3.06	3.09	—	3.09	0.00	47,109	47,109	0.90	0.14	—	47,172
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.29	2.15	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Consumer Products	—	86.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.29	96.3	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.03	0.46	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	528	528	0.01	< 0.005	—	529
Consumer Products	—	15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.40	2.25	0.21	22.3	< 0.005	0.01	—	0.01	0.02	—	0.02	—	59.1	59.1	< 0.005	0.01	—	60.8
Total	2.45	19.5	0.67	22.5	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	587	587	0.01	0.01	—	590

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.2	232	280	4.96	0.12	—	440
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	160	562	722	16.4	0.40	—	1,251
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	211	211	0.02	< 0.005	—	212
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	74.7	279	354	7.68	0.19	—	601
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	61.2	206	267	6.29	0.15	—	470
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	40.8	137	178	4.20	0.10	—	313
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.2	232	280	4.96	0.12	—	440

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	160	562	722	16.4	0.40	—	1,251
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	211	211	0.02	< 0.005	—	212
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	74.7	279	354	7.68	0.19	—	601
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	61.2	206	267	6.29	0.15	—	470
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	40.8	137	178	4.20	0.10	—	313
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.97	38.5	46.4	0.82	0.02	—	72.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	26.4	93.1	120	2.72	0.07	—	207
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	35.0	35.0	< 0.005	< 0.005	—	35.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.4	46.2	58.6	1.27	0.03	—	99.5

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	10.1	34.1	44.3	1.04	0.03	—	77.8
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	6.75	22.8	29.5	0.69	0.02	—	51.9
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.68	0.88	0.02	< 0.005	—	1.55
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	63.9	270	334	6.57	0.16	—	546

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	314	0.00	314	31.4	0.00	—	1,099
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	797	0.00	797	79.7	0.00	—	2,789
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.13	0.00	—	4.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	298	0.00	298	29.7	0.00	—	1,041

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	675	0.00	675	67.4	0.00	—	2,360
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	435	0.00	435	43.5	0.00	—	1,523
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	314	0.00	314	31.4	0.00	—	1,099
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	797	0.00	797	79.7	0.00	—	2,789
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.13	0.00	—	4.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	298	0.00	298	29.7	0.00	—	1,041
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	675	0.00	675	67.4	0.00	—	2,360
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	435	0.00	435	43.5	0.00	—	1,523

Gasoline Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	52.0	0.00	52.0	5.20	0.00	—	182
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	132	0.00	132	13.2	0.00	—	462
City Park	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	49.3	0.00	49.3	4.93	0.00	—	172
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	112	0.00	112	11.2	0.00	—	391
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	72.1	0.00	72.1	7.20	0.00	—	252
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	420	0.00	420	41.9	0.00	—	1,468

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00	2.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.3	39.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00	2.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.3	39.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.25	2.25
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33	0.33
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.77	9.77
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.51	6.51
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	20.1

4.7. Offroad Emissions By Equipment Type

5670

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	5,688	5,716	5,113	2,047,670	43,679	43,897	39,266	15,724,054
Condo/Townhouse	11,178	6,798	5,418	3,551,241	85,836	52,202	41,605	27,269,982
City Park	22.0	52.9	59.1	11,580	186	448	501	98,114
Regional Shopping Center	10,311	17,588	2,846	3,753,717	39,270	74,884	12,118	14,774,788
High Turnover (Sit Down Restaurant)	5,399	6,998	9,127	2,248,423	18,042	59,296	77,336	11,828,194
Fast Food Restaurant with Drive Thru	13,218	23,642	13,575	5,386,702	36,678	200,316	115,021	26,005,007
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	5,649	35,198	35,198	5,143,326
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	513

5675

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	60
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	1700
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
6674096.25	2,224,699	1,062,144	354,048	142,441

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	4,588,602	346	0.0330	0.0040	18,867,699
Condo/Townhouse	9,697,131	346	0.0330	0.0040	37,684,594

City Park	0.00	346	0.0330	0.0040	0.00
Regional Shopping Center	5,117,006	346	0.0330	0.0040	3,100,969
High Turnover (Sit Down Restaurant)	3,688,943	346	0.0330	0.0040	12,021,066
Fast Food Restaurant with Drive Thru	2,459,295	346	0.0330	0.0040	8,014,044
Gasoline/Service Station	64,628	346	0.0330	0.0040	290,596
Parking Lot	2,079,642	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	25,133,749	13,910,646
Condo/Townhouse	83,362,350	4,755,487
City Park	0.00	41,972,125
Regional Shopping Center	38,961,406	5,498,355
High Turnover (Sit Down Restaurant)	31,931,139	0.00
Fast Food Restaurant with Drive Thru	21,287,426	0.00
Gasoline/Service Station	637,531	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	176	0.00
Condo/Townhouse	447	0.00

City Park	2.32	0.00
Regional Shopping Center	552	0.00
High Turnover (Sit Down Restaurant)	1,252	0.00
Fast Food Restaurant with Drive Thru	808	0.00
Gasoline/Service Station	25.9	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Regional Shopping Center	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5679

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9

Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985

5683

Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5

5684

Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—

5685

2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on Project site plan
Operations: Vehicle Data	Trip rates adjusted based on Project traffic study
Operations: Hearths	Project will not use wood fireplaces or wood stoves per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater.

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Rich-Haven Specific Plan, 2022 Amendment

ENERGY ANALYSIS

CITY OF ONTARIO

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Michael Tirohn
mtirohn@urbanxroads.com

NOVEMBER 8, 2022

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LIST OF ABBREVIATED TERMS

%	Percent
(1)	Reference
AQIA	*Rich-Haven Specific Plan, 2022 Amendment Air Quality Impact Analysis*
BACM	Best Available Control Measures
BTU	British Thermal Units
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
County	County of San Bernardino
CPEP	Clean Power and Electrification Pathway
CPUC	California Public Utilities Commission
DMV	Department of Motor Vehicles
EIA	Energy Information Administration
EPA	Environmental Protection Agency
EMFAC	EMissions FACtor
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission
GHG	Greenhouse Gas
GWh	Gigawatt Hour
HHDT	Heavy-Heavy Duty Trucks
hp-hr-gal	Horsepower Hours Per Gallon
IEPR	Integrated Energy Policy Report
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
kBTU	Thousand-British Thermal Units
kWh	Kilowatt Hour
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
LHDT1/LHDT2	Light-Heavy Duty Trucks
March ARB	March Air Reserve Base
MCY	Motorcycles

MDV	Medium Duty Trucks
MH	Motor Homes
MHDT	Medium-Heavy Duty Trucks
MMcfd	Million Cubic Feet Per Day
mpg	Miles Per Gallon
MPO	Metropolitan Planning Organization
MW	Megawatt
OBUS	Other Buses
PG&E	Pacific Gas and Electric
Project	Rich-Haven Specific Plan, 2022 Amendment
PV	Photovoltaic
SBUS	School Buses
SCAB	Southern California Air Basin
SCE	Southern California Edison
SDAB	San Diego Air Basin
SoCalGas	Southern California Gas
sf	Square Feet
TEA-21	Transportation Equity Act for the 21st Century
U.S.	United States
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Rich-Haven Specific Plan, 2022 Amendment Project Energy Analysis* is summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Statute and Guidelines (*CEQA Guidelines*) (1). Table ES-1 shows the findings of significance for potential energy impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Energy Impact #1: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	5.0	*Less Than Significant*	*n/a*
Energy Impact #2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	5.0	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by federal,state, and local agencies that regulate energy use and consumption through various means and programs. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of energy usage include:

- Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)
- The Transportation Equity Act for the 21st Century (TEA-21)
- Integrated Energy Policy Report (IEPR)
- State of California Energy Plan
- California Code Title 24, Part 6, Energy Efficiency Standards
- AB 1493 Pavley Regulations and Fuel Efficiency Standards
- California's Renewables Portfolio Standard (RPS)
- Clean Energy and Pollution Reduction Act of 2015 (SB 350)
- City of Ontario, 2022 Community Climate Action Plan Update (2022 CCAP Update)

Consistency with the above regulations is discussed in detail in section 5 of this EA.

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1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed Rich-Haven Specific Plan, 2022 Amendment Project (Project). The purpose of this report is to ensure that energy implication is considered by the City of Ontario, as the lead agency, and to quantify anticipated energy usage associated with construction and operation of the proposed Project, determine if the usage amounts are efficient, typical, or wasteful for the land use type, and to emphasize avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

1.1 BACKGROUND AND PROJECT DESCRIPTION

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated herein coincide with the location and boundaries in the 2021 Specific Plan. Location of the Project is presented at Exhibit 1-A.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in here proposes a new amendment of the RHSP as described herein.

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This EIR evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.

3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment.

Note that portions of Planning Areas 3A and 4A within the Project site have been developed. Planning Areas 2, 3, 4A, 5C, 6, 10, and portions of 7, 8, and 9 are anticipated to be developed as part of the first phase with an anticipated Opening Year of 2024. Project Buildout and of Phase 2 is anticipated in Year 2027. Project Planning Areas and Phases are illustrated at Exhibit 1-B.

Table 1-1 presents the land uses that were assumed to be developed as part of Phase 1.

TABLE 1-1: PHASE 1 LAND USES

Land Use	Qty	Units
Business Park	316.725	TSF
High-Cube Cold Storage	454.244	TSF
High-Cube Fulfillment	1,404.417	TSF
High-Cube Transload	591.763	TSF
Multifamily (Low Rise) Residential	3,289	DU
Single Family Detached Residential	822	DU
Public Park	1.3	AC
Strip Retail	7.500	TSF
Gasoline Station	48	VFP
Shopping Center	162.137	TSF
High Turnover Restaurant	32.427	TSF
Fast Food Restaurant w/Drive Through	21.618	TSF

TSF = Thousand Square Feet
DU = Dwelling Units
AC = Acre
VFP = Vehicle Fueling Position

Table 1-2 presents the land uses that would be developed as part of Phase 2.

TABLE 1-2: PHASE 2 LAND USES

Land Use	Qty	Units
Multifamily (Low Rise) Residential	2,000	DU
Single Family Detached Residential	603	DU
Public Park	27	AC
Gasoline Station	48	VFP
Shopping Center	525.990	TSF
High Turnover Restaurant	105.198	TSF
Fast Food Restaurant w/Drive Through	70.132	TSF

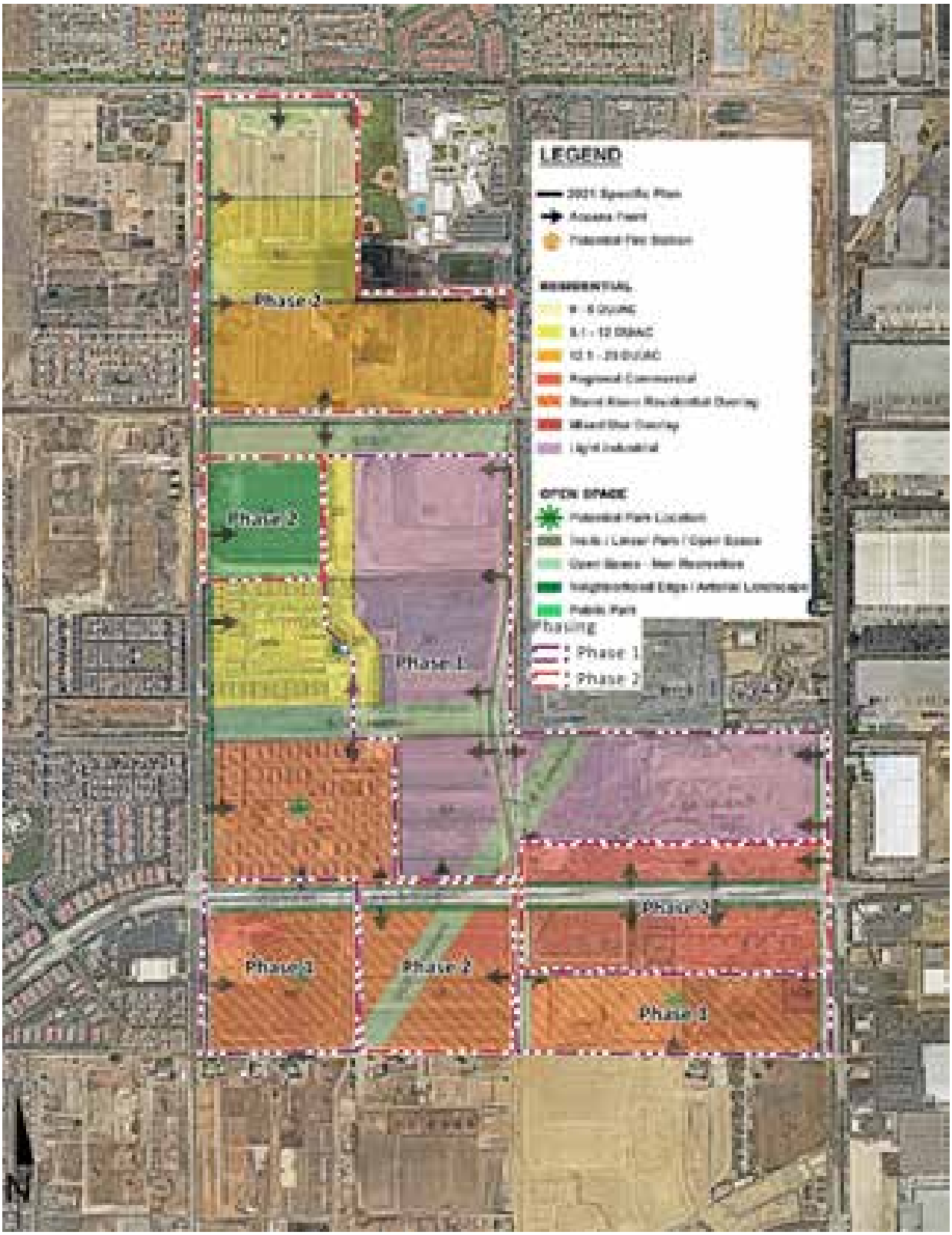
TSF = Thousand Square Feet
DU = Dwelling Units
AC = Acre
VFP = Vehicle Fueling Position

According to the *Rich-Haven Specific Plan, 2022 Amendment Traffic Analysis*, at buildout following the development of Phases 1 and 2, the proposed Project is anticipated to generate a total of 95,552 two-way vehicle trips per day including 94,408 two-way passenger vehicle trips and 1,144 two-way truck trips per day (in actual vehicles) (2).

EXHIBIT 1-A: LOCATION MAP



EXHIBIT 1-B: LAND USE PLAN



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2 EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the Project region.

2.1 OVERVIEW

The most recent data for California's estimated total energy consumption and natural gas consumption is from 2019, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates in 2021 and included (3):

- As of 2019, approximately 7,802 trillion British Thermal Unit (BTU) of energy was consumed
- As of 2019, approximately 662 million barrels of petroleum
- As of 2019, approximately 2,144 billion cubic feet of natural gas
- As of 2019, approximately 1 million short tons of coal

The California Energy Commission's (CEC) Transportation Energy Demand Forecast 2018-2030 was released in order to support the 2017 Integrated Energy Policy Report. The Transportation Energy Demand Forecast 2018-2030 lays out graphs and data supporting CEC's projections of California's future transportation energy demand. The projected inputs consider expected variable changes in fuel prices, income, population, and other variables. Predictions regarding fuel demand included:

- Gasoline demand in the transportation sector is expected to decline from approximately 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030 (4)
- Diesel demand in the transportation sector is expected to rise, increasing from approximately 3.7 billion diesel gallons in 2015 to approximately 4.7 billion in 2030 (4)
- Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2019 (5)

The most recent data provided by the EIA for energy use in California by demand sector is from 2018 and is reported as follows:

- Approximately 39.3% transportation
- Approximately 23.2% industrial
- Approximately 18.7% residential
- Approximately 18.9% commercial (6)

In 2020, total system electric generation for California was 272,576 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 190,913 GWh which accounted for approximately 70% of the electricity it uses; the rest was imported from the Pacific Northwest (15%) and the U.S. Southwest (15%) (7). Natural gas is the main source for electricity generation at 42.97% of the total in-state electric generation system power as shown in Table 2-1.

TABLE 2-1: TOTAL ELECRICITY SYSTEM POWER (CALIFORNIA 2020)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Percent of Imports	Total California Energy Mix	Total California Power Mix
Coal	317	0.17%	194	6,963	7,157	8.76%	7,474	2.74%
Natural Gas	92,298	48.35%	70	8,654	8,724	10.68%	101,022	37.06%
Oil	30	0.02%	-	-	0	0.00%	30	0.01%
Other (Waste Heat/Petroleum Coke)	384	0.20%	125	9	134	0.16%	518	0.19%
Nuclear	16,280	8.53%	672	8,481	9,154	11.21%	25,434	9.33%
Large Hydro	17,938	9.40%	14,078	1,259	15,337	18.78%	33,275	12.21%
Unspecified	-	0.00%	12,870	1,745	14,615	17.90%	14,615	5.36%
Non-Renewable and Unspecified Totals	127,248	66.65%	28,009	27,111	55,120	67.50%	182,368	66.91%
Biomass	5,680	2.97%	975	25	1,000	1.22%	6,679	2.45%
Geothermal	11,345	5.94%	166	1,825	1,991	2.44%	13,336	4.89%
Small Hydro	3,476	1.82%	320	2	322	0.39%	3,798	1.39%
Solar	29,456	15.43%	284	6,312	6,596	8.08%	36,052	13.23%
Wind	13,708	7.18%	11,438	5,197	16,635	20.37%	30,343	11.13%
Renewable Totals	63,665	33.35%	13,184	13,359	26,543	32.50%	90,208	33.09%
System Totals	***190,913***	***100.00%***	***41,193***	***40,471***	***81,663***	***100.00%***	***272,576***	***100.00%***

Source: California Energy Commission's 2020 Total System Electric Generation

An updated summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below (8):

- California was the seventh-largest producer of crude oil among the 50 states in 2019, and, as of January 2020, it ranked third in oil refining capacity. Foreign suppliers, led by Saudi Arabia, Iraq, Ecuador, and Colombia, provided more than half of the crude oil refined in California in 2019.
- California is the largest consumer of both jet fuel and motor gasoline among the 50 states and accounted for 17% of the nation's jet fuel consumption and 11% of motor gasoline consumption in 2019. The state is the second-largest consumer of all petroleum products combined, accounting for 10% of the U.S. total. In 2018, California's energy consumption was the second highest among the states, but its per capita energy consumption was the fourth-lowest due in part to its mild climate and its energy efficiency programs.
- In 2019, California was the nation's top producer of electricity from solar, geothermal, and biomass energy and the state was second in the nation in conventional hydroelectric power generation.
- In 2019, California was the fourth largest electricity producer in the nation, but the state was also the nation's largest importer of electricity and received about 28% of its electricity supply from generating facilities outside of California, including imports from Mexico.

As indicated above, California is one of the nation's leading energy-producing states, and California's per capita energy use is among the nation's most efficient. Given the nature of the Project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the Project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the uses planned for the Project.

2.2 ELECTRICITY

The usage associated with electricity use were calculated using CalEEMod Version 2022.1. The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (San Onofre). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California Independent Service Operator (ISO) studies revealed the extent to which the South Coast Air Basin (SCAB) and the San Diego Air Basin (SDAB) region were vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (IEPR) after a collaborative process with other energy agencies, utilities, and air districts (9). Similarly, the subsequent 2021 IEPR's provides information and policy recommendations on advancing a clean, reliable, and affordable energy system.

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California ISO is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that enough power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities (10).

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, utilities file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Electricity is currently provided to the Project site by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. Based on SCE's 2018 Power Content Label Mix, SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers (11).

TABLE 2-2: SCE 2020 POWER CONTENT MIX

Energy Resources	2020 SCE Power Mix
Eligible Renewable	**30.9%**
Biomass & Waste	0.1%
Geothermal	5.5%
Eligible Hydroelectric	0.8%
Solar	15.1%
Wind	9.4%
Coal	**0.0%**
Large Hydroelectric	**3.3%**
Natural Gas	**15.2%**
Nuclear	**8.4%**
Other	**0.3%**
Unspecified Sources of power*	42.0%
Total	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources

2.3 NATURAL GAS

The following summary of natural gas customers and volumes, supplies, delivery of supplies, storage, service options, and operations is excerpted from information provided by the California Public Utilities Commission (CPUC).

> *"The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators: Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.*
>
> *California's natural gas utilities provide service to over 11 million gas meters. SoCalGas and PG&E provide service to about 5.9 million and 4.3 million customers, respectively, while SDG&E provides service to over 800, 000 customers. In 2018, California gas utilities forecasted that they would deliver about 4740 million cubic feet per day (MMcfd) of gas to their customers, on average, under normal weather conditions.*
>
> *The overwhelming majority of natural gas utility customers in California are residential and small commercials customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.*

A significant amount of gas (about 19%, or 1131 MMcfd, of the total forecasted California consumption in 2018) is also directly delivered to some California large volume consumers, without being transported over the regulated utility pipeline system. Those customers, referred to as "bypass" customers, take service directly from interstate pipelines or directly from California producers.

SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, i.e. they receive deliveries of gas from SoCalGas and in turn deliver that gas to their own customers. (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area.) Similarly, West Coast Gas, a small gas utility, is a wholesale customer of PG&E. Some other wholesale customers are municipalities like the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California gas utilities are Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Mojave Pipeline, and Tuscarora. Another pipeline, the North Baja - Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, and authorizes rates for that service, the California Public Utilities Commission may participate in FERC regulatory proceedings to represent the interests of California natural gas consumers.

The gas transported to California gas utilities via the interstate pipelines, as well as some of the California-produced gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipelines systems (commonly referred to as California's "backbone" pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered to the local transmission and distribution pipeline systems, or to natural gas storage fields. Some large volume noncore customers take natural gas delivery directly off the high-pressure backbone and local transmission pipeline systems, while core customers and other noncore customers take delivery off the utilities' distribution pipeline systems. The state's natural gas utilities operate over 100,000 miles of transmission and distribution pipelines, and thousands more miles of service lines.

Bypass customers take most of their deliveries directly off the Kern/Mojave pipeline system, but they also take a significant amount of gas from California production.

PG&E and SoCalGas own and operate several natural gas storage fields that are located within their service territories in northern and southern California, respectively. These storage fields, and four independently owned storage utilities - Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage - help meet peak seasonal and daily natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently. PG&E is a 25% owner of the Gill Ranch Storage field. These storage fields provide a significant amount of infrastructure capacity to help meet

California's natural gas requirements, and without these storage fields, California would need much more pipeline capacity in order to meet peak gas requirements.

Prior to the late 1980s, California regulated utilities provided virtually all natural gas services to all their customers. Since then, the Commission has gradually restructured the California gas industry in order to give customers more options while assuring regulatory protections for those customers that wish to, or are required to, continue receiving utility-provided services.

The option to purchase natural gas from independent suppliers is one of the results of this restructuring process. Although the regulated utilities procure natural gas supplies for most core customers, core customers have the option to purchase natural gas from independent natural gas marketers, called "core transport agents" (CTA). Contact information for core transport agents can be found on the utilities' web sites. Noncore customers, on the other hand, make natural gas supply arrangements directly with producers or with marketers.

Another option resulting from the restructuring process occurred in 1993, when the Commission removed the utilities' storage service responsibility for noncore customers, along with the cost of this service from noncore customers' transportation rates. The Commission also encouraged the development of independent storage fields, and in subsequent years, all the independent storage fields in California were established. Noncore customers and marketers may now take storage service from the utility or from an independent storage provider (if available), and pay for that service, or may opt to take no storage service at all. For core customers, the Commission assures that the utility has adequate storage capacity set aside to meet core requirements, and core customers pay for that service.

In a 1997 decision, the Commission adopted PG&E's "Gas Accord", which unbundled PG&E's backbone transmission costs from noncore transportation rates. This decision gave customers and marketers the opportunity to obtain pipeline capacity rights on PG&E's backbone transmission pipeline system, if desired, and pay for that service at rates authorized by the Commission. The Gas Accord also required PG&E to set aside a certain amount of backbone transmission capacity in order to deliver gas to its core customers. Subsequent Commission decisions modified and extended the initial terms of the Gas Accord. The "Gas Accord" framework is still in place today for PG&E's backbone and storage rates and services and is now simply referred to as PG&E Gas Transmission and Storage (GT&S).

In a 2006 decision, the Commission adopted a similar gas transmission framework for Southern California, called the "firm access rights" system. SoCalGas and SDG&E implemented the firm access rights (FAR) system in 2008, and it is now referred to as the backbone transmission system (BTS) framework. As under the PG&E backbone transmission system, SoCalGas backbone transmission costs are unbundled from noncore transportation rates. Noncore customers and marketers may obtain, and pay for, firm backbone transmission capacity at various receipt points on the SoCalGas system. A

certain amount of backbone transmission capacity is obtained for core customers to assure meeting their requirements.

Many if not most noncore customers now use a marketer to provide for several of the services formerly provided by the utility. That is, a noncore customer may simply arrange for a marketer to procure its supplies, and obtain any needed storage and backbone transmission capacity, in order to assure that it will receive its needed deliveries of natural gas supplies. Core customers still mainly rely on the utilities for procurement service, but they have the option to take procurement service from a CTA. Backbone transmission and storage capacity is either set aside or obtained for core customers in amounts to assure very high levels of service.

In order properly operate their natural gas transmission pipeline and storage systems, PG&E and SoCalGas must balance the amount of gas received into the pipeline system and delivered to customers or to storage fields. Some of these utilities' storage capacity is dedicated to this service, and under most circumstances, customers do not need to precisely match their deliveries with their consumption. However, when too much or too little gas is expected to be delivered into the utilities' systems, relative to the amount being consumed, the utilities require customers to more precisely match up their deliveries with their consumption. And, if customers do not meet certain delivery requirements, they could face financial penalties. The utilities do not profit from these financial penalties - the amounts are then returned to customers as a whole. If the utilities find that they are unable to deliver all the gas that is expected to be consumed, they may even call for a curtailment of some gas deliveries. These curtailments are typically required for just the largest, noncore customers. It has been many years since there has been a significant curtailment of core customers in California." (12)

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

Based on information provided by the Project applicant, no natural gas would be used as a result of the project, and as such use of natural gas is not considered in the analysis.

2.4 TRANSPORTATION ENERGY RESOURCES

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. The Department of Motor Vehicles (DMV) identified 35.8 million registered vehicles in California (13), and those vehicles consume an estimated 17.4 billion gallons of fuel each year[1]. Gasoline (and other vehicle fuels) are

[1] Fuel consumptions estimated utilizing information from EMFAC2021.

commercially provided commodities and would be available to the Project patrons and employees via commercial outlets.

California's on-road transportation system includes 394,383 land miles, more than 26.4 million passenger vehicles and light trucks, and almost 8.8 million medium- and heavy-duty vehicles (13). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. California is the second-largest consumer of petroleum products, after Texas, and accounts for 10% of the nation's total consumption. The state is the largest U.S. consumer of motor gasoline and jet fuel, and 85% of the petroleum consumed in California is used in the transportation sector (14).

California accounts for less than 1% of total U.S. natural gas reserves and production. As with crude oil, California's natural gas production has experienced a gradual decline since 1985. In 2019, about 37% of the natural gas delivered to consumers went to the state's industrial sector, and about 28% was delivered to the electric power sector. Natural gas fueled more than two-fifths of the state's utility-scale electricity generation in 2019. The residential sector, where two-thirds of California households use natural gas for home heating, accounted for 22% of natural gas deliveries. The commercial sector received 12% of the deliveries to end users and the transportation sector consumed the remaining 1% (14).

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3 REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. On the state level, the CPUC and the CEC are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

3.1 FEDERAL REGULATIONS

3.1.1 INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA)

ISTEA promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

3.1.2 THE TRANSPORTATION EQUITY ACT FOR THE 21ST CENTURY (TEA-21)

TEA-21 was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

3.2 CALIFORNIA REGULATIONS

3.2.1 INTEGRATED ENERGY POLICY REPORT (IEPR)

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301[a]). The CEC prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2021 IEPR was adopted February 22, 2022, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2021 IEPR provides

the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. Additionally, the 2021 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs (15).

3.2.2 State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

3.2.3 California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The 2019 Title 24 standards are applicable to building permit applications submitted on or after January 1, 2020. The 2019 Title 24 standards require solar PV systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting standards for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards would use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar PV systems, homes built under the 2019 standards would use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings would use approximately 30% less energy due to lighting upgrades compared to the prior code (16).

3.2.4 AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks). Although aimed at reducing GHG emissions, specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

3.2.5 CALIFORNIA'S RENEWABLES PORTFOLIO STANDARD (RPS)

First established in 2002 under Senate Bill (SB) 1078, California's Renewables Portfolio Standards (RPS) required retail sellers of electric services to increase procurement from eligible renewable resources to 20% of total retail sales by 2017 (17). The program was accelerated in 2015 with SB 350 which mandated a 50% RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. In 2018, SB 100 was signed into law, which increases the RPS to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045 (17).

3.2.6 CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS discussed above, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the CPUC, the CEC, and local publicly owned utilities.
- Reorganize the ISO to develop more regional electricity transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

3.3 CITY OF ONTARIO, 2022 CCAP UPDATE

Energy efficiency performance standards are provided in the City of Ontario, 2022 CCAP Update. Performance standards applicable to the Project are presented below:

TABLE 3-1: EXAMPLE CAP SCREENING TABLE MEASURES

Feature	Description	Assigned Point Values	Project Point Values
Reduction Measure PS E1: Residential Energy Efficiency			
Building Envelope			
Insulation	Enhanced Insulation (rigid wall insulation R-13; roof/attic: R-38)	15	15
Windows	Enhanced Window Insulation (0.32 U-Factor, 0.25 SHGC)	7	7
Cool Roof	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	12	12
Heating/Cooling	Modest duct insulation (R-6)	7	7

Feature	Description	Assigned Point Values	Project Point Values
Distribution System	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	12	12
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	9	9
Water Heaters	Very High Efficiency Water Heater (0.92 energy factor)	18	18
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	12	12
Reduction Measure PS W1: Residential Water Conservation			
Potable Water			
Showers	Water Efficient Showerheads (2.0 gpm)	3	3
Toilets	Water Efficient Toilets (1.5 gpm)	3	3
Faucets	Water Efficient Faucets	3	3
	Total Points Earned by Residential Project:		**101**

TABLE 3-2: EXAMPLE CAP SCREENING TABLE MEASURES (COMMERCIAL & INDUSTRIAL)

Feature	Description	Assigned Point Values	Project Point Values
Reduction Measure PS E3: Commercial/Industrial Energy Efficiency			
Building Envelope			
Insulation	Enhanced Insulation (rigid wall insulation R-13; roof/attic: R-38)	18	18
Windows	Enhanced Window Insulation (0.32 U-Factor, 0.25 SHGC)	8	8
Cool Roof	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	14	14
Heating/Cooling Distribution System	Modest duct insulation (R-6)	8	8
	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	14	14
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	12	12
Water Heaters	Very High Efficiency Water Heater (0.92 energy factor)	19	19
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	14	14
	Total Points Earned by Commercial/Industrial Project:		**107**

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4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

In compliance with Appendix G of the *State CEQA Guidelines* (1), this report analyzes the Project's anticipated energy use during construction and operations to determine if the Project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

In addition, Appendix F of the *State CEQA Guidelines* (18) states that the means of achieving the goal of energy conservation include the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

4.2 METHODOLOGY

Information from the CalEEMod Version 2022.1 outputs for the *Rich-Haven Specific Plan, 2022 Amendment Air Quality Impact Analysis* (Urban Crossroads, Inc.) (AQIA) (19) was utilized in this analysis, detailing Project-related construction equipment, transportation energy demands, and facility energy demands.

4.2.1 CALEEMOD

In May 2022, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources as well as energy usage (20). Accordingly, the latest version of CalEEMod has been used to determine the proposed Project's anticipated transportation and facility energy demands. Outputs from the annual construction and operational model runs are provided in Appendices 4.1 through 4.2.

4.2.2 EMISSION FACTORS MODEL

On May 2, 2022, the EPA approved the 2021 version of the EMissions FACtor model (EMFAC2021) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2021 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (21). This energy study utilizes the different fuel types for each vehicle class from the annual EMFAC2021 emission inventory in order to derive the average vehicle fuel economy which is then used to determine the estimated annual fuel consumption associated with vehicle usage during Project construction and operational activities. For purposes of

analysis, the 2022 through 2025 analysis years were utilized to determine the average vehicle fuel economy used throughout the duration of the Project.

4.2.3 CONSTRUCTION DURATION

Construction is expected to commence in January 2023 and will end in December 2026. The construction schedule utilized in the analysis, shown in Table 4-1, represents a "worst-case" analysis scenario. Should construction occur any time after the respective dates, impacts would be reduced since emission factors for construction decrease as time passes due to emission regulations becoming more stringent[2]. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (22).

TABLE 4-1: CONSTRUCTION DURATION

Phase	Construction Activity	Start Date	End Date	Days
Phase 1	Site Preparation	1/1/2023	4/30/2023	85
	Grading	5/1/2023	11/30/2023	154
	Building Construction	12/1/2023	12/31/2024	283
	Paving	9/1/2024	12/31/2024	87
	Architectural Coating	2/1/2024	12/31/2024	239
Phase 2	Demolition	1/1/2024	3/31/2024	65
	Site Preparation	4/1/2024	8/31/2024	110
	Grading	9/1/2024	4/30/2025	173
	Building Construction	5/1/2025	12/31/2026	436
	Paving	9/1/2026	12/31/2026	88
	Architectural Coating	6/1/2026	12/31/2026	154

4.2.4 CONSTRUCTION EQUIPMENT

Site specific construction fleet may vary due to specific project needs at the time of construction. A detailed summary of construction equipment assumptions by phase is provided at Table 4-2.

TABLE 4-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase	Construction Activity	Equipment	Amount	Hours Per Day
Phase 1	Site Preparation	Rubber Tired Dozers	9	8
		Crawler Tractors	12	8

[2] As shown in the CalEEMod User's Guide Version 2020.4.0, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

Phase	Construction Activity	Equipment	Amount	Hours Per Day
	Grading	Excavators	6	8
		Graders	3	8
		Rubber Tired Dozers	3	8
		Scrapers	6	8
		Crawler Tractors	6	8
	Building Construction	Cranes	3	8
		Forklifts	9	8
		Generator Sets	3	8
		Tractors/Loaders/Backhoes	9	8
		Welders	3	8
	Paving	Pavers	6	8
		Paving Equipment	6	8
		Rollers	6	8
	Architectural Coating	Air Compressors	3	8
Phase 2	Demolition	Concrete/Industrial Saws	3	8
		Excavators	9	8
		Rubber Tired Dozers	6	8
	Site Preparation	Rubber Tired Dozers	9	8
		Crawler Tractors	12	8
	Grading	Excavators	6	8
		Graders	3	8
		Rubber Tired Dozers	3	8
		Scrapers	6	8
		Crawler Tractors	6	8
	Building Construction	Cranes	3	8
		Forklifts	9	8
		Generator Sets	3	8
		Tractors/Loaders/Backhoes	9	8
		Welders	3	8
	Paving	Pavers	6	8
		Paving Equipment	6	8
		Rollers	6	8

Phase	Construction Activity	Equipment	Amount	Hours Per Day
	Architectural Coating	Air Compressors	3	8

4.3 CONSTRUCTION ENERGY DEMANDS

4.3.1 CONSTRUCTION POWER COST AND ELECTRICITY USAGE

The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed Project. The *2022 National Construction Estimator* identifies a typical power cost per 1,000 sf of construction per month of $2.41, which was used to calculate the Project's total construction power cost (23).

Based on information provided in the AQIA, construction activities are anticipated to occur over the course of 24 months for Phase 1 and 48 months for Phase 2 (19). Based on Table 4-3, the total power cost of the on-site electricity usage during the construction of the Project is estimated to be approximately $1,491,006.81.

TABLE 4-3: CONSTRUCTION POWER COST

Phase	Land Use	Power Cost (per 1,000 SF of building per month of construction)	Total Building Size (1,000 SF)	Construction Duration (months)	Total Project Construction Power Cost
1	Business Park	$2.41	316.725	24	$18,319.37
	High-Cube Cold Storage	$2.41	454.243	24	$26,273.42
	High-Cube Fulfillment	$2.41	1,404.417	24	$81,231.48
	High-Cube Transload	$2.41	591.763	24	$34,227.57
	Single Family Housing	$2.41	1,602.900	24	$92,711.74
	Multi-Family Housing	$2.41	3,486.340	24	$201,649.91
	Public Park	$2.41	56.628	24	$3,275.36
	Parking Lot	$2.41	2,526.480	24	$146,131.60
	Strip Retail	$2.41	7.500	24	$433.80
	Shopping Center	$2.41	162.137	24	$9,378.00
	High Turnover Restaurant	$2.41	32.427	24	$1,875.58
	Gasoline Service Station	$2.41	6.776	24	$391.92
	Fast Food Restaurant	$2.41	21.618	24	$1,250.39
2	Single Family Housing	$2.41	1,175.850	48	$136,022.33
	Multi-Family Housing	$2.41	2,120.000	48	$245,241.60
	Shopping Center	$2.41	525.990	48	$60,846.52
	High Turnover Restaurant	$2.41	105.198	48	$12,169.30
	Fast Food Restaurant	$2.41	70.132	48	$8,112.87

Phase	Land Use	Power Cost (per 1,000 SF of building per month of construction)	Total Building Size (1,000 SF)	Construction Duration (months)	Total Project Construction Power Cost
	Gasoline Service Station	$2.41	6.776	48	$783.85
	Public Park	$2.41	1,176.120	48	$136,053.56
	Parking Lot	$2.41	2,374.020	48	$274,626.63
TOTAL PROJECT CONSTRUCTION COST					***$1,491,006.81***

SCE's general service rate schedule was used to determine the Project's electrical usage. As of January 1, 2022, SCE's general service rate is $0.13 per kilowatt hours (kWh) of electricity for industrial services (24). As shown on Table 4-3, the total electricity usage from on-site Project construction related activities is estimated to be approximately 11,310,591 kWh.

TABLE 4-4: CONSTRUCTION ELECTRICITY USAGE

Phase	Land Use	Cost per kWh	Total Project Construction Electricity Usage (kWh)
1	Business Park	$0.13	139,078
	High-Cube Cold Storage	$0.13	199,464
	High-Cube Fulfillment	$0.13	616,698
	High-Cube Transload	$0.13	259,851
	Single Family Housing	$0.13	703,855
	Multi-Family Housing	$0.13	1,530,898
	Public Park	$0.13	24,866
	Parking Lot	$0.13	1,109,411
	Strip Retail	$0.13	3,293
	Shopping Center	$0.13	71,197
	High Turnover Restaurant	$0.13	14,239
	Fast Food Restaurant	$0.13	9,493
2	Single Family Housing	$0.13	1,032,663
	Multi-Family Housing	$0.13	1,861,840
	Shopping Center	$0.13	461,938
	High Turnover Restaurant	$0.13	92,388
	Fast Food Restaurant	$0.13	61,592
	Public Park	$0.13	1,032,900
	Parking Lot	$0.13	2,084,927
TOTAL PROJECT CONSTRUCTION ELECTRICTY USAGE (kWh)			***11,310,591***

4.3.2 CONSTRUCTION EQUIPMENT FUEL ESTIMATES

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4-5. Eight-hour daily use of all equipment is assumed. The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hour per gallon (hp-hr-gal.), obtained from CARB 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (25). For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the region[3]. As presented in Table 4-5, Project construction activities would consume an estimated 792,643 gallons of diesel fuel.

[3] Based on Appendix A of the CalEEMod User's Guide, Construction consists of several types of off-road equipment. Since the majority of the off-road construction equipment used for construction projects are diesel fueled, CalEEMod assumes all of the equipment operates on diesel fuel.

TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Activity/Duration	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Phase 1								
Site Preparation	85	Rubber Tired Dozers	367	9	8	0.4	10,570	48,563
		Crawler Tractors	87	12	8	0.43	3,591	16,501
Grading	154	Excavators	36	6	8	0.38	657	5,466
		Graders	148	3	8	0.41	1,456	12,123
		Rubber Tired Dozers	367	3	8	0.4	3,523	29,328
		Scrapers	423	6	8	0.48	9,746	81,128
		Crawler Tractors	87	6	8	0.43	1,796	14,948
Building Construction	283	Cranes	367	3	8	0.29	2,554	39,074
		Forklifts	82	9	8	0.2	1,181	18,063
		Generator Sets	14	3	8	0.74	249	3,804
		Tractors/Loaders/Backhoes	84	9	8	0.37	2,238	34,232
		Welders	46	3	8	0.45	497	7,600
Paving	87	Pavers	81	6	8	0.42	1,633	7,679
		Paving Equipment	89	6	8	0.36	1,538	7,232
		Rollers	36	6	8	0.38	657	3,088
Architectural Coating	239	Air Compressors	37	3	8	0.48	426	5,507
Phase 2								
Demolition	65	Concrete/Industrial Saws	367	3	8	0.73	6,430	22,591
		Excavators	87	9	8	0.38	2,380	8,363
		Rubber Tired Dozers	36	6	8	0.4	691	2,429
Site Preparation	110	Rubber Tired Dozers	367	9	8	0.4	10,570	62,846
		Crawler Tractors	87	12	8	0.43	3,591	21,354
Grading	173	Excavators	36	6	8	0.38	657	6,140

Activity/Duration	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
		Graders	148	3	8	0.41	1,456	13,619
		Rubber Tired Dozers	367	3	8	0.4	3,523	32,947
		Scrapers	423	6	8	0.48	9,746	91,138
		Crawler Tractors	87	6	8	0.43	1,796	16,792
Building Construction	436	Cranes	367	3	8	0.29	2,554	60,199
		Forkilifts	82	9	8	0.2	1,181	27,829
		Generator Sets	14	3	8	0.74	249	5,860
		Tractors/Loaders/Backhoes	84	9	8	0.37	2,238	52,739
		Welders	46	3	8	0.45	497	11,708
Paving	88	Pavers	81	6	8	0.42	1,633	7,768
		Paving Equipment	89	6	8	0.36	1,538	7,316
		Rollers	36	6	8	0.38	657	3,123
Architectural Coating	154	Air Compressors	37	3	8	0.48	426	3,548
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								***792,643***

Project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

4.3.3 ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, and vendors commuting to and from the site. The number of worker and vendor trips are presented below in Table 4-6.

TABLE 4-6: CONSTRUCTION TRIPS AND VMT

Phase	Construction Activity	Worker Trips Per Day	Vendor Trips Per Day
Phase 1	Mass Grading	83	114
	Blasting & Rock Handling	28	114
Phase 2	Remedial Grading	48	38
	Building Construction	1,902	352
	Architectural Coating	380	176
	Paving	30	24

4.3.4 CONSTRUCTION WORKER FUEL ESTIMATES

With respect to estimated VMT for the Project, the construction worker trips would generate an estimated 40,874,622 VMT during the 72 months of construction (19). Based on CalEEMod methodology, it is assumed that 50% of all vendor trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1[4]), and 25% are from light-duty-trucks (LDT2[5]). Data regarding Project related construction worker trips were based on CalEEMod defaults utilized within the AQIA.

Vehicle fuel efficiencies for LDA, LDT1, and LDT2 were estimated using information generated within the 2021 version of the EMFAC developed by CARB. EMFAC2021 is a mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (21). EMFAC2021 was run for the LDA, LDT1, and LDT2 vehicle class within the San Bernardino County sub-area for the 2023 through 2026 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

Table 4-7 provides the estimated annual fuel consumption from Project construction worker trips. Based on Table 4-7, it is estimated that 1,455,871 gallons of fuel will be consumed related to construction worker trips during full construction of the Project.

[4] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[5] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES

Year	Phase	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023	LDA							
	Phase 1	Site Preparation	85	27	18.5	41,671	30.68	1,358
		Grading	154	30	18.5	85,470	30.68	2,785
		Building Construction	21	1,937	18.5	752,525	30.68	24,525
	LDT1							
	Phase 1	Site Preparation	85	13	18.5	20,836	24.14	863
		Grading	154	15	18.5	42,735	24.14	1,770
		Building Construction	21	969	18.5	376,262	24.14	15,588
	LDT2							
	Phase 1	Site Preparation	85	13	18.5	20,836	23.82	875
		Grading	154	15	18.5	42,735	23.82	1,794
		Building Construction	21	969	18.5	376,262	23.82	15,797
2024	LDA							
	Phase 1	Building Construction	262	1,937	18.5	9,388,639	31.57	297,358
		Paving	87	23	18.5	36,214	31.57	1,147
		Architectural Coating	239	387	18.5	1,711,121	31.57	54,195
	Phase 2	Demolition	65	23	18.5	27,056	31.57	857
		Site Preparation	110	27	18.5	53,928	31.57	1,708
		Grading	87	30	18.5	48,285	31.57	1,529
	LDT1							
	Phase 1	Building Construction	262	969	18.5	4,694,320	24.59	190,888
		Paving	87	11	18.5	18,107	24.59	736
		Architectural Coating	239	194	18.5	855,560	24.59	34,790
	Phase 2	Demolition	65	11	18.5	13,528	24.59	550
		Site Preparation	110	13	18.5	26,964	24.59	1,096

Year	Phase	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
		Grading	87	15	18.5	24,143	24.59	982
	LDT2							
	Phase 1	Building Construction	262	969	18.5	4,694,320	24.51	191,559
		Paving	87	11	18.5	18,107	24.51	739
		Architectural Coating	239	194	18.5	855,560	24.51	34,912
	Phase 2	Demolition	65	11	18.5	13,528	24.51	552
		Site Preparation	110	13	18.5	26,964	24.51	1,100
		Grading	87	15	18.5	24,143	24.51	985
2025	LDA							
	Phase 2	Grading	86	30	18.5	47,730	32.57	1,466
		Building Construction	175	951	18.5	3,077,244	32.57	94,489
	LDT1							
	Phase 2	Grading	86	15	18.5	23,865	25.11	950
		Building Construction	175	475	18.5	1,538,622	25.11	61,265
	LDT2							
	Phase 2	Grading	86	15	18.5	23,865	25.24	946
		Building Construction	175	475	18.5	1,538,622	25.24	60,963
2026	LDA							
	Phase 2	Building Construction	261	951	18.5	4,589,489	33.47	137,104
		Paving	88	23	18.5	36,630	33.47	1,094
		Architectural Coating	154	190	18.5	541,310	33.47	16,171
	LDT1							
	Phase 2	Building Construction	261	475	18.5	2,294,745	25.64	89,483
		Paving	88	11	18.5	18,315	25.64	714
		Architectural Coating	154	95	18.5	270,655	25.64	10,554
	LDT2							
	Phase 2	Building Construction	261	475	18.5	2,294,745	25.93	88,488

Year	Phase	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
		Paving	88	11	18.5	18,315	25.93	706
		Architectural Coating	154	95	18.5	270,655	25.93	10,437
TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION								***1,455,871***

It should be noted that construction worker trips would represent a "single-event" gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose.

4.3.5 CONSTRUCTION VENDOR FUEL ESTIMATES

With respect to estimated VMT, the construction vendor trips (vehicles that deliver materials to the site during construction) would generate an estimated 2,296,976 VMT along area roadways for the Project over the duration of construction activity (19). It is assumed that 50% of all vendor trips are from medium-heavy duty trucks (MHDT) and 50% are from heavy-heavy duty trucks (HHDT). These assumptions are consistent with the CalEEMod defaults utilized within the within the AQIA (19). Vehicle fuel efficiencies for MHDTs and HHDTs were estimated using information generated within EMFAC2021. EMFAC2021 was run for the MHDT and HHDT vehicle classes within the San Bernardino County sub-area for the 2023 through 2027 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

Based on Table 4-8, it is estimated that 325,768 gallons of fuel will be consumed related to construction vendor and hauling trips (MHDTs and HHDTs) during full construction of the Project.

It should be noted that Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

TABLE 4-8: CONSTRUCTION VENDOR AND HAULING FUEL CONSUMPTION ESTIMATES

Year	Phase	Construction Activity	Duration (Days)	Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023	MHDT							
	Phase 1	Site Preparation	85	76	10.2	65,892	8.30	7,941
		Grading	154	138	10.2	215,985	8.30	26,031
		Building Construction	21	253	10.2	54,086	8.30	6,518
	HHDT (Vendor)							
	Phase 1	Site Preparation	85	76	10.2	65,892	5.94	11,091
		Grading	154	138	10.2	215,985	5.94	36,354
		Building Construction	21	253	10.2	54,086	5.94	9,104
2024	MHDT							
	Phase 1	Building Construction	262	76	10.2	203,102	8.34	24,349
	Phase 2	Demolition	65	17	10.2	10,940	8.34	1,312
		Site Preparation	110	28	10.2	30,855	8.34	3,699
		Grading	87	44	10.2	38,602	8.34	4,628
	HHDT (Vendor)							
	Phase 1	Building Construction	262	76	10.2	203,102	6.03	33,708
	Phase 2	Demolition	65	17	10.2	10,940	6.03	1,816
		Site Preparation	110	28	10.2	30,855	6.03	5,121
		Grading	87	44	10.2	38,602	6.03	6,407
	HHDT (Hauling)							
	Phase 2	Demolition	65	6	20	7,800	6.03	1,295
2025	MHDT							
	Phase 2	Grading	86	44	10.2	38,158	8.46	4,512
		Building Construction	175	110	10.2	195,458	8.46	23,110
	HHDT (Vendor)							
		Grading	86	44	10.2	38,158	6.13	6,225

Year	Phase	Construction Activity	Duration (Days)	Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
	Phase 2	Building Construction	175	110	10.2	195,458	6.13	31,886
2026	MHDT							
	Phase 2	Building Construction	261	110	10.2	291,511	8.59	33,947
	HHDT (Vendor)							
	Phase 2	Building Construction	261	110	10.2	291,511	6.24	46,715
TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION								***325,768***

4.3.6 CONSTRUCTION ENERGY EFFICIENCY/CONSERVATION MEASURES

Starting in 2014, CARB adopted the nation's first regulation aimed at cleaning up off-road construction equipment such as bulldozers, graders, and backhoes. These requirements ensure fleets gradually turnover the oldest and dirtiest equipment to newer, cleaner models and prevent fleets from adding older, dirtier equipment. As such, the equipment used for Project construction would conform to CARB regulations and California emissions standards. It should also be noted that there are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

Construction contractors would be required to comply with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additional construction-source energy efficiencies would occur due to required California regulations and best available control measures (BACM). For example, CCR Title 13, Motor Vehicles, section 2449(d)(2) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Section 2449(d)(2) requires medium and large fleets adopt a written idling policy informing operators that idling is limited to 5 consecutive minutes or less. Equipment rental agreements must also inform renters/lessees of this idling restriction. In this manner, construction equipment operators are required to be informed that engines are to be turned off at or prior to five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by local building officials, and/or in response to citizen complaints.

A full analysis related to the energy needed to form construction materials is not included in this analysis due to a lack of detailed Project-specific information on construction materials. At this time, an analysis of the energy needed to create Project-related construction materials would be extremely speculative and thus has not been prepared.

In general, the construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing and refinement. Use of materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

4.4 OPERATIONAL ENERGY DEMANDS

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by passenger car and truck vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

4.4.1 TRANSPORTATION ENERGY DEMANDS

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. The VMT per vehicle class can be determined by evaluated in the vehicle fleet mix and the total VMT.

As with worker and vendors trips, operational vehicle fuel efficiencies were estimated using information generated within EMFAC2021 developed by CARB (21). EMFAC2021 was run for the San Bernardino County (SC) area for the 2027 calendar year. Data from EMFAC2021 is shown in Appendix 4.3.

As summarized on Table 4-9 the Project will result in an annual VMT of 224,605,642 and an estimated annual fuel consumption of 9,921,947 gallons of fuel.

TABLE 4-9: TOTAL PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION (ALL VEHICLES)

Vehicle Type	Average Vehicle Fuel Economy (mpg)	Annual VMT	Estimated Annual Fuel Consumption (gallons)
LDA	34.38	106,362,791	3,094,165
LDT1	26.20	8,201,434	313,071
LDT2	26.60	45,329,084	1,704,384
MDV	21.67	32,665,421	1,507,451
LHDT1	17.03	7,453,794	437,569
LHDT2	15.90	2,041,510	128,379
MHDT	8.73	5,248,975	600,929
HHDT	6.37	11,644,172	1,828,506
OBUS	6.50	117,730	18,113
UBUS	5.55	60,528	10,904
MCY	42.45	4,447,249	104,772
SBUS	6.49	212,773	32,771
MH	5.82	820,181	140,935
TOTAL (ALL VEHICLES)		***224,605,642***	***9,921,947***

4.4.2 FACILITY ENERGY DEMANDS

Project building operations activities would result in the consumption of electricity and natural gas. Natural gas would be supplied to the Project by SoCal Gas and electricity would be supplied by SCE. Annual natural gas and electricity demands of the Project are summarized in Table 4-10.

TABLE 4-10: PROJECT ANNUAL ENERGY DEMAND SUMMARY

Electricity Demand	kWh/year	kBtu/year
Business Park	5,527,449	8,690,939
High-Cube Cold Storage	9,945,872	11,966,710
High-Cube Fulfillment/High-Cube Transload	9,219,763	37,948,738
Single Family Housing	10,843,711	44,587,845
Multi-Family Housing	25,644,063	99,656,909
Public Park	0	0
Parking Lot	4,292,838	0
Strip Retail	72,963	44,216
Shopping Center	6,694,329	4,056,846
High Turnover Restaurant	4,826,050	15,726,527
Fast Food Restaurant	3,217,366	10,484,351
Gasoline Service Station	129,256	581,192
TOTAL DEMAND	***80,413,660***	***233,744,273***

4.4.3 OPERATIONAL ENERGY EFFICIENCY/CONSERVATION MEASURES

Energy efficiency/energy conservation attributes of the Project would be complemented by increasingly stringent state and federal regulatory actions addressing vehicle fuel economies and vehicle emissions standards; and enhanced building/utilities energy efficiencies mandated under California building codes (e.g., Title 24, California Green Building Standards Code).

ENHANCED VEHICLE FUEL EFFICIENCIES

Project annual fuel consumption estimates presented previously in Table 4-9 represent likely potential maximums that would occur for the Project. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands.

4.5 SUMMARY

4.5.1 CONSTRUCTION ENERGY DEMANDS

The estimated power cost of on-site electricity usage during the construction of the Project is assumed to be approximately $1,491,006.81. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project build-out, is calculated to be approximately 11,310,591 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 792,643 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(2) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. BACMs inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by local building officials, and/or in response to citizen complaints.

Construction worker trips for full construction of the Project would result in the estimated fuel consumption of 1,455,871 gallons of fuel. Additionally, fuel consumption from construction vendor and hauling trips (MHDTs and HHDTs) would total approximately 325,768 gallons. Diesel fuel would be supplied by regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved using bulk purchases, transport and use of construction materials. The 2021 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements (15). As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

4.5.2 OPERATIONAL ENERGY DEMANDS

TRANSPORTATION ENERGY DEMANDS

Annual vehicular trips and related VMT generated by the operation of the Project would result in an estimated 9,921,947 gallons of fuel.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other industrial uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Ed., 2021); and CalEEMod. As such, Project operations would not result in excessive and wasteful vehicle trips and VMT, nor excess and wasteful vehicle energy consumption compared to other industrial land uses.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building Standards Code and County requirements, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

FACILITY ENERGY DEMANDS

Project facility operational energy demands are estimated at: 81,413,660 kWh/year of electricity and 233,744,273 kBtu/year of natural gas. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other industrial land use projects of similar scale and configuration.

Lastly, the Project would comply with the applicable Title 24 standards. Compliance itself with applicable Title 24 standards would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary.

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5 CONCLUSIONS

5.1 ENERGY IMPACT 1

Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

As supported by the preceding analyses, Project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California.

5.2 ENERGY IMPACT 2

Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The Project's consistency with the applicable state and local plans is discussed below.

CONSISTENCY WITH ISTEA

Transportation and access to the Project site is provided by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because SCAG is not planning for intermodal facilities on or through the Project site.

CONSISTENCY WITH TEA-21

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.

CONSISTENCY WITH IEPR

Electricity would be provided to the Project by SCE. SCE's *Clean Power and Electrification Pathway* (CPEP) white paper builds on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2021 IEPR.

Additionally, the Project will comply with the applicable Title 24 standards which would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary. As such, development of the proposed Project would support the goals presented in the 2020 IEPR.

CONSISTENCY WITH STATE OF CALIFORNIA ENERGY PLAN

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access and takes advantage of existing infrastructure systems. The Project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.

CONSISTENCY WITH CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

The 2022 version of Title 24 was adopted by the California Energy Commission (CEC) and will become effective on January 1, 2023. It should be noted that the analysis herein assumes compliance with the 2022 Title 24 Standards. The Project would not interfere with implementation of Title 24.

CONSISTENCY WITH AB 1493

AB 1493 is not applicable to the Project as it is a statewide measure establishing vehicle emissions standards. No feature of the Project would interfere with implementation of the requirements under AB 1493.

CONSISTENCY WITH RPS

California's Renewable Portfolio Standard is not applicable to the Project as it is a statewide measure that establishes a renewable energy mix. No feature of the Project would interfere with implementation of the requirements under RPS.

CONSISTENCY WITH SB 350

The proposed Project would use energy from SCE, which have committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. No feature of the Project would interfere with implementation of SB 350. Additionally, the Project would be designed and constructed to implement the energy efficiency measures for new industrial developments and would include several measures designed to reduce energy consumption.

As shown above, the Project would not conflict with any of the state or local plans. As such, a less than significant impact is expected.

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7 CERTIFICATIONS

The contents of this energy analysis report represent an accurate depiction of the environmental impacts associated with the proposed Rich-Haven Specific Plan, 2022 Amendment. The information contained in this energy analysis report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

Haseeb Qureshi
Principal
URBAN CROSSROADS, INC.
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
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APPENDIX 4.1:

CALEEMOD ANNUAL CONSTRUCTION EMISSIONS MODEL OUTPUTS

14822 Rich Haven Ph1 Construction Mitigated Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Construction Mitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01192837529811, -117.57074736445445
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.8	70.1	97.7	491	0.25	0.98	65.7	66.6	0.94	15.6	16.5	—	96,362	96,362	4.59	4.79	314	98,220

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	29.4	68.6	102	394	0.25	0.98	65.7	66.6	0.94	15.6	16.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	20.2	45.0	62.5	273	0.16	0.57	45.5	46.1	0.55	10.8	11.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.69	8.21	11.4	49.8	0.03	0.10	8.31	8.41	0.10	1.97	2.07	—	10,345	10,345	0.53	0.56	15.8	10,541

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.80	3.03	70.4	120	0.25	0.68	19.0	19.4	0.66	8.58	8.96	—	29,743	29,743	1.59	1.48	27.8	30,251
2024	30.8	70.1	97.7	491	0.24	0.98	65.7	66.6	0.94	15.6	16.5	—	96,362	96,362	4.59	4.79	314	98,220
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	25.2	21.7	74.5	329	0.25	0.68	55.0	55.6	0.66	13.1	13.6	—	76,040	76,040	4.18	4.36	7.50	77,450
2024	29.4	68.6	102	394	0.24	0.98	65.7	66.6	0.94	15.6	16.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.78	3.14	46.9	93.5	0.16	0.41	12.4	12.8	0.40	4.37	4.77	—	22,333	22,333	1.18	1.09	14.3	22,702
2024	20.2	45.0	62.5	273	0.15	0.57	45.5	46.1	0.55	10.8	11.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.69	0.57	8.56	17.1	0.03	0.07	2.26	2.34	0.07	0.80	0.87	—	3,698	3,698	0.20	0.18	2.38	3

2024	3.69	8.21	11.4	49.8	0.03	0.10	8.31	8.41	0.10	1.97	2.07	—	10,345	10,345	0.53	0.56	15.8	10,541

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.47	0.47	11.0	20.9	0.04	0.07	—	0.07	0.07	—	0.07	—	3,863	3,863	0.16	0.03	—	3,877
Dust From Material Movement	—	—	—	—	—	—	3.96	3.96	—	1.88	1.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	2.00	3.82	0.01	0.01	—	0.01	0.01	—	0.01	—	640	640	0.03	0.01	—	642
Dust From Material Movement	—	—	—	—	—	—	0.72	0.72	—	0.34	0.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.28	4.86	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	771	771	0.03	0.03	3.31	783
Vendor	0.54	0.14	5.72	3.08	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,817	4,817	0.40	0.71	13.3	5,052
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.32	3.65	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	707	707	0.03	0.03	0.09	715
Vendor	0.53	0.13	5.94	3.13	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,819	4,819	0.40	0.71	0.35	5,042
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.90	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	167	167	0.01	0.01	0.33	169

Vendor	0.13	0.03	1.39	0.72	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	1,122	1,122	0.09	0.17	1.34	1,175
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	27.6	27.6	< 0.005	< 0.005	0.06	28.0
Vendor	0.02	0.01	0.25	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	186	186	0.02	0.03	0.22	195
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	1.04	25.2	45.8	0.08	0.23	—	0.23	0.23	—	0.23	—	8,500	8,500	0.34	0.07	—	8,529
Dust From Material Movement	—	—	—	—	—	—	3.38	3.38	—	1.24	1.24	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	4.60	8.36	0.01	0.04	—	0.04	0.04	—	0.04	—	1,407	1,407	0.06	0.01	—	1,412
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.32	5.55	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	881	881	0.04	0.03	3.78	895
Vendor	0.98	0.24	10.3	5.58	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,715	8,715	0.73	1.29	24.1	9,140
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.37	4.18	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	808	808	0.04	0.03	0.10	818
Vendor	0.97	0.23	10.7	5.66	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,719	8,719	0.73	1.29	0.63	9,122

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.86	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	346	346	0.02	0.01	0.69	350
Vendor	0.41	0.10	4.56	2.37	0.03	0.05	0.21	0.26	0.05	0.08	0.13	—	3,678	3,678	0.31	0.54	4.40	3,851
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.34	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	57.2	57.2	< 0.005	< 0.005	0.11	58.0
Vendor	0.07	0.02	0.83	0.43	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	609	609	0.05	0.09	0.73	638
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.9	48.6	0.08	0.38	—	0.38	0.36	—	0.36	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	1.87	2.95	< 0.005	0.02	—	0.02	0.02	—	0.02	—	479	479	0.02	< 0.005	—	480
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.34	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	79.2	79.2	< 0.005	< 0.005	—	79.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.0	19.9	23.9	270	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	52,139	52,139	2.52	1.92	6.35	52,781
Vendor	1.77	0.42	19.7	10.4	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	16,011	16,011	1.34	2.37	1.15	16,752
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.33	1.20	1.45	17.3	0.00	0.00	0.19	0.19	0.00	0.00	0.00	—	3,208	3,208	0.15	0.12	6.41	3,253
Vendor	0.11	0.03	1.21	0.63	0.01	0.01	0.06	0.07	0.01	0.02	0.03	—	971	971	0.08	0.14	1.16	1,017
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.22	0.27	3.16	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	531	531	0.03	0.02	1.06	539
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	161	161	0.01	0.02	0.19	168
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.96	22.1	34.8	0.05	0.27	—	0.27	0.25	—	0.25	—	5,652	5,652	0.23	0.05	—	5,671
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.17	4.03	6.35	0.01	0.05	—	0.05	0.05	—	0.05	—	936	936	0.04	0.01	—	939
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.2	20.3	18.8	328	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	55,768	55,768	2.35	1.92	223	56,622
Vendor	1.68	0.45	18.2	9.74	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,833	15,833	1.22	2.36	44.2	16,611
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	21.1	19.1	22.1	248	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	51,115	51,115	2.43	1.92	5.78	51,755
Vendor	1.65	0.42	18.9	9.88	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,840	15,840	1.22	2.36	1.14	16,575
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	15.0	13.5	15.8	186	0.00	0.00	2.26	2.26	0.00	0.00	0.00	—	37,129	37,129	1.74	1.38	68.9	37,652
Vendor	1.19	0.31	13.6	7.04	0.08	0.16	0.65	0.81	0.16	0.24	0.41	—	11,342	11,342	0.87	1.69	13.6	11,882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.73	2.47	2.89	34.0	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,147	6,147	0.29	0.23	11.4	6,234
Vendor	0.22	0.06	2.49	1.28	0.01	0.03	0.12	0.15	0.03	0.04	0.07	—	1,878	1,878	0.14	0.28	2.25	1,967
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	5.15	7.58	0.01	0.06	—	0.06	0.06	—	0.06	—	1,081	1,081	0.04	0.01	—	1,085
Paving	—	0.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.94	1.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	179	179	0.01	< 0.005	—	180
Paving	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.22	3.81	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	648	648	0.03	0.02	2.59	658
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.72	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	144	144	0.01	0.01	0.27	146
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.8	23.8	< 0.005	< 0.005	0.04	24.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	41.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536

Architect Coatings	—	41.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	2.80	2.52	< 0.005	0.08	—	0.08	0.07	—	0.07	—	350	350	0.01	< 0.005	—	351
Architectural Coatings	—	27.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.51	0.46	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.9	57.9	< 0.005	< 0.005	—	58.1
Architectural Coatings	—	4.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.44	4.06	3.76	65.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	11,154	11,154	0.47	0.38	44.6	11,324
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.22	3.82	4.42	49.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	10,223	10,223	0.49	0.38	1.16	10,351
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.74	2.48	2.90	34.1	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,789	6,789	0.32	0.25	12.6	6,884
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.50	0.45	0.53	6.22	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,124	1,124	0.05	0.04	2.09	1,140
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2023	4/30/2023	5.00	85.0	—
Grading	Grading	5/1/2023	11/30/2023	5.00	154	—

Building Construction	Building Construction	12/1/2023	12/31/2024	5.00	283	—
Paving	Paving	9/1/2024	12/31/2024	5.00	87.0	—
Architectural Coating	Architectural Coating	2/1/2024	12/31/2024	5.00	239	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	9.00	8.00	367	0.40
Grading	Excavators	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Interim	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Tier 4 Interim	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	152	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	275	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3,874	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	505	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	775	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	10,305,711	3,435,237	4,496,411	1,498,804	151,589

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	1,700	0.00	—
Grading	—	—	3,080	0.00	—
Paving	0.00	0.00	0.00	0.00	67.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Office Park	0.00	0%
Refrigerated Warehouse-No Rail	0.00	0%
Unrefrigerated Warehouse-No Rail	0.00	0%

Condo/Townhouse	—	0%
Single Family Housing	9.06	0%
Strip Mall	0.00	0%
Gasoline/Service Station	0.00	0%
Regional Shopping Center	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Parking Lot	58.0	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5772

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

5773

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

5776

Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

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Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site plan
Construction: Construction Phases	Schedule adjusted based on data from the Project team.
Construction: Off-Road Equipment	Equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Construction Mitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01284450351814, -117.57158813842331
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.0	49.3	73.1	256	0.21	0.85	32.3	33.1	0.81	8.35	8.69	—	51,709	51,709	2.35	2.23	127	52,561
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.4	48.6	74.4	215	0.21	0.85	32.3	33.1	0.81	7.65	8.45	—	49,051	49,051	2.00	2.28	3.30	49,771
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.60	22.7	41.8	134	0.12	0.45	21.0	21.5	0.43	4.98	5.41	—	31,329	31,329	1.21	1.55	36.6	31,850

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Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	4.15	7.62	24.5	0.02	0.08	3.84	3.92	0.08	0.91	0.99	—	5,187	5,187	0.20	0.26	6.06	5,273

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.09	2.85	63.2	115	0.21	0.59	18.1	18.5	0.58	8.35	8.69	—	23,736	23,736	1.06	0.60	11.1	23,953
2025	11.7	10.2	63.0	201	0.21	0.59	26.7	27.2	0.58	6.34	6.79	—	41,436	41,436	1.96	2.03	118	42,209
2026	14.0	49.3	73.1	256	0.17	0.85	32.3	33.1	0.81	7.65	8.45	—	51,709	51,709	2.35	2.23	127	52,561
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.07	2.83	63.3	114	0.21	0.63	9.53	10.1	0.59	3.33	3.91	—	23,665	23,665	1.07	0.60	0.29	23,871
2025	11.2	9.69	63.1	164	0.21	0.59	26.7	27.2	0.58	6.34	6.79	—	39,212	39,212	2.00	2.03	3.07	39,870
2026	13.4	48.6	74.4	215	0.17	0.85	32.3	33.1	0.81	7.65	8.45	—	49,051	49,051	1.46	2.28	3.30	49,771
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.78	1.64	36.7	66.2	0.12	0.35	7.96	8.31	0.34	3.36	3.70	—	13,571	13,571	0.61	0.33	2.63	13,686
2025	6.03	5.24	38.2	108	0.11	0.36	14.9	15.2	0.35	3.78	4.13	—	24,512	24,512	1.21	1.11	25.6	24,900
2026	8.60	22.7	41.8	134	0.10	0.45	21.0	21.5	0.43	4.98	5.41	—	31,329	31,329	0.92	1.55	36.6	31,850
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.30	6.71	12.1	0.02	0.06	1.45	1.52	0.06	0.61	0.68	—	2,247	2,247	0.10	0.05	0.44	2,266
2025	1.10	0.96	6.97	19.8	0.02	0.07	2.72	2.78	0.06	0.69	0.75	—	4,058	4,058	0.20	0.18	4.24	4,122
2026	1.57	4.15	7.62	24.5	0.02	0.08	3.84	3.92	0.08	0.91	0.99	—	5,187	5,187	0.15	0.26	6.06	5,273

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.24	1.24	35.7	54.5	0.10	0.60	—	0.60	0.57	—	0.57	—	10,276	10,276	0.42	0.08	—	10,311
Demolition	—	—	—	—	—	—	0.30	0.30	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.22	6.36	9.71	0.02	0.11	—	0.11	0.10	—	0.10	—	1,830	1,830	0.07	0.01	—	1,836
Demolition	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.16	1.77	< 0.005	0.02	—	0.02	0.02	—	0.02	—	303	303	0.01	< 0.005	—	304
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601
Vendor	0.11	0.03	1.24	0.65	0.01	0.01	0.06	0.07	0.01	0.02	0.04	—	1,035	1,035	0.08	0.15	0.07	1,083
Hauling	0.05	0.01	0.48	0.26	< 0.005	0.01	0.03	0.04	< 0.005	0.01	0.01	—	374	374	0.04	0.06	0.02	393
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.54	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	107	107	0.01	< 0.005	0.20	109
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	184	184	0.01	0.03	0.22	193
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	66.6	66.6	0.01	0.01	0.06	70.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.8	17.8	< 0.005	< 0.005	0.03	18.0
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	0.04	32.0
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.6

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,588	16,588	0.67	0.13	—	16,644
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.61	14.2	27.1	0.05	0.09	—	0.09	0.09	—	0.09	—	4,999	4,999	0.20	0.04	—	5,016
Dust From Material Movement	—	—	—	—	—	—	5.12	5.12	—	2.43	2.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.59	4.94	0.01	0.02	—	0.02	0.02	—	0.02	—	828	828	0.03	0.01	—	830
Dust From Material Movement	—	—	—	—	—	—	0.93	0.93	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.25	4.44	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	756	756	0.03	0.03	3.02	767

Vendor	0.18	0.05	1.98	1.06	0.01	0.02	0.10	0.12	0.02	0.04	0.06	—	1,724	1,724	0.13	0.26	4.81	1,809
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.06	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	212	212	0.01	0.01	0.39	215
Vendor	0.05	0.01	0.62	0.32	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	520	520	0.04	0.08	0.62	544
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.19	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	35.1	35.1	< 0.005	< 0.005	0.07	35.5
Vendor	0.01	< 0.005	0.11	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	86.1	86.1	0.01	0.01	0.10	90.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5790

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.59	14.3	25.9	0.04	0.13	—	0.13	0.13	—	0.13	—	4,810	4,810	0.20	0.04	—	4,826
Dust From Material Movement	—	—	—	—	—	—	1.91	1.91	—	0.70	0.70	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.60	4.73	0.01	0.02	—	0.02	0.02	—	0.02	—	796	796	0.03	0.01	—	799
Dust From Material Movement	—	—	—	—	—	—	0.35	0.35	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.29	5.08	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	864	864	0.04	0.03	3.45	877

Vendor	0.29	0.08	3.13	1.68	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,728	2,728	0.21	0.41	7.61	2,862
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.30	0.34	3.84	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	792	792	0.04	0.03	0.09	802
Vendor	0.28	0.07	3.26	1.70	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,729	2,729	0.21	0.41	0.20	2,856
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.96	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	192	192	0.01	0.01	0.36	194
Vendor	0.07	0.02	0.78	0.40	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	651	651	0.05	0.10	0.78	682
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	31.7	31.7	< 0.005	< 0.005	0.06	32.2
Vendor	0.01	< 0.005	0.14	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	108	108	0.01	0.02	0.13	113
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215

Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.58	14.0	25.5	0.04	0.13	—	0.13	0.13	—	0.13	—	4,731	4,731	0.19	0.04	—	4,747
Dust From Material Movement	—	—	—	—	—	—	1.88	1.88	—	0.69	0.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.56	4.65	0.01	0.02	—	0.02	0.02	—	0.02	—	783	783	0.03	0.01	—	786
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.28	0.26	4.67	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	845	845	0.04	0.03	3.14	858
Vendor	0.27	0.08	2.98	1.61	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,684	2,684	0.21	0.41	7.55	2,818
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.29	3.52	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	775	775	0.04	0.03	0.08	785
Vendor	0.26	0.07	3.11	1.62	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,685	2,685	0.21	0.41	0.20	2,812
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.87	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	185	185	0.01	0.01	0.32	187
Vendor	0.06	0.02	0.74	0.38	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	630	630	0.05	0.10	0.77	661
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	30.6	30.6	< 0.005	< 0.005	0.05	31.0
Vendor	0.01	< 0.005	0.13	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	104	104	0.01	0.02	0.13	109
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.64	14.8	23.3	0.04	0.18	—	0.18	0.17	—	0.17	—	3,783	3,783	0.15	0.03	—	3,796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.70	4.25	0.01	0.03	—	0.03	0.03	—	0.03	—	626	626	0.03	0.01	—	629
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.66	8.72	8.36	148	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,789	26,789	1.11	0.94	99.4	27,197
Vendor	0.67	0.19	7.50	4.06	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,756	6,756	0.52	1.02	19.0	7,093
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.17	9.22	112	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,561	24,561	1.15	0.94	2.57	24,873

Vendor	0.66	0.18	7.84	4.07	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,760	6,760	0.52	1.02	0.49	7,078
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.33	3.86	4.79	56.5	0.00	0.00	0.74	0.74	0.00	0.00	0.00	—	11,942	11,942	0.55	0.45	20.6	12,111
Vendor	0.32	0.09	3.78	1.93	0.02	0.05	0.19	0.24	0.05	0.07	0.12	—	3,240	3,240	0.25	0.49	3.95	3,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.70	0.87	10.3	0.00	0.00	0.14	0.14	0.00	0.00	0.00	—	1,977	1,977	0.09	0.07	3.41	2,005
Vendor	0.06	0.02	0.69	0.35	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	536	536	0.04	0.08	0.65	562
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5796

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.95	22.0	34.7	0.05	0.26	—	0.26	0.25	—	0.25	—	5,635	5,635	0.23	0.05	—	5,655
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.17	4.02	6.33	0.01	0.05	—	0.05	0.05	—	0.05	—	933	933	0.04	0.01	—	936
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.22	7.50	137	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,242	26,242	1.11	0.90	89.8	26,628
Vendor	0.67	0.14	7.18	3.89	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,643	6,643	0.47	1.02	17.5	6,977
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	8.61	7.67	8.36	103	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,066	24,066	0.38	0.94	2.33	24,359
Vendor	0.66	0.13	7.47	3.95	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,647	6,647	0.47	1.02	0.45	6,964
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.15	5.48	6.53	77.7	0.00	0.00	1.11	1.11	0.00	0.00	0.00	—	17,431	17,431	0.27	0.67	27.7	17,666
Vendor	0.47	0.09	5.37	2.80	0.04	0.07	0.28	0.35	0.07	0.11	0.18	—	4,746	4,746	0.34	0.73	5.38	4,978
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.12	1.00	1.19	14.2	0.00	0.00	0.20	0.20	0.00	0.00	0.00	—	2,886	2,886	0.04	0.11	4.59	2,925

Vendor	0.09	0.02	0.98	0.51	0.01	0.01	0.05	0.06	0.01	0.02	0.03	—	786	786	0.06	0.12	0.89	824
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	5.21	7.67	0.01	0.06	—	0.06	0.06	—	0.06	—	1,093	1,093	0.04	0.01	—	1,096
Paving	—	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.95	1.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	181	181	0.01	< 0.005	—	182
Paving	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.19	0.18	3.24	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	621	621	0.03	0.02	2.13	630
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.20	2.45	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	570	570	0.01	0.02	0.06	577
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.62	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	139	139	< 0.005	0.01	0.22	141
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.1	23.1	< 0.005	< 0.005	0.04	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	35.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	35.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.80	1.63	< 0.005	0.05	—	0.05	0.05	—	0.05	—	225	225	0.01	< 0.005	—	226
Architectural Coatings	—	14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.33	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.3	37.3	< 0.005	< 0.005	—	37.4

Architect Coatings	—	2.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.64	1.50	27.4	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	5,248	5,248	0.22	0.18	18.0	5,326
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.72	1.53	1.67	20.7	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	4,813	4,813	0.08	0.19	0.47	4,872
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.65	0.77	9.18	0.00	0.00	0.13	0.13	0.00	0.00	0.00	—	2,059	2,059	0.03	0.08	3.27	2,087
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.14	1.68	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	341	341	0.01	0.01	0.54	346
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

5801

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2024	3/31/2024	5.00	65.0	—
Site Preparation	Site Preparation	4/1/2024	8/31/2024	5.00	110	—
Grading	Grading	9/1/2024	4/30/2025	5.00	173	—
Building Construction	Building Construction	5/1/2025	12/31/2026	5.00	436	—
Paving	Paving	9/1/2026	12/31/2026	5.00	88.0	—
Architectural Coating	Architectural Coating	6/1/2026	12/31/2026	5.00	154	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	3.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	9.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	6.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	9.00	8.00	367	0.40

Grading	Excavators	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Interim	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Tier 4 Interim	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	45.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	33.0	10.2	HHDT,MHDT
Demolition	Hauling	5.31	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2

Site Preparation	Vendor	55.0	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	87.0	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,901	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	219	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	380	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	6,674,096	2,224,699	1,062,144	354,048	142,363

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	30,000	—
Site Preparation	—	—	2,200	0.00	—
Grading	—	—	3,460	0.00	—
Paving	0.00	0.00	0.00	0.00	61.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	6.64	0%
Condo/Townhouse	—	0%
City Park	0.00	0%
Regional Shopping Center	0.00	0%

High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Gasoline/Service Station	0.00	0%
Parking Lot	54.5	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

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7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859

Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—

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Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

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No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site area
Construction: Construction Phases	Construction schedule based on info from the Project team
Construction: Off-Road Equipment	Construction equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings.

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APPENDIX 4.2:

CALEEMOD OPERATIONS EMISSIONS MODEL OUTPUTS

14822 Rich Haven Ph1 Ops 2027 Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Ops 2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.012654365759644, -117.57100716437458
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
User Defined Industrial	2,767	User Defined Unit	0.00	0.00	0.00	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	289	446	348	1,925	4.95	11.8	136	148	11.7	25.2	36.9	5,170	629,697	634,867	557	36.0	1,918	661,438
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	230	389	360	1,357	4.71	11.6	136	148	11.4	25.2	36.5	5,170	606,339	611,509	558	36.3	620	636,882
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	201	367	260	1,265	3.40	6.64	100	107	6.54	18.7	25.2	5,170	437,786	442,956	551	30.6	1,016	466,884
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	36.7	66.9	47.4	231	0.62	1.21	18.3	19.5	1.19	3.41	4.60	856	72,480	73,336	91.3	5.07	168	77,298

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	232	208	247	1,514	4.31	3.76	136	140	3.54	25.2	28.7	—	450,131	450,131	25.2	31.0	1,332	461,322
Area	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.44	—	74,904
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	289	446	348	1,925	4.95	11.8	136	148	11.7	25.2	36.9	5,170	629,697	634,867	557	36.0	1,918	661,438
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	218	194	262	1,308	4.09	3.76	136	140	3.55	25.2	28.7	—	427,933	427,933	26.1	31.5	34.6	438,017

Area	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	230	389	360	1,357	4.71	11.6	136	148	11.4	25.2	36.5	5,170	606,339	611,509	558	36.3	620	636,882
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	165	145	214	990	3.12	3.00	100	103	2.83	18.7	21.5	—	327,123	327,123	20.6	25.8	430	335,770
Area	31.7	219	6.31	250	0.04	0.50	—	0.50	0.56	—	0.56	0.00	5,834	5,834	0.13	0.22	—	5,902
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	201	367	260	1,265	3.40	6.64	100	107	6.54	18.7	25.2	5,170	437,786	442,956	551	30.6	1,016	466,884
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.0	26.5	39.0	181	0.57	0.55	18.3	18.8	0.52	3.41	3.92	—	54,159	54,159	3.41	4.28	71.3	55,591
Area	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.04	—	977
Energy	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	16,437	16,437	1.51	0.11	—	16,508
Water	—	—	—	—	—	—	—	—	—	—	—	261	918	1,180	26.9	0.65	—	2,045
Waste	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9
Total	36.7	66.9	47.4	231	0.62	1.21	18.3	19.5	1.19	3.41	4.60	856	72,480	73,336	91.3	5.07	168	77,298

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	3.09	2.89	1.27	25.1	0.05	0.02	0.26	0.28	0.02	0.08	0.10	—	5,338	5,338	0.21	0.14	15.6	5,401
Refrigerated Warehouse-No Rail	1.96	1.84	0.81	15.9	0.03	0.01	0.17	0.18	0.01	0.05	0.06	—	3,391	3,391	0.13	0.09	9.90	3,431
Unrefrigerated Warehouse-No Rail	15.4	14.4	6.33	125	0.26	0.12	1.30	1.42	0.11	0.39	0.50	—	26,602	26,602	1.06	0.70	77.7	26,916
User Defined Industrial	9.99	2.27	101	59.2	0.88	1.52	8.23	9.75	1.46	2.67	4.12	—	98,266	98,266	7.46	14.8	259	103,113
Condo/Townhouse	70.4	64.8	50.1	472	1.15	0.77	6.70	7.47	0.72	2.07	2.80	—	117,821	117,821	5.86	5.58	362	119,994
Single Family Housing	29.5	27.2	21.0	198	0.48	0.32	2.81	3.13	0.30	0.87	1.17	—	49,416	49,416	2.46	2.34	152	50,327
Strip Mall	1.28	1.17	0.95	9.07	0.02	0.01	0.13	0.15	0.01	0.04	0.05	—	2,303	2,303	0.11	0.11	7.10	2,344
Gasoline/Service Station	16.1	14.7	12.0	114	0.28	0.19	1.65	1.84	0.18	0.51	0.69	—	28,986	28,986	1.39	1.35	89.4	29,512
Regional Shopping Center	45.5	42.9	24.7	217	0.46	0.33	2.64	2.97	0.31	0.82	1.12	—	47,534	47,534	3.14	2.61	143	48,533

High Turnover (Sit Down Restaurant)	10.9	9.96	8.12	77.3	0.19	0.13	1.12	1.25	0.12	0.35	0.47	—	19,617	19,617	0.94	0.91	60.5	19,973
Fast Food Restaurant with Drive Thru	28.2	25.8	21.0	200	0.49	0.33	2.90	3.23	0.31	0.90	1.21	—	50,835	50,835	2.43	2.36	157	51,757
City Park	0.01	0.01	0.01	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.9	19.9	< 0.005	< 0.005	0.06	20.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	232	208	247	1,514	4.31	3.76	27.9	31.7	3.54	8.75	12.3	—	450,131	450,131	25.2	31.0	1,332	461,322
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	2.94	2.74	1.40	21.1	0.05	0.02	0.26	0.28	0.02	0.08	0.10	—	4,922	4,922	0.23	0.15	0.40	4,973
Refrigerated Warehouse-No Rail	1.87	1.74	0.89	13.4	0.03	0.01	0.17	0.18	0.01	0.05	0.06	—	3,127	3,127	0.14	0.10	0.26	3,159
Unrefrigerated Warehouse-No Rail	14.7	13.7	6.99	105	0.24	0.12	1.30	1.42	0.11	0.39	0.50	—	24,525	24,525	1.13	0.75	2.01	24,780
User Defined Industrial	9.91	2.20	105	59.3	0.88	1.52	8.23	9.75	1.46	2.67	4.12	—	98,288	98,288	7.46	14.8	6.71	102,886
Condo/Townhouse	66.0	60.3	53.7	404	1.08	0.77	6.70	7.47	0.72	2.07	2.80	—	110,555	110,555	6.14	5.76	9.39	112,435
Single Family Housing	27.7	25.3	22.5	169	0.45	0.32	2.81	3.13	0.30	0.87	1.17	—	46,368	46,368	2.58	2.42	3.94	47,157

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Strip Mall	1.20	1.09	1.02	7.70	0.02	0.01	0.13	0.15	0.01	0.04	0.05	—	2,160	2,160	0.11	0.11	0.18	2,196
Gasoline /Service Station	15.1	13.7	12.9	97.0	0.26	0.19	1.65	1.84	0.18	0.51	0.69	—	27,193	27,193	1.45	1.39	2.32	27,646
Regional Shopping Center	42.5	39.7	26.4	196	0.43	0.33	2.64	2.97	0.31	0.82	1.12	—	44,685	44,685	3.35	2.69	3.70	45,575
High Turnover (Sit Down Restaurant)	10.2	9.28	8.70	65.6	0.18	0.13	1.12	1.25	0.12	0.35	0.47	—	18,403	18,403	0.98	0.94	1.57	18,710
Fast Food Restaurant with Drive Thru	26.4	24.0	22.6	170	0.46	0.33	2.90	3.23	0.31	0.90	1.21	—	47,689	47,689	2.54	2.44	4.06	48,483
City Park	0.01	0.01	0.01	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.6	18.6	< 0.005	< 0.005	< 0.005	18.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	218	194	262	1,308	4.09	3.76	27.9	31.7	3.55	8.75	12.3	—	427,933	427,933	26.1	31.5	34.6	438,017
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.47	0.43	0.23	3.49	0.01	< 0.005	0.04	0.05	< 0.005	0.01	0.02	—	722	722	0.03	0.02	0.97	730
Refrigerated Warehouse-No Rail	0.29	0.27	0.15	2.21	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	458	458	0.02	0.01	0.62	463
Unrefrigerated Warehouse-No Rail	2.53	2.35	1.25	18.9	0.04	0.02	0.23	0.25	0.02	0.07	0.09	—	3,921	3,921	0.18	0.12	5.29	3,967
User Defined Industrial	1.70	0.38	18.2	10.1	0.15	0.26	1.41	1.67	0.25	0.46	0.71	—	15,286	15,286	1.16	2.30	17.4	16,017

Condo/T	10.4	9.51	8.66	66.4	0.17	0.12	1.07	1.19	0.11	0.33	0.44	—	16,118	16,118	0.89	0.84	22.6	16,412
Single Family Housing	4.92	4.49	4.09	31.4	0.08	0.06	0.50	0.56	0.05	0.16	0.21	—	7,611	7,611	0.42	0.40	10.7	7,750
Strip Mall	0.18	0.17	0.16	1.24	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	307	307	0.02	0.02	0.43	312
Gasoline /Service Station	1.75	1.63	1.16	8.82	0.02	0.01	0.12	0.14	0.01	0.04	0.05	—	1,862	1,862	0.13	0.11	2.56	1,900
Regional Shopping Center	3.95	3.70	2.44	18.4	0.04	0.03	0.24	0.26	0.03	0.07	0.10	—	3,661	3,661	0.28	0.22	4.98	3,739
High Turnover (Sit Down Restaurant)	1.14	1.06	0.79	6.01	0.01	0.01	0.09	0.10	0.01	0.03	0.04	—	1,312	1,312	0.09	0.07	1.81	1,338
Fast Food Restaurant with Drive Thru	2.69	2.51	1.80	13.7	0.03	0.02	0.19	0.21	0.02	0.06	0.08	—	2,899	2,899	0.20	0.17	3.98	2,958
City Park	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.41	2.41	< 0.005	< 0.005	< 0.005	2.45
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	30.0	26.5	39.0	181	0.57	0.55	3.92	4.47	0.52	1.23	1.75	—	54,159	54,159	3.41	4.28	71.3	55,591

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,243	5,243	0.50	0.06	—	5,273
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,433	9,433	0.90	0.11	—	9,488
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,745	8,745	0.83	0.10	—	8,796
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,125	15,125	1.44	0.17	—	15,214
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,933	5,933	0.57	0.07	—	5,967
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.2	69.2	0.01	< 0.005	—	69.6
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,496	1,496	0.14	0.02	—	1,505
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.10	0.01	—	1,085
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	719	719	0.07	0.01	—	723

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,099	2,099	0.20	0.02	—	2,111
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,002	50,002	4.77	0.58	—	50,294
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,243	5,243	0.50	0.06	—	5,273
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,433	9,433	0.90	0.11	—	9,488
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,745	8,745	0.83	0.10	—	8,796
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,125	15,125	1.44	0.17	—	15,214
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,933	5,933	0.57	0.07	—	5,967
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.2	69.2	0.01	< 0.005	—	69.6
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,496	1,496	0.14	0.02	—	1,505

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High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.10	0.01	—	1,085
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	719	719	0.07	0.01	—	723
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,099	2,099	0.20	0.02	—	2,111
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,002	50,002	4.77	0.58	—	50,294
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	868	868	0.08	0.01	—	873
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,562	1,562	0.15	0.02	—	1,571
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,448	1,448	0.14	0.02	—	1,456
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	2,504	2,504	0.24	0.03	—	2,519
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	982	982	0.09	0.01	—	988

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Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5	< 0.005	< 0.005	—	11.5
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.1	10.1	< 0.005	< 0.005	—	10.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	248	248	0.02	< 0.005	—	249
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	179	179	0.02	< 0.005	—	180
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	119	119	0.01	< 0.005	—	120
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	348	348	0.03	< 0.005	—	350
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,278	8,278	0.79	0.10	—	8,327

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846

Unrefrige Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline /Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846
Unrefrigerated Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794

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City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.05	0.02	0.43	0.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	461	461	0.04	< 0.005	—	462
Refrigerated Warehouse-No Rail	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	635	635	0.06	< 0.005	—	637
Unrefrigerated Warehouse-No Rail	0.20	0.10	1.86	1.56	0.01	0.14	—	0.14	0.14	—	0.14	—	2,014	2,014	0.18	< 0.005	—	2,019
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.33	0.17	2.86	1.22	0.02	0.23	—	0.23	0.23	—	0.23	—	3,288	3,288	0.29	0.01	—	3,297
Single Family Housing	0.14	0.07	1.19	0.50	0.01	0.10	—	0.10	0.10	—	0.10	—	1,365	1,365	0.12	< 0.005	—	1,368
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.35
Gasoline/Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Regional Shopping Center	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	50.7	50.7	< 0.005	< 0.005	—	50.9

High Turnover (Sit Down Restaurant)	0.02	0.01	0.18	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	197	197	0.02	< 0.005	—	197
Fast Food Restaurant with Drive Thru	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	8,159	8,159	0.72	0.02	—	8,181

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	45.7	42.7	3.41	363	0.02	0.27	—	0.27	0.35	—	0.35	—	1,160	1,160	0.05	0.30	—	1,251
Total	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.44	—	74,984

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.08	0.04	0.72	0.31	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	834	834	0.02	< 0.005	—	835
Consumer Products	—	31.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.71	5.34	0.43	45.3	< 0.005	0.03	—	0.03	0.04	—	0.04	—	132	132	0.01	0.03	—	142
Total	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.04	—	977

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	363	471	11.1	0.27	—	828
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	678	880	20.7	0.50	—	1,546
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,023	3,908	91.0	2.19	—	6,835
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	988	1,251	27.0	0.65	—	2,121
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	284	349	6.76	0.16	—	567
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.94	5.00	0.11	< 0.005	—	8.53
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	86.4	109	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	63.6	82.4	1.94	0.05	—	145

5840

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.4	54.9	1.29	0.03	—	96.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	363	471	11.1	0.27	—	828
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	678	880	20.7	0.50	—	1,546
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,023	3,908	91.0	2.19	—	6,835
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	988	1,251	27.0	0.65	—	2,121
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	284	349	6.76	0.16	—	567
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.94	5.00	0.11	< 0.005	—	8.53

5841

Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	86.4	109	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	63.6	82.4	1.94	0.05	—	145
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.4	54.9	1.29	0.03	—	96.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	17.9	60.2	78.0	1.84	0.04	—	137
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	33.3	112	146	3.43	0.08	—	256
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	146	501	647	15.1	0.36	—	1,132
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	43.5	164	207	4.48	0.11	—	351
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.9	47.0	57.8	1.12	0.03	—	93.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.18	0.65	0.83	0.02	< 0.005	—	1.41
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.68	0.88	0.02	< 0.005	—	1.55
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.81	14.3	18.1	0.39	0.01	—	30.7
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	3.12	10.5	13.6	0.32	0.01	—	24.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.08	7.01	9.10	0.21	0.01	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.68	1.68	< 0.005	< 0.005	—	1.69
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	261	918	1,180	26.9	0.65	—	2,045

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728

5844

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8

5845

Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	26.3	0.00	26.3	2.63	0.00	—	92.0
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	38.1	0.00	38.1	3.81	0.00	—	133
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	167	0.00	167	16.7	0.00	—	586
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

5846

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	217	0.00	217	21.7	0.00	—	759
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	70.9	0.00	70.9	7.08	0.00	—	248
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.70	0.00	0.70	0.07	0.00	—	2.46
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	34.4	0.00	34.4	3.44	0.00	—	120
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	22.2	0.00	22.2	2.22	0.00	—	77.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77

Refrigerated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	76.7	76.7
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.13	4.13
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.39	8.39
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Office Park	888	669	327	283,479	7,525	5,670	2,769	2,401,918
Refrigerated Warehouse-No Rail	564	319	306	179,702	4,780	2,706	2,594	1,522,619
Unrefrigerated Warehouse-No Rail	4,426	3,725	3,675	1,539,648	37,498	31,561	31,138	13,045,437
User Defined Industrial	1,143	927	874	391,883	35,782	29,024	27,378	12,269,872
Condo/Townhouse	18,580	11,370	9,101	5,911,360	142,672	87,311	69,884	45,393,329

Single Family Housing	7,755	7,793	6,971	2,791,565	59,549	59,839	53,527	21,436,426
Strip Mall	330	237	75.2	102,332	2,796	2,011	637	867,056
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	5,649	35,198	35,198	5,143,326
Regional Shopping Center	5,320	13,204	8,133	2,499,577	20,262	56,219	34,626	10,019,460
High Turnover (Sit Down Restaurant)	1,662	2,155	2,811	692,267	5,554	18,260	23,821	3,642,197
Fast Food Restaurant with Drive Thru	4,074	7,285	4,182	1,660,093	11,305	61,729	35,436	8,013,735
City Park	2.00	2.55	2.85	803	16.9	21.6	24.1	6,800
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	2796
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	329
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	699

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	82

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
10305711	3,435,237	4,496,411	1,498,804	151,589

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Office Park	5,527,449	346	0.0330	0.0040	8,690,939
Refrigerated Warehouse-No Rail	9,945,872	346	0.0330	0.0040	11,966,710
Unrefrigerated Warehouse-No Rail	9,219,763	346	0.0330	0.0040	37,948,738
User Defined Industrial	0.00	346	0.0330	0.0040	0.00
Condo/Townhouse	15,946,932	346	0.0330	0.0040	61,972,315
Single Family Housing	6,255,109	346	0.0330	0.0040	25,720,146
Strip Mall	72,963	346	0.0330	0.0040	44,216

Gasoline/Service Station	64,628	346	0.0330	0.0040	290,596
Regional Shopping Center	1,577,323	346	0.0330	0.0040	955,877
High Turnover (Sit Down Restaurant)	1,137,107	346	0.0330	0.0040	3,705,461
Fast Food Restaurant with Drive Thru	758,071	346	0.0330	0.0040	2,470,307
City Park	0.00	346	0.0330	0.0040	0.00
Parking Lot	2,213,196	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Office Park	56,292,721	0.00
Refrigerated Warehouse-No Rail	105,043,925	0.00
Unrefrigerated Warehouse-No Rail	461,616,625	8,534,332
User Defined Industrial	0.00	0.00
Condo/Townhouse	137,089,385	20,519,706
Single Family Housing	34,261,926	12,397,322
Strip Mall	555,544	69,954
Gasoline/Service Station	637,531	0.00
Regional Shopping Center	12,009,896	1,755,840
High Turnover (Sit Down Restaurant)	9,842,688	0.00
Fast Food Restaurant with Drive Thru	6,561,792	0.00
City Park	0.00	2,020,880
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Office Park	295	0.00
Refrigerated Warehouse-No Rail	427	0.00
Unrefrigerated Warehouse-No Rail	1,876	0.00
User Defined Industrial	0.00	0.00
Condo/Townhouse	735	0.00
Single Family Housing	240	0.00
Strip Mall	7.88	0.00
Gasoline/Service Station	25.9	0.00
Regional Shopping Center	170	0.00
High Turnover (Sit Down Restaurant)	386	0.00
Fast Food Restaurant with Drive Thru	249	0.00
City Park	0.11	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Refrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5859

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

5861

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

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Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage based on Project site plan
Operations: Vehicle Data	Updated based on Project traffic study
Operations: Fleet Mix	Fleet mix adjusted based on Project traffic study
Operations: Hearths	No wood-burning stoves or fireplaces per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Ops
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01248843179461, -117.57182350609266
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	294	363	244	1,941	4.54	7.50	144	152	7.36	25.7	33.1	2,920	529,145	532,064	321	22.0	1,437	548,067
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	257	327	256	1,519	4.27	7.41	144	152	7.24	25.7	33.0	2,920	502,251	505,171	322	22.6	156	520,102
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	180	260	142	1,028	2.28	3.45	77.0	80.5	3.37	13.7	17.1	2,920	275,935	278,855	312	13.6	424	291,117

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	32.9	47.4	25.9	188	0.42	0.63	14.1	14.7	0.62	2.50	3.12	483	45,684	46,168	51.6	2.25	70.3	48,198

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	268	247	185	1,736	4.17	2.81	144	147	2.63	25.7	28.3	—	428,503	428,503	21.9	20.5	1,315	436,487
Area	23.5	114	38.4	194	0.24	3.06	—	3.06	3.09	—	3.09	0.00	47,109	47,109	0.90	0.14	—	47,172
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	294	363	244	1,941	4.54	7.50	144	152	7.36	25.7	33.1	2,920	529,145	532,064	321	22.0	1,437	548,067
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	251	230	198	1,492	3.91	2.81	144	147	2.64	25.7	28.4	—	402,131	402,131	22.9	21.2	34.1	409,057
Area	4.29	96.3	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	257	327	256	1,519	4.27	7.41	144	152	7.24	25.7	33.0	2,920	502,251	505,171	322	22.6	156	520,102
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	164	152	117	893	2.13	1.55	77.0	78.6	1.45	13.7	15.2	—	218,854	218,854	14.0	12.2	303	223,147
Area	13.4	107	3.66	123	0.02	0.27	—	0.27	0.29	—	0.29	0.00	3,548	3,548	0.08	0.04	—	3,562
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	180	260	142	1,028	2.28	3.45	77.0	80.5	3.37	13.7	17.1	2,920	275,935	278,855	312	13.6	424	291,117
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.0	27.8	21.4	163	0.39	0.28	14.1	14.3	0.26	2.50	2.77	—	36,234	36,234	2.32	2.02	50.1	36,944
Area	2.45	19.5	0.67	22.5	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	587	587	0.01	0.01	—	590
Energy	0.43	0.22	3.75	2.07	0.02	0.30	—	0.30	0.30	—	0.30	—	8,593	8,593	0.79	0.06	—	8,630
Water	—	—	—	—	—	—	—	—	—	—	—	63.9	270	334	6.57	0.16	—	546
Waste	—	—	—	—	—	—	—	—	—	—	—	420	0.00	420	41.9	0.00	—	1,468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	20.1
Total	32.9	47.4	25.9	188	0.42	0.63	14.1	14.7	0.62	2.50	3.12	483	45,684	46,168	51.6	2.25	70.3	48,198

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	21.7	19.9	15.4	145	0.35	0.24	2.06	2.30	0.22	0.64	0.86	—	36,251	36,251	1.80	1.72	111	36,919
Condo/Townhouse	42.4	39.0	30.1	284	0.69	0.46	4.03	4.49	0.43	1.25	1.68	—	70,885	70,885	3.53	3.36	218	72,192
City Park	0.23	0.21	0.17	1.63	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	413	413	0.02	0.02	1.27	420
Regional Shopping Center	60.6	57.1	32.9	290	0.62	0.44	3.52	3.95	0.41	1.09	1.50	—	63,315	63,315	4.18	3.48	190	64,645
High Turnover (Sit Down Restaurant)	35.3	32.3	26.3	251	0.62	0.41	3.63	4.04	0.39	1.12	1.51	—	63,688	63,688	3.05	2.96	196	64,843
Fast Food Restaurant with Drive Thru	91.5	83.8	68.2	650	1.61	1.07	9.40	10.5	1.00	2.91	3.92	—	164,965	164,965	7.89	7.67	509	167,956
Gasoline/Service Station	16.1	14.7	12.0	114	0.28	0.19	1.65	1.84	0.18	0.51	0.69	—	28,986	28,986	1.39	1.35	89.4	29,512
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	268	247	185	1,736	4.17	2.81	24.3	27.1	2.63	7.53	10.2	—	428,503	428,503	21.9	20.5	1,315	436,487
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	20.3	18.5	16.5	124	0.33	0.24	2.06	2.30	0.22	0.64	0.86	—	34,015	34,015	1.89	1.77	2.89	34,593
Condo/Townhouse	39.7	36.3	32.3	243	0.65	0.46	4.03	4.49	0.43	1.25	1.68	—	66,513	66,513	3.69	3.47	5.65	67,644
City Park	0.21	0.20	0.18	1.38	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	387	387	0.02	0.02	0.03	394

Regional Shopping Center	56.6	52.9	35.1	261	0.58	0.44	3.52	3.95	0.41	1.09	1.50	—	59,520	59,520	4.47	3.59	4.93	60,705
High Turnover (Sit Down Restaurant)	33.1	30.1	28.3	213	0.58	0.41	3.63	4.04	0.39	1.12	1.51	—	59,747	59,747	3.18	3.06	5.09	60,742
Fast Food Restaurant with Drive Thru	85.8	78.0	73.2	552	1.51	1.07	9.40	10.5	1.00	2.91	3.92	—	154,756	154,756	8.23	7.91	13.2	157,334
Gasoline /Service Station	15.1	13.7	12.9	97.0	0.26	0.19	1.65	1.84	0.18	0.51	0.69	—	27,193	27,193	1.45	1.39	2.32	27,646
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	251	230	198	1,492	3.91	2.81	24.3	27.1	2.64	7.53	10.2	—	402,131	402,131	22.9	21.2	34.1	409,057
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.61	3.29	3.00	23.0	0.06	0.04	0.37	0.41	0.04	0.11	0.15	—	5,583	5,583	0.31	0.29	7.82	5,685
Condo/Townhouse	6.26	5.71	5.20	39.9	0.10	0.07	0.64	0.71	0.07	0.20	0.27	—	9,683	9,683	0.53	0.50	13.6	9,860
City Park	0.02	0.02	0.02	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	34.7	34.7	< 0.005	< 0.005	0.05	35.4
Regional Shopping Center	5.92	5.55	3.63	27.3	0.06	0.04	0.35	0.39	0.04	0.11	0.15	—	5,404	5,404	0.42	0.33	7.35	5,521
High Turnover (Sit Down Restaurant)	3.69	3.43	2.57	19.5	0.05	0.03	0.28	0.31	0.03	0.09	0.12	—	4,261	4,261	0.28	0.24	5.88	4,346

Fast Food Restaurant with Drive Thru	8.73	8.13	5.85	44.3	0.10	0.07	0.61	0.68	0.07	0.19	0.26	—	9,406	9,406	0.65	0.54	12.9	9,598
Gasoline /Service Station	1.75	1.63	1.16	8.82	0.02	0.01	0.12	0.14	0.01	0.04	0.05	—	1,862	1,862	0.13	0.11	2.56	1,900
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	30.0	27.8	21.4	163	0.39	0.28	2.37	2.65	0.26	0.73	1.00	—	36,234	36,234	2.32	2.02	50.1	36,944

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.41	0.05	—	4,378
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	9,198	9,198	0.88	0.11	—	9,251
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	4,853	4,853	0.46	0.06	—	4,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	3,499	3,499	0.33	0.04	—	3,519

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	2,333	2,333	0.22	0.03	—	2,346
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,973	1,973	0.19	0.02	—	1,984
Total	—	—	—	—	—	—	—	—	—	—	—	—	26,268	26,268	2.50	0.30	—	26,421
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.41	0.05	—	4,378
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	9,198	9,198	0.88	0.11	—	9,251
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	4,853	4,853	0.46	0.06	—	4,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	3,499	3,499	0.33	0.04	—	3,519
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	2,333	2,333	0.22	0.03	—	2,346
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7

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Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,973	1,973	0.19	0.02	—	1,984
Total	—	—	—	—	—	—	—	—	—	—	—	—	26,268	26,268	2.50	0.30	—	26,421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	721	721	0.07	0.01	—	725
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,523	1,523	0.15	0.02	—	1,532
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	804	804	0.08	0.01	—	808
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	579	579	0.06	0.01	—	583
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	386	386	0.04	< 0.005	—	388
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.1	10.1	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	327	327	0.03	< 0.005	—	328
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,349	4,349	0.41	0.05	—	4,374

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
																		5881

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.28	4.76	2.03	0.03	0.39	—	0.39	0.39	—	0.39	—	6,047	6,047	0.54	0.01	—	6,064
Condo/Townhouse	1.11	0.56	9.51	4.05	0.06	0.77	—	0.77	0.77	—	0.77	—	12,077	12,077	1.07	0.02	—	12,111
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.09	0.05	0.83	0.70	< 0.005	0.06	—	0.06	0.06	—	0.06	—	994	994	0.09	< 0.005	—	997
High Turnover (Sit Down Restaurant)	0.36	0.18	3.23	2.71	0.02	0.25	—	0.25	0.25	—	0.25	—	3,853	3,853	0.34	0.01	—	3,863
Fast Food Restaurant with Drive Thru	0.24	0.12	2.15	1.81	0.01	0.16	—	0.16	0.16	—	0.16	—	2,568	2,568	0.23	< 0.005	—	2,576
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	25,632	25,632	2.27	0.05	—	25,703
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.28	4.76	2.03	0.03	0.39	—	0.39	0.39	—	0.39	—	6,047	6,047	0.54	0.01	—	6,064

Condo/Townhouse	1.11	0.56	9.51	4.05	0.06	0.77	—	0.77	0.77	—	0.77	—	12,077	12,077	1.07	0.02	—	12,111
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.09	0.05	0.83	0.70	< 0.005	0.06	—	0.06	0.06	—	0.06	—	994	994	0.09	< 0.005	—	997
High Turnover (Sit Down Restaurant)	0.36	0.18	3.23	2.71	0.02	0.25	—	0.25	0.25	—	0.25	—	3,853	3,853	0.34	0.01	—	3,863
Fast Food Restaurant with Drive Thru	0.24	0.12	2.15	1.81	0.01	0.16	—	0.16	0.16	—	0.16	—	2,568	2,568	0.23	< 0.005	—	2,576
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	25,632	25,632	2.27	0.05	—	25,703
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.05	0.87	0.37	0.01	0.07	—	0.07	0.07	—	0.07	—	1,001	1,001	0.09	< 0.005	—	1,004
Condo/Townhouse	0.20	0.10	1.74	0.74	0.01	0.14	—	0.14	0.14	—	0.14	—	2,000	2,000	0.18	< 0.005	—	2,005
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.02	0.01	0.15	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	165	165	0.01	< 0.005	—	165

High Turnover (Sit Down Restaurant)	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	638	638	0.06	< 0.005	—	640
Fast Food Restaurant with Drive Thru	0.04	0.02	0.39	0.33	< 0.005	0.03	—	0.03	0.03	—	0.03	—	425	425	0.04	< 0.005	—	426
Gasoline /Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.43	0.22	3.75	2.07	0.02	0.30	—	0.30	0.30	—	0.30	—	4,244	4,244	0.38	0.01	—	4,255

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.29	2.15	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Consumer Products	—	86.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	19.2	18.0	1.67	179	0.01	0.09	—	0.09	0.12	—	0.12	—	521	521	0.02	0.05	—	536

Total	23.5	114	38.4	194	0.24	3.06	—	3.06	3.09	—	3.09	0.00	47,109	47,109	0.90	0.14	—	47,172
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.29	2.15	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Consumer Products	—	86.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.29	96.3	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.03	0.46	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	528	528	0.01	< 0.005	—	529
Consumer Products	—	15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.40	2.25	0.21	22.3	< 0.005	0.01	—	0.01	0.02	—	0.02	—	59.1	59.1	< 0.005	0.01	—	60.8
Total	2.45	19.5	0.67	22.5	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	587	587	0.01	0.01	—	590

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.2	232	280	4.96	0.12	—	440
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	160	562	722	16.4	0.40	—	1,251
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	211	211	0.02	< 0.005	—	212
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	74.7	279	354	7.68	0.19	—	601
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	61.2	206	267	6.29	0.15	—	470
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	40.8	137	178	4.20	0.10	—	313
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.2	232	280	4.96	0.12	—	440

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	160	562	722	16.4	0.40	—	1,251
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	211	211	0.02	< 0.005	—	212
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	74.7	279	354	7.68	0.19	—	601
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	61.2	206	267	6.29	0.15	—	470
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	40.8	137	178	4.20	0.10	—	313
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.97	38.5	46.4	0.82	0.02	—	72.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	26.4	93.1	120	2.72	0.07	—	207
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	35.0	35.0	< 0.005	< 0.005	—	35.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.4	46.2	58.6	1.27	0.03	—	99.5

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	10.1	34.1	44.3	1.04	0.03	—	77.8
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	6.75	22.8	29.5	0.69	0.02	—	51.9
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.68	0.88	0.02	< 0.005	—	1.55
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	63.9	270	334	6.57	0.16	—	546

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	314	0.00	314	31.4	0.00	—	1,099
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	797	0.00	797	79.7	0.00	—	2,789
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.13	0.00	—	4.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	298	0.00	298	29.7	0.00	—	1,041

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	675	0.00	675	67.4	0.00	—	2,360
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	435	0.00	435	43.5	0.00	—	1,523
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	314	0.00	314	31.4	0.00	—	1,099
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	797	0.00	797	79.7	0.00	—	2,789
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.13	0.00	—	4.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	298	0.00	298	29.7	0.00	—	1,041
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	675	0.00	675	67.4	0.00	—	2,360
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	435	0.00	435	43.5	0.00	—	1,523

Gasoline Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	52.0	0.00	52.0	5.20	0.00	—	182
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	132	0.00	132	13.2	0.00	—	462
City Park	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	49.3	0.00	49.3	4.93	0.00	—	172
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	112	0.00	112	11.2	0.00	—	391
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	72.1	0.00	72.1	7.20	0.00	—	252
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	420	0.00	420	41.9	0.00	—	1,468

4.6. Refrigerant Emissions by Land Use

5890

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00	2.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.3	39.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00	2.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.3	39.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.25	2.25
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33	0.33
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.77	9.77
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.51	6.51
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	20.1

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	5,688	5,716	5,113	2,047,670	43,679	43,897	39,266	15,724,054
Condo/Townhouse	11,178	6,798	5,418	3,551,241	85,836	52,202	41,605	27,269,982
City Park	22.0	52.9	59.1	11,580	186	448	501	98,114
Regional Shopping Center	10,311	17,588	2,846	3,753,717	39,270	74,884	12,118	14,774,788
High Turnover (Sit Down Restaurant)	5,399	6,998	9,127	2,248,423	18,042	59,296	77,336	11,828,194
Fast Food Restaurant with Drive Thru	13,218	23,642	13,575	5,386,702	36,678	200,316	115,021	26,005,007
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	5,649	35,198	35,198	5,143,326
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	513

5897

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	60
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	1700
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
6674096.25	2,224,699	1,062,144	354,048	142,441

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	4,588,602	346	0.0330	0.0040	18,867,699
Condo/Townhouse	9,697,131	346	0.0330	0.0040	37,684,594

City Park	0.00	346	0.0330	0.0040	0.00
Regional Shopping Center	5,117,006	346	0.0330	0.0040	3,100,969
High Turnover (Sit Down Restaurant)	3,688,943	346	0.0330	0.0040	12,021,066
Fast Food Restaurant with Drive Thru	2,459,295	346	0.0330	0.0040	8,014,044
Gasoline/Service Station	64,628	346	0.0330	0.0040	290,596
Parking Lot	2,079,642	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	25,133,749	13,910,646
Condo/Townhouse	83,362,350	4,755,487
City Park	0.00	41,972,125
Regional Shopping Center	38,961,406	5,498,355
High Turnover (Sit Down Restaurant)	31,931,139	0.00
Fast Food Restaurant with Drive Thru	21,287,426	0.00
Gasoline/Service Station	637,531	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	176	0.00
Condo/Townhouse	447	0.00

City Park	2.32	0.00
Regional Shopping Center	552	0.00
High Turnover (Sit Down Restaurant)	1,252	0.00
Fast Food Restaurant with Drive Thru	808	0.00
Gasoline/Service Station	25.9	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Regional Shopping Center	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5901

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9

Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985

Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5

5906

Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—

5907

2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on Project site plan
Operations: Vehicle Data	Trip rates adjusted based on Project traffic study
Operations: Hearths	Project will not use wood fireplaces or wood stoves per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater.

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APPENDIX 4.3:

EMFAC2021

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (SC)	2023	HHDT	Aggregate	Aggregate	Gasoline	7.139920774	223.2106421	0.06183047	61.8304705	317791.1215	223.2106421	1888049.604	5.94	HHDT
San Bernardino (SC)	2023	HHDT	Aggregate	Aggregate	Diesel	13684.27912	1731847.924	292.3325073	292332.5073		1731847.924			
San Bernardino (SC)	2023	HHDT	Aggregate	Aggregate	Electricity	11.071794	690.5331854	0	0		690.5331854			
San Bernardino (SC)	2023	HHDT	Aggregate	Aggregate	Natural Gas	2370.144029	155287.9364	25.39678372	25396.78372		155287.9364			
San Bernardino (SC)	2023	LDA	Aggregate	Aggregate	Gasoline	461483.7292	20223414.17	692.3245964	692324.5964	703217.7643	20223414.17	21577861.55	30.68	LDA
San Bernardino (SC)	2023	LDA	Aggregate	Aggregate	Diesel	1109.597168	40502.09099	0.947730081	947.7300814		40502.09099			
San Bernardino (SC)	2023	LDA	Aggregate	Aggregate	Electricity	15706.1209	729284.3787	0	0		729284.3787			
San Bernardino (SC)	2023	LDA	Aggregate	Aggregate	Plug-in Hybrid	11324.38067	584660.9102	9.945437763	9945.437763		584660.9102			
San Bernardino (SC)	2023	LDT1	Aggregate	Aggregate	Gasoline	41702.74967	1435035.032	59.56936874	59569.36874	59603.2156	1435035.032	1438685.032	24.14	LDT1
San Bernardino (SC)	2023	LDT1	Aggregate	Aggregate	Diesel	11.94633759	180.7506847	0.007425144	7.425143634		180.7506847			
San Bernardino (SC)	2023	LDT1	Aggregate	Aggregate	Electricity	40.25061846	1772.449638	0	0		1772.449638			
San Bernardino (SC)	2023	LDT1	Aggregate	Aggregate	Plug-in Hybrid	32.95928492	1696.799492	0.026421715	26.42171463		1696.799492			
San Bernardino (SC)	2023	LDT2	Aggregate	Aggregate	Gasoline	187695.2776	7684041.942	325.7245496	325724.5496	327412.4965	7684041.942	7798312.591	23.82	LDT2
San Bernardino (SC)	2023	LDT2	Aggregate	Aggregate	Diesel	481.5963709	21452.95771	0.659664085	659.664085		21452.95771			
San Bernardino (SC)	2023	LDT2	Aggregate	Aggregate	Electricity	809.1431596	29454.51408	0	0		29454.51408			
San Bernardino (SC)	2023	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1266.994818	63363.17755	1.028282788	1028.282788		63363.17755			
San Bernardino (SC)	2023	LHDT1	Aggregate	Aggregate	Gasoline	17369.10468	636669.4873	48.08913849	48089.13849	69265.91752	636669.4873	1070433.704	15.45	LHDT1
San Bernardino (SC)	2023	LHDT1	Aggregate	Aggregate	Diesel	11340.4221	433764.2167	21.17677903	21176.77903		433764.2167			
San Bernardino (SC)	2023	LHDT2	Aggregate	Aggregate	Gasoline	2940.213764	104644.4628	8.847465361	8847.465361	19637.22878	104644.4628	288802.0099	14.71	LHDT2
San Bernardino (SC)	2023	LHDT2	Aggregate	Aggregate	Diesel	4748.518724	184157.5472	10.78976342	10789.76342		184157.5472			
San Bernardino (SC)	2023	MCY	Aggregate	Aggregate	Gasoline	20689.98168	123448.5709	2.952535443	2952.535443	2952.535443	123448.5709	123448.5709	41.81	MCY
San Bernardino (SC)	2023	MDV	Aggregate	Aggregate	Gasoline	147303.3129	5795658.803	301.7951895	301795.1895	305825.909	5795658.803	5947370.317	19.45	MDV
San Bernardino (SC)	2023	MDV	Aggregate	Aggregate	Diesel	1912.856517	78101.9574	3.325595213	3325.595213		78101.9574			
San Bernardino (SC)	2023	MDV	Aggregate	Aggregate	Electricity	883.4710394	32153.68244	0	0		32153.68244			
San Bernardino (SC)	2023	MDV	Aggregate	Aggregate	Plug-in Hybrid	823.221551	41455.87402	0.705124294	705.1242942		41455.87402			
San Bernardino (SC)	2023	MH	Aggregate	Aggregate	Gasoline	3595.119651	31990.03643	6.518197308	6518.197308	7709.885285	31990.03643	44195.40661	5.73	MH
San Bernardino (SC)	2023	MH	Aggregate	Aggregate	Diesel	1340.055605	12205.37018	1.191687977	1191.687977		12205.37018			
San Bernardino (SC)	2023	MHDT	Aggregate	Aggregate	Gasoline	1500.364507	79642.61703	15.40897049	15408.97049	87900.59877	79642.61703	729331.6703	8.30	MHDT
San Bernardino (SC)	2023	MHDT	Aggregate	Aggregate	Diesel	14608.25407	640403.2715	71.4372525	71437.2525		640403.2715			
San Bernardino (SC)	2023	MHDT	Aggregate	Aggregate	Electricity	9.224784632	203.8722795	0	0		203.8722795			
San Bernardino (SC)	2023	MHDT	Aggregate	Aggregate	Natural Gas	184.1702325	9081.909565	1.05437579	1054.37579		9081.909565			
San Bernardino (SC)	2023	OBUS	Aggregate	Aggregate	Gasoline	384.9686335	16562.55757	3.251674362	3251.674362	5514.43375	16562.55757	33644.16636	6.10	OBUS
San Bernardino (SC)	2023	OBUS	Aggregate	Aggregate	Diesel	208.3404962	15154.83567	2.045655905	2045.655905		15154.83567			
San Bernardino (SC)	2023	OBUS	Aggregate	Aggregate	Natural Gas	31.52138873	1926.773124	0.217103483	217.1034832		1926.773124			
San Bernardino (SC)	2023	SBUS	Aggregate	Aggregate	Gasoline	294.5939953	13805.92037	1.544513624	1544.513624	4926.826262	13805.92037	31599.12518	6.41	SBUS
San Bernardino (SC)	2023	SBUS	Aggregate	Aggregate	Diesel	382.1050011	8002.390505	1.089878604	1089.878604		8002.390505			
San Bernardino (SC)	2023	SBUS	Aggregate	Aggregate	Electricity	0.69336851	8.065464225	0	0		8.065464225			
San Bernardino (SC)	2023	SBUS	Aggregate	Aggregate	Natural Gas	385.616886	9782.748834	2.292434033	2292.434033		9782.748834			
San Bernardino (SC)	2023	UBUS	Aggregate	Aggregate	Gasoline	54.60967225	5243.249002	0.429264999	429.2649994	8490.322036	5243.249002	40042.47057	4.72	UBUS
San Bernardino (SC)	2023	UBUS	Aggregate	Aggregate	Diesel	4.556959009	449.8374364	0.043172716	43.17271551		449.8374364			
San Bernardino (SC)	2023	UBUS	Aggregate	Aggregate	Electricity	0.433186591	43.12764189	0	0		43.12764189			
San Bernardino (SC)	2023	UBUS	Aggregate	Aggregate	Natural Gas	249.7401785	34306.25649	8.017884321	8017.884321		34306.25649			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (SC)	2024	HHDT	Aggregate	Aggregate	Gasoline	5.565987525	200.7100937	0.053685222	53.68522156	320576.6084	200.7100937	1931561.832	6.03	HHDT
San Bernardino (SC)	2024	HHDT	Aggregate	Aggregate	Diesel	14231.95658	1766161.303	294.8811952	294881.1952		1766161.303			
San Bernardino (SC)	2024	HHDT	Aggregate	Aggregate	Electricity	48.62871821	4853.771805	0	0		4853.771805			
San Bernardino (SC)	2024	HHDT	Aggregate	Aggregate	Natural Gas	2469.470738	160346.0479	25.64172796	25641.72796		160346.0479			
San Bernardino (SC)	2024	LDA	Aggregate	Aggregate	Gasoline	459317.1397	20167734.04	678.0067332	678006.7332	689480.9135	20167734.04	21769357.53	31.57	LDA
San Bernardino (SC)	2024	LDA	Aggregate	Aggregate	Diesel	1047.589492	37687.90898	0.878080701	878.0807006		37687.90898			
San Bernardino (SC)	2024	LDA	Aggregate	Aggregate	Electricity	19287.2826	922159.8322	0	0		922159.8322			
San Bernardino (SC)	2024	LDA	Aggregate	Aggregate	Plug-in Hybrid	12500.45848	641775.7563	10.5960996	10596.0996		641775.7563			
San Bernardino (SC)	2024	LDT1	Aggregate	Aggregate	Gasoline	40725.35771	1412436.812	57.61437754	57614.37754	57660.77698	1412436.812	1417994.863	24.59	LDT1
San Bernardino (SC)	2024	LDT1	Aggregate	Aggregate	Diesel	10.72175816	158.8104429	0.006542477	6.542476778		158.8104429			
San Bernardino (SC)	2024	LDT1	Aggregate	Aggregate	Electricity	58.29951204	2744.162081	0	0		2744.162081			
San Bernardino (SC)	2024	LDT1	Aggregate	Aggregate	Plug-in Hybrid	51.79076029	2655.077851	0.039856963	39.85696305		2655.077851			
San Bernardino (SC)	2024	LDT2	Aggregate	Aggregate	Gasoline	192654.7494	7946861.936	328.2807397	328280.7397	330225.39	7946861.936	8092457.996	24.51	LDT2
San Bernardino (SC)	2024	LDT2	Aggregate	Aggregate	Diesel	520.896721	23279.78377	0.7022627	702.2627003		23279.78377			
San Bernardino (SC)	2024	LDT2	Aggregate	Aggregate	Electricity	1199.246991	43242.4945	0	0		43242.4945			
San Bernardino (SC)	2024	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1594.625518	79073.78143	1.24238757	1242.38757		79073.78143			
San Bernardino (SC)	2024	LHDT1	Aggregate	Aggregate	Gasoline	17179.49082	637558.6823	46.93129933	46931.29933	68120.12603	637558.6823	1077239.622	15.81	LHDT1
San Bernardino (SC)	2024	LHDT1	Aggregate	Aggregate	Diesel	11382.09786	435758.4326	21.1888267	21188.8267		435758.4326			
San Bernardino (SC)	2024	LHDT1	Aggregate	Aggregate	Electricity	52.7403112	3922.506902	0	0		3922.506902			
San Bernardino (SC)	2024	LHDT2	Aggregate	Aggregate	Gasoline	2883.702401	102543.2335	8.523099836	8523.099836	19386.27641	102543.2335	290170.8153	14.97	LHDT2
San Bernardino (SC)	2024	LHDT2	Aggregate	Aggregate	Diesel	4825.532255	186665.6444	10.86317658	10863.17658		186665.6444			
San Bernardino (SC)	2024	LHDT2	Aggregate	Aggregate	Electricity	13.65084178	961.9374735	0	0		961.9374735			
San Bernardino (SC)	2024	MCY	Aggregate	Aggregate	Gasoline	20751.92893	123685.0541	2.946367925	2946.367925	2946.367925	123685.0541	123685.0541	41.98	MCY
San Bernardino (SC)	2024	MDV	Aggregate	Aggregate	Gasoline	147141.1277	5830683.861	296.7902416	296790.2416	300889.4492	5830683.861	6007732.23	19.97	MDV
San Bernardino (SC)	2024	MDV	Aggregate	Aggregate	Diesel	1910.88318	77417.93798	3.254905083	3254.905083		77417.93798			
San Bernardino (SC)	2024	MDV	Aggregate	Aggregate	Electricity	1327.48959	47850.30724	0	0		47850.30724			
San Bernardino (SC)	2024	MDV	Aggregate	Aggregate	Plug-in Hybrid	1028.690257	51780.12453	0.844302537	844.3025368		51780.12453			
San Bernardino (SC)	2024	MH	Aggregate	Aggregate	Gasoline	3401.970527	30215.87901	6.184856876	6184.856876	7364.77817	30215.87901	42284.2868	5.74	MH
San Bernardino (SC)	2024	MH	Aggregate	Aggregate	Diesel	1336.39751	12068.40778	1.179921294	1179.921294		12068.40778			
San Bernardino (SC)	2024	MHDT	Aggregate	Aggregate	Gasoline	1460.602089	78395.7093	15.05623591	15056.23591	88813.34178	78395.7093	740808.1193	8.34	MHDT
San Bernardino (SC)	2024	MHDT	Aggregate	Aggregate	Diesel	14946.4736	650565.6856	72.65830331	72658.30331		650565.6856			
San Bernardino (SC)	2024	MHDT	Aggregate	Aggregate	Electricity	46.13645649	2344.169726	0	0		2344.169726			
San Bernardino (SC)	2024	MHDT	Aggregate	Aggregate	Natural Gas	195.6757264	9502.554663	1.098802564	1098.802564		9502.554663			
San Bernardino (SC)	2024	OBUS	Aggregate	Aggregate	Gasoline	370.0192137	15806.92249	3.09514692	3095.14692	5378.066575	15806.92249	33062.62008	6.15	OBUS
San Bernardino (SC)	2024	OBUS	Aggregate	Aggregate	Diesel	210.5519789	15196.96791	2.055015596	2055.015596		15196.96791			
San Bernardino (SC)	2024	OBUS	Aggregate	Aggregate	Electricity	0.809761934	65.22582716	0	0		65.22582716			
San Bernardino (SC)	2024	OBUS	Aggregate	Aggregate	Natural Gas	32.78528924	1993.503854	0.227904058	227.9040581		1993.503854			
San Bernardino (SC)	2024	SBUS	Aggregate	Aggregate	Gasoline	297.8692006	14022.10243	1.564009513	1564.009513	4951.794465	14022.10243	31836.21175	6.43	SBUS
San Bernardino (SC)	2024	SBUS	Aggregate	Aggregate	Diesel	373.2941498	7747.295585	1.052431626	1052.431626		7747.295585			
San Bernardino (SC)	2024	SBUS	Aggregate	Aggregate	Electricity	2.213199982	56.32019914	0	0		56.32019914			
San Bernardino (SC)	2024	SBUS	Aggregate	Aggregate	Natural Gas	398.7600331	10010.49353	2.335353326	2335.353326		10010.49353			
San Bernardino (SC)	2024	UBUS	Aggregate	Aggregate	Gasoline	54.72012078	5253.853518	0.406450205	406.450205	8263.421636	5253.853518	40123.45681	4.86	UBUS
San Bernardino (SC)	2024	UBUS	Aggregate	Aggregate	Diesel	4.556959009	449.8374364	0.043468777	43.46877693		449.8374364			
San Bernardino (SC)	2024	UBUS	Aggregate	Aggregate	Electricity	7.328344802	1111.359033	0	0		1111.359033			
San Bernardino (SC)	2024	UBUS	Aggregate	Aggregate	Natural Gas	243.3602145	33308.40682	7.813502654	7813.502654		33308.40682			

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Region Type: Sub-Area
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Calendar Year: 2025
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Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (SC)	2025	HHDT	Aggregate	Aggregate	Gasoline	3.869766832	177.2217014	0.044579975	44.57997511	322298.7048	177.2217014	1975659.248	6.13	HHDT
San Bernardino (SC)	2025	HHDT	Aggregate	Aggregate	Diesel	14693.60242	1799109.244	296.221758	296221.758		1799109.244			
San Bernardino (SC)	2025	HHDT	Aggregate	Aggregate	Electricity	109.5985203	11409.19414	0	0		11409.19414			
San Bernardino (SC)	2025	HHDT	Aggregate	Aggregate	Natural Gas	2560.5176	164963.5875	26.0323668	26032.3668		164963.5875			
San Bernardino (SC)	2025	LDA	Aggregate	Aggregate	Gasoline	457374.7047	20012363.19	659.2303928	659230.3928	671181.1368	20012363.19	21858504.21	32.57	LDA
San Bernardino (SC)	2025	LDA	Aggregate	Aggregate	Diesel	986.5858319	34821.96021	0.803361461	803.3614609		34821.96021			
San Bernardino (SC)	2025	LDA	Aggregate	Aggregate	Electricity	22921.29943	1119595.112	0	0		1119595.112			
San Bernardino (SC)	2025	LDA	Aggregate	Aggregate	Plug-in Hybrid	13621.71468	691723.9558	11.14738256	11147.38256		691723.9558			
San Bernardino (SC)	2025	LDT1	Aggregate	Aggregate	Gasoline	39862.49619	1386010.237	55.44488475	55444.88475	55506.30461	1386010.237	1393998.156	25.11	LDT1
San Bernardino (SC)	2025	LDT1	Aggregate	Aggregate	Diesel	9.62153332	138.8700264	0.005712258	5.712257886		138.8700264			
San Bernardino (SC)	2025	LDT1	Aggregate	Aggregate	Electricity	81.74409231	4029.090974	0	0		4029.090974			
San Bernardino (SC)	2025	LDT1	Aggregate	Aggregate	Plug-in Hybrid	75.22656194	3819.958249	0.055707597	55.70759743		3819.958249			
San Bernardino (SC)	2025	LDT2	Aggregate	Aggregate	Gasoline	197589.8024	8156000.659	328.0141754	328014.1754	330196.8511	8156000.659	8333682.032	25.24	LDT2
San Bernardino (SC)	2025	LDT2	Aggregate	Aggregate	Diesel	559.2848358	24877.85405	0.732985994	732.9859937		24877.85405			
San Bernardino (SC)	2025	LDT2	Aggregate	Aggregate	Electricity	1637.444663	58171.59292	0	0		58171.59292			
San Bernardino (SC)	2025	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1934.989022	94631.92591	1.449689627	1449.689627		94631.92591			
San Bernardino (SC)	2025	LHDT1	Aggregate	Aggregate	Gasoline	16963.11371	633447.7463	45.45107153	45451.07153	66469.9942	633447.7463	1077884.454	16.22	LHDT1
San Bernardino (SC)	2025	LHDT1	Aggregate	Aggregate	Diesel	11403.02981	434286.2222	21.01892267	21018.92267		434286.2222			
San Bernardino (SC)	2025	LHDT1	Aggregate	Aggregate	Electricity	147.3648902	10150.48537	0	0		10150.48537			
San Bernardino (SC)	2025	LHDT2	Aggregate	Aggregate	Gasoline	2823.949841	99825.11713	8.149183621	8149.183621	18984.07565	99825.11713	289811.7154	15.27	LHDT2
San Bernardino (SC)	2025	LHDT2	Aggregate	Aggregate	Diesel	4888.887446	187525.0486	10.83489203	10834.89203		187525.0486			
San Bernardino (SC)	2025	LHDT2	Aggregate	Aggregate	Electricity	37.58571717	2461.549606	0	0		2461.549606			
San Bernardino (SC)	2025	MCY	Aggregate	Aggregate	Gasoline	20826.96994	123280.6812	2.925130919	2925.130919	2925.130919	123280.6812	123280.6812	42.15	MCY
San Bernardino (SC)	2025	MDV	Aggregate	Aggregate	Gasoline	147056.3511	5833561.643	289.7409456	289740.9456	293881.6654	5833561.643	6036663.747	20.54	MDV
San Bernardino (SC)	2025	MDV	Aggregate	Aggregate	Diesel	1906.902909	76374.47974	3.151065928	3151.065928		76374.47974			
San Bernardino (SC)	2025	MDV	Aggregate	Aggregate	Electricity	1802.834782	63969.43971	0	0		63969.43971			
San Bernardino (SC)	2025	MDV	Aggregate	Aggregate	Plug-in Hybrid	1256.812117	62758.18504	0.98965379	989.6537902		62758.18504			
San Bernardino (SC)	2025	MH	Aggregate	Aggregate	Gasoline	3227.585522	28520.15334	5.836852659	5836.852659	6997.412696	28520.15334	40386.16204	5.77	MH
San Bernardino (SC)	2025	MH	Aggregate	Aggregate	Diesel	1329.243498	11866.0087	1.160560036	1160.560036		11866.0087			
San Bernardino (SC)	2025	MHDT	Aggregate	Aggregate	Gasoline	1427.423114	76828.767	14.58515666	14585.15666	88952.25214	76828.767	752323.1368	8.46	MHDT
San Bernardino (SC)	2025	MHDT	Aggregate	Aggregate	Diesel	15347.54129	658670.5437	73.22420436	73224.20436		658670.5437			
San Bernardino (SC)	2025	MHDT	Aggregate	Aggregate	Electricity	133.1585562	6928.399641	0	0		6928.399641			
San Bernardino (SC)	2025	MHDT	Aggregate	Aggregate	Natural Gas	208.419151	9895.426472	1.142891124	1142.891124		9895.426472			
San Bernardino (SC)	2025	OBUS	Aggregate	Aggregate	Gasoline	358.2884481	15030.55432	2.914537526	2914.537526	5188.582188	15030.55432	32494.86271	6.26	OBUS
San Bernardino (SC)	2025	OBUS	Aggregate	Aggregate	Diesel	215.4704252	15216.87274	2.039111404	2039.111404		15216.87274			
San Bernardino (SC)	2025	OBUS	Aggregate	Aggregate	Electricity	1.990200949	157.0570869	0	0		157.0570869			
San Bernardino (SC)	2025	OBUS	Aggregate	Aggregate	Natural Gas	34.88313202	2090.378559	0.234933258	234.9332579		2090.378559			
San Bernardino (SC)	2025	SBUS	Aggregate	Aggregate	Gasoline	300.4577721	14124.28621	1.57111818	1571.11818	4959.876607	14124.28621	31963.06277	6.44	SBUS
San Bernardino (SC)	2025	SBUS	Aggregate	Aggregate	Diesel	363.8707141	7488.892183	1.014599014	1014.599014		7488.892183			
San Bernardino (SC)	2025	SBUS	Aggregate	Aggregate	Electricity	4.690534617	132.2929048	0	0		132.2929048			
San Bernardino (SC)	2025	SBUS	Aggregate	Aggregate	Natural Gas	411.4766102	10217.59148	2.374159413	2374.159413		10217.59148			
San Bernardino (SC)	2025	UBUS	Aggregate	Aggregate	Gasoline	54.83056931	5264.458034	0.406547565	406.5475652	8275.384496	5264.458034	40204.44305	4.86	UBUS
San Bernardino (SC)	2025	UBUS	Aggregate	Aggregate	Diesel	4.529432466	447.4667714	0.043317656	43.31765633		447.4667714			
San Bernardino (SC)	2025	UBUS	Aggregate	Aggregate	Electricity	7.409987909	1124.502697	0	0		1124.502697			
San Bernardino (SC)	2025	UBUS	Aggregate	Aggregate	Natural Gas	243.8212922	33368.01555	7.825519274	7825.519274		33368.01555			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (SC)	2026	HHDT	Aggregate	Aggregate	Gasoline	2.628638455	162.3041519	0.038094178	38.09417834	323816.6756	162.3041519	2020691.204	6.24	HHDT
San Bernardino (SC)	2026	HHDT	Aggregate	Aggregate	Diesel	15084.77036	1831295.475	297.3157582	297315.7582		1831295.475			
San Bernardino (SC)	2026	HHDT	Aggregate	Aggregate	Electricity	191.0683418	19973.63311	0	0		19973.63311			
San Bernardino (SC)	2026	HHDT	Aggregate	Aggregate	Natural Gas	2643.959607	169259.7919	26.4628232	26462.8232		169259.7919			
San Bernardino (SC)	2026	LDA	Aggregate	Aggregate	Gasoline	456254.7841	19874166.46	641.5351772	641535.1772	653766.4651	19874166.46	21884485.35	33.47	LDA
San Bernardino (SC)	2026	LDA	Aggregate	Aggregate	Diesel	917.7888375	31994.04388	0.730185103	730.185103		31994.04388			
San Bernardino (SC)	2026	LDA	Aggregate	Aggregate	Electricity	26082.82543	1250859.603	0	0		1250859.603			
San Bernardino (SC)	2026	LDA	Aggregate	Aggregate	Plug-in Hybrid	14570.87312	727465.2451	11.50110282	11501.10282		727465.2451			
San Bernardino (SC)	2026	LDT1	Aggregate	Aggregate	Gasoline	39063.9999	1360017.769	53.36846197	53368.46197	53444.7712	1360017.769	1370565.663	25.64	LDT1
San Bernardino (SC)	2026	LDT1	Aggregate	Aggregate	Diesel	7.517030094	107.4585455	0.004383307	4.383306977		107.4585455			
San Bernardino (SC)	2026	LDT1	Aggregate	Aggregate	Electricity	110.0966514	5426.246616	0	0		5426.246616			
San Bernardino (SC)	2026	LDT1	Aggregate	Aggregate	Plug-in Hybrid	100.2350808	5014.189058	0.071925931	71.92593104		5014.189058			
San Bernardino (SC)	2026	LDT2	Aggregate	Aggregate	Gasoline	202612.9731	8343534.623	327.3242951	327324.2951	329715.7191	8343534.623	8550437.791	25.93	LDT2
San Bernardino (SC)	2026	LDT2	Aggregate	Aggregate	Diesel	596.9953934	26308.25909	0.759292797	759.2927973		26308.25909			
San Bernardino (SC)	2026	LDT2	Aggregate	Aggregate	Electricity	2064.91584	72169.29693	0	0		72169.29693			
San Bernardino (SC)	2026	LDT2	Aggregate	Aggregate	Plug-in Hybrid	2256.649793	108425.6117	1.63213121	1632.13121		108425.6117			
San Bernardino (SC)	2026	LHDT1	Aggregate	Aggregate	Gasoline	16791.83447	629601.5161	44.16498346	44164.98346	64979.5748	629601.5161	1079997.968	16.62	LHDT1
San Bernardino (SC)	2026	LHDT1	Aggregate	Aggregate	Diesel	11393.65177	431830.7159	20.81459135	20814.59135		431830.7159			
San Bernardino (SC)	2026	LHDT1	Aggregate	Aggregate	Electricity	282.094588	18565.73546	0	0		18565.73546			
San Bernardino (SC)	2026	LHDT2	Aggregate	Aggregate	Gasoline	2763.224246	97215.03215	7.803597069	7803.597069	18588.78398	97215.03215	289578.9062	15.58	LHDT2
San Bernardino (SC)	2026	LHDT2	Aggregate	Aggregate	Diesel	4937.57725	187863.321	10.78518691	10785.18691		187863.321			
San Bernardino (SC)	2026	LHDT2	Aggregate	Aggregate	Electricity	71.81390811	4500.553077	0	0		4500.553077			
San Bernardino (SC)	2026	MCY	Aggregate	Aggregate	Gasoline	20884.25022	122975.6545	2.907527557	2907.527557	2907.527557	122975.6545	122975.6545	42.30	MCY
San Bernardino (SC)	2026	MDV	Aggregate	Aggregate	Gasoline	147189.0217	5833278.241	282.9367666	282936.7666	287097.9101	5833278.241	6059751.016	21.11	MDV
San Bernardino (SC)	2026	MDV	Aggregate	Aggregate	Diesel	1900.727125	75215.18536	3.046386471	3046.386471		75215.18536			
San Bernardino (SC)	2026	MDV	Aggregate	Aggregate	Electricity	2262.574859	78934.40652	0	0		78934.40652			
San Bernardino (SC)	2026	MDV	Aggregate	Aggregate	Plug-in Hybrid	1469.974449	72323.18263	1.114757016	1114.757016		72323.18263			
San Bernardino (SC)	2026	MH	Aggregate	Aggregate	Gasoline	3064.468567	27038.8087	5.530646832	5530.646832	6673.58648	27038.8087	38715.77147	5.80	MH
San Bernardino (SC)	2026	MH	Aggregate	Aggregate	Diesel	1320.026239	11676.96277	1.142939648	1142.939648		11676.96277			
San Bernardino (SC)	2026	MHDT	Aggregate	Aggregate	Gasoline	1396.239062	75343.20605	14.13811827	14138.11827	88998.08289	75343.20605	764236.6027	8.59	MHDT
San Bernardino (SC)	2026	MHDT	Aggregate	Aggregate	Diesel	15710.20603	665955.6798	73.67630673	73676.30673		665955.6798			
San Bernardino (SC)	2026	MHDT	Aggregate	Aggregate	Electricity	245.8765864	12699.29672	0	0		12699.29672			
San Bernardino (SC)	2026	MHDT	Aggregate	Aggregate	Natural Gas	220.2089686	10238.42022	1.183657888	1183.657888		10238.42022			
San Bernardino (SC)	2026	OBUS	Aggregate	Aggregate	Gasoline	348.5150855	14345.28666	2.754710661	2754.710661	5020.348152	14345.28666	32033.51538	6.38	OBUS
San Bernardino (SC)	2026	OBUS	Aggregate	Aggregate	Diesel	220.037016	15248.80528	2.024298125	2024.298125		15248.80528			
San Bernardino (SC)	2026	OBUS	Aggregate	Aggregate	Electricity	3.340971814	259.0449895	0	0		259.0449895			
San Bernardino (SC)	2026	OBUS	Aggregate	Aggregate	Natural Gas	36.78806859	2180.378447	0.241339366	241.3393658		2180.378447			
San Bernardino (SC)	2026	SBUS	Aggregate	Aggregate	Gasoline	302.8964194	14222.26132	1.577820897	1577.820897	4964.605895	14222.26132	32090.47199	6.46	SBUS
San Bernardino (SC)	2026	SBUS	Aggregate	Aggregate	Diesel	353.6259778	7228.312611	0.976501833	976.5018327		7228.312611			
San Bernardino (SC)	2026	SBUS	Aggregate	Aggregate	Electricity	8.074559241	228.2385136	0	0		228.2385136			
San Bernardino (SC)	2026	SBUS	Aggregate	Aggregate	Natural Gas	423.8773853	10411.65954	2.410283165	2410.283165		10411.65954			
San Bernardino (SC)	2026	UBUS	Aggregate	Aggregate	Gasoline	54.94101785	5275.062551	0.407858087	407.8580873	7993.083023	5275.062551	40285.42929	5.04	UBUS
San Bernardino (SC)	2026	UBUS	Aggregate	Aggregate	Diesel	4.529432466	447.4667714	0.043317653	43.31765334		447.4667714			
San Bernardino (SC)	2026	UBUS	Aggregate	Aggregate	Electricity	11.78176765	1911.719241	0	0		1911.719241			
San Bernardino (SC)	2026	UBUS	Aggregate	Aggregate	Natural Gas	239.9647068	32651.18073	7.541907283	7541.907283		32651.18073			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2027
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (SC)	2027	HHDT	Aggregate	Aggregate	Gasoline	2.031197481	158.444704	0.03545197	35.45197047	324538.1908	158.444704	2066703.214	6.37	HHDT
San Bernardino (SC)	2027	HHDT	Aggregate	Aggregate	Diesel	15410.14317	1861290.669	297.8003661	297800.3661		1861290.669			
San Bernardino (SC)	2027	HHDT	Aggregate	Aggregate	Electricity	309.5303952	32362.74223	0	0		32362.74223			
San Bernardino (SC)	2027	HHDT	Aggregate	Aggregate	Natural Gas	2715.575882	172891.3587	26.70237267	26702.37267		172891.3587			
San Bernardino (SC)	2027	LDA	Aggregate	Aggregate	Gasoline	455364.3713	19787637.94	626.1101219	626110.1219	638604.9325	19787637.94	21952221.48	34.38	LDA
San Bernardino (SC)	2027	LDA	Aggregate	Aggregate	Diesel	838.6675897	29298.26032	0.659294609	659.2946086		29298.26032			
San Bernardino (SC)	2027	LDA	Aggregate	Aggregate	Electricity	29132.45727	1375391.516	0	0		1375391.516			
San Bernardino (SC)	2027	LDA	Aggregate	Aggregate	Plug-in Hybrid	15443.22828	759893.7676	11.83551602	11835.51602		759893.7676			
San Bernardino (SC)	2027	LDT1	Aggregate	Aggregate	Gasoline	38336.73013	1338397.254	51.51343959	51513.43959	51606.62039	1338397.254	1351923.889	26.20	LDT1
San Bernardino (SC)	2027	LDT1	Aggregate	Aggregate	Diesel	4.439852634	65.17772521	0.002574711	2.57471119		65.17772521			
San Bernardino (SC)	2027	LDT1	Aggregate	Aggregate	Electricity	144.0545689	7086.678198	0	0		7086.678198			
San Bernardino (SC)	2027	LDT1	Aggregate	Aggregate	Plug-in Hybrid	128.8782043	6374.778863	0.090606087	90.60608738		6374.778863			
San Bernardino (SC)	2027	LDT2	Aggregate	Aggregate	Gasoline	207676.4312	8538774.779	327.3681394	327368.1394	329973.7622	8538774.779	8775845.407	26.60	LDT2
San Bernardino (SC)	2027	LDT2	Aggregate	Aggregate	Diesel	630.9551959	27664.28405	0.782780323	782.7803228		27664.28405			
San Bernardino (SC)	2027	LDT2	Aggregate	Aggregate	Electricity	2524.548375	86861.55106	0	0		86861.55106			
San Bernardino (SC)	2027	LDT2	Aggregate	Aggregate	Plug-in Hybrid	2587.065461	122544.7931	1.822842412	1822.842412		122544.7931			
San Bernardino (SC)	2027	LHDT1	Aggregate	Aggregate	Gasoline	16631.76323	624309.3634	42.99085614	42990.85614	63571.75886	624309.3634	1082917.934	17.03	LHDT1
San Bernardino (SC)	2027	LHDT1	Aggregate	Aggregate	Diesel	11353.59669	427724.523	20.58090272	20580.90272		427724.523			
San Bernardino (SC)	2027	LHDT1	Aggregate	Aggregate	Electricity	483.3007095	30884.04755	0	0		30884.04755			
San Bernardino (SC)	2027	LHDT2	Aggregate	Aggregate	Gasoline	2701.097559	94507.35792	7.480744076	7480.744076	18200.52082	94507.35792	289429.504	15.90	LHDT2
San Bernardino (SC)	2027	LHDT2	Aggregate	Aggregate	Diesel	4973.210606	187433.7598	10.71977674	10719.77674		187433.7598			
San Bernardino (SC)	2027	LHDT2	Aggregate	Aggregate	Electricity	122.9369508	7488.386288	0	0		7488.386288			
San Bernardino (SC)	2027	MCY	Aggregate	Aggregate	Gasoline	20938.59567	122694.478	2.890537534	2890.537534	2890.537534	122694.478	122694.478	42.45	MCY
San Bernardino (SC)	2027	MDV	Aggregate	Aggregate	Gasoline	147488.8393	5847136.794	277.1736638	277173.6638	281362.1261	5847136.794	6096922.964	21.67	MDV
San Bernardino (SC)	2027	MDV	Aggregate	Aggregate	Diesel	1888.455182	74178.21175	2.946435768	2946.435768		74178.21175			
San Bernardino (SC)	2027	MDV	Aggregate	Aggregate	Electricity	2733.489517	93772.05753	0	0		93772.05753			
San Bernardino (SC)	2027	MDV	Aggregate	Aggregate	Plug-in Hybrid	1684.990864	81835.90048	1.242026531	1242.026531		81835.90048			
San Bernardino (SC)	2027	MH	Aggregate	Aggregate	Gasoline	2916.368599	25737.28381	5.27019968	5270.19968	6397.211655	25737.28381	37228.95733	5.82	MH
San Bernardino (SC)	2027	MH	Aggregate	Aggregate	Diesel	1309.206187	11491.67351	1.127011975	1127.011975		11491.67351			
San Bernardino (SC)	2027	MHDT	Aggregate	Aggregate	Gasoline	1363.931373	73700.39666	13.69794739	13697.94739	88901.23052	73700.39666	776532.1125	8.73	MHDT
San Bernardino (SC)	2027	MHDT	Aggregate	Aggregate	Diesel	16024.85269	671004.9398	73.98162813	73981.62813		671004.9398			
San Bernardino (SC)	2027	MHDT	Aggregate	Aggregate	Electricity	415.444894	21284.00609	0	0		21284.00609			
San Bernardino (SC)	2027	MHDT	Aggregate	Aggregate	Natural Gas	231.558042	10542.76998	1.221654995	1221.654995		10542.76998			
San Bernardino (SC)	2027	OBUS	Aggregate	Aggregate	Gasoline	338.4979609	13679.12348	2.606454389	2606.454389	4867.066738	13679.12348	31634.98876	6.50	OBUS
San Bernardino (SC)	2027	OBUS	Aggregate	Aggregate	Diesel	224.28968	15302.2929	2.013017951	2013.017951		15302.2929			
San Bernardino (SC)	2027	OBUS	Aggregate	Aggregate	Electricity	5.327608073	407.9589952	0	0		407.9589952			
San Bernardino (SC)	2027	OBUS	Aggregate	Aggregate	Natural Gas	38.43104481	2245.613392	0.247594398	247.5943984		2245.613392			
San Bernardino (SC)	2027	SBUS	Aggregate	Aggregate	Gasoline	305.3091837	14312.56626	1.584072348	1584.072348	4963.461893	14312.56626	32226.7021	6.49	SBUS
San Bernardino (SC)	2027	SBUS	Aggregate	Aggregate	Diesel	342.2196973	6962.145992	0.937618085	937.6180855		6962.145992			
San Bernardino (SC)	2027	SBUS	Aggregate	Aggregate	Electricity	13.01170465	369.133274	0	0		369.133274			
San Bernardino (SC)	2027	SBUS	Aggregate	Aggregate	Natural Gas	435.6655597	10582.85658	2.44177146	2441.77146		10582.85658			
San Bernardino (SC)	2027	UBUS	Aggregate	Aggregate	Gasoline	55.04919487	5285.495548	0.409776943	409.7769433	7271.552247	5285.495548	40366.41553	5.55	UBUS
San Bernardino (SC)	2027	UBUS	Aggregate	Aggregate	Diesel	4.529432466	447.4667714	0.043453785	43.4537853		447.4667714			
San Bernardino (SC)	2027	UBUS	Aggregate	Aggregate	Electricity	29.13079723	4558.880161	0	0		4558.880161			
San Bernardino (SC)	2027	UBUS	Aggregate	Aggregate	Natural Gas	223.133143	30074.57305	6.818321518	6818.321518		30074.57305			

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Rich-Haven Specific Plan-2022 Amendment

NOISE AND VIBRATION ANALYSIS

CITY OF ONTARIO

PREPARED BY:

Bill Lawson, PE, INCE
blawson@urbanxroads.com
(949) 584-3148

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LIST OF ABBREVIATED TERMS

•	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
OPR	Office of Planning and Research
PPV	Peak Particle Velocity
Project	Rich-Haven Specific Plan-2022 Amendment
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Rich-Haven Specific Plan-2022 Amendment development ("Project"). The proposed Project includes the development of a single 168,759 square foot warehouse building. This study has been prepared to satisfy applicable City of Ontario standards and thresholds of significance based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

The results of this Rich-Haven Specific Plan-2022 Amendment Noise and Vibration Analysis are summarized below based on the significance criteria in Section 4 of this report. Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	*Less Than Significant*	-
On-Site Traffic Noise	8	*Less Than Significant*	-
Operational Noise	10	*Less Than Significant*	-
Construction Noise	11	*Less Than Significant*	-
Construction Vibration		*Less Than Significant*	-

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Rich-Haven Specific Plan-2022 Amendment ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for transportation related CNEL traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source operational noise and short-term construction noise and vibration impacts.

1.1 BACKGROUND AND PROJECT DESCRIPTION

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated herein coincide with the location and boundaries in the 2021 Specific Plan. Location of the Project is presented at Exhibit 1-A.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in here proposes a new amendment of the RHSP as described herein.

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This EIR evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment. In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

- Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
- Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.

EXHIBIT 1-A: LOCATION MAP

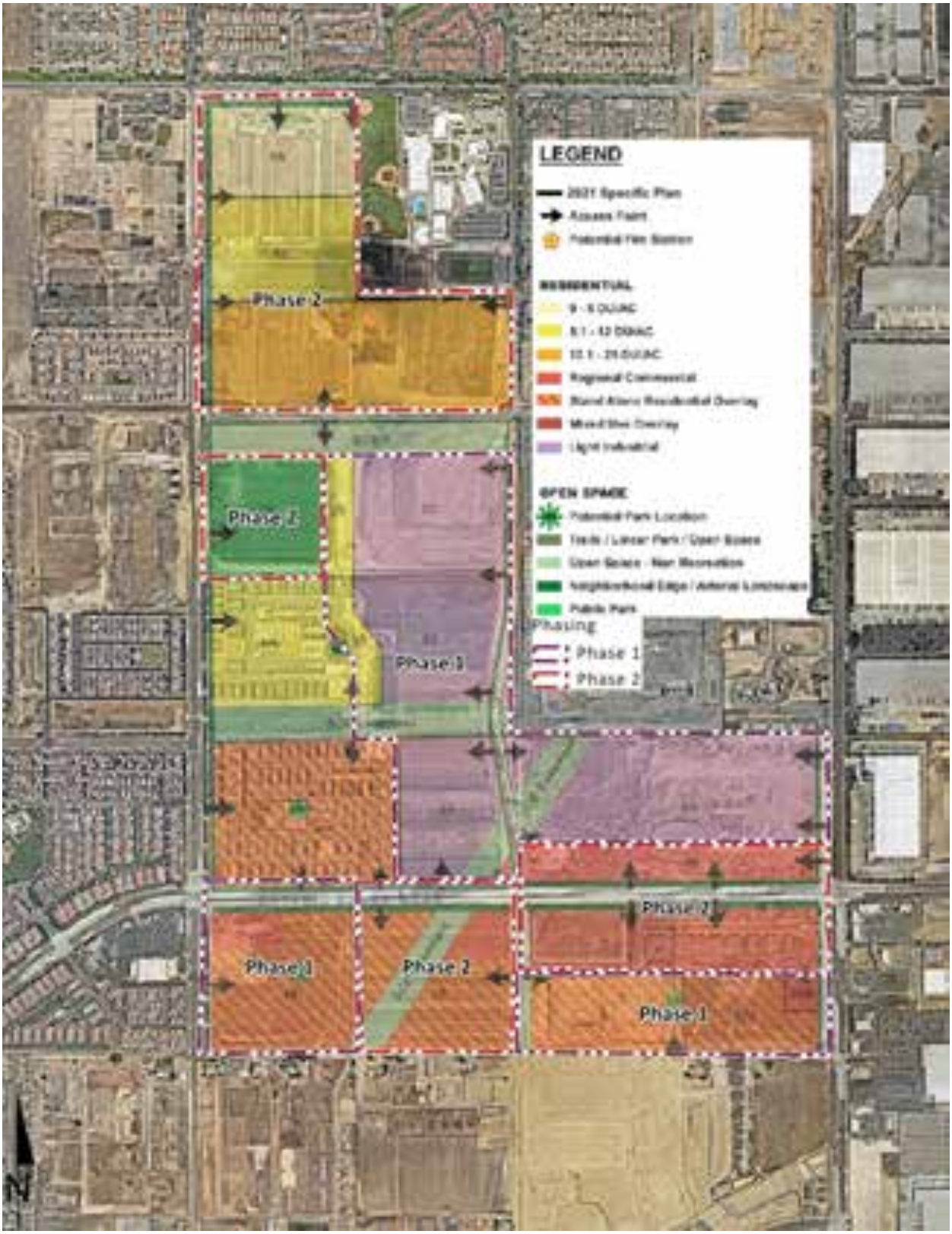


- Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Note that portions of Planning Areas 3A and 4A within the Project site have been developed. Planning Areas 2, 3, 4A, 5C, 6, 10, and portions of 7, 8, and 9 are anticipated to be developed as part of the first phase with an anticipated Opening Year of 2024. Project Buildout and of Phase 2 is anticipated in Year 2027. Project Planning Areas and Phases are illustrated at Exhibit 1-B.

The on-site Project-related noise sources are expected to include: loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements, truck movements and park activities. This noise analysis is intended to describe noise level impacts associated with the expected typical operational activities at the Project site.

EXHIBIT 1-B: LAND USE PLAN



1.2 RECOMMENDED CONDITIONS OF APPROVAL

As substantiated in this analysis, all Project-source noise and vibration impacts would be less-than-significant. . The following measures would further reduce Project noise impacts. To ensure that Project noise impacts remain at levels that would be less-than-significant, it is recommended that the following noise abatement measures be incorporated as Project Conditions of Approval

1.2.1: Prior to Grading Permit issuance, the Applicant shall demonstrate that the project complies with the following:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers, to the satisfaction of the Noise Control Officer;
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers to the satisfaction of the City Planner; and
- During construction and to the satisfaction of the City Planner, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors during construction activities.

1.2.2: Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of 10:00 p.m. and 7:00 a.m. during is prohibited. The City Planner may approve additional hours when it can be found that such additional hours will not generate additional disturbance, or that mitigation measures will ensure compatibility with nearby residential areas.

1.2.3: Prior to the construction of residential development along Riverside Drive, Haven Avenue, Mill Creek Avenue, Edison Avenue, and Milliken Avenue, an acoustical noise analysis should be prepared prior to the submittal of final tentative tract maps to ensure that exterior and interior noise levels are met. The acoustical analysis shall demonstrate that the buildings have been designed to limit interior noise levels to 45 dBA CNEL and exterior noise (backyards and habitable balconies and patios) to less than 65 dBA CNEL. Individual developments shall, to the extent feasible, implement site-planning techniques.

1.2.4: Prior to final development plan approval, on a project-by-project basis and to the discretion of the Ontario Planning Department, subsequent noise studies shall be prepared, which demonstrates the site placement of stationary noise sources would not exceed criteria established in the City of Ontario Municipal Code. The analysis shall verify that loading dock facilities, rooftop equipment, trash compactors and other stationary noise sources are adequately shielded and/or located at an adequate distance from residential areas in order to comply with the City's noise standards.

1.2.5: Prior to Building Permit issuance and to the satisfaction of the Ontario Planning Department, the Project Applicants, on a project-by-project basis, shall demonstrate compliance with the following with respect to mechanical equipment:

- Mechanical equipment shall include specifications of quiet equipment;

- Mechanical equipment shall be properly selected and installed, and shall include sound attenuation packages;
- To the extent possible, mechanical equipment shall be oriented away from the nearest noise sensitive receptors; and
- The need for sound attenuation measures, and design of, such measures shall be determined as part of the final engineering design on a project-by-project basis.

1.2.6: Where a commercial zone abuts a residential zone or residential use, all deliveries of goods and supplies; trash pick-up, including the use of parking lot trash sweepers; and the operation of machinery or mechanical equipment which emits noise levels in excess of 65 dBA, as measured from the closest property line to the equipment, shall only be allowed between the hours of 7:00 a.m. and 10:00 p.m., unless otherwise specified in an approved conditional use permit or other discretionary approval.

1.2.7: Prior to final development plan approval, on a project-by-project basis, a subsequent noise analysis shall be prepared, to the satisfaction of the Ontario Planning Department, which demonstrates that all feasible sound attenuation has been incorporated into the parking areas (i.e., landscaping and brushed driving surfaces), such that noise from parking area has been minimized to the greatest extent practicable.

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2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140		
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100		
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70		
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50		
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30		
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10		
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (2) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA

at approximately 1,000 feet, which can cause serious discomfort. (3) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used metric is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Ontario relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (2)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually

sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (4)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (2)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of-sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must block the line-of-sight path of sound from the noise source.

2.6 LAND USE COMPATIBILITY WITH NOISE

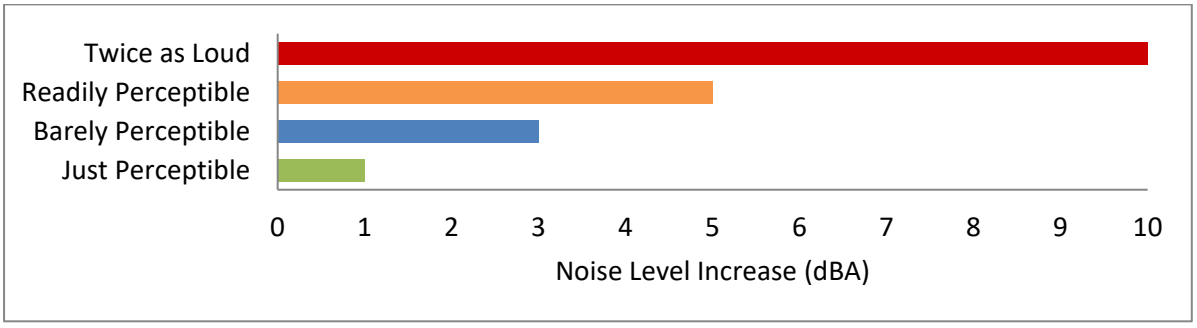
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

2.7 COMMUNITY RESPONSE TO NOISE

Approximately sixteen percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments. (7 pp. 8-6) Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Surveys have shown that community response to noise varies from no reaction to vigorous action for newly introduced noises averaging from 10 dB below existing to 25 dB above existing. (8) According to research originally published in the Noise Effects Handbook (7), the percentage of high annoyance ranges from approximately 0 percent at 45 dB or less, 10 percent are highly annoyed around 60 dB, and increases rapidly to approximately 70 percent being highly annoyed at approximately 85 dB or greater. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (4)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



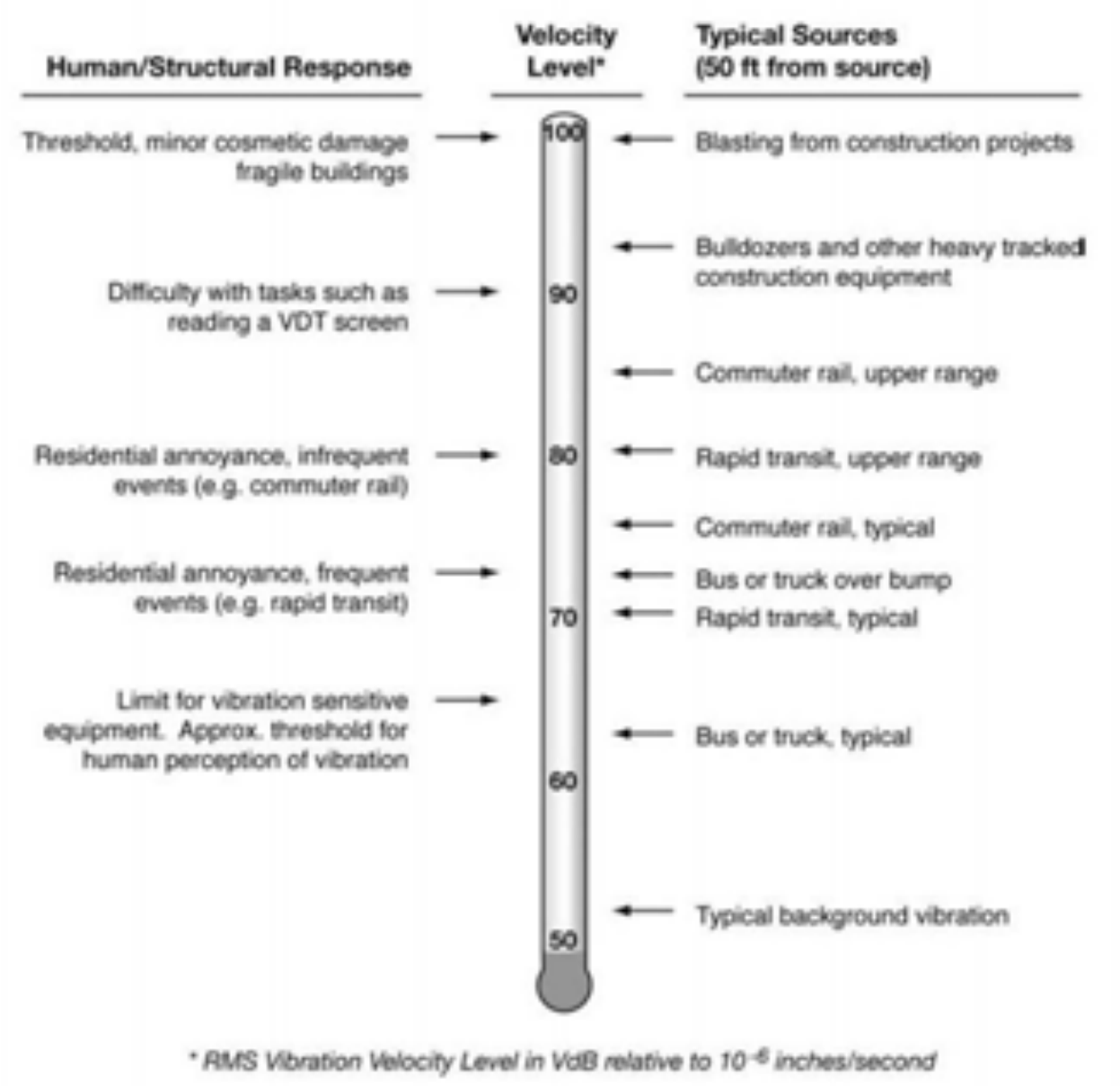
2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Impact Assessment Manual* (8), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

3 REGULATORY SETTING

The federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (9) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 CITY OF ONTARIO GENERAL PLAN NOISE ELEMENT

The City of Ontario General Plan (Policy Plan) identifies several policies to minimize the impacts of excessive noise levels throughout the community. Policy Plan Section S4, Noise Hazards, establishes a goal of maintaining *an environment where noise does not adversely affect the public's health, safety, and welfare.* (10) To satisfy this goal, the Policy Plan identifies seven policies related to: noise mitigation; coordination with transportation authorities; noise mitigation; truck traffic; roadway design; airport noise compatibility and rail noise mitigation. The noise criteria identified on Table 5-13-3 of The Ontario Plan 2050 Final Supplemental Environmental Impact Report (FSEIR) (11) provide guidelines to evaluate land use compatibility within various noise environments. Table 5-13-3 is reproduced here as Exhibit 3-A *Ontario Noise Level Exposure and Land Use Compatibility Guidelines*.

EXHIBIT 3-A: ONTARIO NOISE LEVEL EXPOSURE AND LAND USE COMPATIBILITY GUIDELINES

Land Use Categories		Community Noise Equivalent Level (CNEL)			
Category	Uses	Clearly Acceptable[1]	Normally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential/Lodging	Single Family/Duplex	<60	60-65	65-70	70-85
	Multifamily	<60	60-65	65-75	75-85
	Mobile Homes	<60	60-65	-	65-85
	Hotel/Motel	<65	65-70	70-80	80-85
Public/Institutional	Schools/Hospitals	<60	60-65	65-70	70-85
	Churches/Libraries	<60	60-65	65-70	70-85
	Auditoriums/Concert Halls	<55	55-60	60-70	70-85
Commercial	Offices	<65	65-75	75-80	80-85
	Retail	<70	70-75	75-80	80-85
Industrial	Manufacturing	<70	70-75	75-85	-
	Warehousing	<70	70-80	80-85	-
Recreational/Open Space	Parks/Playgrounds	<65	65-70	70-75	75-85
	Golf Course/Riding Stables	<65	65-70	70-75	75-85
	Outdoor Spectator Sports	<60	60-65	65-70	
	Outdoor Music Shells/Amphitheaters	-	<60	60-65	65-85
	Livestock/Wildlife Preserves	<70	-	70-75	75-85
	Crop Agriculture	<55-85	-	-	-

Source: Ontario (2019).

[1] No special noise insulation required, assuming buildings of normal conventional construction.

[2] Acoustic reports will be required for major new residential construction. Conventional construction with closed windows and fresh air supply systems or air conditioning will normally suffice.

[3] New construction should be discouraged. Noise insulation requirements required for all new construction. If new construction does proceed, a detailed analysis of noise reduction requirements must be made, and necessary noise insulation features included.

[4] No new construction should be permitted.

Source: The Ontario Plan 2050 Draft SEIR (Table 5.13-3).

3.3 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Rich-Haven Specific Plan-2022 Amendment, stationary-source (operational) noise levels are evaluated against standards established under a City's Municipal Code. The City of Ontario requires that noise from new stationary sources in the City comply with the City's Noise Ordinance, which limits the acceptable noise at the property line of the impacted property, to reduce nuisances to sensitive land uses. Compliance with the City's Noise Ordinance would result in noise levels that are acceptable to the City and would result in less than significant noise impacts from stationary sources. The City of Ontario Municipal Code, Title 5, Chapter 29 noise standards are included in Appendix 3.1.

Section 5-29.04(a) identifies the allowable daytime and nighttime ambient exterior noise standards for each land use type. For Manufacturing and Industrial land uses (Noise Zone V), such as the Project, ambient exterior noise levels may not exceed 70 dBA L_{eq}. For residential land uses (Noise Zone I), ambient exterior noise levels may not exceed 65 dBA L_{eq} during the daytime hours (7:00 a.m. to 10:00 p.m.) and may not exceed 45 dBA L_{eq} during the nighttime hours (10:00

p.m. to 7:00 a.m.) (12). The lower noise level standard shall apply on the boundary between two (2) different noise zones. If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard. The maximum acceptable Project-related operational noise levels received at off-site land uses in the City of Ontario are identified on Table 3-1.

TABLE 3-1: OPERATIONAL NOISE STANDARDS

Noise Zone	Land Use	Exterior Noise Levels (dBA Leq)[2]	
		Daytime (7am-10pm)	Nighttime (10pm-7am)
I	Single-Family Residential	65	45
II	Multi-Family Residential	65	50
III	Commercial	65	60
IV	Residential Mixed-Use	70	70
V	Manufacturing and Industrial	70	70

[1] Source: Section 5-29.04 of the City of Ontario Municipal Code (Appendix 3.1).
[2] L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given period.

3.4 CONSTRUCTION NOISE STANDARDS

The City of Ontario has set restrictions to control noise impacts associated with construction. Section 5-29.09 of the Municipal Code states: *No person, while engaged in construction, remodeling, digging, grading, demolition or any other related building activity, shall operate any tool, equipment or machine in a manner that produces loud noise that disturbs a person of normal sensitivity who works or resides in the vicinity, or a Police or Code Enforcement Officer, on any weekday except between the hours of 7:00 a.m. and 6:00 p.m. or on Saturday or Sunday between the hours of 9:00 a.m. and 6:00 p.m*. (12) While the City establishes limits to the hours during which construction activity may take place, it does not identify specific noise level limits for construction noise levels at potentially affected receiver locations for CEQA analysis purposes.

Construction noise would be considered significant if construction activities occurring outside of the hours specified (7:00 AM and 6:00 PM weekdays and 9:00 AM to 6:00 PM weekends, excluding federal holidays) or if construction activities substantially elevate the ambient noise environment at noise-sensitive uses for a substantial period. It is assumed that the Modified Project construction activities would comply with the City's hour of activity restrictions, thereby precluding construction activities during noise-sensitive time periods. However, neither the City of Ontario General Plan Noise Element or Municipal Codes establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a *substantial temporary or permanent increase in ambient noise levels*. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive land use. (8 p. 179)

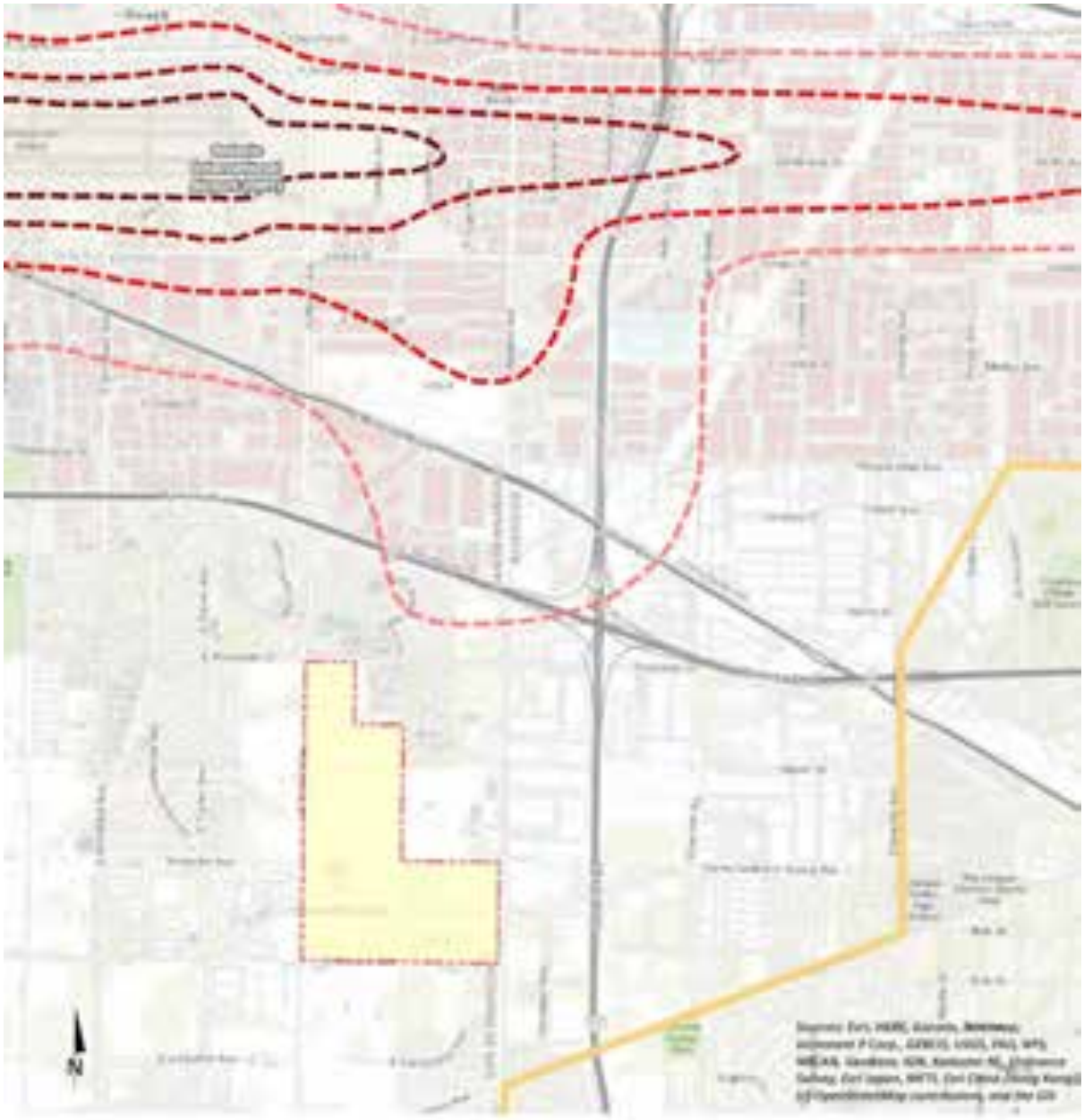
3.5 VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. (8) To analyze vibration impacts originating from the operation and construction of Rich-Haven Specific Plan-2022 Amendment, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Ontario does not identify specific vibration level limits. Therefore, for analysis purposes, the Caltrans *Transportation and Construction Vibration Guidance Manual*, (13 p. 38) Table 19, vibration damage are used in this noise study to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).

3.6 AIRPORT LAND USE COMPATIBILITY

The Project site is located approximately 2.4 miles south of the Ontario International Airport (ONT). This places the Project site within the ONT Airport Influence Area according to Policy Map 2-1 of the *Ontario International Airport Land Use Compatibility Plan (ONT ALUCP).* The ONT ALUCP was amended July 2018 to promote compatibility between airport and the land uses that surround it (14). Since the Project site is located within the ONT Airport Influence Area, the Project is subject to the Noise Criteria established on Table 2-3 in the ONT ALUCP. As shown on Exhibit 3-B, the Project site is located within the ONT Airport Influence Area but outside the 60 dBA CNEL airport noise impact zone consistent with Policy Map 2-3. According to Table 2-3 of the ONT ALUCP, the Rich-Haven Specific Plan-2022 Amendment, residential, commercial, light industrial and community facilities land uses located outside the 60 dBA CNEL, are considered *normally compatible land use.* For *normally compatible land use,* either the activities associated with the land use are inherently noisy or standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL).

EXHIBIT 3-B: ONT FUTURE AIRPORT NOISE CONTOURS



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4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

B. Generation of excessive ground-borne vibration or ground-borne noise levels?

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant.* (16) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged.

4.1.1 NOISE-SENSITIVE RECEIVERS

The Federal Interagency Committee on Noise (FICON) (17) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

As previously stated, the approach used in this noise study recognizes *that there is no single noise increase that renders the noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (16) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the without project noise levels are below 60 dBA. Per the FICON, in areas where the without project noise levels

range from 60 to 65 dBA, a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project (baseline) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (18 p. 2_48).

4.1.2 NON-NOISE-SENSITIVE RECEIVERS

The *Ontario Noise Level Exposure and Land Use Compatibility Guidelines* were used to establish the satisfactory noise levels of significance for the non-noise-sensitive land uses in the Project study area. As previously shown on Exhibit 3-A, the *normally acceptable* exterior noise level for non-noise-sensitive general industrial land uses is 75 dBA CNEL. Noise levels greater than 75 dBA CNEL are considered *normally unacceptable.* (10)

To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive general industrial land uses, a *barely perceptible* 3 dBA criteria is used. When the without Project noise levels are greater than the *normally acceptable* 75 dBA CNEL land use compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts for non-noise-sensitive land uses is generally consistent with the FICON noise level increase thresholds for noise-sensitive land uses but instead rely on *Ontario Noise Level Exposure and Land Use Compatibility Guidelines normally acceptable* 75 dBA CNEL exterior noise level criteria for non-noise sensitive general industrial land uses.

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.5, the vibration impacts originating from the construction of the Rich-Haven Specific Plan-2022 Amendment, vibration-generating activities are appropriately evaluated using the Caltrans vibration damage thresholds to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as “older residential structures” with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The closest airport which would require additional noise analysis under CEQA guideline C is the

Ontario International Airport. As previously indicated in Section 3.6, the Project site is located within the ONT Airport Influence Area but is located outside the 60 dBA CNEL airport noise impact zone. Therefore, airport noise impacts are considered *less than significant,* and no further noise analysis is provided under Guideline C.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site	Noise-Sensitive[1]	if ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		if ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
		if ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise Sensitive[2]	if ambient is > 75 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational	Residential	Exterior Noise Level Limit[3]	55 dBA L_{eq}	45 dBA L_{eq}
	Noise-Sensitive[1]	if ambient is < 60 dBA L_{eq}	≥ 5 dBA L_{eq} Project increase	
		if ambient is 60 - 65 dBA L_{eq}	≥ 3 dBA L_{eq} Project increase	
		if ambient is > 65 dBA L_{eq}	≥ 1.5 dBA L_{eq} Project increase	
Construction	Noise-Sensitive	Noise Level Threshold[4]	80 dBA L_{eq}	70 dBA L_{eq}
		Vibration Level Threshold[5]	0.3 PPV (in/sec)	n/a

[1] FICON, 1992.
[2] Table 5-13-3 of The Ontario Plan 2050 Final Supplemental Environmental Impact Report (FSEIR) (Exhibit 3-A)
[3] City of Ontario Municipal Code Section 5-29.09(a)(Appendix 3.2)
[4] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
[5] Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m. "n/a" = construction activities are not planned during the nighttime hours; "PPV" = peak particle velocity.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at eight locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Friday, September 30, 2022. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (19)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (2) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (8)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (8) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]	
		Daytime	Nighttime
L1	Located near the northwest corner of the Project Site near the Colony High School Football Field	56.0	55.6
L2	Located east of the Project Site just south of the existing residence at 3271 S Quincy Way.	48.9	48.4
L3	Located within the Rich Haven Specific Plan north of Ontario Ranch Road.	69.1	64.0
L4	Located south of the Project Site near the existing residence at 10823 Edison Avenue.	56.3	52.1
L5	Located within the Rich Haven Specific Plan near the existing residence at 3965 S Sunrise Avenue.	63.1	55.1
L6	Located west of the Project Site near the existing residence at 3860 S Oasis Paseo	68.8	62.4
L7	Located west of the Project Site near the existing residence at 3393 Clover Place	65.4	60.2
L8	Located north of the Project Site near the existing residence at 2943 S Alder Creek Drive.	68.5	64.3

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1, L_2, L_5, L_8, L_{25}, L_{50}, L_{90}, L_{95}, and L_{99} percentile noise levels observed during the daytime and nighttime periods.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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6 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with City of Ontario *Noise Level Exposure and Land Use Compatibility Guidelines* (see Exhibit 3-A), all transportation related noise levels are presented in terms of the 24-hour CNEL's.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (20) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (21) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (22)

6.1.1 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the 18 off-site study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Ontario General Plan and Circulation Element, and the posted vehicle speeds. The ADT volumes used in this study area presented on Table 6-2 are based on *Rich-Haven Specific Plan-2022 Amendment Traffic Analysis*, prepared by Urban Crossroads, Inc. for the following traffic scenarios. (23)

- Existing 2022 Traffic Conditions
- Existing Plus Project 2022 Traffic Conditions
- Opening Year Cumulative (OYC) 2027 Without Project
- Opening Year Cumulative (OYC) 2027 With Project
- Horizon Year (HY) 2050 Without Project
- Horizon Year (HY) 2050 With Project

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. This analysis relies on a comparative evaluation of the off-site traffic noise impacts at the boundary of the right-of-way of the receiving adjacent land use, without and with project ADT traffic volumes from the Project traffic study.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification[1]	Receiving Land Use[2]	Distance from Centerline to Receiving Land Use (Feet)[3]	Vehicle Speed (mph)
1	Archibald Av.	n/o Ontario Ranch Rd.	Principal Arterial	Sensitive	60'	55
2	Haven Av.	n/o Riverside Dr.	Principal Arterial	Sensitive	60'	55
3	Haven Av.	s/o Riverside Dr.	Principal Arterial	Sensitive	50'	50
4	Haven Av.	n/o Ontario Ranch Rd.	Principal Arterial	Sensitive	50'	50
5	Mill Creek Av.	s/o Chino Av.	Collector	Sensitive	44'	45
6	Milliken Av.	n/o Riverside Dr.	Principal Arterial	Non-Sensitive	60'	55
7	Milliken Av.	s/o Riverside Dr.	Principal Arterial	Non-Sensitive	60'	55
8	Hamner Av.	s/o Chino Av.	Principal Arterial	Non-Sensitive	60'	55
9	Hamner Av.	s/o Ontario Ranch Rd.	Principal Arterial	Non-Sensitive	60'	55
10	Riverside Dr.	w/o Haven Av.	Minor Arterial	Sensitive	60'	50
11	Riverside Dr.	w/o Milliken Av.	Minor Arterial	Sensitive	60'	50
12	Chino Av.	e/o Archibald Av.	Collector	Sensitive	44'	40
13	Ontario Ranch Rd.	w/o Archibald Av.	Principal Arterial	Sensitive	84'	55
14	Ontario Ranch Rd.	e/o Archibald Av.	Principal Arterial	Sensitive	84'	55
15	Ontario Ranch Rd.	w/o Haven Av.	Principal Arterial	Sensitive	84'	55
16	Ontario Ranch Rd.	e/o Haven Av.	Principal Arterial	Sensitive	84'	55
17	Ontario Ranch Rd.	w/o Hamner Av.	Principal Arterial	Non-Sensitive	84'	55
18	Ontario Ranch Rd.	e/o Hamner Av.	Principal Arterial	Non-Sensitive	84'	55

[1] City of Ontario General Plan Circulation Element.
[2] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[3] Distance to receiving land use is based upon the right-of-way distances.

To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes[1]					
			Existing (2022)		OYC (2027)		HY (2050)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Archibald Av.	n/o Ontario Ranch Rd.	21,909	26,968	26,337	31,396	37,904	42,963
2	Haven Av.	n/o Riverside Dr.	18,527	34,509	26,968	42,951	33,655	49,637
3	Haven Av.	s/o Riverside Dr.	10,432	28,244	20,983	38,795	28,411	46,224
4	Haven Av.	n/o Ontario Ranch Rd.	13,491	40,050	18,453	45,012	24,005	50,564
5	Mill Creek Av.	s/o Chino Av.	2,866	9,207	3,164	9,505	7,391	13,732
6	Milliken Av.	n/o Riverside Dr.	19,818	33,876	22,416	36,475	53,343	67,401
7	Milliken Av.	s/o Riverside Dr.	18,436	28,604	21,431	31,599	41,531	51,699
8	Hamner Av.	s/o Chino Av.	18,514	28,300	20,979	30,765	42,863	52,650
9	Hamner Av.	s/o Ontario Ranch Rd.	26,376	34,332	29,827	37,783	31,170	39,126
10	Riverside Dr.	w/o Haven Av.	15,880	17,898	18,998	21,016	32,988	35,006
11	Riverside Dr.	w/o Milliken Av.	9,308	16,275	13,501	20,468	36,188	43,155
12	Chino Av.	e/o Archibald Av.	5,409	8,054	9,529	12,173	11,003	13,647
13	Ontario Ranch Rd.	w/o Archibald Av.	13,582	20,888	16,875	24,182	18,501	25,807
14	Ontario Ranch Rd.	e/o Archibald Av.	16,280	33,653	19,855	37,228	19,774	37,147
15	Ontario Ranch Rd.	w/o Haven Av.	18,294	39,277	22,078	43,061	52,058	73,041
16	Ontario Ranch Rd.	e/o Haven Av.	23,755	49,864	27,304	53,412	41,417	67,526
17	Ontario Ranch Rd.	w/o Hamner Av.	22,522	54,967	33,350	65,795	45,327	77,772
18	Ontario Ranch Rd.	e/o Hamner Av.	27,822	51,979	38,968	63,124	50,098	74,255

[1] Rich Haven Specific Plan Traffic Analysis, Urban Crossroads, Inc.

Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Rich-Haven Specific Plan-2022 Amendment Traffic Analysis*.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	70.72%	11.77%	17.51%	100.00%
Medium Trucks	82.20%	3.49%	14.31%	100.00%
Heavy Trucks	70.82%	6.23%	22.95%	100.00%

[1] Based on an existing vehicle count taken on Ontario Ranch Road west of Hamner Avenue (Rich Haven Specific Plan Traffic Analysis, Urban Crossroads, Inc.). Vehicle mix percentage values rounded to the nearest one-hundredth. "Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-7 show the vehicle mixes used for the with Project traffic scenarios.

TABLE 6-4: WITHOUT PROJECT VEHICLE MIX

Classification	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Segments	86.53%	2.42%	11.05%	100.00%

Based on an existing vehicle count taken on Ontario Ranch Road west of Hamner Avenue (Rich Haven Specific Plan Traffic Analysis, Urban Crossroads, Inc.) Vehicle mix percentage values rounded to the nearest one-hundredth.

Due to the added Project truck trips, the increase in Project traffic volumes and the distributions of trucks on the study area road segments, the percentage of autos, medium trucks and heavy trucks will vary for each of the traffic scenarios. This explains why the existing and future traffic volumes and vehicle mixes vary between seemingly identical study area roadway segments.

TABLE 6-5: EXISTING (2022) WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Archibald Av.	n/o Ontario Ranch Rd.	89.06%	1.97%	8.97%	100.00%
2	Haven Av.	n/o Riverside Dr.	92.77%	1.30%	5.93%	100.00%
3	Haven Av.	s/o Riverside Dr.	95.03%	0.89%	4.08%	100.00%
4	Haven Av.	n/o Ontario Ranch Rd.	95.46%	0.82%	3.72%	100.00%
5	Mill Creek Av.	s/o Chino Av.	95.81%	0.75%	3.44%	100.00%
6	Milliken Av.	n/o Riverside Dr.	91.28%	1.55%	7.17%	100.00%
7	Milliken Av.	s/o Riverside Dr.	90.32%	1.72%	7.96%	100.00%
8	Hamner Av.	s/o Chino Av.	90.18%	1.74%	8.08%	100.00%
9	Hamner Av.	s/o Ontario Ranch Rd.	89.65%	1.86%	8.49%	100.00%
10	Riverside Dr.	w/o Haven Av.	88.05%	2.15%	9.80%	100.00%
11	Riverside Dr.	w/o Milliken Av.	92.30%	1.38%	6.32%	100.00%
12	Chino Av.	e/o Archibald Av.	90.95%	1.63%	7.42%	100.00%
13	Ontario Ranch Rd.	w/o Archibald Av.	90.42%	1.70%	7.87%	100.00%
14	Ontario Ranch Rd.	e/o Archibald Av.	92.98%	1.25%	5.77%	100.00%
15	Ontario Ranch Rd.	w/o Haven Av.	93.29%	1.20%	5.51%	100.00%
16	Ontario Ranch Rd.	e/o Haven Av.	93.24%	1.21%	5.55%	100.00%
17	Ontario Ranch Rd.	w/o Hamner Av.	93.13%	1.21%	5.66%	100.00%
18	Ontario Ranch Rd.	e/o Hamner Av.	91.47%	1.51%	7.02%	100.00%

[1] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-6: OYC (2027) WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Archibald Av.	n/o Ontario Ranch Rd.	88.70%	2.03%	9.27%	100.00%
2	Haven Av.	n/o Riverside Dr.	91.54%	1.52%	6.94%	100.00%
3	Haven Av.	s/o Riverside Dr.	92.72%	1.31%	5.97%	100.00%
4	Haven Av.	n/o Ontario Ranch Rd.	94.48%	0.99%	4.53%	100.00%
5	Mill Creek Av.	s/o Chino Av.	95.52%	0.81%	3.68%	100.00%
6	Milliken Av.	n/o Riverside Dr.	90.94%	1.61%	7.45%	100.00%
7	Milliken Av.	s/o Riverside Dr.	89.96%	1.79%	8.25%	100.00%
8	Hamner Av.	s/o Chino Av.	89.89%	1.80%	8.31%	100.00%
9	Hamner Av.	s/o Ontario Ranch Rd.	89.37%	1.91%	8.72%	100.00%
10	Riverside Dr.	w/o Haven Av.	87.83%	2.19%	9.99%	100.00%
11	Riverside Dr.	w/o Milliken Av.	91.12%	1.60%	7.29%	100.00%
12	Chino Av.	e/o Archibald Av.	89.46%	1.89%	8.65%	100.00%
13	Ontario Ranch Rd.	w/o Archibald Av.	89.89%	1.80%	8.31%	100.00%
14	Ontario Ranch Rd.	e/o Archibald Av.	92.36%	1.36%	6.28%	100.00%
15	Ontario Ranch Rd.	w/o Haven Av.	92.70%	1.30%	6.00%	100.00%
16	Ontario Ranch Rd.	e/o Haven Av.	92.79%	1.29%	5.92%	100.00%
17	Ontario Ranch Rd.	w/o Hamner Av.	92.04%	1.41%	6.55%	100.00%
18	Ontario Ranch Rd.	e/o Hamner Av.	90.60%	1.67%	7.73%	100.00%

[1] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-7: HY (2050) WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Archibald Av.	n/o Ontario Ranch Rd.	88.12%	2.14%	9.75%	100.00%
2	Haven Av.	n/o Riverside Dr.	90.87%	1.64%	7.49%	100.00%
3	Haven Av.	s/o Riverside Dr.	91.72%	1.49%	6.79%	100.00%
4	Haven Av.	n/o Ontario Ranch Rd.	93.61%	1.15%	5.24%	100.00%
5	Mill Creek Av.	s/o Chino Av.	92.75%	1.30%	5.95%	100.00%
6	Milliken Av.	n/o Riverside Dr.	88.92%	1.98%	9.10%	100.00%
7	Milliken Av.	s/o Riverside Dr.	88.63%	2.03%	9.34%	100.00%
8	Hamner Av.	s/o Chino Av.	88.49%	2.06%	9.45%	100.00%
9	Hamner Av.	s/o Ontario Ranch Rd.	89.27%	1.93%	8.80%	100.00%
10	Riverside Dr.	w/o Haven Av.	87.31%	2.28%	10.41%	100.00%
11	Riverside Dr.	w/o Milliken Av.	88.71%	2.03%	9.26%	100.00%
12	Chino Av.	e/o Archibald Av.	89.14%	1.95%	8.91%	100.00%
13	Ontario Ranch Rd.	w/o Archibald Av.	89.68%	1.84%	8.48%	100.00%
14	Ontario Ranch Rd.	e/o Archibald Av.	92.37%	1.36%	6.27%	100.00%
15	Ontario Ranch Rd.	w/o Haven Av.	90.17%	1.76%	8.07%	100.00%
16	Ontario Ranch Rd.	e/o Haven Av.	91.49%	1.52%	6.99%	100.00%
17	Ontario Ranch Rd.	w/o Hamner Av.	91.20%	1.56%	7.24%	100.00%
18	Ontario Ranch Rd.	e/o Hamner Av.	89.99%	1.78%	8.23%	100.00%

[1] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

7 OFF-SITE TRAFFIC NOISE ANALYSIS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on the *Rich-Haven Specific Plan-2022 Amendment Traffic Analysis* prepared by Urban Crossroads, Inc. (23) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels.

In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 to 7-6 present a summary of the exterior traffic noise levels for each traffic condition. Appendix 7.1 includes the traffic noise level contours worksheets for each traffic condition.

TABLE 7-1: EXISTING (2022) WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Archibald Av.	n/o Ontario Ranch Rd.	Sensitive	79.3	251	542	1167
2	Haven Av.	n/o Riverside Dr.	Sensitive	78.6	225	484	1043
3	Haven Av.	s/o Riverside Dr.	Sensitive	76.2	130	281	605
4	Haven Av.	n/o Ontario Ranch Rd.	Sensitive	77.4	155	333	718
5	Mill Creek Av.	s/o Chino Av.	Sensitive	69.7	RW	90	195
6	Milliken Av.	n/o Riverside Dr.	Non-Sensitive	78.9	235	507	1091
7	Milliken Av.	s/o Riverside Dr.	Non-Sensitive	78.6	224	483	1040
8	Hamner Av.	s/o Chino Av.	Non-Sensitive	78.6	225	484	1043
9	Hamner Av.	s/o Ontario Ranch Rd.	Non-Sensitive	80.1	284	613	1320
10	Riverside Dr.	w/o Haven Av.	Sensitive	77.2	182	391	843
11	Riverside Dr.	w/o Milliken Av.	Sensitive	74.9	127	274	590
12	Chino Av.	e/o Archibald Av.	Sensitive	71.1	52	112	240
13	Ontario Ranch Rd.	w/o Archibald Av.	Sensitive	79.1	340	733	1578
14	Ontario Ranch Rd.	e/o Archibald Av.	Sensitive	79.9	384	827	1781
15	Ontario Ranch Rd.	w/o Haven Av.	Sensitive	80.4	415	894	1925

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
16	Ontario Ranch Rd.	e/o Haven Av.	Sensitive	81.5	494	1064	2291
17	Ontario Ranch Rd.	w/o Hamner Av.	Non-Sensitive	81.3	476	1026	2211
18	Ontario Ranch Rd.	e/o Hamner Av.	Non-Sensitive	82.2	549	1182	2546

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING (2022) WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Archibald Av.	n/o Ontario Ranch Rd.	Sensitive	79.5	259	559	1204
2	Haven Av.	n/o Riverside Dr.	Sensitive	79.3	251	541	1166
3	Haven Av.	s/o Riverside Dr.	Sensitive	77.5	157	339	729
4	Haven Av.	n/o Ontario Ranch Rd.	Sensitive	78.7	191	412	887
5	Mill Creek Av.	s/o Chino Av.	Sensitive	71.1	52	112	241
6	Milliken Av.	n/o Riverside Dr.	Non-Sensitive	79.8	271	583	1257
7	Milliken Av.	s/o Riverside Dr.	Non-Sensitive	79.4	254	548	1180
8	Hamner Av.	s/o Chino Av.	Non-Sensitive	79.4	254	548	1180
9	Hamner Av.	s/o Ontario Ranch Rd.	Non-Sensitive	80.4	296	639	1376
10	Riverside Dr.	w/o Haven Av.	Sensitive	77.3	185	398	857
11	Riverside Dr.	w/o Milliken Av.	Sensitive	75.5	139	300	645
12	Chino Av.	e/o Archibald Av.	Sensitive	71.4	54	117	252
13	Ontario Ranch Rd.	w/o Archibald Av.	Sensitive	79.9	382	822	1771
14	Ontario Ranch Rd.	e/o Archibald Av.	Sensitive	81.0	454	978	2108
15	Ontario Ranch Rd.	w/o Haven Av.	Sensitive	81.5	493	1063	2290
16	Ontario Ranch Rd.	e/o Haven Av.	Sensitive	82.6	580	1250	2693
17	Ontario Ranch Rd.	w/o Hamner Av.	Non-Sensitive	83.1	624	1345	2897
18	Ontario Ranch Rd.	e/o Hamner Av.	Non-Sensitive	83.5	663	1429	3079

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: OYC (2027) WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Archibald Av.	n/o Ontario Ranch Rd.	Sensitive	80.1	284	612	1319
2	Haven Av.	n/o Riverside Dr.	Sensitive	80.2	289	622	1340
3	Haven Av.	s/o Riverside Dr.	Sensitive	79.3	208	447	963
4	Haven Av.	n/o Ontario Ranch Rd.	Sensitive	78.7	191	410	884
5	Mill Creek Av.	s/o Chino Av.	Sensitive	70.1	45	97	208
6	Milliken Av.	n/o Riverside Dr.	Non-Sensitive	79.4	255	550	1185
7	Milliken Av.	s/o Riverside Dr.	Non-Sensitive	79.2	248	534	1150
8	Hamner Av.	s/o Chino Av.	Non-Sensitive	79.1	244	526	1133
9	Hamner Av.	s/o Ontario Ranch Rd.	Non-Sensitive	80.7	309	665	1433
10	Riverside Dr.	w/o Haven Av.	Sensitive	78.0	205	441	950
11	Riverside Dr.	w/o Milliken Av.	Sensitive	76.5	163	351	757
12	Chino Av.	e/o Archibald Av.	Sensitive	73.5	76	163	350
13	Ontario Ranch Rd.	w/o Archibald Av.	Sensitive	80.1	393	847	1824
14	Ontario Ranch Rd.	e/o Archibald Av.	Sensitive	80.8	438	944	2033
15	Ontario Ranch Rd.	w/o Haven Av.	Sensitive	81.2	470	1013	2182
16	Ontario Ranch Rd.	e/o Haven Av.	Sensitive	82.1	542	1167	2514
17	Ontario Ranch Rd.	w/o Hamner Av.	Non-Sensitive	83.0	619	1333	2873
18	Ontario Ranch Rd.	e/o Hamner Av.	Non-Sensitive	83.7	687	1479	3187

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: OYC (2027) WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Archibald Av.	n/o Ontario Ranch Rd.	Sensitive	80.3	292	629	1355
2	Haven Av.	n/o Riverside Dr.	Sensitive	80.7	312	673	1450
3	Haven Av.	s/o Riverside Dr.	Sensitive	79.9	229	494	1065
4	Haven Av.	n/o Ontario Ranch Rd.	Sensitive	79.8	224	482	1039
5	Mill Creek Av.	s/o Chino Av.	Sensitive	71.4	55	117	253
6	Milliken Av.	n/o Riverside Dr.	Non-Sensitive	80.3	290	624	1344
7	Milliken Av.	s/o Riverside Dr.	Non-Sensitive	80.0	277	596	1284
8	Hamner Av.	s/o Chino Av.	Non-Sensitive	79.9	273	587	1265
9	Hamner Av.	s/o Ontario Ranch Rd.	Non-Sensitive	80.9	320	690	1486

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
10	Riverside Dr.	w/o Haven Av.	Sensitive	78.1	207	447	963
11	Riverside Dr.	w/o Milliken Av.	Sensitive	76.9	174	374	805
12	Chino Av.	e/o Archibald Av.	Sensitive	73.7	78	167	360
13	Ontario Ranch Rd.	w/o Archibald Av.	Sensitive	80.7	432	930	2004
14	Ontario Ranch Rd.	e/o Archibald Av.	Sensitive	81.7	504	1087	2341
15	Ontario Ranch Rd.	w/o Haven Av.	Sensitive	82.2	544	1173	2527
16	Ontario Ranch Rd.	e/o Haven Av.	Sensitive	83.1	625	1346	2900
17	Ontario Ranch Rd.	w/o Hamner Av.	Non-Sensitive	84.3	751	1619	3488
18	Ontario Ranch Rd.	e/o Hamner Av.	Non-Sensitive	84.6	791	1703	3669

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-5: HY (2050) WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Archibald Av.	n/o Ontario Ranch Rd.	Sensitive	81.7	362	780	1681
2	Haven Av.	n/o Riverside Dr.	Sensitive	81.2	335	721	1553
3	Haven Av.	s/o Riverside Dr.	Sensitive	80.6	254	547	1179
4	Haven Av.	n/o Ontario Ranch Rd.	Sensitive	79.9	227	489	1054
5	Mill Creek Av.	s/o Chino Av.	Sensitive	73.8	79	170	366
6	Milliken Av.	n/o Riverside Dr.	Non-Sensitive	83.2	455	980	2112
7	Milliken Av.	s/o Riverside Dr.	Non-Sensitive	82.1	385	829	1787
8	Hamner Av.	s/o Chino Av.	Non-Sensitive	82.2	393	847	1825
9	Hamner Av.	s/o Ontario Ranch Rd.	Non-Sensitive	80.9	318	685	1476
10	Riverside Dr.	w/o Haven Av.	Sensitive	80.4	296	637	1372
11	Riverside Dr.	w/o Milliken Av.	Sensitive	80.8	314	678	1460
12	Chino Av.	e/o Archibald Av.	Sensitive	74.1	83	179	386
13	Ontario Ranch Rd.	w/o Archibald Av.	Sensitive	80.5	418	900	1940
14	Ontario Ranch Rd.	e/o Archibald Av.	Sensitive	80.7	437	941	2028
15	Ontario Ranch Rd.	w/o Haven Av.	Sensitive	84.9	833	1794	3866
16	Ontario Ranch Rd.	e/o Haven Av.	Sensitive	84.0	715	1541	3319
17	Ontario Ranch Rd.	w/o Hamner Av.	Non-Sensitive	84.3	759	1636	3525
18	Ontario Ranch Rd.	e/o Hamner Av.	Non-Sensitive	84.8	812	1749	3768

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-6: HY (2050) WITH PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Archibald Av.	n/o Ontario Ranch Rd.	Sensitive	81.8	369	795	1713
2	Haven Av.	n/o Riverside Dr.	Sensitive	81.6	357	768	1655
3	Haven Av.	s/o Riverside Dr.	Sensitive	81.1	274	590	1271
4	Haven Av.	n/o Ontario Ranch Rd.	Sensitive	80.7	258	556	1197
5	Mill Creek Av.	s/o Chino Av.	Sensitive	74.4	86	186	401
6	Milliken Av.	n/o Riverside Dr.	Non-Sensitive	83.6	481	1037	2233
7	Milliken Av.	s/o Riverside Dr.	Non-Sensitive	82.5	408	880	1896
8	Hamner Av.	s/o Chino Av.	Non-Sensitive	82.6	416	896	1931
9	Hamner Av.	s/o Ontario Ranch Rd.	Non-Sensitive	81.1	329	709	1528
10	Riverside Dr.	w/o Haven Av.	Sensitive	80.4	298	642	1383
11	Riverside Dr.	w/o Milliken Av.	Sensitive	80.9	322	694	1495
12	Chino Av.	e/o Archibald Av.	Sensitive	74.3	85	183	395
13	Ontario Ranch Rd.	w/o Archibald Av.	Sensitive	81.0	456	982	2115
14	Ontario Ranch Rd.	e/o Archibald Av.	Sensitive	81.7	503	1084	2336
15	Ontario Ranch Rd.	w/o Haven Av.	Sensitive	85.4	890	1917	4130
16	Ontario Ranch Rd.	e/o Haven Av.	Sensitive	84.6	788	1698	3659
17	Ontario Ranch Rd.	w/o Hamner Av.	Non-Sensitive	85.3	880	1897	4087
18	Ontario Ranch Rd.	e/o Hamner Av.	Non-Sensitive	85.5	908	1956	4215

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 EXISTING (2022) PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report for informational purposes and to fully analyze all the existing traffic scenarios identified in the Traffic Analysis prepared by Urban Crossroads, Inc. However, the analysis of existing off-site traffic noise levels plus traffic noise generated by the proposed Project scenario will not actually occur since the Project would not be fully constructed and operational until Year 2027 conditions. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels range from 69.7 to 82.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions ranging from 71.1 to 83.5 dBA CNEL. Table 7-7 shows that the Project off-site traffic noise level increases range from 0.1 to 1.8 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Project-related traffic.

TABLE 7-7: EXISTING (2022) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	Archibald Av.	n/o Ontario Ranch Rd.	Sensitive	79.3	79.5	0.2	1.5	No
2	Haven Av.	n/o Riverside Dr.	Sensitive	78.6	79.3	0.7	1.5	No
3	Haven Av.	s/o Riverside Dr.	Sensitive	76.2	77.5	1.3	1.5	No
4	Haven Av.	n/o Ontario Ranch Rd.	Sensitive	77.4	78.7	1.3	1.5	No
5	Mill Creek Av.	s/o Chino Av.	Sensitive	69.7	71.1	1.4	1.5	No
6	Milliken Av.	n/o Riverside Dr.	Non-Sensitive	78.9	79.8	0.9	3.0	No
7	Milliken Av.	s/o Riverside Dr.	Non-Sensitive	78.6	79.4	0.8	3.0	No
8	Hamner Av.	s/o Chino Av.	Non-Sensitive	78.6	79.4	0.8	3.0	No
9	Hamner Av.	s/o Ontario Ranch Rd.	Non-Sensitive	80.1	80.4	0.3	3.0	No
10	Riverside Dr.	w/o Haven Av.	Sensitive	77.2	77.3	0.1	1.5	No
11	Riverside Dr.	w/o Milliken Av.	Sensitive	74.9	75.5	0.6	1.5	No
12	Chino Av.	e/o Archibald Av.	Sensitive	71.1	71.4	0.3	1.5	No
13	Ontario Ranch Rd.	w/o Archibald Av.	Sensitive	79.1	79.9	0.8	1.5	No
14	Ontario Ranch Rd.	e/o Archibald Av.	Sensitive	79.9	81.0	1.1	1.5	No
15	Ontario Ranch Rd.	w/o Haven Av.	Sensitive	80.4	81.5	1.1	1.5	No
16	Ontario Ranch Rd.	e/o Haven Av.	Sensitive	81.5	82.6	1.1	1.5	No
17	Ontario Ranch Rd.	w/o Hamner Av.	Non-Sensitive	81.3	83.1	1.8	3.0	No
18	Ontario Ranch Rd.	e/o Hamner Av.	Non-Sensitive	82.2	83.5	1.3	3.0	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

7.3 OYC (2027) TRAFFIC NOISE LEVEL INCREASES

Table 7-3 presents the OYC without Project conditions CNEL noise levels. The OYC without Project exterior noise levels range from 70.1 to 83.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows that the OYC with Project conditions will range from 71.4 to 84.6 dBA CNEL. Table 7-8 shows that the Project off-site traffic noise level increases range from 0.1 to 1.3 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Project-related traffic.

TABLE 7-8: OYC (2027) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	Archibald Av.	n/o Ontario Ranch Rd.	Sensitive	80.1	80.3	0.2	1.5	No
2	Haven Av.	n/o Riverside Dr.	Sensitive	80.2	80.7	0.5	1.5	No
3	Haven Av.	s/o Riverside Dr.	Sensitive	79.3	79.9	0.6	1.5	No
4	Haven Av.	n/o Ontario Ranch Rd.	Sensitive	78.7	79.8	1.1	1.5	No
5	Mill Creek Av.	s/o Chino Av.	Sensitive	70.1	71.4	1.3	1.5	No
6	Milliken Av.	n/o Riverside Dr.	Non-Sensitive	79.4	80.3	0.9	3.0	No
7	Milliken Av.	s/o Riverside Dr.	Non-Sensitive	79.2	80.0	0.8	3.0	No
8	Hamner Av.	s/o Chino Av.	Non-Sensitive	79.1	79.9	0.8	3.0	No
9	Hamner Av.	s/o Ontario Ranch Rd.	Non-Sensitive	80.7	80.9	0.2	3.0	No
10	Riverside Dr.	w/o Haven Av.	Sensitive	78.0	78.1	0.1	1.5	No
11	Riverside Dr.	w/o Milliken Av.	Sensitive	76.5	76.9	0.4	1.5	No
12	Chino Av.	e/o Archibald Av.	Sensitive	73.5	73.7	0.2	1.5	No
13	Ontario Ranch Rd.	w/o Archibald Av.	Sensitive	80.1	80.7	0.6	1.5	No
14	Ontario Ranch Rd.	e/o Archibald Av.	Sensitive	80.8	81.7	0.9	1.5	No
15	Ontario Ranch Rd.	w/o Haven Av.	Sensitive	81.2	82.2	1.0	1.5	No
16	Ontario Ranch Rd.	e/o Haven Av.	Sensitive	82.1	83.1	1.0	1.5	No
17	Ontario Ranch Rd.	w/o Hamner Av.	Non-Sensitive	83.0	84.3	1.3	3.0	No
18	Ontario Ranch Rd.	e/o Hamner Av.	Non-Sensitive	83.7	84.6	0.9	3.0	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

7.4 HY (2050) TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the HY without Project conditions CNEL noise levels. The HY without Project exterior noise levels range from 73.8 to 84.9 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows that the HY with Project conditions will range from 74.3 to 85.5 dBA CNEL. Table 7-8 shows that the Project off-site traffic noise level increases range from 0.0 to 1.0 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Project-related traffic.

TABLE 7-9: HY (2050) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]			Incremental Noise Level Increase Threshold[3]	
				No Project	With Project	Project Addition	Limit	Exceeded?
1	Archibald Av.	n/o Ontario Ranch Rd.	Sensitive	81.7	81.8	0.1	1.5	No
2	Haven Av.	n/o Riverside Dr.	Sensitive	81.2	81.6	0.4	1.5	No
3	Haven Av.	s/o Riverside Dr.	Sensitive	80.6	81.1	0.5	1.5	No
4	Haven Av.	n/o Ontario Ranch Rd.	Sensitive	79.9	80.7	0.8	1.5	No
5	Mill Creek Av.	s/o Chino Av.	Sensitive	73.8	74.4	0.6	1.5	No
6	Milliken Av.	n/o Riverside Dr.	Non-Sensitive	83.2	83.6	0.4	3.0	No
7	Milliken Av.	s/o Riverside Dr.	Non-Sensitive	82.1	82.5	0.4	3.0	No
8	Hamner Av.	s/o Chino Av.	Non-Sensitive	82.2	82.6	0.4	3.0	No
9	Hamner Av.	s/o Ontario Ranch Rd.	Non-Sensitive	80.9	81.1	0.2	3.0	No
10	Riverside Dr.	w/o Haven Av.	Sensitive	80.4	80.4	0.0	1.5	No
11	Riverside Dr.	w/o Milliken Av.	Sensitive	80.8	80.9	0.1	1.5	No
12	Chino Av.	e/o Archibald Av.	Sensitive	74.1	74.3	0.2	1.5	No
13	Ontario Ranch Rd.	w/o Archibald Av.	Sensitive	80.5	81.0	0.5	1.5	No
14	Ontario Ranch Rd.	e/o Archibald Av.	Sensitive	80.7	81.7	1.0	1.5	No
15	Ontario Ranch Rd.	w/o Haven Av.	Sensitive	84.9	85.4	0.5	1.5	No
16	Ontario Ranch Rd.	e/o Haven Av.	Sensitive	84.0	84.6	0.6	1.5	No
17	Ontario Ranch Rd.	w/o Hamner Av.	Non-Sensitive	84.3	85.3	1.0	3.0	No
18	Ontario Ranch Rd.	e/o Hamner Av.	Non-Sensitive	84.8	85.5	0.7	3.0	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

8 ON-SITE TRAFFIC NOISE ANALYSIS

As outlined in Section 7, noise levels at the roadways bordering the proposed project along Haven Avenue, Mill Creek Avenue, Hamner Avenue, Riverside Drive, Chino Avenue and Ontario Ranch Road would have noise levels above 65 dBA. Therefore, on-site residential land uses located along these roadways would require additional noise attenuation to ensure that noise levels comply with the City's exterior and interior noise standards of 65 dBA CNEL and 45 dBA CNEL.

As the development phasing would be implemented through the approval of tentative tract maps and development permits, the proposed project would be required to implement noise abatement measure 1.2.4, which requires that an acoustical analysis be required for residential units upon submittal final site design plans. Noise abatement measure 1.2.4 includes providing attenuation measures such as soundwalls or increasing the distance between habitable spaces and roadways. With compliance with noise abatement measures, impacts from roadways noise to on-site residential homes would be *less than significant*.

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9 RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 9-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, eight receiver locations in the vicinity of the Project site were identified. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

R1: Location R1 represents the Colony High School Football Stadium, approximately 76 feet north of the Project site. Receiver R1 is placed in the bleachers just north of Planning Area (PA) 1. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the existing noise sensitive residence at 3271 S Quincy Way, approximately 219 feet east of the Project site. Receiver R2 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents an on-site receiver location within the planned PA7 residential mixed use overlay area. Receiver R3 is placed approximately 460 feet south of the light industrial use within PA 6A. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

R4: Location R4 represents the existing noise sensitive residence at 10823 Edison Avenue, approximately 94 feet south of the Project site. Since there are no private outdoor living areas (backyard) facing the Project site, receiver R4 is placed at the building's façade. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

EXHIBIT 9-A: RECEIVER LOCATIONS



R5: Location R5 represents the existing on-site noise sensitive residence at 3959 S Sunrise Avenue within the standalone residential overlay (PA4). Receiver R5 is placed in the private outdoor living areas facing the light industrial use within PA5A. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

R6: Location R6 represents the existing noise sensitive residence at 3455 Pine Ridge Loop, approximately 150 feet west of the Project site. Receiver R6 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L6, to describe the existing ambient noise environment.

R7: Location R7 represents the existing noise sensitive residence at 3379 S Myrtle Drive, approximately 156 feet west of the Project site. Receiver R7 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L7, to describe the existing ambient noise environment.

R8: Location R8 represents the existing noise sensitive residence at 2943 S Alder Creek Drive, approximately 189 feet north of the Project site. Receiver R8 is placed in the private outdoor living areas facing the Project site. A 24-hour noise measurement was taken near this location, L8, to describe the existing ambient noise environment.

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10 OPERATIONAL NOISE ANALYSIS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 9, resulting from the operation of the proposed Rich-Haven Specific Plan-2022 Amendment Project. It is expected that the primary noise source activities will be related to the light industrial and commercial land uses within planning areas 2C, 3C, 5A, 6A, 6B, 8 and 10B. The residential planning areas within the Rich-Haven Specific Plan-2022 Amendment are considered a noise-sensitive receiving land use. Therefore, no potential operational noise impacts for the residential land use are analyzed in the noise study. Exhibit 10-A identifies the noise source locations used to assess the operational noise levels.

10.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. The on-site Project-related noise sources are expected to include: loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements, truck movements and park activities.

10.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 10-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements, truck movements and park activities all operating at the same time. These sources of noise activity will likely vary throughout the day.

10.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precisions sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (19)

EXHIBIT 10-A: OPERATIONAL NOISE SOURCE LOCATIONS



TABLE 10-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source[1]	Noise Source Height (Feet)	Min./ Hour[2]		Reference Noise Level (dBA L_{eq}) @ 50 Feet	Sound Power Level (dBA)[3]
		Day	Night		
Loading Dock Activity	8'	60	60	62.8	103.4
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Trash Enclosure Activity	5'	60	30	57.3	89.0
Parking Lot Vehicle Movements	5'	60	60	52.6	81.1
Truck Movements	8'	60	60	59.8	93.2
Park Activities	5'	60'	0'	52.9	81.4

[1] As measured by Urban Crossroads, Inc.

[2] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

10.2.2 LOADING DOCK ACTIVITY

Noise sources at loading docks located with the Light Industrial may include maneuvering and idling trucks, truck refrigeration units, forklifts, banging and clanging of equipment (i.e., hand carts and roll-up doors), noise from public address systems, and voices of truck drivers and employees. The project proposes commercial uses, as described above that may contain loading docks. The reference loading dock activities are intended to describe the typical operational noise source levels associated with the Project. This includes truck idling, deliveries, backup alarms, unloading/loading, docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background forklift operations.

At a uniform reference distance of 50 feet, Urban Crossroads collected a reference noise level of 62.8 dBA L_{eq}. The loading dock activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of activity. The reference noise level measurement includes employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm. In addition, during the noise level measurement a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, air brakes noise, in addition to on-going idling of an already docked truck. Loading dock activity is estimated during all the daytime, evening, and nighttime hours.

Noise generated by loading docks could exceed the City's 65 dBA noise standard for residential and/or other sensitive noise receivers. Loading dock noise impacts are considered *less than significant* following compliance with the provisions of Ontario Municipal Code as specified in noise abatement measure 1.3.6, which would reduce noise impacts from loading docks to *less than significant* levels.

10.2.3 ROOF-TOP AIR CONDITIONING UNITS

Mechanical equipment, such as generators, trash compactors, heating, ventilation and air conditioning (HVAC) units would be included as part of the proposed improvements. Mechanical equipment would be utilized in commercial as well as institutional areas. The noise level measurements describe a single mechanical roof-top air conditioning unit. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise levels are 57.2 dBA L_{eq}. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for and average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings.

Noise generated from mechanical equipment could impact residential uses and other sensitive receivers within the project vicinity by exceeding the City's 65 dBA noise standard. However, the proposed project would be subject to the provisions of Ontario Municipal Code, which requires that noise levels emitted from such equipment not exceed 65 dBA at any property line within a residential zone, residential use, or other noise-sensitive use. Noise levels from mechanical equipment would be further minimized with implementation of mitigation requiring the orientation of equipment away from any sensitive receivers, proper selection of equipment, and installation of equipment with proper acoustical shielding; refer to noise abatement measure 1.2.5. With implementation of noise abatement measure 1.2.5 and compliance with Ontario Municipal Code provisions, potential impacts from mechanical equipment are considered *less than significant*.

10.2.5 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project Site. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building.

10.2.6 PARKING LOT ACTIVITY

The commercial and institutional uses proposed by the project would include designated parking areas. Traffic associated with parking lots is not of sufficient volume to exceed community noise standards that are based on a time averaged scale such as the CNEL scale. However, the instantaneous maximum sound levels generated by a car door slamming, an engine starting up, and car passing by may be an annoyance to adjacent sensitive receivers. Noise abatement

measure 1.2.7 has been recommended requiring that subsequent noise analyses be prepared for future uses, as determined necessary by the City of Ontario, which demonstrate that all feasible sound attenuation has been incorporated into proposed parking areas (i.e., landscaping and brushed driving surfaces), so that noise from the parking areas has been minimized to the greatest extent practicable. Following mitigation, noise generated by parking lots is not expected to exceed the 65 dBA noise standard and a *less than significant impact* would occur in this regard. Also, it should be noted that noise attenuation from existing walls and intervening vegetation and topography would further lessen potential impacts.

To describe the on-site parking lot activity, a long-term 29-hour reference noise level measurement was collected in the center of activity within the staff parking lot of an Amazon warehouse distribution center. At 50 feet from the center of activity, the parking lot produced a reference noise level of 52.6 dBA L_{eq}. Parking activities are expected to take place during the full hour (60 minutes) throughout the daytime and evening hours. The parking lot noise levels are mainly due cars pulling in and out of parking spaces in combination with car doors opening and closing.

10.2.7 TRUCK MOVEMENTS

It is anticipated that truck deliveries would occur at the proposed commercial uses and industrial land uses. Noise generated by delivery trucks on the project site could exceed the City's 65 dBA noise standard and a significant impact could occur unless mitigated. Delivery truck noise impacts would be minimized through compliance with the provisions of Ontario Municipal Code, as specified in noise abatement measure 1.2.6, which includes limitations on hours of operation when a commercial zone abuts a residential zone or residential use, would reduce noise impacts from trucks to less than significant levels.

The truck movements reference noise level measurement was collected over a period of 1 hour and 28 minutes and represents multiple heavy trucks entering and exiting the outdoor loading dock area producing a reference noise level of 59.8 dBA L_{eq} at 50 feet. The noise sources included at this measurement location account for trucks entering and existing the Project driveways and maneuvering in and out of the outdoor loading dock activity area.

10.2.8 PARK ACTIVITIES

The project proposes parks that would include both active and passive uses. The parks would include picnic areas, basketball courts, tot lots, football, soccer, or softball facilities. Activities at the park could expose surrounding receivers to noise impacts from events at these facilities. Since the residential land use would be located at a minimum of 50 feet from the proposed park facilities, noise generated from people utilizing the park would not exceed the City's 65 dBA noise standard. Furthermore, potential park activities would be limited to operation during daytime hours. Impacts in this regard are considered less than significant.

To represent the potential noise level impacts associated with the Project's Park activities, a reference noise level measurement was collected at the Founders Park in the unincorporated community of Ladera Ranch in the County of Orange. The reference noise levels collected at the

Founders Park are expected to reflect the noise level activities within the open space-recreation land use areas of the Project site, since the reference noise level measurement includes girls' youth soccer games, coaches shouting instructions, and parents speaking on cell phones at five feet from the noise level measurement location, and background noise levels from kids playing on swing sets and people cheering and clapping at 50 feet from the noise level measurement location. Using the uniform reference distance of 50 feet, the reference park activity noise level is 49.4 dBA L_{eq}. The playground activities are estimated to occur for 60 minutes during the peak hour conditions.

10.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the CadnaA noise analysis to account for mixed ground representing a combination of hard and soft surfaces. Appendix 10.1 includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this section.

10.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements, truck movements and park activities, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 10-2 shows the Project operational noise levels during the daytime hours of 7:00

a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 33.1 to 45.8 dBA L_{eq}.

TABLE 10-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)							
	R1	R2	R3	R4	R5	R6	R7	R8
Loading Dock Activity	44.6	44.4	40.6	41.7	39.3	38.6	34.1	32.3
Roof-Top Air Conditioning Units	29.2	30.0	42.0	32.6	36.1	30.3	28.7	21.9
Trash Enclosure Activity	24.1	24.5	37.5	27.2	20.4	21.3	17.8	16.0
Parking Lot Vehicle Movements	27.3	29.2	36.8	29.2	37.4	26.7	25.9	19.8
Truck Movements	27.2	28.6	27.8	30.1	30.4	23.3	20.9	17.6
Park Activities	24.6	22.6	26.1	23.5	28.5	28.8	31.5	20.5
Total (All Noise Sources)	**44.9**	**44.8**	**45.8**	**42.8**	**42.9**	**39.6**	**35.9**	**33.1**

[1] See Exhibit 10-A for the noise source locations. CadnaA noise model calculations are included in Appendix 10.1.

Table 10-3 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 32.9 to 44.8 dBA L_{eq}. The differences between the daytime and nighttime noise levels are largely related to the estimated duration of noise activity as outlined in Table 10-1 and Appendix 10.1.

TABLE 10-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)							
	R1	R2	R3	R4	R5	R6	R7	R8
Loading Dock Activity	44.6	44.4	40.6	41.7	39.3	38.6	34.1	32.3
Roof-Top Air Conditioning Units	26.8	27.5	39.6	30.2	33.7	27.9	26.3	19.5
Trash Enclosure Activity	20.1	20.5	33.5	23.2	16.4	17.3	13.9	12.1
Parking Lot Vehicle Movements	27.3	29.2	36.8	29.2	37.4	26.7	25.9	19.8
Truck Movements	27.2	28.6	27.8	30.1	30.4	23.3	20.9	17.6
Park Activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total (All Noise Sources)	**44.8**	**44.7**	**44.5**	**42.5**	**42.4**	**39.3**	**35.5**	**32.9**

[1] See Exhibit 10-A for the noise source locations. CadnaA noise model calculations are included in Appendix 10.1.

10.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Ontario exterior noise level standards at nearby noise-sensitive receiver locations. Table 10-4 shows the operational noise levels associated with Rich-Haven Specific Plan-2022 Amendment Project will satisfy the City of Ontario 70 dBA L_{eq} daytime and 65 dBA L_{eq} nighttime exterior noise level standards at the

nearest receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 10-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	Project Operational Noise Levels (dBA Leq)[2]		Noise Level Standards (dBA Leq)[3]		Noise Level Standards Exceeded?[4]	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	44.9	44.8	65.0	45.0	No	No
R2	44.8	44.7	65.0	45.0	No	No
R3	45.8	44.5	65.0	45.0	No	No
R4	42.8	42.5	65.0	45.0	No	No
R5	42.9	42.4	65.0	45.0	No	No
R6	39.6	39.3	65.0	45.0	No	No
R7	35.9	35.5	65.0	45.0	No	No
R8	33.1	32.9	65.0	45.0	No	No

[1] See Exhibit 9-A for the receiver locations.
[2] Proposed Project operational noise level calculations are included in Appendix 10-1.
[3] Section 5-29.04 of the City of Ontario Municipal Code (Appendix 3.1).
[4] Do the estimated Project operational noise source activities exceed the noise level standards?
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

10.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (2) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \ldots 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. As indicated on Table 10-5, the Project will generate a daytime noise level increase ranging from 0.0 to 1.4 dBA L_{eq} operational noise level increase at the nearest receiver locations. Table 10-6 shows that the Project will generate a nighttime operational noise level increase ranging from 0.0 to 1.6 dBA L_{eq} at the nearest receiver locations.

The Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented on Table 4-1. Therefore, the incremental Project operational noise level increase is considered *less than significant* at all receiver locations.

TABLE 10-5: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	44.9	L1	56.0	56.3	0.3	5.0	No
R2	44.8	L2	48.9	50.3	1.4	5.0	No
R3	45.8	L3	69.1	69.1	0.0	1.5	No
R4	42.8	L4	56.3	56.5	0.2	5.0	No
R5	42.9	L5	63.1	63.1	0.0	5.0	No
R6	39.6	L6	68.8	68.8	0.0	1.5	No
R7	35.9	L7	65.4	65.4	0.0	1.5	No
R8	33.1	L8	68.5	68.5	0.0	1.5	No

[1] See Exhibit 9-A for the receiver locations.
[2] Total Project daytime operational noise levels as shown on Table 10-2.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

TABLE 10-6: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	44.9	L1	55.6	56.0	0.4	5.0	No
R2	44.8	L2	48.4	50.0	1.6	5.0	No
R3	45.8	L3	64.0	64.1	0.1	5.0	No
R4	42.8	L4	52.1	52.6	0.5	5.0	No
R5	42.9	L5	55.1	55.4	0.3	5.0	No
R6	39.6	L6	62.4	62.4	0.0	5.0	No
R7	35.9	L7	60.2	60.2	0.0	5.0	No
R8	33.1	L8	64.3	64.3	0.0	5.0	No

[1] See Exhibit 9-A for the receiver locations.
[2] Total Project nighttime operational noise levels as shown on Table 10-3.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed nighttime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

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11 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 11-A shows the construction noise source locations in relation to the nearest sensitive receiver locations previously described in Section 9. The Project Conditions of Approval identified at Section 1.3, would minimize or eliminate a construction-source noise impacts. It is recommended that the City consider these noise abatement measures in their deliberations regarding the Project i

While the City establishes limits to the hours during which construction activity may take place, it does not identify specific noise level limits for construction noise levels at potentially affected receiver locations for CEQA analysis purposes. In addition, since neither the City of Ontario General Plan or Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes, a numerical construction threshold based on Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual is used for analysis of daytime construction impacts. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use (8 p. 179).

11.1 CONSTRUCTION NOISE LEVELS

The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages and outlines the procedures for assessing noise impacts during construction. Each stage has a specific equipment mix, depending on the work to be completed during that stage. As a result of the equipment mix, each stage has its own noise characteristics; some stages have higher continuous noise levels than others, and some have higher impact noise levels than others. The Project construction activities are expected to occur in the following stages:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

11.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (24) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

EXHIBIT 11-A: CONSTRUCTION NOISE SOURCE AND RECEIVER LOCATIONS



11.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Consistent with FTA guidance for general construction noise assessment, Table 11-1 presents the combined noise levels for the loudest construction equipment, assuming they operate at the same time. As shown on Table 11-2, the construction noise levels are expected to range from 46.5 to 63.8 dBA L_{eq} at the nearby receiver locations. Appendix 11.1 includes the detailed CadnaA construction noise model inputs.

TABLE 11-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity	Reference Noise Level @ 50 Feet (dBA L_{eq})[1]	Combined Noise Level (dBA L_{eq})[2]	Combined Sound Power Level (PWL)[3]
Demolition	Demolition Equipment	82	83	115
	Backhoes	74		
	Hauling Trucks	72		
Site Preparation	Crawler Tractors	78	80	112
	Hauling Trucks	72		
	Rubber Tired Dozers	75		
Grading	Graders	81	83	115
	Excavators	77		
	Compactors	76		
Building Construction	Cranes	73	81	113
	Tractors	80		
	Welders	70		
Paving	Pavers	74	83	115
	Paving Equipment	82		
	Rollers	73		
Architectural Coating	Cranes	73	77	109
	Air Compressors	74		
	Generator Sets	70		

[1] FHWA Roadway Construction Noise Model (RCNM).
[2] Represents the combined noise level for all equipment assuming they operate at the same time consistent with FTA Transit Noise and Vibration Impact Assessment guidance.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calibrated using the CadnaA noise model at the reference distance to the noise source.

TABLE 11-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	53.0	56.0	54.0	56.0	50.0	56.0
R2	50.3	53.3	51.3	53.3	47.3	53.3
R3	60.7	63.7	61.7	63.7	57.7	63.7
R4	52.8	55.8	53.8	55.8	49.8	55.8
R5	60.8	63.8	61.8	63.8	57.8	63.8
R6	52.1	55.1	53.1	55.1	49.1	55.1
R7	51.8	54.8	52.8	54.8	48.8	54.8
R8	49.5	52.5	50.5	52.5	46.5	52.5

[1] Noise receiver locations are shown on Exhibit 11-A.
[2] Construction noise level calculations based on distance from the construction activity, which is measured from the Project site boundary to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 11.1.

11.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearest receiver locations, a construction-related daytime noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the reasonable daytime 80 dBA L_{eq} significance threshold during Project construction activities as shown on Table 11-3. With the implementation of mitigation measures N-1 and N-2, construction noise impacts would be *less than significant*.

TABLE 11-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	56.0	80	No
R2	53.3	80	No
R3	63.7	80	No
R4	55.8	80	No
R5	63.8	80	No
R6	55.1	80	No
R7	54.8	80	No
R8	52.5	80	No

[1] Noise receiver locations are shown on Exhibit 11-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to the nearest receiver locations as shown on Table 11-2.
[3] Construction noise level thresholds as shown on Table 4-1.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

11.6 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized on Table 11-4. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential for human response (annoyance) and building damage using the following vibration assessment methods defined by the FTA. To describe the vibration impacts the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 11-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089
Vibratory Roller	0.210

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 11-5 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 30 to 219 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.003 to 0.068 in/sec PPV. Based on maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec), the typical Project construction vibration levels will fall below the building damage thresholds at all the noise sensitive receiver locations.

It is not anticipated that short-term construction operations or long-term operations for the proposed project would result in excessive groundborne vibration or ground borne noise levels. Vibration producing construction equipment such as pile drivers is not typically used for the type of residential homes and commercial buildings that would be developed as part of the Rich-Haven Specific Plan. Although the proposed project would include the use of heavy-duty construction equipment, vibration impacts that would be generated would not damage structures within the project vicinity. In addition, long-term operation at residential units typically would not produce excessive ground vibration. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site.

TABLE 11-5: PROJECT CONSTRUCTION VIBRATION LEVELS

Receiver[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]					Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Level		
R1	76'	0.001	0.007	0.014	0.017	0.017	0.3	No
R2	219'	0.000	0.001	0.003	0.003	0.003	0.3	No
R3	30'	0.002	0.027	0.058	0.068	0.068	0.3	No
R4	94'	0.000	0.005	0.010	0.012	0.012	0.3	No
R5	30'	0.002	0.027	0.058	0.068	0.068	0.3	No
R6	150'	0.000	0.002	0.005	0.006	0.006	0.3	No
R7	156'	0.000	0.002	0.005	0.006	0.006	0.3	No
R8	189'	0.000	0.002	0.004	0.004	0.004	0.3	No

[1] Receiver locations are shown on Exhibit 11-A.
[2] Distance from receiver location to Project construction boundary (Project site boundary).
[3] Based on the Vibration Source Levels of Construction Equipment (Table 11-4).
[4] Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.
[5] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

12 REFERENCES

1. **State of California.** *California Environmental Quality Act, Environmental Checklist Form Appendix G.* 2021.
2. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
3. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
4. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
5. **U.S. Department of Transportation Federal Highway Administration.** *Highway Noise Barrier Design Handbook.* 2001.
6. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
7. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
8. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
9. **Office of Planning and Research.** *State of California General Plan Guidlines.* October 2019.
10. **City of Ontario.** *Policy Plan Safety Element, S4, Noise Hazards.* August 2022.
11. **The City of Ontario.** *The Ontario Plan 2050 Final Supplemental Environmental Impact Report (FSEIR).* August 2022.
12. **City of Ontario.** *Municipal Code, Chapter 29, Section 5- Noise.*
13. **California Department of Transportation.** *Transportation and Construction Vibration Guidance Manual.* April 2020.
14. **City of Ontario.** *Ontario International Airport Land Use Compatibility Plan.* July 2018.
15. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
16. **California Court of Appeal.** *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; - Cal.Rptr.3d, October 2008.
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18. **California Department of Transportation.** *Technical Noise Supplement.* November 2009.
19. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*
20. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.

21. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.

22. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.

23. **Urban Crossroads.** *Rich Haven Specific Plan.* October 2022.

24. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.

13 CERTIFICATIONS

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Rich-Haven Specific Plan-2022 Amendment Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 584-3148.

Bill Lawson, P.E., INCE
Principal
URBAN CROSSROADS, INC.
260 E. Baker Street, Suite 200
Costa Mesa, CA 92626
(949) 336-5979
blawson@urbanxroads.com



EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:

CITY OF ONTARIO DEVELOPMENT CODE

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CHAPTER 29: NOISE

5-29.01 Declaration of findings and policy

5-29.02 Definitions

5-29.03 Designated noise zones

5-29.04 Exterior noise standards

5-29.05 Interior noise standards

5-29.06 Exemptions

5-29.07 Loud and disturbing noise

5-29.08 Real property maintenance noise regulations

5-29.09 Construction activity noise regulations

5-29.10 Other public agency exceptions

5-29.11 Schools, day care centers, churches, libraries, museums, health care institutions; Special provisions

5-29.12 Sound amplifying equipment

5-29.13 Amplified sound

5-29.14 Motor vehicles

5-29.15 Noise level measurement

5-29.16 Prima facie violation

5-29.17 Penalty

5-29.18 Enforcement and administration

5-29.19 City Manager waiver

5-29.20 Noise abatement program

Sec. 5-29.01. Declaration of findings and policy.

It is hereby found and declared that:

(a) The making and creation of excessive, unnecessary or unusually loud noises within the limits of the City is a condition that has existed for some time, however, the extent and volume of such noises is increasing;

(b) The making, creation or maintenance of such excessive, unnecessary, unnatural or unusually loud noises that are prolonged, unusual and unnatural in their time, place and use affect and are a detriment to public health, comfort, convenience, safety, welfare and prosperity of the residents of the City; and

(c) The necessity in the public interest for the provisions and prohibitions hereinafter contained and enacted, is declared as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, comfort, convenience, safety, welfare and prosperity and the peace and quiet of the residents of the City.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.02. Definitions.

As used in this chapter, specific words and phrases are defined as follows:

(a) "Ambient noise level" shall mean the all-encompassing noise level associated with a given environment and is a composite of sounds from all sources, excluding the alleged offensive noise or excessive sound, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

(b) "Applicable (noise) zone" shall mean the noise zone category based on the actual use of the property, provided that the actual use is a legal use in the City.

(c) "A-weighted sound level" shall mean the sound pressure level in decibels (dBAs) as measured with a sound level meter using the A-weighted filter network (scale) at slow response and at a pressure of twenty (20) micropascals. The A-weighted filter de-emphasizes the very low and a very high frequency component of sound in a manner similar to the response of the human ear, and is a numerical method of rating human judgment of loudness.

(d) "Decibel (dBA)" shall mean a unit for measuring the amplitude of a sound, equal to twenty (20) times the logarithm to the base ten (10) of the ratio of pressure of the sound measured to the reference pressure of twenty (20) micropascals.

(e) "Equivalent sound or noise level (Leq)" shall mean the International Electrotechnical Commission (IEC) 60804 Standard for measurement, or the most recent revision thereof, for the sound level corresponding to a steady state noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level or the energy average noise level during the sample period. The measurement period for the purposes of this chapter is fifteen (15) minutes.

(f) "Impulsive noise" shall mean a noise of short duration usually less than one (1) second and of high intensity, with an abrupt onset and rapid decay. Such objectionable noises may also be repetitive.

(g) "Intrusive noise" shall mean that noise that intrudes over and above the ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence and tonal information content, as well as the prevailing ambient noise level.

(h) "Maintenance" shall mean the upkeep, repair or preservation of existing property or structures.

(i) "Noise" shall mean any unwanted sound or sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing or is otherwise annoying.

(j) "Noise level (sound level)" shall mean the weighted sound pressure level obtained by use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum. For purposes of this chapter, all noise levels (sound levels) shall be A-weighted sound pressure level.

(k) "Noise (sound) level meter" shall mean an instrument, including a microphone, an amplifier, an output meter and frequency weighting networks for the measurement and determination of noise and sound levels. For the purposes of this chapter, the sound level meter must meet the International Electrotechnical Commission (IEC) 60651 and 60804 Standards, or the most recent revisions thereof, for Type 1 sound level meters or an instrument and the associated recording and analyzing equipment that will provide equivalent data.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.03. Designated noise zones.

The properties hereinafter described shall be assigned to the following noise zones:

Noise Zone I:	All single-family residential properties;
Noise Zone II:	All multi-family residential properties and mobile home parks;
Noise Zone III:	All commercial property;
Noise Zone IV:	The residential portion of mixed use properties;
Noise Zone V:	All manufacturing or industrial properties and all other uses.

The actual use of the property, and not necessarily its zoning designation, shall be the determining factor in establishing whether a property is in Noise Zone I, II, III, IV or V, provided that the actual use is a legal use within the applicable zone.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.04. Exterior noise standards.

(a) The following exterior noise standards, unless otherwise specifically indicated, shall apply to all properties within a designated noise zone.

Allowable Exterior Noise Level (1)		***Allowed Equivalent Noise Level, Leq. (2)***	
Noise Zone	***Type of Land Use***	***7 a.m. to 10 p.m.***	***10 p.m. to 7 a.m.***
I	Single-Family Residential	65 dBA	45 dBA
II	Multi-Family Residential, Mobile Home Parks	65 dBA	50 dBA
III	Commercial Property	65 dBA	60 dBA
IV	Residential Portion of Mixed Use	70 dBA	70 dBA
V	Manufacturing and Industrial, Other Uses	70 dBA	70 dBA

(1) If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.

(2) Measurements for compliance are made on the affected property pursuant to §5-29.15.

(b) It is unlawful for any person at any location within the incorporated area of the City to create noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:

(1) The noise standard for the applicable zone for any fifteen-minute (15) period; and

(2) A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).

(c) In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.

(d) The Noise Zone IV standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property or use, if the noise originates from that commercial property or use.

(e) If the measurement location is on a boundary between two (2) different noise zones, the lower noise level standard applicable to the noise zone shall apply.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.05. Interior noise standards.

(a) The following interior noise standards, unless otherwise specifically indicated, shall apply to all properties within a designated noise zone.

Allowable Interior Noise Level (1)		**Allowed Equivalent Noise Level, Leq.** (2)	
Noise Zone	***Type of Land Use***	***7 a.m. to 10 p.m.***	***10 p.m. to 7 a.m.***
I	Single-Family Residential	45 dBA	40 dBA
II	Multi-Family Residential, Mobile Home Parks	45 dBA	40 dBA
IV	Residential Portion of Mixed Use	45 dBA	40 dBA

(1) If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.

(2) Measurements for compliance are made on the affected property pursuant to §5-29.15.

(b) It is unlawful for any person at any location within the incorporated area of the City to create noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:

(1) The noise standard for the applicable zone for any fifteen-minute (15) period;

(2) A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).

(c) In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.

(d) The Noise Zone IV standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property or use, if the noise originates from that commercial property or use.

(e) If the measurement location is on a boundary between two (2) different noise zones, the lower noise level standard applicable to the noise zone shall apply.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.06. Exemptions.

The following activities shall be exempted from the provisions of this chapter:

(a) Any activity conducted on public property, or on private property with the consent of the owner, by any public entity or its officers, employees, representatives, agents, subcontractors, permittees, licensees or lessees that the public entity has authorized are exempt from the provisions of this chapter. This includes, without limitation, sporting and recreational activities that are sponsored, co-sponsored, permitted or allowed by the City or any school district within the City's jurisdictional boundaries. This also includes, without limitation, occasional outdoor gatherings, public dances, shows or sporting and entertainment events, provided such events are conducted pursuant to an approval, authorization, contract, lease, permit or sublease by the appropriate public entity, specifically the planning commission or City Council;

(b) Occasional outdoor gatherings, public dances, show, sporting and entertainment events, provided said events are

conducted pursuant to a permit or license issued by the appropriate jurisdiction relative to the staging of said events;

(c) Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle, work or warning alarm or bell, provided the sounding of any bell or alarm on any building or motor vehicle shall terminate its operation within forty-five (45) minutes in any hour of its being activated;

(d) Noise sources associated with construction, repair, remodeling, demolition or grading of any real property. Such activities shall instead be subject to the provisions of § 5-29.09;

(e) Noise sources associated with construction, repair, remodeling, demolition or grading of public rights-of-way or during authorized seismic surveys;

(f) All mechanical devices, apparatus or equipment associated with agriculture operations provided that:

(1) Operations do not take place between 8:00 p.m. and 7:00 a.m.;

(2) Such operations and equipment are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions; or

(3) Such operations and equipment are associated with agricultural pest control through pesticide application, provided the application is made in accordance with permits issued by or regulations enforced by the California Department of Agriculture;

(g) Noise sources associated with the maintenance of real property. Such activities shall instead be subject to the provisions of § 5-29.08;

(h) Any activity to the extent regulation thereof has been preempted by state or federal law;

(i) Any noise sources associated with people and/or music associated with a party at a residential property. Such noise shall be subject to the provisions of OMC § 5-29.07;

(j) Any noise source emanating from an ice cream truck within the City. Such noise shall be subject to the provisions of OMC § 4-18.04;

(k) Any noise sources associated with barking dogs or other intermittent noises made by animals on any properly within the City. Such noise shall be subject to the provisions of OMC Chapter 1, Title 6;

(l) Noise sources related to uses approved by a permit or development agreement adopted prior to the date of adoption of this chapter and that contains acoustic or noise standard conditions of approval. This exemption shall only be applicable during the effective period of the City-approved permit or development agreement.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.07. Loud and disturbing noise.

(a) It is unlawful for any person or property owner within the City to make, cause or allow to be made any loud, excessive, impulsive or intrusive noise, disturbance or commotion that disturbs the peace or quiet of any area or that causes discomfort or annoyance to any reasonable person of normal sensitivities in the area, after a Police or Code Enforcement Officer has first requested that the person or property owner cease and desist from making such noise. The types of loud, disturbing, excessive, impulsive or intrusive noise may include, but shall not be limited to, yelling, shouting, hooting, whistling, singing, playing a musical instrument, or emitting or transmitting any loud music or noise from any mechanical or electrical sound making or sound-amplifying device.

(b) The factors, standards, and conditions that may be considered in determining whether a violation of the provisions of this section has been committed, included, but not limited to, the following:

(1) The level of the noise;

(2) The level and intensity of the background (ambient) noise, if any;

(3) The proximity of the noise to residential or commercial sleeping areas;

(4) The nature and zoning of the area within which the noise emanates;

(5) The density of inhabitation of the area within which the noise emanates;

(6) The time of day and night the noise occurs;

(7) The duration of the noise;

(8) Whether the noise is constant, recurrent or intermittent;

(9) Whether the noise is produced by a commercial or noncommercial activity; and

(10) Whether the use is lawful under the provisions of Title 5 of this Code and whether the noise is one that could reasonably be expected from the activity or allowed use.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.08. Real property maintenance noise regulations.

(a) No person, while engaged in maintenance of real property, shall operate any tool, equipment or machine in a manner that produces loud noise that disturbs a person of normal sensitivity who works or resides in the vicinity, or a Police or Code Enforcement Officer, except between the hours of 8:00 a.m. and 6:00 p.m.

(b) Trimming or pruning that requires the use of chainsaws or mulching machines shall only be allowed between the hours of 8:00 a.m. and 6:00 p.m. on a weekday and between the hours of 9:00 a.m. and 5:00 p.m. on Saturday or Sunday.

(c) The use of electrical or gasoline powered blowers, such as commonly used by gardeners or other persons for cleaning lawns, yards, driveways, gutters and other property shall only be allowed between the hours of 8:00 a.m. and 6:00 p.m. on a weekday and between the hours of 9:00 a.m. and 5:00 p.m. on Saturday or Sunday.

(d) No landowner, gardener, property maintenance service, contractor, subcontractor or employer shall permit or allow any person or persons working under his or her direction or control to operate any tool, equipment or machine in violation of the provisions of this section.

(e) Exceptions. The provisions of this section shall not apply to the following:

(1) Emergency property maintenance required by the building official;

(2) The maintenance, repair or improvement of any public work or facility by public employees, by any person or persons acting pursuant to a public works contract, or by any person or persons performing such work or pursuant to the direction of, or on behalf of, any public agency; provided, however, this exception shall not apply to the City, or its employees, contractors or agents, unless:

(i) The City Manager or department head determines that the maintenance, repair or improvement is immediately necessary to maintain public service,

(ii) The maintenance, repair or improvement is of a nature that cannot feasibly be conducted during normal business hours, or

(iii) The City Council has approved project specifications, contract provisions, or an environmental document that specifically authorizes maintenance during hours of the day that would otherwise be prohibited pursuant to this section; and

(3) Any maintenance that complies with the noise limits specified in §5-29.04.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.09. Construction activity noise regulations.

(a) No person, while engaged in construction, remodeling, digging, grading, demolition or any other related building activity, shall operate any tool, equipment or machine in a manner that produces loud noise that disturbs a person of normal sensitivity who works or resides in the vicinity, or a Police or Code Enforcement Officer, on any weekday except between the hours of 7:00 a.m. and 6:00 p.m. or on Saturday or Sunday between the hours of 9:00 a.m. and 6:00 p.m.

(b) No landowner, construction company owner, contractor, subcontractor, or employer shall permit or allow any person or persons working under their direction and control to operate any tool, equipment or machine in violation of the provisions of this section.

(c) Exceptions.

(1) The provisions of this section shall not apply to emergency construction work performed by a private party when authorized by the City Manager or his or her designee;

(2) The maintenance, repair or improvement of any public work or facility by public employees, by any person or persons acting pursuant to a public works contract, or by any person or persons performing such work or pursuant to the direction of, or on behalf of, any public agency; provided, however, this exception shall not apply to the City, or its employees, contractors or agents, unless:

(i) The City Manager or a department head determines that the maintenance, repair or improvement is immediately necessary to maintain public services,

(ii) The maintenance, repair or improvement is of a nature that cannot feasibly be conducted during normal business hours, or

(iii) The City Council has approved project specifications, contract provisions, or an environmental document that specifically authorizes construction during hours of the day that would otherwise be prohibited pursuant to this section; and

(3) Any construction that complies with the noise limits specified in §§5-29.04 or 5-29.05.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.10. Other public agency exceptions.

The provisions of this chapter shall not be construed to prohibit any work at different hours by or under the direction of any other public agency or public or private utility companies in cases of necessity or emergency.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.11. Schools, day care centers, churches, libraries, museums, health care institutions; Special provisions.

It is unlawful for any person to create any noise that causes the outdoor noise level at any school, day care center, hospital or similar health care institution, church, library or museum while the same is in use, to exceed the noise standards specified in § 5-29.04 prescribed for the assigned Noise Zone I.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.12. Sound amplifying equipment.

Loudspeakers, sound amplifiers, public address systems or similar devices used to amplify sounds shall be subject to the provisions of § 5-29.13. Such sound amplifying equipment shall not be construed to include electronic devices, including but not limited to, radios, tape players, tape recorders, compact disc players, MP3 players, electric keyboards, music synthesizers, record players or televisions, which are designed and operated for personal use, or used entirely within a building and are not designed or used to convey the human voice, music or any other sound to an audience outside such building, or which are used in vehicles and heard only by occupants of the vehicle in which installed.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.13. Amplified sound.

(a) The City Council enacts the following legislation for the sole purpose of securing and promoting the public health, comfort, safety and welfare for its citizenry. While recognizing that the use of sound amplifying equipment may be entitled to certain protection by the constitutional rights of freedom of speech and assembly, the City Council finds that in order to protect the public safety and the correlative rights of the citizens of this community to privacy and freedom from public nuisance of loud and unnecessary noise, reasonable regulation of the time, place and manner of the use of amplifying equipment is necessary. In no event shall approval or authorization required herein be withheld by reason of the constitutionally protected content of any material proposed to be broadcast through amplifying equipment.

(b) It is unlawful for any person, other than personnel of law enforcement or governmental agencies, to install, use or operate a loudspeaker or sound amplifying device in a fixed or movable position or mounted upon any vehicle within the City for the purpose of giving instructions, directions, talks, addresses or lectures to any persons or assemblages of persons in or upon any street, alley, sidewalk, park, place or public property without a permit to do so from the Police Chief or his or her designee. Notwithstanding any other provision of this chapter, the provisions of this section shall also apply to the use of sound amplifying equipment upon public or private property when used in connection with outdoor or indoor public or private events, whether or not admission is charged or food or beverages are sold, when such activity is to be attended by more than one hundred (100) persons and the noise emanating from the event will be audible at the property plane, or in the case of a street dance or concert on the nearest residential property. Those activities listed in § 5-29.06(a) are exempt from the requirements of this section.

(c) The Police Chief or his or her designee is authorized to approve and issue permits under this section.

(d) An application for a permit required by this section shall be filed with the Police Chief at least sixteen (16) days and no more than one hundred twenty (120) days prior to the date on which the sound amplifying equipment is intended to be used. Applications for events covered by the First Amendment of the United States Constitution are exempt from the time requirements of this section if it is shown that circumstances require a shorter filing period and the event will not constitute an unsafe condition. The application shall contain the following information:

(1) The name, address and telephone number of both the owner and the user of the sound amplifying equipment;

(2) The license number, if a sound truck is to be used;

(3) A general description of the sound amplifying equipment which is to be used;

(4) Whether sound amplifying equipment will be used for commercial or noncommercial purpose;

(5) The dates and times upon and within which, and the streets or property over or upon which, the equipment is proposed to be operated;

(6) The name or names of one (1) or more persons who will be present during the conduct of any activities for which registration is sought and who will have authority to reduce the volume of any sound amplifying equipment during the course of the activities if required pursuant to this chapter and, otherwise, to insure compliance with the provisions of this chapter;

(7) A statement by the applicant that he or she is willing and able to comply with the provisions of this chapter and the conditions of the permit; and

(8) A sketch of the area or facilities within which the activities are to be conducted, with approximate dimensions and illustration of the location and orientation of all sound-amplifying equipment.

(e) The Police Chief shall deny the permit application or revoke any permit if the chief finds any of the following:

(1) The application contains materially false or intentionally misleading information;

(2) The use of sound amplifying equipment at an event or activity proposed will be located in or upon a premises,

building or structure that is hazardous to the health or safety of the employees or patrons of the premises, business, activity, or event, or the general public, under the standards established by the Uniform Building or Fire Codes, or other applicable codes, as set forth in OMC Titles 4 and 8;

(3) The use of sound amplifying equipment at an event or activity proposed in or upon a premises, building or structure that lacks adequate on-site parking for participants attending the proposed event or activity under the applicable standards set forth in OMC Title 9;

(4) The conditions of any motor vehicle movement are such that, in his or her opinion, the use of the equipment would constitute an unreasonable interference with traffic safety;

(5) The conditions of pedestrian movement are such that the use of the equipment would constitute a detriment to traffic safety;

(6) The application submitted by the applicant reveals that the applicant would violate the provisions of this section or any other provision of federal, state and/or local law;

(7) The applicant is unwilling or unable to comply with the provisions of this chapter or any conditions imposed upon any permit issued;

(8) There had already been a permitted event at the intended location, or within a two hundred (200) yard radius of the intended location and the prior permitted event was located on residentially zoned property or on a street, alley, public parking lot or neighborhood park within three (3) months prior to the intended event. Community parks are exempt from this subsection (8); or

(9) The applicant or location has had previous violations within the past calendar year, and in the judgment of the Police Chief, issuance would be contrary to the intent of this section.

(f) In determining whether the use of the equipment would constitute an unreasonable interference with or detriment to traffic safety, the Police Chief shall consider, but shall not necessarily be limited to:

(1) The volumes, patterns and speed of vehicular and pedestrian traffic in the proposed area of use;

(2) The relationship of the proposed use of equipment and potential impacts upon traffic patterns;

(3) Availability of sufficient room for the operation of the equipment without significantly interfering with the traffic patterns;

(4) Proximity to schools, playgrounds and similar facilities where use of such equipment might attract children into traffic patterns; or

(5) Proximity to busy intersections or other potentially hazardous conditions where use of such equipment might constitute a hazard by reason of its tendency to distract drivers of vehicles or pedestrians.

(g) Issuance or denial.

(1) If the application is approved, the Police Chief shall return an approved copy of the application to the applicant and shall issue a permit. The permit shall constitute permission for the use of the sound amplifying equipment as requested.

(2) Any application filed shall be either approved or disapproved within five (5) days of the filing thereof.

(3) If the application is disapproved, the Police Chief shall return a disapproved copy forthwith to the applicant with a written statement on the reason for disapproval.

(i) Any person aggrieved by a decision of the Police Chief or his or her designee may file an appeal to the City Manager. A complete and proper appeal shall be filed with the City Clerk within ten (10) calendar days of the action that is the subject of the appeal. If the applicant fails to file an appeal within the ten (10) day filing period provided herein, denial shall take effect immediately upon expiration of such filing period. All appeals shall be in writing and shall contain the following information: (a) name(s) of the person filing the appeal, (b) a brief statement in ordinary and concise language of the relief sought, and (c) the signatures of all parties named as appellants and their mailing addresses. After receiving the appeal, the City Clerk shall immediately forward the matter to the City Manager for handling.

(ii) The City Manager shall, upon receipt of the appeal, set the matter for hearing before the City Manager or a hearing officer. Any hearing officer shall be a licensed attorney or recognized mediator designated by the City Manager. The hearing shall be set for not more than ten (10) calendar days after the receipt of the appeal unless a longer time is requested or consented to by the appellant. Notice of such hearing shall be given in writing and mailed at least five (5) calendar days prior to the date of the hearing, by U.S. mail, with a proof of service attached, addressed to the address listed on the permit application, or the written appeal if different from the permit application. The notice shall state the grounds of the complaint or reason for the denial and shall state the time and place where such hearing will be held.

(iii) The City Manager or hearing officer shall, within ten (10) calendar days following the conclusion of the hearing, make a written finding and decision, which shall be delivered to the City and the appellant by first class mail. Notwithstanding any provision in this Code, the decision of the City Manager or hearing officer shall be the final administrative decision of the City. Any party dissatisfied with the decision of the City Manager or hearing officer may seek review of such decision under the provisions of Code Civil Procedure, §§ 1094.5 and 1094.8, as amended from time to time.

(h) In addition to any other provisions of this Code, the use of sound-amplifying equipment and sound trucks in the City shall be subject to the following regulations:

(1) The only sounds permitted are music and human speech;

(2) Sound shall not be emitted within one hundred (100) yards of hospitals, churches, schools and City Hall;

(3) The volume of sound shall be controlled so that it will not be audible for a distance in excess of one hundred (100) feet from the sound amplifying equipment or sound truck, and so that the volume is not unreasonably loud, raucous, jarring, disturbing or a nuisance to persons within the range of allowed audibility; or

(4) The sound amplifying equipment or sound truck shall not be used between the hours of 8:00 p.m. and 8:00 a.m.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.14. Motor vehicles.

The use of any motor vehicle in such a condition as to create excessive, impulsive or intrusive noises is prohibited. The discharge into the open air of the exhaust of any internal combustion engine, stationary or mounted on wheels, motorboat or motor vehicle, including motor cycle, whether or not discharged through a muffler or other similar device, which discharge creates excessive, unusual, impulsive or intrusive noise is prohibited. Motor vehicles shall comply with the noise regulations of the California Vehicle Code.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.15. Noise level measurement.

(a) The location selected for measuring exterior noise levels in a residential area shall be at any part of a private yard, patio, deck or balcony normally used for human activity and identified by the owner or, if occupied by someone other than the owner, the occupant of the affected property as suspected of exceeding the noise level standard. This location may be the closest point in the private yard or patio, or on the deck or balcony, to the noise source, but should not be located in nonhuman activity areas such as trash container storage areas, planter beds, above or contacting a property line fence, or other areas not normally used as part of the yard, patio, deck or balcony. The location selected for measuring exterior noise levels in a nonresidential area shall be at the closest point to the noise source. The measurement microphone height shall be five (5) feet above finish elevation or, in the case of a deck or balcony, the measurement microphone height shall be five (5) feet above the finished floor level.

(b) The location selected for measuring interior noise levels shall be made within the affected residential unit. The measurements shall be made at a point at least four (4) feet from the wall, ceiling or floor, or within the frame of a window opening, nearest the noise source. The measurements shall be made with windows in an open position.

(c) Any decibel measurement made pursuant to the provisions of this chapter shall be measured in decibels (dBAs) as measured with a sound level meter using the A-weighted sound pressure level.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.16. Prima facie violation.

Any noise exceeding the noise level standard as specified in §§5-29.04 and 5-29.05, shall be deemed to be prima facie evidence of a violation of the provisions of this chapter.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.17. Penalty.

(a) Any person who negligently or knowingly violates any provision of this chapter shall be guilty of an infraction and upon conviction shall be punishable by a fine specified in OMC § 1-2.01. Each day a violation occurs shall constitute a separate offense and shall be punishable as such.

(b) Any person who negligently or knowingly violates any provision of this chapter may also be subject to fine(s) specified in the administrative citation schedule of fines set forth in OMC § 1-5.04. The manner of issuing administrative citations shall comply with all the procedures specified in OMC Chapter 5, Title 1.

(c) As an additional remedy, the operation or maintenance of any device, instrument, vehicle or machinery in violation of any provisions of this chapter, which operation or maintenance causes or creates sound levels exceeding the allowable standards as specified in this chapter, shall be deemed and is declared to be a public nuisance and may be subject to abatement by a restraining order or injunction issued by a court of competent jurisdiction.

(d) Any violation of this chapter is declared to be a public nuisance and may be abated in accordance with law. The expense of enforcing this chapter is declared to be public nuisance and may be by resolution of the City Council declared to be a lien and special assessment against the property on which such nuisance is maintained, and any such charge shall also be a personal obligation of the property owner.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.18. Enforcement and administration.

(a) It shall be the responsibility of Police or Code Enforcement Officers to enforce the provisions of this chapter and to perform all other functions required by this chapter. Such duties shall include, but not be limited to investigating potential violations, issuing warning notices and citations, and providing evidence to the City prosecutor for legal action.

(b) For violations of § 5-29.07, Police or Code Enforcement Officers shall obtain a declaration under penalty of perjury from two (2) declarants living in separate households within a sixty (60) day period stating in detail all of the following:

(1) That the declarant is a resident of a residential neighborhood located within two hundred (200) yards of the noise source; and

(2) Within the past month declarant has heard noise for substantially long periods to the extreme annoyance of the declarant.

(3) Declarations from two (2) declarants are required to prove a violation of §5-29.07, but are not required to prove that a person has violated any other provision of this chapter.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.19. City Manager waiver.

The City Manager is authorized to grant a temporary waiver to the provisions of this chapter for a period of time necessary to correct the violations of this chapter, if such temporary waiver would be in the public interest and there is no feasible and prudent alternative to the activity, or the method of conducting the activity, for which the temporary waiver is sought. This time period may include a commitment to a program that includes placing necessary orders and entering into necessary contracts within thirty (30) days for repair or installation.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.20. Noise abatement program.

(a) In circumstances where adopted community-wide noise standards and policies prove impractical in controlling noise generated from a specific source, the City Council may establish a noise abatement program that recognizes the characteristics of the noise source and affected property and that incorporates specialized mitigation measures.

(b) Noise abatement programs shall set forth in detail the approved terms, conditions and requirements for achieving maximum compliance with noise standards and policies. Said terms, conditions and requirements may include, but shall not be limited to, limitations, restrictions, or prohibitions on operating hours, location of operations, and the types of equipment.

(§ 2, Ord. 2888, eff. March 6, 2008)

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APPENDIX 5.1:

STUDY AREA PHOTOS

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14822_L1_A 1.North
34, 0' 52.160000"117, 34' 1.810000"



14822_L1_A 2.South
34, 0' 52.010000"117, 34' 1.700000"



14822_L1_A 3.East
34, 0' 52.050000"117, 34' 1.700000"



14822_L1_A 4.West
34, 0' 51.970000"117, 34' 1.780000"



14822_L2_E 1.North
34, 0' 47.870000"117, 33' 58.180000"



14822_L2_E 2.South
34, 0' 47.900000"117, 33' 58.160000"



14822_L2_E 3.East
34, 0' 47.930000"117, 33' 58.160000"



14822_L2_E 4.West
34, 0' 47.940000"117, 33' 58.160000"



14822_L3_H 1.North
34, 0' 3.560000"117, 33' 58.930000"



14822_L3_H 2.South
34, 0' 3.560000"117, 33' 58.900000"



14822_L3_H 3.East
34, 0' 3.560000"117, 33' 58.930000"



14822_L3_H 4.West
34, 0' 3.520000"117, 33' 58.930000"



14822_L4_I 1.North
33, 59' 49.970000"117, 34' 8.100000"



14822_L4_I 2.South
33, 59' 49.990000"117, 34' 8.100000"



14822_L4_I 3.East
33, 59' 49.990000"117, 34' 7.910000"



14822_L4_I 4.West
33, 59' 49.970000"117, 34' 7.990000"



14822_L5_G 1.North
34, 0' 6.940000"117, 34' 15.620000"



14822_L5_G 2.South
34, 0' 6.850000"117, 34' 15.620000"



14822_L5_G 3.East
34, 0' 6.830000"117, 34' 15.600000"



14822_L5_G 4.West
34, 0' 6.800000"117, 34' 15.680000"



14822_L6_S 1.North
34, 0' 14.360000"117, 34' 32.710000"



14822_L6_S 2.South
34, 0' 14.250000"117, 34' 32.650000"



14822_L6_S 3.East
34, 0' 14.250000"117, 34' 32.630000"



14822_L6_S 4.West
34, 0' 14.240000"117, 34' 32.710000"



14822_L7_X 1.North
34, 0' 42.380000"117, 34' 33.750000"



14822_L7_X 2.South
34, 0' 42.340000"117, 34' 33.750000"



14822_L7_X 3.East
34, 0' 42.370000"117, 34' 33.640000"



14822_L7_X 4.West
34, 0' 42.410000"117, 34' 33.670000"



14822_L8_Z 1.North
34, 1' 8.990000"117, 34' 31.010000"



14822_L8_Z 2.South
34, 1' 8.970000"117, 34' 31.010000"



14822_L8_Z 3.East
34, 1' 8.970000"117, 34' 31.010000"



14822_L8_Z 4.West
34, 1' 8.910000"117, 34' 31.090000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

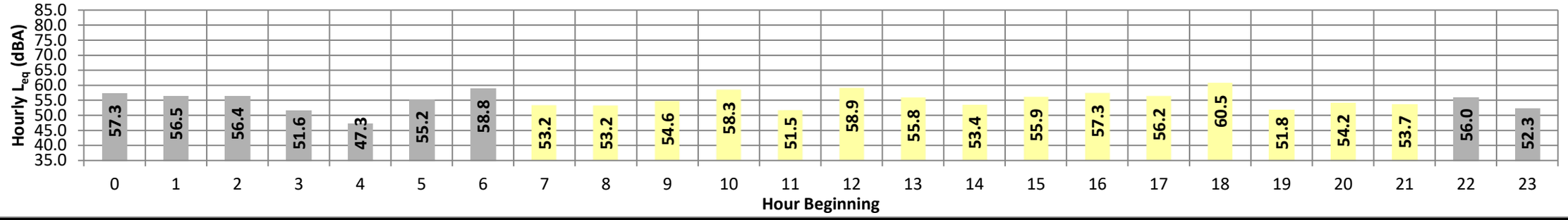
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24-Hour Noise Level Measurement Summary

Date: Friday, September 30, 2022 *Location:* L1 - Located near the northwest corner of the Project Site near *Meter:* Piccolo II *JN:* 14822

Project: Rich Haven SP *Source:* the Colony High School Football Field *Analyst:* B. Lawson

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	57.3	61.7	55.8	61.5	61.2	60.0	59.1	57.2	56.7	56.2	56.0	55.9	57.3	10.0	67.3
	1	56.5	59.5	55.2	59.3	59.1	58.5	57.8	56.7	56.1	55.6	55.5	55.3	56.5	10.0	66.5
	2	56.4	66.5	46.9	65.0	63.7	62.4	61.4	58.3	49.0	47.5	47.3	47.1	56.4	10.0	66.4
	3	51.6	55.9	49.9	55.7	55.3	54.5	53.4	51.7	51.0	50.4	50.2	50.0	51.6	10.0	61.6
	4	47.3	55.9	37.4	55.5	55.0	53.7	52.3	48.3	43.0	38.0	37.8	37.5	47.3	10.0	57.3
	5	55.2	67.3	38.7	66.8	66.0	62.6	59.8	54.0	46.1	39.6	39.2	38.8	55.2	10.0	65.2
	6	58.8	64.6	55.6	64.4	64.1	63.2	62.5	59.1	57.1	56.1	56.0	55.8	58.8	10.0	68.8
Day	7	53.2	63.9	40.3	63.5	62.8	60.9	59.3	51.4	45.5	41.3	40.9	40.4	53.2	0.0	53.2
	8	53.2	63.0	43.8	62.7	62.0	59.8	57.8	52.7	49.3	45.2	44.5	44.0	53.2	0.0	53.2
	9	54.6	65.3	43.5	65.0	64.3	61.9	59.4	53.4	49.2	45.1	44.5	43.7	54.6	0.0	54.6
	10	58.3	65.4	50.0	65.1	64.6	63.1	61.8	58.9	57.1	52.0	51.3	50.2	58.3	0.0	58.3
	11	51.5	63.1	39.9	62.8	62.1	59.4	56.6	49.0	43.9	40.7	40.4	40.0	51.5	0.0	51.5
	12	58.9	67.1	48.9	66.7	66.2	64.2	62.5	59.1	57.3	53.7	51.4	49.1	58.9	0.0	58.9
	13	55.8	65.9	49.2	65.4	64.6	61.7	59.4	54.9	53.0	50.2	49.9	49.4	55.8	0.0	55.8
	14	53.4	64.0	43.1	63.7	63.0	60.8	58.8	52.1	47.8	44.2	43.8	43.3	53.4	0.0	53.4
	15	55.9	65.7	45.0	65.3	64.8	62.9	61.3	55.0	51.3	46.5	45.9	45.1	55.9	0.0	55.9
	16	57.3	68.5	44.4	68.1	67.6	66.2	63.6	53.5	48.5	45.3	44.8	44.4	57.3	0.0	57.3
	17	56.2	67.1	44.3	66.6	66.1	64.1	61.9	53.9	49.3	45.0	44.7	44.4	56.2	0.0	56.2
	18	60.5	75.8	44.9	74.3	72.0	67.8	63.8	55.0	49.2	45.6	45.3	45.0	60.5	0.0	60.5
	19	51.8	60.3	45.4	60.1	59.7	58.3	56.8	51.3	48.1	45.9	45.7	45.5	51.8	5.0	56.8
	20	54.2	64.7	44.1	64.2	63.8	61.8	59.4	52.8	48.0	44.6	44.4	44.2	54.2	5.0	59.2
	21	53.7	63.1	44.6	62.7	62.2	60.6	59.1	53.3	48.9	45.2	44.9	44.7	53.7	5.0	58.7
Night	22	56.0	66.3	51.6	65.8	65.2	62.2	59.3	54.3	53.0	52.1	51.9	51.7	56.0	10.0	66.0
	23	52.3	62.9	46.5	62.6	61.9	59.2	56.5	50.5	48.5	47.1	46.9	46.7	52.3	10.0	62.3

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	51.5	60.3	39.9	60.1	59.7	58.3	56.6	49.0	43.9	40.7	40.4	40.0
	Max	60.5	75.8	50.0	74.3	72.0	67.8	63.8	59.1	57.3	53.7	51.4	50.2
Energy Average		56.0	Average:		65.1	64.4	62.2	60.1	53.8	49.8	46.0	45.5	44.9
Night	Min	47.3	55.9	37.4	55.5	55.0	53.7	52.3	48.3	43.0	38.0	37.8	37.5
	Max	58.8	67.3	55.8	66.8	66.0	63.2	62.5	59.1	57.1	56.2	56.0	55.9
Energy Average		55.6	Average:		61.8	61.3	59.6	58.0	54.4	51.2	49.2	49.0	48.7

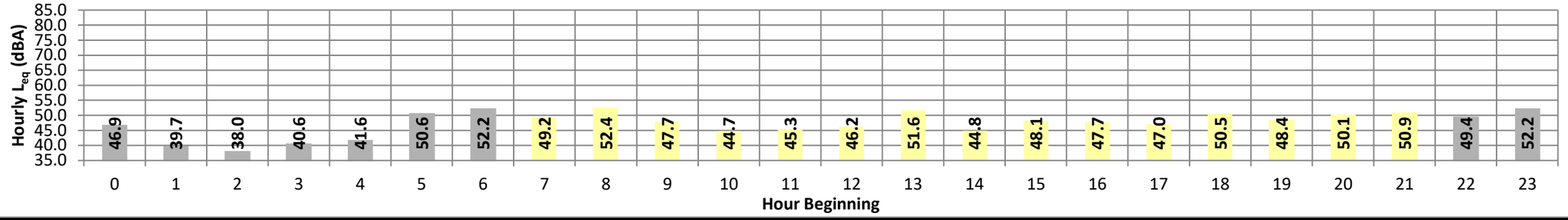
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
62.2	56.0	55.6

24-Hour Noise Level Measurement Summary

Date: Friday, September 30, 2022 *Location:* L2 - Located east of the Project Site just south of the existing *Meter:* Piccolo II *JN:* 14822

Project: Rich Haven SP *Source:* residence at 3271 S Quincy Way. *Analyst:* B. Lawson

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	46.9	55.3	37.4	55.1	55.0	54.5	53.9	45.4	39.1	37.6	37.5	37.4	46.9	10.0	56.9
	1	39.7	47.7	37.0	47.2	46.7	44.5	42.4	39.3	38.2	37.3	37.2	37.1	39.7	10.0	49.7
	2	38.0	38.9	37.4	38.8	38.7	38.5	38.4	38.2	37.9	37.6	37.5	37.4	38.0	10.0	48.0
	3	40.6	45.9	39.0	45.7	45.4	44.3	43.1	40.1	39.6	39.2	39.1	39.1	40.6	10.0	50.6
	4	41.6	46.4	39.7	46.2	46.0	45.0	44.3	42.0	40.5	40.0	39.9	39.8	41.6	10.0	51.6
	5	50.6	58.4	37.9	58.0	57.7	57.0	56.1	51.4	46.1	38.3	38.1	38.0	50.6	10.0	60.6
	6	52.2	61.3	38.7	60.9	60.6	59.8	58.5	52.1	43.7	39.3	39.0	38.8	52.2	10.0	62.2
Day	7	49.2	57.4	45.2	57.1	56.7	54.5	52.5	48.8	47.4	45.8	45.6	45.4	49.2	0.0	49.2
	8	52.4	64.5	44.1	64.1	63.3	59.0	55.7	49.1	46.7	44.8	44.5	44.2	52.4	0.0	52.4
	9	47.7	55.2	43.0	54.5	53.8	52.2	51.2	48.0	46.1	44.0	43.6	43.2	47.7	0.0	47.7
	10	44.7	55.9	40.8	53.8	52.6	49.7	48.0	43.8	42.6	41.3	41.1	40.9	44.7	0.0	44.7
	11	45.3	54.0	39.9	53.5	52.8	51.1	49.7	45.0	42.5	40.6	40.3	40.0	45.3	0.0	45.3
	12	46.2	55.6	40.3	55.0	54.1	51.4	50.1	45.8	43.7	41.0	40.6	40.4	46.2	0.0	46.2
	13	51.6	62.0	41.9	61.7	59.9	57.4	56.8	51.3	47.0	43.1	42.6	42.1	51.6	0.0	51.6
	14	44.8	54.1	40.2	53.2	52.0	49.4	48.1	44.7	43.1	41.2	40.9	40.4	44.8	0.0	44.8
	15	48.1	58.1	41.1	57.2	56.4	53.9	52.4	48.2	44.4	41.9	41.6	41.2	48.1	0.0	48.1
	16	47.7	56.6	42.4	56.1	55.4	53.3	51.7	47.4	45.2	43.1	42.9	42.5	47.7	0.0	47.7
	17	47.0	56.1	41.6	55.4	54.8	53.0	51.4	46.4	44.3	42.1	41.9	41.6	47.0	0.0	47.0
	18	50.5	57.9	45.0	57.5	57.0	55.6	54.0	50.9	48.9	46.0	45.5	45.1	50.5	0.0	50.5
	19	48.4	56.8	43.4	56.0	55.3	54.0	52.4	48.3	46.3	43.9	43.7	43.5	48.4	5.0	53.4
	20	50.1	58.9	44.0	57.8	56.7	54.7	53.3	50.5	48.7	46.0	45.6	44.2	50.1	5.0	55.1
	21	50.9	59.4	43.3	58.7	58.2	56.7	55.4	51.5	48.3	44.0	43.8	43.4	50.9	5.0	55.9
Night	22	49.4	56.2	46.5	55.8	55.1	53.2	51.6	49.6	48.1	47.5	47.4	47.0	49.4	10.0	59.4
	23	52.2	56.1	50.9	55.9	55.5	54.8	54.4	52.3	51.4	51.2	51.1	51.0	52.2	10.0	62.2

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	44.7	54.0	39.9	53.2	52.0	49.4	48.0	43.8	42.5	40.6	40.3	40.0
	Max	52.4	64.5	45.2	64.1	63.3	59.0	56.8	51.5	48.9	46.0	45.6	45.4
Energy Average		48.9	Average:		56.8	55.9	53.7	52.2	48.0	45.7	43.3	42.9	42.5
Night	Min	38.0	38.9	37.0	38.8	38.7	38.5	38.4	38.2	37.9	37.3	37.2	37.1
	Max	52.2	61.3	50.9	60.9	60.6	59.8	58.5	52.3	51.4	51.2	51.1	51.0
Energy Average		48.4	Average:		51.5	51.2	50.2	49.2	45.6	42.7	40.9	40.8	40.6

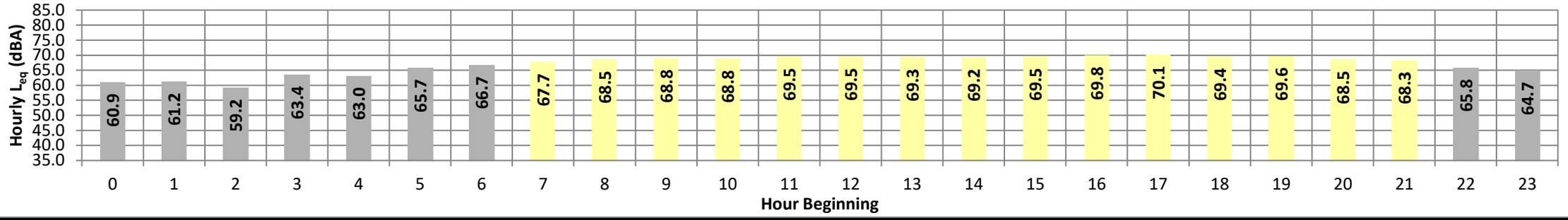
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
55.3	48.9	48.4

24-Hour Noise Level Measurement Summary

Date: Friday, September 30, 2022 *Location:* L3 - Located within the Rich Haven Specific Plan north of *Meter:* Piccolo II *JN:* 14822

Project: Rich Haven SP *Source:* Ontario Ranch Road. *Analyst:* B. Lawson

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	60.9	72.3	39.2	71.8	71.1	68.7	66.6	58.7	51.5	41.0	39.9	39.3	60.9	10.0	70.9
	1	61.2	73.6	38.9	73.1	72.3	69.3	66.8	57.2	48.9	40.6	39.7	39.0	61.2	10.0	71.2
	2	59.2	70.1	39.3	69.8	69.4	67.7	65.6	55.8	47.7	40.5	40.0	39.4	59.2	10.0	69.2
	3	63.4	76.3	38.3	75.9	74.9	71.1	68.1	59.7	50.4	39.8	39.0	38.4	63.4	10.0	73.4
	4	63.0	73.7	41.6	73.4	72.9	70.9	69.1	61.4	53.6	43.7	42.9	41.8	63.0	10.0	73.0
	5	65.7	76.0	43.9	75.7	75.3	73.2	71.4	65.2	57.8	46.6	45.3	44.1	65.7	10.0	75.7
	6	66.7	76.3	47.4	76.0	75.5	73.5	72.0	67.3	60.3	50.5	48.8	47.5	66.7	10.0	76.7
Day	7	67.7	77.1	50.2	76.9	76.4	74.4	72.9	68.0	62.5	53.4	51.9	50.4	67.7	0.0	67.7
	8	68.5	77.2	52.1	77.0	76.6	75.0	74.0	69.3	64.2	55.3	53.9	52.4	68.5	0.0	68.5
	9	68.8	77.7	53.1	77.5	77.1	75.1	73.8	69.6	65.0	56.4	54.9	53.4	68.8	0.0	68.8
	10	68.8	76.9	52.9	76.6	76.3	74.6	73.4	70.1	65.7	56.7	55.0	53.3	68.8	0.0	68.8
	11	69.5	77.2	52.1	76.9	76.5	74.9	74.1	71.0	66.8	56.6	54.6	52.5	69.5	0.0	69.5
	12	69.5	76.8	55.8	76.6	76.2	74.8	74.0	70.8	67.2	59.1	57.4	56.0	69.5	0.0	69.5
	13	69.3	77.0	53.5	76.8	76.4	74.8	73.9	70.5	66.7	58.0	55.8	53.8	69.3	0.0	69.3
	14	69.2	76.9	56.1	76.6	76.2	74.9	73.7	70.4	66.7	59.8	58.1	56.4	69.2	0.0	69.2
	15	69.5	76.3	57.1	76.1	75.7	74.4	73.6	70.9	68.0	60.6	58.9	57.3	69.5	0.0	69.5
	16	69.8	78.0	56.7	77.7	77.0	74.9	73.7	70.9	67.8	60.8	58.7	57.0	69.8	0.0	69.8
	17	70.1	76.8	58.5	76.5	76.1	74.9	74.0	71.3	68.7	62.1	60.7	58.9	70.1	0.0	70.1
	18	69.4	76.7	57.6	76.3	75.9	74.4	73.4	70.6	67.8	60.8	59.4	58.0	69.4	0.0	69.4
	19	69.6	79.1	53.7	78.6	77.7	75.1	73.6	70.6	66.7	58.0	56.2	54.0	69.6	5.0	74.6
	20	68.5	77.5	52.5	77.2	76.7	74.7	73.3	69.4	64.8	55.5	54.2	52.7	68.5	5.0	73.5
	21	68.3	80.1	48.8	79.3	78.0	74.7	72.3	68.3	63.5	52.3	50.5	48.9	68.3	5.0	73.3
Night	22	65.8	75.3	47.7	74.9	74.4	72.5	71.3	66.3	60.0	50.5	49.1	48.0	65.8	10.0	75.8
	23	64.7	74.4	45.9	74.1	73.8	71.9	70.3	64.7	58.3	48.9	47.3	46.1	64.7	10.0	74.7

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	67.7	76.3	48.8	76.1	75.7	74.4	72.3	68.0	62.5	52.3	50.5	48.9
	Max	70.1	80.1	58.5	79.3	78.0	75.1	74.1	71.3	68.7	62.1	60.7	58.9
Energy Average		69.1	Average:		77.1	76.6	74.8	73.6	70.1	66.1	57.7	56.0	54.3
Night	Min	59.2	70.1	38.3	69.8	69.4	67.7	65.6	55.8	47.7	39.8	39.0	38.4
	Max	66.7	76.3	47.7	76.0	75.5	73.5	72.0	67.3	60.3	50.5	49.1	48.0
Energy Average		64.0	Average:		73.9	73.3	71.0	69.0	61.8	54.3	44.7	43.5	42.6

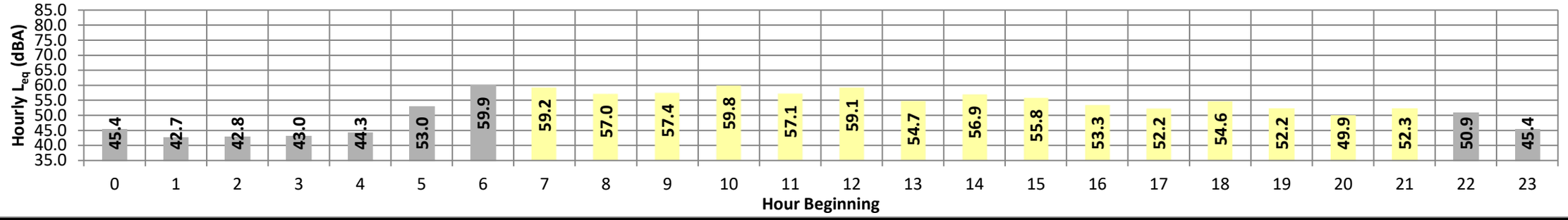
24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
72.2	**69.1**	**64.0**

24-Hour Noise Level Measurement Summary

Date: Friday, September 30, 2022 *Location:* L4 - Located south of the Project Site near the existing *Meter:* Piccolo II *JN:* 14822

Project: Rich Haven SP *Source:* residence at 10823 Edison Avenue. *Analyst:* B. Lawson

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	45.4	51.4	40.9	51.2	51.0	50.1	49.3	46.7	42.4	41.4	41.2	41.0	45.4	10.0	55.4
	1	42.7	45.3	41.2	45.0	44.8	44.2	43.8	43.0	42.5	41.6	41.5	41.3	42.7	10.0	52.7
	2	42.8	46.7	40.7	46.4	46.0	45.2	44.7	43.4	42.2	41.2	41.0	40.9	42.8	10.0	52.8
	3	43.0	46.3	41.1	46.0	45.7	45.1	44.8	43.5	42.6	41.6	41.4	41.2	43.0	10.0	53.0
	4	44.3	48.8	42.0	48.4	48.0	47.1	46.5	44.7	43.8	42.6	42.4	42.1	44.3	10.0	54.3
	5	53.0	62.6	45.3	62.2	61.6	59.4	57.5	53.3	49.4	45.9	45.6	45.4	53.0	10.0	63.0
	6	59.9	72.1	49.8	71.7	70.7	66.9	63.8	57.4	53.9	50.7	50.4	50.0	59.9	10.0	69.9
Day	7	59.2	71.2	49.9	70.7	70.0	66.8	63.4	56.0	52.7	50.6	50.3	50.0	59.2	0.0	59.2
	8	57.0	70.0	47.9	69.5	68.5	64.1	60.6	52.5	50.0	48.6	48.4	48.0	57.0	0.0	57.0
	9	57.4	70.7	46.2	70.1	69.1	65.4	61.4	51.4	48.7	46.9	46.7	46.4	57.4	0.0	57.4
	10	59.8	71.5	48.4	71.0	70.3	67.3	64.1	58.0	54.1	49.8	49.3	48.7	59.8	0.0	59.8
	11	57.1	70.7	43.9	69.7	68.4	64.9	61.7	51.9	48.2	45.1	44.6	44.1	57.1	0.0	57.1
	12	59.1	71.7	44.4	71.3	70.6	67.7	64.2	53.3	48.8	45.4	45.1	44.5	59.1	0.0	59.1
	13	54.7	66.1	43.3	65.9	65.2	62.5	59.9	52.0	47.4	44.3	43.9	43.5	54.7	0.0	54.7
	14	56.9	69.3	46.0	68.9	68.1	64.4	61.0	53.3	49.9	47.0	46.6	46.1	56.9	0.0	56.9
	15	55.8	67.6	44.4	67.3	66.7	63.4	60.3	52.6	48.6	45.3	44.9	44.5	55.8	0.0	55.8
	16	53.3	65.6	44.0	65.2	64.4	61.0	57.7	49.4	46.7	44.8	44.5	44.1	53.3	0.0	53.3
	17	52.2	62.9	44.9	62.3	61.3	59.3	57.6	50.4	47.6	45.6	45.3	45.0	52.2	0.0	52.2
	18	54.6	66.6	47.4	66.1	65.0	61.2	57.6	52.2	50.2	48.1	47.9	47.5	54.6	0.0	54.6
	19	52.2	62.0	47.6	61.6	60.7	57.8	55.6	51.5	49.7	48.2	47.9	47.7	52.2	5.0	57.2
	20	49.9	58.6	46.6	58.2	57.7	55.1	52.7	48.9	48.1	47.1	46.9	46.7	49.9	5.0	54.9
	21	52.3	62.4	45.8	62.0	61.2	58.4	56.3	51.6	48.6	46.4	46.2	45.9	52.3	5.0	57.3
Night	22	50.9	61.5	44.7	61.1	60.4	57.4	55.0	49.7	46.6	45.2	45.0	44.8	50.9	10.0	60.9
	23	45.4	52.4	42.7	52.2	51.7	49.9	48.3	45.0	44.0	43.1	43.0	42.8	45.4	10.0	55.4

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	49.9	58.6	43.3	58.2	57.7	55.1	52.7	48.9	46.7	44.3	43.9	43.5
	Max	59.8	71.7	49.9	71.3	70.6	67.7	64.2	58.0	54.1	50.6	50.3	50.0
Energy Average		56.3	Average:		66.7	65.8	62.6	59.6	52.3	49.3	46.9	46.6	46.2
Night	Min	42.7	45.3	40.7	45.0	44.8	44.2	43.8	43.0	42.2	41.2	41.0	40.9
	Max	59.9	72.1	49.8	71.7	70.7	66.9	63.8	57.4	53.9	50.7	50.4	50.0
Energy Average		52.1	Average:		53.8	53.3	51.7	50.4	47.4	45.3	43.7	43.5	43.3

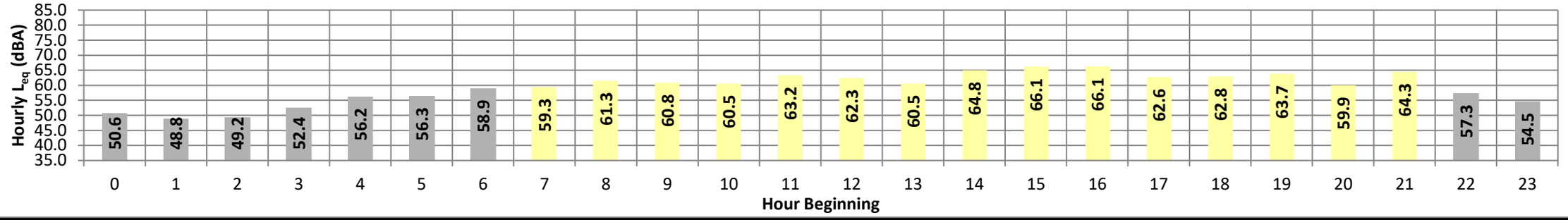
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
59.6	**56.3**	**52.1**

24-Hour Noise Level Measurement Summary

Date: Friday, September 30, 2022 *Location:* L5 - Located within the Rich Haven Specific Plan near the *Meter:* Piccolo II *JN:* 14822

Project: Rich Haven SP *Source:* existing residence at 3965 S Sunrise Avenue. *Analyst:* B. Lawson

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	50.6	61.0	40.1	60.8	60.2	57.8	55.8	49.9	43.8	40.5	40.3	40.1	50.6	10.0	60.6
	1	48.8	58.7	39.7	58.4	57.9	55.7	54.2	47.6	43.1	40.4	40.1	39.8	48.8	10.0	58.8
	2	49.2	60.5	38.8	60.2	59.6	56.6	54.4	47.0	42.3	39.3	39.1	38.9	49.2	10.0	59.2
	3	52.4	63.1	39.9	62.8	62.3	60.0	57.8	51.0	45.5	40.9	40.4	40.0	52.4	10.0	62.4
	4	56.2	67.2	41.9	66.8	66.2	63.8	61.6	55.0	48.9	42.9	42.4	42.0	56.2	10.0	66.2
	5	56.3	66.5	41.4	66.1	65.6	63.4	61.9	55.6	50.3	43.5	42.3	41.6	56.3	10.0	66.3
	6	58.9	69.2	44.1	68.9	68.3	66.2	64.5	58.1	53.7	46.3	45.3	44.3	58.9	10.0	68.9
Day	7	59.3	70.3	45.9	70.0	69.1	66.2	64.2	58.3	54.2	48.1	47.2	46.1	59.3	0.0	59.3
	8	61.3	71.9	48.1	71.4	70.7	68.1	66.2	60.9	56.5	50.3	49.4	48.4	61.3	0.0	61.3
	9	60.8	70.4	49.2	70.0	69.2	66.7	65.2	61.0	57.6	51.6	50.6	49.5	60.8	0.0	60.8
	10	60.5	70.4	45.2	70.1	69.5	67.3	65.6	60.2	56.0	48.4	46.6	45.4	60.5	0.0	60.5
	11	63.2	73.5	51.8	73.1	72.5	69.8	67.8	62.4	59.4	53.7	52.9	52.1	63.2	0.0	63.2
	12	62.3	72.4	49.2	72.1	71.4	69.0	67.1	61.9	57.9	52.0	50.7	49.5	62.3	0.0	62.3
	13	60.5	70.6	48.8	70.3	69.7	67.5	65.3	59.7	56.5	50.7	49.9	49.1	60.5	0.0	60.5
	14	64.8	77.4	50.2	77.0	76.1	71.8	68.1	62.2	58.2	52.5	51.6	50.5	64.8	0.0	64.8
	15	66.1	75.4	54.3	74.9	74.2	71.6	70.3	66.4	63.4	57.8	55.6	54.6	66.1	0.0	66.1
	16	66.1	77.7	52.6	77.3	76.5	74.1	71.1	64.0	59.9	54.7	53.8	52.8	66.1	0.0	66.1
	17	62.6	72.2	52.8	71.8	70.9	68.4	66.7	62.7	59.7	54.9	53.7	53.0	62.6	0.0	62.6
	18	62.8	71.3	52.3	71.0	70.5	68.7	67.3	63.3	60.3	54.2	53.3	52.6	62.8	0.0	62.8
	19	63.7	75.9	51.9	75.4	74.6	71.1	68.0	61.1	57.9	53.4	52.8	52.1	63.7	5.0	68.7
	20	59.9	70.6	48.0	70.3	69.7	67.4	65.0	58.8	54.8	49.7	48.8	48.1	59.9	5.0	64.9
	21	64.3	76.7	55.6	76.0	75.3	70.2	67.4	62.0	59.9	56.6	56.1	55.7	64.3	5.0	69.3
Night	22	57.3	67.2	44.9	66.9	66.2	63.9	62.2	57.3	52.1	46.1	45.5	45.0	57.3	10.0	67.3
	23	54.5	65.4	41.6	65.1	64.5	61.9	59.6	53.5	48.1	42.4	42.0	41.7	54.5	10.0	64.5

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	59.3	70.3	45.2	70.0	69.1	66.2	64.2	58.3	54.2	48.1	46.6	45.4
	Max	66.1	77.7	55.6	77.3	76.5	74.1	71.1	66.4	63.4	57.8	56.1	55.7
Energy Average		63.1	Average:		72.7	72.0	69.2	67.0	61.7	58.2	52.6	51.5	50.6
Night	Min	48.8	58.7	38.8	58.4	57.9	55.7	54.2	47.0	42.3	39.3	39.1	38.9
	Max	58.9	69.2	44.9	68.9	68.3	66.2	64.5	58.1	53.7	46.3	45.5	45.0
Energy Average		55.1	Average:		64.0	63.4	61.0	59.1	52.8	47.5	42.5	41.9	41.5

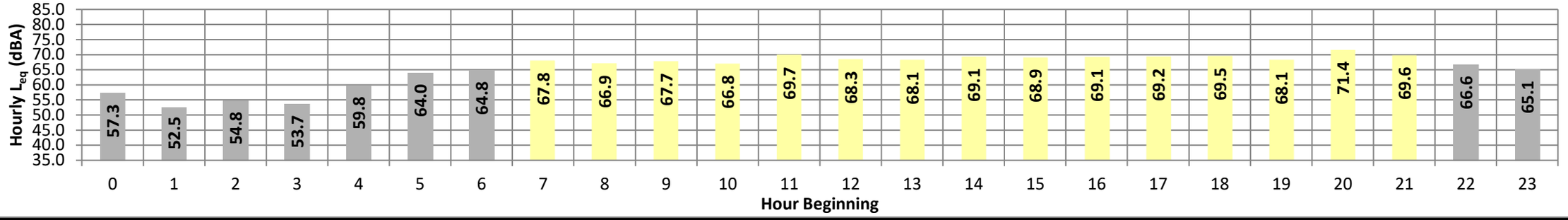
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
64.8	**63.1**	**55.1**

24-Hour Noise Level Measurement Summary

Date: Friday, September 30, 2022 *Location:* L6 - Located west of the Project Site near the existing residence *Meter:* Piccolo II *JN:* 14822

Project: Rich Haven SP *Source:* at 3860 S Oasis Paseo *Analyst:* B. Lawson

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	57.3	69.1	39.5	68.6	67.9	65.2	62.9	54.3	47.1	40.4	39.9	39.5	57.3	10.0	67.3
	1	52.5	64.6	38.2	64.2	63.7	60.7	58.0	47.1	40.9	38.7	38.5	38.3	52.5	10.0	62.5
	2	54.8	67.4	37.2	66.8	66.3	63.3	60.3	48.7	41.6	37.8	37.5	37.3	54.8	10.0	64.8
	3	53.7	66.2	37.0	65.6	65.1	62.0	59.3	48.6	42.2	37.7	37.5	37.1	53.7	10.0	63.7
	4	59.8	71.4	39.0	71.0	70.5	67.8	65.8	57.0	49.0	40.8	40.0	39.2	59.8	10.0	69.8
	5	64.0	74.6	45.2	74.1	73.4	71.2	69.6	63.5	57.1	47.5	46.0	45.3	64.0	10.0	74.0
	6	64.8	74.2	48.6	73.8	73.3	71.3	70.2	65.5	59.1	50.5	49.6	48.7	64.8	10.0	74.8
Day	7	67.8	77.4	51.9	77.0	76.3	74.4	72.8	68.4	63.6	54.8	53.4	52.3	67.8	0.0	67.8
	8	66.9	75.9	50.9	75.4	74.9	73.3	71.9	67.9	62.7	53.6	52.1	51.1	66.9	0.0	66.9
	9	67.7	76.7	50.8	76.3	75.8	74.0	72.8	68.8	63.3	53.1	52.0	51.0	67.7	0.0	67.7
	10	66.8	75.8	50.3	75.3	74.8	73.0	71.8	68.0	62.7	52.8	51.5	50.5	66.8	0.0	66.8
	11	69.7	79.3	52.0	78.9	78.3	76.3	74.9	70.3	65.2	55.4	53.7	52.3	69.7	0.0	69.7
	12	68.3	76.6	52.2	76.1	75.5	74.0	73.0	69.8	65.1	55.6	53.8	52.6	68.3	0.0	68.3
	13	68.1	77.1	51.7	76.6	76.2	74.6	73.1	69.1	64.0	55.5	53.8	52.1	68.1	0.0	68.1
	14	69.1	78.1	53.3	77.6	77.1	75.1	73.6	70.0	65.9	56.7	54.8	53.5	69.1	0.0	69.1
	15	68.9	78.0	55.4	77.6	76.9	74.5	73.4	69.8	66.1	58.0	56.9	55.6	68.9	0.0	68.9
	16	69.1	77.8	54.9	77.4	77.1	75.1	73.6	70.0	66.0	58.0	56.3	55.1	69.1	0.0	69.1
	17	69.2	80.3	56.0	79.6	78.5	75.8	73.7	69.1	64.9	58.1	57.0	56.2	69.2	0.0	69.2
	18	69.5	81.2	55.4	80.5	79.2	76.3	74.0	68.6	64.5	57.6	56.6	55.6	69.5	0.0	69.5
	19	68.1	75.9	54.4	75.5	75.1	73.9	72.9	69.4	65.2	57.0	55.6	54.6	68.1	5.0	73.1
	20	71.4	83.4	53.0	83.0	82.2	79.2	75.4	69.5	64.1	55.6	54.3	53.2	71.4	5.0	76.4
	21	69.6	79.1	51.7	78.8	78.2	76.6	75.3	69.8	63.1	54.0	52.7	51.8	69.6	5.0	74.6
Night	22	66.6	76.6	48.1	76.1	75.6	73.7	72.4	66.6	60.6	51.1	49.6	48.4	66.6	10.0	76.6
	23	65.1	75.7	45.0	75.2	74.6	72.4	70.6	64.9	56.7	47.0	45.8	45.1	65.1	10.0	75.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	66.8	75.8	50.3	75.3	74.8	73.0	71.8	67.9	62.7	52.8	51.5	50.5
	Max	71.4	83.4	56.0	83.0	82.2	79.2	75.4	70.3	66.1	58.1	57.0	56.2
Energy Average		68.8	Average:		77.7	77.1	75.1	73.5	69.2	64.4	55.7	54.3	53.2
Night	Min	52.5	64.6	37.0	64.2	63.7	60.7	58.0	47.1	40.9	37.7	37.5	37.1
	Max	66.6	76.6	48.6	76.1	75.6	73.7	72.4	66.6	60.6	51.1	49.6	48.7
Energy Average		62.4	Average:		70.6	70.0	67.5	65.5	57.4	50.5	43.5	42.7	42.1

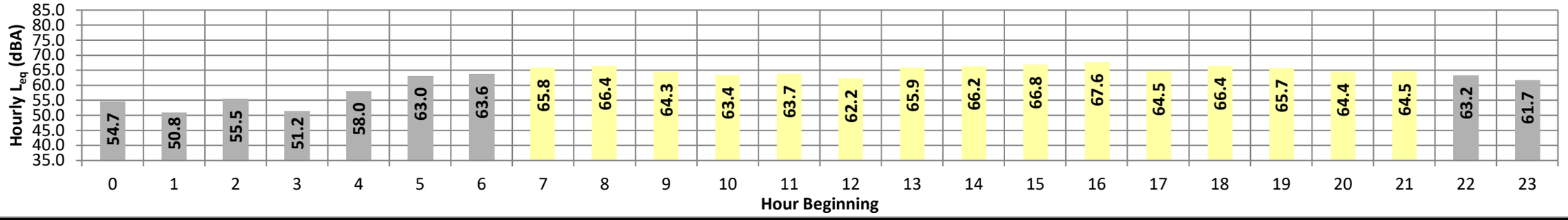
24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
71.4	**68.8**	**62.4**

24-Hour Noise Level Measurement Summary

Date: Friday, September 30, 2022 *Location:* L7 - Located west of the Project Site near the existing residence *Meter:* Piccolo II *JN:* 14822

Project: Rich Haven SP *Source:* at 3393 Clover Place *Analyst:* B. Lawson

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*	*L_{eq}*	*Adj.*	*Adj. L_{eq}*
Night	0	54.7	66.4	38.8	66.1	65.4	62.3	60.3	52.1	43.6	39.4	39.1	38.9	54.7	10.0	64.7
	1	50.8	62.8	40.5	62.4	61.7	58.8	56.1	47.0	42.3	40.9	40.7	40.6	50.8	10.0	60.8
	2	55.5	68.6	40.8	68.2	67.3	64.1	60.0	48.6	42.6	41.2	41.1	40.9	55.5	10.0	65.5
	3	51.2	62.3	41.6	62.0	61.6	59.4	56.7	47.9	43.2	42.1	42.0	41.7	51.2	10.0	61.2
	4	58.0	69.0	41.6	68.7	68.1	66.2	64.2	55.8	48.4	42.6	42.1	41.8	58.0	10.0	68.0
	5	63.0	73.3	46.6	73.0	72.6	70.3	68.4	62.7	56.2	47.8	47.1	46.7	63.0	10.0	73.0
	6	63.6	71.3	52.8	71.0	70.6	69.3	68.3	65.0	60.6	54.2	53.6	52.9	63.6	10.0	73.6
Day	7	65.8	74.6	53.8	74.3	73.9	72.2	70.5	66.2	62.8	56.5	55.0	53.9	65.8	0.0	65.8
	8	66.4	78.9	53.0	78.0	76.6	71.6	69.6	65.5	61.8	55.5	54.4	53.3	66.4	0.0	66.4
	9	64.3	73.9	48.8	73.6	73.1	71.1	69.3	64.8	59.5	51.2	50.1	49.0	64.3	0.0	64.3
	10	63.4	72.1	48.5	71.9	71.3	69.3	67.9	64.4	59.9	50.9	49.6	48.7	63.4	0.0	63.4
	11	63.7	74.2	46.2	73.7	72.7	70.1	68.2	64.2	59.5	49.6	48.1	46.6	63.7	0.0	63.7
	12	62.2	70.2	45.2	70.0	69.5	67.9	66.7	63.7	59.5	48.8	46.9	45.5	62.2	0.0	62.2
	13	65.9	78.1	52.5	77.2	76.1	72.8	69.5	64.6	61.1	55.1	53.9	52.8	65.9	0.0	65.9
	14	66.2	76.5	53.8	76.0	75.2	72.8	70.9	65.8	62.4	56.4	55.3	54.1	66.2	0.0	66.2
	15	66.8	77.7	53.7	77.3	76.6	73.9	71.1	65.9	62.3	56.3	55.0	54.0	66.8	0.0	66.8
	16	67.6	79.7	53.2	79.4	78.2	74.1	71.2	66.0	63.0	56.7	55.1	53.6	67.6	0.0	67.6
	17	64.5	72.7	52.6	72.2	71.4	69.6	68.6	65.6	62.6	55.9	54.5	52.9	64.5	0.0	64.5
	18	66.4	77.5	53.3	76.9	76.1	72.5	70.5	65.7	62.5	56.1	54.9	53.6	66.4	0.0	66.4
	19	65.7	76.7	52.6	76.2	75.4	72.5	69.6	65.2	62.0	55.2	54.0	53.0	65.7	5.0	70.7
	20	64.4	75.2	47.5	74.8	74.2	71.3	68.7	64.1	59.9	50.8	49.4	47.8	64.4	5.0	69.4
	21	64.5	75.9	47.8	75.6	75.0	71.8	68.9	63.6	58.5	49.6	48.7	47.9	64.5	5.0	69.5
Night	22	63.2	75.4	45.9	74.7	73.5	70.2	68.2	62.2	56.2	47.2	46.5	46.0	63.2	10.0	73.2
	23	61.7	72.4	43.8	72.0	71.4	69.2	67.0	61.3	54.9	45.3	44.6	44.0	61.7	10.0	71.7

Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	62.2	70.2	45.2	70.0	69.5	67.9	66.7	63.6	58.5	48.8	46.9	45.5
	Max	67.6	79.7	53.8	79.4	78.2	74.1	71.2	66.2	63.0	56.7	55.3	54.1
Energy Average		65.4	Average:		75.1	74.4	71.6	69.4	65.0	61.2	53.6	52.3	51.1
Night	Min	50.8	62.3	38.8	62.0	61.6	58.8	56.1	47.0	42.3	39.4	39.1	38.9
	Max	63.6	75.4	52.8	74.7	73.5	70.3	68.4	65.0	60.6	54.2	53.6	52.9
Energy Average		60.2	Average:		68.7	68.0	65.5	63.2	55.8	49.8	44.5	44.1	43.7

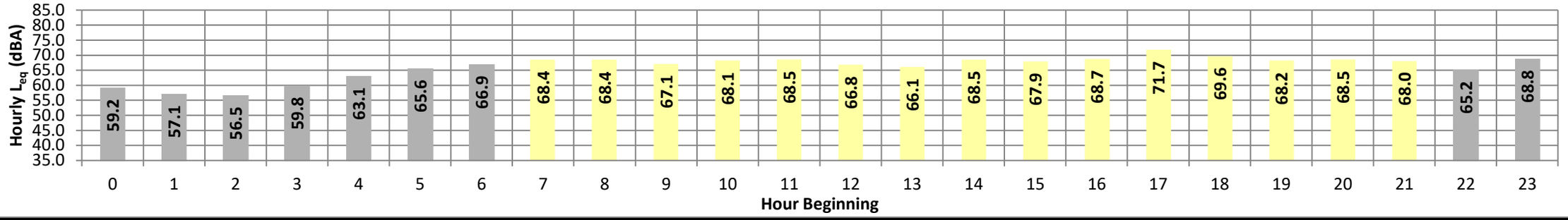
24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
68.4	**65.4**	**60.2**

24-Hour Noise Level Measurement Summary

Date: Friday, September 30, 2022 *Location:* L8 - Located north of the Project Site near the existing *Meter:* Piccolo II *JN:* 14822

Project: Rich Haven SP *Source:* residence at 2943 S Alder Creek Drive. *Analyst:* B. Lawson

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*	*L_{eq}*	*Adj.*	*Adj. L_{eq}*
Night	0	59.2	70.5	47.0	70.2	69.5	66.8	64.4	57.4	51.8	48.0	47.6	47.1	59.2	10.0	69.2
	1	57.1	68.4	44.4	68.1	67.6	65.2	62.7	54.2	49.0	45.6	45.1	44.6	57.1	10.0	67.1
	2	56.5	68.3	42.5	68.0	67.5	64.8	62.0	52.1	47.9	43.5	43.0	42.6	56.5	10.0	66.5
	3	59.8	70.8	45.2	70.5	70.0	67.9	65.6	57.3	51.3	46.4	45.8	45.3	59.8	10.0	69.8
	4	63.1	73.5	50.6	73.3	72.8	70.2	68.4	62.0	57.0	51.7	51.1	50.7	63.1	10.0	73.1
	5	65.6	75.1	54.1	74.7	74.1	72.1	70.9	65.9	61.3	55.8	54.9	54.2	65.6	10.0	75.6
	6	66.9	75.7	56.3	75.4	74.8	72.9	71.6	67.4	63.8	57.8	57.0	56.5	66.9	10.0	76.9
Day	7	68.4	77.0	59.9	76.6	75.8	73.8	72.5	69.1	66.2	61.4	60.6	60.0	68.4	0.0	68.4
	8	68.4	76.4	60.3	76.0	75.4	73.7	72.5	69.2	66.0	61.7	61.1	60.5	68.4	0.0	68.4
	9	67.1	75.7	55.4	75.3	74.8	73.1	71.9	67.9	63.9	57.4	56.5	55.6	67.1	0.0	67.1
	10	68.1	77.5	56.0	77.1	76.5	74.2	72.8	68.6	64.1	58.1	57.2	56.2	68.1	0.0	68.1
	11	68.5	78.3	56.3	77.8	77.1	74.9	73.2	68.9	64.8	58.3	57.4	56.5	68.5	0.0	68.5
	12	66.8	76.2	55.9	75.9	75.2	73.5	71.8	66.8	62.8	57.4	56.6	56.1	66.8	0.0	66.8
	13	66.1	75.2	56.3	74.5	73.8	71.7	70.4	66.8	63.1	57.8	57.0	56.5	66.1	0.0	66.1
	14	68.5	77.7	57.7	77.3	76.8	74.5	73.2	68.6	65.2	59.6	58.8	57.9	68.5	0.0	68.5
	15	67.9	76.6	60.4	76.1	75.2	72.7	71.5	68.3	66.1	62.0	61.3	60.6	67.9	0.0	67.9
	16	68.7	78.8	58.5	78.3	77.5	75.0	73.1	68.4	65.3	60.2	59.4	58.7	68.7	0.0	68.7
	17	71.7	84.5	59.3	83.9	82.9	76.9	75.0	69.6	65.8	60.9	60.1	59.4	71.7	0.0	71.7
	18	69.6	81.1	58.5	80.7	79.8	76.4	73.4	68.4	65.2	60.0	59.4	58.7	69.6	0.0	69.6
	19	68.2	79.0	57.3	78.5	77.7	75.1	72.6	67.3	63.7	58.7	58.1	57.5	68.2	5.0	73.2
	20	68.5	82.1	55.2	80.6	79.2	75.4	71.9	66.4	62.1	56.9	56.1	55.4	68.5	5.0	73.5
	21	68.0	78.5	54.3	78.1	77.6	75.8	73.8	66.1	61.4	55.8	55.0	54.5	68.0	5.0	73.0
Night	22	65.2	75.0	53.5	74.7	74.1	71.7	70.1	65.2	60.7	55.2	54.4	53.7	65.2	10.0	75.2
	23	68.8	81.0	55.5	80.6	79.9	77.0	73.4	65.2	60.8	56.5	56.0	55.6	68.8	10.0	78.8

Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	66.1	75.2	54.3	74.5	73.8	71.7	70.4	66.1	61.4	55.8	55.0	54.5
	Max	71.7	84.5	60.4	83.9	82.9	76.9	75.0	69.6	66.2	62.0	61.3	60.6
Energy Average		68.5	Average:		77.8	77.0	74.4	72.6	68.0	64.4	59.1	58.3	57.6
Night	Min	56.5	68.3	42.5	68.0	67.5	64.8	62.0	52.1	47.9	43.5	43.0	42.6
	Max	68.8	81.0	56.3	80.6	79.9	77.0	73.4	67.4	63.8	57.8	57.0	56.5
Energy Average		64.3	Average:		72.8	72.3	69.8	67.7	60.7	55.9	51.2	50.5	50.0

24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
72.1	**68.5**	**64.3**

APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Archibald Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,909 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,733 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.95	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-16.48	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-9.89	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	68.9	67.2	64.1	71.5	71.9
Medium Trucks:	65.3	64.7	57.0	58.4	66.1	66.3
Heavy Trucks:	75.9	74.6	70.1	71.0	78.0	78.2
Vehicle Noise:	77.2	76.0	72.0	72.0	79.1	79.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	243	523	1,127	2,429
CNEL:	251	542	1,167	2,514

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Archibald Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,968 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,133 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	89.06%
Medium Trucks:	82.2%	3.5%	14.3%	1.97%
Heavy Trucks:	70.8%	6.2%	23.0%	8.97%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.08	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-16.48	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-9.89	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.2	70.0	68.2	65.2	72.6	73.0
Medium Trucks:	65.3	64.7	57.0	58.4	66.1	66.3
Heavy Trucks:	75.9	74.6	70.1	71.0	78.0	78.2
Vehicle Noise:	77.5	76.2	72.4	72.2	79.3	79.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	250	539	1,162	2,504
CNEL:	259	559	1,204	2,595

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Archibald Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,337 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,083 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.15	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-15.68	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-9.09	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.7	68.0	64.9	72.3	72.7
Medium Trucks:	66.1	65.5	57.8	59.2	66.9	67.1
Heavy Trucks:	76.7	75.4	70.9	71.8	78.8	79.0
Vehicle Noise:	78.0	76.8	72.8	72.8	79.9	80.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	275	592	1,274	2,746
CNEL:	284	612	1,319	2,842

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Archibald Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,396 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,483 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	88.70%
Medium Trucks:	82.2%	3.5%	14.3%	2.03%
Heavy Trucks:	70.8%	6.2%	23.0%	9.27%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	0.72	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-15.68	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-9.09	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.9	70.6	68.8	65.8	73.2	73.6
Medium Trucks:	66.1	65.5	57.8	59.2	66.9	67.1
Heavy Trucks:	76.7	75.4	70.9	71.8	78.8	79.0
Vehicle Noise:	78.2	77.0	73.1	73.0	80.1	80.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	282	607	1,307	2,816
CNEL:	292	629	1,355	2,918

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Archibald Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,904 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,998 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.43	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-14.10	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-7.51	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.6	71.3	69.6	66.5	73.9	74.3
Medium Trucks:	67.7	67.1	59.4	60.7	68.5	68.7
Heavy Trucks:	78.3	77.0	72.5	73.4	80.4	80.6
Vehicle Noise:	79.6	78.4	74.4	74.4	81.5	81.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	350	754	1,625	3,500
CNEL:	362	780	1,681	3,623

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Archibald Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,963 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,398 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	88.12%
Medium Trucks:	82.2%	3.5%	14.3%	2.14%
Heavy Trucks:	70.8%	6.2%	23.0%	9.75%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.05	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-14.10	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-7.51	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.2	71.9	70.2	67.1	74.5	75.0
Medium Trucks:	67.7	67.1	59.4	60.7	68.5	68.7
Heavy Trucks:	78.3	77.0	72.5	73.4	80.4	80.6
Vehicle Noise:	79.8	78.5	74.6	74.5	81.6	81.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	356	768	1,654	3,563
CNEL:	369	795	1,713	3,690

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Haven Av.
Road Segment: n/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,527 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,465 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.68	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-17.21	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.62	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	68.2	66.4	63.4	70.8	71.2
Medium Trucks:	64.6	64.0	56.3	57.6	65.4	65.6
Heavy Trucks:	75.2	73.9	69.4	70.3	77.3	77.5
Vehicle Noise:	76.5	75.3	71.3	71.3	78.4	78.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	217	468	1,008	2,172
CNEL:	225	484	1,043	2,248

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Haven Av.
Road Segment: n/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,509 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,730 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	92.77%
Medium Trucks:	82.2%	3.5%	14.3%	1.30%
Heavy Trucks:	70.8%	6.2%	23.0%	5.93%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.33	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-17.21	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.62	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.5	71.2	69.4	66.4	73.8	74.2
Medium Trucks:	64.6	64.0	56.3	57.6	65.4	65.6
Heavy Trucks:	75.2	73.9	69.4	70.3	77.3	77.5
Vehicle Noise:	77.3	76.1	72.5	71.9	79.1	79.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	242	521	1,122	2,418
CNEL:	251	541	1,166	2,513

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY | Project Name: Rich Haven Specific Plan
Road Name: Haven Av. | Job Number: 14822
Road Segment: n/o Riverside Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,968 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,133 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.05	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-15.58	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.99	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.1	69.8	68.1	65.0	72.4	72.9
Medium Trucks:	66.2	65.6	57.9	59.3	67.0	67.2
Heavy Trucks:	76.8	75.5	71.0	71.9	78.9	79.1
Vehicle Noise:	78.1	76.9	72.9	72.9	80.0	80.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	279	601	1,295	2,789
CNEL:	289	622	1,340	2,887

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P | Project Name: Rich Haven Specific Plan
Road Name: Haven Av. | Job Number: 14822
Road Segment: n/o Riverside Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,951 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,397 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	91.54%
Medium Trucks:	82.2%	3.5%	14.3%	1.52%
Heavy Trucks:	70.8%	6.2%	23.0%	6.94%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.22	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-15.58	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.99	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.4	72.1	70.3	67.3	74.7	75.1
Medium Trucks:	66.2	65.6	57.9	59.3	67.0	67.2
Heavy Trucks:	76.8	75.5	71.0	71.9	78.9	79.1
Vehicle Noise:	78.7	77.5	73.8	73.4	80.5	80.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	301	648	1,396	3,008
CNEL:	312	673	1,450	3,123

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | Project Name: Rich Haven Specific Plan
Road Name: Haven Av. | Job Number: 14822
Road Segment: n/o Riverside Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,655 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,662 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.92	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-14.62	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.02	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.1	70.8	69.0	66.0	73.4	73.8
Medium Trucks:	67.2	66.6	58.9	60.2	68.0	68.1
Heavy Trucks:	77.8	76.5	72.0	72.9	79.9	80.0
Vehicle Noise:	79.1	77.9	73.9	73.9	81.0	81.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	323	697	1,501	3,233
CNEL:	335	721	1,553	3,347

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P | Project Name: Rich Haven Specific Plan
Road Name: Haven Av. | Job Number: 14822
Road Segment: n/o Riverside Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,637 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,926 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	90.87%
Medium Trucks:	82.2%	3.5%	14.3%	1.64%
Heavy Trucks:	70.8%	6.2%	23.0%	7.49%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.82	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-14.62	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.02	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.0	72.7	70.9	67.9	75.3	75.7
Medium Trucks:	67.2	66.6	58.9	60.2	68.0	68.1
Heavy Trucks:	77.8	76.5	72.0	72.9	79.9	80.0
Vehicle Noise:	79.6	78.3	74.6	74.2	81.4	81.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	344	741	1,595	3,437
CNEL:	357	768	1,655	3,567

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Haven Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,432 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	825 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.76	1.42	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	81.00	-19.29	1.46	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-12.70	1.46	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	65.4	63.6	60.6	68.0	68.4
Medium Trucks:	62.0	61.3	53.6	55.0	62.8	62.9
Heavy Trucks:	72.9	71.7	67.1	68.0	75.0	75.2
Vehicle Noise:	74.1	72.9	68.9	68.9	76.0	76.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	126	271	584	1,259
CNEL:	130	281	605	1,303

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Haven Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,244 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,234 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	95.03%
Medium Trucks:	82.2%	3.5%	14.3%	0.89%
Heavy Trucks:	70.8%	6.2%	23.0%	4.08%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.97	1.42	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	81.00	-19.29	1.46	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-12.70	1.46	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.4	70.1	68.4	65.3	72.7	73.1
Medium Trucks:	62.0	61.3	53.6	55.0	62.8	62.9
Heavy Trucks:	72.9	71.7	67.1	68.0	75.0	75.2
Vehicle Noise:	75.4	74.2	70.9	70.0	77.2	77.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	151	325	700	1,509
CNEL:	157	339	729	1,571

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Haven Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,983 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,660 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.72	1.42	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	81.00	-16.26	1.46	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-9.66	1.46	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.7	68.4	66.7	63.6	71.0	71.4
Medium Trucks:	65.0	64.4	56.7	58.0	65.8	66.0
Heavy Trucks:	76.0	74.7	70.2	71.1	78.1	78.2
Vehicle Noise:	77.2	75.9	71.9	72.0	79.1	79.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	201	432	931	2,007
CNEL:	208	447	963	2,076

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Haven Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,795 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,069 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	92.72%
Medium Trucks:	82.2%	3.5%	14.3%	1.31%
Heavy Trucks:	70.8%	6.2%	23.0%	5.97%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.25	1.42	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	81.00	-16.26	1.46	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-9.66	1.46	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.7	71.4	69.6	66.6	74.0	74.4
Medium Trucks:	65.0	64.4	56.7	58.0	65.8	66.0
Heavy Trucks:	76.0	74.7	70.2	71.1	78.1	78.2
Vehicle Noise:	77.9	76.6	73.0	72.5	79.7	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	221	476	1,025	2,209
CNEL:	229	494	1,065	2,294

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Haven Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,411 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,247 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.59	1.42	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	81.00	-14.94	1.46	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-8.35	1.46	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	71.0	69.7	68.0	64.9	72.3	72.8
Medium Trucks:	66.3	65.7	58.0	59.4	67.1	67.3
Heavy Trucks:	77.3	76.0	71.5	72.4	79.4	79.6
Vehicle Noise:	78.5	77.3	73.2	73.3	80.4	80.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	246	529	1,140	2,456
CNEL:	254	547	1,179	2,540

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Haven Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,224 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,656 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	91.72%
Medium Trucks:	82.2%	3.5%	14.3%	1.49%
Heavy Trucks:	70.8%	6.2%	23.0%	6.79%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.96	1.42	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	81.00	-14.94	1.46	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-8.35	1.46	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	73.4	72.1	70.3	67.3	74.7	75.1
Medium Trucks:	66.3	65.7	58.0	59.4	67.1	67.3
Heavy Trucks:	77.3	76.0	71.5	72.4	79.4	79.6
Vehicle Noise:	79.0	77.8	74.1	73.7	80.8	81.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	264	569	1,225	2,640
CNEL:	274	590	1,271	2,739

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Haven Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,491 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,067 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.64	1.42	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	81.00	-18.17	1.46	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-11.58	1.46	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.8	66.5	64.7	61.7	69.1	69.5
Medium Trucks:	63.1	62.5	54.8	56.1	63.9	64.0
Heavy Trucks:	74.1	72.8	68.2	69.1	76.1	76.3
Vehicle Noise:	75.2	74.0	70.0	70.0	77.1	77.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	149	322	694	1,495
CNEL:	155	333	718	1,546

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Haven Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,050 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,168 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	95.46%
Medium Trucks:	82.2%	3.5%	14.3%	0.82%
Heavy Trucks:	70.8%	6.2%	23.0%	3.72%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.51	1.42	-1.20	*-4.65*	0.000	0.000
Medium Trucks:	81.00	-18.17	1.46	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-11.58	1.46	-1.20	*-5.43*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.9	71.7	69.9	66.8	74.3	74.7
Medium Trucks:	63.1	62.5	54.8	56.1	63.9	64.0
Heavy Trucks:	74.1	72.8	68.2	69.1	76.1	76.3
Vehicle Noise:	76.7	75.5	72.2	71.3	78.5	78.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	183	395	851	1,834
CNEL:	191	412	887	1,912

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Haven Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,453 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,460 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.28	1.42	-1.20	-4.65	0.000	0.000
Medium Trucks:	81.00	-16.81	1.46	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-10.22	1.46	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	67.9	66.1	63.1	70.5	70.9
Medium Trucks:	64.4	63.8	56.1	57.5	65.3	65.4
Heavy Trucks:	75.4	74.1	69.6	70.5	77.5	77.7
Vehicle Noise:	76.6	75.4	71.3	71.4	78.5	78.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	184	397	855	1,842
CNEL:	191	410	884	1,905

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Haven Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,012 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,560 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	94.48%
Medium Trucks:	82.2%	3.5%	14.3%	0.99%
Heavy Trucks:	70.8%	6.2%	23.0%	4.53%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.97	1.42	-1.20	-4.65	0.000	0.000
Medium Trucks:	81.00	-16.81	1.46	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-10.22	1.46	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.4	72.1	70.4	67.3	74.7	75.1
Medium Trucks:	64.4	63.8	56.1	57.5	65.3	65.4
Heavy Trucks:	75.4	74.1	69.6	70.5	77.5	77.7
Vehicle Noise:	77.7	76.5	73.1	72.3	79.5	79.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	215	463	999	2,151
CNEL:	224	482	1,039	2,239

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Haven Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,005 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,899 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.14	1.42	-1.20	-4.65	0.000	0.000
Medium Trucks:	81.00	-15.67	1.46	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-9.08	1.46	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	69.0	67.2	64.2	71.6	72.0
Medium Trucks:	65.6	65.0	57.3	58.6	66.4	66.5
Heavy Trucks:	76.6	75.3	70.8	71.6	78.6	78.8
Vehicle Noise:	77.8	76.5	72.5	72.5	79.6	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	219	473	1,019	2,195
CNEL:	227	489	1,054	2,270

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Haven Av.
Road Segment: n/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,564 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	4,000 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	62 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	93.61%
Medium Trucks:	82.2%	3.5%	14.3%	1.15%
Heavy Trucks:	70.8%	6.2%	23.0%	5.24%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	39.547
Medium Trucks:	39.323
Heavy Trucks:	39.345

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.44	1.42	-1.20	-4.65	0.000	0.000
Medium Trucks:	81.00	-15.67	1.46	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-9.08	1.46	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.9	72.6	70.8	67.8	75.2	75.6
Medium Trucks:	65.6	65.0	57.3	58.6	66.4	66.5
Heavy Trucks:	76.6	75.3	70.8	71.6	78.6	78.8
Vehicle Noise:	78.6	77.4	73.9	73.3	80.4	80.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	248	534	1,151	2,481
CNEL:	258	556	1,197	2,579

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Mill Creek Av.
Road Segment: s/o Chino Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	2,866 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	227 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	45 mph		
Near/Far Lane Distance:	36 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	44.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	44.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	40.460	
Pad Elevation:	0.0 feet	*Medium Trucks:*	40.241	
Road Elevation:	0.0 feet	*Heavy Trucks:*	40.262	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-8.91	1.28	-1.20	*-4.61*	0.000	0.000
Medium Trucks:	79.45	-24.44	1.31	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-17.85	1.31	-1.20	*-5.50*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.6	58.3	56.6	53.5	61.0	61.4
Medium Trucks:	55.1	54.5	46.8	48.1	55.9	56.1
Heavy Trucks:	66.5	65.2	60.7	61.6	68.6	68.8
Vehicle Noise:	67.6	66.3	62.2	62.4	69.5	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	87	188	406
CNEL:	42	90	195	420

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Mill Creek Av.
Road Segment: s/o Chino Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	9,207 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	728 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	45 mph		
Near/Far Lane Distance:	36 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	95.81%
Medium Trucks:	82.2%	3.5%	14.3%	0.75%
Heavy Trucks:	70.8%	6.2%	23.0%	3.44%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	44.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	44.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	40.460	
Pad Elevation:	0.0 feet	*Medium Trucks:*	40.241	
Road Elevation:	0.0 feet	*Heavy Trucks:*	40.262	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.40	1.28	-1.20	*-4.61*	0.000	0.000
Medium Trucks:	79.45	-24.44	1.31	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-17.85	1.31	-1.20	*-5.50*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.1	63.9	62.1	59.0	66.5	66.9
Medium Trucks:	55.1	54.5	46.8	48.1	55.9	56.1
Heavy Trucks:	66.5	65.2	60.7	61.6	68.6	68.8
Vehicle Noise:	69.1	67.8	64.5	63.6	70.8	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	107	231	498
CNEL:	52	112	241	519

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Mill Creek Av.
Road Segment: s/o Chino Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	3,164 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	250 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	45 mph		
Near/Far Lane Distance:	36 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	44.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	44.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	40.460	
Pad Elevation:	0.0 feet	*Medium Trucks:*	40.241	
Road Elevation:	0.0 feet	*Heavy Trucks:*	40.262	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-8.48	1.28	-1.20	*-4.61*	0.000	0.000
Medium Trucks:	79.45	-24.01	1.31	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-17.42	1.31	-1.20	*-5.50*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.1	58.8	57.0	54.0	61.4	61.8
Medium Trucks:	55.5	54.9	47.2	48.6	56.4	56.5
Heavy Trucks:	66.9	65.7	61.1	62.0	69.0	69.2
Vehicle Noise:	68.0	66.8	62.7	62.8	69.9	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	93	201	434
CNEL:	45	97	208	448

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Mill Creek Av.
Road Segment: s/o Chino Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	9,505 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	752 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	45 mph		
Near/Far Lane Distance:	36 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	95.52%
Medium Trucks:	82.2%	3.5%	14.3%	0.81%
Heavy Trucks:	70.8%	6.2%	23.0%	3.68%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	44.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	44.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	40.460	
Pad Elevation:	0.0 feet	*Medium Trucks:*	40.241	
Road Elevation:	0.0 feet	*Heavy Trucks:*	40.262	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.28	1.28	-1.20	*-4.61*	0.000	0.000
Medium Trucks:	79.45	-24.01	1.31	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	84.25	-17.42	1.31	-1.20	*-5.50*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	64.0	62.2	59.2	66.6	67.0
Medium Trucks:	55.5	54.9	47.2	48.6	56.4	56.5
Heavy Trucks:	66.9	65.7	61.1	62.0	69.0	69.2
Vehicle Noise:	69.4	68.1	64.8	64.0	71.1	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	523
CNEL:	55	117	253	545

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Mill Creek Av.
Road Segment: s/o Chino Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,391 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	585 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.80	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.33	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-13.74	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	62.5	60.7	57.6	65.1	65.5
Medium Trucks:	59.2	58.6	50.9	52.3	60.0	60.2
Heavy Trucks:	70.6	69.4	64.8	65.7	72.7	72.9
Vehicle Noise:	71.7	70.5	66.4	66.5	73.6	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	165	354	764
CNEL:	79	170	366	789

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Mill Creek Av.
Road Segment: s/o Chino Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,732 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,086 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	92.75%
Medium Trucks:	82.2%	3.5%	14.3%	1.30%
Heavy Trucks:	70.8%	6.2%	23.0%	5.95%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.81	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.33	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-13.74	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	65.5	63.7	60.6	68.1	68.5
Medium Trucks:	59.2	58.6	50.9	52.3	60.0	60.2
Heavy Trucks:	70.6	69.4	64.8	65.7	72.7	72.9
Vehicle Noise:	72.3	71.1	67.4	67.0	74.2	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	83	179	387	833
CNEL:	86	186	401	864

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Milliken Av.
Road Segment: n/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,818 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,568 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.38	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-16.92	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.32	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	68.5	66.7	63.7	71.1	71.5
Medium Trucks:	64.9	64.3	56.6	57.9	65.7	65.8
Heavy Trucks:	75.5	74.2	69.7	70.6	77.6	77.7
Vehicle Noise:	76.8	75.6	71.6	71.6	78.7	78.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	227	489	1,054	2,271
CNEL:	235	507	1,091	2,351

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Milliken Av.
Road Segment: n/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,876 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,680 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	91.28%
Medium Trucks:	82.2%	3.5%	14.3%	1.55%
Heavy Trucks:	70.8%	6.2%	23.0%	7.17%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.18	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-16.52	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.87	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.3	71.1	69.3	66.2	73.7	74.1
Medium Trucks:	65.3	64.7	57.0	58.3	66.1	66.2
Heavy Trucks:	75.9	74.7	70.1	71.0	78.0	78.2
Vehicle Noise:	77.8	76.5	72.9	72.4	79.6	79.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	261	562	1,211	2,608
CNEL:	271	583	1,257	2,707

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY | Project Name: Rich Haven Specific Plan
Road Name: Milliken Av. | Job Number: 14822
Road Segment: n/o Riverside Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,416 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,773 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.85	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-16.38	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.79	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	69.0	67.3	64.2	71.6	72.0
Medium Trucks:	65.4	64.8	57.1	58.5	66.2	66.4
Heavy Trucks:	76.0	74.7	70.2	71.1	78.1	78.3
Vehicle Noise:	77.3	76.1	72.1	72.1	79.2	79.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	247	531	1,145	2,466
CNEL:	255	550	1,185	2,552

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P | Project Name: Rich Haven Specific Plan
Road Name: Milliken Av. | Job Number: 14822
Road Segment: n/o Riverside Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,475 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,885 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	90.94%
Medium Trucks:	82.2%	3.5%	14.3%	1.61%
Heavy Trucks:	70.8%	6.2%	23.0%	7.45%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.48	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-16.03	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.39	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.6	71.4	69.6	66.6	74.0	74.4
Medium Trucks:	65.8	65.2	57.5	58.8	66.6	66.7
Heavy Trucks:	76.4	75.1	70.6	71.5	78.5	78.7
Vehicle Noise:	78.2	77.0	73.3	72.9	80.0	80.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	279	601	1,295	2,790
CNEL:	290	624	1,344	2,896

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | Project Name: Rich Haven Specific Plan
Road Name: Milliken Av. | Job Number: 14822
Road Segment: n/o Riverside Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,343 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	4,219 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.92	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-12.62	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-6.02	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.1	72.8	71.0	68.0	75.4	75.8
Medium Trucks:	69.2	68.6	60.9	62.2	70.0	70.1
Heavy Trucks:	79.8	78.5	74.0	74.9	81.9	82.0
Vehicle Noise:	81.1	79.9	75.9	75.9	83.0	83.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	440	947	2,040	4,395
CNEL:	455	980	2,112	4,549

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P | Project Name: Rich Haven Specific Plan
Road Name: Milliken Av. | Job Number: 14822
Road Segment: n/o Riverside Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,401 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	5,331 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	88.92%
Medium Trucks:	82.2%	3.5%	14.3%	1.98%
Heavy Trucks:	70.8%	6.2%	23.0%	9.10%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.05	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-12.47	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-5.85	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.2	73.9	72.2	69.1	76.5	76.9
Medium Trucks:	69.3	68.7	61.0	62.4	70.2	70.3
Heavy Trucks:	80.0	78.7	74.1	75.0	82.0	82.2
Vehicle Noise:	81.5	80.3	76.4	76.2	83.3	83.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	464	1,000	2,155	4,643
CNEL:	481	1,037	2,233	4,811

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Milliken Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	18,436 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	1,458 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	80 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	60.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	60.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	45.000	
Pad Elevation:	0.0 feet	*Medium Trucks:*	44.803	
Road Elevation:	0.0 feet	*Heavy Trucks:*	44.822	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.70	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-17.23	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-10.64	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	68.2	66.4	63.4	70.8	71.2
Medium Trucks:	64.6	64.0	56.3	57.6	65.4	65.5
Heavy Trucks:	75.2	73.9	69.4	70.3	77.2	77.4
Vehicle Noise:	76.5	75.3	71.3	71.3	78.4	78.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	216	466	1,005	2,165
CNEL:	224	483	1,040	2,240

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Milliken Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	28,604 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	2,263 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	80 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	90.32%
Medium Trucks:	82.2%	3.5%	14.3%	1.72%
Heavy Trucks:	70.8%	6.2%	23.0%	7.96%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	60.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	60.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	45.000	
Pad Elevation:	0.0 feet	*Medium Trucks:*	44.803	
Road Elevation:	0.0 feet	*Heavy Trucks:*	44.822	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.39	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-16.81	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-10.15	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.6	70.3	68.5	65.5	72.9	73.3
Medium Trucks:	65.0	64.4	56.7	58.0	65.8	66.0
Heavy Trucks:	75.7	74.4	69.8	70.7	77.7	77.9
Vehicle Noise:	77.3	76.1	72.4	72.0	79.2	79.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	245	528	1,138	2,451
CNEL:	254	548	1,180	2,542

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Milliken Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	21,431 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	1,695 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	80 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	60.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	60.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	45.000	
Pad Elevation:	0.0 feet	*Medium Trucks:*	44.803	
Road Elevation:	0.0 feet	*Heavy Trucks:*	44.822	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.04	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-16.58	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-9.98	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.8	67.1	64.0	71.4	71.9
Medium Trucks:	65.2	64.6	56.9	58.3	66.0	66.2
Heavy Trucks:	75.8	74.5	70.0	70.9	77.9	78.1
Vehicle Noise:	77.1	75.9	71.9	71.9	79.0	79.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	239	516	1,111	2,393
CNEL:	248	534	1,150	2,477

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Milliken Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	31,599 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	2,499 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	80 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	89.96%
Medium Trucks:	82.2%	3.5%	14.3%	1.79%
Heavy Trucks:	70.8%	6.2%	23.0%	8.25%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	60.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	60.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	45.000	
Pad Elevation:	0.0 feet	*Medium Trucks:*	44.803	
Road Elevation:	0.0 feet	*Heavy Trucks:*	44.822	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.81	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-16.21	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-9.56	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.0	70.7	68.9	65.9	73.3	73.7
Medium Trucks:	65.6	65.0	57.3	58.6	66.4	66.6
Heavy Trucks:	76.2	75.0	70.4	71.3	78.3	78.5
Vehicle Noise:	77.9	76.7	72.9	72.6	79.7	80.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	267	575	1,238	2,667
CNEL:	277	596	1,284	2,765

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Milliken Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	41,531 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	3,285 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	80 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	60.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	60.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	45.000	
Pad Elevation:	0.0 feet	*Medium Trucks:*	44.803	
Road Elevation:	0.0 feet	*Heavy Trucks:*	44.822	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.83	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-13.71	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-7.11	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.0	71.7	69.9	66.9	74.3	74.7
Medium Trucks:	68.1	67.5	59.8	61.1	68.9	69.1
Heavy Trucks:	78.7	77.4	72.9	73.8	80.8	81.0
Vehicle Noise:	80.0	78.8	74.8	74.8	81.9	82.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	372	801	1,727	3,720
CNEL:	385	829	1,787	3,850

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Milliken Av.
Road Segment: s/o Riverside Dr.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	51,699 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	4,089 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	80 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	88.63%
Medium Trucks:	82.2%	3.5%	14.3%	2.03%
Heavy Trucks:	70.8%	6.2%	23.0%	9.34%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	60.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	60.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	45.000	
Pad Elevation:	0.0 feet	*Medium Trucks:*	44.803	
Road Elevation:	0.0 feet	*Heavy Trucks:*	44.822	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.88	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-13.51	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-6.89	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.0	72.8	71.0	68.0	75.4	75.8
Medium Trucks:	68.3	67.7	60.0	61.3	69.1	69.3
Heavy Trucks:	78.9	77.6	73.1	74.0	81.0	81.2
Vehicle Noise:	80.4	79.2	75.3	75.1	82.3	82.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	394	849	1,830	3,942
CNEL:	408	880	1,896	4,084

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Hamner Av.
Road Segment: s/o Chino Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	18,514 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	1,464 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	80 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	60.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	60.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	45.000	
Pad Elevation:	0.0 feet	*Medium Trucks:*	44.803	
Road Elevation:	0.0 feet	*Heavy Trucks:*	44.822	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.68	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-17.21	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-10.62	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	68.2	66.4	63.4	70.8	71.2
Medium Trucks:	64.6	64.0	56.3	57.6	65.4	65.6
Heavy Trucks:	75.2	73.9	69.4	70.3	77.3	77.5
Vehicle Noise:	76.5	75.3	71.3	71.3	78.4	78.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	217	468	1,008	2,171
CNEL:	225	484	1,043	2,247

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Hamner Av.
Road Segment: s/o Chino Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	28,300 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	2,239 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	80 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	90.18%
Medium Trucks:	82.2%	3.5%	14.3%	1.74%
Heavy Trucks:	70.8%	6.2%	23.0%	8.08%

Site Data		***Noise Source Elevations (in feet)***		
Barrier Height:	**0.0 feet**	*Autos:*	0.000	
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297	
Centerline Dist. to Barrier:	60.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:* 0.0
Centerline Dist. to Observer:	60.0 feet			
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***		
Observer Height (Above Pad):	5.0 feet	*Autos:*	45.000	
Pad Elevation:	0.0 feet	*Medium Trucks:*	44.803	
Road Elevation:	0.0 feet	*Heavy Trucks:*	44.822	
Road Grade:	0.0%			
Left View:	-90.0 degrees			
Right View:	90.0 degrees			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.34	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	82.40	-16.79	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-10.14	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.5	70.2	68.5	65.4	72.8	73.2
Medium Trucks:	65.0	64.4	56.7	58.1	65.8	66.0
Heavy Trucks:	75.7	74.4	69.9	70.8	77.7	77.9
Vehicle Noise:	77.3	76.1	72.3	72.0	79.2	79.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	245	528	1,138	2,451
CNEL:	254	548	1,180	2,542

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY | Project Name: Rich Haven Specific Plan
Road Name: Hamner Av. | Job Number: 14822
Road Segment: s/o Chino Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,979 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,659 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.14	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-16.67	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.08	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	68.7	67.0	63.9	71.4	71.8
Medium Trucks:	65.1	64.5	56.8	58.2	66.0	66.1
Heavy Trucks:	75.7	74.5	69.9	70.8	77.8	78.0
Vehicle Noise:	77.1	75.8	71.8	71.8	78.9	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	236	508	1,095	2,359
CNEL:	244	526	1,133	2,442

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P | Project Name: Rich Haven Specific Plan
Road Name: Hamner Av. | Job Number: 14822
Road Segment: s/o Chino Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,765 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,434 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	89.89%
Medium Trucks:	82.2%	3.5%	14.3%	1.80%
Heavy Trucks:	70.8%	6.2%	23.0%	8.31%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.69	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-16.30	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.65	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.9	70.6	68.8	65.8	73.2	73.6
Medium Trucks:	65.5	64.9	57.2	58.6	66.3	66.5
Heavy Trucks:	76.2	74.9	70.3	71.2	78.2	78.4
Vehicle Noise:	77.8	76.6	72.8	72.5	79.6	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	263	566	1,220	2,629
CNEL:	273	587	1,265	2,726

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | Project Name: Rich Haven Specific Plan
Road Name: Hamner Av. | Job Number: 14822
Road Segment: s/o Chino Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,863 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,390 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.97	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-13.57	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-6.97	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.1	71.9	70.1	67.0	74.5	74.9
Medium Trucks:	68.2	67.6	59.9	61.3	69.1	69.2
Heavy Trucks:	78.8	77.6	73.0	73.9	80.9	81.1
Vehicle Noise:	80.2	78.9	74.9	74.9	82.0	82.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	380	818	1,763	3,799
CNEL:	393	847	1,825	3,932

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P | Project Name: Rich Haven Specific Plan
Road Name: Hamner Av. | Job Number: 14822
Road Segment: s/o Chino Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,650 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	4,165 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	88.49%
Medium Trucks:	82.2%	3.5%	14.3%	2.06%
Heavy Trucks:	70.8%	6.2%	23.0%	9.45%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.96	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-13.38	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-6.76	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.1	72.8	71.1	68.0	75.4	75.9
Medium Trucks:	68.4	67.8	60.1	61.5	69.2	69.4
Heavy Trucks:	79.0	77.8	73.2	74.1	81.1	81.3
Vehicle Noise:	80.5	79.3	75.4	75.3	82.4	82.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	401	865	1,863	4,015
CNEL:	416	896	1,931	4,159

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Hamner Av.
Road Segment: s/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,376 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,086 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.14	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-15.68	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.08	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	69.7	68.0	64.9	72.3	72.8
Medium Trucks:	66.1	65.5	57.8	59.2	66.9	67.1
Heavy Trucks:	76.7	75.5	70.9	71.8	78.8	79.0
Vehicle Noise:	78.0	76.8	72.8	72.8	79.9	80.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	275	592	1,276	2,748
CNEL:	284	613	1,320	2,845

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Hamner Av.
Road Segment: s/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,332 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,716 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	89.65%
Medium Trucks:	82.2%	3.5%	14.3%	1.86%
Heavy Trucks:	70.8%	6.2%	23.0%	8.49%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.16	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-15.68	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.08	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.3	71.0	69.3	66.2	73.6	74.1
Medium Trucks:	66.1	65.5	57.8	59.2	66.9	67.1
Heavy Trucks:	76.7	75.5	70.9	71.8	78.8	79.0
Vehicle Noise:	78.3	77.1	73.3	73.0	80.2	80.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	286	616	1,327	2,859
CNEL:	296	639	1,376	2,964

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Hamner Av.
Road Segment: s/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,827 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,359 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.39	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-15.14	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.55	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.6	70.3	68.5	65.5	72.9	73.3
Medium Trucks:	66.7	66.0	58.3	59.7	67.5	67.6
Heavy Trucks:	77.3	76.0	71.4	72.3	79.3	79.5
Vehicle Noise:	78.6	77.4	73.4	73.3	80.4	80.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	298	643	1,385	2,983
CNEL:	309	665	1,433	3,088

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Hamner Av.
Road Segment: s/o Ontario Ranch Rd.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,783 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,989 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	89.37%
Medium Trucks:	82.2%	3.5%	14.3%	1.91%
Heavy Trucks:	70.8%	6.2%	23.0%	8.72%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.56	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-15.14	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.55	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.7	71.4	69.7	66.6	74.0	74.5
Medium Trucks:	66.7	66.0	58.3	59.7	67.5	67.6
Heavy Trucks:	77.3	76.0	71.4	72.3	79.3	79.5
Vehicle Noise:	78.8	77.6	73.8	73.6	80.7	80.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	309	666	1,434	3,090
CNEL:	320	690	1,486	3,203

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | Project Name: Rich Haven Specific Plan
Road Name: Hamner Av. | Job Number: 14822
Road Segment: s/o Ontario Ranch Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,170 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,466 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.58	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-14.95	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.36	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.7	70.5	68.7	65.7	73.1	73.5
Medium Trucks:	66.9	66.2	58.5	59.9	67.7	67.8
Heavy Trucks:	77.4	76.2	71.6	72.5	79.5	79.7
Vehicle Noise:	78.8	77.5	73.6	73.5	80.6	80.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	307	662	1,426	3,072
CNEL:	318	685	1,476	3,180

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P | Project Name: Rich Haven Specific Plan
Road Name: Hamner Av. | Job Number: 14822
Road Segment: s/o Ontario Ranch Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,126 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,095 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	89.27%
Medium Trucks:	82.2%	3.5%	14.3%	1.93%
Heavy Trucks:	70.8%	6.2%	23.0%	8.80%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.70	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	82.40	-14.95	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.36	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.9	71.6	69.8	66.8	74.2	74.6
Medium Trucks:	66.9	66.2	58.5	59.9	67.7	67.8
Heavy Trucks:	77.4	76.2	71.6	72.5	79.5	79.7
Vehicle Noise:	79.0	77.8	74.0	73.7	80.9	81.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	318	684	1,475	3,177
CNEL:	329	709	1,528	3,293

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Rich Haven Specific Plan
Road Name: Riverside Dr. | Job Number: 14822
Road Segment: w/o Haven Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,880 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,256 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.93	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-17.47	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.87	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	66.4	64.6	61.6	69.0	69.4
Medium Trucks:	62.9	62.3	54.6	56.0	63.8	63.9
Heavy Trucks:	73.9	72.6	68.1	69.0	76.0	76.2
Vehicle Noise:	75.1	73.9	69.8	69.9	77.0	77.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	176	378	815	1,756
CNEL:	182	391	843	1,816

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | Project Name: Rich Haven Specific Plan
Road Name: Riverside Dr. | Job Number: 14822
Road Segment: w/o Haven Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,898 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,416 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	88.05%
Medium Trucks:	82.2%	3.5%	14.3%	2.15%
Heavy Trucks:	70.8%	6.2%	23.0%	9.80%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.34	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-17.47	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.87	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	67.0	65.2	62.2	69.6	70.0
Medium Trucks:	62.9	62.3	54.6	56.0	63.8	63.9
Heavy Trucks:	73.9	72.6	68.1	69.0	76.0	76.2
Vehicle Noise:	75.2	74.0	70.0	70.0	77.1	77.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	178	384	827	1,783
CNEL:	185	398	857	1,845

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Riverside Dr.
Road Segment: w/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,998 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,503 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.15	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-16.69	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.09	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	67.2	65.4	62.3	69.8	70.2
Medium Trucks:	63.7	63.1	55.4	56.8	64.5	64.7
Heavy Trucks:	74.7	73.4	68.9	69.8	76.8	77.0
Vehicle Noise:	75.9	74.7	70.6	70.7	77.8	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	198	426	918	1,978
CNEL:	205	441	950	2,047

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Riverside Dr.
Road Segment: w/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,016 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,662 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	87.83%
Medium Trucks:	82.2%	3.5%	14.3%	2.19%
Heavy Trucks:	70.8%	6.2%	23.0%	9.99%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.65	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-16.69	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.09	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.7	65.9	62.8	70.3	70.7
Medium Trucks:	63.7	63.1	55.4	56.8	64.5	64.7
Heavy Trucks:	74.7	73.4	68.9	69.8	76.8	77.0
Vehicle Noise:	76.0	74.8	70.8	70.8	77.9	78.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	200	432	930	2,004
CNEL:	207	447	963	2,074

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Riverside Dr.
Road Segment: w/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,988 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,609 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.24	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-14.29	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-7.70	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.8	69.6	67.8	64.7	72.2	72.6
Medium Trucks:	66.1	65.5	57.8	59.2	66.9	67.1
Heavy Trucks:	77.1	75.8	71.3	72.2	79.2	79.4
Vehicle Noise:	78.3	77.1	73.0	73.1	80.2	80.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	286	616	1,327	2,858
CNEL:	296	637	1,372	2,957

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Riverside Dr.
Road Segment: w/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	35,006 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,769 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	87.31%
Medium Trucks:	82.2%	3.5%	14.3%	2.28%
Heavy Trucks:	70.8%	6.2%	23.0%	10.41%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.54	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-14.29	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-7.70	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.1	69.8	68.1	65.0	72.5	72.9
Medium Trucks:	66.1	65.5	57.8	59.2	66.9	67.1
Heavy Trucks:	77.1	75.8	71.3	72.2	79.2	79.4
Vehicle Noise:	78.3	77.1	73.1	73.1	80.2	80.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	288	620	1,337	2,879
CNEL:	298	642	1,383	2,980

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Riverside Dr.
Road Segment: w/o Milliken Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,308 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	736 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-4.25	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-19.79	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-13.19	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.3	64.1	62.3	59.2	66.7	67.1
Medium Trucks:	60.6	60.0	52.3	53.7	61.4	61.6
Heavy Trucks:	71.6	70.3	65.8	66.7	73.7	73.9
Vehicle Noise:	72.8	71.6	67.5	67.6	74.7	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	265	571	1,230
CNEL:	127	274	590	1,272

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Riverside Dr.
Road Segment: w/o Milliken Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,275 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,287 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	92.30%
Medium Trucks:	82.2%	3.5%	14.3%	1.38%
Heavy Trucks:	70.8%	6.2%	23.0%	6.32%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.55	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-19.79	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-13.19	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.0	66.8	65.0	61.9	69.4	69.8
Medium Trucks:	60.6	60.0	52.3	53.7	61.4	61.6
Heavy Trucks:	71.6	70.3	65.8	66.7	73.7	73.9
Vehicle Noise:	73.4	72.2	68.5	68.1	75.2	75.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	134	289	622	1,339
CNEL:	139	300	645	1,390

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Riverside Dr.
Road Segment: w/o Milliken Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,501 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,068 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.64	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-18.17	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-11.58	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.9	65.7	63.9	60.9	68.3	68.7
Medium Trucks:	62.2	61.6	53.9	55.3	63.1	63.2
Heavy Trucks:	73.2	71.9	67.4	68.3	75.3	75.5
Vehicle Noise:	74.4	73.2	69.1	69.2	76.3	76.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	158	339	731	1,576
CNEL:	163	351	757	1,630

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Riverside Dr.
Road Segment: w/o Milliken Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,468 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,619 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	91.12%
Medium Trucks:	82.2%	3.5%	14.3%	1.60%
Heavy Trucks:	70.8%	6.2%	23.0%	7.29%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-0.61	0.58	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-18.17	0.61	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-11.58	0.61	-1.20	*-5.34*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.0	67.7	65.9	62.9	70.3	70.7
Medium Trucks:	62.2	61.6	53.9	55.3	63.1	63.2
Heavy Trucks:	73.2	71.9	67.4	68.3	75.3	75.5
Vehicle Noise:	74.8	73.6	69.9	69.6	76.7	76.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	167	360	777	1,673
CNEL:	174	374	805	1,735

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY | Project Name: Rich Haven Specific Plan
Road Name: Riverside Dr. | Job Number: 14822
Road Segment: w/o Milliken Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,188 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,862 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.64	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-13.89	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-7.30	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.2	70.0	68.2	65.1	72.6	73.0
Medium Trucks:	66.5	65.9	58.2	59.6	67.3	67.5
Heavy Trucks:	77.5	76.2	71.7	72.6	79.6	79.8
Vehicle Noise:	78.7	77.5	73.4	73.5	80.6	80.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	304	655	1,411	3,040
CNEL:	314	678	1,460	3,145

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P | Project Name: Rich Haven Specific Plan
Road Name: Riverside Dr. | Job Number: 14822
Road Segment: w/o Milliken Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,155 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,414 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	80 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	60.0 feet
Centerline Dist. to Observer:	60.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	88.71%
Medium Trucks:	82.2%	3.5%	14.3%	2.03%
Heavy Trucks:	70.8%	6.2%	23.0%	9.26%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	45.000
Medium Trucks:	44.803
Heavy Trucks:	44.822

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.52	0.58	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-13.89	0.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-7.30	0.61	-1.20	-5.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.1	70.8	69.1	66.0	73.4	73.8
Medium Trucks:	66.5	65.9	58.2	59.6	67.3	67.5
Heavy Trucks:	77.5	76.2	71.7	72.6	79.6	79.8
Vehicle Noise:	78.9	77.6	73.7	73.6	80.7	80.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	311	670	1,444	3,111
CNEL:	322	694	1,495	3,221

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Rich Haven Specific Plan
Road Name: Chino Av. | Job Number: 14822
Road Segment: e/o Archibald Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,409 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	428 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.875
Medium Trucks:	43.673
Heavy Trucks:	43.692

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.64	0.75	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-21.17	0.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-14.58	0.78	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.4	59.1	57.4	54.3	61.7	62.2
Medium Trucks:	56.1	55.5	47.8	49.2	56.9	57.1
Heavy Trucks:	68.0	66.7	62.2	63.1	70.1	70.3
Vehicle Noise:	68.9	67.7	63.5	63.8	70.8	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	233	501
CNEL:	52	112	240	518

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P | Project Name: Rich Haven Specific Plan
Road Name: Chino Av. | Job Number: 14822
Road Segment: e/o Archibald Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,054 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	637 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	90.95%
Medium Trucks:	82.2%	3.5%	14.3%	1.63%
Heavy Trucks:	70.8%	6.2%	23.0%	7.42%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.875
Medium Trucks:	43.673
Heavy Trucks:	43.692

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.70	0.75	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-21.17	0.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-14.58	0.78	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	61.1	59.3	56.3	63.7	64.1
Medium Trucks:	56.1	55.5	47.8	49.2	56.9	57.1
Heavy Trucks:	68.0	66.7	62.2	63.1	70.1	70.3
Vehicle Noise:	69.3	68.0	64.1	64.0	71.1	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	524
CNEL:	54	117	252	542

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Chino Av.
Road Segment: e/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,529 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	754 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.875
Medium Trucks:	43.673
Heavy Trucks:	43.692

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.18	0.75	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-18.72	0.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.12	0.78	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	61.6	59.8	56.8	64.2	64.6
Medium Trucks:	58.6	58.0	50.2	51.6	59.4	59.5
Heavy Trucks:	70.4	69.2	64.6	65.5	72.5	72.7
Vehicle Noise:	71.4	70.1	66.0	66.2	73.3	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	73	157	339	731
CNEL:	76	163	350	755

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Chino Av.
Road Segment: e/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,173 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	963 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	89.46%
Medium Trucks:	82.2%	3.5%	14.3%	1.89%
Heavy Trucks:	70.8%	6.2%	23.0%	8.65%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.875
Medium Trucks:	43.673
Heavy Trucks:	43.692

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.97	0.75	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-18.72	0.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.12	0.78	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.1	62.8	61.0	58.0	65.4	65.8
Medium Trucks:	58.6	58.0	50.2	51.6	59.4	59.5
Heavy Trucks:	70.4	69.2	64.6	65.5	72.5	72.7
Vehicle Noise:	71.6	70.3	66.3	66.4	73.5	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	162	348	750
CNEL:	78	167	360	776

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Chino Av.
Road Segment: e/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,003 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	870 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.875
Medium Trucks:	43.673
Heavy Trucks:	43.692

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.56	0.75	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-18.09	0.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.50	0.78	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.5	62.2	60.5	57.4	64.8	65.2
Medium Trucks:	59.2	58.6	50.9	52.2	60.0	60.2
Heavy Trucks:	71.1	69.8	65.3	66.2	73.2	73.3
Vehicle Noise:	72.0	70.8	66.6	66.9	73.9	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	173	373	804
CNEL:	83	179	386	831

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Chino Av.
Road Segment: e/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,647 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,080 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	89.14%
Medium Trucks:	82.2%	3.5%	14.3%	1.95%
Heavy Trucks:	70.8%	6.2%	23.0%	8.91%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	43.875
Medium Trucks:	43.673
Heavy Trucks:	43.692

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.49	0.75	-1.20	-4.61	0.000	0.000
Medium Trucks:	77.72	-18.09	0.78	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-11.50	0.78	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	63.3	61.5	58.5	65.9	66.3
Medium Trucks:	59.2	58.6	50.9	52.2	60.0	60.2
Heavy Trucks:	71.1	69.8	65.3	66.2	73.2	73.3
Vehicle Noise:	72.2	70.9	66.9	67.0	74.1	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	177	382	823
CNEL:	85	183	395	851

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Ontario Ranch Rd.
Road Segment: w/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,582 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,074 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-3.03	2.42	-1.20	*-4.75*	0.000	0.000
Medium Trucks:	82.40	-18.56	2.47	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-11.97	2.47	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.7	66.9	63.9	71.3	71.7
Medium Trucks:	65.1	64.5	56.8	58.1	65.9	66.1
Heavy Trucks:	75.7	74.4	69.9	70.8	77.8	78.0
Vehicle Noise:	77.0	75.8	71.8	71.8	78.9	79.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	329	708	1,525	3,286
CNEL:	340	733	1,578	3,401

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Ontario Ranch Rd.
Road Segment: w/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,888 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,652 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	90.42%
Medium Trucks:	82.2%	3.5%	14.3%	1.70%
Heavy Trucks:	70.8%	6.2%	23.0%	7.87%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.97	2.42	-1.20	*-4.75*	0.000	0.000
Medium Trucks:	82.40	-18.21	2.47	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-11.57	2.47	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.0	70.8	69.0	65.9	73.4	73.8
Medium Trucks:	65.5	64.8	57.1	58.5	66.3	66.4
Heavy Trucks:	76.1	74.8	70.3	71.2	78.2	78.4
Vehicle Noise:	77.8	76.6	72.8	72.5	79.6	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	368	792	1,707	3,678
CNEL:	382	822	1,771	3,815

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Ontario Ranch Rd.
Road Segment: w/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,875 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,335 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-2.08	2.42	-1.20	*-4.75*	0.000	0.000
Medium Trucks:	82.40	-17.62	2.47	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-11.02	2.47	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.9	69.6	67.9	64.8	72.2	72.7
Medium Trucks:	66.1	65.4	57.7	59.1	66.9	67.0
Heavy Trucks:	76.6	75.4	70.8	71.7	78.7	78.9
Vehicle Noise:	78.0	76.7	72.7	72.7	79.8	80.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	380	818	1,763	3,797
CNEL:	393	847	1,824	3,930

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Ontario Ranch Rd.
Road Segment: w/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,182 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,913 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	70.7%	11.8%	17.5%	89.89%
Medium Trucks:	82.2%	3.5%	14.3%	1.80%
Heavy Trucks:	70.8%	6.2%	23.0%	8.31%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	71.78	-0.36	2.42	-1.20	*-4.75*	0.000	0.000
Medium Trucks:	82.40	-17.33	2.47	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-10.70	2.47	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	72.6	71.4	69.6	66.6	74.0	74.4
Medium Trucks:	66.3	65.7	58.0	59.4	67.2	67.3
Heavy Trucks:	77.0	75.7	71.2	72.0	79.0	79.2
Vehicle Noise:	78.6	77.4	73.6	73.3	80.4	80.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	416	897	1,933	4,165
CNEL:	432	930	2,004	4,318

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Ontario Ranch Rd.
Road Segment: w/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	18,501 vehicles	Autos:	15
Peak Hour Percentage:	7.91%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,463 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	154 feet		
Site Data		**Vehicle Mix**	
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	84.0 feet		
Centerline Dist. to Observer:	84.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.68	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-17.22	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.62	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	70.0	68.3	65.2	72.6	73.1
Medium Trucks:	66.5	65.8	58.1	59.5	67.3	67.4
Heavy Trucks:	77.0	75.8	71.2	72.1	79.1	79.3
Vehicle Noise:	78.4	77.1	73.1	73.1	80.2	80.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	404	870	1,874	4,037
CNEL:	418	900	1,940	4,179

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Ontario Ranch Rd.
Road Segment: w/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	25,808 vehicles	Autos:	15
Peak Hour Percentage:	7.91%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	2,041 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	154 feet		
Site Data		**Vehicle Mix**	
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	84.0 feet		
Centerline Dist. to Observer:	84.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	89.68%
Medium Trucks:	82.2%	3.5%	14.3%	1.84%
Heavy Trucks:	70.8%	6.2%	23.0%	8.48%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.08	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-16.96	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.33	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.9	71.6	69.9	66.8	74.2	74.7
Medium Trucks:	66.7	66.1	58.4	59.7	67.5	67.7
Heavy Trucks:	77.3	76.1	71.5	72.4	79.4	79.6
Vehicle Noise:	78.9	77.7	73.9	73.7	80.8	81.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	439	947	2,040	4,394
CNEL:	456	982	2,115	4,556

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Ontario Ranch Rd.
Road Segment: e/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	16,280 vehicles	Autos:	15
Peak Hour Percentage:	7.91%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,288 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	154 feet		
Site Data		**Vehicle Mix**	
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	84.0 feet		
Centerline Dist. to Observer:	84.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.24	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-17.77	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-11.18	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.8	69.5	67.7	64.7	72.1	72.5
Medium Trucks:	65.9	65.3	57.6	58.9	66.7	66.9
Heavy Trucks:	76.5	75.2	70.7	71.6	78.6	78.8
Vehicle Noise:	77.8	76.6	72.6	72.6	79.7	79.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	371	799	1,721	3,708
CNEL:	384	827	1,781	3,837

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Ontario Ranch Rd.
Road Segment: e/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	33,653 vehicles	Autos:	15
Peak Hour Percentage:	7.91%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	2,662 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	154 feet		
Site Data		**Vehicle Mix**	
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	84.0 feet		
Centerline Dist. to Observer:	84.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	92.98%
Medium Trucks:	82.2%	3.5%	14.3%	1.25%
Heavy Trucks:	70.8%	6.2%	23.0%	5.77%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.23	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-17.48	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.84	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.2	73.0	71.2	68.1	75.6	76.0
Medium Trucks:	66.2	65.6	57.9	59.2	67.0	67.1
Heavy Trucks:	76.8	75.5	71.0	71.9	78.9	79.1
Vehicle Noise:	79.0	77.7	74.2	73.6	80.7	81.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	437	941	2,027	4,368
CNEL:	454	978	2,108	4,541

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Ontario Ranch Rd.
Road Segment: e/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,855 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,570 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.38	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-16.91	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.32	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.6	70.3	68.6	65.5	72.9	73.4
Medium Trucks:	66.8	66.1	58.4	59.8	67.6	67.7
Heavy Trucks:	77.3	76.1	71.5	72.4	79.4	79.6
Vehicle Noise:	78.7	77.4	73.5	73.4	80.5	80.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	423	912	1,964	4,232
CNEL:	438	944	2,033	4,380

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Ontario Ranch Rd.
Road Segment: e/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,228 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,945 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	92.36%
Medium Trucks:	82.2%	3.5%	14.3%	1.36%
Heavy Trucks:	70.8%	6.2%	23.0%	6.28%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.64	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-16.67	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.04	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.6	73.4	71.6	68.5	76.0	76.4
Medium Trucks:	67.0	66.4	58.7	60.0	67.8	68.0
Heavy Trucks:	77.6	76.4	71.8	72.7	79.7	79.9
Vehicle Noise:	79.6	78.4	74.8	74.3	81.4	81.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	485	1,046	2,253	4,854
CNEL:	504	1,087	2,341	5,044

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Ontario Ranch Rd.
Road Segment: e/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,774 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,564 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.39	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-16.93	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.33	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.6	70.3	68.6	65.5	72.9	73.3
Medium Trucks:	66.7	66.1	58.4	59.8	67.6	67.7
Heavy Trucks:	77.3	76.1	71.5	72.4	79.4	79.6
Vehicle Noise:	78.6	77.4	73.4	73.4	80.5	80.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	422	909	1,959	4,221
CNEL:	437	941	2,028	4,368

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Ontario Ranch Rd.
Road Segment: e/o Archibald Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,147 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,938 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	92.37%
Medium Trucks:	82.2%	3.5%	14.3%	1.36%
Heavy Trucks:	70.8%	6.2%	23.0%	6.27%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.63	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-16.69	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.06	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.6	73.4	71.6	68.5	76.0	76.4
Medium Trucks:	67.0	66.4	58.7	60.0	67.8	67.9
Heavy Trucks:	77.6	76.3	71.8	72.7	79.7	79.9
Vehicle Noise:	79.6	78.4	74.8	74.3	81.4	81.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	484	1,044	2,248	4,844
CNEL:	503	1,084	2,336	5,032

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Ontario Ranch Rd.
Road Segment: w/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,294 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,447 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.73	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-17.27	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.67	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	70.0	68.2	65.2	72.6	73.0
Medium Trucks:	66.4	65.8	58.1	59.4	67.2	67.4
Heavy Trucks:	77.0	75.7	71.2	72.1	79.1	79.3
Vehicle Noise:	78.3	77.1	73.1	73.1	80.2	80.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	401	863	1,860	4,007
CNEL:	415	894	1,925	4,148

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Ontario Ranch Rd.
Road Segment: w/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,277 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,107 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	93.29%
Medium Trucks:	82.2%	3.5%	14.3%	1.20%
Heavy Trucks:	70.8%	6.2%	23.0%	5.51%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.91	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-17.00	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-10.37	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.9	73.6	71.9	68.8	76.2	76.6
Medium Trucks:	66.7	66.0	58.3	59.7	67.5	67.6
Heavy Trucks:	77.3	76.0	71.5	72.4	79.4	79.6
Vehicle Noise:	79.5	78.3	74.8	74.1	81.3	81.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	474	1,022	2,202	4,743
CNEL:	493	1,063	2,290	4,933

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Ontario Ranch Rd.
Road Segment: w/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,078 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,746 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.92	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-16.45	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.86	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.1	70.8	69.0	66.0	73.4	73.8
Medium Trucks:	67.2	66.6	58.9	60.3	68.0	68.2
Heavy Trucks:	77.8	76.5	72.0	72.9	79.9	80.1
Vehicle Noise:	79.1	77.9	73.9	73.9	81.0	81.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	454	979	2,108	4,542
CNEL:	470	1,013	2,182	4,701

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Ontario Ranch Rd.
Road Segment: w/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,061 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,406 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	92.70%
Medium Trucks:	82.2%	3.5%	14.3%	1.30%
Heavy Trucks:	70.8%	6.2%	23.0%	6.00%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.28	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-16.23	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.61	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.3	74.0	72.2	69.2	76.6	77.0
Medium Trucks:	67.4	66.8	59.1	60.5	68.3	68.4
Heavy Trucks:	78.1	76.8	72.2	73.1	80.1	80.3
Vehicle Noise:	80.1	78.9	75.4	74.8	81.9	82.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	524	1,129	2,431	5,238
CNEL:	544	1,173	2,527	5,444

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Ontario Ranch Rd.
Road Segment: w/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,058 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	4,118 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.81	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-12.72	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-6.13	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.8	74.5	72.8	69.7	77.1	77.5
Medium Trucks:	71.0	70.3	62.6	64.0	71.8	71.9
Heavy Trucks:	81.5	80.3	75.7	76.6	83.6	83.8
Vehicle Noise:	82.9	81.6	77.6	77.6	84.7	84.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	805	1,734	3,735	8,047
CNEL:	833	1,794	3,866	8,329

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Ontario Ranch Rd.
Road Segment: w/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	73,041 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	5,778 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	90.17%
Medium Trucks:	82.2%	3.5%	14.3%	1.76%
Heavy Trucks:	70.8%	6.2%	23.0%	8.07%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.46	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-12.63	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-6.02	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	77.5	76.2	74.4	71.4	78.8	79.2
Medium Trucks:	71.0	70.4	62.7	64.1	71.9	72.0
Heavy Trucks:	81.6	80.4	75.8	76.7	83.7	83.9
Vehicle Noise:	83.3	82.1	78.3	78.0	85.1	85.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	858	1,849	3,983	8,581
CNEL:	890	1,917	4,130	8,899

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Ontario Ranch Rd.
Road Segment: e/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,755 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,879 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.60	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-16.13	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.54	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.4	71.1	69.4	66.3	73.7	74.1
Medium Trucks:	67.5	66.9	59.2	60.6	68.4	68.5
Heavy Trucks:	78.1	76.9	72.3	73.2	80.2	80.4
Vehicle Noise:	79.4	78.2	74.2	74.2	81.3	81.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	477	1,028	2,214	4,770
CNEL:	494	1,064	2,291	4,937

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Ontario Ranch Rd.
Road Segment: e/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,864 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,944 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	93.24%
Medium Trucks:	82.2%	3.5%	14.3%	1.21%
Heavy Trucks:	70.8%	6.2%	23.0%	5.55%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.95	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-15.93	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.30	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.9	74.7	72.9	69.9	77.3	77.7
Medium Trucks:	67.7	67.1	59.4	60.8	68.6	68.7
Heavy Trucks:	78.4	77.1	72.5	73.4	80.4	80.6
Vehicle Noise:	80.6	79.3	75.8	75.2	82.3	82.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	558	1,202	2,590	5,579
CNEL:	580	1,250	2,693	5,802

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Ontario Ranch Rd.
Road Segment: e/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,304 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,160 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.01	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-15.53	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.93	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.0	71.7	70.0	66.9	74.3	74.7
Medium Trucks:	68.1	67.5	59.8	61.2	69.0	69.1
Heavy Trucks:	78.7	77.5	72.9	73.8	80.8	81.0
Vehicle Noise:	80.0	78.8	74.8	74.8	81.9	82.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	523	1,128	2,429	5,234
CNEL:	542	1,167	2,514	5,417

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Ontario Ranch Rd.
Road Segment: e/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,412 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	4,225 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	92.79%
Medium Trucks:	82.2%	3.5%	14.3%	1.29%
Heavy Trucks:	70.8%	6.2%	23.0%	5.92%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.22	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-15.35	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.73	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	76.2	74.9	73.2	70.1	77.6	78.0
Medium Trucks:	68.3	67.7	60.0	61.4	69.1	69.3
Heavy Trucks:	78.9	77.7	73.1	74.0	81.0	81.2
Vehicle Noise:	81.0	79.8	76.3	75.7	82.8	83.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	601	1,295	2,790	6,010
CNEL:	625	1,346	2,900	6,247

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Ontario Ranch Rd.
Road Segment: e/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,417 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,276 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.82	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-13.72	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-7.12	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.8	73.5	71.8	68.7	76.1	76.6
Medium Trucks:	70.0	69.3	61.6	63.0	70.8	70.9
Heavy Trucks:	80.5	79.3	74.7	75.6	82.6	82.8
Vehicle Noise:	81.9	80.6	76.6	76.6	83.7	84.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	691	1,489	3,207	6,909
CNEL:	715	1,541	3,319	7,151

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Ontario Ranch Rd.
Road Segment: e/o Haven Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,526 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	5,341 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	91.49%
Medium Trucks:	82.2%	3.5%	14.3%	1.52%
Heavy Trucks:	70.8%	6.2%	23.0%	6.99%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.18	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-13.60	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-6.99	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	77.2	75.9	74.1	71.1	78.5	78.9
Medium Trucks:	70.1	69.4	61.7	63.1	70.9	71.0
Heavy Trucks:	80.7	79.4	74.9	75.8	82.8	82.9
Vehicle Noise:	82.5	81.3	77.6	77.2	84.3	84.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	759	1,636	3,524	7,593
CNEL:	788	1,698	3,659	7,883

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Ontario Ranch Rd.
Road Segment: w/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,522 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	1,781 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.83	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-16.36	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-9.77	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.2	70.9	69.1	66.1	73.5	73.9
Medium Trucks:	67.3	66.7	59.0	60.3	68.1	68.3
Heavy Trucks:	77.9	76.6	72.1	73.0	80.0	80.2
Vehicle Noise:	79.2	78.0	74.0	74.0	81.1	81.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	460	992	2,137	4,603
CNEL:	476	1,026	2,211	4,764

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Ontario Ranch Rd.
Road Segment: w/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,967 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	4,348 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	93.13%
Medium Trucks:	82.2%	3.5%	14.3%	1.21%
Heavy Trucks:	70.8%	6.2%	23.0%	5.66%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.36	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-15.51	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.80	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	76.4	75.1	73.3	70.3	77.7	78.1
Medium Trucks:	68.2	67.5	59.8	61.2	69.0	69.1
Heavy Trucks:	78.9	77.6	73.1	73.9	80.9	81.1
Vehicle Noise:	81.0	79.8	76.3	75.7	82.8	83.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	600	1,293	2,786	6,003
CNEL:	624	1,345	2,897	6,242

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Ontario Ranch Rd.
Road Segment: w/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,350 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	2,638 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.88	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-14.66	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-8.06	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.9	72.6	70.8	67.8	75.2	75.6
Medium Trucks:	69.0	68.4	60.7	62.0	69.8	70.0
Heavy Trucks:	79.6	78.3	73.8	74.7	81.7	81.9
Vehicle Noise:	80.9	79.7	75.7	75.7	82.8	83.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	598	1,288	2,776	5,980
CNEL:	619	1,333	2,873	6,189

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Ontario Ranch Rd.
Road Segment: w/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,795 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	5,204 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	92.04%
Medium Trucks:	82.2%	3.5%	14.3%	1.41%
Heavy Trucks:	70.8%	6.2%	23.0%	6.55%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.09	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-14.06	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-7.38	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	77.1	75.8	74.1	71.0	78.4	78.8
Medium Trucks:	69.6	69.0	61.3	62.6	70.4	70.6
Heavy Trucks:	80.3	79.0	74.5	75.4	82.4	82.5
Vehicle Noise:	82.2	81.0	77.4	76.9	84.0	84.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	723	1,558	3,358	7,234
CNEL:	751	1,619	3,488	7,514

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Ontario Ranch Rd.
Road Segment: w/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	45,327 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	3,585 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	154 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Site Data		***Noise Source Elevations (in feet)***			
Barrier Height:	**0.0 feet**	*Autos:*	0.000		
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297		
Centerline Dist. to Barrier:	84.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:*	0.0
Centerline Dist. to Observer:	84.0 feet				
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***			
Observer Height (Above Pad):	5.0 feet	*Autos:*	33.941		
Pad Elevation:	0.0 feet	*Medium Trucks:*	33.679		
Road Elevation:	0.0 feet	*Heavy Trucks:*	33.705		
Road Grade:	0.0%				
Left View:	-90.0 degrees				
Right View:	90.0 degrees				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.21	2.42	-1.20	*-4.75*	0.000	0.000
Medium Trucks:	82.40	-13.33	2.47	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-6.73	2.47	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.2	73.9	72.2	69.1	76.5	76.9
Medium Trucks:	70.3	69.7	62.0	63.4	71.2	71.3
Heavy Trucks:	80.9	79.7	75.1	76.0	83.0	83.2
Vehicle Noise:	82.3	81.0	77.0	77.0	84.1	84.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	734	1,581	3,406	7,338
CNEL:	759	1,636	3,525	7,594

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Ontario Ranch Rd.
Road Segment: w/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	77,772 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	6,152 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	154 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	91.20%
Medium Trucks:	82.2%	3.5%	14.3%	1.56%
Heavy Trucks:	70.8%	6.2%	23.0%	7.24%

Site Data		***Noise Source Elevations (in feet)***			
Barrier Height:	**0.0 feet**	*Autos:*	0.000		
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297		
Centerline Dist. to Barrier:	84.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:*	0.0
Centerline Dist. to Observer:	84.0 feet				
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***			
Observer Height (Above Pad):	5.0 feet	*Autos:*	33.941		
Pad Elevation:	0.0 feet	*Medium Trucks:*	33.679		
Road Elevation:	0.0 feet	*Heavy Trucks:*	33.705		
Road Grade:	0.0%				
Left View:	-90.0 degrees				
Right View:	90.0 degrees				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.78	2.42	-1.20	*-4.75*	0.000	0.000
Medium Trucks:	82.40	-12.88	2.47	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-6.22	2.47	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	77.8	76.5	74.7	71.7	79.1	79.5
Medium Trucks:	70.8	70.2	62.5	63.8	71.6	71.7
Heavy Trucks:	81.4	80.2	75.6	76.5	83.5	83.7
Vehicle Noise:	83.3	82.0	78.3	77.9	85.1	85.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	848	1,828	3,938	8,483
CNEL:	880	1,897	4,087	8,805

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Ontario Ranch Rd.
Road Segment: e/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	27,822 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	2,201 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	154 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Site Data		***Noise Source Elevations (in feet)***			
Barrier Height:	**0.0 feet**	*Autos:*	0.000		
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297		
Centerline Dist. to Barrier:	84.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:*	0.0
Centerline Dist. to Observer:	84.0 feet				
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***			
Observer Height (Above Pad):	5.0 feet	*Autos:*	33.941		
Pad Elevation:	0.0 feet	*Medium Trucks:*	33.679		
Road Elevation:	0.0 feet	*Heavy Trucks:*	33.705		
Road Grade:	0.0%				
Left View:	-90.0 degrees				
Right View:	90.0 degrees				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.09	2.42	-1.20	*-4.75*	0.000	0.000
Medium Trucks:	82.40	-15.45	2.47	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-8.85	2.47	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.1	71.8	70.0	67.0	74.4	74.8
Medium Trucks:	68.2	67.6	59.9	61.3	69.0	69.2
Heavy Trucks:	78.8	77.5	73.0	73.9	80.9	81.1
Vehicle Noise:	80.1	78.9	74.9	74.9	82.0	82.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	530	1,142	2,460	5,300
CNEL:	549	1,182	2,546	5,485

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E+P
Road Name: Ontario Ranch Rd.
Road Segment: e/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		***Site Conditions (Hard = 10, Soft = 15)***	
Average Daily Traffic (Adt):	51,979 vehicles	*Autos:*	15
Peak Hour Percentage:	7.91%	*Medium Trucks (2 Axles):*	15
Peak Hour Volume:	4,112 vehicles	*Heavy Trucks (3+ Axles):*	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	154 feet		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	91.47%
Medium Trucks:	82.2%	3.5%	14.3%	1.51%
Heavy Trucks:	70.8%	6.2%	23.0%	7.02%

Site Data		***Noise Source Elevations (in feet)***			
Barrier Height:	**0.0 feet**	*Autos:*	0.000		
Barrier Type (0-Wall, 1-Berm):	0.0	*Medium Trucks:*	2.297		
Centerline Dist. to Barrier:	84.0 feet	*Heavy Trucks:*	8.004	*Grade Adjustment:*	0.0
Centerline Dist. to Observer:	84.0 feet				
Barrier Distance to Observer:	0.0 feet	***Lane Equivalent Distance (in feet)***			
Observer Height (Above Pad):	5.0 feet	*Autos:*	33.941		
Pad Elevation:	0.0 feet	*Medium Trucks:*	33.679		
Road Elevation:	0.0 feet	*Heavy Trucks:*	33.705		
Road Grade:	0.0%				
Left View:	-90.0 degrees				
Right View:	90.0 degrees				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.04	2.42	-1.20	*-4.75*	0.000	0.000
Medium Trucks:	82.40	-14.79	2.47	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	86.40	-8.10	2.47	-1.20	*-5.21*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	76.0	74.8	73.0	70.0	77.4	77.8
Medium Trucks:	68.9	68.3	60.6	61.9	69.7	69.8
Heavy Trucks:	79.6	78.3	73.7	74.6	81.6	81.8
Vehicle Noise:	81.4	80.2	76.5	76.1	83.2	83.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	639	1,376	2,965	6,389
CNEL:	663	1,429	3,079	6,632

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY
Road Name: Ontario Ranch Rd.
Road Segment: e/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,968 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,082 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.55	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-13.98	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-7.39	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.6	73.3	71.5	68.5	75.9	76.3
Medium Trucks:	69.7	69.1	61.4	62.7	70.5	70.6
Heavy Trucks:	80.3	79.0	74.5	75.4	82.4	82.5
Vehicle Noise:	81.6	80.4	76.4	76.4	83.5	83.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	663	1,429	3,079	6,634
CNEL:	687	1,479	3,187	6,866

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: OY+P
Road Name: Ontario Ranch Rd.
Road Segment: e/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,124 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	4,993 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	90.60%
Medium Trucks:	82.2%	3.5%	14.3%	1.67%
Heavy Trucks:	70.8%	6.2%	23.0%	7.73%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.85	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-13.50	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-6.84	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	76.8	75.6	73.8	70.8	78.2	78.6
Medium Trucks:	70.2	69.5	61.8	63.2	71.0	71.1
Heavy Trucks:	80.8	79.5	75.0	75.9	82.9	83.1
Vehicle Noise:	82.5	81.3	77.6	77.2	84.4	84.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	762	1,642	3,537	7,620
CNEL:	791	1,703	3,669	7,905

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY
Road Name: Ontario Ranch Rd.
Road Segment: e/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,098 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	3,963 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	86.53%
Medium Trucks:	82.2%	3.5%	14.3%	2.42%
Heavy Trucks:	70.8%	6.2%	23.0%	11.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.64	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-12.89	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-6.30	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.6	74.4	72.6	69.6	77.0	77.4
Medium Trucks:	70.8	70.2	62.5	63.8	71.6	71.7
Heavy Trucks:	81.4	80.1	75.6	76.4	83.4	83.6
Vehicle Noise:	82.7	81.5	77.5	77.4	84.6	84.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	784	1,690	3,641	7,844
CNEL:	812	1,749	3,768	8,118

Friday, October 14, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: HY+P
Road Name: Ontario Ranch Rd.
Road Segment: e/o Hamner Av.
Project Name: Rich Haven Specific Plan
Job Number: 14822

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	74,255 vehicles
Peak Hour Percentage:	7.91%
Peak Hour Volume:	5,874 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	154 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	84.0 feet
Centerline Dist. to Observer:	84.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	70.7%	11.8%	17.5%	89.99%
Medium Trucks:	82.2%	3.5%	14.3%	1.78%
Heavy Trucks:	70.8%	6.2%	23.0%	8.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	33.941
Medium Trucks:	33.679
Heavy Trucks:	33.705

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.52	2.42	-1.20	-4.75	0.000	0.000
Medium Trucks:	82.40	-12.51	2.47	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-5.87	2.47	-1.20	-5.21	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	77.5	76.2	74.5	71.4	78.8	79.3
Medium Trucks:	71.2	70.5	62.8	64.2	72.0	72.1
Heavy Trucks:	81.8	80.5	76.0	76.9	83.9	84.1
Vehicle Noise:	83.4	82.2	78.4	78.1	85.3	85.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	876	1,887	4,065	8,758
CNEL:	908	1,956	4,215	9,081

Friday, October 14, 2022

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APPENDIX 10.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS

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14822 - Rich Haven Specific Plan

CadnaA Noise Prediction Model: 14822-02A.cna
Date: 17.10.22
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	44.9	44.8	51.5	65.0	45.0	0.0				5.00	a	6161938.34	2315328.19	5.00
RECEIVERS		R2	44.8	44.7	51.4	65.0	45.0	0.0				5.00	a	6162735.95	2314875.32	5.00
RECEIVERS		R3	45.9	44.5	51.2	65.0	45.0	0.0				5.00	a	6163483.69	2310238.26	5.00
RECEIVERS		R4	42.8	42.5	49.2	65.0	45.0	0.0				5.00	a	6162048.86	2308936.45	5.00
RECEIVERS		R5	43.0	42.4	49.1	65.0	45.0	0.0				5.00	a	6161471.50	2310774.52	5.00
RECEIVERS		R6	40.0	39.4	46.1	65.0	45.0	0.0				5.00	a	6159739.11	2311421.01	5.00
RECEIVERS		R7	37.3	35.5	42.4	65.0	45.0	0.0				5.00	a	6159775.06	2314442.86	5.00
RECEIVERS		R8	33.4	33.0	39.7	65.0	45.0	0.0				5.00	a	6160277.95	2317097.00	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		TRASH26	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6161900.94	2312817.25	5.00
POINTSOURCE		TRASH25	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6161896.66	2312112.21	5.00
POINTSOURCE		TRASH24	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6161930.85	2313706.03	5.00
POINTSOURCE		TRASH23	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6161922.30	2313139.86	5.00
POINTSOURCE		TRASH22	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6161967.45	2310918.08	5.00
POINTSOURCE		TRASH21	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6162681.62	2310733.34	5.00
POINTSOURCE		TRASH20	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6162993.21	2310719.55	5.00
POINTSOURCE		TRASH19	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6162698.16	2310603.74	5.00
POINTSOURCE		TRASH18	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6163166.92	2310476.90	5.00
POINTSOURCE		TRASH17	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6163588.81	2310716.79	5.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		TRASH16	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6163610.87	2310474.14	5.00
POINTSOURCE		TRASH15	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6163892.12	2310722.31	5.00
POINTSOURCE		TRASH14	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6164272.65	2310711.28	5.00
POINTSOURCE		TRASH13	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6163914.18	2310482.41	5.00
POINTSOURCE		TRASH12	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6164366.40	2310446.57	5.00
POINTSOURCE		TRASH11	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6164462.91	2310443.81	5.00
POINTSOURCE		TRASH10	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6164713.83	2310540.32	5.00
POINTSOURCE		TRASH09	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6164815.86	2310554.10	5.00
POINTSOURCE		TRASH08	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6164771.74	2310708.52	5.00
POINTSOURCE		TRASH07	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6164664.20	2310766.43	5.00
POINTSOURCE		TRASH06	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6163062.14	2310782.97	5.00
POINTSOURCE		TRASH05	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6163208.28	2311610.20	5.00
POINTSOURCE		TRASH04	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6164735.89	2311590.89	5.00
POINTSOURCE		TRASH03	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6163842.22	2309695.88	5.00
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6164810.66	2309683.88	5.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	a	6164678.13	2309626.45	5.00
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163164.50	2311175.81	50.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163289.94	2311386.92	50.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163418.44	2311172.76	50.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163577.53	2311365.50	50.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163693.79	2311175.81	50.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163816.16	2311356.32	50.00
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163938.54	2311160.52	50.00
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164060.92	2311356.32	50.00
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164186.36	2311157.46	50.00
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164317.91	2311368.56	50.00
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164446.41	2311166.64	50.00
POINTSOURCE		AC12	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164565.73	2311368.56	50.00
POINTSOURCE		AC13	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164703.40	2311175.81	50.00
POINTSOURCE		AC14	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164584.08	2310976.95	50.00
POINTSOURCE		AC15	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164317.91	2310980.01	50.00
POINTSOURCE		AC16	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164051.74	2310980.01	50.00
POINTSOURCE		AC17	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163819.22	2310983.07	50.00
POINTSOURCE		AC18	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163565.29	2310989.19	50.00
POINTSOURCE		AC19	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163277.70	2310998.37	50.00
POINTSOURCE		AC20	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161720.45	2310921.88	50.00
POINTSOURCE		AC21	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161732.69	2311148.28	50.00
POINTSOURCE		AC22	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6162001.92	2311163.58	50.00
POINTSOURCE		AC23	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161864.24	2311282.89	50.00
POINTSOURCE		AC24	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161732.69	2311405.27	50.00
POINTSOURCE		AC25	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161588.89	2312142.60	50.00
POINTSOURCE		AC26	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161695.97	2312271.09	50.00
POINTSOURCE		AC27	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161579.71	2312387.35	50.00
POINTSOURCE		AC28	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161683.73	2312567.86	50.00
POINTSOURCE		AC29	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161552.18	2312708.59	50.00
POINTSOURCE		AC30	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161503.23	2313678.44	50.00
POINTSOURCE		AC31	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161503.23	2313225.64	50.00
POINTSOURCE		AC32	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161356.37	2313302.12	50.00
POINTSOURCE		AC33	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161643.96	2313323.54	50.00
POINTSOURCE		AC34	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161490.99	2313433.68	50.00
POINTSOURCE		AC35	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161350.26	2313559.12	50.00
POINTSOURCE		AC36	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161643.96	2313565.24	50.00
POINTSOURCE		AC37	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164757.93	2309454.12	30.00
POINTSOURCE		AC38	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164760.47	2309572.12	30.00
POINTSOURCE		AC39	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164794.17	2310054.17	30.00
POINTSOURCE		AC40	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164786.67	2309796.32	30.00
POINTSOURCE		AC41	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164620.27	2309794.82	30.00
POINTSOURCE		AC42	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164378.91	2309800.81	30.00
POINTSOURCE		AC43	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164121.06	2309803.81	30.00
POINTSOURCE		AC44	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163881.20	2309814.31	30.00
POINTSOURCE		AC45	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163872.21	2310088.65	30.00
POINTSOURCE		AC46	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164942.70	2310526.53	30.00
POINTSOURCE		AC47	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164835.16	2310463.11	30.00
POINTSOURCE		AC48	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164716.59	2310460.35	30.00
POINTSOURCE		AC49	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164545.63	2310493.44	30.00
POINTSOURCE		AC50	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164658.69	2310678.19	30.00
POINTSOURCE		AC51	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164245.07	2310463.11	30.00
POINTSOURCE		AC52	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164189.92	2310595.47	30.00
POINTSOURCE		AC53	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164013.45	2310498.96	30.00
POINTSOURCE		AC54	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163820.43	2310689.22	30.00
POINTSOURCE		AC55	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163710.13	2310689.22	30.00
POINTSOURCE		AC56	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163519.87	2310474.14	30.00
POINTSOURCE		AC57	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163279.98	2310490.68	30.00
POINTSOURCE		AC58	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163081.44	2310680.95	30.00
POINTSOURCE		AC59	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6162896.70	2310658.89	30.00
POINTSOURCE		AC60	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6162731.25	2310487.93	30.00
POINTSOURCE		AC61	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6162579.59	2310620.28	30.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC62	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164807.59	2310970.47	50.00
POINTSOURCE		AC63	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6164804.83	2311397.87	50.00
POINTSOURCE		AC64	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6162998.72	2311006.32	50.00
POINTSOURCE		AC65	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6163106.26	2311397.87	50.00
POINTSOURCE		AC66	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161711.01	2310725.06	50.00
POINTSOURCE		AC67	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161981.23	2311428.21	50.00
POINTSOURCE		AC68	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161717.20	2312022.48	50.00
POINTSOURCE		AC69	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161548.42	2312020.34	50.00
POINTSOURCE		AC70	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161693.70	2312806.57	50.00
POINTSOURCE		AC71	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161428.78	2312819.39	50.00
POINTSOURCE		AC72	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161345.45	2313116.36	50.00
POINTSOURCE		AC73	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161648.83	2313118.49	50.00
POINTSOURCE		AC74	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161668.06	2313782.94	50.00
POINTSOURCE		AC75	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6161341.18	2313789.35	50.00
POINTSOURCE		CAR00	81.1	81.1	81.1	Lw	81.1					5.00	a	6164757.95	2310543.07	5.00
POINTSOURCE		CAR01	81.1	81.1	81.1	Lw	81.1					5.00	a	6164854.46	2310543.07	5.00
POINTSOURCE		CAR01	81.1	81.1	81.1	Lw	81.1					5.00	a	6164899.69	2309600.13	5.00
POINTSOURCE		CAR02	81.1	81.1	81.1	Lw	81.1					5.00	a	6164818.62	2310661.64	5.00
POINTSOURCE		CAR02	81.1	81.1	81.1	Lw	81.1					5.00	a	6164841.97	2309560.23	5.00
POINTSOURCE		CAR03	81.1	81.1	81.1	Lw	81.1					5.00	a	6164895.82	2310667.16	5.00
POINTSOURCE		CAR03	81.1	81.1	81.1	Lw	81.1					5.00	a	6164892.05	2309518.64	5.00
POINTSOURCE		CAR04	81.1	81.1	81.1	Lw	81.1					5.00	a	6164950.97	2310951.17	5.00
POINTSOURCE		CAR04	81.1	81.1	81.1	Lw	81.1					5.00	a	6164847.91	2309454.12	5.00
POINTSOURCE		CAR05	81.1	81.1	81.1	Lw	81.1					5.00	a	6164953.73	2311066.98	5.00
POINTSOURCE		CAR05	81.1	81.1	81.1	Lw	81.1					5.00	a	6164880.17	2309383.66	5.00
POINTSOURCE		CAR06	81.1	81.1	81.1	Lw	81.1					5.00	a	6164956.49	2311199.34	5.00
POINTSOURCE		CAR06	81.1	81.1	81.1	Lw	81.1					5.00	a	6164791.04	2309381.12	5.00
POINTSOURCE		CAR07	81.1	81.1	81.1	Lw	81.1					5.00	a	6164953.73	2311339.97	5.00
POINTSOURCE		CAR07	81.1	81.1	81.1	Lw	81.1					5.00	a	6164679.83	2309399.79	5.00
POINTSOURCE		CAR08	81.1	81.1	81.1	Lw	81.1					5.00	a	6162882.91	2310959.44	5.00
POINTSOURCE		CAR08	81.1	81.1	81.1	Lw	81.1					5.00	a	6164677.28	2309493.17	5.00
POINTSOURCE		CAR09	81.1	81.1	81.1	Lw	81.1					5.00	a	6162758.82	2310953.93	5.00
POINTSOURCE		CAR09	81.1	81.1	81.1	Lw	81.1					5.00	a	6164678.13	2309575.51	5.00
POINTSOURCE		CAR10	81.1	81.1	81.1	Lw	81.1					5.00	a	6162827.76	2311039.41	5.00
POINTSOURCE		CAR10	81.1	81.1	81.1	Lw	81.1					5.00	a	6164893.11	2310111.13	5.00
POINTSOURCE		CAR11	81.1	81.1	81.1	Lw	81.1					5.00	a	6162893.94	2311124.89	5.00
POINTSOURCE		CAR11	81.1	81.1	81.1	Lw	81.1					5.00	a	6164890.11	2309974.71	5.00
POINTSOURCE		CAR12	81.1	81.1	81.1	Lw	81.1					5.00	a	6162472.05	2311237.94	5.00
POINTSOURCE		CAR12	81.1	81.1	81.1	Lw	81.1					5.00	a	6164887.11	2309842.79	5.00
POINTSOURCE		CAR13	81.1	81.1	81.1	Lw	81.1					5.00	a	6162455.51	2311339.97	5.00
POINTSOURCE		CAR13	81.1	81.1	81.1	Lw	81.1					5.00	a	6164872.12	2309700.37	5.00
POINTSOURCE		CAR14	81.1	81.1	81.1	Lw	81.1					5.00	a	6162436.21	2311464.05	5.00
POINTSOURCE		CAR14	81.1	81.1	81.1	Lw	81.1					5.00	a	6164735.70	2309704.87	5.00
POINTSOURCE		CAR15	81.1	81.1	81.1	Lw	81.1					5.00	a	6162571.32	2311466.81	5.00
POINTSOURCE		CAR15	81.1	81.1	81.1	Lw	81.1					5.00	a	6164582.79	2309709.37	5.00
POINTSOURCE		CAR16	81.1	81.1	81.1	Lw	81.1					5.00	a	6162640.26	2311160.74	5.00
POINTSOURCE		CAR16	81.1	81.1	81.1	Lw	81.1					5.00	a	6164444.87	2309710.87	5.00
POINTSOURCE		CAR17	81.1	81.1	81.1	Lw	81.1					5.00	a	6162670.59	2311279.31	5.00
POINTSOURCE		CAR17	81.1	81.1	81.1	Lw	81.1					5.00	a	6164302.45	2309709.37	5.00
POINTSOURCE		CAR18	81.1	81.1	81.1	Lw	81.1					5.00	a	6162725.74	2311386.84	5.00
POINTSOURCE		CAR18	81.1	81.1	81.1	Lw	81.1					5.00	a	6164181.03	2309710.87	5.00
POINTSOURCE		CAR19	81.1	81.1	81.1	Lw	81.1					5.00	a	6162797.43	2311475.08	5.00
POINTSOURCE		CAR19	81.1	81.1	81.1	Lw	81.1					5.00	a	6164035.61	2309715.37	5.00
POINTSOURCE		CAR20	81.1	81.1	81.1	Lw	81.1					5.00	a	6162778.13	2311251.73	5.00
POINTSOURCE		CAR20	81.1	81.1	81.1	Lw	81.1					5.00	a	6163891.70	2309713.87	5.00
POINTSOURCE		CAR21	81.1	81.1	81.1	Lw	81.1					5.00	a	6162858.09	2311356.51	5.00
POINTSOURCE		CAR21	81.1	81.1	81.1	Lw	81.1					5.00	a	6163773.27	2309727.36	5.00
POINTSOURCE		CAR22	81.1	81.1	81.1	Lw	81.1					5.00	a	6162935.30	2311464.05	5.00
POINTSOURCE		CAR22	81.1	81.1	81.1	Lw	81.1					5.00	a	6163770.27	2309851.78	5.00
POINTSOURCE		CAR23	81.1	81.1	81.1	Lw	81.1					5.00	a	6163051.11	2311599.17	5.00
POINTSOURCE		CAR23	81.1	81.1	81.1	Lw	81.1					5.00	a	6163770.27	2309967.22	5.00
POINTSOURCE		CAR24	81.1	81.1	81.1	Lw	81.1					5.00	a	6162904.97	2311596.41	5.00
POINTSOURCE		CAR24	81.1	81.1	81.1	Lw	81.1					5.00	a	6163773.27	2310090.15	5.00
POINTSOURCE		CAR25	81.1	81.1	81.1	Lw	81.1					5.00	a	6162598.89	2311604.68	5.00
POINTSOURCE		CAR25	81.1	81.1	81.1	Lw	81.1					5.00	a	6164791.17	2310148.61	5.00
POINTSOURCE		CAR26	81.1	81.1	81.1	Lw	81.1					5.00	a	6161923.33	2310595.47	5.00
POINTSOURCE		CAR26	81.1	81.1	81.1	Lw	81.1					5.00	a	6163893.19	2310159.10	5.00
POINTSOURCE		CAR27	81.1	81.1	81.1	Lw	81.1					5.00	a	6162229.40	2311102.83	5.00
POINTSOURCE		CAR27	81.1	81.1	81.1	Lw	81.1					5.00	a	6164113.57	2310154.61	5.00
POINTSOURCE		CAR28	81.1	81.1	81.1	Lw	81.1					5.00	a	6162212.86	2311304.12	5.00
POINTSOURCE		CAR28	81.1	81.1	81.1	Lw	81.1					5.00	a	6164294.96	2310157.61	5.00
POINTSOURCE		CAR29	81.1	81.1	81.1	Lw	81.1					5.00	a	6162113.59	2311574.35	5.00
POINTSOURCE		CAR29	81.1	81.1	81.1	Lw	81.1					5.00	a	6164480.85	2310151.61	5.00
POINTSOURCE		CAR30	81.1	81.1	81.1	Lw	81.1					5.00	a	6161826.82	2311568.83	5.00
POINTSOURCE		CAR30	81.1	81.1	81.1	Lw	81.1					5.00	a	6164635.26	2310156.11	5.00
POINTSOURCE		CAR31	81.1	81.1	81.1	Lw	81.1					5.00	a	6161575.89	2311577.11	5.00
POINTSOURCE		CAR31	81.1	81.1	81.1	Lw	81.1					5.00	a	6164630.76	2310007.69	5.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		CAR32	81.1	81.1	81.1	Lw	81.1					5.00	a	6161584.16	2311331.70	5.00
POINTSOURCE		CAR32	81.1	81.1	81.1	Lw	81.1					5.00	a	6164569.30	2310079.65	5.00
POINTSOURCE		CAR33	81.1	81.1	81.1	Lw	81.1					5.00	a	6161584.16	2311072.50	5.00
POINTSOURCE		CAR33	81.1	81.1	81.1	Lw	81.1					5.00	a	6164573.80	2309907.25	5.00
POINTSOURCE		CAR34	81.1	81.1	81.1	Lw	81.1					5.00	a	6161581.41	2310788.49	5.00
POINTSOURCE		CAR34	81.1	81.1	81.1	Lw	81.1					5.00	a	6164393.90	2309908.75	5.00
POINTSOURCE		CAR35	81.1	81.1	81.1	Lw	81.1					5.00	a	6161575.89	2310548.59	5.00
POINTSOURCE		CAR35	81.1	81.1	81.1	Lw	81.1					5.00	a	6164462.86	2309995.70	5.00
POINTSOURCE		CAR36	81.1	81.1	81.1	Lw	81.1					5.00	a	6162041.95	2312159.21	5.00
POINTSOURCE		CAR36	81.1	81.1	81.1	Lw	81.1					5.00	a	6164387.90	2310084.15	5.00
POINTSOURCE		CAR37	81.1	81.1	81.1	Lw	81.1					5.00	a	6162146.63	2312261.77	5.00
POINTSOURCE		CAR37	81.1	81.1	81.1	Lw	81.1					5.00	a	6164294.96	2309994.20	5.00
POINTSOURCE		CAR38	81.1	81.1	81.1	Lw	81.1					5.00	a	6162071.86	2312372.86	5.00
POINTSOURCE		CAR38	81.1	81.1	81.1	Lw	81.1					5.00	a	6164208.01	2309904.25	5.00
POINTSOURCE		CAR39	81.1	81.1	81.1	Lw	81.1					5.00	a	6162035.54	2312518.14	5.00
POINTSOURCE		CAR39	81.1	81.1	81.1	Lw	81.1					5.00	a	6164206.51	2310087.15	5.00
POINTSOURCE		CAR40	81.1	81.1	81.1	Lw	81.1					5.00	a	6162172.27	2312573.69	5.00
POINTSOURCE		CAR40	81.1	81.1	81.1	Lw	81.1					5.00	a	6164112.07	2309994.20	5.00
POINTSOURCE		CAR41	81.1	81.1	81.1	Lw	81.1					5.00	a	6162080.40	2312716.84	5.00
POINTSOURCE		CAR41	81.1	81.1	81.1	Lw	81.1					5.00	a	6164014.62	2309902.76	5.00
POINTSOURCE		CAR42	81.1	81.1	81.1	Lw	81.1					5.00	a	6162195.77	2312838.62	5.00
POINTSOURCE		CAR42	81.1	81.1	81.1	Lw	81.1					5.00	a	6164013.12	2310102.14	5.00
POINTSOURCE		CAR43	81.1	81.1	81.1	Lw	81.1					5.00	a	6162007.76	2312874.94	5.00
POINTSOURCE		CAR43	81.1	81.1	81.1	Lw	81.1					5.00	a	6162040.42	2310723.02	5.00
POINTSOURCE		CAR44	81.1	81.1	81.1	Lw	81.1					5.00	a	6162114.59	2313056.54	5.00
POINTSOURCE		CAR44	81.1	81.1	81.1	Lw	81.1					5.00	a	6162095.53	2310808.74	5.00
POINTSOURCE		CAR45	81.1	81.1	81.1	Lw	81.1					5.00	a	6162266.28	2313182.59	5.00
POINTSOURCE		CAR45	81.1	81.1	81.1	Lw	81.1					5.00	a	6162169.01	2310911.30	5.00
POINTSOURCE		CAR46	81.1	81.1	81.1	Lw	81.1					5.00	a	6162101.77	2313206.09	5.00
POINTSOURCE		CAR46	81.1	81.1	81.1	Lw	81.1					5.00	a	6162193.50	2310989.37	5.00
POINTSOURCE		CAR47	81.1	81.1	81.1	Lw	81.1					5.00	a	6162123.13	2313342.82	5.00
POINTSOURCE		CAR47	81.1	81.1	81.1	Lw	81.1					5.00	a	6162169.01	2311148.57	5.00
POINTSOURCE		CAR48	81.1	81.1	81.1	Lw	81.1					5.00	a	6162157.32	2313532.97	5.00
POINTSOURCE		CAR48	81.1	81.1	81.1	Lw	81.1					5.00	a	6162173.60	2311402.67	5.00
POINTSOURCE		CAR49	81.1	81.1	81.1	Lw	81.1					5.00	a	6162146.63	2313735.94	5.00
POINTSOURCE		CAR49	81.1	81.1	81.1	Lw	81.1					5.00	a	6162221.05	2311194.49	5.00
POINTSOURCE		CAR50	81.1	81.1	81.1	Lw	81.1					5.00	a	6162189.36	2312114.35	5.00
POINTSOURCE		CAR50	81.1	81.1	81.1	Lw	81.1					5.00	a	6162098.59	2311505.23	5.00
POINTSOURCE		CAR51	81.1	81.1	81.1	Lw	81.1					5.00	a	6162272.69	2312248.95	5.00
POINTSOURCE		CAR51	81.1	81.1	81.1	Lw	81.1					5.00	a	6161970.01	2311564.93	5.00
POINTSOURCE		CAR52	81.1	81.1	81.1	Lw	81.1					5.00	a	6162229.96	2312428.41	5.00
POINTSOURCE		CAR52	81.1	81.1	81.1	Lw	81.1					5.00	a	6161706.72	2311567.99	5.00
POINTSOURCE		CAR53	81.1	81.1	81.1	Lw	81.1					5.00	a	6162334.64	2312567.28	5.00
POINTSOURCE		CAR53	81.1	81.1	81.1	Lw	81.1					5.00	a	6161584.26	2311459.31	5.00
POINTSOURCE		CAR54	81.1	81.1	81.1	Lw	81.1					5.00	a	6162264.14	2312727.52	5.00
POINTSOURCE		CAR54	81.1	81.1	81.1	Lw	81.1					5.00	a	6161585.79	2311199.08	5.00
POINTSOURCE		CAR55	81.1	81.1	81.1	Lw	81.1					5.00	a	6161674.47	2313020.22	5.00
POINTSOURCE		CAR55	81.1	81.1	81.1	Lw	81.1					5.00	a	6161587.32	2310920.49	5.00
POINTSOURCE		CAR56	81.1	81.1	81.1	Lw	81.1					5.00	a	6161546.28	2312917.66	5.00
POINTSOURCE		CAR56	81.1	81.1	81.1	Lw	81.1					5.00	a	6161582.73	2310660.26	5.00
POINTSOURCE		CAR57	81.1	81.1	81.1	Lw	81.1					5.00	a	6161433.05	2313024.49	5.00
POINTSOURCE		CAR57	81.1	81.1	81.1	Lw	81.1					5.00	a	6161686.82	2310599.03	5.00
POINTSOURCE		CAR58	81.1	81.1	81.1	Lw	81.1					5.00	a	6162368.83	2312849.30	5.00
POINTSOURCE		CAR58	81.1	81.1	81.1	Lw	81.1					5.00	a	6161697.54	2310505.65	5.00
POINTSOURCE		CAR59	81.1	81.1	81.1	Lw	81.1					5.00	a	6162212.86	2311958.39	5.00
POINTSOURCE		CAR59	81.1	81.1	81.1	Lw	81.1					5.00	a	6161764.89	2310608.21	5.00
POINTSOURCE		CAR60	81.1	81.1	81.1	Lw	81.1					5.00	a	6162024.85	2311969.07	5.00
POINTSOURCE		CAR60	81.1	81.1	81.1	Lw	81.1					5.00	a	6162002.15	2310608.21	5.00
POINTSOURCE		CAR61	81.1	81.1	81.1	Lw	81.1					5.00	a	6161819.75	2311973.34	5.00
POINTSOURCE		CAR61	81.1	81.1	81.1	Lw	81.1					5.00	a	6161963.89	2310677.10	5.00
POINTSOURCE		CAR62	81.1	81.1	81.1	Lw	81.1					5.00	a	6161409.55	2311996.84	5.00
POINTSOURCE		CAR62	81.1	81.1	81.1	Lw	81.1					5.00	a	6161913.37	2310530.15	5.00
POINTSOURCE		CAR63	81.1	81.1	81.1	Lw	81.1					5.00	a	6161490.73	2312154.94	5.00
POINTSOURCE		CAR63	81.1	81.1	81.1	Lw	81.1					5.00	a	6162802.94	2310565.13	5.00
POINTSOURCE		CAR64	81.1	81.1	81.1	Lw	81.1					5.00	a	6161405.27	2312310.90	5.00
POINTSOURCE		CAR64	81.1	81.1	81.1	Lw	81.1					5.00	a	6162689.89	2310565.13	5.00
POINTSOURCE		CAR65	81.1	81.1	81.1	Lw	81.1					5.00	a	6161467.23	2312492.51	5.00
POINTSOURCE		CAR65	81.1	81.1	81.1	Lw	81.1					5.00	a	6162692.65	2310683.70	5.00
POINTSOURCE		CAR66	81.1	81.1	81.1	Lw	81.1					5.00	a	6161309.13	2312545.92	5.00
POINTSOURCE		CAR66	81.1	81.1	81.1	Lw	81.1					5.00	a	6162739.52	2310609.25	5.00
POINTSOURCE		CAR67	81.1	81.1	81.1	Lw	81.1					5.00	a	6161298.45	2312723.25	5.00
POINTSOURCE		CAR67	81.1	81.1	81.1	Lw	81.1					5.00	a	6162789.16	2310667.16	5.00
POINTSOURCE		CAR68	81.1	81.1	81.1	Lw	81.1					5.00	a	6161198.04	2312815.11	5.00
POINTSOURCE		CAR68	81.1	81.1	81.1	Lw	81.1					5.00	a	6162995.96	2310642.34	5.00
POINTSOURCE		CAR69	81.1	81.1	81.1	Lw	81.1					5.00	a	6161277.09	2312909.12	5.00
POINTSOURCE		CAR69	81.1	81.1	81.1	Lw	81.1					5.00	a	6162938.06	2310595.47	5.00
POINTSOURCE		CAR70	81.1	81.1	81.1	Lw	81.1					5.00	a	6162287.64	2313060.81	5.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		CAR70	81.1	81.1	81.1	Lw	81.1					5.00	a	6162940.81	2310485.17	5.00
POINTSOURCE		CAR71	81.1	81.1	81.1	Lw	81.1					5.00	a	6162373.10	2313223.18	5.00
POINTSOURCE		CAR71	81.1	81.1	81.1	Lw	81.1					5.00	a	6163001.48	2310556.86	5.00
POINTSOURCE		CAR72	81.1	81.1	81.1	Lw	81.1					5.00	a	6162272.69	2313351.37	5.00
POINTSOURCE		CAR72	81.1	81.1	81.1	Lw	81.1					5.00	a	6163006.99	2310487.93	5.00
POINTSOURCE		CAR73	81.1	81.1	81.1	Lw	81.1					5.00	a	6162368.83	2313515.88	5.00
POINTSOURCE		CAR73	81.1	81.1	81.1	Lw	81.1					5.00	a	6163084.20	2310562.38	5.00
POINTSOURCE		CAR74	81.1	81.1	81.1	Lw	81.1					5.00	a	6162274.82	2313644.07	5.00
POINTSOURCE		CAR74	81.1	81.1	81.1	Lw	81.1					5.00	a	6163097.99	2310479.65	5.00
POINTSOURCE		CAR75	81.1	81.1	81.1	Lw	81.1					5.00	a	6162366.69	2313755.16	5.00
POINTSOURCE		CAR75	81.1	81.1	81.1	Lw	81.1					5.00	a	6163153.14	2310534.80	5.00
POINTSOURCE		CAR76	81.1	81.1	81.1	Lw	81.1					5.00	a	6162240.64	2313894.04	5.00
POINTSOURCE		CAR76	81.1	81.1	81.1	Lw	81.1					5.00	a	6163279.98	2310576.16	5.00
POINTSOURCE		CAR77	81.1	81.1	81.1	Lw	81.1					5.00	a	6162071.86	2313894.04	5.00
POINTSOURCE		CAR77	81.1	81.1	81.1	Lw	81.1					5.00	a	6163200.01	2310609.25	5.00
POINTSOURCE		CAR78	81.1	81.1	81.1	Lw	81.1					5.00	a	6161926.58	2313921.81	5.00
POINTSOURCE		CAR78	81.1	81.1	81.1	Lw	81.1					5.00	a	6163202.77	2310703.01	5.00
POINTSOURCE		CAR79	81.1	81.1	81.1	Lw	81.1					5.00	a	6161791.98	2313853.44	5.00
POINTSOURCE		CAR79	81.1	81.1	81.1	Lw	81.1					5.00	a	6163266.19	2310647.86	5.00
POINTSOURCE		CAR80	81.1	81.1	81.1	Lw	81.1					5.00	a	6161638.15	2313930.36	5.00
POINTSOURCE		CAR80	81.1	81.1	81.1	Lw	81.1					5.00	a	6163340.64	2310603.74	5.00
POINTSOURCE		CAR81	81.1	81.1	81.1	Lw	81.1					5.00	a	6161488.60	2313874.81	5.00
POINTSOURCE		CAR81	81.1	81.1	81.1	Lw	81.1					5.00	a	6163337.88	2310700.25	5.00
POINTSOURCE		CAR82	81.1	81.1	81.1	Lw	81.1					5.00	a	6161339.04	2313926.08	5.00
POINTSOURCE		CAR82	81.1	81.1	81.1	Lw	81.1					5.00	a	6163580.54	2310565.13	5.00
POINTSOURCE		CAR83	81.1	81.1	81.1	Lw	81.1					5.00	a	6161195.90	2313054.40	5.00
POINTSOURCE		CAR83	81.1	81.1	81.1	Lw	81.1					5.00	a	6163492.30	2310573.41	5.00
POINTSOURCE		CAR84	81.1	81.1	81.1	Lw	81.1					5.00	a	6161264.27	2313201.82	5.00
POINTSOURCE		CAR84	81.1	81.1	81.1	Lw	81.1					5.00	a	6163511.60	2310675.43	5.00
POINTSOURCE		CAR85	81.1	81.1	81.1	Lw	81.1					5.00	a	6161193.76	2313312.91	5.00
POINTSOURCE		CAR85	81.1	81.1	81.1	Lw	81.1					5.00	a	6163599.84	2310672.67	5.00
POINTSOURCE		CAR86	81.1	81.1	81.1	Lw	81.1					5.00	a	6161259.99	2313481.70	5.00
POINTSOURCE		CAR86	81.1	81.1	81.1	Lw	81.1					5.00	a	6163677.04	2310512.74	5.00
POINTSOURCE		CAR87	81.1	81.1	81.1	Lw	81.1					5.00	a	6161200.17	2313622.70	5.00
POINTSOURCE		CAR87	81.1	81.1	81.1	Lw	81.1					5.00	a	6163754.25	2310570.65	5.00
POINTSOURCE		CAR88	81.1	81.1	81.1	Lw	81.1					5.00	a	6161255.72	2313757.30	5.00
POINTSOURCE		CAR88	81.1	81.1	81.1	Lw	81.1					5.00	a	6163759.77	2310493.44	5.00
POINTSOURCE		CAR89	81.1	81.1	81.1	Lw	81.1					5.00	a	6161206.58	2313896.17	5.00
POINTSOURCE		CAR89	81.1	81.1	81.1	Lw	81.1					5.00	a	6163831.46	2310567.89	5.00
POINTSOURCE		CAR90	81.1	81.1	81.1	Lw	81.1					5.00	a	6163853.52	2310485.17	5.00
POINTSOURCE		CAR91	81.1	81.1	81.1	Lw	81.1					5.00	a	6163922.45	2310548.59	5.00
POINTSOURCE		CAR92	81.1	81.1	81.1	Lw	81.1					5.00	a	6163916.94	2310689.22	5.00
POINTSOURCE		CAR93	81.1	81.1	81.1	Lw	81.1					5.00	a	6164018.96	2310691.98	5.00
POINTSOURCE		CAR94	81.1	81.1	81.1	Lw	81.1					5.00	a	6164432.58	2310592.71	5.00
POINTSOURCE		CAR95	81.1	81.1	81.1	Lw	81.1					5.00	a	6164314.01	2310548.59	5.00
POINTSOURCE		CAR96	81.1	81.1	81.1	Lw	81.1					5.00	a	6164443.61	2310507.23	5.00
POINTSOURCE		CAR97	81.1	81.1	81.1	Lw	81.1					5.00	a	6164327.80	2310667.16	5.00
POINTSOURCE		CAR98	81.1	81.1	81.1	Lw	81.1					5.00	a	6164418.79	2310669.92	5.00
POINTSOURCE		CAR99	81.1	81.1	81.1	Lw	81.1					5.00	a	6164515.30	2310669.92	5.00
POINTSOURCE		DOCK01	103.4	103.4	103.4	Lw	103.4					8.00	a	6161950.11	2310830.17	8.00
POINTSOURCE		DOCK02	103.4	103.4	103.4	Lw	103.4					8.00	a	6161996.03	2311076.62	8.00
POINTSOURCE		DOCK03	103.4	103.4	103.4	Lw	103.4					8.00	a	6161928.68	2310977.13	8.00
POINTSOURCE		DOCK04	103.4	103.4	103.4	Lw	103.4					8.00	a	6161847.55	2310948.04	8.00
POINTSOURCE		DOCK13	103.4	103.4	103.4	Lw	103.4					8.00	a	6164570.45	2311585.38	8.00
POINTSOURCE		DOCK14	103.4	103.4	103.4	Lw	103.4					8.00	a	6164336.07	2311590.89	8.00
POINTSOURCE		DOCK15	103.4	103.4	103.4	Lw	103.4					8.00	a	6164093.41	2311590.89	8.00
POINTSOURCE		DOCK16	103.4	103.4	103.4	Lw	103.4					8.00	a	6163892.12	2311593.65	8.00
POINTSOURCE		DOCK17	103.4	103.4	103.4	Lw	103.4					8.00	a	6163682.56	2311599.17	8.00
POINTSOURCE		DOCK18	103.4	103.4	103.4	Lw	103.4					8.00	a	6163478.51	2311596.41	8.00
POINTSOURCE		DOCK19	103.4	103.4	103.4	Lw	103.4					8.00	a	6163285.49	2311596.41	8.00
POINTSOURCE		DOCK30	103.4	103.4	103.4	Lw	103.4					8.00	a	6164666.96	2311466.81	8.00
POINTSOURCE		DOCK31	103.4	103.4	103.4	Lw	103.4					8.00	a	6164435.33	2311475.08	8.00
POINTSOURCE		DOCK32	103.4	103.4	103.4	Lw	103.4					8.00	a	6164209.23	2311472.32	8.00
POINTSOURCE		DOCK33	103.4	103.4	103.4	Lw	103.4					8.00	a	6163980.36	2311477.84	8.00
POINTSOURCE		DOCK34	103.4	103.4	103.4	Lw	103.4					8.00	a	6163776.31	2311483.35	8.00
POINTSOURCE		DOCK35	103.4	103.4	103.4	Lw	103.4					8.00	a	6163577.78	2311483.35	8.00
POINTSOURCE		DOCK36	103.4	103.4	103.4	Lw	103.4					8.00	a	6163393.03	2311491.63	8.00
POINTSOURCE		DOCK38	103.4	103.4	103.4	Lw	103.4					8.00	a	6161870.94	2310876.72	8.00
POINTSOURCE		DOCK39	103.4	103.4	103.4	Lw	103.4					8.00	a	6162006.05	2311011.84	8.00
POINTSOURCE		DOCK40	103.4	103.4	103.4	Lw	103.4					8.00	a	6161887.48	2311053.20	8.00
POINTSOURCE		DOCK41	103.4	103.4	103.4	Lw	103.4					8.00	a	6161937.26	2312148.53	8.00
POINTSOURCE		DOCK42	103.4	103.4	103.4	Lw	103.4					8.00	a	6161787.70	2312206.22	8.00
POINTSOURCE		DOCK43	103.4	103.4	103.4	Lw	103.4					8.00	a	6161937.26	2312298.09	8.00
POINTSOURCE		DOCK44	103.4	103.4	103.4	Lw	103.4					8.00	a	6161785.57	2312389.95	8.00
POINTSOURCE		DOCK45	103.4	103.4	103.4	Lw	103.4					8.00	a	6161939.39	2312481.82	8.00
POINTSOURCE		DOCK46	103.4	103.4	103.4	Lw	103.4					8.00	a	6161783.43	2312558.74	8.00
POINTSOURCE		DOCK47	103.4	103.4	103.4	Lw	103.4					8.00	a	6161939.39	2312676.24	8.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		DOCK48	103.4	103.4	103.4	Lw	103.4					8.00	a	6161779.16	2312742.47	8.00
POINTSOURCE		DOCK55	103.4	103.4	103.4	Lw	103.4					8.00	a	6161802.66	2313122.77	8.00
POINTSOURCE		DOCK56	103.4	103.4	103.4	Lw	103.4					8.00	a	6161740.70	2313214.64	8.00
POINTSOURCE		DOCK57	103.4	103.4	103.4	Lw	103.4					8.00	a	6161811.21	2313355.64	8.00
POINTSOURCE		DOCK58	103.4	103.4	103.4	Lw	103.4					8.00	a	6161749.25	2313468.88	8.00
POINTSOURCE		DOCK59	103.4	103.4	103.4	Lw	103.4					8.00	a	6161811.21	2313603.47	8.00
POINTSOURCE		DOCK60	103.4	103.4	103.4	Lw	103.4					8.00	a	6161762.07	2313742.35	8.00
POINTSOURCE		PARK01	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6163785.18	2309430.76	5.00
POINTSOURCE		PARK02	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6163649.65	2309423.98	5.00
POINTSOURCE		PARK03	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6163724.19	2309539.19	5.00
POINTSOURCE		PARK04	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160661.03	2309823.82	5.00
POINTSOURCE		PARK05	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160694.91	2309722.17	5.00
POINTSOURCE		PARK06	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160566.15	2309762.83	5.00
POINTSOURCE		PARK07	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160722.02	2311158.87	5.00
POINTSOURCE		PARK08	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160708.47	2311043.66	5.00
POINTSOURCE		PARK09	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160606.81	2311145.32	5.00
POINTSOURCE		PARK10	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6161054.09	2312466.82	5.00
POINTSOURCE		PARK11	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160986.32	2312358.39	5.00
POINTSOURCE		PARK12	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160935.18	2312478.06	5.00
POINTSOURCE		PARK13	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160467.36	2313605.61	5.00
POINTSOURCE		PARK14	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160465.22	2313276.59	5.00
POINTSOURCE		PARK15	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160674.60	2313225.32	5.00
POINTSOURCE		PARK16	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160460.95	2313424.01	5.00
POINTSOURCE		PARK17	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160646.82	2313609.88	5.00
POINTSOURCE		PARK18	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160283.62	2313631.25	5.00
POINTSOURCE		PARK19	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160247.30	2313270.18	5.00
POINTSOURCE		PARK20	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160832.70	2313601.34	5.00
POINTSOURCE		PARK21	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160695.96	2313398.37	5.00
POINTSOURCE		PARK22	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160841.24	2313206.09	5.00
POINTSOURCE		PARK23	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160762.19	2313037.31	5.00
POINTSOURCE		PARK24	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160516.50	2313114.22	5.00
POINTSOURCE		PARK25	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160326.35	2313030.90	5.00
POINTSOURCE		PARK26	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160012.29	2313020.22	5.00
POINTSOURCE		PARK27	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160155.43	2313101.40	5.00
POINTSOURCE		PARK28	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160012.29	2313272.32	5.00
POINTSOURCE		PARK29	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160166.12	2313473.15	5.00
POINTSOURCE		PARK30	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160022.97	2313622.70	5.00
POINTSOURCE		PARK31	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160768.60	2313789.35	5.00
POINTSOURCE		PARK32	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160610.50	2313908.99	5.00
POINTSOURCE		PARK33	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160441.72	2313793.62	5.00
POINTSOURCE		PARK34	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160319.94	2313923.95	5.00
POINTSOURCE		PARK35	81.4	81.4	81.4	Lw	81.4		900.00	0.00	0.00	5.00	a	6160166.12	2313802.17	5.00

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LINESOURCE		TRUCK01	93.2	93.2	93.2	63.8	63.8	63.8	Lw	93.2									8	a
LINESOURCE		TRUCK02	93.2	93.2	93.2	70.6	70.6	70.6	Lw	93.2									8	a
LINESOURCE		TRUCK03	93.2	93.2	93.2	64.1	64.1	64.1	Lw	93.2									8	a
LINESOURCE		TRUCK04	93.2	93.2	93.2	64.2	64.2	64.2	Lw	93.2									8	a
LINESOURCE		TRUCK05	93.2	93.2	93.2	75.8	75.8	75.8	Lw	93.2									8	a
LINESOURCE		TRUCK06	93.2	93.2	93.2	67.9	67.9	67.9	Lw	93.2									8	a

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	a			6162426.51	2313832.08	8.00	0.00
					6161851.80	2313838.49	8.00	0.00
					6161817.62	2312031.03	8.00	0.00
					6162276.96	2312022.48	8.00	0.00
LINESOURCE	8.00	a			6161835.47	2312975.17	8.00	0.00
					6162426.51	2312964.67	8.00	0.00
LINESOURCE	8.00	a			6162372.79	2311524.72	8.00	0.00
					6165032.50	2311519.05	8.00	0.00
LINESOURCE	8.00	a			6165027.47	2310818.74	8.00	0.00
					6162441.72	2310843.63	8.00	0.00
LINESOURCE	8.00	a			6161829.58	2310452.08	8.00	0.00
					6161840.60	2310631.31	8.00	0.00
LINESOURCE	8.00	a			6162287.31	2311530.23	8.00	0.00
					6162119.10	2311439.24	8.00	0.00
					6162108.07	2310901.54	8.00	0.00
					6161840.60	2310631.31	8.00	0.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
			103.4	103.4	103.4	59.4	59.4	59.4	Lw	103.4					0	r

Name	Height			Coordinates			
	Begin		End	x	y	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
	0.00	r		6163052.42	2310942.36	0.00	0.00
				6163048.57	2310782.69	0.00	0.00
				6164706.79	2310755.76	0.00	0.00
				6164710.64	2310919.28	0.00	0.00

Barrier(s)

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERPLANNED		0						14.00	a		6163036.39	2310814.91	14.00	0.00
											6163036.39	2310755.51	14.00	0.00
											6164725.56	2310743.63	14.00	0.00
											6164725.56	2310774.52	14.00	0.00
BARRIERPLANNED		0						14.00	a		6162071.52	2313792.99	14.00	0.00
											6162063.63	2313087.96	14.00	0.00
BARRIERPLANNED		0						14.00	a		6161996.13	2312835.26	14.00	0.00
											6161987.52	2312101.61	14.00	0.00
BARRIERPLANNED		0						14.00	a		6162055.58	2311097.23	14.00	0.00
											6162049.44	2310900.62	14.00	0.00
											6161876.18	2310727.36	14.00	0.00
BARRIERPLANNED		0						14.00	a		6163235.14	2311631.71	14.00	0.00
											6164719.26	2311616.25	14.00	0.00
BARRIERPLANNED		0						14.00	a		6162074.07	2313797.59	14.00	0.00
											6161912.18	2313799.97	14.00	0.00
BARRIERPLANNED		0						14.00	a		6161715.77	2313808.30	14.00	0.00
											6161800.29	2313805.92	14.00	0.00
BARRIERPLANNED		0						6.00	a		6161504.62	2311329.71	6.00	0.00
											6161503.10	2310491.48	6.00	0.00
BARRIERPLANNED		0						6.00	a		6162652.85	2310290.23	6.00	0.00
											6164170.64	2310284.46	6.00	0.00

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	x	0		45.00	a	6161356.14	2312883.48	45.00	0.00
								6161753.52	2312879.21	45.00	0.00
								6161747.11	2311969.07	45.00	0.00
								6161520.64	2311975.48	45.00	0.00
								6161522.78	2312471.14	45.00	0.00
								6161356.14	2312708.29	45.00	0.00
BUILDING		BUILDING00002	x	0		45.00	a	6161279.22	2313855.58	45.00	0.00
								6161715.06	2313851.31	45.00	0.00
								6161700.11	2313067.22	45.00	0.00
								6161268.54	2313062.95	45.00	0.00
BUILDING		BUILDING00003	x	0		45.00	a	6161664.13	2311491.63	45.00	0.00
								6162050.25	2311485.75	45.00	0.00
								6162044.65	2311122.13	45.00	0.00
								6161799.24	2311127.65	45.00	0.00
								6161788.16	2310660.74	45.00	0.00
								6161642.07	2310658.89	45.00	0.00
BUILDING		BUILDING00004	x	0		45.00	a	6162960.12	2311287.58	45.00	0.00
								6163081.44	2311453.02	45.00	0.00
								6164871.01	2311436.48	45.00	0.00
								6164854.46	2310929.11	45.00	0.00
								6162957.36	2310953.93	45.00	0.00
BUILDING		BUILDING00005	x	0		25.00	a	6162557.53	2310703.01	25.00	0.00
								6162620.95	2310700.25	25.00	0.00
								6162615.44	2310543.07	25.00	0.00
								6162552.02	2310551.35	25.00	0.00
BUILDING		BUILDING00006	x	0		25.00	a	6162631.98	2310518.26	25.00	0.00
								6162825.00	2310512.74	25.00	0.00
								6162825.00	2310463.11	25.00	0.00
								6162629.23	2310465.87	25.00	0.00
BUILDING		BUILDING00007	x	0		25.00	a	6162830.52	2310686.46	25.00	0.00
								6162957.36	2310689.22	25.00	0.00
								6162954.60	2310631.31	25.00	0.00
								6162838.79	2310631.31	25.00	0.00
BUILDING		BUILDING00008	x	0		25.00	a	6163026.29	2310736.09	25.00	0.00
								6163122.80	2310741.61	25.00	0.00

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
								6163117.29	2310636.83	25.00	0.00
								6163026.29	2310636.83	25.00	0.00
BUILDING		BUILDING00009	x	0		25.00	a	6163244.13	2310512.74	25.00	0.00
								6163326.85	2310509.99	25.00	0.00
								6163329.61	2310463.11	25.00	0.00
								6163235.86	2310465.87	25.00	0.00
BUILDING		BUILDING00010	x	0		25.00	a	6163453.69	2310501.71	25.00	0.00
								6163583.29	2310509.99	25.00	0.00
								6163583.29	2310449.32	25.00	0.00
								6163448.18	2310452.08	25.00	0.00
BUILDING		BUILDING00011	x	0		25.00	a	6163652.23	2310725.06	25.00	0.00
								6163859.03	2310730.58	25.00	0.00
								6163861.79	2310639.58	25.00	0.00
								6163652.23	2310642.34	25.00	0.00
BUILDING		BUILDING00012	x	0		25.00	a	6163980.36	2310543.07	25.00	0.00
								6164027.24	2310540.32	25.00	0.00
								6164027.24	2310454.84	25.00	0.00
								6163991.39	2310452.08	25.00	0.00
BUILDING		BUILDING00013	x	0		25.00	a	6164165.11	2310664.40	25.00	0.00
								6164220.26	2310656.13	25.00	0.00
								6164217.50	2310532.05	25.00	0.00
								6164165.11	2310537.56	25.00	0.00
BUILDING		BUILDING00014	x	0		25.00	a	6164187.17	2310487.93	25.00	0.00
								6164300.22	2310493.44	25.00	0.00
								6164300.22	2310438.29	25.00	0.00
								6164178.89	2310441.05	25.00	0.00
BUILDING		BUILDING00015	x	0		25.00	a	6164595.26	2310719.55	25.00	0.00
								6164722.11	2310716.79	25.00	0.00
								6164716.59	2310634.07	25.00	0.00
								6164598.02	2310639.58	25.00	0.00
BUILDING		BUILDING00016	x	0		25.00	a	6164512.54	2310529.29	25.00	0.00
								6164567.69	2310540.32	25.00	0.00
								6164567.69	2310449.32	25.00	0.00
								6164520.81	2310452.08	25.00	0.00
BUILDING		BUILDING00017	x	0		25.00	a	6164669.71	2310493.44	25.00	0.00
								6164749.68	2310487.93	25.00	0.00
								6164749.68	2310435.54	25.00	0.00
								6164672.47	2310432.78	25.00	0.00
BUILDING		BUILDING00018	x	0		25.00	a	6164791.04	2310487.93	25.00	0.00
								6164882.04	2310479.65	25.00	0.00
								6164882.04	2310430.02	25.00	0.00
								6164780.01	2310427.26	25.00	0.00
BUILDING		BUILDING00019	x	0		25.00	a	6164915.13	2310548.59	25.00	0.00
								6164967.52	2310548.59	25.00	0.00
								6164967.52	2310487.93	25.00	0.00
								6164909.61	2310498.96	25.00	0.00
BUILDING		BUILDING00020	x	0		25.00	a	6163810.74	2310118.63	25.00	0.00
								6163939.67	2310118.63	25.00	0.00
								6163938.17	2309863.78	25.00	0.00
								6164696.72	2309857.78	25.00	0.00
								6164699.72	2310102.14	25.00	0.00
								6164860.13	2310097.64	25.00	0.00
								6164846.64	2309736.35	25.00	0.00
								6163807.74	2309755.84	25.00	0.00
BUILDING		BUILDING00021	x	0		25.00	a	6164710.39	2309609.47	25.00	0.00
								6164808.86	2309606.92	25.00	0.00
								6164807.16	2309401.49	25.00	0.00
								6164706.15	2309404.04	25.00	0.00

Ground Absorption(s)

Name	M.	ID	G	Coordinates	
				x	y
				(ft)	(ft)
GROUND		0	0.5	6160145.98	2315191.14
				6162423.03	2315191.14
				6162416.25	2314005.18
				6160071.44	2314059.39
GROUND		0	0.5	6162599.22	2314818.41
				6163127.82	2314791.30
				6163107.49	2314188.15
				6164164.69	2314167.82
				6164130.81	2311714.58
				6162538.23	2311707.80

APPENDIX 11.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

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14822 - Rich Haven Specific Plan

CadnaA Noise Prediction Model: 14822-02_Construction.cna
Date: 17.10.22
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	56.0	-51.0	53.0	65.0	45.0	0.0				5.00	a	6161938.34	2315328.19	5.00
RECEIVERS		R2	53.3	-53.6	50.3	65.0	45.0	0.0				5.00	a	6162735.95	2314875.32	5.00
RECEIVERS		R3	63.7	-43.3	60.7	65.0	45.0	0.0				5.00	a	6163483.69	2310238.26	5.00
RECEIVERS		R4	55.8	-51.1	52.8	65.0	45.0	0.0				5.00	a	6162048.86	2308936.45	5.00
RECEIVERS		R5	63.8	-43.2	60.8	65.0	45.0	0.0				5.00	a	6161471.50	2310774.52	5.00
RECEIVERS		R6	55.1	-51.9	52.1	65.0	45.0	0.0				5.00	a	6159739.11	2311421.01	5.00
RECEIVERS		R7	54.8	-52.2	51.8	65.0	45.0	0.0				5.00	a	6159775.06	2314442.86	5.00
RECEIVERS		R8	52.5	-54.5	49.5	65.0	45.0	0.0				5.00	a	6160277.95	2317097.00	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		CONSRUCTION	122.0	15.0	15.0	58.3	-48.6	-48.6	PWL-Pt	115					8	a

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	a			6159965.00	2316909.01	8.00	0.00
					6161260.25	2316906.76	8.00	0.00
					6161230.46	2315263.96	8.00	0.00
					6162521.69	2315243.59	8.00	0.00
					6162473.69	2311651.45	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6165033.26	2311624.61	8.00	0.00
			6165014.25	2308981.07	8.00	0.00
			6159855.93	2309066.93	8.00	0.00

5.5 - HAZARDS

5.5.1 - Introduction

Information in this section is derived from the following site-specific technical studies, other reference documents, and correspondence received.

- Phase I Environmental Site Assessment, Approximate 77-Acre Property, Rich Haven Specific Plan Mixed Use District, RBF Consulting, October 3, 2005.
- Phase I Environmental Site Assessment, Approximate 106-Acre Property, Rich Haven Specific Plan Mixed Use District, RBF Consulting, October 3, 2005.
- Phase I Environmental Site Assessment, Visser Property, GeoKinetics, February 1, 2003.
- Phase I Environmental Site Assessment, Randall Property, GeoKinetics, January 17, 2005.
- Phase I Environmental Site Assessment, Di Tommaso Property, GeoKinetics, February 18, 2004.
- Preliminary Subsurface Methane Gas Investigation, Randall Property, GeoKinetics, January 31, 2005.
- Subsurface Methane Gas Investigation, Scritsmier Property, GeoKinetics, January 26, 2004.
- Subsurface Methane Gas Investigation, Visser Property, GeoKinetics, February 1, 2003.
- Subsurface Methane Gas Investigation, Di Tommaso Property, GeoKinetics, February 18, 2004.
- Subsurface Methane Gas Investigation, Van Der Eyk Property, GeoKinetics, November 25, 2002.
- Letter from the California Department of Toxic Substances Control, June 12, 2006.
- NMC Final EIR, City of Ontario, October 1997.
- 1992 General Plan, City of Ontario, September 1992.

The NMC Final EIR identified that hazardous materials and hazardous waste generation are primarily associated with fuels such as gasoline, diesel, and heating oil, and pesticides, and identified a number of recorded sites. The NMC Final EIR concluded that potential impacts regarding hazardous waste sites within the NMC would become fully known when individual subareas are developed through the preparation of Phase I Environmental Site Assessments and, if applicable, the preparation of Phase II Environmental Site Investigations.

In addition, the NMC Final EIR referenced the likelihood that buildings located within the NMC would contain asbestos and lead-based paints, if constructed prior to 1979 and concluded that lead-based paint and asbestos surveys would be required prior to demolition.

Preparation of this section of the Draft EIR conforms to the recommendations contained in the NMC Final EIR and evaluates additional information specific to the project site that may not have been included in the broad, program-level evaluation of the NMC Final EIR.

5.5.2 - Existing Conditions

Phase I Environmental Site Assessments (ESA) and Subsurface Methane Gas Investigations were conducted for all properties on the site except for the following Assessor's Parcel Numbers, for which methane studies were not directly indicated:

- 0218-211-25
- 0218-211-12
- 0218-211-21
- 0218-211-15
- 0218-161-04
- 0218-161-05
- 0218-161-01
- 0218-161-11

Hazardous Materials and Risk of Upset

The presence of suspected or known hazardous waste contamination sites within the project site and immediate vicinity was determined through various Phase I ESAs performed by RBF Consulting and GeoKinetics in 2002, 2003, 2004, and 2005. These analyses included a computerized database search of various governmental agency lists. The CEQA Guidelines require a lead agency to consult the lists of hazardous waste sites compiled by various state agencies (Cal EPA, the Department of Health Services, the State Water Resources Control Board, and the California Integrated Waste Management Board) pursuant to Governmental Code Section 65962.5 (California Public Resources Section 21092.6). The database searches included review of all of the required state lists and a search of various federal (EPA) and local (San Bernardino County Fire Department) hazardous waste site lists.

The following environmental issues were discussed within the Phase I ESAs for the project site:

- The potential for asbestos in onsite structures built before the early 1970s.
- The potential for lead-based paint on structures that were built before 1978.
- Miscellaneous debris (e.g. trash, 55 gallon drums, paint cans, agriculture-related debris) that had been abandoned onsite.

- Utilities such as petroleum lines found onsite.
- Pole-mounted transformers that may contain polychlorinated biphenyls (PCBs).
- The potential for onsite septic systems.
- The potential for methane gas onsite in excess of 55,000 parts per million (ppm), which poses an explosion hazard, due to the project site's past use for dairy and hog farming.
- Storage tanks were noted on and near the project site, which may have contained agricultural-related chemicals.
- The project site was evaluated for the potential presence of radon gas.
- The potential for hazardous wastes, such as petroleum waste.

Historically, the project site was comprised of vacant land, onsite structures, agricultural uses, dairy farms, residences, wells, unimproved roads, and power transmission lines. Numerous local, state, and federal databases were searched in preparation for the Phase I ESAs. Databases included the Records of Decision database maintained by the EPA (ROD), CAL-SITES maintained by the California Department of Toxic Substance Control, and the Listing of Underground Tank Cleanup Sites maintained by the County of Riverside. Appendix D, Phase I ESAs and Phase II ESAs, contains the hazardous materials technical reports.

Information obtained by the data base search and contact with relevant governmental agencies indicated the following results:

- The nearby Heritage Dairy (target property) had a cleanup and abatement order issued for it by the California Waste Discharge System database (CAWDS) regarding the discharge of wastes associated with dairy farming operations. The facility is required to allow no waste discharge and water runoff onto surrounding properties. All dairy wastewater and stormwater must be contained and managed onsite. There is no indication as to whether or not the target property has violated the waste discharge requirements.
- The Aspen Dairy at 10241 Edison Avenue had a cleanup and abatement order issued for it that was identical to that issued for Heritage Dairy, per the CAWDS database. There is no indication as to whether or not the target property has violated the waste discharge requirements.
- Crossroad Classic Mustang at 12421 Riverside Avenue, Unit B, Mira Loma, California, was also issued a cleanup and abatement order, per the CAWDS database. There is no indication as to whether or not the target property has violated the waste discharge requirements.

- An unnamed facility located at 3176 Pony Drive reported a release of muratic acid on September 19, 2002. The release occurred as a result of a container being crushed inside a City trash truck. No other information regarding this site was identified in the listing.
- The Simon Koolhaas Dairy at 14717 Haven Avenue is permitted for Underground Storage Tanks (USTs) and as a Hazardous Material Handler, Underground Tank Only.
- The Martin Dairy at 10129 Edison Avenue is permitted as an Agricultural Hazardous Material Handler.
- The following sites appeared on the CORTESE database as having contaminated public drinking water wells, for which clean up and abatement orders were issued: Simon Koolhaas Dairy (14717 Haven Avenue), Martin Dairy (10129 Edison Avenue), Aspen Dairy (10241 Edison Avenue), Westra Dairy Farms (11009 Eucalyptus Avenue), Crossroad Classic Mustang (12421 Riverside Avenue, Unit B, Mira Loma, California).
- LUST: The Leaking Underground Storage Tank (LUST) Information System database listed the Westra Dairy Farms (11009 Eucalyptus Avenue) as a facility that had a known release from a UST.
- The Dykstra Bros. Dairy (11091 E. Edison Avenue) is known to have two historical USTs. This facility is also known to have obtained a San Bernardino County permit as a Hazardous Material Handler.
- The AG-J&J Cattle Co. (11250 E. Edison Avenue) has one reported UST location, and has a San Bernardino County permit as a Hazardous Material Handler.
- The Westra Dairy (11009 Eucalyptus Avenue) is reported as having a LUST, case closed April 24, 2000.
- The Department of Health Services conducted a California State Radon Survey, and found that radon gas is not an issue at the project site or in the project area.
- No federal National Priorities List (NPL), proposed NPL, Comprehensive Environmental Response and Cleanup Liability Information System (CERCLIS), Resource Conservation and Recovery (Act) Information System (RCRIS), or Emergency Response Notification System (ERNS) facilities are located within one mile of the dairy property.

The Phase I ESAs for the project site offered the following conclusions:

- Due to past use of the project site as a dairy farm and hog farm, the potential exists for elevated soil organic levels and the associated generation of subsurface methane gas.

- The potential for asbestos containing materials and lead-based paint on the project site exists because of some structures built before 1978.
- Based on the past and present agricultural usage of portions of the site, the potential exists for the presence of organic pesticides within the onsite soils. Soil samples should be collected and analyzed for organic pesticides in order to screen for their presence.
- Several homes present on the project site reportedly use onsite sewage disposal systems.
- The residences and other structures onsite may contain lead-based paint and asbestos-containing materials.
- Water supply wells were identified onsite, and it is necessary to verify that they have been properly abandoned.
- A 500-gallon diesel fuel aboveground storage tank (AST) is onsite, and should be deactivated and properly disposed of in conjunction with the site development activities.
- A debris pile with improperly disposed of waste oil was observed onsite.
- A concrete wastewater collection sump and associated underground water distribution piping, as well as an abandoned manufactured home are onsite.
- A Southern California Edison transmission line exists onsite with triple high-tension lines, which may impose some restrictions on development.

Based on the findings of the Phase I ESAs described previously, several methane studies were conducted for the properties that were used as dairies. Out of the 96 gas probes that were installed as a part of the methane studies, only 3 revealed elevated methane concentrations. These methane studies contained the following recommendations:

- Careful clearing, grubbing, segregation, and stockpiling or disposal of the near surface organic-rich soils at the site prior to the initiation of mass grading activities should occur.
- Identification and segregation/stockpiling or disposal of deeper soils which contain elevated levels of organic material should be conducted.
- Soils with organic contents in excess of 0.4 percent should not be placed as “deep” fill. Ideally, soils with significant levels of organic material should be placed in open areas within approximately two feet of the finished ground surface.
- Soils with organic contents in excess of 2 percent should typically not be placed as structural fill—even at shallow depths. The project geotechnical engineer should provide more specific recommendations in this regard.

No additional investigation of the project site was recommended.

Other Risk Management Issues

Additional hazards that potentially affect the project site include vector control issues associated with existing dairy operations, and electromagnetic fields associated with electrical lines crossing the project site. These conditions are discussed below.

Vector Control. The project site is contained within the historic San Bernardino Agricultural Preserve, which has been home to one of the largest dairy cattle populations in the world. The combined dairy operations in this area have resulted in the generation of millions of tons of manure each year. It is estimated that there are 2 million tons of manure stockpiled within that area. As a result of manure stockpiling, there has been an increase in the fly population. To control the increasing fly population, chemical treatments are typically used. The West Valley Mosquito and Vector Control District promotes the practice of routine application of adulticiding chemicals, in the absence of the ability to practice proper composting. However, the continued use of these chemicals has resulted in minor to severe resistance in the adult fly populations.

Activities that would increase the potential for standing water, especially during the summer months, have the potential to increase the mosquito population. As pesticides are used to control the increasing fly population, herbicides are also used by dairies to control plant and algae population in the numerous dairy manure ponds and water ponds.

Electrical Power Facilities/Transmission Lines and Electromagnetic Fields. Southern California Edison (SCE) provides electrical services to the City and the surrounding areas. The SCE Mira Loma substation is located immediately east of Mill Creek Avenue adjacent the project site. SCE high-voltage transmission line right-of-ways (SCE Corridor) appear at several locations onsite containing high Kv electrical transmission lines. Long-term direct exposure to electric and magnetic fields (electromagnetic fields [EMF]) has been identified as a possible risk to human health.

Electric fields are produced in electrical lines as a result of voltage applied to wiring, and are measured in volts per meter (V/m) or kilovolts per meter (Kv/m). Electric field strengths greatly diminish with distance from the source and many structures including trees and houses shield these fields. Most exposure to residential electric fields is the result of internal household appliance use. Magnetic fields are the result of the movement (current) of electricity. These fields are measured in Gauss; however, this measure is extremely large, and fields from electrical lines are generally referred to in milligaus (mg). As with electric fields, magnetic field strengths decrease dramatically with distance from the source; however,

structures such as trees or houses, unlike electrical fields, do not shield magnetic fields. Exposure to EMFs from power lines or electrical substations is typically in the extremely low frequency (ELF) range of the electromagnetic spectrum.

Within the project site, possible concern with EMFs resides with the major SCE power line corridor that traverses the site diagonally between Planning Areas 17 (a, b) and 20, the SCE substation immediately east of Mill Creek Avenue, and the types of uses planned within or directly adjacent to the corridor and/or substation. No U.S. federal agency has yet set ELF EMF standards. Presently, neither the State nor the County of San Bernardino has provisions or codes regulating development near major transmission lines or substations. The NMC Final EIR identifies setback requirements for educational facilities from high-voltage lines.

Ontario Airport Operations

The project site was originally estimated to be within two miles of Ontario International Airport (ONT), which is the criteria set forth in the CEQA Guidelines thresholds. This standard was used because an airport land use plan has not been adopted. Upon further investigation, the airport runways are more than two miles from the northern end of the project site along E. Riverside Drive. The 1992 General Plan discusses current and future operations at ONT. According to the 1992 General Plan, the project site does not directly lie within the flight path of ONT. Aircraft approach ONT from the east and depart to the west, and do not fly over the general project area. The Chino Airport is located approximately 4 miles southwest of the project site.

Existing Regulations and Standard Conditions:

The City of Ontario Municipal Code Section 9-1.3330 includes Environmental Performance Standards that require: "The use, handling, storage, and transportation of combustibles and explosives shall comply with applicable provisions of the Uniform Fire Code, the City of Ontario Hazardous Waste Ordinance and all other local, state and federal regulations."

5.5.3 - Thresholds of Significance

According to the Initial Study, the project could have a significant effect on the environment if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- If the area was located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport, result in a safety hazard for people that reside or work in the project area.

As previously referenced, the NMC Final EIR referenced distance setbacks developed by the State Department of Education for educational facilities from high-voltage transmission lines. Although these requirements apply only to educational facilities, the NMC Final EIR suggested that they could be applied to residential development. These setback distances are as follows: 100 feet from a 50-133 Kv line; 150 feet from a 220-230 Kv line; and 350 feet from a 500-550 Kv line. However, the State Department of Education revised policy in 2003 allows school districts to encroach within these setbacks based upon specific findings made in an EMF Management Plan.

5.5.4 - Project Impacts

The proposed project would have the potential to pose various hazards. Following is a discussion of the project impacts that correspond to the thresholds of significance previously identified in Section 5.5.3.

Hazardous Materials

Short-Term Construction Impacts

In the short term, the proposed project will involve storing limited quantities of petroleum products onsite during construction-related activities. With the mandatory compliance of the City's Environmental Performance Standards (City of Ontario 2000), the proposed project will not create a health hazard or use, produce, or dispose of materials that pose a hazard to human, animal, or plant populations within the project area. The Environmental Performance Standards are contained in the City's Municipal Code, Article 33, Section 9-1.3300. No impact from the temporary storage of hazardous materials during the construction phase is anticipated.

As previously referenced, potential impacts from exposure to lead-based paints and asbestos from demolition activities has the potential to occur. The Phase I ESA concluded that potential impacts related to asbestos exposure and lead-based paint exist, due to the existence of older residences and structures onsite. Because the construction dates for the dairy related structures are estimated and are close to the cut-off date as referenced in the NMC Final EIR, and because it is highly likely that some

structures were constructed prior to 1979, given the historic use of the property, it is assumed for the purposes of this analysis that all structures located on the project site were constructed prior to 1978.

Long-Term Operational Impacts

The proposed project introduces new land uses within the project area: residential, commercial, and recreation. Hazardous materials commonly associated with residential use include household cleaning and janitorial products, herbicides, insecticides, and solvents. Residential handling and disposal of hazardous materials is regulated at the federal, state, and local levels.

The proposed project provides for the development of regional commercial uses. Commercial uses that could be developed include large-scale retail commercial uses such as garden supply, furniture warehouses, discount centers, retailers, and other similar uses. Commercial development could also include professional offices, entertainment, dining, hotel, and conference facilities, supporting retail sales, product exhibition, art galleries, financial institutions, restaurants, health clubs, personal services, day-care, and professional offices. Use and storage of hazardous materials associated with allowed commercial uses will occur as a result of project implementation. In order to minimize risks to life and property, the proposed project will be required to demonstrate compliance with all applicable federal, state and local laws and regulations governing the handling, transport, treatment, generation and storage of hazardous materials.

Colony High School is adjacent to proposed single-family residential uses within Planning Areas 2, 3, 5 and 6 on the project site. Hazardous emissions or hazardous or acutely hazardous materials, substances, or waste will not intentionally be emitted. Use and storage of hazardous materials on the project site will adhere to all applicable regulations, as previously cited.

Generation and use of hazardous materials by residential, commercial, and light industrial usage within the project site is considered to have a less than significant impact due to the mandatory compliance with the City's Environmental Performance Standards (City of Ontario 2000). The Environmental Performance Standards are contained in the City's Municipal Code, Article 33, Section 9-1.3300.

Methane in Manure and Organic Soils

Surface organic residue (e.g., manure and other organic deposition) within the soils may remain after discontinuation of dairy operations and, in some instances, after clearing and grading. The potential for possible exposure of new development and human populations to explosive concentrations of methane released from such soils was investigated in the Phase I ESAs and methane studies. While

the incidence of methane gas was low, this is a potentially significant impact due to the explosion hazard in a soon-to-be highly populated area.

Vector Control

Development of the proposed project will systemically reduce the volume of standing water and other sources associated with the dairies, where mosquitoes can breed.

With the abundance of manure and the presence of stagnant water, these populations may continue to breed during the dairy transition to urban uses, and buildout of the Chino/Ontario areas. Control of these populations can be achieved with non-chemical methods (i.e. mechanical methods) and the use of pesticides. With proper vector control practices, health and safety impacts are not expected to be significant. Past and present uses of pesticides and herbicides in agricultural operations can leave measurable residues in soils. The Phase 1 ESAs for the project site addressed the possible presence of chemical residues in the soil and concluded that future uses of the project site would not be adversely affected by past agricultural use. Hazard impacts on the project site from vectors and past agricultural use are considered less than significant.

Electromagnetic Fields

Within the project site, possible concerns with EMFs are associated with the high-voltage electrical transmission lines that cross the project site. The NMC Final EIR identifies setbacks for educational facilities from high-voltage lines and indicates that could be applied to residential development. No U.S. federal agency has yet set Extremely Low Frequency EMF standards. Presently, no state, county, or City has provisions or codes regulating development near major transmission lines or substations. In addition, SCE does not have published standards regulating development adjacent to high-voltage transmission line rights-of-way (Southern California Edison 2005).

The proposed land use plan locates residential areas in Planning Areas 17 (a, b) and 20 adjacent to the major high-voltage line easement that diagonally traverses the project site. Because 1) the setback standards previously identified apply to educational facilities and are not required to be applied to residential development, 2) no definitive standards have been established by a federal agency, and 3) neither the City nor SCE have established setback requirements, potential impacts resulting from the proximity to the high-voltage transmission lines are considered less than significant.

Hazardous Materials

According to the Phase I ESAs prepared for the project, the various databases indicate that only one site lying near or within the project site boundaries exhibits the presence of hazardous materials. This

is the Martin Dairy at 10129 Edison Avenue that has a San Bernardino County Permit as an Agricultural Hazardous Material Handler. The site experienced an isolated spill event in July 1999. The Phase I ESAs concluded that the conditions associated with this individual site did not present a hazard for the project site.

No evidence of any significant soil and/or groundwater contamination has been identified within the overall project site, and the site is not identified as within the Border Zone of a Contaminated Property.

Ontario Airport Operations

As previously stated, ONT is not within 2 miles of the project site. The 1992 General Plan discusses current and future operations at ONT and describes impacts associated with those operations. Examination of this information reveals that the project site does not directly lie within the flight path of ONT and that no impacts are anticipated related to penetrations of air space, safety zones, or other protection areas. The only anticipated impact from ONT would be sporadic occurrences of aircraft flying over the general area in a southeasterly direction away from the Airport. At this distance, the maximum heights of the proposed structures would not penetrate any of the building height restrictions contained in the Federal Aviations Administration's Part 77 regulations.

5.5.5 - Cumulative Impacts

Implementation of the proposed plan will provide for a variety of residential, commercial, and open space related uses. In general, the types of uses allowed do not include those that would result in the generation of substantial quantities of hazardous wastes or toxic materials. Compliance with federal, state, and local regulations concerning the handling, transport, and disposal of hazardous materials and wastes would reduce impacts to less than significant levels. As related projects in the project vicinity will be required to mitigate their own hazardous materials impacts, no significant cumulative impacts related to hazardous materials are anticipated.

With cumulative development within the ONT vicinity, additional populations could be exposed to some level of risk associated with aircraft activities and hazards. However, safety zones have been established to protect future uses and reduce hazards to an acceptable level of risk, and future development could be subject to review by the Airport Comprehensive Land Use Plan (ACLUP) to assure compatibility, should an ACLUP for ONT be developed. No significant cumulative impact is anticipated.

5.5.6 - Mitigation Measures

The Risk of Upset Section of the NMC Final EIR identified mitigation measures related to hazardous materials (Mitigation measures HM-1 through HM-3) and a mitigation measure (EMF-1) related to electromagnetic fields. Mitigation measure HM-1 required the preparation of Phase 1 ESAs on all future developments in conformance with the American Society for Testing and Materials. Mitigation measure HM-2 required documentation that structures on the project site subject to renovation or demolition from a proposed project did not contain lead-based paints or asbestos or that if these materials were present, appropriate remedial actions for lead-based paints and asbestos would be used. Mitigation measure HM-3 required projects that proposed to handle, transport, process, or store hazardous materials to comply with the policies related to hazardous materials contained in the NMC General Plan. Mitigation measure EMF-1 required residential units and education facilities to be setback from high-voltage electrical transmission lines in accordance with the California Department of Education Guidelines.

Implementation of the NMC Final EIR mitigation measures and the following recommended mitigation measures would reduce potentially significant impacts to a less than significant level.

HM-1 Prior to the issuance of permits by the City of Ontario for any structural demolition activities on the project site, the project developer will be required to submit documentation to the City of Ontario Building Department that asbestos and lead-based paint issues are not applicable to their property or that appropriate remediation actions will be undertaken to correct any lead-based paint or asbestos issues, in conformance with the regulations of the South Coast Air Quality Management District and the State of California, Division of Occupational Health and Safety.

HM-2 Subsequent to grading activities, testing for the presence of methane in the soil shall be performed. This testing shall conform to applicable City of Ontario standards. If methane is detected, mitigation would include the installation of under-slab methane vents, methane barrier, and sealing utilities in locations where they enter a structure and penetrate the methane barrier.

HM-3 Post-grading methane gas investigation should take place near the former Scritsmier Hog Ranch (13571 Haven Avenue) where subsurface methane levels exceed 5,000 ppm. A passive vent system and gas membrane beneath the floor slab should be installed, along with utility trench dams and conduit seals.

HM-4 Careful clearing, grubbing, segregation, and stockpiling or proper disposal of the near surface organic-rich soils at the site prior to the initiation of mass grading activities should occur.

HM-5 Identification and segregation/stockpiling or proper disposal of deeper soils which contain elevated levels of organic material should be conducted.

HM-6 Prior to approval of a discretionary permit or approval for development of proposed residential uses on the Hillardis property, such as a parcel map or tentative tract map, a Phase 1 Environmental Site Assessment (ESA) shall be conducted and the results of that ESA implemented. The Phase 1 ESA shall be provided to the City of Ontario and shall be included in any CEQA analysis prepared in connection with the consideration of a discretionary approval for development of the eastern half of the project site.

5.5.7 - Level of Significance After Mitigation

Mitigation measure HM-1 requires implementation prior to permit issuance. This eliminates the potential for construction-related activities to commence without the benefit of the recommended mitigation measure and would prevent any building materials that may contain lead and/or asbestos from being released into the environment. Therefore, the effects will be less than significant.

Mitigation measures HM-2 through HM-5 should be implemented between the site preparation phase and the building construction phase and would prevent methane gas if present in the soil, from penetrating any of the structures built on the project site. The effects would be less than significant.

Mitigation measure HM-6 would require the preparation of a Phase 1 ESA on the Hillardis property that would determine the presence or absence of any hazardous materials on that portion of the project site prior to the approvals of any development permits. Because all necessary Phase I ESAs have been prepared, and mitigation measures developed, the effects would be less than significant.

With the incorporation of the recommended mitigation measures, implementation of the proposed project would result in less than significant impacts related to hazardous materials.

RICH-HAVEN SPECIFIC PLAN

ONTARIO, CALIFORNIA

HYDROLOGY REPORT

PREPARED FOR:

[Name]
[Address1]
[Address2]
[phone]
Date Prepared: September, 2022
Date Revised:

PREPARED BY:

X Engineering & Consulting, Inc.
6 Hutton Centre Drive, Suite 650
Santa Ana, California 92707
949.522.7100
Project Manager: Puneet Comar
Project Number: 142-001

ENGINEERING & CONSULTING

6081

This report was prepared by or under the supervision of the undersigned registered civil engineer who attests to the technical information contained herein.

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Puneet Comar, PE, QSD Date



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I. INTRODUCTION

The Rich-Haven Specific Plan includes approximately 584.2 gross acres of land in the southwestern portion of the City of Ontario, within the Ontario Ranch (formerly known as 'New Model Colony' or NMC). The project site, hereafter referred to as Rich-Haven, is bounded to the north by Riverside Drive, Colony High School, and SCE Mira Loma substation, to the east by Hamner Avenue, to the West by Haven Avenue, and to the south by Old Edison Road. Under the specific plan, Rich-Haven is to be developed as a cohesive community that incorporates diverse land uses that include residential of various densities, industrial, mixed-use, open space non recreation, and open space parkland (See *Figure 1* herein).



Figure 1. Rich-Haven Specific Plan Vicinity Map (Source: City Council Approved Specific Plan Amendment (File No. PSPA19-006): May 18, 2021 Resolution No's 2021-047)

The Rich-Haven Specific Plan was first approved by the City Council on December 4th, 2007, and has since been amended multiple times that oversaw changes in its planned land uses and coverage. The latest amendment was adopted on May 18th, 2021; notable changes of which

include an increase of 72.1 acres in the project's land coverage and changes in planned land uses that reflect the current market trend. These changes redefine the hydrologic patterns of the project site, which was previously evaluated in the 2012 City of Ontario's Master Plan of Drainage (hereafter, MPoD, unless stated otherwise) for sizing and planning of storm drain facilities. It is therefore important to validate the adequacy of the planned and constructed master-planned storm drain facilities in supporting developments within the amended Rich-Haven Specific Plan area. Consequently, the purpose of this study is to assess the hydrologic changes of the project and its implications on the planned storm drain facilities, using the MPoD study as comparison baseline (See *Exhibit 1* in **Appendix A**).

II. RICH-HAVEN WATERSHED

According to the 2012 MPoD, The Rich-Haven Specific Plan area is located within Drainage Area X, which covers approximately 4.5 square miles (2,880 acres). Drainage Area X is tributary to the County Line Channel, which is owned and maintained by the San Bernardino County Flood Control District and runs along the southerly edge of Ontario Ranch.

Rich-Haven is located within the northeastern portion of Drainage Area X, which is described as the following land area. The upstream or study area of drainage area X is bounded to the north by SR60, to the east by Milliken/Hamner Avenue, to the west by the approximate westerly edge of landscape buffer of Haven Avenue, and to the south by old Edison Avenue, covering a total of 1,062 acres (See *Exhibit 2* in **Appendix A**). Drainage among this sub watershed is further divided into three separate subareas, the drainage of each subarea will be intercepted and conveyed by the regional backbone drainage system as outlined below.

PROPOSED DRAINAGE FACILITIES

Drainage from the Rich-Haven project area will be conveyed by three main planned backbone storm drain lines, namely: 1**) Haven Avenue Storm Drain**, **2) Mill Creek Avenue Storm Drain**, and **3) Milliken Avenue Storm Drain**, all of which drain from north to south and connect to the County Line Channel (See *Exhibit 2* in **Appendix A**). Description of each backbone storm drain lines and its current implementation status are outlined as follows.

1. Haven Avenue Storm Drain

Haven Avenue Storm Drain (hereafter, Haven SD) is a network of storm drain lines 48" to 84"in size, with a mainline (HAVN-X-1) that runs north from Bellegrave Avenue to Riverside Drive along Haven Avenue and branches to storm drain line (HAVN-X-2, -X3, and -X4) and several unnamed laterals that extend from planned/future development within Rich-Haven (See *Figure 2* under Section C for Planning Area (PA) designation).

Storm Drain Line	Location	Construction status as of writing
HAVN-X-1	Runs north from Bellegrave Avenue to Riverside Drive along Haven Avenue	Partially constructed to southerly lot line of Rich-Haven Planning Area 3 (PA-3) (Public Park). See *Figure 2.*
HAVN-X-2	Branches westerly off HAVN-X-1 in Ontario Ranch Road	Constructed
HAVN-X-3 (Twinkle Storm Drain)	Branches from HAVN-X-1 through PA 5 and drains portions of PA 1, 2, 3, 4, and Colony High school	Constructed to north lot line of Rich-Haven PA 5, not constructed north of PA 5

Storm Drain Line	Location	Construction status as of writing
HAVN-X-4	Branches easterly off HAVN-X-1 in Chino Avenue and drains portion of PA 1	Not Constructed

2. Mill Creek Avenue Storm Drain

Mill Creek Avenue Storm Drain (hereafter, Mill Creek SD) is a network of storm drain pipes ranging in size from 48" to a 10' x 8' box , with a mainline (MLCR-X-1) that runs north from Bellegrave Avenue to Chino Avenue along Mill Creek Avenue, and extends to the east in Chino Avenue. MLCR-X-1 branches to MLCR-X-4, -5, and -6 and minor laterals that extend from planned/future development within Rich-Haven along Mill Creek Avenue (See *Figure 2* under Section C for Planning Area (PA) designation).

Storm Drain Line	Location	Construction status as of writing
MLCR-X-1	Runs north from Bellegrave Avenue to Chino Avenue along Mill Creek Avenue and turns east along Chino Avenue	Constructed north from Bellegrave Avenue to Eucalyptus (outside of Rich-Haven limit)
MLCR-X-4	Branches easterly off MLCR-X-1 in Ontario Ranch Road and drains PA 7	Constructed
MLCR-X-5	Branches westerly off MCLR-X-1 in Ontario Ranch Road and drains PA 6	Constructed
MLCR-X-6	Branches easterly off MLCR-X-1 in SCE access road and drains SCE Mira Loma Substation	Not Constructed

3. Milliken Avenue Storm Drain

Milliken Avenue Storm Drain (hereafter, Milliken Avenue SD) is a main line storm drain that varies in size from 36" to 54" that drains south from Ontario Ranch Road to Bellegrave Avenue along Hamner Avenue (also known as Milliken Avenue). Storm drain laterals extend from planned development within a minor portion of the southeastern area of Rich-Haven.

Storm Drain Line	Location	Construction status as of writing
MLKN-X-1	Runs north from Bellegrave Avenue to Riverside Drive along Milliken/Hamner Avenue	Constructed

STORM DRAIN FACILITIES DRAINAGE AREA

The tributary drainage area for each regional backbone drainage system per 2012 MPoD (Master Plan of Drainage) is summarized in the following table:

Drainage System	Tributary drainage area (MPoD 2012)
Haven Storm drain	352.2 acres
Mill Creek Storm drain	659.9 acres
Milliken Storm drain	50.0acres

LAND USE

The current designated land uses within the Rich-Haven area are outlined in the proposed Rich-Haven Specific Plan (See *Figure 2* herein). These updated land uses are compared to the land uses approved by the City Council under the 2010's City of Ontario's Revised Land Use Plan, which were used as the basis of hydrologic study for the 2012 MPoD.



Figure 2. Proposed Rich-Haven Specific Plan- Proposed land uses and Planning Area Designation

A summary of the land use change is shown as follows, with references to the planning areas within the Rich-Haven area (also See *Exhibit 1* in **Appendix A**).

PLANNING AREA/ PROJECT NAME	LAND USES	
	2010 CITY'S REVISED LAND USE PLAN	PROPOSED RICH-HAVEN SPECIFIC PLAN LAND USES
PA-1A	Residential (2.1-5DU/AC)	Residential (0-5 DU/AC)
PA-1B	Residential (2.1-5DU/AC)	Residential (5.1-12DU/AC)
PA-1C	Residential (2.1-5DU/AC) & Commercial	Residential (12.1-25DU/AC)
PA-2	Open Space- Non Recreation	Open Space- Non Recreation
PA-3/ Sports Park	Public Park & Open Space-Non Recreation	Public Park
PA-4A/ MCBC- Colonial	Open Space- Non Recreation	Light Industrial
PA-4B/ Colonial	Residential (2.1-5DU/AC)	Residential (5.1-12DU/AC)
PA-4C	Residential (11.1-25DU/AC)	Public Park
PA-5A and -5C/ Neuhouse	Residential (11.1-25DU/AC)	Residential (12.1-25DU/AC)
PA-5B/ MCBC-VanderEyk	Residential (11.1-25DU/AC)	Light Industrial
PA-5D/ VanderEyk	Residential (11.1-25DU/AC)	Residential (12.1-25DU/AC)
PA-5E and -5F/ SCE Easement	Open Space- Non Recreation	Open Space- Non Recreation
PA-6A/ Canvas Park	Mixed Use	Residential – Stand Alone
PA-6B/ Randall North	Mixed Use	Light Industrial
PA-6C	Open Space- Non Recreation	Open Space- Non Recreation
PA-6D/ Randall North	Open Space- Non Recreation	Commercial
PA-7A/ Visser Demody	Mixed Use	Light Industrial
PA-7B/ Visser Richland	Mixed Use	Commercial
PA-8A/ Community College & Wood Investments	Mixed Use	Mixed Use

PLANNING AREA/ PROJECT NAME	LAND USES	
	2010 CITY'S REVISED LAND USE PLAN	PROPOSED RICH-HAVEN SPECIFIC PLAN LAND USES
PA-8B/ Pietersma	Mixed Use	Residential - Stand Alone Commercial
PA-9A/ Regions South	Mixed Use & Open Space-Non Recreation	Residential - Stand Alone, Open Space- Non Recreation, & Commercial
PA-9B/ Randall South	Mixed Use & Open Space-Non Recreation	Residential - Stand Alone, Open Space- Non Recreation, & Commercial

III. HYDROLOGY AND HYDRAULICS

2012 MPOD STUDY

The ultimate condition hydrology of the Rich-Haven area was evaluated in the 2012 City's MPoD, with designated land uses that align with the Revised Land Use Plan adopted by the City Council in January 2010 (Refer to **Appendix A,** *Exhibit 1*).

However, the proposed land uses in some planning areas under the proposed Rich-Haven Specific Plan are generally denser or more impervious than the previously planned land use under the City's 2010 Revised Land Use Plan, such as the conversion of a low-density residential land use to high-density residential land use (See Section II.C- Land Use). Land use with more impervious areas typically generate higher peak flow with a shorter time of concentration. In addition, the tributary drainage areas of the master-planned regional backbone storm drainage systems have also changed since the MPoD study. Altogether, these changes present important implications in the planning and sizing of storm drain facilities, which necessitates a hydrology and hydraulic study.

STUDY OBJECTIVES

The overarching goal of this study is to ensure that there will be no significant adverse impacts to down stream storm drain facilities within the study area as a result of this project. Towards this goal, three objectives are further scoped, in order, as below:

1. *Hydrology analysis*
   - Reassess the hydrologic characteristics of the Rich-Haven area based on its latest proposed land uses and changes in the master-planned storm drain watersheds (Haven SD, Mill Creek SD, and Millken/Hamner SD watersheds).

2. *Peak flow mitigation analysis*
   - Determine the properties within Rich-Haven that may require peak flow mitigation.
   - Designate the allowable mainline peak flow within each storm drain mainline at storm drain connection point for each property.

3. *Hydraulic Analysis*
   - Based on the preceding analyses, identify the storm drain mainline(s) that requires further hydraulic analysis.
   - Analyze the proposed/existing storm drain for hydraulic capacity as needed

HYDROLOGY ANALYSIS

The following subsection outlines the hydrologic study components.

1. Hydrologic Study Approach

A main objective of this study is to update the 2012 MPoD hydrology analysis with updated inputs that reflect the latest Rich-Haven Specific Plan and any changes that may have occurred.

To ensure accurate comparison between this study and the 2012 MPoD study, a detailed review of the latter's hydrologic calculations was conducted to identify and preserve information that remains unchanged since the was completed. These include hydrologic data for existing development that were included as part of the 2012 MPoD study, planned storm drain facilities and its location.

Hydrologic parameters from planning areas and storm drains within Rich-Haven that were constructed, and changes in tributary area of the regional storm drains since the MPoD study are also incorporated into this study to reflect the latest conditions of the Rich-Haven to the maximum extent possible.

The following table summarizes the items in the 2012 MPoD that were reused in this study.

Item	Description
Hydrologic Node 5115	Confluenced Peak Flow rate, Max Loss Rate, and associated Tc from upstream-most drainage area of Rich-Haven Drainage Area
Hydrologic Node 5210	Confluenced Peak Flow rate, Max Loss Rate, and associated Tc from the Mira Loma SCE Substation Drainage Area
Hydrologic Nodes 5115, 5141, 5215, 5248, 5300, 5305, and 5330	Hydrologic nodes for the Mill Creek Storm Drain Drainage Area
Hydrologic Nodes 4070, 4080, 4075, 4120, 4170, 4171, and 4200	Hydrologic nodes for the Haven Storm Drain Drainage Area
Hydrologic Nodes 6050	Hydrologic node for the Milliken Storm Drain Drainage Area

The following table summarizes the parameters of projects within Rich-Haven area used in this study:

Item	Description
Hydrologic Nodes 4070 and 4080	Confluenced Peak Flow rate, Max Loss Rate, and associated Tc at referenced node per TTM 20526, PA 1 project (Node 508 and 312, respectively)
Hydrologic Node 416	Confluenced Peak Flow rate, Max Loss Rate, and associated Tc at referenced node per TM 20530, PA 5D (Vander Eyk) Project (Node 312)

Item	Description
Hydrologic Node 440	Hydrologic node at referenced node per TTM 20081, PA 6A (Regions North) project (Node 505)
Hydrologic Nodes 445, 450, and 4170	Pre-confluenced Peak Flow rate, Max Loss Rate, and associated Tc at referenced node per TTM 20081, PA 6A (Regions North) project (Node 5001, 5002, and 4170, respectively)
Hydrologic Nodes 455	Pre-confluenced Peak Flow rate, Max Loss Rate, and associated Tc at referenced node per PM19978, New Haven Commercial Development project (not part of Rich-Haven areas) (Node 37)
Hydrologic Nodes 465	Pre-confluenced Peak Flow rate, Max Loss Rate, and associated Tc at referenced node per TM20076, New Haven Residential Development project (not part of Rich-Haven areas) (Node 20)
Hydrologic Nodes 460 and 4171	Pre-confluenced Peak Flow rate, Max Loss Rate, and associated Tc at referenced node per TM 20449, PA 9A (Regions South) Project (Node 517 and 415, respectively)

2. *San Bernardino County Hydrology Methodology*

The hydrology methodologies accepted by the City of Ontario are documented in the San Bernardino County's Hydrology Manual (1986) and subsequent addenda. Two methods are primarily used:

a) Rational Method
b) Unit Hydrograph Method

Peak flow and time of concentration are typically the outcomes of interest from these methods. Selection of methodology is dependent on the drainage size to be studied. Rational method is typically used for drainage area that is approximately 1 square mile (640 acres) or less, beyond which the method may become less reliable due to the higher variation in point precipitation over a larger area. Unit hydrograph is then used for continuation of drainage study beyond 1 square mile, using the time of concentration estimated by Rational Method and area-averaged point rainfall over the entire drainage area as inputs.

The 2012 MDoP used both methods for its hydrology analysis, starting off with Rational Method for all drainage area studies, and switching to the Unit Hydrograph Method should the drainage area exceed 1 square mile.

This study adopts similar methodology basis as the MDoP, however, due to the relatively smaller drainage area of the Rich-Haven (i.e. ~644 acres for the largest sub drainage are), only Rational method is used.

3. *Implementation of Rational Method Analysis*

The Rational Method for this study is implemented using RSBC software, 2018 version, developed by Civil Design® Corporation and Joseph E. Bonadiman and Associates Inc. RSBC software is accepted by the County of San Bernardino for hydrologic study purposes. The software implements the various modeling approaches of the County's Rational Method as documented in the County's Hydrology Manual, which includes initial subarea time of concentration estimation, subarea addition, pipe and street flow time, and confluence analysis of adjoining streams.

4. *Hydrologic Study Criteria*

The parameters used for this study adhere to the 100-year storm study criteria used in MDoP and are summarized as follows.

Storm Return Frequency	100-yr
1-hour rainfall depth	1.2 in
Log-Log Slope for Rational Method Hydrology Studies	0.6
AMC Condition	II

PEAK FLOW RATE MITIGATION ANALYSIS

Peak flow mitigation is typically required if the peak flow rate as determined by this report's hydrology analysis exceeds the existing/proposed storm drain capacities. The individual developers of each planning area will be responsible for complying with mainline storm drain allowable flow rates as designated in this report or determining other methods of not adversely impacting the storm drain system capacity.

This study aims to determine an allowable peak flow Q for various planning areas, represented by the allowable peak flow at different points of the storm drain main line in relation to times of concentration, taking into account the existing and planned built-out conditions of the Rich-Haven area.

HYDRAULIC ANALYSIS

Hydraulic study of a drainage system acts as validation of the engineering design of the drainage system. This level of study typically is conducted with the availability of more detailed information, which include outputs from the preceding analyses.

Hydraulic parameters of the planned regional backbone storm drainage systems, such as the hydraulic grade line (HGL) and velocity, are shown on various approved storm drain improvement plans for the City of Ontario. The hydrologic data used for the hydraulic design of these storm drains are derived from different sources. For instance, the Haven Storm Drain hydraulic design is based upon the 2012 MPoD's hydrologic outputs. Whereas

the Mill Creek Storm Drain hydraulic design is based upon a combination of hydrologic outputs from 2007 MPoD's hydrologic outputs and approved final engineering studies from developed planning areas within Rich-Haven, and the Huitt-Zollars Mill Creek Hydraulic Study dated July 11th, 2022, which when looked at holisitically, allows for possible reconfiguration of storm drain to accommodate field conditions and updated design constraints.

The hydraulic parameters as shown approved storm drain plans may be utilized to assess the need for conducting a, updated hydraulic analysis of the proposed storm drain system. For example, if the peak flow along the mainline as estimated by the updated hydrology analysis remains consistently lower than the peak flow shown on the existing approved storm drain plans throughout all segments of the main lines, it can be inferred that the updated HGL will be lower than the existing HGL and any adverse impacts to the downstream storm drain(s) in the study area are not anticipated. Therefore, a hydraulic analysis of the subject storm drain is not provided in this study. However, if any of the storm drain segments is expected to convey a higher flow than shown on the existing storm drain plan, a detailed hydraulic analysis will be provided in this study to ensure that adequate capacity of the proposed storm drain to handle the updated hydrologic conditions.

The outcomes from this hydraulic analysis serve to determine the critical section along the storm drain mainline in terms of water surface elevation, which must not rise above 6" below finished surface or lip of catch basin for a 100-year storm, per the City of Ontario's storm drain design goals.

IV. FINDINGS/RECOMMENDATIONS

HYDROLOGY ANALYSIS

1. *Modeling approach*

This study's hydrology modeling approach varied slightly from that of the MPoD. The subarea addition approach, as used extensively in MPoD, is sensitive to the subarea size definition, which may either discount flow contribution of a subarea entirely or significantly amplify the estimated flow addition. This shortcoming is also acknowledged by the County's Hydrology Manual (Section D.11, Step 5). For example, an estimated 101 cfs from 53 acres of drainage area (out of a total of 660 acres) was not accounted in the MPoD's Mill Creek SD peak flow (within the study area) as a result of using the subarea addition approach (See Nodes 5116, 5117, 5141, 5215, 5248, 5300, and 5330 in MDoP Hydrology Calculations). While this modeling approach is generally accepted for planning level study such as Master Drainage Plan, it may not be suitable for storm drain design.

To circumvent this issue, this study used confluence analysis (County's Hydrology Manual, Section D.8) for any major subarea flow addition to the mainline, such as flow contribution from a Planning Area. Confluence analysis is a deliberate method that estimates the peak flow contribution of two or more streams joining at a physical location but at different times of concentration. This method allows for more specific understanding of the mainline flow contribution of a particular area, from which mitigation of peak flow can be determined . Peak flow estimated from confluence analysis is also generally higher than simple subarea

addition, as the former may partially discount peak flow based on time of concentration of the adjoining streams, but never the entire flow as the latter may discount as mentioned above.

The estimated peak flow from this study is presumed to be comparable to MPoD for further analysis of the planned storm drain system.

2. *Haven SD*

Although the drainage delineation for Haven SD (within Rich-Haven) has changed since the MPoD study, its tributary drainage area has remained the same (353 acres vs 352 acres at node 4200). However, the peak flow generated within the Haven SD has increased from 504 cfs to 603 cfs, a 101 cfs (20%) increase, at the downstream most point of the Haven SD watershed node 4200 (See **Appendix A-** *Exhibit 3* and **Appendix B**- Hydrology Calculations for more information). This increase in peak flow is attributed to the densification and increase of impervious area of PA-1B, -1C, and -4B as a result of their new proposed land uses (denser residential uses). Exceedance of MPoD's peak flow is observed at the confluence of HAVN-X-3 and the main line HAVN-X-1. HAVN-X-3 conveys a significant stormwater flow rate (121cfs) from PA-1—including runoff from the existing detention basin at the southwest corner of Colony High School—and all runoff from PA-4B before joining the mainline.

3. *Mill Creek SD*

Mill Creek SD (within Rich-Haven) shares a watershed boundary with Haven SD and Milliken SD. The tributary drainage area of Mill Creek SD is reduced slightly from 660 acres to 644 acres since the MPoD study. This reduction is presumably carried over from the neighborhood edge adjustment of properties within the adjacent Haven SD and Milliken SD watershed, and the redirection of flow from PA-4B and 5C from Mill Creek SD watershed to Haven SD watershed. In the context of the large scope of the study, this acreage change is negligible.

The peak flow generated within the Mill Creek SD increased from 1,021cfs per the MPoD to 1,160cfs in this study, a 139 cfs (14%) increase, at node 5330, the downstream most point of the Mill Creek SD watershed study area (See **Appendices A** and **B**). This increase in peak flow is due to the addition of flow contribution from a portion of PA-1 that was to be conveyed by Haven SD (in 2012 MPoD) and the increase of impervious area of PA-4A, -5B, 6B, -6D, -7A, and -7B, as a result of the new proposed land uses (Industrial and commercial use). The initial exceedance of MPoD's peak flow is observed at the joining of the storm drain lateral from PA-1 to the mainline node 5115, which propagates downstream and gradually add up with the addition of runoff from storm drain laterals from PA-4A, -5B, -6B, -7A, -7B, -8A, -8B, -9A and -9B (See **Appendix A-** *Exhibit 3* and **Appendix B**- Hydrology Calculations for more information).

4. Milliken SD

Milliken SD (within Rich-Haven) does not have any changes in land use, drainage area, or planned storm drain. A slightly larger area of 52 acres (vs. 50 acre in MPoD) as measured in this study's CAD file is due to adjustment for neighborhood edge and the linework precision between the CAD drawing and its MPoD counterpart. This difference is considered negligible for drainage study of this level. The peak flow at the downstream most point of the Milliken SD is estimated at 73.3 cfs per the MPoD study node 6050.

Since the input data remains the same, the Milliken SD watershed was not studied.

PEAK STORM FLOW RATE MITIGATION ANALYSIS

Based on the hydrology analysis result, the peak flow rate from certain planning areas withinin the Haven SD and Mill Creek drainage area needs to be mitigated to ensure adequate storm water conveyance and flood protection along the mainlines upstream of the County Line Channel. The acceptable flow rate is defined by the allowable peak flow rate, $\mathbf{Q_{allow}}$, along the mainline, which is determined by an iterative modeling approach of the preceding hydrology analysis by assigning a controlled flow rate contribution from the planning area(s) that would ultimately require peak flow mitigation to prevent significant adverse impacts to the downstream storm drain facilities.

The allowable flow rate along the mainline as designated by this report shall not be exceeded when flow is added from the planning areas requiring peak flow mitigation, as supported by a confluence analysis of the main line with the adjoining stream from each planning area. Planning area-specific studies may be performed to demonstrate that no adverse impact to the storm drain system is caused.

5. Haven SD

Peak flow mitigation solutions shall be ideally implemented within PA-1, which is the upstream-most portion of the Haven SD drainage area within Rich-Haven. PA-1 contributes significant flow to the Haven SD, both directly to HAVN-X-1 and indirectly through HAVN-X-3. The large land area of PA-1 also provides for flexible peak flow mitigation options, as compared to the planning areas downstream, which are either under construction or built-out. In addition, the existing detention basin at the southwest corner of Colony High School, is an ideal peak flow mitigation solution if remaining. Refer to *Exhibit 3* in **Appendix A** for locations of potential flow mitigation solutions and allowable flowrates along the Haven SD mainline.

6. Mill Creek SD

Peak flow rate shall be mitigated within PA-4A, -5B, -6B, -7B, -8A, -8B, -9A and -9B, which are deemed to be the main contributors to the increase in peak flow along the mainline.

Refer to *Exhibit 3* in **Appendix A** for location of potential peak flow mitigation facilities and allowable flow rates in the Mill Creek SD mainline.

7. *Milliken SD*

Peak flow mitigation is not required for Milliken SD, considering that the Milliken SD watershed remains unchanged since the MPoD study.

HYDRAULIC ANALYSIS

8. *Haven SD*

Based on the existing approved storm drain plans for Haven SD and the allowable flow rates from the preceding peak flow mitigation analysis, it is observed that the allowable flow rates are consistently lower than the flow rates shown on the existing approved storm drain plans throughout all segments of the Haven SD, as summarized in the following table (See *Exhibit 4* in **Appendix A**).

Stationing on SD	Node on Exhibit 3	Q in Storm Drain Plan	Allowable Q in Exhibit 3
114+75.39	4070	160 cfs	73 cfs
108+13.69	4075	189 cfs	100 cfs
98+15.73	4120	422 cfs	250 cfs
74+85.76	4170	504 cfs	411 cfs
62+13.65	4171	504 cfs	504 cfs
61+34.99	4200	553 cfs	504 cfs

Based upon the above allowable Q, the existing/proposed Haven SD will have capacity to adequately convey the updated flow.

9. *Mill Creek SD*

As certain segments of the Mill Creek SD will be experiencing higher peak flow as compared to the approved storm drain plans regardless of the implementation of peak flow mitigation (See *Exhibit 3* in **Appendix A**), a detailed updated hydraulic analysis is provided in this report for Mill Creek SD.

Hydraulic analysis of Mill Creek storm drain is an extension to the supporting study for the 2022 Mill Creek Storm Drain Delta 4 (M-1183) prepared by Huitt-Zollars Inc, for the construction of Mill Creek storm drain segment between Ontario Ranch Road and Chino Avenue to incorporate the whole Rich-Haven area. The input file for WSPGW—a commercial software package for analyzing hydraulic capacity of storm drains—from Huitt-Zollars Inc's study was utilized and modified with peak flow output as yielded by this study's hydrology analysis.

The hydraulic analysis of the Mill Creek SD was conducted using the $\mathbf{Q_{allow}}$ as determined in the preceding peak flow mitigation analysis. Peak flow contribution from each planning

area requiring mitigation is determined as the difference between the peak flow immediately upstream of the point of confluence and the **Q_{allow}** at the point of confluence.

The hydraulic grade line (HGL) analysis indicates that the **Q_{allow}** is adequate in ensuring the adequate flood protection within the mainline upstream of County Line Channel (See **Appendix A**- *Exhibit 5* and **Appendix C**-Hydraulic Calcs). Any deviation that causes exceedance of the **Q_{allow}** shall be supported by a similar analysis that ensure less than significant impacts to the storm drain facilities.

10. Milliken SD

Since peak flow mitigation is not required for Milliken SD, a hydraulic analysis of the storm drain is not conducted.

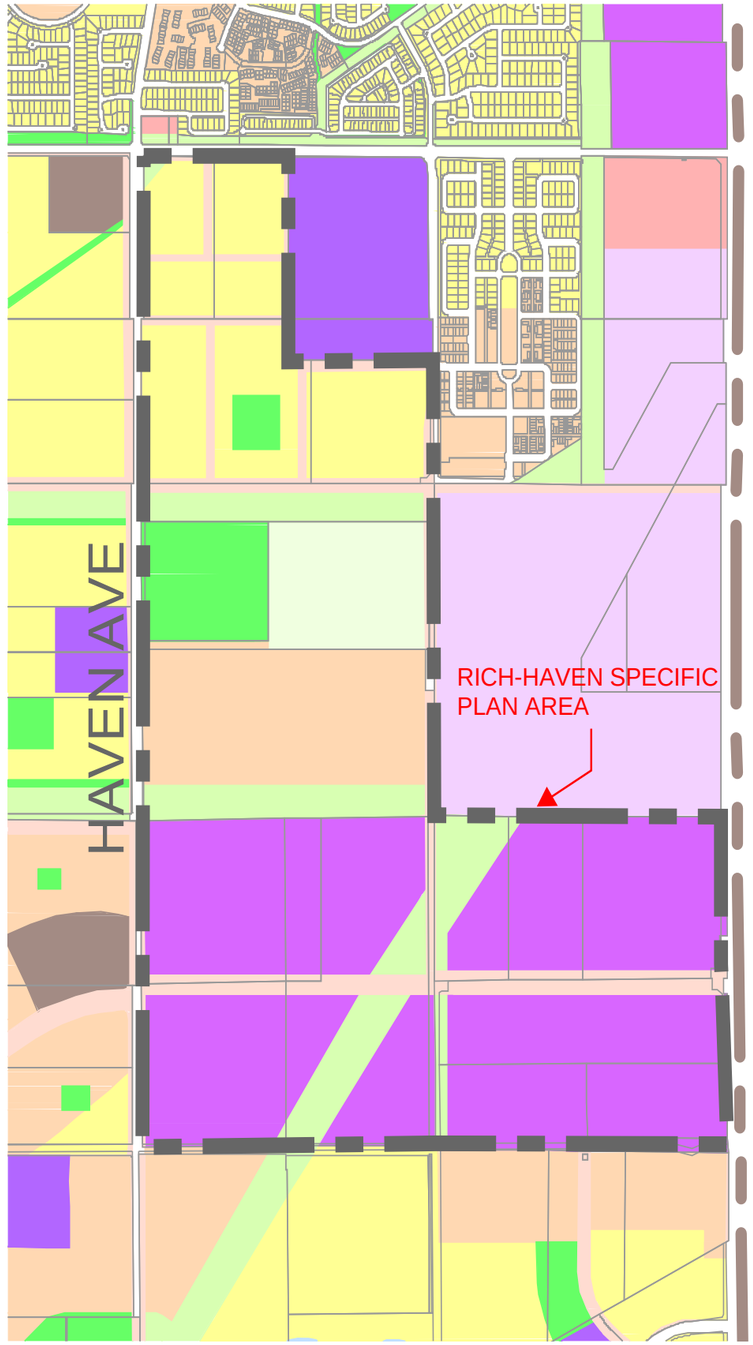
V. CONCLUSION

This report has determined where peak storm flow rates in mainline storm drain systems have increased with the updated Rich-Haven Specific Plan land uses and watersheds. Furthermore, it has also be determined where the existing/proposed storm drain facilities will have capacity deficiencies due to the proposed project. To reduce storm flows to a level that will be adequately conveyed by the mainline storm drain system, an allowable flow rate has been provided for each applicable property within the study area. The designated property owners shall mitigate their storm water discharges to not exceed their allowable mainline flow rates as provided herein, to prevent any significant adverse impacts to the downstream storm drain facilities in the study area. Any increase to the allowable flow rate may require additional planning area-specific analysis to ensure adequate flood control protection is provided.

VI. REFERENCES

1. Hydraulics Report for Mill Creek Storm Drain Delta 4 (M-1183), HZ Project No. R310721.02 (July 2022)
2. TM 20529 & 20530, Colonial & Vander Eyk, Ontario, California, Preliminary Hydrology Report (July 2022)
3. TM 20449, Regions South, Ontario, California, Preliminary Hydrology Report (July 2022)
4. TTM 20526, Ontario, California, Preliminary Hydrology Report (March 2022)
5. PM19978, Ontario, California, Hydrology Report (March 2019)
6. Drainage Report for Onsite Improvement Plan, Tentative Tract Map No. 20081, City of Ontario, California (February 2019)
7. Drainage Report for New Haven in New Model Colony, Tract 20076, City of Ontario, California (November 2017)
8. Master Plan of Drainage, City of Ontario, Final Report (March 2012)
9. San Bernardino County, Hydrology Manual (1986)

APPENDIX A
EXHIBITS AND HYDROLGY MAP



NOT TO SCALE

Residential
- Low Density (2.1-5DU/AC)
- Low - Medium Density (5.1-11DU/AC)
- Medium Density (11.1-25DU/AC)

Other
- Open Space - Non Recreation
- Open Space - Parkland

Mixed Use
- Mixed Use

2012 MASTER PLAN OF DRAINAGE
LAND USES

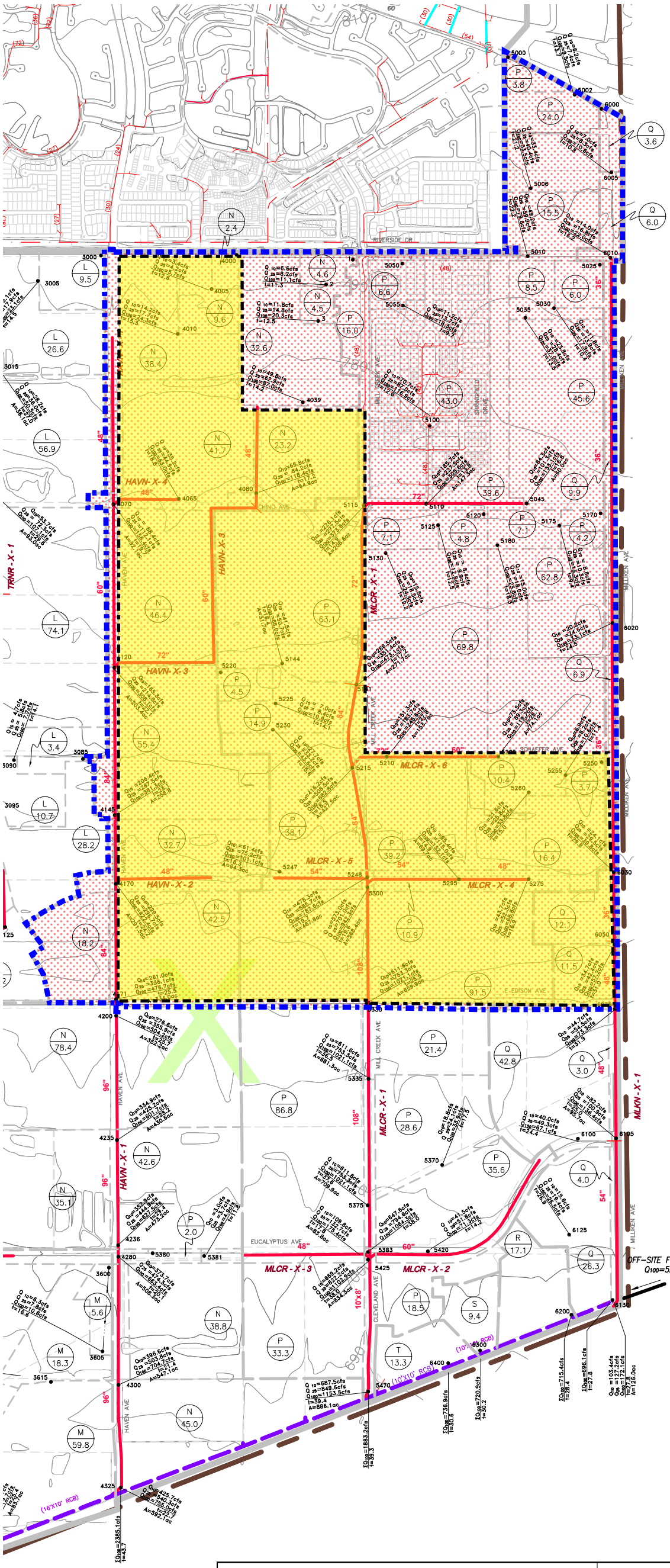
*ADOPTED BY CITY COUNCIL ON JANUARY 27, 2010

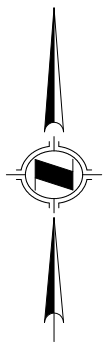


NOT TO SCALE

PROPOSED RICH-HAVEN SPECIFIC PLAN
PLANNNING AREA AND PROPOSED LAND USE

EXHIBIT 1
MPoD LAND USES VS. RICH-HAVEN SPECIFIC PLAN LAND USES





SCALE 1" =1200'

800 400 0 800 2400

LEGEND

- COUNTY LIMITS
- CITY LIMITS
- X" / XXXX-X-X — PLANNED STORM DRAIN, SIZE AND LINE ID
- DRAINAGE AREA BOUNDARY
- DRAINAGE SYSTEM BOUNDARY
- MINOR DRAINAGE BOUNDARY
- (X) — EXISTING CITY STORM DRAIN AND SIZE (IN INCHES)
- CHINO AIRPORT — EXISTING COUNTY OPEN CHANNEL
- EXISTING COUNTY STORM DRAIN AND SIZE (IN INCHES)
- X — DRAINAGE AREA #
- DRAINAGE SYSTEM NAME: WLKR-XII-3 — SYSTEM IDENTIFICATION
  - DRAINAGE AREA NUMBER
  - LINE NUMBER
- X / X.X — AREA DESIGNATION, AREA ACREAGE (IN ACRES)

Q_{10} =861.0cfs
Q_{25} =981.1cfs
Q_{100}=1213.7cfs
t=36.1
A=942.7ac

PEAK FLOW RATE
TIME OF CONCENTRATION
AREA

MPoD RICH-HAVEN WATERSHED (1,062.1 ACRES)

RICH-HAVEN PROJECT AREA (584.2 ACRES)

EXHIBIT 2

MARKED UP

MARCH 2012

REVISIONS

CITY OF ONTARIO

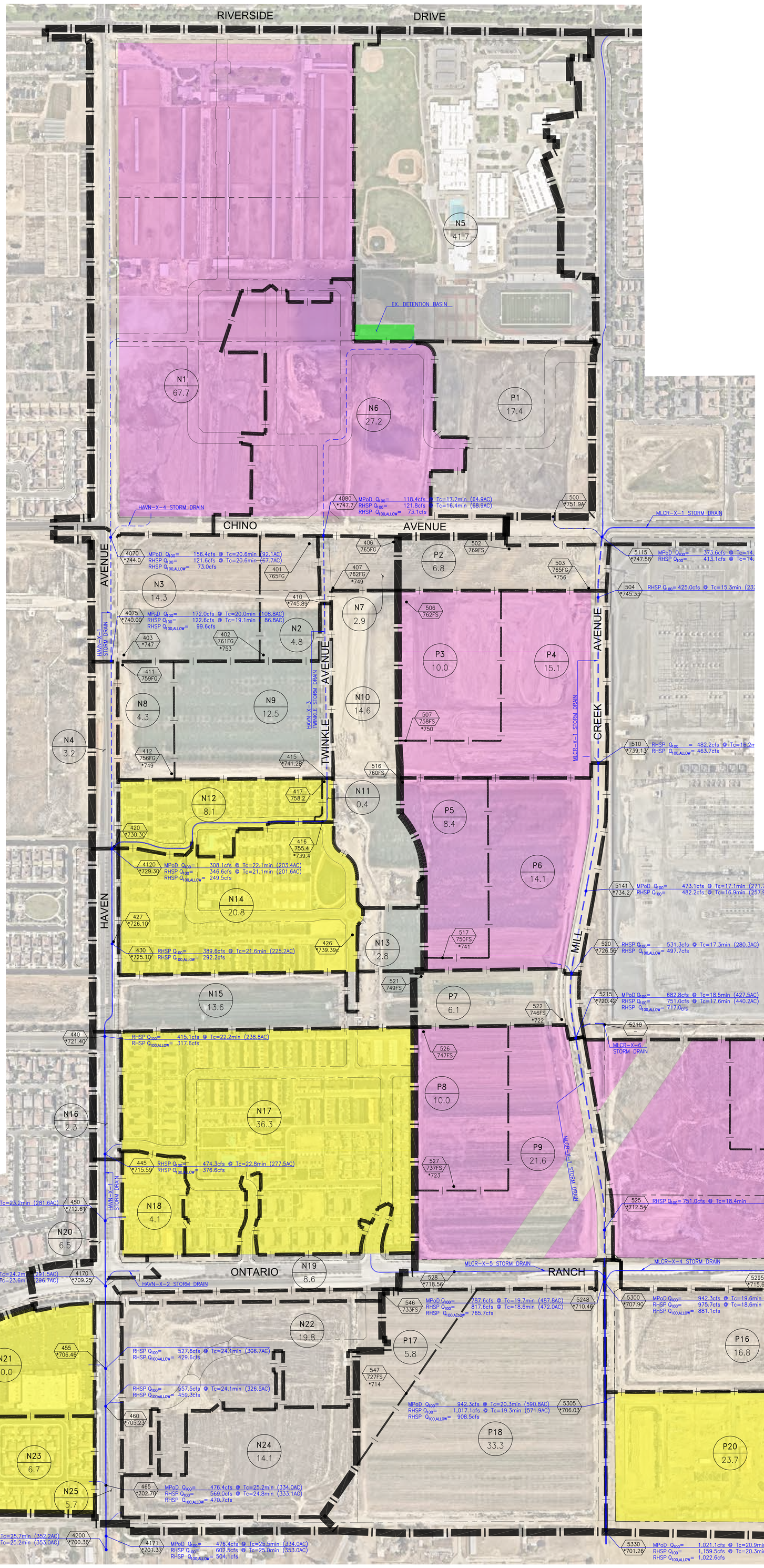
MASTER PLAN OF DRAINAGE

HYDROLOGY MAP

NEW MODEL COLONY

HUNSAKER & ASSOCIATES
IRVINE, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
Three Hughes ▪ Irvine, CA 92618 ▪ PH: (949) 583-1010 ▪ FX: (949) 583-0759

6102



LEGEND

- P / 8.88 — SUBAREA DESIGNATION (N=HAVEN SD; P= MILL CREEK SD; Q= MILLIKEN/HAMNER SD); SUBAREA ACREAGE
- 101 / 888.8 / *878.8 — NODE NUMBER (MDP IN 1000s, RHSP IN 100s); FLOWLINE ELEVATION; *INDICATES INVERT ELEVATION
- MAJOR WATERSHED BOUNDARY
- PLANNING AREA WATERSHED BOUNDARY
- MINOR WATERSHED BOUNDARY
- STORM DRAIN (CONSTRUCTED)
- STORM DRAIN (UNDER CONSTRUCTION)
- STORM DRAIN (PROPOSED)
- CONSTRUCTED PROJECT/UNDER CONSTRUCTION
- PLANNING AREA POTENTIALLY REQUIRING Q ALLOWABLE MITIGATION
- EX. DETENTION BASIN

HAVEN AVENUE STORM DRAIN

100-YEAR, 1-HOUR STORM Q, PEAK FLOW SUMMARY

NODE	STUDY SCENARIO	AREA (AC)	Q (CFS)	ΔQ (%) RELATIVE TO MPoD	T_C (MIN)
	HAVEN STORM DRAIN MAINLINE (HAV-X1)				
4070	MPoD	92	156	–	14.9
	RHSP	68	122	-22.3%	14.7
	RHSP Q_{ALLOW}	68	73	-53.3%	–
4075	MPoD	109	172	–	17.1
	RHSP	87	123	-28.7%	16.9
	RHSP Q_{ALLOW}	87	100	-42.1%	–
4080	MPoD	65	118	–	18.5
	RHSP	69	122	+2.9%	18.5
	RHSP Q_{ALLOW}	69	73	-38.3%	–
4120	MPoD	203	308	–	19.7
	RHSP	202	347	+12.5%	18.6
	RHSP Q_{ALLOW}	202	250	-19.0%	–
4170	MPoD	292	422	–	19.6
	RHSP	297	509	+20.4%	19.6
	RHSP Q_{ALLOW}	297	411	-2.8%	–
4171	MPoD	334	476	–	20.3
	RHSP	333	569	+19.4%	19.3
	RHSP Q_{ALLOW}	331	504	+5.0%	–
4200	MPoD	352	504	–	20.9
	RHSP	353	603	+19.5%	20.3
	RHSP Q_{ALLOW}	353	504	+0.0%	–

MILL CREEK AVENUE STORM DRAIN

100-YEAR, 1-HOUR STORM Q, PEAK FLOW SUMMARY

NODE	STUDY SCENARIO	AREA (AC)	Q (CFS)	ΔQ (%) RELATIVE TO MPoD	T_C (MIN)
	MILL CREEK STORM DRAIN MAINLINE (MLCR-X1 OR MILLC-A1)				
5115	MPoD	209	374	–	14.9
	RHSP	226	413	+10.6%	14.7
	RHSP Q_{ALLOW}	226	413	+10.6%	–
5141	MPoD	271	482	–	17.1
	RHSP	258	482	+1.9%	16.9
	RHSP Q_{ALLOW}	258	–	+1.9%	–
5215	MPoD	428	683	–	18.5
	RHSP	440	751	+10.0%	18.5
	RHSP Q_{ALLOW}	440	717	+5.0%	–
5248	MPoD	488	788	–	19.7
	RHSP	472	818	+3.8%	18.6
	RHSP Q_{ALLOW}	472	766	-2.8%	–
5300	MPoD	568	942	–	19.6
	RHSP	549	976	+3.5%	19.6
	RHSP Q_{ALLOW}	549	881	-6.5%	–
5305	MPoD	591	942	–	20.3
	RHSP	572	1,017	+7.9%	19.3
	RHSP Q_{ALLOW}	572	909	-3.6%	–
5330	MPoD	660	1,021	–	20.9
	RHSP	644	1,160	+13.6%	20.3
	RHSP Q_{ALLOW}	644	1,023	+0.1%	–

N

200' 0' 100' 200'

SCALE: 1" = 200'

2022-09-12

EXHIBIT 3

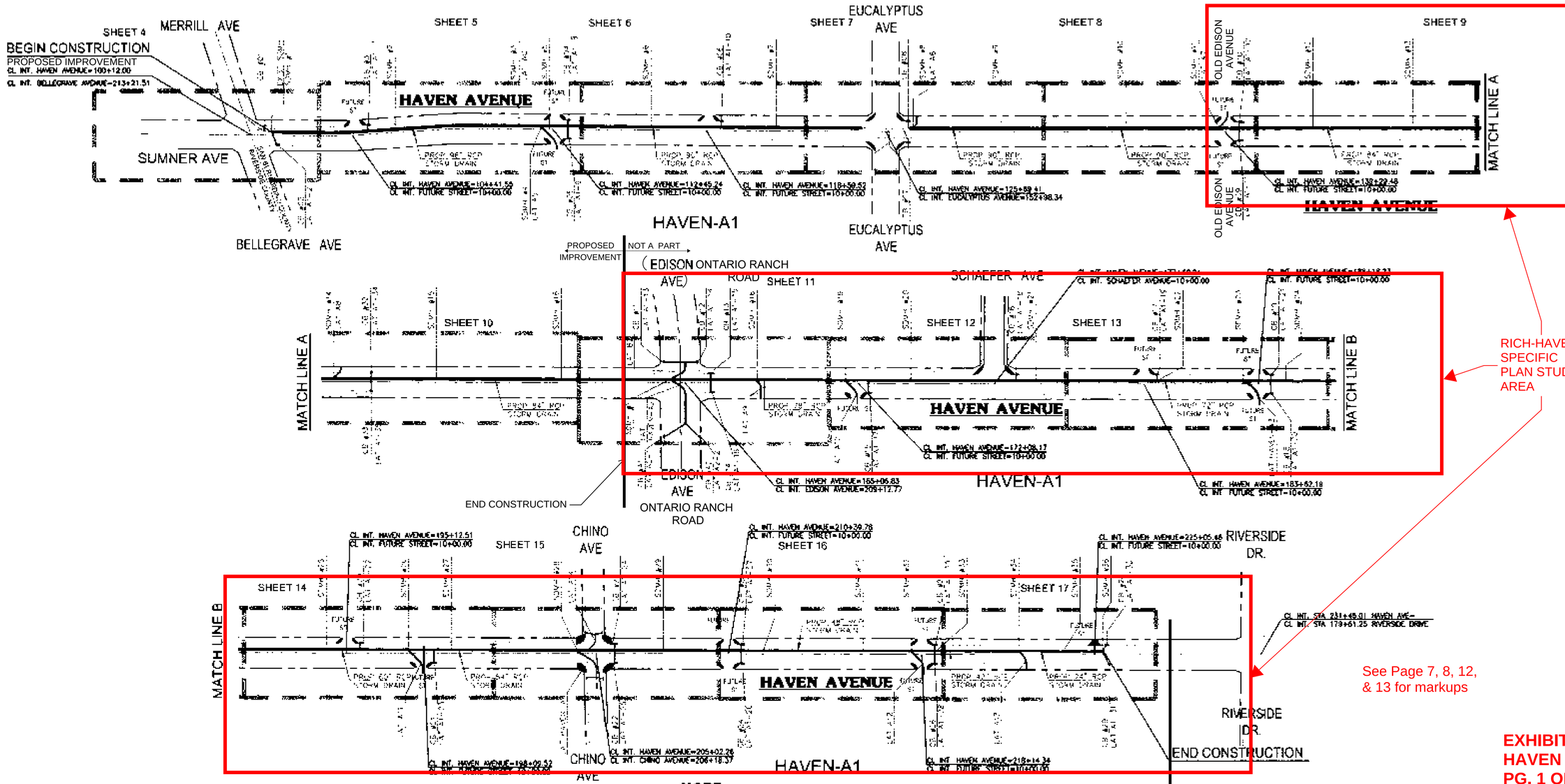
PROPOSED HYDROLOGY MAP

RICH-HAVEN SPECIFIC PLAN

X ENGINEERING & CONSULTING, INC.
6 Hutton Centre Drive, Suite 650
Santa Ana, California 92707
949.522.7100 | xengineeringinc.com

\\x-fs\projects\142\001\Reports\EIR\Hydrology - Specific Plan\Exhibits\X142-001-Exhibit3_ProposedConditionHydro.dwg Plotted At: September 12, 2022 1:22 PM Last Saved By: Kevin-Ting.Lim Last Saved At: September 12, 2022 1:22 PM

SHEET INDEX MAP



RICH-HAVEN SPECIFIC PLAN STUDY AREA

See Page 7, 8, 12, & 13 for markups

EXHIBIT 4
HAVEN SD
PG. 1 OF 13

NOTE:

THE NAMES OF THE STORM DRAIN SYSTEM SHOWN ON THESE PLANS ARE BASED ON THE CITY OF ONTARIO MASTER PLAN OF DRAINAGE (DATED 2010). THE CITY'S MASTER PLAN OF DRAINAGE (MPD) FOR NEW MODEL COLONY (DATED MARCH, 2012) REVISED THE STORM DRAIN (SD) LINE NAMES.
THE TABLE BELOW SHOWS THE PREVIOUS NAME CONVENTION (SHOWN ON THESE PLANS), AND THE CORRESPONDING NAMES PER THE 2012 MPD.

NOT A PART

STORM DRAIN LINE NAME TABLE:

LINE NAME	2010 MPD	2012 MPD
HAVEN AVENUE MAIN LINE	HAVEN-A1	HAVN-X-1
LATERAL AT EDISON AVE.	LAT HAVEN-A2	HAVN-X-2
LATERAL A1 S.D. STA. 97+/9	LAT HAVEN-A3	HAVN-X-3
LATERAL AT CHINO AVE.	LAT HAVEN-A4	HAVN-X-4

GRAPHIC SCALE
0 100 200 400 800
(IN FEET)
1 inch = 200 ft

DIG ALERT
DIAL 811 BEFORE YOU DIG
WE'RE WORKING DAYS, DELIGHT YOU DO
811 IT'S FREE AND IT'S THE LAW
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

REGISTERED PROFESSIONAL ENGINEER JEFFREY T OKAMOTO No. 46049 Expiration 12-31-20 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER CHARLES R. HOFFMAN No. 42465 Exp. 03/31/21 CIVIL STATE OF CALIFORNIA

RECORD DRAWINGS

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SHEETS: 3-8, 10, 11, 18-20, & 22

REVISIONS			
MARK	DATE	BY	APPROVED
A	11/4/19	HZ	RCE CA 46049

DESIGNED BY ... DATE ...
DRAWN BY ... DATE ...
CHECKED BY ... DATE 7/30/19

CITY OF ONTARIO

RECOMMENDED BY: ... DATE
BRYAN LIRLEY, P.E./ PRINCIPAL ENGINEER
ACCEPTED BY: ... DATE
KHOI DO, P.E./ CITY ENGINEER

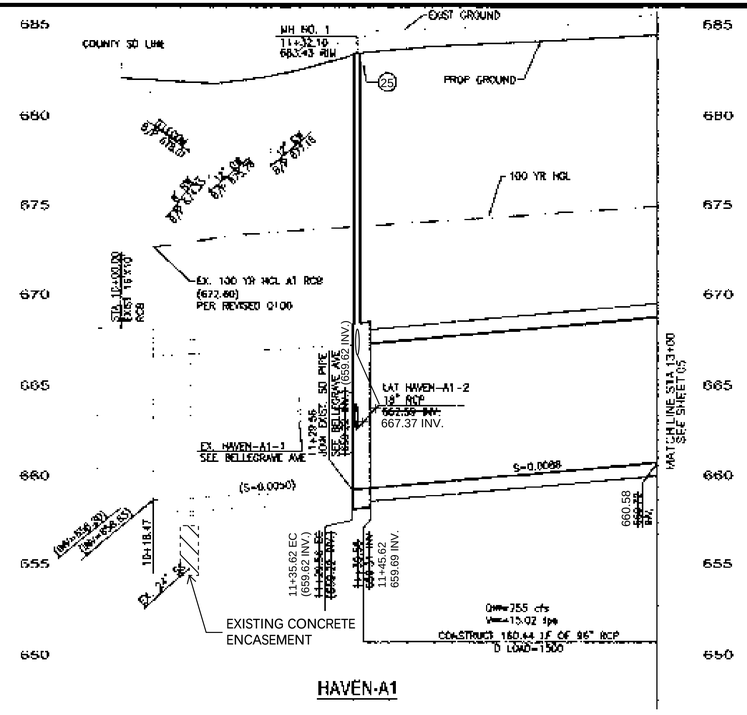
BENCH MARK No. 5 PVC 00283 ELEVATION 789.622
AN BRASS/CI ROUND BENCHMARK LOCATED AT THE INTERSECTION OF TURNER & RIVERSIDE AVENUES, 1/4 COR SEC 27/34, R2E, R3W, 2" BRASS DISK STAMPED "PCS, R3W, 1/4, S27, T2S, R3W" SET FLUSH IN C.L.
NAD1983 / 1990 ADJ

TTG Engineering Solutions
931 Via Piemonte, Suite 400
Ontario, California 91764
Phone 909.477.6915 Fax 909.477.6916
www.ttgengr.com
CHARLES R. HOFFMAN 12465 RCE No. 03/31/2021 DATE

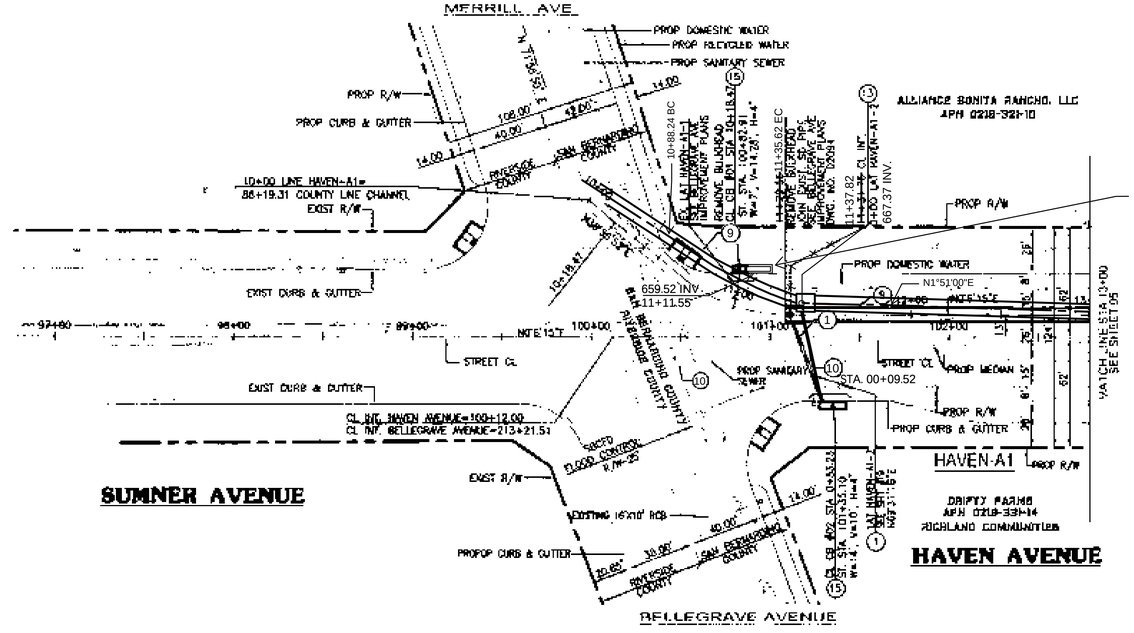
STORM DRAIN IMPROVEMENT PLAN AND PROFILE
HAVEN AVENUE
SHEET INDEX MAP

M-442

SHEET 3 OF 22
CONTRACT
ACCOUNT
DWG NO D13603



PROFILE SCALE
HORIZ: 1"=40'
VERT: 1"=4'



STORM DRAIN CONSTRUCTION NOTES

1. CONSTRUCT 18" RCP (S=1.00% PER PROFILE)
9. CONSTRUCT 96" RCP (S=1.00% PER PROFILE)
12. CONSTRUCT MANHOLE NO. 2 PER CITY OF ONTARIO STD. DWG. 3008
15. CATCH BASIN NO. 2 PER CITY OF ONTARIO STD. DWG. 3002 (W/ RIM PLATE)
17. CONSTRUCT BACK & WING WALL PER DETAIL ON SHEET 11
25. CONSTRUCT MANHOLE CONE TO PROPOSED GRADE AND EXTEND MANHOLE BY RINGS TO THE EXISTING GROUND.

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THESE DOCUMENTS AS A RESULT THEREOF.

REGISTERED PROFESSIONAL ENGINEER
JEFFREY T OKAMOTO
No. 46049
Expiration 12-31-20
CIVIL
STATE OF CALIFORNIA

EXHIBIT 4
HAVEN SD
PG. 2 OF 13

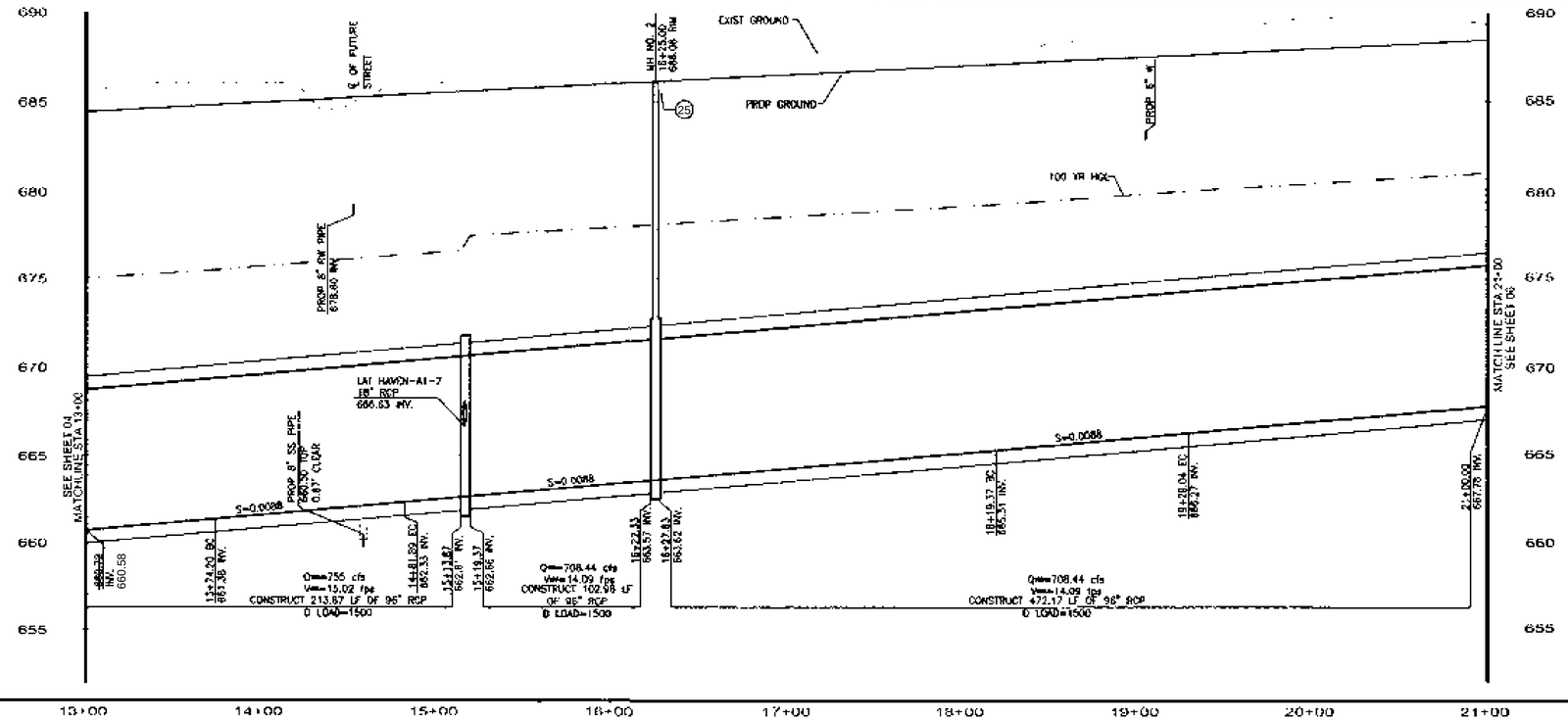
GRAPHIC SCALE
40 0 40 80 120
1" = 40'

DIG ALERT
TWO WORKING DAYS, NOT ONE YOU'RE
BEFORE
PROTECTED BY DIGALERT SERVICE
FREE SERVICE BY DIGALERT SERVICE ALERT

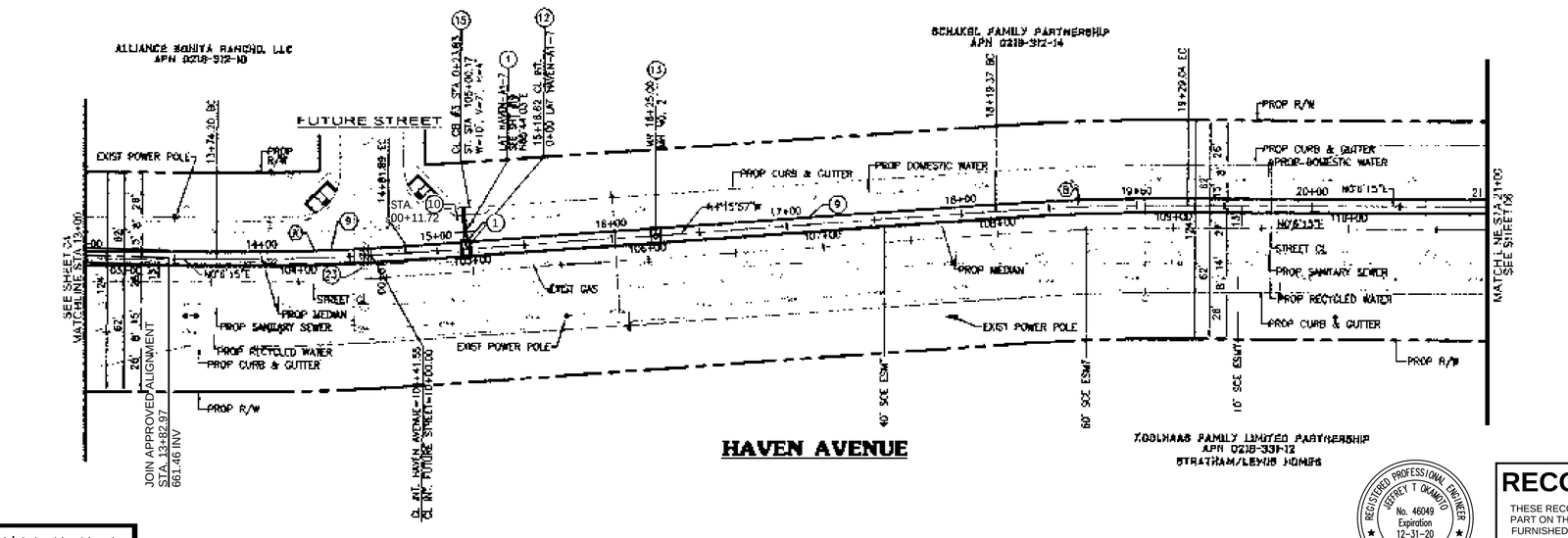
REGISTERED PROFESSIONAL ENGINEER
No. 42485
Exp. 03/31/18
STATE OF CALIFORNIA

REVISIONS				DESIGNED BY	CITY OF ONTARIO	BENCH MARK No.	ELEVATION		STORM DRAIN IMPROVEMENT PLAN & PROFILE		
MARK	DATE	BY	APPROVED (CITY ENGR)	DATE	RECOMMENDED BY:	SEE REMARKS BELOW. BENCH MARK LOCATED AT THE INTERSECTION OF LIRIOPE & EVERGLADE AVENUES, 1/4 COR. S10, T1S, R7W, 2" BRASS DISK STAMPED "1S, R7W, 1/4, S2, 2007 LS 5068" SET FLUSH IN A C	T I G	901 W. Foothill Blvd., Suite 400 Ontario, California 91762 Phone 909.477.6916 Fax 909.477.6916 www.tigengr.com	HAVEN AVENUE (LINE A-1)	M-442	SHEET 4 OF 22
1	11/4/19	HZ	RCE CA 46049		BRYAN LIRLEY, P.E./ PRINCIPAL ENGINEER DATE				FROM BELLEGRAVE AVE TO 270' ± N/O BELLEGRAVE AVE		CONTRACT
				DRAWN BY	ACCEPTED BY:						ACCOUNT
				DATE	KHOI DO, P.E./ CITY ENGINEER DATE						JOB NO. D13604
				CHECKED BY HZ							
				DATE 7/30/19							

6105



PROFILE SCALE
HORIZ: 1"=40'
VERT: 1"=4'



HAVEN AVENUE

STORM DRAIN CONSTRUCTION NOTES

1. CONSTRUCT 18" RCP (D-LOAD PER PLAN)
2. CONSTRUCT 96" RCP (D-LOAD PER PLAN)
3. CONSTRUCT BRICK & MORTAR RUBBING PER SHEET 17
4. CONSTRUCT TRANSITION STRUCTURE PER (D-LOAD PER SPPWC STD. PLAN 340-2)
5. CONSTRUCT MANHOLE NO. 2 PER CITY OF ONTARIO STD. DWG. D-09
6. CATCH BASIN NO. 2 PER CITY OF ONTARIO STD. DWG. D-07 (w PER PLANS)
7. CONSTRUCT CONCRETE ENCASEMENT PER CITY OF ONTARIO STD. DWG. D-08
25. CONSTRUCT MANHOLE CONE TO PROPOSED GRADE AND EXTEND MANHOLE BY RINGS TO THE EXISTING GROUND.

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT
(A)	4°22'12"	1412.00'	107.88'	53.97'
(B)	4°22'12"	1438.00'	109.88'	54.97'

EXHIBIT 4
HAVEN SD
PG. 3 OF 13

RECORD DRAWINGS

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REGISTERED PROFESSIONAL ENGINEER
JEFFREY T OKAMOTO
No. 46049
Expiration
12-31-20
CIVIL
STATE OF CALIFORNIA

GRAPHIC SCALE
40 0 20 40 80 120
(IN FEET)
1 inch = 40 ft.

REGISTERED PROFESSIONAL ENGINEER
No. 42485
Ex 06/30/19
CIVIL
STATE OF CALIFORNIA

REVISIONS			
MARK	DATE	BY	APPROVED / RCE No
⚠	11/4/19	HZ	RCE CA 46049

DESIGNED BY
DATE
DRAWN BY —
DATE
CHECKED BY HZ
DATE 7/30/19

CITY OF ONTARIO

RECOMMENDED BY:
BRYAN LIRLEY, P.E./ PRINCIPAL ENGINEER DATE
ACCEPTED BY:
KHOI DO, P.E./ CITY ENGINEER DATE

BENCH MARK No. 5-2-1436 ELEVATION 784.532
(AS) STAINLESS STEEL BENCHMARK LOCATED AT THE INTERSECTION OF TURNER & RYERSON AVENUES 12A CCP DRG. 5/11, 10FT NORTH OF MONUMENT LINE, 8FT W/O, 12A, 5/2, 0.7FT S/O CONC. TOP ELEV. N.A.D.
NGVD29 / 1990 Adj.

NTG
T
G
901 Via Piemonte, Suite 404
Ontario, California 91764
Phone 909.477.8515 Fax 909.477.8516
www.ngcorp.com

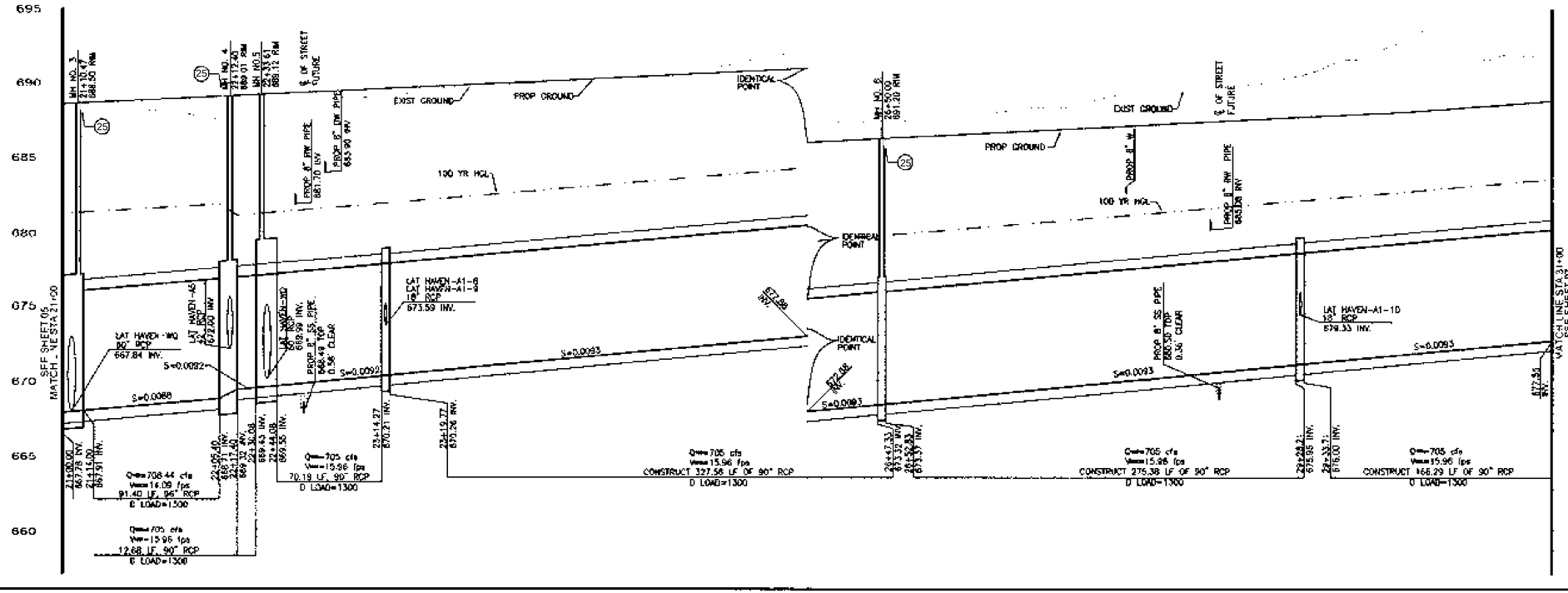
CHARLES W. EDWARDS — 42485 RCE No. — 07/30/2019 DATE

STORM DRAIN IMPROVEMENT PLAN & PROFILE
HAVEN AVENUE (HAVEN-A1)
FROM 270' ± N/O BELLEGRAVE AVE TO 1,070' ± N/O BELLEGRAVE AVE

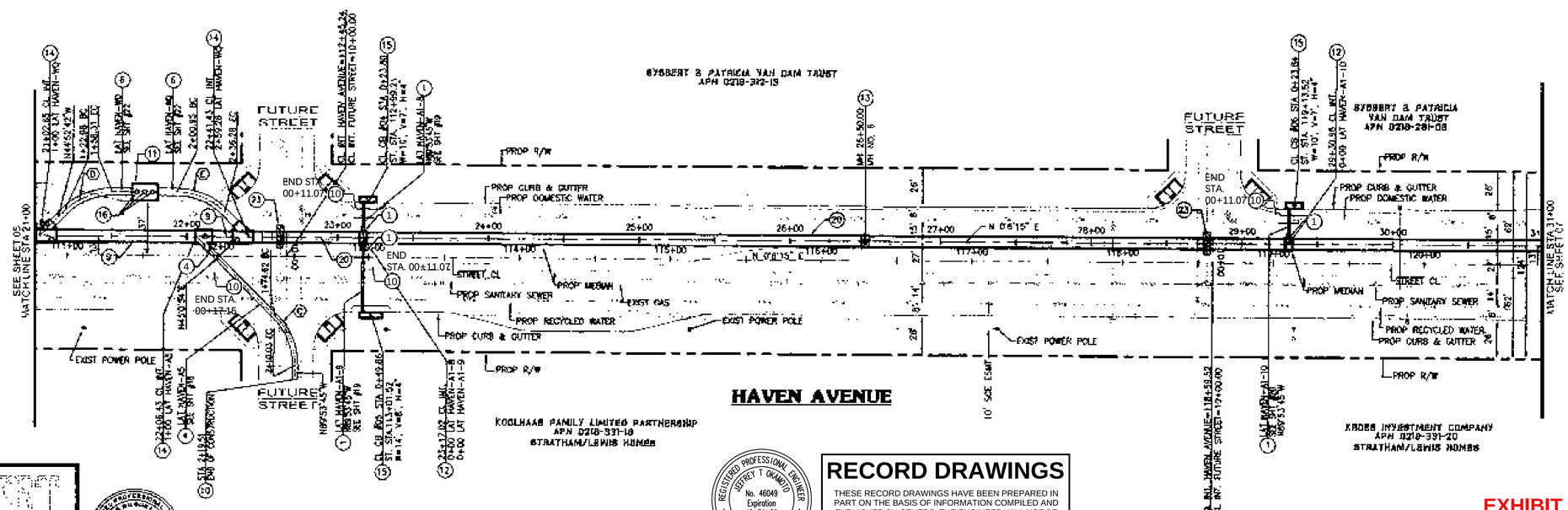
M-442

SHEET 5 OF 22
CONTRACT
ACCD. NO.
DWG. NO. D13605

K:\ONTARIO\Projects\13605\Civil\01-03\Improvement Plans\Haven\M13605-M442.dwg - LAST PLOTTED ON: Tue 07/30/19 - 10:58am By: ...



PROFILE SCALE
HORIZ. 1"=40'
VERT. 1"=4'



STORM DRAIN CONSTRUCTION NOTES

1. CONSTRUCT 18" RCP (D-LOAD PER PROFILE)
4. CONSTRUCT 42" RCP (D-LOAD PER PROFILE)
5. CONSTRUCT 60" RCP (D-LOAD PER PROFILE)
6. CONSTRUCT 96" RCP (D-LOAD PER PROFILE)
10. CONSTRUCT BRICK & MORTAR BULKHEAD SEE SHEET 10.
11. CONSTRUCT WATER QUALITY STRUCTURE UNDER D-LOAD PER STD. DWG. SD-114 WITH MINIMUM 30" MANHOLE ID.
12. CONSTRUCT TRANSITION STRUCTURE PER TO PLAT PER SPRING STD. PLAN 340.1
13. CONSTRUCT MANHOLE NO. 2 PER CITY OF ONTARIO STD. DWG. SD09
14. CONSTRUCT MANHOLE OVER 8" PVC (LAMOLE SOIL LINER) PER SPRING STD. PLAN 322.0
15. CATCH BASIN NO. 2 PER CITY OF ONTARIO STD. DWG. SD07 (W PER PLANS)
16. CONSTRUCT MANHOLE OVER 8" PVC STORM DRAIN PER SPRING STD. PLAN 322.0
20. CONSTRUCT 90" RCP (D-LOAD PER PROFILE)
23. CONSTRUCT CONCRETE ENCASEMENT PER CITY OF ONTARIO STD. DWG CASE 3
25. CONSTRUCT MANHOLE CONE TO PROPOSED GRADE AND EXTEND MANHOLE BY RINGS TO THE EXISTING GROUND.

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT
C	44°05'21"	45.00'	35.41'	18.68'
D	44°58'57"	45.00'	35.33'	18.63'
	44°58'57"	45.00'	35.33'	18.63'

GRAPHIC SCALE
0 20 40 80 120
(IN FEET)
1 inch = 40 ft.

EXHIBIT 4
HAVEN SD
PG. 4 OF 13

REGISTERED PROFESSIONAL ENGINEER
JEFFREY T OKAMOTO
No. 46049
Expiration
12-31-20
CIVIL
STATE OF CALIFORNIA

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THESE DOCUMENTS AS A RESULT THEREOF.

REGISTERED PROFESSIONAL ENGINEER
No. 42405
Exp. 03/31/16
CIVIL
STATE OF CALIFORNIA

REVISIONS			
MARK	DATE	APPROVED	DESCRIPTION
1	11/4/19	HZ	RCE CA 46049

DESIGNED BY
DRAWN BY
DATE
CHECKED BY HZ KW
DATE 7/30/14

CITY OF ONTARIO

RECOMMENDED BY:
BRYAN LIRLEY, P.E./ PRINCIPAL ENGINEER DATE
ACCEPTED BY:
KHOI DO, P.E./ CITY ENGINEER DATE

BENCH MARK No. SPAN 00362 ELEVATION 685.612
SAN BERNARDINO COUNTY BENCHMARK LOCATED AT THE INTERSECTION OF HAVEN AVENUE AND FOR [illegible] 1.2 MILES ± NORTH OF THE 2" BRASS DISK STAMPED T.S., RTN, 1.4 MI. E/I, 0.1 MI. S/I, 3.3±0' SET IN CURB AT AZ

NGVD29 / 1992 ADJ.

T 1 G
501 Via Piemonte Suite 435
Ontario California 91764
Phone 909 477 6915 Fax 909 477 6916
www.tkcorp.com

CHARLES W. LOCKMAN RCE No. 42405 03/31/16

STORM DRAIN IMPROVEMENT PLAN & PROFILE

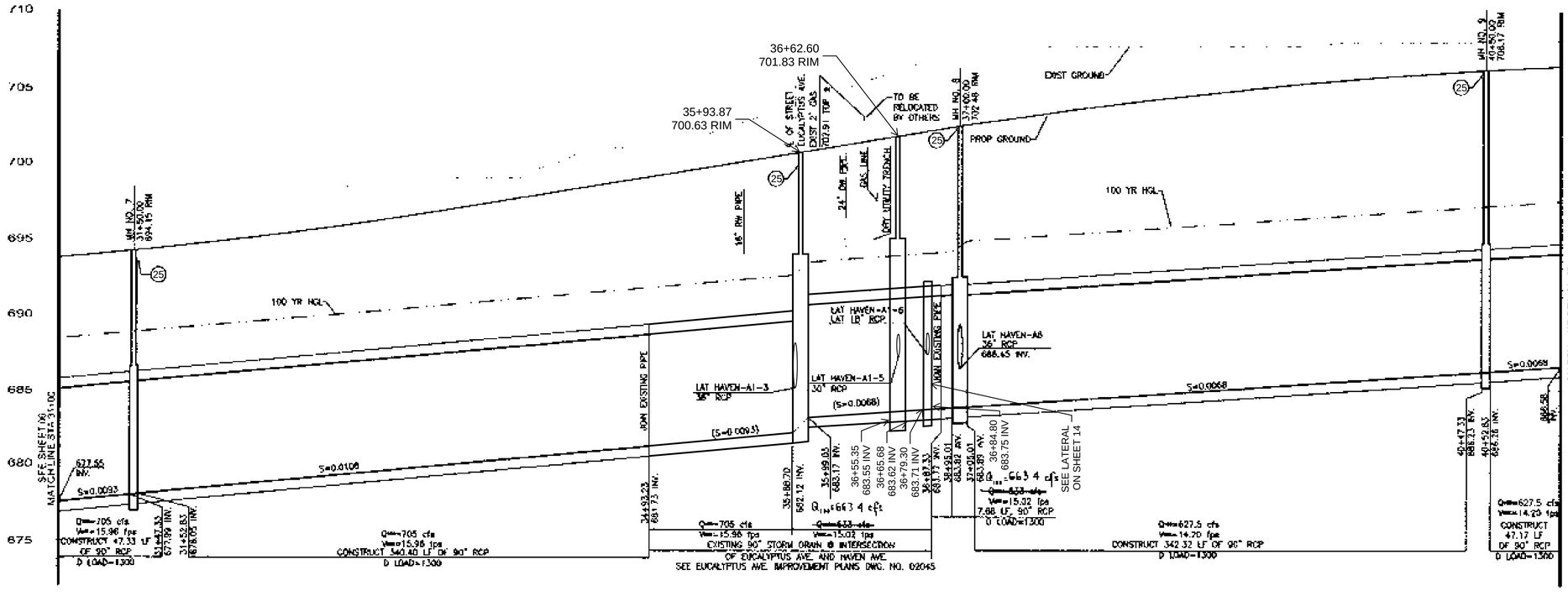
HAVEN AVENUE (HAVEN-A1)

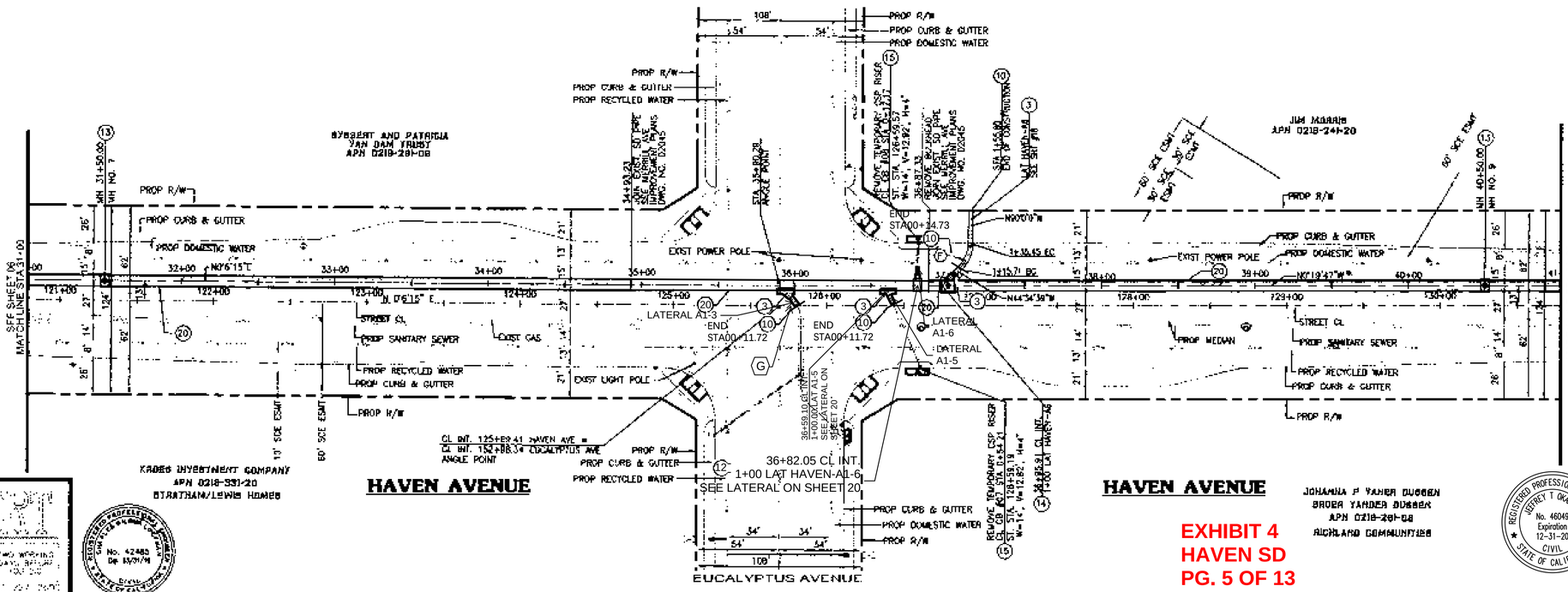
FROM 1,070' ± N/O BELLEGRAVE AVE TO 2,070' ± N/O BELLEGRAVE AVE

M-442

SHEET 6 OF 22
CONTRACT ACCOUNT
DWG. NO. DI 3606

6107





STORM DRAIN CONSTRUCTION NOTES

(1) CONSTRUCT 36" RCP D-LOAD PER PROFILES
(2) CONSTRUCT INLET & MONITOR PER CITY OF ONTARIO STD. DWG. M08
(3) CONSTRUCT MANHOLE NO. 2 PER CITY OF ONTARIO STD. DWG. M04
(4) CONSTRUCT MANHOLE PIPE TO FIT (CLASS SIDE NOTED) PER SPPWC STD PLAN 321 2
(5) CATCH BASIN NO. 2 PER CITY OF ONTARIO STD. DWG. M01 (W PER T 48")
(10) CONSTRUCT 90" RCP D-LOAD PER PROFILES
(25) CONSTRUCT MANHOLE CONE TO PROPOSED GRADE AND EXTEND MANHOLE BY RINGS TO THE EXISTING GROUND.

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT
F	45°13'24"	25.00'	19.73'	10.41'
G	18°59'43"	22.61'	7.49'	3.78'

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THESE DOCUMENTS AS A RESULT THEREOF.

EXHIBIT 4
HAVEN SD
PG. 5 OF 13

GRAPHIC SCALE

REVISIONS			
MARK	DATE	APPROVED	NO.
1	11/4/19	HZ	RCE CA 46049

DESIGNED BY
DRAWN BY
CHECKED BY HZ
DATE 2/20/19

CITY OF ONTARIO

RECOMMENDED BY:
BRYAN LIRLEY, P.E./ PRINCIPAL ENGINEER DATE
ACCEPTED BY:
KHOI DO, P.E./ CITY ENGINEER DATE

BENCH MARK No. 5PSN 00161 ELEVATION 726.53
SAN BERNARDINO COUNTY BENCHMARK LOCATED AT THE INTERSECTION OF "HAVEN" & "EUCALYPTUS" AVENUES 1.21 EAST OF THE CENTERLINE OF "HAVEN" AVENUE AND STAMPED 72S R/W

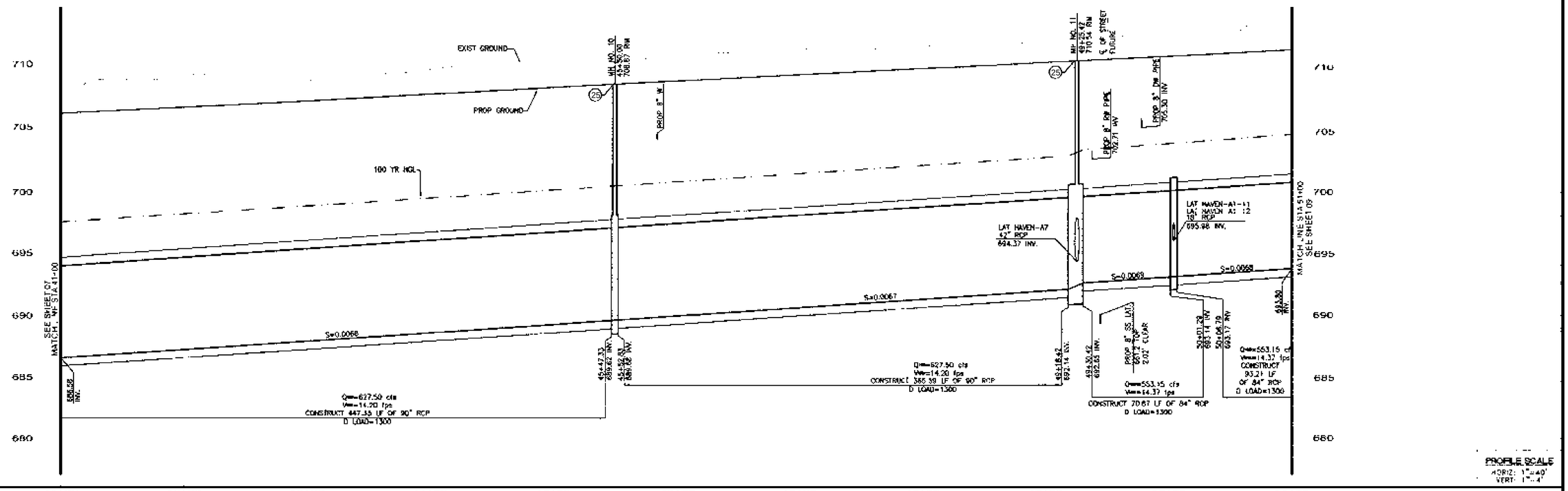
T&T G
901 Via Piemonte Suite 100
Ontario, California 91764
Phone 909.477.8915 Fax 909.477.8916
www.tkpinc.com

STORM DRAIN IMPROVEMENT PLAN & PROFILE
HAVEN AVENUE (HAVEN-A1)
FROM 490' ± S/O EUCALYPTUS AVE TO 510' ± N/O EUCALYPTUS AVE

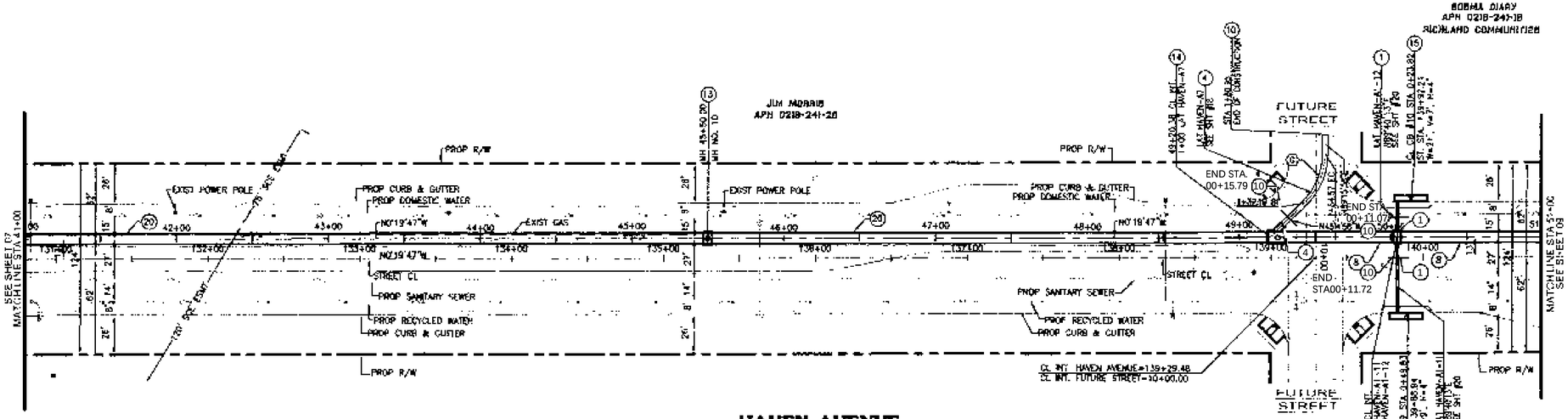
M-442

SHEET 7 OF 22
CONTRACT
ACCEPTED
DWG. NO. D15607

6108



PROFILE SCALE
HORIZ: 1"=40'
VERT: 1"=4'



HAVEN AVENUE

STORM DRAIN CONSTRUCTION NOTES

(1) CONSTRUCT 15" RCP PD-108S PER PROFILE
(2) CONSTRUCT 42" RCP (V-LOAD) PER PROFILE
(3) CONSTRUCT 84" RCP PD-108S PER PROFILE
(4) CONSTRUCT 8' BRICK & MORTAR BULKHEAD STD SHEET 17
(5) CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER STORM STD DWG STD 305
(6) CONSTRUCT MANHOLE NO. 2 PER CITY OF ONTARIO STD DWG MH-1
(10) CONSTRUCT MANHOLE PER CITY OF ONTARIO STD DWG MH-1 (SPECIAL SIZE PER PROFILE PER RCFWCD STD PLAN 3016-2
(12) CATCH BASIN NO. 2 PER CITY OF ONTARIO STD DWG MH-1 (SEE PLANS)
(15) CONSTRUCT 96" RCP (D LOAD) PER PROFILE
(25) CONSTRUCT MANHOLE CONE TO PROPOSED GRADE AND EXTEND MANHOLE BY RINGS TO THE EXISTING GROUND.

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT
(C)	45°03'04"	45.00'	35.38'	18.66'

EXHIBIT 4
HAVEN SD
PG. 6 OF 13

GRAPHIC SCALE
40 0 20 40 80 120
1 INCH = 40 FEET

DRAWN BY: HN
DATE: 7/30/14

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THESE DOCUMENTS AS A RESULT THEREOF.

REGISTERED PROFESSIONAL ENGINEER — JEFFREY T OKAMOTO — No. 46049 — Expiration 12-31-20 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — No. 42485 — Exp. 06/30/16 — CIVIL — STATE OF CALIFORNIA

REVISIONS			
MARK	DATE	BY	APPROVED
1	11/4/19	HZ	RCE CA 46049

DESIGNED BY
DATE
DRAWN BY
DATE
CHECKED BY HN
DATE 7/30/14

CITY OF ONTARIO

RECOMMENDED BY:
BRYAN LIRLEY, P.E./ PRINCIPAL ENGINEER — DATE
ACCEPTED BY:
KHOI DO, P.E./ CITY ENGINEER — DATE

BENCH MARK No. 3 PSN 33795 ELEVATION 725.575
SAN BERNARDINO COUNTY BENCHMARK STAMPED AT THE INTERSECTION OF TURNER & FRANCIS AVENUES, 125 FEET NORTH, 5 FEET EAST OF BRASS CAP MARKED PSN 33795, 0.2 FEET SOUTH AND 0.1 FEET EAST OF THE CENTERLINE OF TURNER AVENUE.
NAD83 (1992.45)

T T G
301 Via Piemonte, Suite 400
Ontario, California 91764
Phone 909.477.5613 Fax 909.477.5618
www.ttgcorp.com

STORM DRAIN IMPROVEMENT PLAN & PROFILE

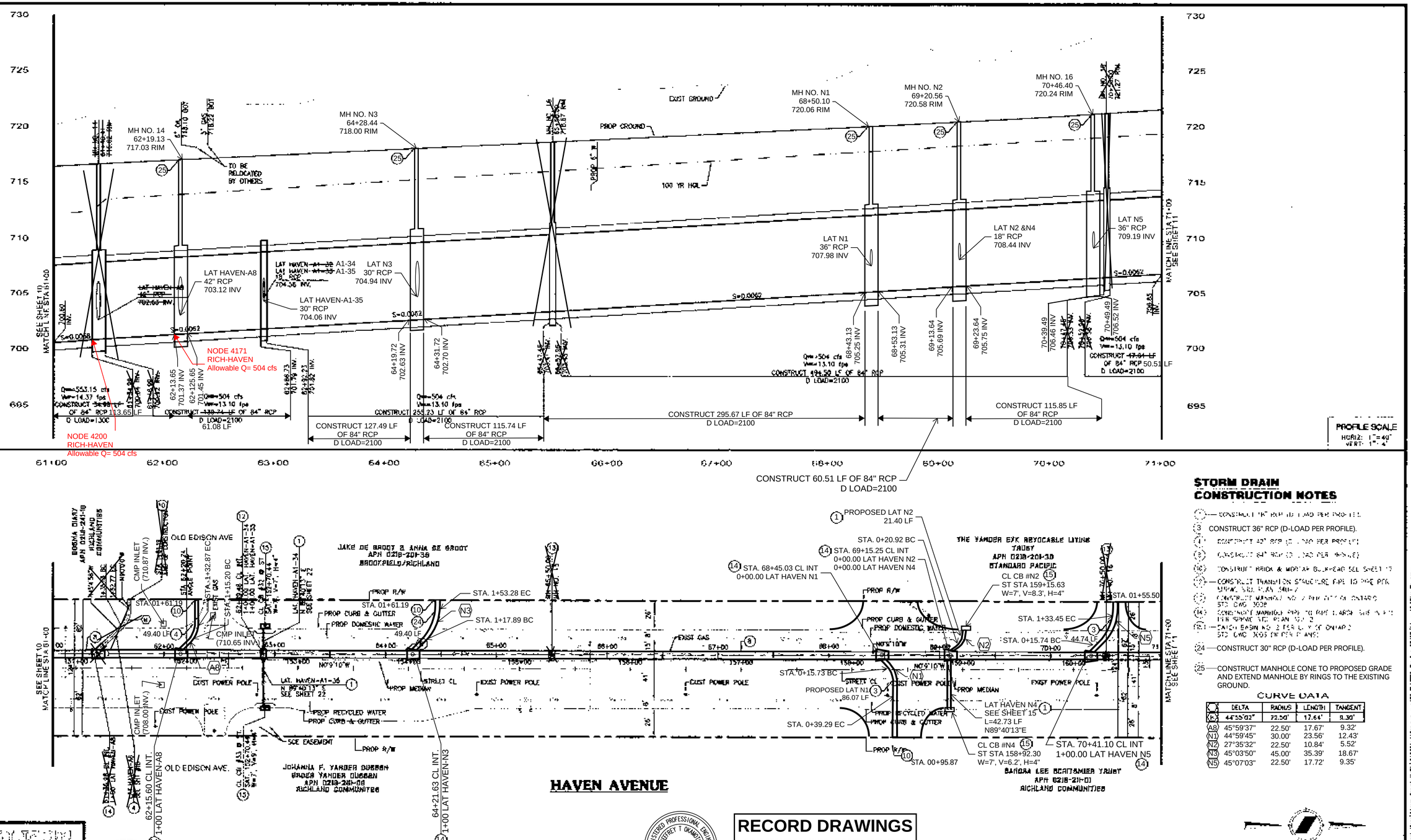
HAVEN AVENUE (HAVEN-A1)

FROM 510' ± N/O EUCALYPTUS AVE TO 1,510' ± N/O EUCALYPTUS AVE

M-442

SHEET 8 OF 22
CONTRACT
ACCEPT
DAL No. D13608

6109



HAVEN AVENUE

STORM DRAIN CONSTRUCTION NOTES

1. CONSTRUCT "M" BOX (D-LOAD PER PROFILE).
3. CONSTRUCT 36" RCP (D-LOAD PER PROFILE).
4. CONSTRUCT 42" RCP (D-LOAD PER PROFILE).
8. CONSTRUCT 84" RCP (D-LOAD PER PROFILE).
10. CONSTRUCT BRICK & MORTAR BULKHEAD SEE SHEET 12.
12. CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER STD. DWG. M-204.
13. CONSTRUCT MANHOLE NO. 2 PER CITY OF ONTARIO STD. DWG. M-208.
14. CONSTRUCT MANHOLE PER TO PIPE LARGER SIZE AS PER STORM SYS. PLAN SHT. 2.
15. CONSTRUCT CATCH BASIN NO. 3 PER CITY OF ONTARIO STD. DWG. M-205 (W PER PLANS).
24. CONSTRUCT 30" RCP (D-LOAD PER PROFILE).
25. CONSTRUCT MANHOLE CONE TO PROPOSED GRADE AND EXTEND MANHOLE BY RINGS TO THE EXISTING GROUND.

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT
	44°55'02"	22.50'	17.64'	9.30'
A8	45°59'37"	22.50'	17.67'	9.32'
N1	44°59'45"	30.00'	23.56'	12.43'
N2	27°35'32"	22.50'	10.84'	5.52'
N3	45°03'50"	45.00'	35.39'	18.67'
N5	45°07'03"	22.50'	17.72'	9.35'

DIG ALERT

REGISTERED PROFESSIONAL ENGINEER JEFFREY T OKAMOTO No. 46049 Expiration 12-31-20 CIVIL STATE OF CALIFORNIA

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THESE DOCUMENTS AS A RESULT THEREOF.

EXHIBIT 4
HAVEN SD
PG. 7 OF 13

GRAPHIC SCALE

REVISIONS			
MARK	DATE	BY	APPROVED/RCE #
1	11/4/19	HZ	RCE CA 46049

DESIGNED BY
DATE
DRAWN BY
DATE
CHECKED BY
DATE 7/30/19

CITY OF ONTARIO

RECOMMENDED BY: _____
BRYAN LIRLEY, P.E./ PRINCIPAL ENGINEER DATE
ACCEPTED BY: _____
KHOI DO, P.E./ CITY ENGINEER DATE

BENCH MARK No. [illegible] ELEVATION [illegible]

TKG
901 Via Piemonte, Suite 400
Ontario, California 91764
Phone 909 477 7615 Fax 909 477 7618
www.tkgeng.com
42435 07/07/2019
LANCE B. TOSSMAN REG. NO. DATE

STORM DRAIN IMPROVEMENT PLAN & PROFILE

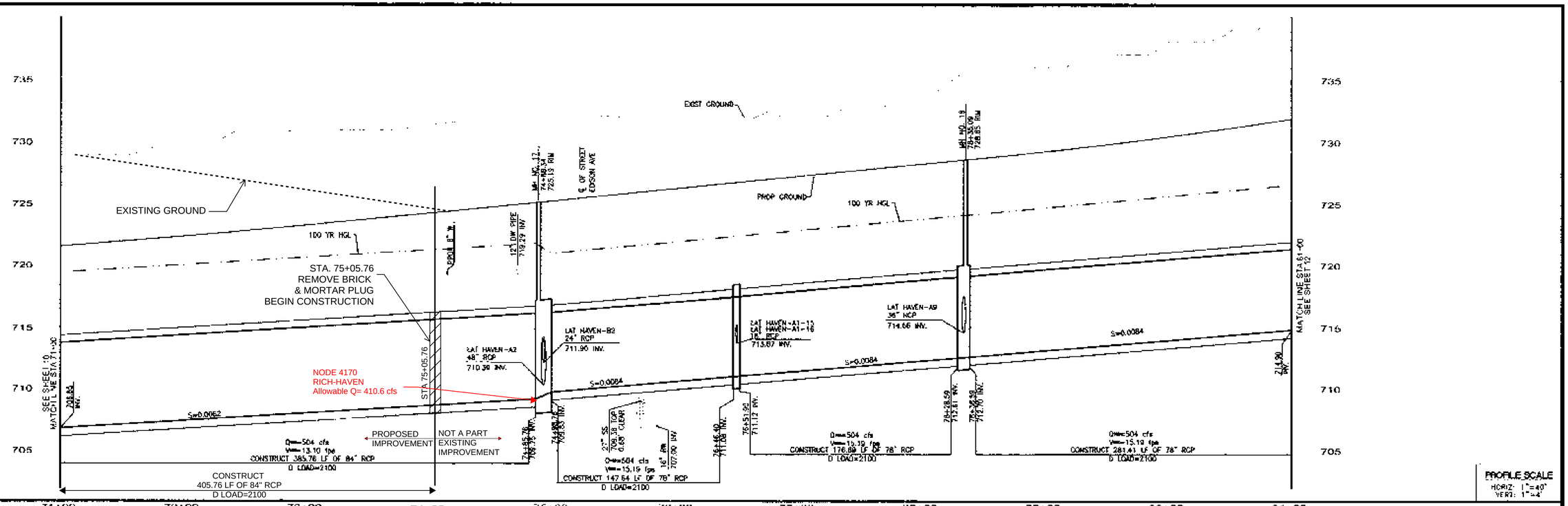
HAVEN AVENUE (HAVEN-A1)

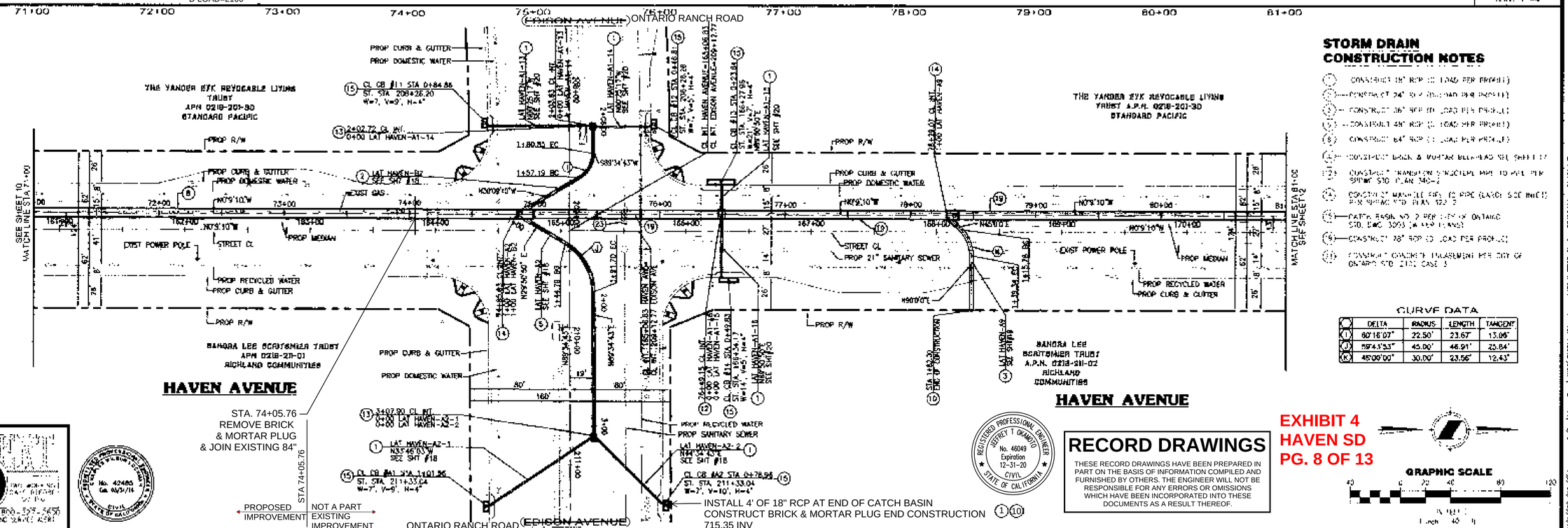
FROM 2,510' ± N/O EUCALYPTUS AVE TO 430' ± S/O ~~EDISON AVE~~ ONTARIO RANCH ROAD

M-442

SHEET 10 OF 22
CONTRACT
ACCOUNT
DWG NO. D13710

6110





STORM DRAIN CONSTRUCTION NOTES

1. CONSTRUCT 78" RCP (D LOAD PER PROFILE)
2. CONSTRUCT 24" RCP (D LOAD PER PROFILE)
3. CONSTRUCT 36" RCP (D LOAD PER PROFILE)
4. CONSTRUCT 48" RCP (D LOAD PER PROFILE)
5. CONSTRUCT 84" RCP (D LOAD PER PROFILE)
6. CONSTRUCT BRICK & MORTAR BULKHEAD PER SHEET 17
7. CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER SPPWC STD. PLAN 340-2
8. CONSTRUCT MANHOLE PER CITY OF ONTARIO STD. DWG. D-13 (SEE NOTE 1)
9. CONSTRUCT 78" RCP (D LOAD PER PROFILE)
10. CONSTRUCT CONCRETE ENCASEMENT PER CITY OF ONTARIO STD. DWG. CASE 3

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT
(I)	90°16'07"	22.50'	23.67'	15.06'
(J)	59°43'53"	45.00'	46.91'	25.84'
(K)	45°00'00"	30.00'	23.56'	12.43'

GRAPHIC SCALE
40 0 20 40 80 120
1 INCH = 40 FT

EXHIBIT 4
HAVEN SD
PG. 8 OF 13

RECORD DRAWINGS
THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THESE DOCUMENTS AS A RESULT THEREOF.

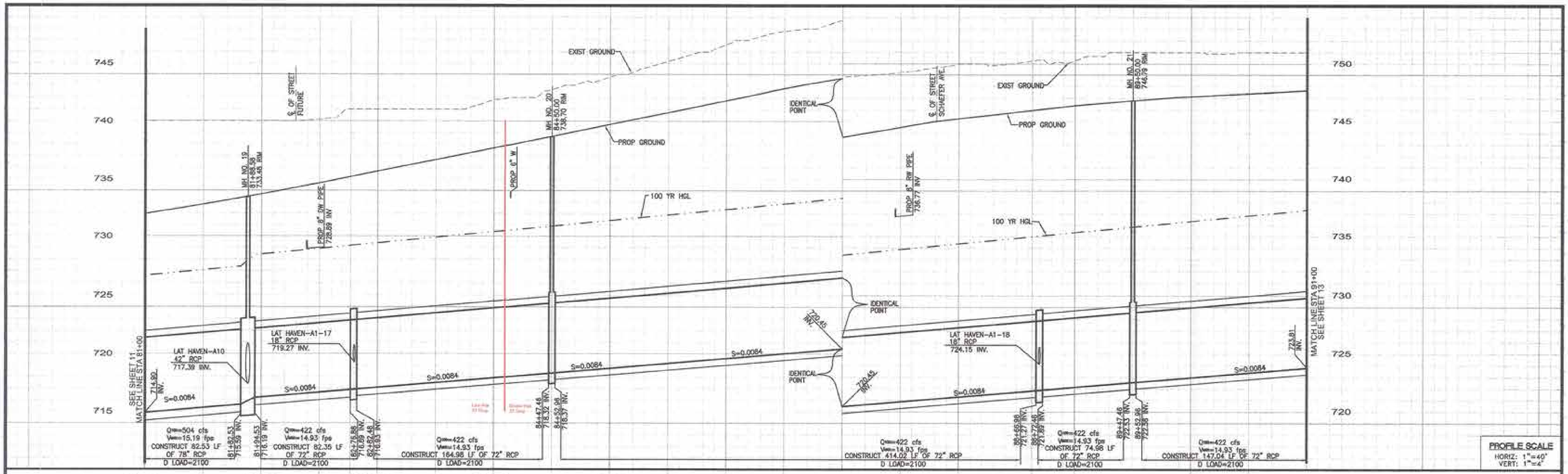
REGISTERED PROFESSIONAL ENGINEER JEFFREY T OKAMOTO No. 46049 Expiration 12-31-20 CIVIL STATE OF CALIFORNIA

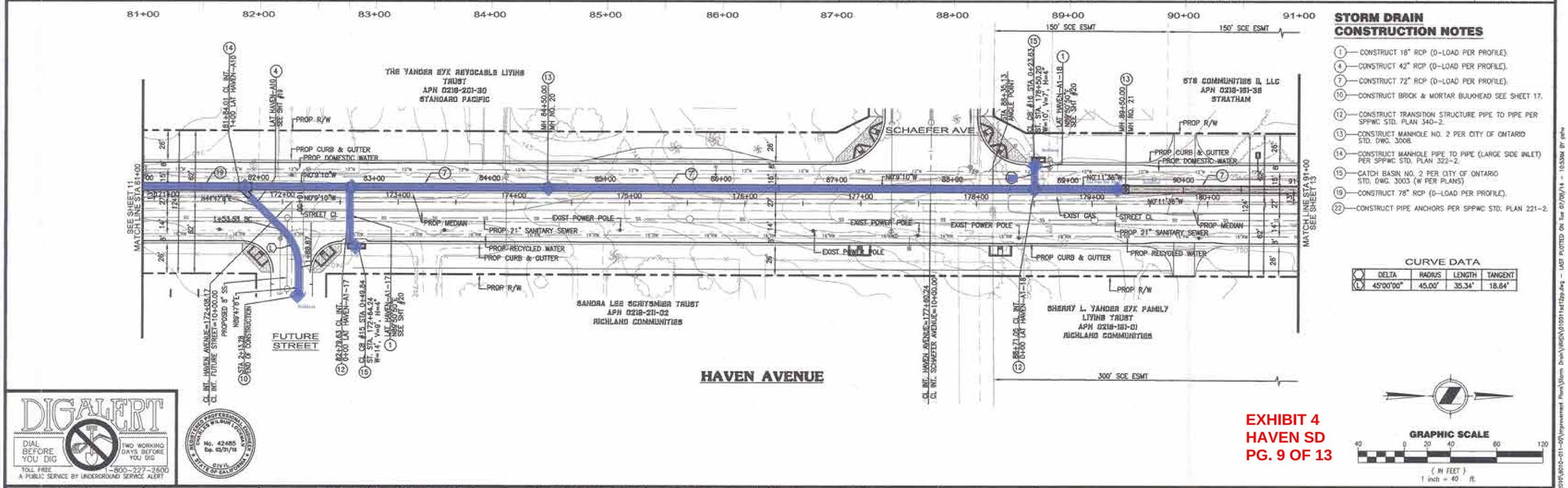
DESIGNED BY: MARK TAIT
DRAWN BY: HZ
CHECKED BY: RCE CA 46049
DATE: 7/30/14

REVISIONS
1 11/4/19 HZ

CITY OF ONTARIO
RECOMMENDED BY:
BRYAN LIRLEY, P.E./ PRINCIPAL ENGINEER DATE
ACCEPTED BY:
KHOI DO, P.E./ CITY ENGINEER DATE

BENCH MARK No. SPPWA 04-99 ELEVATION 735.522
SW: BRONZE DISC STAMPED "SPPWA 04-99" AT THE INTERSECTION OF EDISON AVENUE AND SAN ANTONIO AVENUE, 0.4' SOUTH OF THE SOUTH CURB OF EDISON AVENUE, 0.2' EAST OF THE EAST CURB OF SAN ANTONIO AVENUE, 0.4' WEST OF THE WEST CURB OF SAN ANTONIO AVENUE, 0.2' NORTH OF THE NORTH CURB OF EDISON AVENUE, 0.1' SOUTH OF A CATCH BASIN GRATE, 0.1' EAST OF A CATCH BASIN GRATE, 0.1' NORTH OF A CATCH BASIN GRATE, 0.1' WEST OF A CATCH BASIN GRAT





STORM DRAIN CONSTRUCTION NOTES

1. CONSTRUCT 18" RCP (D-LOAD PER PROFILE).
4. CONSTRUCT 42" RCP (D-LOAD PER PROFILE).
7. CONSTRUCT 72" RCP (D-LOAD PER PROFILE).
10. CONSTRUCT BRICK & MORTAR BULKHEAD SEE SHEET 17.
12. CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER SPPWC STD. PLAN 340-2.
13. CONSTRUCT MANHOLE NO. 2 PER CITY OF ONTARIO STD. DWG. 3008.
14. CONSTRUCT MANHOLE PIPE TO PIPE (LARGE SIDE INLET) PER SPPWC STD. PLAN 322-2.
15. CATCH BASIN NO. 2 PER CITY OF ONTARIO STD. DWG. 3003 (W PER PLANS)
19. CONSTRUCT 78" RCP (D-LOAD PER PROFILE).
22. CONSTRUCT PIPE ANCHORS PER SPPWC STD. PLAN 221-2.

CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT
(L)	45°00'00"	45.00'	35.34'	18.64'

GRAPHIC SCALE
40 0 20 40 60 120
(IN FEET)
1 inch = 40 ft.

EXHIBIT 4
HAVEN SD
PG. 9 OF 13

DIGALERT
DIAL BEFORE YOU DIG
TOLL FREE 800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT
TWO WORKING DAYS BEFORE YOU DIG

No. 42485 Exp. 03/31/16 CIVIL STATE OF CALIFORNIA

REVISIONS			
MARK	DATE	BY	APPROVED/RCE No.

DESIGNED BY:
DRAWN BY:
CHECKED BY: HW
DATE: 7/30/14

CITY OF ONTARIO
RECOMMENDED BY: Raymond Lee 8/7/14
RAYMOND LEE, P.E. / ASSISTANT CITY ENGINEER DATE
ACCEPTED BY: Louis Abi-Younes 8.12.14
LOUIS ABI-YOUNES, P.E. / CITY ENGINEER DATE

BENCH MARK No. S.P.S.N 00789 ELEVATION 785.572
SAN BERNARDINO COUNTY BENCHMARK LOCATED AT THE INTERSECTION OF TURNER & RIVERSIDE AVENUES, 1/4 COR. SEC. 2/11, T2S, R7W. 2" BRASS DISK STAMPED "T2S, R7W, 1/4, S2, S11" "LS 3258" SET FLUSH IN A.C.
NGVD29 / 1990 ADJ.

TMAD TAYLOR & GAINES
901 Via Piemonte, Suite 400
Ontario, California 91764
Phone: 909.477.6915 Fax: 909.477.6916
www.tmgcorp.com
CHARLES W. LOCKMAN 42485 RCE No. 07/07/2014 DATE

STORM DRAIN IMPROVEMENT PLAN & PROFILE

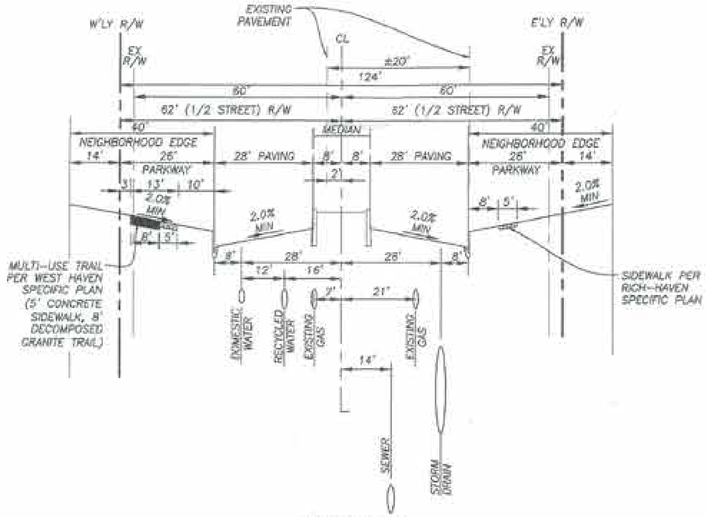
HAVEN AVENUE (HAVEN-A1)

FROM 570' ± N/O EDISON AVE TO 1,570' ± N/O EDISON AVE

M-442

SHEET 12 OF 22
CONTRACT
ACCOUNT
DWG. NO. 01361

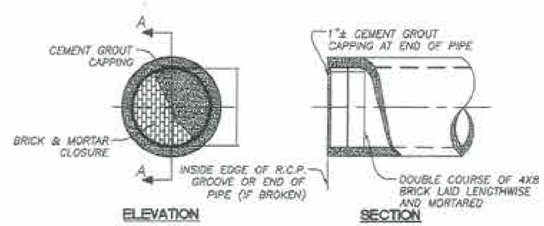
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HAVEN AVENUE
TYPICAL UTILITIES SECTION
SCALE: N.T.S.

CONSTRUCTION NOTES

		QUANTITY
①	INSTALL 72" RCP (D-LOAD PER PROFILE)	⚠ 907 ~~1001~~ LF **
②	INSTALL 60" RCP (D-LOAD PER PROFILE)	⚠ 352 ~~959~~ LF **
③	INSTALL 54" RCP (D-LOAD PER PROFILE)	641 LF *
④	INSTALL 48" RCP (D-LOAD PER PROFILE)	124 LF *
⑤	INSTALL 42" RCP (D-LOAD PER PROFILE)	⚠ 35 ~~89~~ LF **
⑥	INSTALL 36" RCP (D-LOAD PER PROFILE)	57 LF *
⑦	INSTALL 24" RCP (D-LOAD PER PROFILE)	⚠ 24 ~~112~~ LF **
⑧	INSTALL 18" RCP (D-LOAD PER PROFILE)	266 LF *
⑨	CONSTRUCT BRICK & MORTAR BULKHEAD PER SHEET 2	⚠ 4 2- EA **
⑩	CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER SPPWC STD. PLAN 340-2.	1 ~~5~~- EA **
⑪	CONSTRUCT MANHOLE NO. 1 PER CITY OF ONTARIO STD. DWG. 3008	4 ~~5~~- EA **
⑫	CONSTRUCT MANHOLE PIPE TO PIPE (LARGE SIDE INLET) PER SPPWC STD. PLAN 322-2.	2 3- EA **
⑬	CATCH BASIN NO. 2 PER CITY OF ONTARIO STD. DWG. 3003 (W PER PLANS)	1 ~~5~~- EA **

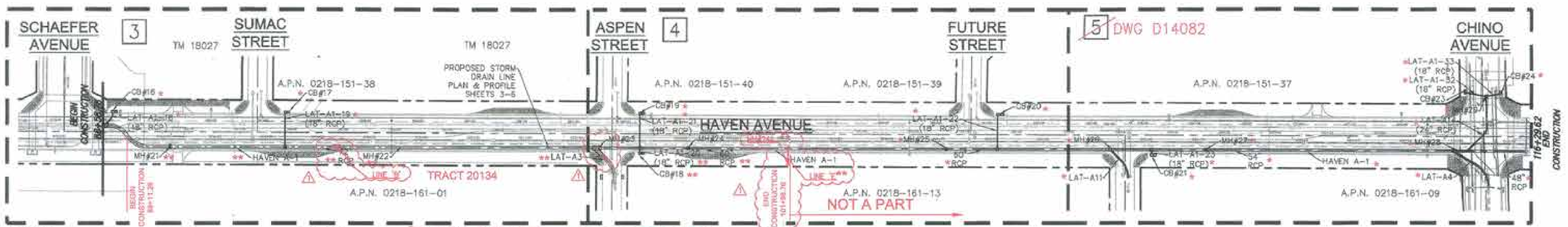


ELEVATION SECTION

⑨ BRICK AND MORTAR PLUG
NOT TO SCALE

REVISION DESCRIPTIONS

⚠ DEVELOPER REQUEST – REVISED QUANTITIES



INDEX MAP
SCALE: 1" = 100'

*NOT APPLICABLE TO THIS REVISION
**ADDED/REVISED DATA
THE REVISIONS MADE ON THIS PLAN WERE ADDED/REVISED UNDER MY DIRECTION

5/26/20
PUNEET COMAR, P.E. R.C.E. 73065 DATE

DIGALERT
CALL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG
TOLL FREE 1-800-422-4133
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

REGISTERED PROFESSIONAL ENGINEER JEFFREY T. SHIMOTO No. 46049 Expiration 12-31-18 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER PUNEET COMAR No. 73065 CIVIL STATE OF CALIFORNIA

REVISIONS			
MARK	DATE	BY	APPROVED/RCE NO.
⚠	5/26/20	PC	

DESIGNED BY HUITT-ZOLLARS DATE 08-24-2018
DRAWN BY HUITT-ZOLLARS DATE 08-24-2018
CHECKED BY MK, BC DATE

CITY OF ONTARIO

RECOMMENDED BY: Khoi Do, P.E./Assistant City Engineer — 10-15-18 Date
ACCEPTED BY: Louis Abi-Younes, P.E./City Engineer — 10.26.18 Date

BENCH MARK No. S.P.S.N. 00789 ELEVATION. 785.572
LOCATION: CITY OF ONTARIO
SAN BERNARDINO COUNTY BENCHMARK LOCATED AT THE INTERSECTION OF TURNER & RIVERSIDE AVENUES, 1/4 COR. SEC. 2/11, T2S, R7W. 2" BRASS DISK STAMPED "T2S, R7W, 1/4 S2, S11" "LS 3258" SET FLUSH IN A.C.
NGVD29 / 1990 ADJ.

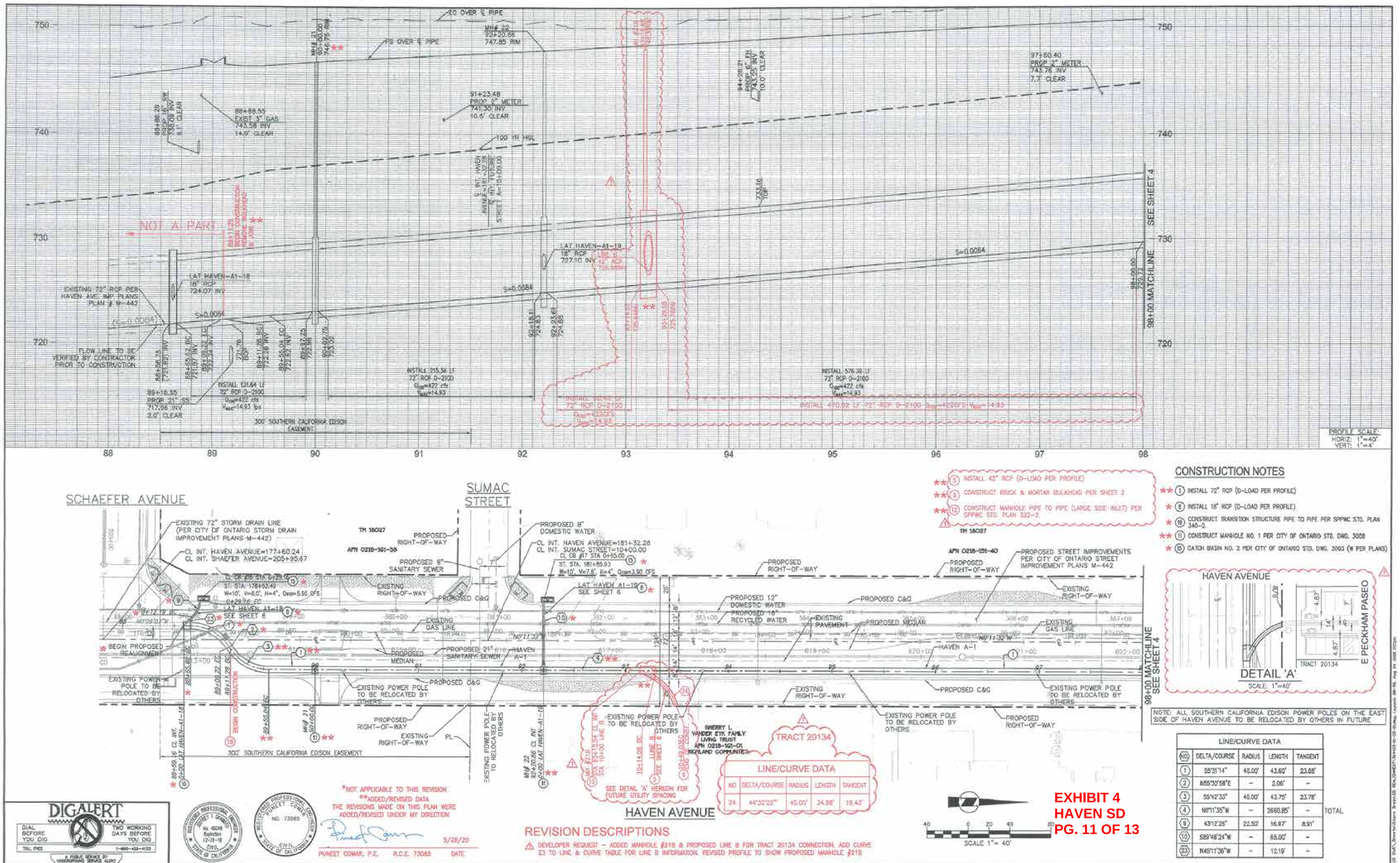
HUITT-ZOLLARS
Huitt-Zollars, Inc. Irvine
2603 Main Street, Suite 600 • Irvine, California 92614 • (949) 988-5815
APPROVED BY: Jeffrey T. Shimoto R.C.E. 46049 EXPIRES 12-31-18 DATE 5/26/20

STORM DRAIN IMPROVEMENT PLAN
HAVEN AVENUE
CONSTRUCTION NOTES AND INDEX MAP

** TR 20134
TM18922-4

SHEET 2 OF **65
CONTRACT
ACCOUNT
DWG. NO. D14079

EXHIBIT 4
HAVEN SD
PG. 10 OF 13



DIGALERT — DIAL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG — TOLL FREE 1-800-422-4133 — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

*NOT APPLICABLE TO THIS REVISION
**ADDED/REVISED DATA
THE REVISIONS MADE ON THIS PLAN WERE ADDED/REVISED UNDER MY DIRECTION

PUNEET GOMAR, P.E. R.C.E. 73065 DATE 5/28/20

REVISION DESCRIPTIONS

⚠ DEVELOPER REQUEST – ADDED MANHOLE #21B & PROPOSED LINE B FOR TRACT 20134 CONNECTION, ADD CURVE 23 TO LINE & CURVE TABLE FOR LINE B INFORMATION, REVISED PROFILE TO SHOW PROPOSED MANHOLE #21B

REVISIONS			
MARK	DATE	BY	APPROVED/RCE NO.
⚠	5/28/20	PC	

DESIGNED BY HUITT-ZOLLARS DATE 08-24-2018
DRAWN BY HUITT-ZOLLARS DATE 08-24-2018
CHECKED BY [illegible] DATE

CITY OF ONTARIO

RECOMMENDED BY: Khoi Do P.E./Assistant City Engineer — Date 10-19-18
ACCEPTED BY: Louis Abi-Younes, P.E./City Engineer — Date 10-26-18

BENCH MARK No. S.P.S.N. 00789 ELEVATION. 785.572
LOCATION: CITY OF ONTARIO
SAN BERNARDINO COUNTY BENCHMARK LOCATED AT THE INTERSECTION OF TURNER & RIVERSIDE AVENUES, 1/4 COR. SEC. 2/11, T2S, R7W. 2" BRASS DISK STAMPED "T2S, R7W, 1/4 S2, S11" "LS 3258" SET FLUSH IN A.C.
NGVD29 / 1990 ADJ.

HUITT-ZOLLARS — Huitt-Zollars, Inc. Irvine — 2603 Main Street, Suite 300 • Irvine, California 92614 • (949) 988-5815
APPROVED BY: JEFFREY T OKAMOTO R.C.E. 46049 EXPIRES 12-31-18 DATE 9/20/18

STORM DRAIN IMPROVEMENT PLAN

HAVEN AVENUE

PLAN & PROFILE FROM SCHAEFER AVENUE TO 1000' N OF SCHAEFER AVENUE

TR 20134
~~TM18922-4~~

SHEET 3 OF 65
CONTRACT
ACCOUNT
DWG. NO. D14080

NODE 4120
RICH-HAVEN
Allowable Q= 249.5 cfs

EG OVER ℄ PIPE
FS OVER ℄ PIPE
100 YR HGL

MH# 23
98+21.50
750.59 RIM

MH# 24
100+92.00
751.78 RIM

MH# 25
102+60.00
754.28 RIM

98+83.30
PROP. 8" DW
745.90 INV
9.0' CLEAR
98+39.53
PROP. 81 RW
743.45 INV
6.8' CLEAR

103+73.50
PROP. 24" WETER
747.79 INV
7.4' CLEAR

104+27.98
PROP. 8" FH
748.53 INV
10.0' CLEAR

6" INT. HAVEN AVENUE=195+12.51
6" INT. FUTURE STREET=10+00.00
STREET GRADE=1.60%

SEE SHEET 5

SEE SHEET 3

98+00 MATCHLINE
99+00.00 729.72 INV
98+15.73
729.88

98+22.74
731.07
727.75
730.63
730.88

INSTALL 71.24 LF
72" RCP D=2000
Q_{100}=189 cfs
V_{max}=9.63

INSTALL 15.73 LF
72" RCP D=2400
Q_{100}=422 cfs
V_{max}=14.93

LAT. HAVEN-A3
72" RCP
730.26 INV
S=0.0070

LAT. HAVEN-A1=20
LAT. HAVEN-A1=21
24" RCP
733.33 INV
S=0.0070

99+03.98
735.59
99+09.46
736.15

INSTALL 87.77 LF
60" RCP D=2000
Q_{100}=189 cfs
V_{max}=9.63

99+37.25
732.16

100+92.75
732.20

INSTALL 484.50 LF
60" RCP D=2000
Q_{100}=189 cfs
V_{max}=9.63

S=0.0070

MH# 26
750.49 RIM
101+94.31
730.55 INV
101+99.31
730.55 INV
102+00.00
730.60 INV

104+92.28
735.86
105+02.75
735.70

INSTALL 92.79 LF
60" RCP D=2000
Q_{100}=189 cfs
V_{max}=9.63

V=0.0071

LAT. HAVEN-A1-22
18" RCP
738.12 INV
S=0.0092

106+95.54
736.35
106+10.04
736.39

INSTALL 98.96 LF
60" RCP D=2000
Q_{100}=189 cfs
V_{max}=9.63

107+99.99
737.30

107+00 MATCHLINE
SEE SHEET 5

LINE E

INSTALL 23.35 LF
24" RCP D=2000
Q_{100}=11.28cfs; V_{max}=0.19fps

100-YEAR STORM HWL

PROFILE SCALE:
HORIZ: 1"=40'
VERT: 1"=4'

98 99 100 101 102 103 104 105 106 107 10 11

HAVEN AVE

ASPEN STREET

ASPEN ST

E. NELSON DR
TRACT 20134

DETAIL 'B'
SCALE: 1"=40'

PROPOSED 8" DOMESTIC WATER
CL INT. HAVEN AVENUE=188+18.23
CL INT. ASPEN STREET=10+00.00
PROPOSED RIGHT-OF-WAY
PROPOSED STREET IMPROVEMENTS PER CITY OF ONTARIO STREET IMPROVEMENT PLANS M-442
BRETA BOSCHMA APN 0218-151-40 RICHLAND COMMUNITIES

CL CB #19 STA 0+65.00
ST. STA. 188+71.80
W=10', Vc=8.0', H=4", Qmax=3.38 CFS

PROPOSED 12" DOMESTIC WATER
PROPOSED 16" RECYCLED WATER
EXISTING GAS LINE
EXISTING PAVEMENT
PROPOSED MEDIAN
PROPOSED C&G
EXISTING RIGHT-OF-WAY
EXISTING POWER POLE TO BE RELOCATED BY OTHERS
EXISTING POWER POLE

99+06.73 CL INT
0+00 HAVEN-A1-20
0+00 HAVEN-A1-21
HAVEN A-1
EXISTING RIGHT-OF-WAY
PROPOSED RIGHT-OF-WAY

SHERRY L. VANDER EYK FAMILY LIVING TRUST APN 0218-161-01 RICHLAND COMMUNITIES
TRACT 20134

*NOT APPLICABLE TO THIS REVISION
**ADDED/REVISED DATA
THE REVISIONS MADE ON THIS PLAN WERE ADDED/REVISED UNDER MY DIRECTION

PUNEET COMAR, P.E. R.C.E. 73065 DATE 5/28/20

REGISTERED PROFESSIONAL ENGINEER PUNEET COMAR No. 73065 CIVIL STATE OF CALIFORNIA

SEE DETAIL 'B' HEREON FOR FUTURE UTILITY SPACING

E. NELSON DRIVE-FUTURE STREET

DIGALERT
DIAL BEFORE YOU DIG
TWO WORKING DAYS BEFORE YOU DIG
TOLL FREE 1-800-422-4133
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

REGISTERED PROFESSIONAL ENGINEER JEFFREY T. TAKAMOTO No. 46049 Expiration 12-31-18 CIVIL STATE OF CALIFORNIA

PROPOSED 8" DOMESTIC WATER
PROPOSED 8" SANITARY SEWER
PROPOSED 8" RECYCLED WATER
PROPOSED C&G
EXISTING RIGHT-OF-WAY
AT HAVEN A1-22 SEE SHEET 6
BRETA BOSCHMA APN 0218-151-37 RICHLAND COMMUNITIES

CL CB #20 STA 0+65.00
ST. STA. 195+68.86
W=14', Vc=7.0', H=4", Qmax=4.25 CFS

CL INT. HAVEN AVENUE=195+12.51
CL INT. FUTURE STREET=10+00.00
PROPOSED 21" SANITARY SEWER
EXISTING PAVEMENT
EXISTING POWER POLE TO BE RELOCATED BY OTHERS
RIGHT-OF-WAY

107+00 MATCHLINE
SEE SHEET 5
DWG D14082

SHERRY L. VANDER EYK FAMILY LIVING TRUST APN 0218-161-13 RICHLAND COMMUNITIES

HAVEN AVENUE

SCALE 1"= 40'

CONSTRUCTION NOTES

** (1) INSTALL 72" RCP (D-LOAD PER PROFILE)
** (2) INSTALL 60" RCP (D-LOAD PER PROFILE)
* (8) INSTALL 18" RCP (D-LOAD PER PROFILE)
** (9) CONSTRUCT BRICK & MORTAR BULKHEAD PER SHEET 2
** (10) CONSTRUCT TRANSITION STRUCTURE PIPE TO PIPE PER SPPWC STD. PLAN 340-2.
** (11) CONSTRUCT MANHOLE NO. 1 PER CITY OF ONTARIO STD. DWG. 3008
** (12) CONSTRUCT MANHOLE PIPE TO PIPE (LARGE SIDE INLET) PER SPPWC STD. PLAN 322-2.
** (15) CATCH BASIN NO. 2 PER CITY OF ONTARIO STD. DWG. 3003 (W PER PLANS)
** (7) INSTALL 24" RCP (D-LOAD PER PROFILE)

NOTE: ALL SOUTHERN CALIFORNIA EDISON POWER POLES ON THE EAST SIDE OF HAVEN AVENUE TO BE RELOCATED BY OTHERS IN FUTURE

REVISION DESCRIPTIONS

⚠ DEVELOPER REQUEST – REVISED HAVEN-A3.

LINE/CURVE DATA				
NO.	DELTA/COURSE	RADIUS	LENGTH	TANGENT
(4)	N0°11'35"W	–	2660.85'	–
(11)	N44°48'23"E	–	15.71'	–
(12)	S89°48'25"W	–	64.99'	–
(13)	N89°46'24"E	–	8.72'	–
(14)	S89°48'24"W	–	59.20'	–
(24)	15°29'32" 44°59'56"	45.00'	13.17' 35.34'	6.62' 18.64'
(25)	N89°48'24"E	–	11.11'	–
(26)	N89°46'44"	–	23.95'	–

TOTAL

EXHIBIT 4
HAVEN SD
PG. 12 OF 13

REVISIONS			
MARK	DATE	BY	APPROVED/RCE NO.
⚠	5/28/20	PC	

DESIGNED BY HUITT-ZOLLARS
DATE 08-24-2018
DRAWN BY HUITT-ZOLLARS
DATE 08-24-2018
CHECKED BY [illegible]
DATE

CITY OF ONTARIO

RECOMMENDED BY: Khoi Do, P.E./Assistant City Engineer 10-9-18 Date
ACCEPTED BY: Louis Abi-younes, P.E./City Engineer 10.26.18 Date

BENCH MARK No. S.P.S.N. 00289 ELEVATION: 735.572
LOCATION: CITY OF ONTARIO
SAN BERNARDINO COUNTY BENCHMARK LOCATED AT THE INTERSECTION OF TURNER & RIVERSIDE AVENUES, 1/4 COR. SEC. 2/11, T2S, R7W. 2" BRASS DISK STAMPED "T2S, R7W, 1/4 S2, S11" "LS 3258" SET FLUSH IN A.C.
NGVD29 / 1990 ADJ.

HUITT-ZOLLARS
Huitt-Zollars, Inc. Irvine
2603 MAIN STREET, SUITE 400 IRVINE, CALIFORNIA 92614 • (949) 988-5815
APPROVED BY JEFFREY T. TAKAMOTO R.C.E. 46049 EXPIRES 12-31-18 DATE 9/26/18

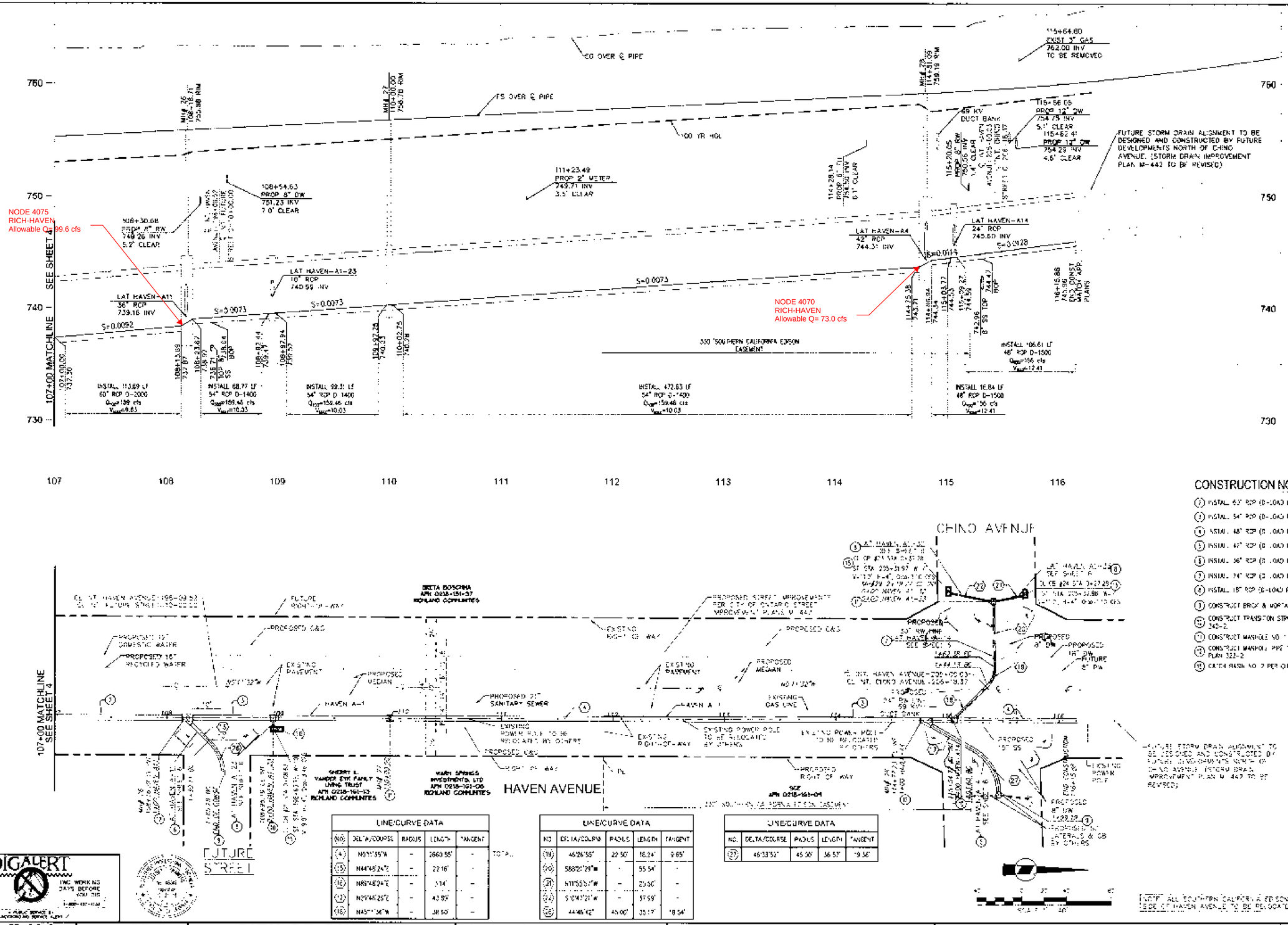
STORM DRAIN IMPROVEMENT PLAN

HAVEN AVENUE

PLAN & PROFILE FROM 1000' N OF SCHAEFER AVENUE TO 840' S OF CHINO AVENUE

** TR 20134
TM18922-4

SHEET 4 OF ** 65
CONTRACT
ACCOUNT
DWG. NO. D14081



CONSTRUCTION NOTES

1. INSTALL 6.5' RCP (D-LOAD PER PROFILE)
2. INSTALL 54" RCP (D-LOAD PER PROFILE)
3. INSTALL 48" RCP (D-LOAD PER PROFILE)
4. INSTALL 42" RCP (D-LOAD PER PROFILE)
5. INSTALL 36" RCP (D-LOAD PER PROFILE)
6. INSTALL 24" RCP (D-LOAD PER PROFILE)
7. INSTALL 18" RCP (D-LOAD PER PROFILE)
8. CONSTRUCT BRICK & MORTAR BULKHEAD PER SHEET 3
9. CONSTRUCT TRANSITION STRUCTURE PER "G" PIPE PER SPPWC STD. PLAN 320-2
10. CONSTRUCT MANHOLE PER CITY OF ONTARIO STD. DWG. 3006
11. CONSTRUCT MANHOLE PER "G" PIPE (TAPER SIDE INLET) PER SPPWC STD PLAN 322-2
12. CATCH BASIN NO. 2 PER CITY OF ONTARIO STD. DWG. 3003 (W PER PLANS)

NOTE: ALL SOUTHERN CALIFORNIA EDISON POWER POLES ON THE EAST SIDE OF HAVEN AVENUE TO BE RELOCATED BY OTHERS W/ FUTURE

SCALE:
HOR. 1":40'
VERT1": 4'

HORIZ. 1"=40'
VERT. 1"=4'

BELLGRAVE AVENUE

EXIST GROUND
℄ MH#1 STA 15+00.00
RIM EL 686.68
RICH-HAVEN 100-YR HGL
W/ DETENTION
PROP GAS LINE
PROP 12" DW
679.24 INV
PROP 6" RW
677.82 INV
PROP DRY UTILITY TRENCH
PROP FS
100 YR HGL
675.93 TOP
℄ INT-MILL CREEK SD & COUNTY LINE CHANNEL
2 SACK CEMENT SLURRY FROM SD SPRINGLINE TO BOTTOM OF SS STEEL CASING
LAT MILLC-A1-1
18" RCP
INV=671.29
LAT MILLC-A1-2
18" RCP
INV=671.60
EX. 16'-X 10' RCB
COUNTY LINE CHANNEL
PROJECT NO. 2-0-0300
S=0.0030
S=0.0031
INV = 669.40
INV = 669.40
PROP 36" STEEL CASING
663.92 TOP
S=0.0008
STA 9+92.64
BEGIN PIPE
INV=667.23
CONTRACTOR TO
FIELD VERIFY
PROP 24" SS
663.64 TOP
STA 10+17.88 BC
INV=667.29
STA 10+30.61 EC
INV=667.35
STA 13+98.28 EC
INV=666.45
STA 14+20.56 BC
INV=666.23
PROP SEWER
CONSTRUCT 707.15 LF 10' x 8' RCB
Qmax=1119.1 CFS, Vmax=14.0 FPS
685
675
665
655
DWG #
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+

1"=40'
1"=4'
EXIST GROUND
℄ FUTURE STREET
℄ MH#2 STA 20+00.00
RIM EL 691.47
PROP FS
PROP 8" DW
684.7± INV
100 YR HGL
PROP 6" FH
681.6± BOP
LAT MILLC-A1-3
18" RCP
INV=674.28
LAT MILLC-A9
36" RCP
INV=671.20
PROP SEWER
STA 17+51.20 BC
INV=669.56
STA 18+19.25 EC
INV=669.78
CONSTRUCT 65
Qmax= 1119.1 C
+00
18+00
19+00
20+00

MERRILL AVENUE

EXIST GROUND
℄ MH#A STA 24+09.50
RIM EL 695.17
℄ MH#3 STA 24+91.50
RIM EL 695.91
℄ MERRILL AVENUE
EX 2" GAS
695.5± BOP
PROP GAS LINE
PROP DRY UTILITY TRENCH
PROP FS
RICH-HAVEN 100-YR HGL
W/ DETENTION
PROP 12" SW
688.4± INV
PROP 24" DW
690.2± INV
686.93 TOP
100 YR HGL
TRANSITION STRUCTURE
TRANSITION STRUCTURE
LAT MILLC-A1-4
18" RCP
INV=682.45
LAT MILLC-A1-5
18" RCP
INV=683.07
LAT MILLC-A2
48" RCP
INV=678.94
LAT MILLC-A3
36" RCP
INV=680.22
INV=678.92
S=0.0094
LAT MILLC-WQ-1
60" RCP
INV=671.35
INV=670.97
INV=670.97
S=0.0031
LAT MILLC-WQ-1
60" RCP
INV=671.82
PROP SEWER
STA 23+51.00
END RCB
INV=671.44
STA 24+01.00
BEGIN RCP
INV=671.61
STA 24+13.50
60" RCP DIVERSION
INV=671.65
STA 24+21.00
END RCP
INV=671.75
STA 24+71.67
BEGIN PIPE
INV=676.62
STA 24+79.67
END PIPE
INV=676.69
STA 24+93.83
BEGIN PIPE
INV=676.98
CONSTRUCT 206.17 LF 108" RCP D-LOAD=1300
Qmax= 1036.6 CFS, Vmax= 16.3 FPS
CONSTRUCT 8.00 L.F. 108" RCP D-LOAD=1300
Qmax= 1096.3 CFS, Vmax= 17.2 FPS
CONSTRUCT 50.00 LF 10'x13' RCB
Qmax= 1096.3 CFS, Vmax= 17.2 FPS
+00
23+00
24+00
25+00
26+00
27

1"=40'
1"=4'
EXIST GROUND
℄ MH#4 STA 29+91.11
RIM EL 701.83
PROP FS
100 YR HGL
PROP 6" FH
693.0± BOP
LAT MILLC-A-9
36" RCP
INV=687.64
INV = 685.87
IDENTICAL POINTS
INV=680.81
INV=680.81
S=0.0094
S=0.0102
PROP SEWER
STA 29+88.70
BEGIN PIPE
INV=681.64
STA 29+93.44
BEGIN PIPE
INV=681.70
PROP SEWER
CONSTRUCT 288.78 L.F. 108" RCP D-LOAD=1300
Qmax=1036.6 CFS, Vmax=16.3 FPS
CONSTRUCT 406.56 L.F. 108" RCP D-LOAD=1300
Qmax=1023.1 CFS, Vmax=16.1 FPS
+00
28+00
29
30+00
31+00
32+00
33+00
34+00

EXHIBIT 5

MILL CREEK STORM DRAIN PLAN
SHEET 1 OF 4- BELLEGRAVE AVENUE TO NORTH OF MERRILL AVENUE

X ENGINEERING & CONSULTING, INC.
6 Hutton Centre Drive, Suite 650
Santa Ana, California 92707
949.522.7100 | xengineeringinc.com

6117

SCALE:
HOR. 1":40'
VERT1": 4'

OLD EDISON AVENUE

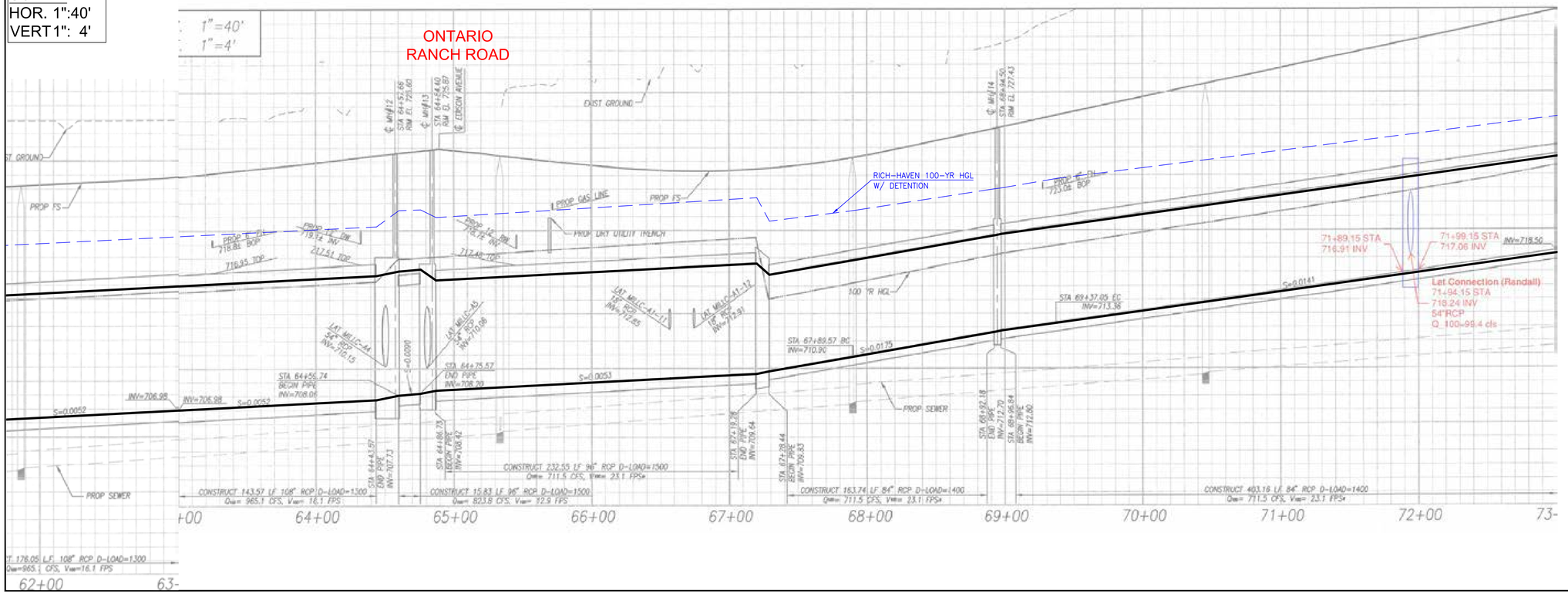
EXHIBIT 5

X ENGINEERING & CONSULTING, INC.
6 Hutton Centre Drive, Suite 650
Santa Ana, California 92707
949.522.7100 | xengineeringinc.com

MILL CREEK STORM DRAIN PLAN
SHEET 2 OF 4- NORTH OF MERRILL AVENUE TO NORTH OF OLD EDISON AVENUE

6118

SCALE:
HOR. 1":40'
VERT1": 4'



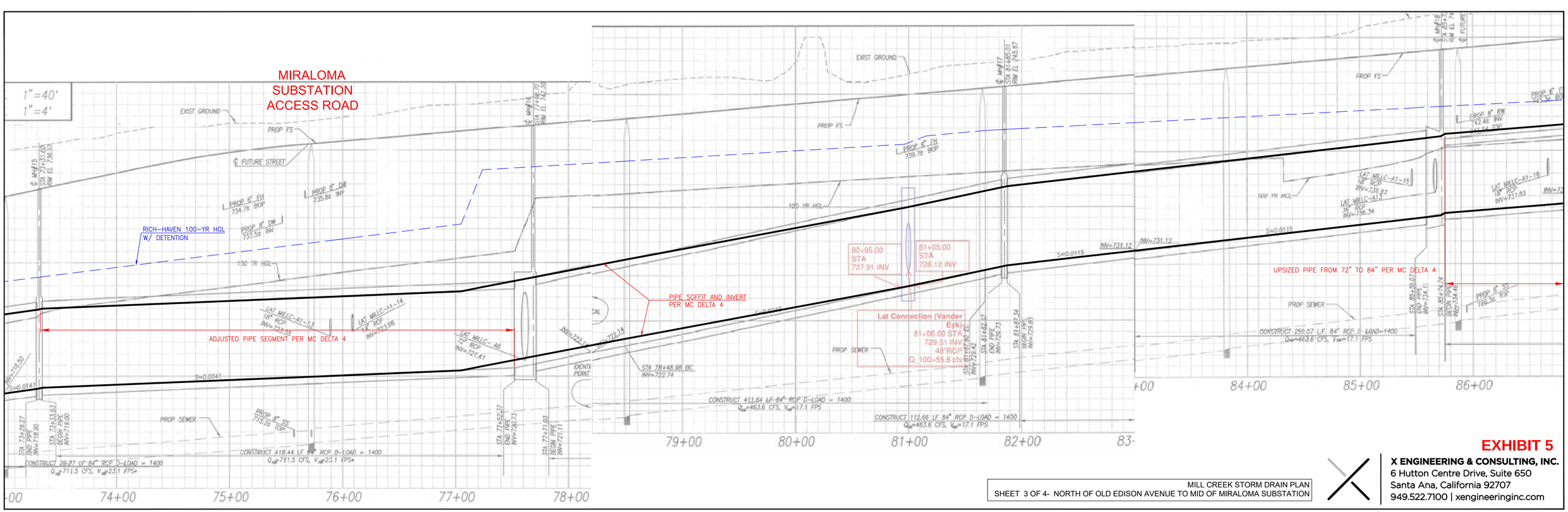


EXHIBIT 5

MILL CREEK STORM DRAIN PLAN
SHEET 3 OF 4- NORTH OF OLD EDISON AVENUE TO MID OF MIRALOMA SUBSTATION

X ENGINEERING & CONSULTING, INC.
6 Hutton Centre Drive, Suite 650
Santa Ana, California 92707
949.522.7100 | xengineeringinc.com

SCALE:
HOR. 1":40'
VERT1": 4'

1"=40'
1"=4'

EXIST GROUND
PROP FS
RICH-HAVEN 100-YR HGL W/ DETENTION
PROP 6" FH 749.76 BOP
100 YR HGL
S=0.0102
IDENTICAL POINT
INV=735.47
S=0.0081
92+27.59 STA 740.12 INV
92+37.59 STA 740.23 INV
INV=740.83
Lat Connection (Colonial) 92+32.59 STA 740.18 INV 72" RCP Q 100=62.2 cfs
PROP SEWER
UPSIZED PIPE FROM 72" TO 84" PER MC DELTA 4
CONSTRUCT 495.84 L.F. 72" RCP D-LOAD=1800 Q100=383.9 CFS, V100=16.3 FPS
CONSTRUCT 225.76 L.F. 72" RCP D-LOAD=1800 V100=383.9 CFS, V100=16.3 FPS
STA 88+30.11 INV=736.52
STA 89+59.66 EC INV=737.83
STA 90+70.58 END PIPE INV=738.46
STA 90+74.24 BEGIN PIPE INV=739.36
88+00 89+00 90+00 91+00 92+00

EXIST GROUND
PROP GROUND
℄ FUTURE STREET
℄ MH#20 STA 93+36.90 RIM EL 757.07
℄ MH#21 STA 99+39.98 RIM EL 761.27
PROP 6" FH 755.23 BOP
PROP 8" SW 751.82 INV
750.41 TYP
LAT MILLC-A1-19 18" RCP INV=747.13
PIPE SOFFIT AND INVERT PER MC DELTA 4
100 YR HGL
S=0.0058
INV=740.83
S=0.0102
STA 95+37.67 END PIPE INV 743.27
STA 95+42.71 BEGIN PIPE INV 744.37
PROP SEWER
CONSTRUCT 237.67 L.F. 72" RCP D-LOAD=1800 Q100=378.8 CFS, V100=16.3 FPS
CONSTRUCT 495.34 L.F. 72" RCP D-LOAD=1800 Q100=378.8 CFS, V100=16.3 FPS
STA 100+37.67 END PIPE INV 746.22
STA 100+42.70 BEGIN PIPE
94+00 95+00 96+00 97+00 98+00 99+00 100+00
UPSIZED PIPE FROM 72" TO 84" PER MC DELTA 4

CHINO AVENUE

℄ MH#22 STA 104+43.72 RIM EL 764.71
℄ CHINO AVENUE
EXIST GROUND
PROP GROUND
℄ MH#23 STA 109+26.97 RIM EL 768.97
PROP CAS LINE
PROP DRY UTILITY TRENCH
PROP 6" FH 760.12 BOP
PROP 8" SW 758.62 INV
PROP 18" D 758.34 INV
PROP 12" DW 758.95 INV
PROP 24" RW 757.15 INV
100 YR HGL
PROP 6" FH 765.72 BOP
INV=759.34
RICH-HAVEN 100-YR HGL W/ DETENTION
LAT MILLC-A14 24" RCP INV=740.84
LAT MILLC-A7 18" RCP INV=747.65
LAT MILLC-A15 18" RCP INV=750.62 S=0.0173
LAT MILLC-A1-18 18" RCP INV=750.06
LAT MILLC-A1-19 18" RCP INV=751.57
INV=747.09
INV=747.09
S=0.0030
S=0.0030
S=0.0173
STA 104+27.59 END PIPE INV=747.47
STA 104+45.05 BEGIN PIPE INV=747.05
STA 104+76.08 EC INV=748.36
STA 104+82.69 EC INV=748.50
STA 105+19.63 END PIPE INV=749.15
STA 105+38.79 BEGIN PIPE INV=749.51
TRANSITION STRUCTURE
PROP SEWER
STA 109+24.63 END PIPE INV=756.18
STA 109+29.30 BEGIN PIPE INV=756.28
CONSTRUCT 127.39 L.F. 72" RCP D-LOAD=1800 Q100=378.8 CFS, V100=13.4 FPS
CONSTRUCT 73.58 L.F. 72" RCP D-LOAD=1800 Q100=87.6 CFS,V100=3.1 FPS
CONSTRUCT 385.84 L.F. 48" RCP D-LOAD=1700 Q100=84.7 CFS, V100=11.0 FPS
CONSTRUCT 370.70 L.F. 48" RCP D-LOAD = 1800 Q100=84.7 CFS, V100=11.0 FPS
INV 746.32
CONSTRUCT 257.67 L.F. 72" RCP D-LOAD=1800 Q100=378.8 CFS, V100=13.4 FPS
101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00
CHINO AVENUE DWG #

EXHIBIT 5

X ENGINEERING & CONSULTING, INC.
6 Hutton Centre Drive, Suite 650
Santa Ana, California 92707
949.522.7100 | xengineeringinc.com

MILL CREEK STORM DRAIN PLAN
SHEET 4 OF 4- MID OF MIRALOMA SUBSTATION TO CHINO AVENUE

APPENDIX B
HYDROLGY CALCULATIONS

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2018 Version 9.0
Rational Hydrology Study Date: 09/08/22

Rich-Haven Specific Plan
Hydrology Study
100-yr Storm
Haven Storm Drain

Program License Serial Number 6440

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.200 (In.)
Slope used for rainfall intensity curve b = 0.6000
Soil antecedent moisture condition (AMC) = 2

++

Process from Point/Station 4070.000 to Point/Station 4070.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 32.46
Pervious ratio(Ap) = 0.3620 Max loss rate(Fm)= 0.353(In/Hr)
Rainfall intensity = 2.348(In/Hr) for a 100.0 year storm
User specified values are as follows:
TC = 19.60 min. Rain intensity = 2.35(In/Hr)
Total area this stream = 67.70(Ac.)
Total Study Area (Main Stream No. 1) = 67.70(Ac.)
Total runoff = 121.60(CFS)

++

Process from Point/Station 4070.000 to Point/Station 4075.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****

Upstream point/station elevation = 744.000(Ft.)
Downstream point/station elevation = 740.000(Ft.)
Pipe length = 660.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 121.600(CFS)
Given pipe size = 54.00(In.)
Calculated individual pipe flow = 121.600(CFS)
Normal flow depth in pipe = 36.33(In.)

```
Flow top width inside pipe =   50.67(In.)
Critical Depth =   38.94(In.)
Pipe flow velocity =     10.68(Ft/s)
Travel time through pipe =    1.03 min.
Time of concentration (TC) =    20.63 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4070.000 to Point/Station     4075.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =     67.700(Ac.)
Runoff from this stream =    121.600(CFS)
Time of concentration =   20.63 min.
Rainfall intensity =     2.277(In/Hr)
Area averaged loss rate (Fm) =    0.3530(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3620
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      401.000 to Point/Station      402.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Initial subarea data:
Initial area flow distance =   640.000(Ft.)
Top (of initial area) elevation =   765.000(Ft.)
Bottom (of initial area) elevation =   761.000(Ft.)
Difference in elevation =     4.000(Ft.)
Slope =    0.00625  s(%)=       0.63
TC = k(0.483)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   17.670 min.
Rainfall intensity =      2.499(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.601
Subarea runoff =      7.264(CFS)
Total initial stream area =        4.840(Ac.)
Pervious area fraction = 0.850
Initial area Fm value =    0.831(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      402.000 to Point/Station      403.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   753.000(Ft.)
Downstream point/station elevation =   747.000(Ft.)
```

```
Pipe length  =   760.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.264(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =     7.264(CFS)
Normal flow depth in pipe =    8.51(In.)
Flow top width inside pipe =   30.59(In.)
Critical Depth =   10.15(In.)
Pipe flow velocity =      5.69(Ft/s)
Travel time through pipe =    2.23 min.
Time of concentration (TC) =    19.90 min.


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Process from Point/Station      402.000 to Point/Station      403.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Time of concentration =    19.90 min.
Rainfall intensity =      2.327(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.579
Subarea runoff =     14.841(CFS) for   11.580(Ac.)
Total runoff =     22.106(CFS)
Effective area this stream =       16.42(Ac.)
Total Study Area (Main Stream No. 2) =       84.12(Ac.)
Area averaged Fm value =    0.831(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      403.000 to Point/Station     4075.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   747.000(Ft.)
Downstream point/station elevation =   740.000(Ft.)
Pipe length  =    20.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    22.106(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =    22.106(CFS)
Normal flow depth in pipe =    5.78(In.)
Flow top width inside pipe =   26.44(In.)
Critical Depth =   18.14(In.)
Pipe flow velocity =     30.09(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =    19.91 min.


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Process from Point/Station      403.000 to Point/Station     4075.000
**** SUBAREA FLOW ADDITION ****
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COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    19.91 min.
Rainfall intensity =      2.326(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.619
Subarea runoff =      5.444(CFS) for    2.720(Ac.)
Total runoff =     27.549(CFS)
Effective area this stream =       19.14(Ac.)
Total Study Area (Main Stream No. 2) =       86.84(Ac.)
Area averaged Fm value =    0.727(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      401.000 to Point/Station     4075.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     19.140(Ac.)
Runoff from this stream =     27.549(CFS)
Time of concentration =   19.91 min.
Rainfall intensity =     2.326(In/Hr)
Area averaged loss rate (Fm) =    0.7269(In/Hr)
Area averaged Pervious ratio (Ap) = 0.7434
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    121.60    67.700     20.63    0.353      2.277
2     27.55    19.140     19.91    0.727      2.326
Qmax(1) =
           1.000 *    1.000 *   121.600) +
           0.969 *    1.000 *    27.549) + =     148.302
Qmax(2) =
           1.026 *    0.965 *   121.600) +
           1.000 *    1.000 *    27.549) + =     147.895

Total of 2 main streams to confluence:
Flow rates before confluence point:
     122.600      28.549
Maximum flow rates at confluence using above data:
      148.302      147.895
Area of streams before confluence:
       67.700       19.140
Effective area values after confluence:
       86.840       84.472
```

```
Results of confluence:
Total flow rate =    148.302(CFS)
Time of concentration =    20.630 min.
Effective stream area after confluence  =     86.840(Ac.)
Study area average Pervious fraction(Ap) =  0.446
Study area average soil loss rate(Fm) =    0.435(In/Hr)
Study area total =      86.84(Ac.)


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Process from Point/Station     4075.000 to Point/Station     4120.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
____________________________________________________________________________
Upstream point/station elevation =   740.000(Ft.)
Downstream point/station elevation =   729.300(Ft.)
Pipe length  =   990.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   148.302(CFS)
Given pipe size =     60.00(In.)
Calculated individual pipe flow  =   148.302(CFS)
Normal flow depth in pipe =   31.69(In.)
Flow top width inside pipe =   59.91(In.)
Critical Depth =   41.86(In.)
Pipe flow velocity =     14.11(Ft/s)
Travel time through pipe =    1.17 min.
Time of concentration (TC) =    21.80 min.


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Process from Point/Station     4120.000 to Point/Station     4120.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     86.840(Ac.)
Runoff from this stream =    148.302(CFS)
Time of concentration =   21.80 min.
Rainfall intensity =     2.203(In/Hr)
Area averaged loss rate (Fm) =    0.4354(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4461


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Process from Point/Station     4075.000 to Point/Station     4120.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   990.000(Ft.)
```

```
Top (of initial area) elevation =   740.000(Ft.)
Bottom (of initial area) elevation =   729.300(Ft.)
Difference in elevation =    10.700(Ft.)
Slope =    0.01081  s(%)=       1.08
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.868 min.
Rainfall intensity =      3.173(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.872
Subarea runoff =      8.745(CFS)
Total initial stream area =        3.160(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station     4120.000 to Point/Station     4120.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      3.160(Ac.)
Runoff from this stream =      8.745(CFS)
Time of concentration =   11.87 min.
Rainfall intensity =     3.173(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    148.30    86.840     21.80    0.435      2.203
2      8.75     3.160     11.87    0.098      3.173
Qmax(1) =
           1.000 *    1.000 *   148.302) +
           0.685 *    1.000 *     8.745) + =     154.290
Qmax(2) =
           1.549 *    0.544 *   148.302) +
           1.000 *    1.000 *     8.745) + =     133.786

Total of 2 streams to confluence:
Flow rates before confluence point:
     148.302       8.745
Maximum flow rates at confluence using above data:
      154.290      133.786
Area of streams before confluence:
       86.840        3.160
Effective area values after confluence:
       90.000       50.436
Results of confluence:
Total flow rate =    154.290(CFS)
Time of concentration =    21.800 min.
Effective stream area after confluence =     90.000(Ac.)
Study area average Pervious fraction(Ap) =  0.434
Study area average soil loss rate(Fm) =    0.424(In/Hr)
```

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Study area total (this main stream) =      90.00(Ac.)


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Process from Point/Station     4075.000 to Point/Station     4120.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =     90.000(Ac.)
Runoff from this stream =    154.290(CFS)
Time of concentration =   21.80 min.
Rainfall intensity =     2.203(In/Hr)
Area averaged loss rate (Fm) =    0.4236(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4339
Program is now starting with Main Stream No. 2


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Process from Point/Station     4080.000 to Point/Station     4080.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 32.04
Pervious ratio(Ap) = 0.3570     Max loss rate(Fm)=     0.349(In/Hr)
Rainfall intensity =      2.612(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  16.41 min.  Rain intensity =       2.61(In/Hr)
Total area this stream =        68.90(Ac.)
Total Study Area (Main Stream No. 2) =      158.90(Ac.)
Total runoff =    121.80(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4080.000 to Point/Station      410.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   747.700(Ft.)
Downstream point/station elevation =   745.890(Ft.)
Pipe length  =   360.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   121.800(CFS)
Given pipe size =     60.00(In.)
Calculated individual pipe flow  =   121.800(CFS)
Normal flow depth in pipe =   35.58(In.)
Flow top width inside pipe =   58.95(In.)
Critical Depth =   37.83(In.)
Pipe flow velocity =     10.05(Ft/s)
Travel time through pipe =    0.60 min.
Time of concentration (TC) =    17.01 min.


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Process from Point/Station     4080.000 to Point/Station      410.000
**** CONFLUENCE OF MINOR STREAMS ****
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Along Main Stream number: 2 in normal stream number 1
Stream flow area =     68.900(Ac.)
Runoff from this stream =    121.800(CFS)
Time of concentration =   17.01 min.
Rainfall intensity =     2.557(In/Hr)
Area averaged loss rate (Fm) =    0.3490(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3570


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Process from Point/Station      406.000 to Point/Station      407.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Initial subarea data:
Initial area flow distance =   400.000(Ft.)
Top (of initial area) elevation =   765.000(Ft.)
Bottom (of initial area) elevation =   762.000(Ft.)
Difference in elevation =     3.000(Ft.)
Slope =    0.00750  s(%)=       0.75
TC = k(0.483)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.118 min.
Rainfall intensity =      2.859(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.638
Subarea runoff =      4.344(CFS)
Total initial stream area =        2.380(Ac.)
Pervious area fraction = 0.850
Initial area Fm value =    0.831(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      407.000 to Point/Station      410.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
------------------------------------------------------------------------
Upstream point/station elevation =   749.000(Ft.)
Downstream point/station elevation =   745.890(Ft.)
Pipe length  =   100.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.344(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     4.344(CFS)
Normal flow depth in pipe =    5.35(In.)
Flow top width inside pipe =   19.98(In.)
Critical Depth =    8.77(In.)
Pipe flow velocity =      8.33(Ft/s)
Travel time through pipe =    0.20 min.
Time of concentration (TC) =    14.32 min.
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      407.000 to Point/Station      410.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    14.32 min.
Rainfall intensity =      2.835(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.676
Subarea runoff =      1.156(CFS) for    0.490(Ac.)
Total runoff =      5.499(CFS)
Effective area this stream =        2.87(Ac.)
Total Study Area (Main Stream No. 2) =      161.77(Ac.)
Area averaged Fm value =    0.706(In/Hr)


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Process from Point/Station      406.000 to Point/Station      410.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      2.870(Ac.)
Runoff from this stream =      5.499(CFS)
Time of concentration =   14.32 min.
Rainfall intensity =     2.835(In/Hr)
Area averaged loss rate (Fm) =    0.7059(In/Hr)
Area averaged Pervious ratio (Ap) = 0.7220
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    121.80    68.900     17.01    0.349      2.557
2      5.50     2.870     14.32    0.706      2.835
Qmax(1) =
           1.000 *    1.000 *   121.800) +
           0.869 *    1.000 *     5.499) + =     126.581
Qmax(2) =
           1.126 *    0.842 *   121.800) +
           1.000 *    1.000 *     5.499) + =     120.958

Total of 2 streams to confluence:
Flow rates before confluence point:
     121.800       5.499
Maximum flow rates at confluence using above data:
      126.581      120.958
Area of streams before confluence:
       68.900        2.870
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Effective area values after confluence:
       71.770       60.874
Results of confluence:
Total flow rate =    126.581(CFS)
Time of concentration =    17.007 min.
Effective stream area after confluence =     71.770(Ac.)
Study area average Pervious fraction(Ap) =  0.372
Study area average soil loss rate(Fm) =    0.363(In/Hr)
Study area total (this main stream) =      71.77(Ac.)


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Process from Point/Station      410.000 to Point/Station      415.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =   745.890(Ft.)
Downstream point/station elevation =   741.230(Ft.)
Pipe length  =   930.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   126.581(CFS)
Given pipe size =     60.00(In.)
Calculated individual pipe flow  =   126.581(CFS)
Normal flow depth in pipe =   36.52(In.)
Flow top width inside pipe =   58.57(In.)
Critical Depth =   38.63(In.)
Pipe flow velocity =     10.12(Ft/s)
Travel time through pipe =    1.53 min.
Time of concentration (TC) =    18.54 min.


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Process from Point/Station      410.000 to Point/Station      415.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =     71.770(Ac.)
Runoff from this stream =    126.581(CFS)
Time of concentration =   18.54 min.
Rainfall intensity =     2.428(In/Hr)
Area averaged loss rate (Fm) =    0.3633(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3716


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Process from Point/Station      411.000 to Point/Station      412.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Initial subarea data:
Initial area flow distance =   630.000(Ft.)
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Top (of initial area) elevation =   759.000(Ft.)
Bottom (of initial area) elevation =   756.000(Ft.)
Difference in elevation =     3.000(Ft.)
Slope =    0.00476  s(%)=       0.48
TC = k(0.483)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   18.541 min.
Rainfall intensity =      2.428(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.592
Subarea runoff =      6.207(CFS)
Total initial stream area =        4.320(Ac.)
Pervious area fraction = 0.850
Initial area Fm value =    0.831(In/Hr)


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Process from Point/Station      412.000 to Point/Station      415.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   749.000(Ft.)
Downstream point/station elevation =   741.230(Ft.)
Pipe length  =   840.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     6.207(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     6.207(CFS)
Normal flow depth in pipe =    8.78(In.)
Flow top width inside pipe =   23.12(In.)
Critical Depth =   10.57(In.)
Pipe flow velocity =      5.97(Ft/s)
Travel time through pipe =    2.34 min.
Time of concentration (TC) =    20.88 min.


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Process from Point/Station      412.000 to Point/Station      415.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Time of concentration =    20.88 min.
Rainfall intensity =      2.260(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.569
Subarea runoff =     13.730(CFS) for   11.180(Ac.)
Total runoff =     19.937(CFS)
Effective area this stream =       15.50(Ac.)
Total Study Area (Main Stream No. 2) =      177.27(Ac.)
Area averaged Fm value =    0.831(In/Hr)


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Process from Point/Station      412.000 to Point/Station      415.000
**** SUBAREA FLOW ADDITION ****
----------------------------------------------------------------------
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    20.88 min.
Rainfall intensity =      2.260(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.591
Subarea runoff =      2.491(CFS) for    1.280(Ac.)
Total runoff =     22.429(CFS)
Effective area this stream =       16.78(Ac.)
Total Study Area (Main Stream No. 2) =      178.55(Ac.)
Area averaged Fm value =    0.775(In/Hr)


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Process from Point/Station      411.000 to Point/Station      415.000
**** CONFLUENCE OF MINOR STREAMS ****
----------------------------------------------------------------------
Along Main Stream number: 2 in normal stream number 2
Stream flow area =     16.780(Ac.)
Runoff from this stream =     22.429(CFS)
Time of concentration =   20.88 min.
Rainfall intensity =     2.260(In/Hr)
Area averaged loss rate (Fm) =    0.7752(In/Hr)
Area averaged Pervious ratio (Ap) = 0.7928
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    126.58    71.770     18.54    0.363      2.428
2     22.43    16.780     20.88    0.775      2.260
Qmax(1) =
           1.000 *    1.000 *   126.581) +
           1.113 *    0.888 *    22.429) + =     148.736
Qmax(2) =
           0.919 *    1.000 *   126.581) +
           1.000 *    1.000 *    22.429) + =     138.741

Total of 2 streams to confluence:
Flow rates before confluence point:
     126.581      22.429
Maximum flow rates at confluence using above data:
      148.736      138.741
Area of streams before confluence:
       71.770       16.780
Effective area values after confluence:
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       86.666       88.550
Results of confluence:
Total flow rate =    148.736(CFS)
Time of concentration =    18.539 min.
Effective stream area after confluence =     86.666(Ac.)
Study area average Pervious fraction(Ap) =  0.451
Study area average soil loss rate(Fm) =    0.441(In/Hr)
Study area total (this main stream) =      88.55(Ac.)


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Process from Point/Station      415.000 to Point/Station      416.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =   741.230(Ft.)
Downstream point/station elevation =   739.420(Ft.)
Pipe length  =   240.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   148.736(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =   148.736(CFS)
Normal flow depth in pipe =   31.88(In.)
Flow top width inside pipe =   71.53(In.)
Critical Depth =   39.77(In.)
Pipe flow velocity =     12.32(Ft/s)
Travel time through pipe =    0.32 min.
Time of concentration (TC) =    18.86 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      415.000 to Point/Station      416.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =     86.666(Ac.)
Runoff from this stream =    148.736(CFS)
Time of concentration =   18.86 min.
Rainfall intensity =     2.403(In/Hr)
Area averaged loss rate (Fm) =    0.4413(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4514


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Process from Point/Station      416.000 to Point/Station      416.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 31.61
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Rainfall intensity =      2.642(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  16.10 min.  Rain intensity =       2.64(In/Hr)
Total area this stream =        14.60(Ac.)
Total Study Area (Main Stream No. 2) =      193.15(Ac.)
Total runoff =     32.50(CFS)
```

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Process from Point/Station      416.000 to Point/Station      416.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =     14.600(Ac.)
Runoff from this stream =     32.500(CFS)
Time of concentration =   16.10 min.
Rainfall intensity =     2.642(In/Hr)
Area averaged loss rate (Fm) =    0.1960(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    148.74    86.666     18.86    0.441      2.403
2     32.50    14.600     16.10    0.196      2.642
Qmax(1) =
           1.000 *    1.000 *   148.736) +
           0.902 *    1.000 *    32.500) + =     178.052
Qmax(2) =
           1.122 *    0.853 *   148.736) +
           1.000 *    1.000 *    32.500) + =     174.951

Total of 2 streams to confluence:
Flow rates before confluence point:
     148.736      32.500
Maximum flow rates at confluence using above data:
      178.052      174.951
Area of streams before confluence:
       86.666       14.600
Effective area values after confluence:
      101.266       88.567
Results of confluence:
Total flow rate =    178.052(CFS)
Time of concentration =    18.864 min.
Effective stream area after confluence =    101.266(Ac.)
Study area average Pervious fraction(Ap) =  0.415
Study area average soil loss rate(Fm) =    0.406(In/Hr)
Study area total (this main stream) =     101.27(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      416.000 to Point/Station      420.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   739.420(Ft.)
Downstream point/station elevation =   730.300(Ft.)
Pipe length  =  1550.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   178.052(CFS)
Given pipe size =     72.00(In.)
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```
Calculated individual pipe flow  =   178.052(CFS)
Normal flow depth in pipe =   38.02(In.)
Flow top width inside pipe =   71.89(In.)
Critical Depth =   43.65(In.)
Pipe flow velocity =     11.75(Ft/s)
Travel time through pipe =    2.20 min.
Time of concentration (TC) =    21.06 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      416.000 to Point/Station      420.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =    101.266(Ac.)
Runoff from this stream =    178.052(CFS)
Time of concentration =   21.06 min.
Rainfall intensity =     2.249(In/Hr)
Area averaged loss rate (Fm) =    0.4060(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4152


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      417.000 to Point/Station      416.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Initial subarea data:
Initial area flow distance =   275.000(Ft.)
Top (of initial area) elevation =   758.200(Ft.)
Bottom (of initial area) elevation =   755.400(Ft.)
Difference in elevation =     2.800(Ft.)
Slope =    0.01018  s(%)=       1.02
TC = k(0.324)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.669 min.
Rainfall intensity =      4.123(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.857
Subarea runoff =      1.273(CFS)
Total initial stream area =        0.360(Ac.)
Pervious area fraction = 0.200
Initial area Fm value =    0.196(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      416.000 to Point/Station      420.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =   739.420(Ft.)
Downstream point/station elevation =   730.300(Ft.)
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```
Pipe length  =  1550.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     1.273(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =     1.273(CFS)
Normal flow depth in pipe =    3.27(In.)
Flow top width inside pipe =   29.99(In.)
Critical depth could not be calculated.
Pipe flow velocity =      2.77(Ft/s)
Travel time through pipe =    9.31 min.
Time of concentration (TC) =    16.98 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      416.000 to Point/Station      420.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Time of concentration =    16.98 min.
Rainfall intensity =      2.559(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.831
Subarea runoff =     16.723(CFS) for    8.100(Ac.)
Total runoff =     17.996(CFS)
Effective area this stream =        8.46(Ac.)
Total Study Area (Main Stream No. 2) =      201.61(Ac.)
Area averaged Fm value =    0.196(In/Hr)


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Process from Point/Station      420.000 to Point/Station      420.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      8.460(Ac.)
Runoff from this stream =     17.996(CFS)
Time of concentration =   16.98 min.
Rainfall intensity =     2.559(In/Hr)
Area averaged loss rate (Fm) =    0.1956(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    178.05   101.266     21.06    0.406      2.249
2     18.00     8.460     16.98    0.196      2.559
Qmax(1) =
           1.000 *    1.000 *   178.052) +
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           0.869 *    1.000 *    17.996) + =     193.686
Qmax(2) =
           1.168 *    0.806 *   178.052) +
           1.000 *    1.000 *    17.996) + =     185.715

Total of 2 streams to confluence:
Flow rates before confluence point:
     178.052      17.996
Maximum flow rates at confluence using above data:
      193.686      185.715
Area of streams before confluence:
      101.266        8.460
Effective area values after confluence:
      109.726       90.108
Results of confluence:
Total flow rate =    193.686(CFS)
Time of concentration =    21.062 min.
Effective stream area after confluence =    109.726(Ac.)
Study area average Pervious fraction(Ap) =  0.399
Study area average soil loss rate(Fm) =    0.390(In/Hr)
Study area total (this main stream) =     109.73(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      420.000 to Point/Station     4120.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   730.300(Ft.)
Downstream point/station elevation =   729.300(Ft.)
Pipe length  =    20.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   193.686(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =   193.686(CFS)
Normal flow depth in pipe =   22.10(In.)
Flow top width inside pipe =   66.42(In.)
Critical Depth =   45.62(In.)
Pipe flow velocity =     26.32(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =    21.08 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4080.000 to Point/Station     4120.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =    109.726(Ac.)
Runoff from this stream =    193.686(CFS)
Time of concentration =   21.08 min.
Rainfall intensity =     2.248(In/Hr)
Area averaged loss rate (Fm) =    0.3897(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3986
Summary of stream data:
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Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    154.29    90.000     21.80    0.424      2.203
2    193.69   109.726     21.08    0.390      2.248
Qmax(1) =
           1.000 *    1.000 *   154.290) +
           0.976 *    1.000 *   193.686) + =     343.270
Qmax(2) =
           1.025 *    0.967 *   154.290) +
           1.000 *    1.000 *   193.686) + =     346.631

Total of 2 main streams to confluence:
Flow rates before confluence point:
     155.290     194.686
Maximum flow rates at confluence using above data:
      343.270      346.631
Area of streams before confluence:
       90.000      109.726
Effective area values after confluence:
      199.726      196.733


Results of confluence:
Total flow rate =    346.631(CFS)
Time of concentration =    21.075 min.
Effective stream area after confluence  =    196.733(Ac.)
Study area average Pervious fraction(Ap) =  0.414
Study area average soil loss rate(Fm) =    0.405(In/Hr)
Study area total =     199.73(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4120.000 to Point/Station      430.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   729.300(Ft.)
Downstream point/station elevation =   725.100(Ft.)
Pipe length  =   490.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   346.631(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =   346.631(CFS)
Normal flow depth in pipe =   52.59(In.)
Flow top width inside pipe =   63.90(In.)
Critical Depth =   60.58(In.)
Pipe flow velocity =     15.66(Ft/s)
Travel time through pipe =    0.52 min.
Time of concentration (TC) =    21.60 min.


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Process from Point/Station     4120.000 to Point/Station      430.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
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The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    196.733(Ac.)
Runoff from this stream =    346.631(CFS)
Time of concentration =   21.60 min.
Rainfall intensity =     2.215(In/Hr)
Area averaged loss rate (Fm) =    0.4050(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4145
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      426.000 to Point/Station      426.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 31.61
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Rainfall intensity =      3.076(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  12.50 min.  Rain intensity =       3.08(In/Hr)
Total area this stream =         2.80(Ac.)
Total Study Area (Main Stream No. 2) =      204.41(Ac.)
Total runoff =      7.30(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      426.000 to Point/Station      427.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   739.390(Ft.)
Downstream point/station elevation =   730.300(Ft.)
Pipe length  =  1590.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.300(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =     7.300(CFS)
Normal flow depth in pipe =    9.26(In.)
Flow top width inside pipe =   31.47(In.)
Critical Depth =   10.18(In.)
Pipe flow velocity =      5.08(Ft/s)
Travel time through pipe =    5.22 min.
Time of concentration (TC) =    17.72 min.


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Process from Point/Station      426.000 to Point/Station      427.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
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Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Time of concentration =    17.72 min.
Rainfall intensity =      2.495(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.829
Subarea runoff =     41.557(CFS) for   20.810(Ac.)
Total runoff =     48.857(CFS)
Effective area this stream =       23.61(Ac.)
Total Study Area (Main Stream No. 2) =      225.22(Ac.)
Area averaged Fm value =    0.196(In/Hr)


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Process from Point/Station      427.000 to Point/Station      430.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   730.300(Ft.)
Downstream point/station elevation =   729.300(Ft.)
Pipe length  =    20.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    48.857(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =    48.857(CFS)
Normal flow depth in pipe =   14.18(In.)
Flow top width inside pipe =   35.18(In.)
Critical Depth =   27.31(In.)
Pipe flow velocity =     18.89(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =    17.73 min.


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Process from Point/Station      426.000 to Point/Station      430.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     23.610(Ac.)
Runoff from this stream =     48.857(CFS)
Time of concentration =   17.73 min.
Rainfall intensity =     2.493(In/Hr)
Area averaged loss rate (Fm) =    0.1956(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    346.63   196.733     21.60    0.405      2.215
2     48.86    23.610     17.73    0.196      2.493
Qmax(1) =
          1.000 *    1.000 *   346.631) +
          0.879 *    1.000 *    48.857) + =     389.576
Qmax(2) =
          1.154 *    0.821 *   346.631) +
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```
           1.000 *    1.000 *    48.857) + =     377.206

Total of 2 main streams to confluence:
Flow rates before confluence point:
     347.631      49.857
Maximum flow rates at confluence using above data:
      389.576      377.206
Area of streams before confluence:
      196.733       23.610
Effective area values after confluence:
      220.343      185.156


Results of confluence:
Total flow rate =    389.576(CFS)
Time of concentration =    21.597 min.
Effective stream area after confluence  =    220.343(Ac.)
Study area average Pervious fraction(Ap) =  0.392
Study area average soil loss rate(Fm) =    0.383(In/Hr)
Study area total =     220.34(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      430.000 to Point/Station      440.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   725.100(Ft.)
Downstream point/station elevation =   721.360(Ft.)
Pipe length  =   500.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   389.576(CFS)
Given pipe size =     72.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
     4.911(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =      4.229(Ft.)
 Minor friction loss =      4.422(Ft.)  K-factor =   1.50
Pipe flow velocity =     13.78(Ft/s)
Travel time through pipe =    0.60 min.
Time of concentration (TC) =    22.20 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      430.000 to Point/Station      440.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    220.343(Ac.)
Runoff from this stream =    389.576(CFS)
Time of concentration =   22.20 min.
Rainfall intensity =     2.179(In/Hr)
Area averaged loss rate (Fm) =    0.3825(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3915


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Process from Point/Station      430.000 to Point/Station      440.000
**** INITIAL AREA EVALUATION ****
----------------------------------------------------------------------------
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   500.000(Ft.)
Top (of initial area) elevation =   725.100(Ft.)
Bottom (of initial area) elevation =   721.360(Ft.)
Difference in elevation =     3.740(Ft.)
Slope =    0.00748  s(%)=       0.75
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.720 min.
Rainfall intensity =      3.577(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.875
Subarea runoff =     31.309(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station      430.000 to Point/Station      440.000
**** SUBAREA FLOW ADDITION ****
----------------------------------------------------------------------------
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =     9.72 min.
Rainfall intensity =      3.577(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.875
Subarea runoff =     11.302(CFS) for    3.610(Ac.)
Total runoff =     42.611(CFS)
Effective area this stream =       13.61(Ac.)
Total Study Area (Main Stream No. 1) =      238.83(Ac.)
Area averaged Fm value =    0.098(In/Hr)


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Process from Point/Station      440.000 to Point/Station      440.000
**** CONFLUENCE OF MINOR STREAMS ****
----------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     13.610(Ac.)
Runoff from this stream =     42.611(CFS)
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```
Time of concentration =    9.72 min.
Rainfall intensity =     3.577(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    389.58   220.343     22.20    0.383      2.179
2     42.61    13.610      9.72    0.098      3.577
Qmax(1) =
           1.000 *    1.000 *   389.576) +
           0.598 *    1.000 *    42.611) + =     415.068
Qmax(2) =
           1.778 *    0.438 *   389.576) +
           1.000 *    1.000 *    42.611) + =     345.880

Total of 2 streams to confluence:
Flow rates before confluence point:
     389.576      42.611
Maximum flow rates at confluence using above data:
      415.068      345.880
Area of streams before confluence:
      220.343       13.610
Effective area values after confluence:
      233.953      110.082
Results of confluence:
Total flow rate =    415.068(CFS)
Time of concentration =    22.201 min.
Effective stream area after confluence =    233.953(Ac.)
Study area average Pervious fraction(Ap) =  0.375
Study area average soil loss rate(Fm) =    0.366(In/Hr)
Study area total (this main stream) =     233.95(Ac.)


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Process from Point/Station      440.000 to Point/Station      445.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   721.360(Ft.)
Downstream point/station elevation =   716.140(Ft.)
Pipe length  =   630.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   415.068(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   415.068(CFS)
Normal flow depth in pipe =   52.50(In.)
Flow top width inside pipe =   81.33(In.)
Critical Depth =   64.38(In.)
Pipe flow velocity =     16.42(Ft/s)
Travel time through pipe =    0.64 min.
Time of concentration (TC) =    22.84 min.
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Process from Point/Station      445.000 to Point/Station      445.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    233.953(Ac.)
Runoff from this stream =    415.068(CFS)
Time of concentration =   22.84 min.
Rainfall intensity =     2.142(In/Hr)
Area averaged loss rate (Fm) =    0.3660(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3746


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Process from Point/Station      440.000 to Point/Station      445.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   630.000(Ft.)
Top (of initial area) elevation =   721.360(Ft.)
Bottom (of initial area) elevation =   716.140(Ft.)
Difference in elevation =     5.220(Ft.)
Slope =    0.00829  s(%)=       0.83
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   10.446 min.
Rainfall intensity =      3.425(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.874
Subarea runoff =      7.008(CFS)
Total initial stream area =        2.340(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station      445.000 to Point/Station      445.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      2.340(Ac.)
Runoff from this stream =      7.008(CFS)
Time of concentration =   10.45 min.
Rainfall intensity =     3.425(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)
```

```
1    415.07   233.953     22.84    0.366      2.142
2      7.01     2.340     10.45    0.098      3.425
Qmax(1) =
           1.000 *    1.000 *   415.068) +
           0.614 *    1.000 *     7.008) + =     419.373
Qmax(2) =
           1.722 *    0.457 *   415.068) +
           1.000 *    1.000 *     7.008) + =     333.975

Total of 2 streams to confluence:
Flow rates before confluence point:
     415.068       7.008
Maximum flow rates at confluence using above data:
      419.373      333.975
Area of streams before confluence:
       233.953        2.340
Effective area values after confluence:
      236.293      109.334
Results of confluence:
Total flow rate =    419.373(CFS)
Time of concentration =    22.841 min.
Effective stream area after confluence =    236.293(Ac.)
Study area average Pervious fraction(Ap) =  0.372
Study area average soil loss rate(Fm) =    0.363(In/Hr)
Study area total (this main stream) =     236.29(Ac.)


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Process from Point/Station      440.000 to Point/Station      445.000
**** CONFLUENCE OF MAIN STREAMS ****
_____________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    236.293(Ac.)
Runoff from this stream =    419.373(CFS)
Time of concentration =   22.84 min.
Rainfall intensity =     2.142(In/Hr)
Area averaged loss rate (Fm) =    0.3633(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3718
Program is now starting with Main Stream No. 2


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Process from Point/Station      445.000 to Point/Station      445.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
_____________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 55.61
Pervious ratio(Ap) = 0.2300     Max loss rate(Fm)=     0.170(In/Hr)
Rainfall intensity =      3.597(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =   9.63 min.  Rain intensity =       3.60(In/Hr)
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```
Total area this stream =        36.30(Ac.)
Total Study Area (Main Stream No. 2) =      277.47(Ac.)
Total runoff =     95.46(CFS)


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Process from Point/Station      445.000 to Point/Station      445.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     36.300(Ac.)
Runoff from this stream =     95.460(CFS)
Time of concentration =    9.63 min.
Rainfall intensity =     3.597(In/Hr)
Area averaged loss rate (Fm) =    0.1700(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2300
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    419.37   236.293     22.84    0.363      2.142
2     95.46    36.300      9.63    0.170      3.597
Qmax(1) =
           1.000 *    1.000 *   419.373) +
           0.576 *    1.000 *    95.460) + =     474.313
Qmax(2) =
           1.818 *    0.422 *   419.373) +
           1.000 *    1.000 *    95.460) + =     416.851

Total of 2 main streams to confluence:
Flow rates before confluence point:
     420.373      96.460
Maximum flow rates at confluence using above data:
      474.313      416.851
Area of streams before confluence:
      236.293       36.300
Effective area values after confluence:
      272.593      135.924


Results of confluence:
Total flow rate =    474.313(CFS)
Time of concentration =    22.841 min.
Effective stream area after confluence  =    272.593(Ac.)
Study area average Pervious fraction(Ap) =  0.353
Study area average soil loss rate(Fm) =    0.338(In/Hr)
Study area total =     272.59(Ac.)


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Process from Point/Station      445.000 to Point/Station      450.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
```

```
Upstream point/station elevation =   715.590(Ft.)
Downstream point/station elevation =   713.200(Ft.)
Pipe length  =   360.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   474.313(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   474.313(CFS)
Normal flow depth in pipe =   63.00(In.)
Flow top width inside pipe =   72.75(In.)
Critical Depth =   68.51(In.)
Pipe flow velocity =     15.33(Ft/s)
Travel time through pipe =    0.39 min.
Time of concentration (TC) =    23.23 min.


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Process from Point/Station      445.000 to Point/Station      450.000
**** CONFLUENCE OF MAIN STREAMS ****
------------------------------------------------------------------------------
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    272.593(Ac.)
Runoff from this stream =    474.313(CFS)
Time of concentration =   23.23 min.
Rainfall intensity =     2.120(In/Hr)
Area averaged loss rate (Fm) =    0.3376(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3529
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      450.000 to Point/Station      450.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
------------------------------------------------------------------------------
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 58.53
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.070(In/Hr)
Rainfall intensity =      5.304(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =   5.04 min.  Rain intensity =       5.30(In/Hr)
Total area this stream =         4.10(Ac.)
Total Study Area (Main Stream No. 2) =      281.57(Ac.)
Total runoff =     21.00(CFS)


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Process from Point/Station      450.000 to Point/Station      450.000
**** CONFLUENCE OF MAIN STREAMS ****
------------------------------------------------------------------------------
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      4.100(Ac.)
Runoff from this stream =     21.000(CFS)
Time of concentration =    5.04 min.
```

```
Rainfall intensity =     5.304(In/Hr)
Area averaged loss rate (Fm) =    0.0700(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    474.31   272.593     23.23    0.338      2.120
2     21.00     4.100      5.04    0.070      5.304
Qmax(1) =
           1.000 *    1.000 *   474.313) +
           0.392 *    1.000 *    21.000) + =     482.539
Qmax(2) =
           2.786 *    0.217 *   474.313) +
           1.000 *    1.000 *    21.000) + =     307.649

Total of 2 main streams to confluence:
Flow rates before confluence point:
     475.313      22.000
Maximum flow rates at confluence using above data:
      482.539      307.649
Area of streams before confluence:
      272.593        4.100
Effective area values after confluence:
      276.693       63.236


Results of confluence:
Total flow rate =    482.539(CFS)
Time of concentration =    23.232 min.
Effective stream area after confluence  =    276.693(Ac.)
Study area average Pervious fraction(Ap) =  0.349
Study area average soil loss rate(Fm) =    0.334(In/Hr)
Study area total =     276.69(Ac.)


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Process from Point/Station      450.000 to Point/Station     4170.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   712.610(Ft.)
Downstream point/station elevation =   710.300(Ft.)
Pipe length  =   340.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   482.539(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   482.539(CFS)
Normal flow depth in pipe =   63.28(In.)
Flow top width inside pipe =   72.42(In.)
Critical Depth =   69.04(In.)
Pipe flow velocity =     15.52(Ft/s)
Travel time through pipe =    0.37 min.
Time of concentration (TC) =    23.60 min.
```

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Process from Point/Station     4170.000 to Point/Station     4170.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    276.693(Ac.)
Runoff from this stream =    482.539(CFS)
Time of concentration =   23.60 min.
Rainfall intensity =     2.101(In/Hr)
Area averaged loss rate (Fm) =    0.3336(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3492
Program is now starting with Main Stream No. 2


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Process from Point/Station     4170.000 to Point/Station     4170.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 55.61
Pervious ratio(Ap) = 0.2300     Max loss rate(Fm)=     0.170(In/Hr)
Rainfall intensity =      3.165(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  11.92 min.  Rain intensity =       3.16(In/Hr)
Total area this stream =         8.60(Ac.)
Total Study Area (Main Stream No. 2) =      290.17(Ac.)
Total runoff =     22.10(CFS)


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Process from Point/Station     4170.000 to Point/Station     4170.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      8.600(Ac.)
Runoff from this stream =     22.100(CFS)
Time of concentration =   11.92 min.
Rainfall intensity =     3.165(In/Hr)
Area averaged loss rate (Fm) =    0.1700(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2300
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    482.54   276.693     23.60    0.334      2.101
2     22.10     8.600     11.92    0.170      3.165
Qmax(1) =
           1.000 *    1.000 *   482.539) +
           0.645 *    1.000 *    22.100) + =     496.788
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```
Qmax(2) =
           1.602 *    0.505 *   482.539) +
           1.000 *    1.000 *    22.100) + =     412.602

Total of 2 main streams to confluence:
Flow rates before confluence point:
     483.539      23.100
Maximum flow rates at confluence using above data:
      496.788      412.602
Area of streams before confluence:
      276.693        8.600
Effective area values after confluence:
      285.293      148.368


Results of confluence:
Total flow rate =    496.788(CFS)
Time of concentration =    23.597 min.
Effective stream area after confluence  =    285.293(Ac.)
Study area average Pervious fraction(Ap) =  0.346
Study area average soil loss rate(Fm) =    0.329(In/Hr)
Study area total =     285.29(Ac.)


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Process from Point/Station     4170.000 to Point/Station     4170.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    285.293(Ac.)
Runoff from this stream =    496.788(CFS)
Time of concentration =   23.60 min.
Rainfall intensity =     2.101(In/Hr)
Area averaged loss rate (Fm) =    0.3287(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3456


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Process from Point/Station      450.000 to Point/Station     4170.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   340.000(Ft.)
Top (of initial area) elevation =   712.610(Ft.)
Bottom (of initial area) elevation =   710.300(Ft.)
Difference in elevation =     2.310(Ft.)
Slope =    0.00679  s(%)=       0.68
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
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```
Initial area time of concentration =    8.493 min.
Rainfall intensity =      3.878(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.877
Subarea runoff =     22.219(CFS)
Total initial stream area =        6.530(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station     4170.000 to Point/Station     4170.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      6.530(Ac.)
Runoff from this stream =     22.219(CFS)
Time of concentration =    8.49 min.
Rainfall intensity =     3.878(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    496.79   285.293     23.60    0.329      2.101
2     22.22     6.530      8.49    0.098      3.878
Qmax(1) =
           1.000 *    1.000 *   496.788) +
           0.530 *    1.000 *    22.219) + =     508.559
Qmax(2) =
           2.003 *    0.360 *   496.788) +
           1.000 *    1.000 *    22.219) + =     380.380

Total of 2 streams to confluence:
Flow rates before confluence point:
     496.788      22.219
Maximum flow rates at confluence using above data:
      508.559      380.380
Area of streams before confluence:
      285.293        6.530
Effective area values after confluence:
      291.823      109.205
Results of confluence:
Total flow rate =    508.559(CFS)
Time of concentration =    23.597 min.
Effective stream area after confluence =    291.823(Ac.)
Study area average Pervious fraction(Ap) =  0.340
Study area average soil loss rate(Fm) =    0.324(In/Hr)
Study area total (this main stream) =     291.82(Ac.)


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Process from Point/Station     4170.000 to Point/Station      455.000
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**** PIPEFLOW TRAVEL TIME (User specified size) ****
_____________________________________________________________________
Upstream point/station elevation =   709.250(Ft.)
Downstream point/station elevation =   706.460(Ft.)
Pipe length  =   440.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   508.559(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   508.559(CFS)
Normal flow depth in pipe =   68.88(In.)
Flow top width inside pipe =   64.54(In.)
Critical Depth =   70.61(In.)
Pipe flow velocity =     15.07(Ft/s)
Travel time through pipe =    0.49 min.
Time of concentration (TC) =    24.08 min.


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Process from Point/Station      455.000 to Point/Station      455.000
**** CONFLUENCE OF MAIN STREAMS ****
_____________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    291.823(Ac.)
Runoff from this stream =    508.559(CFS)
Time of concentration =   24.08 min.
Rainfall intensity =     2.075(In/Hr)
Area averaged loss rate (Fm) =    0.3235(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3401
Program is now starting with Main Stream No. 2


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Process from Point/Station      455.000 to Point/Station      455.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
_____________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 58.53
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.070(In/Hr)
Rainfall intensity =      4.142(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =   7.61 min.  Rain intensity =       4.14(In/Hr)
Total area this stream =        10.00(Ac.)
Total Study Area (Main Stream No. 2) =      306.70(Ac.)
Total runoff =     38.71(CFS)


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Process from Point/Station      455.000 to Point/Station      455.000
**** CONFLUENCE OF MAIN STREAMS ****
_____________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     10.000(Ac.)
Runoff from this stream =     38.710(CFS)
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```
Time of concentration =    7.61 min.
Rainfall intensity =     4.142(In/Hr)
Area averaged loss rate (Fm) =    0.0700(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    508.56   291.823     24.08    0.324      2.075
2     38.71    10.000      7.61    0.070      4.142
Qmax(1) =
           1.000 *    1.000 *   508.559) +
           0.492 *    1.000 *    38.710) + =     527.618
Qmax(2) =
           2.180 *    0.316 *   508.559) +
           1.000 *    1.000 *    38.710) + =     389.054

Total of 2 main streams to confluence:
Flow rates before confluence point:
     509.559      39.710
Maximum flow rates at confluence using above data:
      527.618      389.054
Area of streams before confluence:
      291.823       10.000
Effective area values after confluence:
      301.823      102.209


Results of confluence:
Total flow rate =    527.618(CFS)
Time of concentration =    24.084 min.
Effective stream area after confluence  =    301.823(Ac.)
Study area average Pervious fraction(Ap) =  0.332
Study area average soil loss rate(Fm) =    0.315(In/Hr)
Study area total =     301.82(Ac.)


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Process from Point/Station      455.000 to Point/Station      460.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   706.460(Ft.)
Downstream point/station elevation =   705.230(Ft.)
Pipe length  =   200.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   527.618(CFS)
Given pipe size =     84.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
     4.512(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =      1.364(Ft.)
 Minor friction loss =      4.378(Ft.)  K-factor =   1.50
Pipe flow velocity =     13.71(Ft/s)
Travel time through pipe =    0.24 min.
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Time of concentration (TC) =    24.33 min.


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Process from Point/Station      455.000 to Point/Station      460.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    301.823(Ac.)
Runoff from this stream =    527.618(CFS)
Time of concentration =   24.33 min.
Rainfall intensity =     2.063(In/Hr)
Area averaged loss rate (Fm) =    0.3151(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3322
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    527.62   301.823     24.33    0.315      2.063
Qmax(1) =
           1.000 *    1.000 *   527.618) + =     527.618

Total of 1 main streams to confluence:
Flow rates before confluence point:
     528.618
Maximum flow rates at confluence using above data:
      527.618
Area of streams before confluence:
      301.823
Effective area values after confluence:
      301.823


Results of confluence:
Total flow rate =    527.618(CFS)
Time of concentration =    24.327 min.
Effective stream area after confluence  =    301.823(Ac.)
Study area average Pervious fraction(Ap) =  0.332
Study area average soil loss rate(Fm) =    0.315(In/Hr)
Study area total =     301.82(Ac.)


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Process from Point/Station      460.000 to Point/Station      460.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 31.86
Pervious ratio(Ap) = 0.1870     Max loss rate(Fm)=     0.183(In/Hr)
Rainfall intensity =      3.339(In/Hr) for a   100.0 year storm
User specified values are as follows:
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TC =  10.90 min.  Rain intensity =       3.34(In/Hr)
Total area this stream =        19.75(Ac.)
Total Study Area (Main Stream No. 1) =      326.45(Ac.)
Total runoff =     50.20(CFS)


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Process from Point/Station      460.000 to Point/Station      460.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     19.750(Ac.)
Runoff from this stream =     50.200(CFS)
Time of concentration =   10.90 min.
Rainfall intensity =     3.339(In/Hr)
Area averaged loss rate (Fm) =    0.1830(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1870
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    527.62   301.823     24.33    0.315      2.063
2     50.20    19.750     10.90    0.183      3.339
Qmax(1) =
           1.000 *    1.000 *   527.618) +
           0.596 *    1.000 *    50.200) + =     557.516
Qmax(2) =
           1.730 *    0.448 *   527.618) +
           1.000 *    1.000 *    50.200) + =     459.275

Total of 2 main streams to confluence:
Flow rates before confluence point:
     528.618      51.200
Maximum flow rates at confluence using above data:
      557.516      459.275
Area of streams before confluence:
      301.823       19.750
Effective area values after confluence:
      321.573      154.984


Results of confluence:
Total flow rate =    557.516(CFS)
Time of concentration =    24.327 min.
Effective stream area after confluence  =    321.573(Ac.)
Study area average Pervious fraction(Ap) =  0.323
Study area average soil loss rate(Fm) =    0.307(In/Hr)
Study area total =     321.57(Ac.)


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Process from Point/Station      460.000 to Point/Station      465.000
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**** PIPEFLOW TRAVEL TIME (User specified size) ****
_____________________________________________________________________
Upstream point/station elevation =   705.230(Ft.)
Downstream point/station elevation =   702.700(Ft.)
Pipe length  =   420.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   557.516(CFS)
Given pipe size =     84.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
     5.556(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =      3.198(Ft.)
 Minor friction loss =      4.888(Ft.)  K-factor =   1.50
Pipe flow velocity =     14.49(Ft/s)
Travel time through pipe =    0.48 min.
Time of concentration (TC) =    24.81 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      460.000 to Point/Station      465.000
**** CONFLUENCE OF MAIN STREAMS ****
_____________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    321.573(Ac.)
Runoff from this stream =    557.516(CFS)
Time of concentration =   24.81 min.
Rainfall intensity =     2.038(In/Hr)
Area averaged loss rate (Fm) =    0.3070(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3232
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      465.000 to Point/Station      465.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
_____________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 56.07
Pervious ratio(Ap) = 0.1910     Max loss rate(Fm)=     0.140(In/Hr)
Rainfall intensity =      4.044(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =   7.92 min.  Rain intensity =       4.04(In/Hr)
Total area this stream =         6.67(Ac.)
Total Study Area (Main Stream No. 2) =      333.12(Ac.)
Total runoff =     23.53(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      465.000 to Point/Station      465.000
**** CONFLUENCE OF MAIN STREAMS ****
_____________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      6.670(Ac.)
```

```
Runoff from this stream =     23.530(CFS)
Time of concentration =    7.92 min.
Rainfall intensity =     4.044(In/Hr)
Area averaged loss rate (Fm) =    0.1400(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1910
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    557.52   321.573     24.81    0.307      2.038
2     23.53     6.670      7.92    0.140      4.044
Qmax(1) =
           1.000 *    1.000 *   557.516) +
           0.486 *    1.000 *    23.530) + =     568.957
Qmax(2) =
           2.159 *    0.319 *   557.516) +
           1.000 *    1.000 *    23.530) + =     407.678

Total of 2 main streams to confluence:
Flow rates before confluence point:
     558.516      24.530
Maximum flow rates at confluence using above data:
      568.957      407.678
Area of streams before confluence:
      321.573        6.670
Effective area values after confluence:
      328.243      109.322


Results of confluence:
Total flow rate =    568.957(CFS)
Time of concentration =    24.811 min.
Effective stream area after confluence  =    328.243(Ac.)
Study area average Pervious fraction(Ap) =  0.321
Study area average soil loss rate(Fm) =    0.304(In/Hr)
Study area total =     328.24(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      465.000 to Point/Station     4171.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   702.700(Ft.)
Downstream point/station elevation =   701.370(Ft.)
Pipe length  =   210.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   568.957(CFS)
Given pipe size =     84.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
     5.426(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =      1.665(Ft.)
 Minor friction loss =      5.091(Ft.)  K-factor =   1.50
Pipe flow velocity =     14.78(Ft/s)
```

```
Travel time through pipe =    0.24 min.
Time of concentration (TC) =    25.05 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      465.000 to Point/Station     4171.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    328.243(Ac.)
Runoff from this stream =    568.957(CFS)
Time of concentration =   25.05 min.
Rainfall intensity =     2.027(In/Hr)
Area averaged loss rate (Fm) =    0.3036(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3206
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4171.000 to Point/Station     4171.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 31.98
Pervious ratio(Ap) = 0.1810     Max loss rate(Fm)=     0.177(In/Hr)
Rainfall intensity =      2.966(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  13.28 min.  Rain intensity =       2.97(In/Hr)
Total area this stream =        14.13(Ac.)
Total Study Area (Main Stream No. 2) =      347.25(Ac.)
Total runoff =     35.60(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4171.000 to Point/Station     4171.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     14.130(Ac.)
Runoff from this stream =     35.600(CFS)
Time of concentration =   13.28 min.
Rainfall intensity =     2.966(In/Hr)
Area averaged loss rate (Fm) =    0.1770(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1810
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    568.96   328.243     25.05    0.304      2.027
2     35.60    14.130     13.28    0.177      2.966
```

```
Qmax(1) =
           1.000 *    1.000 *   568.957) +
           0.663 *    1.000 *    35.600) + =     592.570
Qmax(2) =
           1.545 *    0.530 *   568.957) +
           1.000 *    1.000 *    35.600) + =     501.647

Total of 2 main streams to confluence:
Flow rates before confluence point:
     569.957      36.600
Maximum flow rates at confluence using above data:
      592.570      501.647
Area of streams before confluence:
      328.243       14.130
Effective area values after confluence:
      342.373      188.164


Results of confluence:
Total flow rate =    592.570(CFS)
Time of concentration =    25.047 min.
Effective stream area after confluence  =    342.373(Ac.)
Study area average Pervious fraction(Ap) =  0.315
Study area average soil loss rate(Fm) =    0.298(In/Hr)
Study area total =     342.37(Ac.)


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Process from Point/Station      465.000 to Point/Station     4171.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    342.373(Ac.)
Runoff from this stream =    592.570(CFS)
Time of concentration =   25.05 min.
Rainfall intensity =     2.027(In/Hr)
Area averaged loss rate (Fm) =    0.2984(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3148


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      465.000 to Point/Station     4171.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   210.000(Ft.)
Top (of initial area) elevation =   702.700(Ft.)
Bottom (of initial area) elevation =   701.370(Ft.)
```

```
Difference in elevation =     1.330(Ft.)
Slope =    0.00633  s(%)=       0.63
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.103 min.
Rainfall intensity =      4.317(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.880
Subarea runoff =     21.798(CFS)
Total initial stream area =        5.740(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station     4171.000 to Point/Station     4171.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      5.740(Ac.)
Runoff from this stream =     21.798(CFS)
Time of concentration =    7.10 min.
Rainfall intensity =     4.317(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    592.57   342.373     25.05    0.298      2.027
2     21.80     5.740      7.10    0.098      4.317
Qmax(1) =
           1.000 *    1.000 *   592.570) +
           0.457 *    1.000 *    21.798) + =     602.535
Qmax(2) =
           2.325 *    0.284 *   592.570) +
           1.000 *    1.000 *    21.798) + =     412.520

Total of 2 streams to confluence:
Flow rates before confluence point:
     592.570      21.798
Maximum flow rates at confluence using above data:
      602.535      412.520
Area of streams before confluence:
      342.373        5.740
Effective area values after confluence:
      348.113      102.830
Results of confluence:
Total flow rate =    602.535(CFS)
Time of concentration =    25.047 min.
Effective stream area after confluence =    348.113(Ac.)
Study area average Pervious fraction(Ap) =  0.311
Study area average soil loss rate(Fm) =    0.295(In/Hr)
Study area total (this main stream) =     348.11(Ac.)
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Process from Point/Station     4171.000 to Point/Station     4200.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =   701.370(Ft.)
Downstream point/station elevation =   700.360(Ft.)
Pipe length  =   150.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   602.535(CFS)
Given pipe size =     84.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
     6.033(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =      1.334(Ft.)
 Minor friction loss =      5.710(Ft.)  K-factor =   1.50
Pipe flow velocity =     15.66(Ft/s)
Travel time through pipe =    0.16 min.
Time of concentration (TC) =    25.21 min.
End of computations, Total Study Area =          352.99 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.313
Area averaged SCS curve number =  36.6
```

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2018 Version 9.0
Rational Hydrology Study Date: 09/08/22

Rich-Haven Specific Plan
Hydrology Study for Allowable Q
100-yr Stormill Creek Storm Drain
Haven Storm Drain

Program License Serial Number 6440

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.200 (In.)
Slope used for rainfall intensity curve b = 0.6000
Soil antecedent moisture condition (AMC) = 2

++

Process from Point/Station 4070.000 to Point/Station 4070.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 32.46
Pervious ratio(Ap) = 0.3620 Max loss rate(Fm)= 0.353(In/Hr)
Rainfall intensity = 2.348(In/Hr) for a 100.0 year storm
User specified values are as follows:
TC = 19.60 min. Rain intensity = 2.35(In/Hr)
Total area this stream = 67.70(Ac.)
Total Study Area (Main Stream No. 1) = 67.70(Ac.)
Total runoff = 72.96(CFS)

++

Process from Point/Station 4070.000 to Point/Station 4075.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****

Upstream point/station elevation = 744.000(Ft.)
Downstream point/station elevation = 740.000(Ft.)
Pipe length = 660.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 72.960(CFS)
Given pipe size = 54.00(In.)
Calculated individual pipe flow = 72.960(CFS)
Normal flow depth in pipe = 26.25(In.)

```
Flow top width inside pipe =   53.98(In.)
Critical Depth =   29.91(In.)
Pipe flow velocity =      9.51(Ft/s)
Travel time through pipe =    1.16 min.
Time of concentration (TC) =    20.76 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4070.000 to Point/Station     4075.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =     67.700(Ac.)
Runoff from this stream =     72.960(CFS)
Time of concentration =   20.76 min.
Rainfall intensity =     2.269(In/Hr)
Area averaged loss rate (Fm) =    0.3530(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3620
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      401.000 to Point/Station      402.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Initial subarea data:
Initial area flow distance =   640.000(Ft.)
Top (of initial area) elevation =   765.000(Ft.)
Bottom (of initial area) elevation =   761.000(Ft.)
Difference in elevation =     4.000(Ft.)
Slope =    0.00625  s(%)=       0.63
TC = k(0.483)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   17.670 min.
Rainfall intensity =      2.499(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.601
Subarea runoff =      7.264(CFS)
Total initial stream area =        4.840(Ac.)
Pervious area fraction = 0.850
Initial area Fm value =    0.831(In/Hr)


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Process from Point/Station      402.000 to Point/Station      403.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   753.000(Ft.)
Downstream point/station elevation =   747.000(Ft.)
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Pipe length  =   760.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.264(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =     7.264(CFS)
Normal flow depth in pipe =    8.51(In.)
Flow top width inside pipe =   30.59(In.)
Critical Depth =   10.15(In.)
Pipe flow velocity =      5.69(Ft/s)
Travel time through pipe =    2.23 min.
Time of concentration (TC) =    19.90 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      402.000 to Point/Station      403.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Time of concentration =    19.90 min.
Rainfall intensity =      2.327(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.579
Subarea runoff =     14.841(CFS) for   11.580(Ac.)
Total runoff =     22.106(CFS)
Effective area this stream =       16.42(Ac.)
Total Study Area (Main Stream No. 2) =       84.12(Ac.)
Area averaged Fm value =    0.831(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      403.000 to Point/Station     4075.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   747.000(Ft.)
Downstream point/station elevation =   740.000(Ft.)
Pipe length  =    20.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    22.106(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =    22.106(CFS)
Normal flow depth in pipe =    5.78(In.)
Flow top width inside pipe =   26.44(In.)
Critical Depth =   18.14(In.)
Pipe flow velocity =     30.09(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =    19.91 min.


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Process from Point/Station      403.000 to Point/Station     4075.000
**** SUBAREA FLOW ADDITION ****
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COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    19.91 min.
Rainfall intensity =      2.326(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.619
Subarea runoff =      5.444(CFS) for    2.720(Ac.)
Total runoff =     27.549(CFS)
Effective area this stream =       19.14(Ac.)
Total Study Area (Main Stream No. 2) =       86.84(Ac.)
Area averaged Fm value =    0.727(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      401.000 to Point/Station     4075.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     19.140(Ac.)
Runoff from this stream =     27.549(CFS)
Time of concentration =   19.91 min.
Rainfall intensity =     2.326(In/Hr)
Area averaged loss rate (Fm) =    0.7269(In/Hr)
Area averaged Pervious ratio (Ap) = 0.7434
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     72.96    67.700     20.76    0.353      2.269
2     27.55    19.140     19.91    0.727      2.326
Qmax(1) =
           1.000 *    1.000 *    72.960) +
           0.964 *    1.000 *    27.549) + =      99.519
Qmax(2) =
           1.030 *    0.959 *    72.960) +
           1.000 *    1.000 *    27.549) + =      99.629

Total of 2 main streams to confluence:
Flow rates before confluence point:
      73.960      28.549
Maximum flow rates at confluence using above data:
       99.519       99.629
Area of streams before confluence:
       67.700       19.140
Effective area values after confluence:
       86.840       84.074
```

```
Results of confluence:
Total flow rate =     99.629(CFS)
Time of concentration =    19.909 min.
Effective stream area after confluence  =     84.074(Ac.)
Study area average Pervious fraction(Ap) =  0.446
Study area average soil loss rate(Fm) =    0.435(In/Hr)
Study area total =      86.84(Ac.)


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Process from Point/Station     4075.000 to Point/Station     4120.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
____________________________________________________________________________
Upstream point/station elevation =   740.000(Ft.)
Downstream point/station elevation =   729.300(Ft.)
Pipe length  =   990.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    99.629(CFS)
Given pipe size =     60.00(In.)
Calculated individual pipe flow  =    99.629(CFS)
Normal flow depth in pipe =   25.20(In.)
Flow top width inside pipe =   59.23(In.)
Critical Depth =   34.08(In.)
Pipe flow velocity =     12.74(Ft/s)
Travel time through pipe =    1.30 min.
Time of concentration (TC) =    21.20 min.


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Process from Point/Station     4120.000 to Point/Station     4120.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     84.074(Ac.)
Runoff from this stream =     99.629(CFS)
Time of concentration =   21.20 min.
Rainfall intensity =     2.240(In/Hr)
Area averaged loss rate (Fm) =    0.4354(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4461


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Process from Point/Station     4075.000 to Point/Station     4120.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   990.000(Ft.)
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Top (of initial area) elevation =   740.000(Ft.)
Bottom (of initial area) elevation =   729.300(Ft.)
Difference in elevation =    10.700(Ft.)
Slope =    0.01081  s(%)=       1.08
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.868 min.
Rainfall intensity =      3.173(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.872
Subarea runoff =      8.745(CFS)
Total initial stream area =        3.160(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4120.000 to Point/Station     4120.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      3.160(Ac.)
Runoff from this stream =      8.745(CFS)
Time of concentration =   11.87 min.
Rainfall intensity =     3.173(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     99.63    84.074     21.20    0.435      2.240
2      8.75     3.160     11.87    0.098      3.173
Qmax(1) =
           1.000 *    1.000 *    99.629) +
           0.697 *    1.000 *     8.745) + =     105.721
Qmax(2) =
           1.517 *    0.560 *    99.629) +
           1.000 *    1.000 *     8.745) + =      93.340

Total of 2 streams to confluence:
Flow rates before confluence point:
      99.629       8.745
Maximum flow rates at confluence using above data:
      105.721       93.340
Area of streams before confluence:
       84.074        3.160
Effective area values after confluence:
       87.234       50.217
Results of confluence:
Total flow rate =    105.721(CFS)
Time of concentration =    21.204 min.
Effective stream area after confluence =     87.234(Ac.)
Study area average Pervious fraction(Ap) =  0.434
Study area average soil loss rate(Fm) =    0.423(In/Hr)
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Study area total (this main stream) =      87.23(Ac.)


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Process from Point/Station     4075.000 to Point/Station     4120.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =     87.234(Ac.)
Runoff from this stream =    105.721(CFS)
Time of concentration =   21.20 min.
Rainfall intensity =     2.240(In/Hr)
Area averaged loss rate (Fm) =    0.4232(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4335
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4080.000 to Point/Station     4080.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 32.04
Pervious ratio(Ap) = 0.3570     Max loss rate(Fm)=     0.349(In/Hr)
Rainfall intensity =      2.612(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  16.41 min.  Rain intensity =       2.61(In/Hr)
Total area this stream =        68.90(Ac.)
Total Study Area (Main Stream No. 2) =      158.90(Ac.)
Total runoff =     73.08(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4080.000 to Point/Station      410.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   747.700(Ft.)
Downstream point/station elevation =   745.890(Ft.)
Pipe length  =   360.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    73.080(CFS)
Given pipe size =     60.00(In.)
Calculated individual pipe flow  =    73.080(CFS)
Normal flow depth in pipe =   26.23(In.)
Flow top width inside pipe =   59.52(In.)
Critical Depth =   28.99(In.)
Pipe flow velocity =      8.86(Ft/s)
Travel time through pipe =    0.68 min.
Time of concentration (TC) =    17.09 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     4080.000 to Point/Station      410.000
**** CONFLUENCE OF MINOR STREAMS ****
```

```
Along Main Stream number: 2 in normal stream number 1
Stream flow area =     68.900(Ac.)
Runoff from this stream =     73.080(CFS)
Time of concentration =   17.09 min.
Rainfall intensity =     2.550(In/Hr)
Area averaged loss rate (Fm) =    0.3490(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3570


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      406.000 to Point/Station      407.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Initial subarea data:
Initial area flow distance =   400.000(Ft.)
Top (of initial area) elevation =   765.000(Ft.)
Bottom (of initial area) elevation =   762.000(Ft.)
Difference in elevation =     3.000(Ft.)
Slope =    0.00750  s(%)=       0.75
TC = k(0.483)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.118 min.
Rainfall intensity =      2.859(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.638
Subarea runoff =      4.344(CFS)
Total initial stream area =        2.380(Ac.)
Pervious area fraction = 0.850
Initial area Fm value =    0.831(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      407.000 to Point/Station      410.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
------------------------------------------------------------------------
Upstream point/station elevation =   749.000(Ft.)
Downstream point/station elevation =   745.890(Ft.)
Pipe length  =   100.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.344(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     4.344(CFS)
Normal flow depth in pipe =    5.35(In.)
Flow top width inside pipe =   19.98(In.)
Critical Depth =    8.77(In.)
Pipe flow velocity =      8.33(Ft/s)
Travel time through pipe =    0.20 min.
Time of concentration (TC) =    14.32 min.
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      407.000 to Point/Station      410.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    14.32 min.
Rainfall intensity =      2.835(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.676
Subarea runoff =      1.156(CFS) for    0.490(Ac.)
Total runoff =      5.499(CFS)
Effective area this stream =        2.87(Ac.)
Total Study Area (Main Stream No. 2) =      161.77(Ac.)
Area averaged Fm value =    0.706(In/Hr)


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Process from Point/Station      406.000 to Point/Station      410.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      2.870(Ac.)
Runoff from this stream =      5.499(CFS)
Time of concentration =   14.32 min.
Rainfall intensity =     2.835(In/Hr)
Area averaged loss rate (Fm) =    0.7059(In/Hr)
Area averaged Pervious ratio (Ap) = 0.7220
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     73.08    68.900     17.09    0.349      2.550
2      5.50     2.870     14.32    0.706      2.835
Qmax(1) =
           1.000 *    1.000 *    73.080) +
           0.866 *    1.000 *     5.499) + =      77.842
Qmax(2) =
           1.130 *    0.838 *    73.080) +
           1.000 *    1.000 *     5.499) + =      74.675

Total of 2 streams to confluence:
Flow rates before confluence point:
      73.080       5.499
Maximum flow rates at confluence using above data:
       77.842       74.675
Area of streams before confluence:
       68.900        2.870
```

```
Effective area values after confluence:
       71.770       60.602
Results of confluence:
Total flow rate =     77.842(CFS)
Time of concentration =    17.088 min.
Effective stream area after confluence =     71.770(Ac.)
Study area average Pervious fraction(Ap) =  0.372
Study area average soil loss rate(Fm) =    0.363(In/Hr)
Study area total (this main stream) =      71.77(Ac.)


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Process from Point/Station      410.000 to Point/Station      415.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =   745.890(Ft.)
Downstream point/station elevation =   741.230(Ft.)
Pipe length  =   930.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    77.842(CFS)
Given pipe size =     60.00(In.)
Calculated individual pipe flow  =    77.842(CFS)
Normal flow depth in pipe =   27.21(In.)
Flow top width inside pipe =   59.74(In.)
Critical Depth =   29.95(In.)
Pipe flow velocity =      8.99(Ft/s)
Travel time through pipe =    1.72 min.
Time of concentration (TC) =    18.81 min.


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Process from Point/Station      410.000 to Point/Station      415.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =     71.770(Ac.)
Runoff from this stream =     77.842(CFS)
Time of concentration =   18.81 min.
Rainfall intensity =     2.407(In/Hr)
Area averaged loss rate (Fm) =    0.3633(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3716


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Process from Point/Station      411.000 to Point/Station      412.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Initial subarea data:
Initial area flow distance =   630.000(Ft.)
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Top (of initial area) elevation =   759.000(Ft.)
Bottom (of initial area) elevation =   756.000(Ft.)
Difference in elevation =     3.000(Ft.)
Slope =    0.00476  s(%)=       0.48
TC = k(0.483)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   18.541 min.
Rainfall intensity =      2.428(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.592
Subarea runoff =      6.207(CFS)
Total initial stream area =        4.320(Ac.)
Pervious area fraction = 0.850
Initial area Fm value =    0.831(In/Hr)


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Process from Point/Station      412.000 to Point/Station      415.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   749.000(Ft.)
Downstream point/station elevation =   741.230(Ft.)
Pipe length  =   840.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     6.207(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =     6.207(CFS)
Normal flow depth in pipe =    8.78(In.)
Flow top width inside pipe =   23.12(In.)
Critical Depth =   10.57(In.)
Pipe flow velocity =      5.97(Ft/s)
Travel time through pipe =    2.34 min.
Time of concentration (TC) =    20.88 min.


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Process from Point/Station      412.000 to Point/Station      415.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Time of concentration =    20.88 min.
Rainfall intensity =      2.260(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.569
Subarea runoff =     13.730(CFS) for   11.180(Ac.)
Total runoff =     19.937(CFS)
Effective area this stream =       15.50(Ac.)
Total Study Area (Main Stream No. 2) =      177.27(Ac.)
Area averaged Fm value =    0.831(In/Hr)


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Process from Point/Station      412.000 to Point/Station      415.000
**** SUBAREA FLOW ADDITION ****
----------------------------------------------------------------------
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    20.88 min.
Rainfall intensity =      2.260(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.591
Subarea runoff =      2.491(CFS) for    1.280(Ac.)
Total runoff =     22.429(CFS)
Effective area this stream =       16.78(Ac.)
Total Study Area (Main Stream No. 2) =      178.55(Ac.)
Area averaged Fm value =    0.775(In/Hr)


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Process from Point/Station      411.000 to Point/Station      415.000
**** CONFLUENCE OF MINOR STREAMS ****
----------------------------------------------------------------------
Along Main Stream number: 2 in normal stream number 2
Stream flow area =     16.780(Ac.)
Runoff from this stream =     22.429(CFS)
Time of concentration =   20.88 min.
Rainfall intensity =     2.260(In/Hr)
Area averaged loss rate (Fm) =    0.7752(In/Hr)
Area averaged Pervious ratio (Ap) = 0.7928
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     77.84    71.770     18.81    0.363      2.407
2     22.43    16.780     20.88    0.775      2.260
Qmax(1) =
           1.000 *    1.000 *    77.842) +
           1.099 *    0.901 *    22.429) + =     100.035
Qmax(2) =
           0.928 *    1.000 *    77.842) +
           1.000 *    1.000 *    22.429) + =      94.695

Total of 2 streams to confluence:
Flow rates before confluence point:
      77.842      22.429
Maximum flow rates at confluence using above data:
      100.035       94.695
Area of streams before confluence:
       71.770       16.780
Effective area values after confluence:
```

```
       86.884       88.550
Results of confluence:
Total flow rate =    100.035(CFS)
Time of concentration =    18.811 min.
Effective stream area after confluence =     86.884(Ac.)
Study area average Pervious fraction(Ap) =  0.451
Study area average soil loss rate(Fm) =    0.441(In/Hr)
Study area total (this main stream) =      88.55(Ac.)


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Process from Point/Station      415.000 to Point/Station      416.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =   741.230(Ft.)
Downstream point/station elevation =   739.420(Ft.)
Pipe length  =   240.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   100.035(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =   100.035(CFS)
Normal flow depth in pipe =   25.66(In.)
Flow top width inside pipe =   68.97(In.)
Critical Depth =   32.29(In.)
Pipe flow velocity =     11.07(Ft/s)
Travel time through pipe =    0.36 min.
Time of concentration (TC) =    19.17 min.


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Process from Point/Station      415.000 to Point/Station      416.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =     86.884(Ac.)
Runoff from this stream =    100.035(CFS)
Time of concentration =   19.17 min.
Rainfall intensity =     2.379(In/Hr)
Area averaged loss rate (Fm) =    0.4413(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4514


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Process from Point/Station      416.000 to Point/Station      416.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 31.61
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Rainfall intensity =      2.642(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  16.10 min.  Rain intensity =       2.64(In/Hr)
Total area this stream =        14.60(Ac.)
Total Study Area (Main Stream No. 2) =      193.15(Ac.)
Total runoff =     32.50(CFS)
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Process from Point/Station      416.000 to Point/Station      416.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =     14.600(Ac.)
Runoff from this stream =     32.500(CFS)
Time of concentration =   16.10 min.
Rainfall intensity =     2.642(In/Hr)
Area averaged loss rate (Fm) =    0.1960(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    100.03    86.884     19.17    0.441      2.379
2     32.50    14.600     16.10    0.196      2.642
Qmax(1) =
           1.000 *    1.000 *   100.035) +
           0.893 *    1.000 *    32.500) + =     129.042
Qmax(2) =
           1.136 *    0.840 *   100.035) +
           1.000 *    1.000 *    32.500) + =     127.898

Total of 2 streams to confluence:
Flow rates before confluence point:
     100.035      32.500
Maximum flow rates at confluence using above data:
      129.042      127.898
Area of streams before confluence:
       86.884       14.600
Effective area values after confluence:
      101.484       87.560
Results of confluence:
Total flow rate =    129.042(CFS)
Time of concentration =    19.172 min.
Effective stream area after confluence =    101.484(Ac.)
Study area average Pervious fraction(Ap) =  0.415
Study area average soil loss rate(Fm) =    0.406(In/Hr)
Study area total (this main stream) =     101.48(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      416.000 to Point/Station      420.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   739.420(Ft.)
Downstream point/station elevation =   730.300(Ft.)
Pipe length  =  1550.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   129.042(CFS)
Given pipe size =     72.00(In.)
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Calculated individual pipe flow  =   129.042(CFS)
Normal flow depth in pipe =   31.55(In.)
Flow top width inside pipe =   71.45(In.)
Critical Depth =   36.90(In.)
Pipe flow velocity =     10.83(Ft/s)
Travel time through pipe =    2.39 min.
Time of concentration (TC) =    21.56 min.


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Process from Point/Station      416.000 to Point/Station      420.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =    101.484(Ac.)
Runoff from this stream =    129.042(CFS)
Time of concentration =   21.56 min.
Rainfall intensity =     2.218(In/Hr)
Area averaged loss rate (Fm) =    0.4060(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4152


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      417.000 to Point/Station      416.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Initial subarea data:
Initial area flow distance =   275.000(Ft.)
Top (of initial area) elevation =   758.200(Ft.)
Bottom (of initial area) elevation =   755.400(Ft.)
Difference in elevation =     2.800(Ft.)
Slope =    0.01018  s(%)=       1.02
TC = k(0.324)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.669 min.
Rainfall intensity =      4.123(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.857
Subarea runoff =      1.273(CFS)
Total initial stream area =        0.360(Ac.)
Pervious area fraction = 0.200
Initial area Fm value =    0.196(In/Hr)


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Process from Point/Station      416.000 to Point/Station      420.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   739.420(Ft.)
Downstream point/station elevation =   730.300(Ft.)
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```
Pipe length  =  1550.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     1.273(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =     1.273(CFS)
Normal flow depth in pipe =    3.27(In.)
Flow top width inside pipe =   29.99(In.)
Critical depth could not be calculated.
Pipe flow velocity =      2.77(Ft/s)
Travel time through pipe =    9.31 min.
Time of concentration (TC) =    16.98 min.


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Process from Point/Station      416.000 to Point/Station      420.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Time of concentration =    16.98 min.
Rainfall intensity =      2.559(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.831
Subarea runoff =     16.723(CFS) for    8.100(Ac.)
Total runoff =     17.996(CFS)
Effective area this stream =        8.46(Ac.)
Total Study Area (Main Stream No. 2) =      201.61(Ac.)
Area averaged Fm value =    0.196(In/Hr)


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Process from Point/Station      420.000 to Point/Station      420.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      8.460(Ac.)
Runoff from this stream =     17.996(CFS)
Time of concentration =   16.98 min.
Rainfall intensity =     2.559(In/Hr)
Area averaged loss rate (Fm) =    0.1956(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    129.04   101.484     21.56    0.406      2.218
2     18.00     8.460     16.98    0.196      2.559
Qmax(1) =
           1.000 *    1.000 *   129.042) +
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           0.856 *    1.000 *    17.996) + =     144.439
Qmax(2) =
           1.188 *    0.788 *   129.042) +
           1.000 *    1.000 *    17.996) + =     138.799

Total of 2 streams to confluence:
Flow rates before confluence point:
     129.042      17.996
Maximum flow rates at confluence using above data:
      144.439      138.799
Area of streams before confluence:
      101.484        8.460
Effective area values after confluence:
      109.944       88.403
Results of confluence:
Total flow rate =    144.439(CFS)
Time of concentration =    21.558 min.
Effective stream area after confluence =    109.944(Ac.)
Study area average Pervious fraction(Ap) =  0.399
Study area average soil loss rate(Fm) =    0.390(In/Hr)
Study area total (this main stream) =     109.94(Ac.)


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Process from Point/Station      420.000 to Point/Station     4120.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   730.300(Ft.)
Downstream point/station elevation =   729.300(Ft.)
Pipe length  =    20.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   144.439(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =   144.439(CFS)
Normal flow depth in pipe =   19.01(In.)
Flow top width inside pipe =   63.47(In.)
Critical Depth =   39.09(In.)
Pipe flow velocity =     24.21(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =    21.57 min.


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Process from Point/Station     4080.000 to Point/Station     4120.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =    109.944(Ac.)
Runoff from this stream =    144.439(CFS)
Time of concentration =   21.57 min.
Rainfall intensity =     2.217(In/Hr)
Area averaged loss rate (Fm) =    0.3898(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3987
Summary of stream data:
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```
Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    105.72    87.234     21.20    0.423      2.240
2    144.44   109.944     21.57    0.390      2.217
Qmax(1) =
           1.000 *    1.000 *   105.721) +
           1.013 *    0.983 *   144.439) + =     249.484
Qmax(2) =
           0.987 *    1.000 *   105.721) +
           1.000 *    1.000 *   144.439) + =     248.822

Total of 2 main streams to confluence:
Flow rates before confluence point:
     106.721     145.439
Maximum flow rates at confluence using above data:
      249.484      248.822
Area of streams before confluence:
       87.234      109.944
Effective area values after confluence:
      195.303      197.178


Results of confluence:
Total flow rate =    249.484(CFS)
Time of concentration =    21.204 min.
Effective stream area after confluence  =    195.303(Ac.)
Study area average Pervious fraction(Ap) =  0.414
Study area average soil loss rate(Fm) =    0.405(In/Hr)
Study area total =     197.18(Ac.)


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Process from Point/Station     4120.000 to Point/Station      430.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   729.300(Ft.)
Downstream point/station elevation =   725.100(Ft.)
Pipe length  =   490.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   249.484(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =   249.484(CFS)
Normal flow depth in pipe =   41.72(In.)
Flow top width inside pipe =   71.09(In.)
Critical Depth =   51.92(In.)
Pipe flow velocity =     14.69(Ft/s)
Travel time through pipe =    0.56 min.
Time of concentration (TC) =    21.76 min.


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Process from Point/Station     4120.000 to Point/Station      430.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
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The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    195.303(Ac.)
Runoff from this stream =    249.484(CFS)
Time of concentration =   21.76 min.
Rainfall intensity =     2.205(In/Hr)
Area averaged loss rate (Fm) =    0.4046(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4141
Program is now starting with Main Stream No. 2


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Process from Point/Station      426.000 to Point/Station      426.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 31.61
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Rainfall intensity =      3.076(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  12.50 min.  Rain intensity =       3.08(In/Hr)
Total area this stream =         2.80(Ac.)
Total Study Area (Main Stream No. 2) =      204.41(Ac.)
Total runoff =      7.30(CFS)


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Process from Point/Station      426.000 to Point/Station      427.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   739.390(Ft.)
Downstream point/station elevation =   730.300(Ft.)
Pipe length  =  1590.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.300(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =     7.300(CFS)
Normal flow depth in pipe =    9.26(In.)
Flow top width inside pipe =   31.47(In.)
Critical Depth =   10.18(In.)
Pipe flow velocity =      5.08(Ft/s)
Travel time through pipe =    5.22 min.
Time of concentration (TC) =    17.72 min.


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Process from Point/Station      426.000 to Point/Station      427.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
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Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Time of concentration =    17.72 min.
Rainfall intensity =      2.495(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.829
Subarea runoff =     41.557(CFS) for   20.810(Ac.)
Total runoff =     48.857(CFS)
Effective area this stream =       23.61(Ac.)
Total Study Area (Main Stream No. 2) =      225.22(Ac.)
Area averaged Fm value =    0.196(In/Hr)


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Process from Point/Station      427.000 to Point/Station      430.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   730.300(Ft.)
Downstream point/station elevation =   729.300(Ft.)
Pipe length  =    20.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    48.857(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =    48.857(CFS)
Normal flow depth in pipe =   14.18(In.)
Flow top width inside pipe =   35.18(In.)
Critical Depth =   27.31(In.)
Pipe flow velocity =     18.89(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =    17.73 min.


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Process from Point/Station      426.000 to Point/Station      430.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     23.610(Ac.)
Runoff from this stream =     48.857(CFS)
Time of concentration =   17.73 min.
Rainfall intensity =     2.493(In/Hr)
Area averaged loss rate (Fm) =    0.1956(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    249.48   195.303     21.76    0.405      2.205
2     48.86    23.610     17.73    0.196      2.493
Qmax(1) =
          1.000 *    1.000 *   249.484) +
          0.875 *    1.000 *    48.857) + =     292.217
Qmax(2) =
          1.160 *    0.815 *   249.484) +
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```
           1.000 *    1.000 *    48.857) + =     284.705

Total of 2 main streams to confluence:
Flow rates before confluence point:
     250.484      49.857
Maximum flow rates at confluence using above data:
      292.217      284.705
Area of streams before confluence:
      195.303       23.610
Effective area values after confluence:
      218.913      182.781


Results of confluence:
Total flow rate =    292.217(CFS)
Time of concentration =    21.760 min.
Effective stream area after confluence  =    218.913(Ac.)
Study area average Pervious fraction(Ap) =  0.391
Study area average soil loss rate(Fm) =    0.382(In/Hr)
Study area total =     218.91(Ac.)


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Process from Point/Station      430.000 to Point/Station      440.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   725.100(Ft.)
Downstream point/station elevation =   721.360(Ft.)
Pipe length  =   500.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   292.217(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =   292.217(CFS)
Normal flow depth in pipe =   48.61(In.)
Flow top width inside pipe =   67.44(In.)
Critical Depth =   56.08(In.)
Pipe flow velocity =     14.38(Ft/s)
Travel time through pipe =    0.58 min.
Time of concentration (TC) =    22.34 min.


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Process from Point/Station      430.000 to Point/Station      440.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    218.913(Ac.)
Runoff from this stream =    292.217(CFS)
Time of concentration =   22.34 min.
Rainfall intensity =     2.171(In/Hr)
Area averaged loss rate (Fm) =    0.3821(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3910


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Process from Point/Station      430.000 to Point/Station      440.000
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**** INITIAL AREA EVALUATION ****
_____________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   500.000(Ft.)
Top (of initial area) elevation =   725.100(Ft.)
Bottom (of initial area) elevation =   721.360(Ft.)
Difference in elevation =     3.740(Ft.)
Slope =    0.00748  s(%)=       0.75
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.720 min.
Rainfall intensity =      3.577(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.875
Subarea runoff =     31.309(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station      430.000 to Point/Station      440.000
**** SUBAREA FLOW ADDITION ****
_____________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =     9.72 min.
Rainfall intensity =      3.577(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.875
Subarea runoff =     11.302(CFS) for    3.610(Ac.)
Total runoff =     42.611(CFS)
Effective area this stream =       13.61(Ac.)
Total Study Area (Main Stream No. 1) =      238.83(Ac.)
Area averaged Fm value =    0.098(In/Hr)


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Process from Point/Station      440.000 to Point/Station      440.000
**** CONFLUENCE OF MINOR STREAMS ****
_____________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     13.610(Ac.)
Runoff from this stream =     42.611(CFS)
Time of concentration =    9.72 min.
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Rainfall intensity =     3.577(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    292.22   218.913     22.34    0.382      2.171
2     42.61    13.610      9.72    0.098      3.577
Qmax(1) =
           1.000 *    1.000 *   292.217) +
           0.596 *    1.000 *    42.611) + =     317.610
Qmax(2) =
           1.786 *    0.435 *   292.217) +
           1.000 *    1.000 *    42.611) + =     269.681

Total of 2 streams to confluence:
Flow rates before confluence point:
     292.217      42.611
Maximum flow rates at confluence using above data:
      317.610      269.681
Area of streams before confluence:
      218.913       13.610
Effective area values after confluence:
      232.523      108.866
Results of confluence:
Total flow rate =    317.610(CFS)
Time of concentration =    22.339 min.
Effective stream area after confluence =    232.523(Ac.)
Study area average Pervious fraction(Ap) =  0.374
Study area average soil loss rate(Fm) =    0.365(In/Hr)
Study area total (this main stream) =     232.52(Ac.)


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Process from Point/Station      440.000 to Point/Station      445.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   721.360(Ft.)
Downstream point/station elevation =   716.140(Ft.)
Pipe length  =   630.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   317.610(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   317.610(CFS)
Normal flow depth in pipe =   44.25(In.)
Flow top width inside pipe =   83.88(In.)
Critical Depth =   56.31(In.)
Pipe flow velocity =     15.44(Ft/s)
Travel time through pipe =    0.68 min.
Time of concentration (TC) =    23.02 min.


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Process from Point/Station      445.000 to Point/Station      445.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    232.523(Ac.)
Runoff from this stream =    317.610(CFS)
Time of concentration =   23.02 min.
Rainfall intensity =     2.132(In/Hr)
Area averaged loss rate (Fm) =    0.3654(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3740


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Process from Point/Station      440.000 to Point/Station      445.000
**** INITIAL AREA EVALUATION ****
____________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   630.000(Ft.)
Top (of initial area) elevation =   721.360(Ft.)
Bottom (of initial area) elevation =   716.140(Ft.)
Difference in elevation =     5.220(Ft.)
Slope =    0.00829  s(%)=       0.83
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   10.446 min.
Rainfall intensity =      3.425(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.874
Subarea runoff =      7.008(CFS)
Total initial stream area =        2.340(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station      445.000 to Point/Station      445.000
**** CONFLUENCE OF MINOR STREAMS ****
____________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      2.340(Ac.)
Runoff from this stream =      7.008(CFS)
Time of concentration =   10.45 min.
Rainfall intensity =     3.425(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)
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1    317.61   232.523     23.02    0.365      2.132
2      7.01     2.340     10.45    0.098      3.425
Qmax(1) =
           1.000 *    1.000 *   317.610) +
           0.611 *    1.000 *     7.008) + =     321.895
Qmax(2) =
           1.732 *    0.454 *   317.610) +
           1.000 *    1.000 *     7.008) + =     256.634

Total of 2 streams to confluence:
Flow rates before confluence point:
     317.610       7.008
Maximum flow rates at confluence using above data:
      321.895      256.634
Area of streams before confluence:
      232.523        2.340
Effective area values after confluence:
      234.863      107.857
Results of confluence:
Total flow rate =    321.895(CFS)
Time of concentration =    23.019 min.
Effective stream area after confluence =    234.863(Ac.)
Study area average Pervious fraction(Ap) =  0.371
Study area average soil loss rate(Fm) =    0.363(In/Hr)
Study area total (this main stream) =     234.86(Ac.)


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Process from Point/Station      440.000 to Point/Station      445.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    234.863(Ac.)
Runoff from this stream =    321.895(CFS)
Time of concentration =   23.02 min.
Rainfall intensity =     2.132(In/Hr)
Area averaged loss rate (Fm) =    0.3627(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3712
Program is now starting with Main Stream No. 2


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Process from Point/Station      445.000 to Point/Station      445.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 55.61
Pervious ratio(Ap) = 0.2300     Max loss rate(Fm)=     0.170(In/Hr)
Rainfall intensity =      3.597(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =   9.63 min.  Rain intensity =       3.60(In/Hr)
Total area this stream =        36.30(Ac.)
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Total Study Area (Main Stream No. 2) =      277.47(Ac.)
Total runoff =     95.46(CFS)


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Process from Point/Station      445.000 to Point/Station      445.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     36.300(Ac.)
Runoff from this stream =     95.460(CFS)
Time of concentration =    9.63 min.
Rainfall intensity =     3.597(In/Hr)
Area averaged loss rate (Fm) =    0.1700(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2300
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    321.89   234.863     23.02    0.363      2.132
2     95.46    36.300      9.63    0.170      3.597
Qmax(1) =
           1.000 *    1.000 *   321.895) +
           0.573 *    1.000 *    95.460) + =     376.557
Qmax(2) =
           1.828 *    0.418 *   321.895) +
           1.000 *    1.000 *    95.460) + =     341.581

Total of 2 main streams to confluence:
Flow rates before confluence point:
     322.895      96.460
Maximum flow rates at confluence using above data:
      376.557      341.581
Area of streams before confluence:
      234.863       36.300
Effective area values after confluence:
      271.163      134.555


Results of confluence:
Total flow rate =    376.557(CFS)
Time of concentration =    23.019 min.
Effective stream area after confluence  =    271.163(Ac.)
Study area average Pervious fraction(Ap) =  0.352
Study area average soil loss rate(Fm) =    0.337(In/Hr)
Study area total =     271.16(Ac.)


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Process from Point/Station      445.000 to Point/Station      450.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
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Upstream point/station elevation =   715.590(Ft.)
Downstream point/station elevation =   713.200(Ft.)
Pipe length  =   360.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   376.557(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   376.557(CFS)
Normal flow depth in pipe =   52.97(In.)
Flow top width inside pipe =   81.08(In.)
Critical Depth =   61.36(In.)
Pipe flow velocity =     14.74(Ft/s)
Travel time through pipe =    0.41 min.
Time of concentration (TC) =    23.43 min.


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Process from Point/Station      445.000 to Point/Station      450.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    271.163(Ac.)
Runoff from this stream =    376.557(CFS)
Time of concentration =   23.43 min.
Rainfall intensity =     2.110(In/Hr)
Area averaged loss rate (Fm) =    0.3369(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3523
Program is now starting with Main Stream No. 2


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Process from Point/Station      450.000 to Point/Station      450.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 58.53
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.070(In/Hr)
Rainfall intensity =      5.304(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =   5.04 min.  Rain intensity =       5.30(In/Hr)
Total area this stream =         4.10(Ac.)
Total Study Area (Main Stream No. 2) =      281.57(Ac.)
Total runoff =     21.00(CFS)


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Process from Point/Station      450.000 to Point/Station      450.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      4.100(Ac.)
Runoff from this stream =     21.000(CFS)
Time of concentration =    5.04 min.
Rainfall intensity =     5.304(In/Hr)
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Area averaged loss rate (Fm) =    0.0700(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    376.56   271.163     23.43    0.337      2.110
2     21.00     4.100      5.04    0.070      5.304
Qmax(1) =
           1.000 *    1.000 *   376.557) +
           0.390 *    1.000 *    21.000) + =     384.741
Qmax(2) =
           2.802 *    0.215 *   376.557) +
           1.000 *    1.000 *    21.000) + =     247.979

Total of 2 main streams to confluence:
Flow rates before confluence point:
     377.557      22.000
Maximum flow rates at confluence using above data:
      384.741      247.979
Area of streams before confluence:
      271.163        4.100
Effective area values after confluence:
      275.263       62.439


Results of confluence:
Total flow rate =    384.741(CFS)
Time of concentration =    23.426 min.
Effective stream area after confluence  =    275.263(Ac.)
Study area average Pervious fraction(Ap) =  0.349
Study area average soil loss rate(Fm) =    0.333(In/Hr)
Study area total =     275.26(Ac.)


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Process from Point/Station      450.000 to Point/Station     4170.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   712.610(Ft.)
Downstream point/station elevation =   710.300(Ft.)
Pipe length  =   340.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   384.741(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   384.741(CFS)
Normal flow depth in pipe =   53.30(In.)
Flow top width inside pipe =   80.90(In.)
Critical Depth =   62.02(In.)
Pipe flow velocity =     14.94(Ft/s)
Travel time through pipe =    0.38 min.
Time of concentration (TC) =    23.81 min.
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Process from Point/Station     4170.000 to Point/Station     4170.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    275.263(Ac.)
Runoff from this stream =    384.741(CFS)
Time of concentration =   23.81 min.
Rainfall intensity =     2.090(In/Hr)
Area averaged loss rate (Fm) =    0.3330(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3486
Program is now starting with Main Stream No. 2


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Process from Point/Station     4170.000 to Point/Station     4170.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 55.61
Pervious ratio(Ap) = 0.2300     Max loss rate(Fm)=     0.170(In/Hr)
Rainfall intensity =      3.165(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  11.92 min.  Rain intensity =       3.16(In/Hr)
Total area this stream =         8.60(Ac.)
Total Study Area (Main Stream No. 2) =      290.17(Ac.)
Total runoff =     22.10(CFS)


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Process from Point/Station     4170.000 to Point/Station     4170.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      8.600(Ac.)
Runoff from this stream =     22.100(CFS)
Time of concentration =   11.92 min.
Rainfall intensity =     3.165(In/Hr)
Area averaged loss rate (Fm) =    0.1700(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2300
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    384.74   275.263     23.81    0.333      2.090
2     22.10     8.600     11.92    0.170      3.165
Qmax(1) =
          1.000 *    1.000 *   384.741) +
          0.641 *    1.000 *    22.100) + =     398.908
Qmax(2) =
```

```
           1.612 *    0.501 *   384.741) +
           1.000 *    1.000 *    22.100) + =     332.632

Total of 2 main streams to confluence:
Flow rates before confluence point:
     385.741      23.100
Maximum flow rates at confluence using above data:
      398.908      332.632
Area of streams before confluence:
      275.263        8.600
Effective area values after confluence:
      283.863      146.431


Results of confluence:
Total flow rate =    398.908(CFS)
Time of concentration =    23.805 min.
Effective stream area after confluence  =    283.863(Ac.)
Study area average Pervious fraction(Ap) =  0.345
Study area average soil loss rate(Fm) =    0.328(In/Hr)
Study area total =     283.86(Ac.)


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Process from Point/Station     4170.000 to Point/Station     4170.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    283.863(Ac.)
Runoff from this stream =    398.908(CFS)
Time of concentration =   23.81 min.
Rainfall intensity =     2.090(In/Hr)
Area averaged loss rate (Fm) =    0.3280(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3450


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      450.000 to Point/Station     4170.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   340.000(Ft.)
Top (of initial area) elevation =   712.610(Ft.)
Bottom (of initial area) elevation =   710.300(Ft.)
Difference in elevation =     2.310(Ft.)
Slope =    0.00679  s(%)=       0.68
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.493 min.
```

```
Rainfall intensity =      3.878(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.877
Subarea runoff =     22.219(CFS)
Total initial stream area =        6.530(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station     4170.000 to Point/Station     4170.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      6.530(Ac.)
Runoff from this stream =     22.219(CFS)
Time of concentration =    8.49 min.
Rainfall intensity =     3.878(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    398.91   283.863     23.81    0.328      2.090
2     22.22     6.530      8.49    0.098      3.878
Qmax(1) =
           1.000 *    1.000 *   398.908) +
           0.527 *    1.000 *    22.219) + =     410.614
Qmax(2) =
           2.015 *    0.357 *   398.908) +
           1.000 *    1.000 *    22.219) + =     309.033

Total of 2 streams to confluence:
Flow rates before confluence point:
     398.908      22.219
Maximum flow rates at confluence using above data:
      410.614      309.033
Area of streams before confluence:
      283.863        6.530
Effective area values after confluence:
      290.393      107.798
Results of confluence:
Total flow rate =    410.614(CFS)
Time of concentration =    23.805 min.
Effective stream area after confluence =    290.393(Ac.)
Study area average Pervious fraction(Ap) =  0.339
Study area average soil loss rate(Fm) =    0.323(In/Hr)
Study area total (this main stream) =     290.39(Ac.)


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Process from Point/Station     4170.000 to Point/Station      455.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
```

```
Upstream point/station elevation =   709.250(Ft.)
Downstream point/station elevation =   706.460(Ft.)
Pipe length  =   440.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   410.614(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   410.614(CFS)
Normal flow depth in pipe =   57.19(In.)
Flow top width inside pipe =   78.32(In.)
Critical Depth =   64.05(In.)
Pipe flow velocity =     14.71(Ft/s)
Travel time through pipe =    0.50 min.
Time of concentration (TC) =    24.30 min.


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Process from Point/Station      455.000 to Point/Station      455.000
**** CONFLUENCE OF MAIN STREAMS ****
------------------------------------------------------------------------------
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    290.393(Ac.)
Runoff from this stream =    410.614(CFS)
Time of concentration =   24.30 min.
Rainfall intensity =     2.064(In/Hr)
Area averaged loss rate (Fm) =    0.3229(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3395
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      455.000 to Point/Station      455.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
------------------------------------------------------------------------------
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 58.53
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.070(In/Hr)
Rainfall intensity =      4.142(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =   7.61 min.  Rain intensity =       4.14(In/Hr)
Total area this stream =        10.00(Ac.)
Total Study Area (Main Stream No. 2) =      306.70(Ac.)
Total runoff =     38.71(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      455.000 to Point/Station      455.000
**** CONFLUENCE OF MAIN STREAMS ****
------------------------------------------------------------------------------
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     10.000(Ac.)
Runoff from this stream =     38.710(CFS)
Time of concentration =    7.61 min.
```

```
Rainfall intensity =     4.142(In/Hr)
Area averaged loss rate (Fm) =    0.0700(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    410.61   290.393     24.30    0.323      2.064
2     38.71    10.000      7.61    0.070      4.142
Qmax(1) =
           1.000 *    1.000 *   410.614) +
           0.490 *    1.000 *    38.710) + =     429.567
Qmax(2) =
           2.194 *    0.313 *   410.614) +
           1.000 *    1.000 *    38.710) + =     320.781

Total of 2 main streams to confluence:
Flow rates before confluence point:
     411.614      39.710
Maximum flow rates at confluence using above data:
      429.567      320.781
Area of streams before confluence:
      290.393       10.000
Effective area values after confluence:
      300.393      100.927


Results of confluence:
Total flow rate =    429.567(CFS)
Time of concentration =    24.304 min.
Effective stream area after confluence  =    300.393(Ac.)
Study area average Pervious fraction(Ap) =  0.332
Study area average soil loss rate(Fm) =    0.314(In/Hr)
Study area total =     300.39(Ac.)


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Process from Point/Station      455.000 to Point/Station      460.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   706.460(Ft.)
Downstream point/station elevation =   705.230(Ft.)
Pipe length  =   200.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   429.567(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   429.567(CFS)
Normal flow depth in pipe =   59.91(In.)
Flow top width inside pipe =   75.98(In.)
Critical Depth =   65.43(In.)
Pipe flow velocity =     14.63(Ft/s)
Travel time through pipe =    0.23 min.
Time of concentration (TC) =    24.53 min.
```

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Process from Point/Station      455.000 to Point/Station      460.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    300.393(Ac.)
Runoff from this stream =    429.567(CFS)
Time of concentration =   24.53 min.
Rainfall intensity =     2.052(In/Hr)
Area averaged loss rate (Fm) =    0.3144(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3315
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    429.57   300.393     24.53    0.314      2.052
Qmax(1) =
           1.000 *    1.000 *   429.567) + =     429.567

Total of 1 main streams to confluence:
Flow rates before confluence point:
     430.567
Maximum flow rates at confluence using above data:
      429.567
Area of streams before confluence:
      300.393
Effective area values after confluence:
      300.393


Results of confluence:
Total flow rate =    429.567(CFS)
Time of concentration =    24.532 min.
Effective stream area after confluence  =    300.393(Ac.)
Study area average Pervious fraction(Ap) =  0.332
Study area average soil loss rate(Fm) =    0.314(In/Hr)
Study area total =     300.39(Ac.)


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Process from Point/Station      460.000 to Point/Station      460.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 31.86
Pervious ratio(Ap) = 0.1870     Max loss rate(Fm)=     0.183(In/Hr)
Rainfall intensity =      3.339(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  10.90 min.  Rain intensity =       3.34(In/Hr)
Total area this stream =        19.75(Ac.)
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Total Study Area (Main Stream No. 1) =      326.45(Ac.)
Total runoff =     50.20(CFS)


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Process from Point/Station      460.000 to Point/Station      460.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     19.750(Ac.)
Runoff from this stream =     50.200(CFS)
Time of concentration =   10.90 min.
Rainfall intensity =     3.339(In/Hr)
Area averaged loss rate (Fm) =    0.1830(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1870
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    429.57   300.393     24.53    0.314      2.052
2     50.20    19.750     10.90    0.183      3.339
Qmax(1) =
           1.000 *    1.000 *   429.567) +
           0.592 *    1.000 *    50.200) + =     459.300
Qmax(2) =
           1.740 *    0.444 *   429.567) +
           1.000 *    1.000 *    50.200) + =     382.386

Total of 2 main streams to confluence:
Flow rates before confluence point:
     430.567      51.200
Maximum flow rates at confluence using above data:
      459.300      382.386
Area of streams before confluence:
      300.393       19.750
Effective area values after confluence:
      320.143      153.221


Results of confluence:
Total flow rate =    459.300(CFS)
Time of concentration =    24.532 min.
Effective stream area after confluence  =    320.143(Ac.)
Study area average Pervious fraction(Ap) =  0.323
Study area average soil loss rate(Fm) =    0.306(In/Hr)
Study area total =     320.14(Ac.)


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Process from Point/Station      460.000 to Point/Station      465.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
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Upstream point/station elevation =   705.230(Ft.)
Downstream point/station elevation =   702.700(Ft.)
Pipe length  =   420.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   459.300(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   459.300(CFS)
Normal flow depth in pipe =   63.84(In.)
Flow top width inside pipe =   71.75(In.)
Critical Depth =   67.53(In.)
Pipe flow velocity =     14.63(Ft/s)
Travel time through pipe =    0.48 min.
Time of concentration (TC) =    25.01 min.


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Process from Point/Station      460.000 to Point/Station      465.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    320.143(Ac.)
Runoff from this stream =    459.300(CFS)
Time of concentration =   25.01 min.
Rainfall intensity =     2.029(In/Hr)
Area averaged loss rate (Fm) =    0.3063(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3226
Program is now starting with Main Stream No. 2


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Process from Point/Station      465.000 to Point/Station      465.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
______________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 56.07
Pervious ratio(Ap) = 0.1910     Max loss rate(Fm)=     0.140(In/Hr)
Rainfall intensity =      4.044(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =   7.92 min.  Rain intensity =       4.04(In/Hr)
Total area this stream =         6.67(Ac.)
Total Study Area (Main Stream No. 2) =      333.12(Ac.)
Total runoff =     23.53(CFS)


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Process from Point/Station      465.000 to Point/Station      465.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      6.670(Ac.)
Runoff from this stream =     23.530(CFS)
Time of concentration =    7.92 min.
Rainfall intensity =     4.044(In/Hr)
```

```
Area averaged loss rate (Fm) =    0.1400(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1910
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    459.30   320.143     25.01    0.306      2.029
2     23.53     6.670      7.92    0.140      4.044
Qmax(1) =
           1.000 *    1.000 *   459.300) +
           0.484 *    1.000 *    23.530) + =     470.682
Qmax(2) =
           2.170 *    0.317 *   459.300) +
           1.000 *    1.000 *    23.530) + =     339.193

Total of 2 main streams to confluence:
Flow rates before confluence point:
     460.300      24.530
Maximum flow rates at confluence using above data:
      470.682      339.193
Area of streams before confluence:
      320.143        6.670
Effective area values after confluence:
      326.813      108.049


Results of confluence:
Total flow rate =    470.682(CFS)
Time of concentration =    25.010 min.
Effective stream area after confluence  =    326.813(Ac.)
Study area average Pervious fraction(Ap) =  0.320
Study area average soil loss rate(Fm) =    0.303(In/Hr)
Study area total =     326.81(Ac.)


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Process from Point/Station      465.000 to Point/Station     4171.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   702.700(Ft.)
Downstream point/station elevation =   701.370(Ft.)
Pipe length  =   210.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   470.682(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   470.682(CFS)
Normal flow depth in pipe =   63.84(In.)
Flow top width inside pipe =   71.75(In.)
Critical Depth =   68.25(In.)
Pipe flow velocity =     15.00(Ft/s)
Travel time through pipe =    0.23 min.
Time of concentration (TC) =    25.24 min.
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Process from Point/Station      465.000 to Point/Station     4171.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    326.813(Ac.)
Runoff from this stream =    470.682(CFS)
Time of concentration =   25.24 min.
Rainfall intensity =     2.017(In/Hr)
Area averaged loss rate (Fm) =    0.3029(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3199
Program is now starting with Main Stream No. 2


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Process from Point/Station     4171.000 to Point/Station     4171.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 31.98
Pervious ratio(Ap) = 0.1810     Max loss rate(Fm)=     0.177(In/Hr)
Rainfall intensity =      2.966(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  13.28 min.  Rain intensity =       2.97(In/Hr)
Total area this stream =        14.13(Ac.)
Total Study Area (Main Stream No. 2) =      347.25(Ac.)
Total runoff =     35.60(CFS)


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Process from Point/Station     4171.000 to Point/Station     4171.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     14.130(Ac.)
Runoff from this stream =     35.600(CFS)
Time of concentration =   13.28 min.
Rainfall intensity =     2.966(In/Hr)
Area averaged loss rate (Fm) =    0.1770(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1810
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    470.68   326.813     25.24    0.303      2.017
2     35.60    14.130     13.28    0.177      2.966
Qmax(1) =
           1.000 *    1.000 *   470.682) +
           0.660 *    1.000 *    35.600) + =     494.174
Qmax(2) =
```

```
           1.553 *    0.526 *   470.682) +
           1.000 *    1.000 *    35.600) + =     420.209

Total of 2 main streams to confluence:
Flow rates before confluence point:
     471.682      36.600
Maximum flow rates at confluence using above data:
      494.174      420.209
Area of streams before confluence:
      326.813       14.130
Effective area values after confluence:
      340.943      186.057


Results of confluence:
Total flow rate =    494.174(CFS)
Time of concentration =    25.244 min.
Effective stream area after confluence  =    340.943(Ac.)
Study area average Pervious fraction(Ap) =  0.314
Study area average soil loss rate(Fm) =    0.298(In/Hr)
Study area total =     340.94(Ac.)


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Process from Point/Station      465.000 to Point/Station     4171.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =    340.943(Ac.)
Runoff from this stream =    494.174(CFS)
Time of concentration =   25.24 min.
Rainfall intensity =     2.017(In/Hr)
Area averaged loss rate (Fm) =    0.2977(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3141


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Process from Point/Station      465.000 to Point/Station     4171.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   210.000(Ft.)
Top (of initial area) elevation =   702.700(Ft.)
Bottom (of initial area) elevation =   701.370(Ft.)
Difference in elevation =     1.330(Ft.)
Slope =    0.00633  s(%)=       0.63
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.103 min.
```

```
Rainfall intensity =      4.317(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.880
Subarea runoff =     21.798(CFS)
Total initial stream area =        5.740(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station     4171.000 to Point/Station     4171.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      5.740(Ac.)
Runoff from this stream =     21.798(CFS)
Time of concentration =    7.10 min.
Rainfall intensity =     4.317(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    494.17   340.943     25.24    0.298      2.017
2     21.80     5.740      7.10    0.098      4.317
Qmax(1) =
           1.000 *    1.000 *   494.174) +
           0.455 *    1.000 *    21.798) + =     504.090
Qmax(2) =
           2.337 *    0.281 *   494.174) +
           1.000 *    1.000 *    21.798) + =     346.815

Total of 2 streams to confluence:
Flow rates before confluence point:
     494.174      21.798
Maximum flow rates at confluence using above data:
      504.090      346.815
Area of streams before confluence:
      340.943        5.740
Effective area values after confluence:
      346.683      101.672
Results of confluence:
Total flow rate =    504.090(CFS)
Time of concentration =    25.244 min.
Effective stream area after confluence =    346.683(Ac.)
Study area average Pervious fraction(Ap) =  0.311
Study area average soil loss rate(Fm) =    0.294(In/Hr)
Study area total (this main stream) =     346.68(Ac.)


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Process from Point/Station     4171.000 to Point/Station     4200.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
```

Upstream point/station elevation = 701.370(Ft.)
Downstream point/station elevation = 700.360(Ft.)
Pipe length = 150.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 504.090(CFS)
Given pipe size = 84.00(In.)
Calculated individual pipe flow = 504.090(CFS)
Normal flow depth in pipe = 66.09(In.)
Flow top width inside pipe = 68.80(In.)
Critical Depth = 70.35(In.)
Pipe flow velocity = 15.51(Ft/s)
Travel time through pipe = 0.16 min.
Time of concentration (TC) = 25.40 min.
End of computations, Total Study Area = 352.99 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.313
Area averaged SCS curve number = 36.6

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2018 Version 9.0
Rational Hydrology Study Date: 08/19/22

Rich-Haven Specific Plan
Hydrology Study
100-yr Storm
Mill Creek Storm Drain

Program License Serial Number 6440

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.200 (In.)
Slope used for rainfall intensity curve b = 0.6000
Soil antecedent moisture condition (AMC) = 2

++

Process from Point/Station 5115.000 to Point/Station 5115.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 25.00
Pervious ratio(Ap) = 0.3000 Max loss rate(Fm)= 0.300(In/Hr)
Rainfall intensity = 2.768(In/Hr) for a 100.0 year storm
User specified values are as follows:
TC = 14.90 min. Rain intensity = 2.77(In/Hr)
Total area this stream = 208.60(Ac.)
Total Study Area (Main Stream No. 1) = 208.60(Ac.)
Total runoff = 373.60(CFS)

++

Process from Point/Station 5115.000 to Point/Station 5115.000
**** CONFLUENCE OF MAIN STREAMS ****

The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area = 208.600(Ac.)
Runoff from this stream = 373.600(CFS)
Time of concentration = 14.90 min.
Rainfall intensity = 2.768(In/Hr)
Area averaged loss rate (Fm) = 0.3000(In/Hr)

```
Area averaged Pervious ratio (Ap) = 0.3000
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      500.000 to Point/Station      500.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  =  1.#R
Pervious ratio(Ap) = 0.3520     Max loss rate(Fm)=     0.359(In/Hr)
Rainfall intensity =      2.950(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  13.40 min.  Rain intensity =       2.95(In/Hr)
Total area this stream =        17.40(Ac.)
Total Study Area (Main Stream No. 2) =      226.00(Ac.)
Total runoff =     41.10(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      500.000 to Point/Station     5115.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   751.100(Ft.)
Downstream point/station elevation =   749.200(Ft.)
Pipe length  =   320.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    41.100(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =    41.100(CFS)
Normal flow depth in pipe =   24.35(In.)
Flow top width inside pipe =   33.68(In.)
Critical Depth =   25.06(In.)
Pipe flow velocity =      8.08(Ft/s)
Travel time through pipe =    0.66 min.
Time of concentration (TC) =    14.06 min.


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Process from Point/Station      500.000 to Point/Station     5115.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     17.400(Ac.)
Runoff from this stream =     41.100(CFS)
Time of concentration =   14.06 min.
Rainfall intensity =     2.866(In/Hr)
Area averaged loss rate (Fm) =    0.3590(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3520
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)
```

```
1    373.60   208.600     14.90    0.300      2.768
2     41.10    17.400     14.06    0.359      2.866
Qmax(1) =
           1.000 *    1.000 *   373.600) +
           0.961 *    1.000 *    41.100) + =     413.093
Qmax(2) =
           1.040 *    0.944 *   373.600) +
           1.000 *    1.000 *    41.100) + =     407.649

Total of 2 main streams to confluence:
Flow rates before confluence point:
     374.600      42.100
Maximum flow rates at confluence using above data:
      413.093      407.649
Area of streams before confluence:
      208.600       17.400
Effective area values after confluence:
      226.000      214.244


Results of confluence:
Total flow rate =    413.093(CFS)
Time of concentration =    14.900 min.
Effective stream area after confluence  =    226.000(Ac.)
Study area average Pervious fraction(Ap) =  0.304
Study area average soil loss rate(Fm) =    0.305(In/Hr)
Study area total =     226.00(Ac.)


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Process from Point/Station     5115.000 to Point/Station      504.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   747.580(Ft.)
Downstream point/station elevation =   745.330(Ft.)
Pipe length  =   320.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   413.093(CFS)
Given pipe size =     72.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
     5.765(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =      3.044(Ft.)
 Minor friction loss =      4.972(Ft.)  K-factor =   1.50
Pipe flow velocity =     14.61(Ft/s)
Travel time through pipe =    0.37 min.
Time of concentration (TC) =    15.27 min.


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Process from Point/Station     5115.000 to Point/Station      504.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
```

```
Stream flow area =    226.000(Ac.)
Runoff from this stream =    413.093(CFS)
Time of concentration =   15.27 min.
Rainfall intensity =     2.728(In/Hr)
Area averaged loss rate (Fm) =    0.3045(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3040
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      502.000 to Point/Station      503.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
PARK subarea
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.8500     Max loss rate(Fm)=     0.831(In/Hr)
Initial subarea data:
Initial area flow distance =   470.000(Ft.)
Top (of initial area) elevation =   769.000(Ft.)
Bottom (of initial area) elevation =   765.000(Ft.)
Difference in elevation =     4.000(Ft.)
Slope =    0.00851  s(%)=       0.85
TC = k(0.483)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.682 min.
Rainfall intensity =      2.793(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.632
Subarea runoff =     11.174(CFS)
Total initial stream area =        6.330(Ac.)
Pervious area fraction = 0.850
Initial area Fm value =    0.831(In/Hr)


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Process from Point/Station      503.000 to Point/Station      504.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   756.000(Ft.)
Downstream point/station elevation =   745.330(Ft.)
Pipe length  =    60.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    11.174(CFS)
Given pipe size =     48.00(In.)
Calculated individual pipe flow  =    11.174(CFS)
Normal flow depth in pipe =    4.53(In.)
Flow top width inside pipe =   28.06(In.)
Critical Depth =   11.70(In.)
Pipe flow velocity =     18.63(Ft/s)
Travel time through pipe =    0.05 min.
Time of concentration (TC) =    14.74 min.


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Process from Point/Station      503.000 to Point/Station      504.000
**** SUBAREA FLOW ADDITION ****
----------------------------------------------------------------------
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    14.74 min.
Rainfall intensity =      2.786(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.648
Subarea runoff =      1.078(CFS) for    0.460(Ac.)
Total runoff =     12.252(CFS)
Effective area this stream =        6.79(Ac.)
Total Study Area (Main Stream No. 2) =      232.79(Ac.)
Area averaged Fm value =    0.781(In/Hr)


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Process from Point/Station      503.000 to Point/Station      504.000
**** CONFLUENCE OF MAIN STREAMS ****
----------------------------------------------------------------------
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      6.790(Ac.)
Runoff from this stream =     12.252(CFS)
Time of concentration =   14.74 min.
Rainfall intensity =     2.786(In/Hr)
Area averaged loss rate (Fm) =    0.7815(In/Hr)
Area averaged Pervious ratio (Ap) = 0.7992
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    413.09   226.000     15.27    0.305      2.728
2     12.25     6.790     14.74    0.781      2.786
Qmax(1) =
           1.000 *    1.000 *   413.093) +
           0.971 *    1.000 *    12.252) + =     424.988
Qmax(2) =
           1.024 *    0.965 *   413.093) +
           1.000 *    1.000 *    12.252) + =     420.629

Total of 2 main streams to confluence:
Flow rates before confluence point:
     414.093      13.252
Maximum flow rates at confluence using above data:
      424.988      420.629
Area of streams before confluence:
      226.000        6.790
```

```
Effective area values after confluence:
      232.790      224.957


Results of confluence:
Total flow rate =    424.988(CFS)
Time of concentration =    15.265 min.
Effective stream area after confluence  =    232.790(Ac.)
Study area average Pervious fraction(Ap) =  0.318
Study area average soil loss rate(Fm) =    0.318(In/Hr)
Study area total =     232.79(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      504.000 to Point/Station      510.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   745.330(Ft.)
Downstream point/station elevation =   739.130(Ft.)
Pipe length  =   880.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   424.988(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   424.988(CFS)
Normal flow depth in pipe =   56.44(In.)
Flow top width inside pipe =   78.88(In.)
Critical Depth =   65.10(In.)
Pipe flow velocity =     15.45(Ft/s)
Travel time through pipe =    0.95 min.
Time of concentration (TC) =    16.21 min.


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Process from Point/Station      504.000 to Point/Station      510.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    232.790(Ac.)
Runoff from this stream =    424.988(CFS)
Time of concentration =   16.21 min.
Rainfall intensity =     2.631(In/Hr)
Area averaged loss rate (Fm) =    0.3185(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3184
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      506.000 to Point/Station      507.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
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```
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   730.000(Ft.)
Top (of initial area) elevation =   762.000(Ft.)
Bottom (of initial area) elevation =   758.000(Ft.)
Difference in elevation =     4.000(Ft.)
Slope =    0.00548  s(%)=       0.55
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   12.035 min.
Rainfall intensity =      3.146(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.872
Subarea runoff =     27.437(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station      507.000 to Point/Station      510.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   750.000(Ft.)
Downstream point/station elevation =   739.130(Ft.)
Pipe length  =  1070.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    27.437(CFS)
Given pipe size =     48.00(In.)
Calculated individual pipe flow  =    27.437(CFS)
Normal flow depth in pipe =   14.16(In.)
Flow top width inside pipe =   43.78(In.)
Critical Depth =   18.60(In.)
Pipe flow velocity =      8.86(Ft/s)
Travel time through pipe =    2.01 min.
Time of concentration (TC) =    14.05 min.


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Process from Point/Station      507.000 to Point/Station      510.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    14.05 min.
Rainfall intensity =      2.867(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.869
Subarea runoff =     30.843(CFS) for   13.380(Ac.)
Total runoff =     58.279(CFS)
Effective area this stream =       23.38(Ac.)
Total Study Area (Main Stream No. 2) =      256.17(Ac.)
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Area averaged Fm value =    0.098(In/Hr)


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Process from Point/Station      507.000 to Point/Station      510.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    14.05 min.
Rainfall intensity =      2.867(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.869
Subarea runoff =      4.337(CFS) for    1.740(Ac.)
Total runoff =     62.617(CFS)
Effective area this stream =       25.12(Ac.)
Total Study Area (Main Stream No. 2) =      257.91(Ac.)
Area averaged Fm value =    0.098(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      507.000 to Point/Station      510.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     25.120(Ac.)
Runoff from this stream =     62.617(CFS)
Time of concentration =   14.05 min.
Rainfall intensity =     2.867(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    424.99   232.790     16.21    0.318      2.631
2     62.62    25.120     14.05    0.098      2.867
Qmax(1) =
           1.000 *    1.000 *   424.988) +
           0.915 *    1.000 *    62.617) + =     482.261
Qmax(2) =
           1.102 *    0.866 *   424.988) +
           1.000 *    1.000 *    62.617) + =     468.473

Total of 2 main streams to confluence:
Flow rates before confluence point:
     425.988      63.617
```

```
Maximum flow rates at confluence using above data:
      482.261      468.473
Area of streams before confluence:
      232.790       25.120
Effective area values after confluence:
      257.910      226.816


Results of confluence:
Total flow rate =    482.261(CFS)
Time of concentration =    16.214 min.
Effective stream area after confluence  =    257.910(Ac.)
Study area average Pervious fraction(Ap) =  0.297
Study area average soil loss rate(Fm) =    0.297(In/Hr)
Study area total =     257.91(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      510.000 to Point/Station     5141.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   739.130(Ft.)
Downstream point/station elevation =   734.240(Ft.)
Pipe length  =   690.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   482.261(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   482.261(CFS)
Normal flow depth in pipe =   62.06(In.)
Flow top width inside pipe =   73.80(In.)
Critical Depth =   68.97(In.)
Pipe flow velocity =     15.81(Ft/s)
Travel time through pipe =    0.73 min.
Time of concentration (TC) =    16.94 min.


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Process from Point/Station     5141.000 to Point/Station      520.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   734.240(Ft.)
Downstream point/station elevation =   726.560(Ft.)
Pipe length  =   500.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   482.261(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   482.261(CFS)
Normal flow depth in pipe =   47.34(In.)
Flow top width inside pipe =   83.32(In.)
Critical Depth =   68.97(In.)
Pipe flow velocity =     21.58(Ft/s)
Travel time through pipe =    0.39 min.
Time of concentration (TC) =    17.33 min.


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Process from Point/Station     5141.000 to Point/Station      520.000
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**** CONFLUENCE OF MAIN STREAMS ****
_____________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    257.910(Ac.)
Runoff from this stream =    482.261(CFS)
Time of concentration =   17.33 min.
Rainfall intensity =     2.528(In/Hr)
Area averaged loss rate (Fm) =    0.2970(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2972
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      516.000 to Point/Station      517.000
**** INITIAL AREA EVALUATION ****
_____________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   980.000(Ft.)
Top (of initial area) elevation =   760.000(Ft.)
Bottom (of initial area) elevation =   750.000(Ft.)
Difference in elevation =    10.000(Ft.)
Slope =    0.01020  s(%)=       1.02
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.957 min.
Rainfall intensity =      3.159(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.872
Subarea runoff =     23.058(CFS)
Total initial stream area =        8.370(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station      517.000 to Point/Station      520.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
_____________________________________________________________________
Upstream point/station elevation =   741.000(Ft.)
Downstream point/station elevation =   726.560(Ft.)
Pipe length  =   720.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    23.058(CFS)
Given pipe size =     48.00(In.)
Calculated individual pipe flow  =    23.058(CFS)
Normal flow depth in pipe =   10.91(In.)
Flow top width inside pipe =   40.23(In.)
Critical Depth =   16.99(In.)
Pipe flow velocity =     10.74(Ft/s)
Travel time through pipe =    1.12 min.
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Time of concentration (TC) =    13.07 min.


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Process from Point/Station      517.000 to Point/Station      520.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    13.07 min.
Rainfall intensity =      2.994(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.871
Subarea runoff =     30.008(CFS) for   11.990(Ac.)
Total runoff =     53.066(CFS)
Effective area this stream =       20.36(Ac.)
Total Study Area (Main Stream No. 2) =      278.27(Ac.)
Area averaged Fm value =    0.098(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      517.000 to Point/Station      520.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    13.07 min.
Rainfall intensity =      2.994(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.871
Subarea runoff =      5.421(CFS) for    2.080(Ac.)
Total runoff =     58.487(CFS)
Effective area this stream =       22.44(Ac.)
Total Study Area (Main Stream No. 2) =      280.35(Ac.)
Area averaged Fm value =    0.098(In/Hr)


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Process from Point/Station      517.000 to Point/Station      520.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     22.440(Ac.)
Runoff from this stream =     58.487(CFS)
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```
Time of concentration =   13.07 min.
Rainfall intensity =     2.994(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    482.26   257.910     17.33    0.297      2.528
2     58.49    22.440     13.07    0.098      2.994
Qmax(1) =
           1.000 *    1.000 *   482.261) +
           0.839 *    1.000 *    58.487) + =     531.348
Qmax(2) =
           1.209 *    0.755 *   482.261) +
           1.000 *    1.000 *    58.487) + =     498.281

Total of 2 main streams to confluence:
Flow rates before confluence point:
     483.261      59.487
Maximum flow rates at confluence using above data:
      531.348      498.281
Area of streams before confluence:
      257.910       22.440
Effective area values after confluence:
      280.350      217.041


Results of confluence:
Total flow rate =    531.348(CFS)
Time of concentration =    17.328 min.
Effective stream area after confluence  =    280.350(Ac.)
Study area average Pervious fraction(Ap) =  0.281
Study area average soil loss rate(Fm) =    0.281(In/Hr)
Study area total =     280.35(Ac.)


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Process from Point/Station      520.000 to Point/Station     5215.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   726.560(Ft.)
Downstream point/station elevation =   720.420(Ft.)
Pipe length  =   400.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   531.348(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   531.348(CFS)
Normal flow depth in pipe =   50.34(In.)
Flow top width inside pipe =   82.33(In.)
Critical Depth =   71.86(In.)
Pipe flow velocity =     22.05(Ft/s)
Travel time through pipe =    0.30 min.
Time of concentration (TC) =    17.63 min.
```

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Process from Point/Station      520.000 to Point/Station     5215.000
**** CONFLUENCE OF MAIN STREAMS ****
_____________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    280.350(Ac.)
Runoff from this stream =    531.348(CFS)
Time of concentration =   17.63 min.
Rainfall intensity =     2.502(In/Hr)
Area averaged loss rate (Fm) =    0.2810(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2814
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      521.000 to Point/Station      522.000
**** INITIAL AREA EVALUATION ****
_____________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   780.000(Ft.)
Top (of initial area) elevation =   749.000(Ft.)
Bottom (of initial area) elevation =   746.000(Ft.)
Difference in elevation =     3.000(Ft.)
Slope =    0.00385  s(%)=       0.38
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   13.265 min.
Rainfall intensity =      2.968(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.870
Subarea runoff =     14.155(CFS)
Total initial stream area =        5.480(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      522.000 to Point/Station     5215.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
_____________________________________________________________________________
Upstream point/station elevation =   722.000(Ft.)
Downstream point/station elevation =   720.420(Ft.)
Pipe length  =   120.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    14.155(CFS)
Given pipe size =     24.00(In.)
Calculated individual pipe flow  =    14.155(CFS)
Normal flow depth in pipe =   12.63(In.)
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```
Flow top width inside pipe =   23.97(In.)
Critical Depth =   16.26(In.)
Pipe flow velocity =      8.44(Ft/s)
Travel time through pipe =    0.24 min.
Time of concentration (TC) =    13.50 min.


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Process from Point/Station      522.000 to Point/Station     5215.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    13.50 min.
Rainfall intensity =      2.937(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.870
Subarea runoff =      1.532(CFS) for    0.660(Ac.)
Total runoff =     15.687(CFS)
Effective area this stream =        6.14(Ac.)
Total Study Area (Main Stream No. 2) =      286.49(Ac.)
Area averaged Fm value =    0.098(In/Hr)


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Process from Point/Station      522.000 to Point/Station     5215.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      6.140(Ac.)
Runoff from this stream =     15.687(CFS)
Time of concentration =   13.50 min.
Rainfall intensity =     2.937(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Program is now starting with Main Stream No. 3


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     5210.000 to Point/Station     5210.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 25.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.100(In/Hr)
Rainfall intensity =      1.904(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  27.80 min.  Rain intensity =       1.90(In/Hr)
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Total area this stream =       153.70(Ac.)
Total Study Area (Main Stream No. 3) =      440.19(Ac.)
Total runoff =    245.60(CFS)


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Process from Point/Station     5210.000 to Point/Station     5215.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   728.800(Ft.)
Downstream point/station elevation =   720.420(Ft.)
Pipe length  =   420.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   245.600(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =   245.600(CFS)
Normal flow depth in pipe =   32.13(In.)
Flow top width inside pipe =   71.58(In.)
Critical Depth =   51.52(In.)
Pipe flow velocity =     20.12(Ft/s)
Travel time through pipe =    0.35 min.
Time of concentration (TC) =    28.15 min.


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Process from Point/Station     5210.000 to Point/Station     5215.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 3
Stream flow area =    153.700(Ac.)
Runoff from this stream =    245.600(CFS)
Time of concentration =   28.15 min.
Rainfall intensity =     1.890(In/Hr)
Area averaged loss rate (Fm) =    0.1000(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    531.35   280.350     17.63    0.281      2.502
2     15.69     6.140     13.50    0.098      2.937
3    245.60   153.700     28.15    0.100      1.890
Qmax(1) =
           1.000 *    1.000 *   531.348) +
           0.847 *    1.000 *    15.687) +
           1.342 *    0.626 *   245.600) + =     751.102
Qmax(2) =
           1.196 *    0.766 *   531.348) +
           1.000 *    1.000 *    15.687) +
           1.585 *    0.480 *   245.600) + =     688.902
Qmax(3) =
           0.724 *    1.000 *   531.348) +
           0.631 *    1.000 *    15.687) +
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```
           1.000 *    1.000 *   245.600) + =     640.346

Total of 3 main streams to confluence:
Flow rates before confluence point:
     532.348      16.687     246.600
Maximum flow rates at confluence using above data:
      751.102      688.902      640.346
Area of streams before confluence:
      280.350        6.140      153.700
Effective area values after confluence:
      382.759      294.568      440.190


Results of confluence:
Total flow rate =    751.102(CFS)
Time of concentration =    17.630 min.
Effective stream area after confluence  =    382.759(Ac.)
Study area average Pervious fraction(Ap) =  0.216
Study area average soil loss rate(Fm) =    0.215(In/Hr)
Study area total =     440.19(Ac.)


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Process from Point/Station     5215.000 to Point/Station      525.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   720.420(Ft.)
Downstream point/station elevation =   712.540(Ft.)
Pipe length  =   920.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   751.102(CFS)
Given pipe size =     84.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
    13.706(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =     12.714(Ft.)
 Minor friction loss =      8.872(Ft.)  K-factor =   1.50
Pipe flow velocity =     19.52(Ft/s)
Travel time through pipe =    0.79 min.
Time of concentration (TC) =    18.42 min.


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Process from Point/Station      525.000 to Point/Station     5248.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   712.540(Ft.)
Downstream point/station elevation =   710.460(Ft.)
Pipe length  =   250.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   751.102(CFS)
Given pipe size =     96.00(In.)
Calculated individual pipe flow  =   751.102(CFS)
Normal flow depth in pipe =   71.44(In.)
Flow top width inside pipe =   83.78(In.)
Critical Depth =   82.58(In.)
Pipe flow velocity =     18.74(Ft/s)
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Travel time through pipe =    0.22 min.
Time of concentration (TC) =    18.64 min.


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Process from Point/Station      525.000 to Point/Station     5248.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    382.759(Ac.)
Runoff from this stream =    751.102(CFS)
Time of concentration =   18.64 min.
Rainfall intensity =     2.420(In/Hr)
Area averaged loss rate (Fm) =    0.2153(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2155
Program is now starting with Main Stream No. 2


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Process from Point/Station      526.000 to Point/Station      527.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   840.000(Ft.)
Top (of initial area) elevation =   747.000(Ft.)
Bottom (of initial area) elevation =   737.000(Ft.)
Difference in elevation =    10.000(Ft.)
Slope =    0.01190  s(%)=       1.19
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   10.900 min.
Rainfall intensity =      3.339(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.874
Subarea runoff =     29.141(CFS)
Total initial stream area =        9.990(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station      527.000 to Point/Station      528.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   723.000(Ft.)
Downstream point/station elevation =   718.560(Ft.)
Pipe length  =   450.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    29.141(CFS)
Given pipe size =     36.00(In.)
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Calculated individual pipe flow  =    29.141(CFS)
Normal flow depth in pipe =   16.71(In.)
Flow top width inside pipe =   35.91(In.)
Critical Depth =   20.95(In.)
Pipe flow velocity =      9.07(Ft/s)
Travel time through pipe =    0.83 min.
Time of concentration (TC) =    11.73 min.


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Process from Point/Station      527.000 to Point/Station      528.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    11.73 min.
Rainfall intensity =      3.196(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.872
Subarea runoff =     30.803(CFS) for   11.510(Ac.)
Total runoff =     59.944(CFS)
Effective area this stream =       21.50(Ac.)
Total Study Area (Main Stream No. 2) =      461.69(Ac.)
Area averaged Fm value =    0.098(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      528.000 to Point/Station     5248.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   718.560(Ft.)
Downstream point/station elevation =   710.460(Ft.)
Pipe length  =   810.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    59.944(CFS)
Given pipe size =     54.00(In.)
Calculated individual pipe flow  =    59.944(CFS)
Normal flow depth in pipe =   20.46(In.)
Flow top width inside pipe =   52.39(In.)
Critical Depth =   26.96(In.)
Pipe flow velocity =     10.86(Ft/s)
Travel time through pipe =    1.24 min.
Time of concentration (TC) =    12.97 min.


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Process from Point/Station      528.000 to Point/Station     5248.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 0.900
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Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.100
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 35.70
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.095(In/Hr)
Time of concentration =    12.97 min.
Rainfall intensity =      3.008(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.871
Subarea runoff =     12.154(CFS) for    6.020(Ac.)
Total runoff =     72.097(CFS)
Effective area this stream =       27.52(Ac.)
Total Study Area (Main Stream No. 2) =      467.71(Ac.)
Area averaged Fm value =    0.097(In/Hr)


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Process from Point/Station      528.000 to Point/Station     5248.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    12.97 min.
Rainfall intensity =      3.008(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.871
Subarea runoff =      3.562(CFS) for    1.360(Ac.)
Total runoff =     75.660(CFS)
Effective area this stream =       28.88(Ac.)
Total Study Area (Main Stream No. 2) =      469.07(Ac.)
Area averaged Fm value =    0.097(In/Hr)


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Process from Point/Station      528.000 to Point/Station     5248.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    12.97 min.
Rainfall intensity =      3.008(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.871
Subarea runoff =      7.596(CFS) for    2.900(Ac.)
Total runoff =     83.256(CFS)
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Effective area this stream =       31.78(Ac.)
Total Study Area (Main Stream No. 2) =      471.97(Ac.)
Area averaged Fm value =    0.097(In/Hr)


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Process from Point/Station      528.000 to Point/Station     5248.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     31.780(Ac.)
Runoff from this stream =     83.256(CFS)
Time of concentration =   12.97 min.
Rainfall intensity =     3.008(In/Hr)
Area averaged loss rate (Fm) =    0.0973(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    751.10   382.759     18.64    0.215      2.420
2     83.26    31.780     12.97    0.097      3.008
Qmax(1) =
           1.000 *    1.000 *   751.102) +
           0.798 *    1.000 *    83.256) + =     817.538
Qmax(2) =
           1.267 *    0.696 *   751.102) +
           1.000 *    1.000 *    83.256) + =     745.365

Total of 2 main streams to confluence:
Flow rates before confluence point:
     752.102      84.256
Maximum flow rates at confluence using above data:
      817.538      745.365
Area of streams before confluence:
      382.759       31.780
Effective area values after confluence:
      414.539      298.144


Results of confluence:
Total flow rate =    817.538(CFS)
Time of concentration =    18.638 min.
Effective stream area after confluence  =    414.539(Ac.)
Study area average Pervious fraction(Ap) =  0.207
Study area average soil loss rate(Fm) =    0.206(In/Hr)
Study area total =     414.54(Ac.)


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Process from Point/Station     5248.000 to Point/Station     5300.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
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```
Upstream point/station elevation =   710.460(Ft.)
Downstream point/station elevation =   707.900(Ft.)
Pipe length  =    30.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   817.538(CFS)
Given pipe size =     96.00(In.)
Calculated individual pipe flow  =   817.538(CFS)
Normal flow depth in pipe =   36.49(In.)
Flow top width inside pipe =   93.20(In.)
Critical Depth =   85.20(In.)
Pipe flow velocity =     46.62(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =    18.65 min.


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Process from Point/Station     5248.000 to Point/Station     5300.000
**** CONFLUENCE OF MAIN STREAMS ****
------------------------------------------------------------------------
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    414.539(Ac.)
Runoff from this stream =    817.538(CFS)
Time of concentration =   18.65 min.
Rainfall intensity =     2.419(In/Hr)
Area averaged loss rate (Fm) =    0.2062(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2067
Program is now starting with Main Stream No. 2


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Process from Point/Station      531.000 to Point/Station      532.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   500.000(Ft.)
Top (of initial area) elevation =   748.000(Ft.)
Bottom (of initial area) elevation =   746.000(Ft.)
Difference in elevation =     2.000(Ft.)
Slope =    0.00400  s(%)=       0.40
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.017 min.
Rainfall intensity =      3.318(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.873
Subarea runoff =     10.925(CFS)
Total initial stream area =        3.770(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)
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Process from Point/Station      532.000 to Point/Station      533.000
**** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****
_____________________________________________________________________________
Top of street segment elevation =   746.000(Ft.)
End of street segment elevation =   742.000(Ft.)
Length of street segment  =   610.000(Ft.)
Height of curb above gutter flowline  =    8.0(In.)
Width of half street (curb to crown)  =  18.000(Ft.)
Distance from crown to crossfall grade break  =  12.000(Ft.)
Slope from gutter to grade break (v/hz) =   0.020
Slope from grade break to crown (v/hz)  =   0.020
Street flow is on [2] side(s) of the street
Distance from curb to property line  =  10.000(Ft.)
Slope from curb to property line (v/hz) =   0.020
Gutter width =   2.000(Ft.)
Gutter hike from flowline =  2.000(In.)
 Manning's N in gutter =  0.0150
 Manning's N from gutter to grade break =  0.0150
 Manning's N from grade break to crown =  0.0150
Estimated mean flow rate at midpoint of street =     20.668(CFS)
Depth of flow =   0.507(Ft.), Average velocity =   2.762(Ft/s)
Note:  depth of flow exceeds top of street crown.
Streetflow hydraulics at midpoint of street travel:
Halfstreet flow width =  18.000(Ft.)
Flow velocity =   2.76(Ft/s)
Travel time =    3.68 min.     TC =   14.70  min.
 Adding area flow to street
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Rainfall intensity =      2.791(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.868
Subarea runoff =     19.371(CFS) for    8.730(Ac.)
Total runoff =     30.296(CFS)
Effective area this stream =       12.50(Ac.)
Total Study Area (Main Stream No. 2) =      484.47(Ac.)
Area averaged Fm value =    0.098(In/Hr)
Street flow at end of street =     30.296(CFS)
Half street flow at end of street =     15.148(CFS)
Depth of flow =   0.561(Ft.), Average velocity =   3.215(Ft/s)
Note:  depth of flow exceeds top of street crown.
Flow width (from curb towards crown)=  18.000(Ft.)


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Process from Point/Station      533.000 to Point/Station      534.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
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Upstream point/station elevation =   728.000(Ft.)
Downstream point/station elevation =   721.280(Ft.)
Pipe length  =   720.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    30.296(CFS)
Given pipe size =     42.00(In.)
Calculated individual pipe flow  =    30.296(CFS)
Normal flow depth in pipe =   16.10(In.)
Flow top width inside pipe =   40.84(In.)
Critical Depth =   20.41(In.)
Pipe flow velocity =      8.92(Ft/s)
Travel time through pipe =    1.34 min.
Time of concentration (TC) =    16.04 min.


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Process from Point/Station      533.000 to Point/Station      534.000
**** SUBAREA FLOW ADDITION ****
------------------------------------------------------------------------
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    16.04 min.
Rainfall intensity =      2.648(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.867
Subarea runoff =     22.080(CFS) for   10.320(Ac.)
Total runoff =     52.376(CFS)
Effective area this stream =       22.82(Ac.)
Total Study Area (Main Stream No. 2) =      494.79(Ac.)
Area averaged Fm value =    0.098(In/Hr)


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Process from Point/Station      533.000 to Point/Station      534.000
**** SUBAREA FLOW ADDITION ****
------------------------------------------------------------------------
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    16.04 min.
Rainfall intensity =      2.648(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.867
Subarea runoff =      6.312(CFS) for    2.750(Ac.)
Total runoff =     58.688(CFS)
Effective area this stream =       25.57(Ac.)
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Total Study Area (Main Stream No. 2) =      497.54(Ac.)
Area averaged Fm value =    0.098(In/Hr)


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Process from Point/Station      533.000 to Point/Station      534.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    16.04 min.
Rainfall intensity =      2.648(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.867
Subarea runoff =     22.103(CFS) for    9.630(Ac.)
Total runoff =     80.790(CFS)
Effective area this stream =       35.20(Ac.)
Total Study Area (Main Stream No. 2) =      507.17(Ac.)
Area averaged Fm value =    0.098(In/Hr)


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Process from Point/Station      534.000 to Point/Station     5295.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   721.280(Ft.)
Downstream point/station elevation =   715.690(Ft.)
Pipe length  =   640.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    80.790(CFS)
Given pipe size =     42.00(In.)
Calculated individual pipe flow  =    80.790(CFS)
Normal flow depth in pipe =   30.00(In.)
Flow top width inside pipe =   37.95(In.)
Critical Depth =   33.70(In.)
Pipe flow velocity =     10.99(Ft/s)
Travel time through pipe =    0.97 min.
Time of concentration (TC) =    17.01 min.


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Process from Point/Station      534.000 to Point/Station     5295.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =     35.200(Ac.)
Runoff from this stream =     80.790(CFS)
Time of concentration =   17.01 min.
Rainfall intensity =     2.556(In/Hr)
Area averaged loss rate (Fm) =    0.0978(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
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Process from Point/Station      536.000 to Point/Station      537.000
**** INITIAL AREA EVALUATION ****
_____________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   640.000(Ft.)
Top (of initial area) elevation =   740.000(Ft.)
Bottom (of initial area) elevation =   738.000(Ft.)
Difference in elevation =     2.000(Ft.)
Slope =    0.00313  s(%)=       0.31
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   12.775 min.
Rainfall intensity =      3.036(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.871
Subarea runoff =     23.532(CFS)
Total initial stream area =        8.900(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      537.000 to Point/Station     5295.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
_____________________________________________________________________________
Upstream point/station elevation =   728.000(Ft.)
Downstream point/station elevation =   715.690(Ft.)
Pipe length  =   670.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    23.532(CFS)
Given pipe size =     48.00(In.)
Calculated individual pipe flow  =    23.532(CFS)
Normal flow depth in pipe =   11.27(In.)
Flow top width inside pipe =   40.70(In.)
Critical Depth =   17.17(In.)
Pipe flow velocity =     10.47(Ft/s)
Travel time through pipe =    1.07 min.
Time of concentration (TC) =    13.84 min.


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Process from Point/Station      537.000 to Point/Station     5295.000
**** SUBAREA FLOW ADDITION ****
_____________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 0.800
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.200
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Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 39.40
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.092(In/Hr)
Time of concentration =    13.84 min.
Rainfall intensity =      2.893(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.871
Subarea runoff =     34.477(CFS) for   14.130(Ac.)
Total runoff =     58.009(CFS)
Effective area this stream =       23.03(Ac.)
Total Study Area (Main Stream No. 2) =      530.20(Ac.)
Area averaged Fm value =    0.094(In/Hr)


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Process from Point/Station      537.000 to Point/Station     5295.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 0.600
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.400
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 46.80
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.085(In/Hr)
Time of concentration =    13.84 min.
Rainfall intensity =      2.893(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.871
Subarea runoff =     15.747(CFS) for    6.230(Ac.)
Total runoff =     73.755(CFS)
Effective area this stream =       29.26(Ac.)
Total Study Area (Main Stream No. 2) =      536.43(Ac.)
Area averaged Fm value =    0.092(In/Hr)


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Process from Point/Station      537.000 to Point/Station     5295.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 0.500
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.500
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 50.50
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.080(In/Hr)
Time of concentration =    13.84 min.
Rainfall intensity =      2.893(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.872
Subarea runoff =     25.011(CFS) for    9.880(Ac.)
Total runoff =     98.766(CFS)
Effective area this stream =       39.14(Ac.)
Total Study Area (Main Stream No. 2) =      546.31(Ac.)
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Area averaged Fm value =    0.089(In/Hr)


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Process from Point/Station      537.000 to Point/Station     5295.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Time of concentration =    13.84 min.
Rainfall intensity =      2.893(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.872
Subarea runoff =      7.245(CFS) for    2.880(Ac.)
Total runoff =    106.011(CFS)
Effective area this stream =       42.02(Ac.)
Total Study Area (Main Stream No. 2) =      549.19(Ac.)
Area averaged Fm value =    0.090(In/Hr)


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Process from Point/Station      537.000 to Point/Station     5295.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =     42.020(Ac.)
Runoff from this stream =    106.011(CFS)
Time of concentration =   13.84 min.
Rainfall intensity =     2.893(In/Hr)
Area averaged loss rate (Fm) =    0.0899(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1     80.79    35.200     17.01    0.098      2.556
2    106.01    42.020     13.84    0.090      2.893
Qmax(1) =
           1.000 *    1.000 *    80.790) +
           0.880 *    1.000 *   106.011) + =     174.065
Qmax(2) =
           1.137 *    0.814 *    80.790) +
           1.000 *    1.000 *   106.011) + =     180.748

Total of 2 streams to confluence:
Flow rates before confluence point:
      80.790     106.011
Maximum flow rates at confluence using above data:
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```
      174.065      180.748
Area of streams before confluence:
       35.200       42.020
Effective area values after confluence:
       77.220       70.659
Results of confluence:
Total flow rate =    180.748(CFS)
Time of concentration =    13.842 min.
Effective stream area after confluence =     70.659(Ac.)
Study area average Pervious fraction(Ap) =  0.100
Study area average soil loss rate(Fm) =    0.093(In/Hr)
Study area total (this main stream) =      77.22(Ac.)


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Process from Point/Station     5295.000 to Point/Station     5300.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   715.690(Ft.)
Downstream point/station elevation =   707.900(Ft.)
Pipe length  =   950.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   180.748(CFS)
Given pipe size =     96.00(In.)
Calculated individual pipe flow  =   180.748(CFS)
Normal flow depth in pipe =   30.52(In.)
Flow top width inside pipe =   89.40(In.)
Critical Depth =   40.27(In.)
Pipe flow velocity =     13.16(Ft/s)
Travel time through pipe =    1.20 min.
Time of concentration (TC) =    15.04 min.


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Process from Point/Station     5295.000 to Point/Station     5300.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     70.659(Ac.)
Runoff from this stream =    180.748(CFS)
Time of concentration =   15.04 min.
Rainfall intensity =     2.752(In/Hr)
Area averaged loss rate (Fm) =    0.0935(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    817.54   414.539     18.65    0.206      2.419
2    180.75    70.659     15.04    0.093      2.752
Qmax(1) =
           1.000 *    1.000 *   817.538) +
           0.875 *    1.000 *   180.748) + =     975.665
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```
Qmax(2) =
           1.150 *    0.807 *   817.538) +
           1.000 *    1.000 *   180.748) + =     939.439

Total of 2 main streams to confluence:
Flow rates before confluence point:
     818.538     181.748
Maximum flow rates at confluence using above data:
      975.665      939.439
Area of streams before confluence:
      414.539       70.659
Effective area values after confluence:
      485.198      405.081


Results of confluence:
Total flow rate =    975.665(CFS)
Time of concentration =    18.649 min.
Effective stream area after confluence  =    485.198(Ac.)
Study area average Pervious fraction(Ap) =  0.191
Study area average soil loss rate(Fm) =    0.190(In/Hr)
Study area total =     485.20(Ac.)


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Process from Point/Station     5300.000 to Point/Station     5305.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   707.900(Ft.)
Downstream point/station elevation =   706.030(Ft.)
Pipe length  =   640.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   975.665(CFS)
Given pipe size =    108.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
     7.515(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =      3.906(Ft.)
 Minor friction loss =      5.478(Ft.)  K-factor =   1.50
Pipe flow velocity =     15.34(Ft/s)
Travel time through pipe =    0.70 min.
Time of concentration (TC) =    19.34 min.


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Process from Point/Station     5300.000 to Point/Station     5305.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    485.198(Ac.)
Runoff from this stream =    975.665(CFS)
Time of concentration =   19.34 min.
Rainfall intensity =     2.367(In/Hr)
Area averaged loss rate (Fm) =    0.1898(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1911
```

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Program is now starting with Main Stream No. 2


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Process from Point/Station      541.000 to Point/Station      542.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Initial subarea data:
Initial area flow distance =   650.000(Ft.)
Top (of initial area) elevation =   733.000(Ft.)
Bottom (of initial area) elevation =   730.000(Ft.)
Difference in elevation =     3.000(Ft.)
Slope =    0.00462  s(%)=       0.46
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.890 min.
Rainfall intensity =      3.169(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.872
Subarea runoff =     16.171(CFS)
Total initial stream area =        5.850(Ac.)
Pervious area fraction = 0.100
Initial area Fm value =    0.098(In/Hr)


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Process from Point/Station      542.000 to Point/Station     5305.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   723.000(Ft.)
Downstream point/station elevation =   715.630(Ft.)
Pipe length  =  1380.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    16.171(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =    16.171(CFS)
Normal flow depth in pipe =   14.27(In.)
Flow top width inside pipe =   35.22(In.)
Critical Depth =   15.41(In.)
Pipe flow velocity =      6.19(Ft/s)
Travel time through pipe =    3.71 min.
Time of concentration (TC) =    15.60 min.


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Process from Point/Station      542.000 to Point/Station     5305.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
SCHOOL subarea
Decimal fraction soil group A = 0.350
Decimal fraction soil group B = 0.000
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Decimal fraction soil group C = 0.650
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 56.05
Pervious ratio(Ap) = 0.6000     Max loss rate(Fm)=     0.440(In/Hr)
Time of concentration =    15.60 min.
Rainfall intensity =      2.692(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.784
Subarea runoff =     29.681(CFS) for   15.880(Ac.)
Total runoff =     45.852(CFS)
Effective area this stream =       21.73(Ac.)
Total Study Area (Main Stream No. 2) =      570.92(Ac.)
Area averaged Fm value =    0.348(In/Hr)


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Process from Point/Station      542.000 to Point/Station     5305.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.055(In/Hr)
Time of concentration =    15.60 min.
Rainfall intensity =      2.692(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.788
Subarea runoff =      2.255(CFS) for    0.950(Ac.)
Total runoff =     48.107(CFS)
Effective area this stream =       22.68(Ac.)
Total Study Area (Main Stream No. 2) =      571.87(Ac.)
Area averaged Fm value =    0.336(In/Hr)


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Process from Point/Station      542.000 to Point/Station     5305.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     22.680(Ac.)
Runoff from this stream =     48.107(CFS)
Time of concentration =   15.60 min.
Rainfall intensity =     2.692(In/Hr)
Area averaged loss rate (Fm) =    0.3356(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4501
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)
```

```
1    975.66   485.198     19.34    0.190      2.367
2     48.11    22.680     15.60    0.336      2.692
Qmax(1) =
           1.000 *    1.000 *   975.665) +
           0.862 *    1.000 *    48.107) + =    1017.123
Qmax(2) =
           1.150 *    0.807 *   975.665) +
           1.000 *    1.000 *    48.107) + =     952.850

Total of 2 main streams to confluence:
Flow rates before confluence point:
     976.665      49.107
Maximum flow rates at confluence using above data:
     1017.123      952.850
Area of streams before confluence:
      485.198       22.680
Effective area values after confluence:
      507.878      414.051


Results of confluence:
Total flow rate =   1017.123(CFS)
Time of concentration =    19.345 min.
Effective stream area after confluence  =    507.878(Ac.)
Study area average Pervious fraction(Ap) =  0.203
Study area average soil loss rate(Fm) =    0.196(In/Hr)
Study area total =     507.88(Ac.)


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Process from Point/Station     5305.000 to Point/Station     5330.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =   715.630(Ft.)
Downstream point/station elevation =   701.260(Ft.)
Pipe length  =   690.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =  1017.123(CFS)
Given pipe size =    108.00(In.)
Calculated individual pipe flow  =  1017.123(CFS)
Normal flow depth in pipe =   58.08(In.)
Flow top width inside pipe =  107.69(In.)
Critical Depth =   93.23(In.)
Pipe flow velocity =     29.18(Ft/s)
Travel time through pipe =    0.39 min.
Time of concentration (TC) =    19.74 min.


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Process from Point/Station      545.000 to Point/Station     5330.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    507.878(Ac.)
Runoff from this stream =   1017.123(CFS)
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```
Time of concentration =   19.74 min.
Rainfall intensity =     2.338(In/Hr)
Area averaged loss rate (Fm) =    0.1963(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2027
Program is now starting with Main Stream No. 2


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Process from Point/Station      546.000 to Point/Station      547.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 32.00
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.196(In/Hr)
Initial subarea data:
Initial area flow distance =   540.000(Ft.)
Top (of initial area) elevation =   733.000(Ft.)
Bottom (of initial area) elevation =   727.000(Ft.)
Difference in elevation =     6.000(Ft.)
Slope =    0.01111  s(%)=       1.11
TC = k(0.324)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.871 min.
Rainfall intensity =      3.544(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.850
Subarea runoff =     17.568(CFS)
Total initial stream area =        5.830(Ac.)
Pervious area fraction = 0.200
Initial area Fm value =    0.196(In/Hr)


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Process from Point/Station      547.000 to Point/Station     5330.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   727.000(Ft.)
Downstream point/station elevation =   701.260(Ft.)
Pipe length  =  1340.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    17.568(CFS)
Given pipe size =     42.00(In.)
Calculated individual pipe flow  =    17.568(CFS)
Normal flow depth in pipe =   10.07(In.)
Flow top width inside pipe =   35.86(In.)
Critical Depth =   15.36(In.)
Pipe flow velocity =      9.91(Ft/s)
Travel time through pipe =    2.25 min.
Time of concentration (TC) =    12.12 min.


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Process from Point/Station      547.000 to Point/Station     5330.000
**** SUBAREA FLOW ADDITION ****
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_____________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.900
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.100
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 35.70
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.191(In/Hr)
Time of concentration =    12.12 min.
Rainfall intensity =      3.132(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.845
Subarea runoff =     38.192(CFS) for   15.240(Ac.)
Total runoff =     55.760(CFS)
Effective area this stream =       21.07(Ac.)
Total Study Area (Main Stream No. 2) =      592.94(Ac.)
Area averaged Fm value =    0.192(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      547.000 to Point/Station     5330.000
**** SUBAREA FLOW ADDITION ****
_____________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 0.900
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.100
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 35.70
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.095(In/Hr)
Time of concentration =    12.12 min.
Rainfall intensity =      3.132(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.854
Subarea runoff =     29.056(CFS) for   10.630(Ac.)
Total runoff =     84.817(CFS)
Effective area this stream =       31.70(Ac.)
Total Study Area (Main Stream No. 2) =      603.57(Ac.)
Area averaged Fm value =    0.160(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      547.000 to Point/Station     5330.000
**** SUBAREA FLOW ADDITION ****
_____________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 0.650
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.350
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 44.95
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.087(In/Hr)
Time of concentration =    12.12 min.
Rainfall intensity =      3.132(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
```

```
rational method)(Q=KCIA) is C = 0.858
Subarea runoff =     20.394(CFS) for    7.440(Ac.)
Total runoff =    105.211(CFS)
Effective area this stream =       39.14(Ac.)
Total Study Area (Main Stream No. 2) =      611.01(Ac.)
Area averaged Fm value =    0.146(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      547.000 to Point/Station     5330.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     39.140(Ac.)
Runoff from this stream =    105.211(CFS)
Time of concentration =   12.12 min.
Rainfall intensity =     3.132(In/Hr)
Area averaged loss rate (Fm) =    0.1457(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1538
Program is now starting with Main Stream No. 3


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      551.000 to Point/Station      552.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.550
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.450
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 48.65
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.165(In/Hr)
Initial subarea data:
Initial area flow distance =   690.000(Ft.)
Top (of initial area) elevation =   729.000(Ft.)
Bottom (of initial area) elevation =   724.000(Ft.)
Difference in elevation =     5.000(Ft.)
Slope =    0.00725  s(%)=       0.72
TC = k(0.324)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   11.859 min.
Rainfall intensity =      3.174(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.853
Subarea runoff =     26.080(CFS)
Total initial stream area =        9.630(Ac.)
Pervious area fraction = 0.200
Initial area Fm value =    0.165(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      552.000 to Point/Station     5330.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
______________________________________________________________________________
Upstream point/station elevation =   724.000(Ft.)
```

```
Downstream point/station elevation =   701.260(Ft.)
Pipe length  =  1610.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    26.080(CFS)
Given pipe size =     36.00(In.)
Calculated individual pipe flow  =    26.080(CFS)
Normal flow depth in pipe =   14.21(In.)
Flow top width inside pipe =   35.20(In.)
Critical Depth =   19.77(In.)
Pipe flow velocity =     10.05(Ft/s)
Travel time through pipe =    2.67 min.
Time of concentration (TC) =    14.53 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      552.000 to Point/Station     5330.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.800
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.200
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 39.40
Pervious ratio(Ap) = 0.2000     Max loss rate(Fm)=     0.184(In/Hr)
Time of concentration =    14.53 min.
Rainfall intensity =      2.810(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.843
Subarea runoff =     45.054(CFS) for   20.400(Ac.)
Total runoff =     71.134(CFS)
Effective area this stream =       30.03(Ac.)
Total Study Area (Main Stream No. 3) =      641.04(Ac.)
Area averaged Fm value =    0.178(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      552.000 to Point/Station     5330.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
COMMERCIAL subarea type
Decimal fraction soil group A = 0.700
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.300
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 43.10
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.089(In/Hr)
Time of concentration =    14.53 min.
Rainfall intensity =      2.810(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.846
Subarea runoff =      8.157(CFS) for    3.330(Ac.)
Total runoff =     79.291(CFS)
Effective area this stream =       33.36(Ac.)
Total Study Area (Main Stream No. 3) =      644.37(Ac.)
Area averaged Fm value =    0.169(In/Hr)
```

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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      552.000 to Point/Station     5330.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 3
Stream flow area =     33.360(Ac.)
Runoff from this stream =     79.291(CFS)
Time of concentration =   14.53 min.
Rainfall intensity =     2.810(In/Hr)
Area averaged loss rate (Fm) =    0.1693(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1900
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1   1017.12   507.878     19.74    0.196      2.338
2    105.21    39.140     12.12    0.146      3.132
3     79.29    33.360     14.53    0.169      2.810
Qmax(1) =
           1.000 *    1.000 *  1017.123) +
           0.734 *    1.000 *   105.211) +
           0.821 *    1.000 *    79.291) + =    1159.475
Qmax(2) =
           1.371 *    0.614 *  1017.123) +
           1.000 *    1.000 *   105.211) +
           1.122 *    0.834 *    79.291) + =    1035.863
Qmax(3) =
           1.220 *    0.736 *  1017.123) +
           0.892 *    1.000 *   105.211) +
           1.000 *    1.000 *    79.291) + =    1086.782

Total of 3 main streams to confluence:
Flow rates before confluence point:
    1018.123     106.211      80.291
Maximum flow rates at confluence using above data:
     1159.475     1035.863     1086.782
Area of streams before confluence:
      507.878       39.140       33.360
Effective area values after confluence:
      580.378      378.931      446.325


Results of confluence:
Total flow rate =   1159.475(CFS)
Time of concentration =    19.739 min.
Effective stream area after confluence  =    580.378(Ac.)
Study area average Pervious fraction(Ap) =  0.199
Study area average soil loss rate(Fm) =    0.191(In/Hr)
Study area total =     580.38(Ac.)
End of computations, Total Study Area =          644.37 (Ac.)
```

The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.199
Area averaged SCS curve number =   1.$

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2018 Version 9.0
Rational Hydrology Study Date: 09/06/22

Rich-Haven Specific Plan
Hydrology Study for Allowable Q
100-yr Storm
Mill Creek Storm Drain

Program License Serial Number 6440

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.200 (In.)
Slope used for rainfall intensity curve b = 0.6000
Soil antecedent moisture condition (AMC) = 2

++

Process from Point/Station 504.000 to Point/Station 504.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 25.00
Pervious ratio(Ap) = 0.3180 Max loss rate(Fm)= 0.318(In/Hr)
Rainfall intensity = 2.728(In/Hr) for a 100.0 year storm
User specified values are as follows:
TC = 15.27 min. Rain intensity = 2.73(In/Hr)
Total area this stream = 232.79(Ac.)
Total Study Area (Main Stream No. 1) = 232.79(Ac.)
Total runoff = 424.99(CFS)

++

Process from Point/Station 504.000 to Point/Station 510.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****

Upstream point/station elevation = 745.330(Ft.)
Downstream point/station elevation = 739.130(Ft.)
Pipe length = 880.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 424.988(CFS)
Given pipe size = 84.00(In.)
Calculated individual pipe flow = 424.988(CFS)
Normal flow depth in pipe = 56.44(In.)

```
Flow top width inside pipe =   78.88(In.)
Critical Depth =   65.10(In.)
Pipe flow velocity =     15.45(Ft/s)
Travel time through pipe =    0.95 min.
Time of concentration (TC) =    16.21 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      504.000 to Point/Station      510.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    232.790(Ac.)
Runoff from this stream =    424.988(CFS)
Time of concentration =   16.21 min.
Rainfall intensity =     2.631(In/Hr)
Area averaged loss rate (Fm) =    0.3180(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3180
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      506.000 to Point/Station      510.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  =  1.#R
Pervious ratio(Ap) = 0.0980     Max loss rate(Fm)=     0.100(In/Hr)
Rainfall intensity =      2.867(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  14.05 min.  Rain intensity =       2.87(In/Hr)
Total area this stream =        25.12(Ac.)
Total Study Area (Main Stream No. 2) =      257.91(Ac.)
Total runoff =     42.30(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      506.000 to Point/Station      510.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     25.120(Ac.)
Runoff from this stream =     42.300(CFS)
Time of concentration =   14.05 min.
Rainfall intensity =     2.867(In/Hr)
Area averaged loss rate (Fm) =    0.1000(In/Hr)
Area averaged Pervious ratio (Ap) = 0.0980
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)
```

```
1    424.99   232.790     16.21    0.318      2.631
2     42.30    25.120     14.05    0.100      2.867
Qmax(1) =
           1.000 *    1.000 *   424.988) +
           0.915 *    1.000 *    42.300) + =     463.678
Qmax(2) =
           1.102 *    0.867 *   424.988) +
           1.000 *    1.000 *    42.300) + =     448.163

Total of 2 main streams to confluence:
Flow rates before confluence point:
     425.988      43.300
Maximum flow rates at confluence using above data:
      463.678      448.163
Area of streams before confluence:
      232.790       25.120
Effective area values after confluence:
      257.910      226.839


Results of confluence:
Total flow rate =    463.678(CFS)
Time of concentration =    16.214 min.
Effective stream area after confluence  =    257.910(Ac.)
Study area average Pervious fraction(Ap) =  0.297
Study area average soil loss rate(Fm) =    0.297(In/Hr)
Study area total =     257.91(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      510.000 to Point/Station     5141.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   739.130(Ft.)
Downstream point/station elevation =   734.200(Ft.)
Pipe length  =   690.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   463.678(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   463.678(CFS)
Normal flow depth in pipe =   60.00(In.)
Flow top width inside pipe =   75.89(In.)
Critical Depth =   67.79(In.)
Pipe flow velocity =     15.78(Ft/s)
Travel time through pipe =    0.73 min.
Time of concentration (TC) =    16.94 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     5141.000 to Point/Station      520.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   734.200(Ft.)
Downstream point/station elevation =   726.560(Ft.)
Pipe length  =   500.00(Ft.)   Manning's N = 0.013
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```
No. of pipes = 1  Required pipe flow  =   463.678(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   463.678(CFS)
Normal flow depth in pipe =   46.27(In.)
Flow top width inside pipe =   83.57(In.)
Critical Depth =   67.79(In.)
Pipe flow velocity =     21.34(Ft/s)
Travel time through pipe =    0.39 min.
Time of concentration (TC) =    17.33 min.


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Process from Point/Station     5141.000 to Point/Station      520.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    257.910(Ac.)
Runoff from this stream =    463.678(CFS)
Time of concentration =   17.33 min.
Rainfall intensity =     2.528(In/Hr)
Area averaged loss rate (Fm) =    0.2968(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2966
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      516.000 to Point/Station      520.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  =  1.#R
Pervious ratio(Ap) = 0.0980     Max loss rate(Fm)=     0.100(In/Hr)
Rainfall intensity =      2.994(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  13.07 min.  Rain intensity =       2.99(In/Hr)
Total area this stream =        22.40(Ac.)
Total Study Area (Main Stream No. 2) =      280.31(Ac.)
Total runoff =     39.92(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      516.000 to Point/Station      520.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     22.400(Ac.)
Runoff from this stream =     39.920(CFS)
Time of concentration =   13.07 min.
Rainfall intensity =     2.994(In/Hr)
Area averaged loss rate (Fm) =    0.1000(In/Hr)
Area averaged Pervious ratio (Ap) = 0.0980
Summary of stream data:
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```
Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    463.68   257.910     17.33    0.297      2.528
2     39.92    22.400     13.07    0.100      2.994
Qmax(1) =
           1.000 *    1.000 *   463.678) +
           0.839 *    1.000 *    39.920) + =     497.163
Qmax(2) =
           1.209 *    0.754 *   463.678) +
           1.000 *    1.000 *    39.920) + =     462.668

Total of 2 main streams to confluence:
Flow rates before confluence point:
     464.678      40.920
Maximum flow rates at confluence using above data:
      497.163      462.668
Area of streams before confluence:
      257.910       22.400
Effective area values after confluence:
      280.310      216.871


Results of confluence:
Total flow rate =    497.163(CFS)
Time of concentration =    17.334 min.
Effective stream area after confluence  =    280.310(Ac.)
Study area average Pervious fraction(Ap) =  0.281
Study area average soil loss rate(Fm) =    0.281(In/Hr)
Study area total =     280.31(Ac.)


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Process from Point/Station      520.000 to Point/Station     5215.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   726.560(Ft.)
Downstream point/station elevation =   720.420(Ft.)
Pipe length  =   400.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   497.163(CFS)
Given pipe size =     84.00(In.)
Calculated individual pipe flow  =   497.163(CFS)
Normal flow depth in pipe =   48.28(In.)
Flow top width inside pipe =   83.06(In.)
Critical Depth =   69.89(In.)
Pipe flow velocity =     21.73(Ft/s)
Travel time through pipe =    0.31 min.
Time of concentration (TC) =    17.64 min.


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Process from Point/Station      520.000 to Point/Station     5215.000
**** CONFLUENCE OF MAIN STREAMS ****
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_____________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    280.310(Ac.)
Runoff from this stream =    497.163(CFS)
Time of concentration =   17.64 min.
Rainfall intensity =     2.501(In/Hr)
Area averaged loss rate (Fm) =    0.2810(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2807
Program is now starting with Main Stream No. 2


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Process from Point/Station      521.000 to Point/Station     5215.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
_____________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 31.61
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.098(In/Hr)
Rainfall intensity =      2.937(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  13.50 min.  Rain intensity =       2.94(In/Hr)
Total area this stream =         6.14(Ac.)
Total Study Area (Main Stream No. 2) =      286.45(Ac.)
Total runoff =     15.70(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      521.000 to Point/Station     5215.000
**** CONFLUENCE OF MAIN STREAMS ****
_____________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      6.140(Ac.)
Runoff from this stream =     15.700(CFS)
Time of concentration =   13.50 min.
Rainfall intensity =     2.937(In/Hr)
Area averaged loss rate (Fm) =    0.0980(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Program is now starting with Main Stream No. 3


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     5210.000 to Point/Station     5210.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
_____________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 25.00
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.100(In/Hr)
Rainfall intensity =      1.904(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  27.80 min.  Rain intensity =       1.90(In/Hr)
Total area this stream =       153.70(Ac.)
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Total Study Area (Main Stream No. 3) =      440.15(Ac.)
Total runoff =    245.60(CFS)


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Process from Point/Station     5210.000 to Point/Station     5215.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   728.800(Ft.)
Downstream point/station elevation =   720.420(Ft.)
Pipe length  =   420.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   245.600(CFS)
Given pipe size =     72.00(In.)
Calculated individual pipe flow  =   245.600(CFS)
Normal flow depth in pipe =   32.13(In.)
Flow top width inside pipe =   71.58(In.)
Critical Depth =   51.52(In.)
Pipe flow velocity =     20.12(Ft/s)
Travel time through pipe =    0.35 min.
Time of concentration (TC) =    28.15 min.


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Process from Point/Station     5210.000 to Point/Station     5215.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 3
Stream flow area =    153.700(Ac.)
Runoff from this stream =    245.600(CFS)
Time of concentration =   28.15 min.
Rainfall intensity =     1.890(In/Hr)
Area averaged loss rate (Fm) =    0.1000(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    497.16   280.310     17.64    0.281      2.501
2     15.70     6.140     13.50    0.098      2.937
3    245.60   153.700     28.15    0.100      1.890
Qmax(1) =
           1.000 *    1.000 *   497.163) +
           0.847 *    1.000 *    15.700) +
           1.342 *    0.627 *   245.600) + =     716.966
Qmax(2) =
           1.196 *    0.765 *   497.163) +
           1.000 *    1.000 *    15.700) +
           1.585 *    0.480 *   245.600) + =     657.500
Qmax(3) =
           0.725 *    1.000 *   497.163) +
           0.631 *    1.000 *    15.700) +
           1.000 *    1.000 *   245.600) + =     615.731
```

```
Total of 3 main streams to confluence:
Flow rates before confluence point:
     498.163      16.700     246.600
Maximum flow rates at confluence using above data:
      716.966      657.500      615.731
Area of streams before confluence:
      280.310        6.140      153.700
Effective area values after confluence:
      382.774      294.374      440.150


Results of confluence:
Total flow rate =    716.966(CFS)
Time of concentration =    17.640 min.
Effective stream area after confluence  =    382.774(Ac.)
Study area average Pervious fraction(Ap) =  0.215
Study area average soil loss rate(Fm) =    0.215(In/Hr)
Study area total =     440.15(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     5215.000 to Point/Station      525.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   720.420(Ft.)
Downstream point/station elevation =   712.540(Ft.)
Pipe length  =   920.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   716.966(CFS)
Given pipe size =     84.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
    11.788(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =     11.584(Ft.)
 Minor friction loss =      8.084(Ft.)  K-factor =   1.50
Pipe flow velocity =     18.63(Ft/s)
Travel time through pipe =    0.82 min.
Time of concentration (TC) =    18.46 min.


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Process from Point/Station      525.000 to Point/Station     5248.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   712.540(Ft.)
Downstream point/station elevation =   710.460(Ft.)
Pipe length  =   250.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   716.966(CFS)
Given pipe size =     96.00(In.)
Calculated individual pipe flow  =   716.966(CFS)
Normal flow depth in pipe =   68.72(In.)
Flow top width inside pipe =   86.60(In.)
Critical Depth =   81.08(In.)
Pipe flow velocity =     18.62(Ft/s)
Travel time through pipe =    0.22 min.
```

```
Time of concentration (TC) =    18.69 min.


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Process from Point/Station      525.000 to Point/Station     5248.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    382.774(Ac.)
Runoff from this stream =    716.966(CFS)
Time of concentration =   18.69 min.
Rainfall intensity =     2.416(In/Hr)
Area averaged loss rate (Fm) =    0.2153(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2151
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      526.000 to Point/Station     5248.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 33.29
Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.097(In/Hr)
Rainfall intensity =      3.008(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  12.97 min.  Rain intensity =       3.01(In/Hr)
Total area this stream =        31.78(Ac.)
Total Study Area (Main Stream No. 2) =      471.93(Ac.)
Total runoff =     61.14(CFS)


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Process from Point/Station      526.000 to Point/Station     5248.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     31.780(Ac.)
Runoff from this stream =     61.140(CFS)
Time of concentration =   12.97 min.
Rainfall intensity =     3.008(In/Hr)
Area averaged loss rate (Fm) =    0.0970(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    716.97   382.774     18.69    0.215      2.416
2     61.14    31.780     12.97    0.097      3.008
Qmax(1) =
```

```
           1.000 *    1.000 *   716.966) +
           0.797 *    1.000 *    61.140) + =     765.675
Qmax(2) =
           1.269 *    0.694 *   716.966) +
           1.000 *    1.000 *    61.140) + =     692.585

Total of 2 main streams to confluence:
Flow rates before confluence point:
     717.966      62.140
Maximum flow rates at confluence using above data:
      765.675      692.585
Area of streams before confluence:
      382.774       31.780
Effective area values after confluence:
      414.554      297.447


Results of confluence:
Total flow rate =    765.675(CFS)
Time of concentration =    18.687 min.
Effective stream area after confluence  =    414.554(Ac.)
Study area average Pervious fraction(Ap) =  0.206
Study area average soil loss rate(Fm) =    0.206(In/Hr)
Study area total =     414.55(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     5248.000 to Point/Station     5300.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   710.460(Ft.)
Downstream point/station elevation =   707.900(Ft.)
Pipe length  =    30.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   765.675(CFS)
Given pipe size =     96.00(In.)
Calculated individual pipe flow  =   765.675(CFS)
Normal flow depth in pipe =   35.23(In.)
Flow top width inside pipe =   92.54(In.)
Critical Depth =   83.18(In.)
Pipe flow velocity =     45.79(Ft/s)
Travel time through pipe =    0.01 min.
Time of concentration (TC) =    18.70 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     5248.000 to Point/Station     5300.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    414.554(Ac.)
Runoff from this stream =    765.675(CFS)
Time of concentration =   18.70 min.
Rainfall intensity =     2.415(In/Hr)
Area averaged loss rate (Fm) =    0.2062(In/Hr)
```

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Area averaged Pervious ratio (Ap) = 0.2063
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     5295.000 to Point/Station     5295.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  =  1.#R
Pervious ratio(Ap) = 0.0930     Max loss rate(Fm)=     0.100(In/Hr)
Rainfall intensity =      2.893(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  13.84 min.  Rain intensity =       2.89(In/Hr)
Total area this stream =        77.22(Ac.)
Total Study Area (Main Stream No. 2) =      549.15(Ac.)
Total runoff =    131.58(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station     5295.000 to Point/Station     5300.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   715.690(Ft.)
Downstream point/station elevation =   707.900(Ft.)
Pipe length  =   950.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   131.580(CFS)
Given pipe size =     54.00(In.)
Calculated individual pipe flow  =   131.580(CFS)
Normal flow depth in pipe =   34.55(In.)
Flow top width inside pipe =   51.85(In.)
Critical Depth =   40.50(In.)
Pipe flow velocity =     12.25(Ft/s)
Travel time through pipe =    1.29 min.
Time of concentration (TC) =    15.13 min.


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Process from Point/Station     5295.000 to Point/Station     5300.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     77.220(Ac.)
Runoff from this stream =    131.580(CFS)
Time of concentration =   15.13 min.
Rainfall intensity =     2.742(In/Hr)
Area averaged loss rate (Fm) =    0.1000(In/Hr)
Area averaged Pervious ratio (Ap) = 0.0930
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)
```

```
1    765.67   414.554     18.70    0.206      2.415
2    131.58    77.220     15.13    0.100      2.742
Qmax(1) =
           1.000 *    1.000 *   765.675) +
           0.876 *    1.000 *   131.580) + =     880.973
Qmax(2) =
           1.148 *    0.809 *   765.675) +
           1.000 *    1.000 *   131.580) + =     842.945

Total of 2 main streams to confluence:
Flow rates before confluence point:
     766.675     132.580
Maximum flow rates at confluence using above data:
      880.973      842.945
Area of streams before confluence:
      414.554       77.220
Effective area values after confluence:
      491.774      412.715


Results of confluence:
Total flow rate =    880.973(CFS)
Time of concentration =    18.698 min.
Effective stream area after confluence  =    491.774(Ac.)
Study area average Pervious fraction(Ap) =  0.188
Study area average soil loss rate(Fm) =    0.190(In/Hr)
Study area total =     491.77(Ac.)


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Process from Point/Station     5300.000 to Point/Station     5305.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
____________________________________________________________________________
Upstream point/station elevation =   707.900(Ft.)
Downstream point/station elevation =   706.030(Ft.)
Pipe length  =   640.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   880.973(CFS)
Given pipe size =    108.00(In.)
NOTE: Normal flow is pressure flow in user selected pipe size.
The approximate hydraulic grade line above the pipe invert is
     5.781(Ft.)  at the headworks or inlet of the pipe(s)
 Pipe friction loss =      3.185(Ft.)
 Minor friction loss =      4.467(Ft.)  K-factor =   1.50
Pipe flow velocity =     13.85(Ft/s)
Travel time through pipe =    0.77 min.
Time of concentration (TC) =    19.47 min.


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Process from Point/Station     5300.000 to Point/Station     5305.000
**** CONFLUENCE OF MAIN STREAMS ****
____________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
```

```
Stream flow area =    491.774(Ac.)
Runoff from this stream =    880.973(CFS)
Time of concentration =   19.47 min.
Rainfall intensity =     2.358(In/Hr)
Area averaged loss rate (Fm) =    0.1895(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1885
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      542.000 to Point/Station     5305.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 55.03
Pervious ratio(Ap) = 0.4500     Max loss rate(Fm)=     0.336(In/Hr)
Rainfall intensity =      2.693(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  15.60 min.  Rain intensity =       2.69(In/Hr)
Total area this stream =        22.68(Ac.)
Total Study Area (Main Stream No. 2) =      571.83(Ac.)
Total runoff =     32.14(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      542.000 to Point/Station     5305.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     22.680(Ac.)
Runoff from this stream =     32.140(CFS)
Time of concentration =   15.60 min.
Rainfall intensity =     2.693(In/Hr)
Area averaged loss rate (Fm) =    0.3360(In/Hr)
Area averaged Pervious ratio (Ap) = 0.4500
Summary of stream data:

Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    880.97   491.774     19.47    0.190      2.358
2     32.14    22.680     15.60    0.336      2.693
Qmax(1) =
           1.000 *    1.000 *   880.973) +
           0.858 *    1.000 *    32.140) + =     908.542
Qmax(2) =
           1.155 *    0.801 *   880.973) +
           1.000 *    1.000 *    32.140) + =     847.181

Total of 2 main streams to confluence:
Flow rates before confluence point:
     881.973      33.140
```

```
Maximum flow rates at confluence using above data:
      908.542      847.181
Area of streams before confluence:
      491.774       22.680
Effective area values after confluence:
      514.454      416.737


Results of confluence:
Total flow rate =    908.542(CFS)
Time of concentration =    19.468 min.
Effective stream area after confluence  =    514.454(Ac.)
Study area average Pervious fraction(Ap) =  0.200
Study area average soil loss rate(Fm) =    0.196(In/Hr)
Study area total =     514.45(Ac.)


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Process from Point/Station     5305.000 to Point/Station     5330.000
**** PIPEFLOW TRAVEL TIME (User specified size) ****
________________________________________________________________________
Upstream point/station elevation =   706.030(Ft.)
Downstream point/station elevation =   701.260(Ft.)
Pipe length  =   690.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   908.542(CFS)
Given pipe size =    108.00(In.)
Calculated individual pipe flow  =   908.542(CFS)
Normal flow depth in pipe =   78.28(In.)
Flow top width inside pipe =   96.47(In.)
Critical Depth =   88.93(In.)
Pipe flow velocity =     18.40(Ft/s)
Travel time through pipe =    0.63 min.
Time of concentration (TC) =    20.09 min.


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Process from Point/Station     5305.000 to Point/Station     5330.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =    514.454(Ac.)
Runoff from this stream =    908.542(CFS)
Time of concentration =   20.09 min.
Rainfall intensity =     2.313(In/Hr)
Area averaged loss rate (Fm) =    0.1960(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      546.000 to Point/Station     5330.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
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USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 36.35
Pervious ratio(Ap) = 0.1540     Max loss rate(Fm)=     0.146(In/Hr)
Rainfall intensity =      3.133(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  12.12 min.  Rain intensity =       3.13(In/Hr)
Total area this stream =        39.14(Ac.)
Total Study Area (Main Stream No. 2) =      610.97(Ac.)
Total runoff =     78.63(CFS)


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Process from Point/Station      546.000 to Point/Station     5330.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =     39.140(Ac.)
Runoff from this stream =     78.630(CFS)
Time of concentration =   12.12 min.
Rainfall intensity =     3.133(In/Hr)
Area averaged loss rate (Fm) =    0.1460(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1540
Program is now starting with Main Stream No. 3


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      551.000 to Point/Station     5330.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
________________________________________________________________________
Soil classification AP and SCS  values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2)  = 42.80
Pervious ratio(Ap) = 0.1900     Max loss rate(Fm)=     0.169(In/Hr)
Rainfall intensity =      2.810(In/Hr) for a   100.0 year storm
User specified values are as follows:
TC =  14.53 min.  Rain intensity =       2.81(In/Hr)
Total area this stream =        33.36(Ac.)
Total Study Area (Main Stream No. 3) =      644.33(Ac.)
Total runoff =     70.18(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      551.000 to Point/Station     5330.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 3
Stream flow area =     33.360(Ac.)
Runoff from this stream =     70.180(CFS)
Time of concentration =   14.53 min.
Rainfall intensity =     2.810(In/Hr)
Area averaged loss rate (Fm) =    0.1690(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1900
Summary of stream data:
```

```
Stream Flow rate    Area    TC     Fm       Rainfall Intensity
 No.    (CFS)   (Ac.)       (min) (In/Hr)     (In/Hr)


1    908.54   514.454     20.09    0.196      2.313
2     78.63    39.140     12.12    0.146      3.133
3     70.18    33.360     14.53    0.169      2.810
Qmax(1) =
           1.000 *    1.000 *   908.542) +
           0.726 *    1.000 *    78.630) +
           0.812 *    1.000 *    70.180) + =    1022.575
Qmax(2) =
           1.387 *    0.603 *   908.542) +
           1.000 *    1.000 *    78.630) +
           1.122 *    0.834 *    70.180) + =     904.510
Qmax(3) =
           1.235 *    0.723 *   908.542) +
           0.892 *    1.000 *    78.630) +
           1.000 *    1.000 *    70.180) + =     951.412

Total of 3 main streams to confluence:
Flow rates before confluence point:
     909.542      79.630      71.180
Maximum flow rates at confluence using above data:
     1022.575      904.510      951.412
Area of streams before confluence:
      514.454       39.140       33.360
Effective area values after confluence:
      586.954      377.276      444.512


Results of confluence:
Total flow rate =   1022.575(CFS)
Time of concentration =    20.093 min.
Effective stream area after confluence  =    586.954(Ac.)
Study area average Pervious fraction(Ap) =  0.196
Study area average soil loss rate(Fm) =    0.191(In/Hr)
Study area total =     586.95(Ac.)
End of computations, Total Study Area =          644.33 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.198
Area averaged SCS curve number =   1.$
```

APPENDIX C
HYDRAULIC CALCULATIONS

```
T1 RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE                                        0
T2 100 YR PRELIMINARY HYDRAULICS (PEAK FLOW MITIGATION)
T3 09-06-2022
SO    992.840 667.230  1                            681.360
JX   1011.480 667.290  1  3   .013    0.001          667.290         90.0         .000
R    1035.820 667.360  1      .013                                -30.991    .000 0
R    1120.200 667.620  1      .013                                  .000    .000 0
JX   1120.210 667.620  1  2   .013    0.001          671.290         60.0         .000
R    1137.420 667.670  1      .013                                  .000    .000 0
JX   1137.430 667.670  1  2   .013    0.001          671.600        -85.0         .000
R    1329.560 668.250  1      .013                                  .000    .000 0
R    1398.280 668.450  1      .013                                 3.265         0
R    1751.200 669.560  1      .013                                  .000    .000 0
R    1773.590 669.629  1      .013                                -1.074    .000 0
JX   1795.000 669.629  1  3   .013   10.752          671.200         30.0         .000
R    1819.250 669.780  1      .013                                -2.191    .000 0
R    1877.510 669.990  1      .013                                  .000    .000 0
JX   1877.520 669.990  1  2   .013    1.920          674.280         85.0         .000
R    2200.000 670.970  1      .013                                  .000    .000 0
JX   2325.081 671.358  1 12   .013    0.001          671.350         85.0         .000
R    2401.000 671.610  1      .013                                  .000    .000 0
JX   2421.000 671.950  1 12   .013    0.001          671.820         85.0         .000
R    2462.340 676.430  1      .013                                  .000    .000 0
TS   2471.670 676.620  5      .013                                  .000    .000 0
R    2479.670 676.690  5      .013                                  .000
JX   2493.830 676.980  5  4   .013   76.510          678.940         30.0         .000
R    2519.760 677.080  5      .013                                  .000    .000 0
JX   2519.770 677.081  5  6   .013    0.001          680.220        -45.0         .000
R    2609.730 677.960  5      .013                                  .000    .000 0
JX   2609.740 677.961  5  2   .013    4.810          682.450         60.0         .000
R    2629.210 678.150  5      .013                                  .000    .000 0
JX   2629.220 678.151  5  2   .013    4.810          683.070        -85.0         .000
R    2988.780 681.640  5      .013                                  .000    .000 0
JX   2993.440 681.700  5      .013
R    3031.000 682.090  5      .013                                  .000    .000 0
JX   3043.670 682.220  5      .013
R    3048.480 682.270  5      .013                                  .000    .000 0
JX   3259.440 684.422  5  3   .013   56.400          687.640        -45.0         .000
R    3488.770 686.780  5      .013                                  .000    .000 0
JX   3493.440 686.880  5      .013
JX   3524.396 687.214  5  2   .013    0.001          691.830        -45.0         .000
R    3988.780 692.230  5      .013                                  .000    .000 0
JX   3993.440 692.330  5      .013
R    4428.910 696.790  5      .013                                  .000    .000 0
JX   4440.570 697.020  5  3   .013    0.001          700.020         30.0         .000
R    4514.280 697.440  5      .013                                  .000    .000 0
JX   4514.290 697.441  5  2   .013    0.001          701.760         60.0         .000
R    4531.740 697.540  5      .013                                  .000    .000 0
JX   4531.750 697.541  5  2   .013    0.001          702.100        -85.0         .000
R    5121.880 700.910  5      .013                                  .000    .000 1
JX   5121.890 700.911  5  3   .013  140.790          703.990         45.0         .000
JX   5121.890 700.911  5  3   .013    0.001          703.990        -45.0         .000
R    5228.010 701.510  5      .013                                  .000    .000 0
JX   5228.020 701.511  5  2   .013    0.001          705.770         60.0         .000
R    5245.470 701.610  5      .013                                  .000    .000 0
JX   5245.480 701.611  5  2   .013    0.001          705.920        -85.0         .000
R    5419.290 702.580  5      .013                                  .000    .000 0
JX   5423.950 702.680  5      .013
R    5798.050 704.470  5      .013                                  .000    .000 0
JX   5806.230 704.630  5  3   .013   41.350          707.840         45.0         .000
R    5867.860 704.900  5      .013                                  .000    .000 0
JX   5867.870 704.901  5  2   .013    0.001          709.130         85.0         .000
R    6119.290 705.970  5      .013                                  .000    .000 0
JX   6123.950 706.070  5      .013
R    6443.570 707.730  5      .013                                  .000    .000 0
JX   6459.740 708.060  5  8   .013  115.310          710.150         30.0         .000
R    6475.570 708.200  5      .013                                  .000    .000 0
JX   6486.730 708.420  9  8   .013   48.710          710.060        -45.0         .000
R    6656.620 709.310  9      .013                                  .000    .000 0
JX   6656.630 709.311  9  2   .013    0.001          712.850         60.0         .000
R    6674.320 709.410  9      .013                                  .000    .000 0
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JX   6674.330 709.411  9  2   .013    0.001          712.910        -85.0         .000
R    6719.280 709.640  9      .013                                   .000    .000 0
TS   6728.440 709.830 10      .013                                   .000
R    6789.570 710.890 10      .013                                   .000    .000 0
R    6892.180 712.700 10      .013                                 -6.576    .000 0
JX   6896.840 712.800 10      .013
R    6937.050 713.360 10      .013                                 -2.577    .000 0
R    7000.000 714.248 10      .013                                   .000    .000 0
R    7329.270 718.900 10      .013                                   .000    .000 0
JX   7333.930 719.000 10      .013
JX   7590.813 720.053 10  2   .013    0.001          723.550        -45.0         .000
R    7600.000 720.091 10      .013                                   .000    .000 0
JX   7609.750 720.131 10  2   .013    0.001          723.960        -45.0         .000
R    7704.430 720.530 10      .013                                   .000    .000 0
JX   7723.090 720.910 10 11   .013  219.810          721.210         45.0         .000
R    7848.980 723.314 10      .013                                   .000    .000 0
R    8097.070 727.930 10      .013                                   .000    .000 0
JX   8115.730 728.320 10  4   .013   33.480        729.490         -45.0         .000
R    8167.900 729.420 10      .013                                 19.856    .000 0
R    8182.670 729.730 10      .013                                   .000    .000 0
JX   8187.340 729.830 10      .013
R    8200.000 729.976 10      .013                                   .000    .000 0
JX   8250.000 730.551 10  2   .013    0.001          733.210        -45.0         .000
R    8300.000 731.120 10      .013                                   .000    .000
JX   8547.271 733.964 10  2   .013    0.001          736.920        -45.0         .000
R    8571.070 734.250 10      .013                                   .000    .000 0
JX   8574.740 734.460 10      .013                                   .000    .000 0
R    8666.520 735.200 10      .013                                   .000    .000 0
JX   8666.530 735.201 10  2   .013    0.001          737.830        -85.0         .000
R    8830.110 736.520 10      .013                                   .000    .000 0
R    8992.980 737.830 10      .013                                -10.451    .000 0
R    9070.580 738.460 10      .013                                   .000    .000 0
JX   9074.240 738.560 10      .013
R    9229.660 740.150 10      .013                                   .000    .000 0
JX   9248.320 740.330 10  4   .013   38.690          741.140        -45.0         .000
R    9300.000 740.830 10      .013                                   .000    .000 0
JX   9326.580 741.101 10  2   .013    0.001          742.800        -45.0         .000
R    9537.670 743.270 10      .013                                   .000    .000 0
JX   9542.330 743.370 10      .013
JX   9726.610 744.421 10  2   .013    0.001          747.130        -85.0         .000
R   10037.670 746.220 10      .013                                   .000    .000 0
JX  10042.330 746.320 11      .013
R   10115.650 746.530 11      .013                                   .000    .000 0
JX  10115.660 746.531 11  6   .013   11.900          748.840        -45.0         .000
R   10116.000 746.532 11      .013                                   .000    .000 0
JX  10150.000 746.634 11  2   .013    0.001          749.220        -45.0         .000
R   10152.580 746.640 11      .013                                   .000    .000 0
R   10231.660 746.880 11      .013                                  5.000    .000 0
R   10427.390 747.470 11      .013                                   .000    .000 0
JX  10435.000 747.605 11 11   .013   39.490          747.650        -45.0         .000
JX  10446.050 747.850 11 11   .013  293.710          747.650         30.0         .000
R   10464.120 748.170 11      .013                                   .000    .000 0
JX  10464.130 748.171 11  2   .013    0.001          750.620        -60.0         .000
R   10519.630 749.150 11      .013                                   .000    .000 0
JX  10538.790 749.510  4  2   .013    0.001          752.060         55.0         .000
R   10556.740 749.820  4      .013                                   .000    .000 0
JX  10556.750 749.821  4  2   .013    0.001          751.570        -85.0         .000
R   10925.140 756.190  4      .013                                   .000    .000 0
JX  10928.800 756.270  4      .013
R   11355.740 759.810  4      .013                                   .000    .000 0
R   11407.890 760.240  4      .013                                   .000    .000 0
JX  11412.550 760.340  4      .013
JX  11433.240 760.420  4  2   .013    0.001          761.850        -45.0         .000
R   11450.000 760.480  4      .013                                   .000    .000 0
JX  11452.660 760.490  4  2   .013    3.160          761.810         60.0         .000
R   11486.700 760.610  4      .013                                   .000    .000 0
R   11526.700 760.770  4      .013                                 20.835    .000 0
R   11576.860 760.970  4      .013                                -26.127    .000 0
R   11891.640 762.230  4      .013                                   .000    .000 0
JX  11895.800 762.310  4      .013
R   12374.890 767.760  4      .013                                   .000    .000 0
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JX  12378.550 767.830  4      .013
R   12857.640 773.530  4      .013                                  .000    .000 0
JX  12862.300 773.630  4      .013
R   13004.900 778.160  4      .013                                  .000    .000 0
R   13009.570 778.260  4      .013                                  .000    .000 1
R   13183.020 778.780  4      .013                                99.380    .000 0
R   13418.690 779.480  4      .013                                  .000    .000 0
JX  13423.360 779.580  4  2   .013    0.001          780.790         85.0         .000
R   13878.600 780.950  4      .013                                  .000    .000 0
JX  13883.270 781.050  4  2   .013    0.001          782.250         85.0         .000
R   14360.440 782.480  4      .013                                  .000    .000 0
JX  14365.110 782.580  4  2   .013    0.001          783.780         72.4         .000
R   14385.630 782.640  4      .013                                13.063    .000 0
R   14426.930 782.770  4      .013                                  .000    .000 0
R   14447.460 782.830  4      .013                               -13.070    .000 0
R   14818.590 783.940  4      .013                                  .000    .000 0
R   14839.460 784.000  4      .013                               -26.573    .000 0
JX  14845.460 784.100  4  6   .013    0.220          785.030         45.0        -7.639
R   14889.300 784.230  4      .013                               -55.819    .000 0
R   14917.900 784.320  4      .013                                  .000    .000 0
SH  14917.900 784.320  4                         784.320
CD   1  3   0    .000   8.000   10.000  .000  .000   .00
CD   2  4   1    .000   1.500     .000  .000  .000   .00
CD   3  4   1    .000   3.000     .000  .000  .000   .00
CD   4  4   1    .000   4.000     .000  .000  .000   .00
CD   5  4   1    .000   9.000     .000  .000  .000   .00
CD   6  4   1    .000   2.000     .000  .000  .000   .00
CD   7  4   1    .000   9.000     .000  .000  .000   .00
CD   8  4   1    .000   4.500     .000  .000  .000   .00
CD   9  4   1    .000   8.000     .000  .000  .000   .00
CD  10  4   1    .000   7.000     .000  .000  .000   .00
CD  11  4   1    .000   6.000     .000  .000  .000   .00
CD  12  4   1    .000   5.000     .000  .000  .000   .00
Q            76.510   .0
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Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE

100 YR PRELIMINARY HYDRAULICS **(PEAK FLOW MITIGATION)**

09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
992.840	667.230	14.130	681.360	1218.37	15.23	3.60	684.96	.00	7.72	10.00	8.000	10.000	.00	0 .0
JUNCT STR	.0032					.0061	.11	.00	.95		.013	.00	.00	BOX
1011.480	667.290	14.184	681.474	1218.37	15.23	3.60	685.08	.00	7.73	10.00	8.000	10.000	.00	0 .0
24.340	.0029					.0061	.15	.00	.95	8.00	.013	.00	.00	BOX
1035.820	667.360	14.686	682.046	1218.37	15.23	3.60	685.65	.00	7.73	10.00	8.000	10.000	.00	0 .0
84.380	.0031					.0061	.52	14.69	.95	8.00	.013	.00	.00	BOX
1120.200	667.620	14.942	682.562	1218.37	15.23	3.60	686.16	.00	7.73	10.00	8.000	10.000	.00	0 .0
JUNCT STR	.0000					.0061	.00	14.94	.95		.013	.00	.00	BOX
1120.210	667.620	14.942	682.562	1218.37	15.23	3.60	686.16	.00	7.73	10.00	8.000	10.000	.00	0 .0
17.210	.0029					.0061	.11	14.94	.95	8.00	.013	.00	.00	BOX
1137.420	667.670	14.998	682.668	1218.37	15.23	3.60	686.27	.00	7.73	10.00	8.000	10.000	.00	0 .0
JUNCT STR	.0000					.0061	.00	15.00	.95		.013	.00	.00	BOX
1137.430	667.670	14.998	682.668	1218.37	15.23	3.60	686.27	.00	7.73	10.00	8.000	10.000	.00	0 .0
192.130	.0030					.0061	1.18	15.00	.95	8.00	.013	.00	.00	BOX
1329.560	668.250	15.594	683.844	1218.37	15.23	3.60	687.45	.00	7.73	10.00	8.000	10.000	.00	0 .0
68.720	.0029					.0061	.42	.00	.95	8.00	.013	.00	.00	BOX
1398.280	668.450	15.952	684.402	1218.37	15.23	3.60	688.00	.00	7.73	10.00	8.000	10.000	.00	0 .0
352.920	.0031					.0061	2.16	15.95	.95	8.00	.013	.00	.00	BOX

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1751.200	669.560	17.002	686.562	1218.37	15.23	3.60	690.16	.00	7.73	10.00	8.000	10.000	.00	0 .0
22.390	.0031					.0061	.14	.00	.95	8.00	.013	.00	.00	BOX
1773.590	669.629	17.149	686.778	1218.37	15.23	3.60	690.38	.00	7.73	10.00	8.000	10.000	.00	0 .0
JUNCT STR	.0000					.0060	.13	.00	.95		.013	.00	.00	BOX
1795.000	669.629	17.400	687.029	1207.61	15.10	3.54	690.57	.00	7.68	10.00	8.000	10.000	.00	0 .0
24.250	.0062					.0060	.15	.00	.94	6.65	.013	.00	.00	BOX
1819.250	669.780	17.505	687.285	1207.61	15.10	3.54	690.82	.00	7.68	10.00	8.000	10.000	.00	0 .0
58.260	.0036					.0060	.35	17.51	.94	8.00	.013	.00	.00	BOX
1877.510	669.990	17.645	687.635	1207.61	15.10	3.54	691.17	.00	7.68	10.00	8.000	10.000	.00	0 .0
JUNCT STR	.0000					.0060	.00	17.65	.94		.013	.00	.00	BOX
1877.520	669.990	17.668	687.658	1205.69	15.07	3.53	691.18	.00	7.67	10.00	8.000	10.000	.00	0 .0
322.480	.0030					.0060	1.93	17.67	.94	8.00	.013	.00	.00	BOX
2200.000	670.970	18.621	689.591	1205.69	15.07	3.53	693.12	.00	7.67	10.00	8.000	10.000	.00	0 .0
JUNCT STR	.0031					.0060	.75	18.62	.94		.013	.00	.00	BOX
2325.081	671.358	18.983	690.341	1205.69	15.07	3.53	693.87	.00	7.67	10.00	8.000	10.000	.00	0 .0
75.919	.0033					.0060	.46	18.98	.94	8.00	.013	.00	.00	BOX
2401.000	671.610	19.186	690.796	1205.69	15.07	3.53	694.32	.00	7.67	10.00	8.000	10.000	.00	0 .0
JUNCT STR	.0170					.0060	.12	19.19	.94		.013	.00	.00	BOX

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2421.000	671.950	18.966	690.916	1205.69	15.07	3.53	694.44	.00	7.67	10.00	8.000	10.000	.00	0 .0
41.340	.1084					.0060	.25	18.97	.94	2.35	.013	.00	.00	BOX
2462.340	676.430	14.734	691.164	1205.69	15.07	3.53	694.69	.00	7.67	10.00	8.000	10.000	.00	0 .0
TRANS STR	.0204					.0077	.07	14.73	.94		.013	.00	.00	BOX
2471.670	676.620	12.975	689.595	1205.69	18.95	5.58	695.17	.00	8.23	.00	9.000	.000	.00	1 .0
8.000	.0088					.0093	.07	12.97	.00	7.67	.013	.00	.00	PIPE
2479.670	676.690	12.979	689.669	1205.69	18.95	5.58	695.25	.00	8.23	.00	9.000	.000	.00	1 .0
JUNCT STR	.0205					.0088	.12	12.98	.00		.013	.00	.00	PIPE
2493.830	676.980	13.987	690.967	1129.18	17.75	4.89	695.86	.00	8.07	.00	9.000	.000	.00	1 .0
25.930	.0039					.0082	.21	13.99	.00	9.00	.013	.00	.00	PIPE
2519.760	677.080	14.099	691.179	1129.18	17.75	4.89	696.07	.00	8.07	.00	9.000	.000	.00	1 .0
JUNCT STR	.0976					.0082	.00	14.10	.00		.013	.00	.00	PIPE
2519.770	677.081	14.098	691.179	1129.18	17.75	4.89	696.07	.00	8.07	.00	9.000	.000	.00	1 .0
89.960	.0098					.0082	.74	14.10	.00	6.77	.013	.00	.00	PIPE
2609.730	677.960	13.955	691.915	1129.18	17.75	4.89	696.81	.00	8.07	.00	9.000	.000	.00	1 .0
JUNCT STR	.0976					.0081	.00	13.95	.00		.013	.00	.00	PIPE
2609.740	677.961	14.034	691.995	1124.37	17.67	4.85	696.85	.00	8.06	.00	9.000	.000	.00	1 .0
19.470	.0097					.0081	.16	14.03	.00	6.76	.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2629.210	678.150	14.003	692.153	1124.37	17.67	4.85	697.00	.00	8.06	.00	9.000	.000	.00	1 .0
JUNCT STR	.0976					.0081	.00	14.00	.00		.013	.00	.00	PIPE
2629.220	678.151	14.084	692.235	1119.56	17.60	4.81	697.04	.00	8.04	.00	9.000	.000	.00	1 .0
359.560	.0097					.0080	2.89	14.08	.00	6.74	.013	.00	.00	PIPE
2988.780	681.640	13.486	695.126	1119.56	17.60	4.81	699.93	.00	8.04	.00	9.000	.000	.00	1 .0
JUNCT STR	.0129					.0080	.04	13.49	.00		.013	.00	.00	PIPE
2993.440	681.700	13.463	695.163	1119.56	17.60	4.81	699.97	.00	8.04	.00	9.000	.000	.00	1 .0
37.560	.0104					.0080	.30	13.46	.00	6.55	.013	.00	.00	PIPE
3031.000	682.090	13.375	695.465	1119.56	17.60	4.81	700.27	.00	8.04	.00	9.000	.000	.00	1 .0
JUNCT STR	.0103					.0080	.10	13.38	.00		.013	.00	.00	PIPE
3043.670	682.220	13.347	695.567	1119.56	17.60	4.81	700.38	.00	8.04	.00	9.000	.000	.00	1 .0
4.810	.0104					.0080	.04	13.35	.00	6.55	.013	.00	.00	PIPE
3048.480	682.270	13.336	695.606	1119.56	17.60	4.81	700.41	.00	8.04	.00	9.000	.000	.00	1 .0
JUNCT STR	.0102					.0076	1.61	13.34	.00		.013	.00	.00	PIPE
3259.440	684.422	13.586	698.008	1063.16	16.71	4.34	702.34	.00	7.90	.00	9.000	.000	.00	1 .0
229.330	.0103					.0072	1.66	13.59	.00	6.31	.013	.00	.00	PIPE
3488.770	686.780	12.890	699.670	1063.16	16.71	4.34	704.01	.00	7.90	.00	9.000	.000	.00	1 .0
JUNCT STR	.0214					.0072	.03	12.89	.00		.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
3493.440	686.880	12.824	699.704	1063.16	16.71	4.34	704.04	.00	7.90	.00	9.000	.000	.00	1 .0
JUNCT STR	.0108					.0072	.22	12.82	.00		.013	.00	.00	PIPE
3524.396	687.214	12.715	699.929	1063.16	16.71	4.34	704.27	.00	7.90	.00	9.000	.000	.00	1 .0
464.384	.0108					.0072	3.37	12.71	.00	6.20	.013	.00	.00	PIPE
3988.780	692.230	11.065	703.295	1063.16	16.71	4.34	707.63	.00	7.90	.00	9.000	.000	.00	1 .0
JUNCT STR	.0215					.0072	.03	11.07	.00		.013	.00	.00	PIPE
3993.440	692.330	10.999	703.329	1063.16	16.71	4.34	707.67	.00	7.90	.00	9.000	.000	.00	1 .0
435.470	.0102					.0072	3.16	11.00	.00	6.32	.013	.00	.00	PIPE
4428.910	696.790	9.696	706.486	1063.16	16.71	4.34	710.82	.00	7.90	.00	9.000	.000	.00	1 .0
JUNCT STR	.0197					.0072	.08	9.70	.00		.013	.00	.00	PIPE
4440.570	697.020	9.551	706.571	1063.16	16.71	4.34	710.91	.00	7.90	.00	9.000	.000	.00	1 .0
73.710	.0057					.0072	.53	9.55	.00	9.00	.013	.00	.00	PIPE
4514.280	697.440	9.665	707.105	1063.16	16.71	4.34	711.44	.00	7.90	.00	9.000	.000	.00	1 .0
JUNCT STR	.0952					.0072	.00	9.67	.00		.013	.00	.00	PIPE
4514.290	697.441	9.664	707.105	1063.16	16.71	4.34	711.44	.00	7.90	.00	9.000	.000	.00	1 .0
17.450	.0057					.0072	.13	9.66	.00	9.00	.013	.00	.00	PIPE
JUNCT STR	.1063					.0072	.00	9.69	.00		.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
4531.750	697.541	9.691	707.232	1063.16	16.71	4.34	711.57	.00	7.90	.00	9.000	.000	.00	1 .0
590.130	.0057					.0072	4.28	9.69	.00	9.00	.013	.00	.00	PIPE
5121.880	700.910	10.817	711.727	1063.16	16.71	4.34	716.06	.00	7.90	.00	9.000	.000	.00	1 .0
JUNCT STR	.1012					.0064	.00	10.82	.00		.013	.00	.00	PIPE
JUNCT STR	.0000					.0055	.00	11.99	.00		.013	.00	.00	PIPE
5121.890	700.911	11.993	712.904	922.37	14.50	3.26	716.17	.00	7.46	.00	9.000	.000	.00	1 .0
106.120	.0056					.0055	.58	11.99	.00	7.24	.013	.00	.00	PIPE
5228.010	701.510	11.973	713.483	922.37	14.50	3.26	716.75	.00	7.46	.00	9.000	.000	.00	1 .0
JUNCT STR	.0952					.0055	.00	11.97	.00		.013	.00	.00	PIPE
5228.020	701.511	11.972	713.483	922.37	14.50	3.26	716.75	.00	7.46	.00	9.000	.000	.00	1 .0
17.450	.0057					.0055	.10	11.97	.00	7.22	.013	.00	.00	PIPE
JUNCT STR	.1063					.0055	.00	11.97	.00		.013	.00	.00	PIPE
5245.480	701.611	11.967	713.578	922.36	14.50	3.26	716.84	.00	7.46	.00	9.000	.000	.00	1 .0
173.810	.0056					.0055	.95	11.97	.00	7.29	.013	.00	.00	PIPE
5419.290	702.580	11.947	714.527	922.36	14.50	3.26	717.79	.00	7.46	.00	9.000	.000	.00	1 .0
JUNCT STR	.0215					.0055	.03	11.95	.00		.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS) / SF Ave	Vel Head / HF	Energy Grd.El. / SE Dpth	Super Elev / Froude N	Critical Depth / Norm Dp	Flow Top Width / "N"	Height/ Dia.-FT / X-Fall	Base Wt or I.D. / ZR	ZL	No Wth Prs/Pip / Type Ch
5423.950	702.680	11.872	714.552	922.36	14.50	3.26	717.82	.00	7.46	.00	9.000	.000	.00	1 .0
374.100	.0048				.0055	2.04	11.87	.00	8.14	.013	.00	.00		PIPE
5798.050	704.470	12.124	716.594	922.36	14.50	3.26	719.86	.00	7.46	.00	9.000	.000	.00	1 .0
JUNCT STR	.0196				.0052	.04	12.12	.00		.013	.00	.00		PIPE
5806.230	704.630	12.495	717.125	881.01	13.85	2.98	720.10	.00	7.31	.00	9.000	.000	.00	1 .0
61.630	.0044				.0050	.31	12.50	.00	8.10	.013	.00	.00		PIPE
5867.860	704.900	12.532	717.432	881.01	13.85	2.98	720.41	.00	7.31	.00	9.000	.000	.00	1 .0
JUNCT STR	.0952				.0050	.00	12.53	.00		.013	.00	.00		PIPE
5867.870	704.901	12.531	717.432	881.01	13.85	2.98	720.41	.00	7.31	.00	9.000	.000	.00	1 .0
251.420	.0043				.0050	1.25	12.53	.00	9.00	.013	.00	.00		PIPE
6119.290	705.970	12.714	718.684	881.01	13.85	2.98	721.66	.00	7.31	.00	9.000	.000	.00	1 .0
JUNCT STR	.0215				.0050	.02	12.71	.00		.013	.00	.00		PIPE
6123.950	706.070	12.637	718.707	881.01	13.85	2.98	721.68	.00	7.31	.00	9.000	.000	.00	1 .0
319.620	.0052				.0050	1.59	12.64	.00	7.21	.013	.00	.00		PIPE
6443.570	707.730	12.568	720.298	881.01	13.85	2.98	723.28	.00	7.31	.00	9.000	.000	.00	1 .0
JUNCT STR	.0204				.0044	.07	12.57	.00		.013	.00	.00		PIPE
6459.740	708.060	13.412	721.472	765.70	12.04	2.25	723.72	.00	6.84	.00	9.000	.000	.00	1 .0
15.830	.0088				.0038	.06	13.41	.00	5.30	.013	.00	.00		PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
6475.570	708.200	13.332	721.532	765.70	12.04	2.25	723.78	.00	6.84	.00	9.000	.000	.00	1 .0
JUNCT STR	.0197					.0050	.06	13.33	.00		.013	.00	.00	PIPE
6486.730	708.420	12.558	720.978	716.99	14.26	3.16	724.14	.00	6.75	.00	8.000	.000	.00	1 .0
169.890	.0052					.0062	1.05	12.56	.00	8.00	.013	.00	.00	PIPE
JUNCT STR	.1000					.0062	.00	12.72	.00		.013	.00	.00	PIPE
6656.630	709.311	12.717	722.028	716.99	14.26	3.16	725.19	.00	6.75	.00	8.000	.000	.00	1 .0
17.690	.0056					.0062	.11	12.72	.00	7.00	.013	.00	.00	PIPE
6674.320	709.410	12.727	722.137	716.99	14.26	3.16	725.30	.00	6.75	.00	8.000	.000	.00	1 .0
JUNCT STR	.1012					.0062	.00	12.73	.00		.013	.00	.00	PIPE
6674.330	709.411	12.726	722.137	716.99	14.26	3.16	725.30	.00	6.75	.00	8.000	.000	.00	1 .0
44.950	.0051					.0062	.28	12.73	.00	8.00	.013	.00	.00	PIPE
6719.280	709.640	12.775	722.415	716.99	14.26	3.16	725.57	.00	6.75	.00	8.000	.000	.00	1 .0
TRANS STR	.0207					.0094	.09	12.78	.00		.013	.00	.00	PIPE
6728.440	709.830	10.887	720.717	716.99	18.63	5.39	726.11	.00	6.58	.00	7.000	.000	.00	1 .0
61.130	.0173					.0126	.77	10.89	.00	4.97	.013	.00	.00	PIPE
6789.570	710.890	10.597	721.487	716.99	18.63	5.39	726.88	.00	6.58	.00	7.000	.000	.00	1 .0
102.610	.0176					.0126	1.29	.00	.00	4.94	.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
6892.180	712.700	10.371	723.071	716.99	18.63	5.39	728.46	.00	6.58	.00	7.000	.000	.00	1 .0
JUNCT STR	.0215					.0126	.06	.00	.00		.013	.00	.00	PIPE
6896.840	712.800	10.330	723.130	716.99	18.63	5.39	728.52	.00	6.58	.00	7.000	.000	.00	1 .0
40.210	.0139					.0126	.51	.00	.00	5.45	.013	.00	.00	PIPE
6937.050	713.360	10.459	723.818	716.99	18.63	5.39	729.21	.00	6.58	.00	7.000	.000	.00	1 .0
62.950	.0141					.0126	.79	10.46	.00	5.42	.013	.00	.00	PIPE
7000.000	714.248	10.363	724.611	716.99	18.63	5.39	730.00	.00	6.58	.00	7.000	.000	.00	1 .0
329.270	.0141					.0126	4.15	10.36	.00	5.42	.013	.00	.00	PIPE
7329.270	718.900	9.859	728.759	716.99	18.63	5.39	734.15	.00	6.58	.00	7.000	.000	.00	1 .0
JUNCT STR	.0215					.0126	.06	9.86	.00		.013	.00	.00	PIPE
7333.930	719.000	9.818	728.818	716.99	18.63	5.39	734.21	.00	6.58	.00	7.000	.000	.00	1 .0
JUNCT STR	.0041					.0126	3.24	9.82	.00		.013	.00	.00	PIPE
7590.813	720.053	12.001	732.054	716.99	18.63	5.39	737.44	.00	6.58	.00	7.000	.000	.00	1 .0
9.187	.0041					.0126	.12	12.00	.00	7.00	.013	.00	.00	PIPE
7600.000	720.091	12.078	732.169	716.99	18.63	5.39	737.56	.00	6.58	.00	7.000	.000	.00	1 .0
JUNCT STR	.0041					.0126	.12	12.08	.00		.013	.00	.00	PIPE
7609.750	720.131	12.161	732.292	716.99	18.63	5.39	737.68	.00	6.58	.00	7.000	.000	.00	1 .0
94.680	.0042					.0126	1.19	12.16	.00	7.00	.013	.00	.00	PIPE

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
7704.430	720.530	12.955	733.485	716.99	18.63	5.39	738.87	.00	6.58	.00	7.000	.000	.00	1 .0
JUNCT STR	.0204					.0093	.17	12.95	.00		.013	.00	.00	PIPE
7723.090	720.910	17.370	738.280	497.18	12.92	2.59	740.87	.00	5.83	.00	7.000	.000	.00	1 .0
125.890	.0191					.0061	.76	17.37	.00	3.76	.013	.00	.00	PIPE
7848.980	723.314	15.729	739.043	497.18	12.92	2.59	741.63	.00	5.83	.00	7.000	.000	.00	1 .0
248.090	.0186					.0061	1.50	15.73	.00	3.79	.013	.00	.00	PIPE
8097.070	727.930	12.615	740.545	497.18	12.92	2.59	743.14	.00	5.83	.00	7.000	.000	.00	1 .0
JUNCT STR	.0209					.0057	.11	.00	.00		.013	.00	.00	PIPE
8115.730	728.320	12.955	741.275	463.69	12.05	2.25	743.53	.00	5.65	.00	7.000	.000	.00	1 .0
52.170	.0211					.0053	.27	.00	.00	3.50	.013	.00	.00	PIPE
8167.900	729.420	12.341	741.761	463.69	12.05	2.25	744.02	.00	5.65	.00	7.000	.000	.00	1 .0
14.770	.0210					.0053	.08	12.34	.00	3.50	.013	.00	.00	PIPE
8182.670	729.730	12.109	741.839	463.69	12.05	2.25	744.09	.00	5.65	.00	7.000	.000	.00	1 .0
JUNCT STR	.0214					.0053	.02	12.11	.00		.013	.00	.00	PIPE
8187.340	729.830	12.034	741.864	463.69	12.05	2.25	744.12	.00	5.65	.00	7.000	.000	.00	1 .0
12.660	.0115					.0053	.07	12.03	.00	4.22	.013	.00	.00	PIPE
8200.000	729.976	11.955	741.931	463.69	12.05	2.25	744.18	.00	5.65	.00	7.000	.000	.00	1 .0
JUNCT STR	.0115					.0053	.26	11.95	.00		.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS) / SF Ave	Vel Head / HF	Energy Grd.El. / SE Dpth	Super Elev / Froude N	Critical Depth / Norm Dp	Flow Top Width / "N"	Height/ Dia.-FT / X-Fall	Base Wt or I.D. / ZR	ZL	No Wth Prs/Pip / Type Ch
8250.000	730.551	11.643	742.194	463.69	12.05	2.25	744.45	.00	5.65	.00	7.000	.000	.00	1 .0
50.000	.0114				.0053	.26	11.64	.00	4.24	.013		.00	.00	PIPE
8300.000	731.120	11.337	742.457	463.69	12.05	2.25	744.71	.00	5.65	.00	7.000	.000	.00	1 .0
JUNCT STR	.0115				.0053	1.30	11.34	.00		.013		.00	.00	PIPE
8547.271	733.964	9.796	743.760	463.69	12.05	2.25	746.01	.00	5.65	.00	7.000	.000	.00	1 .0
23.799	.0120				.0053	.13	9.80	.00	4.16	.013		.00	.00	PIPE
8571.070	734.250	9.636	743.885	463.69	12.05	2.25	746.14	.00	5.65	.00	7.000	.000	.00	1 .0
JUNCT STR	.0572				.0053	.02	9.64	.00		.013		.00	.00	PIPE
8574.740	734.460	9.445	743.905	463.69	12.05	2.25	746.16	.00	5.65	.00	7.000	.000	.00	1 .0
91.779	.0081				.0053	.48	9.44	.00	4.77	.013		.00	.00	PIPE
8666.520	735.200	9.188	744.388	463.69	12.05	2.25	746.64	.00	5.65	.00	7.000	.000	.00	1 .0
JUNCT STR	.0909				.0053	.00	9.19	.00		.013		.00	.00	PIPE
8666.530	735.201	9.187	744.388	463.69	12.05	2.25	746.64	.00	5.65	.00	7.000	.000	.00	1 .0
163.580	.0081				.0053	.86	9.19	.00	4.77	.013		.00	.00	PIPE
8830.110	736.520	8.730	745.250	463.69	12.05	2.25	747.50	.00	5.65	.00	7.000	.000	.00	1 .0
162.870	.0080				.0053	.86	.00	.00	4.78	.013		.00	.00	PIPE
8992.980	737.830	8.432	746.262	463.69	12.05	2.25	748.52	.00	5.65	.00	7.000	.000	.00	1 .0
77.600	.0081				.0053	.41	8.43	.00	4.76	.013		.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
9070.580	738.460	8.211	746.671	463.69	12.05	2.25	748.93	.00	5.65	.00	7.000	.000	.00	1 .0
JUNCT STR	.0273					.0053	.02	8.21	.00		.013	.00	.00	PIPE
9074.240	738.560	8.130	746.690	463.69	12.05	2.25	748.94	.00	5.65	.00	7.000	.000	.00	1 .0
155.420	.0102					.0053	.82	8.13	.00	4.39	.013	.00	.00	PIPE
9229.660	740.150	7.359	747.509	463.69	12.05	2.25	749.76	.00	5.65	.00	7.000	.000	.00	1 .0
JUNCT STR	.0096					.0048	.09	7.36	.00		.013	.00	.00	PIPE
9248.320	740.330	7.922	748.252	425.00	11.04	1.89	750.15	.00	5.43	.00	7.000	.000	.00	1 .0
51.680	.0097					.0044	.23	7.92	.00	4.22	.013	.00	.00	PIPE
9300.000	740.830	7.651	748.481	425.00	11.04	1.89	750.37	.00	5.43	.00	7.000	.000	.00	1 .0
JUNCT STR	.0102					.0044	.12	7.65	.00		.013	.00	.00	PIPE
9326.580	741.101	7.498	748.599	425.00	11.04	1.89	750.49	.00	5.43	.00	7.000	.000	.00	1 .0
85.085	.0103					.0044	.37	7.50	.00	4.14	.013	.00	.00	PIPE
9411.665	741.975	7.000	748.975	425.00	11.04	1.89	750.87	.00	5.43	.00	7.000	.000	.00	1 .0
74.558	.0103					.0041	.31	7.00	.00	4.14	.013	.00	.00	PIPE
9486.223	742.741	6.351	749.093	425.00	11.58	2.08	751.18	.00	5.43	4.06	7.000	.000	.00	1 .0
.913	.0103					.0039	.00	6.35	.68	4.14	.013	.00	.00	PIPE
9487.136	742.751	6.340	749.091	425.00	11.60	2.09	751.18	.00	5.43	4.09	7.000	.000	.00	1 .0
HYDRAULIC JUMP														

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
9487.136	742.751	4.611	747.361	425.00	15.81	3.88	751.24	.00	5.43	6.64	7.000	.000	.00	1 .0
5.289	.0103					.0074	.04	4.61	1.38	4.14	.013	.00	.00	PIPE
9492.425	742.805	4.625	747.431	425.00	15.75	3.85	751.28	.00	5.43	6.63	7.000	.000	.00	1 .0
45.245	.0103					.0070	.32	4.63	1.38	4.14	.013	.00	.00	PIPE
9537.670	743.270	4.826	748.096	425.00	15.02	3.50	751.60	.00	5.43	6.48	7.000	.000	.00	1 .0
JUNCT STR	.0215					.0063	.03	4.83	1.27		.013	.00	.00	PIPE
9542.330	743.370	4.963	748.333	425.00	14.57	3.30	751.63	.00	5.43	6.36	7.000	.000	.00	1 .0
JUNCT STR	.0057					.0066	1.22	4.96	1.20		.013	.00	.00	PIPE
9726.610	744.421	4.687	749.108	425.00	15.52	3.74	752.85	.00	5.43	6.59	7.000	.000	.00	1 .0
78.378	.0058					.0074	.58	4.69	1.34	5.07	.013	.00	.00	PIPE
9804.988	744.874	4.544	749.418	425.00	16.07	4.01	753.43	.00	5.43	6.68	7.000	.000	.00	1 .0
88.304	.0058					.0083	.73	4.54	1.42	5.07	.013	.00	.00	PIPE
9893.292	745.385	4.362	749.746	425.00	16.86	4.41	754.16	.00	5.43	6.78	7.000	.000	.00	1 .0
76.235	.0058					.0093	.71	4.36	1.54	5.07	.013	.00	.00	PIPE
9969.527	745.826	4.190	750.015	425.00	17.68	4.85	754.87	.00	5.43	6.86	7.000	.000	.00	1 .0
68.143	.0058					.0105	.72	4.19	1.66	5.07	.013	.00	.00	PIPE
10037.670	746.220	4.027	750.247	425.00	18.54	5.34	755.59	.00	5.43	6.92	7.000	.000	.00	1 .0
JUNCT STR	.0215					.0100	.05	4.03	1.80		.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
10042.330	746.320	5.441	751.761	425.00	15.77	3.86	755.62	.00	5.44	3.49	6.000	.000	.00	1 .0
29.342	.0029					.0092	.27	5.44	1.00	6.00	.013	.00	.00	PIPE
10071.670	746.404	5.978	752.382	425.00	15.04	3.51	755.89	.00	5.44	.73	6.000	.000	.00	1 .0
2.891	.0029					.0096	.03	5.98	.43	6.00	.013	.00	.00	PIPE
10074.560	746.412	6.000	752.412	425.00	15.03	3.51	755.92	.00	5.44	.00	6.000	.000	.00	1 .0
41.088	.0029					.0099	.41	6.00	.00	6.00	.013	.00	.00	PIPE
10115.650	746.530	6.296	752.826	425.00	15.03	3.51	756.33	.00	5.44	.00	6.000	.000	.00	1 .0
JUNCT STR	.1000					.0098	.00	6.30	.00		.013	.00	.00	PIPE
10115.660	746.531	6.648	753.179	413.10	14.61	3.31	756.49	.00	5.39	.00	6.000	.000	.00	1 .0
.340	.0029					.0095	.00	6.65	.00	6.00	.013	.00	.00	PIPE
10116.000	746.532	6.650	753.182	413.10	14.61	3.31	756.50	.00	5.39	.00	6.000	.000	.00	1 .0
JUNCT STR	.0030					.0095	.32	6.65	.00		.013	.00	.00	PIPE
10150.000	746.634	6.871	753.505	413.10	14.61	3.31	756.82	.00	5.39	.00	6.000	.000	.00	1 .0
2.580	.0023					.0095	.02	6.87	.00	6.00	.013	.00	.00	PIPE
10152.580	746.640	6.890	753.530	413.10	14.61	3.31	756.84	.00	5.39	.00	6.000	.000	.00	1 .0
79.080	.0030					.0095	.75	.00	.00	6.00	.013	.00	.00	PIPE
10231.660	746.880	7.559	754.439	413.10	14.61	3.31	757.75	.00	5.39	.00	6.000	.000	.00	1 .0
195.729	.0030					.0095	1.86	7.56	.00	6.00	.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS) / SF Ave	Vel Head / HF	Energy Grd.El. / SE Dpth	Super Elev / Froude N	Critical Depth / Norm Dp	Flow Top Width / "N"	Height/ Dia.-FT / X-Fall	Base Wt or I.D. / ZR	ZL	No Wth Prs/Pip / Type Ch
10427.390	747.470	8.831	756.301	413.10	14.61	3.31	759.62	.00	5.39	.00	6.000	.000	.00	1 .0
JUNCT STR	.0177					.0086	.07	8.83	.00		.013	.00	.00	PIPE
10435.000	747.605	9.926	757.531	373.61	13.21	2.71	760.24	.00	5.20	.00	6.000	.000	.00	1 .0
JUNCT STR	.0222					.0041	.04	9.93	.00		.013	.00	.00	PIPE
10446.050	747.850	12.313	760.163	79.90	2.83	.12	760.29	.00	2.39	.00	6.000	.000	.00	1 .0
18.070	.0177					.0004	.01	12.31	.00	1.53	.013	.00	.00	PIPE
JUNCT STR	.1063					.0004	.00	12.00	.00		.013	.00	.00	PIPE
10464.130	748.171	11.998	760.169	79.90	2.83	.12	760.29	.00	2.39	.00	6.000	.000	.00	1 .0
55.500	.0176					.0004	.02	12.00	.00	1.53	.013	.00	.00	PIPE
10519.630	749.150	11.039	760.189	79.90	2.83	.12	760.31	.00	2.39	.00	6.000	.000	.00	1 .0
JUNCT STR	.0188					.0017	.03	11.04	.00		.013	.00	.00	PIPE
10538.790	749.510	10.283	759.793	79.90	6.36	.63	760.42	.00	2.71	.00	4.000	.000	.00	1 .0
17.950	.0173					.0031	.06	10.28	.00	1.82	.013	.00	.00	PIPE
JUNCT STR	.1000					.0031	.00	10.03	.00		.013	.00	.00	PIPE
10556.750	749.821	10.028	759.849	79.89	6.36	.63	760.48	.00	2.71	.00	4.000	.000	.00	1 .0
368.390	.0173					.0031	1.14	10.03	.00	1.82	.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS) / SF Ave	Vel Head / HF	Energy Grd.El. / SE Dpth	Super Elev / Froude N	Critical Depth / Norm Dp	Flow Top Width / "N"	Height/ Dia.-FT / X-Fall	Base Wt or I.D. / ZR	ZL	No Wth Prs/Pip / Type Ch
10925.140	756.190	4.798	760.988	79.89	6.36	.63	761.62	.00	2.71	.00	4.000	.000	.00	1 .0
JUNCT STR	.0219				.0031	.01	4.80	.00		.013		.00	.00	PIPE
10928.800	756.270	4.730	761.000	79.89	6.36	.63	761.63	.00	2.71	.00	4.000	.000	.00	1 .0
140.345	.0083				.0031	.43	4.73	.00	2.26	.013		.00	.00	PIPE
11069.140	757.434	4.000	761.434	79.89	6.36	.63	762.06	.00	2.71	.00	4.000	.000	.00	1 .0
56.729	.0083				.0029	.16	4.00	.00	2.26	.013		.00	.00	PIPE
11125.870	757.904	3.629	761.533	79.89	6.67	.69	762.22	.00	2.71	2.32	4.000	.000	.00	1 .0
26.640	.0083				.0028	.07	3.63	.52	2.26	.013		.00	.00	PIPE
11152.510	758.125	3.414	761.539	79.89	6.99	.76	762.30	.00	2.71	2.83	4.000	.000	.00	1 .0
19.347	.0083				.0030	.06	3.41	.61	2.26	.013		.00	.00	PIPE
11171.860	758.285	3.236	761.522	79.89	7.33	.84	762.36	.00	2.71	3.14	4.000	.000	.00	1 .0
1.139	.0083				.0032	.00	3.24	.69	2.26	.013		.00	.00	PIPE
11173.000	758.295	3.225	761.520	79.89	7.36	.84	762.36	.00	2.71	3.16	4.000	.000	.00	1 .0
HYDRAULIC JUMP														
11173.000	758.295	2.258	760.553	79.89	10.92	1.85	762.41	.00	2.71	3.97	4.000	.000	.00	1 .0
17.910	.0083				.0083	.15	2.26	1.42	2.26	.013		.00	.00	PIPE
11190.910	758.443	2.258	760.701	79.89	10.92	1.85	762.55	.00	2.71	3.97	4.000	.000	.00	1 .0
164.831	.0083				.0079	1.30	2.26	1.42	2.26	.013		.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
11355.740	759.810	2.327	762.137	79.89	10.53	1.72	763.86	.00	2.71	3.95	4.000	.000	.00	1 .0
52.149	.0082					.0071	.37	2.33	1.34	2.26	.013	.00	.00	PIPE
11407.890	760.240	2.413	762.653	79.89	10.08	1.58	764.23	.00	2.71	3.91	4.000	.000	.00	1 .0
JUNCT STR	.0215					.0058	.03	2.41	1.25		.013	.00	.00	PIPE
11412.550	760.340	2.707	763.047	79.89	8.83	1.21	764.26	.00	2.71	3.74	4.000	.000	.00	1 .0
JUNCT STR	.0039					.0045	.09	2.71	1.00		.013	.00	.00	PIPE
11433.240	760.420	2.850	763.270	79.89	8.34	1.08	764.35	.00	2.71	3.62	4.000	.000	.00	1 .0
16.760	.0036					.0041	.07	2.85	.90	3.05	.013	.00	.00	PIPE
11450.000	760.480	2.895	763.375	79.89	8.20	1.04	764.42	.00	2.71	3.58	4.000	.000	.00	1 .0
JUNCT STR	.0038					.0035	.01	2.89	.88		.013	.00	.00	PIPE
11452.660	760.490	3.228	763.718	76.73	7.06	.77	764.49	.00	2.65	3.16	4.000	.000	.00	1 .0
34.040	.0035					.0030	.10	3.23	.67	2.97	.013	.00	.00	PIPE
11486.700	760.610	3.193	763.803	76.73	7.14	.79	764.59	.02	2.65	3.21	4.000	.000	.00	1 .0
40.000	.0040					.0031	.12	3.22	.69	2.82	.013	.00	.00	PIPE
11526.700	760.770	3.119	763.889	76.73	7.30	.83	764.72	.02	2.65	3.32	4.000	.000	.00	1 .0
50.160	.0040					.0032	.16	3.14	.72	2.82	.013	.00	.00	PIPE
11576.860	760.970	3.036	764.006	76.73	7.50	.87	764.88	.00	2.65	3.42	4.000	.000	.00	1 .0
103.610	.0040					.0035	.37	3.04	.76	2.82	.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
11680.470	761.385	2.900	764.284	76.73	7.86	.96	765.24	.00	2.65	3.57	4.000	.000	.00	1 .0
98.186	.0040					.0038	.37	2.90	.84	2.82	.013	.00	.00	PIPE
11778.660	761.778	2.844	764.621	76.73	8.03	1.00	765.62	.00	2.65	3.63	4.000	.000	.00	1 .0
HYDRAULIC JUMP														
11778.660	761.778	2.468	764.245	76.73	9.43	1.38	765.63	.00	2.65	3.89	4.000	.000	.00	1 .0
12.118	.0040					.0060	.07	2.47	1.15	2.82	.013	.00	.00	PIPE
11790.770	761.826	2.407	764.234	76.73	9.71	1.46	765.70	.00	2.65	3.92	4.000	.000	.00	1 .0
19.838	.0040					.0067	.13	2.41	1.20	2.82	.013	.00	.00	PIPE
11810.610	761.906	2.314	764.220	76.73	10.19	1.61	765.83	.00	2.65	3.95	4.000	.000	.00	1 .0
20.478	.0040					.0075	.15	2.31	1.30	2.82	.013	.00	.00	PIPE
11831.090	761.988	2.225	764.213	76.73	10.68	1.77	765.98	.00	2.65	3.97	4.000	.000	.00	1 .0
20.524	.0040					.0085	.18	2.23	1.40	2.82	.013	.00	.00	PIPE
11851.610	762.070	2.142	764.211	76.73	11.20	1.95	766.16	.00	2.65	3.99	4.000	.000	.00	1 .0
20.233	.0040					.0097	.20	2.14	1.51	2.82	.013	.00	.00	PIPE
11871.850	762.151	2.062	764.212	76.73	11.75	2.14	766.36	.00	2.65	4.00	4.000	.000	.00	1 .0
19.792	.0040					.0110	.22	2.06	1.62	2.82	.013	.00	.00	PIPE
11891.640	762.230	1.986	764.216	76.73	12.32	2.36	766.57	.00	2.65	4.00	4.000	.000	.00	1 .0
JUNCT STR	.0192					.0115	.05	1.99	1.74		.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
11895.800	762.310	2.002	764.312	76.73	12.20	2.31	766.62	.00	2.65	4.00	4.000	.000	.00	1 .0
276.379	.0114					.0114	3.14	2.00	1.71	2.00	.013	.00	.00	PIPE
12172.180	765.454	2.002	767.456	76.73	12.20	2.31	769.77	.00	2.65	4.00	4.000	.000	.00	1 .0
202.711	.0114					.0118	2.38	2.00	1.71	2.00	.013	.00	.00	PIPE
12374.890	767.760	1.963	769.723	76.73	12.50	2.43	772.15	.00	2.65	4.00	4.000	.000	.00	1 .0
JUNCT STR	.0191					.0120	.04	1.96	1.78		.013	.00	.00	PIPE
12378.550	767.830	1.976	769.806	76.73	12.40	2.39	772.19	.00	2.65	4.00	4.000	.000	.00	1 .0
42.729	.0119					.0119	.51	1.98	1.76	1.98	.013	.00	.00	PIPE
12421.280	768.338	1.976	770.314	76.73	12.40	2.39	772.70	.00	2.65	4.00	4.000	.000	.00	1 .0
205.624	.0119					.0126	2.59	1.98	1.76	1.98	.013	.00	.00	PIPE
12626.900	770.785	1.912	772.697	76.73	12.93	2.60	775.29	.00	2.65	4.00	4.000	.000	.00	1 .0
82.207	.0119					.0142	1.17	1.91	1.87	1.98	.013	.00	.00	PIPE
12709.110	771.763	1.843	773.606	76.73	13.56	2.86	776.46	.00	2.65	3.99	4.000	.000	.00	1 .0
51.433	.0119					.0162	.83	1.84	2.01	1.98	.013	.00	.00	PIPE
12760.540	772.375	1.777	774.152	76.73	14.23	3.14	777.29	.00	2.65	3.98	4.000	.000	.00	1 .0
38.622	.0119					.0184	.71	1.78	2.15	1.98	.013	.00	.00	PIPE
12799.170	772.834	1.714	774.548	76.73	14.92	3.46	778.01	.00	2.65	3.96	4.000	.000	.00	1 .0
31.521	.0119					.0209	.66	1.71	2.31	1.98	.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
12830.690	773.209	1.653	774.863	76.73	15.65	3.80	778.67	.00	2.65	3.94	4.000	.000	.00	1 .0
26.952	.0119					.0239	.64	1.65	2.47	1.98	.013	.00	.00	PIPE
12857.640	773.530	1.595	775.125	76.73	16.41	4.18	779.31	.00	2.65	3.92	4.000	.000	.00	1 .0
JUNCT STR	.0215					.0255	.12	1.60	2.65		.013	.00	.00	PIPE
12862.300	773.630	1.592	775.222	76.73	16.45	4.20	779.43	.00	2.65	3.92	4.000	.000	.00	1 .0
28.557	.0318					.0246	.70	1.59	2.66	1.50	.013	.00	.00	PIPE
12890.860	774.537	1.628	776.165	76.73	15.98	3.96	780.13	.00	2.65	3.93	4.000	.000	.00	1 .0
31.314	.0318					.0222	.69	1.63	2.55	1.50	.013	.00	.00	PIPE
12922.170	775.532	1.687	777.219	76.73	15.23	3.60	780.82	.00	2.65	3.95	4.000	.000	.00	1 .0
21.574	.0318					.0195	.42	1.69	2.38	1.50	.013	.00	.00	PIPE
12943.750	776.217	1.749	777.967	76.73	14.52	3.28	781.24	.00	2.65	3.97	4.000	.000	.00	1 .0
15.886	.0318					.0171	.27	1.75	2.22	1.50	.013	.00	.00	PIPE
12959.630	776.722	1.814	778.536	76.73	13.85	2.98	781.51	.00	2.65	3.98	4.000	.000	.00	1 .0
12.126	.0318					.0150	.18	1.81	2.07	1.50	.013	.00	.00	PIPE
12971.760	777.107	1.882	778.989	76.73	13.20	2.71	781.70	.00	2.65	3.99	4.000	.000	.00	1 .0
9.443	.0318					.0132	.12	1.88	1.93	1.50	.013	.00	.00	PIPE
12981.200	777.407	1.953	779.360	76.73	12.59	2.46	781.82	.00	2.65	4.00	4.000	.000	.00	1 .0
7.420	.0318					.0116	.09	1.95	1.80	1.50	.013	.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
12988.620	777.643	2.027	779.670	76.73	12.00	2.24	781.91	.00	2.65	4.00	4.000	.000	.00	1 .0
5.829	.0318					.0103	.06	2.03	1.67	1.50	.013	.00	.00	PIPE
12994.450	777.828	2.105	779.933	76.73	11.44	2.03	781.97	.00	2.65	3.99	4.000	.000	.00	1 .0
4.523	.0318					.0090	.04	2.11	1.56	1.50	.013	.00	.00	PIPE
12998.970	777.972	2.187	780.159	76.73	10.91	1.85	782.01	.00	2.65	3.98	4.000	.000	.00	1 .0
3.435	.0318					.0080	.03	2.19	1.45	1.50	.013	.00	.00	PIPE
13002.410	778.081	2.274	780.355	76.73	10.40	1.68	782.04	.00	2.65	3.96	4.000	.000	.00	1 .0
2.493	.0318					.0070	.02	2.27	1.34	1.50	.013	.00	.00	PIPE
13004.900	778.160	2.365	780.525	76.73	9.92	1.53	782.05	.00	2.65	3.93	4.000	.000	.00	1 .0
2.367	.0214					.0063	.01	2.36	1.25	1.67	.013	.00	.00	PIPE
13007.270	778.211	2.442	780.653	76.73	9.55	1.42	782.07	.00	2.65	3.90	4.000	.000	.00	1 .0
1.743	.0214					.0057	.01	2.44	1.17	1.67	.013	.00	.00	PIPE
13009.010	778.248	2.543	780.791	76.73	9.10	1.29	782.08	.00	2.65	3.85	4.000	.000	.00	1 .0
.560	.0214					.0050	.00	2.54	1.08	1.67	.013	.00	.00	PIPE
13009.570	778.260	2.652	780.912	76.73	8.68	1.17	782.08	.04	2.65	3.78	4.000	.000	.00	1 .0
6.266	.0030					.0045	.03	2.70	1.00	3.19	.013	.00	.00	PIPE
13015.840	778.279	2.767	781.046	76.73	8.27	1.06	782.11	.04	2.65	3.69	4.000	.000	.00	1 .0
28.503	.0030					.0040	.11	2.81	.92	3.19	.013	.00	.00	PIPE

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WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
100 YR PRELIMINARY HYDRAULICS w/ 35% DETENTION
09-06-2022

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
13044.340	778.364	2.892	781.256	76.73	7.89	.97	782.22	.03	2.65	3.58	4.000	.000	.00	1 .0
85.453	.0030					.0036	.30	2.93	.84	3.19	.013	.00	.00	PIPE
13129.790	778.620	3.027	781.648	76.73	7.52	.88	782.53	.03	2.65	3.43	4.000	.000	.00	1 .0
53.229	.0030					.0033	.18	3.06	.77	3.19	.013	.00	.00	PIPE
13183.020	778.780	3.067	781.847	76.73	7.42	.86	782.70	.00	2.65	3.38	4.000	.000	.00	1 .0
235.671	.0030					.0032	.75	3.07	.75	3.21	.013	.00	.00	PIPE
13418.690	779.480	3.162	782.642	76.73	7.20	.81	783.45	.00	2.65	3.26	4.000	.000	.00	1 .0
JUNCT STR	.0214					.0033	.02	3.16	.70		.013	.00	.00	PIPE
13423.360	779.580	2.969	782.549	76.73	7.67	.91	783.46	.00	2.65	3.50	4.000	.000	.00	1 .0
180.772	.0030					.0033	.60	2.97	.80	3.19	.013	.00	.00	PIPE
13604.130	780.124	3.112	783.236	76.73	7.32	.83	784.07	.00	2.65	3.33	4.000	.000	.00	1 .0
274.467	.0030					.0031	.85	3.11	.73	3.19	.013	.00	.00	PIPE
13878.600	780.950	3.166	784.116	76.73	7.19	.80	784.92	.00	2.65	3.25	4.000	.000	.00	1 .0
JUNCT STR	.0214					.0033	.02	3.17	.70		.013	.00	.00	PIPE
13883.270	781.050	2.975	784.025	76.73	7.66	.91	784.94	.00	2.65	3.49	4.000	.000	.00	1 .0
185.726	.0030					.0033	.62	2.97	.80	3.19	.013	.00	.00	PIPE
14069.000	781.607	3.118	784.725	76.73	7.30	.83	785.55	.00	2.65	3.32	4.000	.000	.00	1 .0
291.445	.0030					.0031	.90	3.12	.72	3.19	.013	.00	.00	PIPE

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RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
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Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS) / SF Ave	Vel Head / HF	Energy Grd.El. / SE Dpth	Super Elev / Froude N	Critical Depth / Norm Dp	Flow Top Width / "N"	Height/ Dia.-FT / X-Fall	Base Wt or I.D. / ZR	ZL	No Wth Prs/Pip / Type Ch
14360.440	782.480	3.175	785.655	76.73	7.17	.80	786.45	.00	2.65	3.24	4.000	.000	.00	1 .0
JUNCT STR	.0214				.0033	.02	3.23	.70		.013		.00	.00	PIPE
14365.110	782.580	2.986	785.566	76.73	7.63	.90	786.47	.03	2.65	3.48	4.000	.000	.00	1 .0
20.520	.0029				.0034	.07	3.02	.79	3.24	.013		.00	.00	PIPE
14385.630	782.640	3.013	785.653	76.73	7.56	.89	786.54	.00	2.65	3.45	4.000	.000	.00	1 .0
41.300	.0031				.0034	.14	3.01	.78	3.12	.013		.00	.00	PIPE
14426.930	782.770	3.036	785.806	76.73	7.50	.87	786.68	.03	2.65	3.42	4.000	.000	.00	1 .0
20.530	.0029				.0033	.07	3.07	.76	3.24	.013		.00	.00	PIPE
14447.460	782.830	3.055	785.885	76.73	7.45	.86	786.75	.00	2.65	3.40	4.000	.000	.00	1 .0
371.130	.0030				.0032	1.17	3.05	.75	3.20	.013		.00	.00	PIPE
14818.590	783.940	3.183	787.123	76.73	7.16	.80	787.92	.06	2.65	3.23	4.000	.000	.00	1 .0
20.870	.0029				.0030	.06	3.24	.69	3.26	.013		.00	.00	PIPE
14839.460	784.000	3.189	787.189	76.73	7.14	.79	787.98	.11	2.65	3.22	4.000	.000	.00	1 .0
JUNCT STR	.0167				.0031	.02	3.30	.69		.013		.00	.00	PIPE
14845.460	784.100	3.071	787.171	76.51	7.39	.85	788.02	.06	2.65	3.38	4.000	.000	.00	1 .0
43.840	.0030				.0032	.14	3.14	.74	3.20	.013		.00	.00	PIPE
14889.300	784.230	3.095	787.325	76.51	7.33	.84	788.16	.00	2.65	3.35	4.000	.000	.00	1 .0
28.601	.0031				.0032	.09	3.09	.73	3.11	.013		.00	.00	PIPE

Program Package Serial Number: 7247

WATER SURFACE PROFILE LISTING Date: 9- 7-2022 Time:11:56: 9

RHSP-MILLCREEK-A1 MILLCREEK MAIN LINE
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Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
14917.900	784.320	3.097	787.417	76.51	7.33	.83	788.25	.00	2.65	3.34	4.000	.000	.00	1 .0

September 20, 2022 Project No. 22149-01

Mr. Craig Cristina
Richland Communities
3161 Michelson Drive, Suite 425
Irvine, CA 92612

Mr. Tim Roberts
Brookfield Residential
3200 Park Center, Suite 1000
Costa Mesa, CA 92626

Subject: ***Consolidated Geotechnical Report to Support the Environmental Impact Report (EIR) for Rich-Haven Specific Plan, City of Ontario, California***

In accordance with your request, LGC Geotechnical, Inc. has prepared a geotechnical report to support the Environmental Impact Report (EIR) for the Rich-Haven Specific Plan in the City of Ontario, California. This report summarizes the results of our background review, previous subsurface explorations, and geotechnical analyses of the data collected, and presents our findings, conclusions, and preliminary recommendations for the proposed site.

If you should have any questions regarding this report, please do not hesitate to contact our office. We appreciate this opportunity to be of service.

Respectfully,

LGC Geotechnical, Inc.

REGISTERED PROFESSIONAL ENGINEER
DENNIS BORATYNEC
No. 2770
GEOTECHNICAL
STATE OF CALIFORNIA

Dennis Boratynec, GE 2770
Vice President

Branden Petersen, EIT
Senior Staff Engineer

DJB/BPP/amm

Distribution: (1) Addressee (electronic copy)

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1.0 INTRODUCTION

1.1 Purpose and Scope of Services

This compilation report presents the results of our previous geotechnical evaluations within the Rich-Haven Specific Plan area (see Site Location Map, Figure 1). The purpose of our work was to review previous reports and subsurface data in order to prepare a geotechnical report providing conclusions and preliminary recommendations to support the EIR. The geotechnical data from our previous subsurface geotechnical explorations can be found in Appendix B through Appendix I. Our scope of services included:

- Review of pertinent readily available geotechnical information and geologic maps (Appendix A).
- Review previous subsurface investigations including excavation, sampling, and logging of 64 small-diameter hollow stem borings (Appendix B through Appendix I).
- Review the previously pushed 41 Cone Penetration Test (CPT) soundings (Appendix B through Appendix I).
- Review previously performed infiltration testing within 11 of the hollow stem borings (Appendix B through Appendix I).
- Review the previous excavation of 86 geotechnical trenches (Appendix B through Appendix I).
- Review the previous excavation of 151 shallow trenches to assess the organic content of near surface "soils" (Appendix B through Appendix I).
- Review previous laboratory testing of representative samples obtained during our previous subsurface investigations (Appendix B through Appendix I).
- Geotechnical analysis and evaluation of the data obtained during these previous evaluations of the site.
- Preparation of this report presenting our findings, conclusions and preliminary recommendations with respect to the proposed site development.

Note that some of the data (Borings, CPT's, Trenches, Lab Data, etc.) from Appendix F is not a part of the subject Specific Plan.

1.2 Existing Site Conditions and Proposed Improvements

The approximately 575-acre irregularly shaped site is bound to the west by Haven Avenue, to the north by East Riverside Drive, a school, and Southern California Edison (SCE) Substation, to the east by a school, an existing residential community, SCE substation, and Hamner Avenue and to the south by existing farms and a new residential development (Figure 1). Review of historic aerial photographs suggests the following:

As far back as 1938 the site was used for primarily agricultural farming and some livestock farming. Between the years 1959 and 1985 a larger percentage of the land had started to be used for livestock farming. By 2016, Ontario Ranch Road had been constructed and by 2018, some of the new residential developments had begun.

Based on the preliminary conceptual site plans, it is our understanding that site development will consist of construction of various residential, commercial, and industrial developments. Based on our experience, the proposed residential developments will be at-grade with relatively light building loads (column and wall loads assumed to be a maximum of approximately 30 kips and 3 kips per lineal foot, respectively). The proposed industrial buildings are anticipated to be an at-grade concrete tilt-up structure with estimated maximum column and wall loads of approximately

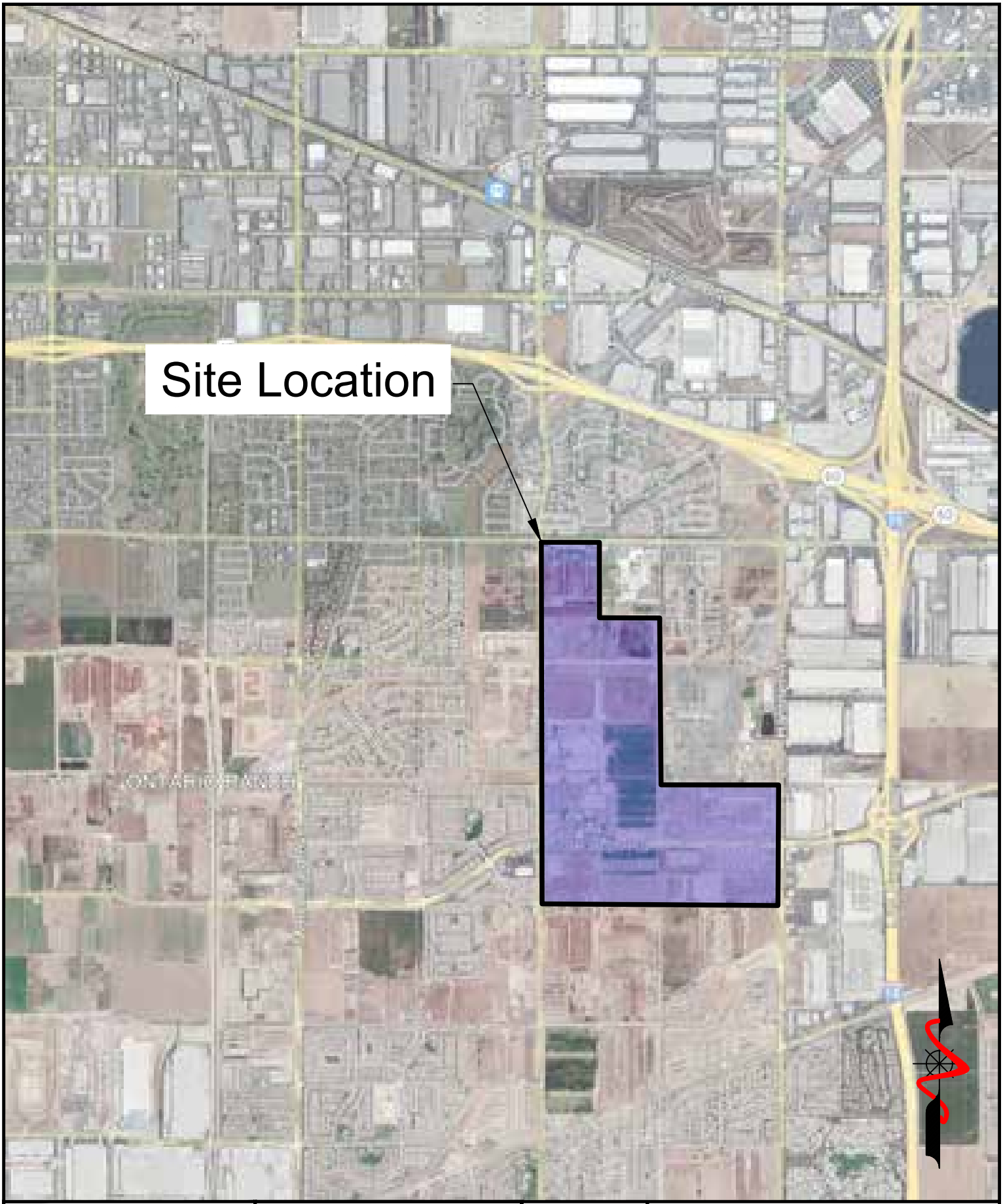
150 kips and 10 kips per linear foot, respectively.

The geotechnical engineer of record should be provided with updated project plans when they become available, in order to either confirm or modify the recommendations provided herein. Additional field work and/or laboratory testing will be necessary for final engineering.

1.3 Previous Site Evaluations

LGC Geotechnical has previously performed eight separate geotechnical evaluations within the subject Specific Plan. These evaluations have been performed from 2016 through 2021. A separate geotechnical evaluation report has been prepared for each of eight properties within the Specific Plan (LGC, 2017a, 2017b, 2017c, 2018, 2019, 2020, 2021a, 2021b, and 2021c).

Within each appendix, the approximate locations of the previous subsurface work (borings, CPTs, test pits, etc.) are presented on our geotechnical map. The previous exploration logs, laboratory testing, etc. have been included in Appendix B through Appendix I.



LGC Geotechnical, Inc.

FIGURE 1
Site Location Map

PROJECT NAME	Richland - Rich-Haven SPA
PROJECT NO.	22149-01
ENG. / GEOL.	DJB
SCALE	Not to Scale
DATE	September 2022

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2.0 GEOTECHNICAL CONDITIONS

2.1 Regional Geology

The subject site is located south of the San Gabriel Mountains within the broad alluvial plain of the Santa Ana River Basin within the Peninsular Ranges Geomorphic Province. Specifically, the Specific Plan is located within the northern portion of the Perris Block, a geologic zone consisting of granitics overlain by sedimentary deposits that are bounded by active faults including the northwest-trending Whittier-Elsinore Fault Zone at the southwest and the northwest-trending San Jacinto Fault Zone at the northeast (USGS, 2002). The roughly rectangular Perris Block is transected by the southwest-trending Santa Ana River that passes several miles south of the subject site.

Regional geologic mapping and local topographic expressions do not indicate the presence of large-scale landslides within or adjacent to the Specific Plan.

2.2 Site Geology and Generalized Subsurface Conditions

Based on regional mapping (USGS, 2003), the subject site is underlain by Holocene- to Pleistocene-age eolian (wind-blown) sedimentary deposits. The materials below the eolian deposits are young alluvial fan deposits. As indicated in our field explorations, soils generally consisted of medium dense to dense sands with varying amounts of silt interbedded with thinner layers of stiff to very stiff fine-grained soils (i.e., silts and clays) to the maximum explored depth of approximately 50 feet below existing grade. Descriptions of the subsurface conditions are presented on the exploratory logs located in Appendix B through Appendix I.

Due to previous/current land use as farming, localized areas are underlain by near surface fill materials, topsoil, manure, etc. The lateral limits and depths (typically less than 5 feet) of these materials will be further evaluated during final engineering.

2.3 Groundwater

Groundwater was not encountered to the maximum explored depth of approximately 50 feet below existing grade. Groundwater levels recorded in the area by California Department of Water Resources are at depths greater than 120 feet below the ground surface (CDWR, 2018). Note that localized perched groundwater was found at a depth of approximately 40 feet below existing grade in the southeastern portion of the site.

In general, groundwater levels fluctuate with the seasons and local zones of perched groundwater may be present within the near-surface deposits due to local seepage or during rainy seasons. Groundwater conditions below the site may be variable, depending on numerous factors including seasonal rainfall, local irrigation and groundwater pumping, among others.

2.4 Field Infiltration Testing

Estimation of infiltration rates was performed in general accordance with guidelines set forth by the County of San Bernardino (2013). In general, a 3-inch diameter perforated PVC pipe was placed in each borehole to be tested and the annulus was backfilled with gravel, including placement of about 2 inches of gravel at the bottom of the borehole. The observed infiltration rates are considered representative of the site soils in the area of the proposed infiltration basins/systems. These observed infiltration rates do not include any factor of safety. Observed infiltration rates have been normalized to correct the 3-Dimensional flow that occurs within the field test to 1-Dimensional flow out of the bottom of the boring. The approximate infiltration test locations and the infiltration test data are located in Appendix B through Appendix I.

Eleven infiltration tests were run by LGC Geotechnical within the limits of the site. Infiltration tests were ran at depth of approximately 15 to 20 feet below existing grade. Infiltration rates ranged from approximately 0.6 inch/hr. to 7.0 inch/hr. for an average of approximately 2.6 inch/hr. These rates do not include a factor of safety.

It should be emphasized that infiltration test results are only representative of the location and depth where they are performed. Varying subsurface conditions may exist outside of the test locations which could alter the calculated infiltration rates indicated above. Infiltration tests are performed using relatively clean water free of particulates, silt, etc.

2.5 Faulting and Seismic Hazards

The subject Specific Plan is not located within a State of California Earthquake Fault Zone (i.e., Alquist-Priolo Earthquake Fault Act Zone) and no active faults are known to cross the site (CGS, 2007). A fault is considered "active" if evidence of surface rupture in Holocene time (the last approximately 11,000 years) is present. The possibility of damage due to ground rupture is considered low since no active faults are known to cross the site.

Secondary effects of seismic shaking resulting from large earthquakes on the major faults in the Southern California region, which may affect the site, include ground lurching and shallow ground rupture, soil liquefaction, and dynamic settlement. These secondary effects of seismic shaking are a possibility throughout the Southern California region and are dependent on the distance between the site and causative fault and the onsite geology. The closest major active faults that could produce these secondary effects include the Chino-Central, San Jose, Elsinore, Sierra Madre and San Andreas Faults, among others. A discussion of these secondary effects is provided in the following sections.

2.5.1 Liquefaction and Dynamic Settlement

Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Studies indicate that loose, saturated, near-surface, cohesionless soils exhibit the highest liquefaction

potential, while dry, dense, cohesionless soils, and cohesive soils exhibit low to negligible liquefaction potential. In general, cohesive soils are not considered susceptible to liquefaction. Effects of liquefaction on level ground include settlement, sand boils, and bearing capacity failures below structures. Furthermore, dynamic settlement of dry sands can occur above the groundwater table as the sand particles tend to settle and densify as a result of a seismic event.

Based on our review of the City of Ontario General Plan (ECI, 2006), the subject site is located in an area of "low to moderate" liquefaction susceptibility based only on soil type (sediments being less than 10,000 years old and unconsolidated). Based on our evaluation and analysis, site soils are generally not susceptible to liquefaction due to a lack of groundwater in the upper 50 feet and liquefaction potential is considered low to very low.

2.5.2 Lateral Spreading

Lateral spreading is a type of liquefaction induced ground failure associated with the lateral displacement of surficial blocks of sediment resulting from liquefaction in a subsurface layer. Once liquefaction transforms the subsurface layer into a fluid mass, gravity plus the earthquake inertial forces may cause the mass to move downslope towards a free face (such as a river channel or an embankment). Lateral spreading may cause large horizontal displacements and such movement typically damages pipelines, utilities, bridges, and structures.

Due to the depth to groundwater, low potential for liquefaction and lack of nearby "free face" conditions, the potential for lateral spreading is considered very low.

2.6 Seismic Design Criteria

The site seismic characteristics were evaluated per the guidelines set forth in Chapter 16, Section 1613 of the 2019 California Building Code (CBC) and applicable portions of ASCE 7-16 which has been adopted by the CBC. Please note that the following seismic parameters are only applicable for code-based acceleration response spectra and are not applicable for where site-specific ground motion procedures are required by ASCE 7-16. The following coordinates are from the northwest portion of the Specific Plan as this yields the most conservative seismic analysis. Representative site coordinates of latitude 34.018410 degrees north and longitude -117.575156 degrees west were utilized in our analyses. For each individual developments, the seismic analysis can be updated based on the proposed improvements, their location, and current building code. The maximum considered earthquake (MCE) spectral response accelerations (S_{MS} and S_{M1}) and adjusted design spectral response acceleration parameters (S_{DS} and S_{D1}) for Site Class D are provided in Table 1 on the following page. Since site soils are Site Class D, additional adjustments are required to code acceleration response spectrums as outlined below and provided in ASCE 7-16. The structural designer should contact the geotechnical consultant if structural conditions (e.g., number of stories, seismically isolated structures, etc.) require site-specific ground motions.

TABLE 1

Seismic Design Parameters

Selected Parameters from 2019 CBC, Section 1613 - Earthquake Loads	Seismic Design Values	Notes/Exceptions
Distance to applicable faults classifies the site as a "Near-Fault" site.		Section 11.4.1 of ASCE 7
Site Class	D*	Chapter 20 of ASCE 7
Ss (Risk-Targeted Spectral Acceleration for Short Periods)	1.612g	From SEAOC, 2022
S_1 (Risk-Targeted Spectral Accelerations for 1-Second Periods)	0.585g	From SEAOC, 2022
F_a (per Table 1613.2.3(1))	1.000	For Simplified Design Procedure of Section 12.14 of ASCE 7, F_a shall be taken as 1.4 (Section 12.14.8.1)
F_v (per Table 1613.2.3(2))	1.715	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
S_{MS} for Site Class D [Note: $S_{MS} = F_a S_S$]	1.612g	-
S_{M1} for Site Class D [Note: $S_{M1} = F_v S_1$]	1.003g	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
S_{DS} for Site Class D [Note: $S_{DS} = (^2/_3)S_{MS}$]	1.075g	-
S_{D1} for Site Class D [Note: $S_{D1} = (^2/_3)S_{M1}$]	0.669g	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
C_{RS} (Mapped Risk Coefficient at 0.2 sec)	0.940	ASCE 7 Chapter 22
C_{R1} (Mapped Risk Coefficient at 1 sec)	0.917	ASCE 7 Chapter 22
*Since site soils are Site Class D and S_1 is greater than or equal to 0.2, the seismic response coefficient Cs is determined by Eq. 12.8-2 for values of $T \leq 1.5T_s$ and taken equal to 1.5 times the value calculated in accordance with either Eq. 12.8-3 for $T_L \geq T > T_s$, or Eq. 12.8-4 for $T > T_L$. Refer to ASCE 7-16.		

A deaggregation of the PGA based on a 2,475-year average return period (MCE) indicates that an earthquake magnitude of 6.75 at a distance of approximately 13.5 km from the site would contribute the most to this ground motion (USGS, 2014).

Section 1803.5.12 of the 2019 CBC (per Section 11.8.3 of ASCE 7) states that the maximum considered earthquake geometric mean (MCE_G) Peak Ground Acceleration (PGA) should be used for liquefaction potential. The PGA_M for the site is equal to 0.739g (SEAOC, 2022).

2.7 Near Surface Organic Rich Soils

Based on previous/current land use near surface organic materials (topsoil, manure, etc.) are present throughout. These lateral extent and depth of these materials will be further evaluated during final engineering, including recommendations for offsite export.

2.8 Corrosivity to Concrete and Metal

Based on laboratory sulfate test results, the near surface soils are designated to a class "S0" per ACI 318, Table 19.3.1.1 with respect to sulfates. Concrete in direct contact with the onsite soils can be designed according to ACI 318, Table 19.3.2.1 using the "S0" sulfate classification.

Laboratory testing will need to be performed at the completion of grading by the project corrosion engineer to further evaluate the as-graded soil corrosivity characteristics. Accordingly, revision of the corrosion potential may be needed, should future test results differ substantially from the conditions reported herein. The client and/or other members of the development team should consider this during the design and planning phase of the project and formulate an appropriate course of action.

2.9 Expansion Potential

Based on the results of previous laboratory testing by others and our recent laboratory testing, site soils are anticipated to have a "Very Low" expansion potential (EI of 20 or less per ASTM D4829). Final expansion potential of site soils should be determined at the completion of grading. Results of expansion testing at finish grades will be utilized to confirm final foundation design recommendations.

3.0 CONCLUSIONS

Based on the results of our previous subsurface geotechnical evaluations, it is our opinion that the proposed Specific Plan is feasible from a geotechnical standpoint, provided that the recommendations contained in the following sections are incorporated during site grading and development. A summary of our geotechnical conclusions are as follows:

- The near-surface loose and compressible soils are not suitable for the planned improvements in their present condition and will require remedial grading in order to provide adequate support for the proposed improvements.
- Groundwater was not encountered in our field evaluation. Records indicate groundwater levels recorded in the area are at depths greater than 120 feet below the ground surface.
- The subject study area is not located within a mapped State of California Earthquake Fault Zone (i.e., Alquist-Priolo Earthquake Fault Act Zone), and based upon our review of published geologic mapping, no known active or potentially active faults are known to exist within or in the immediate vicinity of the site. Therefore, the potential for ground rupture as a result of faulting is considered very low.
- The main seismic hazard that may affect the site is ground shaking from one of the active regional faults. The subject site will likely experience strong seismic ground shaking during its design life.
- Site soils are generally not susceptible to liquefaction due to a lack of groundwater in the upper 50 feet.
- Based on the results of preliminary laboratory testing, site soils are anticipated to have "Very Low" expansion potential. This will be confirmed during final engineering.
- Based on laboratory sulfate test results, the near surface soils are designated to a class "S0" per ACI 318, Table 19.3.1.1 with respect to sulfates.). Concrete in direct contact with the onsite soils can be designed according to ACI 318, Table 19.3.2.1 using the "S0" sulfate classification.
- Field testing resulted in observed infiltration rates ranging from 0.6 to 7.0 inches per hour for an average of approximately 2.6 inches per hour. The observed infiltration rates do not include a factor of safety.

4.0 RECOMMENDATIONS

The following recommendations are to be considered preliminary and should be confirmed upon completion of final engineering studies and ultimately after grading/earthwork operations. In addition, they should be considered minimal from a geotechnical viewpoint, as there may be more restrictive requirements from the architect, structural engineer, building codes, governing agencies, or the owner.

It should be noted that the following geotechnical recommendations are intended to provide sufficient information to develop the site in general accordance with the 2019 CBC requirements. With regard to the possible occurrence of potentially catastrophic geotechnical hazards such as fault rupture, earthquake-induced landslides, liquefaction, etc. the following geotechnical recommendations should provide adequate protection for the proposed development to the extent required to reduce seismic risk to an "acceptable level." The "acceptable level" of risk is defined by the California Code of Regulations as "that level that provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of the project" [Section 3721(a)]. Therefore, repair and remedial work of the proposed improvement may be required after a significant seismic event. With regards to the potential for less significant geologic hazards to the proposed development, the recommendations contained herein are intended as a reasonable protection against the potential damaging effects of geotechnical phenomena such as expansive soils, fill settlement, groundwater seepage, etc. It should be understood, however, that our recommendations are intended to maintain the structural integrity of the proposed development and structures given the site geotechnical conditions but cannot preclude the potential for some cosmetic distress or nuisance issues to develop as a result of the site geotechnical conditions.

The geotechnical recommendations contained herein must be confirmed to be suitable or modified based on the actual as-graded conditions.

4.1 Site Earthwork

Rough grading shall include export of high organic content soils, remedial earthwork grading including mixing and blending followed by placement of engineered compacted fill to design grades. Geotechnical recommendations for precise grading and construction of the proposed new improvements will be provided, as necessary.

We recommend that earthwork onsite be performed in accordance with the following recommendations, future grading plan review report(s), the 2019 CBC/City of Ontario requirements, and the General Earthwork and Grading Specifications for Rough Grading included in Appendix J. In case of conflict, the following recommendations shall supersede those included in Appendix J. The following recommendations may be revised based on future subsurface work, geotechnical analysis, grading plan review reports, or based on the actual conditions encountered during site grading.

4.1.1 Site Preparation

Prior to grading, areas to be developed should undergo the stripping and clearing of vegetation, high organic content soil removal/export and clearing of surface obstructions, pavements, foundation and slab elements from previous land use. Vegetation, debris, and excessive organic material should be removed and properly disposed of offsite. Recommendations for removal of organic rich soils are provided at final engineering. Holes resulting from removals of buried obstructions, which extend below proposed remedial and/or finish grades, should be replaced with suitable compacted fill material.

If cesspools or septic systems are encountered, they should be removed in their entirety. The resulting excavation should be backfilled with properly compacted fill soils. As an alternative, cesspools can be backfilled with lean sand-cement slurry. Any encountered wells should be properly abandoned in accordance with regulatory requirements.

4.1.2 Remedial Grading Depths

In order to provide a relatively uniform bearing condition for the planned improvements, we recommend the near surface soils be temporarily removed and recompacted as fill. Based on our experience the depth of remedial grading averages approximately 5 feet below existing grade. Local conditions may be encountered during excavation that could require additional remedial grading beyond the above-noted minimum in order to obtain an acceptable subgrade. Material to be placed as fill should be brought to near-optimum moisture content (generally within optimum and 2 percent above optimum moisture content) and recompacted to at least 90 percent relative compaction (per ASTM D1557).

The actual depths and lateral extents of grading will be determined by the geotechnical consultant, based on subsurface conditions encountered during grading. Removal areas and areas to be over-excavated should be accurately staked in the field by the Project Surveyor.

4.2 Preliminary Foundation Recommendations (Residential, Industrial, and Commercial)

The proposed structure(s) may be supported on a shallow foundation consisting of spread or continuous footings and conventional slabs, provided earthwork is performed in accordance with the recommendations presented in this report. Since the site soils are anticipated to be "Very Low" expansion potential (EI of 20 or less per ASTM D4829), special design considerations from a geotechnical perspective are not anticipated, however, this must be verified based on as-graded conditions. Footings should be supported on properly compacted fill.

5.0 LIMITATIONS

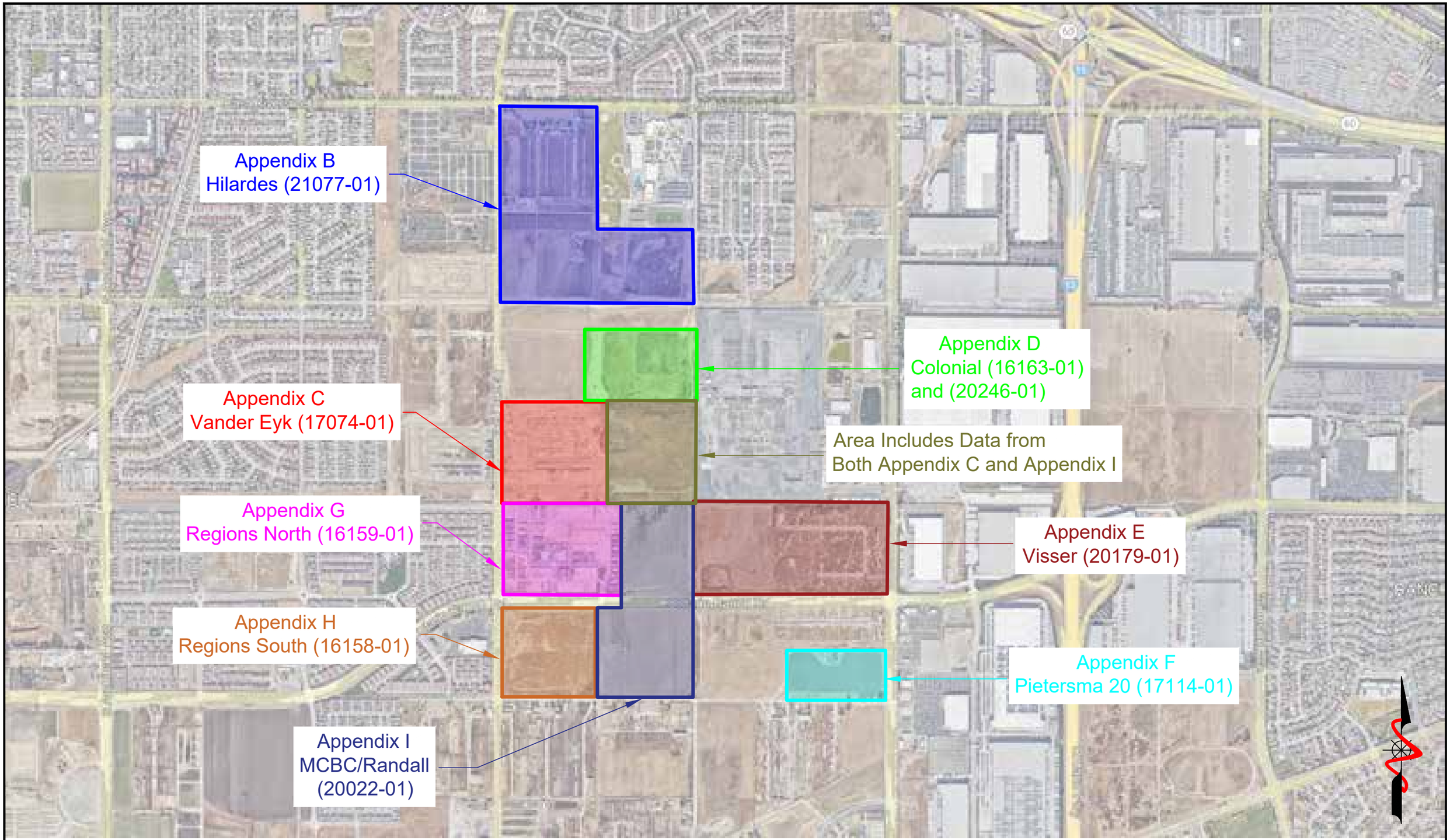
Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable soils engineers and geologists practicing in this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

This report is based on data obtained from limited observations of the site, which have been extrapolated to characterize the site. While the scope of services performed is considered suitable to adequately characterize the site geotechnical conditions relative to the proposed development, no practical evaluation can completely eliminate uncertainty regarding the anticipated geotechnical conditions in connection with a subject site. Variations may exist and conditions not observed or described in this report may be encountered during grading and construction.

This report is issued with the understanding that it is the responsibility of the owner, or of his/her representative, to ensure that the information and recommendations contained herein are brought to the attention of the other consultants (at a minimum the civil engineer, structural engineer, landscape architect) and incorporated into their plans. The contractor should properly implement the recommendations during construction and notify the owner if they consider any of the recommendations presented herein to be unsafe, or unsuitable.

The findings of this report are valid as of the present date. However, changes in the conditions of a site can and do occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. The findings, conclusions, and recommendations presented in this report can be relied upon only if LGC Geotechnical has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our preliminary findings are representative for the site. This report is intended exclusively for use by the client, any use of or reliance on this report by a third party shall be at such party's sole risk.

In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and modification.



LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

FIGURE 2
Index Map of Subsurface Evaluations
by LGC Geotechnical, Inc.

PROJECT NAME	Richland - Rich-Haven SPA
PROJECT NO.	22149-01
ENG. / GEOL.	DJB
SCALE	Not to Scale
DATE	September 2022

Appendix A
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APPENDIX A

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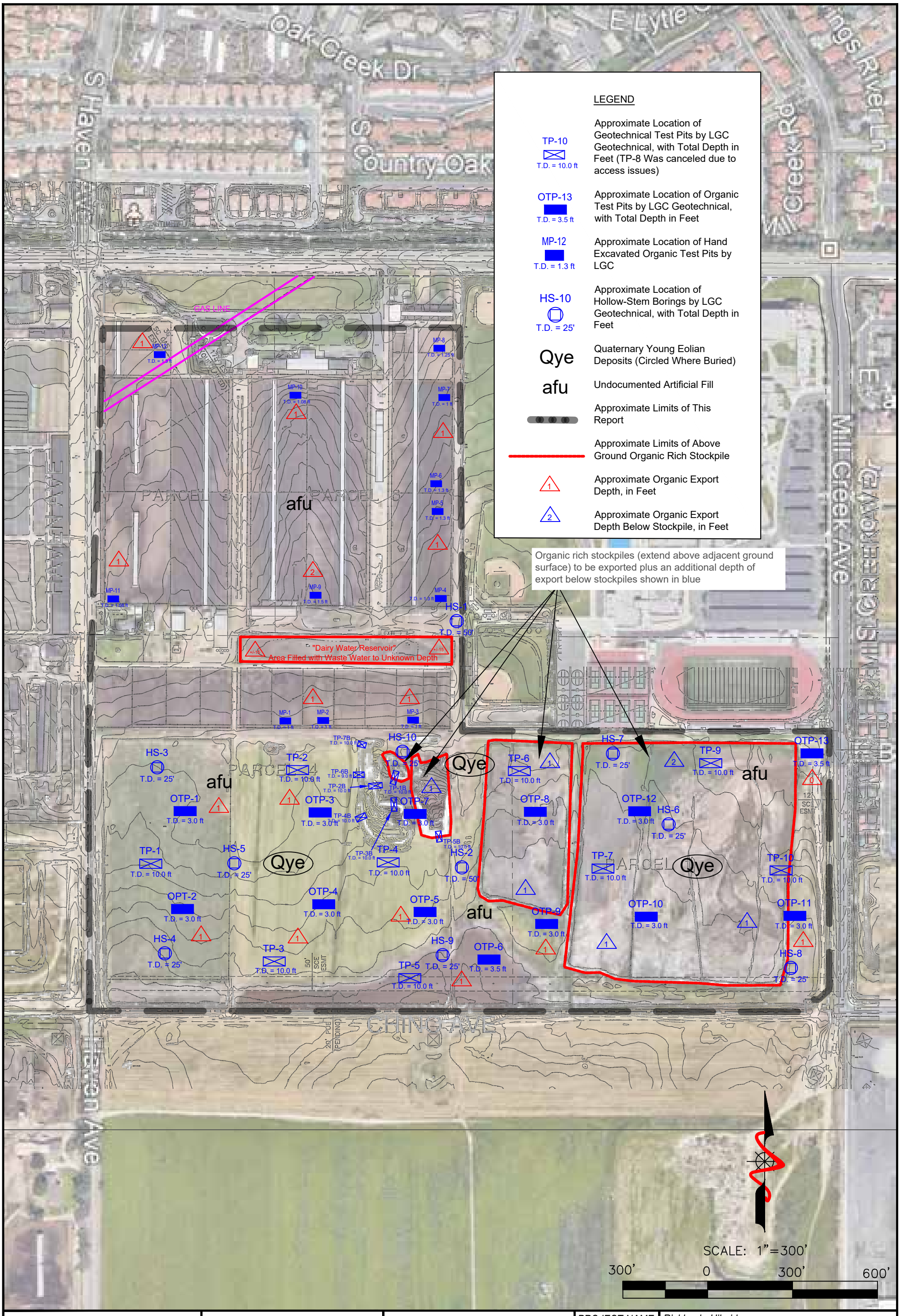
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Appendix B
Geotechnical Subsurface Evaluation Data – Hilardes (21077-01)



LGC Geotechnical, Inc.	**FIGURE 2**	PROJECT NAME	Richland - Hilarides
131 Calle Iglesia, Ste. 200	**Geotechnical Map**	PROJECT NO.	21077-01
San Clemente, CA 92672		ENG. / GEOL.	DJB
TEL (949) 369-6141 FAX (949) 369-6142		SCALE	1" = 300'
		DATE	December 2021

6308

APPENDIX C

Laboratory Testing Procedures and Test Results

The laboratory testing program was formulated towards providing data relating to the relevant engineering properties of the soils with respect to residential construction. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on relatively undisturbed samples obtained from the test borings and/or trenches. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Expansion Index: The expansion potential of selected samples was evaluated by the Expansion Index Test, Standard ASTM D4829. Specimens are molded under a given compactive energy to approximately the optimum moisture content and approximately 50 percent saturation or approximately 90 percent relative compaction. The prepared 1-inch-thick by 4-inch-diameter specimens are loaded to an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the table below.

Sample Location	**Expansion Index**	**Expansion Potential***
HS-1 @ 1-5 feet	2	Very Low
HS-6 @2.5-7.5 feet	25	Low

* ASTM D4829

Grain Size Distribution/Fines Content: Representative samples were dried, weighed and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140). Where applicable, the portion retained on the No. 200 sieve and dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D6913 (sieve).

Laboratory Testing Procedures and Test Results

Sample Location	Description	% Passing # 200 Sieve
HS-1 @ 5 feet	Sandy Silt	77
HS-2 @ 5 feet	Silty Sand	32
HS-3 @ 5 feet	Silty Sand	31
HS-4 @ 5 feet	Silty Sand	31
HS-5 @ 5 feet	Silty Sand	57
HS-1 @ 1-5 feet	Silty Sand with Gravel	29
HS-2 @ 1-5 feet	Clay	88
HS-6 @ 2.5-7.5 feet	Silty Sand	19

Consolidation: Two consolidation test were performed per ASTM D2435. A sample (2.4 inches in diameter and 1 inch in height) was placed in a consolidometer and increasing loads were applied. The sample was allowed to consolidate under "double drainage" and total deformation for each loading step was recorded. The percent consolidation for each load step was recorded as the ratio of the amount of vertical compression to the original sample height. The consolidation pressure curve is provided in this Appendix.

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results of these tests are presented in the table below:

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
*HS-1 @ 1-5 feet	Olive Silty Sand with Gravel	129.5	7.5
HS-2 @ 1-5 feet	Yellowish Brown Clay	114.0	13.5
HS-6 @ 2.5-7.5 feet	Olive Brown Silty Sand	114.0	14.0
OTP-10 @ 1-3 feet	Dark Brown Sand with Silt	109.0	14.0
TP-1 @ 5-8 feet	Grayish Brown Sand	101.5	9.0

*Note: These max dry density results are based on a rock correction with approximately 23% retained on the No. 4 sieve.

Laboratory Testing Procedures and Test Results

Chloride Content: Chloride content was tested in accordance with Caltrans Test Method (CTM) 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-1 @ 1-5 feet	100

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods (CTM 417). The soluble sulfate content is used to determine the appropriate cement type and maximum water-cement ratios. The test results are presented in the table below.

Sample Location	Sulfate Content (ppm)	Sulfate Exposure Class *
HS-1 @ 1-5 feet	128	S0

*Based on ACI 318R-14, Table 19.3.1.1

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-1 @ 1-5 feet	7.85	1,280

Organic Matter Content of Soils: Organic matter content tests were performed in general accordance with ASTM D 2974 (Test Methods A & C). The results are presented in the Table 6.

TP-1	
Depth (ft)	% Organics
0-1	6.0
1-2	0.8
2-3	0.5

TP-2	
Depth (ft)	% Organics
0-1	11.9
1-2	0.7
2-3	0.3

TP-3	
Depth (ft)	% Organics
0-1	6.3
1-2	0.7
2-3	3.7

TP-4	
Depth (ft)	% Organics
0-1	10.3
1-2	1.3
2-3	0.4

TP-5	
Depth (ft)	% Organics
0-1	10.5
2-3	0.1
3-4	0.3

TP-6	
Depth (ft)	% Organics
0-1	54.7
1-2	21.8
2-3	5.5

TP-7	
Depth (ft)	% Organics
0-1	64.4
1-2	8.4
2-3	2.4

TP-9	
Depth (ft)	% Organics
0-1	41.4
1-2	5.9
2-3	3.9

TP-10	
Depth (ft)	% Organics
0-1	42.7
1-2	6.3
2-3	3.4

OTP-1	
Depth (ft)	% Organics
0-1	7.6
1-2	1.6
2-3	0.6

OTP-2	
Depth (ft)	% Organics
0-1	7.2
1-2	3.1
2-3	0.6

OTP-3	
Depth (ft)	% Organics
0-1	11.0
1-2	3.9
2-3	1.7

OTP-4	
Depth (ft)	% Organics
0-1	7.5
1-2	1.5
2-3	0.4

OTP-5	
Depth (ft)	% Organics
0-1	8.2
1-2	1.7
2-3	0.6

OTP-6	
Depth (ft)	% Organics
0-1	12.9
1-2	2.0
2-3	0.7

OTP-7	
Depth (ft)	% Organics
0-1	1.0
1-2	1.1
2-3	0.8

OTP-8	
Depth (ft)	% Organics
0-1	51.5
1-2	5.7
2-3	1.9

OTP-9	
Depth (ft)	% Organics
0-1	8.9
1-2	0.9
2-3	0.8

OTP-10	
Depth (ft)	% Organics
0-1	57.5
1-2	8.0
2-3	0.4

OTP-11	
Depth (ft)	% Organics
0-1	15.9
1-2	0.7
2-3	0.3

OTP-12	
Depth (ft)	% Organics
0-1	53.1
1-2	4.0
2-3	1.4

OTP-13	
Depth (ft)	% Organics
0-1	1.2
1-2	2.1
2-3	0.4

TP-1B	
Depth (ft)*	% Organics
8-7	4.0
5-4	30.2

TP-2B	
Depth (ft)*	% Organics
6-5	3.7

TP-3B	
Depth (ft)*	% Organics
6-5	1.1
3-2	0.6

TP-7B	
Depth (ft)*	% Organics
6-5	0.5

MP-1	
Depth (ft)	% Organics
0-0.5	5.6

MP-2	
Depth (ft)	% Organics
0-0.75	21.0

MP-3	
Depth (ft)	% Organics
0-0.5	42.5

Legend

> 5%	Recommended for Offsite Removal
2 to 5%	Recommended for Mixing/Blending with "Clean" Soils
< 2%	"Clean" Soils

Note: * Indicates Depth from top of stockpile, where 0' is existing ground surface

Table 6
Summary of Measured Organic Content vs Depth of Sample

Project Name	Richland - Hilardes
Project Number	21077-01
ENG./GEOL.	DJB
Date	Dec-21

MP-4	
Depth (ft)	% Organics
0-0.25	40.6
0.3-1	1.1

MP-5	
Depth (ft)	% Organics
0-0.5	2.2

MP-6	
Depth (ft)	% Organics
0.5	1.2

MP-7	
Depth (ft)	% Organics
0-0.5	2.4

MP-8	
Depth (ft)	% Organics
0-0.5	1.0

MP-9	
Depth (ft)	% Organics
0-0.5	0.2
1.1-1.5	13.7

MP-10	
Depth (ft)	% Organics
0-0.5	57.6

MP-11	
Depth (ft)	% Organics
0-0.25	60.0

MP-12	
Depth (ft)	% Organics
0-0.5	46.9

Legend

> 5%	Recommended for Offsite Removal
2 to 5%	Recommended for Mixing/Blending with "Clean" Soils
< 2%	"Clean" Soils

Table 6
Summary of Measured Organic Content vs Depth of Sample

Project Name	Richland - Hilardes
Project Number	21077-01
ENG./GEOL.	DJB
Date	Dec-21

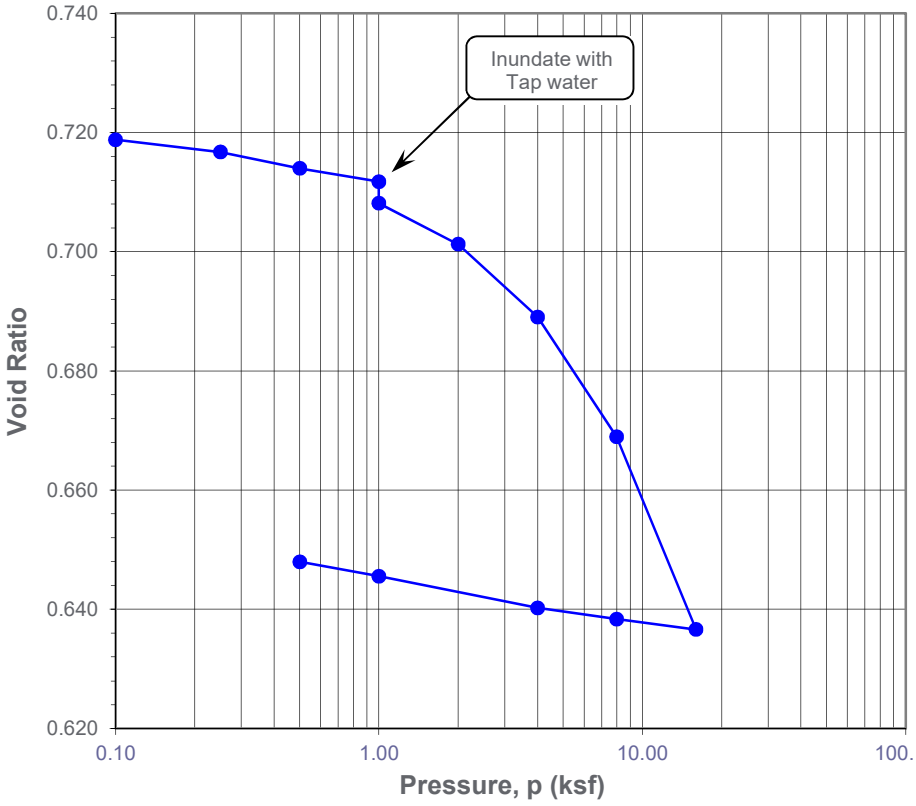
ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS

ASTM D 2435

Project Name: Ontario
Project No.: 21077-01
Boring No.: HS-1
Sample No.: R-4
Soil Identification: Olive brown silt (ML)

Tested By: G. Bathala Date: 08/23/21
Checked By: J. Ward Date: 09/08/21
Depth (ft.): 10.0
Sample Type: Ring

Sample Diameter (in.):	2.415
Sample Thickness (in.):	1.000
Weight of Sample + ring (g):	173.58
Weight of Ring (g):	45.42
Height after consol. (in.):	0.9586
Before Test	
Wt. of Wet Sample+Cont. (g):	186.95
Wt. of Dry Sample+Cont. (g):	176.92
Weight of Container (g):	61.70
Initial Moisture Content (%)	8.7
Initial Dry Density (pcf)	98.1
Initial Saturation (%):	33
Initial Vertical Reading (in.)	0.1026
After Test	
Wt. of Wet Sample+Cont. (g):	241.79
Wt. of Dry Sample+Cont. (g):	216.56
Weight of Container (g):	52.57
Final Moisture Content (%)	21.28
Final Dry Density (pcf):	102.9
Final Saturation (%):	90
Final Vertical Reading (in.)	0.1466
Specific Gravity (assumed):	2.70
Water Density (pcf):	62.43



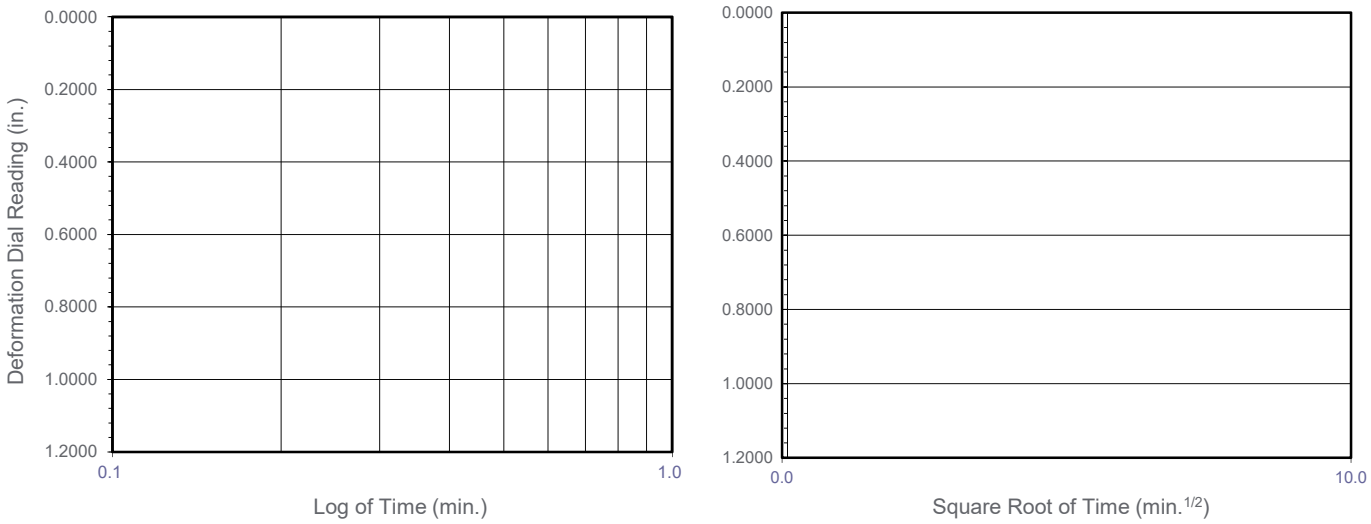
Pressure (p) (ksf)	Final Reading (in.)	Apparent Thickness (in.)	Load Compliance (%)	Deformation % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.10	0.1028	0.9998	0.00	0.02	0.719	0.02
0.25	0.1045	0.9981	0.05	0.19	0.717	0.14
0.50	0.1067	0.9959	0.11	0.41	0.714	0.30
1.00	0.1087	0.9939	0.18	0.61	0.712	0.43
1.00	0.1108	0.9918	0.18	0.82	0.708	0.64
2.00	0.1158	0.9868	0.28	1.32	0.701	1.04
4.00	0.1239	0.9787	0.38	2.13	0.689	1.75
8.00	0.1369	0.9657	0.51	3.43	0.669	2.92
16.00	0.1571	0.9455	0.65	5.45	0.637	4.80
8.00	0.1553	0.9473	0.57	5.27	0.638	4.70
4.00	0.1533	0.9493	0.48	5.07	0.640	4.59
1.00	0.1487	0.9539	0.33	4.61	0.646	4.28
0.50	0.1466	0.9560	0.26	4.40	0.648	4.14

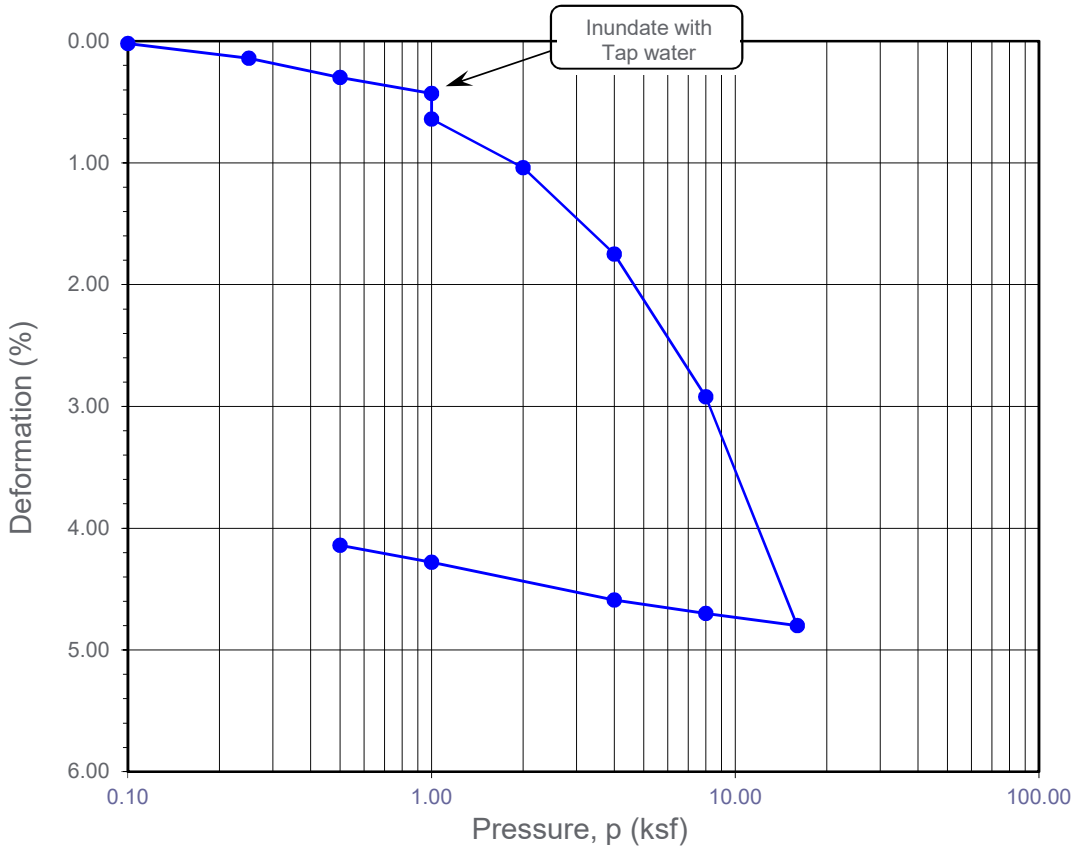
Time Readings

Date	Time	Elapsed Time (min)	Square Root of Time	Dial Rdgs. (in.)

6314

Time Readings





Boring No.	Sample No.	Depth (ft.)	Moisture Content (%)		Dry Density (pcf)		Void Ratio		Degree of Saturation (%)	
			Initial	Final	Initial	Final	Initial	Final	Initial	Final
HS-1	**R-4**	**10**	**8.7**	**21.3**	**98.1**	**102.9**	**0.719**	**0.648**	**33**	**90**

Soil Identification: Olive brown silt (ML)

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS
ASTM D 2435

Project No.: 21077-01

Ontario

09-21

6315

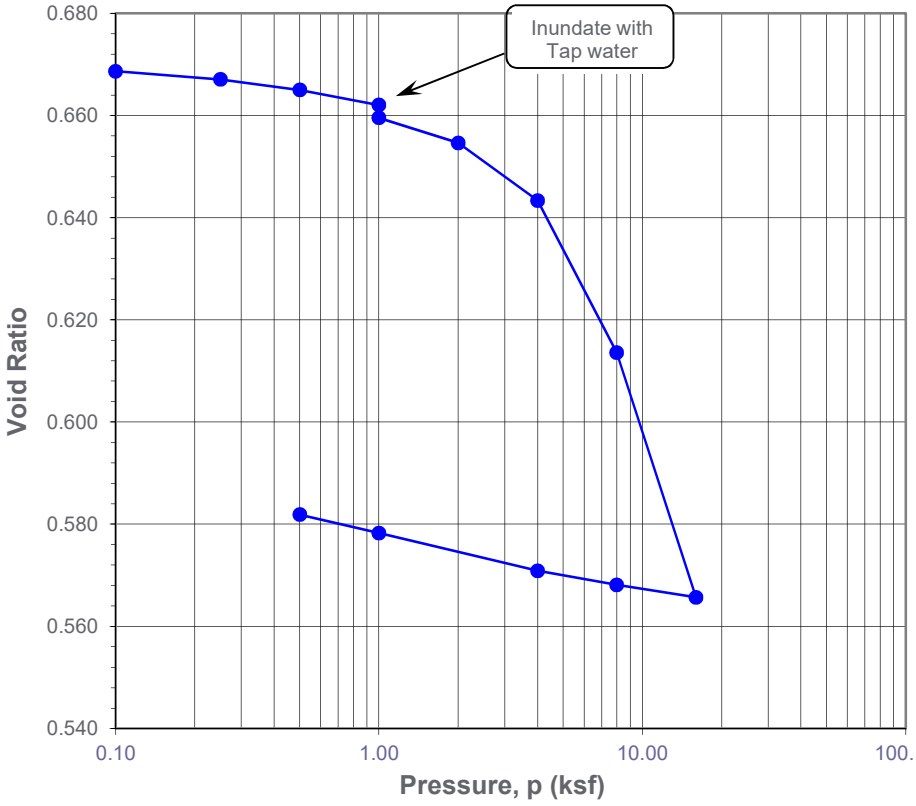
ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS

ASTM D 2435

Project Name: Ontario
Project No.: 21077-01
Boring No.: HS-2
Sample No.: R-4
Soil Identification: Olive brown silty clay (CL-ML)

Tested By: G. Bathala Date: 08/23/21
Checked By: J. Ward Date: 09/08/21
Depth (ft.): 10.0
Sample Type: Ring

Sample Diameter (in.):	2.415
Sample Thickness (in.):	1.000
Weight of Sample + ring (g):	178.02
Weight of Ring (g):	44.75
Height after consol. (in.):	0.9479
Before Test	
Wt. of Wet Sample+Cont. (g):	172.72
Wt. of Dry Sample+Cont. (g):	160.75
Weight of Container (g):	37.74
Initial Moisture Content (%)	9.7
Initial Dry Density (pcf)	101.0
Initial Saturation (%):	39
Initial Vertical Reading (in.)	0.1389
After Test	
Wt. of Wet Sample+Cont. (g):	255.49
Wt. of Dry Sample+Cont. (g):	231.52
Weight of Container (g):	66.71
Final Moisture Content (%)	19.97
Final Dry Density (pcf):	105.3
Final Saturation (%):	90
Final Vertical Reading (in.)	0.1955
Specific Gravity (assumed):	2.70
Water Density (pcf):	62.43



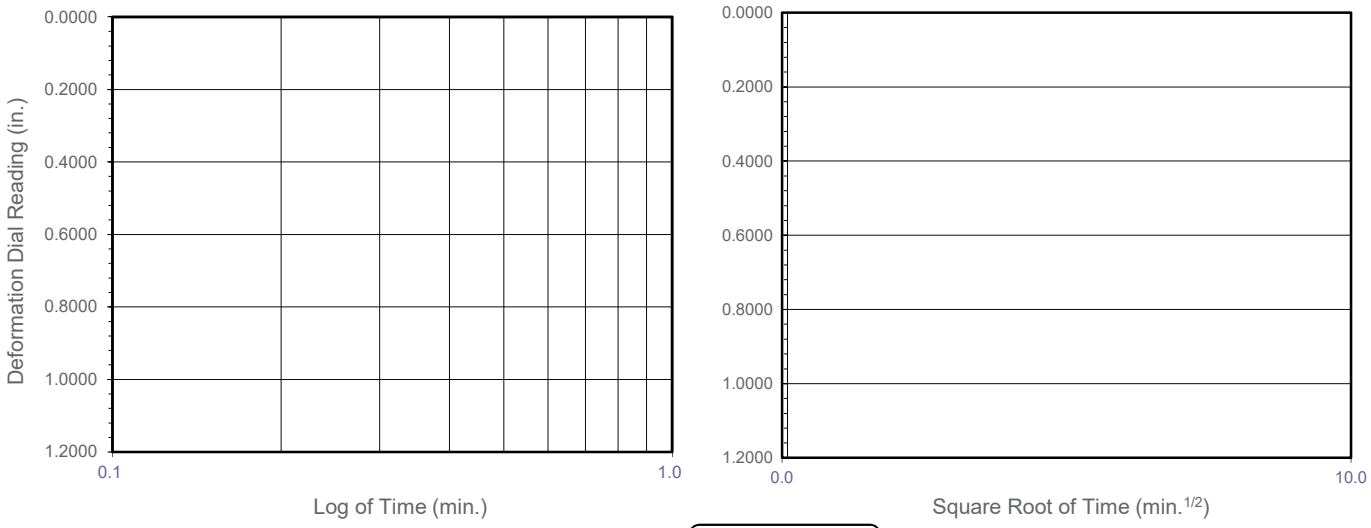
Pressure (p) (ksf)	Final Reading (in.)	Apparent Thickness (in.)	Load Compliance (%)	Deformation % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.10	0.1390	0.9999	0.00	0.01	0.669	0.01
0.25	0.1405	0.9985	0.05	0.15	0.667	0.10
0.50	0.1423	0.9966	0.11	0.34	0.665	0.23
1.00	0.1449	0.9941	0.19	0.60	0.662	0.41
1.00	0.1464	0.9926	0.19	0.74	0.660	0.55
2.00	0.1508	0.9881	0.34	1.19	0.655	0.85
4.00	0.1591	0.9799	0.49	2.02	0.643	1.53
8.00	0.1784	0.9605	0.64	3.95	0.614	3.31
16.00	0.2086	0.9303	0.79	6.97	0.566	6.18
8.00	0.2066	0.9324	0.73	6.77	0.568	6.04
4.00	0.2042	0.9347	0.66	6.53	0.571	5.87
1.00	0.1983	0.9407	0.51	5.94	0.578	5.43
0.50	0.1955	0.9434	0.45	5.66	0.582	5.21

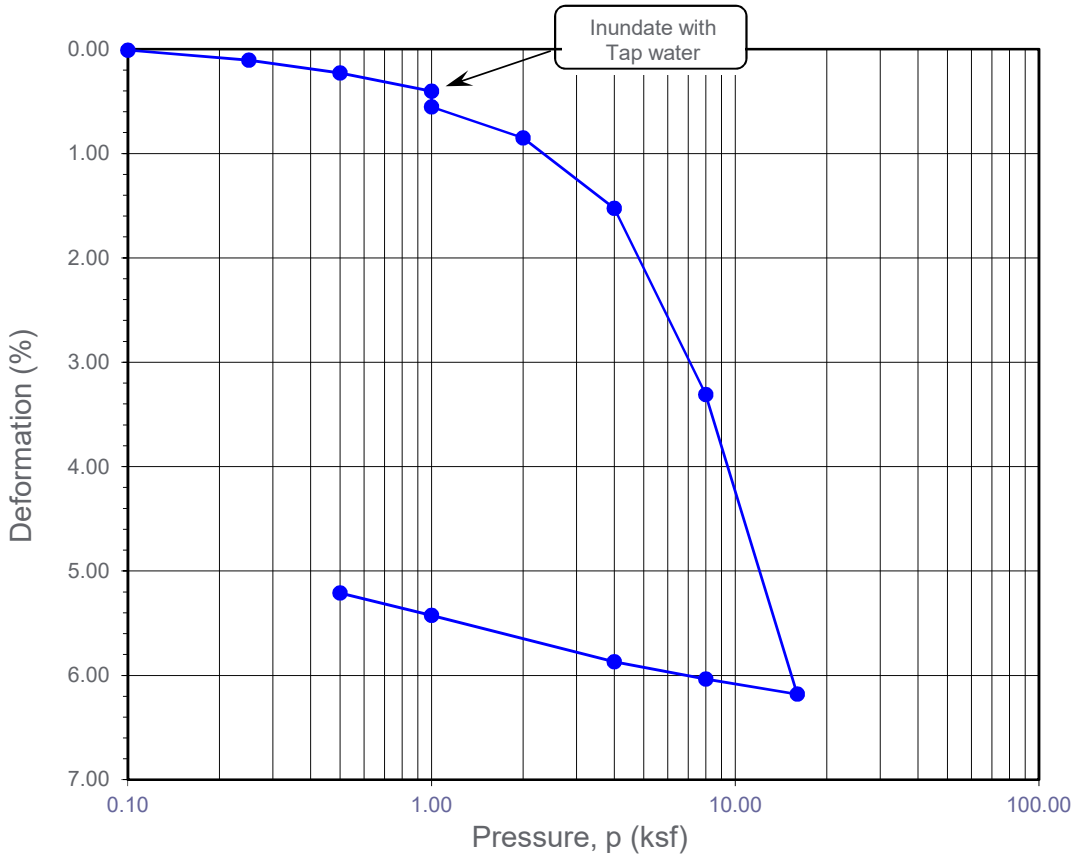
Time Readings

Date	Time	Elapsed Time (min)	Square Root of Time	Dial Rdgs. (in.)

6316

Time Readings





Boring No.	Sample No.	Depth (ft.)	Moisture Content (%)		Dry Density (pcf)		Void Ratio		Degree of Saturation (%)	
			Initial	Final	Initial	Final	Initial	Final	Initial	Final
HS-2	**R-4**	**10**	**9.7**	**20.0**	**101.0**	**105.3**	**0.669**	**0.582**	**39**	**90**

Soil Identification: Olive brown silty clay (CL-ML)

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS
ASTM D 2435

Project No.: 21077-01

Ontario

09-21

Geotechnical Boring Log Borehole HS-1

Date: 7/9/2021 | **Drilling Company:** Choice Drilling

Project Name: Richland - Hilardes | **Type of Rig:** CME 75

Project Number: 21077-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~776' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By MJG
Sampled By MJG
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
775	0	B-1						**@0' to 1.5' - <u>Undocumented Artificial Fill (afu):</u>**	MD EI CR -#200
								@1.5' to T.D. - <u>Young Eolian Deposits (Qye):</u>	
			R-1	9 10 10	103.8	6.9	SM	@2.5'- Silty SAND: brown, slightly moist, medium dense	
770	5		R-2	8 9 12	94.5	8.9	ML	@5'- Sandy SILT: dusky brown, slightly moist, very stiff	-#200
			R-3	8 8 13	99.5	9.2	SM	@7.5'- Silty SAND: dusky brown, moist, medium dense	
765	10		R-4	4 7 9	98.1	8.7	ML	@10'- SILT: olive brown, slightly moist, stiff	CN
760	15		SPT-1	3 4 4		22.2	ML	@15'- Sandy SILT: olive gray, wet, stiff	
755	20		R-5	5 9 13	82.6	39.4	ML/CL	@20'- SILT/CLAY: olive brown, wet, very stiff	
750	25		SPT-2	6 9 12		4.4	SP	@25'- SAND with Gravel: rusty brown, slightly moist, medium dense	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/9/2021

Geotechnical Boring Log Borehole HS-1

Date: 7/9/2021 | **Drilling Company:** Choice Drilling

Project Name: Richland - Hilardes | **Type of Rig:** CME 75

Project Number: 21077-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~776' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By MJG
Sampled By MJG
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
745	30		R-6	12 18 21	105.5	12.2	SM	@30'- Silty SAND: rusty olive brown, moist, dense	
740	35		SPT-3	10 11 15		13.5	SM/ML	@35'- Silty SAND/Sandy SILT: rusty brown, very moist/moist, dense/hard	
735	40		R-7	15 19 30	110.1	2.5	SP	@40'- SAND: light brown, dry, dense	
730	45		SPT-4	5 9 13		23.9	ML	@45'- Sandy SILT: dusky brown, wet, very stiff	
725	50		R-8	10 11 20	110.8	17.2	SM/ML	@50'- Silty SAND/Sandy SILT: brown, wet/very moist, medium dense/very stiff	
720	55							Total Depth = 50' Groundwater Not Encountered Backfilled with Cuttings on 7/9/2021	
	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-2

Date: 7/9/2021	**Drilling Company:** Choice Drilling
Project Name: Richland - Hilardes	**Type of Rig:** CME 75
Project Number: 21077-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~768' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 2

Logged By MJG
Sampled By MJG
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to 1.5' - <u>Undocumented Artificial Fill (afu):</u>**	-#200 EI MD RV
765			R-1	4 4 8	100.2	2.7	SM	**@1.5' to T.D. - <u>Young Eolian Deposits (Qye):</u>** @2.5'- Silty SAND: gray/brown, dry, loose	
	5	B-1	R-2	7 9 13	103.0	3.4	SM	@5'- Silty SAND: gray/brown, dry, medium dense	-#200
760			R-3	9 10 10	107.1	10.3	SM/ML	@7.5'- Silty SAND/Sandy SILT: olive brown, moist, medium dense/very stiff	
	10		R-4	10 16 18	101.0	9.7	CL-ML	@10'- Silty CLAY: olive brown, slightly moist, very stiff	CN
755									
	15		SPT-1	4 5 5		11.3	SM/ML	@15'- Silty SAND/Sandy SILT: olive gray/brown, moist, medium dense/stiff	
750									
	20		R-5	9 12 18	100.6	2.5	SM	@20'- Silty SAND: dusky gray, dry, medium dense	
745									
	25		SPT-2	9 9 12		26.5	ML	@25'- Sandy SILT: olive gray, wet, very stiff	
740									
	30								

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/9/2021

Geotechnical Boring Log Borehole HS-2

Date: 7/9/2021	**Drilling Company:** Choice Drilling
Project Name: Richland - Hilardes	**Type of Rig:** CME 75
Project Number: 21077-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~768' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By MJG
Sampled By MJG
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		R-6	9 12 15	101.2	11.5	SM/ML	@30'- Silty SAND/Sandy SILT: olive gray, moist, medium dense/very stiff	
735									
	35		SPT-3	10 12 13		7.6	SP	@35'- SAND: brown, moist, dense	
730									
	40		R-7	15 18 21	102.2	8.3	SM	@40'- Silty SAND: rusty gray/brown, moist, dense	
725									
	45		SPT-4	14 17 20		14.5	SM/ML	@45'- Silty SAND/Sandy SILT: dusky brown, very moist/moist, dense/hard	
720									
	50		R-8	12 15 19	99.9	21.3	ML	@50'- Sandy SILT: rusty gray/brown, wet, very stiff	
715								Total Depth = 50' Groundwater Not Encountered Backfilled with Cuttings on 7/9/2021	
	55								
710									
	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-3

Date: 7/9/2021	**Drilling Company:** Choice Drilling
Project Name: Richland - Hilardes	**Type of Rig:** CME 75
Project Number: 21077-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~772' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	Logged By MJG Sampled By MJG Checked By DJB DESCRIPTION	Type of Test
	0							**@0' to 1.5' - <u>Undocumented Artificial Fill (afu):</u>**	
770								**@1.5' to T.D. - <u>Young Eolian Deposits (Qye)</u>**	
			R-1	12 18 20	108.4	2.6	SM	@2.5'- Silty SAND: dusky gray, dry, medium dense	
	5		R-2	12 15 19	94.8	1.2		@5'- Silty SAND: gray, dry, medium dense	-#200
765			R-3	7 9 11	101.7	3.6		@7.5'- Silty SAND: olive brown, dry, medium dense	
	10		R-4	8 9 9	96.1	8.5		@10'- Silty SAND: dusky brown, moist, medium dense	
760									
	15		SPT-1	2 3 7		18.2	ML	@15'- Sandy SILT: gray, wet, stiff	
755									
	20		R-5	10 15 17	80.8	34.5		@20'- Sandy SILT: brown, wet, very stiff	
750									
	25		SPT-2	5 5 9		10.8	SM	@25'- Silty SAND: rusty brown, moist, medium dense	
745								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/9/2021	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/9/2021

Geotechnical Boring Log Borehole HS-4

Date: 7/9/2021 | **Drilling Company:** Choice Drilling

Project Name: Richland - Hilardes | **Type of Rig:** CME 75

Project Number: 21077-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~767' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By MJG
Sampled By MJG
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to 1.5' - <u>Undocumented Artificial Fill (afu):</u>**	
765								**@1.5' to T.D. - <u>Young Eolian Deposits (Qye):</u>**	
			R-1	9 12 18	111.9	2.1	SM	@2.5'- Silty SAND: dusky brown, dry, medium dense	
	5		R-2	5 8 9	101.4	0.9		@5'- Silty SAND: gray/brown, dry, medium dense	-#200
760			R-3	9 12 13	104.3	1.6		@7.5'- Silty SAND: dusky gray/brown, dry, medium dense	
	10		R-4	9 12 15	99.7	5.7		@10'- Silty SAND: olive brown, slightly moist, medium dense	
755									
	15		SPT-1	11 15 17		26.8	ML	@15'- Sandy SILT: olive gray, wet, hard	
750									
	20		R-5	15 19 21	116.9	10.1	SM	@20'- Silty SAND: dark olive gray, moist, dense	
745									
	25		SPT-3	5 5 7		17.8		@25'- Silty SAND: reddish brown, wet, medium dense	
740								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/9/2021	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/9/2021

Geotechnical Boring Log Borehole HS-5

Date: 7/9/2021 | **Drilling Company:** Choice Drilling

Project Name: Richland - Hilardes | **Type of Rig:** CME 75

Project Number: 21077-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~772' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By MJG
Sampled By MJG
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
770	0							**@0' to 1.5' - <u>Undocumented Artificial Fill (afu):</u>**	
								@1.5' to T.D. - <u>Young Eolian Deposits (Qye):</u>	
			R-1	6 7 7	112.9	4.9	SM	@2.5'- Silty SAND: dark gray, slightly moist, medium dense	
	5		R-2	8 12 15	109.3	8.1		@5'- Silty SAND: olive brown, moist, medium dense	-#200
765			R-3	10 10 13	106.8	6.2	SP	@7.5'- SAND: gray/brown, slightly moist, medium dense	
	10		R-4	9 10 15	101.9	4.7		@10'- SAND: gray/brown, slightly moist, medium dense	
760									
	15		SPT-1	4 4 7		16.1	SM	@15'- Silty SAND: brown, wet, medium dense	
755									
	20		R-5	16 18 25	95.3	26.0	ML	@20'- SILT: gray/brown, wet, hard	
750									
	25		SPT-2	5 8 9		12.6	SM	@25'- Silty SAND: gray/brown, moist, medium dense	
745								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/9/2021	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/9/2021

Geotechnical Boring Log Borehole HS-6

Date: 7/16/2021 | **Drilling Company:** Choice Drilling

Project Name: Richland - Hilardes | **Type of Rig:** CME 75

Project Number: 21077-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~771' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By BPP
Sampled By BPP
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
770	0	B-1	R-1	4 4 5	106.5	9.8	SM	**@0' to 2.5' - Undocumented Artificial Fill (afu):** @0'- Organics: brown **@2.5' to T.D. - Young Eolian Deposits (Qye):** @2.5'- Silty SAND: dark gray, moist, loose	-#200 EI MD
765	5		R-2	3 4 5				@5'- No Recovery	
			R-3	5 9 9	111.3	14.6		@7.5'- Silty SAND: olive brown, very moist, medium dense	
760	10		R-4	8 10 10	110.6	20.0	SM/ML	@10'- Silty SAND/Sandy SILT: dark olive brown, wet, medium dense, very stiff	
755	15		SPT-1	2 3 3		14.3	SM	@15'- Silty SAND: brown, very moist, loose	
750	20		R-5	6 9 9	101.4	18.1		@20'- SILT: gray/brown, wet, stiff	
745	25		SPT-2	2 2 3		16.4		@25'- Silty SAND/Sandy SILT: rusty gray/brown, wet/very moist, loose/medium stiff	
	30							Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/9/2021	

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/9/2021

Geotechnical Boring Log Borehole HS-7

Date: 7/16/2021 | **Drilling Company:** Choice Drilling

Project Name: Richland - Hilardes | **Type of Rig:** CME 75

Project Number: 21077-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~771' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By BPP
Sampled By BPP
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
770	0							**@0' to 2.5' - <u>Undocumented Artificial Fill (afu):</u>**	
								@0'- Organics: brown	
								@2.5' to T.D. - <u>Young Eolian Deposits (Qye)</u>	
			R-1	9 10 12	98.6	12.3	SP	@2.5'- SAND: dark gray/brown, very moist, medium dense	
765	5		R-2	3 4 4	101.2	25.3	SM	@5'- Silty SAND: olive brown, wet, loose	
			R-3	9 9 13	101.4	19.5		@7.5'- Silty SAND: olive brown, wet, medium dense	
760	10		R-4	3 3 5	99.4	23.1		@10'- Silty SAND: olive brown, wet, loose	
755	15		SPT-1	11 7 9		22.0	SM/ML	@15'- Silty SAND/Sandy SILT: olive gray, wet, medium dense/very stiff	
750	20		R-5	12 18 21	95.2	23.0	SM	@20'- Silty SAND: olive brown, wet, dense	
745	25		SPT-2	9 10 10		25.8	SP	@25'- SAND: gray/brown, wet, medium dense	
	30							Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/9/2021	

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/9/2021

Geotechnical Boring Log Borehole HS-8

Date: 7/16/2021	**Drilling Company:** Choice Drilling
Project Name: Richland - Hilardes	**Type of Rig:** CME 75
Project Number: 21077-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~768' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By BPP
Sampled By BPP
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@0' to 1.5' - Undocumented Artificial Fill (afu):**	
								@0'- Silty SAND: gray, dry	
								@1.5' to T.D. - Young Eolian Deposits (Qye):	
765			R-1	4 4 5	95.0	14.4	SP	@2.5'- SAND: gray/brown, wet, loose	
	5		R-2	5 6 9	95.7	15.7		@5'- SAND: dark gray/brown, wet, medium dense	
760			R-3	10 12 15	99.0	16.0		@7.5'- SAND with Gravel: dark gray/brown, wet, medium dense	
	10		R-4	4 4 8	82.1	28.3		@10'- SAND: brown, wet, loose	
755									
	15		SPT-1	5 7 9		7.1		@15'- SAND: gray, moist, medium dense	
750									
	20		R-5	27 50/4"	110.3	2.1		@20'- SAND: gray/brown, dry, very dense	
745									
	25		SPT-2	12 18 26		2.3		@25'- SAND with Gravel: gray/brown, dry, very dense	
740								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/9/2021	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/9/2021

Geotechnical Boring Log Borehole HS-9

Date: 7/16/2021 | **Drilling Company:** Choice Drilling

Project Name: Richland - Hilardes | **Type of Rig:** CME 75

Project Number: 21077-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~767' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By BPP
Sampled By BPP
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
765	0		R-1	3 3 5	101.2	1.4	SP	**@0' to 1.5' - Undocumented Artificial Fill (afu):** @0'- Silty SAND: gray, slightly moist **@1.5' to T.D. - Young Eolian Deposits (Qye):** @2.5'- SAND: gray, dry, loose	
	5		R-2	11 9 11	93.1	4.5	SM	@5'- Silty SAND: light gray/brown, slightly moist, medium dense	
760			R-3	8 8 12	98.4	10.7	SM/ML	@7.5'- Silty SAND/Sandy SILT: dusky brown, moist, medium dense/very stiff	
	10		R-4	9 10 15	100.4	12.4		@10'- Silty SAND/Sandy SILT: dusky brown, moist, medium dense/very stiff	
755									
	15		SPT-1	4 5 5		10.0	SM	@15'- Silty SAND: olive gray/brown, moist, medium dense	
750									
	20		R-5	5 15 19	101.7	21.2	SM/ML	@20'- Silty SAND/Sandy SILT: dark olive brown, wet, medium dense/very stiff	
745									
	25		SPT-2	3 4 4		11.1	SM	@25'- Silty SAND: rusty brown, moist, medium dense	
740								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/9/2021	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/9/2021

Geotechnical Boring Log Borehole HS-10

Date: 7/16/2021 | **Drilling Company:** Choice Drilling

Project Name: Richland - Hilardes | **Type of Rig:** CME 75

Project Number: 21077-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~769' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By BPP
Sampled By BPP
Checked By DJB

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@0' to 1.5' - Undocumented Artificial Fill (afu):**	
								@0'- Silty SAND: brown, dry	
								@1.5' to T.D. - Young Eolian Deposits (Qye):	
765			R-1	5 12 15	102.7	6.8	SM	@2.5'- Silty SAND: dusky brown, slightly moist, medium dense	
	5		R-2	12 15 19	103.9	4.6		@5'- Silty SAND: dusky gray, slightly moist, medium dense	
			R-3	8 8 12	99.4	12.5		@7.5'- Silty SAND: dusky brown, moist, medium dense	
760	10		R-4	8 10 10	95.5	14.1	SM/ML	@10'- Silty SAND/Sandy SILT: dusky brown, very moist/moist, medium dense/very stiff	
755	15		SPT-1	10 7 7		21.6	ML	@15'- Sandy SILT: olive gray, wet, very stiff	
750	20		R-5	12 18 24	96.4	3.6	SP	@20'- SAND: gray/brown, dry, dense	
745	25		SPT-2	9 9 11		5.4		@25'- SAND: gray/brown, slightly moist, medium dense	
740	30							Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/9/2021	

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

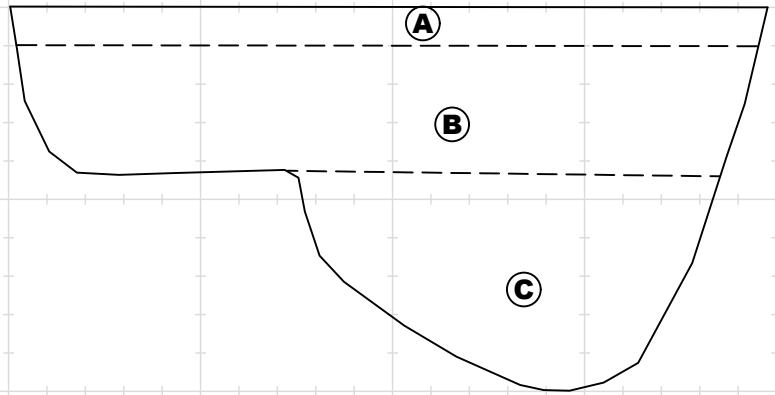
Last Edited: 9/9/2021

6330

Project Name: Richland - Hilardis	Logged By: MJG	Trench No.: TP-1	
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1.5' - Artificial Undocumented Fill (afu) @ 0' to 1.5' - Sandy SILT: light brown, dry, loose, dead vegetation and roots	afu	ML	G-1 @ 0'-1'	3.4	
	B	@ 1.5' to 4.5' - Quaternary Young Eolian Deposits (Qye) @ 1.5' to 4.5' - Sandy SILT: light gray, dry, loose to medium dense, trace rootlets	Qye		G-2 @ 1'-2'	2.1	
					G-3 @ 2'-3'	2.5	
	C	@ 4.5' to T.D. - SAND: gray, dry to slightly moist, loose/friable in some areas, "stream deposits" of slightly rounded granitic gravel, cobbles < or equal to 1" to 2" in diameter		SP	G-4 @ 3'-4'		
					B-1 @ 5'-8'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~759' MSL** **Surface Slope: 0 deg.** **Trend: N 85 E**



Total Depth: 10'
Groundwater: n/a
Backfilled: 7/20/21

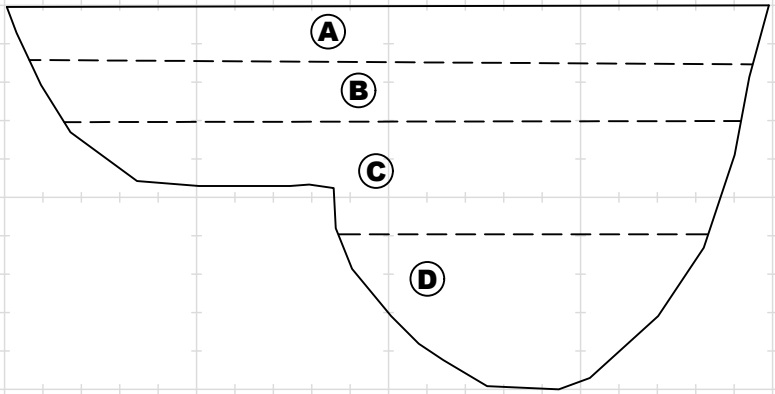
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6331

Project Name: Richland - Hilardis	Logged By: MJG	Trench No.: TP-2	
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 0' to 1.5' - Artificial Undocumented Fill (afu)					
	A	@ 0' to 1.5' - Sandy SILT: light brown, dry, loose, rootlets, dead vegetation	afu	ML	G-1 @ 0'-1'	5.0	
		@ 1.5' to T.D. - Quaternary Young Eolian Deposits (Qye)	Qye		G-2 @ 1'-2'	5.3	
	B	@ 1.5' to 2.5' - Sandy SILT: light gray, dry, loose to medium dense, minor rootlets			G-3 @ 2'-3'	2.3	
	C	@ 2.5' to 6' - SAND: gray to white, some gravel, loose/friable, dry		SP	G-4 @ 3'-4'		
	D	@ 6' to T.D - SILT: gray, slightly moist, medium dense		ML	G-5 @ 5'-6'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~762' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 10'
Groundwater: n/a
Backfilled: 7/20/21

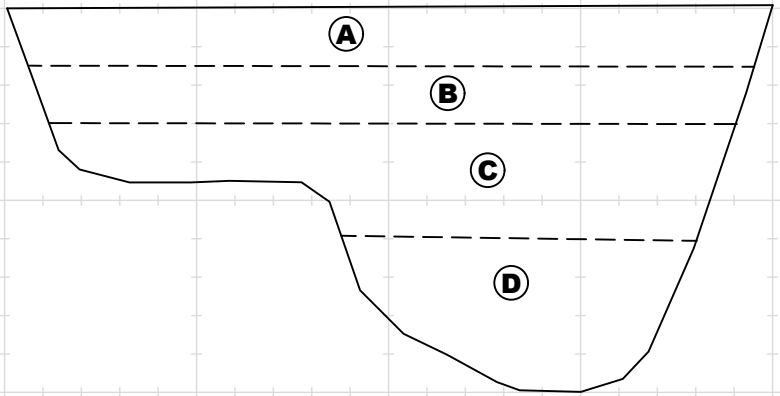
scale: 1in = 5 ft

6332

Project Name: Richland - Hilardis	Logged By: MJG	Trench No.: TP-3	
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 0' to 1.5' - Artificial Undocumented Fill (afu)	afu	ML	G-1 @ 0'-1'	8.0	
	A	@ 0' to 1.5' - Sandy SILT: light brown, dry, loose, dead vegetation/rootlets					
	B	@ 1.5' to T.D.' - Quaternary Young Eolian Deposits (Qye)	Qye		G-2 @ 1'-2'	3.5	
		@ 1.5' to 2.5' Sandy SILT: light gray, dry, medium dense, minor rootlets					
	C	@ 2.5' to 6' - SAND: light gray to white, slightly moist, medium dense, gravel/beds of gravel (1" to 2" thick bedding)/fine sand		SP	G-3 @ 2'-3'	19.5	
					G-4 @ 3'-4'		
	D	@ 6' to T.D. - SILT: light olive gray, slightly moist, medium dense		ML			

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~757' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 10'
Groundwater: n/a
Backfilled: 7/20/2021

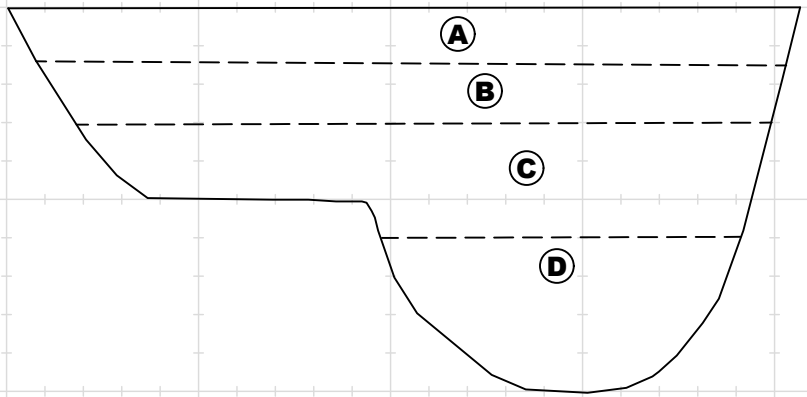
scale: 1in = 5 ft

6333

Project Name: Richland - Hilardis	Logged By: MJG	Trench No.: TP-4	
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1.5' - Artificial Undocumented Fill (afu) @ 0' to 1.5' - Sandy SILT: light brown, dry, loose, dead vegetation/rootlets	afu	ML	G-1 @ 0'-1'	7.2	
	B	@ 1.5' to T.D.' - Quaternary Young Eolian Deposits (Qye) @ 1.5' to 3' Sandy SILT: light olive gray, dry, medium dense, rootlets	Qye		G-2 @ 1'-2'	4.3	
	C	@ 3' to 6' - Fine SAND: white/light gray, dry, loose		SP	G-3 @ 2'-3'		
	D	@ 6' to T.D. - SILT: gray/olive gray, slightly moist, medium dense		ML	G-4 @ 3'-4'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~759' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 10'
Groundwater: n/a
Backfilled: 7/20/21

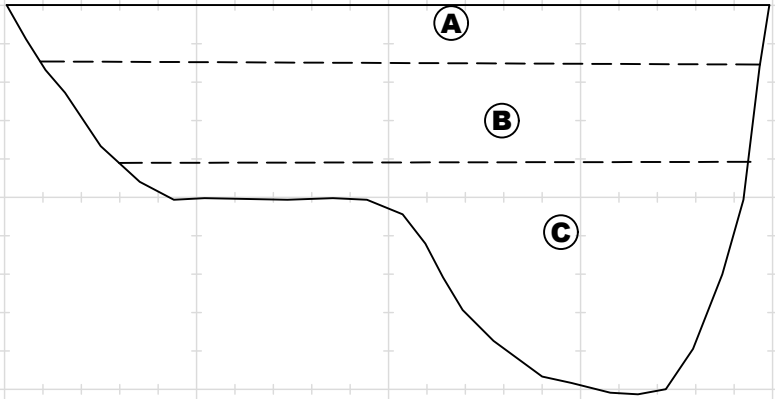
scale: 1in = 5 ft

6334

Project Name: Richland - Hilardis	Logged By: MJG	Trench No.: TP-5	
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1.5' - Artificial Undocumented Fill (afu) @ 0' to 1.5' Sandy SILT: light brown, dry, loose, dead vegetation/roots	afu	ML	G-1 @ 0'-1'	11.9	
	B	@ 1.5' to T.D. - Quaternary Young Eolian Deposits (Qye) @ 1.5' to 4' - Fine SAND: gray/white, loose, dry	Qye	SP	G-2 @ 2'-3'	2.3	
	C	@ 4' to T.D. - SILT: white grade to a dark gray, slightly moist, meidum dense		ML	G-3 @ 3'-4'	3.8	

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~755' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 10'
Groundwater: n/a
Backfilled: 7/20/21

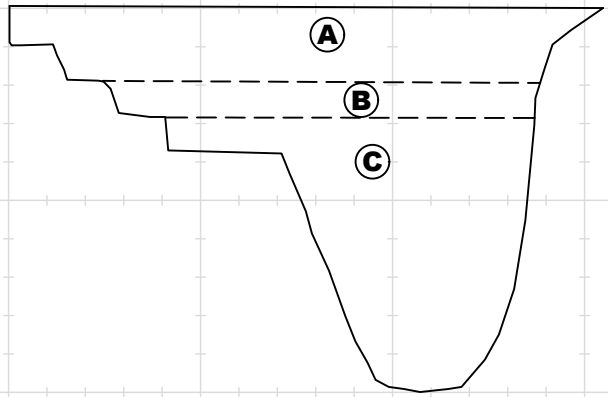
scale: 1in = 5 ft

6335

Project Name: Richland - Hilardis	Logged By: MJG	Trench No.: TP-6	
Project Number: 21077-01	Date: 7/22/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1.5' - Artificial Undocumented Fill (afu) @ 0.5' to 1' - Puffy grass followed by loose organics, looks like old manure, soil is dark brown, heavy vegetation/roots	afu	ML	G-1 @ 0'-1'	39.8	
		@ 1.5' to T.D. - Quaternary Young Eolian Deposits (Qye)	Qye		G-2 @ 1'-2'	21.9	
	B	@ 1' to 2' - Sandy SILT: light brown, loose to medium dense, slightly moist to dry, rootlets			G-3 @ 2'-3'	7.5	
	C	@ 2' to T.D. - Sandy SILT: olive gray, slightly moist, medium dense, increase in sand content			G-4 @ 3'-4'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~761' MSL** **Surface Slope: 0 deg.** **Trend: N25E**



Total Depth: 10'
Groundwater: n/a
Backfilled: 7/22/21

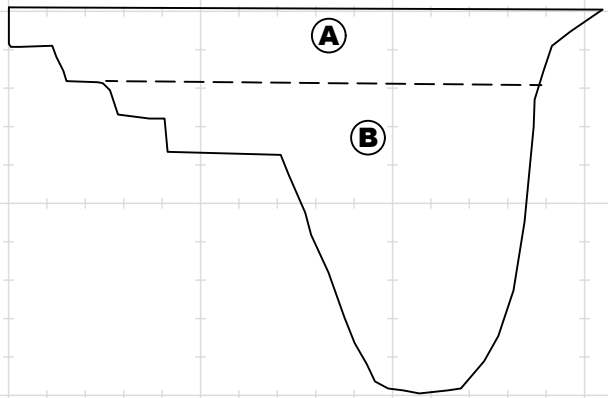
scale: 1in = 5 ft

6336

Project Name: Richland - Hilardis	Logged By: MJG	Trench No.: TP-7	
Project Number: 21077-01	Date: 7/22/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 0' to 1.5' - Artificial Undocumented Fill (afu)					
	A	@ 0' to 1.5' Cow Manure: some dark brown Silt, loose, slightly moist, some vegetation	afu	ML	G-1 @ 0'-1'	149.2	
		@ 1.5' to T.D. - Quaternary Young Eolian Deposits (Qye)			G-2 @ 1'-2'	43.5	
	B	@ 1.5' to T.D. - Sandy SILT: olive gray, moist, medium dense	Qye		G-3 @ 2'-3'	30.0	
					G-4 @ 3'-4'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~759' MSL** **Surface Slope: 0 deg.** **Trend: N51E**



Total Depth: 10'
Groundwater: n/a
Backfilled: 7/22/21

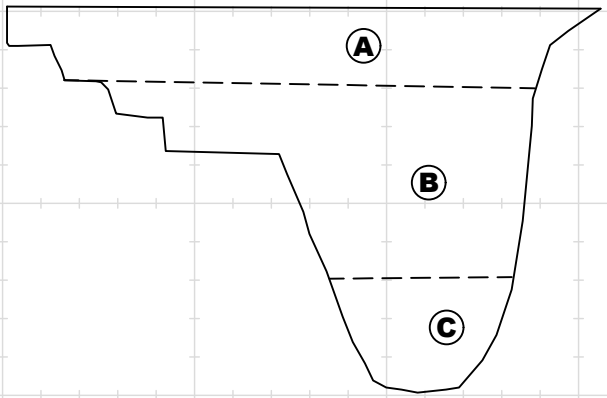
scale: 1in = 5 ft

6337

Project Name: Richland - Hilardis	Logged By: MJG	Trench No.: TP-9	
Project Number: 21077-01	Date:7/22/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1.5' - Artificial Undocumented Fill (afu) @ 0' to 1.5' - Cow Manure: some dark brown Silt, loose, very moist @ 1.5' to T.D. - Quaternary Young Eolian Deposits (Qye)	afu	ML	G-1 @ 0'-1'	123.2	
	B	@ 1.5' to 7' - Sandy SILT to Silty SAND - dark gray, moist grades to slightly moist at depth, medium dense	Qye		G-2 @ 1'-2'	32.7	
	C	@ 7' to T.D. - SILT (Visual Inspection): light gray/brown, slightly moist, medium dense			G-3 @ 2'-3'	26.0	
					G-4 @ 3'-4'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~763' MSL** **Surface Slope: 0 deg.** **Trend: S70W**



Total Depth: 10'
Groundwater: n/a
Backfilled: 7/22/21

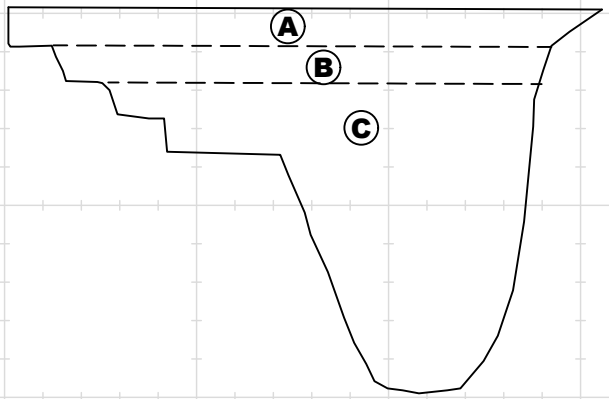
scale: 1in = 5 ft

6338

Project Name: Richland - Hilardis	Logged By: MJG	Trench No.: TP-10	
Project Number: 21077-01	Date: 7/22/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1' - Artificial Undocumented Fill (afu) @ 0' to 1' - Cow Manure: dark brown, slightly moist, loose	afu		G-1 @0-1'	114.9	
	B	@ 1' to T.D. - Quaternary Young Eolian Deposits (Qye) @ 1' to 2' - Sandy SILT: olive gray with slight brown mottle, loose, slightly moist	Qye	ML	G-2 @1-2'	30.2	
	C	@ 2' to T.D. - Sandy SILT: olive gray, slightly moist, medium dense			G-3 @2-3'	23.7	

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~761' MSL** **Surface Slope: 0 deg.** **Trend: N20E**



Total Depth: 10'
Groundwater: n/a
Backfilled: 7/22/21

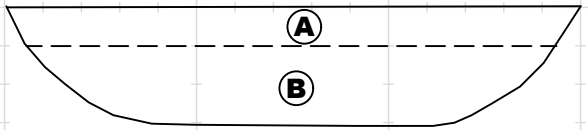
scale: 1in = 5 ft

6339

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-1	
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1' - Artificial Undocumented Fill (afu) @ 0' to 1' - Sandy SILT: light brown, dry, loose, rootlets and dead vegetation	afu	ML	G-1 @ 0'-1'	2.2	
		@ 1' to 3' - Quaternary Young Eolian Deposits (Qye)			G-2 @ 1'-2'	3.2	
	B	@ 1' to 3' - Sandy SILT: light olive gray/tan, loose to medium dense, trace rootlets	Qye		G-3 @ 2'-3'	2.4	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 762' MSL** **Surface Slope: 0 deg.** **Trend: N60W**



Total Depth: 3'
Groundwater: N/A
Backfilled: 7/20/21

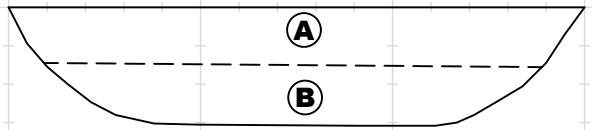
scale: 1in = 5 ft

6340

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-2
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1.5' - Artificial Undocumented Fill (afu) @ 0' to 1.5' - Sandy SILT: light brown, dry, loose, some dead vegetation, rootlets	afu	ML	G-1 @ 0'-1'	7.2	
	B	@ 1.5' to 3' - Quaternary Young Eolian Deposits (Qye) @ 1.5' to 3' - Sandy SILT: light gray/brown, dry, loose to medium dense, minor rootlets	Qye		G-2 @ 1'-2' G-3 @ 2'-3'	3.1 0.6	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 758' MSL** **Surface Slope: 0 deg.** **Trend: S80W**



Total Depth: 3'
Groundwater: N/A
Backfilled: 7/20/21

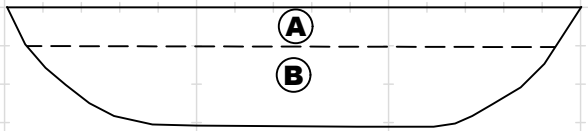
scale: 1in = 5 ft

6341

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-3
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1' - Artificial Undocumented Fill (afu) @ 0' to 1' - SILT with Sand: light brown, dry, loose, dead vegetations and rootlets	afu	ML	G-1 @ 0'-1'	5.7	
	B	@ 1' to 3' - Quaternary Young Eolian Deposits (Qye) @ 1' to 3' - SILT: light brown, gray, slightly moist, loose to medium dense, disturbed/bioturbation	Qye		G-2 @ 1'-2 G-3 @ 2'-3'	11 12.4	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 762' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 3'
Groundwater: n/a
Backfilled: 7/20/21

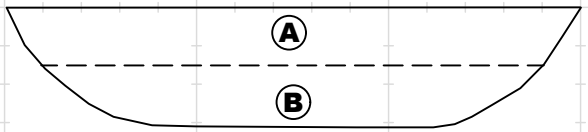
scale: 1in = 5 ft

6342

Project Name: Richard- Hilardes	Logged By: MJG	Trench No.: OTP-4	
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1.5' - Artificial Undocumented Fill (afu) @ 0' to 1.5' - Sandy SILT: light brown, dry, loose, dead vegetation	afu	ML	G-1 @ 0'-1'	6.9	
		@ 1.5' to 3' - Quaternary Young Eolian Deposits (Qye)			G-2 @ 1'-2'	3.9	
	B	@ 1.5' to 3' - Sandy SILT: light gray, dry, loose to medium dense	Qye		G-3 @ 2'-3'	1.7	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 759' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 3'
Groundwater: n/a
Backfilled: 7/20/21

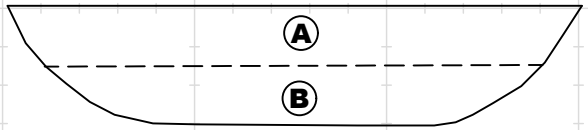
scale: 1in = 5 ft

6343

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-5	
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1.5' - Artificial Undocumented Fill (afu)	afu	ML	G-1 @ 0'-1'	7.9	
		@ 0' to 1.5' - Sandy SILT: light brown, dry, loose, roots and dead vegetation, plastic trash					
		@ 1.5' to 3' - Quaternary Young Eolian Deposits (Qye)	Qye		G-2 @ 1'-2'	3.7	
	B	@ 1.5' to 3' - Sandy SILT: light gray, dry, medium dense, some rootlets, clean			G-3 @ 2'-3'	2.4	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 758' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 3'
Groundwater: n/a
Backfilled: 7/20/21

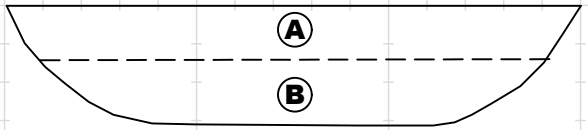
scale: 1in = 5 ft

6344

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-6	
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1.5' - Artificial Undocumented Fill (afu) @ 0' to 1.5' - Sandy SILT: light gray to dark brown, dry, loose, dead vegetation and rootlets	afu	ML	G-1 @ 0'-1'	4.9	- -
	B	@ 1.5' to 3' - Quaternary Young Eolian Deposits (Qye) @ 1.5' to 3' - Silty SAND: light olive gray, slightly moist, medium dense	Qye		G-2 @ 1'-2' G-3 @ 2'-3'	4.0 6	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 755' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 3'
Groundwater: n/a
Backfilled: 7/20/21

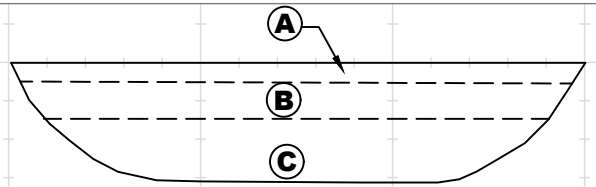
scale: 1in = 5 ft

6345

Project Name: Richard- Hilardes	Logged By: MJG	Trench No.: OTP-7	
Project Number: 21077-01	Date: 7/20/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 0' to 1.5' - Artificial Undocumented Fill (afu)	afu	SM			
	A	@ 0' to 0.5' - Cow Dung			G-1 @0-1'	1.3	
	B	@ 0.5' to 1.5' Silty SAND: light brown, dry, loose			G-1 @1-2'	2.2	
		@ 1.5' to 3' - Quaternary Young Eolian Deposits (Qye)					
	C	@ 1.5' to 3' - Silty SAND: olive gray, slightly moist, medium dense	Qye		G-1 @2-3'	8.9	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 760' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 3'
Groundwater: n/a
Backfilled: 7/20/21

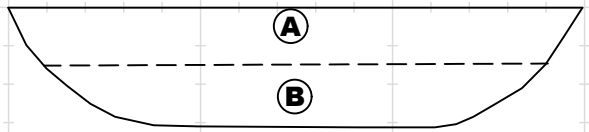
scale: 1in = 5 ft

6346

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-8	
Project Number: 21077-01	Date: 7/22/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0 to 1.5' - Artificial Undocumented Fill (afu) @ 0 to 1.5' - Organics grading into Silty SAND: light gray/brown, cow manure and dead vegetation	afu	ML	G-1 @ 0'-1'	18.3	
					G-2 @ 1'-2'	14.2	
		@ 1.5' to 3' - Quaternary Young Eolian Deposits (Qye)	Qye				
	B	@ 1.5' to 3' - Sandy SILT: gray, dry, medium dense			G-3 @ 2'-3'	7.8	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 762' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 3'
Groundwater: n/a
Backfilled: 7/22/21

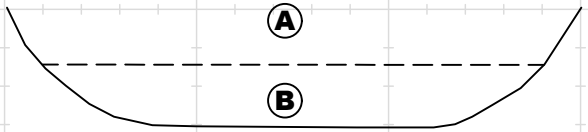
scale: 1in = 5 ft

6347

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-9	
Project Number: 21077-01	Date: 7/22/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1.5' - Artificial Undocumented Fill (afu) @ 0' to 1.5' - Sandy SILT: light brown, dry, loose, dead vegetation and rootlets	afu	SM	G-1 @ 0'-1'	3.2	
	B	@ 1.5' to 3' - Quaternary Young Eolian Deposits (Qye) @ 1.5' to 3' - Silty SAND to SILT: light gray, dry, medium dense	Qye		G-2 @ 1'-2' G-3 @ 2'-3'	2.8 3.0	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 757' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 3'
Groundwater: n/a
Backfilled: 7/22/21

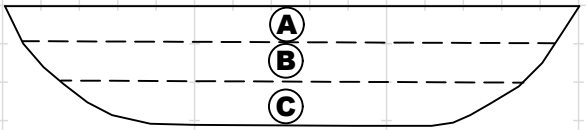
scale: 1in = 5 ft

6348

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-10
Project Number: 21077-01	Date: 7/22/2021	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1' - Artificial Undocumented Fill (afu) @ 0' to 1' - SILT: brown, loose, slightly moist, very high organics (cow manure) content	afu	ML	G-1 @ 0'-1'	71.9	
	B	@ 1' to 2' Sandy SILT: light brown, slightly moist, medium dense to loose		SM	G-2 @ 1'-2'	33.8	
	C	@ 2' to 3' - Quaternary Young Eolian Deposits (Qye) @ 2' to 3' - Silty SAND: olive gray, slightly moist, medium dense to loose	Qye		G-3 @ 2'-3'	11.0	
					B-1 @ 1'-3'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: 760' MSL** **Surface Slope: 0 deg.** **Trend: S70E**



Total Depth: 3'
Groundwater: n/a
Backfilled: 7/22/21

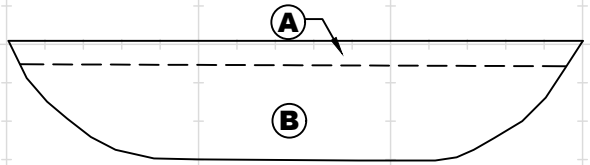
scale: 1in = 5 ft

6349

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-11
Project Number: 21077-01	Date: 7/22/2021	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 0.5' - Artificial Undocumented Fill (afu) @ 0' to 0.5' - Silty SAND with Organics: light brown to gray, dry, loose, dead vegetation and cow manure	afu	SM	G-1 @ 0'-1'	4.0	
	B	@ 0.5' to 3' - Quaternary Young Eolian Deposits (Qye) @ 0.5' to 3' - Silty SAND: gray, dry, medium dense, clean overall, trace rootlets	Qye		G-2 @ 1'-2' G-3 @ 2'-3'	4.4 2.6	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 760' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 3'
Groundwater: n/a
Backfilled: 7/22/21

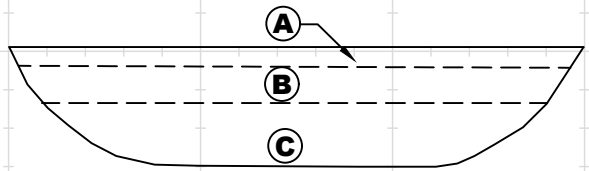
scale: 1in = 5 ft

6350

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-12
Project Number: 21077-01	Date: 7/22/2021	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1' - Artificial Undocumented Fill (afu) @ 0' to 1' - Cow Manure (Organics): loose, slightlly moist, some dead vegetation and roots	afu		G-1 @ 0'-1'	90.5	
	B	@ 1' to 2' - Quaternary Young Eolian Deposits (Qye) @ 1' to 2' - Sandy SILT: light brown/gray, slightly moist, medium dense to loose, roots	Qye	SM	G-2 @ 1'-2'	26.6	
	C	@ 2' to 3' - SILT: olive gray, slightly moist, medium dense		ML	G-3 @ 2'-3'	28.5	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 761' MSL** **Surface Slope: 0 deg.** **Trend: N65E**



Total Depth: 3'
Groundwater: n/a
Backfilled: 7/22/21

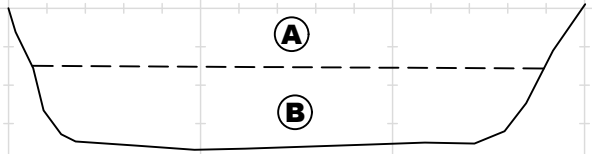
scale: 1in = 5 ft

6351

Project Name: Richard - Hilardes	Logged By: MJG	Trench No.: OTP-13	
Project Number: 21077-01	Date: 7/22/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 0 to 1.5' Artificial Undocumented Fill (afu)	afu				
	A	@ 0 to 1.5' Silty SAND with Gravel - light gray/brown, dry, medium dense		SM	G-1 @ 0'-1'	1.4	
		@ 1.5' to 3.5' - Quaternary Young Eolian Deposits (Qye)	Qye		G-2 @ 1'-2'	5.2	
	B	@ 1.5' to 3.5' - Silty SAND: light gray, dry to slightly moist, clean overall			G-3 @ 2'-3'	4.6	

GRAPHICAL REPRESENTATION BELOW: **Elevation: 762' MSL** **Surface Slope: 0 deg.** **Trend: N05W**



Total Depth: 3.5'
Groundwater: n/a
Backfilled: 7/22/21

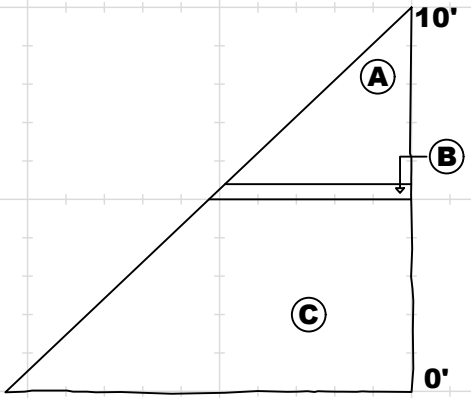
scale: 1in = 5 ft

6352

Project Name: Hilardes	Logged By: MJG	Trench No.: TP-1B	
Project Number: 21077-01	Date: 10/7/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 10' to 0' - Artificial Fill (Af)	Af				
	C	@ 10' to 6.5' - Silty SAND: light gray, some gravel, 0' is approximate ground surface, 10' is approximate top of stockpile		SM	G-1 @ 8-7'		
	B	@ 6.5' to 5 ' - Manure/mulch decayed organics, dark brown, woodchips, hay & gravel		OL			
	A	@ 5' to 0' - Silty SAND: gray overall, slightly moist to dry, loose, misc gravel, woodchips & trash, gray to light brown		SM	G-2 @ 5-4'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~780' MSL** **Surface Slope: 35 deg.** **Trend: N22E**



Total Depth: 10'
Groundwater: n/a
Backfilled: 10/7/21

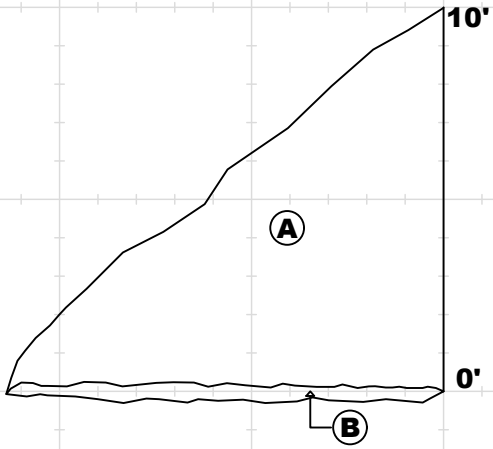
scale: 1in = 5 ft

6353

Project Name: Hilardes	Logged By: MJG	Trench No.: TP-2B	
Project Number: 21077-01	Date: 10/7/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 10' to 0' - Artificial Fill (Af)	Af				
	A	@ 10' to 0' - SAND: yellow-light brown, dry, loose, gravel		SP	G-1 @ 6-5'		
	B	@ 0' - Sandy SILT: light brown/gray, traces of manure, dry, loose		SM	G-2 @ 0'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~775' MSL** **Surface Slope: 35 deg.** **Trend: N85E**



Total Depth: 10'
Groundwater: n/a
Backfilled: 10/7/21

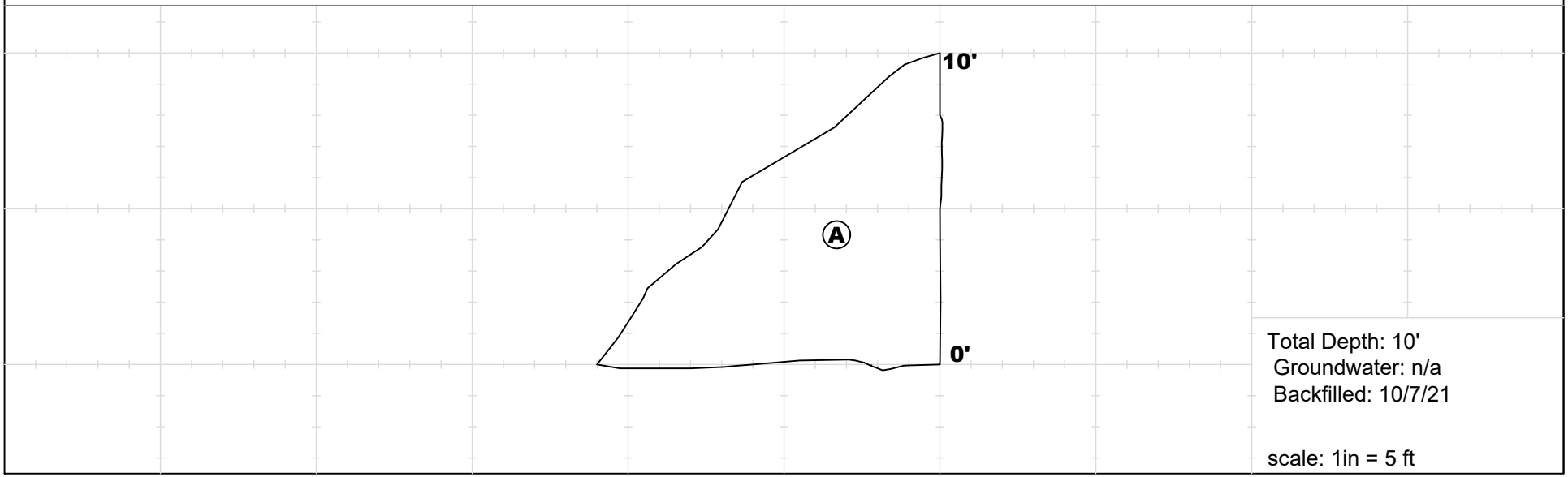
scale: 1in = 5 ft

6354

Project Name: Hilardes	Logged By: MJG	Trench No.: TP-3B	
Project Number: 21077-01	Date: 10/7/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 10' to 0' - Artificial Fill (Af)	Af				
	A	@ 10' to 0' - Mixed Silty SAND (dark brown) & Clay (dark gray to light gray) slightly moist overall, gravel throughout		SM	G-1 @ 6-5' G-2 @ 3-2' G-3 @ 0'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~780' MSL** **Surface Slope: 35 deg.** **Trend: S20W**

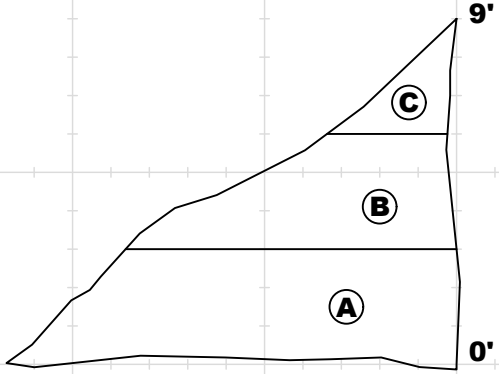


6355

Project Name: Hilardes	Logged By: MJG	Trench No.: TP-4B	
Project Number: 21077-01	Date: 10/7/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 9' to 0' - Artificial Fill (Af)	Af				
	C	@ 9' to 6' - CLAY: dark brown, ground surface		CL	G-1 @ 6-5'		
	B	@ 6' to 3' - SILT: gray, slightly moist, layer of pure silt		ML			
	A	@ 3' to 0' - Silty SAND: Grades (top to bottom) gray, gray brown, red brown, slightly moist to dry		SM	G-2 @ 3-2' G-3 @ 0'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~775' MSL** **Surface Slope: 45 deg.** **Trend: N85E**



Total Depth: 9'
Groundwater: n/a
Backfilled: 10/7/21

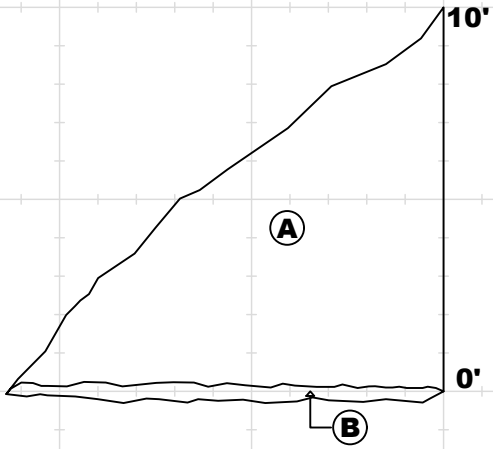
scale: 1in = 5 ft

6356

Project Name: Hilardes	Logged By: MJG	Trench No.: TP-5B	
Project Number: 21077-01	Date: 10/7/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 10' to 0' - Artificial Fill (Af)	Af				
	A	@ 10' to 0' - Pure cow manure		OL			
	B	@ 0' - SILT: gray, moist, directly below manure pile		ML	G-1 @ 0'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~780' MSL** **Surface Slope: 45 deg.** **Trend: N5W**



Total Depth: 10'
Groundwater: n/a
Backfilled: 10/7/21

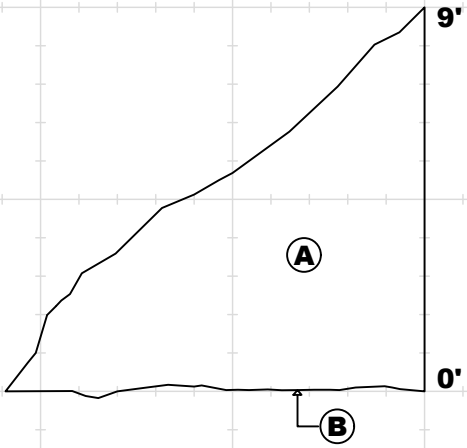
scale: 1in = 5 ft

6357

Project Name: Hilardes	Logged By: MJG	Trench No.: TP-6B	
Project Number: 21077-01	Date: 10/7/2021	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 9' to 0' - Artificial Fill (Af)	Af				
	A	@ 9' to 0' - Silty SAND: tan overall, some gray & brown patches, dry, loose		SM	G-1 @ 5-4'		
	B	@ 0' - Silty SAND, light gray, dry, below stockpile			G-2 @ 0'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~775' MSL** **Surface Slope: 35 deg.** **Trend: E-W**



Total Depth: 9'
Groundwater: n/a
Backfilled: 10/7/21

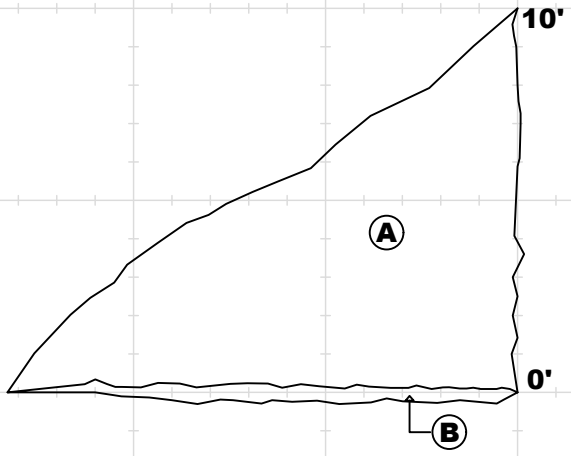
scale: 1in = 5 ft

6358

Project Name: Hilardes	Logged By: MJG	Trench No.: TP-7B	
Project Number: 21077-01	Date: 10/7/2021	Engineering Properties:	
Equipment: Backhoes	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 10' to 0' - Artificial Fill (Af)	Af				
	A	@ 10' to 0' - Silty SAND with gravel: light tan overall with some gray patches & brown patches		SM	G-1@ 6-5'		
	B	@ 0' - SILT: gray, dry, below stockpile		ML	G-2@ 3-2'		
					G-3@ 0'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: ~780' MSL** **Surface Slope: 35 deg.** **Trend: S65E**

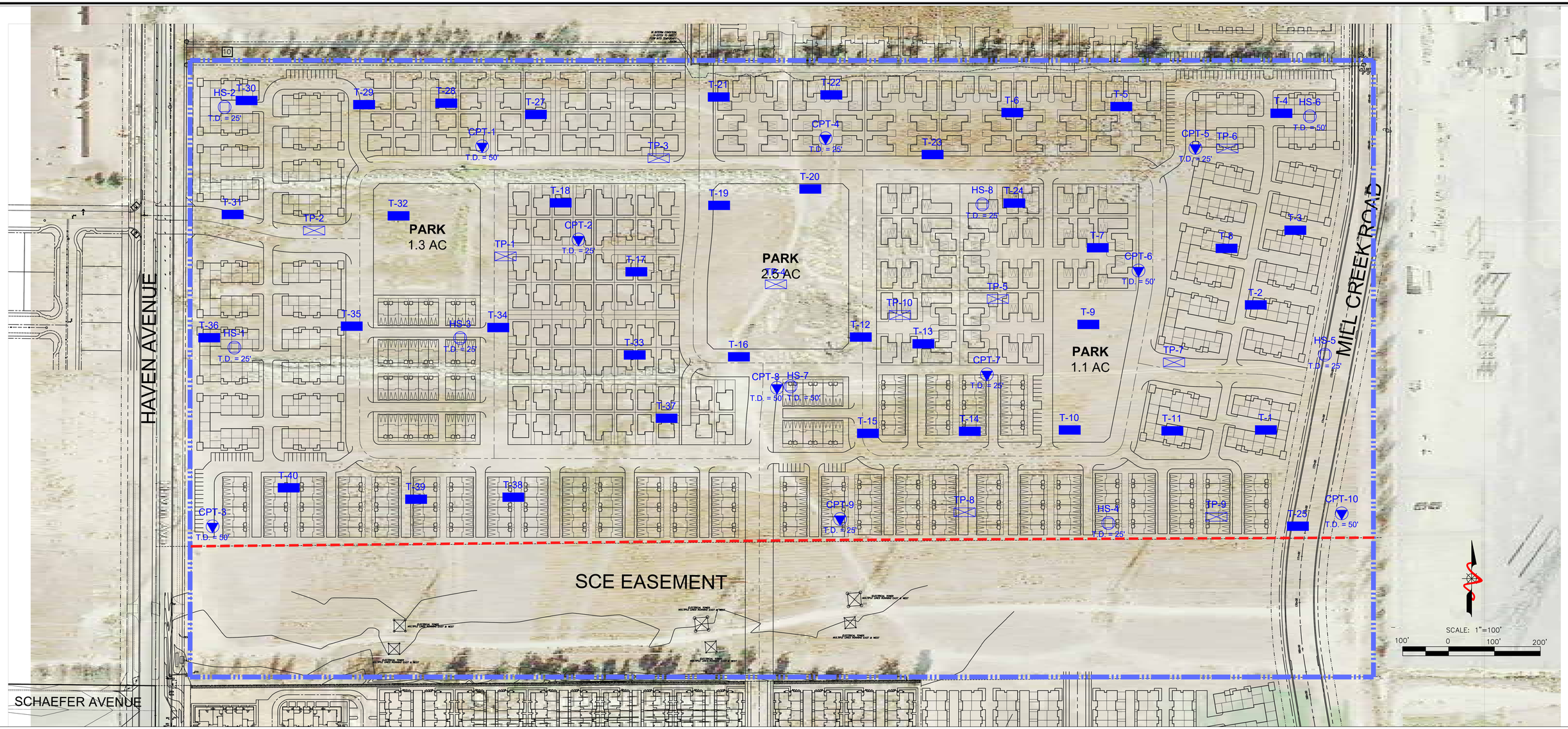


Total Depth: 10'
Groundwater: n/a
Backfilled: 10/7/21

scale: 1in = 5 ft

Appendix C
Geotechnical Subsurface Evaluation Data – Vander Eyk (17074-01)

6360



LEGEND

HS-8 (T.D. = 50')	*Approximate Location of Hollow Stem Boring, With Total Depth in Feet*
CPT-10 (T.D. = 50')	*Approximate Location of Cone Penetration Test (CPT) With Total Depth in Feet*
TP-10	*Approximate Location of Geotechnical Trenches*
T-39	*Approximate Location of Trenches*
	Approximate SCE Easement Boundary
	Approximate Limits of This Project

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. A
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Geotechnical Exploration Location Map

CLIENT:
Richland Communities, Inc.
3161 Michelson Drive, Suite 425
Irvine, CA 92626

PROJECT NAME	Richland - VanderEyk
PROJECT NO.	17074-01
ENG. / GEOL.	RLD/KTM
SCALE	1" = 100'
DATE	August 2017

SHEET 1 of 2



LEGEND

TP-10 / 0' — *Approximate Location of Geotechnical Trenches with Estimated Minimum Depth of Manure to be Removed, in Feet*

T-39 / 1.2' — *Approximate Location of Trenches with Estimated Minimum Depth of Manure to be Removed, in Feet*

Approximate SCE Easement Boundary

Approximate Location of Waste Water Pond Requiring Additional Organic Haul-Off (Removal Depths Estimated to be 5 feet)

Approximate Limits of This Project

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. A
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Recommended Organics Removal Map

CLIENT:
Richland Communities, Inc.
3161 Michelson Drive, Suite 425
Irvine, CA 92626

PROJECT NAME	Richland - VanderEyk
PROJECT NO.	17074-01
ENG. / GEOL.	RLD/KTM
SCALE	1" = 100'
DATE	August 2017

SHEET 2 of 2

APPENDIX C

Laboratory Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the site soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on driven samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Fines Content: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140). Where applicable, the portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D6913 (sieve).

Sample Location	Description	% Passing # 200 Sieve
HS-3 @ 7.5 ft	Silty Sand	37
HS-4 @ 5 ft	Silty Sand	29
HS-8 @ 10 ft	Sandy Silt	65

Atterberg Limits: The liquid and plastic limits ("Atterberg Limits") were determined per ASTM D4318 for engineering classification of fine-grained material and presented in the table below. The USCS soil classification indicated in the table below is based on the portion of sample passing the No. 40 sieve and may not necessarily be representative of the entire sample. The plot is provided in this Appendix.

Sample Location	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	USCS Soil Classification
HS-7 @ 15 ft	NP	NP	NP	ML

Consolidation: A consolidation test was performed per ASTM D2435. Sample (2.4 inches in diameter and 1-inch in height) was placed in a consolidometer and increasing loads were applied. The sample was allowed to consolidate under "double drainage" and total deformation for each loading step was

recorded. The percent consolidation for each load step was recorded as the ratio of the amount of vertical compression to the original sample height. The consolidation pressure curve is provided in this Appendix.

Collapse/Swell Potential: Collapse tests were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The curves are presented in this Appendix.

Direct Shear: A direct shear test was performed on a driven sample. The ring samples were soaked for a minimum of 24 hours prior to testing. The samples were tested under various normal loads using a motor-driven, strain-controlled, direct-shear testing apparatus (ASTM D3080). The plot is provided in this Appendix.

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results of these tests are presented in the table below:

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-3 @ 2.5-5 ft	Sand with Silt	123.5	8.5
HS-4 @ 2.5-5 ft	Silty Sand	118.5	9.0

Expansion Index: The expansion potential of selected representative samples was evaluated by the Expansion Index Test per ASTM D4829.

Sample Location	Expansion Index	Expansion Potential*
HS-3 @ 2.5-5 ft	2	Very Low
HS-4 @ 2.5-5 ft	1	Very Low
HS-6 @ 2.5-5 ft	0	Very Low

* Per ASTM D4829

Soluble Sulfates: The soluble sulfate content of select samples was determined by standard geochemical methods (CTM 417). The test results are presented in the table below.

Sample Location	Sulfate Content, %
HS-3 @ 2.5-5 ft	< 0.02
HS-4 @ 2.5-5 ft	< 0.02

Chloride Content: Chloride content was tested per CTM 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-3 @ 2.5-5 ft	544
HS-4 @ 2.5-5 ft	104

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-3 @ 2.5-5 ft	7.8	190
HS-4 @ 2.5-5 ft	6.3	737

TP-1 (0')*	
Depth (ft)	% Organics
0.8'	0.9
1.2'	0.6
2'	0.8

TP-2 (0')*	
Depth (ft)	% Organics
0.8'	2.2
1.2'	0.4
2'	0.4

TP-3 (0')*	
Depth (ft)	% Organics
1'	4.2
1.5'	2.0
2.2'	0.4

TP-4 (0')*	
Depth (ft)	% Organics
1'	0.6
2'	0.6
3'	0.3

TP-5 (0.8')*	
Depth (ft)	% Organics
0.8'	9.8
1.2'	0.6
2'	0.5

TP-6 (1')*	
Depth (ft)	% Organics
0.8'	15.8
1.2'	0.6
2.2'	0.6

TP-7 (1')	
Depth (ft)	% Organics
0.8'	13.7
1.2'	0.9
2.2'	0.4

TP-8 (1.2')	
Depth (ft)	% Organics
0.8'	10.8
1.2'	3.9
2.2'	0.9

TP-9 (0')*	
Depth (ft)	% Organics
1'	3.8
1.5'	0.7
2.5'	0.5

TP-10 (0')*	
Depth (ft)	% Organics
0.5'	1.5
1.2'	1.0

T-1 (1.2')*	
Depth (ft)	% Organics
0.8'	6.0
1.5'	0.9
2'	0.4

T-2 (1.5')*	
Depth (ft)	% Organics
1.2'	10.1
1.8'	2.0
2.2'	1.1

T-3 (1')*	
Depth (ft)	% Organics
0.8'	11.4
1.2'	1.3
2.2	0.8

T-4 (1')*	
Depth (ft)	% Organics
1'	20.7
1.5'	1.4
2.5'	0.5

T-5 (1.2')*	
Depth (ft)	% Organics
0.8'	6.8
1.5'	0.3

T-6 (0.8')*	
Depth (ft)	% Organics
0.8'	9.4
1.5'	0.7
2.5'	0.5

T-7 (1')*	
Depth (ft)	% Organics
0.8'	9.9
1.2'	0.3
2'	0.4

T-8 (0.8')*	
Depth (ft)	% Organics
0.8'	7.0
1.2'	0.3

T-9 (1')*	
Depth (ft)	% Organics
0.8'	8.0
1.5'	0.3
2.5'	0.3

T-10 (0.8')*	
Depth (ft)	% Organics
0.8'	13.5
1.2'	1.5
2.0	1.1

T-11 (0.8')*	
Depth (ft)	% Organics
0.8'	13.3
1.2'	1.1
2'	0.5

T-12 (0')*	
Depth (ft)	% Organics
0.5'	0.7
1.2'	0.4
2'	0.4

T-13 (0')*	
Depth (ft)	% Organics
0.5'	0.7
1'	0.5
1.5'	0.5

T-14 (1.5')*	
Depth (ft)	% Organics
1'	9.3
1.8'	1.1
2.2'	0.8

T-15 (1')*	
Depth (ft)	% Organics
0.8'	16.0
1.2'	0.8
2'	0.5

T-16 (0.8')*	
Depth (ft)	% Organics
0.8'	5.6
1.2'	0.9

T-17 (0.8')*	
Depth (ft)	% Organics
0.8'	5.7
1.2'	0.7
2'	0.6

T-18 (0.8')*	
Depth (ft)	% Organics
0.8'	5.3
1.2'	0.6
2'	0.5

T-19 (1.5')*	
Depth (ft)	% Organics
1'	5.8
1.8'	2.4

T-20 (0.5')*	
Depth (ft)	% Organics
0.5'	19.2
1'	0.8
1.5'	0.4

T-21 (0.8')*	
Depth (ft)	% Organics
0.8'	12.6
1.2'	2.2
2'	0.4

T-22 (1')*	
Depth (ft)	% Organics
0.8'	9.8
1.2'	2.0
2'	0.4

T-23 (1')*	
Depth (ft)	% Organics
1'	52.0
1.4'	0.8

T-24 (1')*	
Depth (ft)	% Organics
1'	40.7
1.5'	1.9
2'	0.7

T-25 (1')*	
Depth (ft)	% Organics
1'	10.6
1.5'	0.8

T-27 (1')*	
Depth (ft)	% Organics
0.8'	10.1
1.2'	1.3
2'	0.7

T-28 (0.8')*	
Depth (ft)	% Organics
0.8'	5.8
1.2'	0.6

T-29 (0')*	
Depth (ft)	% Organics
0.5'	2.1
1'	0.6
1.5'	0.3

T-30 (0')*	
Depth (ft)	% Organics
0.5'	0.2
1.2'	0.5

T-31 (0')*	
Depth (ft)	% Organics
0.8'	2.6
1.2'	1.1
2'	0.3

T-32 (0')*	
Depth (ft)	% Organics
0.8'	2.4
1'	3.9

T-33 (0.8')*	
Depth (ft)	% Organics
0.8'	7.6
1.2'	0.8
1.8'	0.4

T-34 (1')*	
Depth (ft)	% Organics
0.8'	22.0
1.2'	0.7

T-35 (0')*	
Depth (ft)	% Organics
0.8'	4.5
1.5'	3.3
2'	0.3

T-36 (0')*	
Depth (ft)	% Organics
0.8'	1.7
1.2'	0.5

T-37 (1.2')*	
Depth (ft)	% Organics
0.8'	13.2
1.2'	3.5
2'	0.7

T-38 (1.5')*	
Depth (ft)	% Organics
1.2'	10.6
1.5'	0.8

T-39 (1.2')*	
Depth (ft)	% Organics
1.2'	5.9
1.5'	1.0
2'	1.4

T-40 (1')*	
Depth (ft)	% Organics
1'	13.1
1.2'	1.1

Legend

> 5%
2 to 5%
< 2%

Recommended for Offsite Removal

Recommended for Mixing/Blending with "Clean" Soils

"Clean" Soils

Note: (#')* Indicates Recommended Organic Removal Depth in Feet.

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Table 5
Summary of Measured Organic Content vs Depth of Sample

Project Name	Richland - VanderEyk
Project Number	17074-01
ENG./GEOL.	RLD/KTM
Date	Aug-17

Geotechnical Boring Log Borehole HS-1

Date: 7/5/2017 | **Drilling Company:** Cal Pac

Project Name: VanderEyk | **Type of Rig:** Limited Access Tracked Rig

Project Number: 17074-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~756' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0	B-1						**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
			R-1	8 9 9	106.6	4.5	SP	@2.5' SAND: light brown, slightly moist, medium dense	
750	5		SPT-1	6 8 11		3.5	SM	@5' Silty SAND: grayish brown, slightly moist, medium dense	
			R-2	6 10 14	103.9	3.3	SP	@7.5' SAND: grayish brown, slightly moist, medium dense	
745	10		SPT-2	3 5 6		8.3	SM	@10' Silty Fine SAND: light brown, moist, medium dense	
740	15		R-3	5 7 16	105.1	14.6	ML	@15' Sandy SILT: light brown, moist, stiff	
735	20		SPT-3	5 6 7		9.4	SM	@20' Silty Fine SAND: olive gray, moist, medium dense	
730	25		R-4	8 16 20	113.7	5.3		@25' Silty SAND: light brown, slightly moist, dense	
	30							Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/5/2017	

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 7/12/2017

Geotechnical Boring Log Borehole HS-2

Date: 7/5/2017 | **Drilling Company:** Cal Pac

Project Name: VanderEyk | **Type of Rig:** Limited Access Tracked Rig

Project Number: 17074-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~758' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
755		B-1	R-1	3 5 8	107.0	5.5	SP	@2.5' SAND with Gravel: brown, slightly moist, medium dense	
	5		SPT-1	3 3 3		4.7	SP-SM	@5' SAND with Silt: dark olive brown, slightly moist, loose	
750			R-2	6 14 11	101.9	5.2	SP	@7.5' SAND: grayish brown, slightly moist, medium dense	
	10		SPT-2	3 3 4		7.7	SM	@10' Silty fine SAND: brown, slightly moist, loose	
745									
	15		R-3	6 11 20	105.8	15.2	ML	@15' Sandy SILT:olive brown, moist, very stiff	
740									
	20		SPT-3	4 6 7		29.6		@20' Sandy SILT: light brown, very moist, stiff	
735									
	25		R-4	8 12 18	97.1	4.1		@25' Sandy SILT: light brown, slightly moist, very stiff	
730								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/5/2017	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 7/12/2017

Geotechnical Boring Log Borehole HS-3

Date: 7/5/2017	**Drilling Company:** Cal Pac
Project Name: VanderEyk	**Type of Rig:** Limited Access Tracked Rig
Project Number: 17074-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~758' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
755		B-1	R-1	6 8 8	103.8	2.7	SP	@2.5' SAND: dark brown, dry, medium dense	MD EI CR
	5		SPT-1	2 2 2		3.9	SP-SM	@5' SAND with Silt: olive brown, slightly moist, loose	
750			R-2	5 6 7	108.3	6.5	SM	@7.5' Silty SAND: dusky gray, slightly moist, medium dense	CO -#200
	10		SPT-2	3 3 3		11.3	ML	@10' Sandy SILT: light brown, moist, medium stiff	
745									
	15		R-3	10 7 10	106.5	6.6	SM	@15' Silty SAND: light brown, slightly moist, medium dense	
740									
	20		SPT-3	3 6 8		4.7		@20' Silty SAND with Gravel: light brown to gray, slightly moist, medium dense	
735									
	25		R-4	10 13 21	100.2	2.2	SP	@25' SAND: gray, dry, medium dense	
730								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/5/2017	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 7/12/2017

Geotechnical Boring Log Borehole HS-4

Date: 7/5/2017 | **Drilling Company:** Cal Pac

Project Name: VanderEyk | **Type of Rig:** Limited Access Tracked Rig

Project Number: 17074-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~756' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0	B-1						**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
			SPT-1	3 5 5		2.9	SP	@2.5' SAND: grayish brown, dry, loose	MD EI CR
750	5		R-1	6 7 9	105.3	5.8	SM	@5' Silty SAND: light olive brown, slightly moist, medium dense	SA CO
			SPT-2	4 5 5		7.0		@7.5' Silty fine SAND: olive brown, slightly moist, loose	
745	10		R-2	5 7 11	104.2	12.5		@10' Silty SAND: olive brown, moist, medium dense	
740	15		SPT-3	4 5 6		7.9		@15' Silty SAND: grayish brown, slightly moist, medium dense	
735	20		R-3	14 16 12	104.5	0.7	SP	@20' SAND: brown, dry, medium dense	
730	25		SPT-4	7 7 11		20.7	SM	@25' Silty SAND: olive gray, very moist, medium dense	
	30							Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/5/2017	

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 7/12/2017

Geotechnical Boring Log Borehole HS-5

Date: 7/5/2017 | **Drilling Company:** Cal Pac

Project Name: VanderEyk | **Type of Rig:** Limited Access Tracked Rig

Project Number: 17074-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~756' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0	B-1						**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
			SPT-1	3 3 4		3.5	SP-SM	@2.5' SAND with Silt: olive brown, slightly moist, loose	
750	5		R-1	4 6 8	107.2	4.6	SP	@5' SAND with Gravel: brown, slightly moist, medium dense	
			SPT-2	4 7 8		3.7		@7.5' SAND: brown, slightly moist, medium dense	
745	10		R-2	8 12 12	109.6	3.0	SM	@10' Silty SAND: brown, dry, medium dense	
740	15		SPT-3	5 5 9		5.1	SP-SM	@15' SAND with Silt: brown, slightly moist, medium dense	
735	20		R-3	12 19 21	104.8	1.1	SP	@20' SAND with Gravel: light brown, dry, dense	
730	25		SPT-4	4 5 7		12.9	SM	@25' Silty SAND: olive gray, moist, medium dense	
	30							Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/5/2017	

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 7/12/2017

Geotechnical Boring Log Borehole HS-6

Date: 7/6/2017 | **Drilling Company:** Cal Pac

Project Name: VanderEyk | **Type of Rig:** Limited Access Tracked Rig

Project Number: 17074-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~756' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0							**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
		B-1	R-1	5 3 1	103.0	6.9	SP	@2.5' SAND: dark brown, slightly moist, very loose	EI
750	5		SPT-1	2 4 4		5.2	SP-SM	@5' SAND with Silt: brown, slightly moist, loose	
			R-2	6 7 9	102.7	4.5		@7.5' SAND with Silt: brown, slightly moist, medium dense	
745	10		SPT-2	3 4 5		9.4	SP	@10' SAND: brown, moist, loose	
740	15		R-3	3 8 20	100.6	3.9		@15' SAND with Gravel: brown to grayish brown, slightly moist, medium dense	
735	20		SPT-3	4 8 10		5.5		@20' SAND: light brown, slightly moist, medium dense	
730	25		R-4	7 9 13	111.4	9.4	ML	@25' Sandy SILT: mottled gray and brown, slightly moist, stiff	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 7/12/2017

Geotechnical Boring Log Borehole HS-6

Date: 7/6/2017 | **Drilling Company:** Cal Pac

Project Name: VanderEyk | **Type of Rig:** Limited Access Tracked Rig

Project Number: 17074-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~756' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
725	30		SPT-4	6 6 8		14.6	SM	@30' Silty SAND: olive brown, moist, medium dense	
720	35		R-5	8 10 23	114.5	14.3		@35' Silty SAND: dark brown, moist, medium dense	
715	40		SPT-5	12 17 14		5.2		@40' Silty SAND: light brown, slightly moist, dense	
710	45		R-6	5 10 14	100.7	21.0		@45' Silty SAND: light brown, very moist, medium dense	
705	50		SPT-6	5 9 13		23.2	ML	@50' Sandy SILT: olive brown, very moist, very stiff	
700	55							Total Depth = 50' Groundwater Not Encountered Backfilled with Cuttings on 7/6/2017	
	60								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-7

Date: 7/6/2017 | **Drilling Company:** Cal Pac

Project Name: VanderEyk | **Type of Rig:** Limited Access Tracked Rig

Project Number: 17074-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~756' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0	B-1						**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
			R-1	10 8 11	109.2	11.6	SM	@2.5' Silty SAND: olive brown, moist, medium dense	
750	5		SPT-1	4 4 7		2.8	SP	@5' SAND: grayish brown, dry, medium dense	
			R-2	7 11 15	99.1	2.1		@7.5' SAND: grayish brown, dry, medium dense	
745	10		SPT-2	7 8 8		3.8		@10' SAND with Gravel: gray to brown, slightly moist, medium dense	
740	15		R-3	4 6 10	94.8	21.3	ML	@15' SILT: olive brown, very moist, stiff	CN AL
735	20		SPT-3	3 5 5		9.6	SM	@20' Silty SAND: olive brown, moist, loose	
730	25		R-4	8 8 12	102.1	21.4	ML	@25' Sandy SILT: dark brown, very moist, stiff	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 7/12/2017

Geotechnical Boring Log Borehole HS-7

Date: 7/6/2017 | **Drilling Company:** Cal Pac

Project Name: VanderEyk | **Type of Rig:** Limited Access Tracked Rig

Project Number: 17074-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~756' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
725	30		SPT-4	4 5 6		14.3	SM	@30' Silty SAND: orange brown, moist, medium dense	
720	35		R-5	15 26 34	108.0	3.9	SP	@35' SAND: orangish brown, slightly moist, very dense	
715	40		SPT-5	10 15 20		3.4		@40' SAND with Gravel: brown, slightly moist, dense	
710	45		R-6	15 23 33	106.0	3.8		@45' SAND: light brown, slightly moist, dense	
705	50		SPT-6	14 17 15	115.9	6.9		@50' SAND: orangish brown, slightly moist, dense	
700	55							Total Depth = 50' Groundwater Not Encountered Backfilled with Cuttings on 7/6/2017	
	60								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-8

Date: 7/6/2017 | **Drilling Company:** Cal Pac

Project Name: VanderEyk | **Type of Rig:** Limited Access Tracked Rig

Project Number: 17074-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~756' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0	B-1						**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
			SPT-1	4 6 8		2.6	SP	@2.5' SAND: grayish brown, dry, medium dense	
750	5		R-1	4 4 6	103.4	5.5	ML	@5' SILT with Sand: olive brown, slightly moist, stiff	DS
			SPT-2	2 3 4		8.4	SM	@7.5' Silty SAND: olive brown, moist, loose	
745	10		R-2	4 6 7	95.7	5.0	ML	@10' Sandy SILT: olive brown, slightly moist, stiff	CO -#200
740	15		SPT-3	3 5 6		8.6		@15' Sandy SILT: light brown, slightly moist, stiff	
735	20		R-3	6 11 17	98.9	4.2	SM	@20' Silty SAND: light brown, slightly moist, medium dense	
730	25		SPT-4	4 6 7		6.9		@25' Silty SAND: light brown, slightly moist, medium dense	
	30							Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 7/6/2017	

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

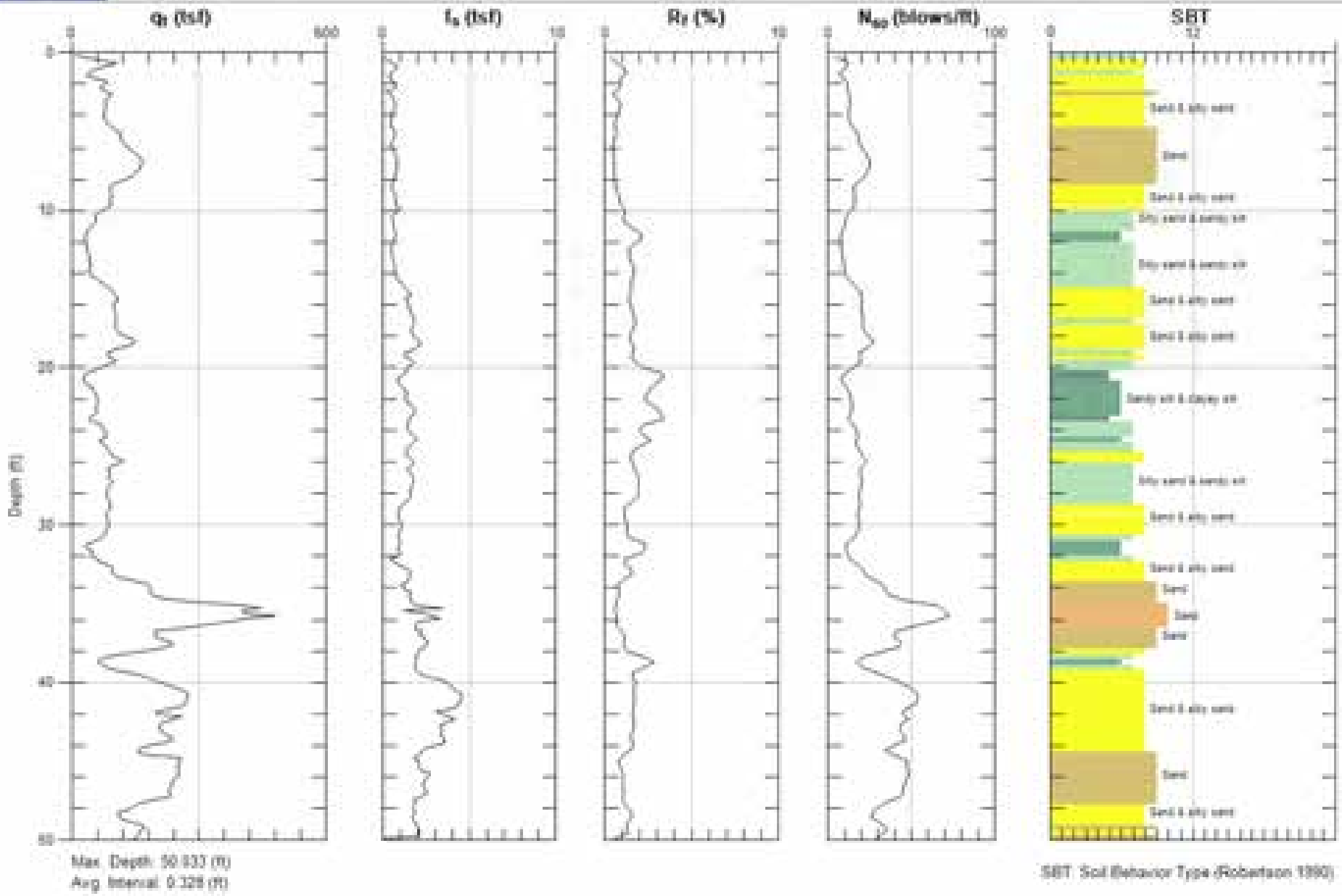
Last Edited: 7/12/2017

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-1 Date: 7/5/17 12:24



Max. Depth: 50.833 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

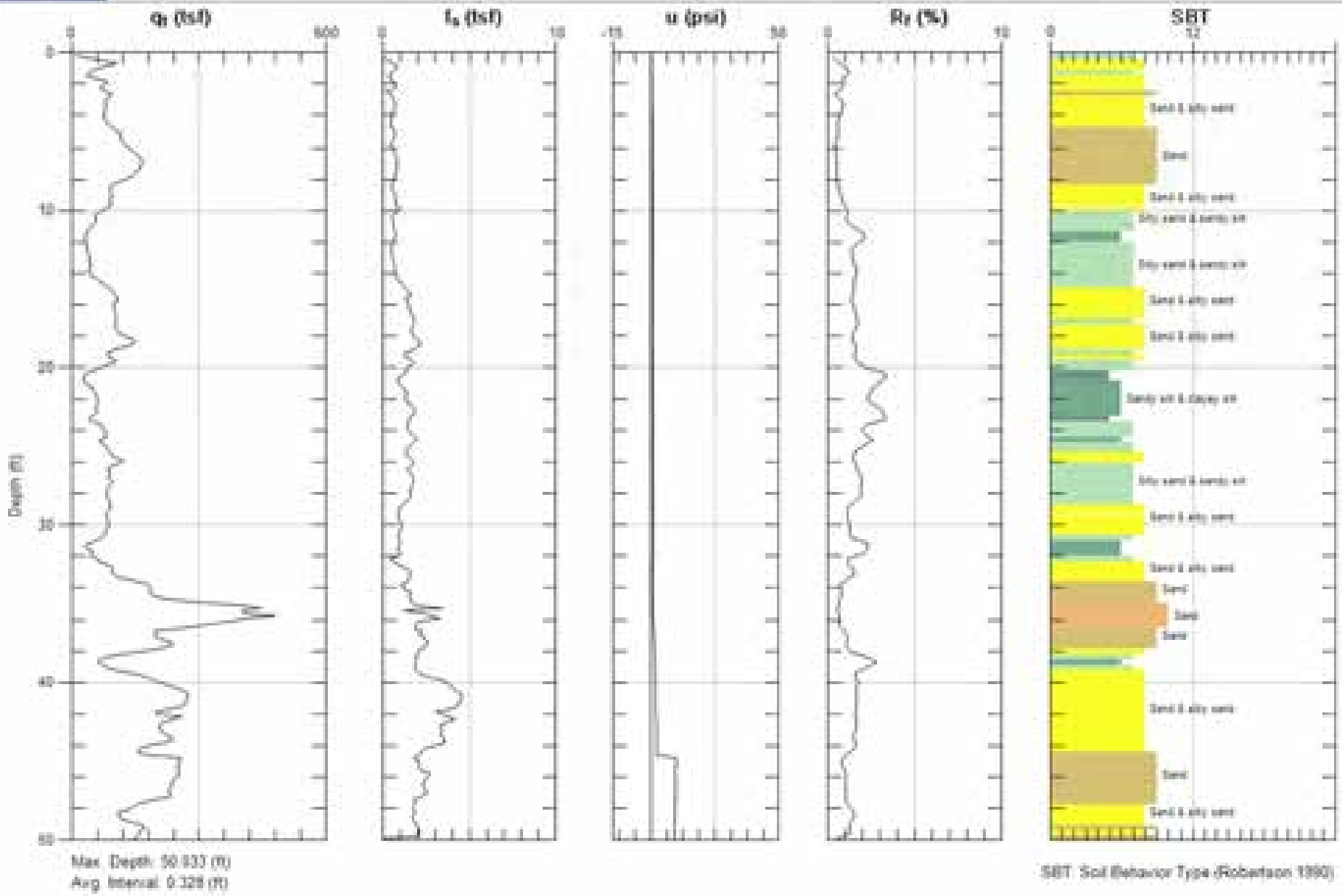
6376

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

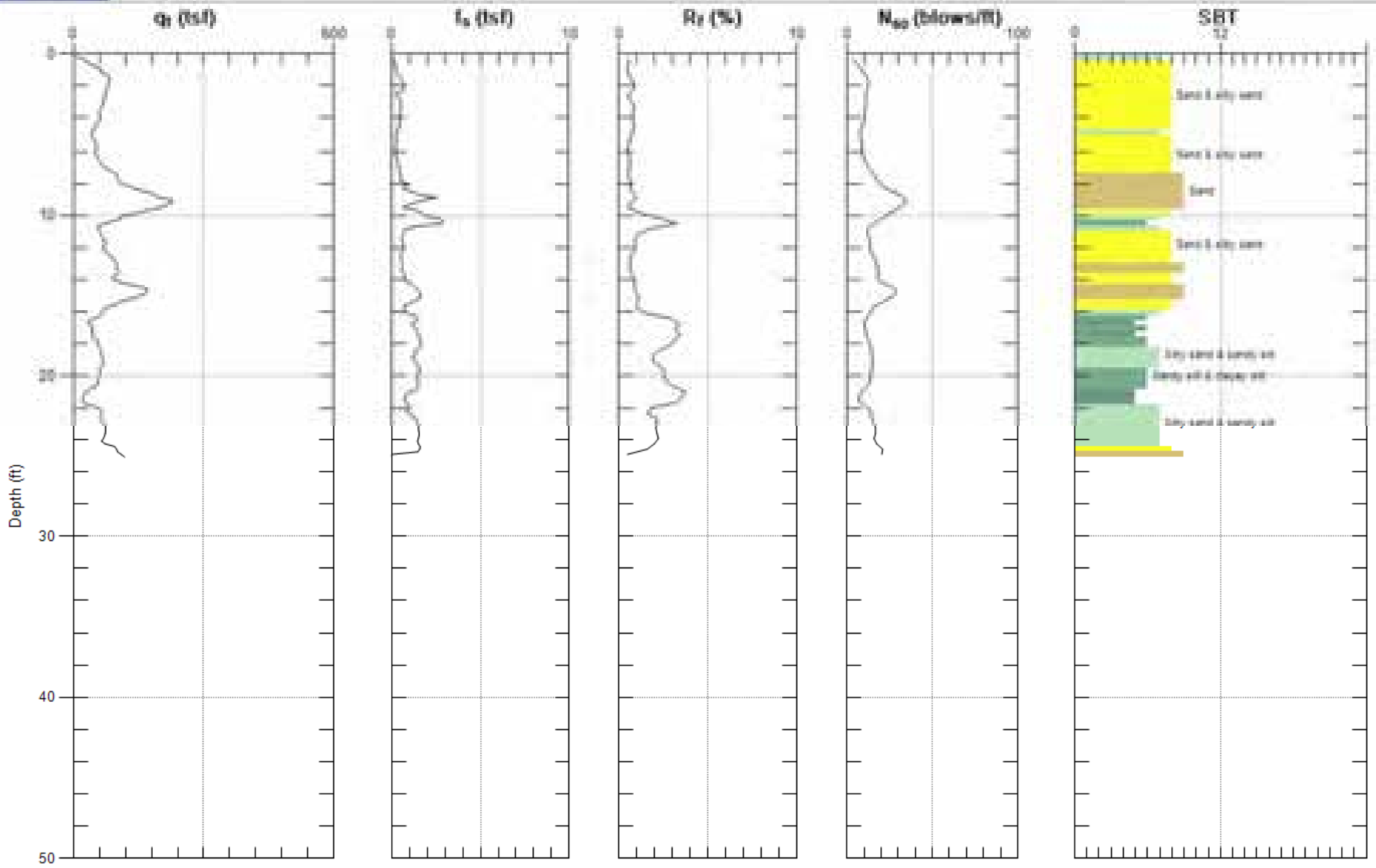
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6377

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS
Sounding: CPT-2 Date: 7/5/17 11:14



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

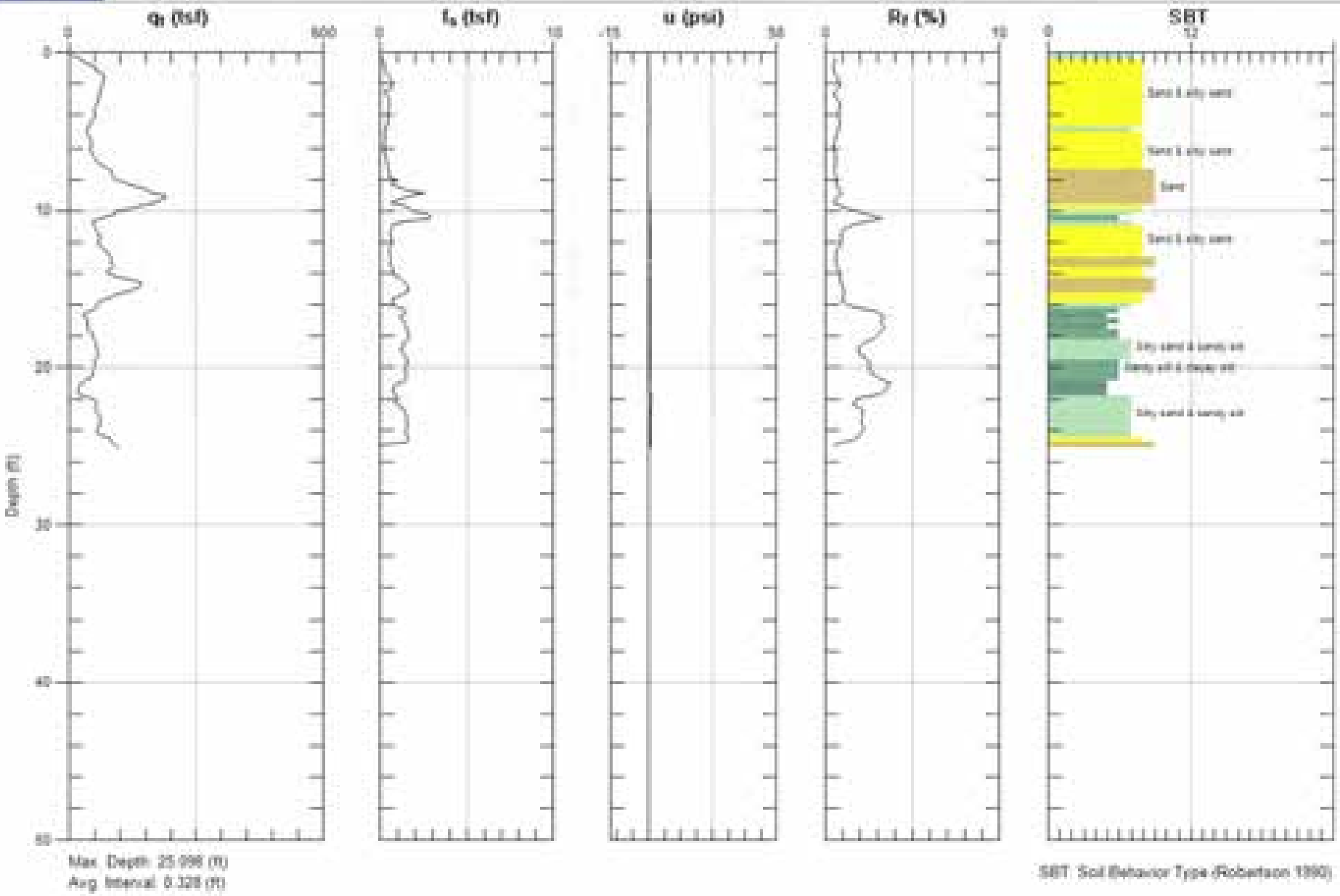
6378

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-2 Date: 7/5/17 11:14



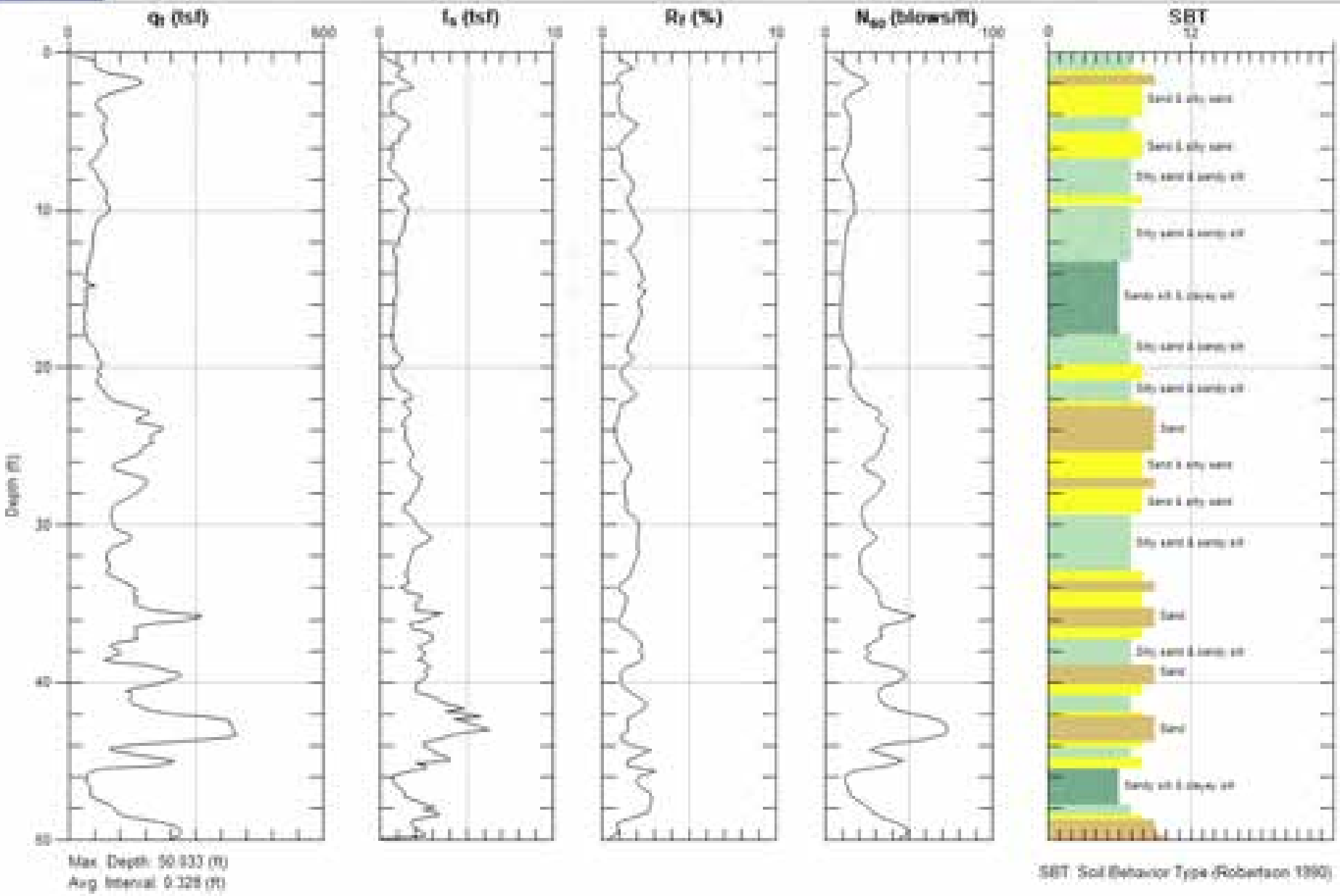
6379

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-3 Date: 7/5/17 01:10



Max. Depth: 50.833 (ft)
Avg. Interval: 0.328 (ft)

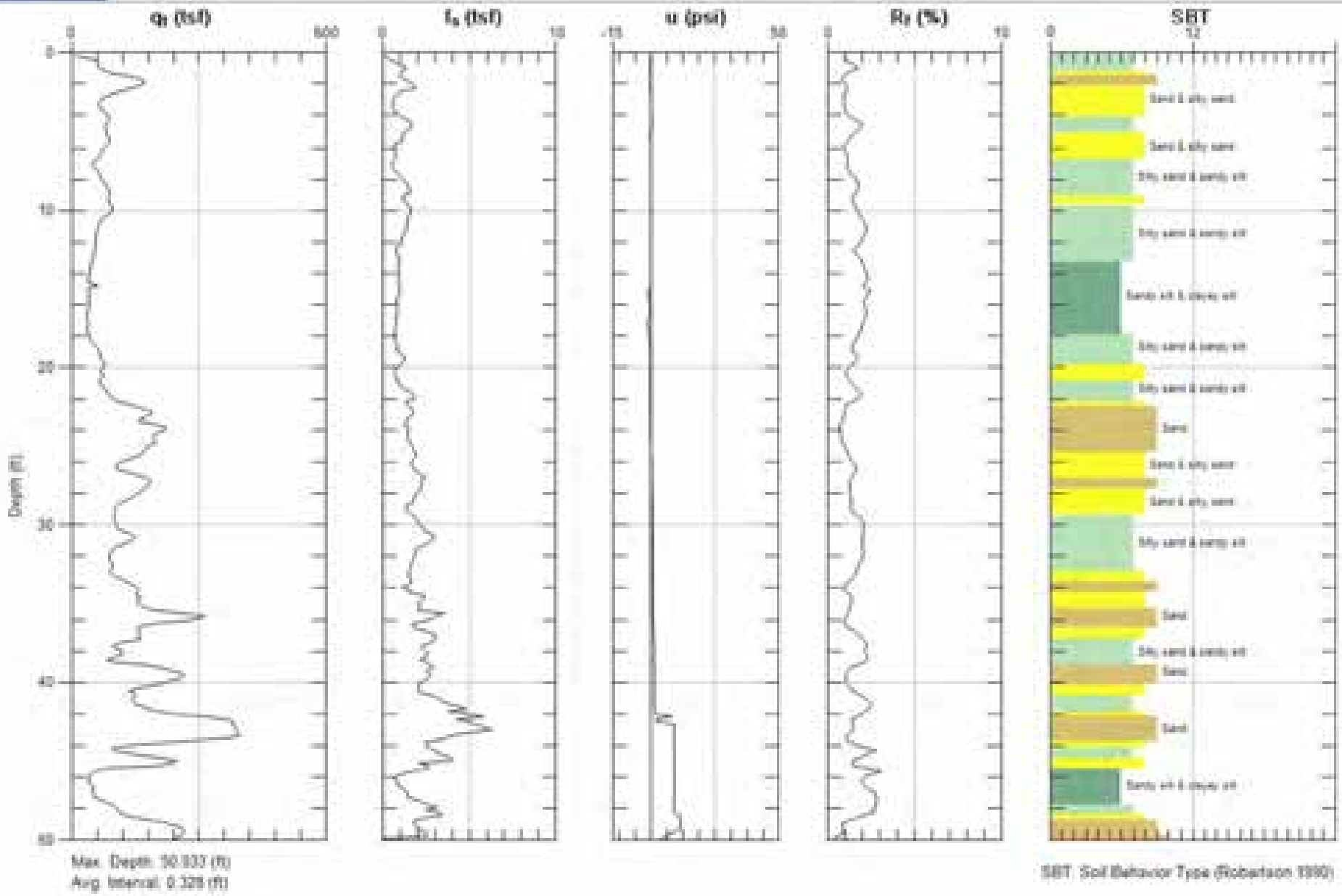
SBT: Soil Behavior Type (Robertson 1990)

6380

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

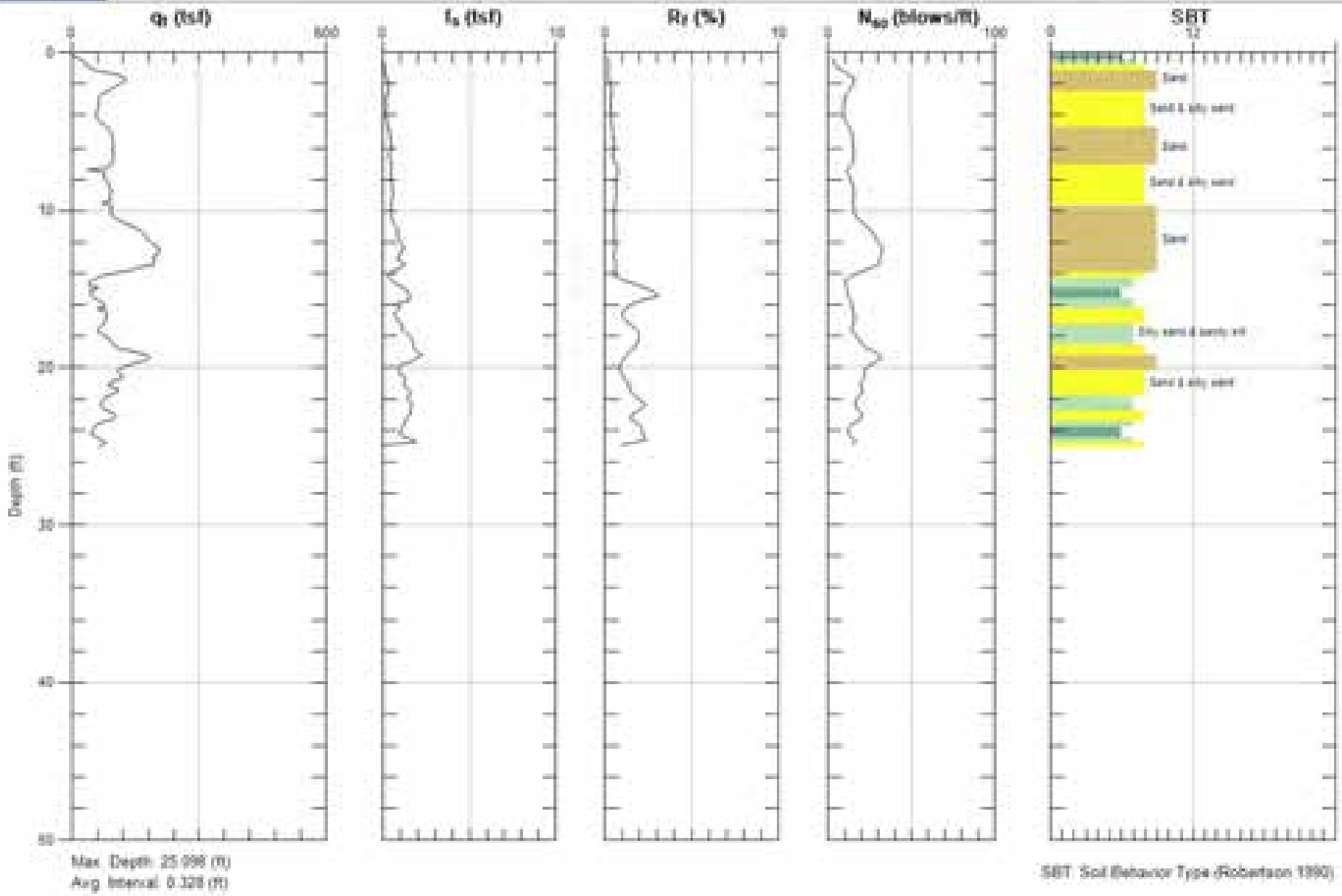
Sounding: CPT-3 Date: 7/5/17 01:10



6381

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS
Sounding: CPT-4 Date: 7/5/17 11:59



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

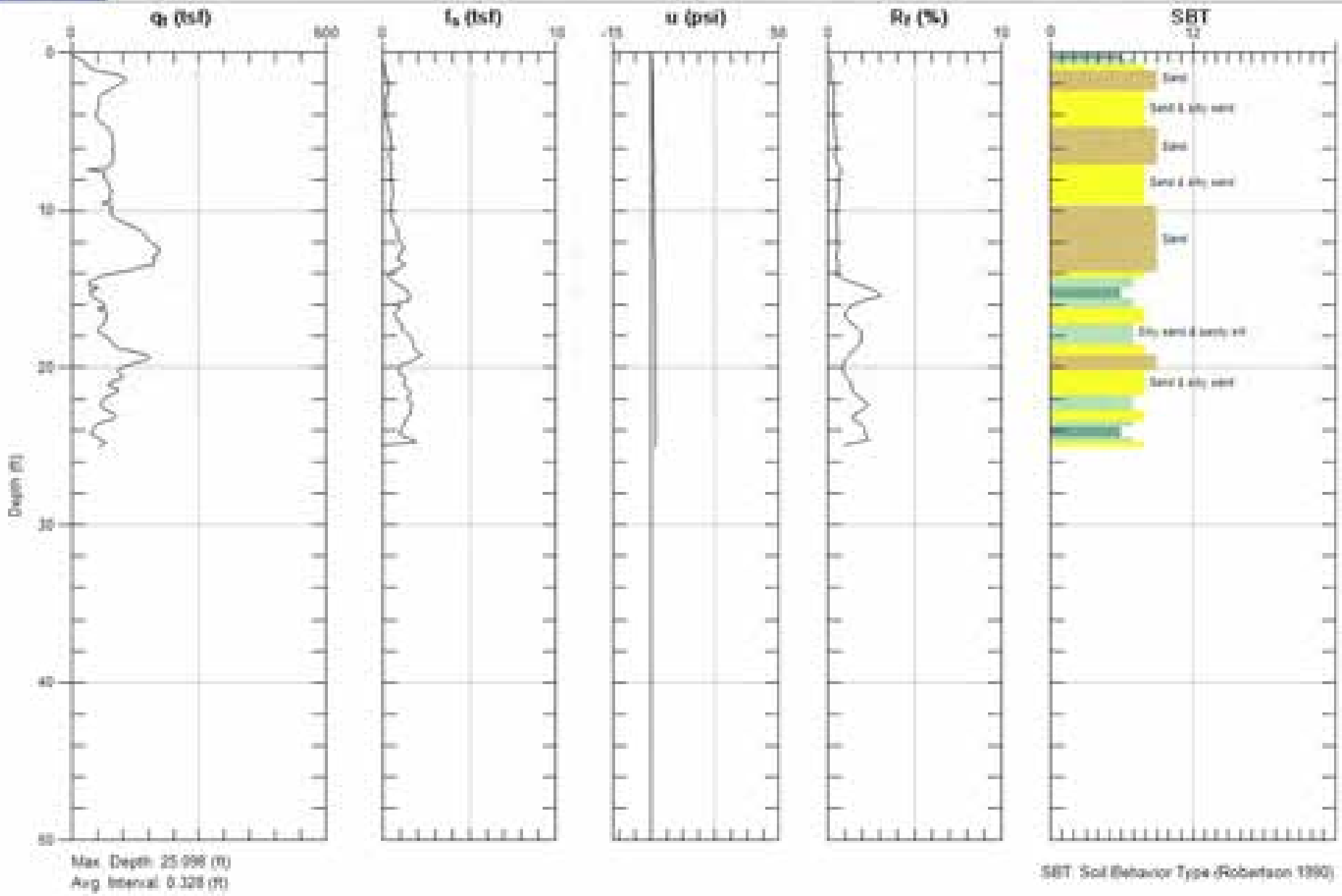
6382

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-4 Date: 7/5/17 11:59



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

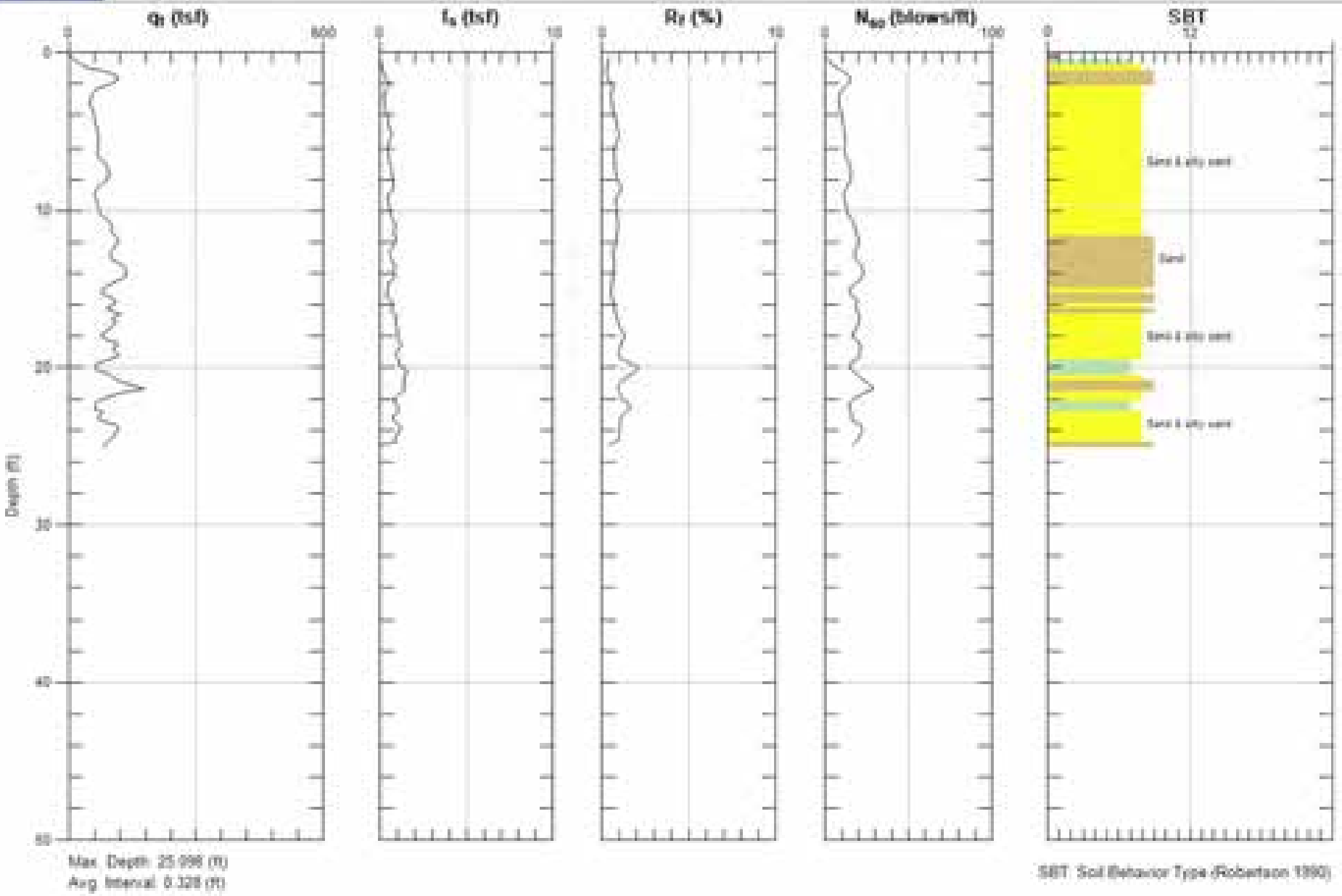
6383

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-6 Date: 7/5/17 09:40



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

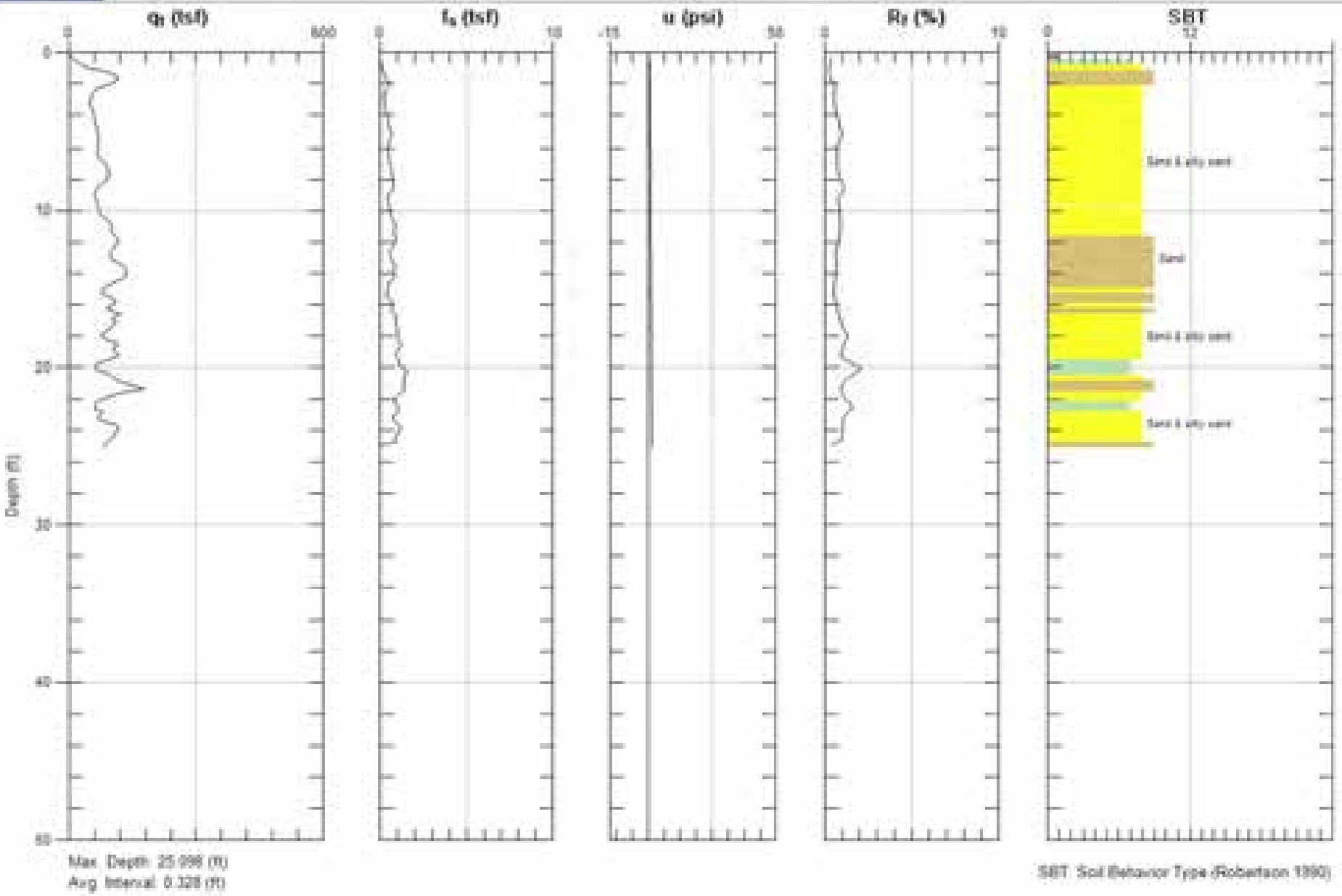
6384

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-6 Date: 7/5/17 09:40



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

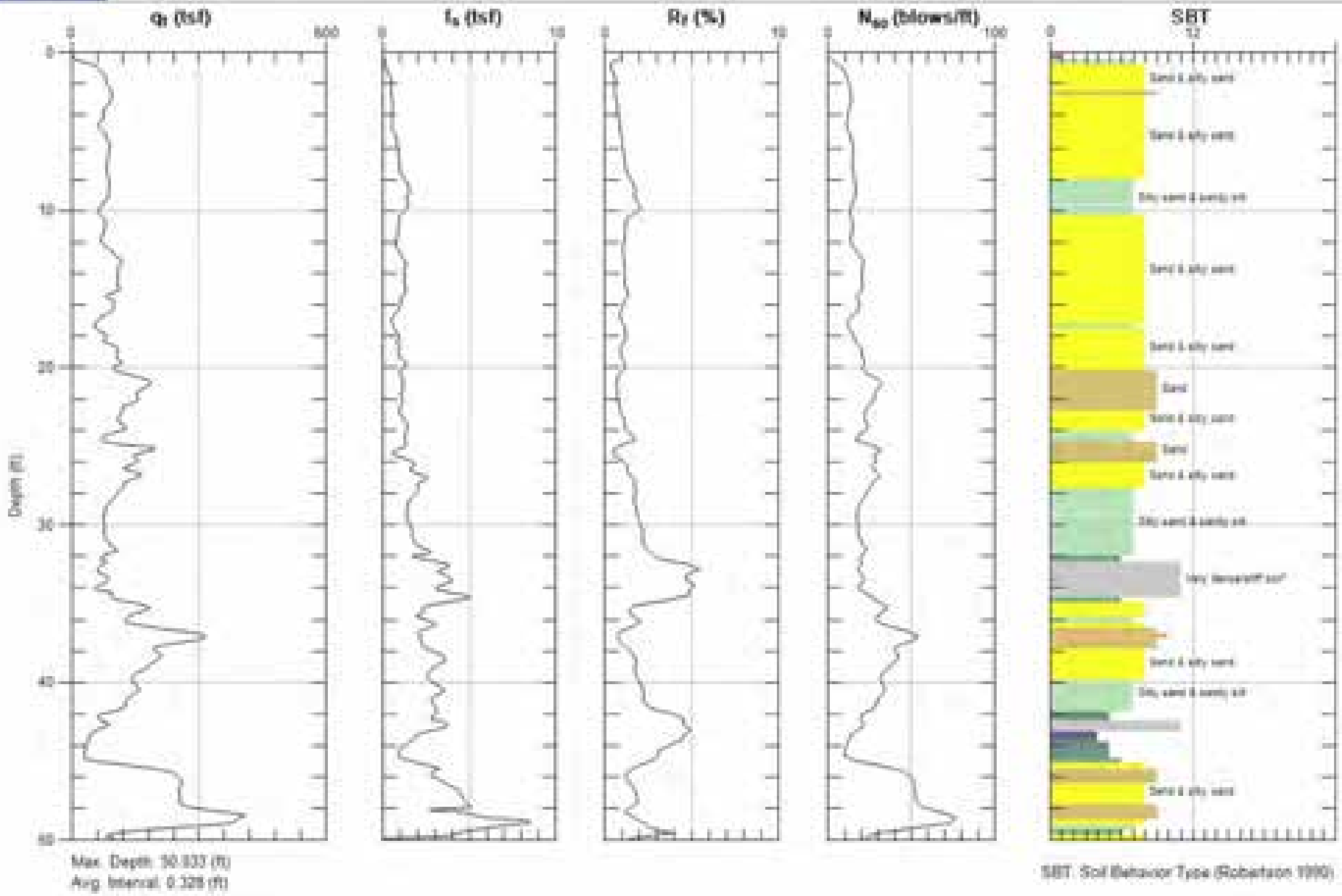
6385

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-6 Date: 7/5/17 09:03



Max. Depth: 50.833 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

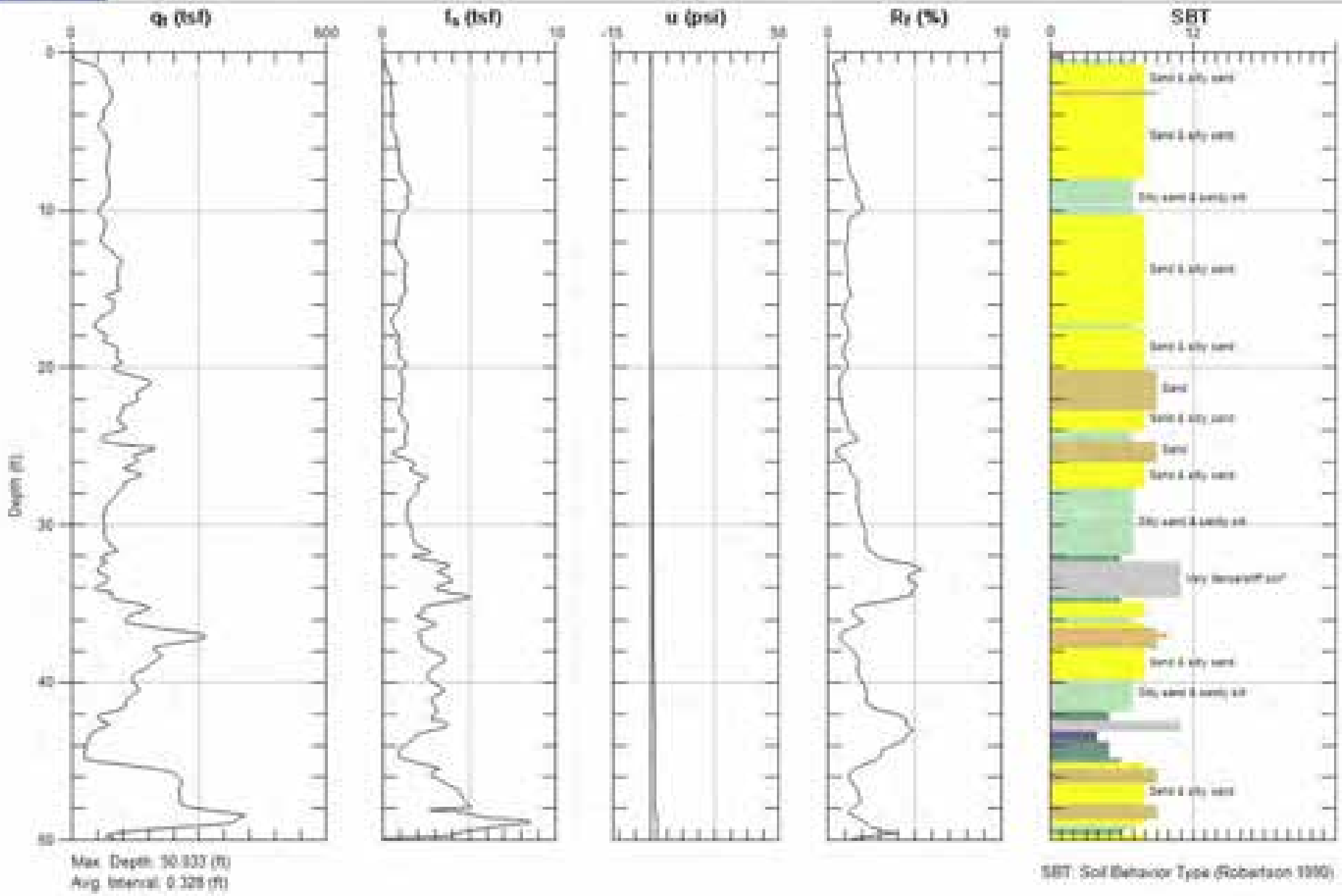
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GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-6 Date: 7/5/17 09:03



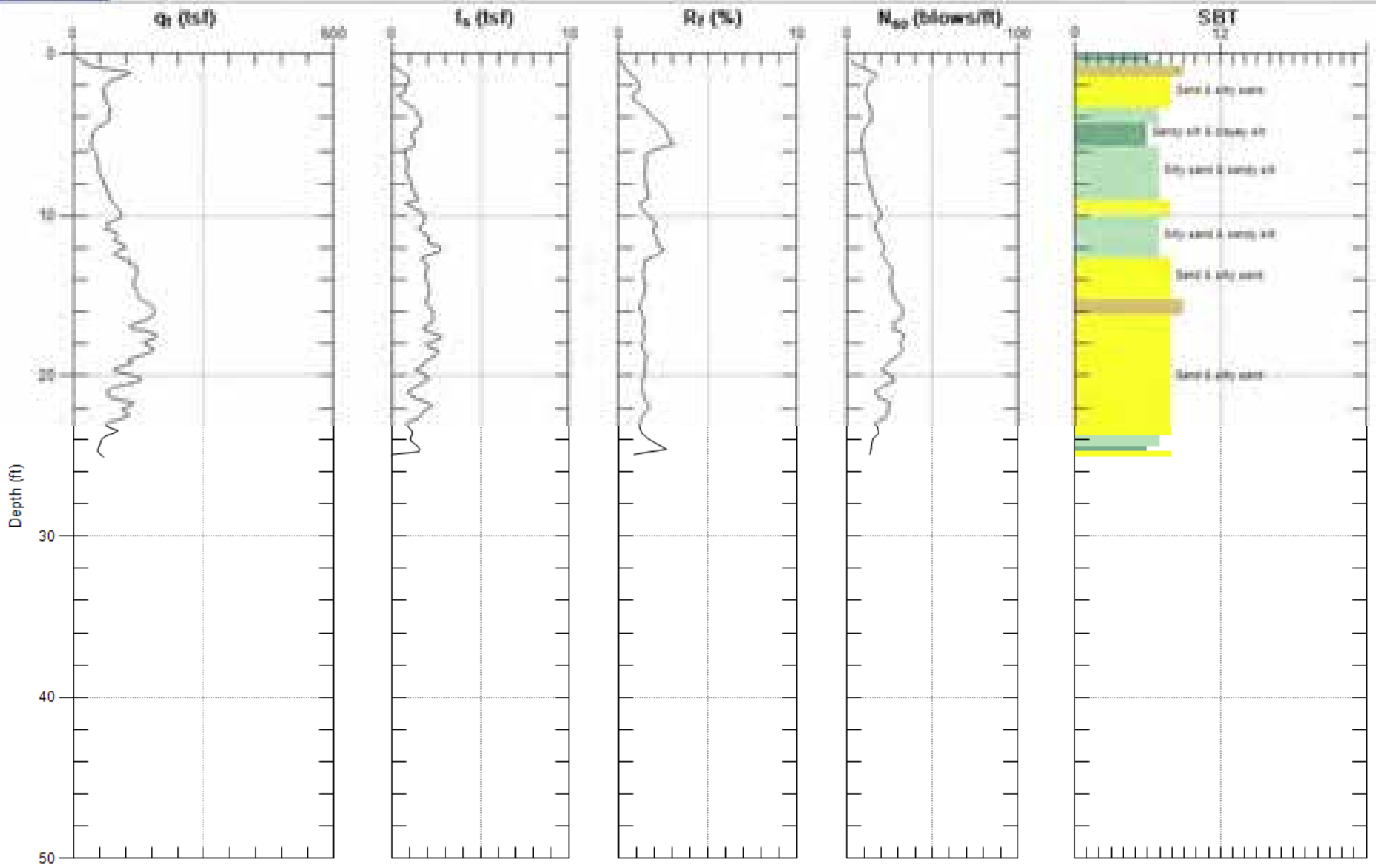
6387

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-7 Date: 7/5/17 10:05



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

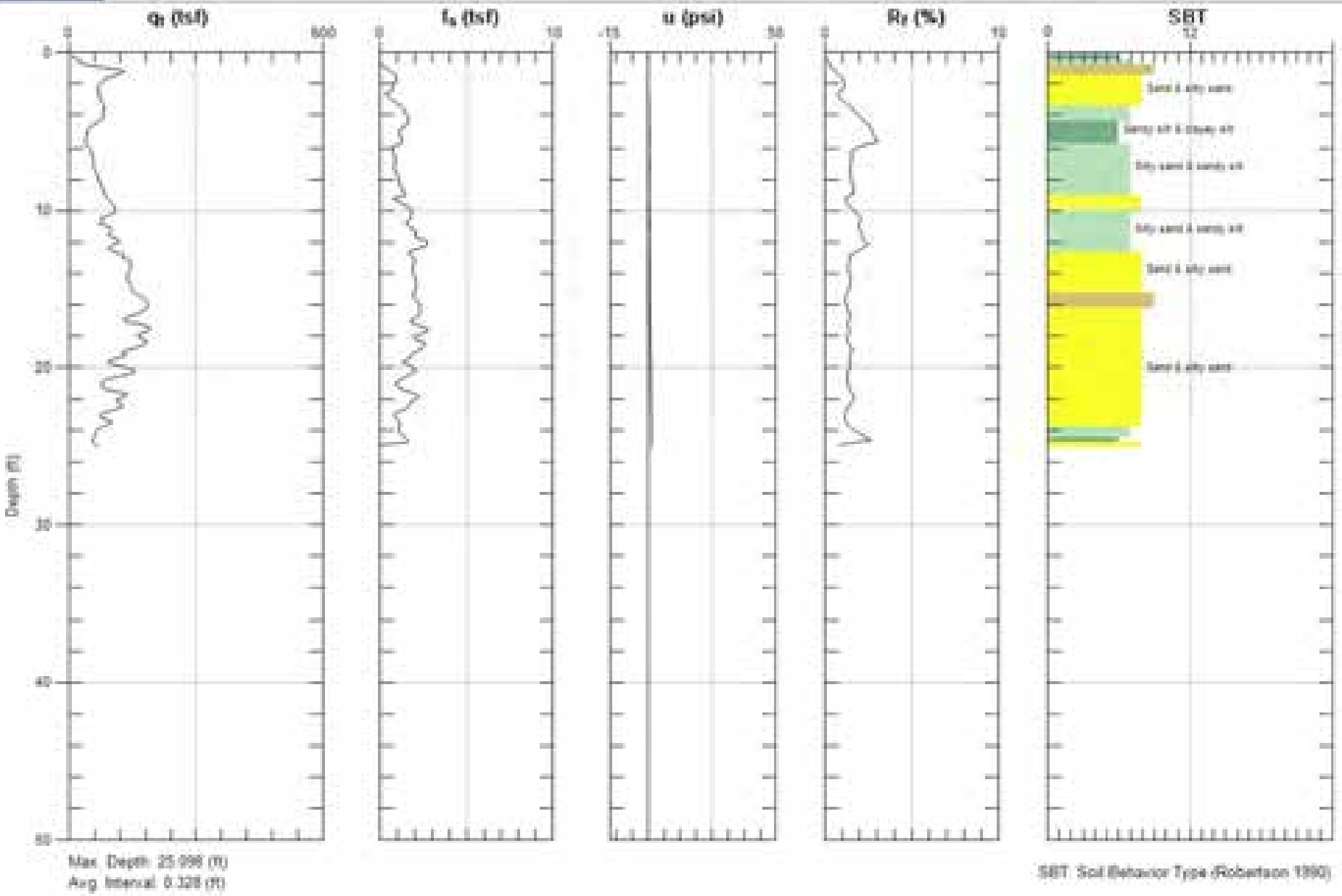
6388

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-7 Date: 7/5/17 10:05



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

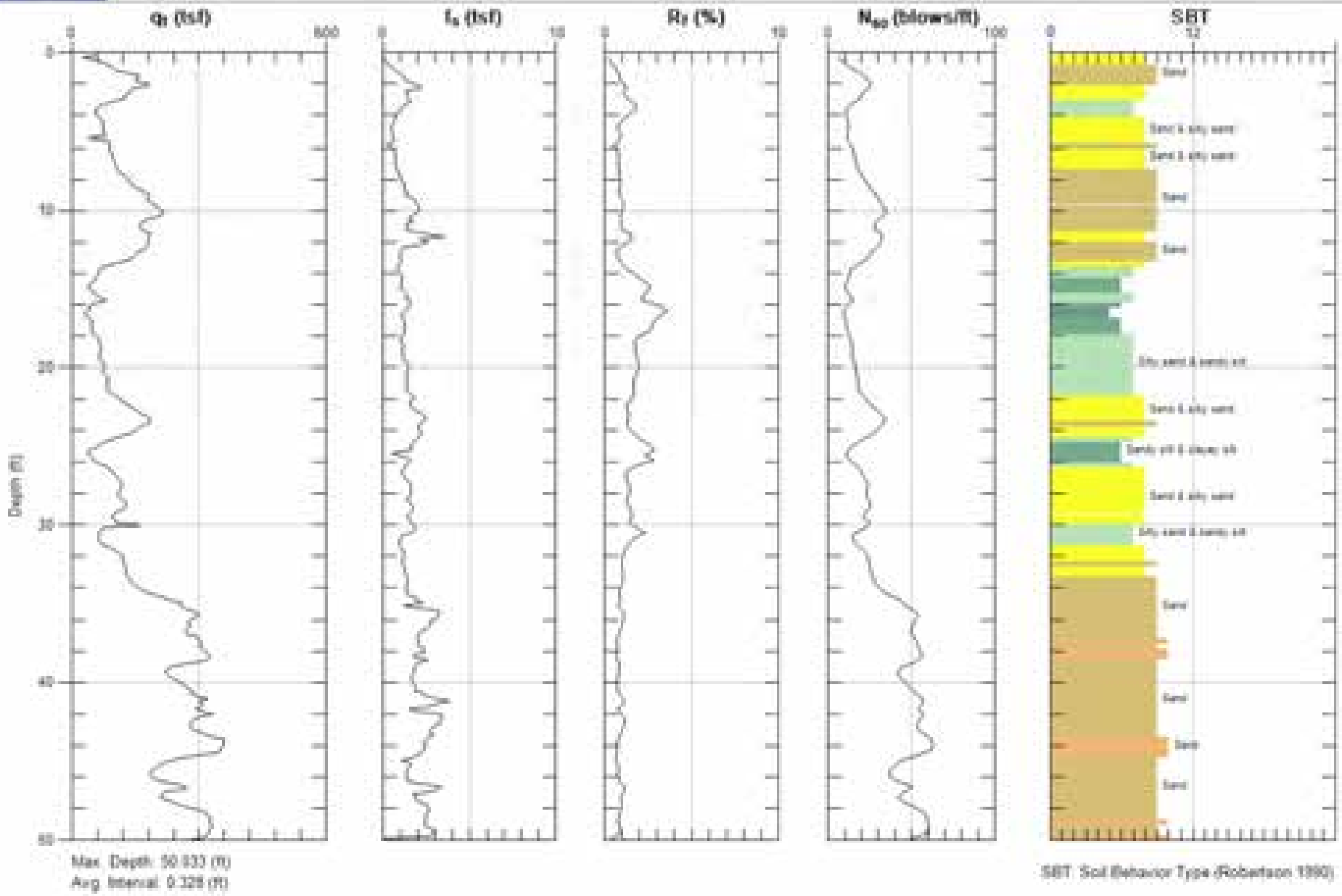
6389

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-8 Date: 7/5/17 10:30



Max. Depth: 50.833 (ft)
Avg. Interval: 0.328 (ft)

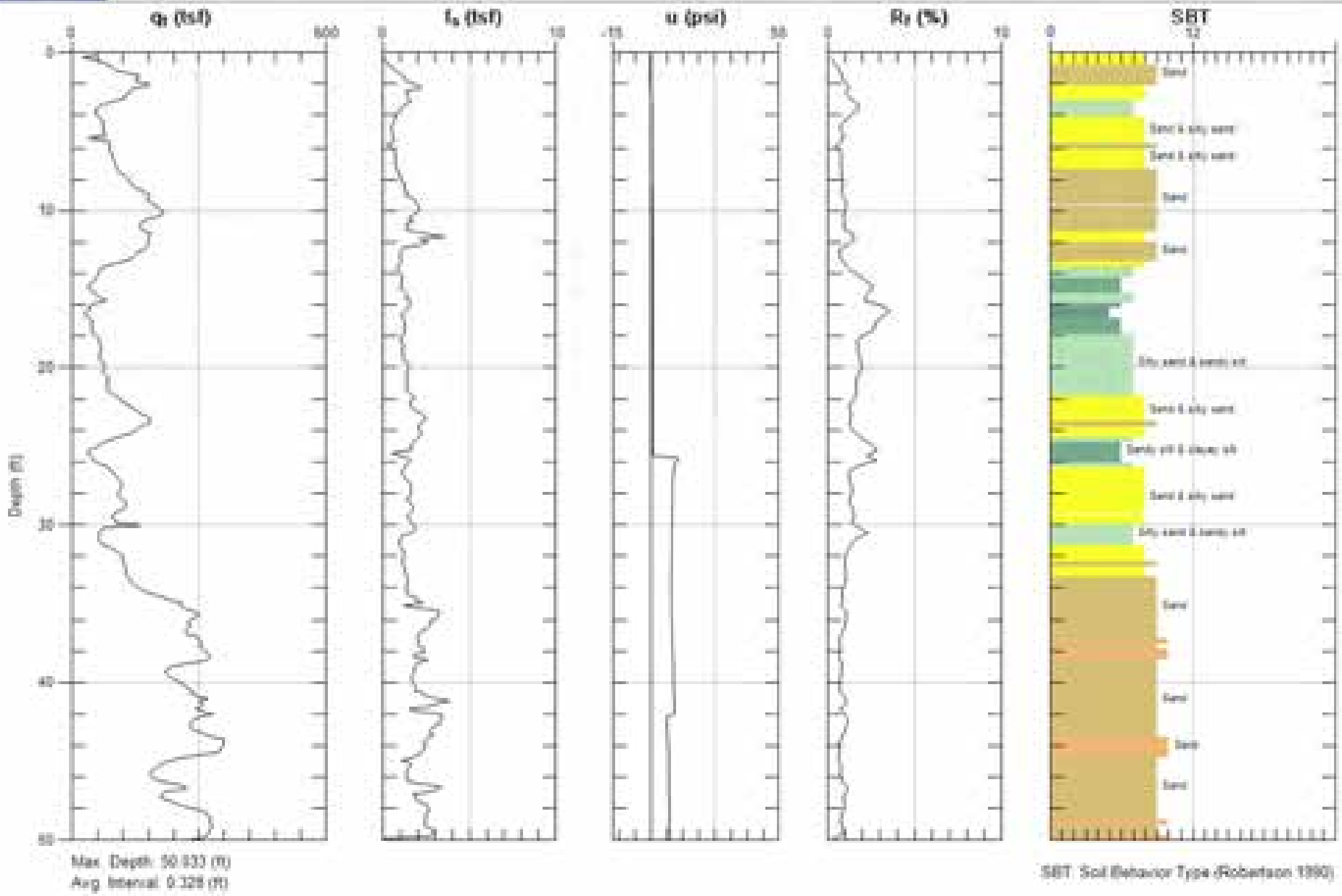
SBT: Soil Behavior Type (Robertson 1990)

6390

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-8 Date: 7/5/17 10:30



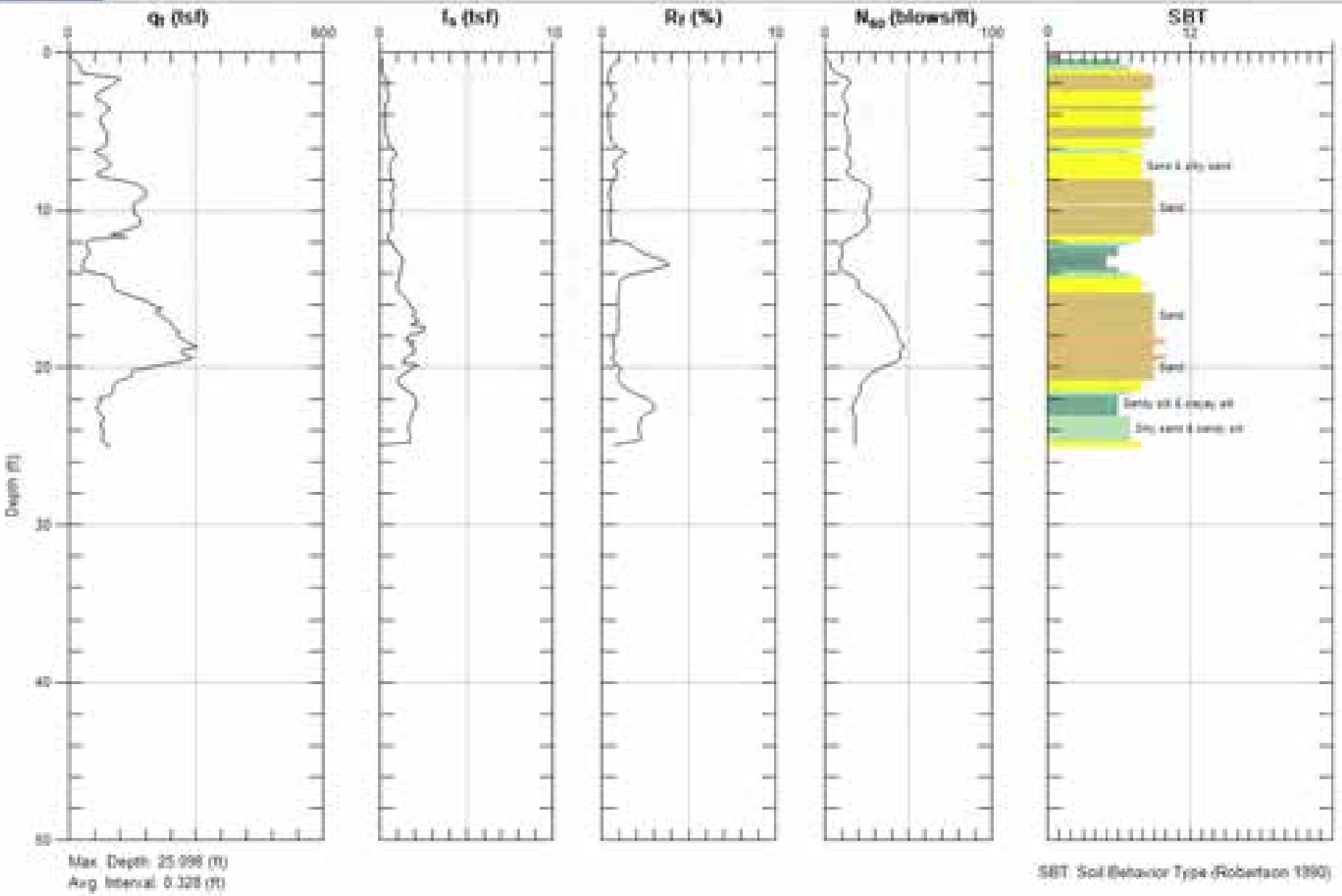
6391

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-9 Date: 7/5/17 07:39



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

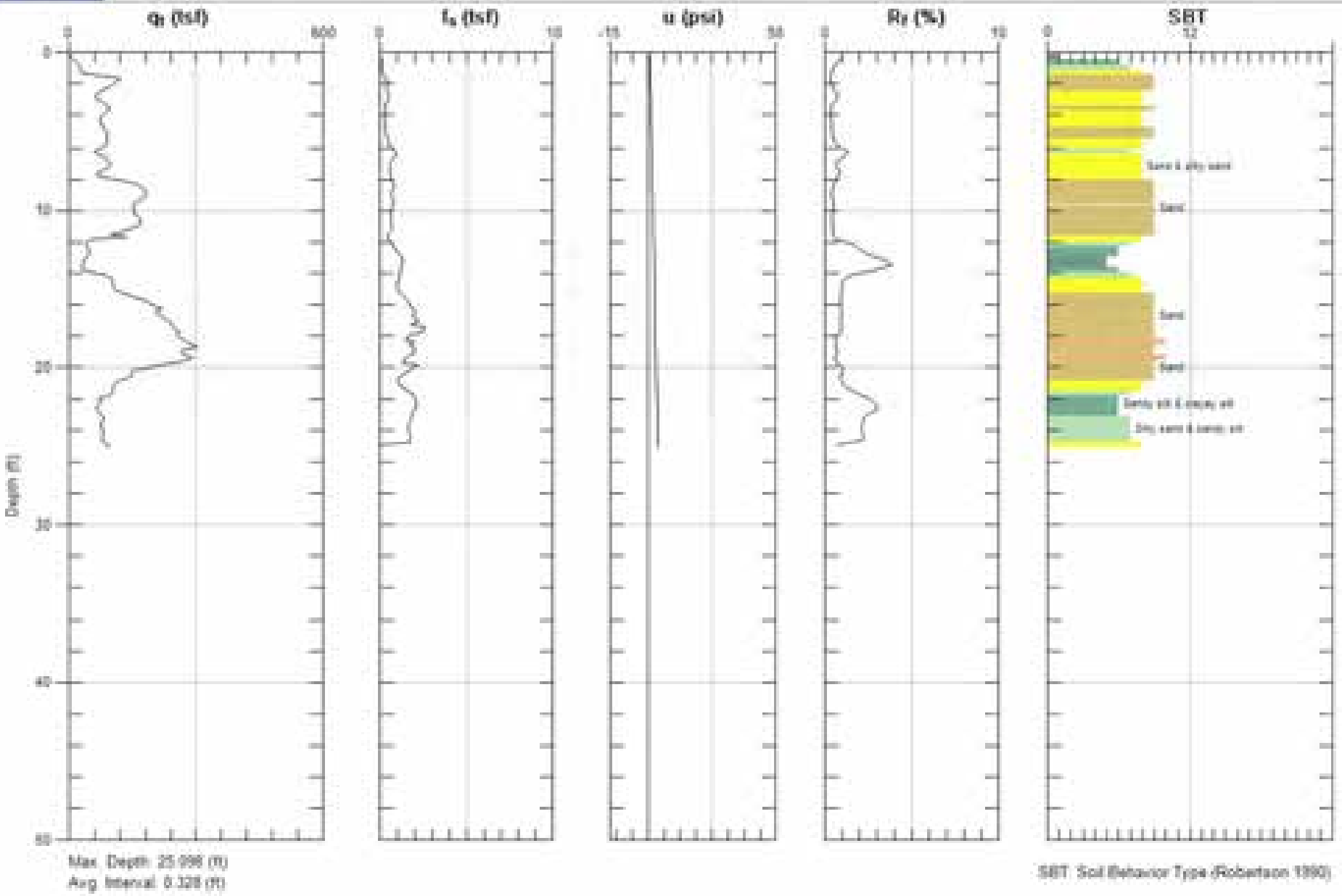
6392

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-9 Date: 7/5/17 07:39



Max. Depth: 25.098 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

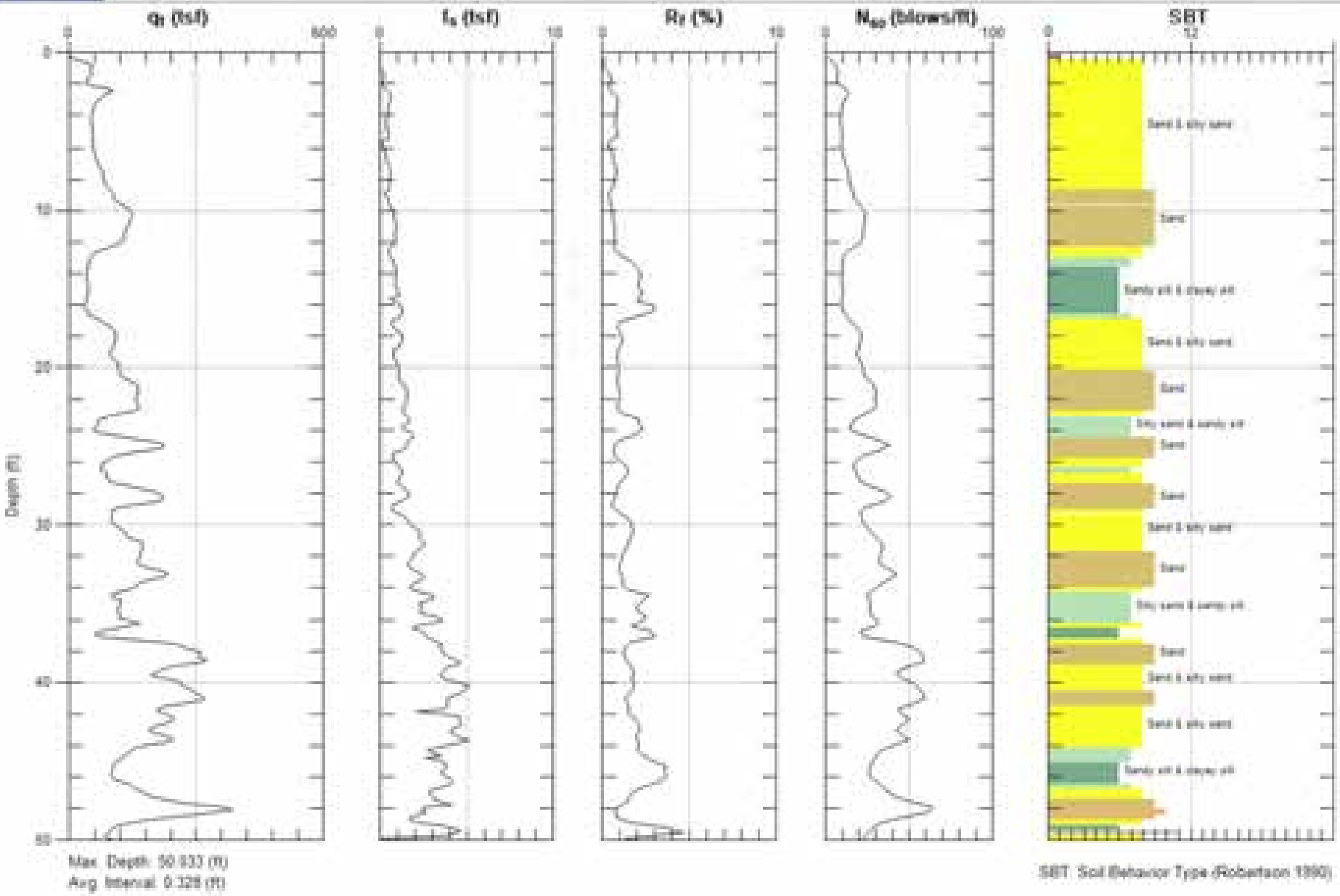
6393

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-10 Date: 7/5/17 08:24



Max. Depth: 50.833 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

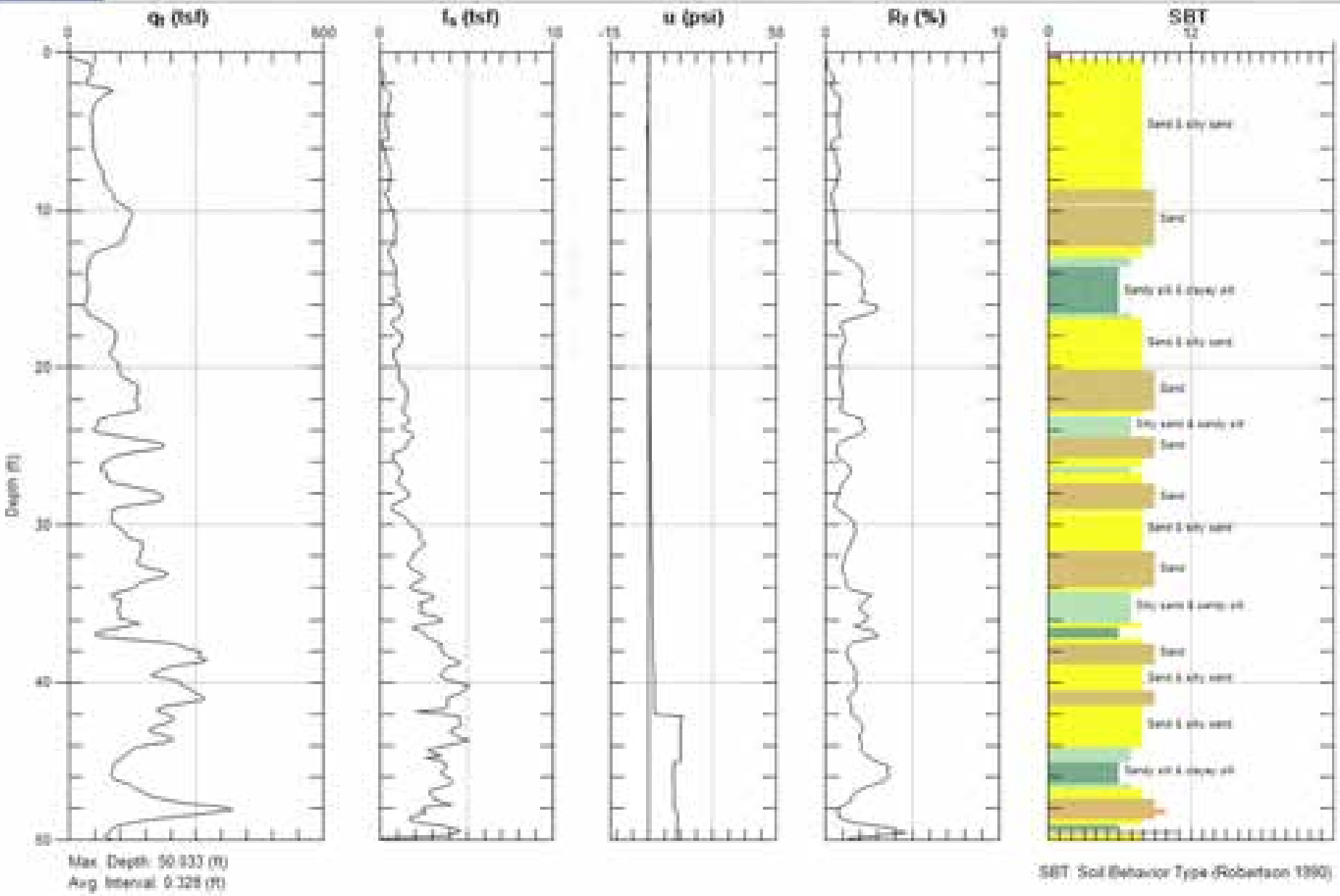
6394

GREGG

LGC GEOTECHNICAL

Site: VANDEREYK PROPERTY Engineer: R.DOUGLAS

Sounding: CPT-10 Date: 7/5/17 08:24



Max. Depth: 50.833 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

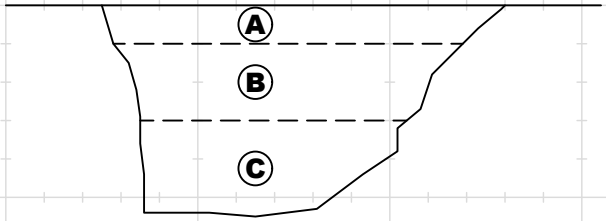
6395

6396

Project Name: VanderEyk	Logged By: KTM	Trench No: TP-1	
Project Number : 17074-01	Date : 6/26/2017	Engineering Properties:	
Equipment: Case Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 0' to TD - Quaternary Young Eolian Deposits:	Qye				
	A	@ 0' to 1' - Silty SAND to Sandy SILT: light brown, dry, loose; rootlets					
	B	@ 1' to 3' - SAND with some Silt: light brown, moist, moderately dense			B-1 @ 2' to 5'		
	C	@ 3' to TD - SAND with few Gravels: light to moderate brown, moist, slightly dense					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 754 ' MSL** **Surface Slope: 0 deg.** **Trend: 80W**



Total Depth: 5.5'
Groundwater: None
Backfilled: 6/26/2017

scale : 1 in = 5 ft

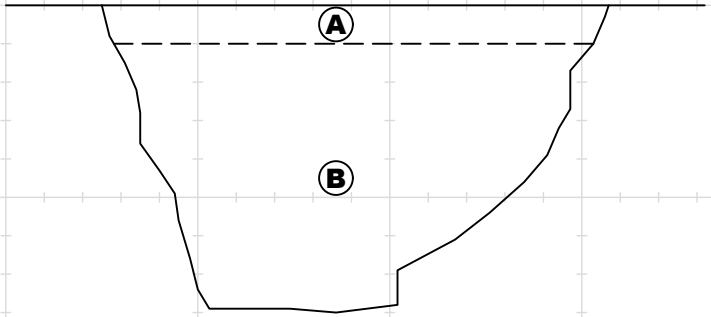
Last Edited: 8/1/2017

6397

Project Name: VanderEyk	**Logged By: KTM**	**Trench No: TP-2**
Project Number : 17074-01	**Date : 6/26/2017**	**Engineering Properties:**
Equipment: Case Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A B	@ 0' to TD - Quaternary Young Eolian Deposits: @ 0' to 1' - SAND with some Silt: light brown, dry to slightly moist, moderately dense; rootlets; slightly indurated @ 1' to TD - Fine SAND: light brown, slightly moist grades to moist, moderately dense; friable; zone from 1' to 2' is faintly laminated; becomes very moist at depth	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 756 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 8'
Groundwater: None
Backfilled: 6/26/2017

scale : 1 in = 5 ft

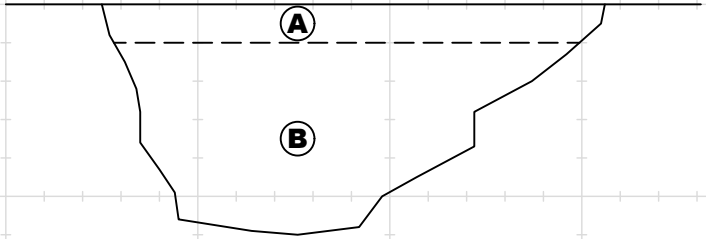
Last Edited: 8/1/2017

6398

Project Name: VanderEyk	Logged By: KTM	Trench No: TP-3	
Project Number : 17074-01	Date : 6/26/2017	Engineering Properties:	
Equipment: Case Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A B	@ 0' to TD - Quaternary Young Eolian Deposits: @ 0' to 1' - SAND with Silt: light brown, dry to slightly moist, loose to moderately dense; rootlets @ 1' to TD - SAND: light brown, slightly moist to moist with depth, loose to moderately dense; silty laminations from 1' to 2'; upper zone slightly indurated	Qye		B-1 @ 3' to 5'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 757 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 6'
Groundwater: None
Backfilled: 6/26/2017

scale : 1 in = 5 ft

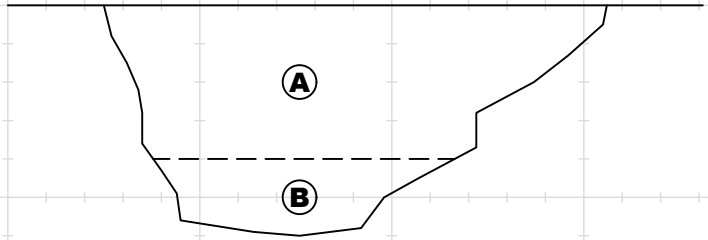
Last Edited: 8/1/2017

6399

Project Name: VanderEyk	Logged By: KTM	Trench No: TP-4	
Project Number : 17074-01	Date : 6/26/2017	Engineering Properties:	
Equipment: Case Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A B	@ 0' to TD - Quaternary Young Eolian Deposits: @ 0' to 4' - SAND with some Silt: light brown, dry, loose to moderately dense; slightly indurated with rootlets to 4'; upper 1' very dry; roots @ 4' to TD - SAND (fine): light brown, slightly moist to moist, moderately dense; friable	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 752 ' MSL** **Surface Slope: 0 deg.** **Trend: NS**



Total Depth: 6'
Groundwater: None
Backfilled: 6/26/2017

scale : 1 in = 5 ft

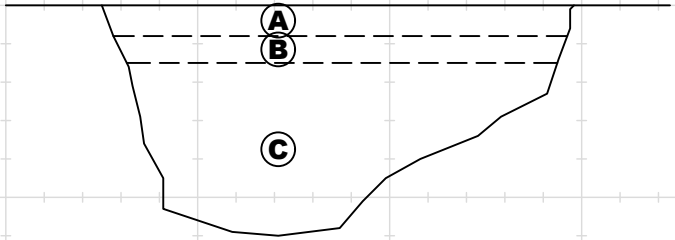
Last Edited: 8/1/2017

6400

Project Name: VanderEyk	**Logged By: KTM**	**Trench No: TP-5**
Project Number : 17074-01	**Date : 6/26/2017**	**Engineering Properties:**
Equipment: Case Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A B C	@ 0' to TD - Quaternary Young Eolian Deposits: @ 0' to 0.8' - Organic layer @ 0.8' to 1.5' - SAND with some SILT: light brown; organic-rich layer @ 1.5 to TD - SAND: light brown, slightly moist to moist, loose to moderately dense; homogenous; few rootlets to 2'	Qye				

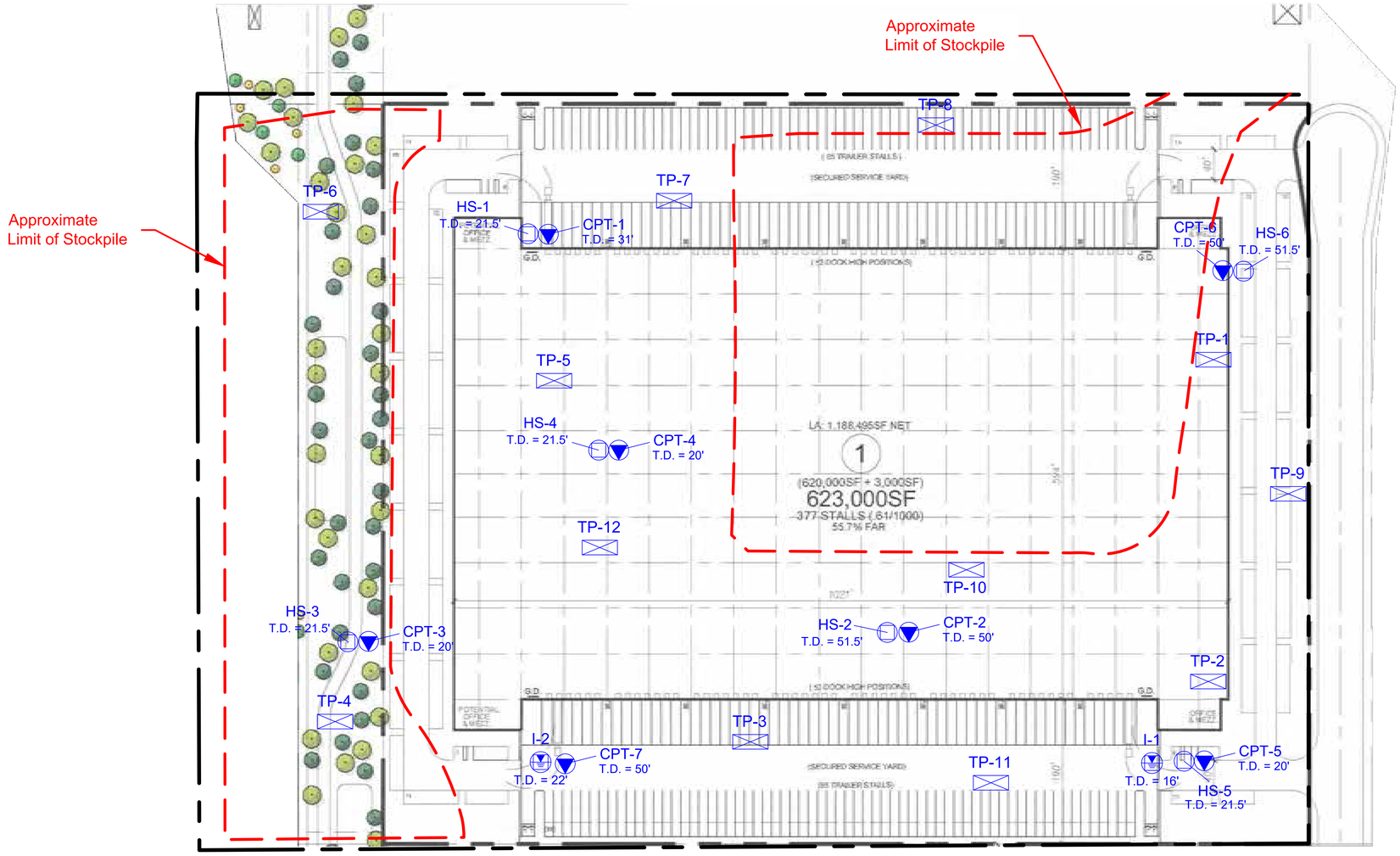
GRAPHICAL REPRESENTATION BELOW: **Elevation : 752 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 6'
Groundwater: None
Backfilled: 6/26/2017

scale : 1 in = 5 ft

Last Edited: 8/1/2017



See Sheet 3 for Additional Shallow Test Pit Locations

LEGEND

HS-6
T.D. = 21.5'
Approximate Location of Hollow Stem Auger Boring by LGC Geotechnical, With Total Depth in Feet

I-2
T.D. = 22'
Approximate Location of Hollow Stem Auger Infiltration Boring by LGC Geotechnical, With Total Depth in Feet

TP-12
Approximate Location of Geotechnical Exploratory Trench by LGC Geotechnical

CPT-7
T.D. = 50'
Approximate Location of Cone Penetration Test (CPT) Boring by LGC Geotechnical, With Total Depth in Feet

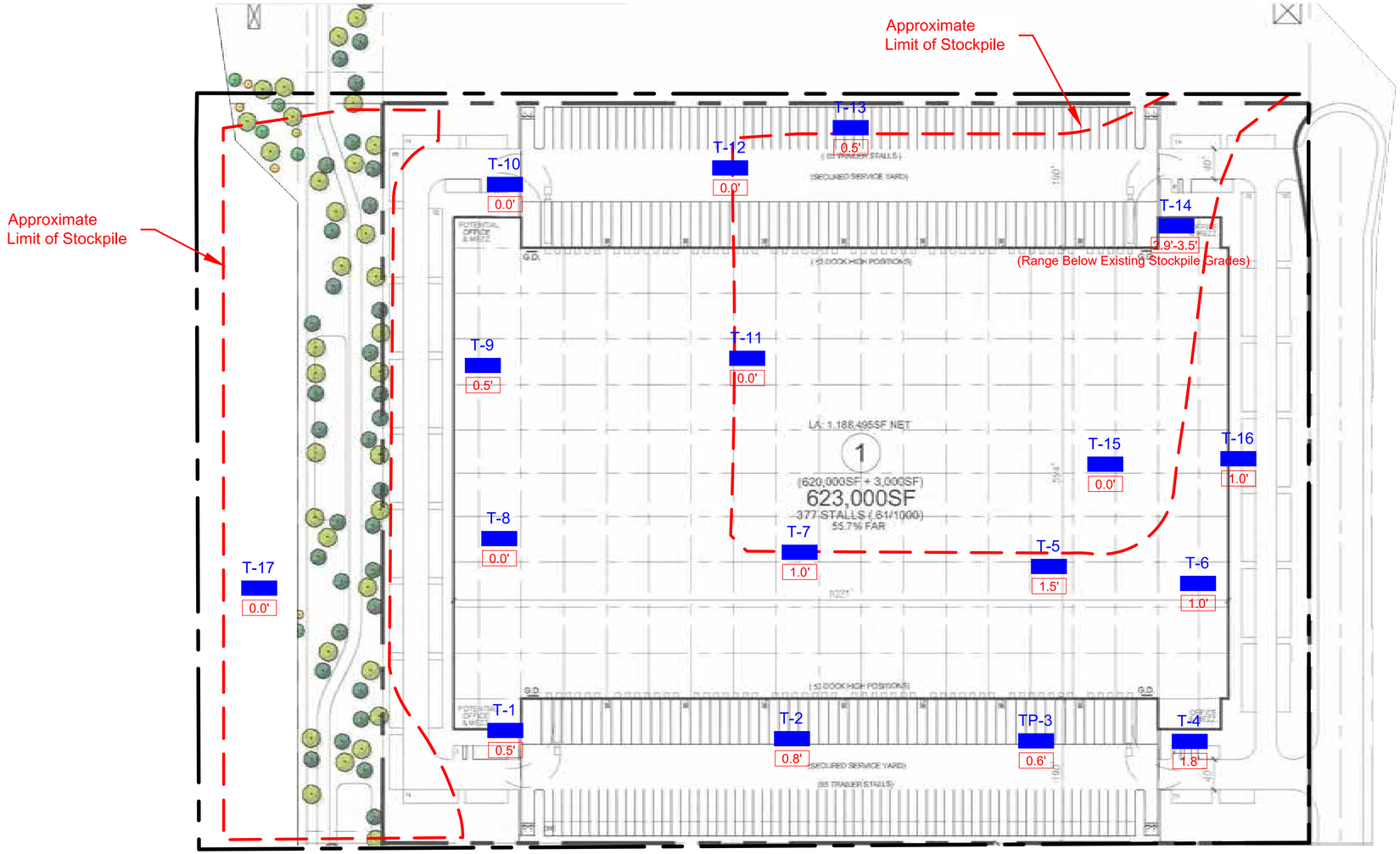
Approximate Limits of This Report

SCALE: 1"=80'
80' 0 80' 160'

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Geotechnical Exploration Location Map With Conceptual Plan

PROJECT NAME	MCBC - Brookfield
PROJECT NO.	20246-01
ENG. / GEOL.	RLD
SCALE	1" = 80'
DATE	August 2021



**See Sheets 1 and 2 for Boring, Infiltration Test, CPT and Geotechnical Trench Locations*

LEGEND

T-17
0.0'

Approximate Location of Organics Exploratory Trench by LGC Geotechnical with Estimated Minimum Depth of High Organic "Soil" to be Exported From the Site, in Feet

Approximate Limits of This Report

SCALE: 1"=80'
80' 0 80' 160'

LGC Geotechnical, Inc.

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Recommended High Organic "Soil" Export Map

PROJECT NAME	MCBC - Brookfield
PROJECT NO.	20246-01
ENG. / GEOL.	RLD/ARN
SCALE	1" = 80'
DATE	August 2021

SHEET 3 of 3

APPENDIX C

Laboratory Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the site soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on driven samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140).

Sample Location	Description	% Passing # 200 Sieve
HS-1 @ 5.0 ft	Silty Sand	34
HS-2 @ 2.5 ft	Silty Sand	36
HS-3 @ 5.0 ft	Sandy Silt	71
HS-6 @ 7.5 ft	Silty Sand	43
I-1 @ 14 ft	Sandy Silt	61
I-2 @ 1-5 ft	Silty Sand	34
I-2 @ 20 ft	Sand with Silt	8

Collapse/Swell Potential: Collapse tests were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The curves are presented in this Appendix.

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results of these tests are presented in the table below:

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-4 @ 2 to 5 ft	Silty Sand	113.0	11.5
HS-6 @ 2 to 5 ft	Silty Sand	104.5	12.5

Expansion Index: The expansion potential of selected representative samples was evaluated by the Expansion Index Test per ASTM D4829.

Sample Location	Expansion Index	Expansion Potential*
HS-4 @ 2 to 5 ft	1	Very Low
HS-6 @ 2 to 5 ft	0	Very Low
I-2 @ 1-5 ft	0	Very Low

* Per ASTM D4829

Soluble Sulfates: The soluble sulfate content of select sample was determined by standard geochemical methods (CTM 417). The test results are presented in the table below.

Sample Location	Sulfate Content, %
HS-4 @ 2 to 5 ft	< 0.02
I-2 @ 1-5 ft	< 0.03

Chloride Content: Chloride content was tested per CTM 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-4 @ 2 to 5 ft	148
I-2 @ 1-5 ft	120

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-4 @ 2 to 5 ft	7.63	1,480
I-2 @ 1-5 ft	8.53	1,994

APPENDIX C

Laboratory Test Results (Continued)

Organic Matter Content of Soils: Organic matter content tests were performed in general accordance with ASTM D 2974 (Test Methods A & C). The results are presented in Table 9.

ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

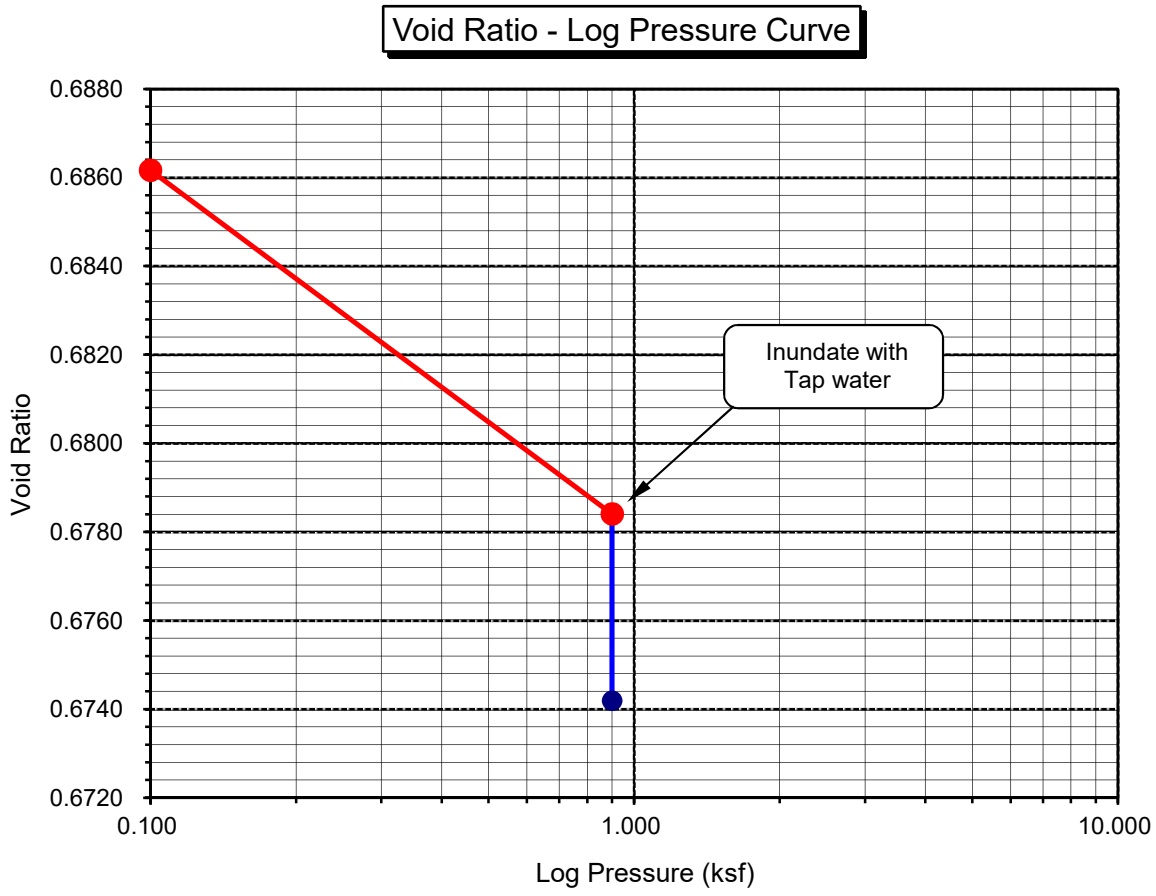
Project Name:	Colonial	Tested By:	G. Bathala	Date:	07/16/19
Project No.:	16163-01	Checked By:	J. Ward	Date:	07/25/19
Boring No.:	HS-6	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	7.5		
Sample Description:	Light olive brown silty sand (SM)				

Initial Dry Density (pcf):	100.0
Initial Moisture (%):	9.04
Initial Length (in.):	1.0000
Initial Dial Reading:	0.2702
Diameter(in):	2.415

Final Dry Density (pcf):	100.7
Final Moisture (%) :	23.0
Initial Void Ratio:	0.6862
Specific Gravity(assumed):	2.70
Initial Saturation (%)	35.6

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.2702	1.0000	0.00	0.00	0.6862	0.00
0.900	0.2638	0.9936	0.18	-0.64	0.6784	-0.46
H2O	0.2613	0.9911	0.18	-0.89	0.6742	-0.71

Percent Swell (+) / Settlement (-) After Inundation = -0.25



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

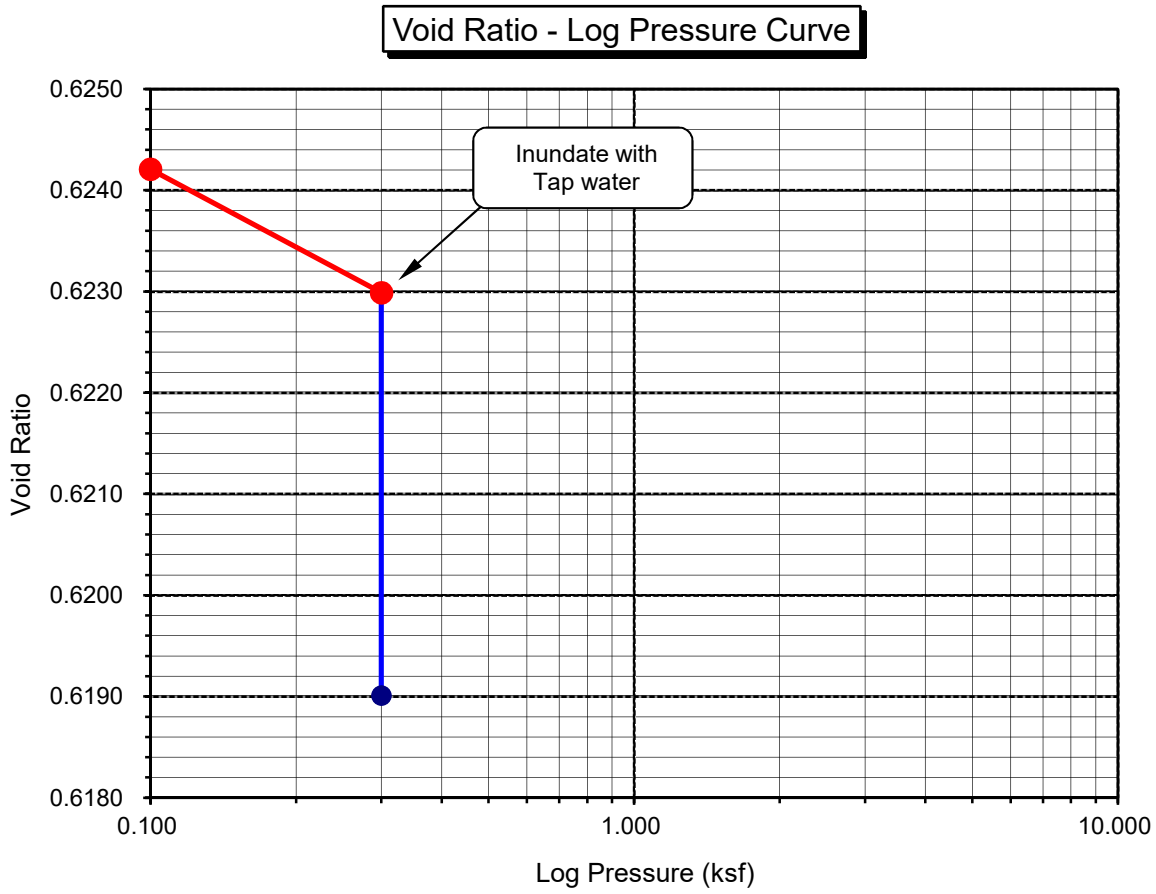
Project Name:	Colonial	Tested By:	G. Bathala	Date:	07/16/19
Project No.:	16163-01	Checked By:	J. Ward	Date:	07/25/19
Boring No.:	HS-2	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	2.5		
Sample Description:	Olive silty sand (SM)				

Initial Dry Density (pcf):	103.7
Initial Moisture (%):	4.44
Initial Length (in.):	1.0000
Initial Dial Reading:	0.3294
Diameter(in):	2.415

Final Dry Density (pcf):	104.1
Final Moisture (%) :	18.8
Initial Void Ratio:	0.6249
Specific Gravity(assumed):	2.70
Initial Saturation (%)	19.2

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.3290	0.9996	0.00	-0.04	0.6242	-0.04
0.300	0.32735	0.9980	0.09	-0.21	0.6230	-0.12
H2O	0.3249	0.9955	0.09	-0.45	0.6190	-0.36

Percent Swell (+) / Settlement (-) After Inundation = -0.25



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	Colonial	Tested By:	G. Bathala	Date:	07/17/19
Project No.:	16163-01	Checked By:	J. Ward	Date:	07/25/19
Boring No.:	HS-3	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	5.0		

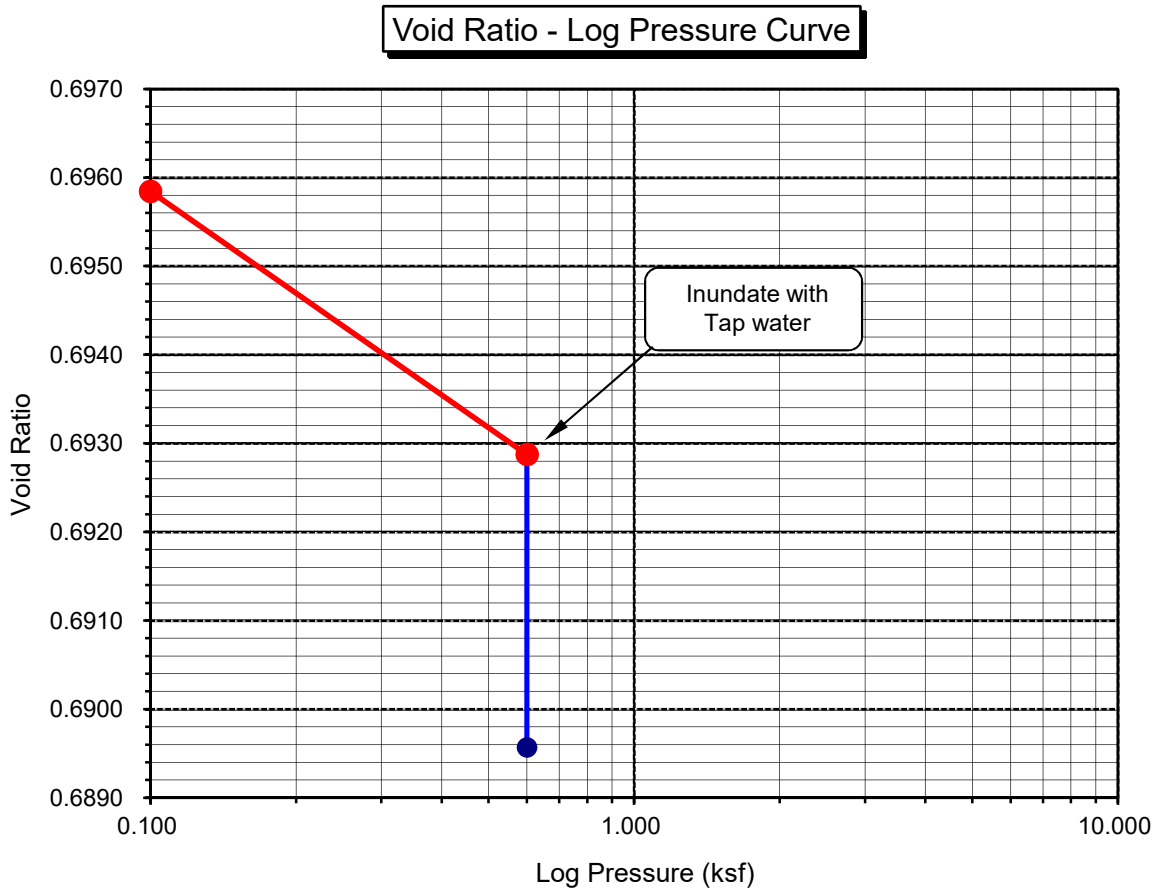
Sample Description: Olive silt with sand (ML)s, organic material noted

Initial Dry Density (pcf):	99.4
Initial Moisture (%):	10.70
Initial Length (in.):	1.0000
Initial Dial Reading:	0.3151
Diameter(in):	2.415

Final Dry Density (pcf):	99.8
Final Moisture (%) :	25.9
Initial Void Ratio:	0.6962
Specific Gravity(assumed):	2.70
Initial Saturation (%)	41.5

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.3149	0.9998	0.00	-0.02	0.6958	-0.02
0.600	0.31245	0.9974	0.07	-0.27	0.6929	-0.20
H2O	0.3105	0.9954	0.07	-0.46	0.6896	-0.39

Percent Swell (+) / Settlement (-) After Inundation = -0.20



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

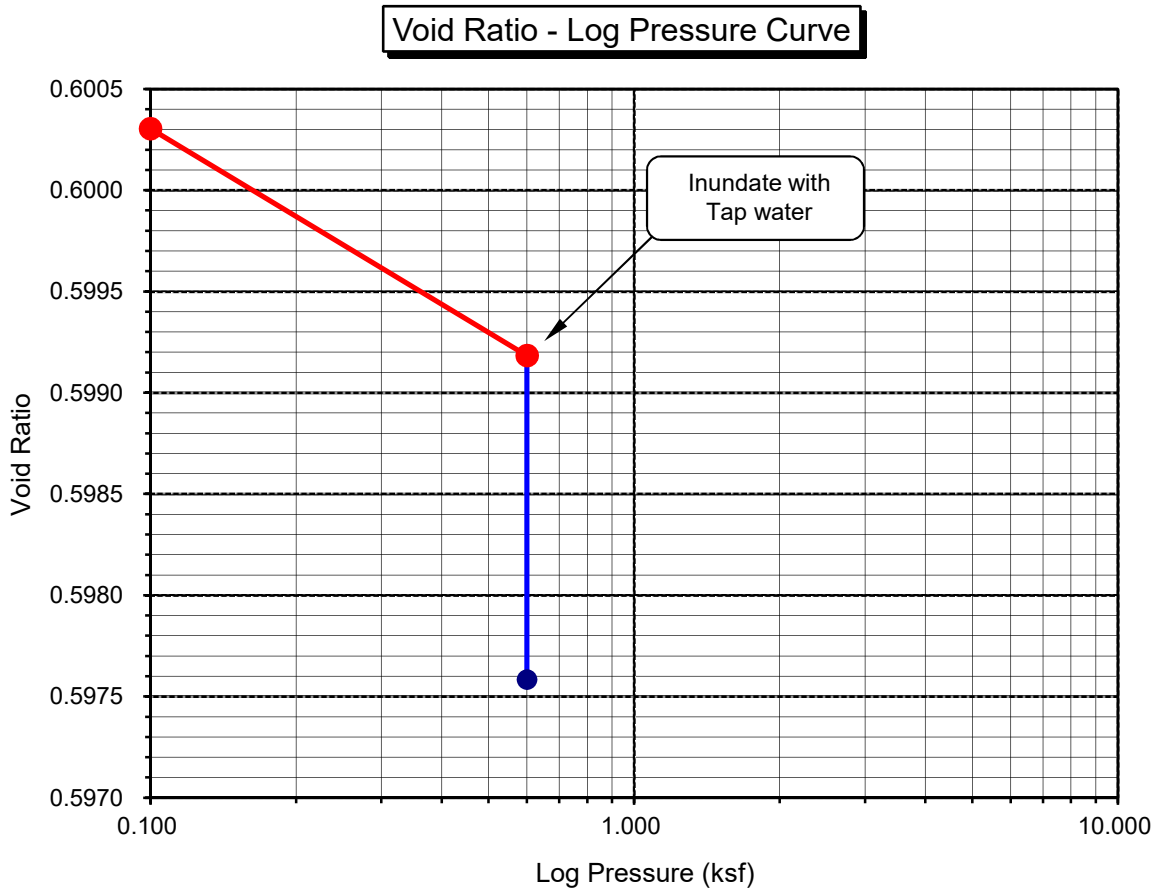
Project Name:	Colonial	Tested By:	G. Bathala	Date:	07/17/19
Project No.:	16163-01	Checked By:	J. Ward	Date:	07/25/19
Boring No.:	HS-1	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	5.0		
Sample Description:	Olive silty sand (SM)				

Initial Dry Density (pcf):	105.3
Initial Moisture (%):	5.30
Initial Length (in.):	1.0000
Initial Dial Reading:	0.2910
Diameter(in):	2.415

Final Dry Density (pcf):	105.5
Final Moisture (%) :	18.5
Initial Void Ratio:	0.6003
Specific Gravity(assumed):	2.70
Initial Saturation (%)	23.8

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.2910	1.0000	0.00	0.00	0.6003	0.00
0.600	0.2888	0.9978	0.15	-0.22	0.5992	-0.07
H2O	0.2878	0.9968	0.15	-0.32	0.5976	-0.17

Percent Swell (+) / Settlement (-) After Inundation = -0.10



PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Colonial
Project No.: 16163-01
Boring No.: HS-6
Sample No.: R-2
Soil Identification: Light olive brown silty sand (SM)

Tested By: G. Bathala Date: 07/18/19
Checked By: J. Ward Date: 07/25/19
Depth (feet): 7.5

		Moisture Content of Total Air - Dry Soil	
Container No.:	XY	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	595.2	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	248.2	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	347.0	Moisture Content (%)	0.0

After Wet Sieve	Container No.	XY
	Wt. of Dry Soil + Container (g)	457.1
	Wt. of Container (g)	248.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	208.9

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75	0.0	100.0
#8	2.36	0.1	100.0
#16	1.18	1.4	99.6
#30	0.600	18.5	94.7
#50	0.300	46.5	86.6
#100	0.150	98.4	71.6
#200	0.075	197.4	43.1
PAN			

GRAVEL: **0 %**
SAND: **57 %**
FINES: **43 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

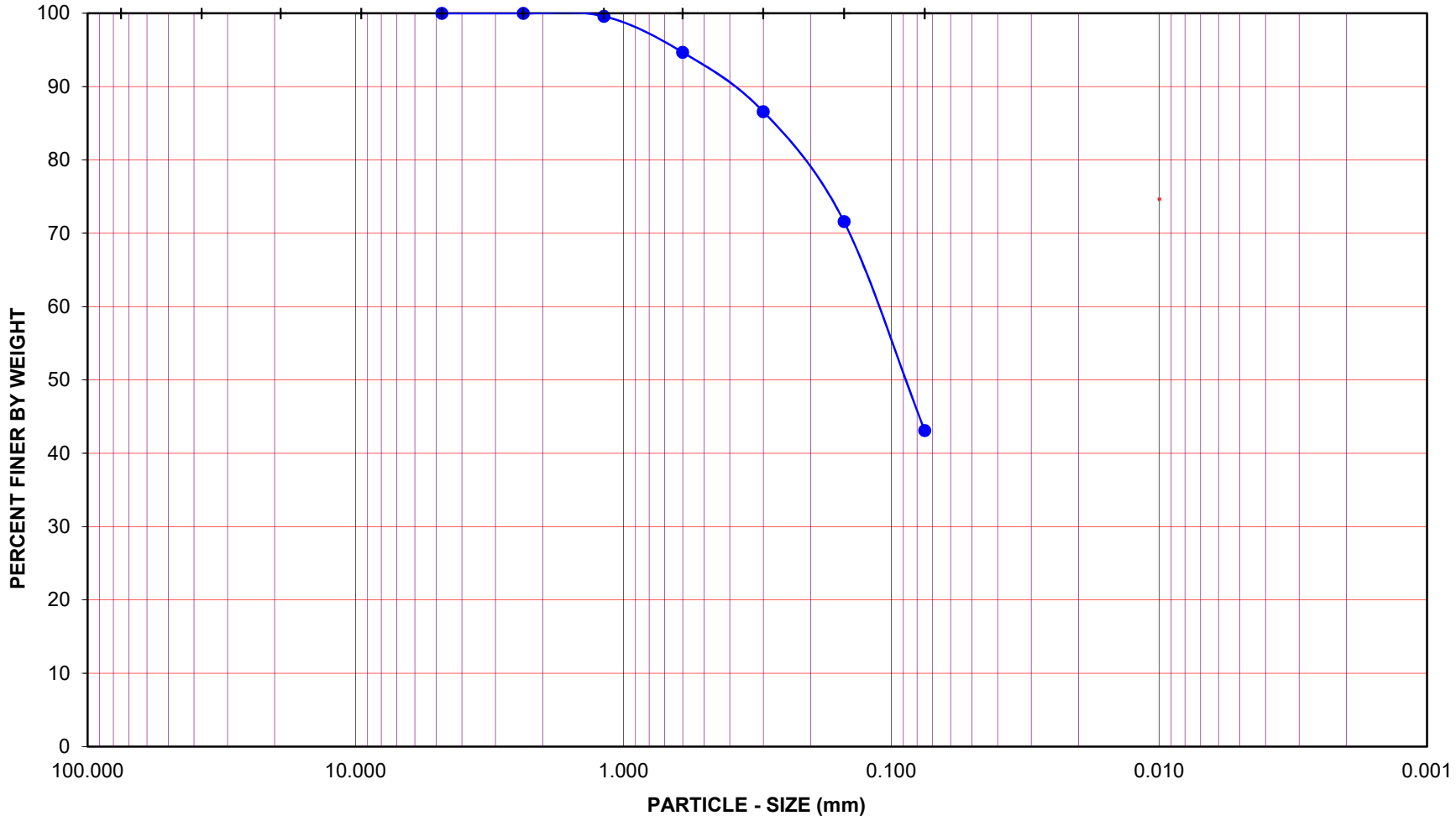
Remarks: _____

6410

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: Colonial

Project No.: 16163-01

Boring No.: HS-6 Sample No.: R-2

Depth (feet): 7.5 Soil Type : SM

Soil Identification: Light olive brown silty sand (SM)

GR:SA:FI : (%) 0 : 57 : 43

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jul-19

6411

SA HS-1, R-2 @ 7.5

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Colonial
Project No.: 16163-01
Boring No.: HS-2
Sample No.: R-1
Soil Identification: Olive silty sand (SM)

Tested By: G. Bathala Date: 07/18/19
Checked By: J. Ward Date: 07/25/19
Depth (feet): 2.5

		Moisture Content of Total Air - Dry Soil	
Container No.:	ZK	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	564.9	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	248.9	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	316.0	Moisture Content (%)	0.0

After Wet Sieve	Container No.	ZK
	Wt. of Dry Soil + Container (g)	459.5
	Wt. of Container (g)	248.9
	Dry Wt. of Soil Retained on # 200 Sieve (g)	210.6

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	0.7	99.8
#8	2.36	1.5	99.5
#16	1.18	3.1	99.0
#30	0.600	8.1	97.4
#50	0.300	31.6	90.0
#100	0.150	108.5	65.7
#200	0.075	202.6	35.9
PAN			

GRAVEL: **0 %**
SAND: **64 %**
FINES: **36 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

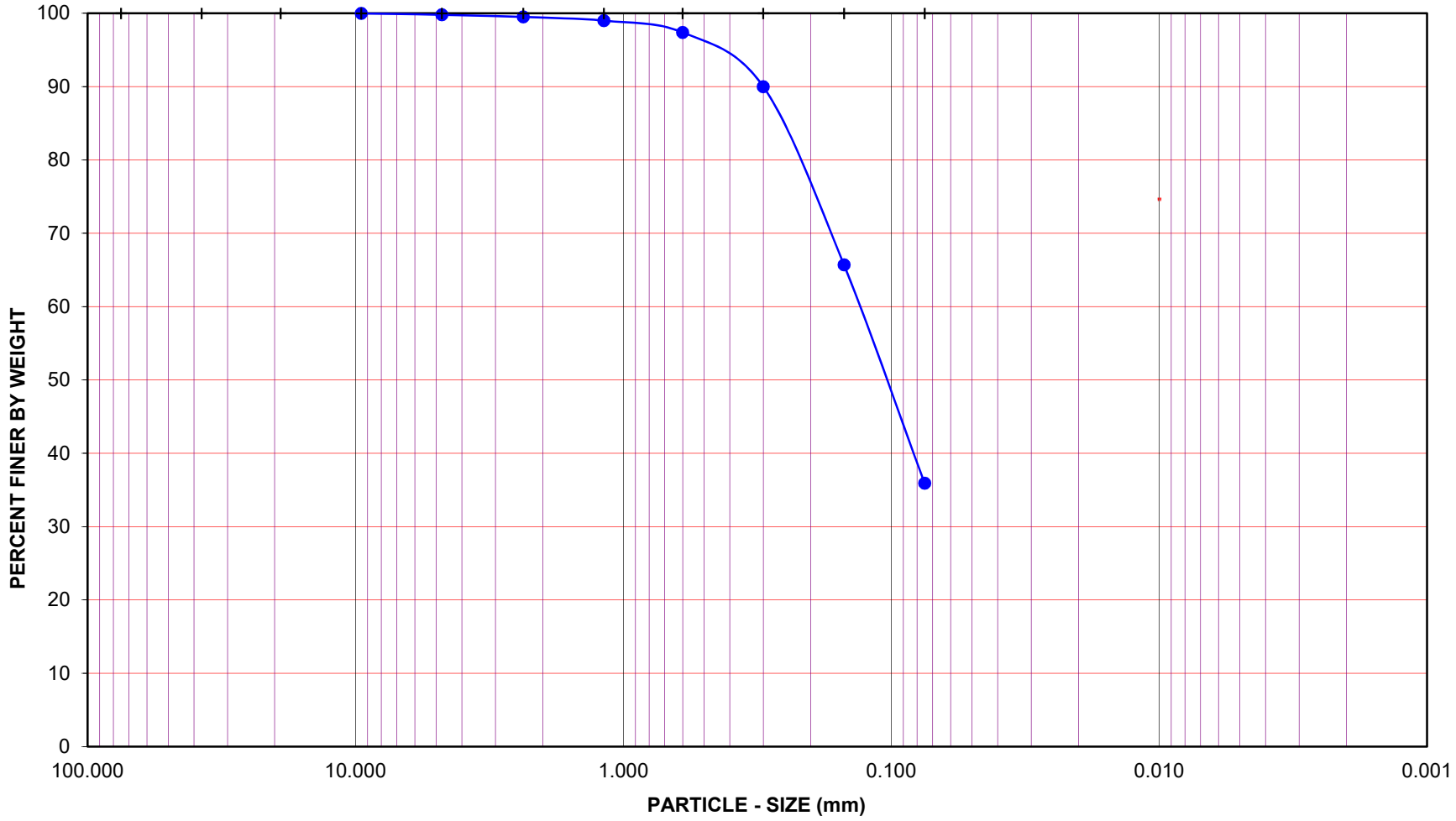
Remarks: _____

6412

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: Colonial

Project No.: 16163-01

Boring No.: HS-2 Sample No.: R-1

Depth (feet): 2.5 Soil Type : SM

Soil Identification: Olive silty sand (SM)

GR:SA:FI : (%) 0 : 64 : 36

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jul-19

6413

SA HS-3, R-1 @ 2.5

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Colonial
Project No.: 16163-01
Boring No.: HS-3
Sample No.: R-1
Soil Identification: Olive silt with sand (ML)s, organic material noted

Tested By: G. Bathala Date: 07/18/19
Checked By: J. Ward Date: 07/25/19
Depth (feet): 5.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	HA	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	533.2	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	246.0	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	287.2	Moisture Content (%)	0.0

After Wet Sieve	Container No.	HA
	Wt. of Dry Soil + Container (g)	332.3
	Wt. of Container (g)	246.0
	Dry Wt. of Soil Retained on # 200 Sieve (g)	86.3

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75	0.0	100.0
#8	2.36	0.1	100.0
#16	1.18	0.3	99.9
#30	0.600	1.0	99.7
#50	0.300	5.3	98.2
#100	0.150	38.0	86.8
#200	0.075	83.4	71.0
PAN			

GRAVEL: **0 %**
SAND: **29 %**
FINES: **71 %**
GROUP SYMBOL: **(ML)s**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

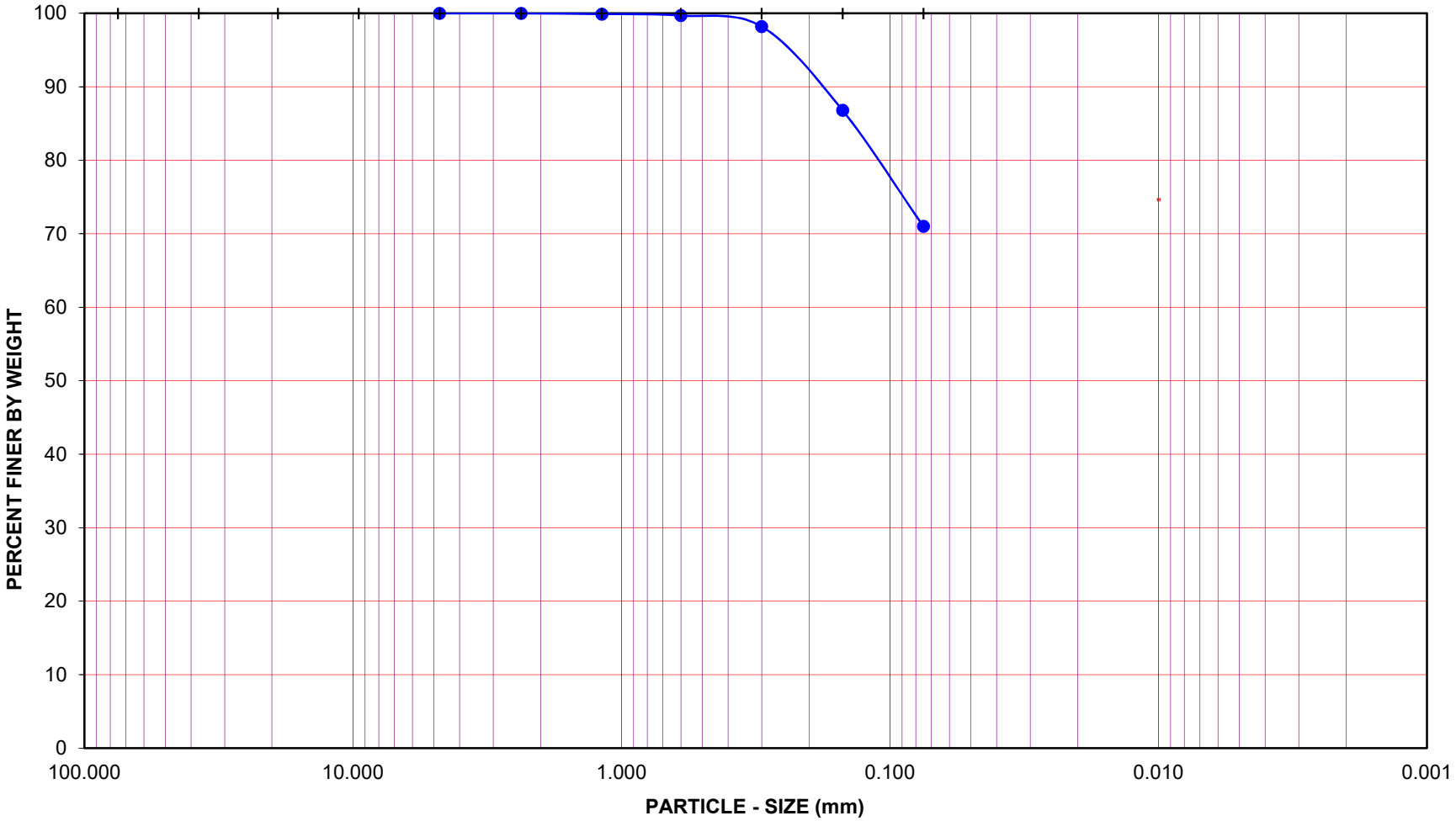
Remarks: _____

6414

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: Colonial

Project No.: 16163-01

Boring No.: HS-3 Sample No.: Depth

(feet): 5.0 Soil Type (ML)s

Soil Identification: Olive silt with sand (ML)s, organic material noted

GR:SA:FI : (%) 0 : 29 : 71

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jul-19

6415

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Colonial
Project No.: 16163-01
Boring No.: HS-1
Sample No.: R-1
Soil Identification: Olive silty sand (SM)

Tested By: G. Bathala Date: 07/18/19
Checked By: J. Ward Date: 07/25/19
Depth (feet): 5.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	GE	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	599.4	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	250.2	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	349.2	Moisture Content (%)	0.0

After Wet Sieve	Container No.	GE
	Wt. of Dry Soil + Container (g)	488.4
	Wt. of Container (g)	250.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	238.2

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36	0.0	100.0
#16	1.18	0.1	100.0
#30	0.600	0.7	99.8
#50	0.300	14.3	95.9
#100	0.150	119.1	65.9
#200	0.075	229.4	34.3
PAN			

GRAVEL: **0 %**
SAND: **66 %**
FINES: **34 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

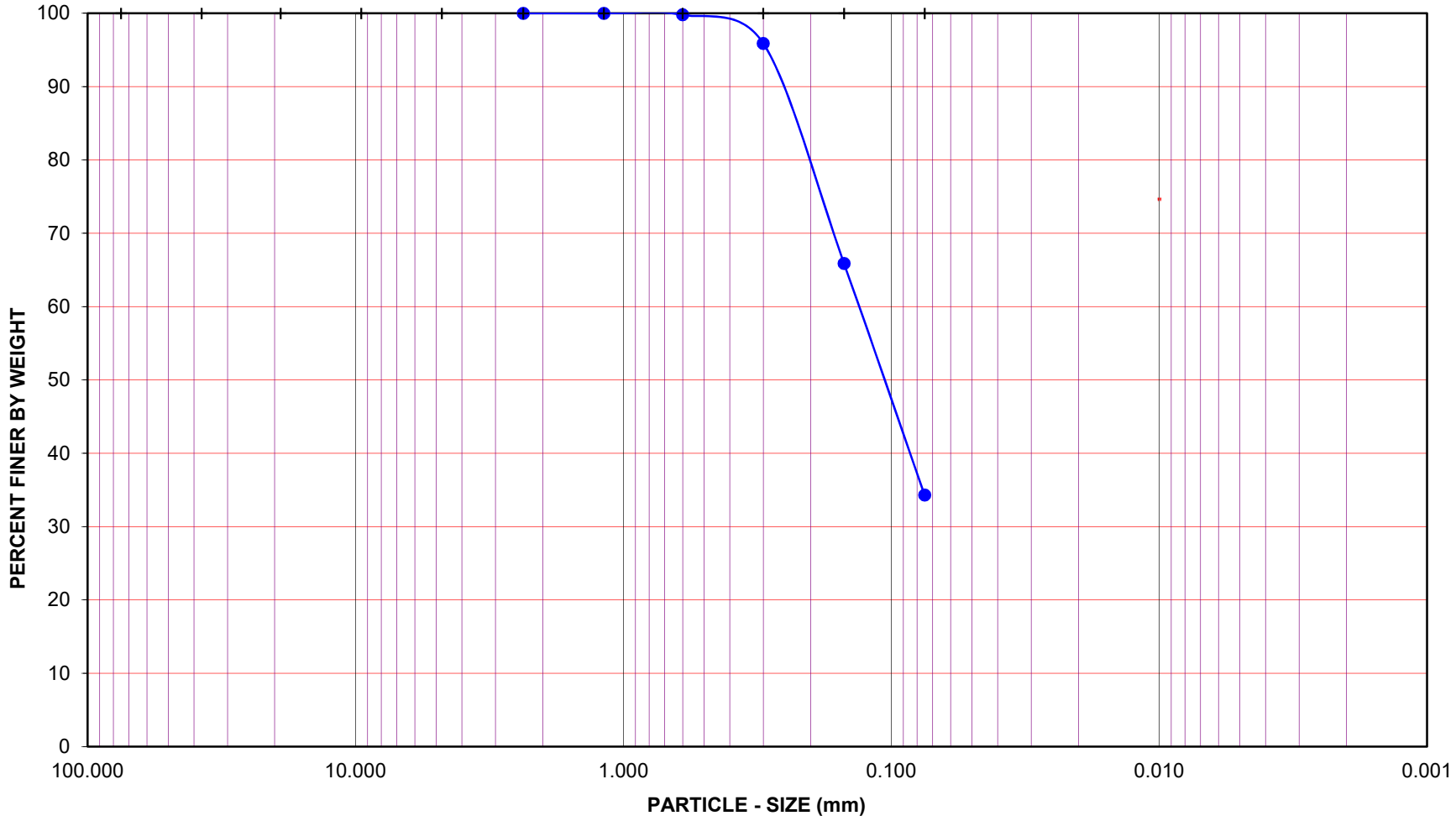
Remarks: _____

6416

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: Colonial

Project No.: 16163-01

Boring No.: HS-1 Sample No.: R-1

Depth (feet): 5.0 Soil Type : SM

Soil Identification: Olive silty sand (SM)

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

GR:SA:FI : (%) 0 : 66 : 34

Jul-19

6417

T-1 (0.5')*	
Depth (ft)	% Organics
0.2	5.1
0.5	1.8
1.0	0.5

T-2 (0.8')*	
Depth (ft)	% Organics
0.2	4.1
0.5	20.9
0.8	0.4

T-3 (0.6')*	
Depth (ft)	% Organics
0.4	19.1
0.7	1.6
	-

T-4 (1.8')*	
Depth (ft)	% Organics
0.4	6.3
1.5	9.6
2.0	1.5

T-5 (1.5')*	
Depth (ft)	% Organics
1.0	9.2
2.0	0.2

T-6 (1.0')*	
Depth (ft)	% Organics
0.6	10.5
1.4	2.1
1.6	0.3

T-7 (1.0')*	
Depth (ft)	% Organics
0.7	10.4
1.1	1.5
1.4	0.4

T-8 (0')*	
Depth (ft)	% Organics
0.5	2.6
1.2	3.7
1.7	1.7

T-9 (0.5')*	
Depth (ft)	% Organics
0.4	4.6
1.2	2.1
1.5	1.1
-	-

T-10 (0')*	
Depth (ft)	% Organics
0.5	2.7
1.1	1.7
1.5	1.0
-	-

T-11 (0')*	
Depth (ft)	% Organics
0.3	0.6
2.3	1.3
2.7	0.8
3.5	0.7

T-12 (0')*	
Depth (ft)	% Organics
0.3	4.1
1.0	1.2
1.5	0.5
-	-

T-13 (0.5')*	
Depth (ft)	% Organics
0.2	6.7
0.8	4.0
1.2	1.7
-	-

T-14 (2.9' to 3.5')*	
Depth (ft)	% Organics
1.0	1.3
3.0	10.1
3.5	0.4
-	-

T-15 (0')*	
Depth (ft)	% Organics
1.0	1.1
2.0	2.3
3.0	0.5
4.0	0.7

T-16 (1.0')*	
Depth (ft)	% Organics
0.5	11.4
1.6	1.9
2.4	0.5
-	-

T-17 (0')*	
Depth (ft)	% Organics
1.0	0.6
4.0	1.1

Legend

> 5%	**"High" Organic Content "Soils" Recommended for Export from Site**
2 to 5%	**"Transitional" Soils Recommended for Mix/Blend w/ "Clean" Soils**
< 2%	**"Clean" Soils**

te: (#')* Indicates Recommended Organic Export Depth in Feet. Export depth may exceed the depths highlighted box

LGC Geotechnical, Inc.

Table 8 - Summary of Organic Content - Organic Removal & Export Depths

Project Name	MCBC - Brookfield, Ontario
Project Number	20246-01
ENG./GEOL.	RLD/ARN
Date	August 2021

Geotechnical Boring Log Borehole I-1

Date: 12/18/2021	**Drilling Company:** Cal Pac Drilling
Project Name: MCBC-Brookfield	**Type of Rig:** Track Rig
Project Number: 20246-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~755' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)**	
755			R-1	5 6 7	105.7	2.1	SP-SM	@2.5' - SAND with Silt: dusky brown, dry, medium dense	
	5		R-2	4 6 10	109.5	3.7	SM	@5' - Silty SAND: dusky brown, dry, medium dense	
750									
	10		SPT-1	4 5 6		5.8		@10' - Silty SAND: dusky brown, slightly moist, medium dense	
745									
	15		R-3	4 8 13	101.2	8.1	ML	@14' - Sandy SILT: dusky brown slightly moist, stiff	-#200
740								Total Depth = 16' Groundwater Not Encountered Infiltration Well Installed Per County Guidelines Backfilled with Cuttings on 12/19/2021	
	20								
735									
	25								
730									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole I-2

Date: 12/18/2021	**Drilling Company:** Cal Pac Drilling
Project Name: MCBC-Brookfield	**Type of Rig:** Track Rig
Project Number: 20246-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~757' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)**	
755			R-1	9 11 9	105.5	3.7	SM	@2.5' - Silty SAND: gray brown, dry, medium dense	EI CR -#200
	5		R-2	5 8 13	112.0	3.5		@5' - Silty SAND: dusky gray brown, dry, medium dense	
750									
	10		SPT-1	6 5 6		5.9		@10' - Silty SAND: dusky gray brown, slightly moist, medium dense	
745									
	15								
740									
	20		R-3	7 14 9	101.2	1.9	SP-SM	@20' - SAND with Silt: dusky gray brown, dry, medium dense	-#200
735								Total Depth = 22' Groundwater Not Encountered Infiltration Well Installed Per County Guidelines Backfilled with Cuttings on 12/19/2021	
	25								
730									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole HS-1

Date: 6/21/2019 | **Drilling Company:** Cal Pac

Project Name: Colonial | **Type of Rig:** Limited Access HS

Project Number: 16163-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~766' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
765	0							**@0' to 2.5' Artificial Fill - Undocumented (afu)** @0' - Silty SAND: brown, dry, loose; scattered grass and rootlets	
			SPT-1	3 4 5		3.8	SP	**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)** @2.5' - SAND: gray brown, slightly moist, medium dense	
760	5		R-1	5 8 15	106.6	5.3	SM	@5' - Silty SAND: olive gray, slightly moist, medium dense	-#200 CO
			SPT-2	4 5 7		6.3	SM	@7.5' - Silty SAND: gray brown, slightly moist, medium dense	
755	10		R-2	4 9 15	105.6	2.3	SM	@10' - Silty SAND: gray brown, slightly moist, medium dense	
750	15		SPT-3	5 6 8		3.4	SM	@15' - Silty SAND: olive gray, slightly moist, medium dense	
745	20		R-3	13 14 16	105.7	4.1	SP	@20' - SAND: gray brown, slightly moist, medium dense	
740	25							Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-2

Date: 6/21/2019 | **Drilling Company:** Cal Pac

Project Name: Colonial | **Type of Rig:** Limited Access HS

Project Number: 16163-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~758' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to 2.5' Artificial Fill - Undocumented** @0' - Silty SAND: brown, dry, loose; scattered grass and rootlets	
755		B-1	R-1	4 5 7	102.0	4.4	SM	**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)** @2.5' - Silty SAND: olive brown, slightly moist, loose	-#200 CO
	5		SPT-1	4 5 6		6.7	SM	@5' - Silty SAND: olive brown, slightly moist, medium dense	
750			R-2	14 15 18	101.1	2.5	SM	@7.5' - Silty fine SAND: gray brown, slightly moist, medium dense	
	10		SPT-2	3 6 7		3.8	SM	@10' - Silty Fine SAND: gray brown, slightly moist, medium dense	
745									
	15		R-3	8 16 22	111.1	3.5	SM	@15' - Silty SAND with Gravel: gray, slightly moist, medium dense	
740									
	20		SPT-3	6 6 8		8.0	SM	@20' - Silty SAND: brown, moist, medium dense	
735									
	25		R-4	8 13 15	96.0	4.2	SP	@25' - SAND: gray brown, slightly moist, medium dense	
730									
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-2

Date: 6/21/2019 | **Drilling Company:** Cal Pac

Project Name: Colonial | **Type of Rig:** Limited Access HS

Project Number: 16163-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~758' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	5 6 11		10.9	SC	@30' - Clayey SAND: brown, moist, medium dense	
725									
	35		R-5	8 14 22	114.5	9.5	SC	@35' - Clayey SAND: gray and reddish brown mottled, moist, medium dense; iron oxide staining; pin hole porosity	
720									
	40		SPT-5	10 17 22		10.6	SM	@40' - Silty SAND: gray brown, moist, dense; minor iron oxide staining	
715									
	45		R-6	6 12 18	110.2	18.2	ML	@45' - SILT: olive brown and reddish orange mottled, very moist, very stiff; iron oxide staining	
710									
	50		SPT-6	13 23 25		9.5	SM	@50' - Silty SAND: gray brown, moist, very dense	
705								Total Depth = 51.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	55								
700									
	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-3

Date: 6/21/2019 | **Drilling Company:** Cal Pac

Project Name: Colonial | **Type of Rig:** Limited Access HS

Project Number: 16163-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~757' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0						**@0' to 2.5' Artificial Fill - Undocumented** @0' - Silty SAND: brown, dry, loose; scattered grass and rootlets	
		SPT-1	3 5 5		5.7	SM	**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)** @2.5' - Silty SAND: gray brown, slightly moist, medium dense	
	5	R-1	8 8 11	101.9	10.7	ML	@5' - SILT with Sand: olive brown, moist, stiff; roots; wood fragments	-#200 CO
750		SPT-2	8 9 11		5.3	SM	@7.5' - Silty SAND: gray brown, slightly moist, medium dense	
	10	R-2	9 15 21	111.4	2.5	SP	@10' - SAND: gray brown, slightly moist, medium dense	
745								
	15	SPT-3	3 6 9		15.0	ML	@15' - Sandy SILT: olive gray, very moist, very stiff	
740								
	20	R-3	3 9 14	99.6	12.6	SM	@20' - Silty SAND: olive brown, moist, medium dense; white root casts	
735							Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	25							
730								
	30							

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-4

Date: 6/21/2019 | **Drilling Company:** Cal Pac

Project Name: Colonial | **Type of Rig:** Limited Access HS

Project Number: 16163-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~757' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0	B-1	R-1	9 10 16	108.3	4.9	SM	**@0' to 2.5' Artificial Fill - Undocumented** @0' - Silty SAND: brown, dry, loose; scattered grass and rootlets **@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)** @2.5' - Silty SAND: olive brown, slightly moist, medium dense; white rootlets	EI MD CR
	5		SPT-1	4 4 4		3.9	SM	@5' - Silty SAND: olive gray, slightly moist, loose	
750			R-2	5 10 15	88.9	3.6	ML	@7.5' - Sandy Silt: gray, slightly moist, very stiff	
	10		SPT-2	4 7 10		1.5	SM	@10' -Silty SAND: gray brown, dry, medium dense	
745									
	15		R-3	8 9 13	99.9	10.2	SM	@15' - Silty SAND: brown, moist, medium dense	
740									
	20		SPT-3	12 10 10		1.8	SP	@20' - SAND with Gravel: gray brown, dry, medium dense	
735								Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	25								
730									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
⏚	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-5

Date: 6/21/2019	**Drilling Company:** Cal Pac
Project Name: Colonial	**Type of Rig:** Limited Access HS
Project Number: 16163-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~757' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0	B-1	R-1	5 8 9	101.3	2.5	SP	**@0' to 2.5' Artificial Fill - Undocumented** @0' - Silty SAND: brown, dry, loose; scattered grass and rootlets **@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)** @2.5' - SAND: gray brown, slightly moist, medium dense	EI MD
	5		SPT-1	3 4 4		4.5	SP	@5' - SAND: gray brown, slightly moist, loose	
750			R-2	8 9 10	106.8	7.7	SM	@7.5' - Silty SAND: olive brown, moist, medium dense	
	10		SPT-2	4 6 8		5.1	SM	@10' - Silty SAND: gray brown, slightly moist, medium dense	
745									
	15		R-3	9 14 19	130.6	1.8	SP	@15' - SAND: gray brown, dry, medium dense	
740									
	20		SPT-3	8 10 9		4.9	SP	@20' - SAND: gray brown, slightly moist, medium dense	
735								Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	25								
730									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-6

Date: 6/21/2019	**Drilling Company:** Cal Pac
Project Name: Colonial	**Type of Rig:** Limited Access HS
Project Number: 16163-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~763' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 2

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to 2.5' Artificial Fill - Undocumented**	
								@0' - Silty SAND: brown, dry, loose; scattered grass and rootlets	
760		B-1	R-1	5 6 10	103.4	4.0	SP	**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)**	MD EI
								@2.5' - SAND: olive brown, slightly moist, medium dense	
	5		SPT-1	4 5 6		12.7	SC	@5' - Clayey SAND: brown, moist, medium dense	
755			R-2	5 9 12	97.5	9.0	SM	@7.5' - Silty SAND: light olive brown, moist, medium dense; white root casts	-#200 CO
	10		SPT-2	4 4 4		8.7	SM	@10' - Silty SAND: olive brown, moist, loose	
750									
	15		R-3	4 8 12	102.6	8.5	SM	@15' - Silty SAND: gray brown, moist, medium dense	
745									
	20		SPT-3	6 6 9		8.5	SP	@20' - SAND: gray brown, moist, medium dense	
740									
	25		R-4	3 6 9	93.9	10.7	SM	@25' - Silty SAND: gray brown, moist, medium dense; trace gravel	
735									
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-6

Date: 6/21/2019 | **Drilling Company:** Cal Pac

Project Name: Colonial | **Type of Rig:** Limited Access HS

Project Number: 16163-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~763' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	5 6 10		15.4	ML	@30' - SILT: brown with reddish brown mottled, very moist, very stiff	
730									
	35		R-5	13 18 50	114.2	8.5	SC	@35' - Clayey SAND: reddish brown and brown mottled, moist, very dense	
725									
	40		SPT-5	12 15 20		5.4	SP	@40' - SAND: brown, slightly moist, dense	
720									
	45		R-6	17 27 27	123.6	6.3	SP	@45' - SAND: brown, slightly moist, dense; trace amounts of clay	
715									
	50		SPT-6	8 23 26		2.4	SP	@50' - SAND: reddish brown, slightly moist, very dense	
710								Total Depth = 51.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	55								
705									
	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

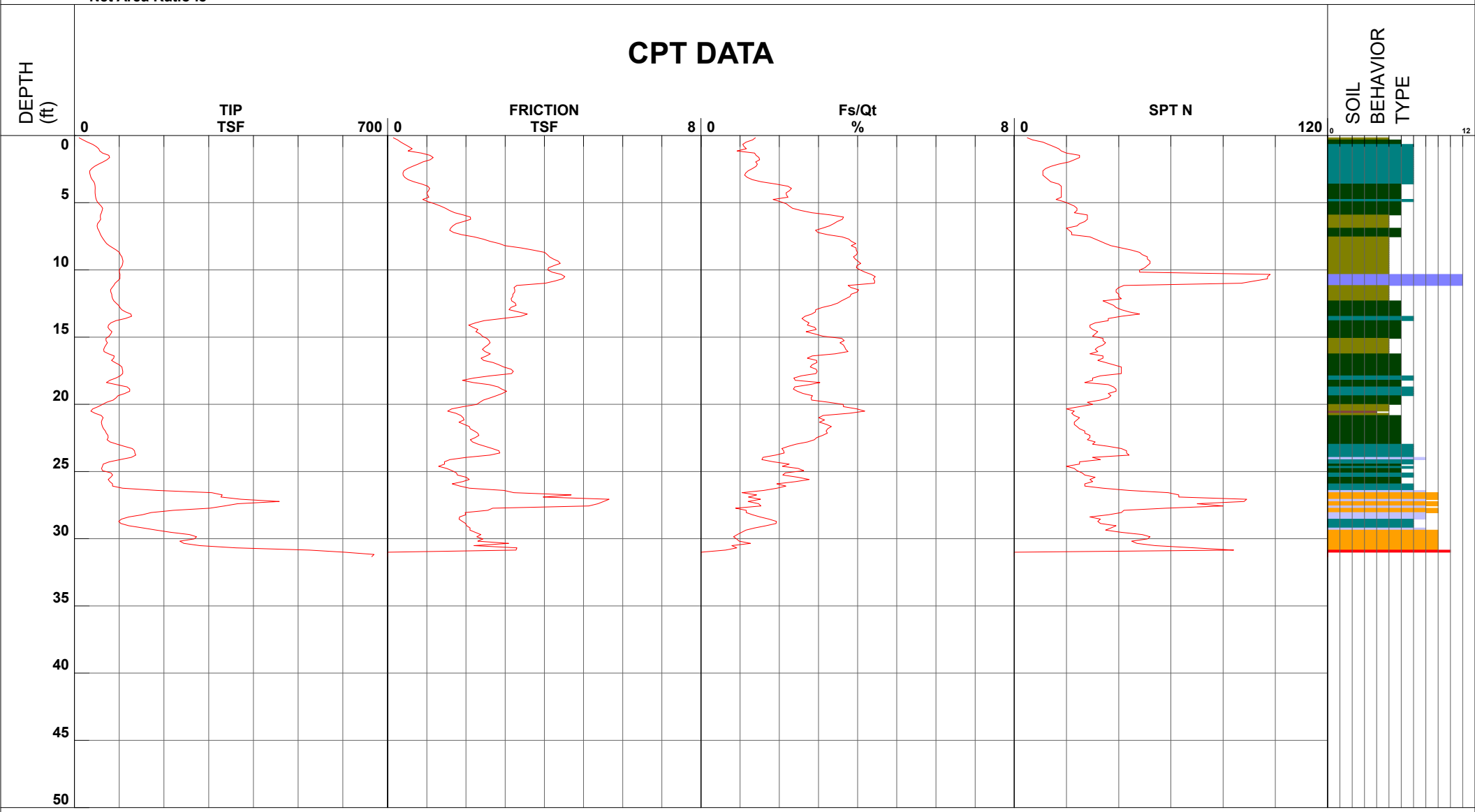
DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(768).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-01	Date and Time	6/20/2019 12:32:28 PM	Maximum Depth	31.33 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6429

Cone Size 10cm squared

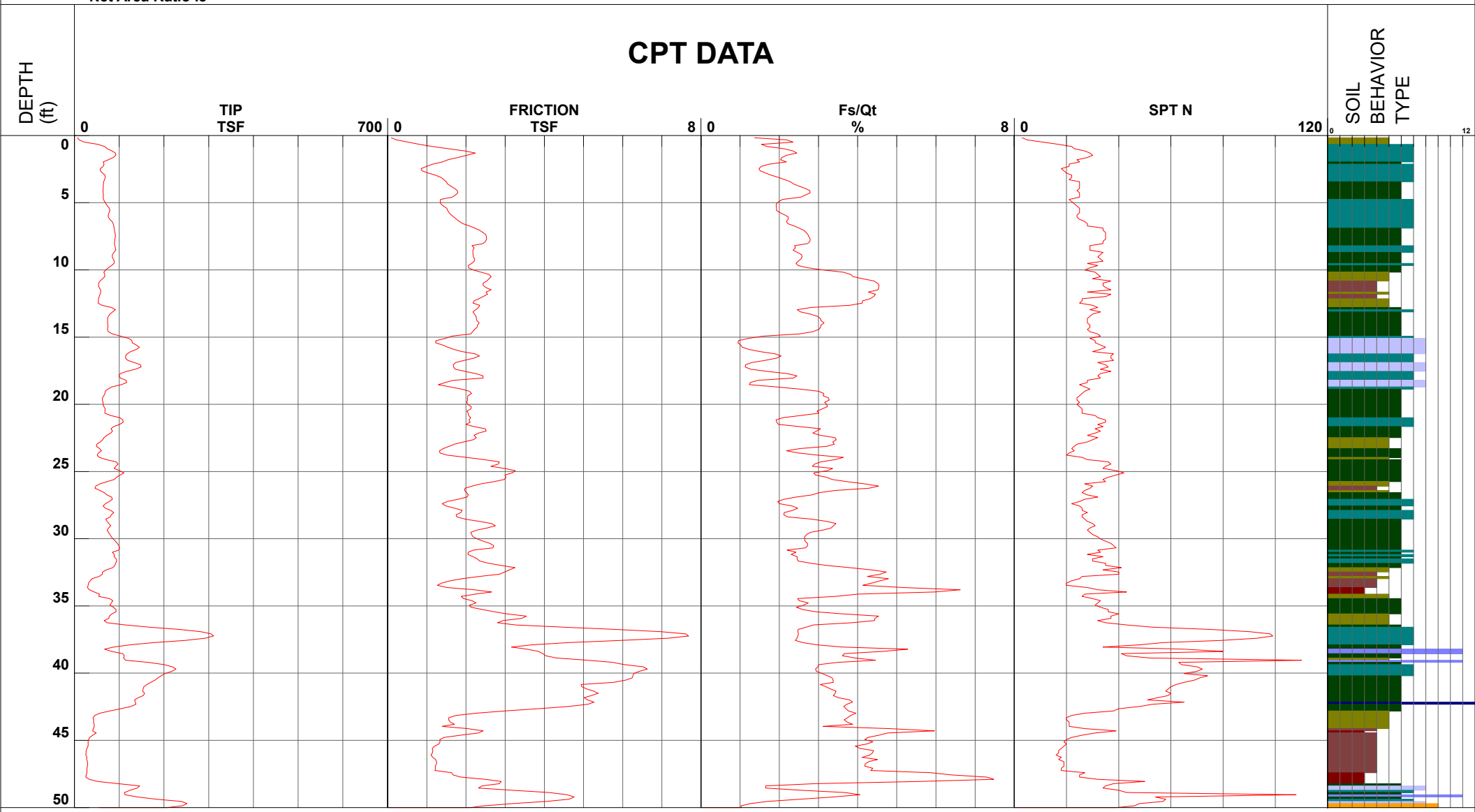
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(769).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-02	Date and Time	6/20/2019 1:15:36 PM	Maximum Depth	50.52 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
organic material
clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6430

Cone Size 10cm squared

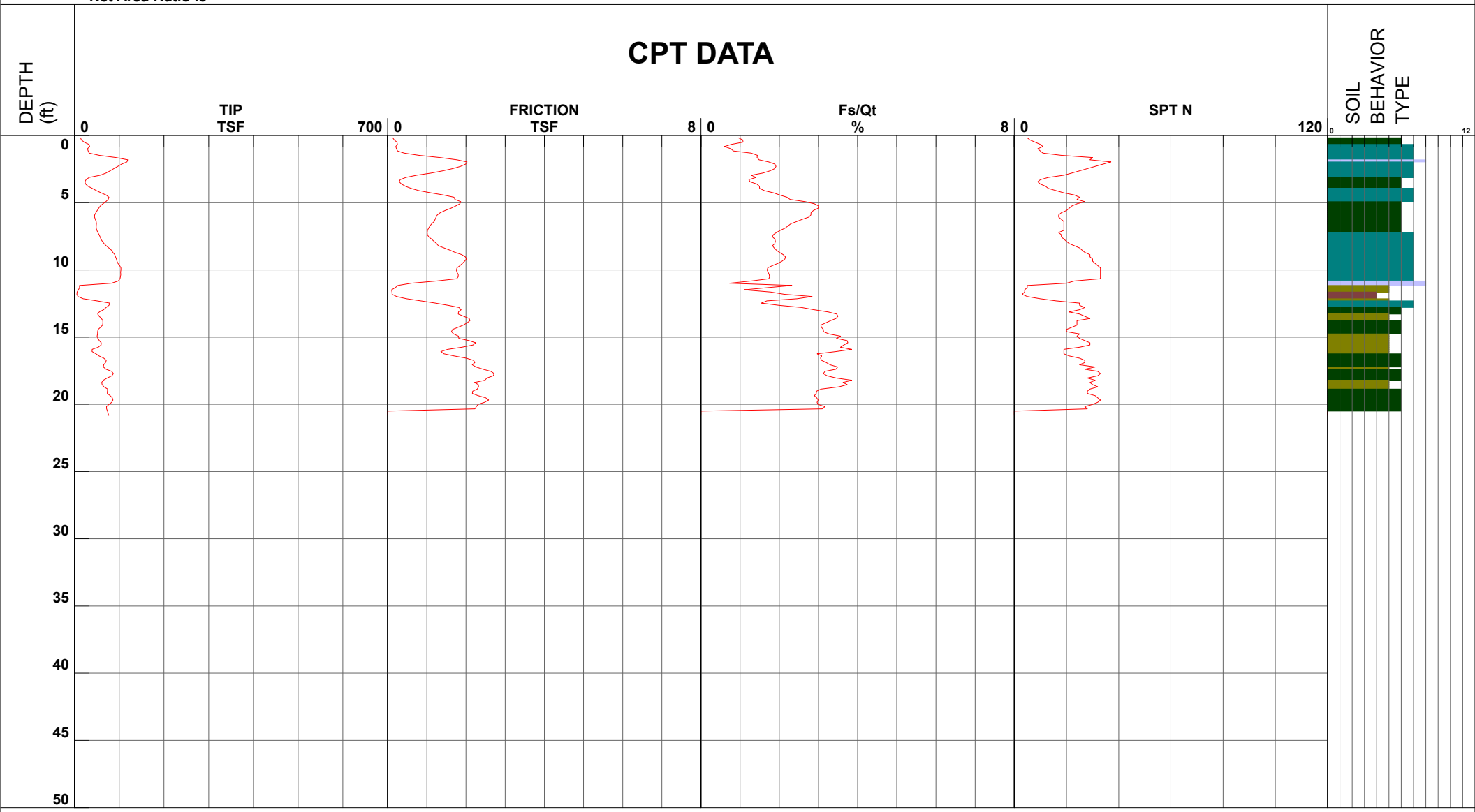
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(770).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-03	Date and Time	6/20/2019 2:00:43 PM	Maximum Depth	20.83 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
4 - silty clay to clay
7 - silty sand to sandy silt
10 - gravelly sand to sand
organic material
5 - clayey silt to silty clay
8 - sand to silty sand
11 - very stiff fine grained (*)
clay
6 - sandy silt to clayey silt
9 - sand
12 - sand to clayey sand (*)

6431

Cone Size 10cm squared

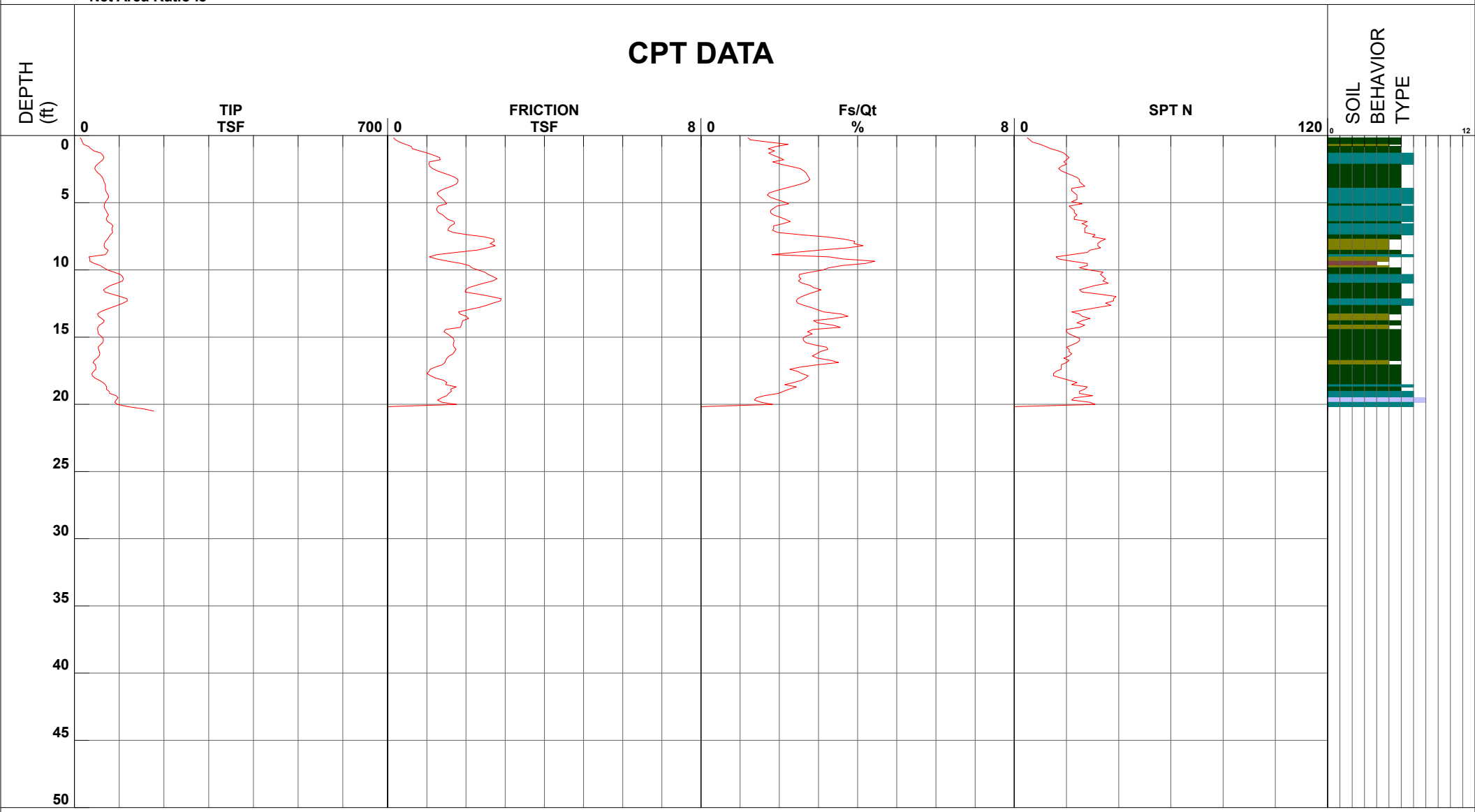
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(771).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-04	Date and Time	6/20/2019 2:19:06 PM	Maximum Depth	20.51 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6432

Cone Size 10cm squared

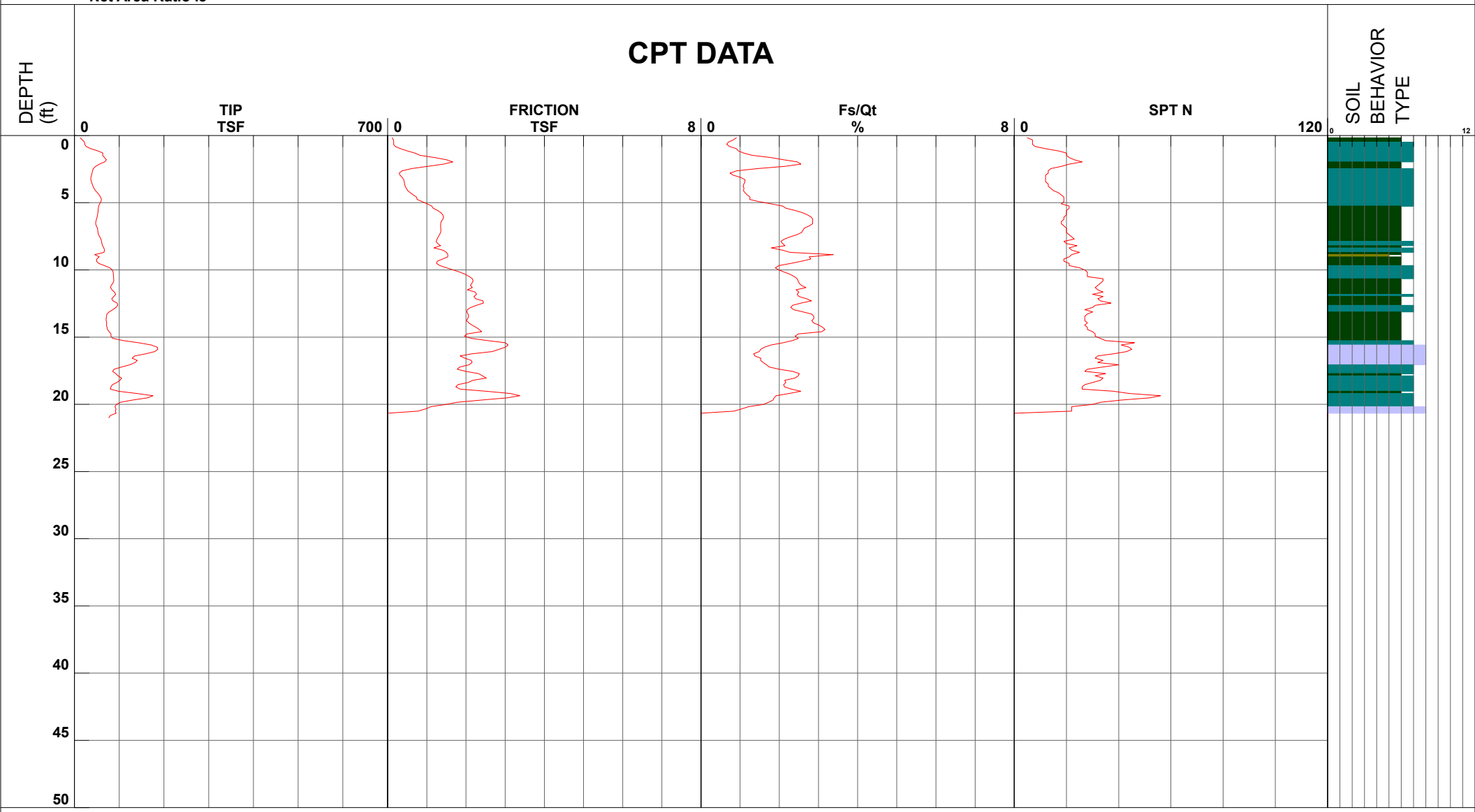
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(772).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-05	Date and Time	6/20/2019 2:38:10 PM	Maximum Depth	21.00 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6433

Cone Size 10cm squared

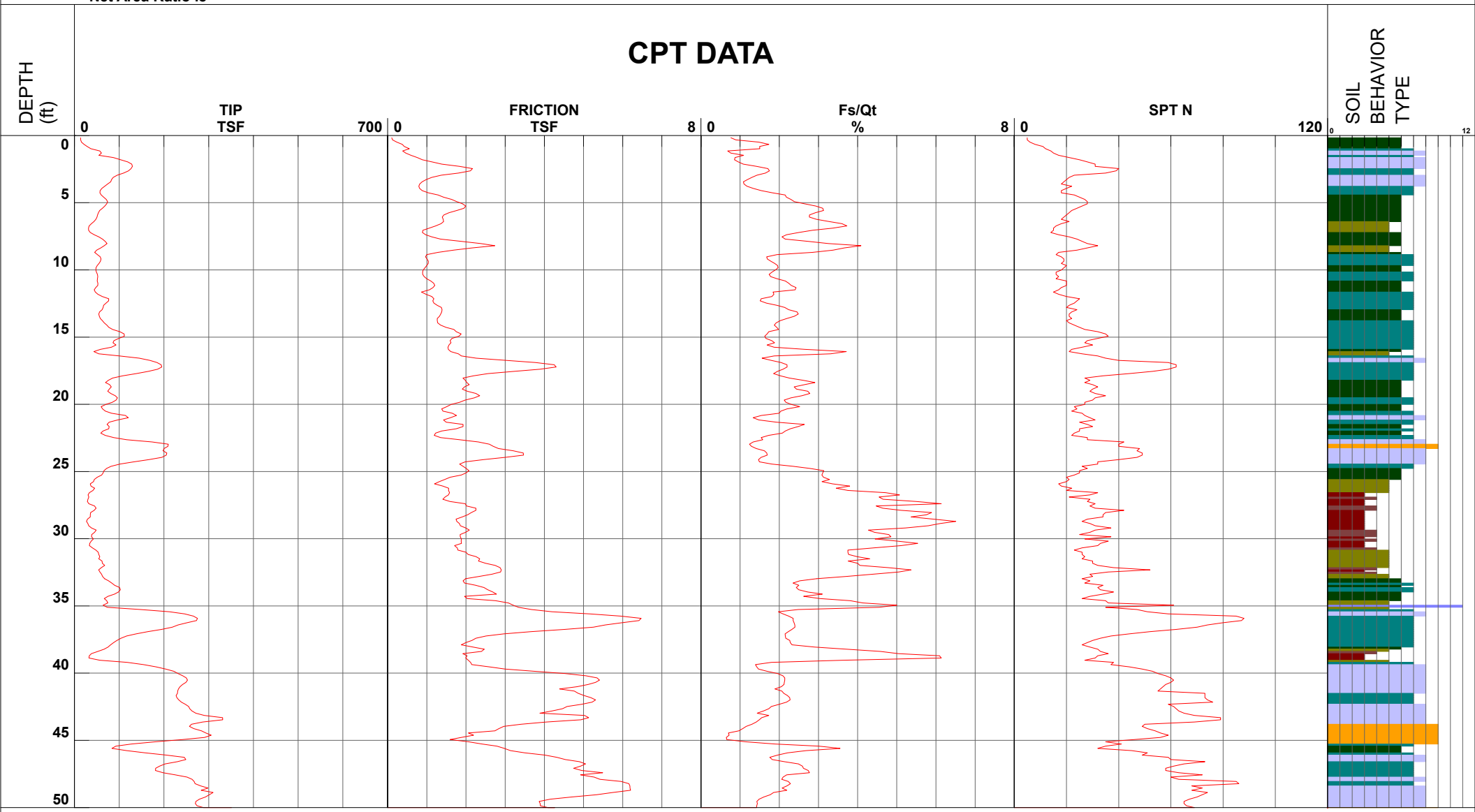
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(773).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-06	Date and Time	6/20/2019 2:56:46 PM	Maximum Depth	50.69 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6434

Cone Size 10cm squared

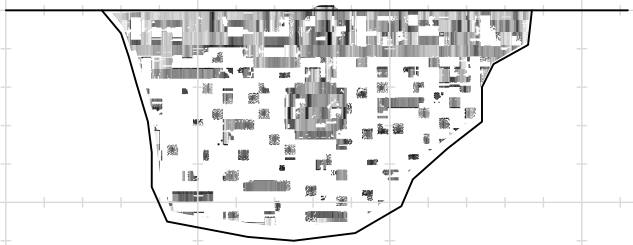
S*Soil behavior type and SPT based on data from UBC-1983

6435

Project Name: Colonial	Logged By: ARN	Trench No: TP-1	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1' Sandy SILT to Silty SAND: medium to dark brown, dry, loose/soft; abundant rootlets**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@1'-T.D. Silty SAND and SAND: medium to tan brown, slightly moist, medium dense; increasing moisture with depth; occasional root; masssive**	Qye	SM-SP			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 758 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

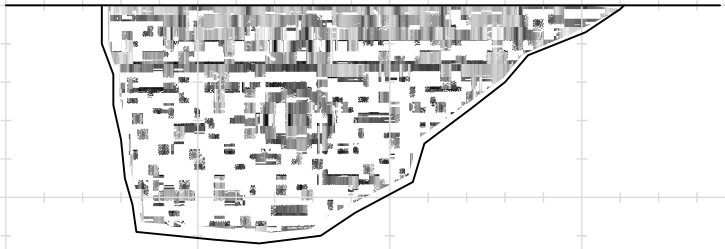
Last Edited: 6/25/2019

6436

Project Name: Colonial	Logged By: ARN	Trench No: TP-2	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1.75' Sandy SILT to Silty SAND: dusky to dark brown, dry, loose/soft; abundant rootlets in upper 12 inches**	afu	SM/ML	B-1		
	b	***Quaternary Young Eolian Deposits*** **@1.75'-T.D. Silty SAND and SAND: medium to tan brown, slightly moist, medium dense; increasing moisture with depth; occasional root; masssive**	Qye	SM-SP			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 756 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6.2'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

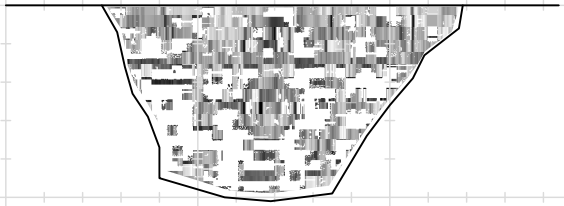
Last Edited: 6/25/2019

6437

Project Name: Colonial	Logged By: ARN	Trench No: TP-3	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1.5' Silty SAND to Sandy SILT: dusky brown, dry , soft/loose; abundant rootlets; occasional gravel**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@1.5'-T.D. Silty SAND and SAND: medium to tan brown, slightly moist, medium dense; infrequent roots and old decaying organics; grades to moist with depth; massive**	Qye	SM-SP			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 754 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5.1'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

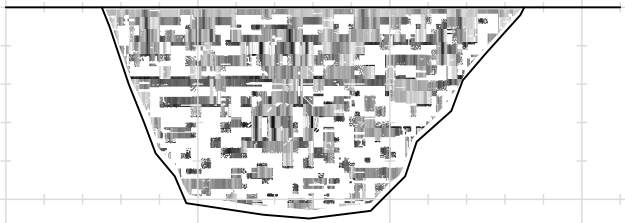
Last Edited: 6/25/2019

6438

Project Name: Colonial	Logged By: ARN	Trench No: TP-4	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-2' Silty SAND to Sandy SILT: dusky brown to brown, dry, soft/loose; abundant rootlets; scattered refuse**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@2'-T.D. Silty SAND: medium brown, slightly moist, medium dense; some small zones of sandy silt; increased moisture with depth**	Qye	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 755 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5.5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

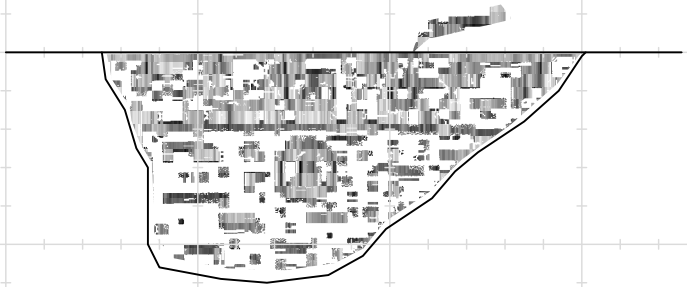
Last Edited: 6/25/2019

6439

Project Name: Colonial	Logged By: ARN	Trench No: TP-5	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1' Silty SAND to Sandy SILT: dusky brown, dry, loose/medium stiff; roots; scattered gravel** **@1'-2' Silty SAND: medium to tan brown, dry to slightly moist, medium dense; occasional root; iron oxide stained burrow**	afu	SM/ML SM			
	b	***Quaternary Young Eolian Deposits*** **@2'-T.D. Silty SAND: medium brown, slightly moist to moist, medium dense**	Qye	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 758 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

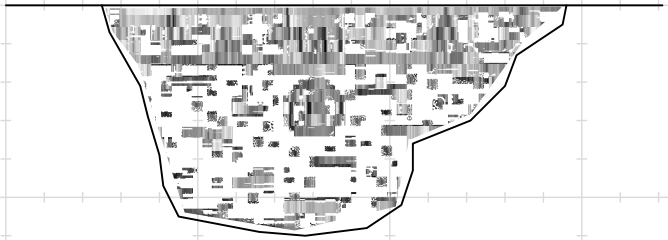
Last Edited: 6/25/2019

6440

Project Name: Colonial	Logged By: ARN	Trench No: TP-6	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented***	afu	SM/ML			
		@0'-1.5' Silty SAND to Sandy SILT: dusky brown, dry, loose/medium stiff; roots; scattered gravel					
	b	***Quaternary Young Eolian Deposits***	Qye	SM			
		@1.5'-T.D. Silty SAND: tan to medium brown, slightly moist, medium dense; some staining; massive; mottled to 3' then homogeneous coloration					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 764 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

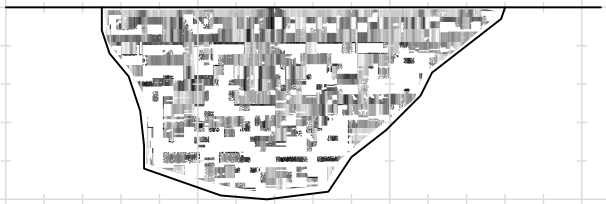
Last Edited: 6/25/2019

6441

Project Name: Colonial	Logged By: ARN	Trench No: TP-7	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1' Silty SAND to Sandy SILT: medium to dusky brown, dry, loose/soft, abundant rootlets; occasional gravel**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@1.5'-T.D. Sandy SILT and Silty SAND: medium brown to tan, slightly moist, medium dense/stiff, occasional root; some zones of coarse sand**	Qye	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 762 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

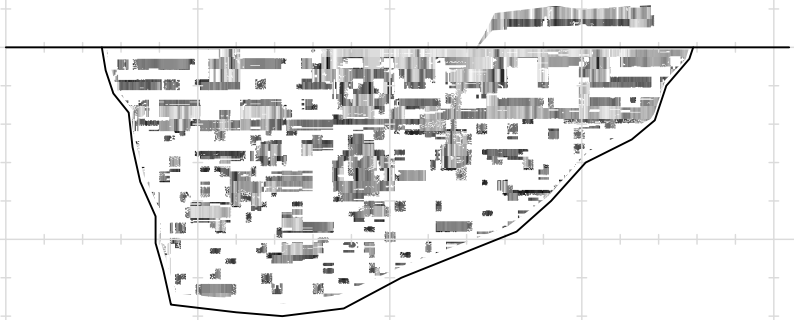
Last Edited: 6/25/2019

6442

Project Name: Colonial	Logged By: ARN	Trench No: TP-8	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-2' Sandy SILT: dusky brown, dry, loose/soft; scattered gravel; abundant rootlets; minor refuse; gradational contact**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@2'-T.D. Silty SAND: tan to medium brown, slightly moist, medium dense; occasional rootlets; burrows in upper portions of the formation; massive**	Qye	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 768 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 7'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

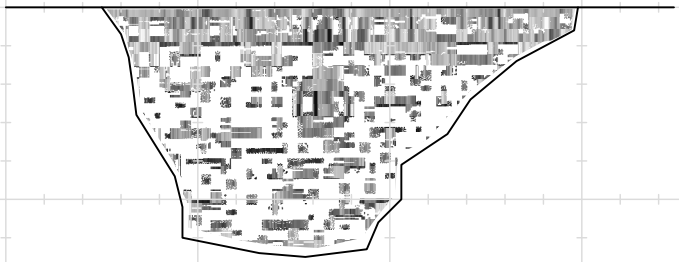
Last Edited: 6/25/2019

6443

Project Name: Colonial	Logged By: ARN	Trench No: TP-9	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented***	afu	SM/ML			
		@0' - 1' Silty SAND to Sandy SILT: dusky brown, dry, loose/soft; abundant rootlets; scarce gravel					
	b	***Quaternary Young Eolian Deposits***	Qye	SM			
		@1'-2.5' Silty SAND: medium brown, dry to slightly moist, loose to medium dense					
		@2.5'-T.D. Silty SAND and Sandy SILT: medium brown, slightly moist, medium dense/stiff; noticably tighter material		SM-ML			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 760 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6.5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

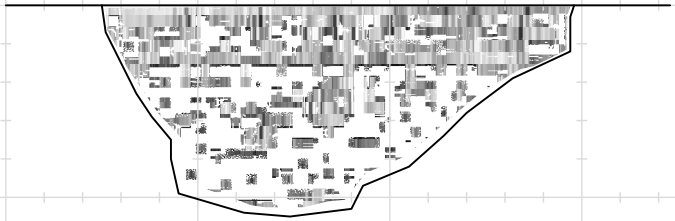
Last Edited: 6/25/2019

6444

Project Name: Colonial	Logged By: ARN	Trench No: TP-10	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented***	afu	SM/ML			
		@0'-1.5' Silty SAND to Sandy SILT: dusky to medium brown, dry, loose/soft; abundant rootlets; scattered gravel.					
	b	***Quaternary Young Eolian Deposits***	Qye	SM			
		@1.5'-T.D. Silty SAND: medium to tan brown, slightly moist, medium dense; massive; occasional root					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 755 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5.5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

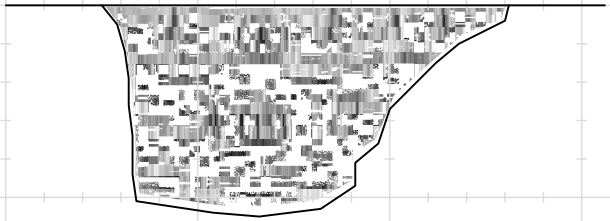
Last Edited: 6/25/2019

6445

Project Name: Colonial	Logged By: ARN	Trench No: TP-11	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1.5' Silty SAND to Sandy SILT: dusky brown, dry, loose/soft; abundant rootlets**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@1.5'-T.D. Silty SAND grading to Sandy SILT: tan brown, slightly moist, medium dense/stiff; occasional root**	Qye	SM-ML			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 766 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5.5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

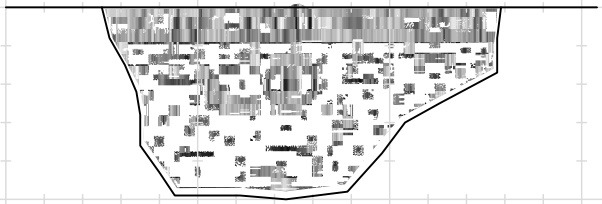
Last Edited: 6/25/2019

6446

Project Name: Colonial	Logged By: ARN	Trench No: TP-12	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1.5' Silty SAND to Sandy SILT: dusky to medium brown, dry, loose/soft; abundant rootlets; scattered gravel**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@1.5'-T.D. Silty SAND: medium brown, slightly moist, medium dense; massive; occasional root**	Qye	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 766 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

Last Edited: 6/25/2019

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: MCBC North
Project Number: 20246-01
Date: 12/22/2020
Boring Number: I-1

Test hole dimensions (if circular)	
Boring Depth (feet)*:	16
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

Pre-Test (Sandy Soil Criteria)*

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	9:34	9:59	25.0	12.20	14.10	1.9	Yes
2	10:03	10:28	25.0	11.80	13.91	2.11	Yes

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Observed Infiltration Rate(in/hr)
1	11:49	12:00	11.0	11.92	13.02	1.1	3.2
2	12:02	12:14	12.0	12.05	13.01	0.96	2.6
3	12:18	12:28	10.0	12.43	12.88	0.45	1.5
4	12:31	12:41	10.0	12.31	12.85	0.54	1.8
5	12:44	12:56	12.0	11.9	12.72	0.82	2.1
6	12:58	13:10	12.0	11.87	12.71	0.84	2.2

Calculated Infiltration Rate (No factors of safety)	**2.2**
Factor of Safety	
Calculated Infiltration Rate (With Factor of Safety)	

Sketch:

Notes:

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 6/29/18

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: MCBC North
Project Number: 20246-01
Date: 12/22/2020
Boring Number: I-2

Test hole dimensions (if circular)	
Boring Depth (feet)*:	22
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

Pre-Test (Sandy Soil Criteria)*

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	9:48	10:13	25.0	18.65	19.30	0.65	Yes
2	10:18	10:43	25.0	17.80	18.8	1.00	Yes

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Observed Infiltration Rate(in/hr)
1	11:58	12:08	10.0	17.85	18.27	0.42	1.2
2	12:12	12:22	10.0	18.15	18.45	0.30	0.9
3	12:25	12:35	10.0	18.05	18.33	0.28	0.8
4	12:38	12:49	11.0	18.04	18.39	0.35	1.0
5	12:53	13:03	10.0	18.11	18.42	0.31	1.0
6	13:08	13:18	10.0	17.63	18.1	0.47	1.3

Calculated Infiltration Rate (No factors of safety)	**1.3**
Factor of Safety	
Calculated Infiltration Rate (With Factor of Safety)	

Sketch:

Notes:

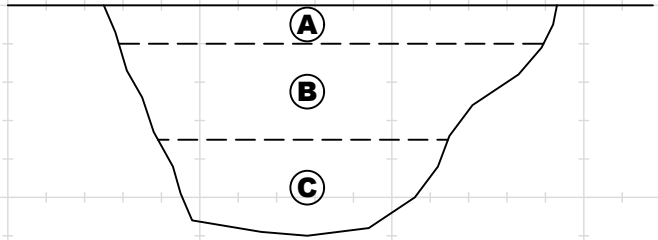
Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 6/29/18

6449

Project Name: VanderEyk	Logged By: KTM	Trench No: TP-6	
Project Number : 17074-01	Date : 6/26/2017	Engineering Properties:	
Equipment: Case Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 0' to TD - Quaternary Young Eolian Deposits:	Qye				
	A	@ 0' to 1' - SAND: moderately brown variable, dry, loose; organics; roots					
	B	@ 1' to 3.5' - SAND with some SILT: light brown, dry to slightly moist with depth, loose to moderately dense; slightly indurated; few rootlets					
	C	@ 3.5' to TD - SAND (fine): light brown, slightly dense, moist; "beach sand" appearance					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 755 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 6'
Groundwater: None
Backfilled: 6/26/2017

scale : 1 in = 5 ft

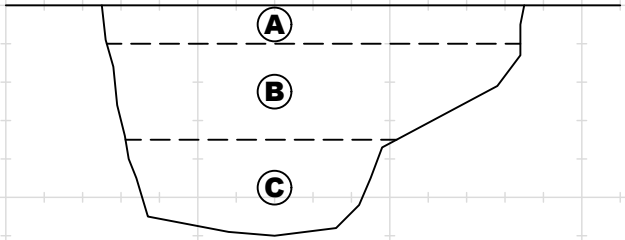
Last Edited: 8/1/2017

6450

Project Name: VanderEyk	**Logged By: KTM**	**Trench No: TP-7**
Project Number : 17074-01	**Date : 6/26/2017**	**Engineering Properties:**
Equipment: Case Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A B C	**@ 0' to TD - Quaternary Young Eolian Deposits:** **@ 0' to 1' - Organic-rich SAND: moderately brown (variable), dry, loose** **@ 1' to 3.5' - SAND with some Silt: light brown, moderately dense; slightly indurated; rootlets** **@ 3.5' to TD - SAND (fine): light brown, slightly moist to moist, loose to moderately dense; friable; minor caving**	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 752 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 6'
Groundwater: None
Backfilled: 6/26/2017

scale : 1 in = 5 ft

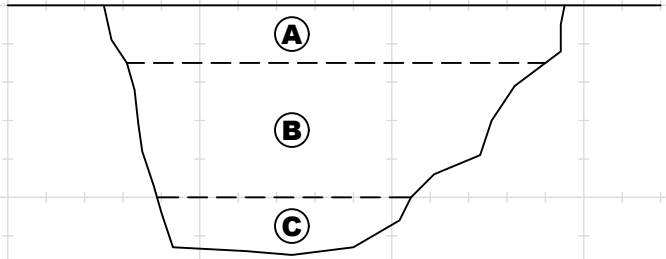
Last Edited: 8/1/2017

6451

Project Name: VanderEyk	Logged By: KTM	Trench No: TP-8	
Project Number : 17074-01	Date : 6/28/2017	Engineering Properties:	
Equipment: Case Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 0' to TD - Quaternary Young Eolian Deposits:	Qye				
	A	@ 0' to 1.5' - Organic-rich SAND and SILT: brown, dry, loose; roots; organics					
	B	@ 1.5' to 5.0' - Silty fine SAND: light brown, dry to slightly moist, moderately dense; increase moisture at 3.5'; decrease induration					
	C	@ 5.0' to TD - SAND (fine), light brown, moist, moderately dense; homogeneous					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 749 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 6.5'
Groundwater: None
Backfilled: 6/28/2017

scale : 1 in = 5 ft

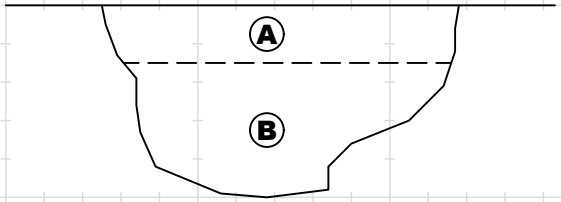
Last Edited: 8/1/2017

6452

Project Name: VanderEyk	**Logged By: KTM**	**Trench No: TP-9**
Project Number : 17074-01	**Date : 6/28/2017**	**Engineering Properties:**
Equipment: Case Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A B	@ 0' to TD - Quaternary Young Eolian Deposits: @ 0' to 1.5' - Organic-rich SAND and SILT: brown and light gray variable, dry, loose; rootlets; minor debris @ 1.5' to TD - SAND with trace Silt: light brown, moist (increasing with depth), moderatly dense; few coarse sand lenses @ 1.5' to 2.2' - Laminations; subhorizontal iron oxidation banding	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 748 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 5'
Groundwater: None
Backfilled: 6/28/2017

scale : 1 in = 5 ft

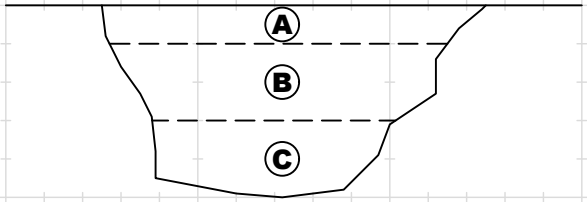
Last Edited: 8/1/2017

6453

Project Name: VanderEyk	**Logged By: KTM**	**Trench No: TP-10**
Project Number : 17074-01	**Date : 6/29/2017**	**Engineering Properties:**
Equipment: Case Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@ 0' to TD - Quaternary Young Eolian Deposits:	**Qye**				
	A	**@ 0' to 1' - SAND and SILT: brown (variable), dry, loose; rootlets; organic-rich**					
	B	**@ 1' to 3' - SAND and SAND with Silt: light brown and gray variable, dry to slightly moist, moderately dense; lenses of silt; rootlets; partially indurated**					
	C	**@ 3' to 4' - Very thin Silt bed over SAND with Silt: brown and light brown layered; interbedded with coarse sand stringers**					
		@ 4 to TD - SAND: light brown, moist, loose to moderately dense; subhorizontal iron oxidation banding; friable					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 736 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**

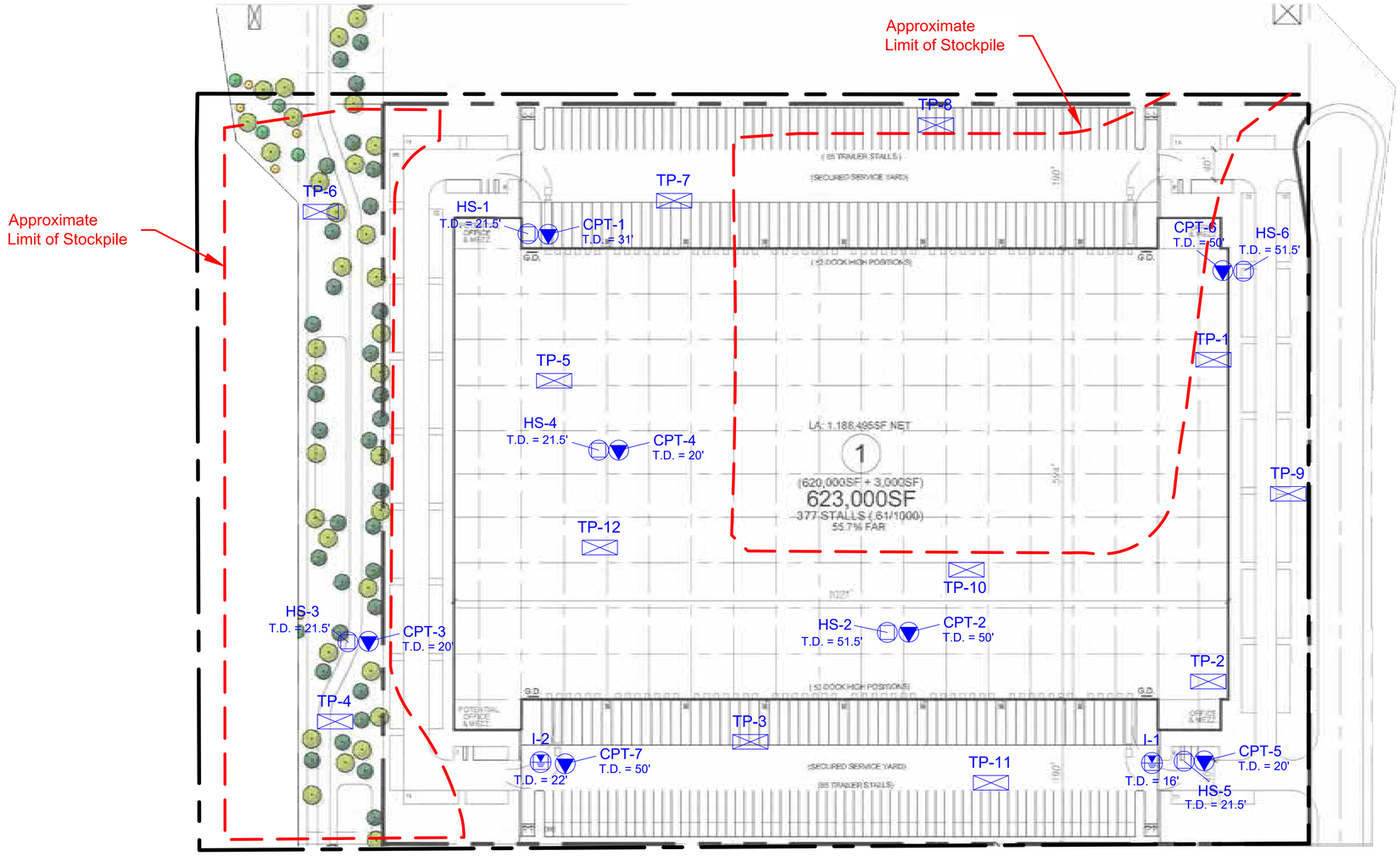


Total Depth: 5'
Groundwater: None
Backfilled: 6/29/2017

scale : 1 in = 5 ft

Last Edited: 8/1/2017

Appendix D
Geotechnical Subsurface Evaluation Data - Colonial (16163-01and 20246-01)



See Sheet 3 for Additional Shallow Test Pit Locations

LEGEND

HS-6
T.D. = 21.5'

Approximate Location of Hollow Stem Auger Boring by LGC Geotechnical, With Total Depth in Feet

I-2
T.D. = 22'

Approximate Location of Hollow Stem Auger Infiltration Boring by LGC Geotechnical, With Total Depth in Feet

TP-12

Approximate Location of Geotechnical Exploratory Trench by LGC Geotechnical

CPT-7
T.D. = 50'

Approximate Location of Cone Penetration Test (CPT) Boring by LGC Geotechnical, With Total Depth in Feet

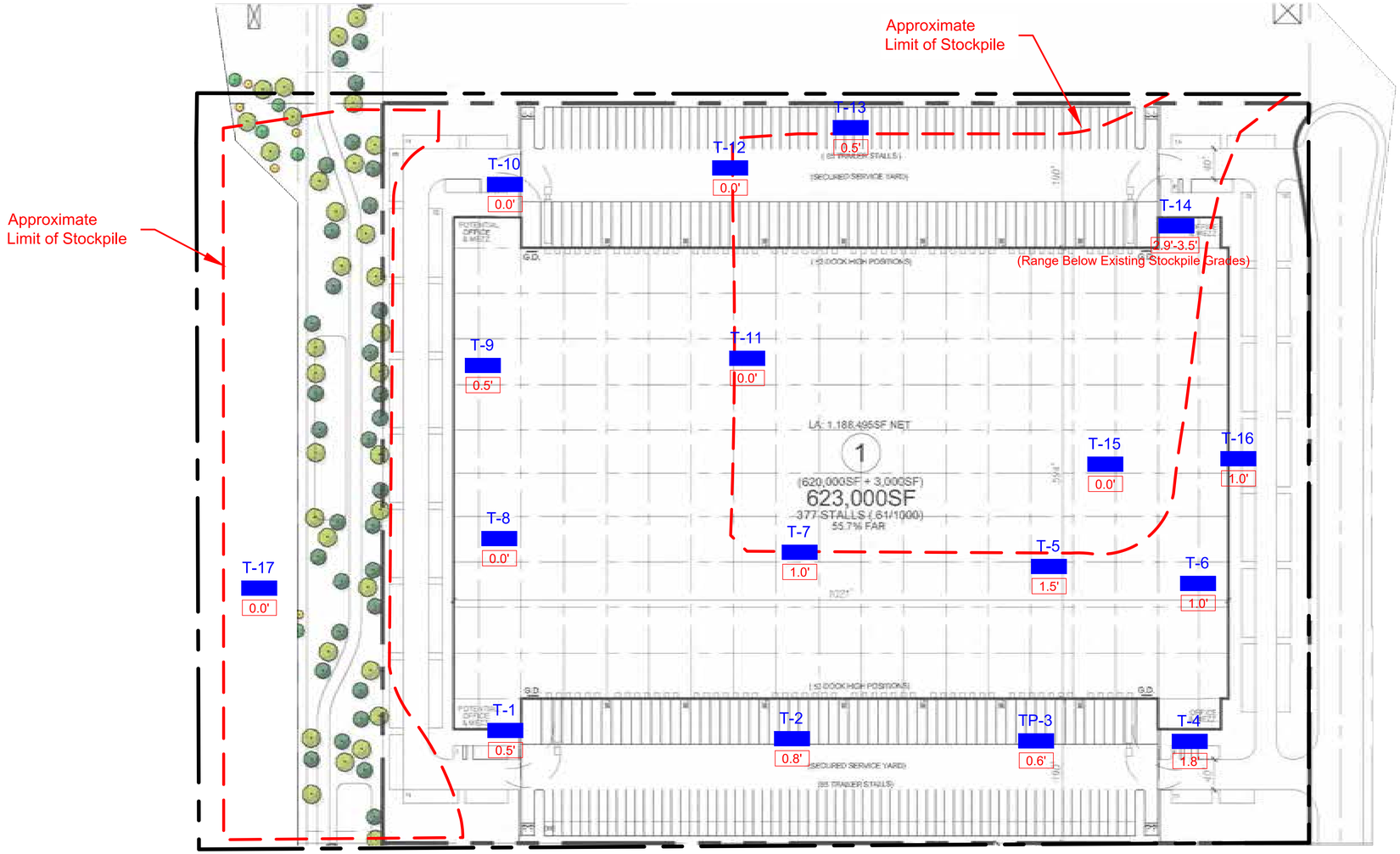
Approximate Limits of This Report

SCALE: 1"=80'
80' 0 80' 160'

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Geotechnical Exploration Location Map With Conceptual Plan

PROJECT NAME	MCBC - Brookfield
PROJECT NO.	20246-01
ENG. / GEOL.	RLD
SCALE	1" = 80'
DATE	August 2021



See Sheets 1 and 2 for Boring, Infiltration Test, CPT and Geotechnical Trench Locations

LEGEND

T-17
0.0'

Approximate Location of Organics Exploratory Trench by LGC Geotechnical with Estimated Minimum Depth of High Organic "Soil" to be Exported From the Site, in Feet

Approximate Limits of This Report

SCALE: 1"=80'
80' 0 80' 160'

LGC Geotechnical, Inc.

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Recommended High Organic "Soil" Export Map

PROJECT NAME	MCBC - Brookfield
PROJECT NO.	20246-01
ENG. / GEOL.	RLD/ARN
SCALE	1" = 80'
DATE	August 2021

SHEET 3 of 3

6456

APPENDIX C

Laboratory Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the site soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on driven samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140).

Sample Location	Description	% Passing # 200 Sieve
HS-1 @ 5.0 ft	Silty Sand	34
HS-2 @ 2.5 ft	Silty Sand	36
HS-3 @ 5.0 ft	Sandy Silt	71
HS-6 @ 7.5 ft	Silty Sand	43
I-1 @ 14 ft	Sandy Silt	61
I-2 @ 1-5 ft	Silty Sand	34
I-2 @ 20 ft	Sand with Silt	8

Collapse/Swell Potential: Collapse tests were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The curves are presented in this Appendix.

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results of these tests are presented in the table below:

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-4 @ 2 to 5 ft	Silty Sand	113.0	11.5
HS-6 @ 2 to 5 ft	Silty Sand	104.5	12.5

Expansion Index: The expansion potential of selected representative samples was evaluated by the Expansion Index Test per ASTM D4829.

Sample Location	Expansion Index	Expansion Potential*
HS-4 @ 2 to 5 ft	1	Very Low
HS-6 @ 2 to 5 ft	0	Very Low
I-2 @ 1-5 ft	0	Very Low

* Per ASTM D4829

Soluble Sulfates: The soluble sulfate content of select sample was determined by standard geochemical methods (CTM 417). The test results are presented in the table below.

Sample Location	Sulfate Content, %
HS-4 @ 2 to 5 ft	< 0.02
I-2 @ 1-5 ft	< 0.03

Chloride Content: Chloride content was tested per CTM 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-4 @ 2 to 5 ft	148
I-2 @ 1-5 ft	120

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-4 @ 2 to 5 ft	7.63	1,480
I-2 @ 1-5 ft	8.53	1,994

APPENDIX C

Laboratory Test Results (Continued)

Organic Matter Content of Soils: Organic matter content tests were performed in general accordance with ASTM D 2974 (Test Methods A & C). The results are presented in Table 9.

ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

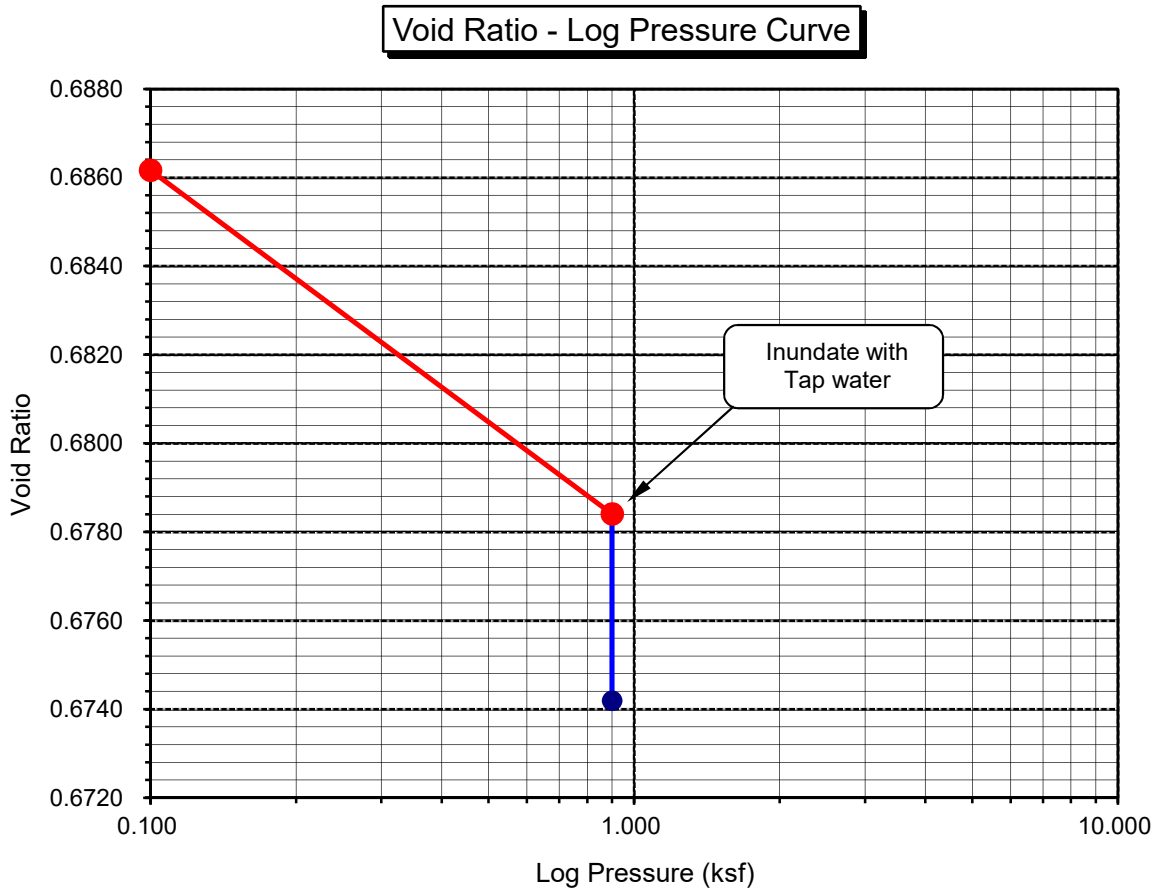
Project Name:	Colonial	Tested By:	G. Bathala	Date:	07/16/19
Project No.:	16163-01	Checked By:	J. Ward	Date:	07/25/19
Boring No.:	HS-6	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	7.5		
Sample Description:	Light olive brown silty sand (SM)				

Initial Dry Density (pcf):	100.0
Initial Moisture (%):	9.04
Initial Length (in.):	1.0000
Initial Dial Reading:	0.2702
Diameter(in):	2.415

Final Dry Density (pcf):	100.7
Final Moisture (%) :	23.0
Initial Void Ratio:	0.6862
Specific Gravity(assumed):	2.70
Initial Saturation (%)	35.6

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.2702	1.0000	0.00	0.00	0.6862	0.00
0.900	0.2638	0.9936	0.18	-0.64	0.6784	-0.46
H2O	0.2613	0.9911	0.18	-0.89	0.6742	-0.71

Percent Swell (+) / Settlement (-) After Inundation = -0.25



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

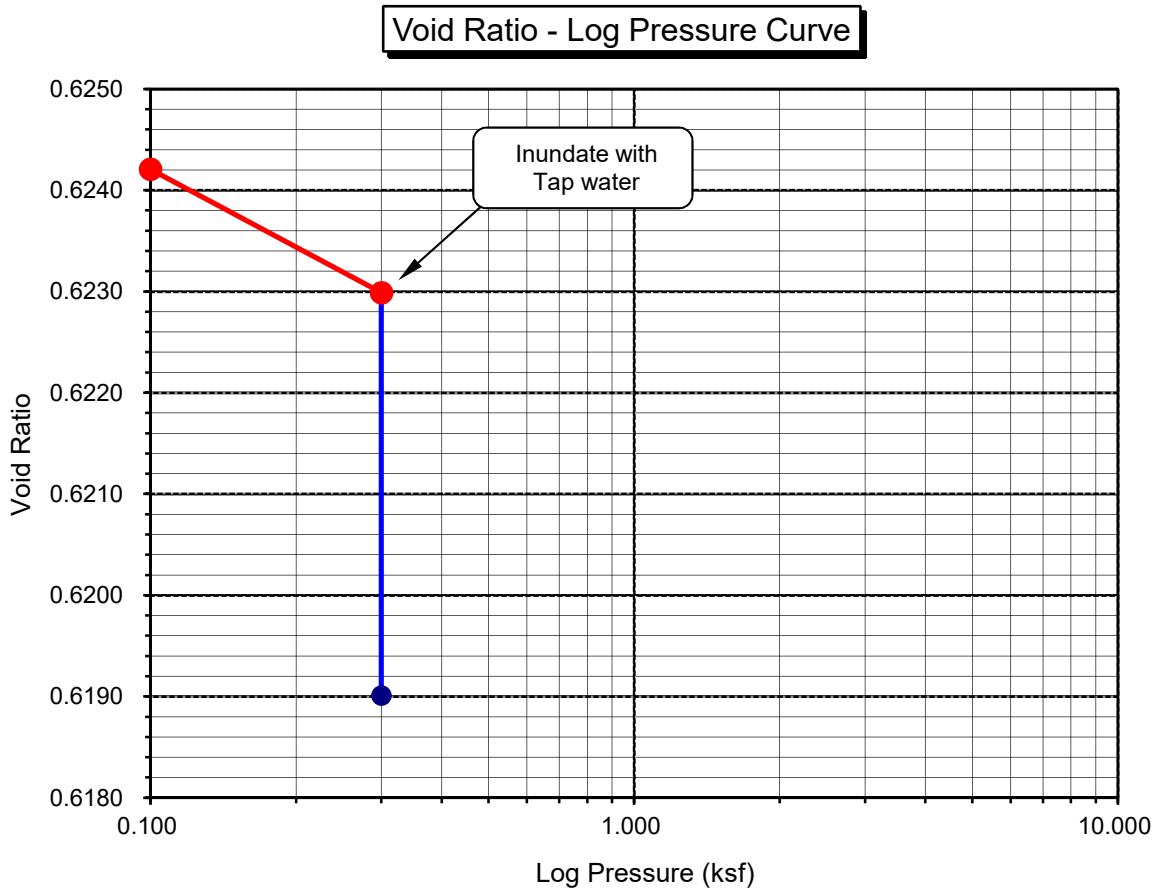
Project Name:	Colonial	Tested By:	G. Bathala	Date:	07/16/19
Project No.:	16163-01	Checked By:	J. Ward	Date:	07/25/19
Boring No.:	HS-2	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	2.5		
Sample Description:	Olive silty sand (SM)				

Initial Dry Density (pcf):	103.7
Initial Moisture (%):	4.44
Initial Length (in.):	1.0000
Initial Dial Reading:	0.3294
Diameter(in):	2.415

Final Dry Density (pcf):	104.1
Final Moisture (%) :	18.8
Initial Void Ratio:	0.6249
Specific Gravity(assumed):	2.70
Initial Saturation (%)	19.2

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.3290	0.9996	0.00	-0.04	0.6242	-0.04
0.300	0.32735	0.9980	0.09	-0.21	0.6230	-0.12
H2O	0.3249	0.9955	0.09	-0.45	0.6190	-0.36

Percent Swell (+) / Settlement (-) After Inundation = -0.25



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

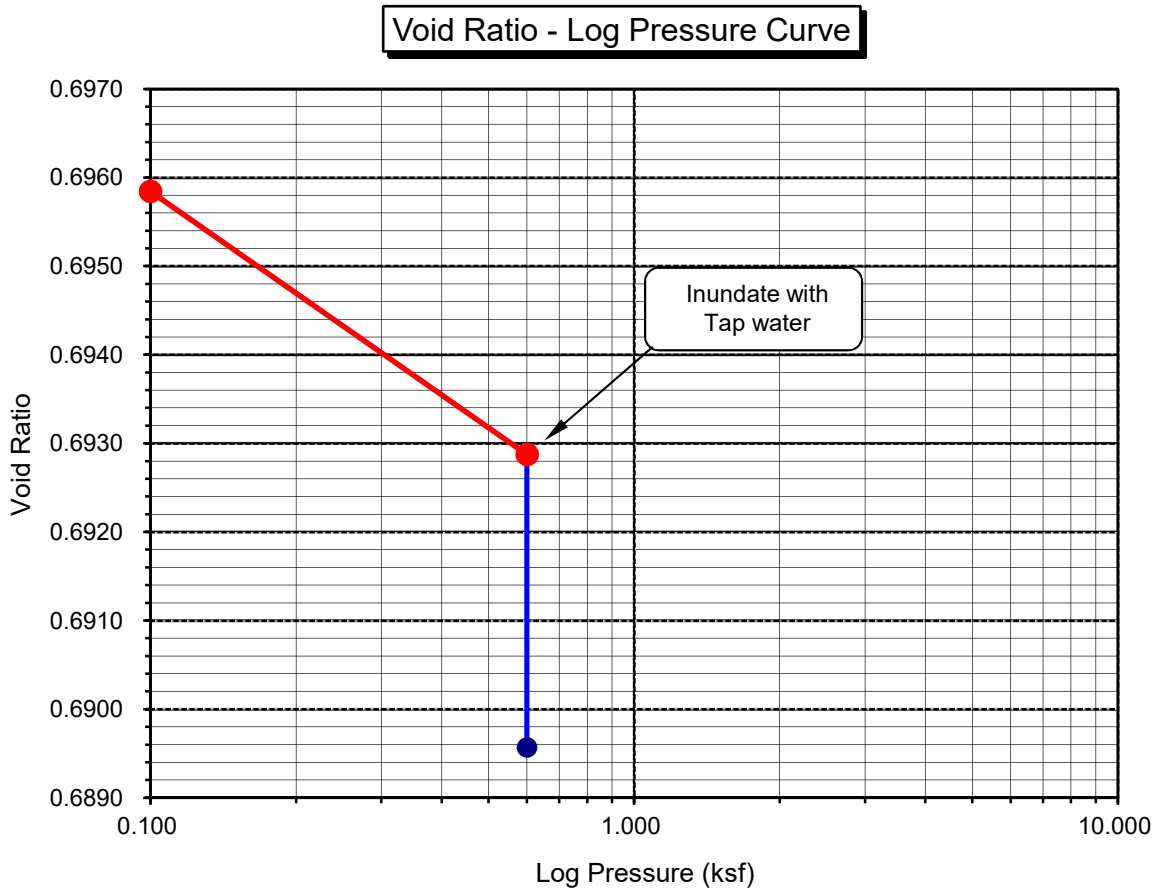
Project Name:	Colonial	Tested By:	G. Bathala	Date:	07/17/19
Project No.:	16163-01	Checked By:	J. Ward	Date:	07/25/19
Boring No.:	HS-3	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	5.0		
Sample Description:	Olive silt with sand (ML)s, organic material noted				

Initial Dry Density (pcf):	99.4
Initial Moisture (%):	10.70
Initial Length (in.):	1.0000
Initial Dial Reading:	0.3151
Diameter(in):	2.415

Final Dry Density (pcf):	99.8
Final Moisture (%) :	25.9
Initial Void Ratio:	0.6962
Specific Gravity(assumed):	2.70
Initial Saturation (%)	41.5

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.3149	0.9998	0.00	-0.02	0.6958	-0.02
0.600	0.31245	0.9974	0.07	-0.27	0.6929	-0.20
H2O	0.3105	0.9954	0.07	-0.46	0.6896	-0.39

Percent Swell (+) / Settlement (-) After Inundation = -0.20



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

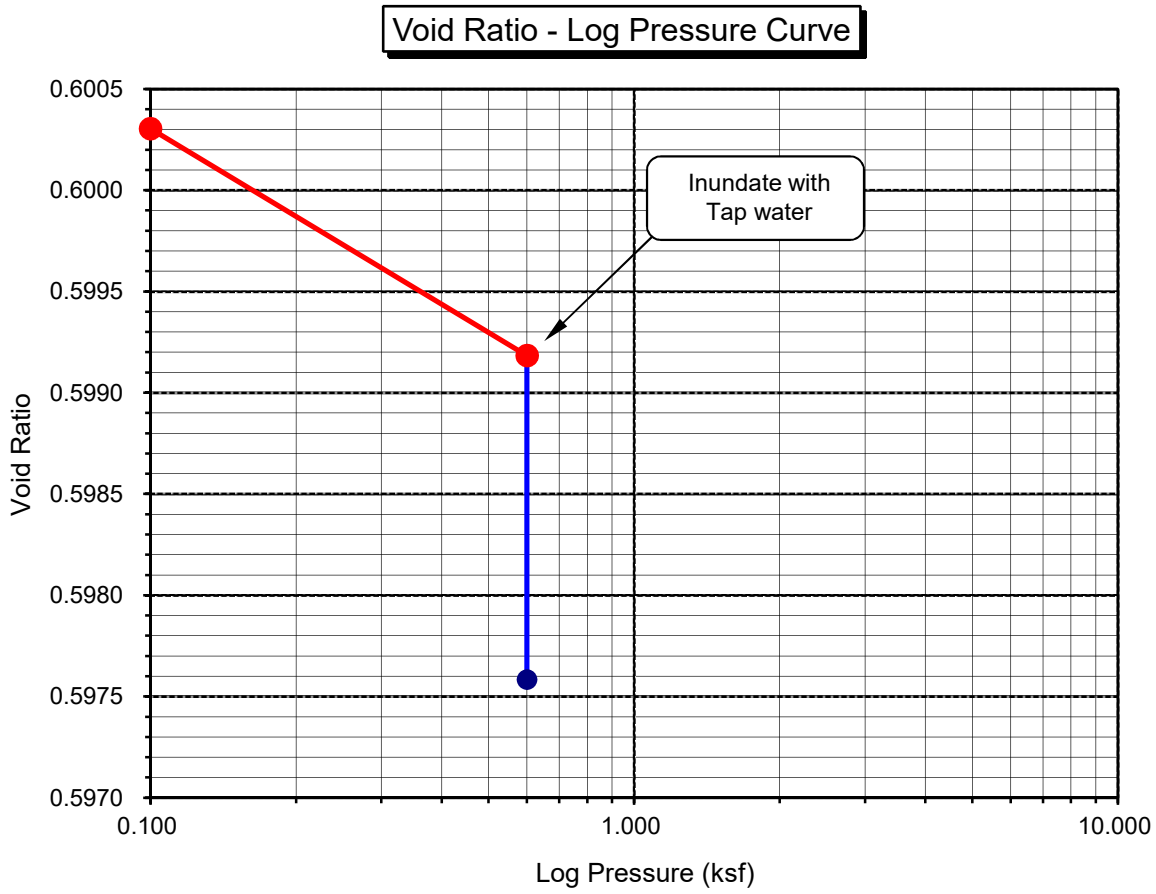
Project Name:	Colonial	Tested By:	G. Bathala	Date:	07/17/19
Project No.:	16163-01	Checked By:	J. Ward	Date:	07/25/19
Boring No.:	HS-1	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	5.0		
Sample Description:	Olive silty sand (SM)				

Initial Dry Density (pcf):	105.3
Initial Moisture (%):	5.30
Initial Length (in.):	1.0000
Initial Dial Reading:	0.2910
Diameter(in):	2.415

Final Dry Density (pcf):	105.5
Final Moisture (%) :	18.5
Initial Void Ratio:	0.6003
Specific Gravity(assumed):	2.70
Initial Saturation (%)	23.8

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.2910	1.0000	0.00	0.00	0.6003	0.00
0.600	0.2888	0.9978	0.15	-0.22	0.5992	-0.07
H2O	0.2878	0.9968	0.15	-0.32	0.5976	-0.17

Percent Swell (+) / Settlement (-) After Inundation = -0.10



PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Colonial
Project No.: 16163-01
Boring No.: HS-6
Sample No.: R-2
Soil Identification: Light olive brown silty sand (SM)

Tested By: G. Bathala Date: 07/18/19
Checked By: J. Ward Date: 07/25/19
Depth (feet): 7.5

		Moisture Content of Total Air - Dry Soil	
Container No.:	XY	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	595.2	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	248.2	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	347.0	Moisture Content (%)	0.0

After Wet Sieve	Container No.	XY
	Wt. of Dry Soil + Container (g)	457.1
	Wt. of Container (g)	248.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	208.9

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75	0.0	100.0
#8	2.36	0.1	100.0
#16	1.18	1.4	99.6
#30	0.600	18.5	94.7
#50	0.300	46.5	86.6
#100	0.150	98.4	71.6
#200	0.075	197.4	43.1
PAN			

GRAVEL: **0 %**
SAND: **57 %**
FINES: **43 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

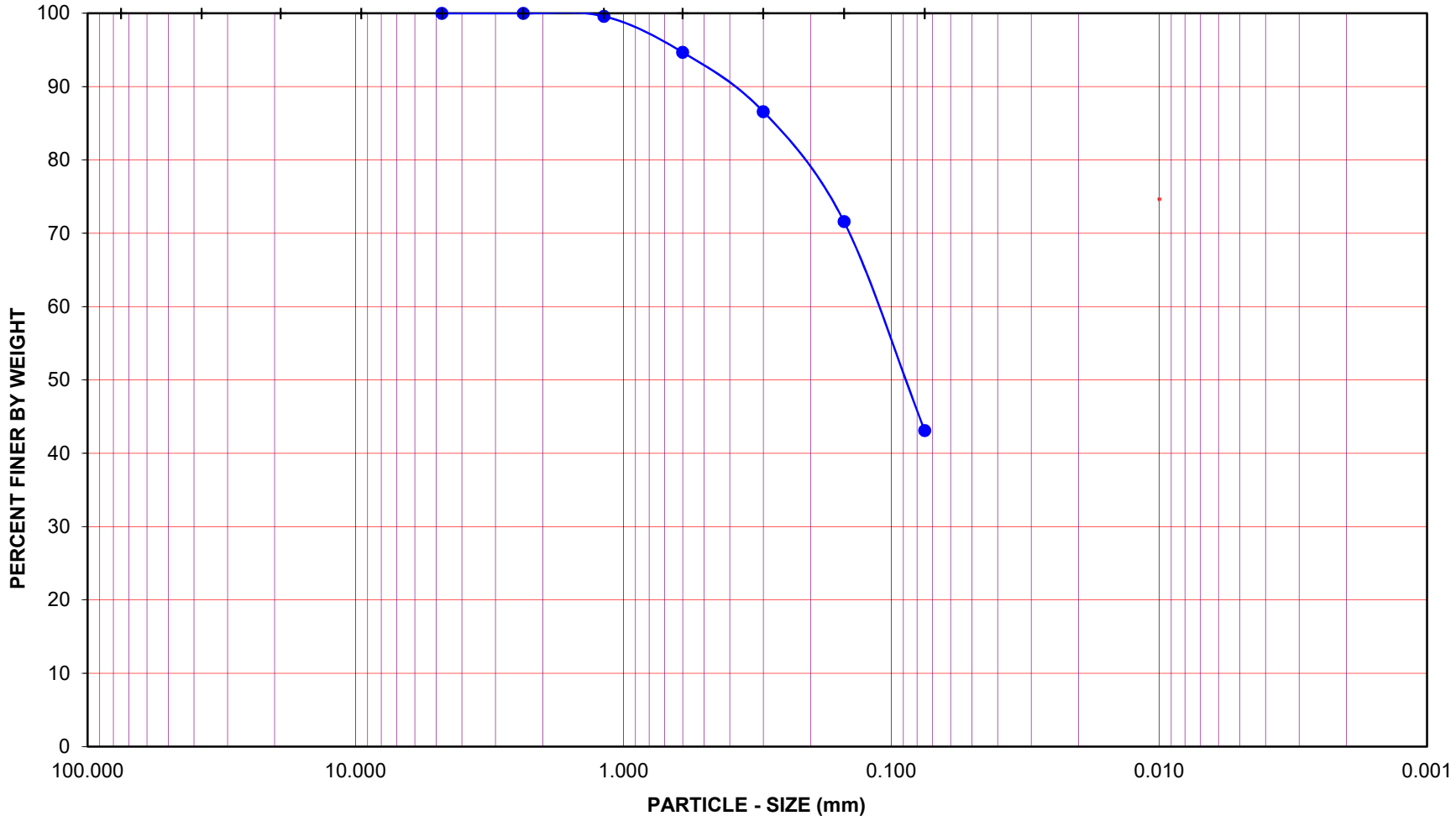
Remarks: _____

6464

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: Colonial

Project No.: 16163-01

Boring No.: HS-6 Sample No.: R-2

Depth (feet): 7.5 Soil Type : SM

Soil Identification: Light olive brown silty sand (SM)

GR:SA:FI : (%) 0 : 57 : 43

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jul-19

6465

SA HS-1, R-2 @ 7.5

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Colonial
Project No.: 16163-01
Boring No.: HS-2
Sample No.: R-1
Soil Identification: Olive silty sand (SM)

Tested By: G. Bathala Date: 07/18/19
Checked By: J. Ward Date: 07/25/19
Depth (feet): 2.5

		Moisture Content of Total Air - Dry Soil	
Container No.:	ZK	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	564.9	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	248.9	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	316.0	Moisture Content (%)	0.0

After Wet Sieve	Container No.	ZK
	Wt. of Dry Soil + Container (g)	459.5
	Wt. of Container (g)	248.9
	Dry Wt. of Soil Retained on # 200 Sieve (g)	210.6

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	0.7	99.8
#8	2.36	1.5	99.5
#16	1.18	3.1	99.0
#30	0.600	8.1	97.4
#50	0.300	31.6	90.0
#100	0.150	108.5	65.7
#200	0.075	202.6	35.9
PAN			

GRAVEL: **0 %**
SAND: **64 %**
FINES: **36 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

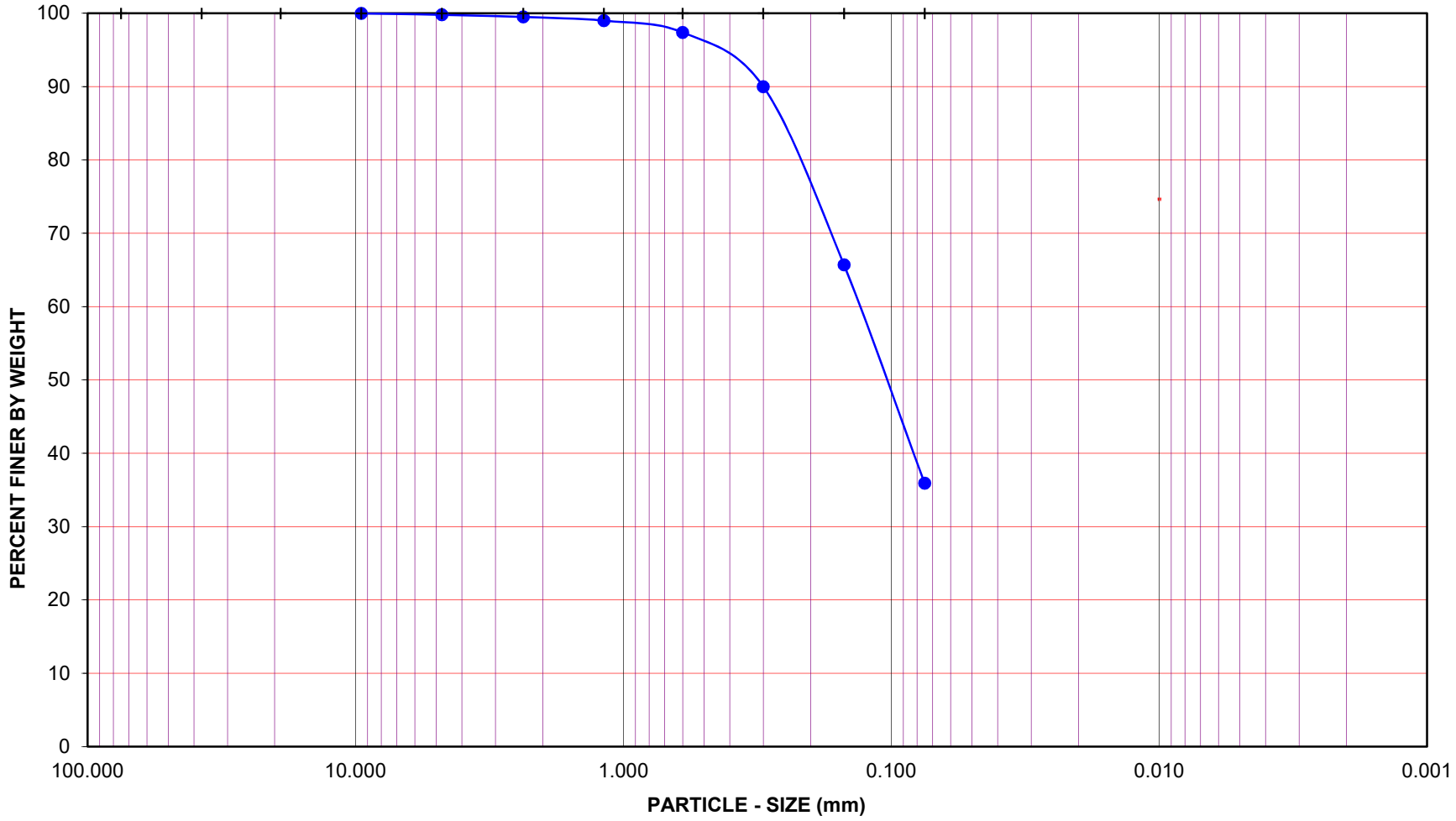
Remarks: _____

6466

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: Colonial

Project No.: 16163-01

Boring No.: HS-2 Sample No.: R-1

Depth (feet): 2.5 Soil Type : SM

Soil Identification: Olive silty sand (SM)

GR:SA:FI : (%) 0 : 64 : 36

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jul-19

6467

SA HS-3, R-1 @ 2.5

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Colonial
Project No.: 16163-01
Boring No.: HS-3
Sample No.: R-1
Soil Identification: Olive silt with sand (ML)s, organic material noted

Tested By: G. Bathala Date: 07/18/19
Checked By: J. Ward Date: 07/25/19
Depth (feet): 5.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	HA	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	533.2	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	246.0	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	287.2	Moisture Content (%)	0.0

After Wet Sieve	Container No.	HA
	Wt. of Dry Soil + Container (g)	332.3
	Wt. of Container (g)	246.0
	Dry Wt. of Soil Retained on # 200 Sieve (g)	86.3

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75	0.0	100.0
#8	2.36	0.1	100.0
#16	1.18	0.3	99.9
#30	0.600	1.0	99.7
#50	0.300	5.3	98.2
#100	0.150	38.0	86.8
#200	0.075	83.4	71.0
PAN			

GRAVEL: **0 %**
SAND: **29 %**
FINES: **71 %**
GROUP SYMBOL: **(ML)s**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

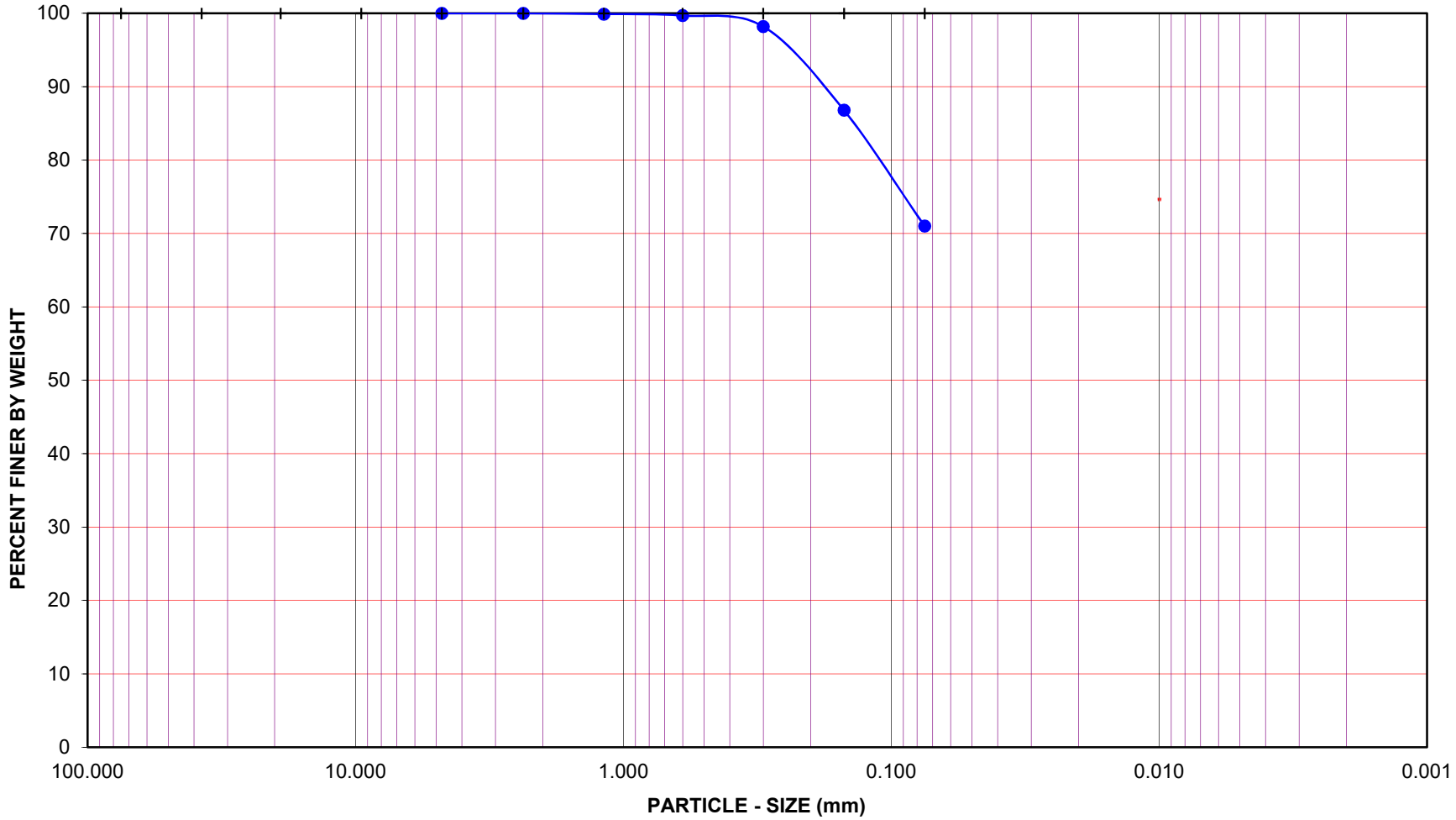
Remarks: _____

6468

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: Colonial

Project No.: 16163-01

Boring No.: HS-3 Sample No.: Depth

(feet): 5.0 Soil Type (ML)s

Soil Identification: Olive silt with sand (ML)s, organic material noted

GR:SA:FI : (%) 0 : 29 : 71

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jul-19

6469

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Colonial
Project No.: 16163-01
Boring No.: HS-1
Sample No.: R-1
Soil Identification: Olive silty sand (SM)

Tested By: G. Bathala Date: 07/18/19
Checked By: J. Ward Date: 07/25/19
Depth (feet): 5.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	GE	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	599.4	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	250.2	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	349.2	Moisture Content (%)	0.0

After Wet Sieve	Container No.	GE
	Wt. of Dry Soil + Container (g)	488.4
	Wt. of Container (g)	250.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	238.2

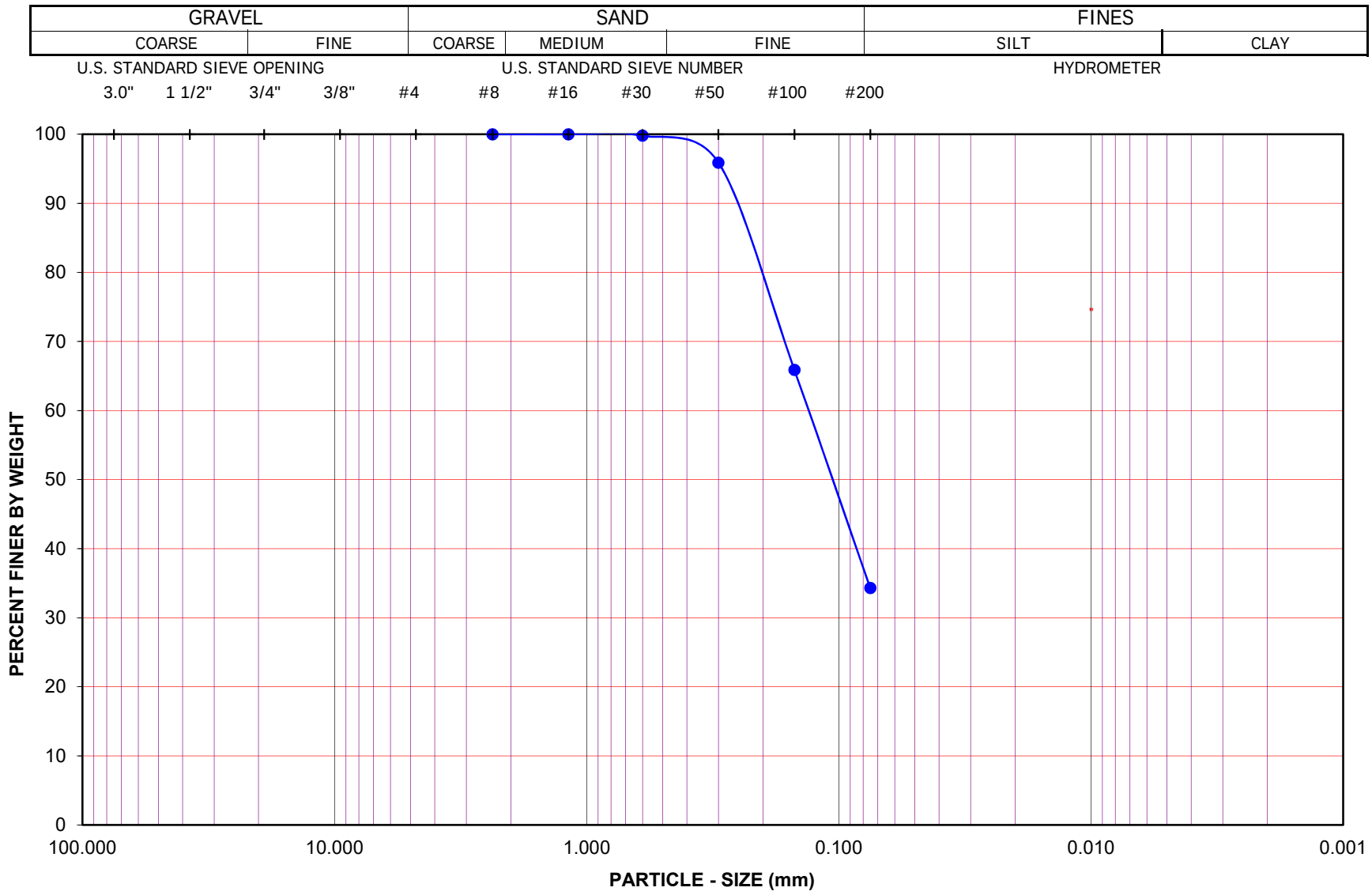
U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36	0.0	100.0
#16	1.18	0.1	100.0
#30	0.600	0.7	99.8
#50	0.300	14.3	95.9
#100	0.150	119.1	65.9
#200	0.075	229.4	34.3
PAN			

GRAVEL: **0 %**
SAND: **66 %**
FINES: **34 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

Remarks: _____

6470



Project Name: Colonial

Project No.: 16163-01

Boring No.: HS-1 Sample No.: R-1

Depth (feet): 5.0 Soil Type : SM

Soil Identification: Olive silty sand (SM)

GR:SA:FI : (%) 0 : 66 : 34

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jul-19

6471

SA HS-6, R-1 @ 5

T-1 (0.5')*	
Depth (ft)	% Organics
0.2	5.1
0.5	1.8
1.0	0.5

T-2 (0.8')*	
Depth (ft)	% Organics
0.2	4.1
0.5	20.9
0.8	0.4

T-3 (0.6')*	
Depth (ft)	% Organics
0.4	19.1
0.7	1.6
	-

T-4 (1.8')*	
Depth (ft)	% Organics
0.4	6.3
1.5	9.6
2.0	1.5

T-5 (1.5')*	
Depth (ft)	% Organics
1.0	9.2
2.0	0.2

T-6 (1.0')*	
Depth (ft)	% Organics
0.6	10.5
1.4	2.1
1.6	0.3

T-7 (1.0')*	
Depth (ft)	% Organics
0.7	10.4
1.1	1.5
1.4	0.4

T-8 (0')*	
Depth (ft)	% Organics
0.5	2.6
1.2	3.7
1.7	1.7

T-9 (0.5')*	
Depth (ft)	% Organics
0.4	4.6
1.2	2.1
1.5	1.1
-	-

T-10 (0')*	
Depth (ft)	% Organics
0.5	2.7
1.1	1.7
1.5	1.0
-	-

T-11 (0')*	
Depth (ft)	% Organics
0.3	0.6
2.3	1.3
2.7	0.8
3.5	0.7

T-12 (0')*	
Depth (ft)	% Organics
0.3	4.1
1.0	1.2
1.5	0.5
-	-

T-13 (0.5')*	
Depth (ft)	% Organics
0.2	6.7
0.8	4.0
1.2	1.7
-	-

T-14 (2.9' to 3.5')*	
Depth (ft)	% Organics
1.0	1.3
3.0	10.1
3.5	0.4
-	-

T-15 (0')*	
Depth (ft)	% Organics
1.0	1.1
2.0	2.3
3.0	0.5
4.0	0.7

T-16 (1.0')*	
Depth (ft)	% Organics
0.5	11.4
1.6	1.9
2.4	0.5
-	-

T-17 (0')*	
Depth (ft)	% Organics
1.0	0.6
4.0	1.1

Legend

> 5%	"High" Organic Content "Soils" Recommended for Export from Site
2 to 5%	"Transitional" Soils Recommended for Mix/Blend w/ "Clean" Soils
< 2%	"Clean" Soils

te: (#')* Indicates Recommended Organic Export Depth in Feet. Export depth may exceed the depths highlighted box

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Table 8 - Summary of Organic Content - Organic Removal & Export Depths

Project Name	MCBC - Brookfield, Ontario
Project Number	20246-01
ENG./GEOL.	RLD/ARN
Date	August 2021

Geotechnical Boring Log Borehole I-1

Date: 12/18/2021	**Drilling Company:** Cal Pac Drilling
Project Name: MCBC-Brookfield	**Type of Rig:** Track Rig
Project Number: 20246-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~755' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)**	
755			R-1	5 6 7	105.7	2.1	SP-SM	@2.5' - SAND with Silt: dusky brown, dry, medium dense	
	5		R-2	4 6 10	109.5	3.7	SM	@5' - Silty SAND: dusky brown, dry, medium dense	
750									
	10		SPT-1	4 5 6		5.8		@10' - Silty SAND: dusky brown, slightly moist, medium dense	
745									
	15		R-3	4 8 13	101.2	8.1	ML	@14' - Sandy SILT: dusky brown slightly moist, stiff	-#200
740								Total Depth = 16' Groundwater Not Encountered Infiltration Well Installed Per County Guidelines Backfilled with Cuttings on 12/19/2021	
	20								
735									
	25								
730									
	30								

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THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole I-2

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Brookfield | **Type of Rig:** Track Rig

Project Number: 20246-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~757' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)**	
755			R-1	9 11 9	105.5	3.7	SM	@2.5' - Silty SAND: gray brown, dry, medium dense	EI CR -#200
	5		R-2	5 8 13	112.0	3.5		@5' - Silty SAND: dusky gray brown, dry, medium dense	
750									
	10		SPT-1	6 5 6		5.9		@10' - Silty SAND: dusky gray brown, slightly moist, medium dense	
745									
	15								
740									
	20		R-3	7 14 9	101.2	1.9	SP-SM	@20' - SAND with Silt: dusky gray brown, dry, medium dense	-#200
735								Total Depth = 22' Groundwater Not Encountered Infiltration Well Installed Per County Guidelines Backfilled with Cuttings on 12/19/2021	
	25								
730									
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole HS-1

Date: 6/21/2019 | **Drilling Company:** Cal Pac

Project Name: Colonial | **Type of Rig:** Limited Access HS

Project Number: 16163-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~766' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
765	0							**@0' to 2.5' Artificial Fill - Undocumented (afu)** @0' - Silty SAND: brown, dry, loose; scattered grass and rootlets	
			SPT-1	3 4 5		3.8	SP	**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)** @2.5' - SAND: gray brown, slightly moist, medium dense	
760	5		R-1	5 8 15	106.6	5.3	SM	@5' - Silty SAND: olive gray, slightly moist, medium dense	-#200 CO
			SPT-2	4 5 7		6.3	SM	@7.5' - Silty SAND: gray brown, slightly moist, medium dense	
755	10		R-2	4 9 15	105.6	2.3	SM	@10' - Silty SAND: gray brown, slightly moist, medium dense	
750	15		SPT-3	5 6 8		3.4	SM	@15' - Silty SAND: olive gray, slightly moist, medium dense	
745	20		R-3	13 14 16	105.7	4.1	SP	@20' - SAND: gray brown, slightly moist, medium dense	
740	25							Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	30								

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-2

Date: 6/21/2019	**Drilling Company:** Cal Pac
Project Name: Colonial	**Type of Rig:** Limited Access HS
Project Number: 16163-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~758' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 2

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to 2.5' Artificial Fill - Undocumented** @0' - Silty SAND: brown, dry, loose; scattered grass and rootlets	
755		B-1	R-1	4 5 7	102.0	4.4	SM	**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)** @2.5' - Silty SAND: olive brown, slightly moist, loose	-#200 CO
	5		SPT-1	4 5 6		6.7	SM	@5' - Silty SAND: olive brown, slightly moist, medium dense	
750			R-2	14 15 18	101.1	2.5	SM	@7.5' - Silty fine SAND: gray brown, slightly moist, medium dense	
	10		SPT-2	3 6 7		3.8	SM	@10' - Silty Fine SAND: gray brown, slightly moist, medium dense	
745									
	15		R-3	8 16 22	111.1	3.5	SM	@15' - Silty SAND with Gravel: gray, slightly moist, medium dense	
740									
	20		SPT-3	6 6 8		8.0	SM	@20' - Silty SAND: brown, moist, medium dense	
735									
	25		R-4	8 13 15	96.0	4.2	SP	@25' - SAND: gray brown, slightly moist, medium dense	
730									
	30								

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-2

Date: 6/21/2019	**Drilling Company:** Cal Pac
Project Name: Colonial	**Type of Rig:** Limited Access HS
Project Number: 16163-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~758' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	5 6 11		10.9	SC	@30' - Clayey SAND: brown, moist, medium dense	
725									
	35		R-5	8 14 22	114.5	9.5	SC	@35' - Clayey SAND: gray and reddish brown mottled, moist, medium dense; iron oxide staining; pin hole porosity	
720									
	40		SPT-5	10 17 22		10.6	SM	@40' - Silty SAND: gray brown, moist, dense; minor iron oxide staining	
715									
	45		R-6	6 12 18	110.2	18.2	ML	@45' - SILT: olive brown and reddish orange mottled, very moist, very stiff; iron oxide staining	
710									
	50		SPT-6	13 23 25		9.5	SM	@50' - Silty SAND: gray brown, moist, very dense	
705								Total Depth = 51.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	55								
700									
	60								

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-3

Date: 6/21/2019 | **Drilling Company:** Cal Pac

Project Name: Colonial | **Type of Rig:** Limited Access HS

Project Number: 16163-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~757' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0						**@0' to 2.5' Artificial Fill - Undocumented** @0' - Silty SAND: brown, dry, loose; scattered grass and rootlets	
		SPT-1	3 5 5		5.7	SM	**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)** @2.5' - Silty SAND: gray brown, slightly moist, medium dense	
	5	R-1	8 8 11	101.9	10.7	ML	@5' - SILT with Sand: olive brown, moist, stiff; roots; wood fragments	-#200 CO
750		SPT-2	8 9 11		5.3	SM	@7.5' - Silty SAND: gray brown, slightly moist, medium dense	
	10	R-2	9 15 21	111.4	2.5	SP	@10' - SAND: gray brown, slightly moist, medium dense	
745								
	15	SPT-3	3 6 9		15.0	ML	@15' - Sandy SILT: olive gray, very moist, very stiff	
740								
	20	R-3	3 9 14	99.6	12.6	SM	@20' - Silty SAND: olive brown, moist, medium dense; white root casts	
735							Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	25							
730								
	30							

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-4

Date: 6/21/2019 | **Drilling Company:** Cal Pac

Project Name: Colonial | **Type of Rig:** Limited Access HS

Project Number: 16163-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~757' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0	B-1	R-1	9 10 16	108.3	4.9	SM	**@0' to 2.5' Artificial Fill - Undocumented** @0' - Silty SAND: brown, dry, loose; scattered grass and rootlets **@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)** @2.5' - Silty SAND: olive brown, slightly moist, medium dense; white rootlets	EI MD CR
	5		SPT-1	4 4 4		3.9	SM	@5' - Silty SAND: olive gray, slightly moist, loose	
750			R-2	5 10 15	88.9	3.6	ML	@7.5' - Sandy Silt: gray, slightly moist, very stiff	
	10		SPT-2	4 7 10		1.5	SM	@10' -Silty SAND: gray brown, dry, medium dense	
745									
	15		R-3	8 9 13	99.9	10.2	SM	@15' - Silty SAND: brown, moist, medium dense	
740									
	20		SPT-3	12 10 10		1.8	SP	@20' - SAND with Gravel: gray brown, dry, medium dense	
735								Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	25								
730									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
⏚	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-5

Date: 6/21/2019	**Drilling Company:** Cal Pac
Project Name: Colonial	**Type of Rig:** Limited Access HS
Project Number: 16163-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~757' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
755	0	B-1	R-1	5 8 9	101.3	2.5	SP	**@0' to 2.5' Artificial Fill - Undocumented** @0' - Silty SAND: brown, dry, loose; scattered grass and rootlets **@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)** @2.5' - SAND: gray brown, slightly moist, medium dense	EI MD
	5		SPT-1	3 4 4		4.5	SP	@5' - SAND: gray brown, slightly moist, loose	
750			R-2	8 9 10	106.8	7.7	SM	@7.5' - Silty SAND: olive brown, moist, medium dense	
	10		SPT-2	4 6 8		5.1	SM	@10' - Silty SAND: gray brown, slightly moist, medium dense	
745									
	15		R-3	9 14 19	130.6	1.8	SP	@15' - SAND: gray brown, dry, medium dense	
740									
	20		SPT-3	8 10 9		4.9	SP	@20' - SAND: gray brown, slightly moist, medium dense	
735								Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	25								
730									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-6

Date: 6/21/2019	**Drilling Company:** Cal Pac
Project Name: Colonial	**Type of Rig:** Limited Access HS
Project Number: 16163-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~763' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 2

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to 2.5' Artificial Fill - Undocumented**	
								@0' - Silty SAND: brown, dry, loose; scattered grass and rootlets	
760		B-1	R-1	5 6 10	103.4	4.0	SP	**@2.5' to T.D. Quaternary Young Eolian Deposits (Qye)**	MD EI
								@2.5' - SAND: olive brown, slightly moist, medium dense	
	5		SPT-1	4 5 6		12.7	SC	@5' - Clayey SAND: brown, moist, medium dense	
755			R-2	5 9 12	97.5	9.0	SM	@7.5' - Silty SAND: light olive brown, moist, medium dense; white root casts	-#200 CO
	10		SPT-2	4 4 4		8.7	SM	@10' - Silty SAND: olive brown, moist, loose	
750									
	15		R-3	4 8 12	102.6	8.5	SM	@15' - Silty SAND: gray brown, moist, medium dense	
745									
	20		SPT-3	6 6 9		8.5	SP	@20' - SAND: gray brown, moist, medium dense	
740									
	25		R-4	3 6 9	93.9	10.7	SM	@25' - Silty SAND: gray brown, moist, medium dense; trace gravel	
735									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 8/7/2019

Geotechnical Boring Log Borehole HS-6

Date: 6/21/2019	**Drilling Company:** Cal Pac
Project Name: Colonial	**Type of Rig:** Limited Access HS
Project Number: 16163-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~763' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By CNJ
Sampled By CNJ

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	5 6 10		15.4	ML	@30' - SILT: brown with reddish brown mottled, very moist, very stiff	
730									
	35		R-5	13 18 50	114.2	8.5	SC	@35' - Clayey SAND: reddish brown and brown mottled, moist, very dense	
725									
	40		SPT-5	12 15 20		5.4	SP	@40' - SAND: brown, slightly moist, dense	
720									
	45		R-6	17 27 27	123.6	6.3	SP	@45' - SAND: brown, slightly moist, dense; trace amounts of clay	
715									
	50		SPT-6	8 23 26		2.4	SP	@50' - SAND: reddish brown, slightly moist, very dense	
710								Total Depth = 51.5' Groundwater Not Encountered Backfilled with Cuttings on 6/21/2019	
	55								
705									
	60								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

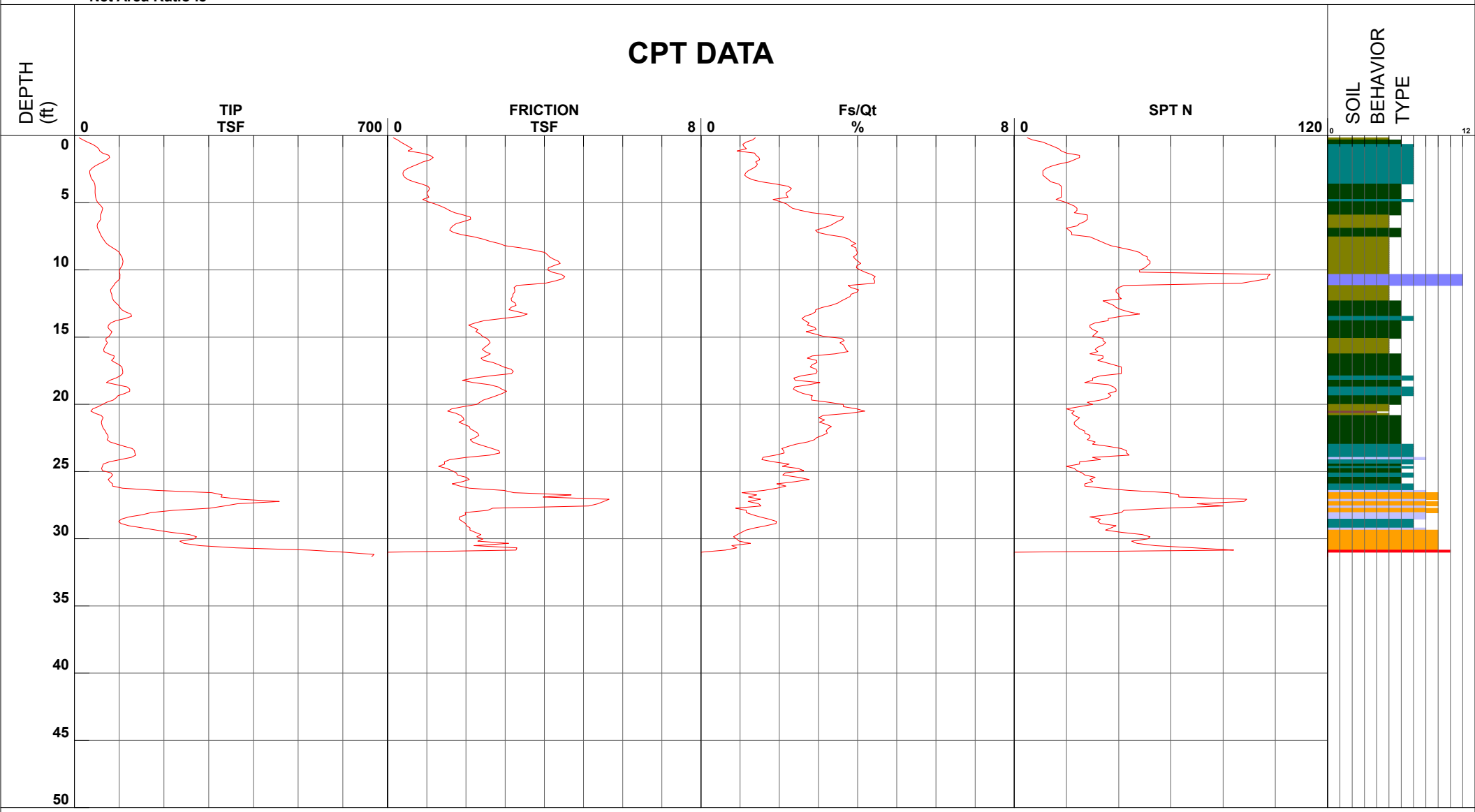
DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
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CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(768).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-01	Date and Time	6/20/2019 12:32:28 PM	Maximum Depth	31.33 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6483

Cone Size 10cm squared

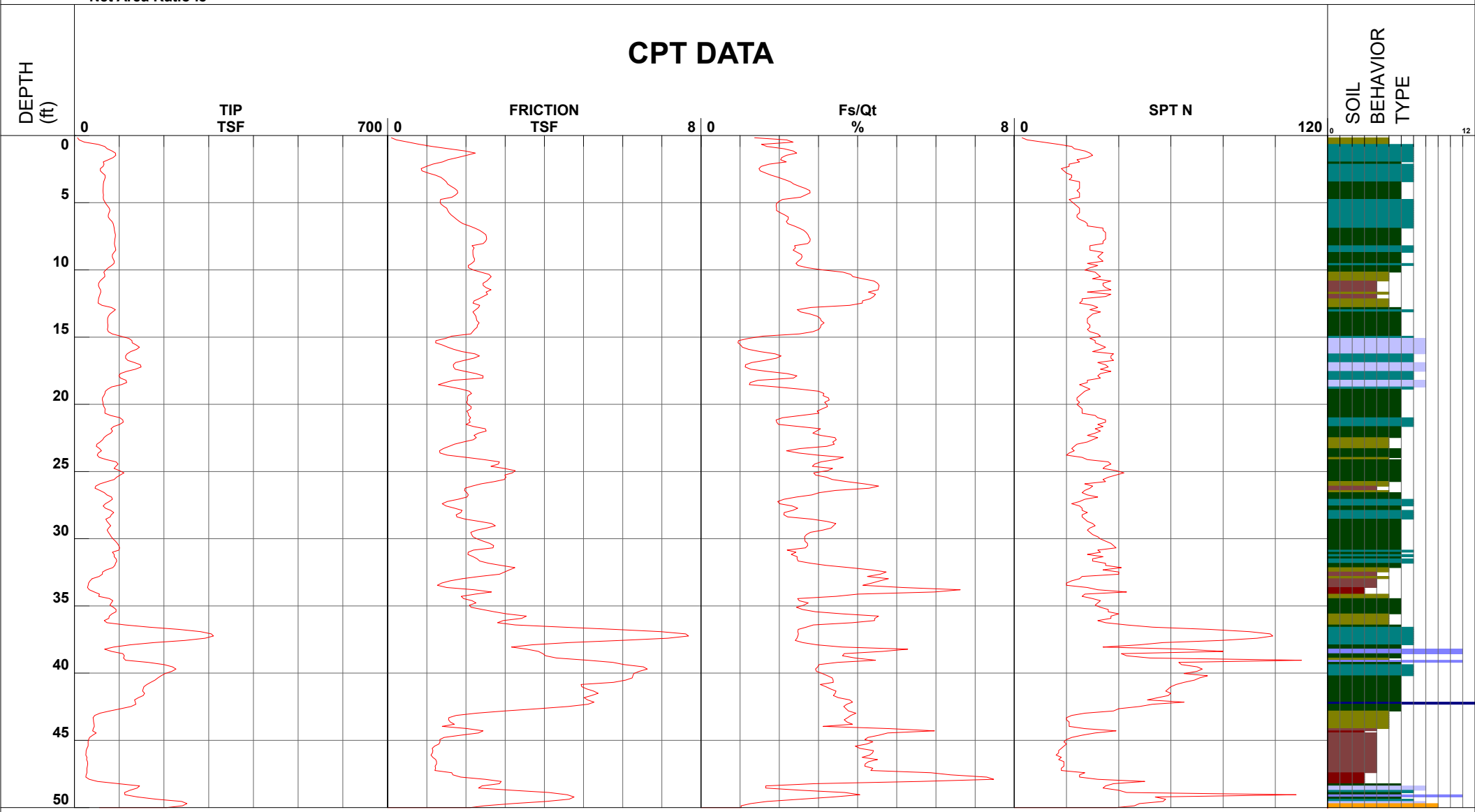
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(769).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-02	Date and Time	6/20/2019 1:15:36 PM	Maximum Depth	50.52 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

6484

Cone Size 10cm squared

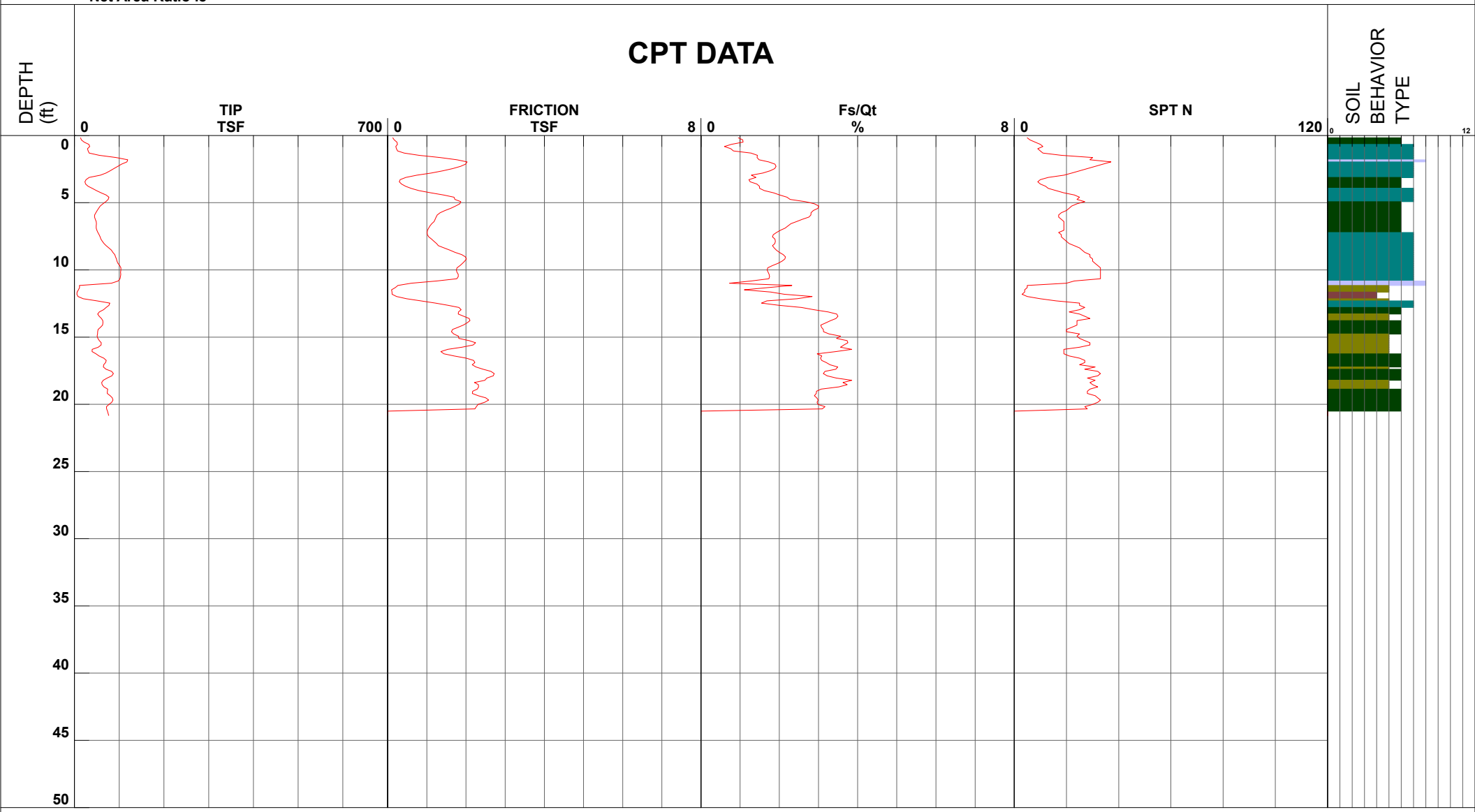
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(770).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-03	Date and Time	6/20/2019 2:00:43 PM	Maximum Depth	20.83 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
4 - silty clay to clay
7 - silty sand to sandy silt
10 - gravelly sand to sand
organic material
5 - clayey silt to silty clay
8 - sand to silty sand
11 - very stiff fine grained (*)
clay
6 - sandy silt to clayey silt
9 - sand
12 - sand to clayey sand (*)

6485

Cone Size 10cm squared

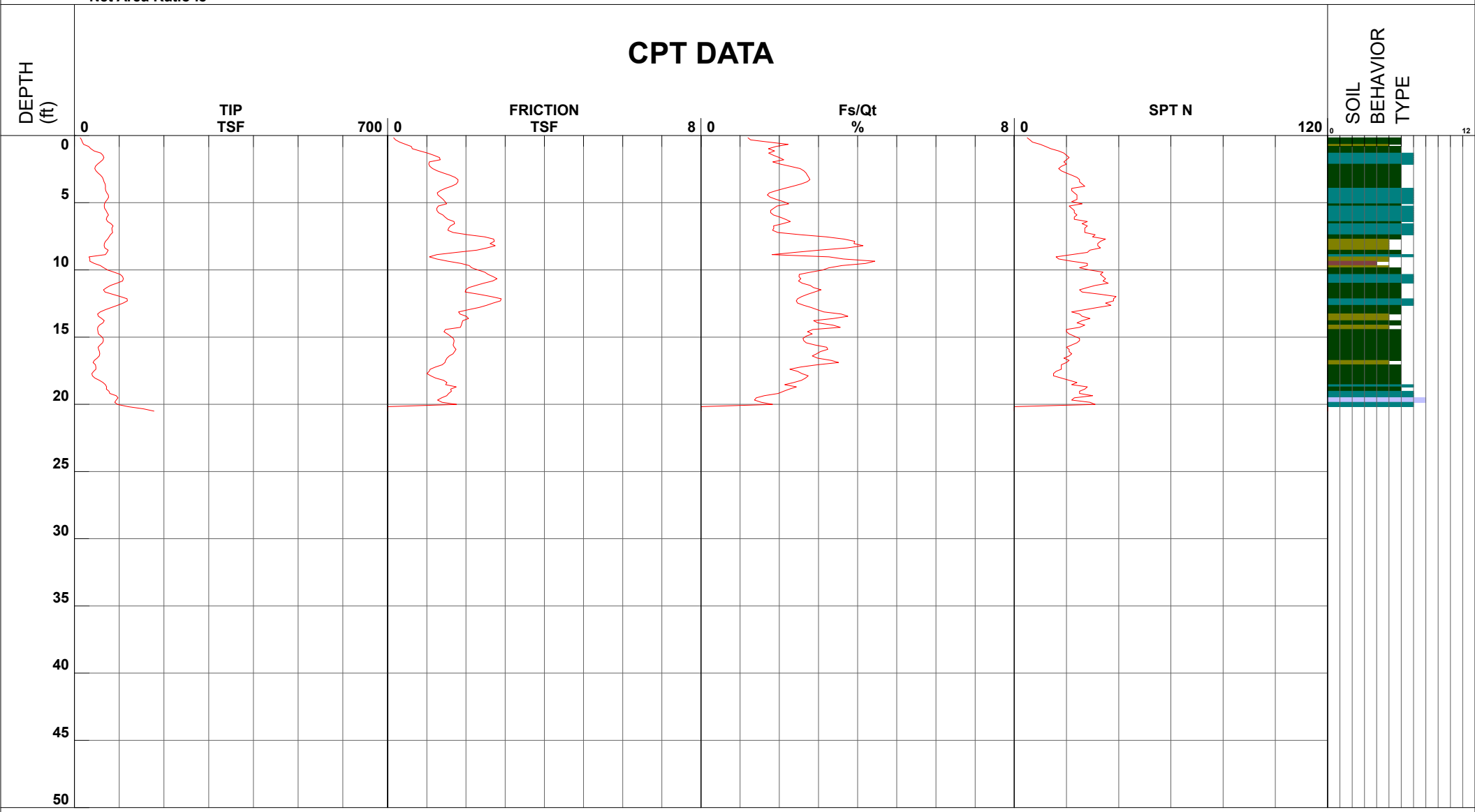
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(771).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-04	Date and Time	6/20/2019 2:19:06 PM	Maximum Depth	20.51 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6486

Cone Size 10cm squared

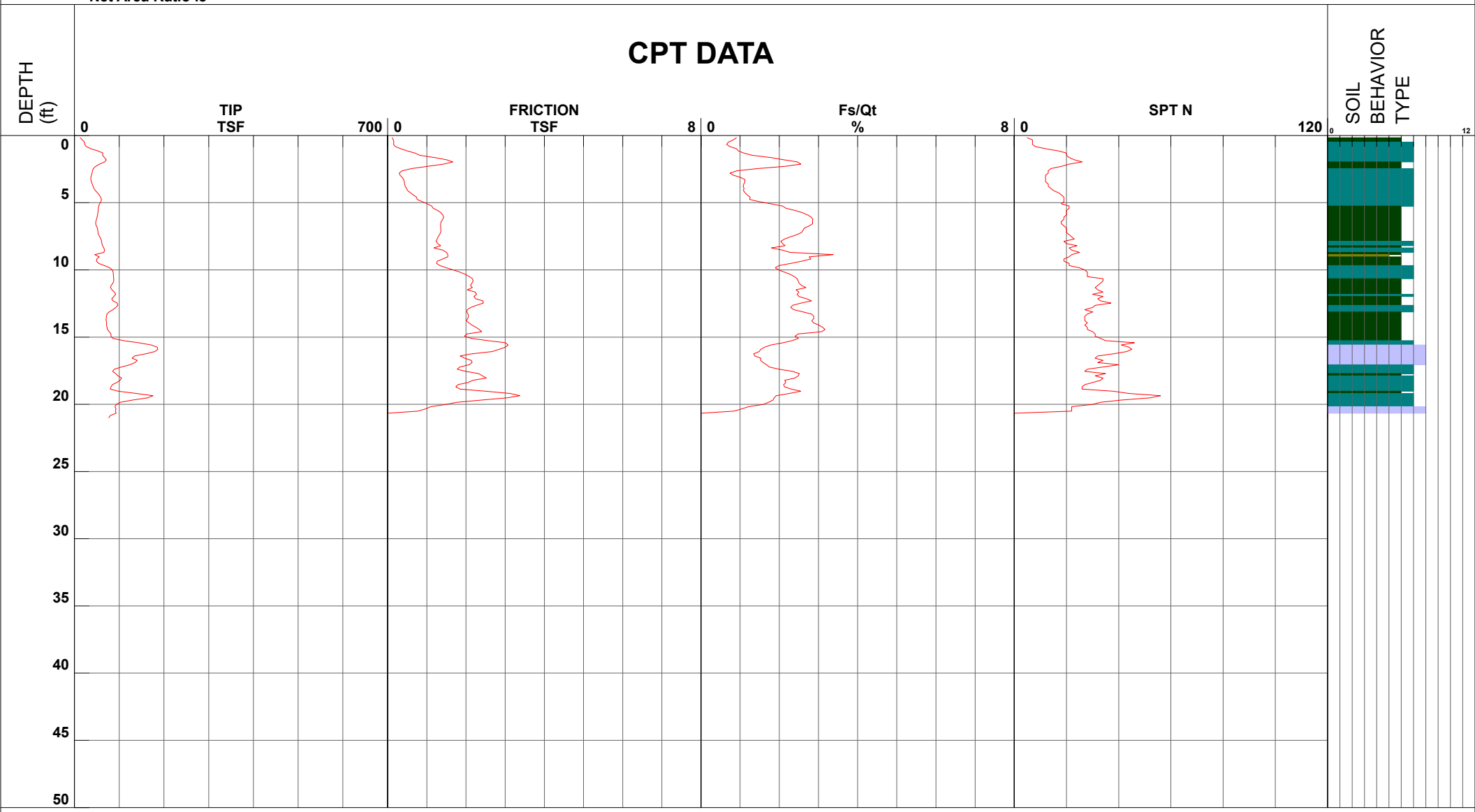
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(772).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-05	Date and Time	6/20/2019 2:38:10 PM	Maximum Depth	21.00 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6487

Cone Size 10cm squared

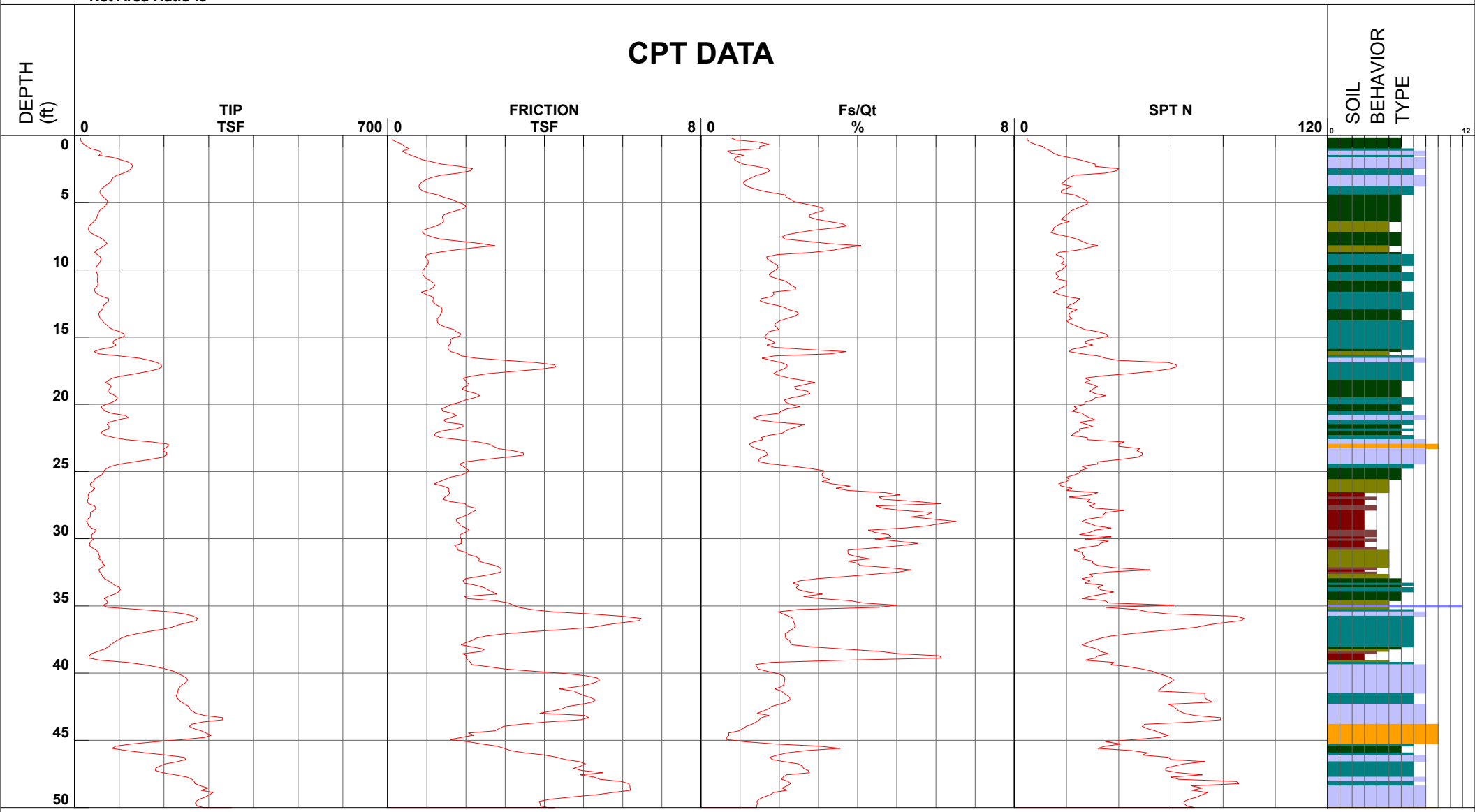
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical, Inc.

Project	Colonial	Operator	RC AS	Filename	SDF(773).cpt
Job Number	16163-01	Cone Number	DDG1471	GPS	
Hole Number	CPT-06	Date and Time	6/20/2019 2:56:46 PM	Maximum Depth	50.69 ft
EST GW Depth During Test		100.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6488

Cone Size 10cm squared

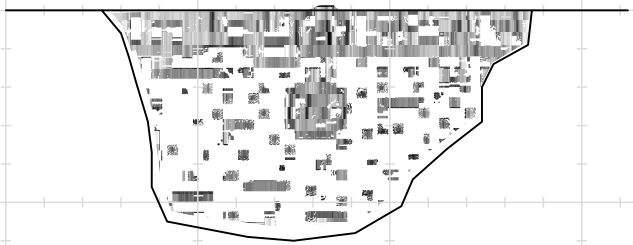
S*Soil behavior type and SPT based on data from UBC-1983

6489

Project Name: Colonial	Logged By: ARN	Trench No: TP-1	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1' Sandy SILT to Silty SAND: medium to dark brown, dry, loose/soft; abundant rootlets**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@1'-T.D. Silty SAND and SAND: medium to tan brown, slightly moist, medium dense; increasing moisture with depth; occasional root; masssive**	Qye	SM-SP			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 758 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

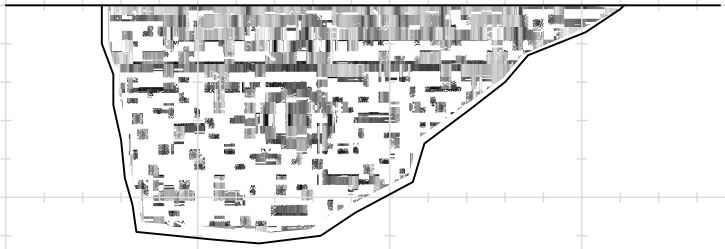
Last Edited: 6/25/2019

6490

Project Name: Colonial	Logged By: ARN	Trench No: TP-2	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1.75' Sandy SILT to Silty SAND: dusky to dark brown, dry, loose/soft; abundant rootlets in upper 12 inches**	afu	SM/ML	B-1		
	b	***Quaternary Young Eolian Deposits*** **@1.75'-T.D. Silty SAND and SAND: medium to tan brown, slightly moist, medium dense; increasing moisture with depth; occasional root; masssive**	Qye	SM-SP			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 756 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6.2'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

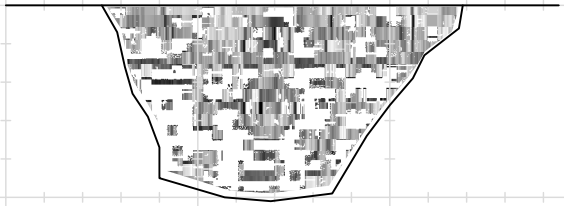
Last Edited: 6/25/2019

6491

Project Name: Colonial	Logged By: ARN	Trench No: TP-3	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1.5' Silty SAND to Sandy SILT: dusky brown, dry , soft/loose; abundant rootlets; occasional gravel**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@1.5'-T.D. Silty SAND and SAND: medium to tan brown, slightly moist, medium dense; infrequent roots and old decaying organics; grades to moist with depth; massive**	Qye	SM-SP			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 754 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5.1'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

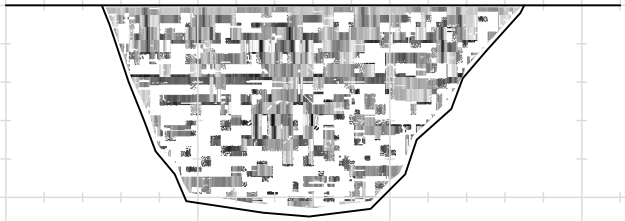
Last Edited: 6/25/2019

6492

Project Name: Colonial	Logged By: ARN	Trench No: TP-4	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-2' Silty SAND to Sandy SILT: dusky brown to brown, dry, soft/loose; abundant rootlets; scattered refuse**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@2'-T.D. Silty SAND: medium brown, slightly moist, medium dense; some small zones of sandy silt; increased moisture with depth**	Qye	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 755 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5.5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

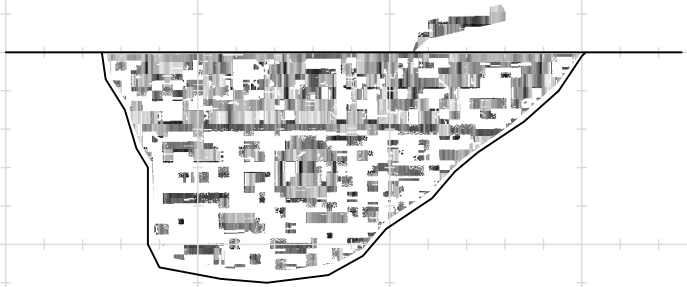
Last Edited: 6/25/2019

6493

Project Name: Colonial	Logged By: ARN	Trench No: TP-5	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1' Silty SAND to Sandy SILT: dusky brown, dry, loose/medium stiff; roots; scattered gravel** **@1'-2' Silty SAND: medium to tan brown, dry to slightly moist, medium dense; occasional root; iron oxide stained burrow**	afu	SM/ML SM			
	b	***Quaternary Young Eolian Deposits*** **@2'-T.D. Silty SAND: medium brown, slightly moist to moist, medium dense**	Qye	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 758 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

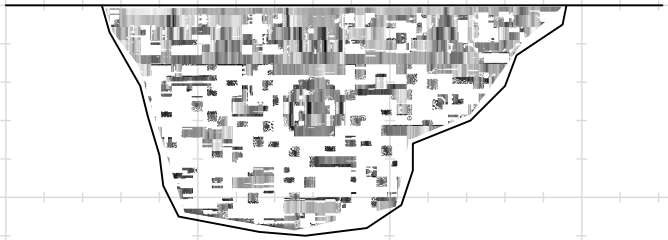
Last Edited: 6/25/2019

6494

Project Name: Colonial	Logged By: ARN	Trench No: TP-6	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented***	afu	SM/ML			
		@0'-1.5' Silty SAND to Sandy SILT: dusky brown, dry, loose/medium stiff; roots; scattered gravel					
	b	***Quaternary Young Eolian Deposits***	Qye	SM			
		@1.5'-T.D. Silty SAND: tan to medium brown, slightly moist, medium dense; some staining; massive; mottled to 3' then homogeneous coloration					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 764 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

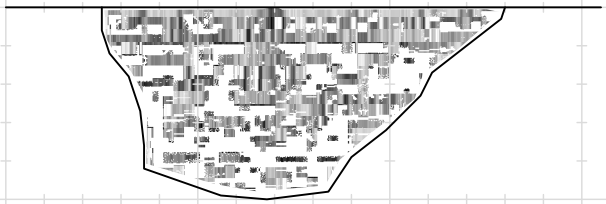
Last Edited: 6/25/2019

6495

Project Name: Colonial	Logged By: ARN	Trench No: TP-7	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1' Silty SAND to Sandy SILT: medium to dusky brown, dry, loose/soft, abundant rootlets; occasional gravel**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@1.5'-T.D. Sandy SILT and Silty SAND: medium brown to tan, slightly moist, medium dense/stiff, occasional root; some zones of coarse sand**	Qye	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 762 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

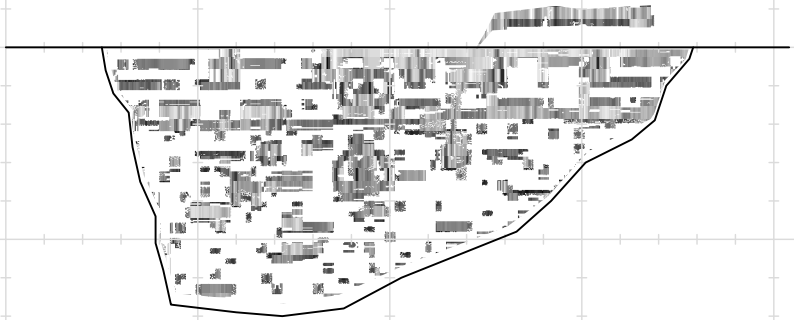
Last Edited: 6/25/2019

6496

Project Name: Colonial	Logged By: ARN	Trench No: TP-8	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-2' Sandy SILT: dusky brown, dry, loose/soft; scattered gravel; abundant rootlets; minor refuse; gradational contact**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@2'-T.D. Silty SAND: tan to medium brown, slightly moist, medium dense; occasional rootlets; burrows in upper portions of the formation; massive**	Qye	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 768 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 7'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

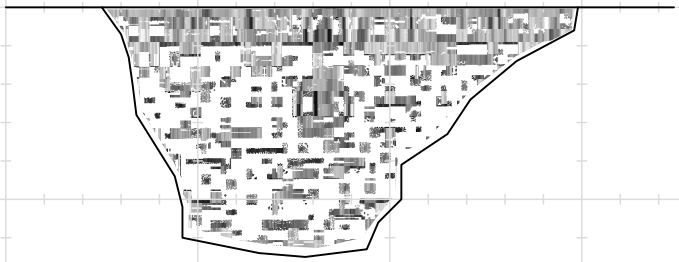
Last Edited: 6/25/2019

6497

Project Name: Colonial	Logged By: ARN	Trench No: TP-9	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented***	afu	SM/ML			
		@0' - 1' Silty SAND to Sandy SILT: dusky brown, dry, loose/soft; abundant rootlets; scarce gravel					
	b	***Quaternary Young Eolian Deposits***	Qye	SM			
		@1'-2.5' Silty SAND: medium brown, dry to slightly moist, loose to medium dense					
		@2.5'-T.D. Silty SAND and Sandy SILT: medium brown, slightly moist, medium dense/stiff; noticably tighter material		SM-ML			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 760 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6.5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

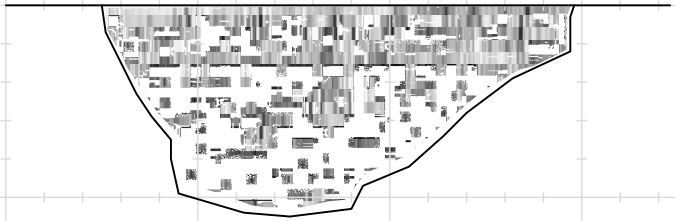
Last Edited: 6/25/2019

6498

Project Name: Colonial	Logged By: ARN	Trench No: TP-10	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented***	afu	SM/ML			
		@0'-1.5' Silty SAND to Sandy SILT: dusky to medium brown, dry, loose/soft; abundant rootlets; scattered gravel.					
	b	***Quaternary Young Eolian Deposits***	Qye	SM			
		@1.5'-T.D. Silty SAND: medium to tan brown, slightly moist, medium dense; massive; occasional root					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 755 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5.5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

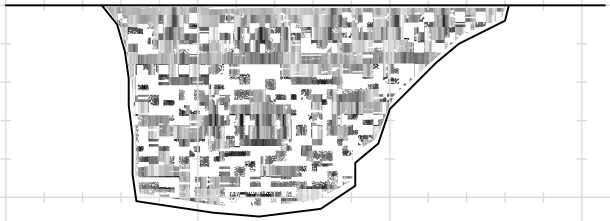
Last Edited: 6/25/2019

6499

Project Name: Colonial	Logged By: ARN	Trench No: TP-11	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1.5' Silty SAND to Sandy SILT: dusky brown, dry, loose/soft; abundant rootlets**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@1.5'-T.D. Silty SAND grading to Sandy SILT: tan brown, slightly moist, medium dense/stiff; occasional root**	Qye	SM-ML			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 766 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5.5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

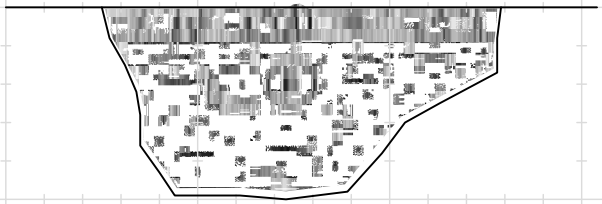
Last Edited: 6/25/2019

6500

Project Name: Colonial	Logged By: ARN	Trench No: TP-12	
Project Number : 16163-01	Date : 6/20/2019	Engineering Properties:	
Equipment: Cat 420F Excavator	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	a	***Artificial Fill - Undocumented*** **@0'-1.5' Silty SAND to Sandy SILT: dusky to medium brown, dry, loose/soft; abundant rootlets; scattered gravel**	afu	SM/ML			
	b	***Quaternary Young Eolian Deposits*** **@1.5'-T.D. Silty SAND: medium brown, slightly moist, medium dense; massive; occasional root**	Qye	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 766 ' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5'
Groundwater: None
Backfilled: 6/20/2019

scale : 1 in = 5 ft

Last Edited: 6/25/2019

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: MCBC North
Project Number: 20246-01
Date: 12/22/2020
Boring Number: I-1

Test hole dimensions (if circular)	
Boring Depth (feet)*:	16
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

Pre-Test (Sandy Soil Criteria)*

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	9:34	9:59	25.0	12.20	14.10	1.9	Yes
2	10:03	10:28	25.0	11.80	13.91	2.11	Yes

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Observed Infiltration Rate(in/hr)
1	11:49	12:00	11.0	11.92	13.02	1.1	3.2
2	12:02	12:14	12.0	12.05	13.01	0.96	2.6
3	12:18	12:28	10.0	12.43	12.88	0.45	1.5
4	12:31	12:41	10.0	12.31	12.85	0.54	1.8
5	12:44	12:56	12.0	11.9	12.72	0.82	2.1
6	12:58	13:10	12.0	11.87	12.71	0.84	2.2

Calculated Infiltration Rate (No factors of safety)	**2.2**
Factor of Safety	
Calculated Infiltration Rate (With Factor of Safety)	

Sketch:

Notes:

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 6/29/18

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: MCBC North
Project Number: 20246-01
Date: 12/22/2020
Boring Number: I-2

Test hole dimensions (if circular)	
Boring Depth (feet)*:	22
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

Pre-Test (Sandy Soil Criteria)*

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	9:48	10:13	25.0	18.65	19.30	0.65	Yes
2	10:18	10:43	25.0	17.80	18.8	1.00	Yes

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Observed Infiltration Rate(in/hr)
1	11:58	12:08	10.0	17.85	18.27	0.42	1.2
2	12:12	12:22	10.0	18.15	18.45	0.30	0.9
3	12:25	12:35	10.0	18.05	18.33	0.28	0.8
4	12:38	12:49	11.0	18.04	18.39	0.35	1.0
5	12:53	13:03	10.0	18.11	18.42	0.31	1.0
6	13:08	13:18	10.0	17.63	18.1	0.47	1.3

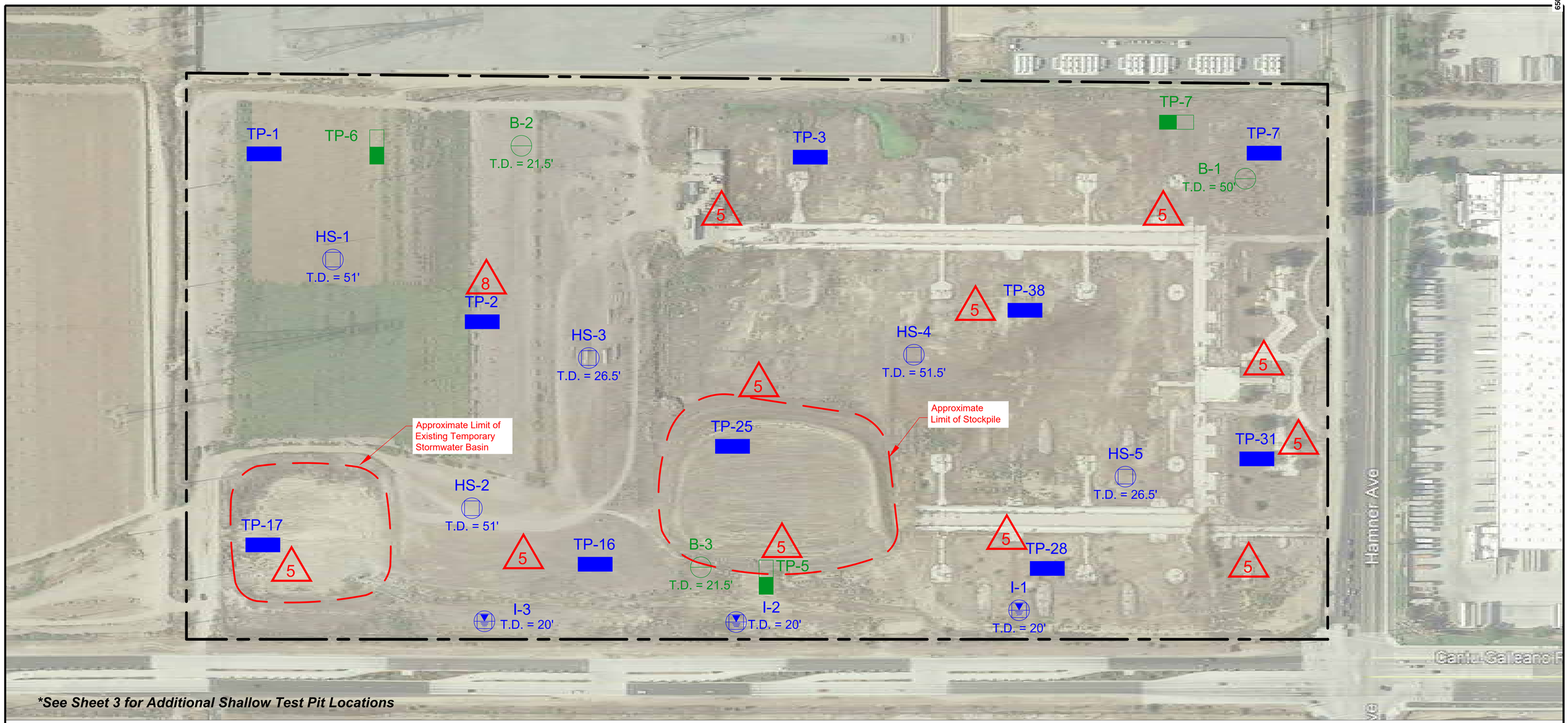
Calculated Infiltration Rate (No factors of safety)	**1.3**
Factor of Safety	
Calculated Infiltration Rate (With Factor of Safety)	

Sketch:

Notes:

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 6/29/18

Appendix E
Geotechnical Subsurface Evaluation Data – Visser (20179-01)



See Sheet 3 for Additional Shallow Test Pit Locations

LEGEND

HS-5
T.D. = 26.5'

Approximate Location of Hollow Stem Auger Boring by LGC Geotechnical, With Total Depth in Feet

I-3
T.D. = 20'

Approximate Location of Hollow Stem Auger Infiltration Boring by LGC Geotechnical, With Total Depth in Feet

TP-38

Approximate Location of Geotechnical and Organics Exploratory Trench by LGC Geotechnical

B-3
T.D. = 21.5'

Approximate Location of Boring by Others, With Total Depth in Feet (Petra, 2005)

T-7

Approximate Location of Exploratory Test Pit by Others (Petra, 2005)

Approximate Limits of This Report

8

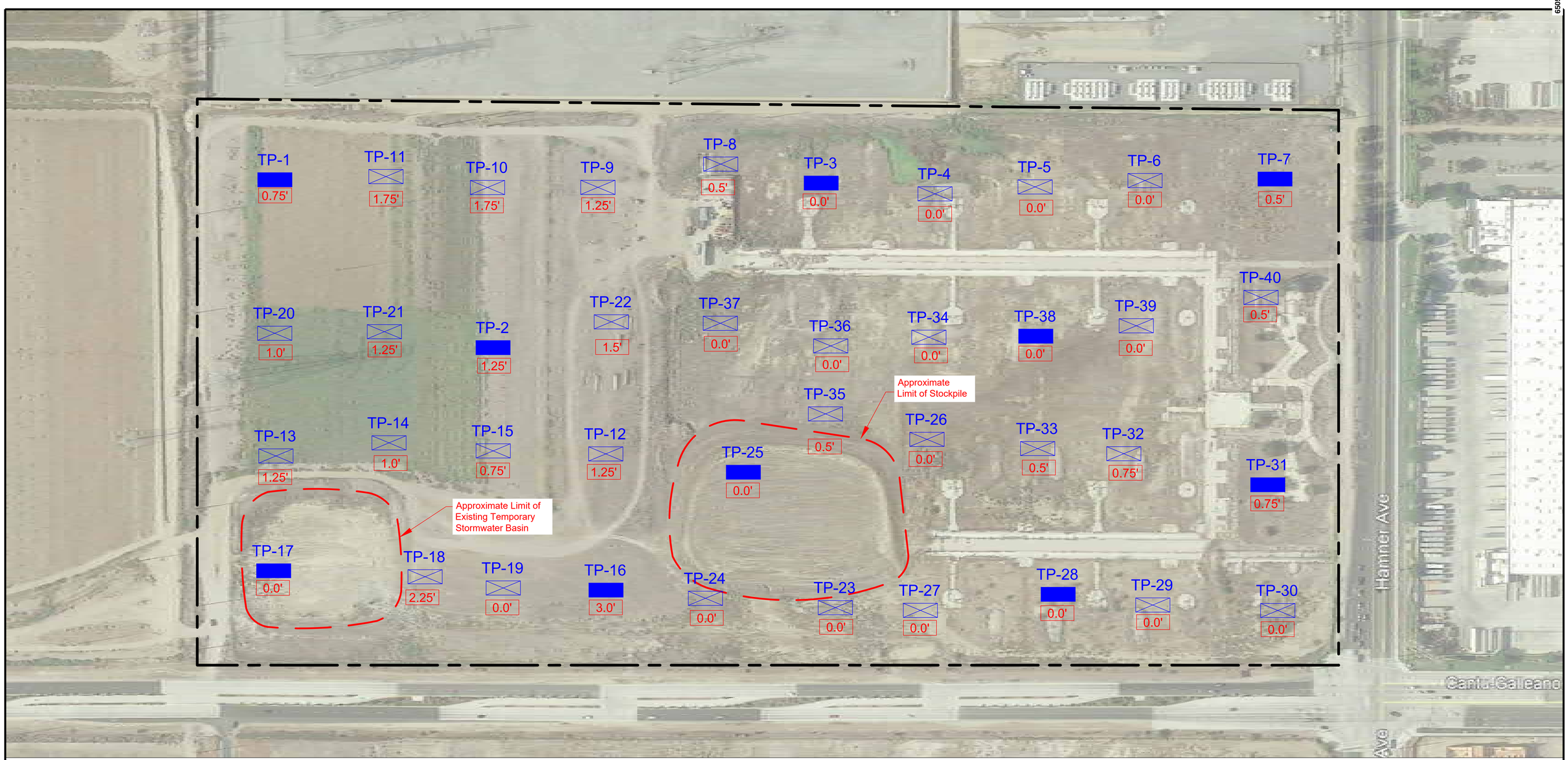
Approximate Depth of Removal and Recompaction Below Existing Grade in Feet

SCALE: 1"=100'
100' 0 100' 200'

LGC Geotechnical, Inc.
LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Geotechnical Exploration Location Map With Satellite Image

PROJECT NAME	Richland - Visser, Ontario
PROJECT NO.	20179-01
ENG. / GEOL.	RLD
SCALE	1" = 100'
DATE	December 2020



LEGEND

TP-38
0.0'

Approximate Location of Geotechnical and Organics Exploratory Trench by LGC Geotechnical with Estimated Minimum Depth of High Organic "Soil" to be Exported From the Site, in Feet

TP-40
0.5'

Approximate Location of Organics Exploratory Trench by LGC Geotechnical with Estimated Minimum Depth of High Organic "Soil" to be Exported From the Site, in Feet

Approximate Limits of This Report

SCALE: 1"=100'
100' 0 100' 200'

LGC Geotechnical, Inc.

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Recommended High Organic "Soil" Export Map

CLIENT:
Richland Communities, Inc.
3161 Michelson Drive, Suite 425
Irvine, CA 92626

PROJECT NAME	*Richland - Visser, Ontario*
PROJECT NO.	*20179-01*
ENG. / GEOL.	*RLD*
SCALE	*1" = 100'*
DATE	*December 2020*

SHEET 3 of 3

APPENDIX C

Laboratory Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the site soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on driven samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Fines Content: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140). Where applicable, the portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D6913 (sieve).

Sample Location	Description	% Passing # 200 Sieve
HS-1 @ 1-5 ft	Silty Sand	28
HS-1 @ 7.5 ft	Silty Sand	36
HS-4 @ 5 ft	Silty Sand	35
HS-4 @ 15 ft	Silt with Sand	79

Atterberg Limits: The liquid and plastic limits ("Atterberg Limits") were determined per ASTM D4318 for engineering classification of fine-grained material and presented in the table below. The USCS soil classification indicated in the table below is based on the portion of sample passing the No. 40 sieve and may not necessarily be representative of the entire sample. The plot is provided in this Appendix.

Sample Location	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	USCS Soil Classification
HS-4 @ 35 ft	27	18	9	CL

APPENDIX C

Laboratory Test Results (Continued)

Consolidation: One consolidation tests were performed per ASTM D2435. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and increasing loads were applied. The samples were allowed to consolidate under "double drainage" and total deformation for each loading step were recorded. The percent consolidation for each load step was recorded as the ratio of the amount of vertical compression to the original sample height. The consolidation pressure curve is provided in this Appendix.

Collapse/Swell Potential: Two collapse tests were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The curves are presented in this Appendix.

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results of these tests are presented in the table below:

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-1 @ 1-5 ft	Silty Sand	123.5	9.5
HS-5 @ 1-5 ft	Silty Sand	120.0	5.5

Expansion Index: The expansion potential of selected representative samples was evaluated by the Expansion Index Test per ASTM D4829.

Sample Location	Expansion Index	Expansion Potential*
HS-1 @ 1-5 ft	1	Very Low
HS-4 @ 1-5 ft	0	Very Low

* Per ASTM D4829

Soluble Sulfates: The soluble sulfate content of select samples was determined by standard geochemical methods (CTM 417). The test results are presented in the table below.

Sample Location	Sulfate Content, %
HS-1 @ 1-5 ft	< 0.02%
HS-4 @ 1-5 ft	< 0.02%

Chloride Content: Chloride content was tested per CTM 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-1 @ 1-5 ft	193
HS-4 @ 1-5 ft	64

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-1 @ 1-5 ft	7.91	3998
HS-4 @ 1-5 ft	8.11	1700

Organic Matter Content of Soils: Organic matter content tests were performed in general accordance with ASTM D 2974 (Test Methods A & C). The results are presented in Table 9.

TP-1 (0.75')*		TP-2 (1.25')*		TP-3 (0.0')*		TP-4 (0.0')*	
Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics
0.25'	7.1	0.25'	13.2	0.17'	1.6	0.25'	0.5
0.75'	3.9	0.67'	10.1	0.5'	0.5	0.67'	0.5
1.0'	0.8	2.0'	1.0	-	-	0.83'	2.7
TP-5 (0.0')*		**TP-6 (0.0')***		**TP-7 (0.5')***		**TP-8 (0.5')***	
Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics
0.083'	0.7	0.083'	1.5	0.17'	4.4	0.25'	12.2
0.67'	0.3	0.33'	0.5	1.0'	2.1	0.5'	4.1
-	-	-	-	1.5'	0.6	2.0'	0.6
TP-9 (1.25')*		**TP-10 (1.75')***		**TP-11 (1.75')***		**TP-12 (1.25')***	
Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics
0.25'	16.0	0.67'	10.8	0.5'	7.6	0.33'	14.8
0.83'	19.6	1.33'	36.4	1.17'	13.7	0.83'	6.1
1.5'	0.7	2.0'	0.8	2.0'	0.8	1.5'	0.6
TP-13 (1.25')*		**TP-14 (1.0')***		**TP-15 (0.75')***		**TP-16 (3.0')***	
Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics
0.58'	6.5	0.25'	9.7	0.5'	10.3	1.33'	12.3
1.25'	3.8	0.67'	9.2	1.0'	0.8	2.67'	9.6
1.67'	0.7	1.33'	1.1	-	-	3.33'	0.5
TP-17 (0.0')*		**TP-18 (2.25')***		**TP-19 (0.0')***		**TP-20 (1.0')***	
Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics
0.17'	0.7	0.83'	8.4	1.92'	2.4	0.5'	7.3
1.0'	0.1	1.67'	9.2	2.67'	2.2	1.5'	0.9
-	-	2.58'	1.0	3.33'	0.4	2.08'	0.5
TP-21 (1.25')*		**TP-22 (1.5')***		**TP-23 (0.0')***		**TP-24 (0.0')***	
Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics
0.33'	7.2	0.33'	15.0	0.17'	0.6	0.04'	1.5
0.83'	6.6	0.75'	22.3	0.67'	0.6	0.17'	0.5
1.5'	0.6	-	-	-	-	-	-
TP-25 (0.0')* Stockpile		**TP-26 (0.0')***		**TP-27 (0.0')***		**TP-28 (0.0')***	
Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics
0.5'	1.0	0.08'	2.8	0.08'	1.0	0.17'	0.0
5.25'	11.4	0.25'	0.4	0.25'	0.9	0.42'	0.3
9.7'	8.5	-	-	-	-	-	-
10.1'	0.6	-	-	-	-	-	-
10.5'	1.4	-	-	-	-	-	-
TP-29 (0.0')*		**TP-30 (0.0')***		**TP-31 (0.75')***		**TP-32 (0.75')***	
Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics
0.17'	1.2	0.17'	1.3	0.08'	4.3	0.08'	8.6
0.67'	0.3	0.33'	1.2	0.33'	5.4	0.42'	15.0
-	-	0.67'	0.3	1.0'	0.5	1.0'	0.2
TP-33 (0.5')*		**TP-34 (0.0')***		**TP-35 (0.5')***		**TP-36 (0.0')***	
Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics
0.17'	25.6	0.17'	0.8	0.25'	6.2	0.17'	3.0
0.5'	0.4	1.0'	0.5	0.67'	1.9	0.58'	2.2
-	-	-	-	1.08'	0.5	1.08'	0.6
TP-37 (0.0')*		**TP-38 (0.0')***		**TP-39 (0.0')***		**TP-40 (0.5')***	
Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics	Depth (ft)	% Organics
0.25'	1.0	0.25'	0.4	0.17'	1.5	0.25'	6.9
0.67'	0.3	0.5'	1.1	0.33'	0.5	0.67'	0.8
-	-	1.0'	0.4	0.5'	0.5	1.5'	2.2
-	-	-	-	-	-	2.0'	0.4

Legend

> 5%	"High" Organic Content "Soils" Recommended for Export from Site
2 to 5%	"Transitional" Soils Recommended for Mix/Blend w/ "Clean" Soils
< 2%	"Clean" Soils

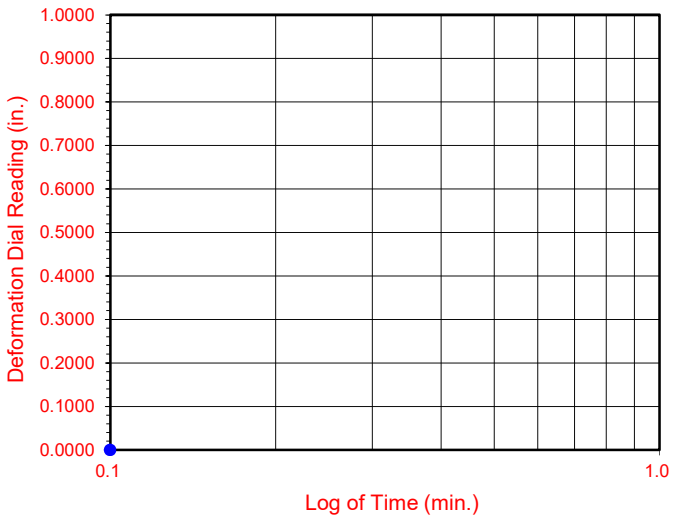
Note: (#')* Indicates Recommended Organic Export Depth in Feet. Export depth may exceed the depths highlighted boxes.

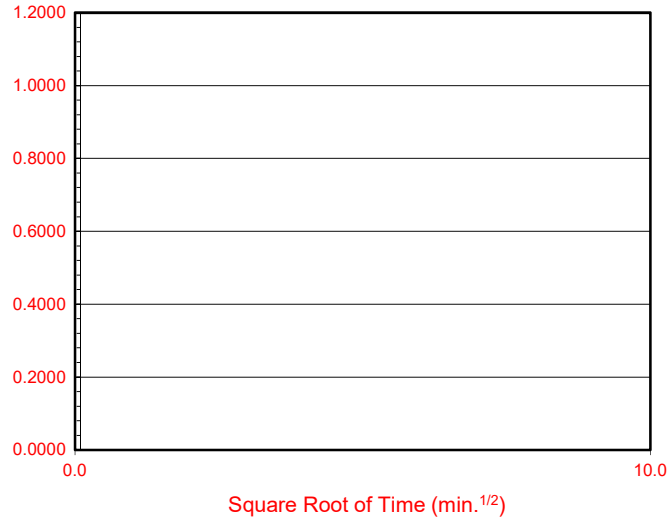
LGC Geotechnical, Inc.

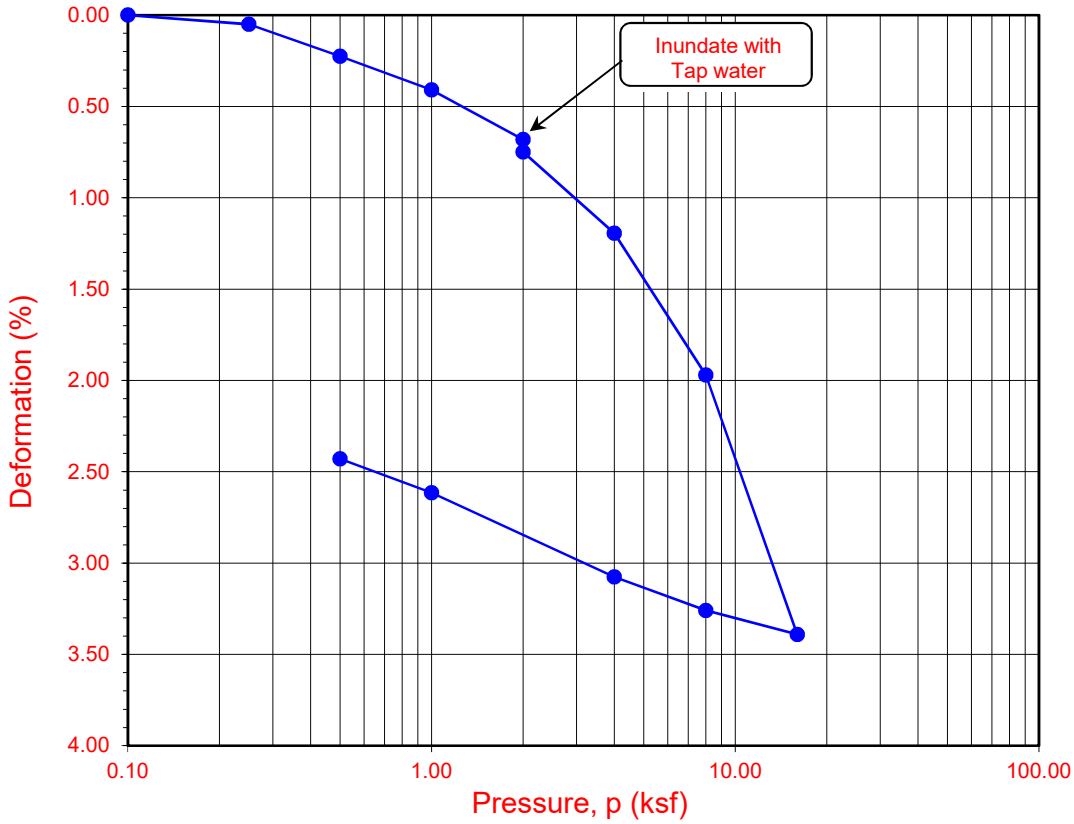
Table 9 - Summary of Organic Content - Organic Removal & Export Depths

Project Name	Richland - Visser, Ontario
Project Number	20179-01
ENG./GEOL.	RLD
Date	Nov-20

Time Readings







Boring No.	Sample No.	Depth (ft.)	Moisture Content (%)		Dry Density (pcf)		Void Ratio		Degree of Saturation (%)	
			Initial	Final	Initial	Final	Initial	Final	Initial	Final
I-3	**R-2**	**10.0**	**6.7**	**29.4**	**92.9**	**91.3**	**0.814**	**0.770**	**22**	**94**

Soil Identification: Olive silty sand (SM)

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS
ASTM D 2435

Project No.: 20179-01

Ontario

10-20

ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS
ASTM D 4546

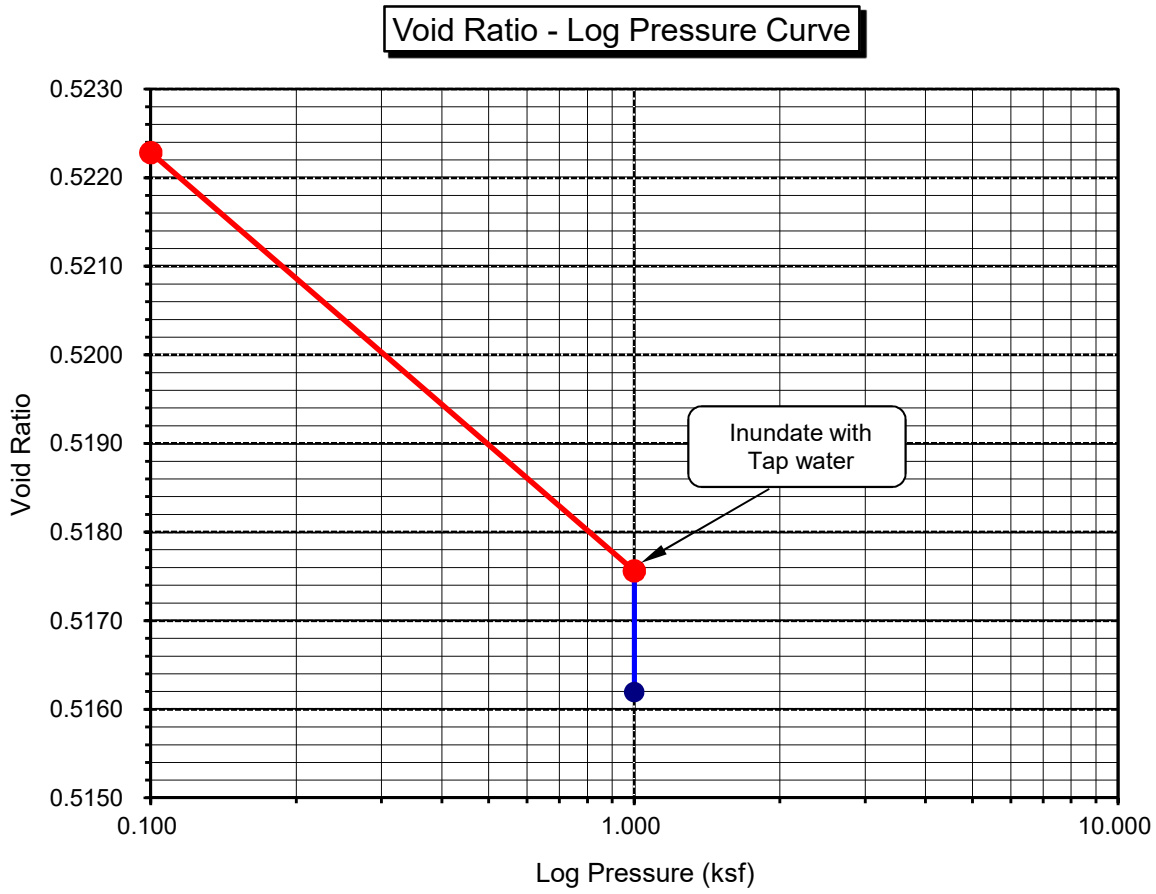
Project Name:	Ontario	Tested By:	G. Bathala	Date:	10/04/20
Project No.:	20179-01	Checked By:	A. Santos	Date:	10/07/20
Boring No.:	HS-1	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	7.5		
Sample Description:	Olive silty sand (SM)				

Initial Dry Density (pcf):	110.7
Initial Moisture (%):	9.09
Initial Length (in.):	1.0000
Initial Dial Reading:	0.2700
Diameter(in):	2.415

Final Dry Density (pcf):	111.2
Final Moisture (%) :	16.4
Initial Void Ratio:	0.5226
Specific Gravity(assumed):	2.70
Initial Saturation (%)	46.9

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.2698	0.9998	0.00	-0.02	0.5223	-0.02
1.000	0.2649	0.9949	0.18	-0.51	0.5176	-0.33
H2O	0.2640	0.9940	0.18	-0.60	0.5162	-0.42

Percent Swell (+) / Settlement (-) After Inundation = -0.09



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS
ASTM D 4546

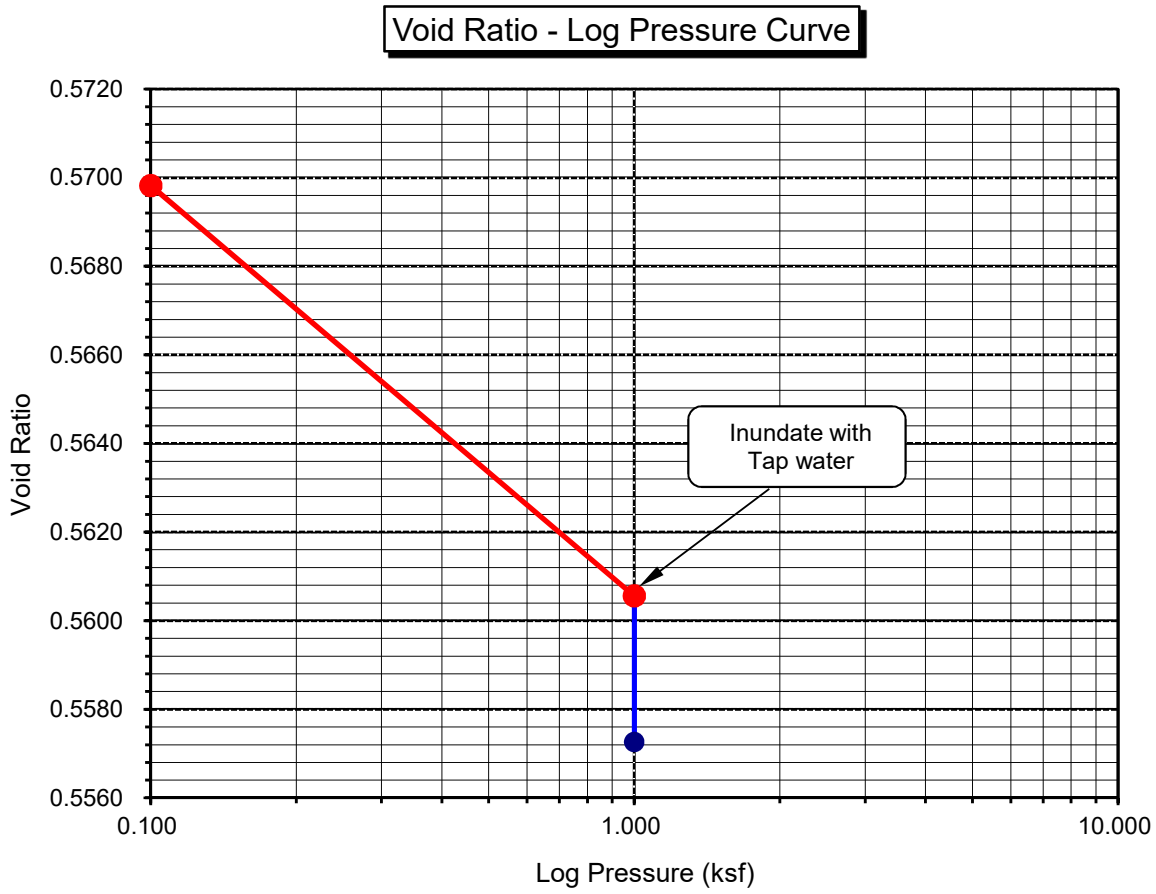
Project Name:	Ontario	Tested By:	G. Bathala	Date:	10/04/20
Project No.:	20179-01	Checked By:	A. Santos	Date:	10/07/20
Boring No.:	HS-4	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	5.0		
Sample Description:	Olive silty sand (SM)				

Initial Dry Density (pcf):	107.3
Initial Moisture (%):	5.44
Initial Length (in.):	1.0000
Initial Dial Reading:	0.3032
Diameter(in):	2.415

Final Dry Density (pcf):	108.2
Final Moisture (%) :	18.2
Initial Void Ratio:	0.5703
Specific Gravity(assumed):	2.70
Initial Saturation (%)	25.7

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.3029	0.9997	0.00	-0.03	0.5698	-0.03
1.000	0.2963	0.9931	0.07	-0.69	0.5606	-0.62
H2O	0.2942	0.9910	0.07	-0.90	0.5573	-0.83

Percent Swell (+) / Settlement (-) After Inundation = -0.21



LABORATORY TEST DATA

IN SITU MOISTURE AND DRY DENSITY [1]

Test Pit Number	Sample Number	Soil Description	Moisture Content (%)	Dry Density (pcf)
TP-1	1	Silty Sand	5.3	125.5
TP-2	2	Silty Sand	1.5	106.0
TP-4	3	Silty Sand	7.5	93.5
TP-5	4	Gravelly Sand	7.9	104.1
TP-6	5	Silty Sand	10.4	123.3
TP-7	2	Silty Sand	11.1	109.4
TP-8	3	Silty Sand	7.5	129.6
TP-9	4	Sand with Silt	4.2	91.2
TP-10	4	Sand	6.5	106.9
TP-11	2	Silt	8.4	107.3
TP-12	1	Silt	7.6	104.3
TP-13	5	Silty Sand	14.5	111.2
TP-14	4	Silty Sand	2.8	106.0

LABORATORY MAXIMUM DRY DENSITY [2]

Test Pit Number	Sample Number	Soil Description	Optimum Moisture Content (%)	Maximum Dry Density (pcf)
B-7	3-5	Silty Sand	13	118
B-9	0-5	Silty Sand	10	115
B-12	0-5	Sand	11	117
TP-1	0-5	Silty Sand	11	121

EXPANSION INDEX TEST DATA [3]

Test Pit Number	Sample Number	Soil Description	Expansion Index	Expansion Potential
B-1	0-5	Sand	1	Very Low
B-7	0-5	Silty Sand	21	Low
B-12	0-5	Sand	0	Very Low
TP-1	0-5	Sand	11	Very Low

SOLUBLE SULFATES AND CHLORIDES [4]

Test Pit Number	Sample Number	Soil Description	Soluble Sulfate (%)	Chloride (ppm)
B-1	0-5	Sand	0.0007	179
B-9	0-5	Silty Sand	0.00021	158
B-12	0-5	Sand	0.00755	122
TP-1	0-5	Sand	0.00755	111

PLATE B-1
(Sheet 1 of 2)

PETRA

LABORATORY TEST DATA

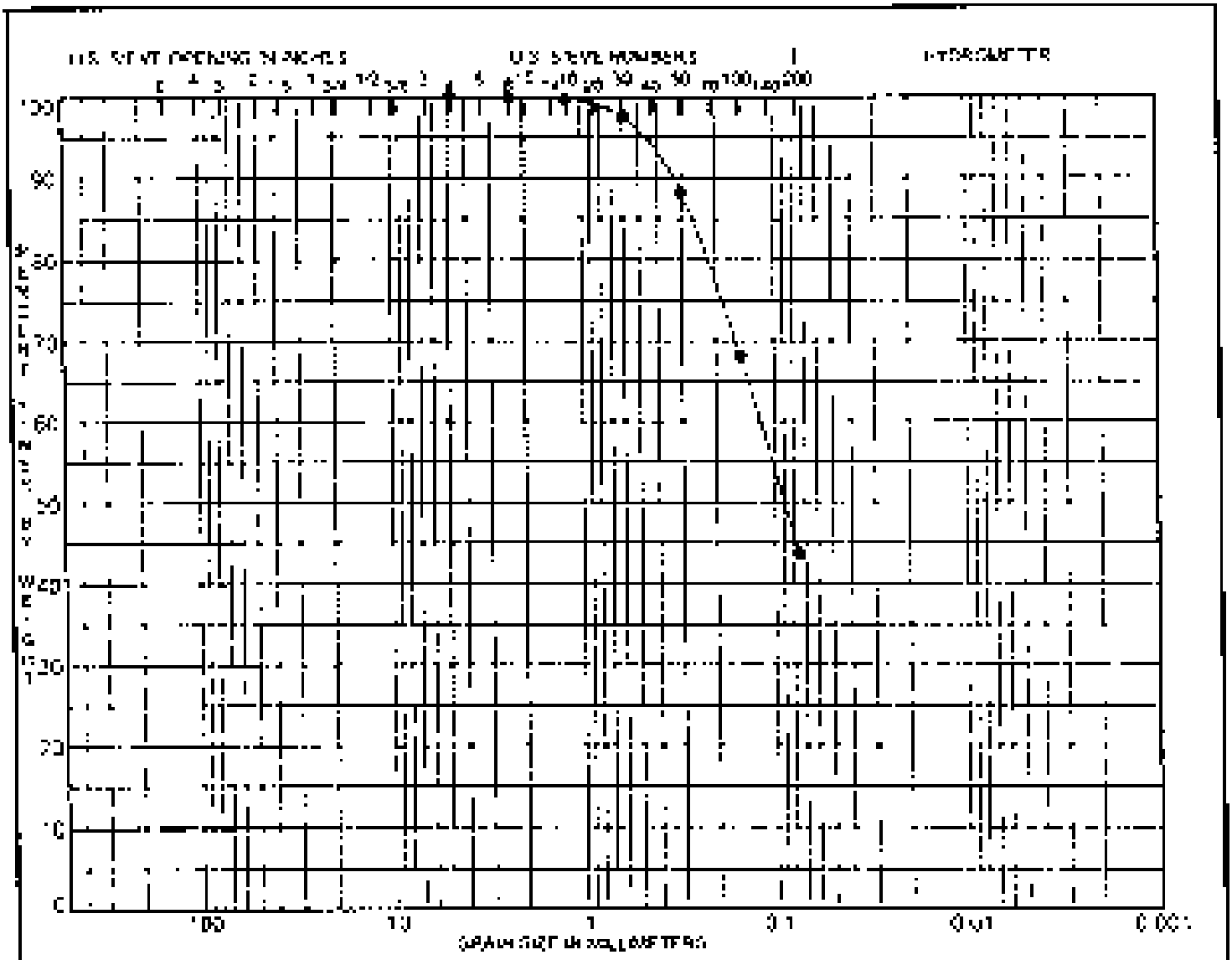
pH AND MINIMUM RESISTIVITY [7]

Boring Designation	Sample Depth (feet)	Soil Description	pH	Minimum Resistivity (ohm-cm)
B-1	0-5	Sand	6.9	1,000
B-2	0-5	Silty Sand	6.5	5,500
B-3	0-5	Sand	7.1	3,400
TP-1	0-5	Sand	7.8	2,700

IN PLACE ORGANIC CONTENT [4]

Boring Designation	Sample Depth (feet)	Organic Content (%)	Boring Designation	Sample Depth (feet)	Organic Content (%)
TP-1	1	0.58	TP-9	0.5	2.61
	2	0.45		1.5	0.25
	3	0.81			
	4	0.56			
TP-2	1	1.04	TP-10	0.5	0.41
	2	1.13		1.5	0.19
	3	0.60		3	0.02
	4	0.55			
TP-3	0.5	0.52	TP-11	0.5	1.33
	1.5	0.40		1.5	1.65
	3	1.42		3	0.41
	4.5	0.55			
TP-4	1.5	0.25	TP-12	0.5	0.21
	3	0.29		1.5	0.11
	4.5	0.52		4	0.18
TP-5	1	0.50	TP-13	0.5	0.59
	2	0.59		1.5	0.49
	3	0.70		3	0.37
	4	0.53			
TP-7	1.5	1.51	TP-14	0.5	0.12
	2	0.52		1.5	0.56
	3	0.50		3	0.28
TP-8	1	1.23			
	2	0.42			

(1) Per ASTM Test Method D 2216-98
(2) Refer to boring logs in Appendix A for additional laboratory moisture content and dry density data
(3) Per Test Method ASTM D 1557-02
(4) Per ASTM Test Method D 4629-02
(5) Per CBC (2001) Table 18-I-B
(6) Per California Test Method Nos. 417 and 422
(7) Per California Test Method Nos. 643 and 643
(8) Per ASTM Test Method D 2974-00

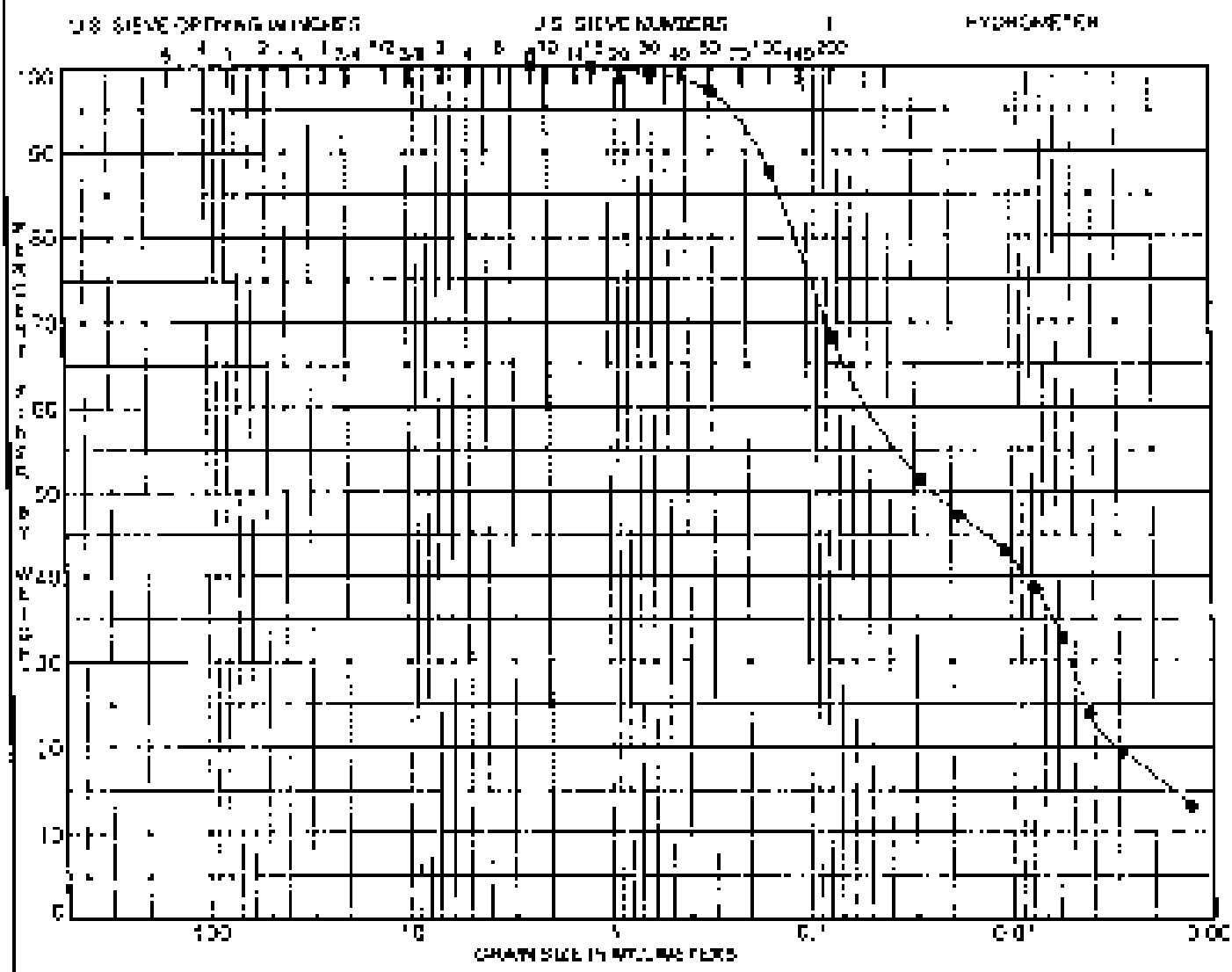


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	WC%	LL	PL	PI	Cc	Cu
B-1 @ 35.0	Silty Sand (SM)						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-1 @ 35.0	4.75	0.12		0.0200	0.0	56.5	43.5	

J.N. 463-05	GRAIN SIZE ANALYSIS	September, 2005
PETRA GEOTECHNICAL, INC.		PLATE B-2



COBBLES	GRAVEL: coarse	GRAVEL: fine	SAND: coarse	SAND: medium	SAND: fine	SILT OR CLAY

Specimen Identification		Classification	MC%	LL	PL	PI	Cc	Cu
● B-1	45.0	Clayey Sand (SC)						

Specimen Identification		D100	D60	D30	D50	%Gravel	%Sand	%Silt	%Clay
● B-1	45.0	2.00	0.05	0.005	0.0241	0.0	31.8	39.2	22.9

J.N. 463-05

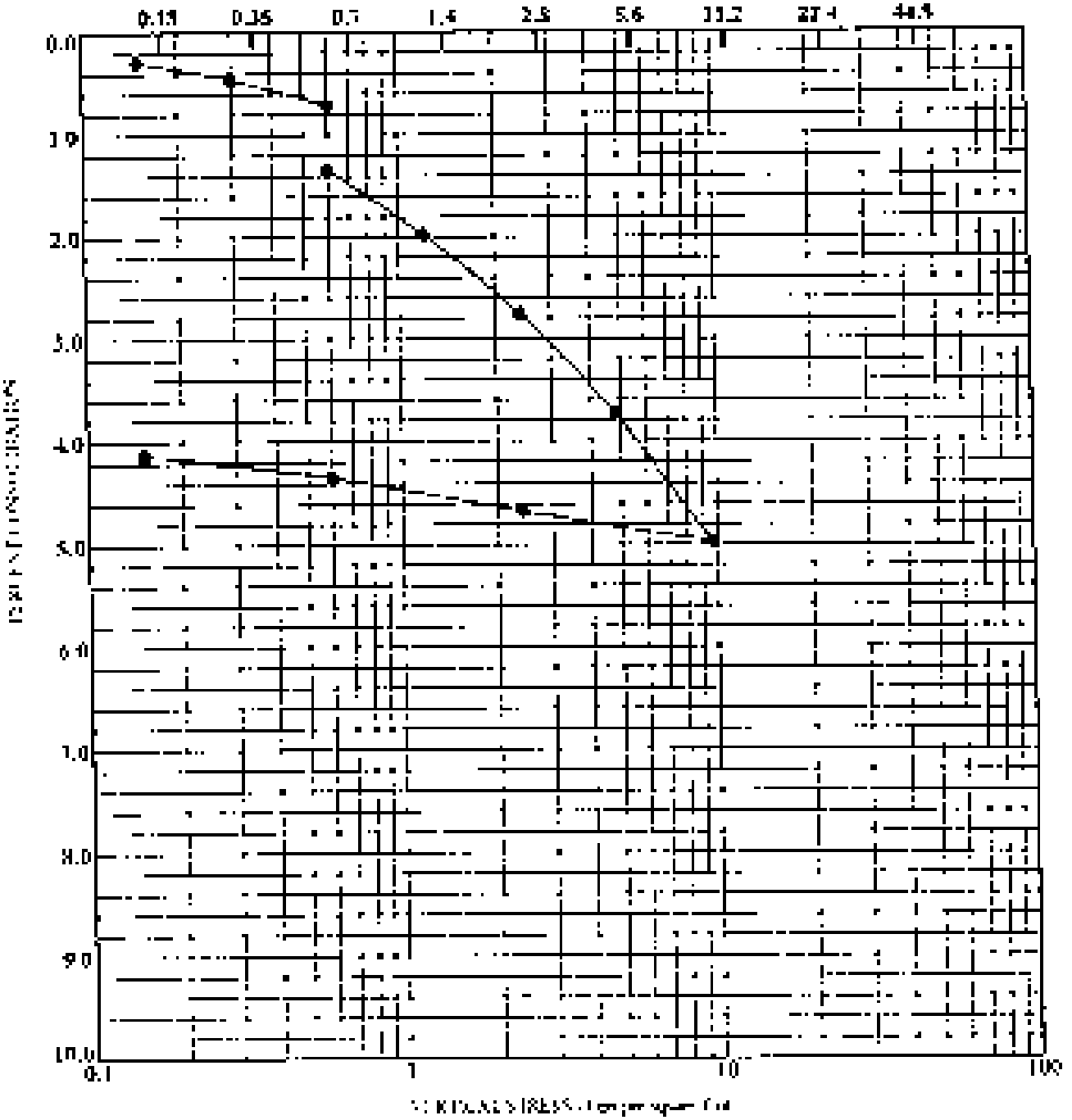
GRAIN SIZE ANALYSIS

September 2005

PETRA GEOTECHNICAL INC.

PLATE B-3

SAMPLE LOCATION	MATERIAL DESCRIPTION	INITIAL DENSITY (pcf)	INITIAL MOISTURE (%)	INITIAL SATURATION (%)	INUNDATED LOAD (ksf)
● B-3 @ 5.0	Silty Sand (SM)	102.4	6.3	26	0.50



J.N. 460 05

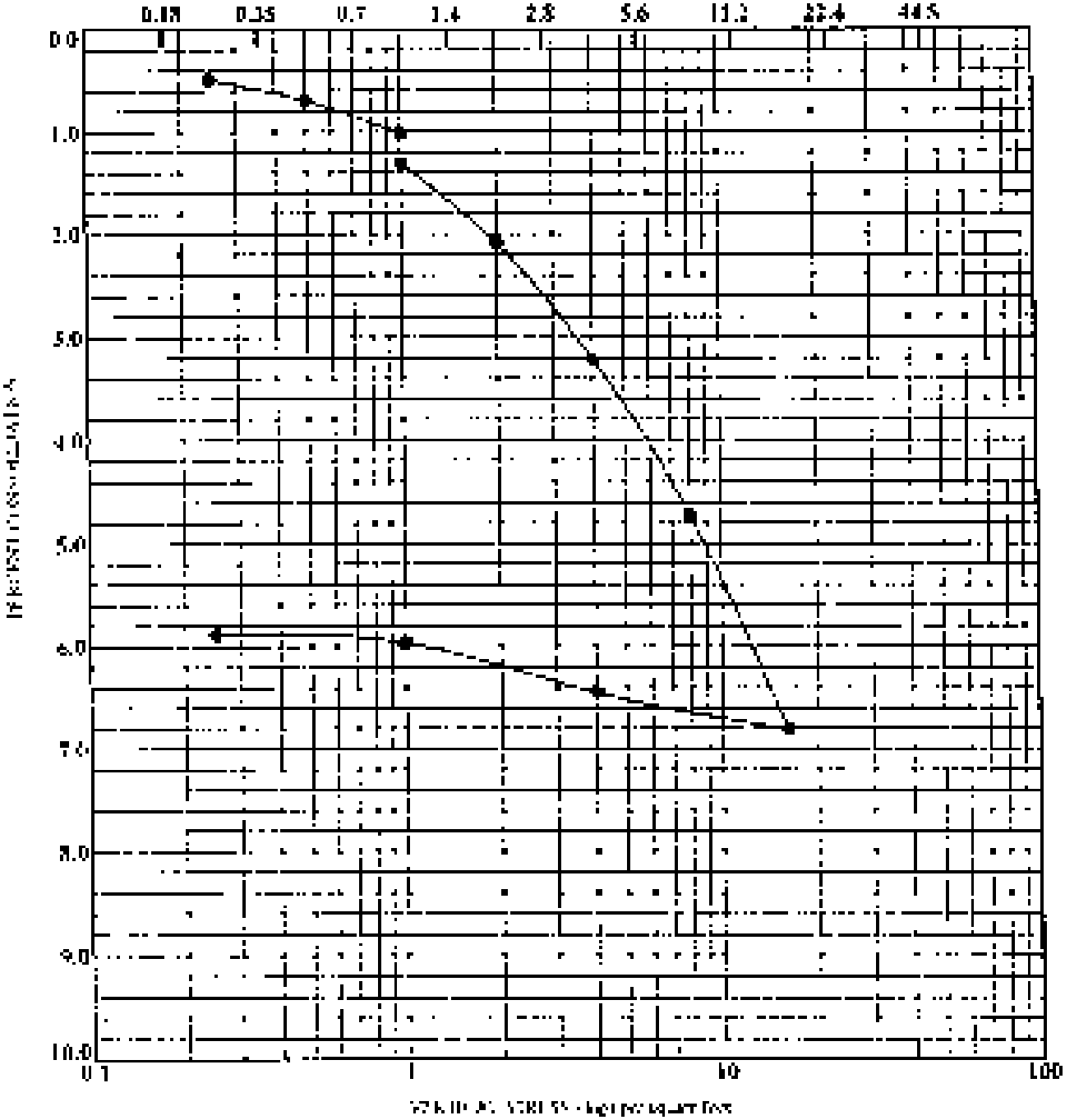
PETRA GEOTECHNICAL, INC.

CONSOLIDATION TEST RESULTS

September 2005

PLATE B-5

SAMPLE LOCATION	MATERIAL DESCRIPTION	INITIAL			INCREMENTED
		DENSITY (pcf)	MOISTURE (%)	SATURATION (%)	LOAD (ksf)
B-3 @ 9.0	Silty Sand (SM)	104.5	14.6	62	0.50



J.N. 4h3-05

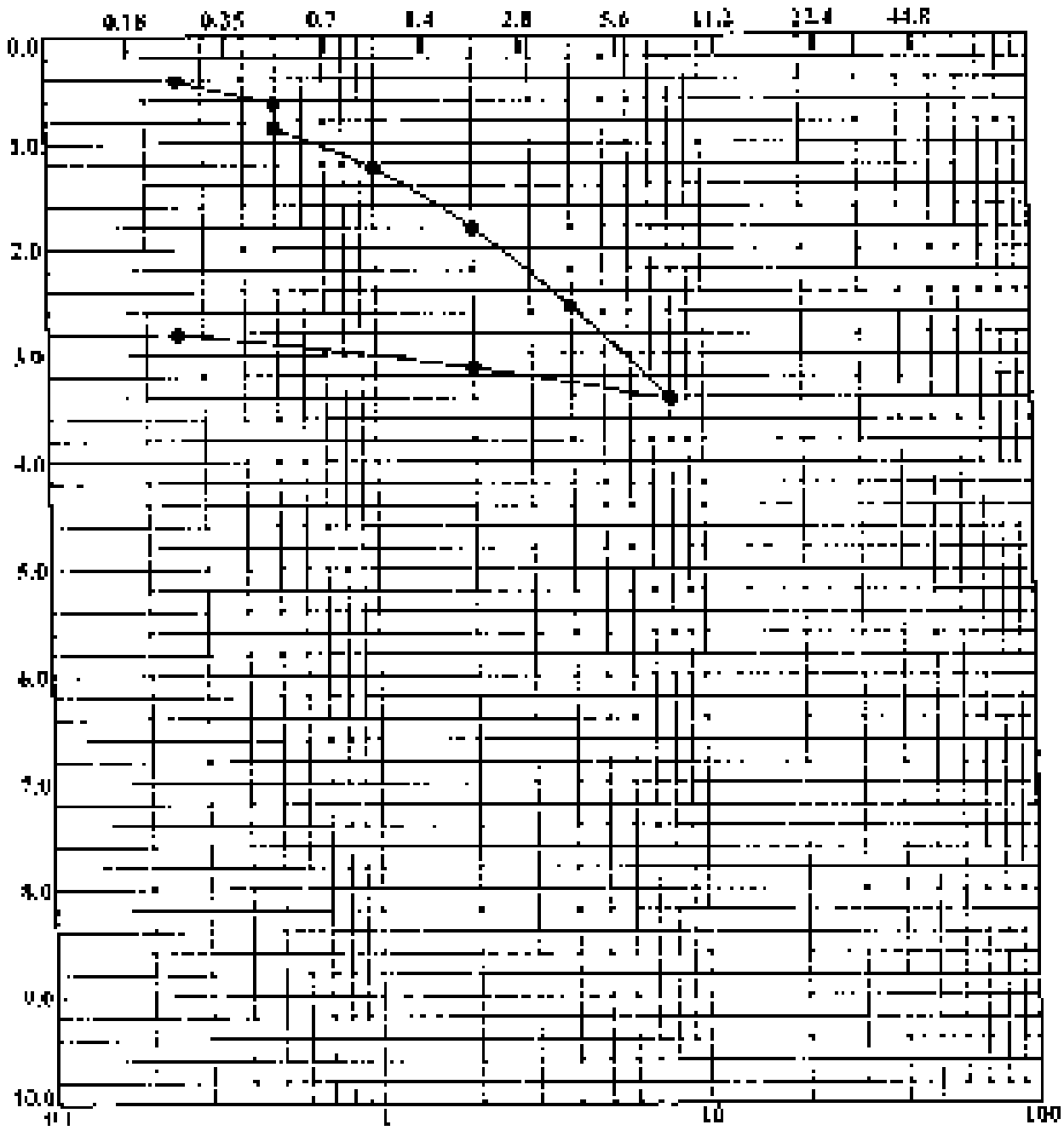
PETRA GEOTECHNICAL, INC.

CONSOLIDATION TEST RESULTS

September, 2005

PLATE B-5

SAMPLE LOCATION	MATERIAL DESCRIPTION	INITIAL			INCREMENTED
		DENSITY (pcf)	MOISTURE (%)	SATURATION (%)	RATIO (%)
● TP-3 @ 4.0	Sandy SILT(ML)-SAND	100.5	4.3	21	0.50



J.N. 463-05

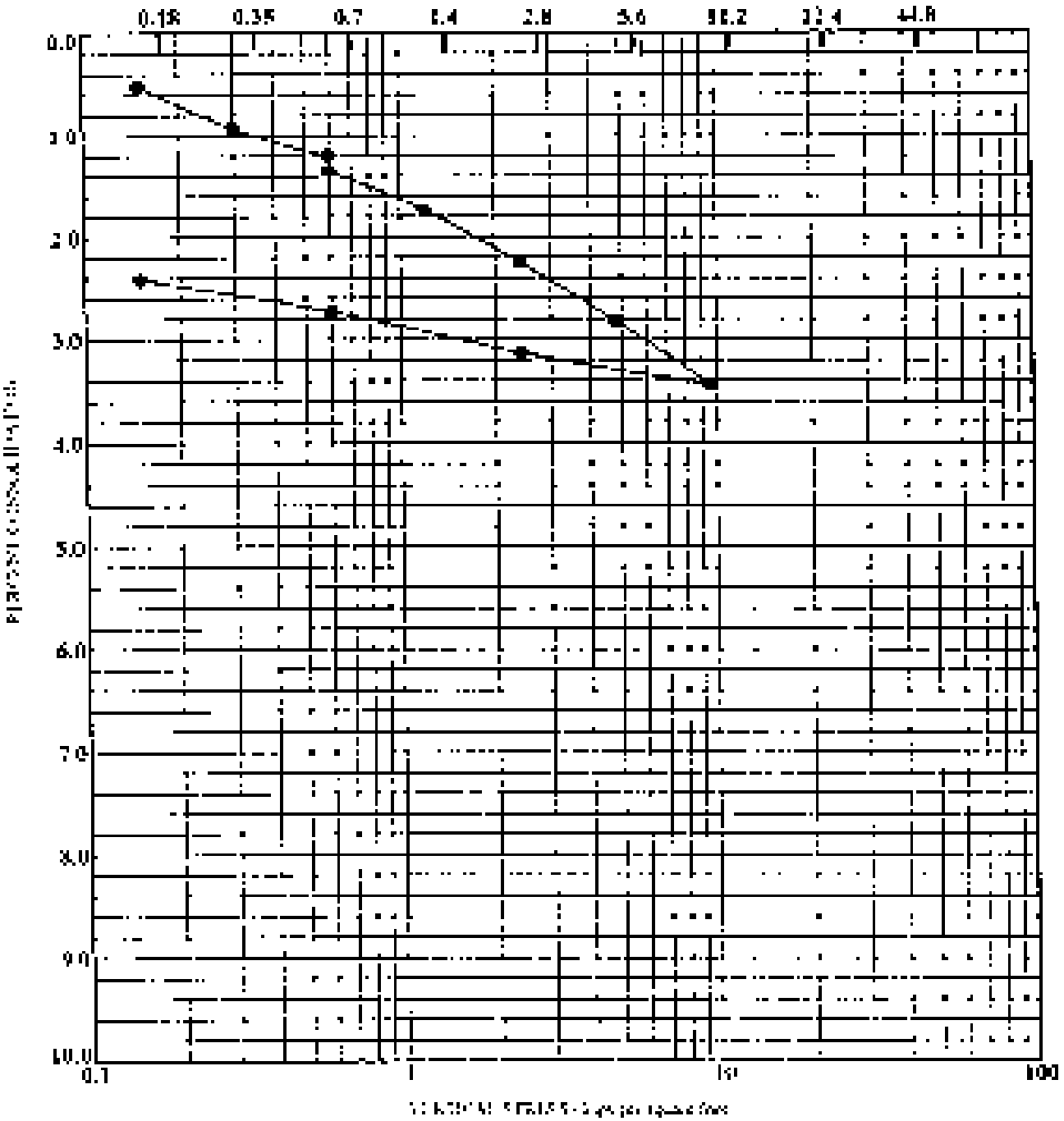
PETRA GEOTECHNICAL, INC

CONSOLIDATION TEST RESULTS

September, 2005

PLATE D-15

SAMPLE LOCATION	MATERIAL DESCRIPTION	INITIAL DENSITY (pcf)	INITIAL MOISTURE (%)	INITIAL SATURATION (%)	INUNDATED LOAD (ksf)
■ TP-1 @ 5.0	Silty Sand (SM)	104.6	9.4	41	0.63



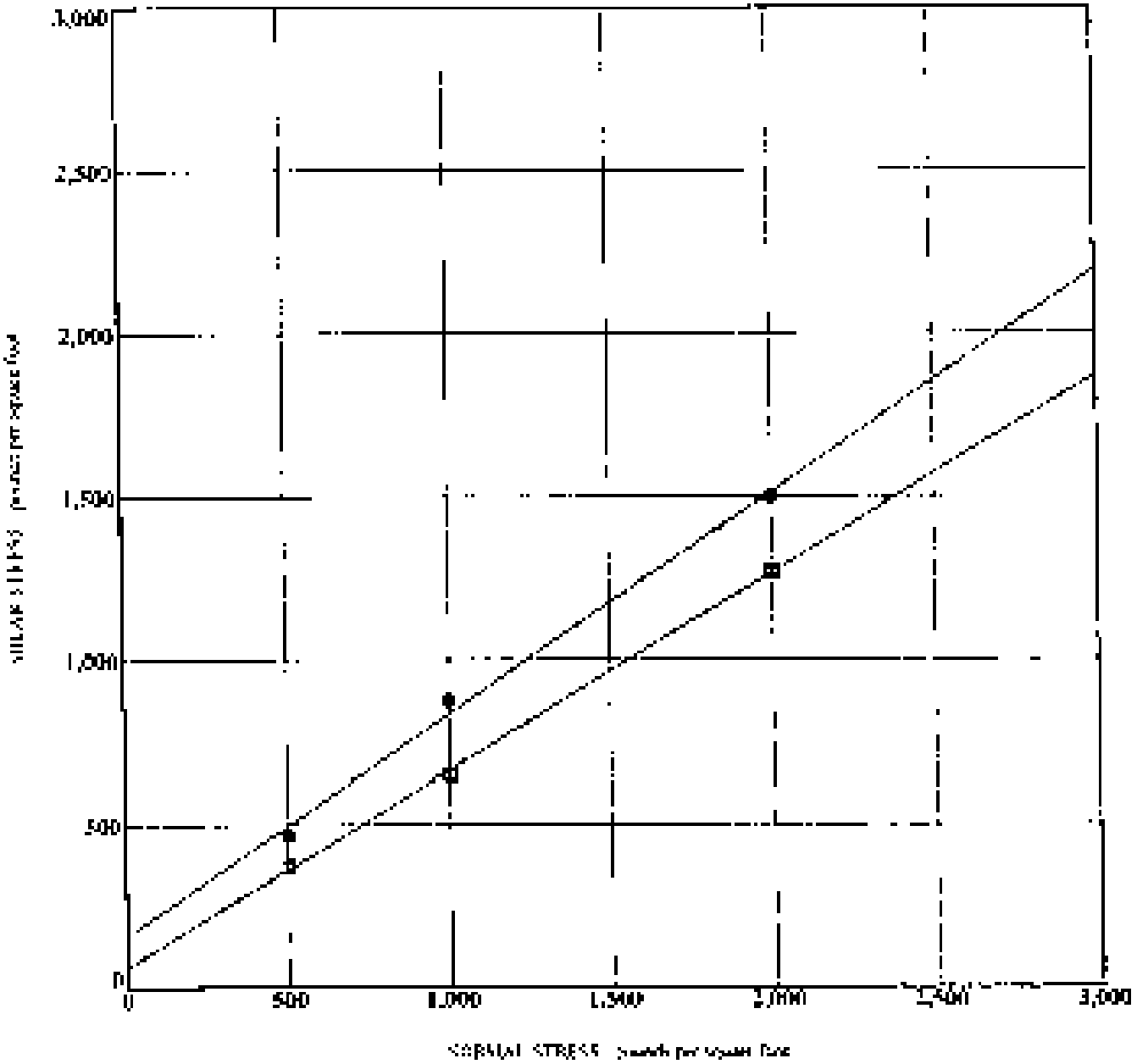
J.N. 465-05

CONSOLIDATION TEST RESULTS

September, 2005

PETRA GEOTECHNICAL, INC

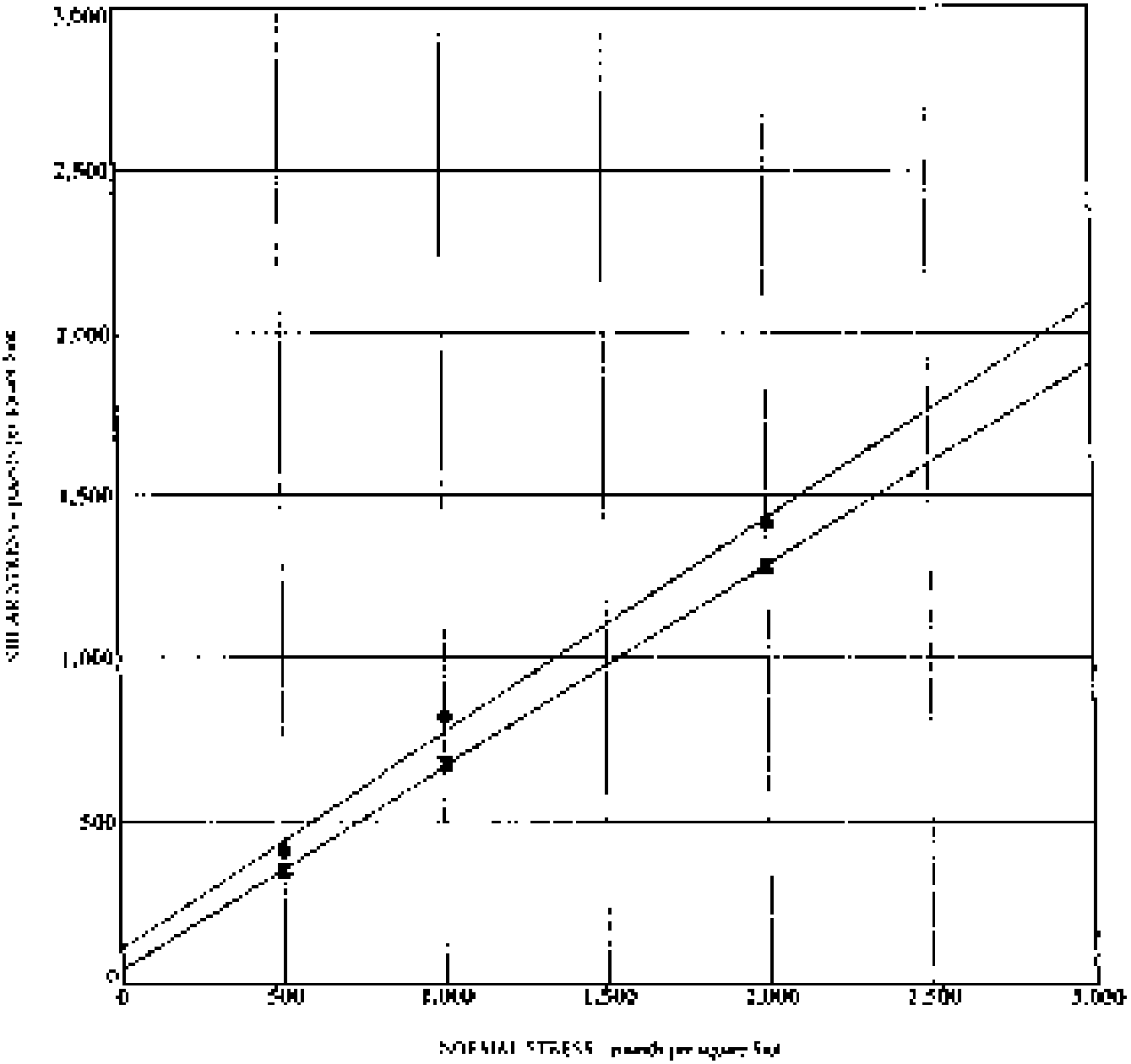
PLATE B-16



SAMPLE LOCATION	DESCRIPTION	FRICTION ANGLE (°)	COHESION (PSF)
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

NOTES:
Samples Remolded to 90% of Maximum Dry Density
All Samples Were Inundated Prior to Shearing

J.N. [illegible]	DIRECT SHEAR TEST DATA	September 2005
PETRA GEOTECHNICAL, INC.	REMOLDED TEST SAMPLES	PLATE B-20



SAMPLE LOCATION	DESCRIPTION	FRICTION ANGLE (°)	COHESION (PSF)
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

NOTES:
Samples Remolded to 90% of Maximum Dry Density
All Samples Were Inundated Prior to Shearing

J.N. 462-05	DIRECT SHEAR TEST DATA	September, 2005
PETRA GEOTECHNICAL INC.	REMOLDED TEST SAMPLES	PLATE B-21

Geotechnical Boring Log Borehole HS-1

Date: 9/14/2020	**Drilling Company:** Choice Drilling
Project Name: Visser, Ontario	**Type of Rig:** CME 75
Project Number: 20179-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~739' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 2

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - <u>Quaternary Alluvial Fan Deposits (Qyf)</u>**	-#200 CR EI MD
			R-1	16 18 19	112.6	5.9	SM	@2.5' - Silty SAND: gray brown, slightly moist, medium dense	
735									
	5	B-1	R-2	6 8 9	107.9	10.2		@5' - Silty SAND: brown, moist, medium dense	
			R-3	6 8 11	111.5	9.1		@7.5' - Silty SAND: light brown, moist, medium dense	-#200 CO
730									
	10		R-4	14 16 19	106.3	10.9		@10' - Silty SAND: brown, moist, medium dense	
725									
	15		SPT-1	7 9 10		5.1	SP-SM	@15' - SAND with Silt: gray brown, slightly moist, medium dense	
720									
	20		R-5	32 50/4"	124.9	2.5	SP	@20' - SAND with Gravel: gray brown, dry, very dense	
715									
	25		SPT-2	20 32 40		3.6		@25' - SAND with Gravel: gray brown, dry, very dense	
710									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/15/2020

Geotechnical Boring Log Borehole HS-1

Date: 9/14/2020	**Drilling Company:** Choice Drilling
Project Name: Visser, Ontario	**Type of Rig:** CME 75
Project Number: 20179-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~739' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		R-6	40 50/3"	116.1	2.4	SP	@30' - SAND with Gravel: gray brown, dry, very dense	
705									
	35		SPT-3	15 18 32		9.9	SM	@35' - Silty SAND: brown, moist, very dense	
700									
	40		R-7	29 50/5"	112.6	17.4	ML	@40' - Sandy SILT: gray brown, very moist, hard	
695									
	45		SPT-4	11 14 18		15.8		@45' - Sandy SILT: brown, very moist, hard	
690									
	50		R-8	42 50/4"	128.0	7.5	SM	@50' - Silty SAND with Gravel: gray brown, moist, very dense	
								Total Depth = 51' Groundwater Not Encountered Backfilled with Cuttings on 9/14/2020	
685	55								
680	60								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

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G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-2

Date: 9/14/2020 | **Drilling Company:** Choice Drilling

Project Name: Visser, Ontario | **Type of Rig:** CME 75

Project Number: 20179-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~737' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - <u>Quaternary Alluvial Fan Deposits (Qyf)</u>**	
735			R-1	26 32 35	110.3	2.2	SP	@2.5' - SAND: gray brown, dry, very dense	
	5	B-1	R-2	20 32 40	104.3	4.2		@5' - SAND: gray brown, slightly moist, very dense	
730			R-3	18 26 35	101.6	3.0		@7.5' - SAND: light brown, dry, dense	
	10		R-4	30 38 50/5"	107.6	2.3		@10' - SAND with Gravel: gray brown, dry, very dense	
725									
	15		SPT-1	6 7 10		15.5	SM	@15' - Silty SAND: brown, very moist, medium dense	
720									
	20		R-5	36 50/6"	119.8	1.4	SP	@20' - SAND with Gravel: gray and light gray, dry, very dense	
715									
	25		SPT-2	7 9 10		3.9	SM	@25' - Silty SAND with Gravel: brown, dry, medium dense	
710									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/15/2020

Geotechnical Boring Log Borehole HS-2

Date: 9/14/2020 | **Drilling Company:** Choice Drilling

Project Name: Visser, Ontario | **Type of Rig:** CME 75

Project Number: 20179-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~737' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
705	30		R-6	30 50/6"	114.3	8.5	SM	@30' Silty SAND: dusky brown, moist, very dense	
700	35		SPT-3	6 8 11		20.3	ML	@35' Sandy SILT: gray and dusky brown, very moist, very stiff	
695	40		R-7	20 32 40	119.4	14.3		@40' Sandy SILT: dusky brown, very moist, hard	
690	45		SPT-4	7 9 12		29.8	CL	@45' CLAY: light brown, very moist, very stiff	
685	50		R-8	40 50/5"	124.1	9.2	SM	@50' Silty SAND: light brown, moist, very dense	
680	55							Total Depth = 51' Groundwater Not Encountered Backfilled with Cuttings on 9/14/2020	
	60								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-3

Date: 9/14/2020 | **Drilling Company:** Choice Drilling

Project Name: Visser, Ontario | **Type of Rig:** CME 75

Project Number: 20179-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~738' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - <u>Quaternary Alluvial Fan Deposits (Qyf)</u>**	
735			R-1	50/5"	104.1	3.8	SP	@2.5' - SAND: gray brown, dry, very dense	
	5	B-1	R-2	35 50/6"	118.3	3.6		@5' - SAND with Gravel: gray brown, dry, very dense	
730			R-3	25 40 50/5"	110.6	6.3		@7.5' - SAND: gray brown, slightly moist, very dense	
	10		R-4	18 26 32	107.8	3.6		@10' - SAND: gray brown, dry, dense	
725									
	15		SPT-1	10 15 19		5.1		@15' - SAND: gray brown, slightly moist, dense	
720									
	20		R-5	24 30 50/5"	106.3	3.2	SM	@20' - Silty SAND: gray brown, dry, very dense	
715									
	25		SPT-2	15 19 30		8.4		@25' - Silty SAND: dusky brown, moist, very dense	
710								Total Depth = 26.5' Groundwater Not Encountered Backfilled with Cuttings on 9/14/2020	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/15/2020

Geotechnical Boring Log Borehole HS-4

Date: 9/17/2020 | **Drilling Company:** Choice Drilling

Project Name: Visser, Ontario | **Type of Rig:** Limited Access Track Rig

Project Number: 20179-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~737' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@0' to T.D. - <u>Quaternary Alluvial Fan Deposits (Qyf)</u>**	CR EI
735			R-1	6 9 11	117.3	6.8	SM	@2.5' - Silty SAND: dusky brown, slightly moist, medium dense	
	5		R-2	8 10 12	108.0	5.4		@5' - Silty SAND: dusky brown, slightly moist, medium dense	-#200 CO
730			R-3	9 15 18	103.1	3.9		@7.5' - Silty SAND: dusky brown, dry, medium dense	
	10		R-4	9 16 19	99.6	2.8	SP	@10' - SAND: reddish brown, dry, medium dense	
725									
	15		SPT-1	4 5 6		13.2	ML	@15' - SILT with Sand: gray, moist, stiff	-#200
720									
	20		R-5	9 11 15	104.1	2.0	SP	@20' - SAND: gray brown, dry, medium dense	
715									
	25		SPT-2	11 9 11		14.3	SM	@25' - Silty SAND: dusky brown, very moist, medium dense	
710									
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/21/2020

Geotechnical Boring Log Borehole HS-4

Date: 9/17/2020	**Drilling Company:** Choice Drilling
Project Name: Visser, Ontario	**Type of Rig:** Limited Access Track Rig
Project Number: 20179-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~737' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
705	30		R-6	6 22 24	110.5	18.7	ML	@30' - Sandy SILT: gray, very moist, hard	AL
700	35		SPT-3	4 7 8		19.3	CL	@35' - Sandy CLAY: reddish brown, very moist, very stiff	
695	40		R-7	23 50/5"	118.2	14.3	SM	@40' - Silty SAND: brown, very moist, very dense	
690	45		SPT-4	9 17 19		9.5		@45' - Silty SAND: brown, moist, dense	
685	50		R-8	16 20 41	107.6	7.2		@50' - Silty SAND: brown, slightly moist, dense; iron oxide weathering	
680	55							Total Depth = 51.5' Groundwater Not Encountered Backfilled with Cuttings on 9/17/2020	
	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-5

Date: 9/17/2020 | **Drilling Company:** Choice Drilling

Project Name: Visser, Ontario | **Type of Rig:** Limited Access Track Rig

Project Number: 20179-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~741' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
740	0							**@0' to T.D. - <u>Quaternary Alluvial Fan Deposits (Qyf)</u>**	MD
			R-1	5 5 5	109.7	5.6	SM	@2.5' - Silty SAND: brown, slightly moist, loose	
735	5		R-2	7 9 13	123.7	5.1		@5' - Silty SAND: brown, slightly moist, medium dense	
			R-3	11 31 33	122.8	1.4	GP	@7.5' - Sandy GRAVEL: gray, dry, very dense	
730	10		R-4	33 29 43	122.0	1.3	SP	@10' - SAND with Gravel: gray, dry, very dense	
725	15		R-5	12 13 17	120.4	1.8		@15' - SAND with Gravel: gray, dry, mdeium dense	
720	20		SPT-1	10 11 18		2.4		@20' - SAND with Gravel: gray brown, dry, dense	
715	25		R-6	11 23 30	109.2	8.4	SM	@25' - Silty SAND: gray brown, moist, dense	
	30							Total Depth = 26.5' Groundwater Not Encountered Backfilled with Cuttings on 9/17/2020	

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/21/2020

Geotechnical Boring Log Borehole I-1

Date: 9/17/2020 | **Drilling Company:** Choice Drilling

Project Name: Visser, Ontario | **Type of Rig:** Limited Access Track Rig

Project Number: 20179-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~737' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
735	0							**@0' to T.D. - <u>Quaternary Alluvial Fan Deposits (Qyf)</u>**	
730	5		R-1	8 8 9	112.8	10.4	SM	@5' - Silty SAND: brown, moist, medium dense	
725	10		R-2	6 8 11	102.3	16.8	ML	@10' - Sandy SILT: brown, very moist, stiff	
720	15		SPT-1	5 6 7		13.1	SM	@18' - Silty SAND: dusky brown, very moist, medium dense	
715	20							Total Depth = 20' Groundwater Not Encountered 3" Perforated Pipe Surrounded by Gravel Installed and Presoaked on 9/17/2020 Backfilled with Cuttings on 9/18/2020	
710	25								
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/21/2020

Geotechnical Boring Log Borehole I-2

Date: 9/17/2020 | **Drilling Company:** Choice Drilling

Project Name: Visser, Ontario | **Type of Rig:** Limited Access Track Rig

Project Number: 20179-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~734' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. - <u>Quaternary Alluvial Fan Deposits (Qyf)</u>**	
730									
	5		R-1	13 15 21	114.2	2.0	SM	@5' - Silty SAND: brown, dry, medium dense	
725									
	10		R-2	7 19 24	101.7	2.3	SP	@10' - SAND: gray brown, dry, dense	
720									
	15								
			SPT-1	9 15 18		1.7		@18' - SAND with Gravel: gray brown, dry, dense	
715									
	20							Total Depth = 20' Groundwater Not Encountered 3" Perforated Pipe Surrounded by Gravel Installed and Presoaked on 9/17/2020 Backfilled with Cuttings on 9/18/2020	
710									
	25								
705									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 9/21/2020

Geotechnical Boring Log Borehole I-3

Date: 9/17/2020 | **Drilling Company:** Choice Drilling

Project Name: Visser, Ontario | **Type of Rig:** Limited Access Track Rig

Project Number: 20179-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~733' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
730	0							**@0' to T.D. - <u>Quaternary Alluvial Fan Deposits (Qyf)</u>**	
725	5		R-1	7 11 13	102.3	9.8	SM	@5' - Silty SAND: gray brown, moist, medium dense	
720	10		R-2	6 7 10	95.4	6.7		@10' - Silty SAND: gray brown, slightly moist, medium dense; mottled	CN
715	15		SPT-1	8 13 15		2.0	SP	@18' - SAND with Gravel: gray brown, dry, dense	
710	20							Total Depth = 20' Groundwater Not Encountered 3" Perforated Pipe Surrounded by Gravel Installed and Presoaked on 9/17/2020 Backfilled with Cuttings on 9/18/2020	
705	25								
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
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CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

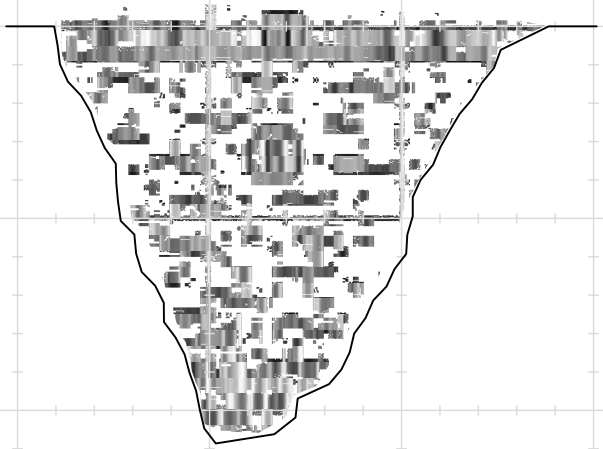
Last Edited: 9/21/2020

6534

Project Name: Visser - Ontario	Logged By: ARN	Trench No.: TP-1	
Project Number: 20179-01	Date: 9/22/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil*** **@0'-0.75' Silty SAND: brown and dark brown, dry, loose; scattered rootlets**		**SM**	**GB-1 @ 3" GB-2 @ 9" GB-3 @ 12" B-1 @1'-5'**		
	B	***Quaternary Alluvial Fan Deposits*** **@0.75'-4' Silty SAND: light brown, dry, medium dense; scattered iron oxide staining; infrequent rootlets; trace pinhole pores; blocky excavation @4'-5' Slightly harder, increased moisture @5'-9' tan-brown, trace pea gravel**	**Qyf**				
		@9'-T.D. SAND with Gravel lenses: gray, slightly moist, medium dense; gravel interbeds 3 inches wide; subrounded clasts 1-inch in maximum dimension		**SP**			

GRAPHICAL REPRESENTATION BELOW: **Elevation: 740' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 11'
Groundwater: None
Backfilled: 9/22/20

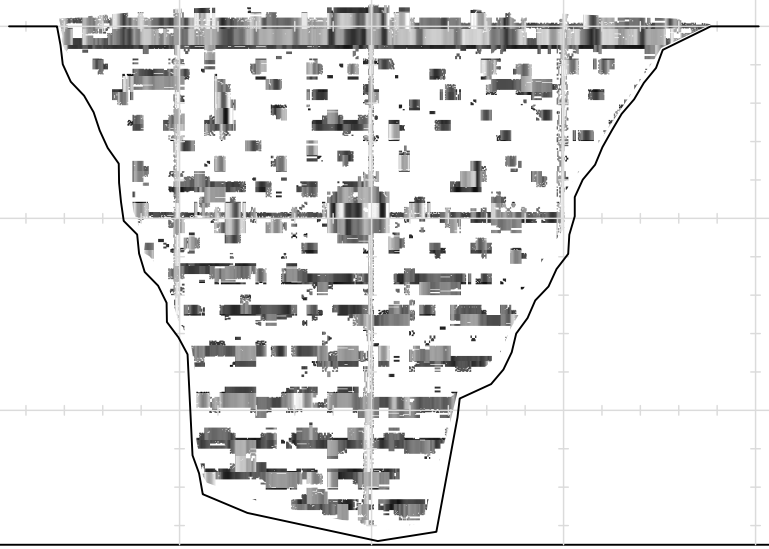
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6535

Project Name: Visser - Ontario	Logged By: ARN	Trench No.: TP-2	
Project Number: 20179-01	Date: 9/22/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil***		SM	GB-1 @ 3"		
		@0'-4" Silty SAND: dark brown, dry, loose; abundant rootlets; dry, dead vegetation			GB-2 @ 8"		
		@6" Transition zone, moist to slightly moist, reddish brown			GB-3 @ 24"		
	B	***Quaternary Alluvial Fan Deposits***	Qyf		GB-4 @ 6'		
		@10"-6' Silty SAND: olive gray, moist, loose to medium dense; scattered rootlets					
		@6'-T.D. Sandy SILT: reddish brown, moist, stiff; slightly clayey; may be fill; excavates easily to total depth		ML			

GRAPHICAL REPRESENTATION BELOW: **Elevation: 740' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 15'
Groundwater: None
Backfilled: 9/22/20

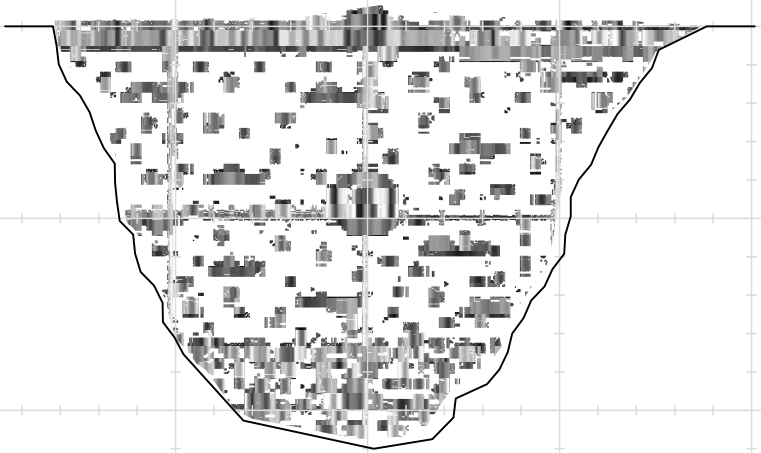
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6536

Project Name: Visser - Ontario	Logged By: ARN	Trench No.: TP-3	
Project Number: 20179-01	Date: 9/22/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil***		SM	GB-1 @ 2"		
		@0'-4" Silty SAND: light to medium brown, loose, dry; scattered grass, sticks, dried and dead vegetation			GB-2 @ 6"		
	B	***Quaternary Alluvial Fan Deposits***	Qyf				
		@4"-7' Silty SAND: light brown, dry, medium dense; scattered to trace gravel; blocky excavation; slightly moist by 2'					
		@7' - Silty fine SAND: brown, slightly moist to moist, medium dense					
		@8'-9' SAND with trace Gravel: gray, dry to slightly moist, medium dense; coarse to medium-grained sand		SP			
		@9' - T.D. SAND: brown, slightly moist, medium dense; scattered cobbles and gravel in fine to medium-grained sand					

GRAPHICAL REPRESENTATION BELOW: **Elevation: 741' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 11'
Groundwater: None
Backfilled: 9/22/20

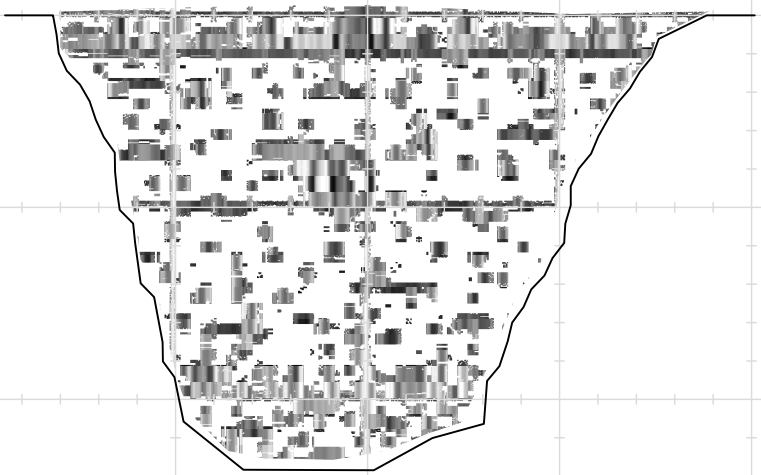
scale: 1in = 5 ft

6537

Project Name: Visser - Ontario	Logged By: ARN	Trench No.: TP-7	
Project Number: 20179-01	Date: 9/22/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil***		SM	GB-1 @ 2"		
		@0'-1' Silty SAND: medium brown, dry, medium dense; scattered rootlets; scattered gravel			GB-2 @ 1'		
					GB-3 @ 1.5'		
	B	***Quaternary Alluvial Fan Deposits***	Qyf				
		@1'-8' Silty SAND: medium orangish brown, dry to slightly moist, medium dense, blocky excavation; scatterd gravel; minor rootlets to 4'					
		@8'-9' SAND with Silt: brown, dry to slightly moist, medium dense; scattered gravel; medium grained sand		SP-SM			
		@9'-10' SAND: gray, dry, medium dense; coarse-grained sand with gravel; subrounded clasts 3/4-inch in maximum dimension		SP			
		@10'-T.D. Silty SAND: brown, slightly moist, medium dense		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation: 741' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 12'
Groundwater: None
Backfilled: 9/22/20

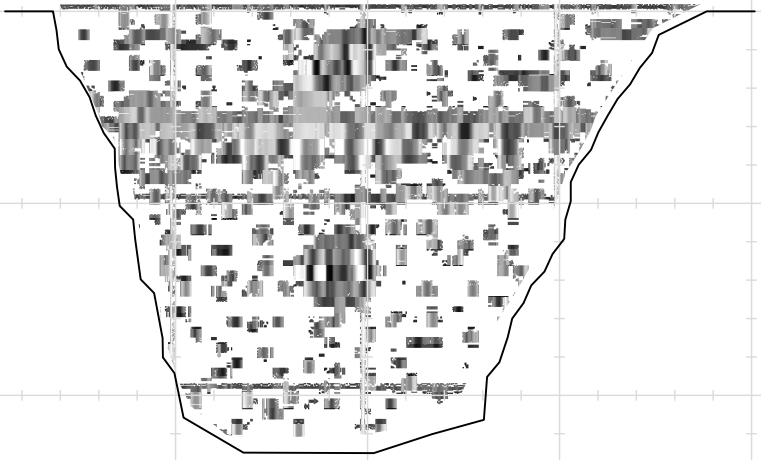
scale: 1in = 5 ft

6538

Project Name: Visser - Ontario	Logged By: ARN	Trench No.: TP-16	
Project Number: 20179-01	Date: 9/22/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Undocumented Artificial Fill***	Afu	SM	GB-1 @ 16"		
		@0'-3' Sand with SILT to Silty SAND: reddish brown, slightly moist, medium dense; brown organic staining; gray mottle by 19"			GB-2 @ 32"		
					GB-3 @ 40"		
					B-1 @ 1'-5'		
	B	***Quaternary Alluvial Fan Deposits***	Qyf				
		@3'-5.5' SAND with SILT: gray brown, slightly moist, medium dense; 2-inch thick gravel bed just beneath; subrounded clasts		SP-SM			
		@5.5'-T.D. SAND: gray, slightly moist, medium dense; generally medium-grained sand		SP			

GRAPHICAL REPRESENTATION BELOW: **Elevation: 737' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 11.5'
Groundwater: None
Backfilled: 9/22/20

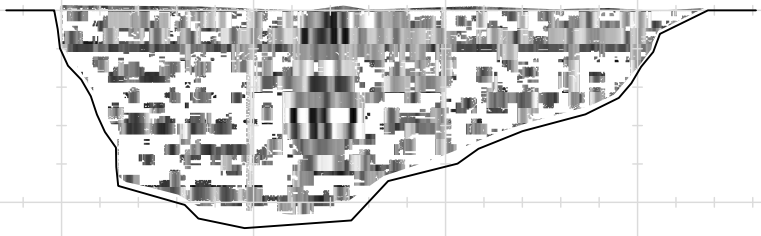
scale: 1in = 5 ft

6539

Project Name: Visser - Ontario	Logged By: ARN	Trench No.: TP-17	
Project Number: 20179-01	Date: 9/22/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil***		SM	GB-1 @ 2"		
		@0'-1' Silty SAND: light brown, dry, dense material, blocky excavation			GB-2 @ 12"		
	B	***Quaternary Alluvial Fan Deposits***	Qyf	SP-SM			
		@1'-T.D. SAND with SILT to Silty SAND: gray and brown, dry to slightly moist, medium dense to dense; several gravel interbeds 1 foot thick					

GRAPHICAL REPRESENTATION BELOW: **Elevation: 723' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 5.5'
Groundwater: None
Backfilled: 9/22/20

scale: 1in = 5 ft

6540

Project Name: Visser - Ontario	Logged By: ARN	Trench No.: TP-25	
Project Number: 20179-01	Date: 9/22/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Undocumented Artificial Fill (Stockpile)*** **@0'-5' Silty SAND: brown, dry, medium dense; minor vegetation in upper 1'; slightly moist by 2'; scattered gravel** **@5'-6' Silty SAND: brown and gray mottle, moist, medium dense, lenses of brown organic silt** **@6'-9.5' Silty SAND: brown, slightly moist, medium dense; scattered gravel**	Afu	SM	GB-1 @ 6" B-1 @ 0-5' GB-2 @ 5.5' GB-3 @ 9.7' GB-4 @ 10.1' GB-5 @ 10.5'		
	B	***Topsoil*** **@9.5'-10' Silty to Clayey SAND: dark brown, moist, medium dense; organic staining**		SM/SC			
	C	***Quaternary Alluvial Fan Deposits*** **@10'-T.D. Silty SAND: medium brown, dry, dense; occasional gravel; blocky excavation**	Qyf	SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation: 747' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 15.3'
Groundwater: None
Backfilled: 9/22/20

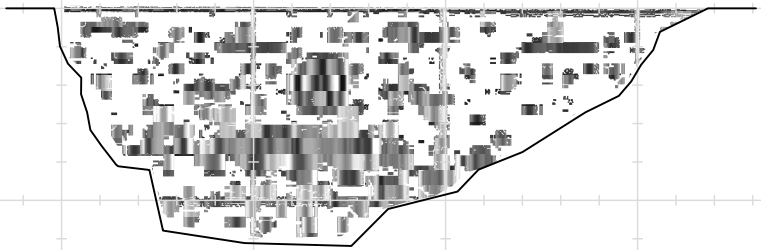
scale: 1in = 5 ft

6541

Project Name: Visser - Ontario	Logged By: ARN	Trench No.: TP-28	
Project Number: 20179-01	Date: 9/22/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Quaternary Alluvial Fan Deposits*** **@0'-1.5' Silty SAND: light brown, dry, medium dense; very few surficial/subsurface organics; blocky excavation** **@1.5' - 3.5' SAND with Silt and trace Gravel: medium brown, slightly moist, medium dense; scattered gravel and cobble interbeds** **@3.5'-T.D. Graded Cobble and Gravel beds; medium rounded; slightly moist sand matrix**	**Qyf**	**SM** **SP-SM** **GW-GM**	**GB-1 @ 2"** **GB-2 @ 5"**		

GRAPHICAL REPRESENTATION BELOW: **Elevation: 739' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 6'
Groundwater: None
Backfilled: 9/22/20

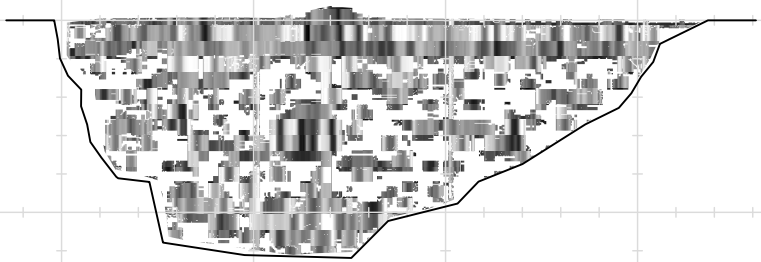
scale: 1in = 5 ft

6542

Project Name: Visser - Ontario	Logged By: ARN	Trench No.: TP-31	
Project Number: 20179-01	Date: 9/22/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil***	Qyf	SM	GB-1 @ 1"		
		@0'-0.5' Silty SAND: medium brown, dry loose; abundant rootlets			GB-2 @ 4"		
					GB-2 @ 12"		
	B	***Quaternary Alluvial Fan Deposits***			B-1 @ 1'-5'		
		@0.5'-2' Silty SAND: light brown, dry, medium dense; roots to 4'					
		@4'-TD Silty SAND with Gravel: light brown, dry, medium dense					

GRAPHICAL REPRESENTATION BELOW: **Elevation: 745' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 10.5'
Groundwater: None
Backfilled: 9/22/20

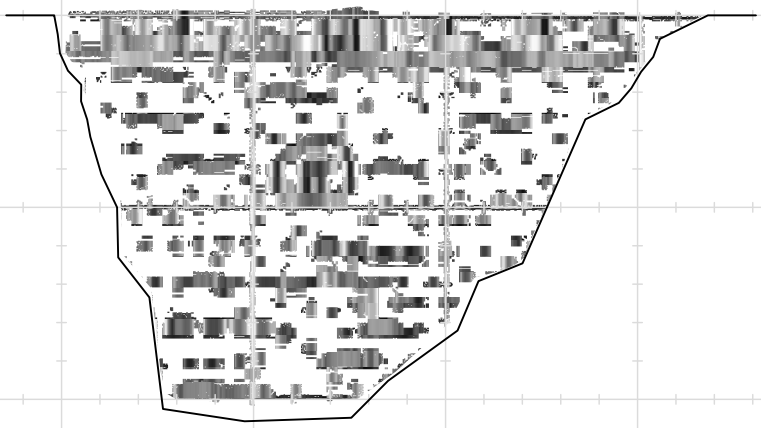
scale: 1in = 5 ft

6543

Project Name: Visser - Ontario	Logged By: ARN	Trench No.: TP-38	
Project Number: 20179-01	Date: 9/22/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil*** **@0'-1' Silty SAND: light brown, dry, loose; abundant rootlets to 4"**		SM	GB-1 @ 3" GB-2 @ 6" GB-2 @ 12"		
	B	***Quaternary Alluvial Fan Deposits*** **@1'-T.D. Silty SAND: light brown, dry, medium dense; coarse sand and silty sand interbeds; scattered gravel**	Qyf				

GRAPHICAL REPRESENTATION BELOW: **Elevation: 740' MSL** **Surface Slope: 0 deg.** **Trend: E-W**



Total Depth: 10.5'
Groundwater: None
Backfilled: 9/22/20

scale: 1in = 5 ft

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Visser, Ontario
Project Number: 20179-01
Date: 9/18/2020
Boring Number: I-1

Test hole dimensions (if circular)	
Boring Depth (feet)*:	20
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:47	8:12	25.0	17.97	18.72	0.75	Yes
2	8:13	8:38	25.0	17.97	18.70	0.73	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Dt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, DD (feet)	Measured Infiltration Rate(in/hr)
1	8:40	8:50	10.0	17.88	18.20	0.32	1.8
2	8:51	9:01	10.0	17.75	18.07	0.32	1.7
3	9:02	9:12	10.0	17.86	18.20	0.34	1.9
4	9:13	9:23	10.0	17.86	18.18	0.32	1.8
5	9:24	9:34	10.0	17.87	18.19	0.32	1.8
6	9:35	9:45	10.0	17.90	18.22	0.32	1.8
7							
8							
9							
10							
11							
12							
					Measured Infiltration Rate (No Factor of Safety)		**1.8**

Sketch:

Notes: Pipe is 3 inches above Ground (correction already accounted for)

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 10/30/2019

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Visser, Ontario
Project Number: 20179-01
Date: 9/18/2020
Boring Number: I-2

Test hole dimensions (if circular)	
Boring Depth (feet)*:	20
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	7:55	8:20	25.0	17.70	19.09	1.39	Yes
2	8:21	8:46	25.0	17.68	19.11	1.43	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Dt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, DD (feet)	Measured Infiltration Rate(in/hr)
1	9:50	10:00	10.0	17.75	18.6	0.85	5.1
2	10:01	10:11	10.0	17.75	18.62	0.87	5.3
3	10:12	10:22	10.0	17.73	18.64	0.91	5.5
4	10:23	10:33	10.0	17.76	18.64	0.88	5.4
5	10:34	10:44	10.0	17.75	18.62	0.87	5.3
6	10:45	10:55	10.0	17.71	18.64	0.93	5.6
7							
8							
9							
10							
11							
12							
						Measured Infiltration Rate (No Factor of Safety)	**5.6**

Sketch:

Notes: Pipe is 6 inches above Ground (correction already accounted for)

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 10/30/2019

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Visser, Ontario
Project Number: 20179-01
Date: 9/18/2020
Boring Number: I-3

Test hole dimensions (if circular)	
Boring Depth (feet)*:	20
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	11:01	11:26	25.0	17.30	18.26	0.96	Yes
2	11:27	11:52	25.0	17.35	18.29	0.94	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Dt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, DD (feet)	Measured Infiltration Rate(in/hr)
1	11:53	12:03	10.0	17.59	17.87	0.28	1.4
2	12:04	12:14	10.0	17.45	17.80	0.35	1.7
3	12:15	12:25	10.0	17.48	17.88	0.40	1.9
4	12:26	12:36	10.0	17.48	17.90	0.42	2.0
5	12:37	12:47	10.0	17.49	17.87	0.38	1.8
6	12:48	12:58	10.0	17.50	17.89	0.39	1.9
7							
8							
9							
10							
11							
12							
						Measured Infiltration Rate (No Factor of Safety)	**1.9**

Sketch:

Notes: Pipe is 6 inches above Ground (correction already accounted for)

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 10/30/2019

Appendix F
Geotechnical Subsurface Evaluation Data – Pietersma 20 (17114-01)



LEGEND

HS-11
T.D. = 50'
Approximate Location of Proposed Hollow Stem Boring (With Proposed Depth Indicated)

CPT-12
T.D. = 50'
Approximate Location of Proposed Cone Penetration Test (With Proposed Depth Indicated)

TP-14
T.D. = 7'
Approximate Location of Proposed Geotechnical Trench (With Proposed Depth Indicated)

Approximate Limits of This Project

Approximate Area of Active Dairy Farm (NO ACCESS)

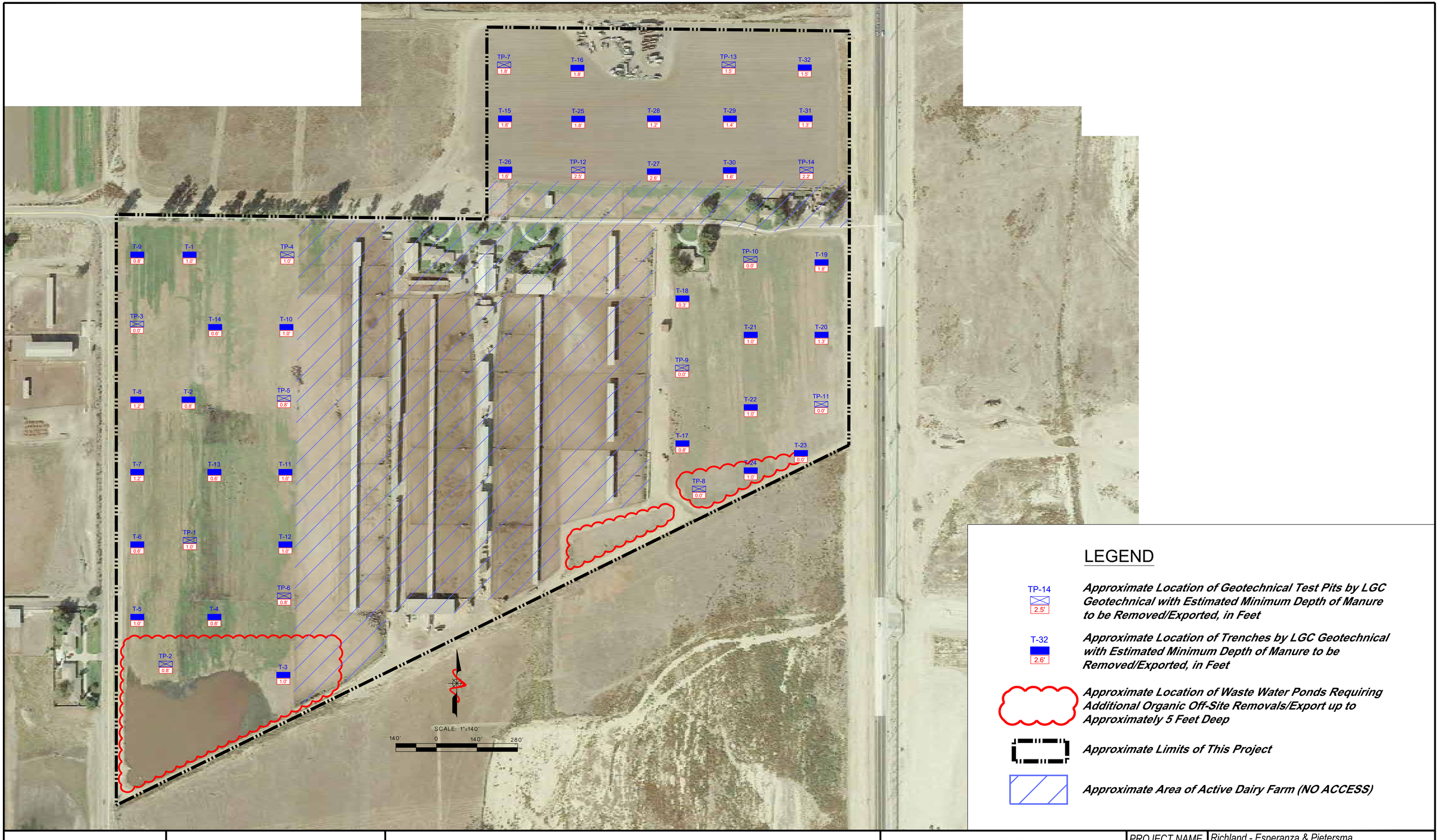
LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. A
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Geotechnical Exploration Location Map With Satellite Image

CLIENT:
Richland Communities, Inc.
3161 Michelson Drive, Suite 425
Irvine, CA 92626

PROJECT NAME	Richland - Esperanza & Pietersma
PROJECT NO.	17114-01 & 17115-01
ENG. / GEOL.	RLD/KTM
SCALE	1" : 140'
DATE	March 2018

SHEET 1 of 3



LEGEND

TP-14 2.5' — *Approximate Location of Geotechnical Test Pits by LGC Geotechnical with Estimated Minimum Depth of Manure to be Removed/Exported, in Feet*

T-32 2.6' — *Approximate Location of Trenches by LGC Geotechnical with Estimated Minimum Depth of Manure to be Removed/Exported, in Feet*

Approximate Location of Waste Water Ponds Requiring Additional Organic Off-Site Removals/Export up to Approximately 5 Feet Deep

Approximate Limits of This Project

Approximate Area of Active Dairy Farm (NO ACCESS)

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. A
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Recommended Organics Removal Map

CLIENT:
Richland Communities, Inc.
3161 Michelson Drive, Suite 425
Irvine, CA 92626

PROJECT NAME	Richland - Esperanza & Pietersma
PROJECT NO.	17114-01 & 17115-01
ENG. / GEOL.	RLD/KTM
SCALE	1" : 140'
DATE	March 2018

SHEET 3 of 3

APPENDIX C

Laboratory Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the site soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on driven samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Fines Content: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140). Where applicable, the portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D6913 (sieve).

Sample Location	Description	% Passing # 200 Sieve
HS-1 @ 7.5 ft	Sand with Silt	8
HS-2 @ 0-5 ft	Sandy Silt	63
HS-3 @ 7.5 ft	Sand	2
HS-4 @ 0-5 ft	Silty Sand	40
HS-10 @ 0-5 ft	Silty Sand	38
HS-10 @ 7.5 ft	Silty Sand	17

Atterberg Limits: The liquid and plastic limits ("Atterberg Limits") were determined per ASTM D4318 for engineering classification of fine-grained material and presented in the table below. The USCS soil classification indicated in the table below is based on the portion of sample passing the No. 40 sieve and may not necessarily be representative of the entire sample. The plot is provided in this Appendix.

Sample Location	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	USCS Soil Classification
HS-4 @ 7.5 ft	22	19	3	ML
HS-6 @ 7.5 ft	35	32	3	ML

APPENDIX C

Laboratory Test Results (Continued)

Consolidation: Two consolidation tests were performed per ASTM D2435. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and increasing loads were applied. The samples were allowed to consolidate under "double drainage" and total deformation for each loading step were recorded. The percent consolidation for each load step was recorded as the ratio of the amount of vertical compression to the original sample height. The consolidation pressure curves are provided in this Appendix.

Collapse/Swell Potential: Three collapse tests were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The curves are presented in this Appendix.

Direct Shear: Two direct shear test were performed on driven samples. The ring samples were soaked for a minimum of 24 hours prior to testing. The samples were tested under various normal loads using a motor-driven, strain-controlled, direct-shear testing apparatus (ASTM D3080). The plots are provided in this Appendix.

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results of these tests are presented in the table below:

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-2 @ 2-5 ft	Sandy Silt	121.0	10.5
HS-4 @ 2-5 ft	Silty Sand	120.5	11.5
HS-10 @ 2-5 ft	Silty Sand	129.0	7.0

Expansion Index: The expansion potential of selected representative samples was evaluated by the Expansion Index Test per ASTM D4829.

Sample Location	Expansion Index	Expansion Potential*
HS-2 @ 0-5 ft	15	Very Low
HS-4 @ 0-5 ft	14	Very Low
HS-10 @ 0-5 ft	6	Very Low

* Per ASTM D4829

APPENDIX C

Laboratory Test Results (Continued)

R-value Test: R-value test was performed in general accordance with California Test Method 301. The plot is included in the Appendix.

Sample Location	R-value
HS-7 @ 0-5 ft	61

Soluble Sulfates: The soluble sulfate content of select samples was determined by standard geochemical methods (CTM 417). The test results are presented in the table below.

Sample Location	Sulfate Content, %
HS-2 @ 0-5 ft	< 0.02%
HS-4 @ 0-5 ft	< 0.01%
HS-10 @ 0-5 ft	< 0.01%

Chloride Content: Chloride content was tested per CTM 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-2 @ 0-5 ft	21
HS-4 @ 0-5 ft	43
HS-10 @ 0-5 ft	62

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-2 @ 0-5 ft	7.66	3700
HS-4 @ 0-5 ft	6.98	3000
HS-10 @ 0-5 ft	7.77	5950

Organic Matter Content of Soils: Organic matter content tests were performed in general accordance with ASTM D 2974 (Test Methods A & C). The results are presented in this Table 5.

ATTERBERG LIMITS

ASTM D 4318

Project Name:	Esperanza	Tested By:	R. Manning	Date:	09/26/17
Project No. :	17114-01	Input By:	G. Bathala	Date:	10/11/17
Boring No.:	HS-4	Checked By:	J. Ward		
Sample No.:	R-3	Depth (ft.)	7.5		
Soil Identification:	Olive brown silt with sand (ML)				

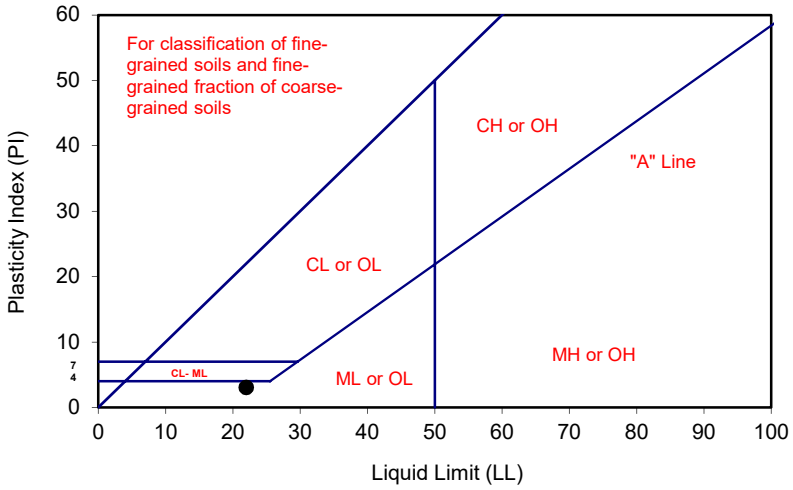
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			35	26	18	
Wet Wt. of Soil + Cont. (g)	13.80	14.19	23.51	22.47	28.44	
Dry Wt. of Soil + Cont. (g)	12.72	13.05	21.80	20.88	25.71	
Wt. of Container (g)	7.00	7.04	13.66	13.58	13.65	
Moisture Content (%) [Wn]	18.88	18.97	21.01	21.78	22.64	

Liquid Limit	**22**
Plastic Limit	**19**
Plasticity Index	**3**
Classification	**ML**

PI at "A" - Line = 0.73(LL-20) 1.46

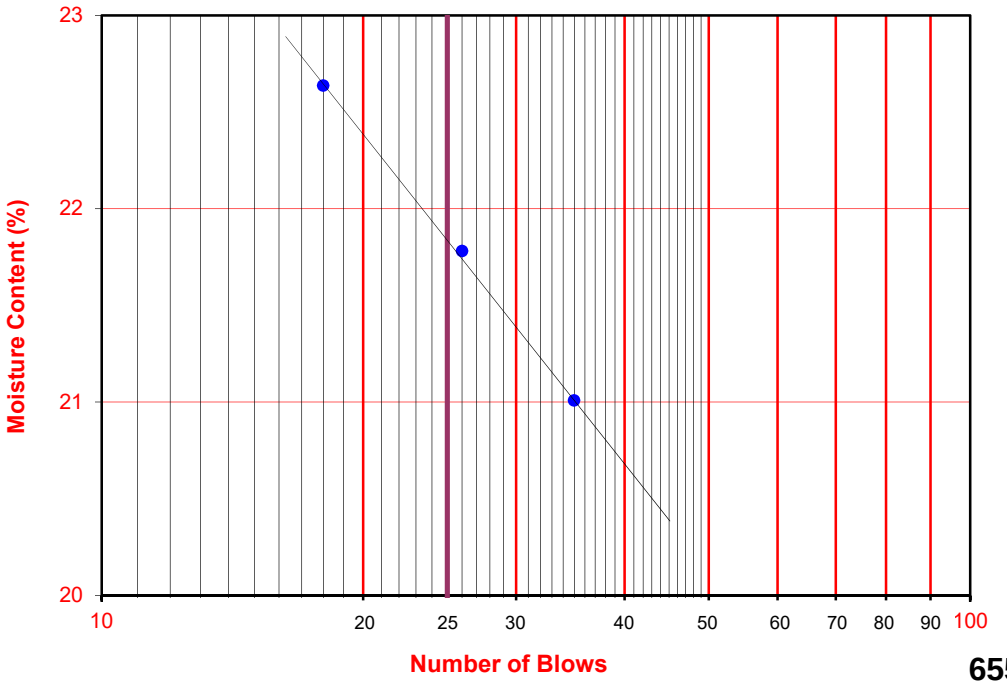
One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



PROCEDURES USED

- [ ] Wet Preparation
  Multipoint - Wet
- [X] Dry Preparation
  Multipoint - Dry
- [X] Procedure A
  Multipoint Test
- [ ] Procedure B
  One-point Test



6553

ATTERBERG LIMITS

ASTM D 4318

Project Name:	Esperanza	Tested By:	R. Manning	Date:	09/26/17
Project No. :	17114-01	Input By:	G. Bathala	Date:	10/11/17
Boring No.:	HS-6	Checked By:	J. Ward		
Sample No.:	R-3	Depth (ft.)	7.5		
Soil Identification:	Olive brown/green silt (ML)				

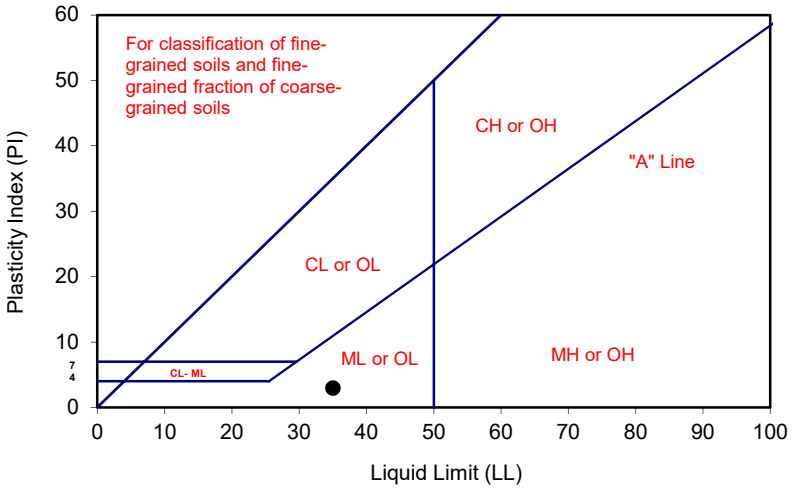
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			35	28	18	
Wet Wt. of Soil + Cont. (g)	13.52	13.49	23.32	23.91	25.74	
Dry Wt. of Soil + Cont. (g)	11.96	11.94	20.83	21.26	22.47	
Wt. of Container (g)	7.06	7.14	13.50	13.67	13.54	
Moisture Content (%) [Wn]	31.84	32.29	33.97	34.91	36.62	

Liquid Limit	**35**
Plastic Limit	**32**
Plasticity Index	**3**
Classification	**ML**

PI at "A" - Line = 0.73(LL-20) 10.95

One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



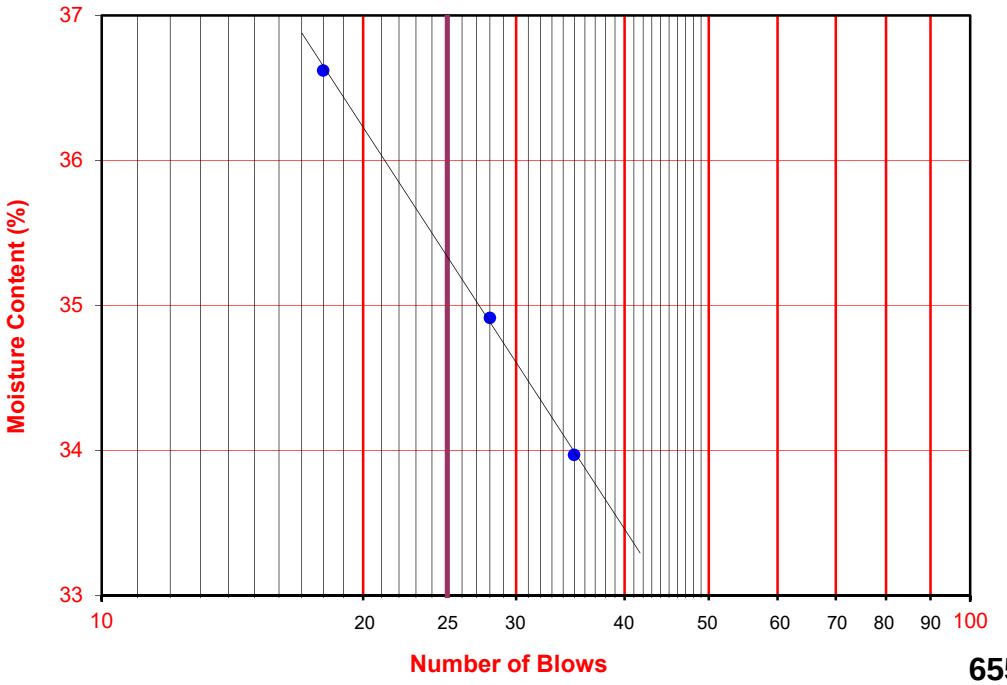
PROCEDURES USED

[ ] Wet Preparation
Multipoint - Wet

[X] Dry Preparation
Multipoint - Dry

[X] Procedure A
Multipoint Test

[ ] Procedure B
One-point Test



6554

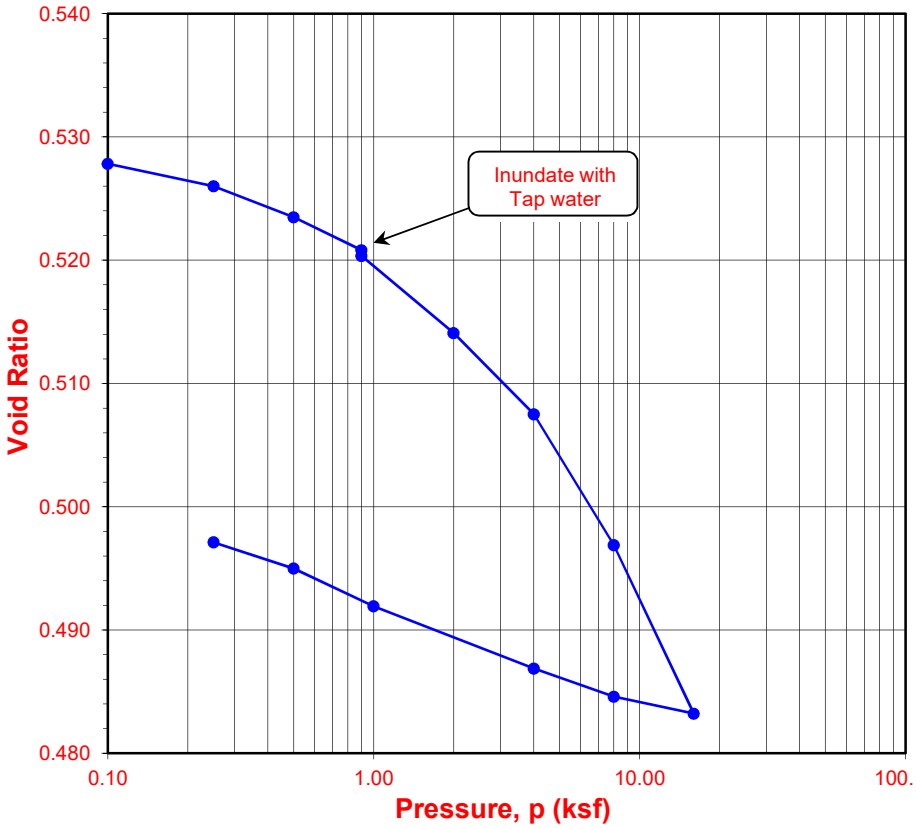
ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS

ASTM D 2435

Project Name: Esperanza
Project No.: 17114-01
Boring No.: HS-4
Sample No.: R-3
Soil Identification: Olive brown silt with sand (ML)

Tested By: G. Bathala Date: 09/21/17
Checked By: J. Ward Date: 10/11/17
Depth (ft.): 7.5
Sample Type: Ring

Sample Diameter (in.)	2.415
Sample Thickness (in.)	1.000
Wt. of Sample + Ring (g)	200.26
Weight of Ring (g)	44.76
Height after consol. (in.)	0.9797
Before Test	
Wt.Wet Sample+Cont. (g)	349.11
Wt.of Dry Sample+Cont. (g)	303.46
Weight of Container (g)	38.79
Initial Moisture Content (%)	17.2
Initial Dry Density (pcf)	110.3
Initial Saturation (%)	88
Initial Vertical Reading (in.)	0.2968
After Test	
Wt.of Wet Sample+Cont. (g)	266.15
Wt. of Dry Sample+Cont. (g)	244.27
Weight of Container (g)	65.67
Final Moisture Content (%)	16.35
Final Dry Density (pcf)	113.6
Final Saturation (%)	91
Final Vertical Reading (in.)	0.2731
Specific Gravity (assumed)	2.70
Water Density (pcf)	62.43



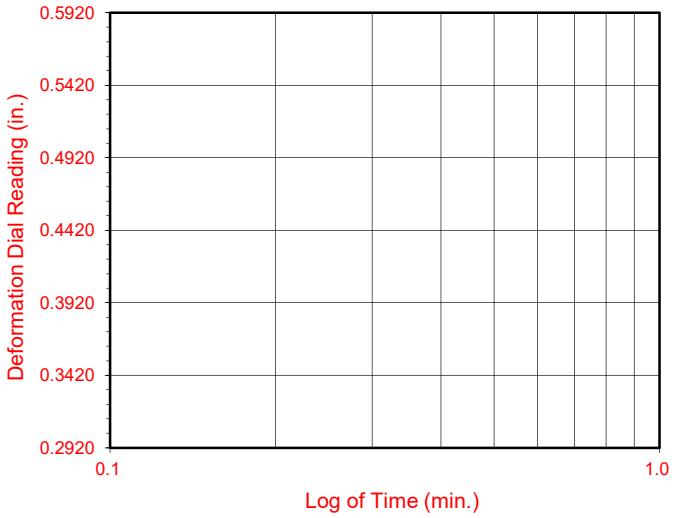
Pressure (p) (ksf)	Final Reading (in.)	Apparent Thickness (in.)	Load Compliance (%)	Deformation % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.10	0.2965	0.9998	0.00	0.03	0.528	0.03
0.25	0.2951	0.9984	0.02	0.17	0.526	0.15
0.50	0.2930	0.9962	0.07	0.38	0.523	0.31
0.90	0.2904	0.9937	0.15	0.64	0.521	0.49
0.90	0.2901	0.9934	0.15	0.67	0.520	0.52
2.00	0.2848	0.9881	0.27	1.20	0.514	0.93
4.00	0.2790	0.9823	0.42	1.77	0.508	1.35
8.00	0.2704	0.9736	0.59	2.64	0.497	2.05
16.00	0.2595	0.9628	0.78	3.73	0.483	2.95
8.00	0.2616	0.9649	0.66	3.52	0.485	2.86
4.00	0.2640	0.9673	0.57	3.28	0.487	2.71
1.00	0.2687	0.9720	0.43	2.81	0.492	2.38
0.50	0.2712	0.9745	0.38	2.56	0.495	2.18
0.25	0.2731	0.9764	0.33	2.36	0.497	2.03

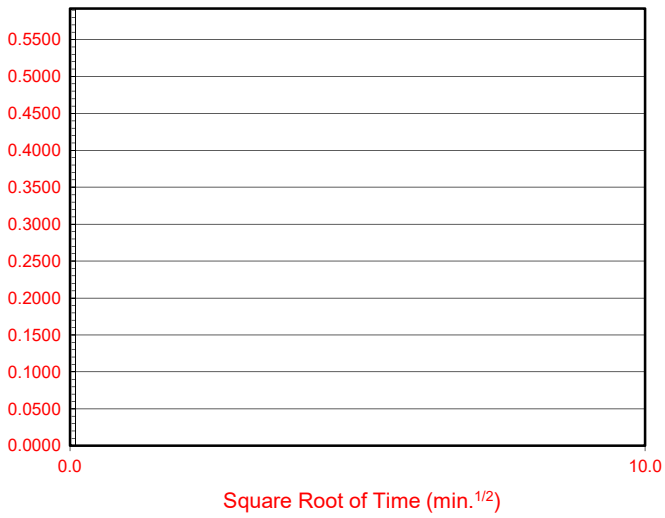
Time Readings

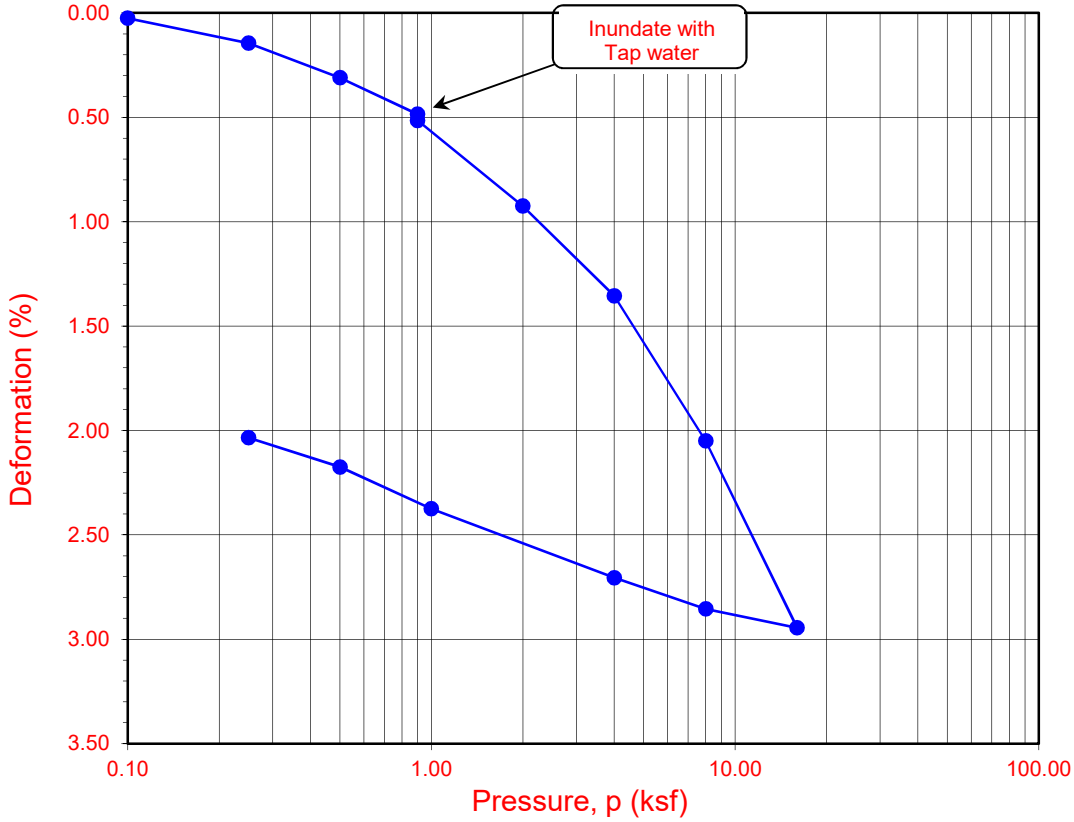
Date	Time	Elapsed Time (min)	Square Root of Time	Dial Rdgs. (in.)

6555

Time Readings







Boring No.	Sample No.	Depth (ft.)	Moisture Content (%)		Dry Density (pcf)		Void Ratio		Degree of Saturation (%)	
			Initial	Final	Initial	Final	Initial	Final	Initial	Final
HS-4	**R-3**	**7.5**	**17.2**	**16.3**	**110.3**	**113.6**	**0.528**	**0.497**	**88**	**91**

Soil Identification: Olive brown silt with sand (ML)

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS
ASTM D 2435

Project No.: 17114-01

Esperanza

10-17

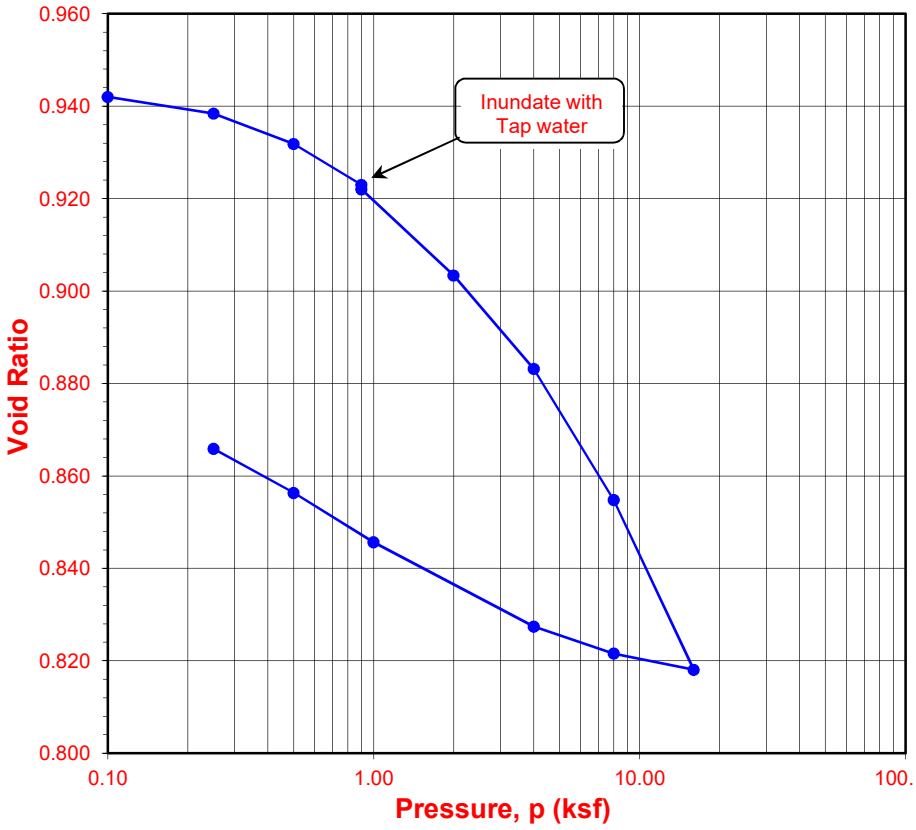
ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS

ASTM D 2435

Project Name: Esperanza
Project No.: 17114-01
Boring No.: HS-6
Sample No.: R-3
Soil Identification: Olive brown/green silt (ML)

Tested By: G. Bathala Date: 09/21/17
Checked By: J. Ward Date: 10/11/17
Depth (ft.): 7.5
Sample Type: Ring

Sample Diameter (in.)	2.415
Sample Thickness (in.)	1.000
Wt. of Sample + Ring (g)	190.79
Weight of Ring (g)	46.20
Height after consol. (in.)	0.9603
Before Test	
Wt.Wet Sample+Cont. (g)	303.92
Wt.of Dry Sample+Cont. (g)	246.88
Weight of Container (g)	62.03
Initial Moisture Content (%)	30.9
Initial Dry Density (pcf)	91.9
Initial Saturation (%)	94
Initial Vertical Reading (in.)	0.3283
After Test	
Wt.of Wet Sample+Cont. (g)	233.97
Wt. of Dry Sample+Cont. (g)	199.65
Weight of Container (g)	45.08
Final Moisture Content (%)	31.67
Final Dry Density (pcf)	93.9
Final Saturation (%)	100
Final Vertical Reading (in.)	0.2853
Specific Gravity (assumed)	2.86
Water Density (pcf)	62.43



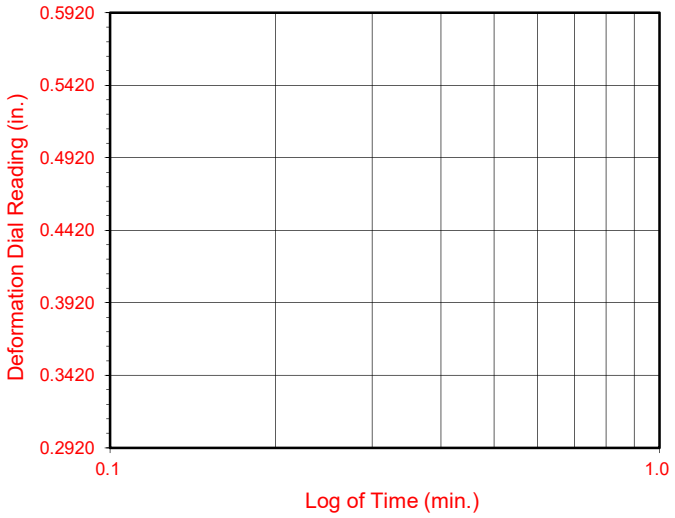
Pressure (p) (ksf)	Final Reading (in.)	Apparent Thickness (in.)	Load Compliance (%)	Deformation % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.10	0.3278	0.9995	0.00	0.05	0.942	0.05
0.25	0.3257	0.9974	0.03	0.27	0.938	0.24
0.50	0.3219	0.9936	0.07	0.64	0.932	0.57
0.90	0.3165	0.9882	0.15	1.18	0.923	1.03
0.90	0.3160	0.9877	0.15	1.23	0.922	1.08
2.00	0.3049	0.9766	0.30	2.34	0.903	2.04
4.00	0.2930	0.9647	0.45	3.53	0.883	3.08
8.00	0.2763	0.9480	0.66	5.20	0.855	4.54
16.00	0.2548	0.9265	0.92	7.35	0.818	6.43
8.00	0.2581	0.9298	0.77	7.02	0.822	6.25
4.00	0.2625	0.9342	0.63	6.58	0.827	5.95
1.00	0.2739	0.9456	0.43	5.44	0.846	5.01
0.50	0.2800	0.9517	0.37	4.83	0.856	4.46
0.25	0.2853	0.9570	0.33	4.30	0.866	3.97

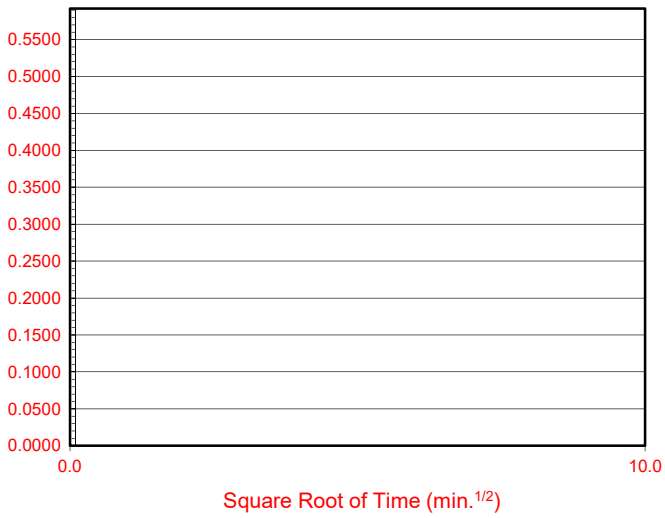
Time Readings

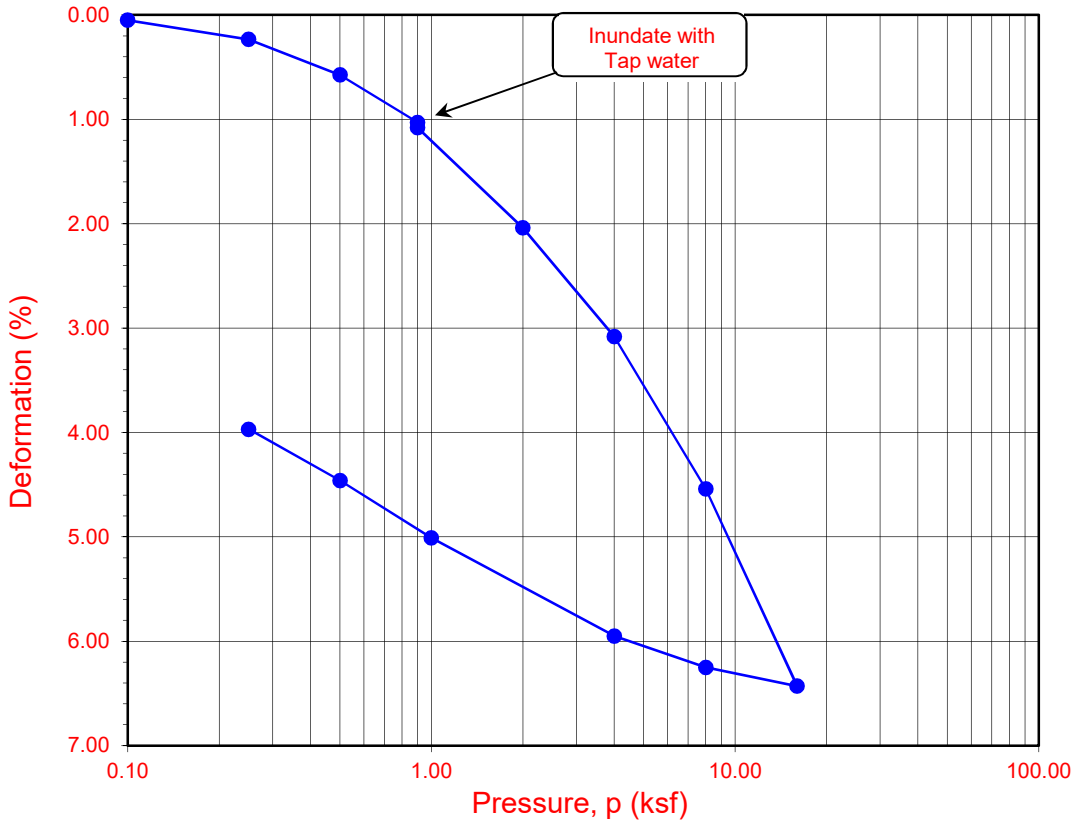
Date	Time	Elapsed Time (min)	Square Root of Time	Dial Rdgs. (in.)

6557

Time Readings







Boring No.	Sample No.	Depth (ft.)	Moisture Content (%)		Dry Density (pcf)		Void Ratio		Degree of Saturation (%)	
			Initial	Final	Initial	Final	Initial	Final	Initial	Final
HS-6	**R-3**	**7.5**	**30.9**	**31.7**	**91.9**	**93.9**	**0.943**	**0.866**	**94**	**100**

Soil Identification: Olive brown/green silt (ML)

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS
ASTM D 2435

Project No.: 17114-01

Esperanza

10-17

ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	Esperanza	Tested By:	G. Bathala	Date:	09/21/17
Project No.:	17114-01	Checked By:	J. Ward	Date:	10/11/17
Boring No.:	HS-1	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	7.5		

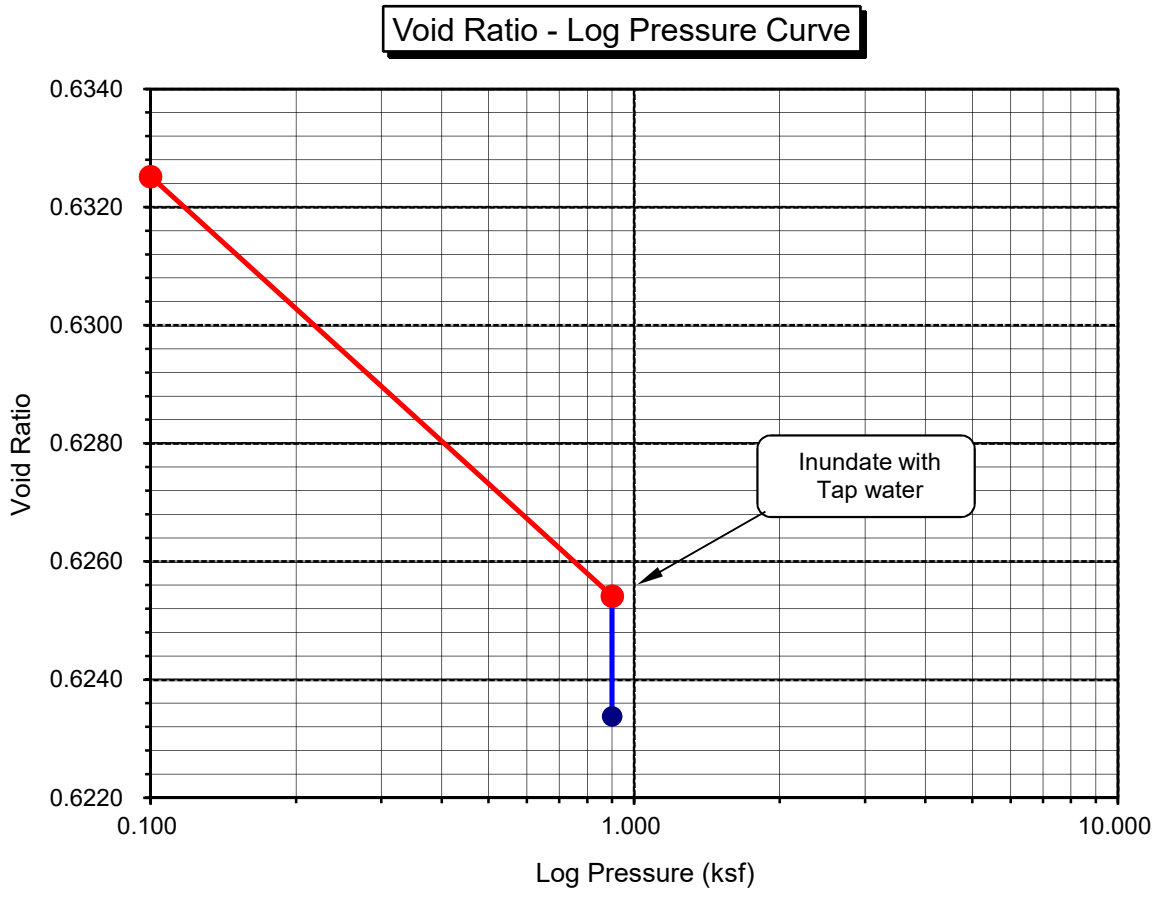
Sample Description: Olive brown and green sand with silt (SP-SM)

Note: Loads were applied incrementally up to the inundation load

Initial Dry Density (pcf):	103.2	Final Dry Density (pcf):	103.8
Initial Moisture (%):	3.99	Final Moisture (%) :	18.2
Initial Length (in.):	1.0000	Initial Void Ratio:	0.6326
Initial Dial Reading:	0.2587	Specific Gravity(assumed):	2.70
Diameter(in):	2.415	Initial Saturation (%)	17.0

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.2587	1.0000	0.00	0.00	0.6325	0.00
0.900	0.2521	0.9934	0.22	-0.66	0.6254	-0.44
H2O	0.2509	0.9922	0.22	-0.78	0.6234	-0.56

Percent Swell (+) / Settlement (-) After Inundation = -0.13



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	Esperanza	Tested By:	G. Bathala	Date:	09/21/17
Project No.:	17114-01	Checked By:	J. Ward	Date:	10/11/17
Boring No.:	HS-3	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	7.5		

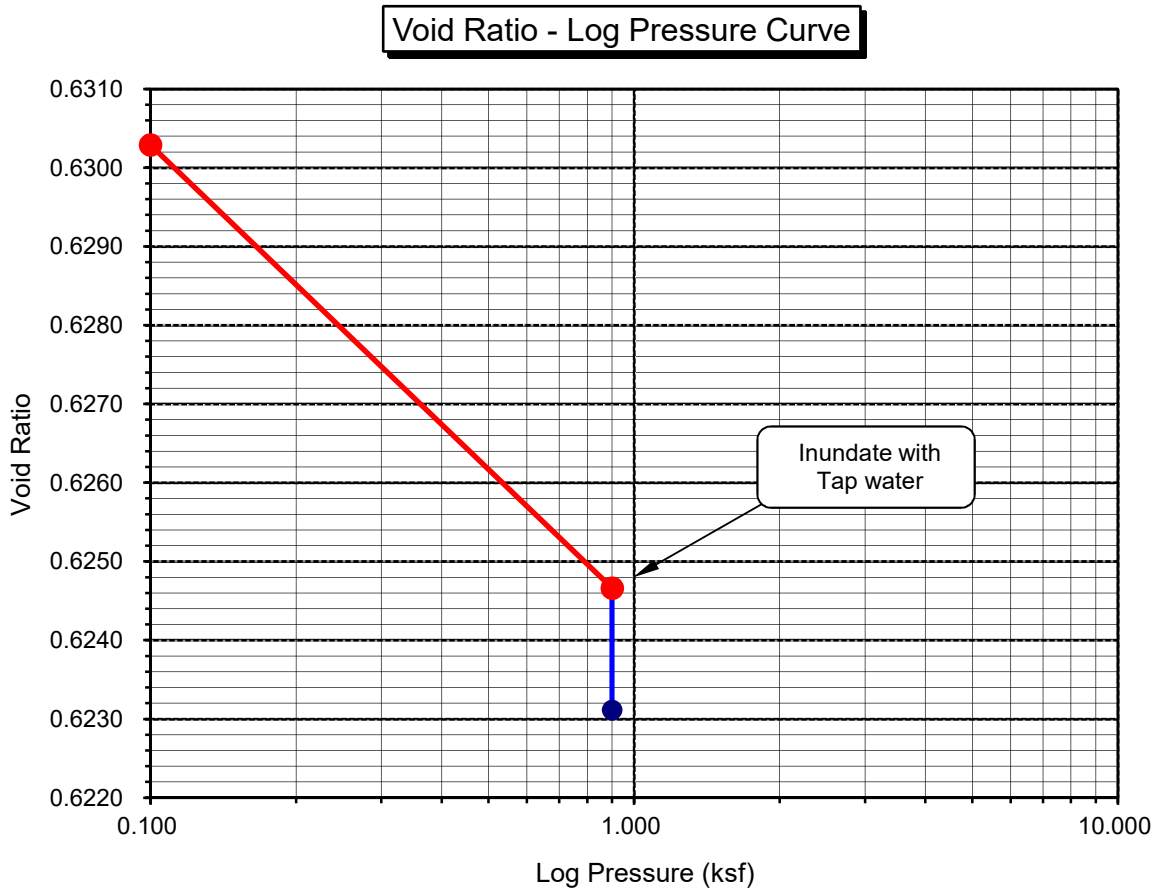
Sample Description: Gray/brown poorly-graded sand (SP)

Note: Loads were applied incrementally up to the inundation load

Initial Dry Density (pcf):	103.4	Final Dry Density (pcf):	103.9
Initial Moisture (%):	3.34	Final Moisture (%) :	20.3
Initial Length (in.):	1.0000	Initial Void Ratio:	0.6308
Initial Dial Reading:	0.2785	Specific Gravity(assumed):	2.70
Diameter(in):	2.415	Initial Saturation (%)	14.3

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.2782	0.9997	0.00	-0.03	0.6303	-0.03
0.900	0.2727	0.9942	0.21	-0.59	0.6247	-0.38
H2O	0.2717	0.9932	0.21	-0.68	0.6231	-0.47

Percent Swell (+) / Settlement (-) After Inundation = -0.10



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	Esperanza	Tested By:	G. Bathala	Date:	09/21/17
Project No.:	17114-01	Checked By:	J. Ward	Date:	10/11/17
Boring No.:	HS-10	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	7.5		

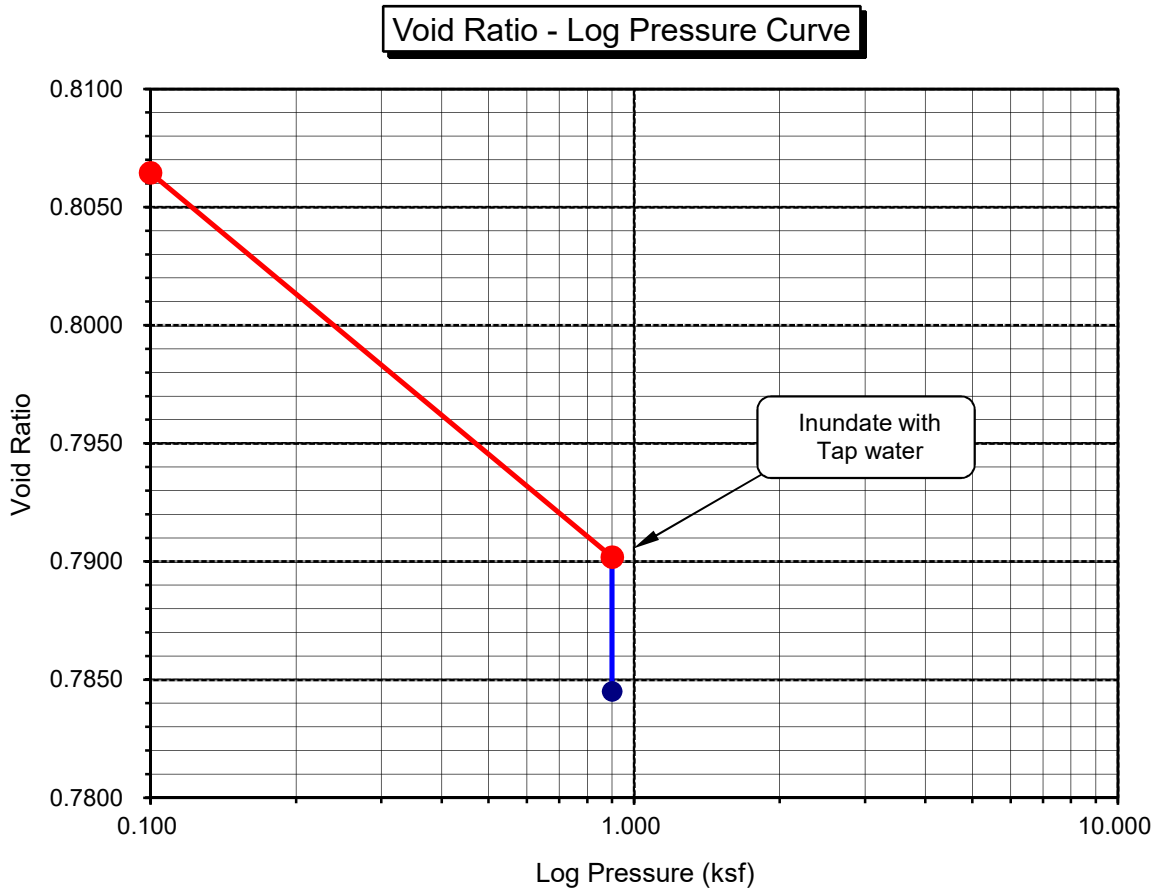
Sample Description: Brown/gray silty sand (SM)

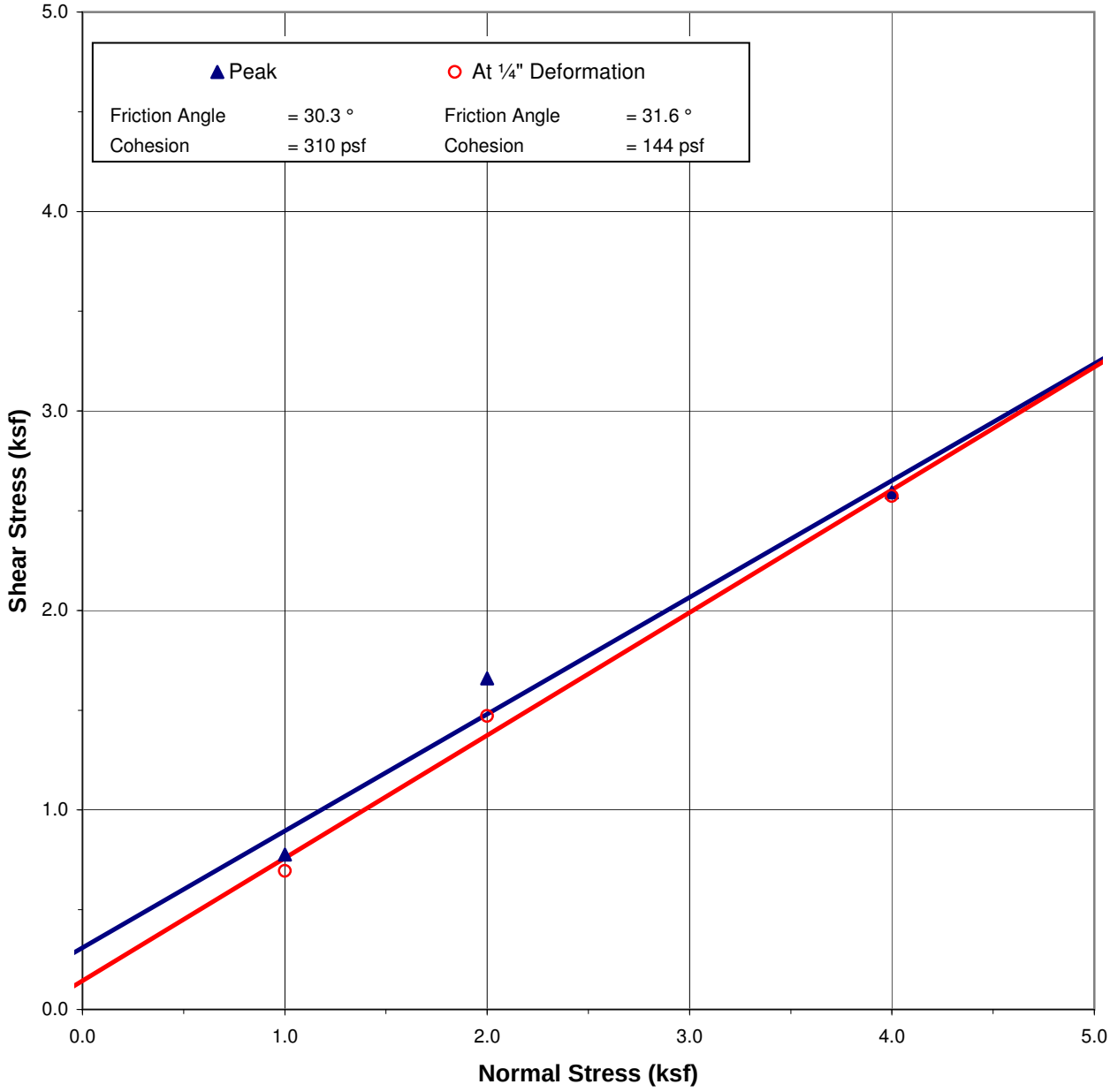
Note: Loads were applied incrementally up to the inundation load

Initial Dry Density (pcf):	93.3	Final Dry Density (pcf):	94.5
Initial Moisture (%):	6.04	Final Moisture (%) :	26.8
Initial Length (in.):	1.0000	Initial Void Ratio:	0.8066
Initial Dial Reading:	0.3008	Specific Gravity(assumed):	2.70
Diameter(in):	2.415	Initial Saturation (%)	20.2

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.3007	0.9999	0.00	-0.01	0.8065	-0.01
0.900	0.2891	0.9883	0.26	-1.17	0.7902	-0.91
H2O	0.2860	0.9852	0.26	-1.49	0.7845	-1.23

Percent Swell (+) / Settlement (-) After Inundation = -0.32

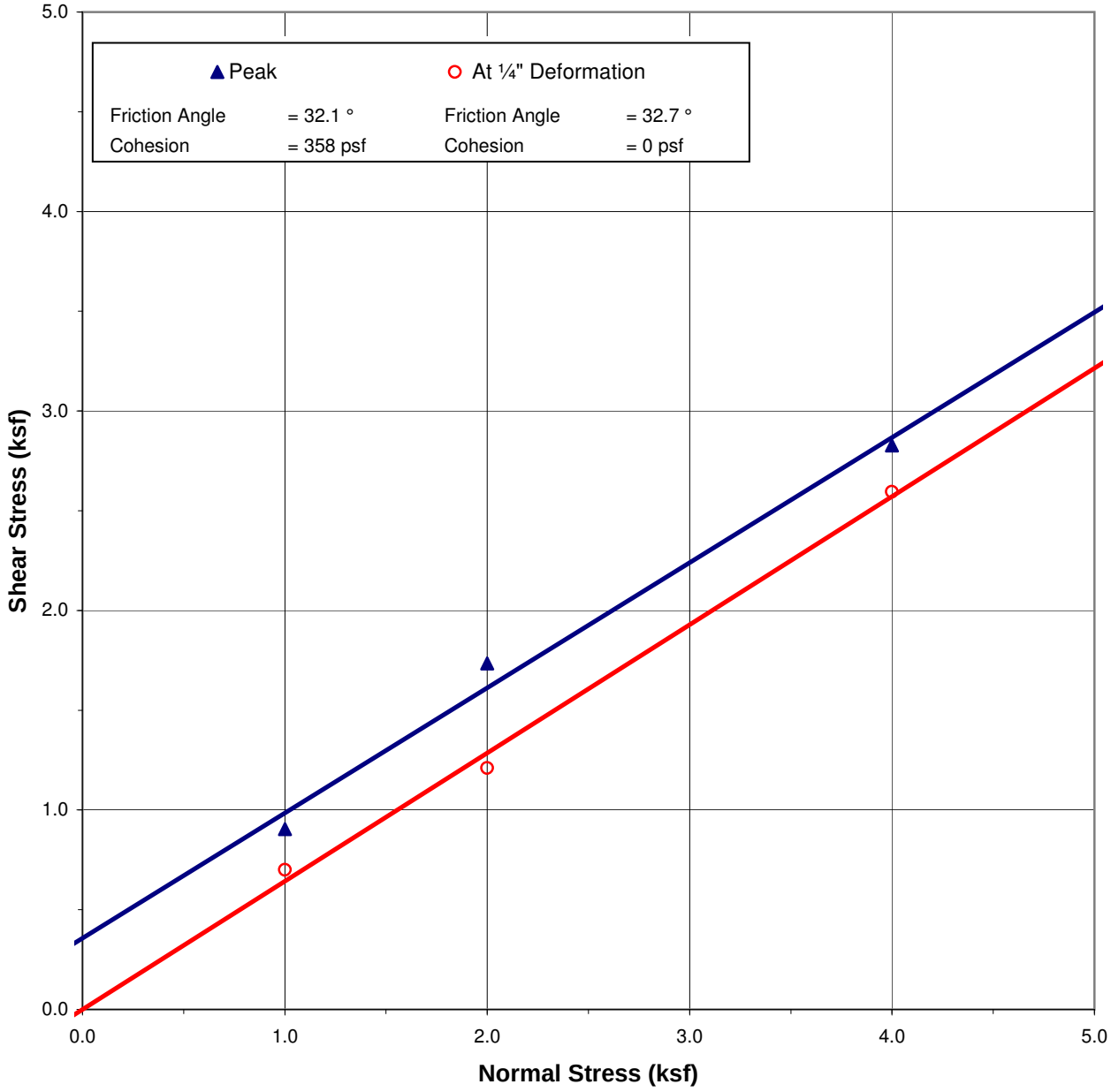




Location:	Sample No.:	Depth (ft)	Sample Type	Shear Rate (inch/min)	Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
HS-2	**B-1**	**5'**	**Remolded**	**0.002**	**109.0**	**10.5**	**21.1**

Sample Description: Gray beige silt (ML)

LGC	**DIRECT SHEAR PLOT**	**Project Number:** 17114-01 **Date:** Sep-17 **Esperanza**



Location:	Sample No.:	Depth (ft)	Sample Type	Shear Rate (inch/min)	Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
HS-4	**B-1**	**5'**	**Remolded**	**0.002**	**108.5**	**11.5**	**17.0**

Sample Description: Olive green silty sand (SM)

LGC	**DIRECT SHEAR PLOT**	**Project Number:** 17114-01 **Date:** Sep-17 **Esperanza**

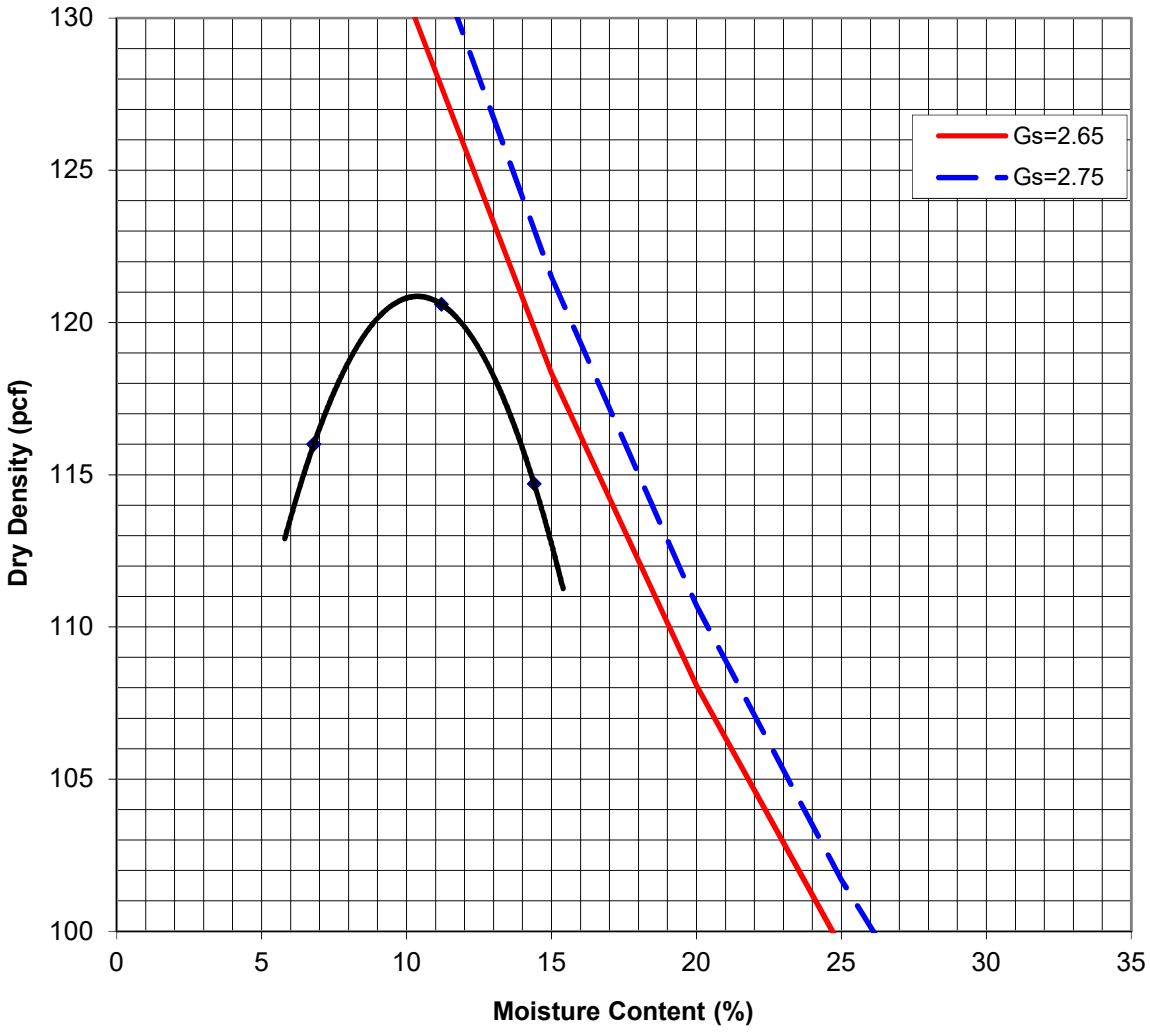
Location	Sample No.	Depth (ft)	Molding Moisture Content (%)	Initial Dry Density (pcf)	Final Moisture Content (%)	Expansion Index	Expansion Classification[1]
HS-2	B-1	0-5'	11.4	111.3	23.3	15	Very Low
HS-4	B-1	0-5'	10.5	114.4	15.8	14	Very Low
HS-10	B-1	0-5'	7.0	118.4	12.6	6	Very Low

LGC

EXPANSION INDEX
(ASTM D 4829)

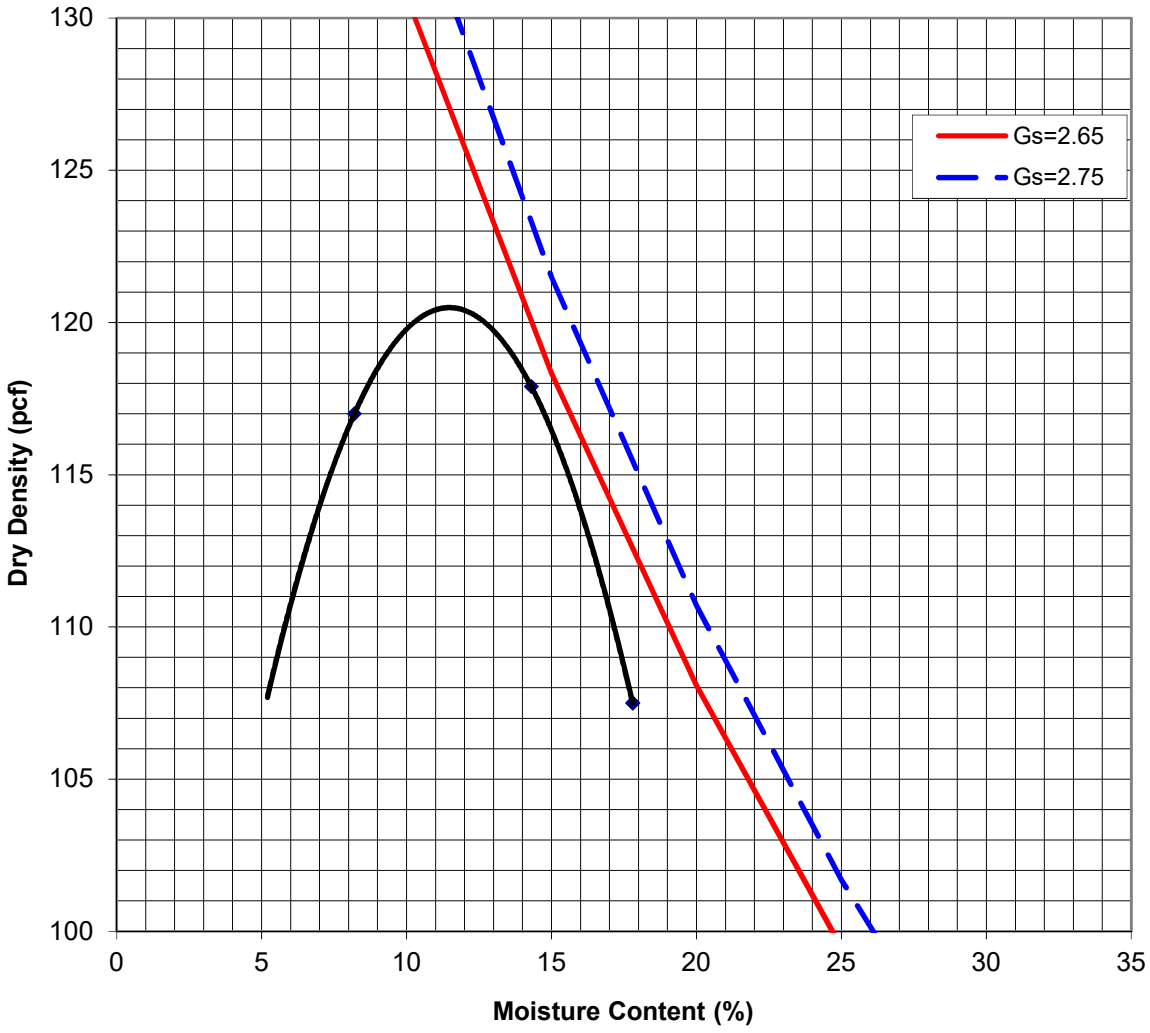
Project Number: 17114-01
Date: Sep-17

Esperanza



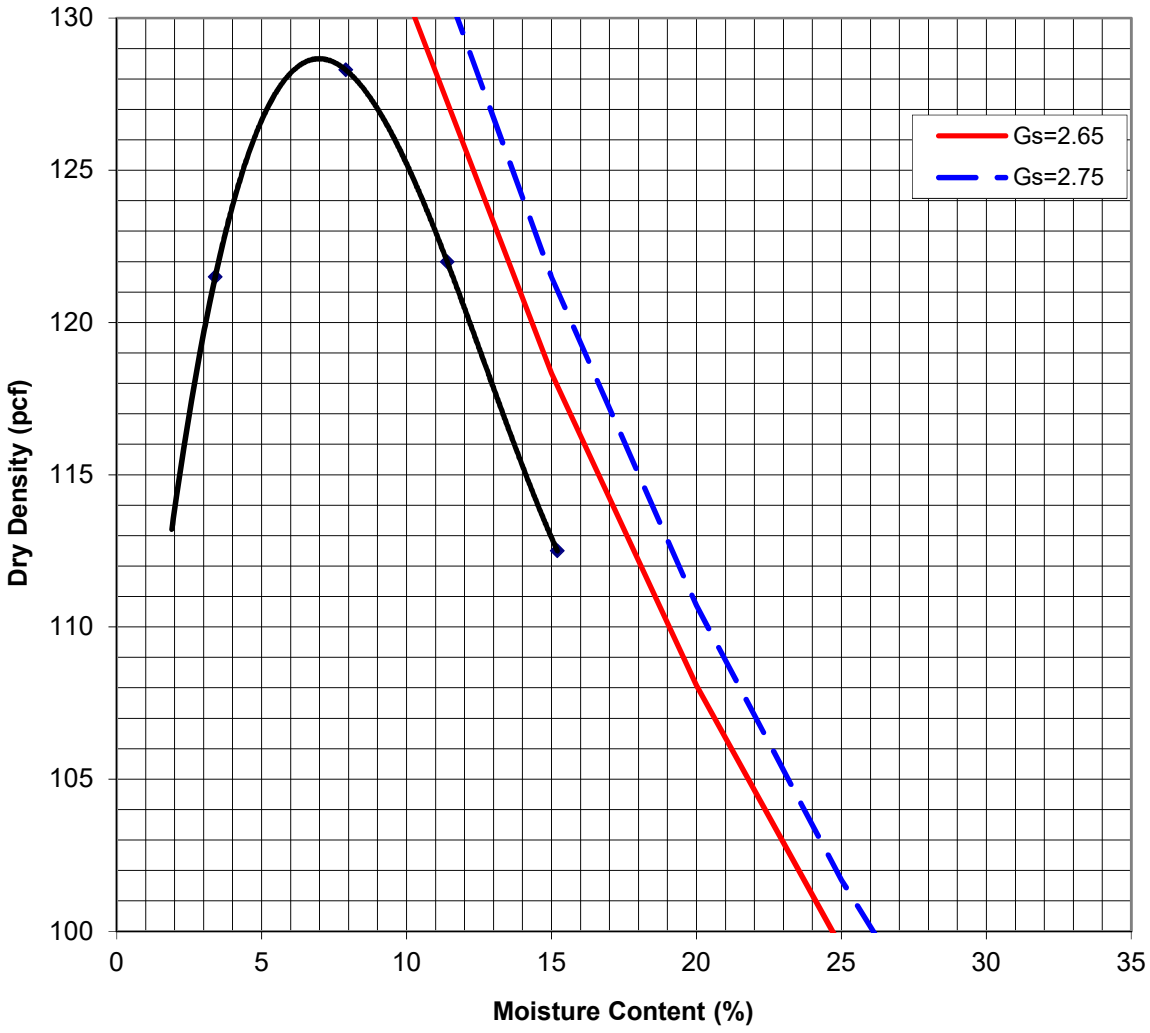
Location:	Sample No.:	Depth (ft)	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-2	**B-1**	**0-5'**	**Gray beige sandy silt**	**121.0**	**10.5**

LGC	**LABORATORY COMPACTION** (ASTM D 1557)	**Project Number:**	17114-01
		Date:	Sep-17
		Esperanza	



Location:	Sample No.:	Depth (ft)	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-4	**B-1**	**0-5'**	**Olive green/brown silty sand**	**120.5**	**11.5**

LGC	**LABORATORY COMPACTION** (ASTM D 1557)	**Project Number:**	17114-01
		Date:	Sep-17
		Esperanza	



Location:	Sample No.:	Depth (ft)	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-10	**B-1**	**0-5'**	**Olive brown silty sand**	**129.0**	**7.0**

LGC	**LABORATORY COMPACTION** (ASTM D 1557)	**Project Number:**	17114-01
		Date:	Sep-17
		Esperanza	

R-VALUE TEST RESULTS

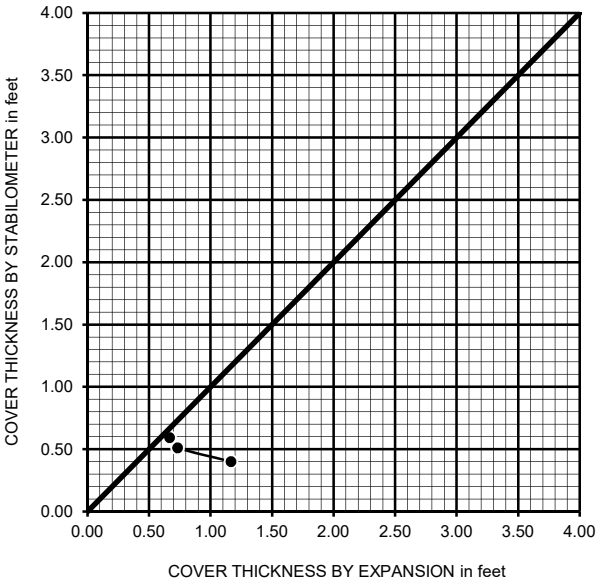
DOT CA Test 301

PROJECT NAME:	Esperanza	PROJECT NUMBER:	17114-01
BORING NUMBER:	HS-7	DEPTH (FT.):	0-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	S. Felter
SAMPLE DESCRIPTION:	Yellowish brown silty sand (SM)	DATE COMPLETED:	9/25/2017

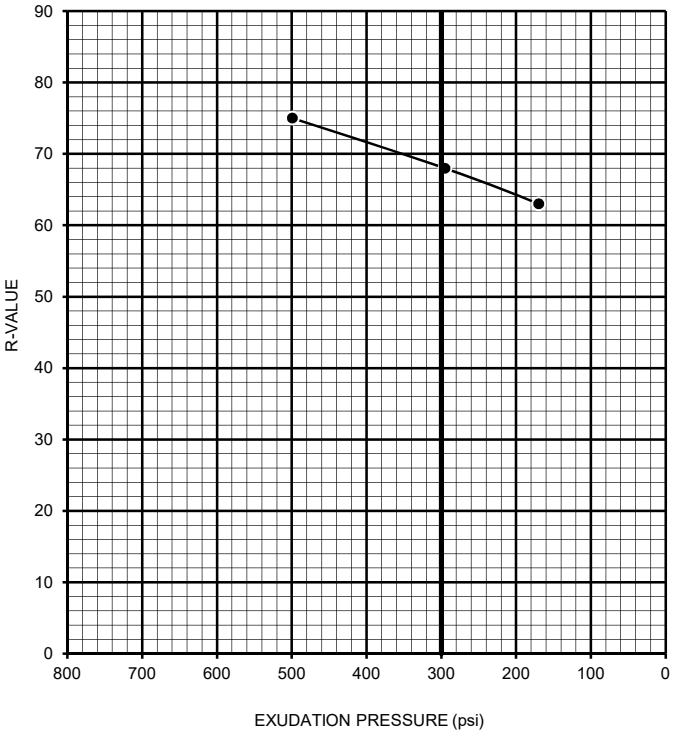
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	10.7	11.1	12.0
HEIGHT OF SAMPLE, Inches	2.58	2.49	2.49
DRY DENSITY, pcf	121.9	121.2	121.6
COMPACTOR PRESSURE, psi	350	350	300
EXUDATION PRESSURE, psi	499	295	170
EXPANSION, Inches x 10exp-4	35	22	20
STABILITY Ph 2,000 lbs (160 psi)	24	30	34
TURNS DISPLACEMENT	5.01	5.04	5.44
R-VALUE UNCORRECTED	74	68	63
R-VALUE CORRECTED	75	68	63

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	0.40	0.51	0.59
EXPANSION PRESSURE THICKNESS, ft.	1.17	0.73	0.67

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	61
R-VALUE BY EXUDATION:	68
EQUILIBRIUM R-VALUE:	61

TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: Esperanza | Tested By : G. Berdy | Date: 09/21/17

Project No. : 17114-01 | Data Input By: G. Bathala | Date: 10/11/17

Boring No.	HS-2	HS-4	HS-10	
Sample No.	B-1	B-1	B-1	
Sample Depth (ft)	0-5	0-5	0-5	
Soil Identification:	Gray/beige ML	Olive green SM	Olive brown SM	
Wet Weight of Soil + Container (g)	199.19	200.64	212.80	
Dry Weight of Soil + Container (g)	190.63	191.23	206.82	
Weight of Container (g)	59.94	66.79	54.33	
Moisture Content (%)	6.55	7.56	3.92	
Weight of Soaked Soil (g)	100.09	100.73	100.16	

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	200A	94	15	
Crucible No.	26	10	5	
Furnace Temperature (°C)	860	860	860	
Time In / Time Out	8:15/9:00	8:15/9:00	8:15/9:00	
Duration of Combustion (min)	45	45	45	
Wt. of Crucible + Residue (g)	20.9381	22.3561	22.2090	
Wt. of Crucible (g)	20.9352	22.3540	22.2068	
Wt. of Residue (g) (A)	0.0029	0.0021	0.0022	
PPM of Sulfate (A) x 41150	119.34	86.42	90.53	
PPM of Sulfate, Dry Weight Basis	**128**	**93**	**94**	

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15	15	15	
ml of AgNO3 Soln. Used in Titration (C)	0.3	0.4	0.5	
PPM of Chloride (C -0.2) * 100 * 30 / B	20	40	60	
PPM of Chloride, Dry Wt. Basis	**21**	**43**	**62**	

pH TEST, DOT California Test 643

pH Value	**7.66**	**6.98**	**7.77**	
Temperature °C	20.1	20.1	20.1	

SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	Esperanza		Tested By :	G. Berdy	Date: 09/21/17
Project No. :	17114-01		Data Input By:	G. Bathala	Date: 10/11/17
Boring No.:	HS-2		Depth (ft.) :	0-5	
Sample No. :	B-1				

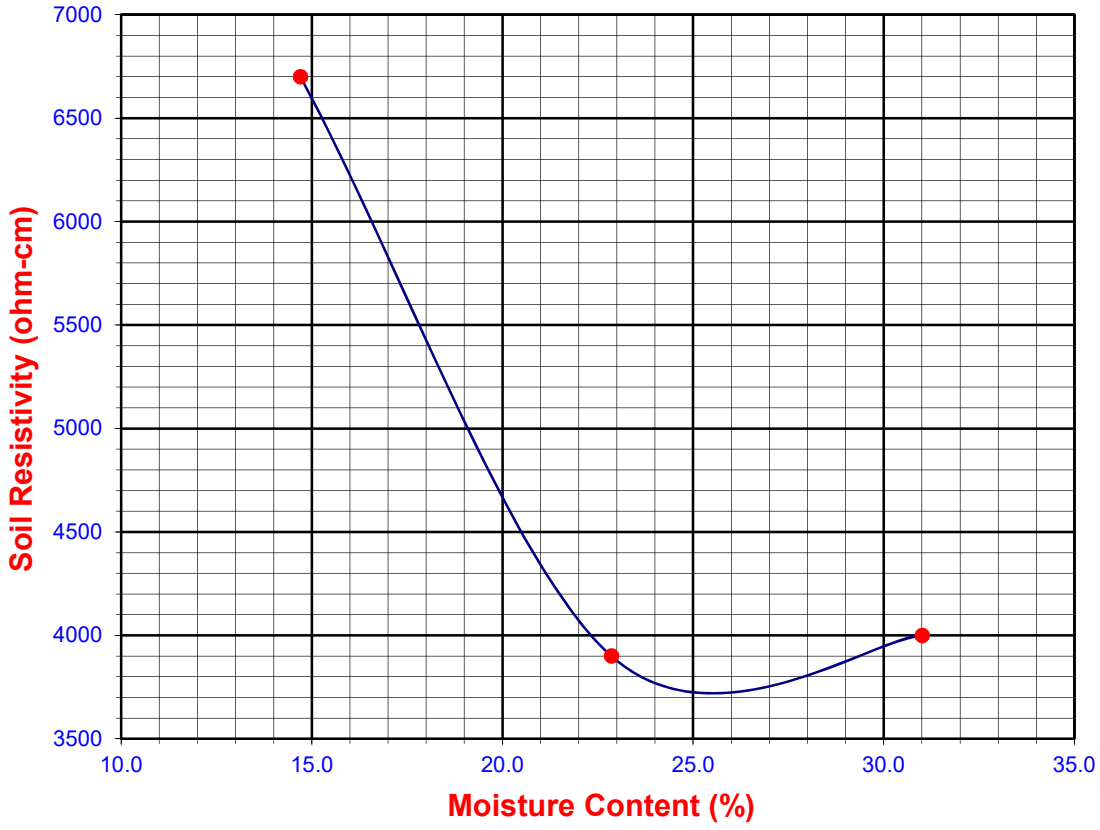
Soil Identification:* Green/beige ML

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	10	14.70	6700	6700
2	20	22.86	3900	3900
3	30	31.01	4000	4000
4				
5				

Moisture Content (%) (MCi)	6.55
Wet Wt. of Soil + Cont. (g)	199.19
Dry Wt. of Soil + Cont. (g)	190.63
Wt. of Container (g)	59.94
Container No.	
Initial Soil Wt. (g) (Wt)	130.67
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
3700	**25.5**	**128**	**21**	**7.66**	**20.1**



SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	Esperanza		Tested By :	G. Berdy	Date: 09/21/17
Project No. :	17114-01		Data Input By:	G. Bathala	Date: 10/11/17
Boring No.:	HS-4		Depth (ft.) :	0-5	
Sample No. :	B-1				

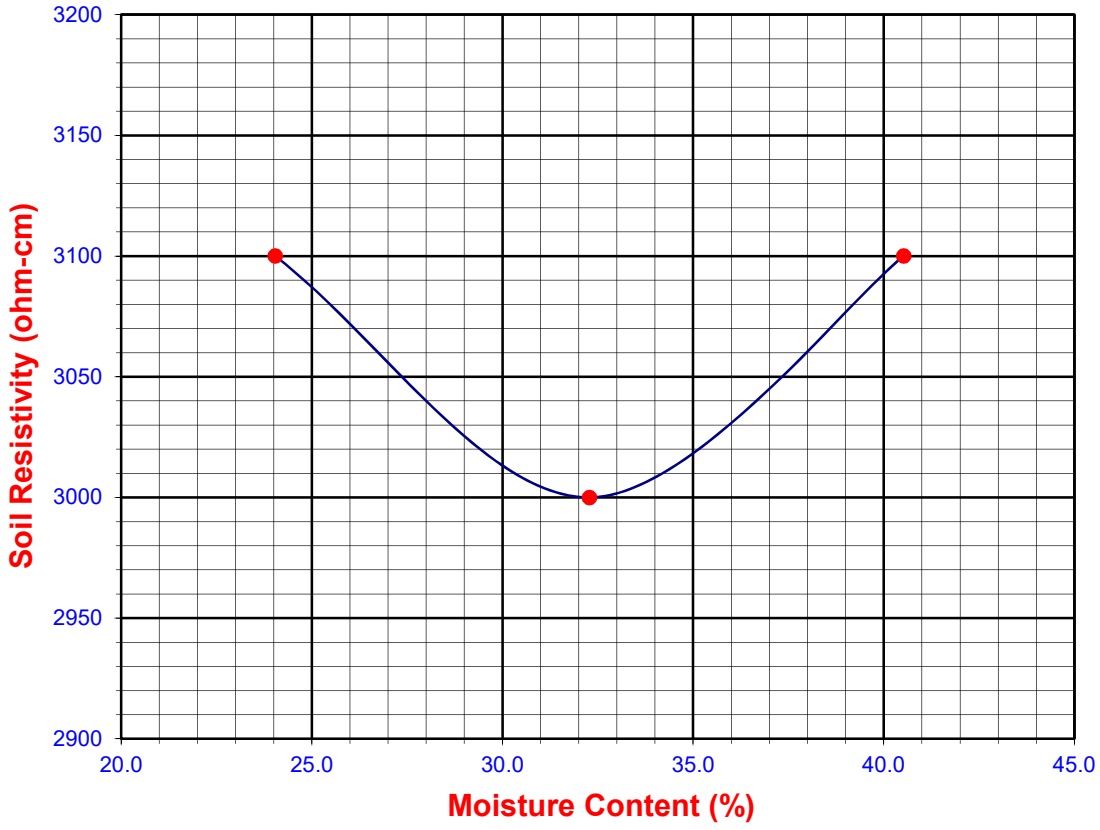
Soil Identification:* Olive green SM

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	20	24.04	3100	3100
2	30	32.28	3000	3000
3	40	40.52	3100	3100
4				
5				

Moisture Content (%) (MCi)	7.56
Wet Wt. of Soil + Cont. (g)	200.64
Dry Wt. of Soil + Cont. (g)	191.23
Wt. of Container (g)	66.79
Container No.	
Initial Soil Wt. (g) (Wt)	130.54
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
3000	**32.3**	**93**	**43**	**6.98**	**20.1**



SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	Esperanza		Tested By :	G. Berdy	Date: 09/21/17
Project No. :	17114-01		Data Input By:	G. Bathala	Date: 10/11/17
Boring No.:	HS-10		Depth (ft.) :	0-5	
Sample No. :	B-1				

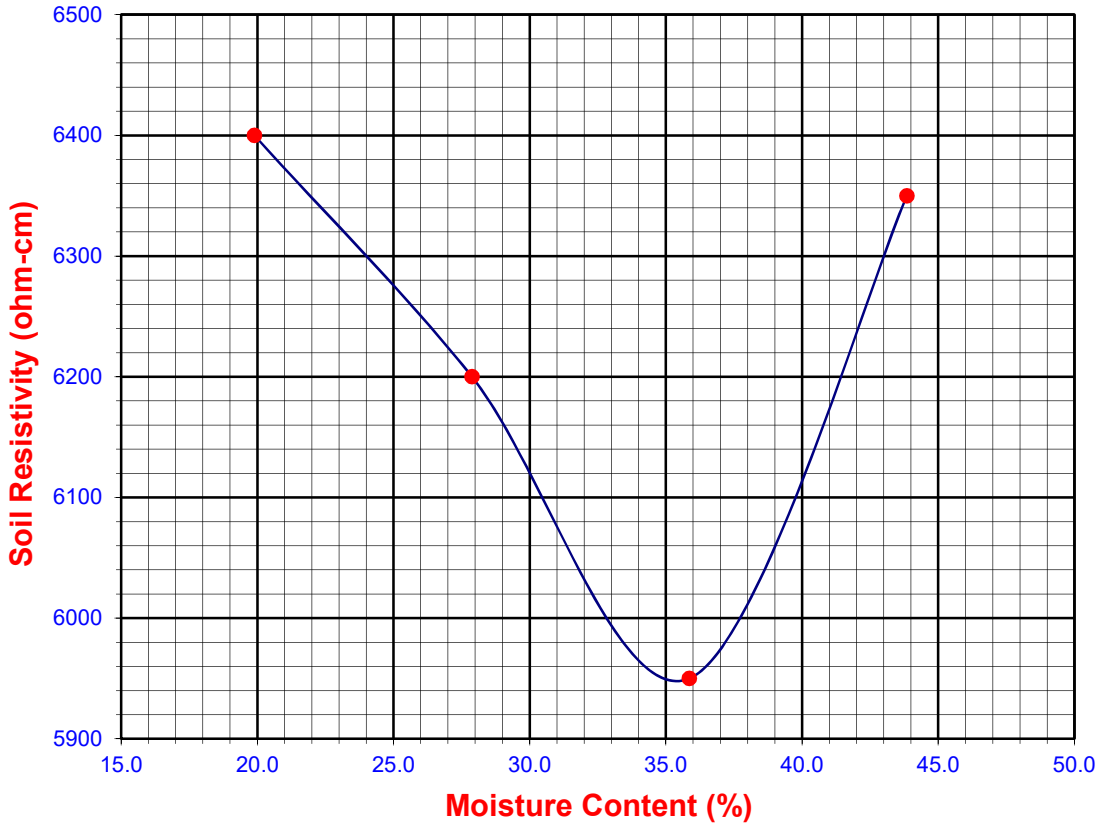
Soil Identification:* Olive brown SM

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	20	19.89	6400	6400
2	30	27.88	6200	6200
3	40	35.87	5950	5950
4	50	43.85	6350	6350
5				

Moisture Content (%) (MCi)	3.92
Wet Wt. of Soil + Cont. (g)	212.80
Dry Wt. of Soil + Cont. (g)	206.82
Wt. of Container (g)	54.33
Container No.	
Initial Soil Wt. (g) (Wt)	130.13
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
5950	**35.5**	**94**	**62**	**7.77**	**20.1**



TP-1 (1.0')*	
Depth (ft)	% Organics
0.8'	30.2
1.5'	1.3
2.5'	0.9

TP-2 (0.8')*	
Depth (ft)	% Organics
0.6'	8.8
1.3'	1.7
2.5'	1.1

TP-3 (0.0')*	
Depth (ft)	% Organics
0.6'	2.1
1.3'	1.3
2.0'	1.3

TP-4 (1.0')*	
Depth (ft)	% Organics
0.8'	9.8
1.8'	1.3
2.5'	1.0

TP-5 (0.8')*	
Depth (ft)	% Organics
0.5'	8.9
1.3'	1.3
2.8'	1.3

TP-6 (0.8')*	
Depth (ft)	% Organics
0.4'	13.6
1.3'	1.7
2.0'	1.2

TP-7 (1.8')*	
Depth (ft)	% Organics
1.5'	8.0
2.0'	3.0
2.5'	0.9

TP-8 (0.0')*	
Depth (ft)	% Organics
0.4'	5.0
2.0'	3.0
3.0'	1.2

TP-9 (0.0')*	
Depth (ft)	% Organics
0.5'	3.0
1.2'	1.5
2.5'	1.3

TP-10 (0.0')*	
Depth (ft)	% Organics
0.6'	3.0
1.5'	1.2
2.0'	0.8

TP-11 (0.0')*	
Depth (ft)	% Organics
0.4'	2.9
1.3'	1.8
2.0'	1.8

TP-12 (2.5')*	
Depth (ft)	% Organics
1.0'	15.5
1.8'	9.4
2.8'	1.3

TP-13 (1.5')*	
Depth (ft)	% Organics
0.8'	10.7
1.5'	4.5
2.2'	1.4

TP-14 (2.2')*	
Depth (ft)	% Organics
1.0'	11.9
2.2'	3.5
3.0'	1.8

T-1 (1.0')*	
Depth (ft)	% Organics
0.8'	10.3
2.2'	0.8
3.0'	1.7

T-2 (0.8')*	
Depth (ft)	% Organics
0.5'	12.0
1.5'	1.6
2.2'	1.3

T-3 (1.0')*	
Depth (ft)	% Organics
0.8'	7.4
1.5'	1.4
2.2'	1.3

T-4 (0.8')*	
Depth (ft)	% Organics
0.5'	8.7
1.5'	1.4
2.3'	1.3

T-5 (1.0')*	
Depth (ft)	% Organics
0.5'	13.1
1.5'	1.4
2.3'	1.4

T-6 (0.6')*	
Depth (ft)	% Organics
0.5'	15.0
1.5'	1.8
2.3'	1.5

T-7 (1.2')*	
Depth (ft)	% Organics
1.0'	38.6
1.5'	1.8
2.5'	1.7

T-8 (1.2')*	
Depth (ft)	% Organics
1.0'	17.4
1.5'	1.7
2.2'	1.6

T-9 (0.8')*	
Depth (ft)	% Organics
0.6'	7.2
1.2'	1.4
2.0'	1.3

T-10 (1.0')*	
Depth (ft)	% Organics
0.8'	6.5
1.5'	1.0
2.5'	1.1

T-11 (1.0')*	
Depth (ft)	% Organics
0.8'	55.5
2.0'	1.4
2.8'	1.3

T-12 (1.0')*	
Depth (ft)	% Organics
0.8'	62.9
1.5'	1.4
2.2'	1.6

T-13 (0.6')*	
Depth (ft)	% Organics
0.4'	20.4
1.2'	1.2
2.0'	1.0

T-14 (0.6')*	
Depth (ft)	% Organics
0.4'	6.6
1.2'	1.4
2.5'	1.1

T-15 (1.8')*	
Depth (ft)	% Organics
0.4'	12.6
1.6'	7.7
2.2'	1.6

T-16 (1.8')*	
Depth (ft)	% Organics
0.8'	12.6
1.8'	5.0
2.3'	1.5

T-17 (0.8')*	
Depth (ft)	% Organics
0.5'	5.2
1.2'	2.8
1.8'	1.6

T-18 (0.3')*	
Depth (ft)	% Organics
0.2'	20.8
1.0'	0.7
1.5'	0.8

T-19 (1.8')*	
Depth (ft)	% Organics
0.4'	6.1
1.8'	3.1
2.2'	1.3

T-20 (1.3')*	
Depth (ft)	% Organics
0.5'	6.3
1.3'	4.4
2.3'	1.0

T-21 (1.0')*	
Depth (ft)	% Organics
0.5'	6.3
1.0'	4.6
1.6'	0.8

T-22 (1.0')*	
Depth (ft)	% Organics
0.5'	6.6
1.2'	1.0
1.8'	1.2

T-23 (0.0')*	
Depth (ft)	% Organics
0.8'	4.3
1.5'	3.2
2.6'	1.4

T-24 (1.0')*	
Depth (ft)	% Organics
0.8'	5.8
1.6'	3.0
2.3'	1.2

T-25 (1.8')*	
Depth (ft)	% Organics
1.0'	17.4
2.0'	4.6
2.8'	1.3

T-26 (1.6')*	
Depth (ft)	% Organics
0.8'	14.1
1.8'	5.0
2.6'	1.2

T-27 (2.6')*	
Depth (ft)	% Organics
0.8'	16.0
1.6'	10.9
2.8'	1.7

T-28 (1.2')*	
Depth (ft)	% Organics
0.8'	8.8
1.4'	2.5
2.2'	0.8

T-29 (1.4')*	
Depth (ft)	% Organics
0.8'	12.2
1.4'	4.7
2.2'	1.4

T-30 (1.6')*	
Depth (ft)	% Organics
0.8'	8.4
1.8'	4.2
2.4'	1.6

T-31 (1.3')*	
Depth (ft)	% Organics
1.0'	13.4
1.5'	4.4
2.0'	2.8

T-32 (1.5')*	
Depth (ft)	% Organics
1.0'	18.6
1.8'	3.3
2.2'	2.1

Legend

> 5%	Recommended for Offsite Removal
2 to 5%	Recommended for Mix/Blend w/ "Clean" Soils
< 2%	"Clean" Soils

Note: (#')* Indicates Recommended Organic Removal Depth in Feet

LGC Geotechnical, Inc.

Table 5 - Summary of Measured Organic Content vs Depth of Sample

Project Name	Richland - Esperanza & Pietersma
Project Number	17114-01 & 17115-01
ENG./GEOL.	RLD/KTM
Date	Feb-18

Geotechnical Boring Log Borehole HS-1

Date: 9/11/2017 | **Drilling Company:** Cal Pac Drilling

Project Name: Esperanza/Pietersma | **Type of Rig:** CME 61

Project Number: 17114-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~722' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map |

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@ 0' to TD - <u>Quaternary Young Eolian Deposits (Qye):</u>**	
720			R-1	7 6 8	111.0	8.5	SM	@ 2.5' Silty SAND: olive green/brown, slightly moist, medium dense	
	5		R-2	6 10 13	104.0	4.5	SP-SM	@ 5.0' SAND with Silt: olive green/brown, dry, medium dense	
715			R-3	7 9 10	105.5	4.0		@ 7.5' SAND with Silt: olive green/brown, dry, medium dense	CO -#200
	10		R-4	3 5 10	108.7	16.6	SM	@ 10' Silty SAND: olive green/brown, very moist, medium dense	
710									
	15		SPT-1	4 5 7		13.7		@ 15' Silty SAND: olive green/brown, moist, medium dense; fine sand	
705									
	20		R-5	4 6 11	105.9	18.3	ML	@ 20' Sandy SILT: olive green/brown, very moist, stiff	
700									
	25		SPT-2	8 7 6		2.9		@ 25' Sandy SILT, olive green/brown, dry, stiff	
695								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 9/11/2017	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/13/2017

Geotechnical Boring Log Borehole HS-2

Date: 9/11/2017	**Drilling Company:** Cal Pac Drilling
Project Name: Esperanza/Pietersma	**Type of Rig:** CME 61
Project Number: 17114-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~708' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@ 0' to TD - <u>Quaternary Young Eolian Deposits (Qye):</u>**	DS MD EI CR RV -#200
705			R-1	16 26 30	99.1	3.4	ML	@ 2.5' Sandy SILT: gray/light brown, dry, hard; rootlets	
	5		R-2	8 13 18	106.1	1.8		@ 5.0' Sandy SILT: gray/light brown, dry, very stiff; few fine gravel	
700			R-3	5 8 9	97.8	3.3	SM	@ 7.5' Silty SAND: light brown-brown, dry, medium dense; rootlets	
	10		R-4	6 6 10	99.4	7.6		@ 10' Silty SAND: olive green/brown, slightly moist, medium dense	
695									
	15		R-5	6 10 16	108.4	11.1	ML	@ 15' Sandy SILT: brown with a bit of olive green/grey, moist, very stiff	
690									
	20		SPT-1	6 9 15		19.5		@ 20' Sandy SILT: olive green/brown, very moist, very stiff	
685									
	25		R-6	10 14 22	98.4	11.2	SM	@ 25' Silty SAND: olive green/grey with small pockets of red/orange, moist, medium dense	
680								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 9/11/2017	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/13/2017

Geotechnical Boring Log Borehole HS-3

Date: 9/11/2017 | **Drilling Company:** Cal Pac Drilling

Project Name: Esperanza/Pietersma | **Type of Rig:** CME 61

Project Number: 17114-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~727' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map |

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@ 0' to TD - Quaternary Young Eolian Deposits (Qye):**	
725			R-1	3 4 5	110.5	12.8	SM	@ 2.5' Silty SAND: medium brown/olive green, very moist, loose; scattered fine gravel	
	5		R-2	4 7 13	108.3	3.6	SP-SM	@ 5.0' Silty SAND: brown with mottled gray, dry, medium dense; some fine gravel	
720			R-3	6 9 14	106.1	3.3	SP	@ 7.5' SAND: gray/brown, dry, medium dense	CO -#200
	10		R-4	6 7 7	107.4	3.2	SP-SM	@ 10' SAND with Silt: brown, dry, medium dense; scattered fine gravel	
715									
	15		SPT-1	2 2 3		23.3	SM	@ 15' Sandy SILT: olive brown/green, very moist, loose; scattered fine gravel	
710									
	20		R-5	17 17 17	130.0	2.5	SP	@ 20' SAND with Gravel: olive green/brown, dry, medium dense; coarse gravel	
705									
	25		SPT-2	8 16 18		3.4	SM	@ 25' Silty SAND: brown, green, black mottled, dry, dense; scattered gravel	
700								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 9/11/2017	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/13/2017

Geotechnical Boring Log Borehole HS-4

Date: 9/11/2017 | **Drilling Company:** Cal Pac Drilling

Project Name: Esperanza/Pietersma | **Type of Rig:** CME 61

Project Number: 17114-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~721' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map |

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
720	0	B-1						**@ 0' to TD - <u>Quaternary Young Eolian Deposits (Qye):</u>**	DS MD EI CR -#200
			R-1	5 4 7	124.7	3.3	SM	@ 2.5' Silty SAND: olive green/brown, dry, loose	
715	5		R-2	5 7 9	92.3	6.7		@ 5.0' Silty SAND: olive green/brown, slightly moist, medium dense	
			R-3	5 9 13	109.9	17.2	ML	@ 7.5' SILT with Sand: olive brown, very moist, very stiff	CN AL
710	10		R-4	10 13 10	99.7	8.4	SM	@ 10' Silty SAND: olive green/brown, slightly moist, medium dense	
705	15		R-5	4 8 14	116.8	15.0	SM-ML	@ 15' Silty SAND to Sandy SILT: olive green/brown, very moist, medium dense to very stiff; scattered fine gravel	
700	20		SPT-1	11 21 21		3.6	SM	@ 20' Silty SAND with Gravel: gray, dry, dense	
695	25		R-6	5 14 25	108.2	11.3		@ 25' Silty SAND: olive green/brown, very moist, dense	
	30							Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 9/11/2017	

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/13/2017

Geotechnical Boring Log Borehole HS-5

Date: 9/12/2017	**Drilling Company:** Cal Pac Drilling
Project Name: Esperanza/Pietersma	**Type of Rig:** CME 61
Project Number: 17114-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~727' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 2

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@ 0' to TD - <u>Quaternary Young Eolian Deposits (Qye):</u>**	
725			R-1	11 14 20	111.6	3.0	SM	@ 2.5' Silty SAND with Gravel: light brown/gray, dry, medium dense	
	5		R-2	11 14 18	109.3	2.6		@ 5.0' Silty SAND with Gravel: light brown/gray, dry, medium dense	
720			R-3	7 10 12	107.6	4.9	SP	@ 7.5' SAND with Gravel: light brown/gray, slightly moist, medium dense	
	10		R-4	10 17 26	109.9	4.6	SM	@ 10' Silty SAND with Gravel: light brown/gray, slightly moist, dense	
715									
	15		SPT-1	4 6 7		18.5	ML	@ 15' Sandy SILT: olive brown, very moist, very stiff	
710									
	20		R-5	5 8 14	112.8	16.1		@ 20' Sandy SILT: olive brown/green, very moist, very stiff	
705									
	25		SPT-2	11 14 26		3.3	SM	@ 25' Silty SAND: white/light brown/brown, dry, dense	
700									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/13/2017

Geotechnical Boring Log Borehole HS-5

Date: 9/12/2017	**Drilling Company:** Cal Pac Drilling
Project Name: Esperanza/Pietersma	**Type of Rig:** CME 61
Project Number: 17114-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~727' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
695	30		R-6	35 50/6"	113.4	9.3	SP	@ 30' Gravelly SAND: brown, moist, very dense; fine to coarse gravel	
690	35		SPT-3	17 37 41		4.3	SM	@ 35' Silty SAND: brown/gray, slightly moist, very dense; few fine and coarse gravel	
685	40		R-7	9 19 24	116.9	16.7	ML	@ 40' Sandy SILT, olive brown, wet, hard	
680	45		SPT-4	7 10 18		19.1	CL	@ 45' Silty CLAY: olive brown/green, wet, hard	
675	50		R-8	11 24 33	122.7	12.3	SM	@ 50' Silty SAND: red brown/olive brown,very moist, dense	
670	55							Total Depth = 50' Groundwater Encountered at Approximately 37.5' Backfilled with Cuttings on 9/12/2017	
	60								

LGC Geotechnical, Inc.

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	GROUNDWATER TABLE

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EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-6

Date: 9/12/2017 | **Drilling Company:** Cal Pac Drilling

Project Name: Esperanza/Pietersma | **Type of Rig:** CME 61

Project Number: 17114-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~714' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@ 0' to TD - <u>Quaternary Young Eolian Deposits (Qye):</u>**	
710			R-1	7 8 10	112.6	7.0	ML	@ 2.5' Sandy SILT: brown, slightly moist, stiff, some rootlets	
	5		R-2	5 7 9	109.8	4.7	SM	@ 5.0' Silty SAND: brown, slightly moist, medium dense	
705			R-3	5 5 6	93.6	30.9	ML	@ 7.5' SILT: olive brown/green, wet, stiff	CN AL
	10		R-4	5 5 11	100.2	11.3		@ 10' Sandy SILT: brown/ red, moist, stiff	
700									
	15		R-5	5 7 4	103.4	8.8	SM	@ 15' Silty SAND: brown/olive brown, moist, loose	
695									
	20		SPT-1	5 7 9		22.5	CL	@ 20' Silty CLAY: olive brown/green, very moist, very stiff	
690									
	25		R-6	7 17 25	112.2	2.2	SM	@ 25' Silty SAND: olive brown/green, red/brown, dry, dense	
685									
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
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EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/13/2017

Geotechnical Boring Log Borehole HS-6

Date: 9/12/2017	**Drilling Company:** Cal Pac Drilling
Project Name: Esperanza/Pietersma	**Type of Rig:** CME 61
Project Number: 17114-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~714' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-2	26 50/6"		7.2	SM	@ 30' Silty SAND: brown/gray, slightly moist, very dense	
680									
	35		R-7	13 13 22	120.0	10.8	ML	@ 35' Sandy SILT: olive brown/green, moist, very stiff	
675									
	40		SPT-3	8 12 15		20.6	CL	@ 40' Silty CLAY: olive brown/green, very moist, hard	
670									
	45		R-8	6 19 40	119.5	14.1	SM	@ 45' Silty SAND: olive brown/green, very moist, dense	
665									
	50		SPT-4	18 23 27		13.4		@ 50' Silty SAND: red/brown/gray, very moist, very dense	
660								Total Depth = 50' Groundwater Not Encountered Backfilled with Cuttings on 9/12/2017	
	55								
655									
	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-7

Date: 9/12/2017	**Drilling Company:** Cal Pac Drilling
Project Name: Esperanza/Pietersma	**Type of Rig:** CME 61
Project Number: 17114-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~717' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
715	0	B-1	R-1	21 27 30	113.3	2.1	ML	**@ 0' to TD - <u>Quaternary Young Eolian Deposits (Qye):</u>** @ 2.5' Sandy SILT with Gravel: light brown/light brown, dry, hard; some rootlets	
	5		R-2	14 15 17	108.8	1.6	SM	@ 5.0' Silty SAND: light brown/gray, dry, medium dense; fine gravel	
710			R-3	4 5 8	100.0	20.5	ML	@ 7.5' Sandy SILT: olive brown/green, very moist, stiff	
	10		R-4	5 7 9	95.9	8.3	SM	@ 10' Silty SAND: brown/red, moist, medium dense	
705									
	15		SPT-1	6 4 6		11.9	ML	@ 15' Clayey SILT: brown/olive brown, moist, stiff; few gravel	
700									
	20		R-5	8 13 14	108.6	8.4	SM	@ 20' Silty SAND: olive brown/green, moist, medium dense	
695									
	25		SPT-2	6 9 12				@ 25' Silty SAND: olive brown/green, moist, medium dense	
690								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 9/12/2017	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/13/2017

Geotechnical Boring Log Borehole HS-8

Date: 9/13/2017	**Drilling Company:** Cal Pac Drilling
Project Name: Esperanza/Pietersma	**Type of Rig:** B61
Project Number: 17114-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~717' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@ 0' to TD - <u>Quaternary Young Eolian Deposits (Qye):</u>**	
715			R-1	4 4 6	106.1	9.7	SM	@ 2.5' Silty SAND: olive brown, moist, loose; rootlets	
	5		R-2	2 3 9	102.4	19.7	SM	@ 5.0' Silty SAND: olive brown, very moist, loose	
710			R-3	3 5 6	94.0	17.5	ML	@ 7.5' Sandy SILT with Gravel: olive brown/green, very moist, stiff; small pockets of FeO2 staining	
	10		R-4	3 5 8	120.4	13.9	SM	@ 10' Silty SAND with Gravel: olive brown/green, very moist, medium dense; fine gravel	
705									
	15		R-5	4 7 10	107.7	13.1		@ 15' Silty SAND: olive brown/green, very moist, medium dense	
700									
	20		SPT-1	3 17 12				@ 20' Silty SAND: olive brown/green, very moist, dense; some fine gravel	
695									
	25		R-6	4 6 10	99.4	24.7	CL	@ 25' Sandy CLAY: olive green, very moist, stiff	
690								Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 9/13/2017	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/13/2017

Geotechnical Boring Log Borehole HS-9

Date: 9/13/2017	**Drilling Company:** Cal Pac Drilling
Project Name: Esperanza/Pietersma	**Type of Rig:** B61
Project Number: 17114-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~711' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 2

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
710	0	B-1						**@ 0' to TD - <u>Quaternary Young Eolian Deposits (Qye):</u>**	
			R-1	10 13 15	122.6	6.7	SM	@ 2.5' Silty SAND: brown, moist, medium dense; some rootlets	
705	5		R-2	5 7 10	113.3	3.9		@ 5.0' Silty SAND: brown, dry, medium dense	
			R-3	5 8 11	100.9	3.6		@ 7.5' Silty SAND: brown, dry, medium dense	
700	10		R-4	6 7 11	108.4	16.2	ML	@ 10' SILT: olive brown/green, very moist, stiff; some fine gravel	
695	15		SPT-1	4 4 7				@ 15' Sandy SILT: olive brown/green, moist, stiff	
690	20		R-5	4 4 8	97.5	25.0		@ 20' SILT: olive brown/green, gray, very moist, stiff	
685	25		SPT-2	2 2 2			CL	@ 25' Silty CLAY: olive green/gray, very moist, medium stiff	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/13/2017

Geotechnical Boring Log Borehole HS-9

Date: 9/13/2017	**Drilling Company:** Cal Pac Drilling
Project Name: Esperanza/Pietersma	**Type of Rig:** B61
Project Number: 17114-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~711' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
680	30		R-6	4 7 11	94.6	28.1	CL-ML	@ 30' Silty CLAY: olive green/brown, very moist, stiff	
675	35		SPT-3	3 5 7				@ 35' Silty CLAY: olive green/brown, very moist, stiff	
670	40		R-7	7 14 27	109.6	19.4	SC	@ 40' Clayey SAND: olive brown, very moist, dense	
665	45		SPT-4	4 6 9			SM	@ 45' Silty SAND: olive green/brown, very moist, medium dense	
660	50		R-8	6 12 19	105.6	21.9	ML	@ 50' Sandy SILT: olive brown/green, very moist, very stiff	
655	55							Total Depth = 50' Groundwater Not Encountered Backfilled with Cuttings on 9/13/2017	
	60								

LGC Geotechnical, Inc.

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CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-10

Date: 9/13/2017	**Drilling Company:** Cal Pac Drilling
Project Name: Esperanza/Pietersma	**Type of Rig:** B61
Project Number: 17114-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~716' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
715	0	B-1						**@ 0' to TD - <u>Quaternary Young Eolian Deposits (Qye):</u>**	MD EI CR -#200
			R-1	4 5 8	113.4	6.3	SM	@ 2.5' Silty SAND: olive brown/brown, slightly moist, medium dense; rootlets	
710	5		R-2	4 8 11	109.0	2.3		@ 5.0' Silty SAND: brown, dry, medium dense	
			R-3	5 6 9	95.1	6.0		@ 7.5' Silty SAND: brown/gray, slightly moist, medium dense	CO -#200
705	10		R-4	3 5 9	105.9	21.0		@ 10' Silty SAND with Gravel: olive green/brown, very moist, medium dense	
700	15		R-5	5 5 12	101.4	14.0		@ 15' Silty SAND: olive brown/green, moist, medium dense	
695	20		SPT-1	3 4 4			ML	@ 20' Clayey SILT: olive brown/green, very moist, stiff	
690	25		R-6	6 8 10	96.6	28.4		@ 25' Sandy SILT: olive green/brown, wet, stiff	
	30							Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 9/13/2017	

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SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

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S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/16/2017

Geotechnical Boring Log Borehole HS-11

Date: 9/13/2017 | **Drilling Company:** Cal Pac Drilling

Project Name: Esperanza/Pietersma | **Type of Rig:** B61

Project Number: 17114-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~711' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map |

Logged By LJH
Sampled By LJH
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
710	0	B-1						**@ 0' to TD - <u>Quaternary Young Eolian Deposits (Qye):</u>**	
			R-1	9 12 14	116.1	5.6	SM	@ 2.5' Silty SAND: brown-olive brown, slightly moist, medium dense	
705	5		R-2	6 7 11	109.6	6.8		@ 5.0' Silty SAND: brown/olive brown, slightly moist, medium dense	
			R-3	5 6 10	108.7	9.6	ML	@ 7.5' Sandy SILT: brown/olive brown, moist, stiff; few fine gravel	
700	10		R-4	5 9 12	102.6	1.9	SM	@ 10' Silty SAND: brown/olive, dry, medium dense	
695	15		SPT-1	5 8 10				@ 15' Silty SAND: olive brown/green, slightly moist, medium dense	
690	20		R-5	9 12 17	108.4	6.7		@ 20' Silty SAND: olive brown/green, slightly moist, medium dense	
685	25		SPT-2	9 12 13			ML	@ 25' Clayey SILT: olive green/brown, moist, very stiff	
	30							Total Depth = 25' Groundwater Not Encountered Backfilled with Cuttings on 9/13/2017	

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

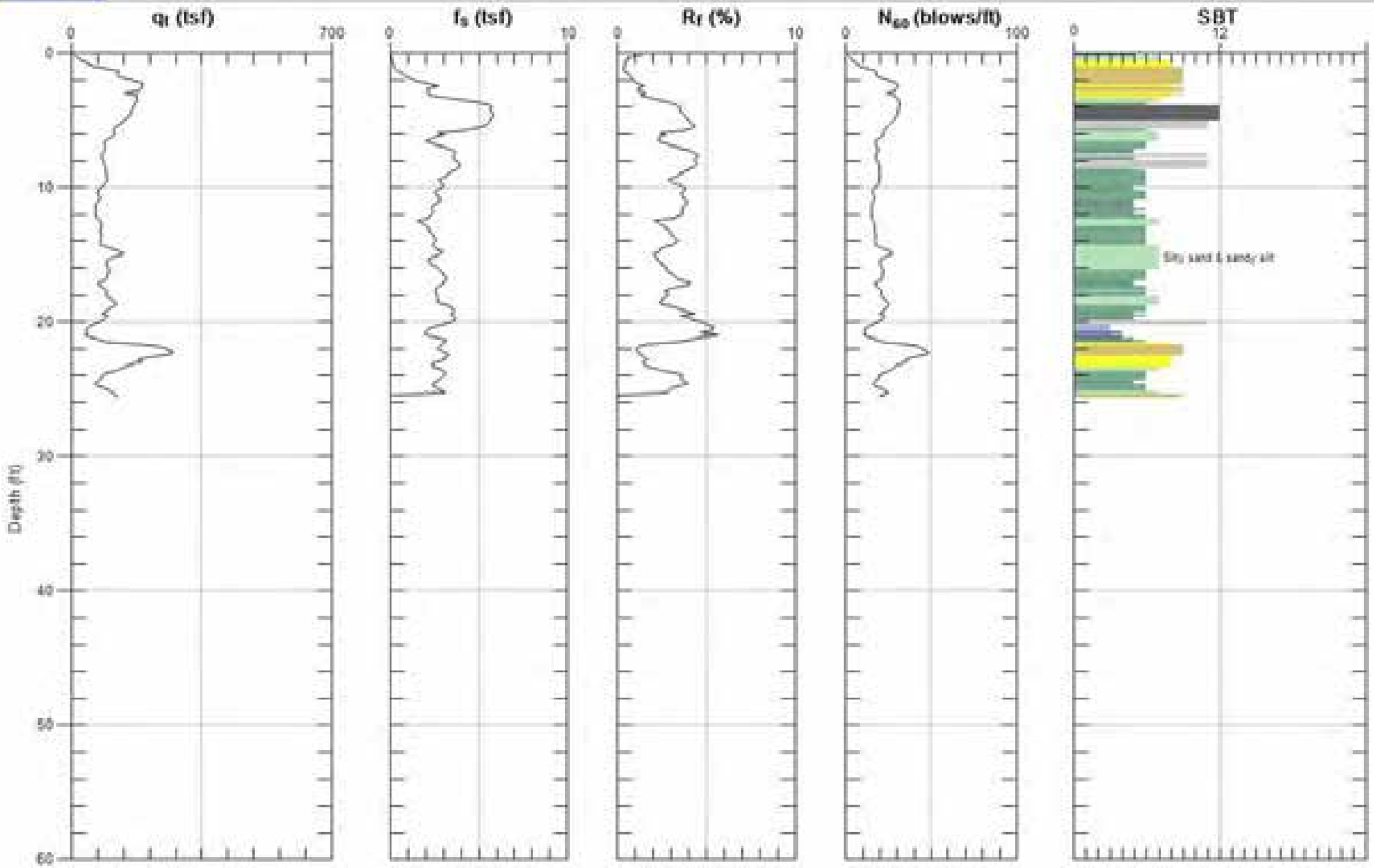
DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 10/16/2017

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-1

Engineer: R.DOUGLAS
Date: 9/11/2017 08:23



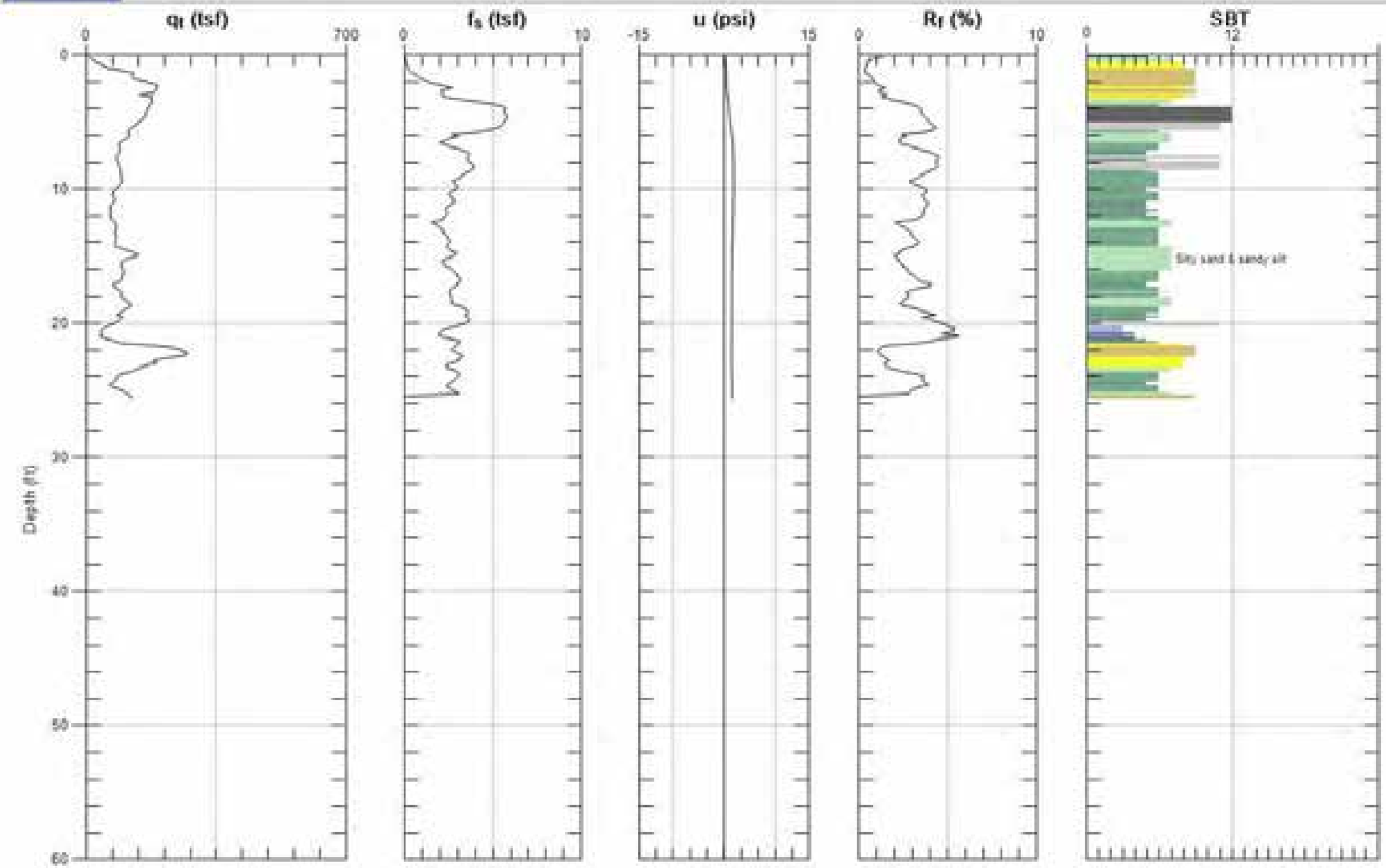
Max. Depth: 25.591 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-1

Engineer: R.DOUGLAS
Date: 9/11/2017 08:23



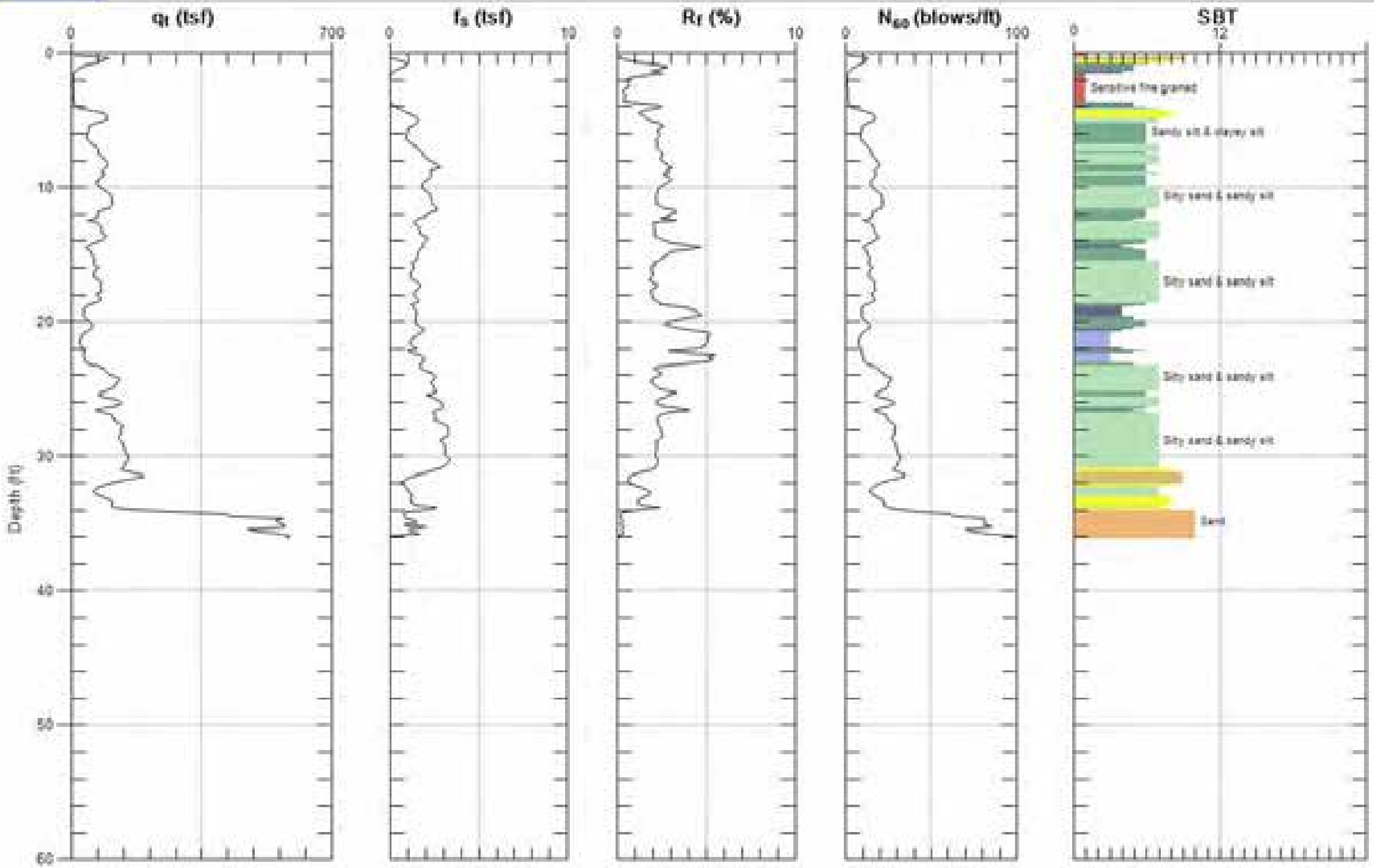
Max. Depth: 25.591 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-2

Engineer: R.DOUGLAS
Date: 9/11/2017 09:06



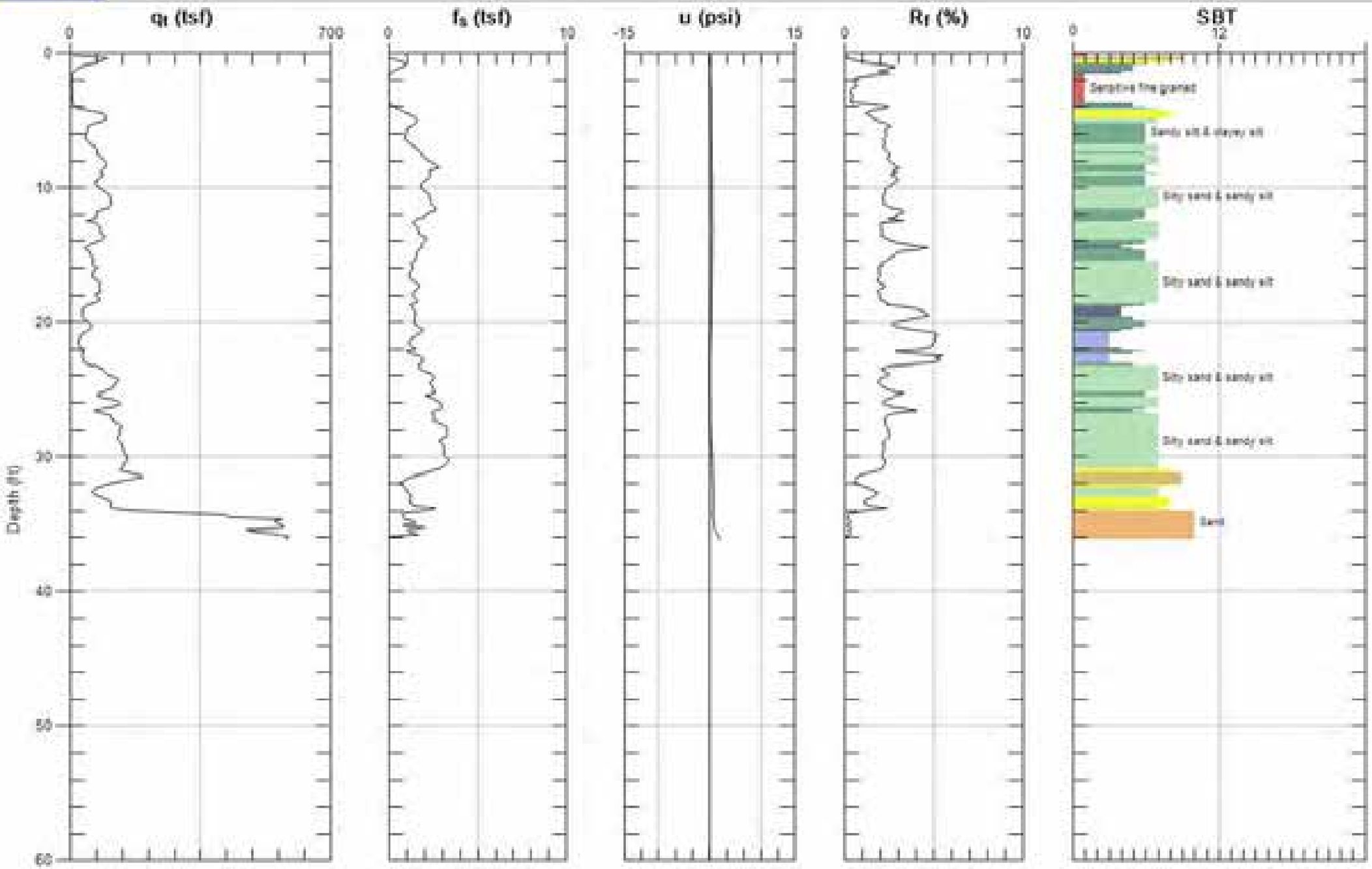
Max. Depth: 36.089 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-2

Engineer: R.DOUGLAS
Date: 9/11/2017 09:06



Max. Depth: 36.089 (ft)
Avg. Interval: 0.164 (ft)

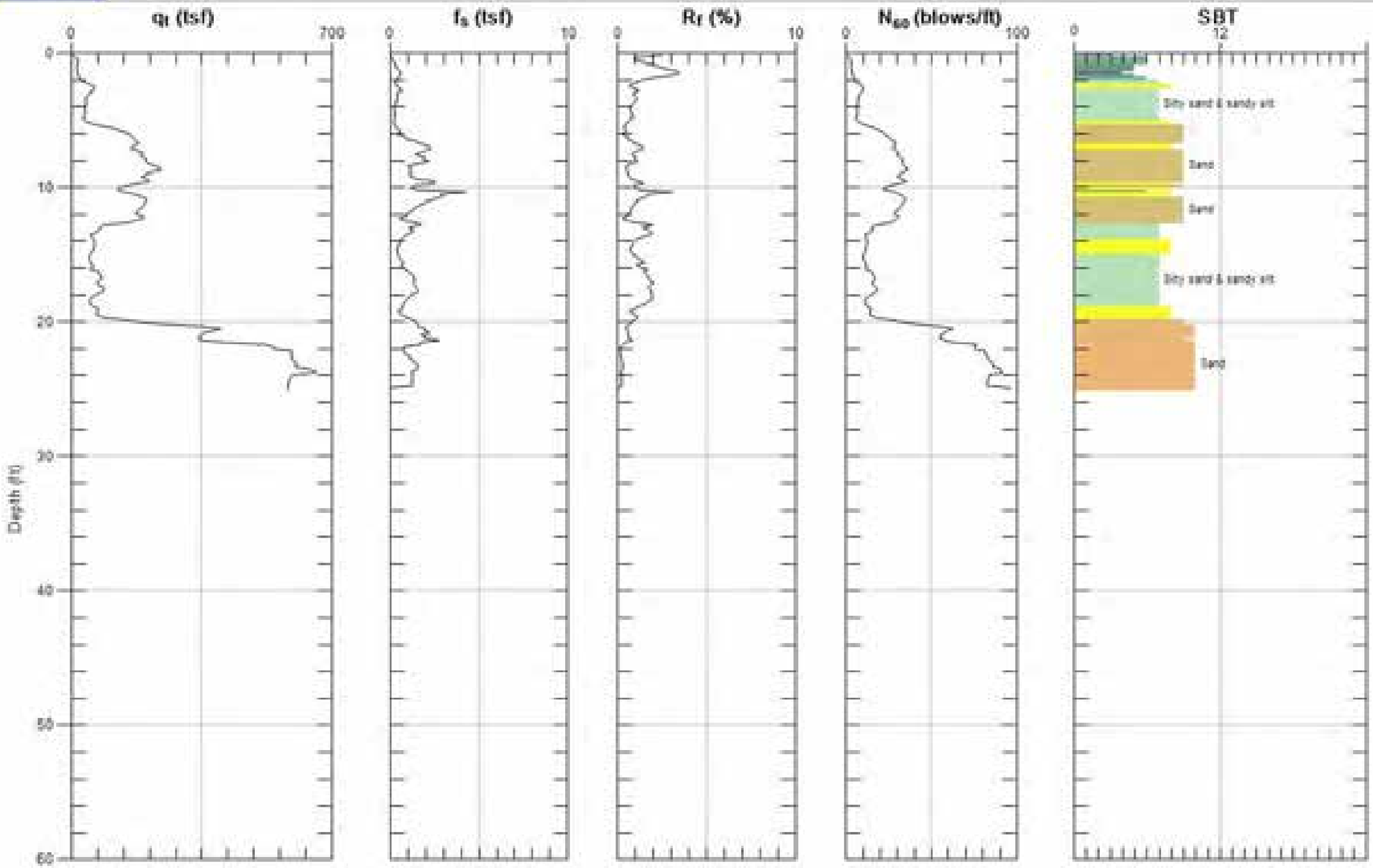
SBT: Soil Behavior Type (Robertson 1

6591

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-3

Engineer: R.DOUGLAS
Date: 9/11/2017 09:52



Max. Depth: 25.098 (ft)
Avg. Interval: 0.164 (ft)

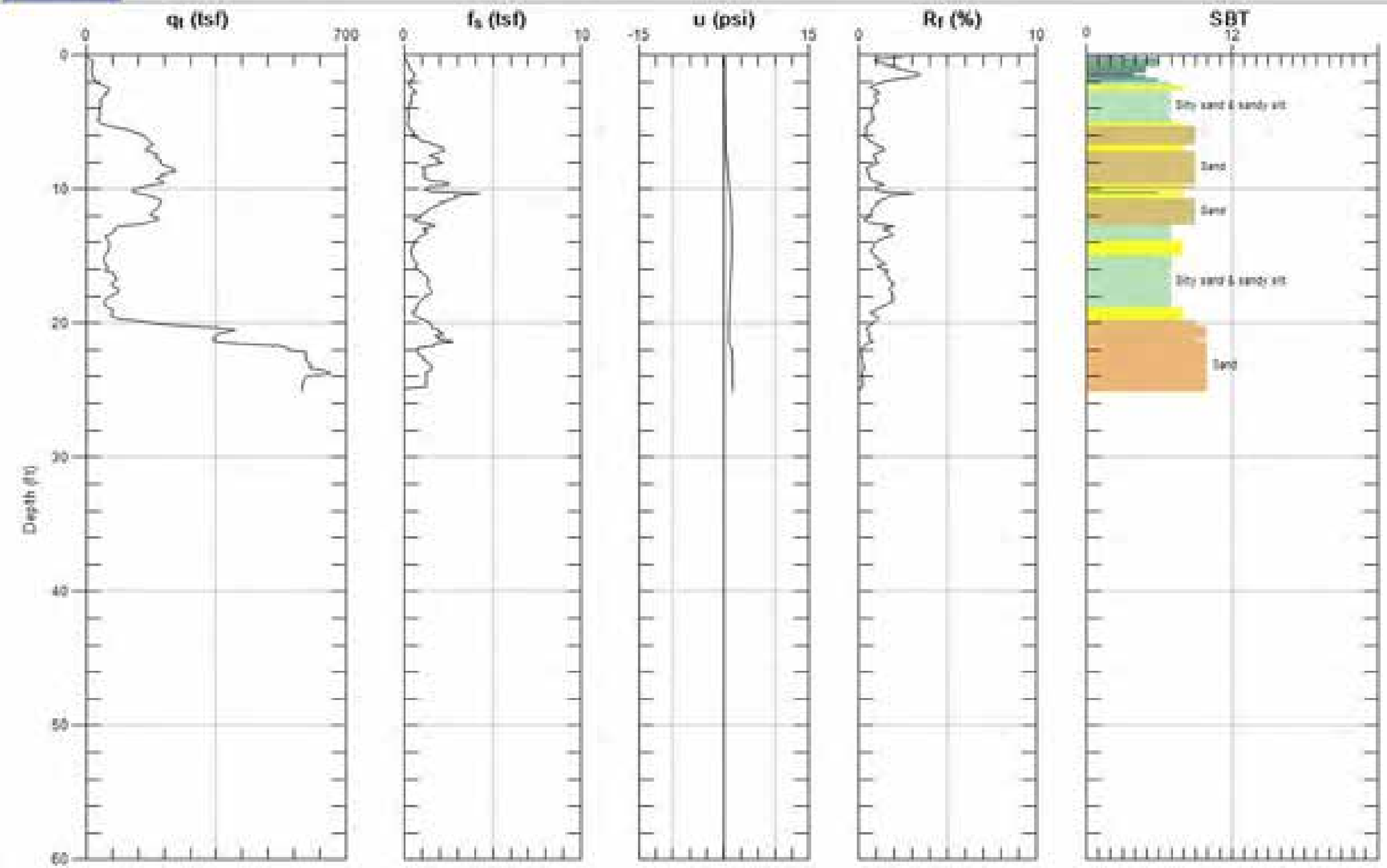
SBT: Soil Behavior Type (Robertson 1

6592

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-3

Engineer: R.DOUGLAS
Date: 9/11/2017 09:52



Max. Depth: 25.098 (ft)
Avg. Interval: 0.164 (ft)

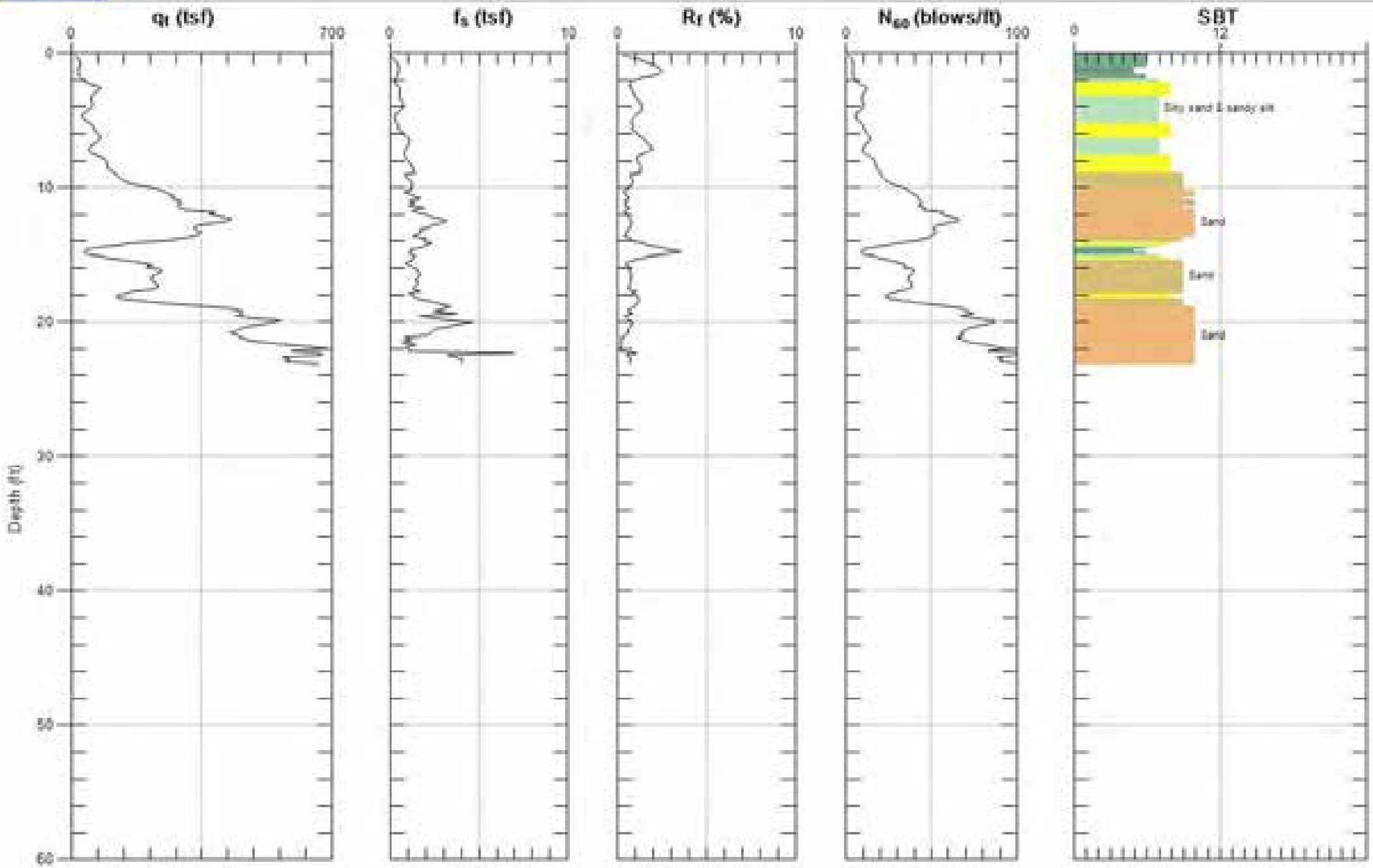
SBT: Soil Behavior Type (Robertson 1

6593

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-4

Engineer: R.DOUGLAS
Date: 9/11/2017 10:10



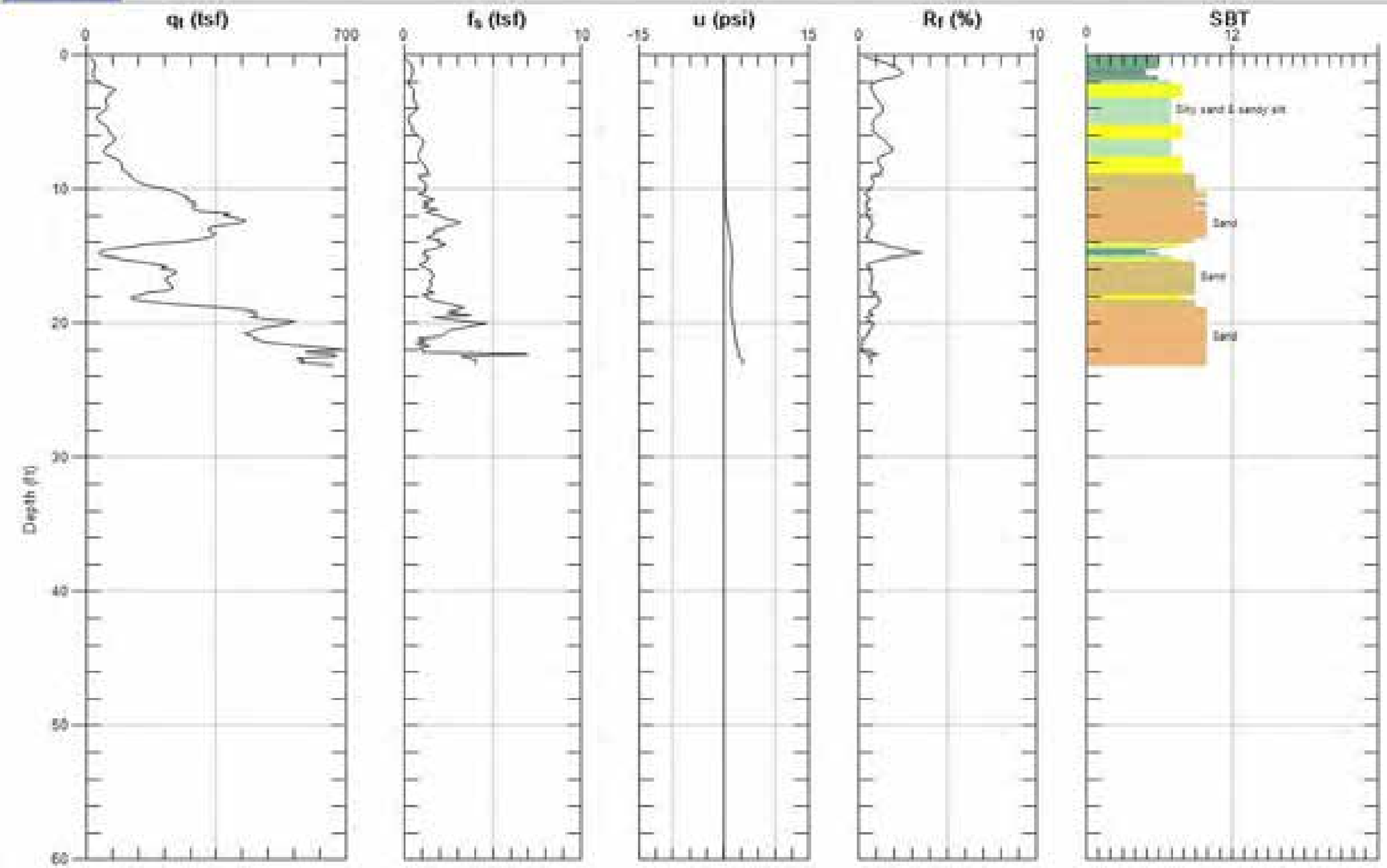
Max. Depth: 23.130 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-4

Engineer: R.DOUGLAS
Date: 9/11/2017 10:10



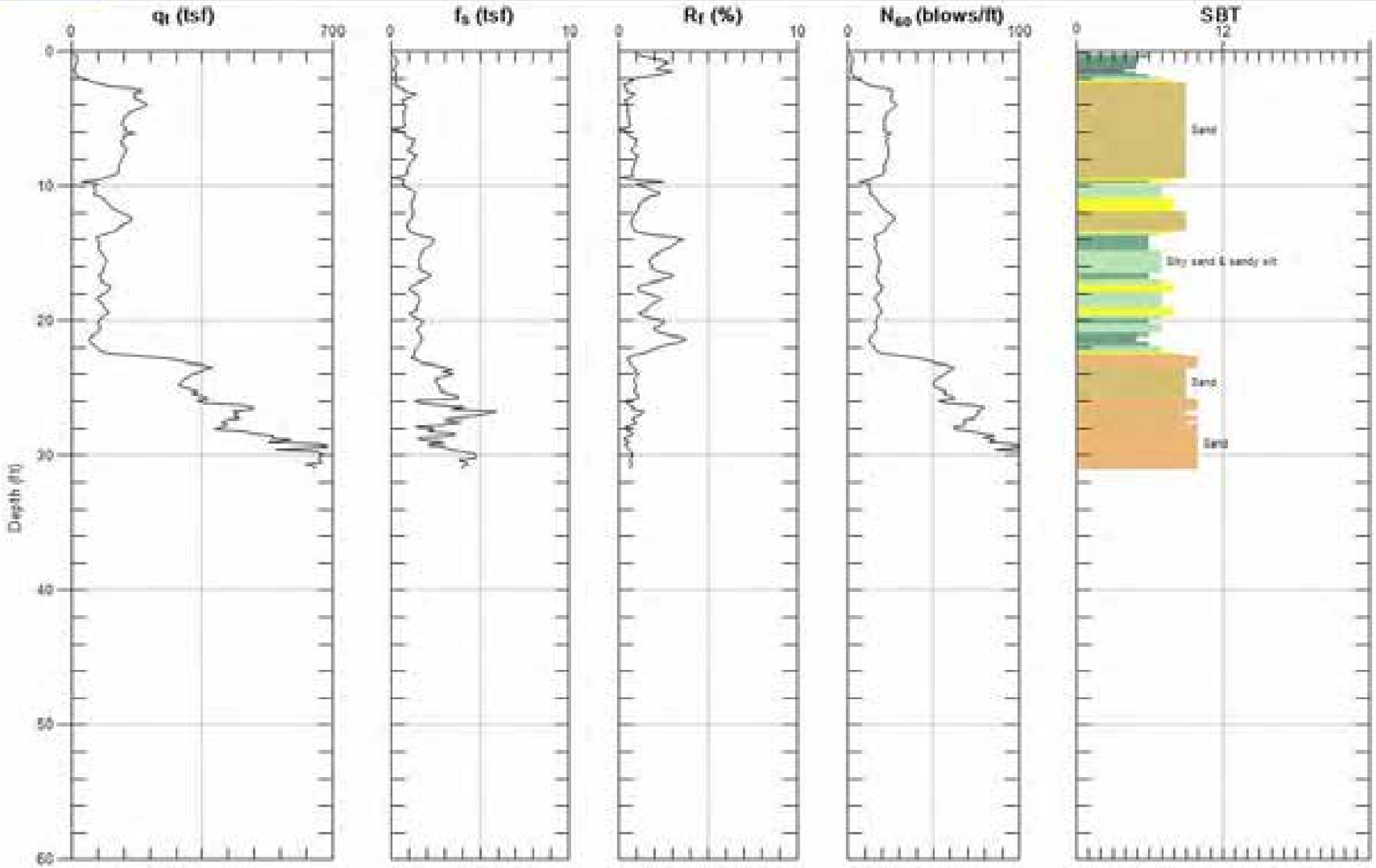
Max. Depth: 23.130 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-5

Engineer: R.DOUGLAS
Date: 9/11/2017 11:00



Max. Depth: 31.004 (ft)
Avg. Interval: 0.164 (ft)

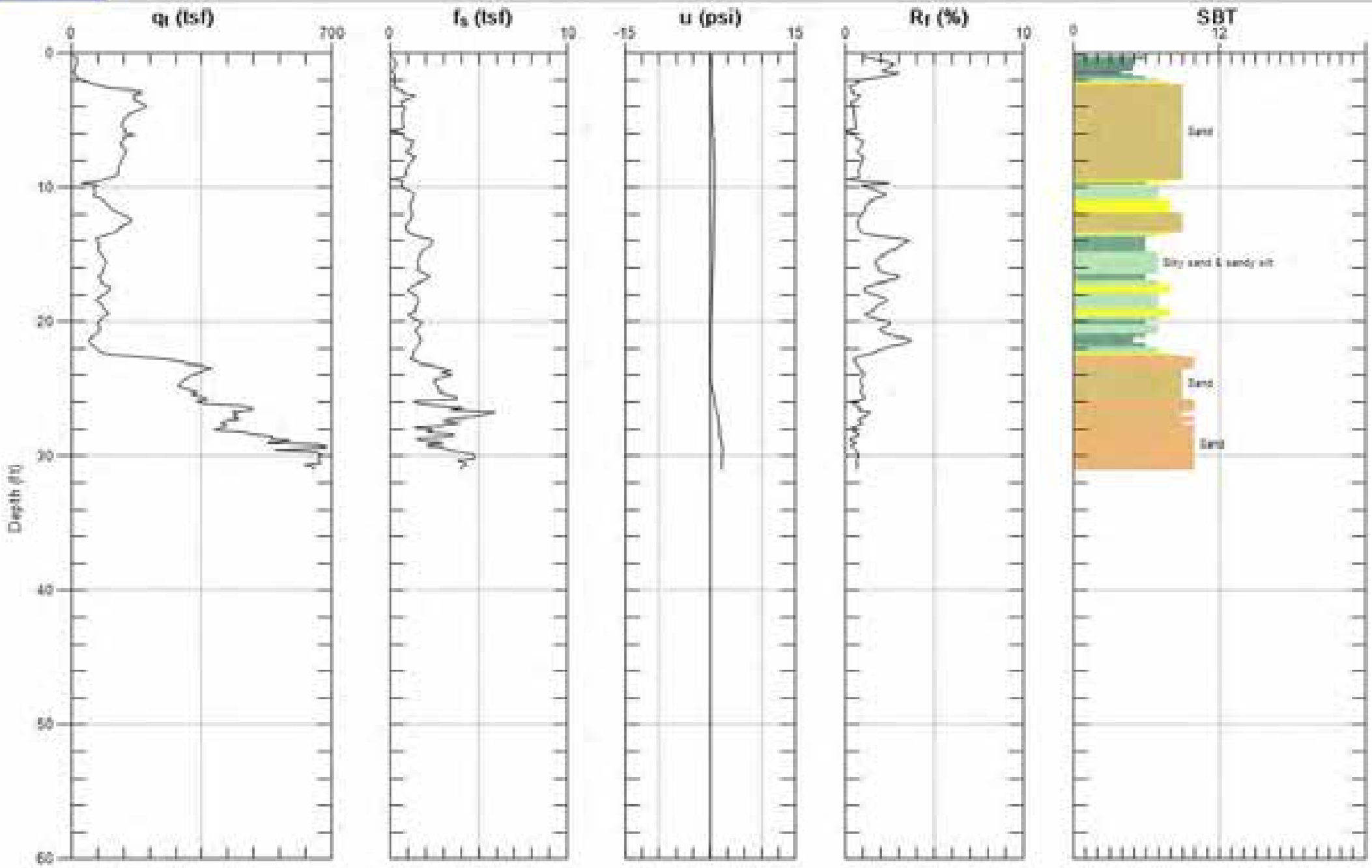
SBT: Soil Behavior Type (Robertson 1

6596

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-5

Engineer: R.DOUGLAS
Date: 9/11/2017 11:00



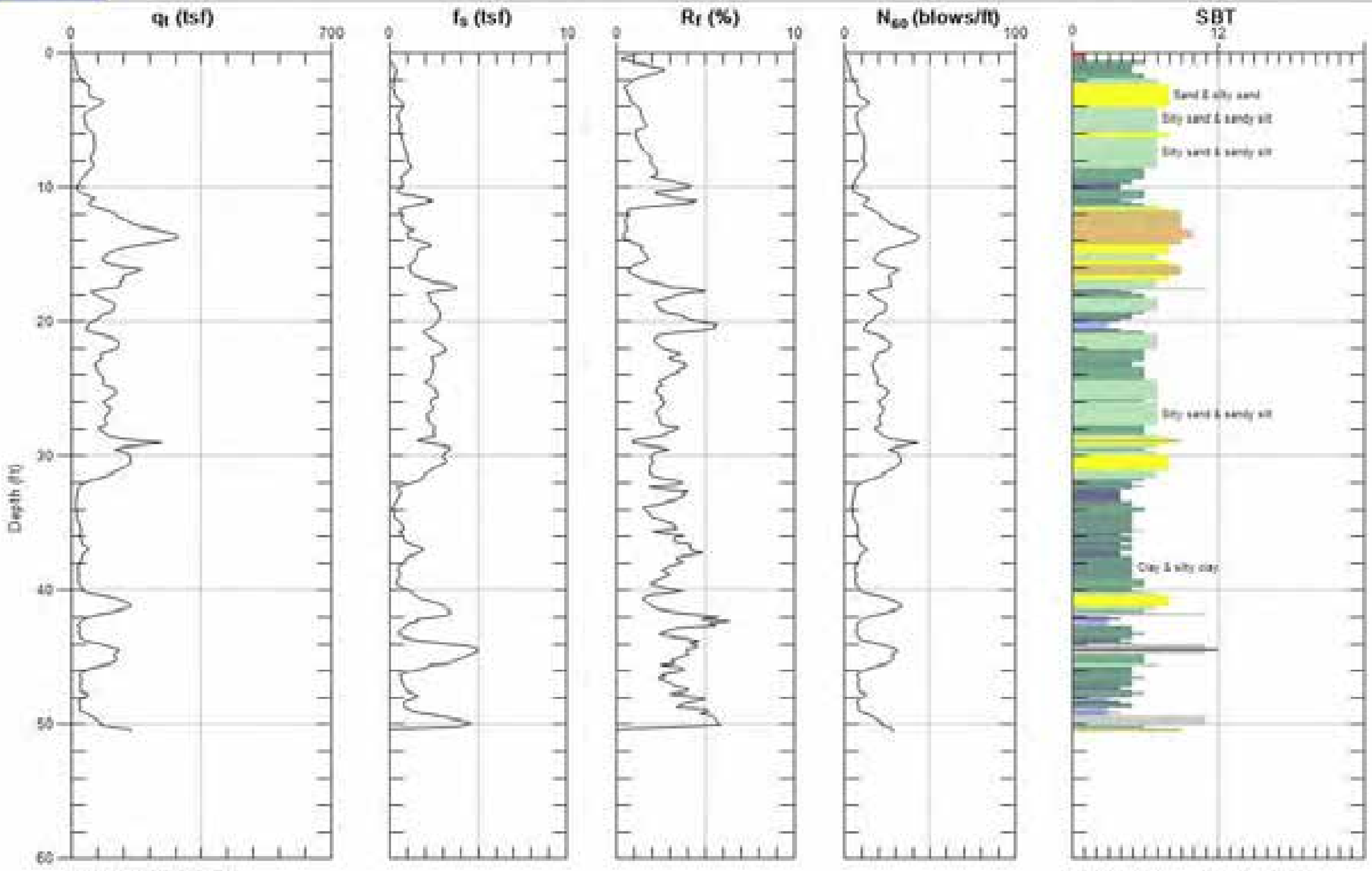
Max. Depth: 31.004 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

6597

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-6
Engineer: R.DOUGLAS
Date: 9/11/2017 12:01

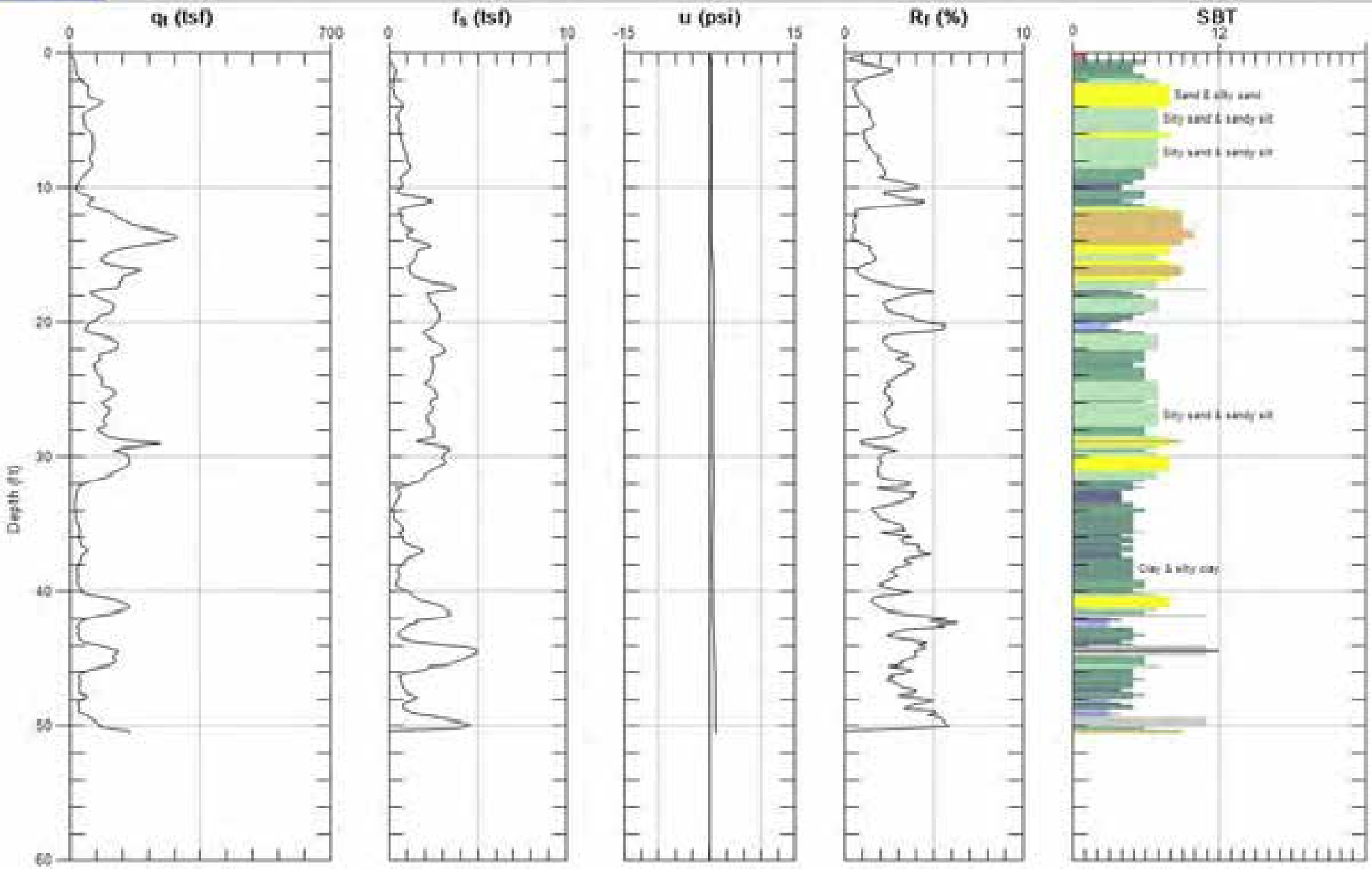


Max. Depth: 59.525 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-6
Engineer: R.DOUGLAS
Date: 9/11/2017 12:01



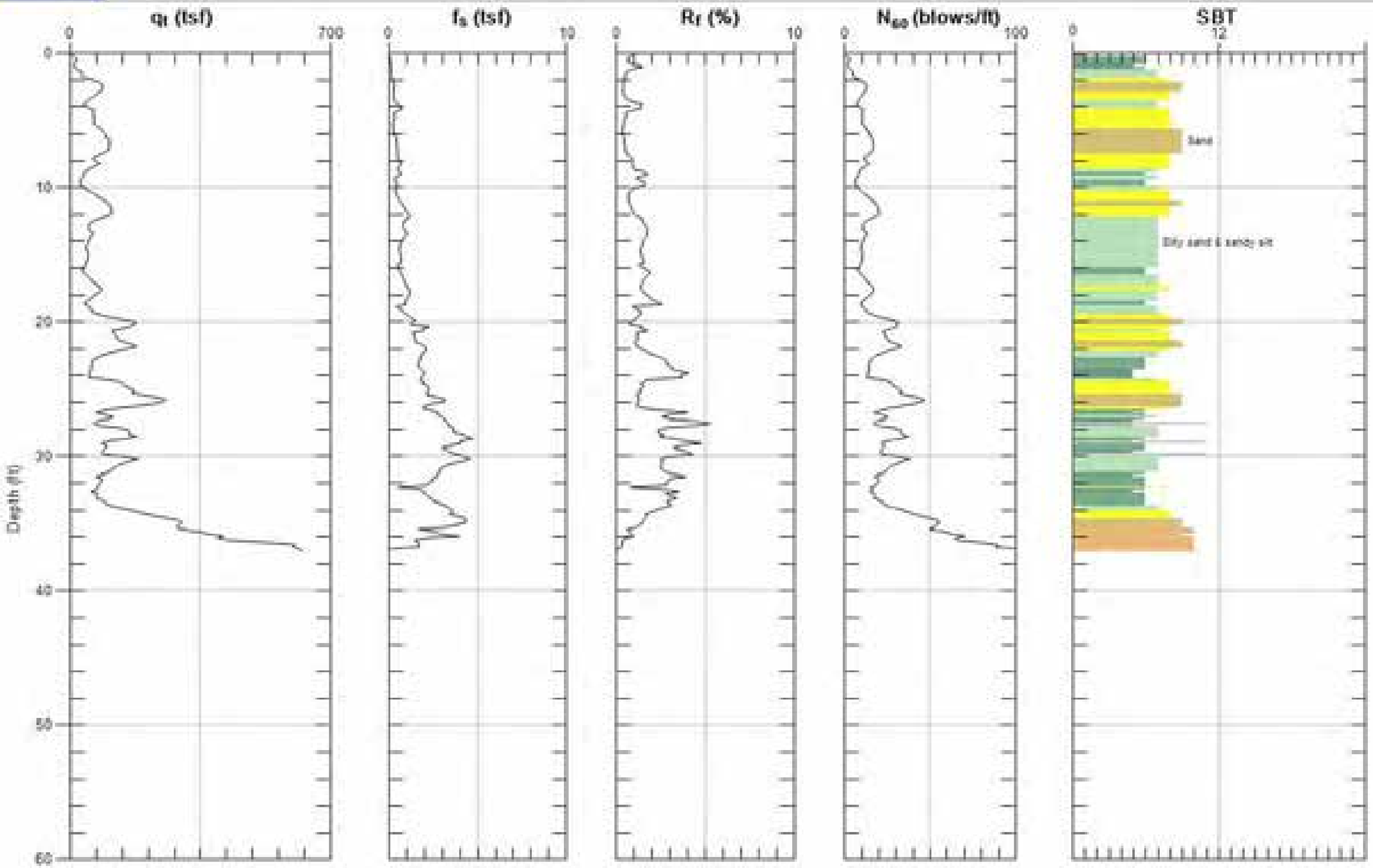
Max. Depth: 59.525 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-7

Engineer: R.DOUGLAS
Date: 9/12/2017 07:40



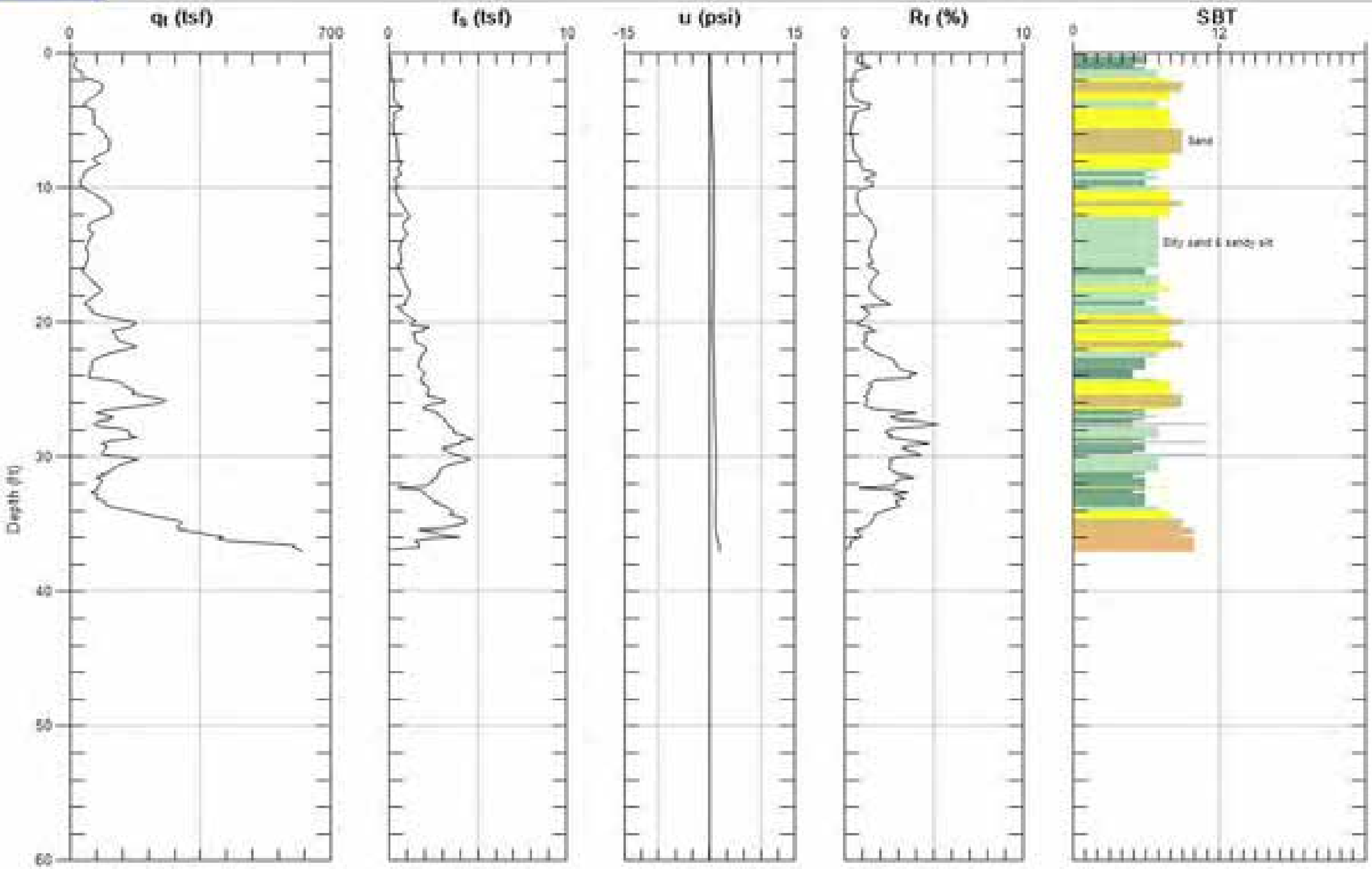
Max. Depth: 37.073 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-7

Engineer: R.DOUGLAS
Date: 9/12/2017 07:40



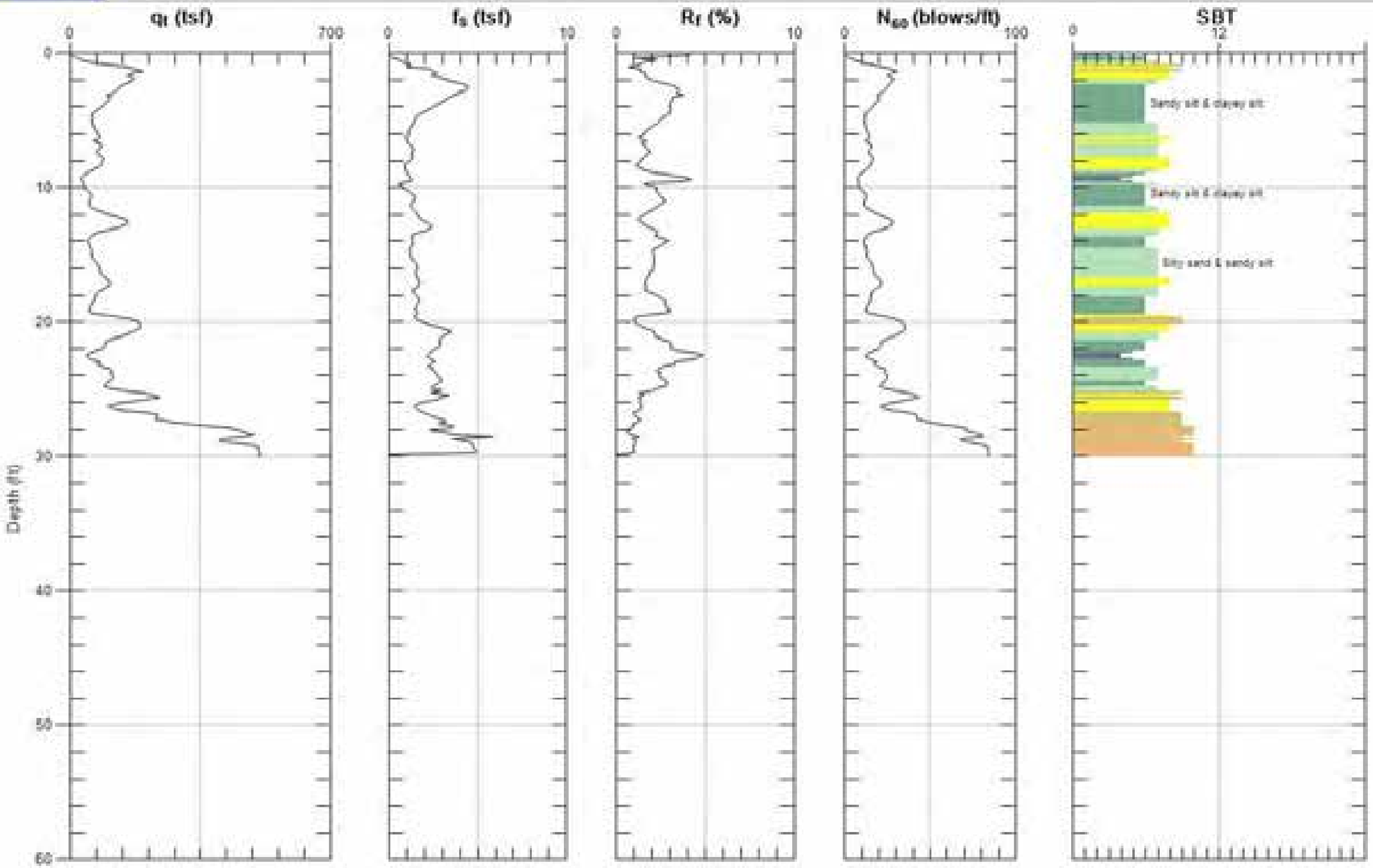
Max. Depth: 37.073 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-8

Engineer: R.DOUGLAS
Date: 9/12/2017 08:12



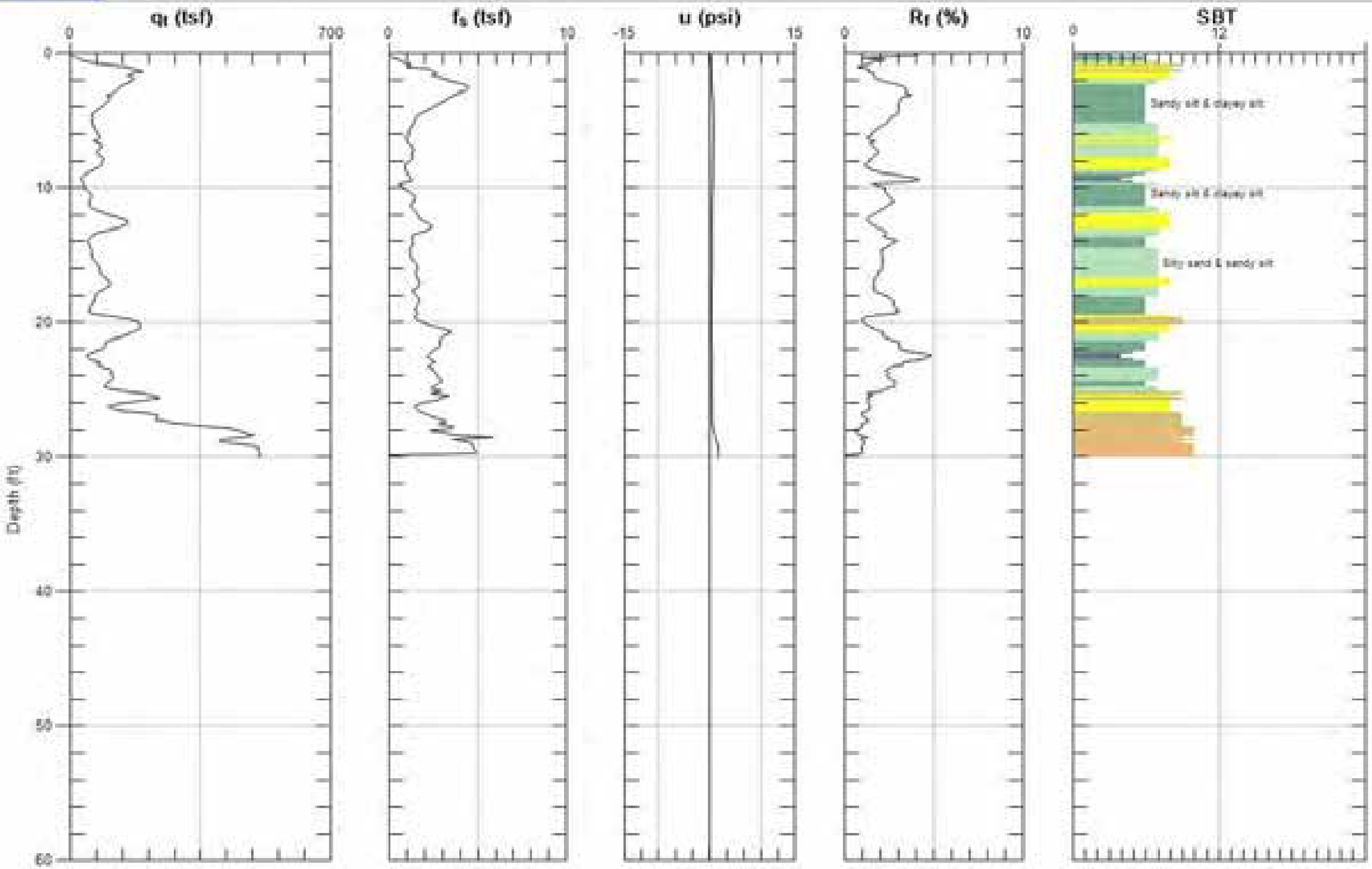
Max. Depth: 30.020 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

6602

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-8
Engineer: R.DOUGLAS
Date: 9/12/2017 08:12



Max. Depth: 30.020 (ft)
Avg. Interval: 0.164 (ft)

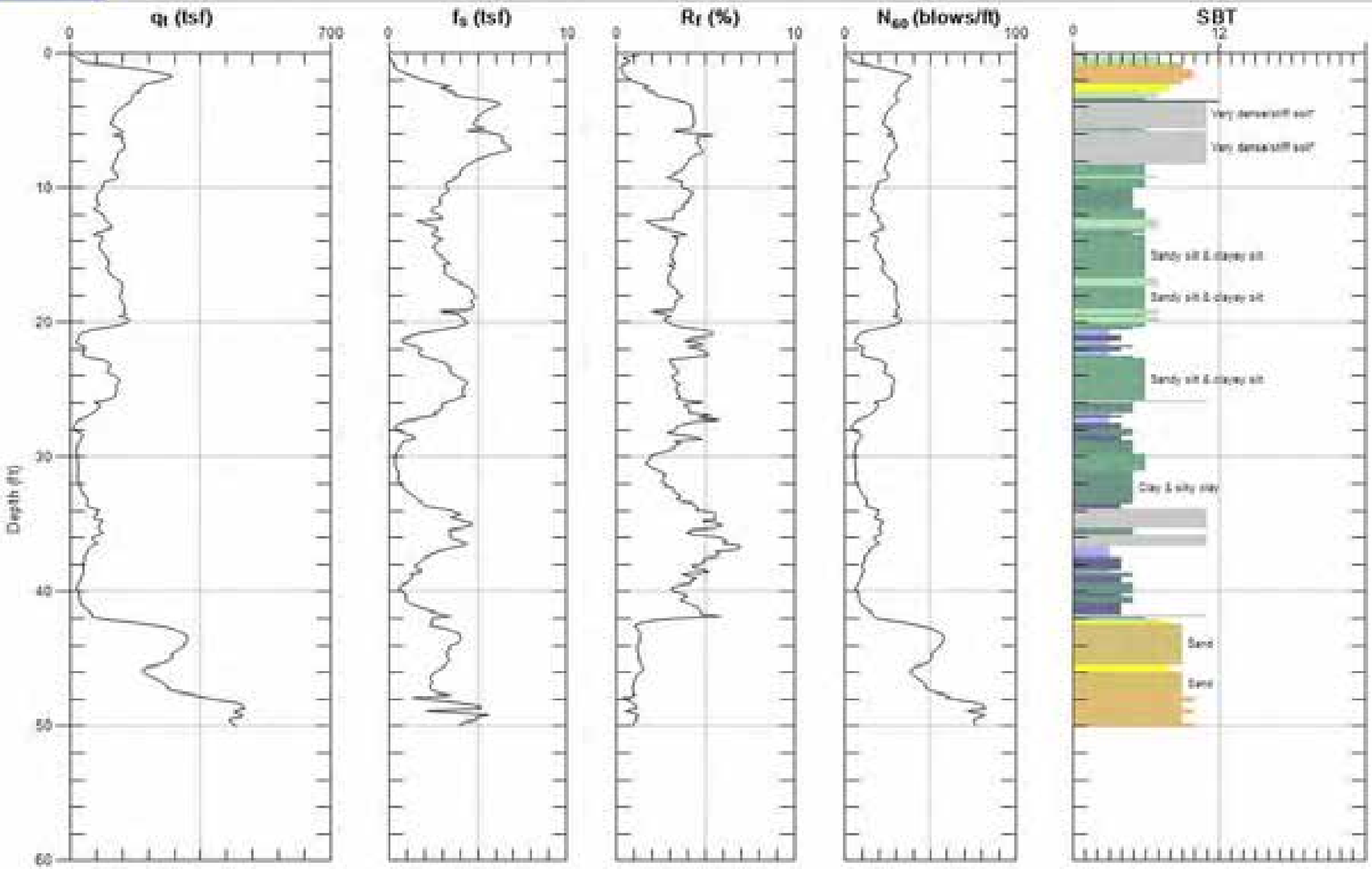
SBT: Soil Behavior Type (Robertson 1

6603

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-9

Engineer: R.DOUGLAS
Date: 9/12/2017 08:39

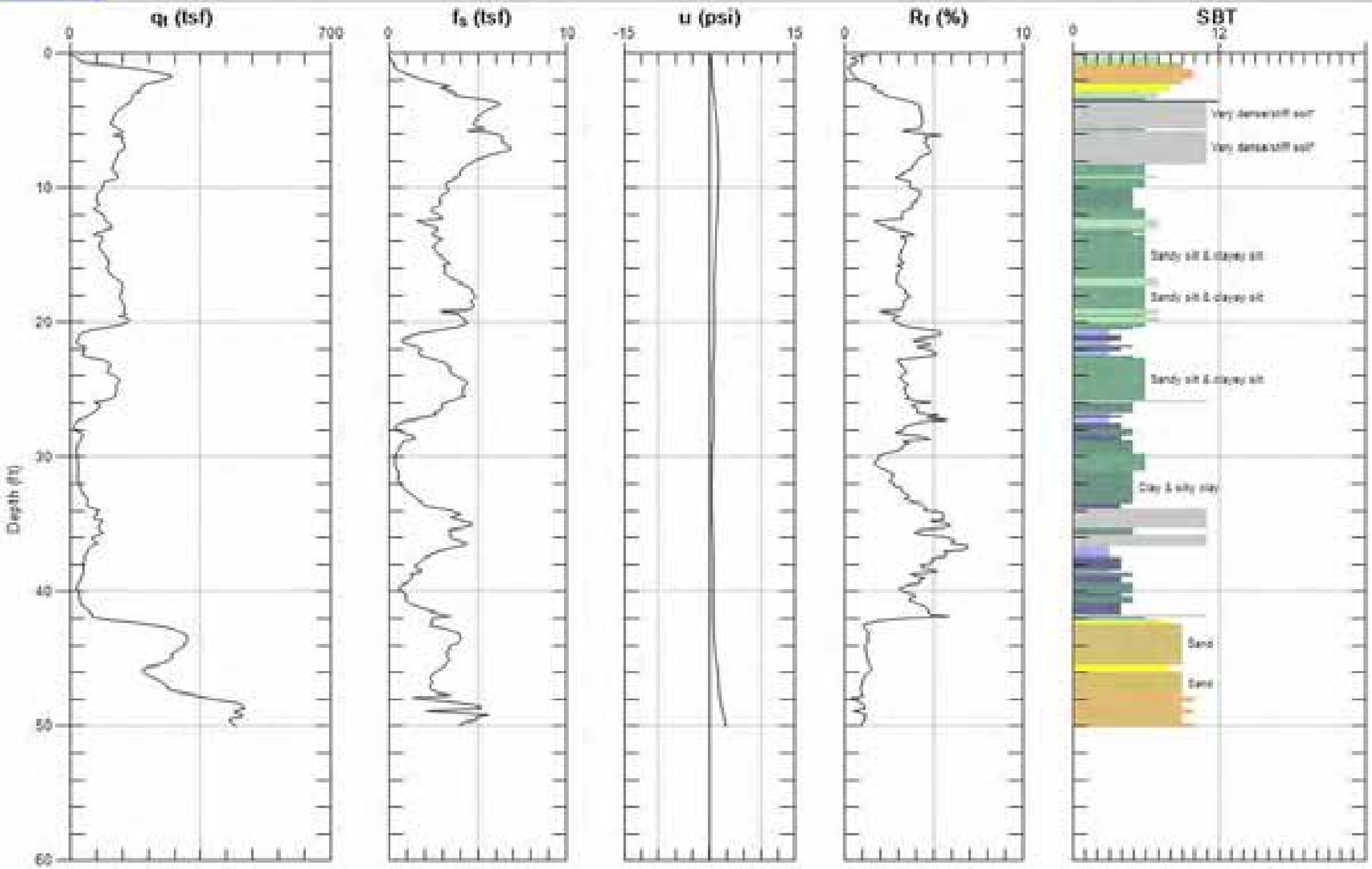


Max. Depth: 59.033 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-9
Engineer: R.DOUGLAS
Date: 9/12/2017 08:39

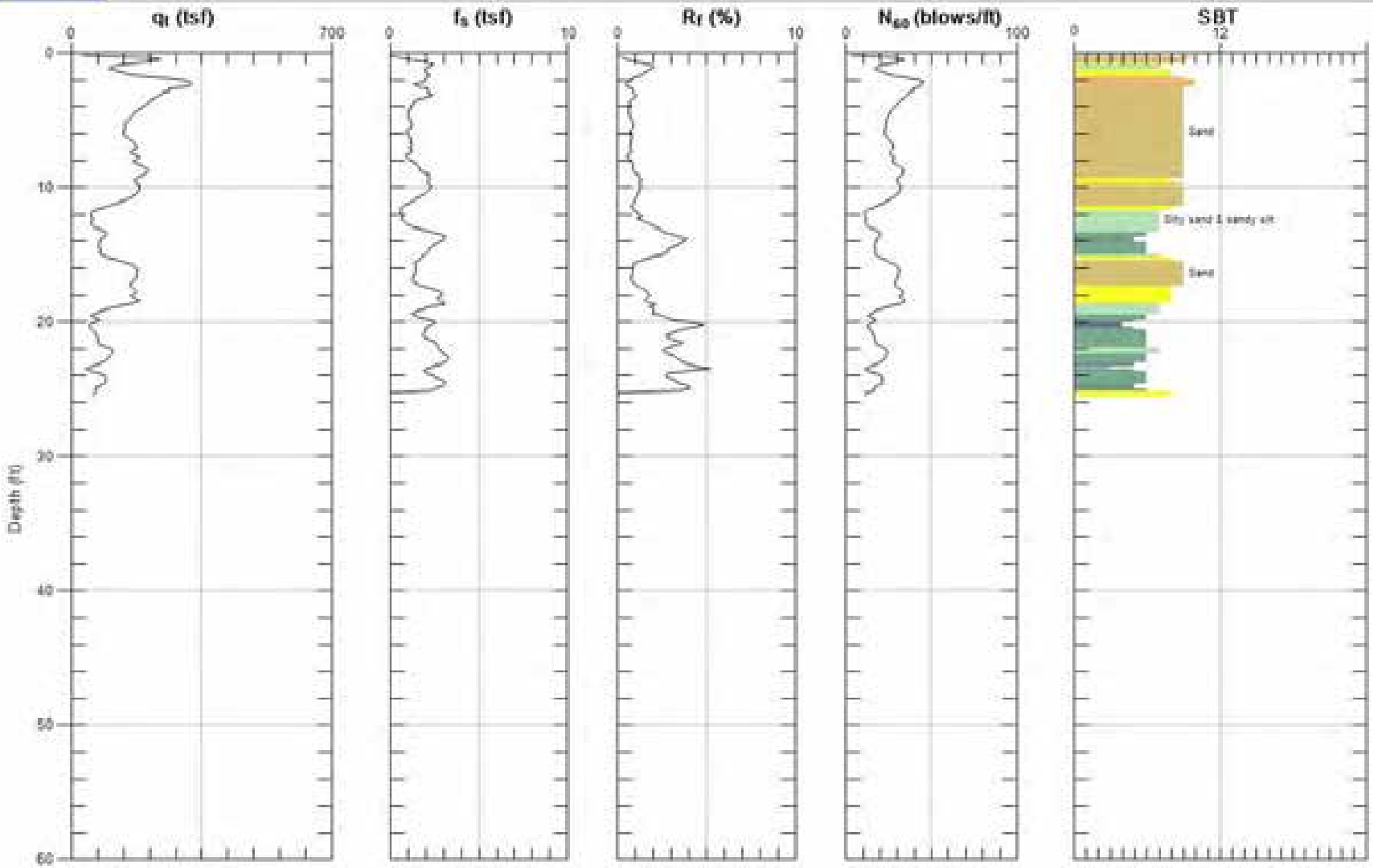


Max. Depth: 59.033 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-10
Engineer: R.DOUGLAS
Date: 9/12/2017 09:32



Max. Depth: 25.427 (ft)
Avg. Interval: 0.164 (ft)

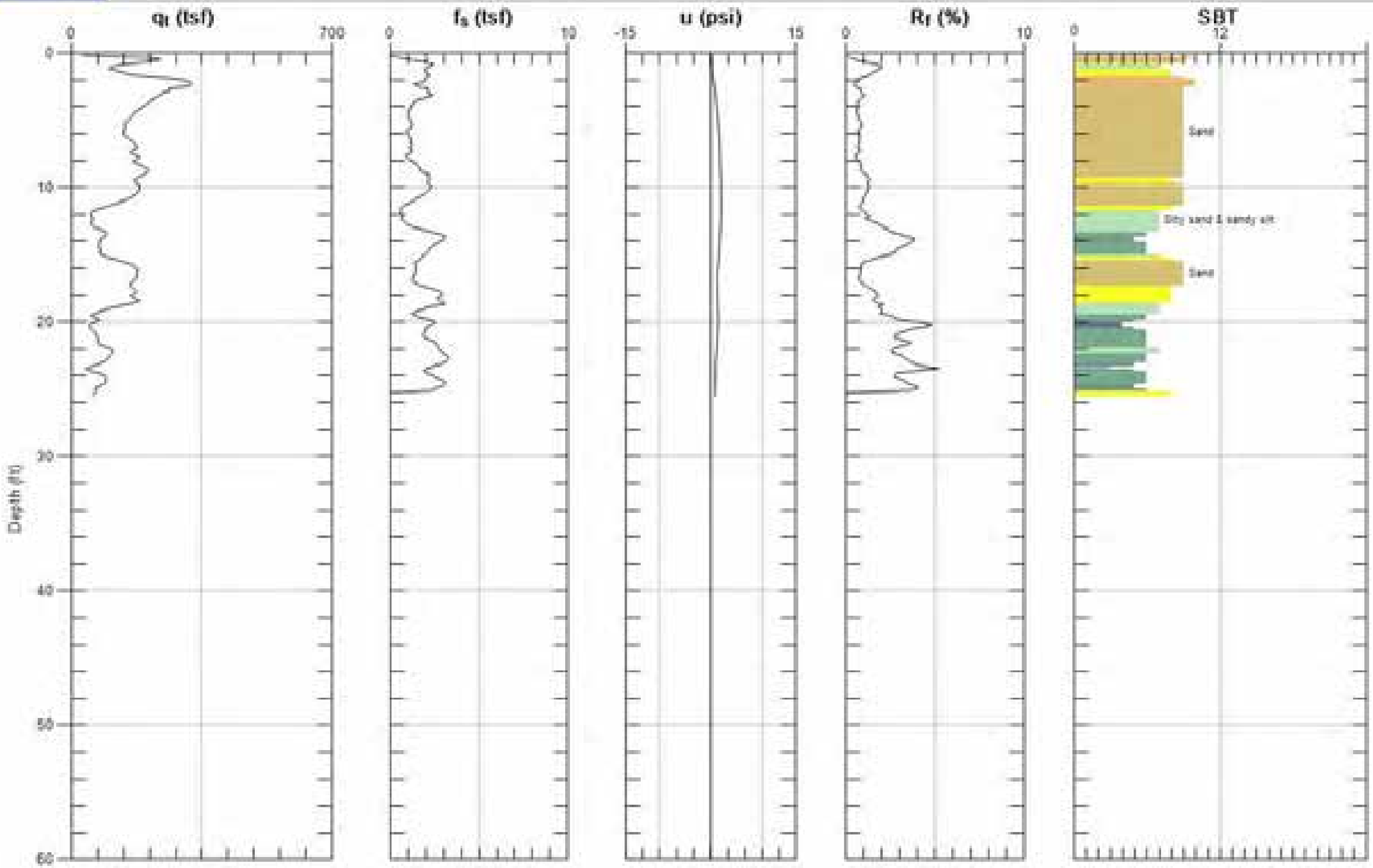
SBT: Soil Behavior Type (Robertson 1

6606

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-10

Engineer: R.DOUGLAS
Date: 9/12/2017 09:32



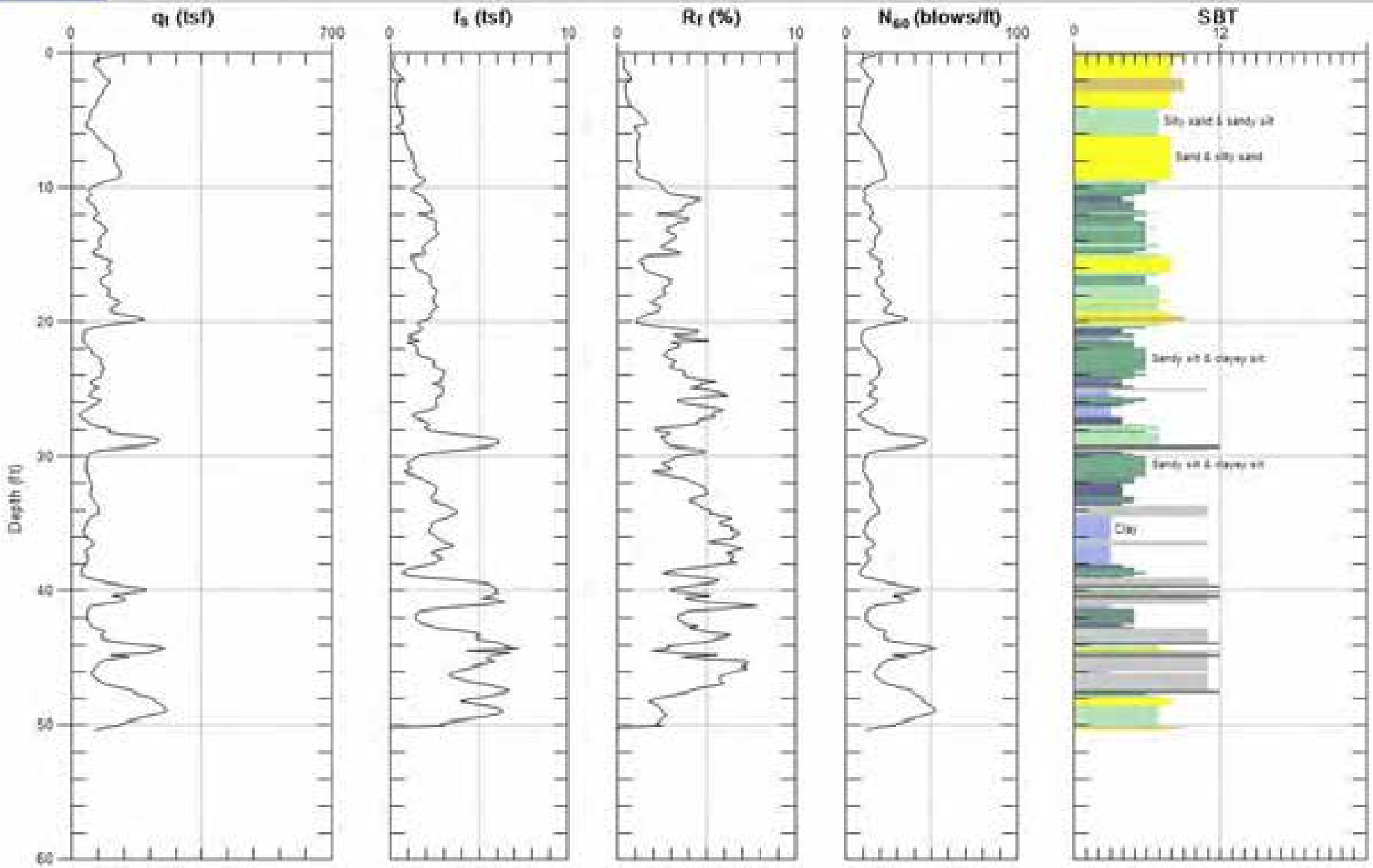
Max. Depth: 25.427 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-11

Engineer: R.DOUGLAS
Date: 9/12/2017 10:01



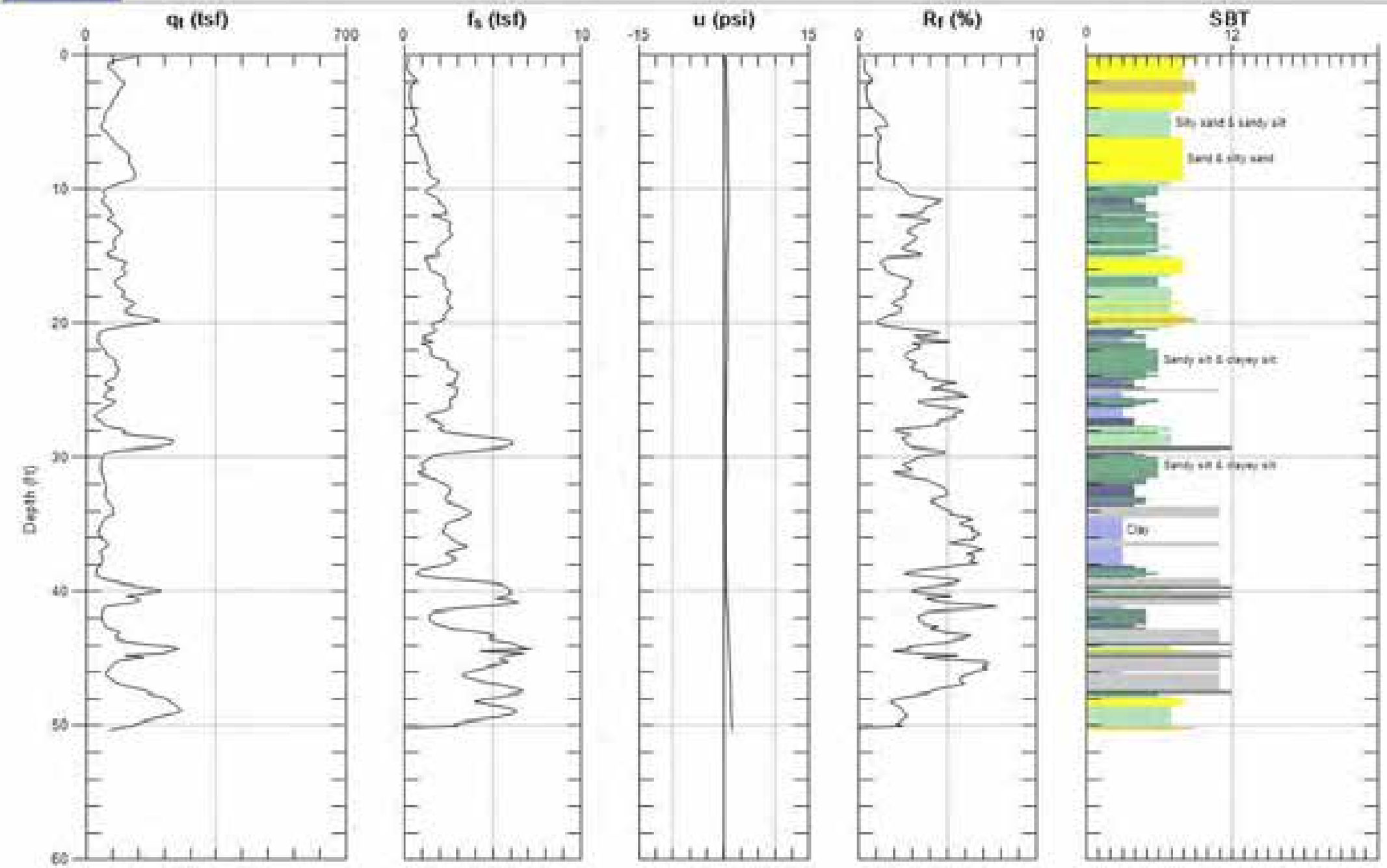
Max. Depth: 50.361 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-11

Engineer: R.DOUGLAS
Date: 9/12/2017 10:01



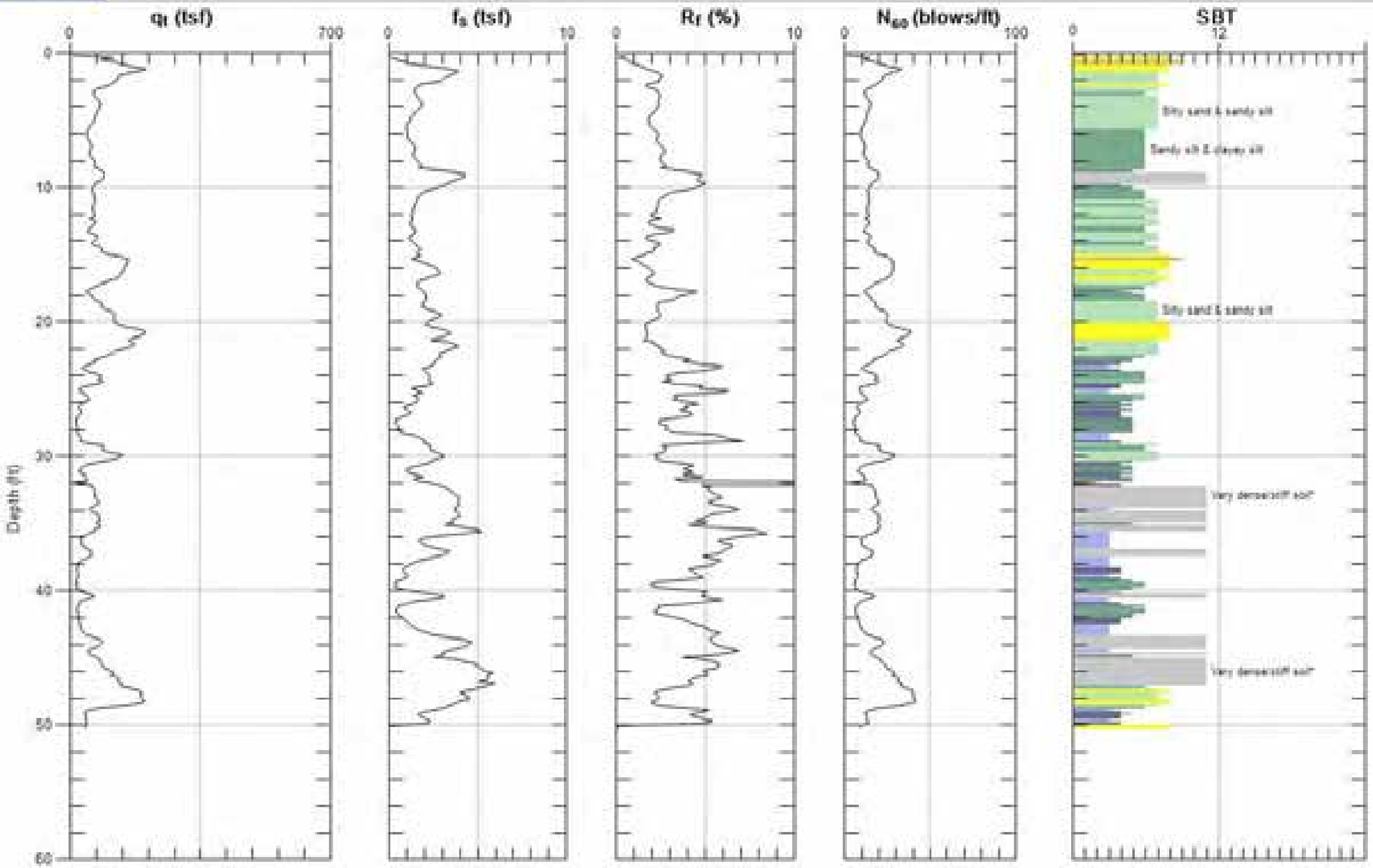
Max. Depth: 50.361 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-12

Engineer: R.DOUGLAS
Date: 9/12/2017 10:34



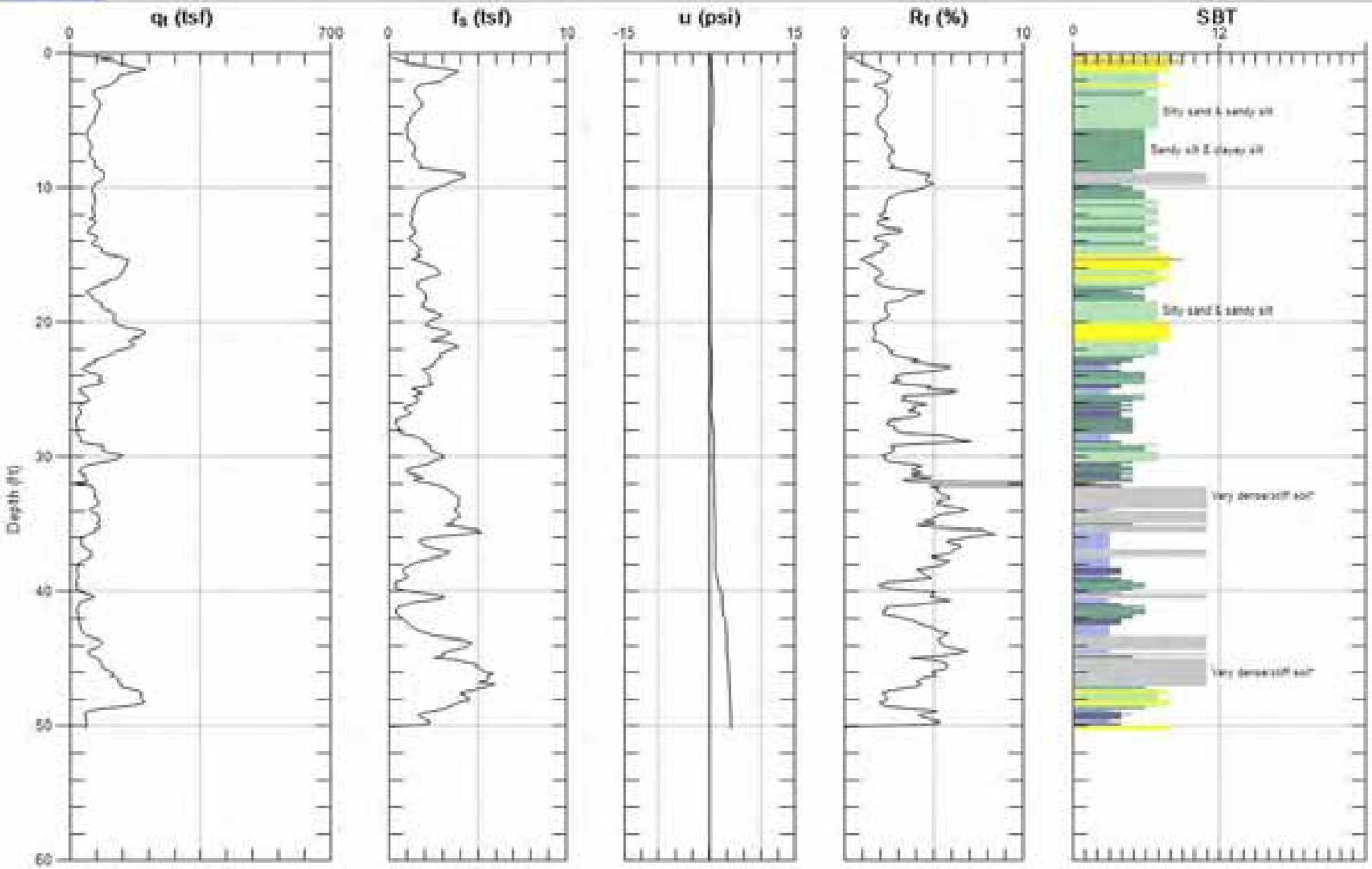
Max. Depth: 59.197 (ft)
Avg. Interval: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1

LGC GEOTECHNICAL

Site: EXPERANZA
Sounding: CPT-12

Engineer: R.DOUGLAS
Date: 9/12/2017 10:34



Max. Depth: 59.197 (ft)
Avg. Interval: 0.164 (ft)

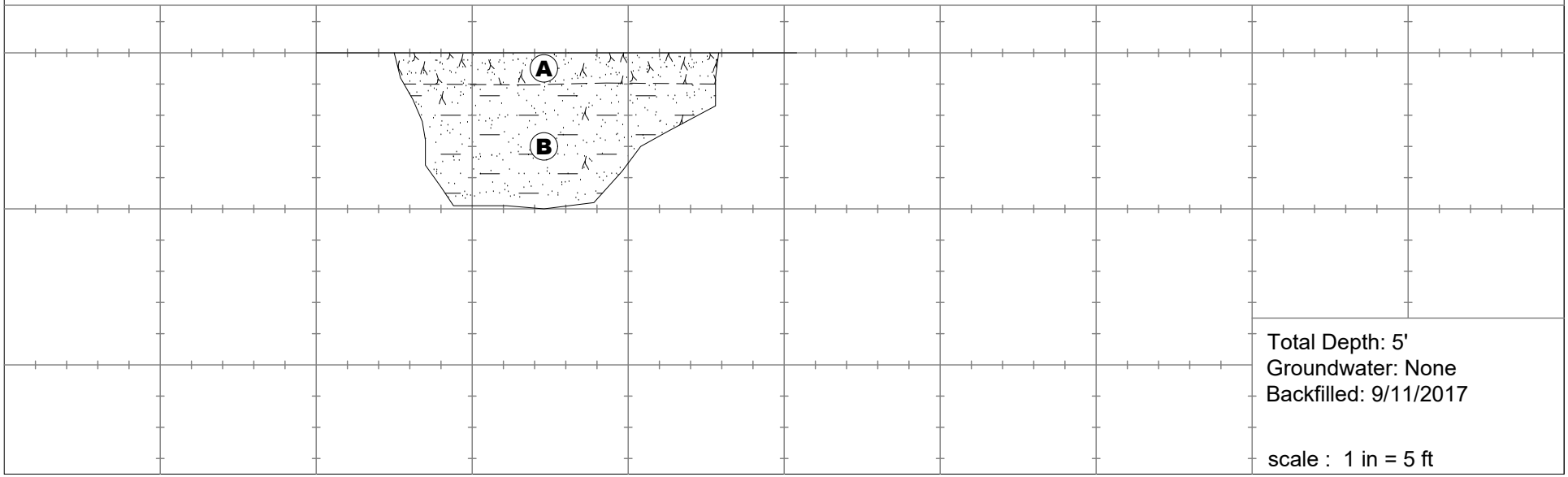
SBT: Soil Behavior Type (Robertson 1

6612

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-1	
Project Number : 17114-01	Date : 9/11/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 1' Clayey SAND: dark brown, dry, loose to stiff; abundant roots and manure		SC			
	B	@1' to TD SAND w/ Silt to SILT w/ Sand: light grayish brown, dry grades to slightly moist, dense; moderately well indurated, very fine grained sand, scattered rootlets, and iron oxide		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 711 ' MSL** **Surface Slope: none** **Trend: EW**



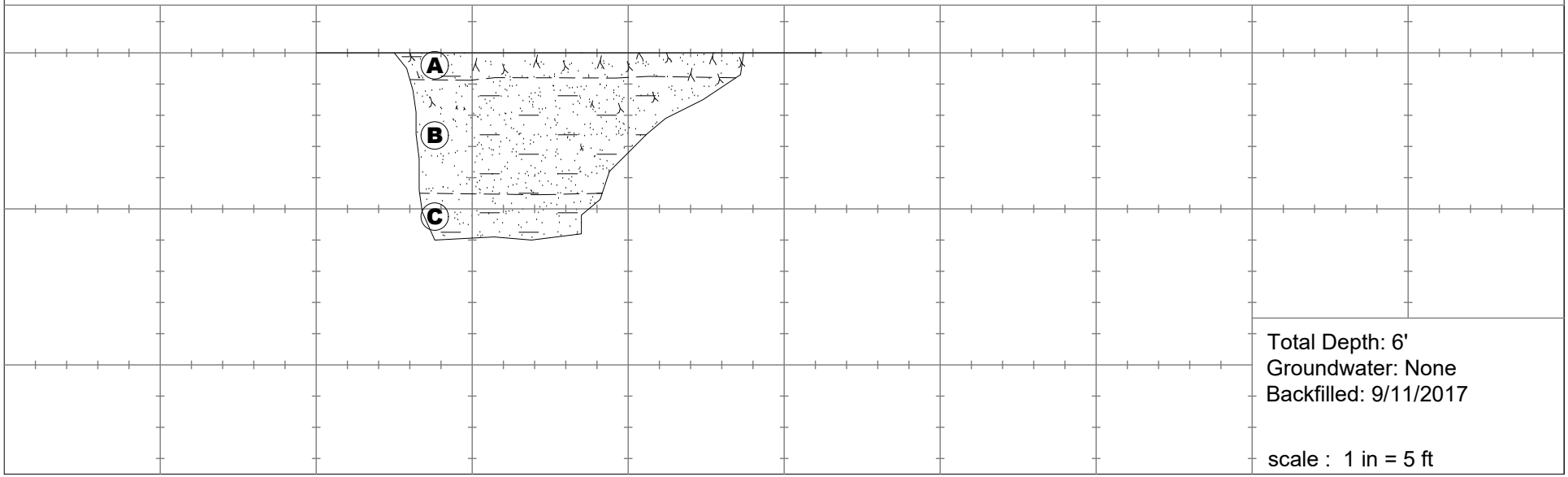
Last Edited: 10/3/2017

6613

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-2	
Project Number : 17114-01	Date : 9/11/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 0.8' SAND w/ Clay: dark brown, dry, loose; abundant roots, manure and grass in upper 4"		SC			
	B	@0.8' to 4.5' SILT w/ fine Sand: light brown to grayish brown, dry grades to slightly moist, very dense; moderately well indurated, scattered fine rootlets, roots casts at 2'		SM			
	C	@4.5' to TD Silty SAND to Sandy SILT: brown, slightly moist, medium dense; decrease in induration		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 708 ' MSL** **Surface Slope: none** **Trend: EW**



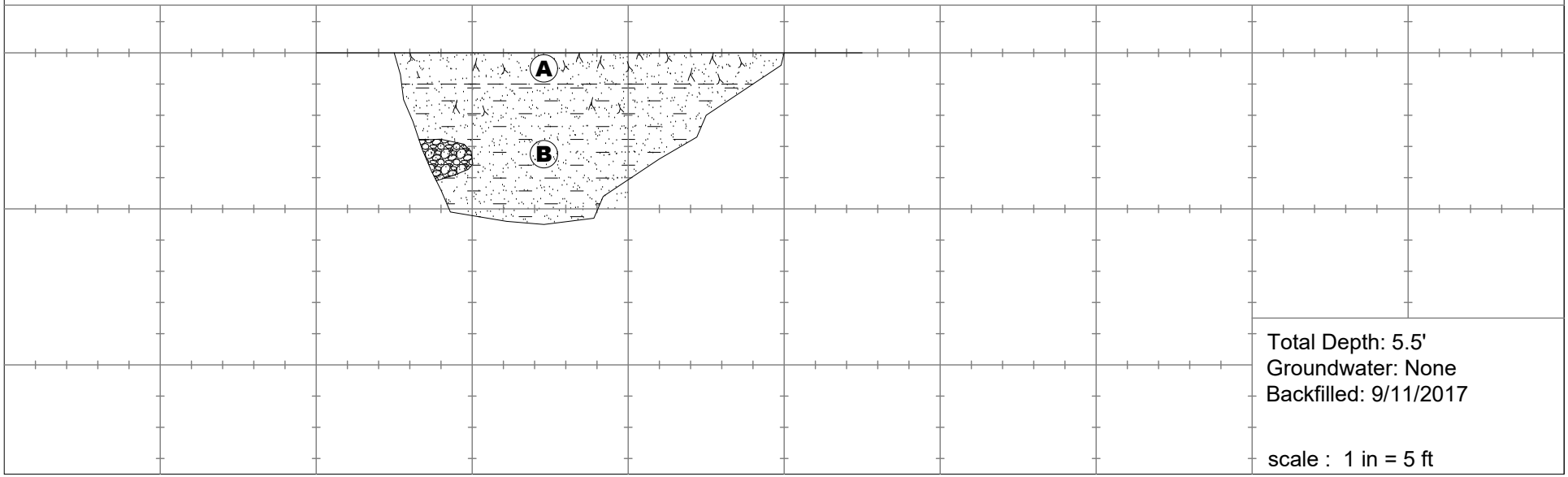
Last Edited: 10/3/2017

6614

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-3	
Project Number : 17114-01	Date : 9/11/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 1' SAND w/ Clay: dark brown, dry, loose; abundant roots, old manure layer		SC			
	B	@1' to TD Silty SAND: light yellowish brown, dry to slightly moist, dense; moderately well indurated, nested gravelly sand pocket at 3', decrease in induration at 5', minor iron oxide, few root casts at 2'		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 718 ' MSL** **Surface Slope: none** **Trend: EW**



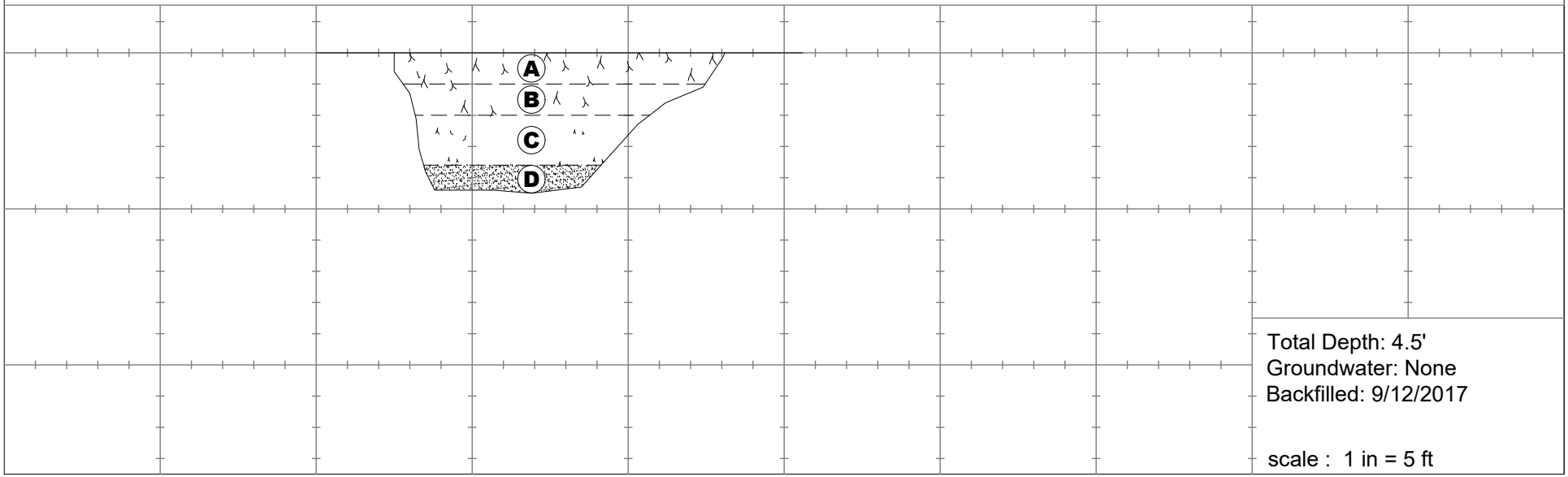
Last Edited: 10/3/2017

6615

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-4
Project Number : 17114-01	Date : 9/12/2017	Engineering Properties:
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 1' SAND w/ Clay: medium brown, dry, loose; organic rich, abundant roots, grass and manure layer		SC			
	B	@1' to 2' Silty SAND: light grayish brown, dry, medium dense; rootlets, possible agricultural till zone		SM			
	C	@2' to 3.6' SAND w/ Silt: light yellowish brown, dry grades to slightly moist, medium dense to dense; moderately well indurated, bottom of rootlets		SM			
	D	@3.6' to TD SAND: brown, moist, medium dense; "beach sand"		SW			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 721 ' MSL** **Surface Slope: none** **Trend: EW**



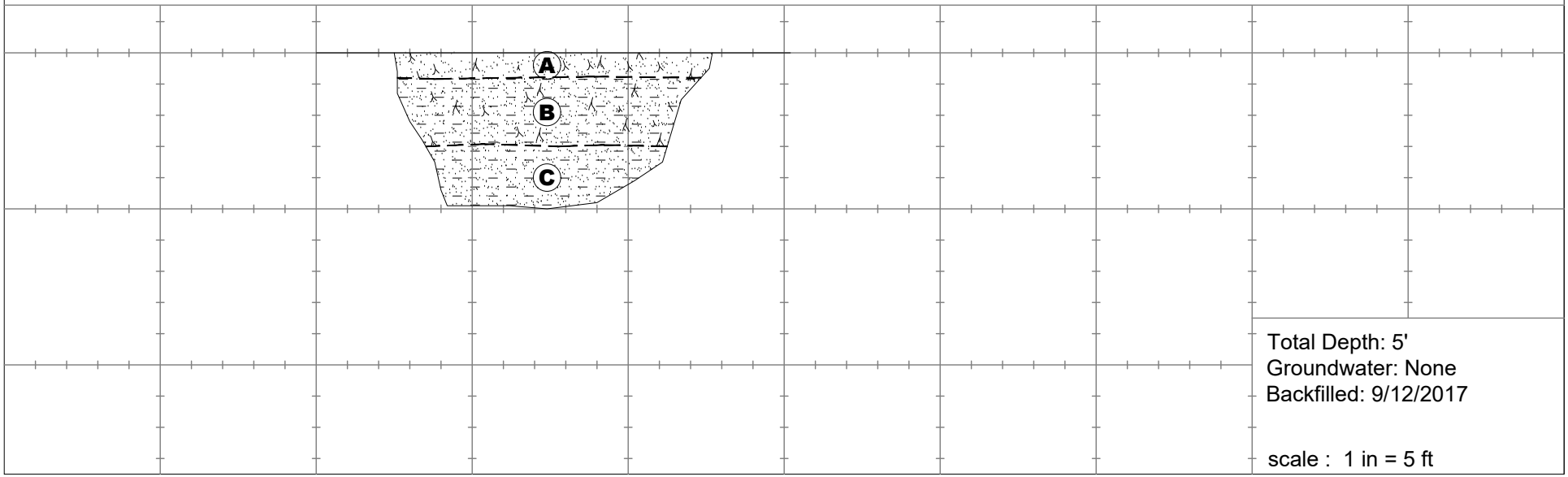
Last Edited: 10/3/2017

6616

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-5	
Project Number : 17114-01	Date : 9/12/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 0.8' SAND w/ Clay: medium brown, dry, loose; organic rich, roots, grasses, old manure layer		SC			
	B	@0.8' to 3' SAND w/ Silt: light brown, dry, grades to slightly moist, dense; scattered fine rootlets, micropores, moderately well indurated		SM			
	C	@3' to TD Silty SAND: light yellowish brown, dry to slightly moist, dense; slightly indurated, very fine sands		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 716 ' MSL** **Surface Slope: none** **Trend: EW**



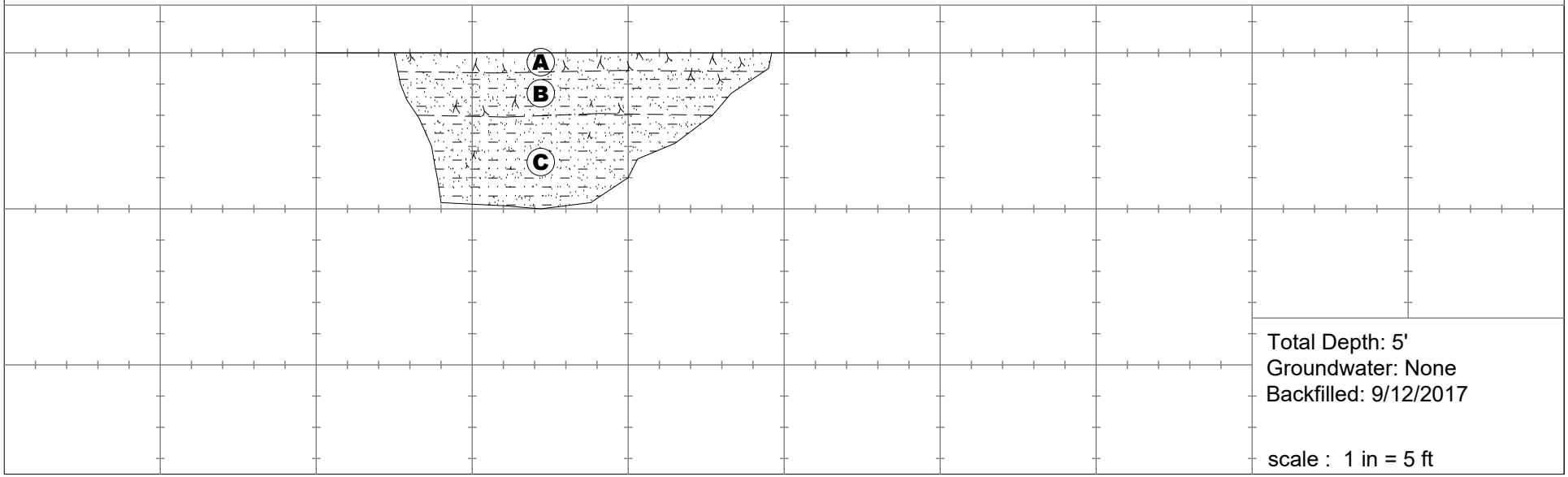
Last Edited: 10/3/2017

6617

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-6	
Project Number : 17114-01	Date : 9/12/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 0.6' SAND w/ Clay: medium brown, dry, loose; organic rich, roots, grass, old manure		SC			
	B	@0.6' to 2' SAND w/ Silt: light grayish brown, dry, slightly dense; medium grained, scattered rootlets, moderately well indurated		SM			
	C	@2' to TD SAND w/ Silt: light yellowish brown, slightly moist, medium dense; slightly indurated, few scattered rootlets, few micropores, caliche stringers at 4', very fine sand		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 708 ' MSL** **Surface Slope: none** **Trend: EW**



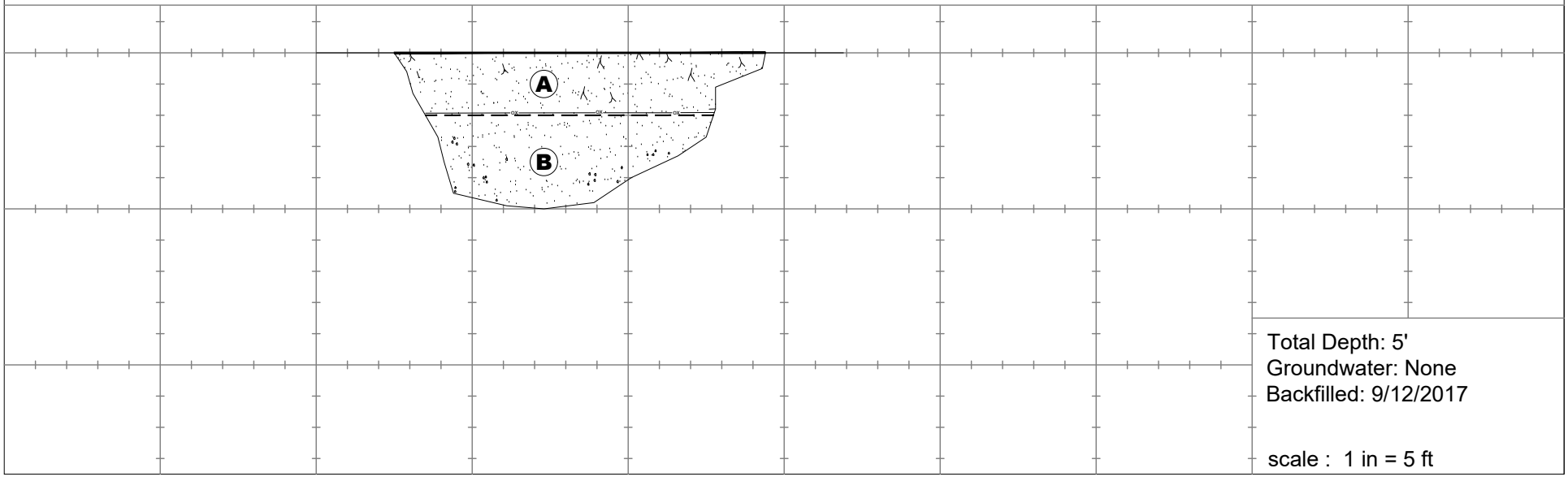
Last Edited: 10/3/2017

6618

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-7
Project Number : 17114-01	Date : 9/12/2017	Engineering Properties:
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 2' SAND w/ Silt: grayish brown, moist, medium dense; organic rich, thin zone of old manure at top, agricultural till to 2' deep, iron oxide staining, scattered rootlets		SM			
	B	@2' to TD SAND w/ Clay: light yellowish brown, very moist, loose to medium dense; scattered gravels, lacks visible rootlets		SC			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 730 ' MSL** **Surface Slope: none** **Trend: EW**



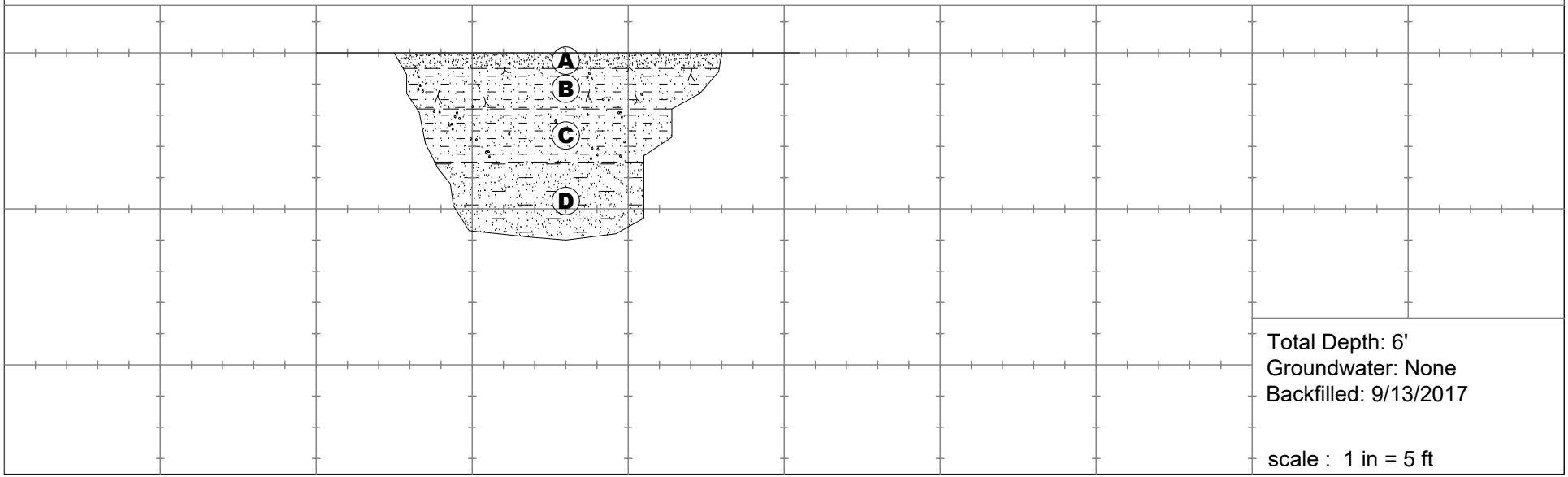
Last Edited: 10/3/2017

6619

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-8	
Project Number : 17114-01	Date : 9/13/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 0.5' Layer of CLAY, SAND, and manure, dark brown, dry, loose					
	B	@0.5' to 1.8' Silty SAND: mottled brown, moist, medium dense; organic rich, scattered gravels, scattered fine rootlets and root casts with dark mineral inclusions		SM			
	C	@1.8' to 3.5' Silty SAND: light yellowish brown, moist, medium dense; few gravels, lacks organic micropores		SM			
	D	@3.5' to TD SAND w/ Silt: light yellowish brown, very moist, medium dense		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 712 ' MSL** **Surface Slope: none** **Trend: EW**



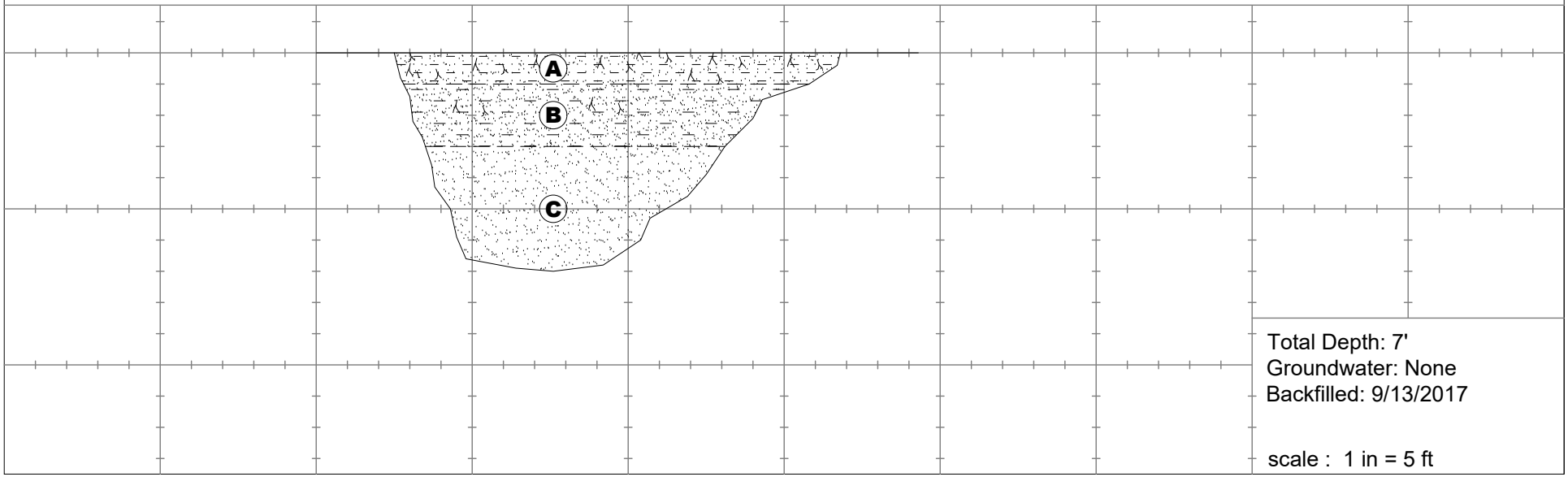
Last Edited: 10/3/2017

6620

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-9	
Project Number : 17114-01	Date : 9/13/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 1' SAND w/ Silt: moderate brown, dry, loose; clods, grass at top, variable thickness		SM			
	B	@1' to 3' Silty SAND: light yellowish brown, dry grades to slightly moist, medium dense to dense; decrease in induration with depth, rootlets to 3'		SM			
	C	@3' to TD SAND w/ Silt: yellowish brown, moist to very moist, medium dense; scattered gravels, lacks roots, lacks induration		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 716 ' MSL** **Surface Slope: none** **Trend: EW**



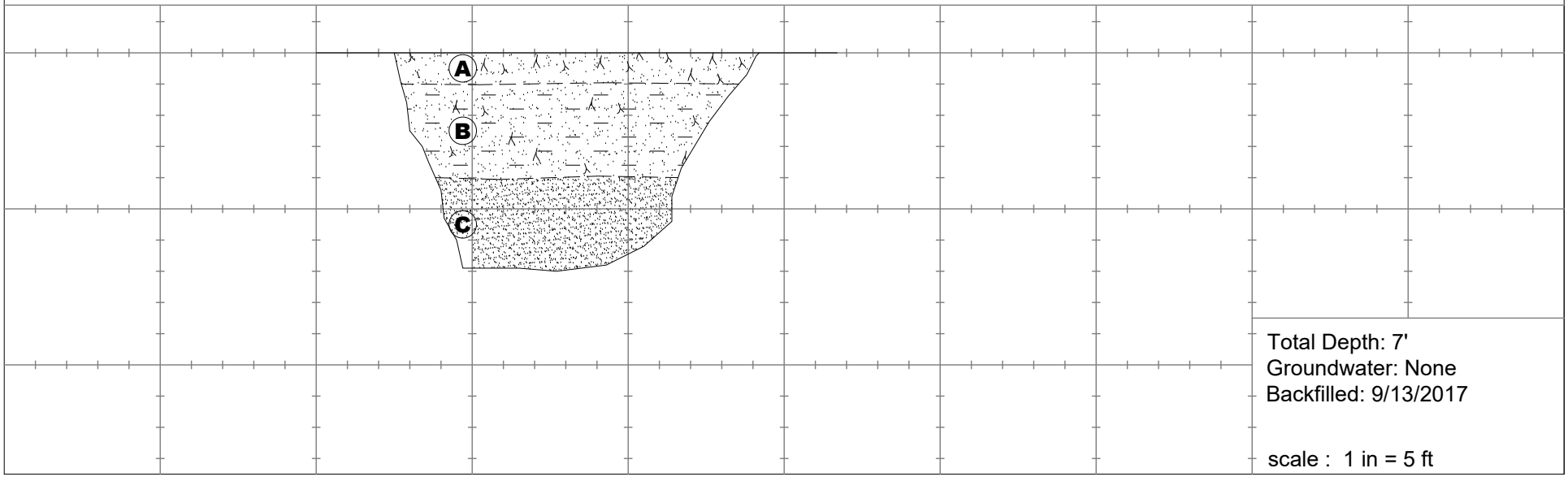
Last Edited: 10/3/2017

6621

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-10
Project Number : 17114-01	Date : 9/13/2017	Engineering Properties:
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 1' SAND w/ Clay: mottled dark to medium brown, dry, loose; organic rich		SC			
	B	@1' to 4' Silty SAND: light yellowish brown, moist, medium dense; slightly indurated, scattered root casts and fine roots to 3'		SM	B-2 @1' to 4'		
	C	@4' to TD SAND w/ trace Silt: yellowish brown, moist to very moist, medium dense; lacks induration, lacks organics, increase in moisture with depth, "dirty beach sand" appearance		SW			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 719 ' MSL** **Surface Slope: none** **Trend: EW**



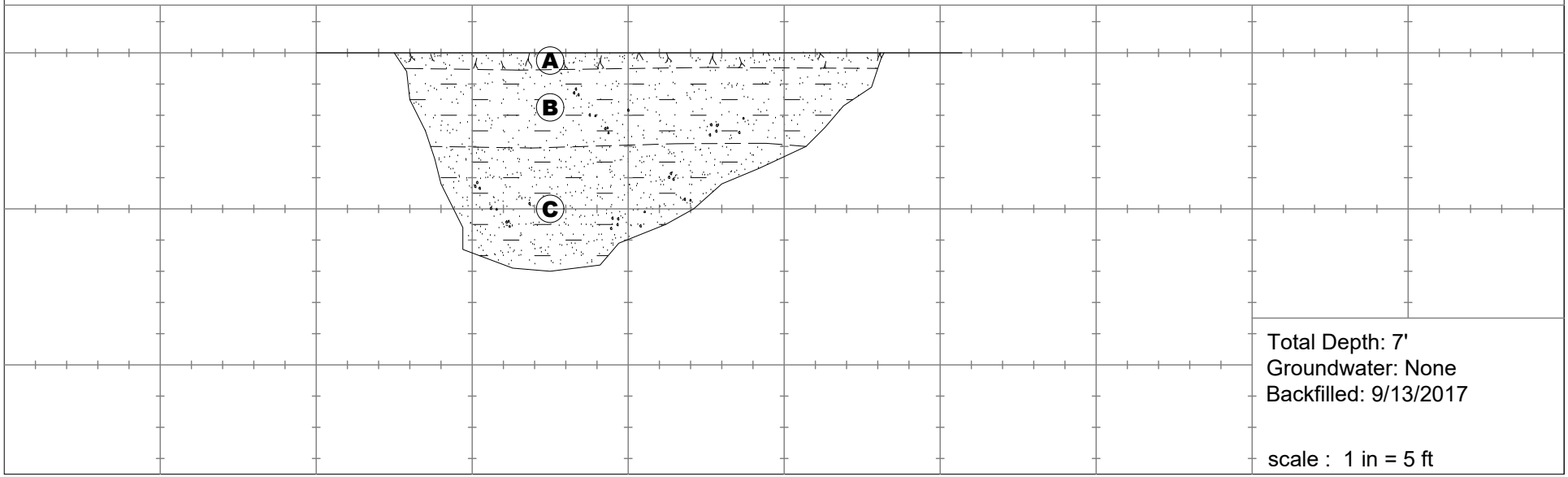
Last Edited: 10/3/2017

6622

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-11	
Project Number : 17114-01	Date : 9/13/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 0.5' SAND & SILT: light grayish brown, dry, loose; organics		SM			
	B	@0.5' to 3' SAND w/ Silt: light grayish brown, dry to slightly moist with depth, medium dense to dense; indurated		SM			
	C	@3' to TD SAND w/ Silt: light yellowish brown, moist, slightly to moderately dense, lacks organics, lacks induration		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 713 ' MSL** **Surface Slope: none** **Trend: EW**



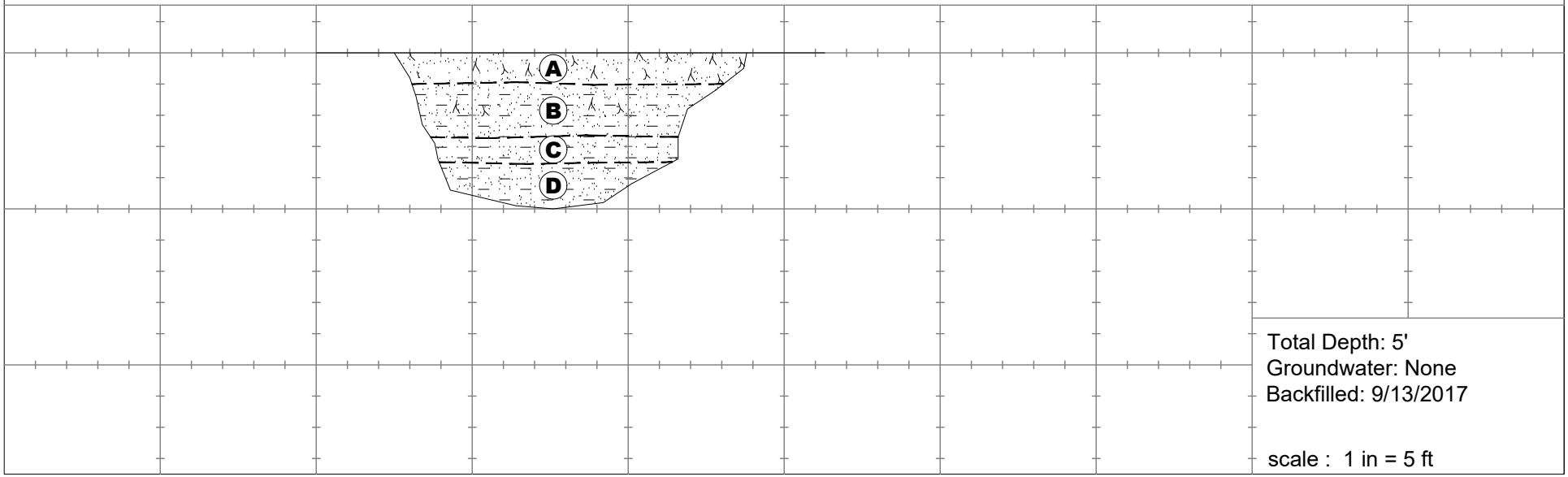
Last Edited: 10/3/2017

6623

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-12	
Project Number : 17114-01	Date : 9/13/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 1' SAND w/ Clay: dark brown, moist, loose; abundant organics, roots, old manure; grades to B (agricultural till)		SC			
	B	@1' to 2.7' Silty SAND w/ Clay: dark brown mottled, very moist, medium dense; few rootlets, organic rich		SM			
	C	@2.7' to 3.5' SAND w/ Silt: light yellowish brown, moist, medium dense; few gravels sub-rounded to 2" diameter		SM			
	D	@3.5' to TD Silty SAND: grayish brown, medium dense; scattered oxidation pods		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 726 ' MSL** **Surface Slope: none** **Trend: EW**



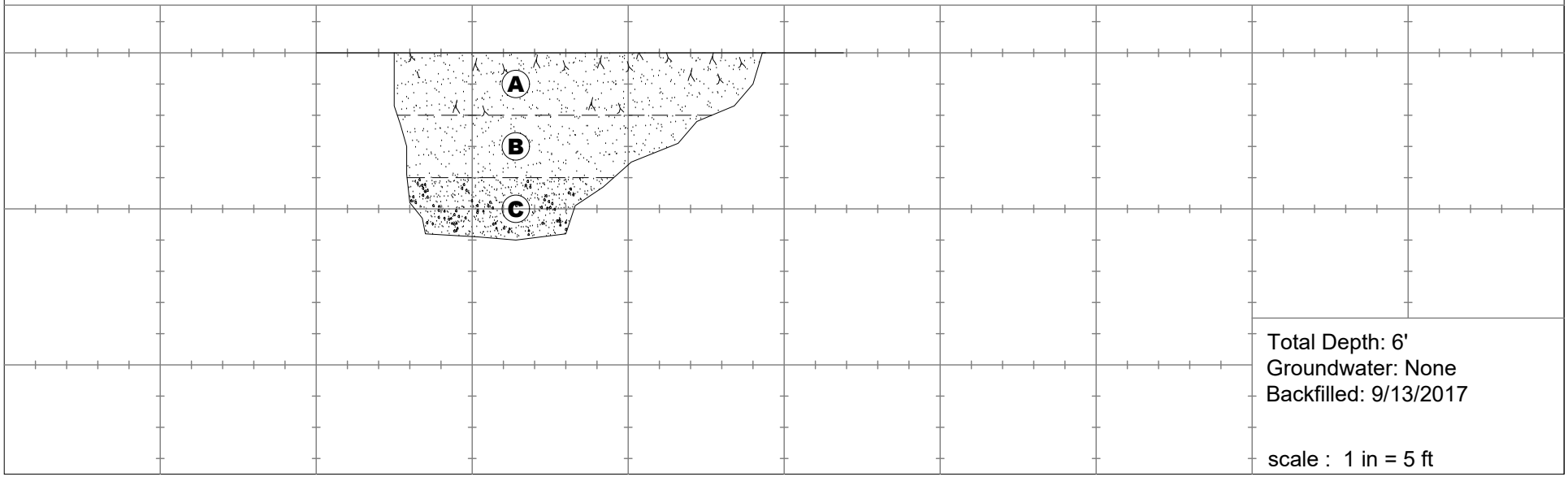
Last Edited: 10/3/2017

6624

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-13	
Project Number : 17114-01	Date : 9/13/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 2' Silty SAND: dark brown mottled, very moist, loose to medium dense; scattered gravels, agricultrual till, organic content decreases with depth		SM			
	B	@2' to 4' SAND w/ Silt: yellowish brown, moist, medium dense; few gravels, few roots casts at 3' but generally lacks organics		SM			
	C	@4' to TD Gravelly SAND: grayish brown, very moist, medium dense; lacks induration, friable		SW			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 728 ' MSL** **Surface Slope: none** **Trend: EW**



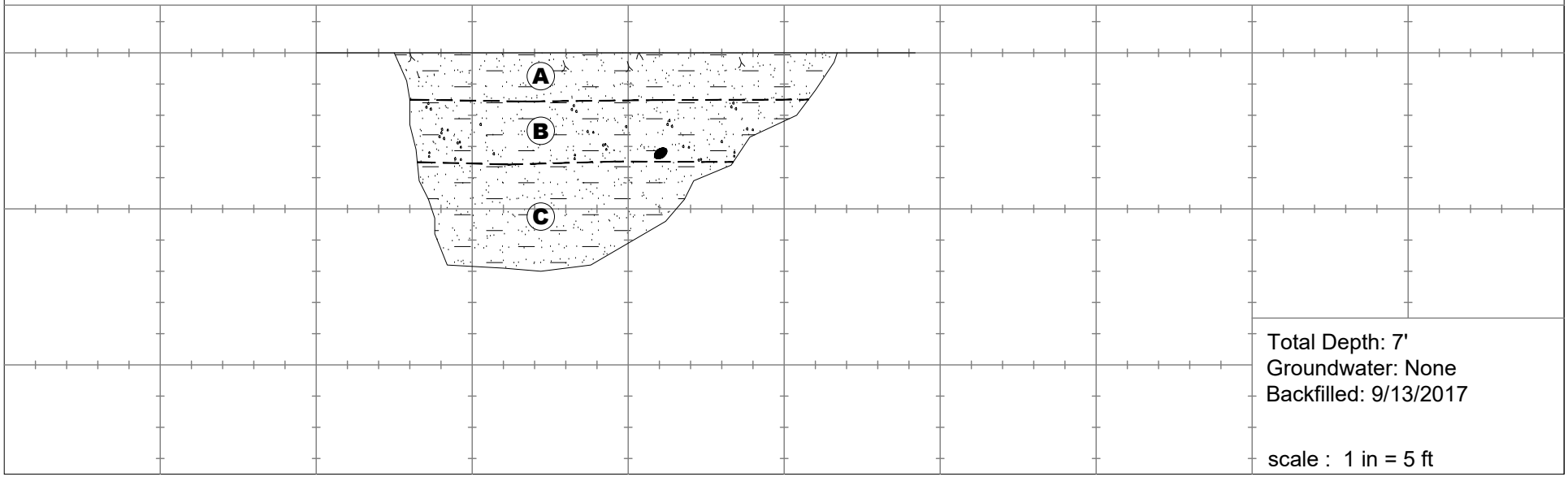
Last Edited: 10/3/2017

6625

Project Name: Esperanza and Pietersma	Logged By: KTM	Trench No: TP-14	
Project Number : 17114-01	Date : 9/13/2017	Engineering Properties:	
Equipment: CAT 420F Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
		@0' to TD Quaternary Young Eolian Deposits	Qye				
	A	@0' to 1.5' SAND w/ Clay: dark brown, very moist, soft; organic rich, old manure, roots, scattered gravel		SC			
	B	@1.5' to 3.5' Silty SAND: medium to dark brown, moist, slightly to moderately dense; scattered gravels, variable organics, krotovina (old in-filled gopher holes)		SM			
	C	@4' to TD Silty SAND: yellowish brown, very moist, medium dense; lacks induration, lacks organics		SM			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 720 ' MSL** **Surface Slope: none** **Trend: EW**



Last Edited: 10/3/2017

Appendix G
Geotechnical Subsurface Evaluation Data - Regions North (16159-01)



LEGEND

Recently Placed Soil

Artificial Fill Undocumented, Circled Where Buried

Quaternary Young Eolian Deposits, Circled Where Buried

Approximate Location of Hollow Stem Auger Boring by LGC Geotechnical, With Total Depth in Feet

Approximate Location of Cone Penetration Test (CPT) Boring by LGC Geotechnical, With Total Depth in Feet

Approximate Location of Exploratory Test Pit by LGC Geotechnical

Approximate Geologic Contact, Queried Where Uncertain, Dotted Where Buried

Approximate Limits of This Report

SCALE: 1"=80'

80' 0 80' 160'

LGC Geotechnical, Inc.

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Geotechnical Map

CLIENT:
Brookfield Homes
3200 Park Center Drive, Suite 1000
Costa Mesa, CA 92626

PROJECT NAME	*Regions North*
PROJECT NO.	*16159-01*
ENG. / GEOL.	*BJE/KTM*
SCALE	*1" = 80'*
DATE	*April 2017*

SHEET 1 of 2

6627

APPENDIX C

Laboratory Testing Procedures and Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the site soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Atterberg Limits: The liquid and plastic limits ("Atterberg Limits") were determined in accordance with ASTM Test Method D4318 for engineering classification of fine-grained material and presented in the table below:

Sample Location	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	USCS Soil Classification
HS-1 @ 45 feet	27	16	11	CL
HS-2 @ 15 feet	20	19	1	ML
HS-2 @ 30 feet	30	22	8	CL
HS-2 @ 45 feet	31	25	6	ML
HS-4 @ 10 feet	NP	NP	NP	NP
HS-6 @ 15 feet	NP	NP	NP	NP

Grain Size Distribution: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve. The portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D422 (CTM 202). Where an appreciable amount of fines were encountered (greater than 20 percent passing the No. 200 sieve) a hydrometer analysis was done to determine the distribution of soil particles passing the No. 200 sieve.

Sample Location	**Description**	**% Passing # 200 Sieve**
HS-2 @ 15 feet	Sandy Silt	73
HS-2 @ 30 feet	Sandy Silt	60
HS-2 @ 45 feet	Sandy Clay	77
HS-6 @ 15 feet	Sandy Silt	71
HS-7 @ 15 feet	Sandy Silt	88

Expansion Index: The expansion potential of selected samples were evaluated by the Expansion Index Test, Standard ASTM D4829. Specimens are molded under a given compactive energy to approximately the optimum moisture content and approximately 50 percent saturation or approximately 90 percent relative compaction. The prepared 1-inch-thick by 4-inch-diameter specimens are loaded to

an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the table below.

Sample Location	Expansion Index	Expansion Potential*
HS-2 @ 15-20 feet	5	Very Low

*Per Chapter 18 of the 2007 C.B.C.; ASTM D 4829 Section 5.3

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results of these tests are presented in the table below:

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-1 @ 0-5 feet	Brown Silty Sand	121.0	8.5

Collapse /Swell Potential: Collapse test were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The Curves are presented in this Appendix.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on relatively undisturbed samples obtained from the test borings and/or trenches. The results of these tests are presented in the boring and/or trench logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Organic Matter Content of Soils: Organic matter content tests were performed in general accordance with ASTM D 2974 (Test Methods A & C). The results are presented in the table below:

Sample Location	Organic Content (%)
TP-1 @ 1-2 feet	1.0
TP-1 @ 2-3 feet	0.9
TP-1 @ 5-7 feet	0.9
TP-1 @ 9-10 feet	0.8
TP-2 @ 1-3 feet	2.2
TP-2 @ 5-6 feet	1.1
TP-3 @ 2-3 feet	0.5
TP-3 @ 4-5 feet	1.1
TP-3 @ 8-9 feet	1.0

TP-4 @ 3-4 feet	0.6
TP-4 @ 5-7 feet	0.2
TP-5 @ 0-1 feet	4.6
TP-5 @ 1-2 feet	2.3
TP-5 @ 3-4 feet	0.6
TP-5 @ 6-7 feet	0.6
TP-6 @ 0-1 feet	55.3
TP-6 @ 2-3 feet	0.9
TP-6 @ 4-5 feet	0.6
TP-7 @ 0-1 feet	7.3
TP-7 @ 1-3 feet	0.8
TP-7 @ 3-4 feet	0.5
TP-8 @ 3-4 feet	0.5
TP-8 @ 6-8 feet	0.4
TP-9 @ 2-3 feet	1.1
TP-9 @ 6 feet	8.3
TP-9 @ 7-9 feet	0.9
TP-9 @ 18 feet	0.6
TP-10 @ 0-2 feet	3.2
TP-10 @ 2-4 feet	2.1
TP-10 @ 7-9 feet	0.5
TP-11 @ 0-1 feet	1.6
TP-11 @ 2-3 feet	3.2
TP-12 @ 0-3 feet	3.1
TP-12 @ 4-5 feet	1.2
TP-13 @ 2-3 feet	1.2
TP-14 @ 6-8 feet	4.4
TP-14 @ 9-10 feet	1.0
TP-16 @ 2-3 feet	0.8
TP-16 @ 8-9 feet	1.0

MOISTURE, ORGANIC MATTER and ASH CONTENT of SOILS

ASTM D 2974 (Test Methods A & C)

Project Name: Regions North | Tested By: G. Berdy | Date: 02/17/17

Project No. : 16159-01 | Input By: J. Ward | Date: 02/24/17

Client: LGC Geotechnical, Inc.

Boring No.	TP-1	TP-1	TP-1	TP-1	TP-2
Sample No.	GB-1	GB-2	GB-3	GB-4	GB-1
Depth (ft)	1-2	2-3	5-7	9-10	1-3
Soil Description	Yellowish brown poorly-graded sand with silt (SP-SM)	Yellowish brown poorly-graded sand with silt (SP-SM)	Yellowish brown silty sand (SM)	Olive clayey sand (SC)	Yellowish brown silty sand with gravel (SM)g
Wt. of Moist Soil + Container (gm)	1468.48	1919.56	905.29	1534.52	1501.68
Wt. of Dried Soil + Container (gm)	1394.07	1765.60	838.30	1455.69	1424.86
Wt. Container (gm)	108.59	110.83	108.66	109.11	108.64
Crucible No.	3, 9	6, 11	1, 10	26, 13	8, 17
Furnace Temperature (°C)	440	440	440	440	440
Time In / Time Out	Timer used	Timer used	Timer used	Timer used	Timer used
Duration of Combustion (hr)	3.83	3.83	3.83	3.33	3.33
Wt. of Dried Soil + Crucible (gm)	102.71	99.66	98.88	94.21	96.78
Wt. of Ash + Crucible (gm)	102.14	99.16	98.38	93.78	95.61
Wt. of Crucible (gm)	42.84	45.49	42.66	43.03	42.60
Moisture Content @ 105 °C (%) "as received"	5.8	9.3	9.2	5.9	5.8
Dry wt. of Soil (gm) (1)	59.87	54.17	56.22	51.18	54.18
Wt. of Ash (gm) (2)	59.30	53.67	55.72	50.75	53.01
Ash Content (%) = [(2) / (1)] x 100 (3)	99.0	99.1	99.1	99.2	97.8
Organic Matter (%) = 100 - (3)	**1.0**	**0.9**	**0.9**	**0.8**	**2.2**

Remarks: Moisture, ash & organic contents are calculated as percentages of oven-dried mass of test specimen.

MOISTURE, ORGANIC MATTER and ASH CONTENT of SOILS

ASTM D 2974 (Test Methods A & C)

Project Name: Regions North | Tested By: G. Berdy | Date: 02/17/17

Project No. : 16159-01 | Input By: J. Ward | Date: 02/24/17

Client: LGC Geotechnical, Inc.

Boring No.	TP-2	TP-3	TP-3	TP-3	TP-4
Sample No.	GB-2	GB-1	GB-2	GB-3	GB-1
Depth (ft)	5-6	2-3	4-5	8-9	3-4
Soil Description	Yellowish brown silty sand (SM)	Yellowish brown poorly-graded sand with silt (SP-SM)	Olive lean clay (CL)	Olive lean clay (CL)	Olive poorly-graded sand with silt (SP-SM)
Wt. of Moist Soil + Container (gm)	1938.34	2410.85	1769.43	2307.49	1907.81
Wt. of Dried Soil + Container (gm)	1806.11	2271.45	1553.07	1998.12	1794.69
Wt. Container (gm)	161.02	109.83	110.99	106.95	107.48
Crucible No.	2, 4	3, 9	6, 11	8, 17	2, 4
Furnace Temperature (°C)	440	440	440	440	440
Time In / Time Out	Timer used	Timer used	Timer used	Timer used	Timer used
Duration of Combustion (hr)	3.83	3.33	3.33	3.33	3.28
Wt. of Dried Soil + Crucible (gm)	93.95	95.53	87.19	89.12	98.14
Wt. of Ash + Crucible (gm)	93.36	95.26	86.74	88.67	97.82
Wt. of Crucible (gm)	42.09	42.84	45.49	42.60	42.09
Moisture Content @ 105 °C (%) "as received"	8.0	6.4	15.0	16.4	6.7
Dry wt. of Soil (gm) (1)	51.86	52.69	41.70	46.52	56.05
Wt. of Ash (gm) (2)	51.27	52.42	41.25	46.07	55.73
Ash Content (%) = [(2) / (1)] x 100 (3)	98.9	99.5	98.9	99.0	99.4
Organic Matter (%) = 100 - (3)	**1.1**	**0.5**	**1.1**	**1.0**	**0.6**

Remarks: Moisture, ash & organic contents are calculated as percentages of oven-dried mass of test specimen.

MOISTURE, ORGANIC MATTER and ASH CONTENT of SOILS

ASTM D 2974 (Test Methods A & C)

Project Name: Regions North | Tested By: G. Berdy | Date: 02/17/17

Project No. : 16159-01 | Input By: J. Ward | Date: 02/24/17

Client: LGC Geotechnical, Inc.

Boring No.	TP-4	TP-5	TP-5	TP-5	TP-5
Sample No.	GB-2	GB-1	GB-2	GB-3	GB-4
Depth (ft)	5-7	0-1	1-2	3-4	6-7
Soil Description	Olive poorly-graded sand (SP)	Olive silt with sand (ML)s	Olive silt with sand (ML)s	Yellowish brown poorly-graded sand with silt (SP-SM)	Olive silty sand (SM)
Wt. of Moist Soil + Container (gm)	2063.80	1158.81	1548.98	1729.82	2112.88
Wt. of Dried Soil + Container (gm)	1995.34	1027.75	1511.30	1648.43	2021.19
Wt. Container (gm)	108.80	106.95	109.11	108.80	110.33
Crucible No.	1, 10	5, 7	3, 9	1, 10	3, 9
Furnace Temperature (°C)	440	440	440	440	440
Time In / Time Out	Timer used	Timer used	Timer used	Timer used	Timer used
Duration of Combustion (hr)	3.33	3.57	3.87	3.33	3.33
Wt. of Dried Soil + Crucible (gm)	100.78	89.43	102.27	98.66	102.49
Wt. of Ash + Crucible (gm)	100.68	87.11	100.91	98.32	102.13
Wt. of Crucible (gm)	42.66	38.99	42.84	42.66	42.84
Moisture Content @ 105 °C (%) "as received"	3.6	14.2	2.7	5.3	4.8
Dry wt. of Soil (gm) (1)	58.12	50.44	59.43	56.00	59.65
Wt. of Ash (gm) (2)	58.02	48.12	58.07	55.66	59.29
Ash Content (%) = [(2) / (1)] x 100 (3)	99.8	95.4	97.7	99.4	99.4
Organic Matter (%) = 100 - (3)	**0.2**	**4.6**	**2.3**	**0.6**	**0.6**

Remarks: Moisture, ash & organic contents are calculated as percentages of oven-dried mass of test specimen.

MOISTURE, ORGANIC MATTER and ASH CONTENT of SOILS

ASTM D 2974 (Test Methods A & C)

Project Name: Regions North | Tested By: G. Berdy | Date: 02/17/17

Project No. : 16159-01 | Input By: J. Ward | Date: 02/24/17

Client: LGC Geotechnical, Inc.

Boring No.	TP-6	TP-6	TP-6	TP-7	TP-7
Sample No.	GB-1	GB-2	GB-3	GB-1	GB-2
Depth (ft)	0-1	2-3	4-5	0-1	1-3
Soil Description	Dark brown silty sand (SM)	Olive lean clay (CL)	Gray poorly-graded sand (SP)	Olive silt with sand (ML)s	Olive silt with sand (ML)s
Wt. of Moist Soil + Container (gm)	1077.18	2132.29	1661.86	1243.92	1628.43
Wt. of Dried Soil + Container (gm)	692.76	1842.69	1575.66	1056.57	1549.23
Wt. Container (gm)	107.48	110.99	109.83	109.59	300.21
Crucible No.	12, 24	12, 24	6, 11	13, 26	2, 4
Furnace Temperature (°C)	440	440	440	440	440
Time In / Time Out	Timer used	Timer used	Timer used	Timer used	Timer used
Duration of Combustion (hr)	3.57	3.17	3.33	3.57	3.33
Wt. of Dried Soil + Crucible (gm)	67.10	80.32	106.13	86.48	100.24
Wt. of Ash + Crucible (gm)	51.99	79.95	105.79	83.31	99.80
Wt. of Crucible (gm)	39.77	39.77	45.49	43.03	42.09
Moisture Content @ 105 °C (%) "as received"	65.7	16.7	5.9	19.8	6.3
Dry wt. of Soil (gm) (1)	27.33	40.55	60.64	43.45	58.15
Wt. of Ash (gm) (2)	12.22	40.18	60.30	40.28	57.71
Ash Content (%) = [(2) / (1)] x 100 (3)	44.7	99.1	99.4	92.7	99.2
Organic Matter (%) = 100 - (3)	**55.3**	**0.9**	**0.6**	**7.3**	**0.8**

Remarks: Moisture, ash & organic contents are calculated as percentages of oven-dried mass of test specimen.

MOISTURE, ORGANIC MATTER and ASH CONTENT of SOILS

ASTM D 2974 (Test Methods A & C)

Project Name: Regions North | Tested By: G. Berdy | Date: 02/17/17

Project No. : 16159-01 | Input By: J. Ward | Date: 02/24/17

Client: LGC Geotechnical, Inc.

Boring No.	TP-7	TP-8	TP-8	TP-9	TP-9
Sample No.	GB-3	GB-1	GB-2	GB-1	GB-2
Depth (ft)	3-4	3-4	6-8	2-3	6.0
Soil Description	Olive silt (ML)	Olive silt (ML)	Olive silt with sand (ML)s	Olive silt (ML)	Dark brown silty sand (SM)
Wt. of Moist Soil + Container (gm)	1906.89	2288.30	962.48	1204.29	819.98
Wt. of Dried Soil + Container (gm)	1721.64	2065.16	939.50	1110.78	728.90
Wt. Container (gm)	108.69	109.18	106.97	107.02	109.02
Crucible No.	13, 26	5, 7	8, 17	5, 7	8, 17
Furnace Temperature (°C)	440	440	440	440	440
Time In / Time Out	Timer used	Timer used	Timer used	Timer used	Timer used
Duration of Combustion (hr)	3.17	3.17	3.17	3.33	3.57
Wt. of Dried Soil + Crucible (gm)	90.85	90.78	104.98	92.04	89.94
Wt. of Ash + Crucible (gm)	90.60	90.50	104.70	91.47	86.03
Wt. of Crucible (gm)	43.03	38.99	42.60	38.99	42.60
Moisture Content @ 105 °C (%) "as received"	11.5	11.4	2.8	9.3	14.7
Dry wt. of Soil (gm) (1)	47.82	51.79	62.38	53.05	47.34
Wt. of Ash (gm) (2)	47.57	51.51	62.10	52.48	43.43
Ash Content (%) = [(2) / (1)] x 100 (3)	99.5	99.5	99.6	98.9	91.7
Organic Matter (%) = 100 - (3)	**0.5**	**0.5**	**0.4**	**1.1**	**8.3**

Remarks: Moisture, ash & organic contents are calculated as percentages of oven-dried mass of test specimen.

MOISTURE, ORGANIC MATTER and ASH CONTENT of SOILS

ASTM D 2974 (Test Methods A & C)

Project Name: Regions North | Tested By: G. Berdy | Date: 02/17/17

Project No. : 16159-01 | Input By: J. Ward | Date: 02/24/17

Client: LGC Geotechnical, Inc.

Boring No.	TP-9	TP-9	TP-10	TP-10	TP-10
Sample No.	GB-3	GB-4	GB-1	GB-2	GB-3
Depth (ft)	7-9	18.0	0-2	2-4	7-9
Soil Description	Olive silt (ML)	Olive silt (ML)	Yellowish brown silty sand (SM)	Olive silt with sand (ML)s	Olive silt (ML)
Wt. of Moist Soil + Container (gm)	825.12	644.17	1349.26	2009.58	1757.57
Wt. of Dried Soil + Container (gm)	757.49	621.41	1196.03	1862.34	1530.51
Wt. Container (gm)	76.43	72.51	109.83	108.80	110.33
Crucible No.	12, 24	13, 26	6, 11	12, 24	5, 7
Furnace Temperature (°C)	440	440	440	440	440
Time In / Time Out	Timer used	Timer used	Timer used	Timer used	Timer used
Duration of Combustion (hr)	3.33	3.33	3.87	3.33	3.33
Wt. of Dried Soil + Crucible (gm)	93.42	103.84	94.66	88.91	86.80
Wt. of Ash + Crucible (gm)	92.95	103.49	93.09	87.87	86.56
Wt. of Crucible (gm)	39.77	43.03	45.49	39.77	38.99
Moisture Content @ 105 °C (%) "as received"	9.9	4.1	14.1	8.4	16.0
Dry wt. of Soil (gm) (1)	53.65	60.81	49.17	49.14	47.81
Wt. of Ash (gm) (2)	53.18	60.46	47.60	48.10	47.57
Ash Content (%) = [(2) / (1)] x 100 (3)	99.1	99.4	96.8	97.9	99.5
Organic Matter (%) = 100 - (3)	**0.9**	**0.6**	**3.2**	**2.1**	**0.5**

Remarks: Moisture, ash & organic contents are calculated as percentages of oven-dried mass of test specimen.

MOISTURE, ORGANIC MATTER and ASH CONTENT of SOILS

ASTM D 2974 (Test Methods A & C)

Project Name: Regions North | Tested By: G. Berdy | Date: 02/17/17

Project No. : 16159-01 | Input By: J. Ward | Date: 02/24/17

Client: LGC Geotechnical, Inc.

Boring No.	TP-11	TP-11	TP-12	TP-12	TP-13
Sample No.	GB-1	GB-2	GB-1	GB-2	GB-1
Depth (ft)	0-1	2-3	0-3	4-5	2-3
Soil Description	Olive silt with sand (ML)s	Olive silt (ML)	Olive silt (ML)	Olive silt (ML)	Olive lean clay (CL)
Wt. of Moist Soil + Container (gm)	1412.25	1478.96	1381.43	1879.09	2021.67
Wt. of Dried Soil + Container (gm)	1289.45	1365.19	1221.11	1710.10	1769.03
Wt. Container (gm)	110.99	109.18	108.69	106.97	108.66
Crucible No.	6, 11	12, 26	2, 4	5, 7	3, 9
Furnace Temperature (°C)	440	440	440	440	440
Time In / Time Out	Timer used	Timer used	Timer used	Timer used	Timer used
Duration of Combustion (hr)	3.20	3.33	3.33	3.22	3.20
Wt. of Dried Soil + Crucible (gm)	96.57	94.44	94.68	89.21	87.24
Wt. of Ash + Crucible (gm)	95.77	92.82	93.06	88.59	86.69
Wt. of Crucible (gm)	45.49	43.03	42.09	38.99	42.84
Moisture Content @ 105 °C (%) "as received"	10.4	9.1	14.4	10.5	15.2
Dry wt. of Soil (gm) (1)	51.08	51.41	52.59	50.22	44.40
Wt. of Ash (gm) (2)	50.28	49.79	50.97	49.60	43.85
Ash Content (%) = [(2) / (1)] x 100 (3)	98.4	96.8	96.9	98.8	98.8
Organic Matter (%) = 100 - (3)	**1.6**	**3.2**	**3.1**	**1.2**	**1.2**

Remarks: Moisture, ash & organic contents are calculated as percentages of oven-dried mass of test specimen.

MOISTURE, ORGANIC MATTER and ASH CONTENT of SOILS

ASTM D 2974 (Test Methods A & C)

Project Name: Regions North | Tested By: G. Berdy | Date: 02/17/17

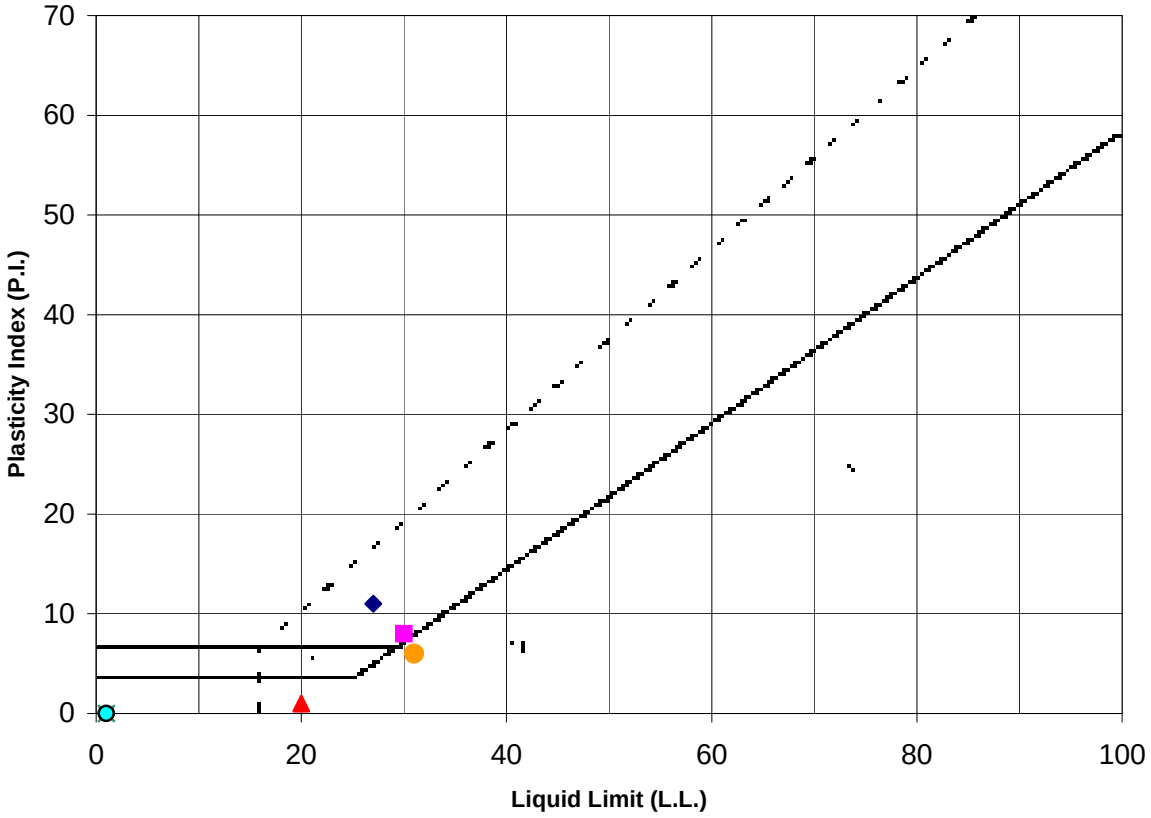
Project No. : 16159-01 | Input By: J. Ward | Date: 02/24/17

Client: LGC Geotechnical, Inc.

Boring No.	TP-14	TP-14	TP-16	TP-16	
Sample No.	GB-1	GB-2	GB-1	GB-2	
Depth (ft)	6-8	9-10	2-3	8-9	
Soil Description	Olive silt with sand (ML)s	Olive silt (ML)	Olive brown silt with sand (ML)s	Olive brown silt with sand (ML)s	
Wt. of Moist Soil + Container (gm)	1535.53	568.54	2017.73	2110.93	
Wt. of Dried Soil + Container (gm)	1442.83	546.35	1926.68	2046.45	
Wt. Container (gm)	110.83	108.64	107.02	300.21	
Crucible No.	1, 10	8, 17	2, 4	1, 10	
Furnace Temperature (°C)	440	440	440	440	
Time In / Time Out	Timer used	Timer used	Timer used	Timer used	
Duration of Combustion (hr)	3.33	3.33	3.20	3.20	
Wt. of Dried Soil + Crucible (gm)	96.35	97.78	93.32	94.10	
Wt. of Ash + Crucible (gm)	93.98	97.23	92.89	93.60	
Wt. of Crucible (gm)	42.66	42.60	42.09	42.66	
Moisture Content @ 105 °C (%) "as received"	7.0	5.1	5.0	3.7	
Dry wt. of Soil (gm) (1)	53.69	55.18	51.23	51.44	
Wt. of Ash (gm) (2)	51.32	54.63	50.80	50.94	
Ash Content (%) = [(2) / (1)] x 100 (3)	95.6	99.0	99.2	99.0	
Organic Matter (%) = 100 - (3)	**4.4**	**1.0**	**0.8**	**1.0**	

Remarks: Moisture, ash & organic contents are calculated as percentages of oven-dried mass of test specimen.

PLASTICITY CHART - CLASSIFICATION OF FINE-GRAINED SOILS



Symbol	Location.:	Sample No.:	Depth (ft)	Passing No. 200 Sieve (%)	Liquid Limit (%) LL	Plastic Limit (%) PL	Plasticity Index (%) PI	USCS
◆	HS-1	SPT-4	45'	-	27	16	11	CL
■	HS-2	SPT-2	30'	-	30	22	8	CL
▲	HS-2	R-5	15'	-	20	19	1	ML
●	HS-2	R-8	45'	-	31	25	6	ML
	HS-4	R-4	10'	-	NP	NP	NP	NP
	HS-6	R-5	15'	-	NP	NP	NP	NP

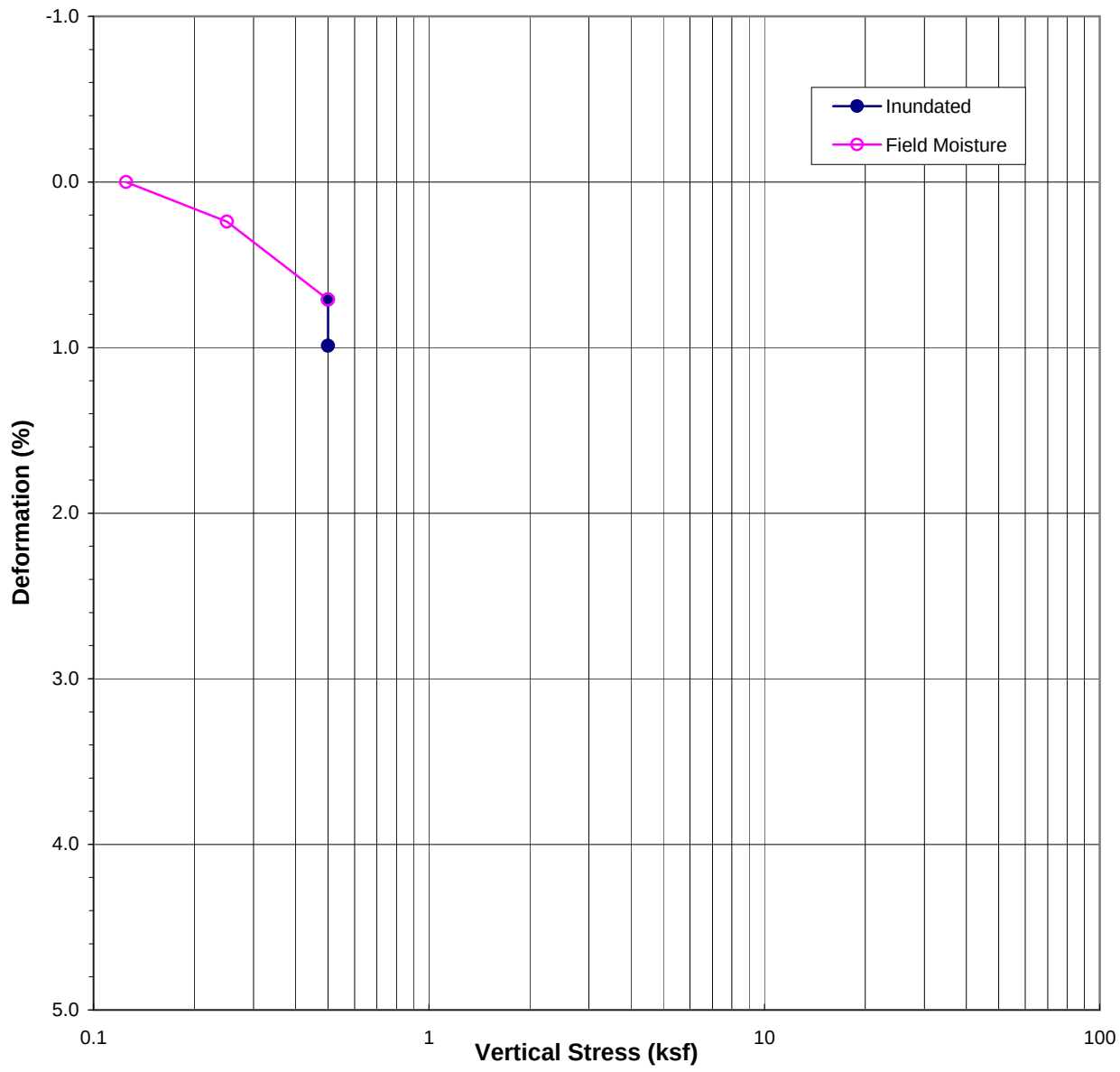
NP = Non Plastic

LGC

ATTERBERG LIMITS
(ASTM D 4318)

Project Number: 16159-01
Date: Feb-17

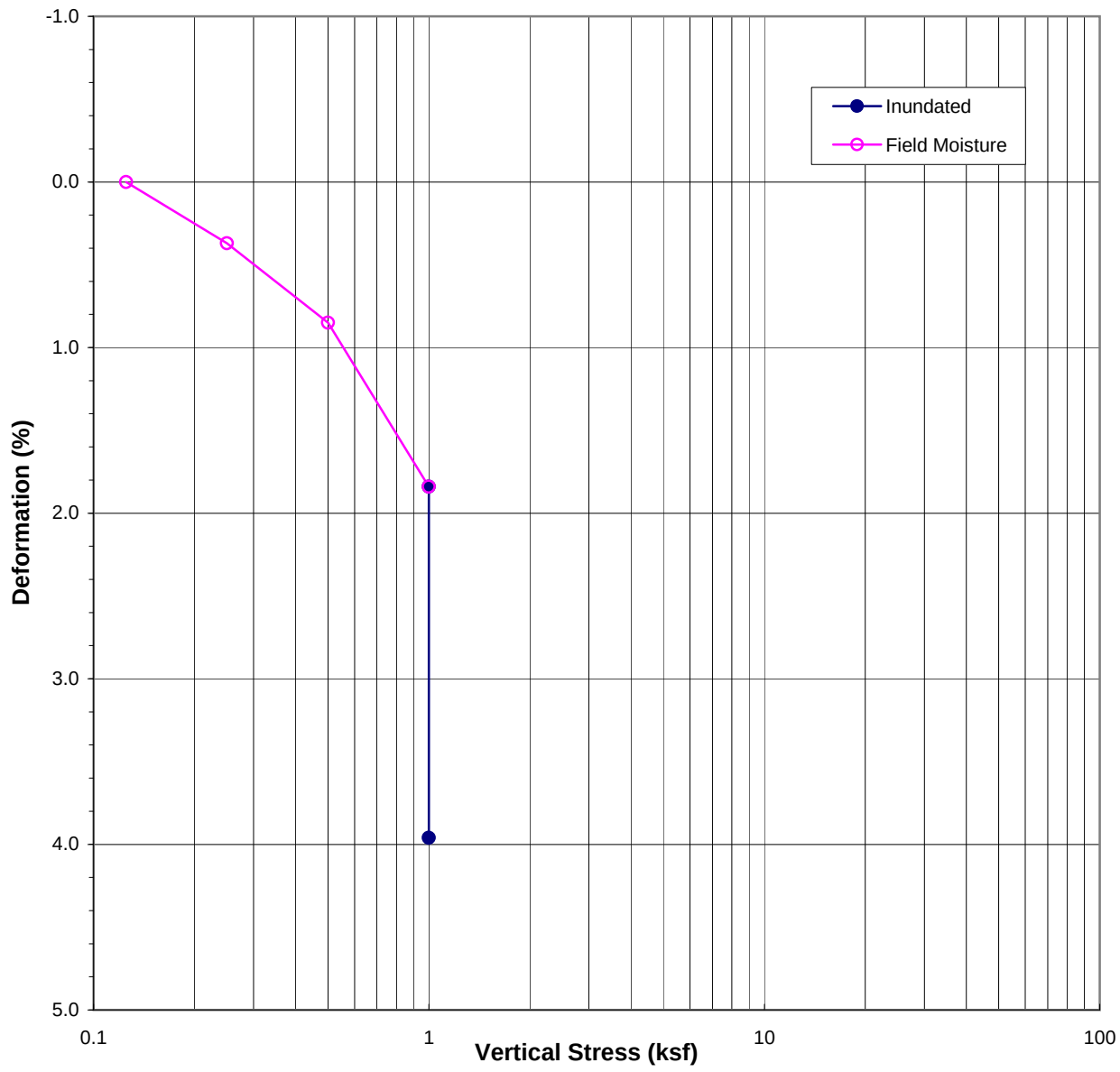
Rregions North



Location:	Sample No.:	Depth (ft)	Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
HS-1	**R-2**	**5'**	**105.3**	**10.5**	**21.0**

Sample Description: SM

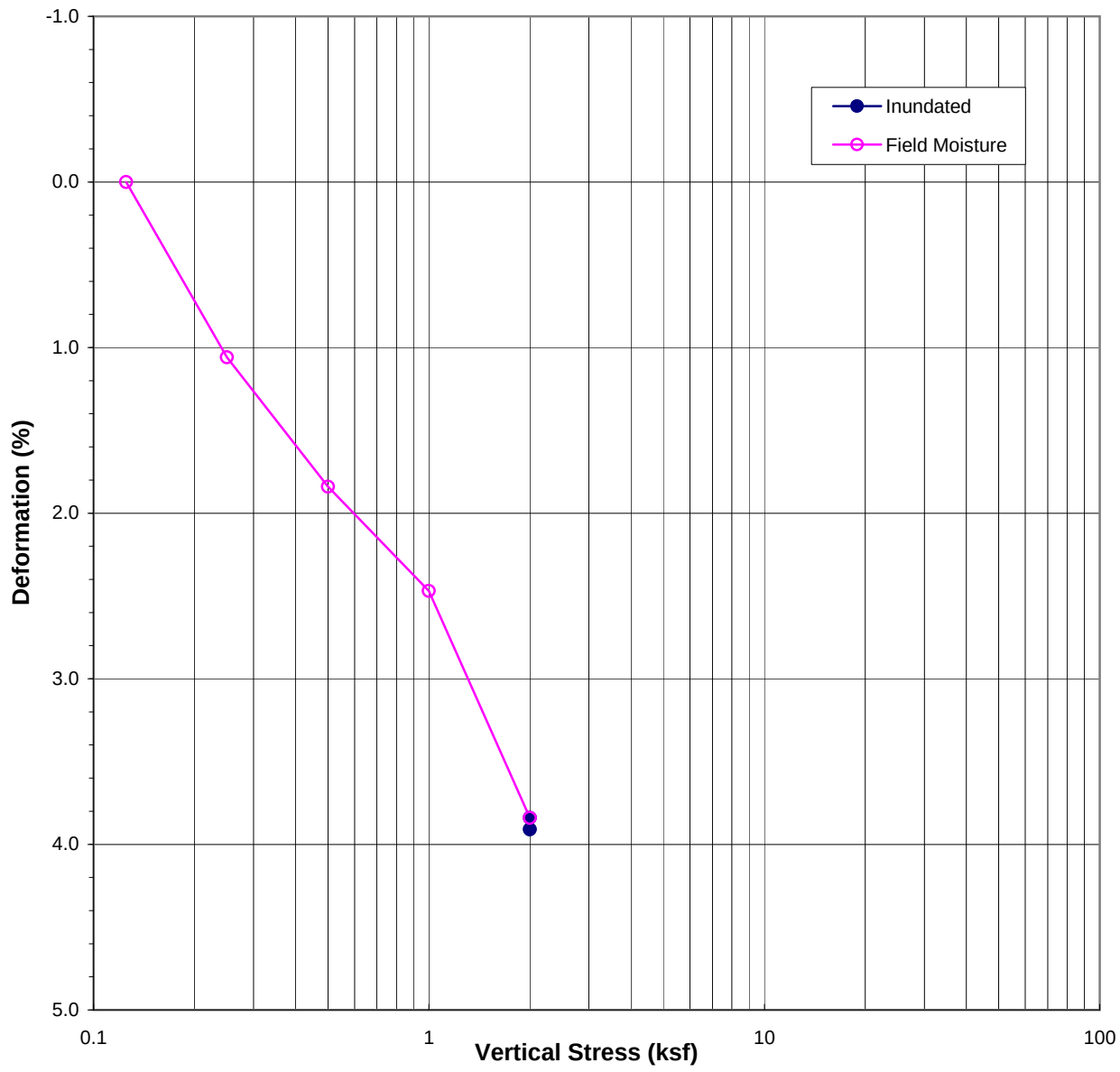
LGC	**COLLAPSE TEST**	**Project Number:** 16159-01 **Date:** Feb-17 **Regions North**



Location:	Sample No.:	Depth (ft)	Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
HS-1	**R-4**	**10'**	**104.1**	**11.1**	**22.0**

Sample Description: SM

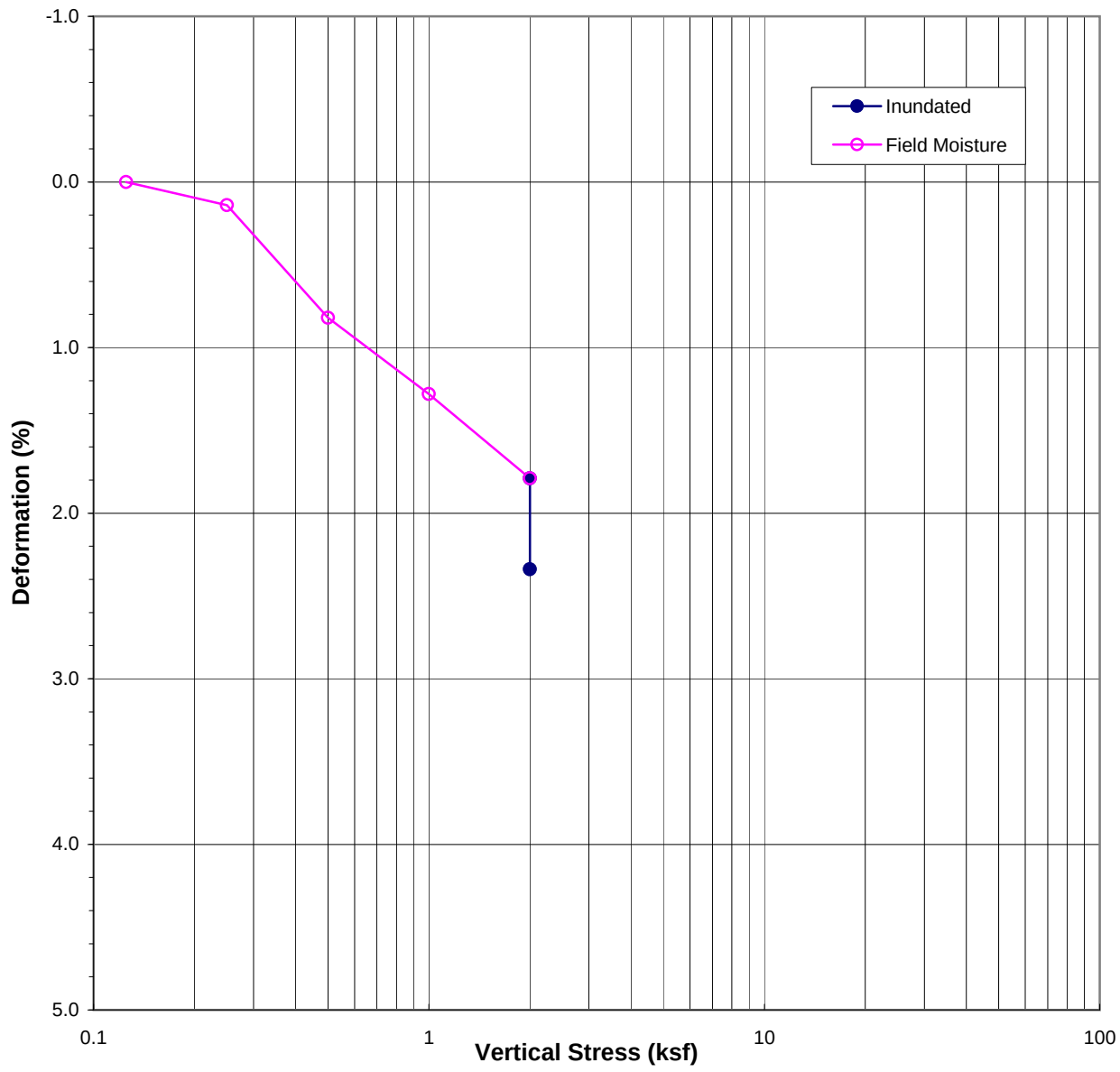
LGC	**COLLAPSE TEST**	**Project Number:** 16159-01 **Date:** Feb-17 **Regions North**



Location:	Sample No.:	Depth (ft)	Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
HS-2	**R-5**	**15'**	**106.5**	**15.8**	**24.2**

Sample Description: ML

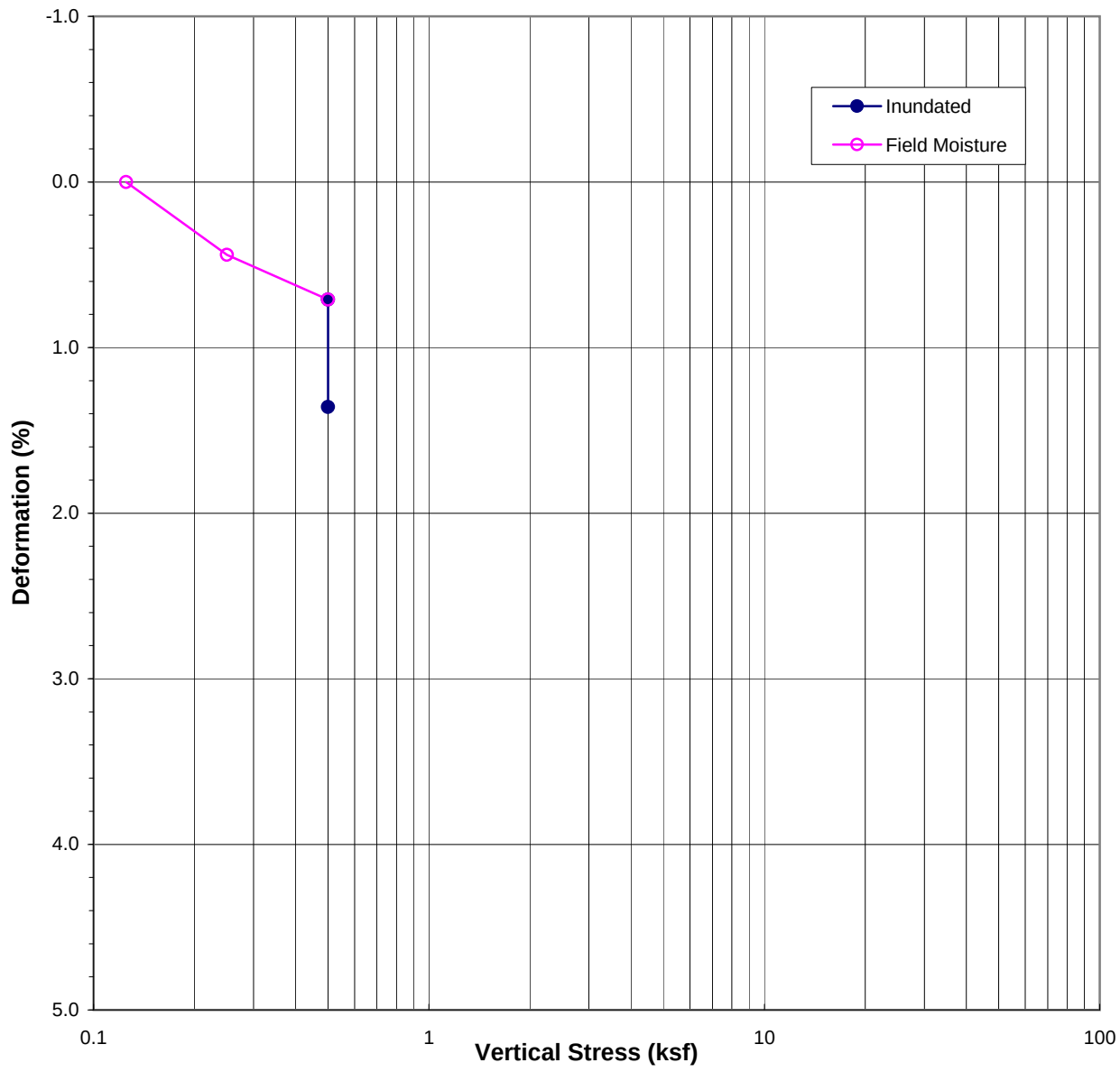
LGC	**COLLAPSE TEST**	**Project Number:** 16159-01 **Date:** Feb-17 **Regions North**



Location:	Sample No.:	Depth (ft)	Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
HS-3	**R-5**	**20'**	**101.0**	**2.9**	**23.4**

Sample Description: SM

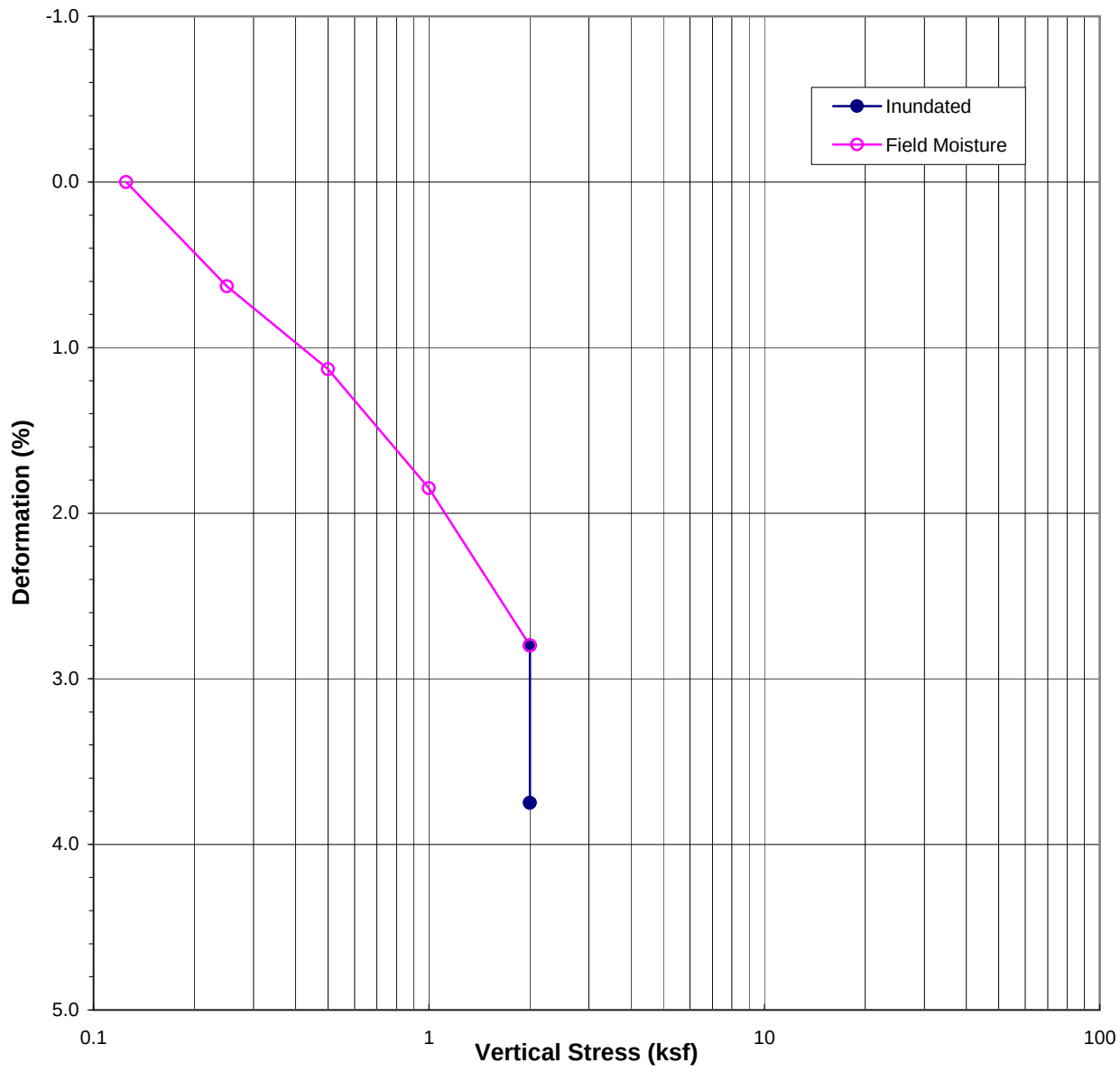
LGC	**COLLAPSE TEST**	**Project Number:** 16159-01 **Date:** Feb-17 **Regions North**



Location:	Sample No.:	Depth (ft)	Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
HS-4	**R-2**	**5'**	**98.0**	**4.4**	**21.4**

Sample Description: SM

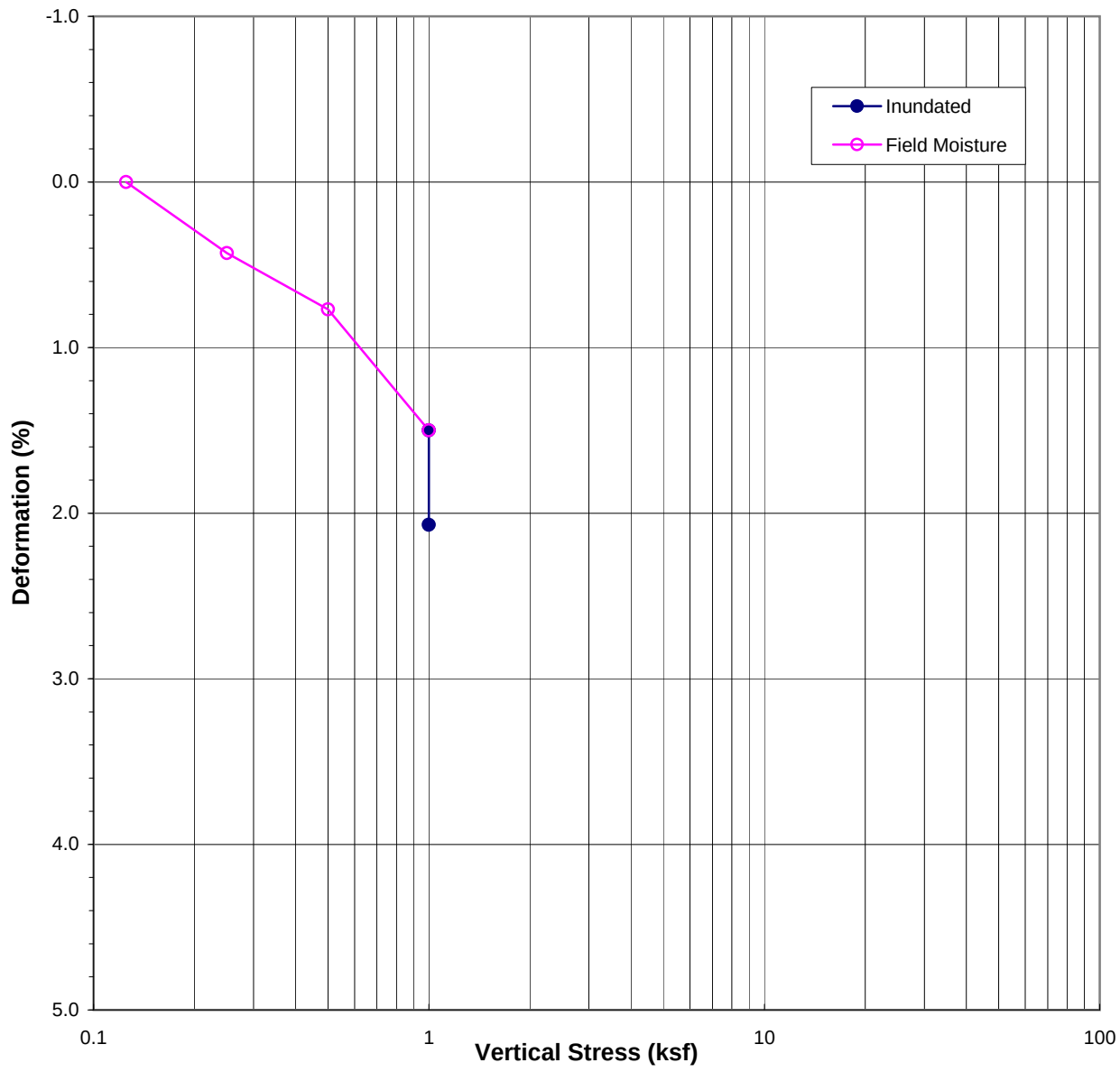
LGC	**COLLAPSE TEST**	**Project Number:** 16159-01 **Date:** Feb-17 **Regions North**



Location:	Sample No.:	Depth (ft)	Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
HS-6	**R-5**	**15'**	**105.5**	**11.1**	**24.1**

Sample Description: ML

LGC	**COLLAPSE TEST**	**Project Number:** 16159-01 **Date:** Feb-17 **Regions North**



Location:	Sample No.:	Depth (ft)	Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
HS-7	**R-3**	**7.5'**	**101.0**	**13.4**	**24.4**

Sample Description: ML

LGC	**COLLAPSE TEST**	**Project Number:** 16159-01 **Date:** Feb-17 **Regions North**

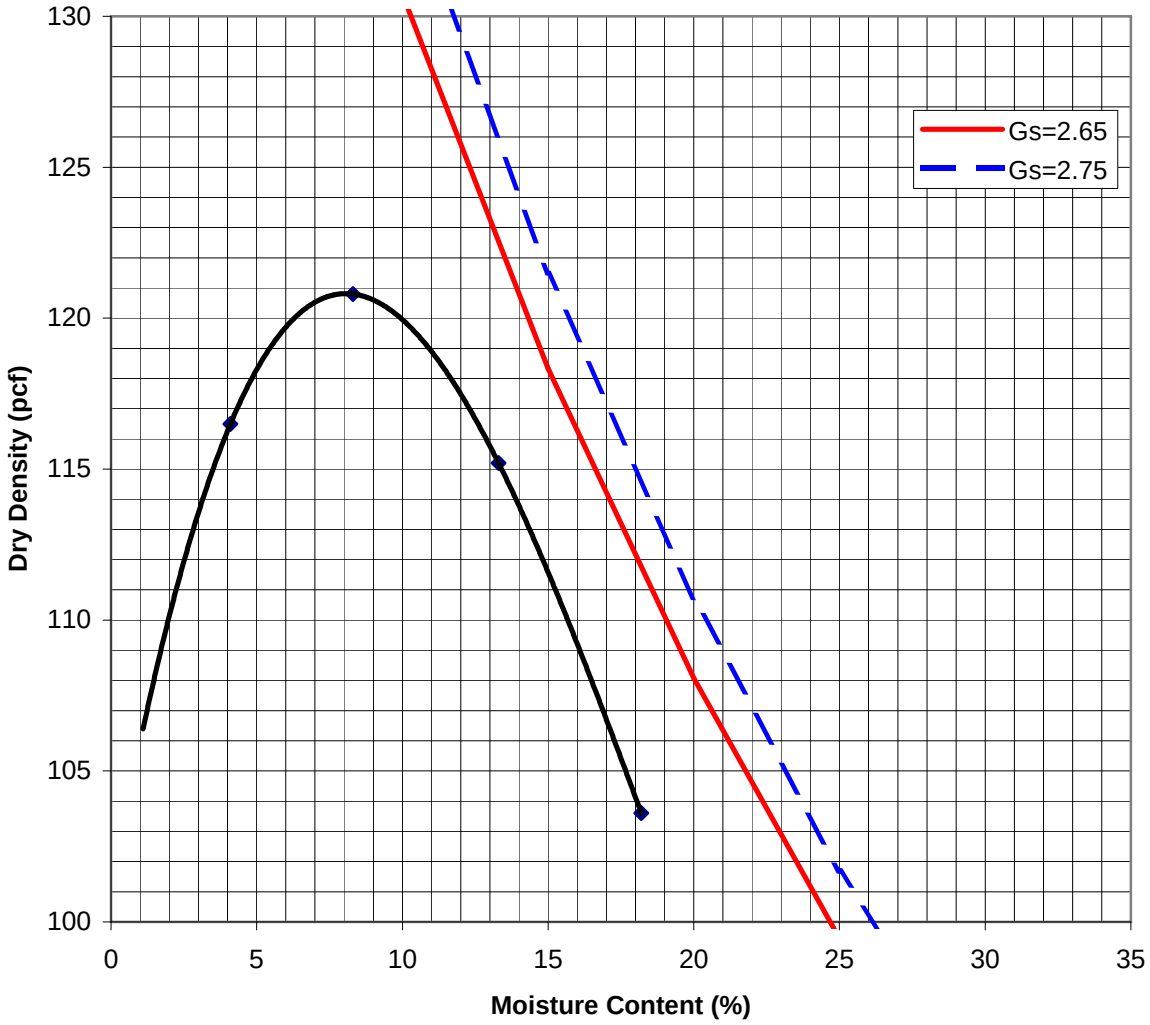
Location	Sample No.	Depth (ft)	Molding Moisture Content (%)	Initial Dry Density (pcf)	Final Moisture Content (%)	Expansion Index	Expansion Classification[1]
HS-2	B-1	15'-20'	9.7	117.7	14.4	5	Very Low

LGC

EXPANSION INDEX
(ASTM D 4829)

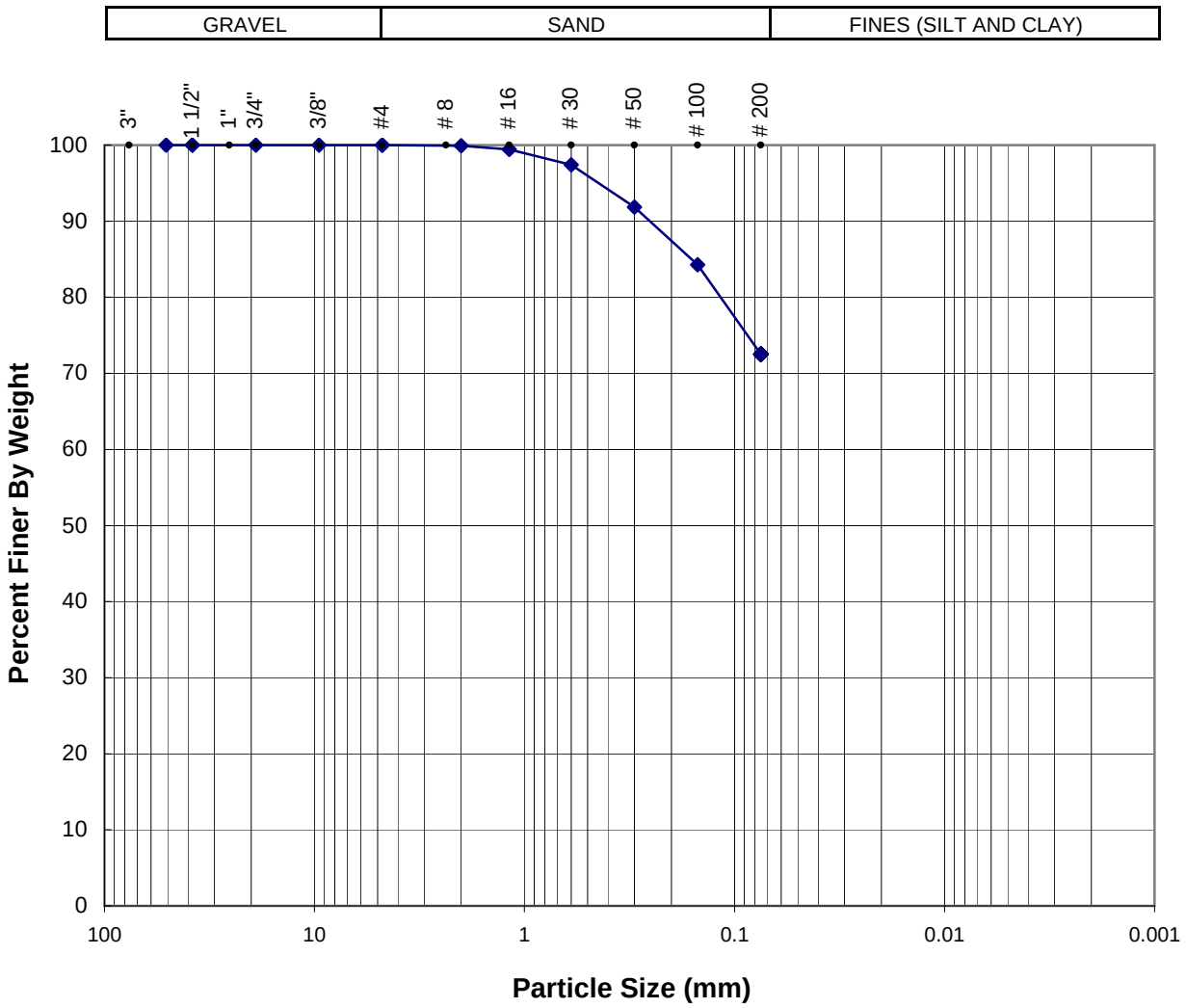
Project Number: 16159-01
Date: Feb-17

Regions North



Location:	Sample No.:	Depth (ft)	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-1	**B-1**	**0-5'**	**Brown Silty Sand**	**121.0**	**8.5**

LGC	**LABORATORY COMPACTION** (ASTM D 1557)	**Project Number:**	16159-01
		Date:	Feb-17
		Regions North	



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-2	**R-5**	**15'**	**ML**	**0**	**27**	**73**

Sample Description: Sandy Silt

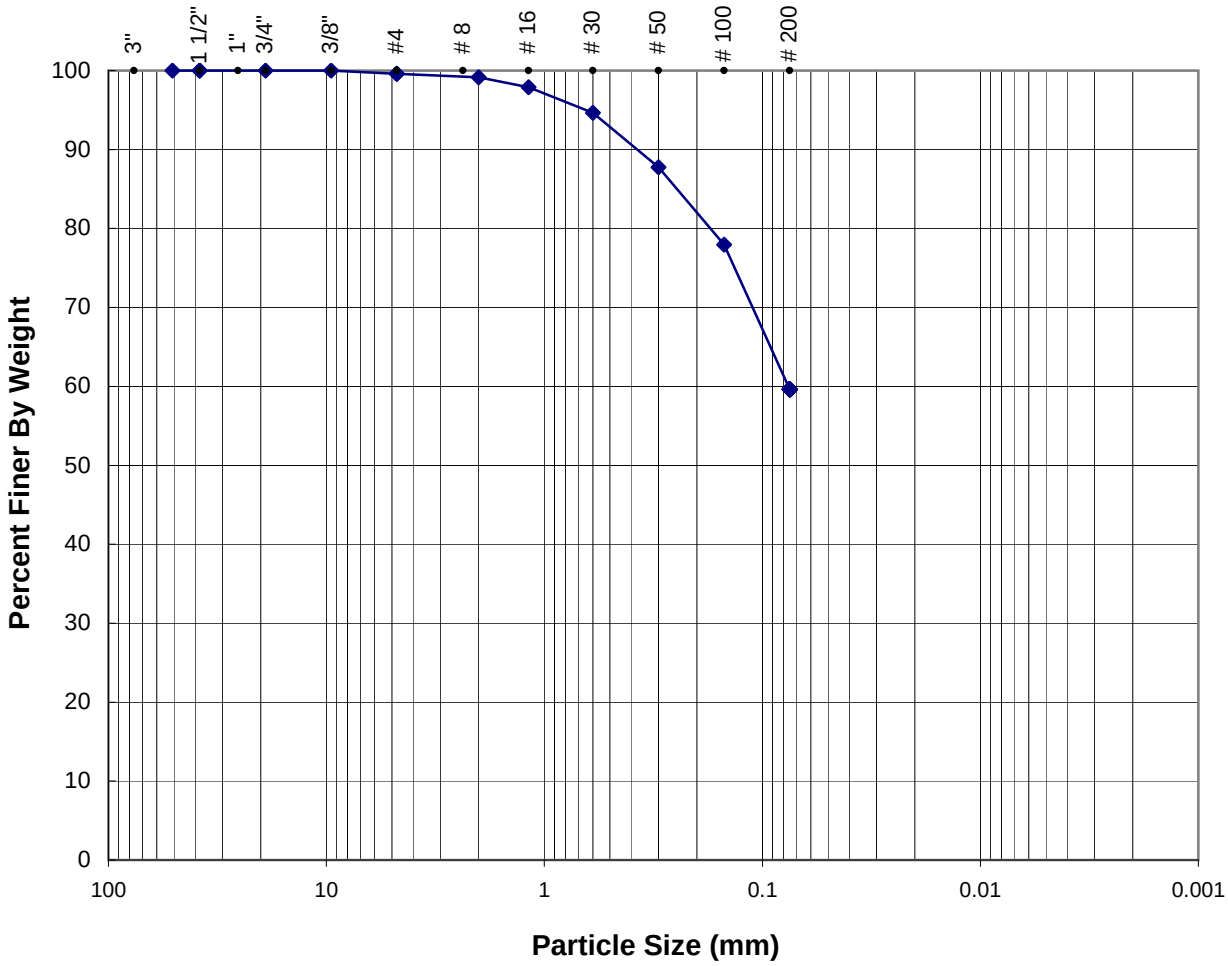
LGC

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 16159-01
Date: Feb-17

Regions North

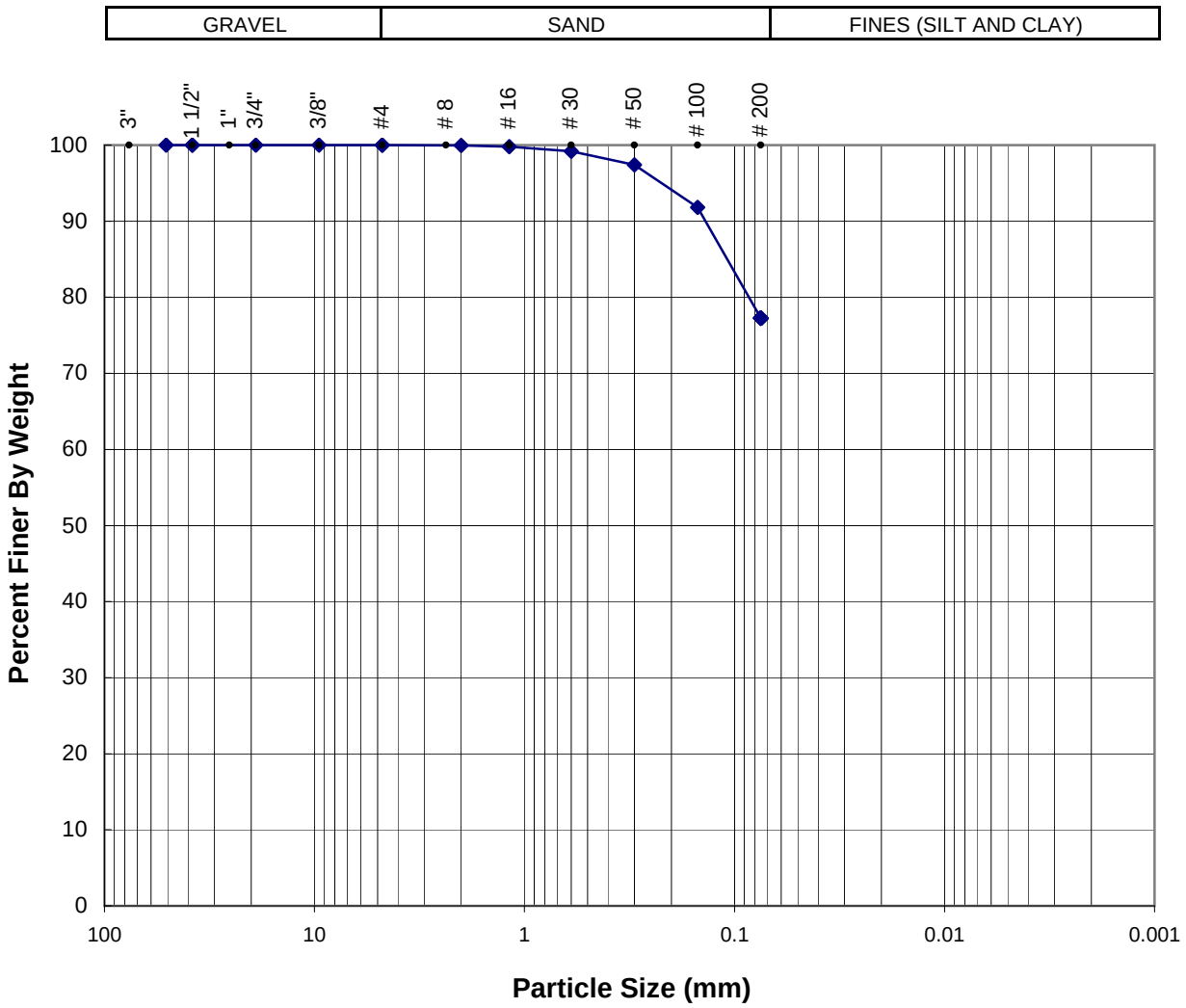
GRAVEL	SAND	FINES (SILT AND CLAY)



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-2	**SPT-2**	**30'**	**ML**	**0**	**40**	**60**

Sample Description: Sandy Silt

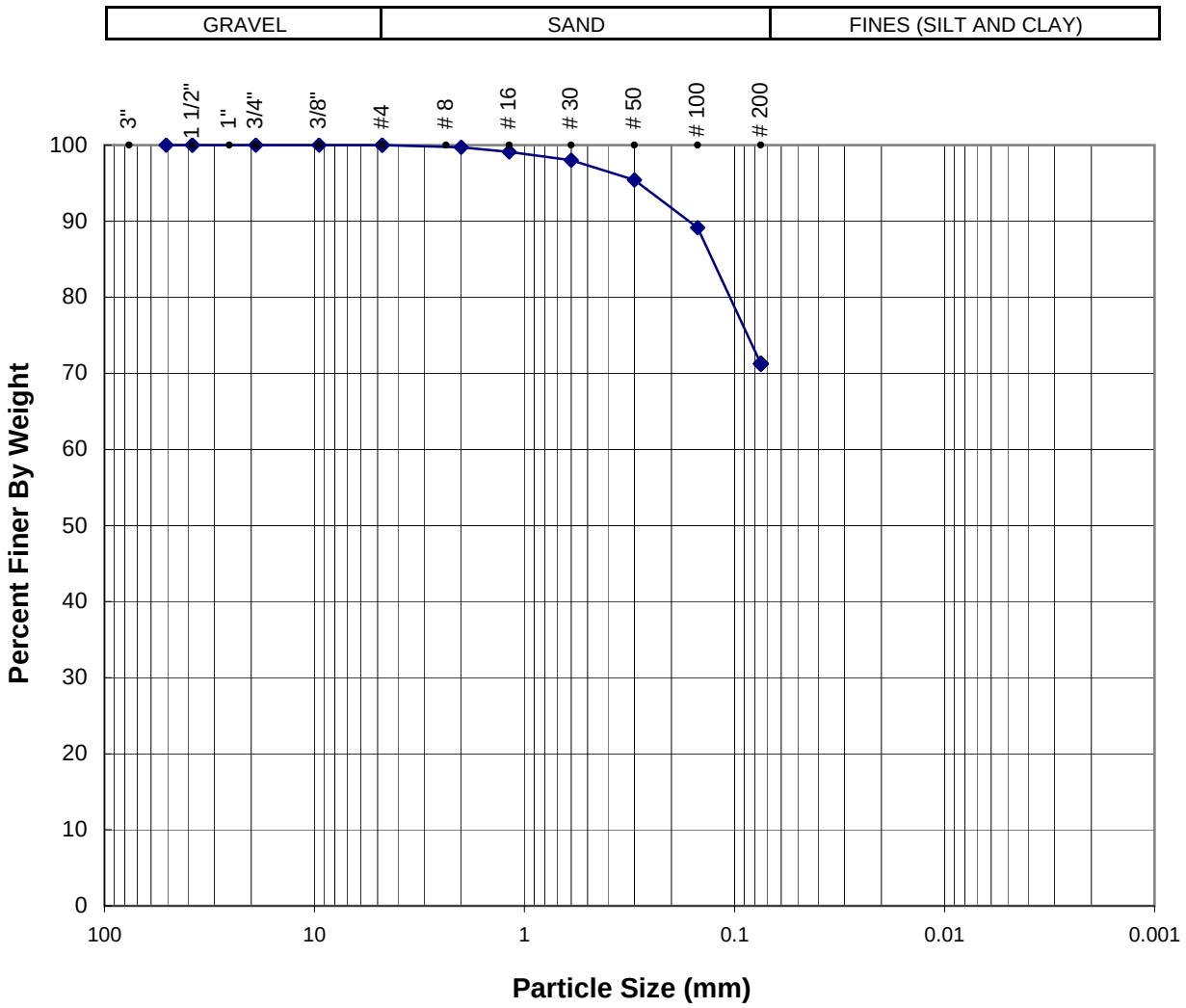
LGC	**PARTICLE SIZE ANALYSIS** (ASTM D 422)	**Project Number:**	16159-01
		Date:	Feb-17
		Regions North	



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-2	**R-8**	**45'**	**CL**	**0**	**23**	**77**

Sample Description: Sandy Clay

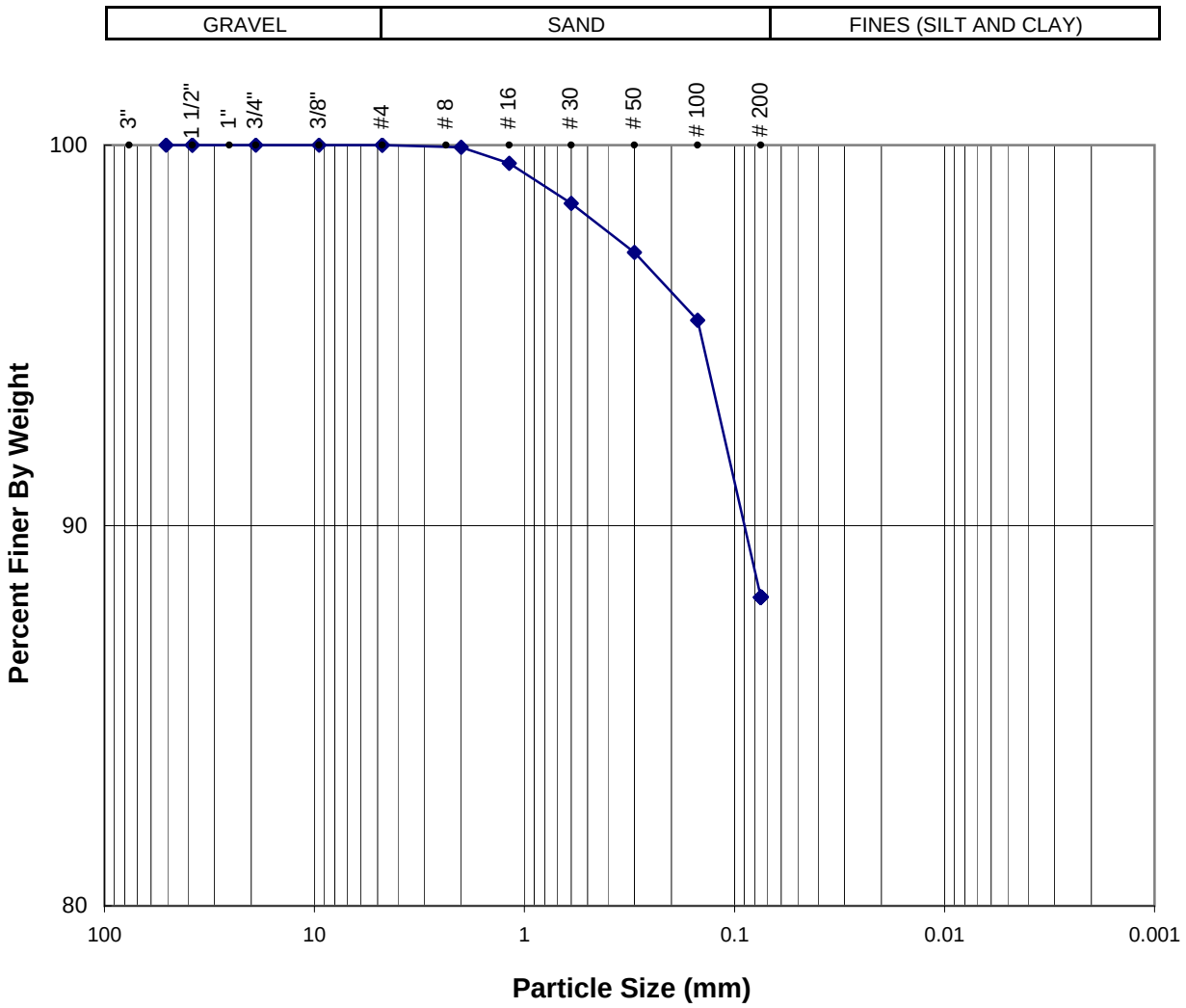
LGC	**PARTICLE SIZE ANALYSIS** (ASTM D 422)	**Project Number:**	16159-01
		Date:	Feb-17
		Regions North	



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-6	**R-5**	**15'**	**ML**	**0**	**29**	**71**

Sample Description: Sandy Silt

LGC	**PARTICLE SIZE ANALYSIS** (ASTM D 422)	**Project Number:**	16159-01
		Date:	Feb-17
		Regions North	



Location:	Sample No.:	Depth (ft.)	Soil Type	Gravel (%)	Sand (%)	Fines (%)
HS-7	**SPT-1**	**15'**	**ML**	**0**	**12**	**88**

Sample Description: Sandy Silt

LGC

PARTICLE SIZE ANALYSIS
(ASTM D 422)

Project Number: 16159-01
Date: Feb-17

Regions North

Geotechnical Boring Log Borehole HS-1

Date: 2/9/2017	**Drilling Company:** Cal Pac
Project Name: Regions North	**Type of Rig:** Hollow Stem
Project Number: 16159-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~747' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 2

Logged By CNJ
Sampled By CNJ
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
745	0	B-1					SM	**Undocumented Artificial Fill (Afu):** @0.5' - Grass and scattered hay remnants @1' - Silty SAND: light brown, wet (recent rain), dense.	
			R-1	1 1 5	99.9	7.5	SP	@2.5' - SAND : light brown, moist, loose, bits of plastic and rootlets.	MD
	5		R-2	4 5 7	105.3	10.5	SM	**Quaternary Young Eolian Depostis (Qye):** @5' - Silty SAND: light brown, moist, medium dense, rootlets.	CO
740			R-3	2 4 6	110.1	17.0	SC	@7.5' - Clayey SAND: light brown, very moist, medium Dense, few root casts.	
	10		R-4	3 3 8	104.1	11.1	SM	@10' - Silty SAND: light brown, slightly moist, medium Dense, fine grained sand.	CO
735		B-2							
	15		SPT-1	4 5 7		14.5	ML	SILT with some SAND: light brown, dry, stiff.	
730									
	20		R-5	7 12 18	99.6	2.2	SP	SAND: light brown, dry, dense, micaceous.	
725									
	25		SPT-2	5 6 11		4.9	SM	Silty SAND: brown, slightly moist, medium dense, iron oxide, some gravel.	
720									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/31/2017

Geotechnical Boring Log Borehole HS-1

Date: 2/9/2017	**Drilling Company:** Cal Pac
Project Name: Regions North	**Type of Rig:** Hollow Stem
Project Number: 16159-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~747' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By CNJ
Sampled By CNJ
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
715	30		R-6	4 10 15	113.6	16.5	SM	Silty SAND: grayish brown to reddish brown, mottled, moist, medium dense, iron oxide, some small gravels	
710	35		SPT-3	7 9 14		7.2	ML-SP	Silt with SAND: light brown, slightly moist, medium dense.	
705	40		R-7	5 14 24	113.4	7.5	SC	Clayey SAND: brown, moist, dense.	
700	45		SPT-4	9 12 14		20.3	CL-SP	CLAY with SAND: brown, moist, hard.	AL
695	50		R-8	7 15 26	117.9	15.7	CL-SP	Clay with SAND, brown, moist, hard, micaceous, manganese oxide, fine grain sand.	
690	55							Total Depth = 51.5' Groundwater Not Encountered Backfilled with Cuttings on 2/9/2017	
	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-2

Date: 2/9/2017 | **Drilling Company:** Cal Pac

Project Name: Regions North | **Type of Rig:** Hollow Stem

Project Number: 16159-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~743' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**Undocumented Artificial Fill (Afu):** @0'. - Gravel / old asphalt. **Quaternary Young Eolian Deposits (Qye):**	
740			R-1	6 6 9	108.6	6.5	SP	SAND: brown, moist, medium dense.	
	5		R-2	6 6 10	107.9	18.1	ML	SILT: brown, moist to very moist, stiff.	
735			R-3	5 8 14	112.0	6.9	SM	Silty SAND: brown, moist, medium dense, some small angular gravels, fine grains of sand.	
	10	B-1	R-4	7 9 16	112.1	9.9	SM	Silty SAND: grayish brown, slightly moist, medium dense, fine grains of sand.	EI
730									
	15		R-5	2 3 5	106.5	15.8	ML-SP	Clayey SILT with SAND, grayish brown, slightly moist to moist, stiff, iron oxide, trace rootlet, pores.	AL CO SA
725									
	20		SPT-1	7 8 9		26.6	SM	Sandy SILT, brown, moist stiff, laminations.	
720									
	25		R-6	5 7 9	103.1	16.2	CL	Silty CLAY: brown/gray, moist, stiff, micaceous, iron oxide, scattered gravel, mottled.	
715									
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/31/2017

Geotechnical Boring Log Borehole HS-2

Date: 2/9/2017	**Drilling Company:** Cal Pac
Project Name: Regions North	**Type of Rig:** Hollow Stem
Project Number: 16159-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~743' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By CNJ
Sampled By CNJ
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-2	4 6 8		17.3	SM	Sandy SILT, brown, moist, stiff, laminations.	AL SA
710									
	35		R-7	3 10 25	112.9	14.0	SP - GP	SAND with GRAVEL: gray and orange, mottled, moist, dense, few scattered root pores.	
705									
	40		SPT-3	6 11 11		18.2	SM	Sandy SILT: orange/brown, moist, very stiff, micaceous, iron oxide.	
700									
	45		R-8	2 8 14	97.8	21.0	CL	CLAY: grayish brown, moist, very stiff, iron oxide, manganese oxide, woody bits, traces of pinhole porosity.	AL SA
695									
	50		SPT-4	7 11 16		14.6	SC	Sandy CLAY: brown, moist, very stiff, iron oxide, manganese oxide, fine grains of sand, pinhole porosity.	
690									
	55							Total Depth = 51.5' Groundwater Not Encountered Backfilled with Cuttings on 2/9/2017	
685									
	60								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-3

Date: 2/9/2017	**Drilling Company:** Cal Pac
Project Name: Regions North	**Type of Rig:** Hollow Stem
Project Number: 16159-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~748' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By CNJ
Sampled By CNJ
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
735	0	B-1	R-1	5 5 5 4 8 7	103.3	8.6	S	**Undocumented Artificial Fill (Afu):** Old asphalt turned gravel, scattered bones, broken glass. SAND: brown, moist, medium dense, roots, some organics.	
	5		R-2	4 4 6	97.2	20.4	SC	Clayey SAND: grayish brown, wet, organics, hay and plastic.	
730			R-3	4 10 27	100.7	19.6	SC	Clayey SAND: black, wet, medium dense, approx. 30% organics/plastics.	
	10		R-4	2 4 7	113.0	3.6	SP	SAND: brown, very moist, dense, some organics.	
725								**Quaternary Young Eolean Deposits (Qye):**	
	15		SPT-1	2 4 7		26.1	SM	Silty SAND: brown, moist, dense.	
720									
	20		R-5	4 7 15	101.0	2.9		SAND: very light brown, slightly moist, medium dense, fine grained.	CO
715								Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 2/9/2017	
	25								
710									
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/31/2017

Geotechnical Boring Log Borehole HS-4

Date: 2/9/2017 | **Drilling Company:** Cal Pac

Project Name: Regions North | **Type of Rig:** Hollow Stem

Project Number: 16159-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~738' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**Undocumented Artificial Fill (Afu):** Old asphalt turned gravel, scattered bones, broken glass.	
735			R-1	5 4 6	99.2	22.1	SM	**Quaternary Young Eolian Deposits (Qye):** Silty SAND: brown, very moist, medium dense, micaceous.	
	5		R-2	5 7 8	98.0	4.4	SP	SAND: light, brown, very moist, medium dense, micaceous.	CO
730			R-3	5 5 8	93.6	20.6	SM	Sandy SILT: brown, slightly moist, stiff.	
	10		R-4	5 7 8	101.5	9.1	ML	SILT: grayish brown, slightly moist, stiff.	AL
725									
	15		R-5	3 5 7	87.7	29.8	SM	Sandy SILT, grayish brown, moist, stiff.	
720									
	20		SPT-1	5 7 9		17.0		Sandy SILT, grayish brown, moist, stiff, micaceous.	
715								Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 2/9/2017	
	25								
710									
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/31/2017

Geotechnical Boring Log Borehole HS-5

Date: 2/9/2017 | **Drilling Company:** Cal Pac

Project Name: Regions North | **Type of Rig:** Hollow Stem

Project Number: 16159-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~742' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By BJE

Elevation (ft)	Depth (ft)	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0					SM	Scattered weeds	
740							**Stockpile over Undocumented Artificial Fill (Afu):**	
		R-1	18 27 37	119.3	6.8	SM	Silty SAND: dark brown, slightly moist, very dense, strong organic odor.	
	5	R-2	15 18 20	106.5	9.3	SP	Fine grain SAND: dark gray, moist, very dense, abundant organics @ 6'.	
735		R-3	6 10 18	100.7	4.5	SP	SAND: gray, slightly moist, dense, decreased odor.	
	10	R-4	7 13 17	106.2	4.6		SAND: gray with black at base of sample, slightly moist, dense, strong organic odor.	
730							**Quaternary Young Eolean Deposits (Qye):**	
	15	SPT-1	5 6 6		17.5	ML	Sandy SILT: gray, slightly moist, stiff, strong organic odor.	
725								
	20	R-5	5 12 19	101.4	2.7	SP	SAND: brown, slightly moist, dense, no odor.	
720								
		SPT-2	6 10 11		6.8	SM	Silty SAND: light brown, slightly moist to moist, dense, no odor.	
	25							
715							Total Depth = 25.5' Groundwater Not Encountered Backfilled with Cuttings on 2/9/2017	
	30							

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/31/2017

Geotechnical Boring Log Borehole HS-6

Date: 2/9/2017 | **Drilling Company:** Cal Pac

Project Name: Regions North | **Type of Rig:** Hollow Stem

Project Number: 16159-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~742' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							Gravel	
740								**Stockpile:**	
			R-1	7 17 24	122.6	7.4	SM	Silty SAND: brown, moist, dense, scattered gravel.	
	5		R-2	11 14 28	119.9	5.7	SM	Silty SAND: brown, moist, dense, scattered gravel.	
735								**Quaternary Young Eolean Deposits (Qye):**	
			R-3	13 17 25	118.8	6.6	SM	Silty SAND: brown, moist, dense.	
	10		R-4	8 11 13	108.2	4.3	SM	Silty SAND: brown, slightly moist, dense, fine grained.	
730									
	15		R-5	3 4 6	105.5	11.1	ML	SILT: brown, slightly moist, stiff, rootlets.	AL CO SA
725									
	20		SPT-1	5 7 10		11.8	ML	SILT with SAND: light brown, moist, stiff.	
720								Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 2/9/2017	
	25								
715									
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 3/31/2017

Geotechnical Boring Log Borehole HS-7

Date: 2/9/2017 | **Drilling Company:** Cal Pac

Project Name: Regions North | **Type of Rig:** Hollow Stem

Project Number: 16159-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~742' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By CNJ
Sampled By CNJ
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							Grass.	
740								**Quaternary Young Eolian Deposits (Qye):**	
			R-1	4 6 9	111.7	3.5	SM	Silty SAND: brown, moist, stiff, medium dense.	
	5		R-2	6 7 9	99.8	7.6		SILTY SAND: brown, moist, medium dense.	
735			R-3	3 3 5	101.0	13.4	SM	Sandy SILT, brown, moist, stiff.	CO
	10		R-4	5 7 11	97.3	8.4	ML	SILT: grayish, brown, slightly moist, stiff.	
730									
	15		SPT-1	4 5 6	105.5	21.2	SM	SAND with SILT: grayish brown, slightly moist, stiff.	SA
725									
	20		SPT-2	6 10 15		4.9		Silty SAND: brown, slightly moist, dense, some gravel.	
720								Total Depth = 21.5' Groundwater Not Encountered Backfilled with Cuttings on 2/9/2017	
	25								
715									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

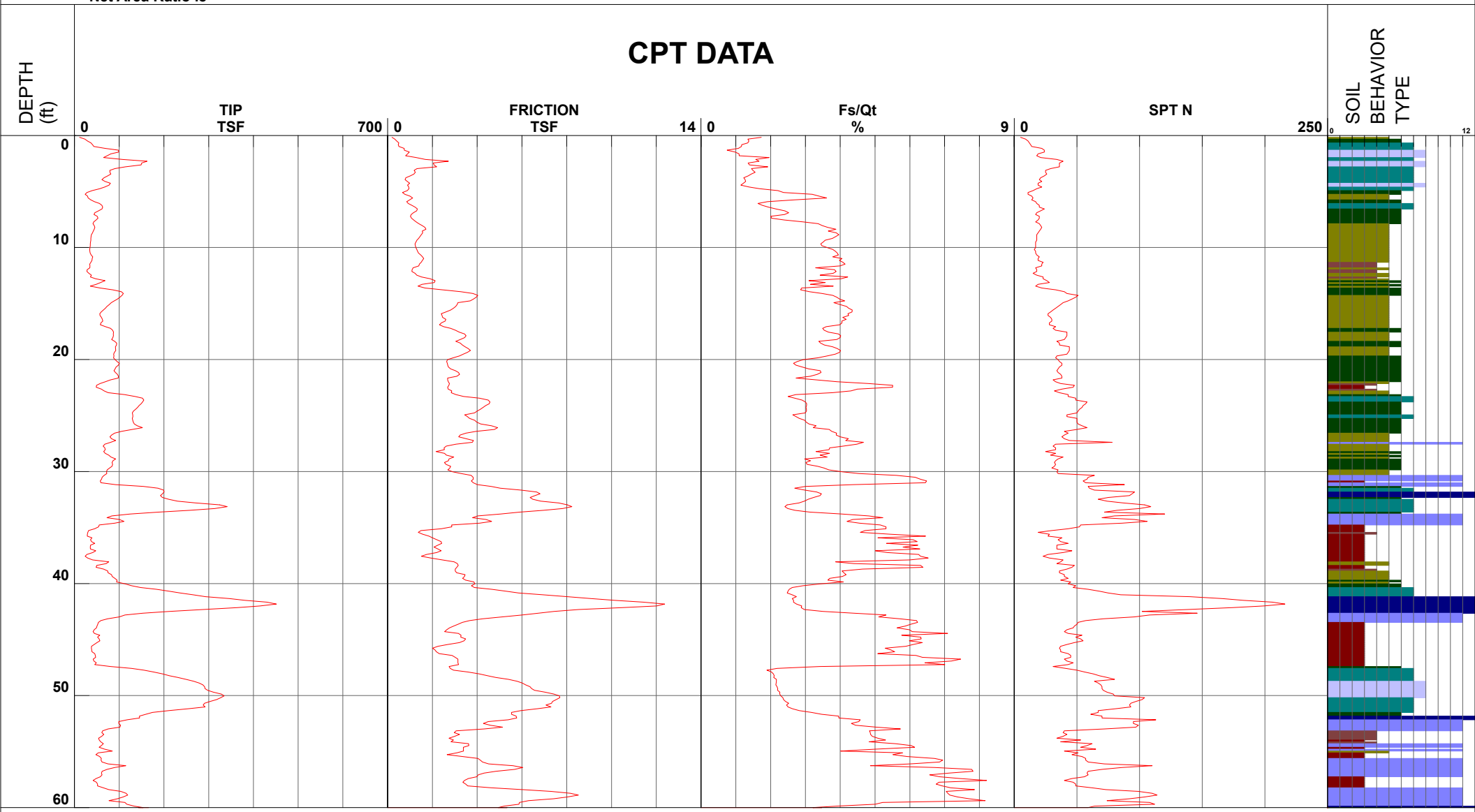
Last Edited: 3/31/2017

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Project	Regions North	Operator	DG-BH	Filename	SDF(494).cpt
Job Number	16159-01	Cone Number	DDG1350	GPS	
Hole Number	CPT-01	Date and Time	2/9/2017 7:43:11 AM	Maximum Depth	60.53 ft
EST GW Depth During Test		200.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6663

Cone Size 10cm squared

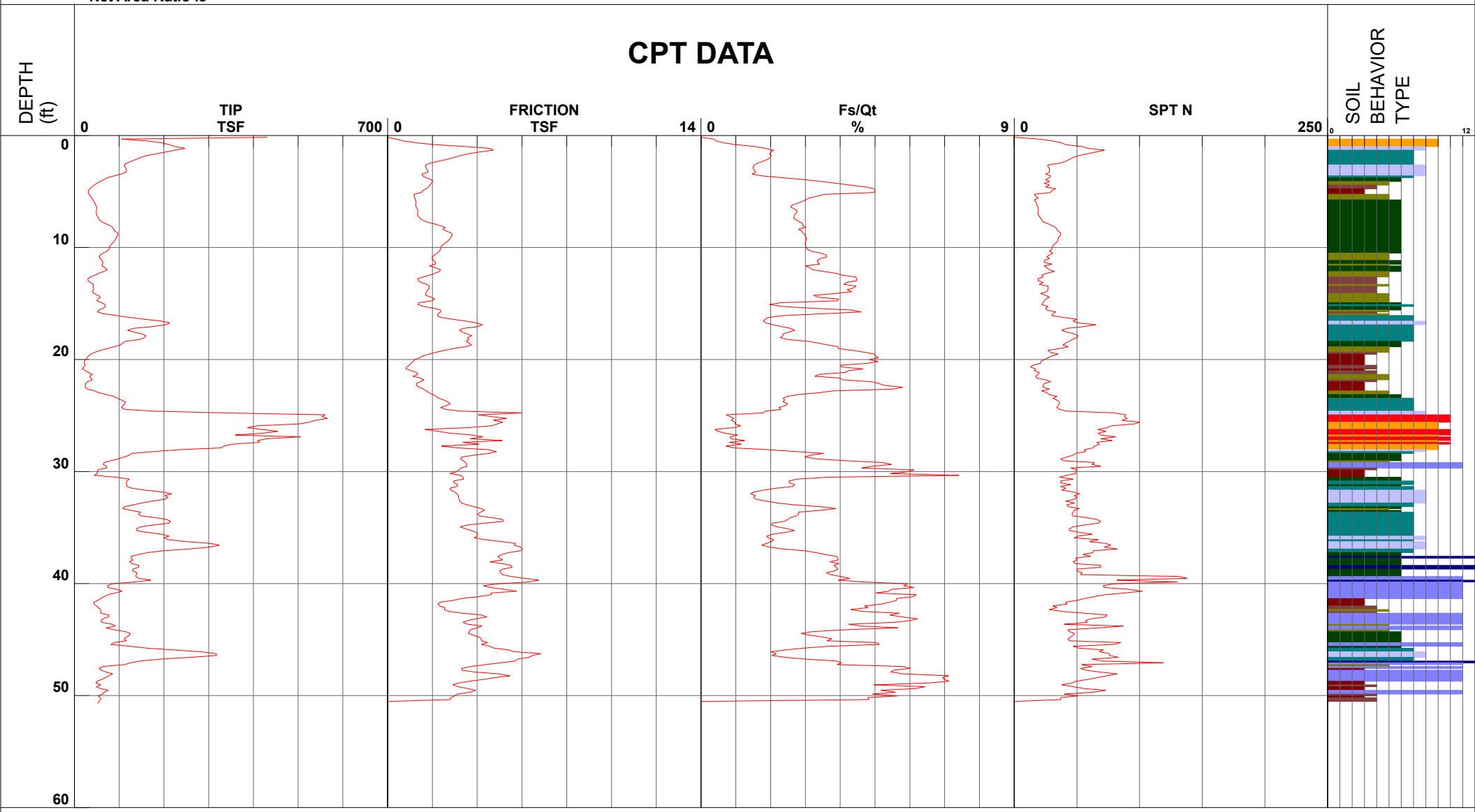
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical

Project	Regions North	Operator	DG-BH	Filename	SDF(495).cpt
Job Number	16159-01	Cone Number	DDG1350	GPS	
Hole Number	CPT-02	Date and Time	2/9/2017 8:33:30 AM	Maximum Depth	50.69 ft
EST GW Depth During Test		200.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6664

Cone Size 10cm squared

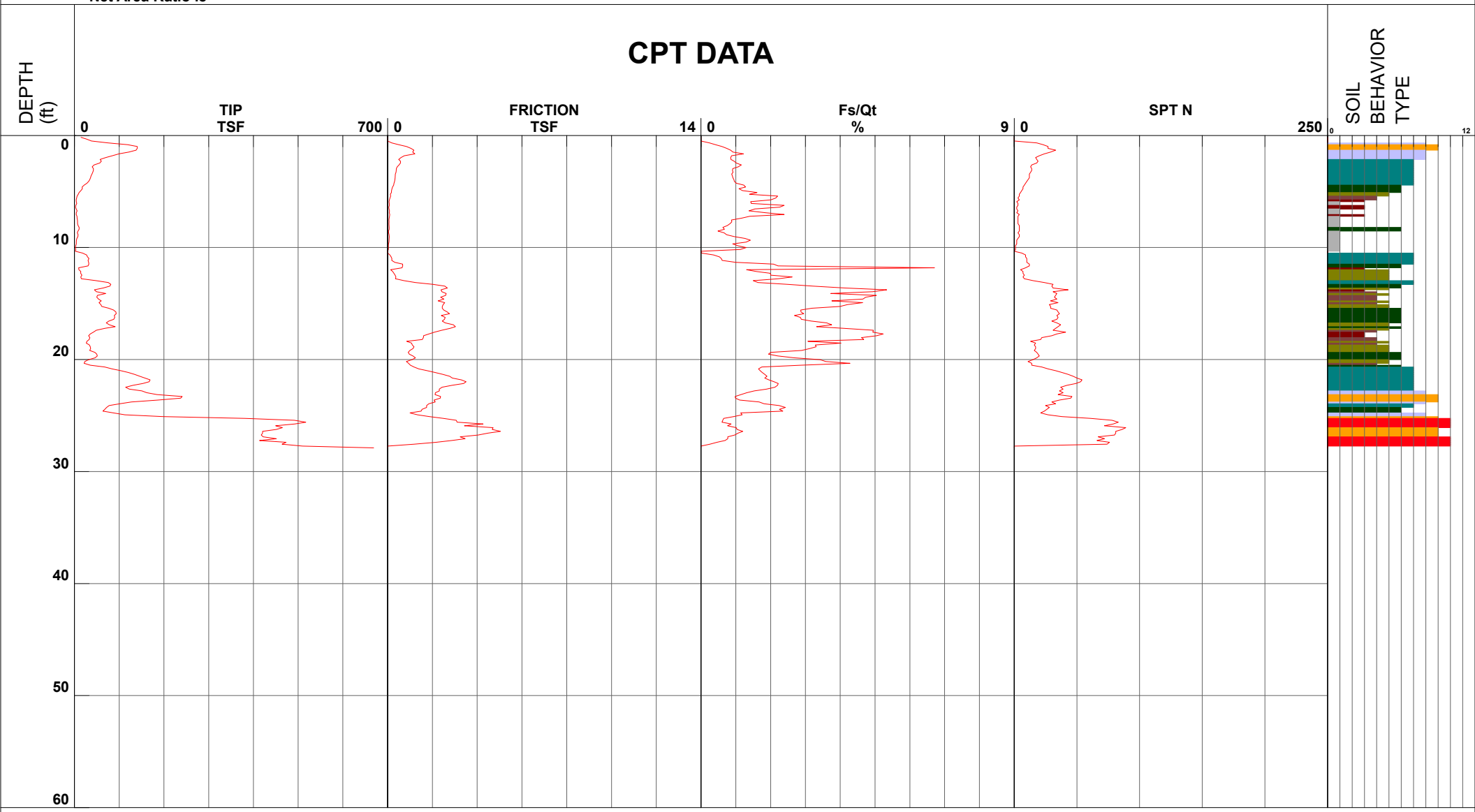
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical

Project	Regions North	Operator	DG-BH	Filename	SDF(496).cpt
Job Number	16159-01	Cone Number	DDG1350	GPS	
Hole Number	CPT-03	Date and Time	2/9/2017 9:12:40 AM	Maximum Depth	27.89 ft
EST GW Depth During Test		200.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
organic material
clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6665

Cone Size 10cm squared

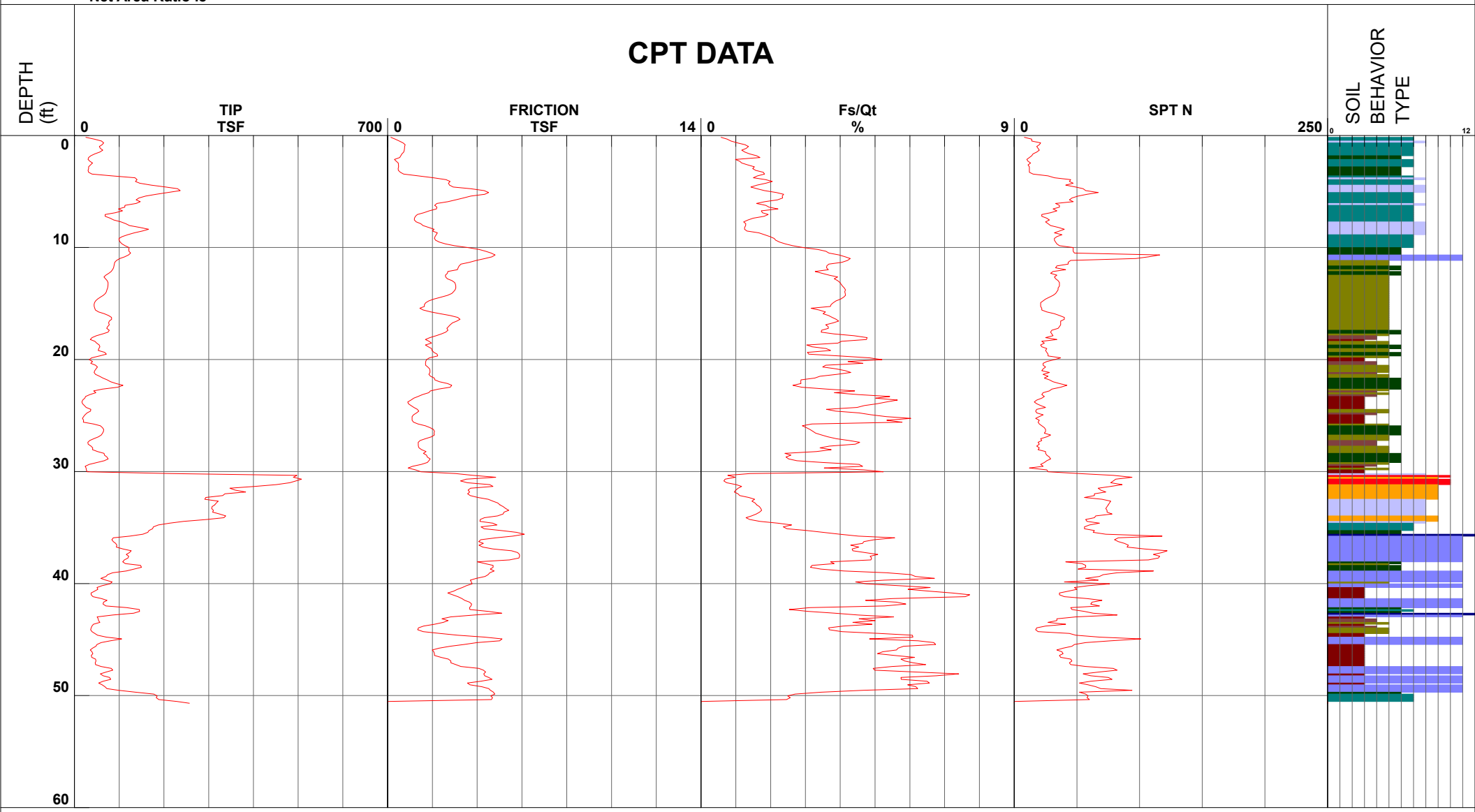
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical

Project	Regions North	Operator	DG-BH	Filename	SDF(497).cpt
Job Number	16159-01	Cone Number	DDG1350	GPS	
Hole Number	CPT-04	Date and Time	2/9/2017 9:43:18 AM	Maximum Depth	50.69 ft
EST GW Depth During Test		0.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
organic material
clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

9999

Cone Size 10cm squared

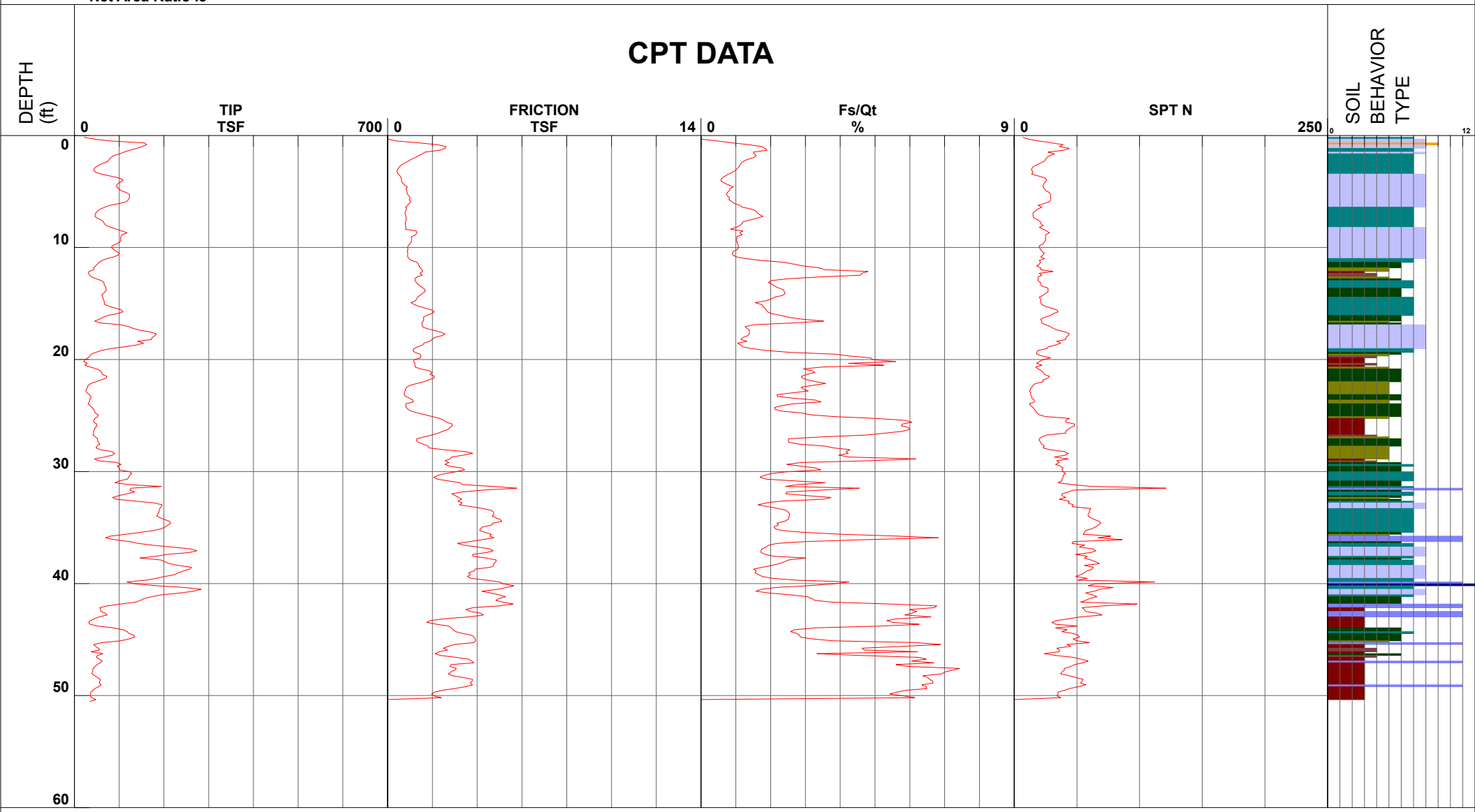
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical

Project	Regions North	Operator	DG-BH	Filename	SDF(498).cpt
Job Number	16159-01	Cone Number	DDG1350	GPS	
Hole Number	CPT-05	Date and Time	2/9/2017 10:19:03 AM	Maximum Depth	50.52 ft
EST GW Depth During Test		0.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

6667

Cone Size 10cm squared

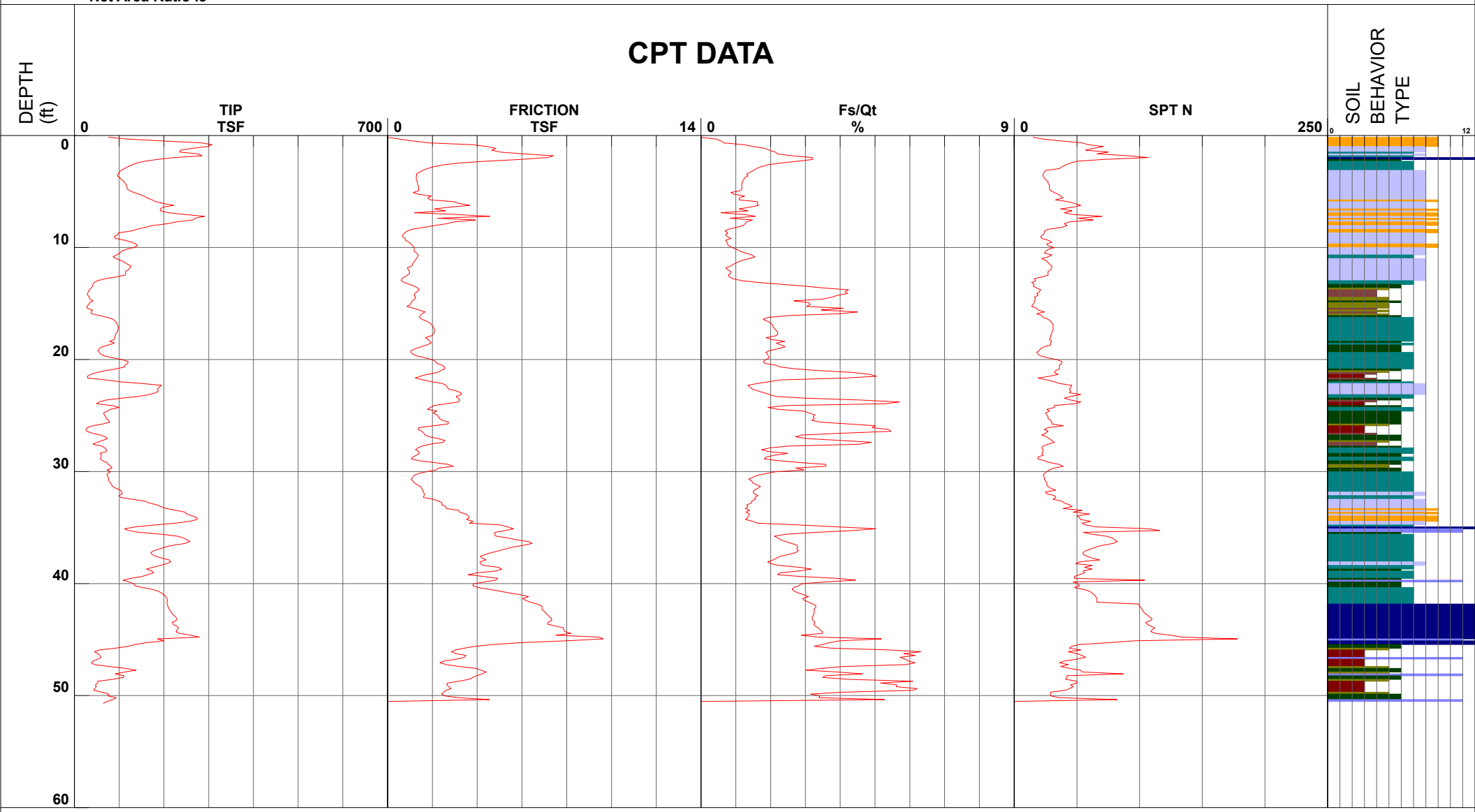
S*Soil behavior type and SPT based on data from UBC-1983

LGC Geotechnical

Project	Regions North	Operator	DG-BH	Filename	SDF(499).cpt
Job Number	16159-01	Cone Number	DDG1350	GPS	
Hole Number	CPT-06	Date and Time	2/9/2017 10:55:41 AM	Maximum Depth	50.69 ft
EST GW Depth During Test		0.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
organic material
clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

8999

Cone Size 10cm squared

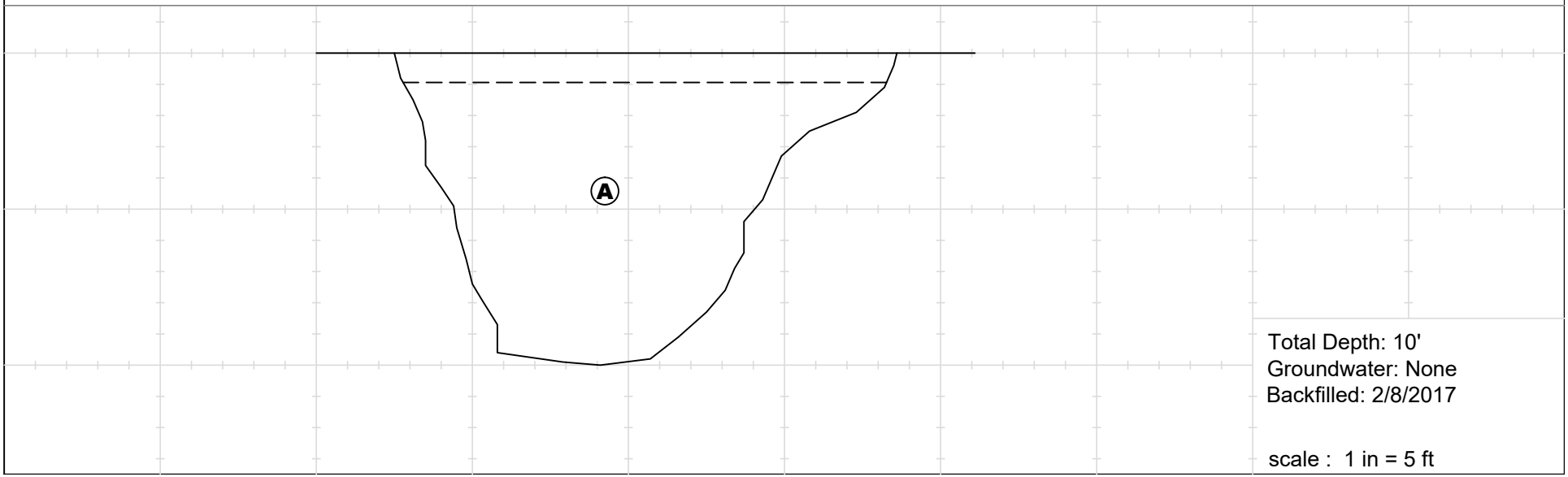
S*Soil behavior type and SPT based on data from UBC-1983

6999

Project Name: Regions North	Logged By: CNJ	Trench No: TP-1	
Project Number : 16159-01	Date : 2/8/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to T.D. - Quaternary Young Eolian Deposits (Qye): @ 0' Silty SAND: dark brown, wet grading to dry, loose; abundant roots (Topsoil) @ 6" SAND: brown, moist, medium dense with loose pockets; rootlets @ 2' Increase density to dense @ 5' SAND: gray brown and light brown mottled, moist, dense; some roots @ 9' SAND: very light brown, slightly moist, dense to very dense; fine grained, slightly indurated	Qye	SM SP	GB-1 @ 1-2' GB-2 @ 3-4' GB-3 @ 5-7' GB-4 @ 9-10'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 747 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



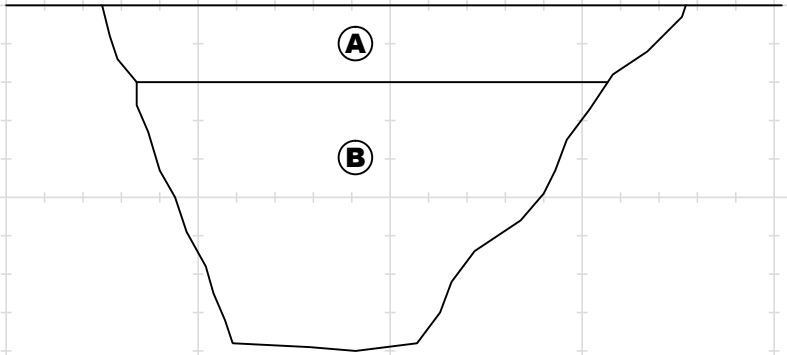
Last Edited: 4/06/2017

6670

Project Name: Regions North	Logged By: CNJ	Trench No: TP-2
Project Number : 16159-01	Date : 2/8/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 2' - Undocumented Artificial Fill (afu): @ 0' Silty SAND with scattered gravels: light brown, slightly moist, very dense	Afu	SM	GB-1 @ 1-3'		
	B	@ 2' to T.D. - Quaternary Young Eolian deposits (Qye): @ 2' SAND: light brown, slightly moist to moist, medium dense with some loose pockets; pinhole porosity @ 5' Increase density to dense @ 8' SAND: light brown, moist to very moist, dense; fine grained	Qye	SP	GB-2 @ 5-6'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 747 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 9'
Groundwater: None
Backfilled: 2/8/2017

scale : 1 in = 5 ft

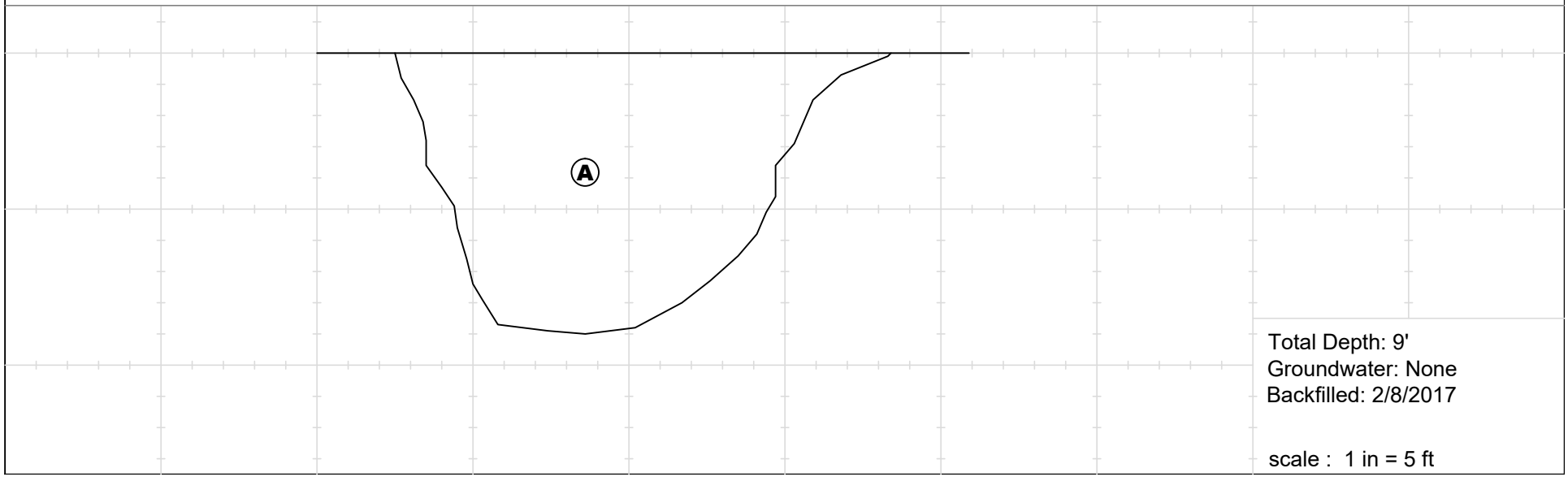
Last Edited: 3/30/2017

6671

Project Name: Regions North	Logged By: CNJ	Trench No: TP-3	
Project Number : 16159-01	Date : 2/8/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to T.D. - Quaternary Young Eolian Deposits (Qye): About 2" layer of Asphalt Concrete and CMB @ 2" SAND: light brown, moist, loose to medium dense @ 4' Silty SAND: grayish light brown, moist to very moist, medium dense to dense; rootlets and pinhole porosity @ 8' Silty SAND: light grayish brown, moist to very moist, medium dense to dense	Qye	SP SM	GB-1 @ 2-3' GB-2 @ 4-5' GB-3 @ 8-9'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 743 ' MSL** **Surface Slope: 0 deg.** **Trend: NS**



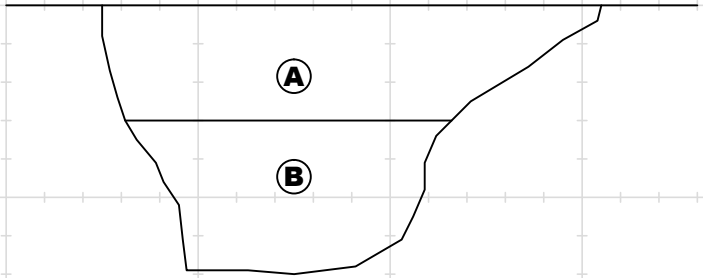
Last Edited: 3/30/2017

6672

Project Name: Regions North	Logged By: CNJ	Trench No: TP-4
Project Number : 16159-01	Date : 2/8/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 3' - Undocumented Artificial Fill (afu): @ 0' - Asphalt Concrete @ 8" Silty SAND with Gravel: brown, dark brown, and gray, moist, dense; trash; bones; treated lumber	Afu				
	B	@ 3' to T.D. - Quaternary Young Eolian Deposits (Qye): @ 3' SAND: light brown, moist, dense; pinhole porosity @ 5' SAND: very light grayish brown, moist, dense	Qye	SP	GB-1 @ 3-5' GB-2 @ 5-7'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 746 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 7'
Groundwater: None
Backfilled: 2/8/2017

scale : 1 in = 5 ft

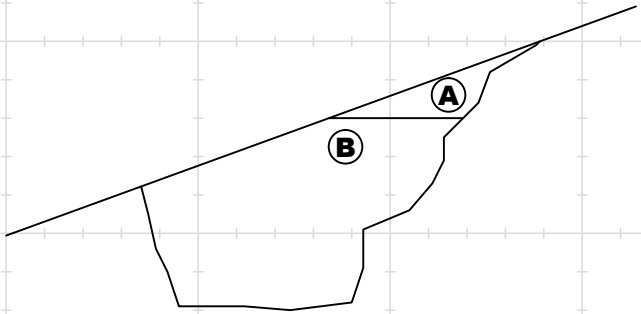
Last Edited: 4/06/2017

6673

Project Name: Regions North	Logged By: CNJ	Trench No: TP-5
Project Number : 16159-01	Date : 2/8/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 2' - Undocumented Artificial Fill (afu): @ 0' Silty SAND: brown, moist to very moist, loose; ~80% organics	Afu	SM	GB-1 @ 0-1'		
		@ 1' Silty SAND: brown, dry, loose; roots, about 50% organics			GB-2 @ 1-2'		
	B	@ 2' to T.D. - Quaternary Young Eolian Deposits (Qye): @ 2' SAND with some Silt: brown, moist, loose to medium dense; larger roots up to 1" diameter	Qye	SP			
		@ 5' SAND: grayish-brown, moist, dense			GB-3 @ 3-4'		
					GB-4 @ 6-7'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 748 ' MSL** **Surface Slope: 20 deg.** **Trend: NS**



Total Depth: 7'
Groundwater: None
Backfilled: 2/8/2017

scale : 1 in = 5 ft

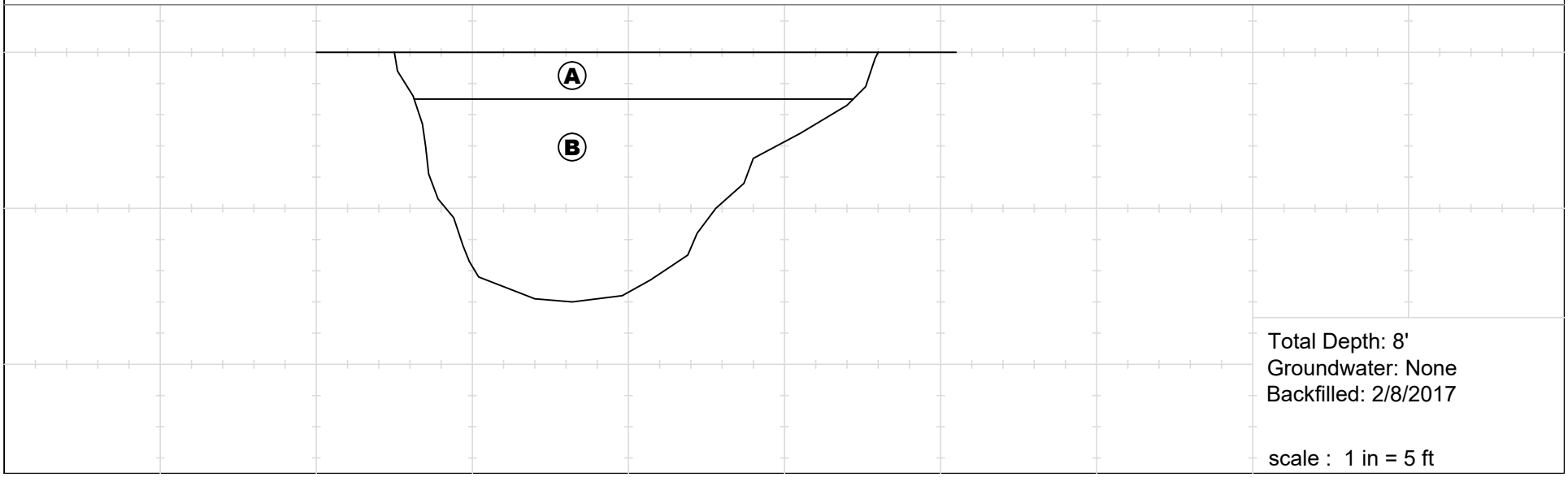
Last Edited: 3/30/2017

6674

Project Name: Regions North	**Logged By: CNJ**	**Trench No: TP-6**
Project Number : 16159-01	**Date : 2/8/2017**	**Engineering Properties:**
Equipment: Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1' - Undocumented Artificial Fill (Afu): @ 0' SILT and CLAY: dark brown, very moist to wet, stiff; organic rich	Afu	ML-CL	GB-1 @ 0-1'		
	B	@ 1' to T.D. - Quaternary Young Eolian Deposits (Qye): @ 1' Silty SAND to Sandy SILT: gray brown, very moist, medium dense to stiff; porous	Qye	SM	GB-2 @ 2-3'		
		@ 4' SAND: gray brown, moist to very moist, dense; scattered gravels		SP	GB-3 @ 4-5'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 743 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



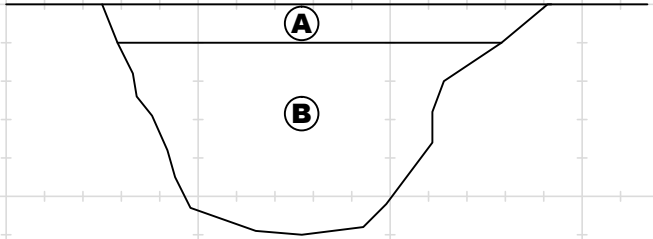
Last Edited: 4/06/2017

6675

Project Name: Regions North	Logged By: CNJ	Trench No: TP-7
Project Number : 16159-01	Date : 2/8/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 1' - Undocumented Artificial Fill (afu):	Afu	ML-CL	GB-1 @ 0-1'		
		@ 0' SILT and CLAY: dark brown, very moist to wet, stiff					
	B	@ 1' to T.D. - Quaternary Young Eolian Deposits (Qye):	Qye				
		@ 1' Silty SAND: gray brown, moist to very moist, medium dense with some loose pockets; scattered roots; pinhole porosity		SM	GB-2 @ 2-3'		
		@ 3' Sandy SILT and CLAY: gray and orange mottled, very moist, stiff; abundant rootlets; pinhole porosity		SM-CL	GB-3 @ 3-4'		
		@ 4.5 SAND: grayish brown, moist, dense		SP			

GRAPHICAL REPRESENTATION BELOW: **Elevation : 748 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 6'
Groundwater: None
Backfilled: 2/8/2017

scale : 1 in = 5 ft

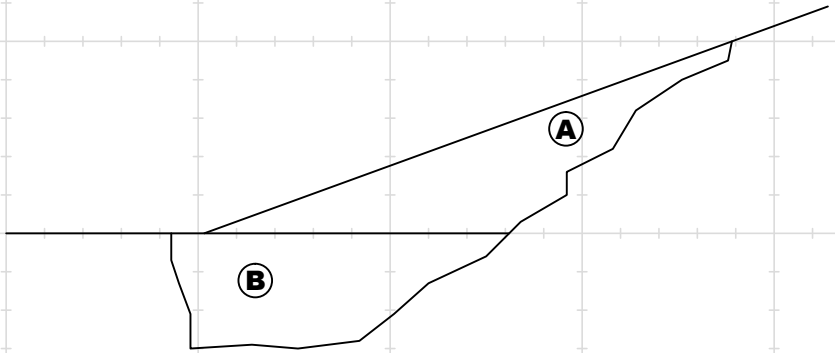
Last Edited: 4/06/2017

6676

Project Name: Regions North	Logged By: CNJ	Trench No: TP-8
Project Number : 16159-01	Date : 2/8/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' - 5' - Stockpile @ 0' Silty SAND to Sandy SILT: gray brown to light brown, moist to very moist, dense to very stiff; "lifts" visible	Stockpile	SM			
	B	@ 5' to T.D. - Quaternary Young Eolian Deposits (Qye): @ 5' Silty SAND: brown, moist, medium dense with some loose pockets; abundant roots; upper one foot disturbed @ 6' SAND: light gray brown, dry grading to moist by 8', grades to dense by 8'	Afu/Qye	SP	GB-1 @ 3-4' GB-2 @ 6-8'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 749 ' MSL** **Surface Slope: 20 deg.** **Trend: EW**



Total Depth: 8'
Groundwater: None
Backfilled: 2/8/2017

scale : 1 in = 5 ft

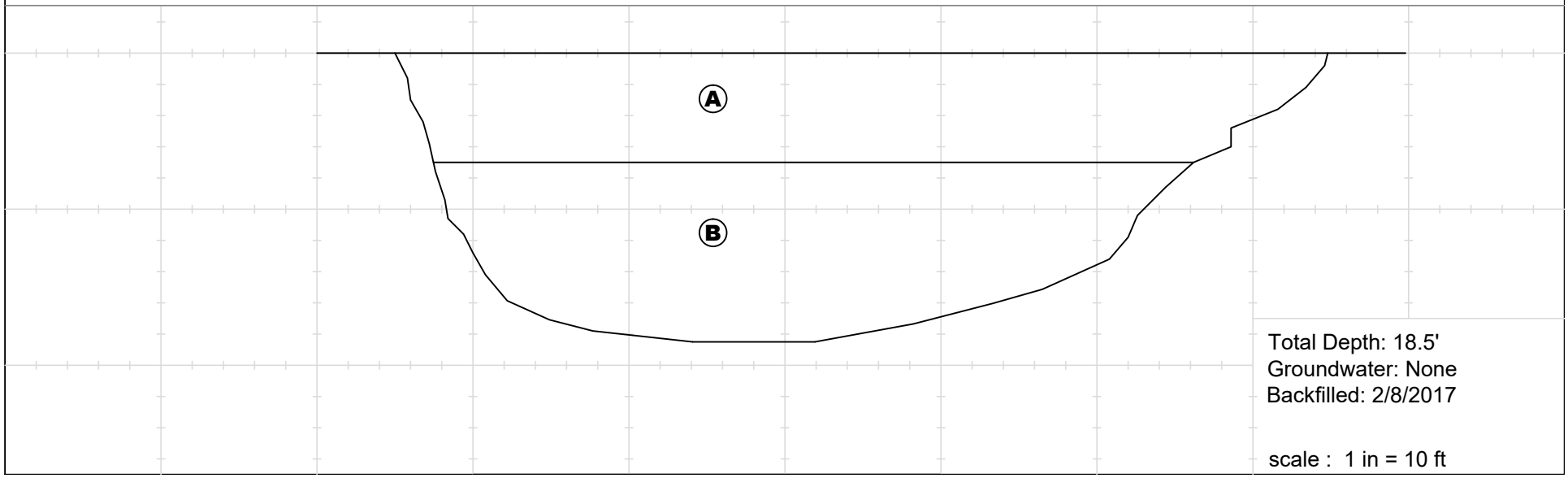
Last Edited: 4/06/2017

6677

Project Name: Regions North	Logged By: CNJ	Trench No: TP-9
Project Number : 16159-01	Date : 2/8/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 7' Undocumented Artificial Fill (afu) or Stockpile: @ 0' Silty SAND: light brown to gray, moist, dense to very dense; scattered trash visable down to 5'; "lifts" visible	Stockpile /Afu	SM	GB-1 @ 2-3'		
		@ 6' SILT and CLAY: dark brown, dry, hard; indurated; organic rich		ML-CL	GB-2 @ 6'		
	B	@ 7' to T.D. - Quaternary Young Eolian Deposits (Qye): @ 7' SAND: dark gray, moist, dense; odoriferous	Qye	SP	GB-3 @ 7-9'		
					GB-4 @ 18'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 741 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



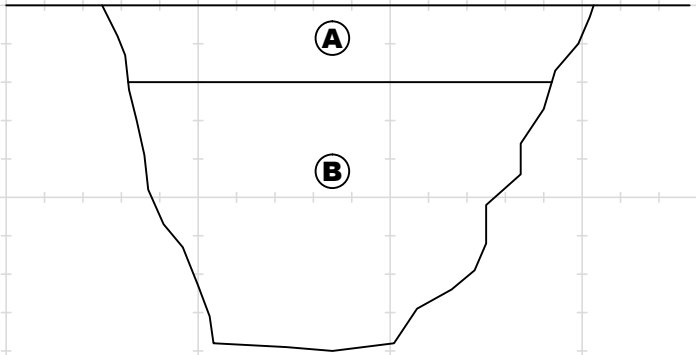
Last Edited: 4/06/2017

6678

Project Name: Regions North	Logged By: CNJ	Trench No: TP-10
Project Number : 16159-01	Date : 2/10/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 2' - Undocumented Artificial Fill (afu): @ 0' Silty SAND: dark brown, very moist, loose; bone fragments; abundant trash; odoriferous; organic rich	Afu	SM	GB-1 @ 0-2'		
	B	@ 2' to T.D. - Quaternary Young Eolian Deposits (Qye): @2' SAND: grayish brown, very moist to wet, loose to medium dense	Qye	SP	GB-2 @ 2-4'		
		@ 7' Silty SAND: grayish brown, very moist to wet, medium dense to dense; iron oxide		SM	GB-3 @ 7-9'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 749 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 9'
Groundwater: None
Backfilled: 2/10/2017

scale : 1 in = 5 ft

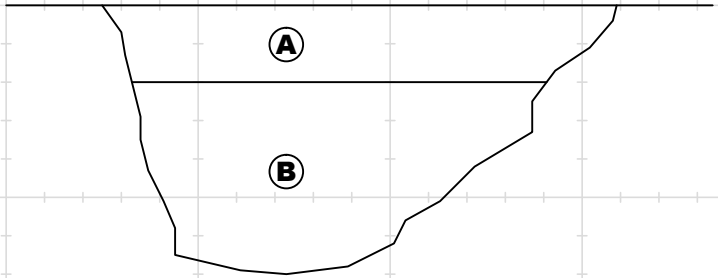
Last Edited: 3/30/2017

6679

Project Name: Regions North	Logged By: CNJ	Trench No: TP-11
Project Number : 16159-01	Date : 2/10/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 2' - Undocumented Artificial Fill (afu): @ 0' Sandy SILT: brown, wet, soft; abundant roots	Afu	SM	GB-1		
		@ 1' Silty SAND: grayish brown, very moist, medium dense					
	B	@ 2' to T.D. - Quaternary Young Eolian Deposits (Qye): @2' SAND: grayish brown, very moist, medium dense; scattered gravel; iron oxide	Qye	SP SM	GB-2		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 740 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 7'
Groundwater: None
Backfilled: 2/10/2017

scale : 1 in = 5 ft

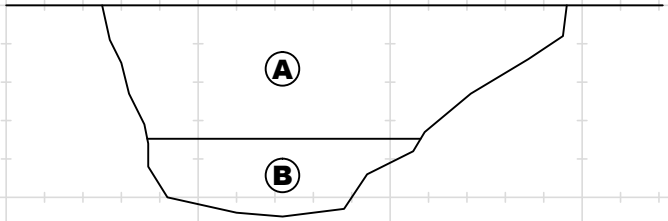
Last Edited: 3/30/2017

6680

Project Name: Regions North	Logged By: CNJ	Trench No: TP-12	
Project Number : 16159-01	Date : 2/10/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 3.5' - Undocumented Artificial Fill (afu): @ 0' SILT and SAND: dark brown, very moist, soft; abundant rootlets; organic rich; bone fragments; abundant trash; odoriferous	Afu	SM	GB-1 @ 0-3'		
	B	@ 3.5' to T.D. - Quaternary Young Eolian Deposits (Qye): @ 3.5' SAND with Silt: gray brown, very moist, medium dense to dense; iron oxide	Qye	SP	GB-2 @ 4-5'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 736 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 5.5'
Groundwater: None
Backfilled: 2/10/2017

scale : 1 in = 5 ft

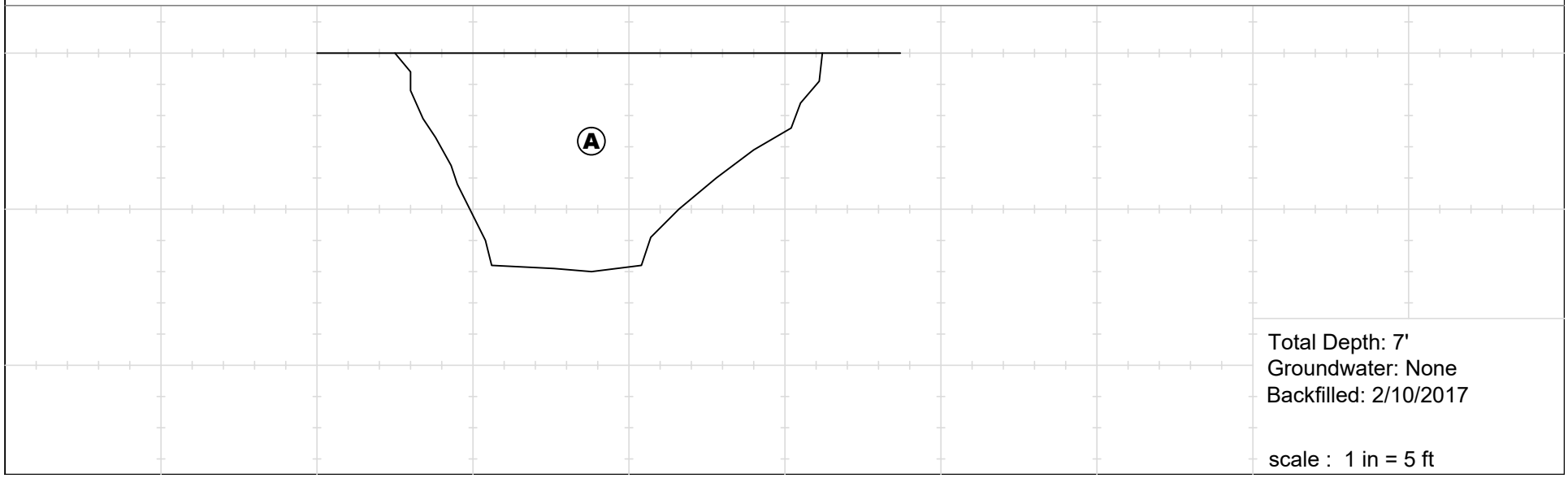
Last Edited: 3/30/2017

6681

Project Name: Regions North	Logged By: CNJ	Trench No: TP-13	
Project Number : 16159-01	Date : 2/10/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to T.D. - Quaternary Young Eolian Deposits (Qye): @ 0' SILT with Sand: dark brown, very moist; abundant roots @ 4' Silty SAND: brown, very moist to wet, medium dense; scattered gravels; occasional rock greater than 8" diameter; roots to 4'	Qye	SM SM-ML	GB-1 @ 2-3'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 740 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



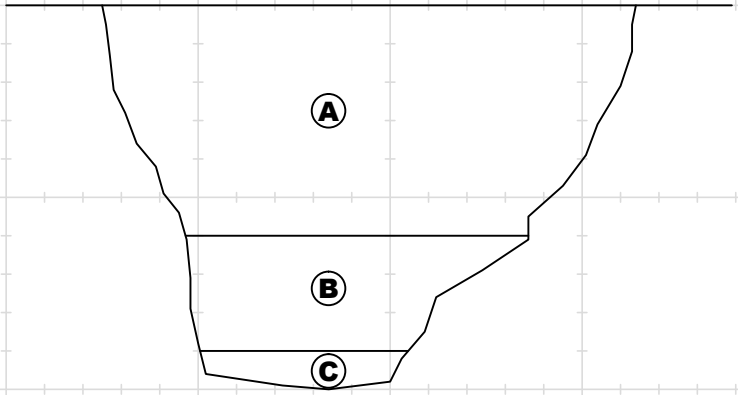
Last Edited: 3/30/2017

6682

Project Name: Regions North	**Logged By: CNJ**	**Trench No: TP-14**
Project Number : 16159-01	**Date : 2/10/2017**	**Engineering Properties:**
Equipment: Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 6' - Stockpile @ 0' Silty SAND to Sandy SILT: grayish brown, moist, dense to very stiff; trace trash	Stockpile	SM			
	B	@ 6' to 9' - Undocumented Artificial Fill (afu): @ 6' Silty SAND: brown, dry, medium dense with loose pockets; organic rich; abundant trash	Afu		GB-1 @ 6-8'		
	C	@ 9' to T.D. - Quaternary Young Eolian Deposits (Qye): @9' Silty SAND: light grayish brown, dry to slightly moist, medium dense to dense	Qye		GB-2 @ 9-10'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 743 ' MSL** **Surface Slope: 0 deg.** **Trend: N30W**



Total Depth: 10'
Groundwater: None
Backfilled: 2/10/2017

scale : 1 in = 5 ft

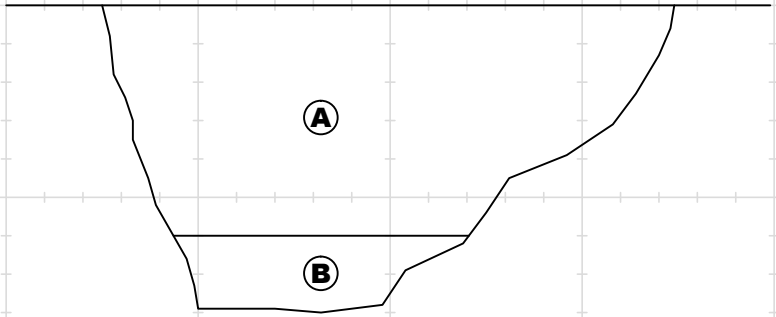
Last Edited: 4/06/2017

6683

Project Name: Regions North	Logged By: CNJ	Trench No: TP-15
Project Number : 16159-01	Date : 2/10/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@ 0' to 6' - Stockpile	Stockpile				
		@ 0' Silty SAND: brown to gray, moist, dense; trace trash; scattered gravel and bone fragments; "lifts' visible		SM			
	B	@ 6' to T.D. - Undocumented Artificial Fill (afu):	Afu				
		@ 6' SAND and SILT: dark brown, dry, loose; organic rich					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 745 ' MSL** **Surface Slope: 0 deg.** **Trend: NS**



Total Depth: 8'
Groundwater: None
Backfilled: 2/10/2017

scale : 1 in = 5 ft

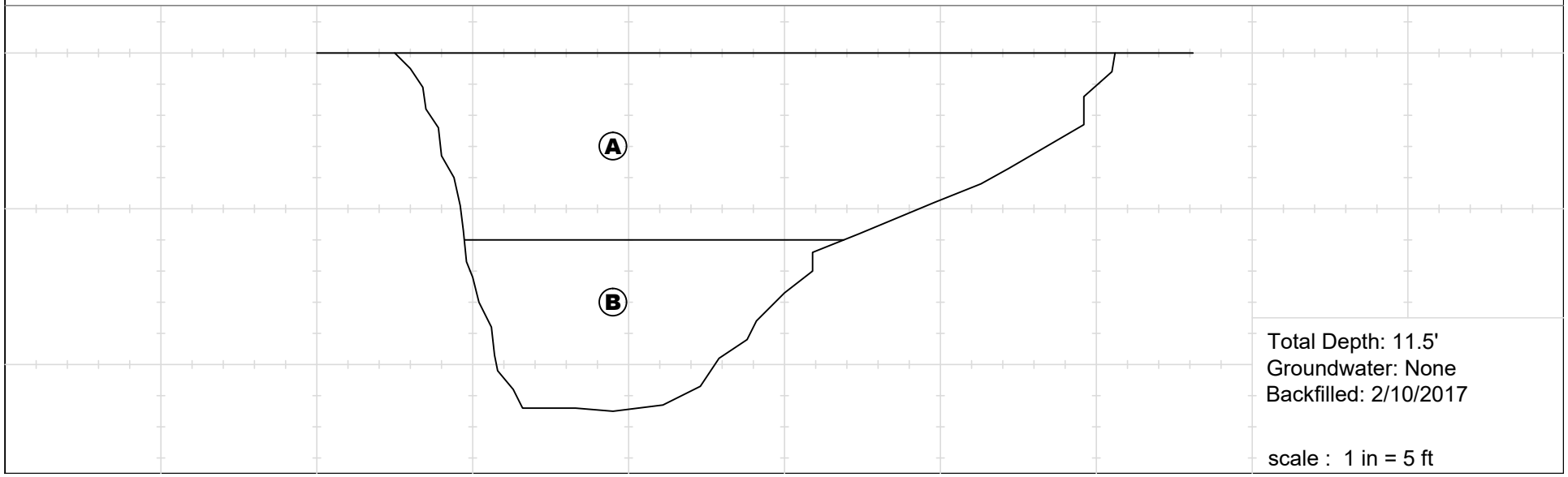
Last Edited: 4/06/2017

6684

Project Name: Regions North	**Logged By: CNJ**	**Trench No: TP-16**
Project Number : 16159-01	**Date : 2/10/2017**	**Engineering Properties:**
Equipment: Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	0' to 6' - Artificial Fill (Stockpile): @ 0' Silty SAND: brown, very moist, dense; scattered trash; roots; gravel; trace rock up to 1' diameter; "lifts" visible	Stockpile	SM	GB-1 @ 2-3'		
	B	@ 6' to T.D. - Quaternary Young Eolian Deposits (Qye): @ 6' Silty SAND: light brown to brown, slightly moist to moist, medium dense to dense; scattered gravel	Qye		GB-2 @ 8-9'		

GRAPHICAL REPRESENTATION BELOW: **Elevation : 751 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



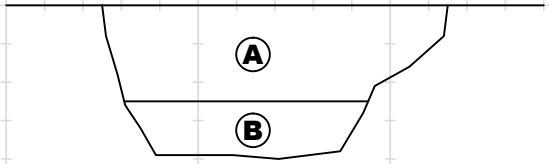
Last Edited: 4/06/2017

6685

Project Name: Regions North	Logged By: CNJ	Trench No: TP-17	
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 2.5' - Undocumented Artificial Fill (afu): @0' - Asphalt Concrete @6" - Silty SAND: brown, moist, dense; trash; bones	Afu				
	B	@2.5' to T.D. - Quaternary Young Eolian Deposits (Qye): @2.5' - SAND: gray brown, moist, medium dense	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 746 ' MSL** **Surface Slope: 0 deg.** **Trend: N60E**



Total Depth: 4'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

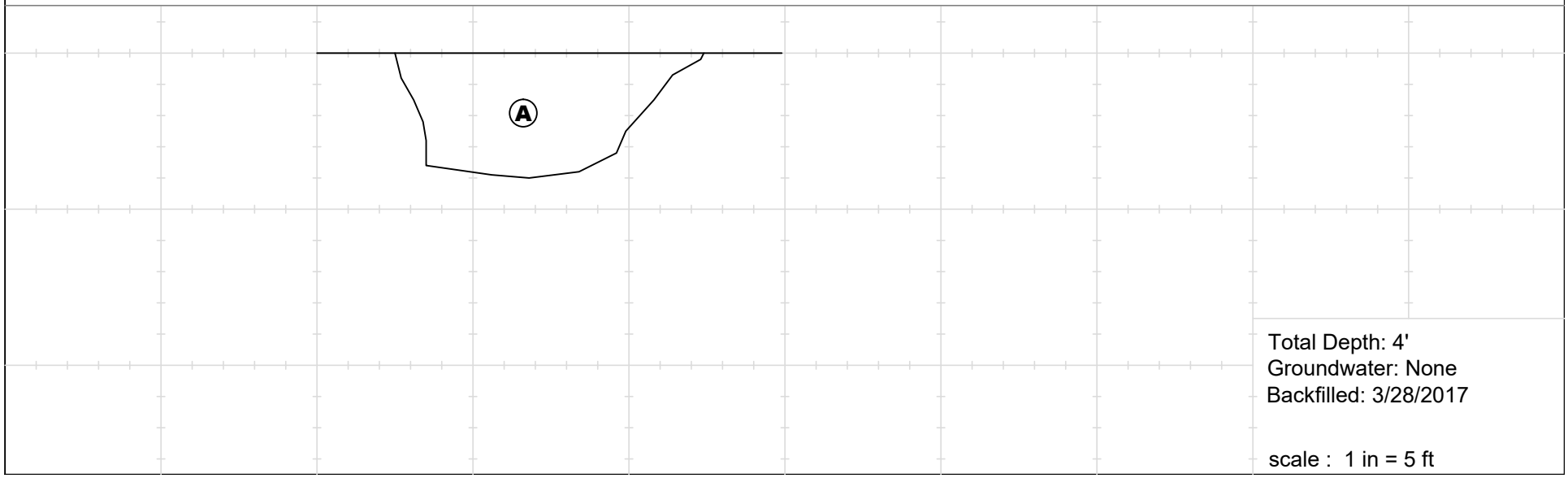
Last Edited: 4/5/2017

6686

Project Name: Regions North	Logged By: CNJ	Trench No: TP-18	
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to T.D. - Undocumented Artificial Fill (afu): @0' - Weeds; scattered trash @0' to T.D. - Silty fine SAND: light brown to brown, slightly moist to moist; abundant trash to 4'; trash concentrated in certain pockets, not homogeneous; bone fragments; medium dense; organinc rish; odoriferous	Afu				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 740 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



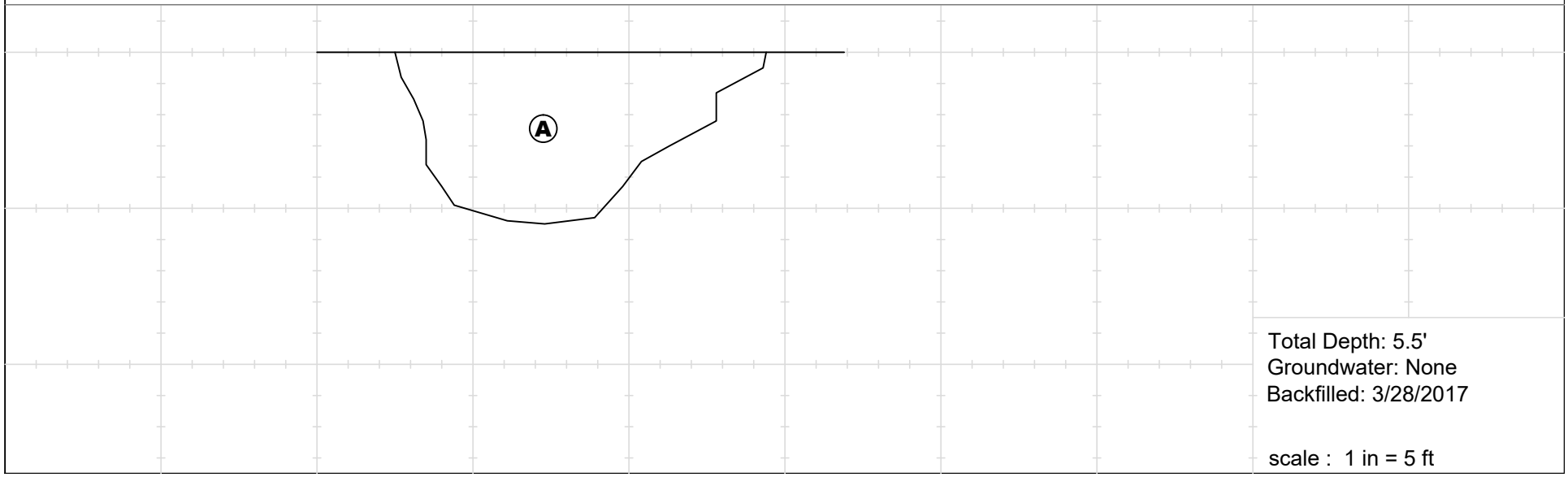
Last Edited: 4/5/2017

6687

Project Name: Regions North	Logged By: CNJ	Trench No: TP-19
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to T.D. - Undocumented Artificial Fill (afu): @0' - Weeds @0' to T.D. - Sandy SILT to Silty SAND: brown, moist to wet, medium stiff to medium dense; trash in zones to 5.5'; splotches of black and gray; scattered bone fragments; organinc rich; odoriferous	Afu				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 734 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



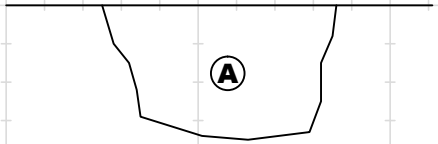
Last Edited: 4/5/2017

6688

Project Name: Regions North	Logged By: CNJ	Trench No: TP-20
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to T.D. - Undocumented Artificial Fill (afu): @0' - Weeds @0' to T.D. - Silty SAND: light brown and brown, moist, medium dense; scattered trash to 3.5'; organic rich, odoriferous	Afu				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 739 ' MSL** **Surface Slope: 0 deg.** **Trend: NS**



Total Depth: 3.5'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

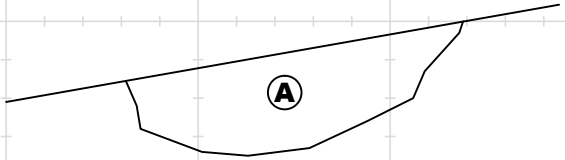
Last Edited: 4/5/2017

6899

Project Name: Regions North	Logged By: CNJ	Trench No: TP-21	
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to T.D. - Undocumented Artificial Fill (afu): @0' - Weeds @0' to 6" - SAND (Decomposed Granitic Sand) @6" - Silty SAND: light brown to brown, moist, medium dense; scattered gravel	Afu				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 746 ' MSL** **Surface Slope: 10 deg.** **Trend: EW**



Total Depth: 3.5'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

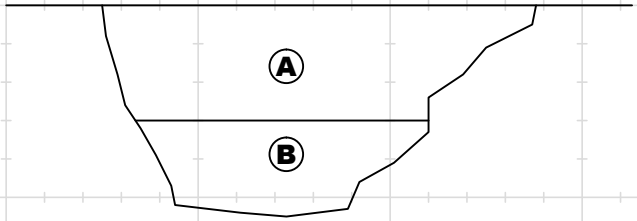
Last Edited: 4/5/2017

0699

Project Name: Regions North	Logged By: CNJ	Trench No: TP-22	
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 3' - Undocumented Artificial Fill (afu): @0' - Weeds @0' to 3' - Silty SAND: brown to light brown with lifts of dark brown, moist, medium dense; abundant trash	Afu				
	B	@3' to T.D. - Quaternary Young Eolian Deposits (Qye): @3' - Fine SAND: brown, moist, medium dense; scattered gravel; some iron oxide	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 739 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 5.5'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

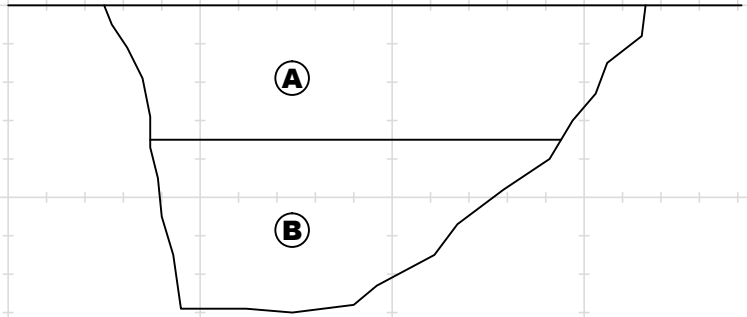
Last Edited: 4/5/2017

6691

Project Name: Regions North	Logged By: CNJ	Trench No: TP-23
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 3.5' - Undocumented Artificial Fill (afu): @0' - Weeds @0' to 3.5' - SAND: brown, moist, medium dense; scattered trash; organic rich; odoriferous	Afu				
	B	@3.5' to T.D. - Quaternary Young Eolian Deposits (Qye): @3.5' - SAND: gray, moist, medium dense; odoriferous	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 738 ' MSL** **Surface Slope: 0 deg.** **Trend: NS**



Total Depth: 8'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

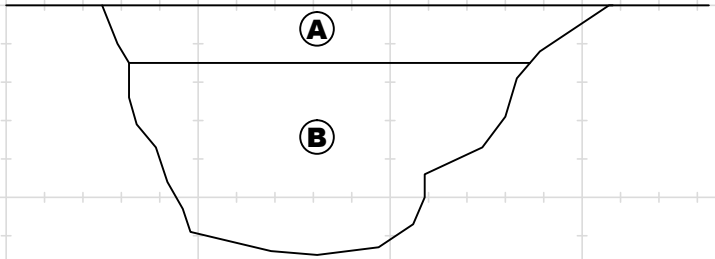
Last Edited: 4/5/2017

6692

Project Name: Regions North	Logged By: CNJ	Trench No: TP-24
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 1.5' - Undocumented Artificial Fill (afu):	Afu				
		@0' - SILT: dark brown, slight moist, soft; manure; trash; odoriferous; slight indurated					
	B	@1.5' to T.D. - Quaternary Young Eolian Deposits (Qye):	Qye				
		@1.5' - SAND: gray, moist, medium dense; odoriferous; ammonia					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 739 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 6.5'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

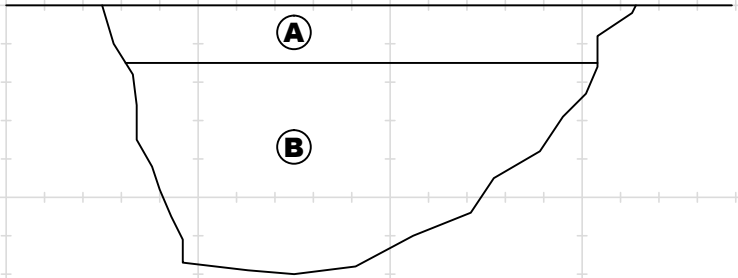
Last Edited: 4/5/2017

6693

Project Name: Regions North	Logged By: CNJ	Trench No: TP-25
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 4' - Undocumented Artificial Fill (afu): @0' - WeedsSILT: dark brown, slight moist, soft; manure; trash; odoriferous; slight indurated @0' to 4' - Sandy SILT: brown, moist, stiff; bone fragments; trash; odor; organics	Afu				
	B	@4' to T.D. - Quaternary Young Eolian Deposits (Qye): @4' SAND: gray brown, moist, medium dense	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 739 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 7'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

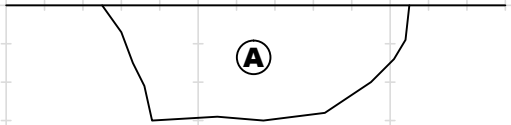
Last Edited: 4/5/2017

6694

Project Name: Regions North	Logged By: CNJ	Trench No: TP-26	
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to T.D. - Quaternary Young Eolian Deposits (Qye): @0' Silty SAND: dark brown, moist, medium dense; trash; organics; odoriferous; roots in upper 1'	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 739 ' MSL** **Surface Slope: 0 deg.** **Trend: NS**



Total Depth: 3'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

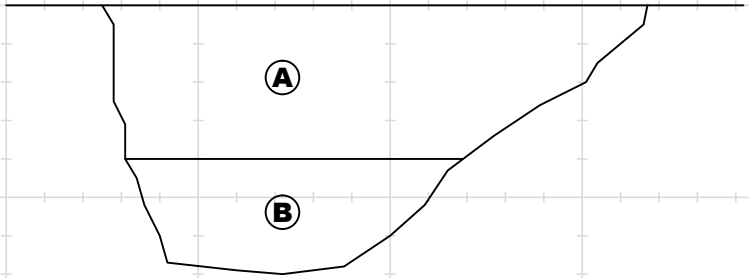
Last Edited: 4/5/2017

5695

Project Name: Regions North	Logged By: CNJ	Trench No: TP-27	
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 4' - Undocumented Artificial Fill (afu): @0' Weeds @0' to 4' - Silty SAND: brown and dark brown, moist, medium dense; trash; bones; organics; odor	Afu				
	B	@4' to 7' - Quaternary Young Eolian Deposits (Qye): @4' - SAND: gray brown, moist, medium dense	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 739 ' MSL** **Surface Slope: 0 deg.** **Trend: NS**



Total Depth: 7'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

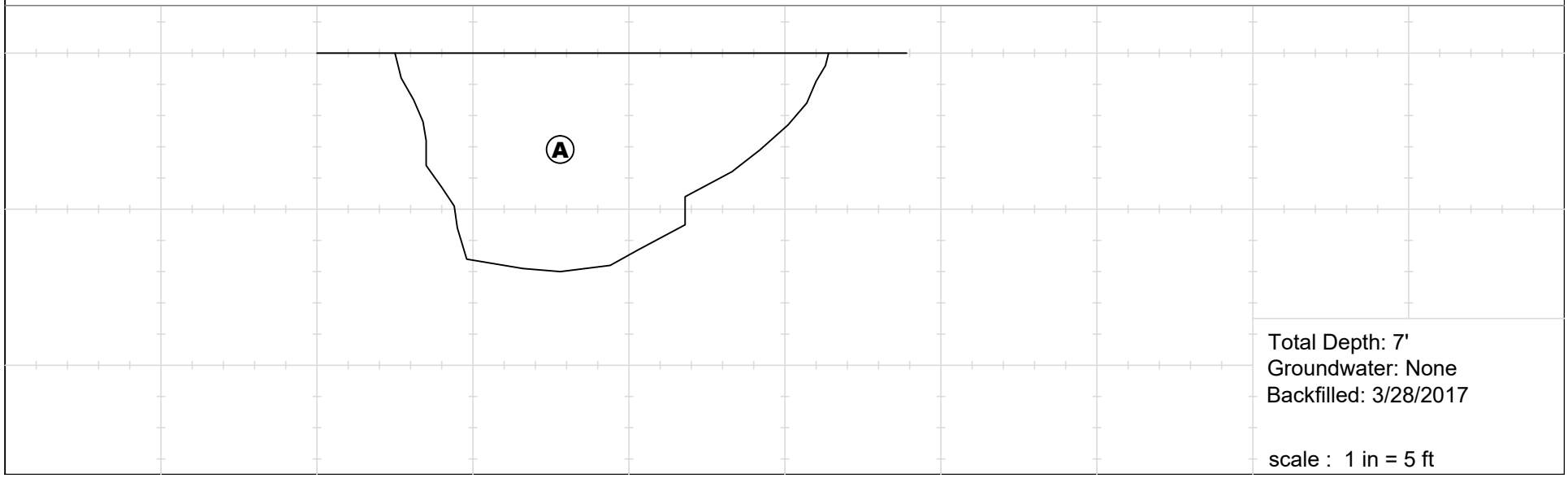
Last Edited: 4/5/2017

9699

Project Name: Regions North	Logged By: CNJ	Trench No: TP-28	
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to T.D. - Quaternary Young Eolian Deposits (Qye): @0' - Grass @0' to T.D. - SAND with Silt: light brown, moist, medium dense; roots in upper 6"; pores until 2'	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 740 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



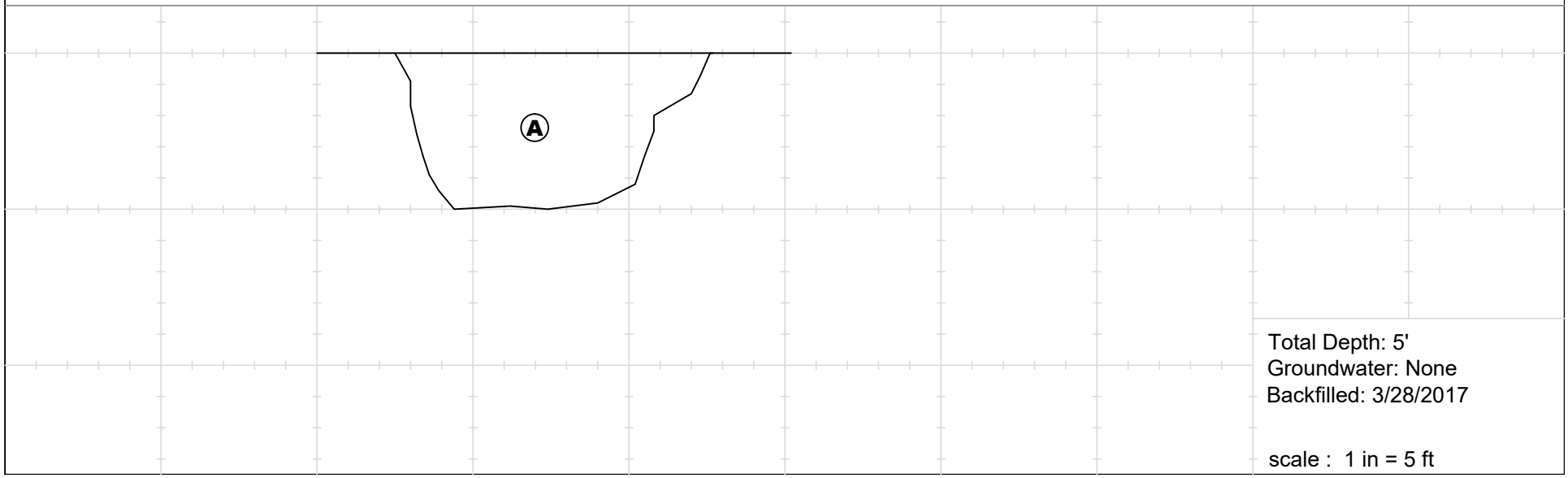
Last Edited: 4/5/2017

6697

Project Name: Regions North	Logged By: CNJ	Trench No: TP-29	
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to T.D. - Quaternary Young Eolian Deposits (Qye): @0' - SAND; light brown, slight moist, medium dense; friable (caving)	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 744 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



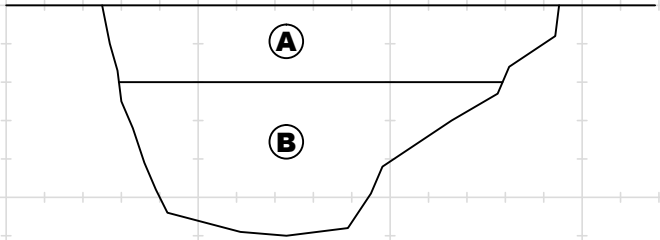
Last Edited: 4/5/2017

8699

Project Name: Regions North	Logged By: CNJ	Trench No: TP-30	
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:	
Equipment: Backhoe	Location: See Geotechnical Map		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 2' - Undocumented Artificial Fill (afu): @0' - 3" Asphalt @3" - Silty SAND: brown, moist, dense; trash, bone fragments	Afu				
	B	@2' to T.D. - Quaternary Young Eolean Deposits (Qye): @2' - SAND: brown, moist, medium dense to dense	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 742 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 6'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

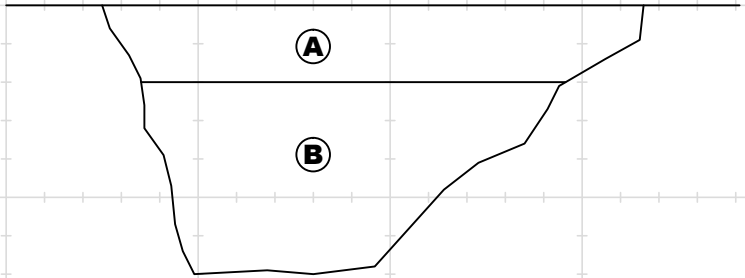
Last Edited: 4/5/2017

6699

Project Name: Regions North	Logged By: CNJ	Trench No: TP-31
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 2' - Undocumented Artificial Fill (afu): @0' - Silty SAND: light brown, slightly moist, very dense; trash; bone fragments	Afu				
	B	@2' to T.D. - Quaternary Young Eolean Deposits (Qye): @2' - SAND: light brown, moist, medium dense	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 748 ' MSL** **Surface Slope: 0 deg.** **Trend: NS**



Total Depth: 7'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

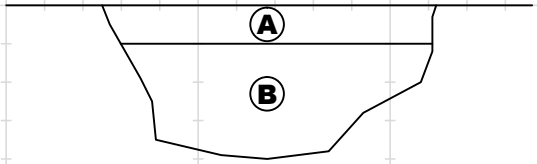
Last Edited: 4/5/2017

6700

Project Name: Regions North	**Logged By: CNJ**	**Trench No: TP-32**
Project Number : 16159-01	**Date : 3/28/2017**	**Engineering Properties:**
Equipment: Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 1' - Undocumented Artificial Fill (afu): @0' - Silty SAND: light brown, dry, loose; rootlets; trash	Afu				
	B	@1' to T.D. - Quaternary Young Eolean Deposits (Qye): @1' - SAND: light brown, moist, medium dense	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 746 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 4'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

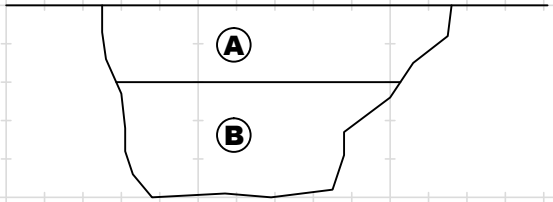
Last Edited: 4/5/2017

6701

Project Name: Regions North	Logged By: CNJ	Trench No: TP-33
Project Number : 16159-01	Date : 3/28/2017	Engineering Properties:
Equipment: Backhoe	Location: See Geotechnical Map	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 2' - Undocumented Artificial Fill (afu): @0' - Silty SAND: light brown, slightly moist, dense; trash; bones	Afu				
	B	@2' to T.D. - Quaternary Young Eolean Deposits (Qye): @2' - SAND: brown, moist, medium dense	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 746 ' MSL** **Surface Slope: 0 deg.** **Trend: NS**



Total Depth: 5'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

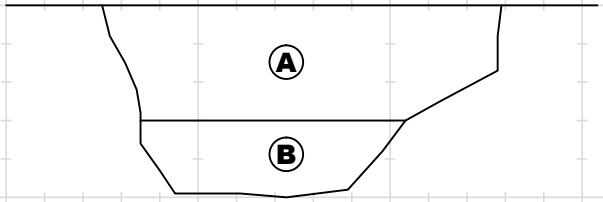
Last Edited: 4/5/2017

6702

Project Name: Regions North	**Logged By: CNJ**	**Trench No: TP-34**
Project Number : 16159-01	**Date : 3/28/2017**	**Engineering Properties:**
Equipment: Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 3' - Undocumented Artificial Fill (afu): @0' - 6" thick asphalt @6" - Silty SAND: dark brown, moist, dense to medium dense; trash; bones; odoriferous; organics	Afu				
	B	@3' to T.D. - Quaternary Young Eolean Deposits (Qye): @3' - SAND: brown, moist, medium dense	Qye				

GRAPHICAL REPRESENTATION BELOW: **Elevation : 746 ' MSL** **Surface Slope: 0 deg.** **Trend: NS**



Total Depth: 5'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

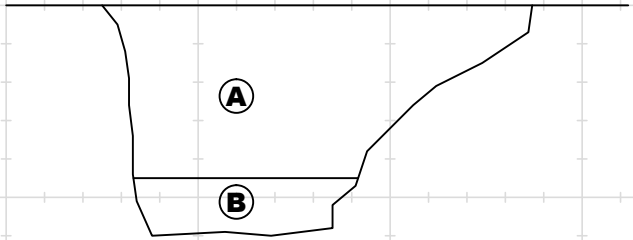
Last Edited: 4/5/2017

6703

Project Name: Regions North	**Logged By: CNJ**	**Trench No: TP-35**
Project Number : 16159-01	**Date : 3/28/2017**	**Engineering Properties:**
Equipment: Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 4.5' - Undocumented Artificial Fill (afu):	Afu				
		@0' - Silty SAND: brown, moist, medium dense; some trash; scattered bones; organic smell					
	B	@4.5' to T.D. - Quaternary Young Eolean Deposits (Qye):	Qye				
		@4.5' - SAND with Gravel: light gray, dry, dense; lacks cementation; rounded gravels					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 745 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 6'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

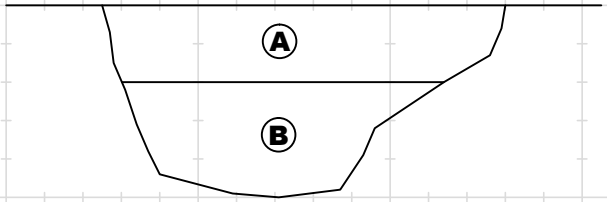
Last Edited: 4/5/2017

6704

Project Name: Regions North	**Logged By: CNJ**	**Trench No: TP-36**
Project Number : 16159-01	**Date : 3/28/2017**	**Engineering Properties:**
Equipment: Backhoe	**Location: See Geotechnical Map**	

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	@0' to 2' - Undocumented Artificial Fill (afu):	Afu				
		@0' - Silty SAND: dark brown, moist, loose to medium dense; trash; bones; organic smell					
	B	@2' to T.D. - Quaternary Young Eolean Deposits (Qye):	Qye				
		@2' - SAND: gray brown motled, moist, medium dense; iron oxide					

GRAPHICAL REPRESENTATION BELOW: **Elevation : 749 ' MSL** **Surface Slope: 0 deg.** **Trend: EW**



Total Depth: 5'
Groundwater: None
Backfilled: 3/28/2017

scale : 1 in = 5 ft

Last Edited: 4/5/2017

Appendix H
Geotechnical Subsurface Evaluation Data – Regions South (16158-01)

6706

LEGEND

HS-6
T.D. = 20'
Approximate Location of Hollow Stem Auger Boring by LGC Geotechnical, With Total Depth in Feet

CPT-6
T.D. = 47.7'
Approximate Location of Cone Penetration Test (CPT) Boring by LGC Geotechnical, With Total Depth in Feet

Limit of Report

Ontario Ranch Road
ONTARIO RANCH ROAD (EXISTING)
FUTURE RIGHT OF WAY
HAVEN AVE FUTURE
PROPOSED FENCING
LIMIT OF GRADING
HS-1 T.D. = 20'
CPT-1 T.D. = 48.5'
HS-2 T.D. = 50'
HS-3 T.D. = 20'
HS-4 T.D. = 20'
CPT-2 T.D. = 24.4'
HS-6 T.D. = 20'
CPT-6 T.D. = 47.7'
CPT-4 T.D. = 49'
CPT-5 T.D. = 48.3'
HS-5 T.D. = 50'
CPT-3 T.D. = 50.6'
1.0%
Haven
Edison Road
ISON AVE (EXISTING)
30' SCE ESMT.
50' SCE ESMT.
20' SCE ESMT.
75' SCE ESMT.

SCALE: 1"=100'
100' 0 100' 200'

LGC Geotechnical, Inc. 131 Calle Iglesia, Ste. 200 San Clemente, CA 92672 TEL (949) 369-6141 FAX (949) 369-6142	**Geotechnical Map**

PROJECT NAME	Regions South
PROJECT NO.	16158-01
ENG. / GEOL.	BJE/KTM
SCALE	1" = 100'
DATE	June 2017

SHEET 1 of 1

APPENDIX C

Laboratory Testing Procedures and Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the site soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Grain Size Distribution: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve. The portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D422 (CTM 202). Where an appreciable amount of fines were encountered (greater than 20 percent passing the No. 200 sieve) a hydrometer analysis was done to determine the distribution of soil particles passing the No. 200 sieve.

Sample Location	Description	% Passing # 200 Sieve
HS-2 @ 10 feet	Clayey Sand	61
HS-2 @ 25 feet	Sandy Silt	68
HS-3 @ 5 feet	Sandy Clay	70
HS-4 @ 20 feet	Sandy Silt	63
HS-5 @ 15 feet	Silty Sand	48
HS-5 @ 35 feet	Sandy Clay	60

Expansion Index: The expansion potential of selected samples were evaluated by the Expansion Index Test, Standard ASTM D4829. Specimens are molded under a given compactive energy to approximately the optimum moisture content and approximately 50 percent saturation or approximately 90 percent relative compaction. The prepared 1-inch-thick by 4-inch-diameter specimens are loaded to an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the table below.

Sample Location	Expansion Index	Expansion Potential*
HS-4 @ 5-7.5 feet	6	Very Low

*Per Chapter 18 of the 2007 C.B.C.; ASTM D 4829 Section 5.3

Collapse /Swell Potential: Collapse test were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The Curves are presented in this Appendix.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on relatively undisturbed samples obtained from the test borings and/or trenches. The results of these tests are presented in the boring and/or trench logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Chloride Content: Chloride content was tested in accordance with Caltrans Test Method (CTM) 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-4 @ 5-7.5 feet	11

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The electrical resistivity of a soil is a measure of its resistance to the flow of electrical current. As a result of a decrease in resistivity, the potential for corrosion increases. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-4 @ 5-7.5 feet	7.43	1000

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods (CTM 417). The soluble sulfate content is used to determine the appropriate cement type and maximum water-cement ratios. The test results are presented in the table below.

Sample Location	Sulfate Content (ppm)	Sulfate Exposure*
HS-4 @ 5-7.5 feet	84	S0

*Per ACI 318

Geotechnical Boring Log Borehole LGC-HS-1

Date: 5/8/2017 | **Drilling Company:** 2R Drilling

Project Name: Regions South | **Type of Rig:** CME

Project Number: 16158-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~725' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1	R-1	5 8 11	104.2	6.4	SP	**Quaternary Young Eolian Deposits (Qye):** @2.5' - SAND: brown, medium dense, moist, poorly graded	
720	5		SPT-1	4 4 7		20.6	SM	@5' - Sandy SILT: brownish grey, medium dense, moist	
715	10	B-2	R-2	9 10 18	110.9	6.2		@10' - Silty SAND: brown, medium dense, moist	
710	15		SPT-2	11 10 11		6.7	SP	@15' - SAND: light brown, medium dense, moist, poorly graded	
705	20		R-3	14 19 20	111.9	15.1	SM	@20' - Silty SAND: light brown, dense, moist	
700	25							Total Depth = 20' Groundwater Not Encountered Backfilled with Cuttings on 5/8/2017	
	30								

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THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 5/22/2017

Geotechnical Boring Log Borehole LGC-HS-2

Date: 5/8/2017 | **Drilling Company:** 2R Drilling

Project Name: Regions South | **Type of Rig:** CME

Project Number: 16158-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~725' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1 B-2						**Quaternary Young Eolian Deposits (Qye):**	
			SPT-1	4 4 5		17.1	SM	@2.5' - Silty SAND: brown, medium dense, moist	
720	5		R-1	6 7 12	111.7	11.8	SC	@5' - Clayey SAND: olive brown, medium dense, moist	CO
715	10		SPT-2	4 3 3		18.0		@10' - Clayey SAND: light brown, loose, moist	-#200
710	15		R-2	7 13 18	112.2	9.2	SM	@15' - Silty SAND - light brown, medium dense, moist	
705	20		SPT-3	10 10 12		14.5		@20' - Silty SAND: dark brown, medium dense, moist	
700	25		R-3	9 15 15	108.4	16.5		@25' - Silty SAND: orangish brown, medium dense, moist	-#200
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 5/22/2017

Geotechnical Boring Log Borehole LGC-HS-2

Date: 5/8/2017 | **Drilling Company:** 2R Drilling

Project Name: Regions South | **Type of Rig:** CME

Project Number: 16158-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~725' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		SPT-4	13 17 24		10.1	SM	@30' - Silty SAND with gravel: brown, very dense, moist	
695	35		R-4	11 28 37	121.7	10.4	SP	@35' - SAND: orangish brown, very dense, moist, poorly graded	
690	40	B-3	SPT-5	4 7 9		17.5	ML	@40' - SILT: brown, medium dense, moist	
685	45		R-5	11 33 45	123.9	12.7	SM	@45' - Silty SAND: orangish brown, very dense, moist	
680	50		SPT-6	5 8 12		13.8		@50' - Silty SAND: orangish brown, medium dense, moist	
675	55							Total Depth = 50' Groundwater Not Encountered Backfilled with Cuttings on 5/8/2017	
	60								

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THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole LGC-HS-3

Date: 5/8/2017 | **Drilling Company:** 2R Drilling

Project Name: Regions South | **Type of Rig:** CME

Project Number: 16158-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~723' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**Quaternary Young Eolian Deposits (Qye):**	
720			R-1	8 8 11	101.5	24.2	ML	@2.5' - Sandy SILT: olive brown, medium dense, moist	
	5		SPT-1	3 3 4		22.2		@5' - Sandy SILT: brown, loose, moist	-#200
715									
	10		R-2	3 4 9	115.0	12.6		@10' - SILT with Sand: gray to orangish brown, moist, medium dense	CO
710									
	15		SPT-2	5 8 14		7.0	SP	@15' - SAND: orangish brown, medium dense, moist, poorly graded	
705									
	20		R-3	7 14 28	118.9	13.2	SM	@20' - Silty SAND: orangish brown, dense, moist	
700								Total Depth = 20' Groundwater Not Encountered Backfilled with Cuttings on 5/8/2017	
	25								
695									
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 5/22/2017

Geotechnical Boring Log Borehole LGC-HS-4

Date: 5/8/2017 | **Drilling Company:** 2R Drilling

Project Name: Regions South | **Type of Rig:** CME

Project Number: 16158-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~725' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**Quaternary Young Eolian Deposits (Qye):**	
			SPT-1	4 5 7		7.5	SP	@2.5' - SAND: greyish brown, medium dense, moist, poorly graded	
720	5	B-1	R-1	8 9 13	90.4	31.7	SC	@5' - Clayey SAND: greyish brown, medium dense, moist	EI, CR
715	10	B-2	SPT-2	3 4 7		20.2	ML	@10' - Sandy SILT: brown, medium dense, moist	
710	15		R-2	2 18 25	115.9	8.1	SP	@15' - SAND: dark brown, dense, moist, poorly graded	
705	20		SPT-3	3 6 11		23.6	ML	@20' - Sandy SILT: brown, medium dense, moist	-#200
								Total Depth = 20' Groundwater Not Encountered Backfilled with Cuttings on 5/8/2017	
700	25								
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 5/22/2017

Geotechnical Boring Log Borehole LGC-HS-5

Date: 5/8/2017 | **Drilling Company:** 2R Drilling

Project Name: Regions South | **Type of Rig:** CME

Project Number: 16158-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~720' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By SHH
Sampled By SHH
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**Quaternary Young Eolian Deposits (Qye):**	
			R-1	10 16 20	101.0	22.0	ML	@2.5' - Sandy SILT: grey, medium dense, moist	
715	5		SPT-1	4 4 6		31.1		@5' - SILT: gray, medium dense, moist	
710	10	B-2	R-2	6 12 10	112.5	7.1	SP	@10' - SAND: orangish brown, medium dense, moist, poorly graded	
705	15		SPT-2	4 4 5		15.1	SM	@15' - Silty SAND: grayish brown, medium dense, moist	-#200
700	20		R-3	10 16 23	123.5	12.2		@20' - Silty SAND: orangish brown, dense, moist	
695	25		SPT-3	5 9 14		22.9	ML	@25' - Sandy SILT: brown, medium dense, moist	
	30								

LGC Geotechnical, Inc.

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B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 5/22/2017

Geotechnical Boring Log Borehole LGC-HS-5

Date: 5/8/2017	**Drilling Company:** 2R Drilling
Project Name: Regions South	**Type of Rig:** CME
Project Number: 16158-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~720' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By SHH
Sampled By SHH
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		R-4	10 18 32	124.5	11.8	SP	@30' - SAND: orangish brown, dense, moist, poorly graded	
690	35		SPT-4	4 8 13		18.0	ML	@35' - Sandy SILT: light brown, medium dense, moist	-#200
685	40	B-3	R-5	8 18 29	117.1	15.9	SC	@40' - Clayey SAND: orange, dense, moist	
680	45		SPT-5	11 15 19		9.9	SM	@45' - Silty SAND: orangish brown, dense, moist	
675	50		R-6	25 32 40	116.0	12.3	SP	@50' SAND: orangish brown, very dense, moist, poorly graded	
670	55							Total Depth = 50' Groundwater Not Encountered Backfilled with Cuttings on 5/8/2017	
	60								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole LGC-HS-6

Date: 5/8/2017	**Drilling Company:** 2R Drilling
Project Name: Regions South	**Type of Rig:** CME
Project Number: 16158-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~725' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By SHH
Sampled By SHH
Checked By BJE

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1	SPT-1	4 7 7		13.7	SM	**Quaternary Young Eolian Deposits (Qye):** @2.5' - Silty SAND: light brown, medium dense, moist	
720	5		R-1	4 8 9	101.9	22.3	ML	@5' - Sandy SILT: brown, medium dense, moist	
715	10		SPT-2	3 4 7		11.7	SM	@10' - Silty SAND: light brown, medium dense, moist	
710	15		R-2	8 11 13	110.4	16.6	ML	@15' - SILT with Sand: light brown, medium dense, moist	CO
705	20		SPT-3	8 12 13		5.5	SP	@20' - SAND: light brown, dense, moist, poorly graded	
700	25							Total Depth = 20' Groundwater Not Encountered Backfilled with Cuttings on 5/8/2017	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 5/22/2017

Appendix I
Geotechnical Subsurface Evaluation Data – Mill Creek Business Center/Randall (20220-01

LEGEND

HS-8
T.D. = 21.5'
Approximate Location of Hollow Stem Auger Boring by LGC Geotechnical, With Total Depth in Feet

HS-8
T.D. = 25'
Approximate Location of Hollow Stem Auger Boring by LGC Geotechnical, With Total Depth in Feet (2017)

I-6
T.D. = 20'
Approximate Location of Hollow Stem Auger Infiltration Boring by LGC Geotechnical, With Total Depth in Feet

TP-20
Approximate Location of Geotechnical Exploratory Trench by LGC Geotechnical

TP-10
Approximate Location of Geotechnical Exploratory Trench by LGC Geotechnical (2017)

CPT-9
T.D. = 50'
Approximate Location of Cone Penetration Test (CPT) Boring by LGC Geotechnical, With Total Depth in Feet

CPT-10
T.D. = 50'
Approximate Location of Cone Penetration Test (CPT) Boring by LGC Geotechnical, With Total Depth in Feet (2017)

Approximate Limits of This Report

*See Sheet 3 for Additional Shallow Test Pit Locations

CPT-4
T.D. = 25'
Soil and Crushed Concrete Stockpile
HS-6
T.D. = 50'
CPT-5
T.D. = 25'
TP-6
HS-8
T.D. = 25'
CPT-6
T.D. = 50'
TP-5
TP-10
HS-5
T.D. = 25'
CPT-7
T.D. = 25'
TP-7
CPT-9
T.D. = 25'
I-1
T.D. = 18'
CPT-1
T.D. = 50'
TP-8
HS-4
T.D. = 25'
I-2
T.D. = 16'
CPT-2
T.D. = 50'
TP-9
CPT-10
T.D. = 50'
CPT-3
T.D. = 50'
TP-20
TP-16
HS-1
T.D. = 51.5'
HS-2
T.D. = 26.5'
TP-18
TP-17
CPT-4a
T.D. = 50'
I-4
T.D. = 20'
HS-3
T.D. = 51.5'
CPT-5
T.D. = 50'
I-3
T.D. = 21.5'
TP-19
HS-5
T.D. = 51.5'
TP-13
TP-15
CPT-9
T.D. = 50'
HS-7
T.D. = 26.5'
TP-14
HS-6
T.D. = 26.5'
TP-11
HS-8
T.D. = 26.5'
HS-4
T.D. = 51.5'
TP-12
CPT-6
T.D. = 50'
I-5
T.D. = 20'
I-6
T.D. = 19.5'
CPT-8
T.D. = 50'

SCALE: 1"=100'
100' 0 100' 200'

LGC Geotechnical, Inc.

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Geotechnical Exploration Location Map With Satellite Image

PROJECT NAME	Richland - MCBC
PROJECT NO.	20220-01
ENG. / GEOL.	RLD/ARN
SCALE	1" = 100'
DATE	June 2021

SHEET 1 of 3

LEGEND

T-74 0.0'
Approximate Location of Shallow Exploratory Trench by LGC Geotechnical with Estimated Minimum Depth of High Organic "Soil" to be Exported From the Site, in Feet

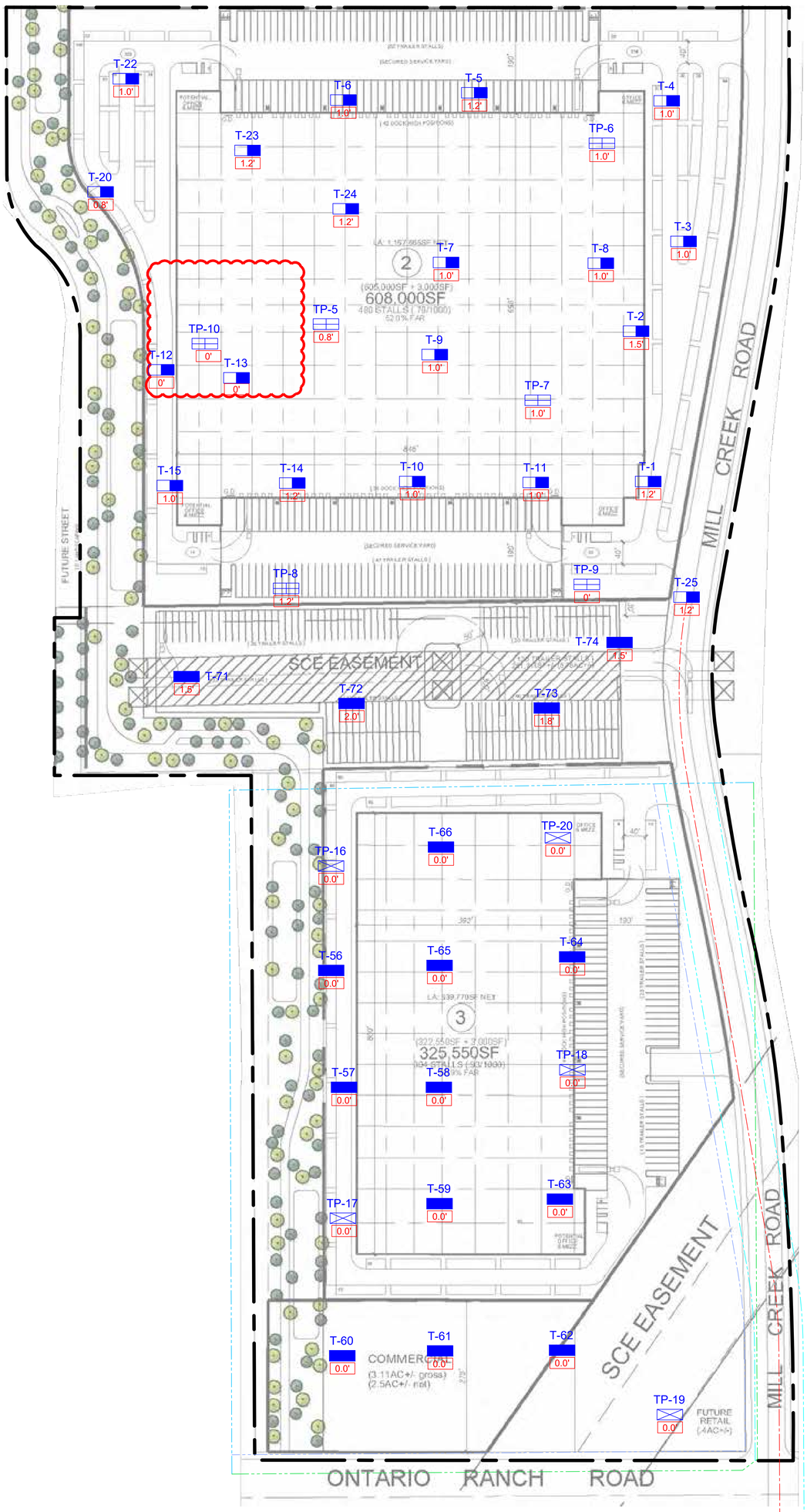
T-25 1.0'
Approximate Location of Shallow Exploratory Trench by LGC Geotechnical with Estimated Minimum Depth of High Organic "Soil" to be Exported From the Site, in Feet (2017)

TP-20 0'
Approximate Location of Geotechnical Exploratory Trench by LGC Geotechnical with Estimated Minimum Depth of High Organic "Soil" to be Exported From the Site, in Feet

TP-10 0.0'
Approximate Location of Geotechnical Exploratory Trench by LGC Geotechnical with Estimated Minimum Depth of High Organic "Soil" to be Exported From the Site, in Feet (2017)

Approximate Location of Waste Water Pond Requiring Additional Organic Haul-Off (Removal and Export Depths Estimated to be 5 feet)

Approximate Limits of This Report



SCALE: 1"=100'
100' 0 100' 200'

LGC Geotechnical, Inc.

LGC Geotechnical, Inc.
131 Calle Iglesia, Ste. 200
San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

Recommended High Organic "Soil" Export Map

PROJECT NAME	Richland - MCBC
PROJECT NO.	20220-01
ENG. / GEOL.	RLD/ARN
SCALE	1" = 100'
DATE	June 2021

SHEET 3 of 3

TP-5 (0.8')*	
Depth (ft)	% Organics
0.8'	9.8
1.2'	0.6
2'	0.5

TP-6 (1.0')*	
Depth (ft)	% Organics
0.8'	15.8
1.2'	0.6
2.2'	0.6

TP-7 (1.0')	
Depth (ft)	% Organics
0.8'	13.7
1.2'	0.9
2.2'	0.4

TP-8 (1.2')	
Depth (ft)	% Organics
0.8'	10.8
1.2'	3.9
2.2'	0.9

TP-9 (0')*	
Depth (ft)	% Organics
1'	3.8
1.5'	0.7
2.5'	0.5

TP-10 (0')*	
Depth (ft)	% Organics
0.5'	1.5
1.2'	1.0
-	-

TP-11 (0')*	
Depth (ft)	% Organics
0.4	2.8
1.5	0.9
2.1	0.5

TP-12 (0')*	
Depth (ft)	% Organics
1.0	2.0
1.4	0.9
1.6	0.5

TP-13 (0.8')*	
Depth (ft)	% Organics
0.6	6.1
1.6	1.9
2.0	0.8
7.4	0.7

TP-14 (0')*	
Depth (ft)	% Organics
0.7	2.8
1.1	2.1
1.5	0.9
2.4	0.3

TP-15 (0')*	
Depth (ft)	% Organics
0.4	2.0
1.0	2.5
1.8	0.2
3.0	0.7

TP-16 (0')*	
Depth (ft)	% Organics
0.2	2.0
1.1	1.6
1.4	0.6
-	-

TP-17 (0')*	
Depth (ft)	% Organics
0.5	2.3
1.7	1.4
2.1	0.3

TP-18 (0')*	
Depth (ft)	% Organics
0.2	2.4
1.4	1.4
1.9	0.3

TP-19 (0')*	
Depth (ft)	% Organics
1.0	1.5
2.0	0.6
3.6	0.5

TP-20 (0')*	
Depth (ft)	% Organics
0.2	2.6
1.0	2.2
1.5	0.5

T-1 (1.2')*	
Depth (ft)	% Organics
0.8'	6.0
1.5'	0.9
2'	0.4

T-2 (1.5')*	
Depth (ft)	% Organics
1.2'	10.1
1.8'	2.0
2.2'	1.1

T-3 (1.0')*	
Depth (ft)	% Organics
0.8'	11.4
1.2'	1.3
2.2	0.8

T-4 (1.0')*	
Depth (ft)	% Organics
1'	20.7
1.5'	1.4
2.5'	0.5

T-5 (1.2')*	
Depth (ft)	% Organics
0.8'	6.8
1.5'	0.3
-	-

T-6 (1.0')*	
Depth (ft)	% Organics
0.8'	9.4
1.5'	0.7
2.5'	0.5

T-7 (1.0')*	
Depth (ft)	% Organics
0.8'	9.9
1.2'	0.3
2'	0.4

T-8 (1.0')*	
Depth (ft)	% Organics
0.8'	7.0
1.2'	0.3
-	-

T-9 (1.0')*	
Depth (ft)	% Organics
0.8'	8.0
1.5'	0.3
2.5'	0.3

T-10 (1.0')*	
Depth (ft)	% Organics
0.8'	13.5
1.2'	1.5
2.0	1.1

T-11 (1.0')*	
Depth (ft)	% Organics
0.8'	13.3
1.2'	1.1
2'	0.5

T-12 (0')*	
Depth (ft)	% Organics
0.5'	0.7
1.2'	0.4
2'	0.4

T-13 (0')*	
Depth (ft)	% Organics
0.5'	0.7
1'	0.5
1.5'	0.5

T-14 (1.2')*	
Depth (ft)	% Organics
1'	9.3
1.8'	1.1
2.2'	0.8

T-15 (1.0')*	
Depth (ft)	% Organics
0.8'	16.0
1.2'	0.8
2'	0.5

T-20 (0.8')*	
Depth (ft)	% Organics
0.5'	19.2
1'	0.8
1.5'	0.4

T-22 (1.0')*	
Depth (ft)	% Organics
0.8'	9.8
1.2'	2.0
2'	0.4

T-23 (1.2')*	
Depth (ft)	% Organics
1'	52.0
1.4'	0.8
-	-

T-24 (1.2')*	
Depth (ft)	% Organics
1'	40.7
1.5'	1.9
2'	0.7

T-25 (1.2')*	
Depth (ft)	% Organics
1'	10.6
1.5'	0.8
-	-

T-40 (0')*	
Depth (ft)	% Organics
0.5	2.2
1.5	1.7
1.8	0.6

T-41 (0')*	
Depth (ft)	% Organics
0.5	2.4
1.4	0.8
1.8	0.4

T-42 (0')*	
Depth (ft)	% Organics
.5'	2.5
1.6'	0.8
2.8'	0.6

T-43 (0')*	
Depth (ft)	% Organics
.8'	1.8
1.7'	1.0
2.7'	0.3

T-44 (0')*	
Depth (ft)	% Organics
0.7	1.9
1.3	1.7
1.7	0.3

T-45 (0')*	
Depth (ft)	% Organics
1.1	2.1
2.1	0.5
3.0	0.6

T-46 (0')*	
Depth (ft)	% Organics
0.3	2.5
0.4	2.8
1.6	0.9

T-47 (0')*	
Depth (ft)	% Organics
0.1	3.6
0.8	1.4
1.8	0.5

T-48 (0')*	
Depth (ft)	% Organics
0.2	2.9
1.5	2.0
2.1	0.6

T-49 (0')*	
Depth (ft)	% Organics
0.5	2.8
1.7	1.5
2.2	0.7

T-50 (0')*	
Depth (ft)	% Organics
0.6	2.9
1.3	2.0
2.0	0.8

T-51 (0')*	
Depth (ft)	% Organics
0.8	2.0
1.3	1.4
2.1	0.5

T-52 (0')*	
Depth (ft)	% Organics
0.6	1.9
1.2	2.9
1.8	0.6

T-53 (0')*	
Depth (ft)	% Organics
0.7	2.7
1.6	1.4
1.9	0.7

T-54 (0')*	
Depth (ft)	% Organics
0.5	2.4
1.0	1.3
2.0	0.8

T-55 (0')*	
Depth (ft)	% Organics
0.7	2.7
1.0	1.2
1.4	0.8

T-56 (0')*	
Depth (ft)	% Organics
0.2	2.0
1.4	1.2
1.7	0.7

T-57 (0')*	
Depth (ft)	% Organics
0.2	2.5
0.7	1.9
1.2	0.4

T-58 (0')*	
Depth (ft)	% Organics
0.2	2.3
0.8	2.3
1.2	0.7

T-59 (0')*	
Depth (ft)	% Organics
0.2	2.4
1.7	1.7
2.1	0.6

T-60 (0')*	
Depth (ft)	% Organics
0.1	2.7
0.5	2.4
0.7	0.6

T-61 (0')*	
Depth (ft)	% Organics
0.2	2.3
1.1	1.9
1.5	0.3

T-62 (0')*	
Depth (ft)	% Organics
0.3	2.4
1.2	2.7
2.0	0.4

T-63 (0')*	
Depth (ft)	% Organics
0.2	2.5
1.1	1.8
1.6	0.5

T-64 (0')*	
Depth (ft)	% Organics
0.2	2.4
1.5	2.0
2.0	0.5

T-65 (0')*	
Depth (ft)	% Organics
0.2	2.4
1.0	0.8
2.0	0.5

T-66 (0')*	
Depth (ft)	% Organics
0.2	2.4
1.1	1.3
1.5	0.7

T-71 (1.5')*	
Depth (ft)	% Organics
0.2	7.6
1.2	12.1
1.5	0.8

T-72 (2.0)*	
Depth (ft)	% Organics
0.3	10.0
1.7	9.6
2.2	0.5

T-73 (1.8)*	
Depth (ft)	% Organics
0.2	13.4
1.5	11.2
2.1	0.8

T-74 (1.5)*	
Depth (ft)	% Organics
0.3	9.4
2.5	3.6
3.0	0.7

Legend

> 5%
2 to 5%
< 2%

"High" Organic Content "Soils" Recommended for Export from Site
"Transitional" Soils Recommended for Mix/Blend w/ "Clean" Soils
"Clean" Soils

Note: (#')* Indicates Recommended Organic Export Depth in Feet. Export depth may exceed the depths highlighted boxes.

LGC Geotechnical, Inc.

Table 8 - Summary of Organic Content - Organic Removal & Export Depths

Project Name	Richland - MCBC, Ontario
Project Number	20179-01
ENG./GEOL.	RLD/ARN
Date	June 2021

APPENDIX C

Laboratory Test Results

The laboratory testing program was directed towards providing quantitative data relating to the relevant engineering properties of the site soils. Samples considered representative of site conditions were tested in general accordance with American Society for Testing and Materials (ASTM) procedure and/or California Test Methods (CTM), where applicable. The following summary is a brief outline of the test type and a table summarizing the test results.

Moisture and Density Determination Tests: Moisture content (ASTM D2216) and dry density determinations (ASTM D2937) were performed on driven samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from undisturbed or disturbed samples.

Grain Size Distribution/Fines Content: Representative samples were dried, weighed, and soaked in water until individual soil particles were separated (per ASTM D421) and then washed on a No. 200 sieve (ASTM D1140). Where applicable, the portion retained on the No. 200 sieve was dried and then sieved on a U.S. Standard brass sieve set in accordance with ASTM D6913 (sieve).

Sample Location	**Description**	**% Passing # 200 Sieve**
HS-1 @ 1-5 ft	Silty Sand	14
HS-2 @ 1-5 ft	Silty Sand	20
HS-5 @ 1-5 ft	Silty Sand	31
HS-6 @ 1-5 ft	Silty Sand	27
HS-8 @ 5 ft	Sand with Silt	6
I-3 @ 1-5 ft	Silty Sand with Gravel	17
*HS-4 @ 5 ft	Silty Sand	29
*HS-8 @ 10 ft	Sandy Silt	65

*testing from LGC Geotechnical (2017)

APPENDIX C

Laboratory Test Results (Continued)

Atterberg Limits: The liquid and plastic limits ("Atterberg Limits") were determined per ASTM D4318 for engineering classification of fine-grained material and presented in the table below. The USCS soil classification indicated in the table below is based on the portion of sample passing the No. 40 sieve and may not necessarily be representative of the entire sample. The plots are provided in this Appendix.

Sample Location	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	USCS Soil Classification
HS-2 @ 7.5 ft	33	19	14	CL
HS-7 @ 7.5 ft	NP	NP	NP	ML

Consolidation: Two consolidation tests were performed per ASTM D2435. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and increasing loads were applied. The samples were allowed to consolidate under "double drainage" and total deformation for each loading step were recorded. The percent consolidation for each load step was recorded as the ratio of the amount of vertical compression to the original sample height. The consolidation pressure curves are provided in this Appendix.

Collapse/Swell Potential: Five collapse tests were performed per ASTM D4546. Samples (2.4 inches in diameter and 1-inch in height) were placed in a consolidometer and loaded to their approximate in-situ effective stress. The curves are presented in this Appendix.

Direct Shear: Two direct shear test were performed, one on a driven sample and one on a 90% relative compaction remolded sample. The ring samples were soaked for a minimum of 24 hours prior to testing. The samples were tested under various normal loads using a motor-driven, strain-controlled, direct-shear testing apparatus (ASTM D3080). The plots are provided in this Appendix.

APPENDIX C

Laboratory Test Results (Continued)

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557. The results of these tests are presented in the table below:

Sample Location	Sample Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
HS-2 @ 1-5 ft	Brown Silty Sand	112.5	7.5
HS-6 @ 1-5 ft	Olive brown Silty Sand	120.0	10.5
*HS-4 @ 2.5-5 ft	Light olive brown Silty Sand	118.5	9.0

*testing from LGC Geotechnical (2017)

Expansion Index: The expansion potential of selected representative samples was evaluated by the Expansion Index Test per ASTM D4829.

Sample Location	Expansion Index	Expansion Potential*
HS-2 @ 1-5 ft	0	Very Low
HS-6 @ 1-5 ft	3	Very Low
I-3 @ 1-5 ft	0	Very Low
*HS-4 @ 2.5-5 ft	1	Very Low
*HS-6 @ 2.5-5 ft	0	Very Low

*testing from LGC Geotechnical (2017)

R-value Test: R-value test was performed in general accordance with California Test Method 301. The plot is included in the Appendix.

Sample Location	R-value
HS-5 @ 1-5 ft	65

Soluble Sulfates: The soluble sulfate content of select samples was determined by standard geochemical methods (CTM 417). The test results are presented in the table below.

Sample Location	Sulfate Content, %
HS-2 @ 1-5 ft	<0.01%
HS-6 @ 1-5 ft	<0.01%
I-3 @ 1-5 ft	<0.03%
*HS-4 @ 2.5-5 ft	<0.02%

*testing from LGC Geotechnical (2017)

Chloride Content: Chloride content was tested per CTM 422. The results are presented below.

Sample Location	Chloride Content, ppm
HS-2 @ 1-5 ft	50
HS-6 @ 1-5 ft	260
I-3 @ 1-5 ft	110
*HS-4 @ 2.5-5 ft	104

*testing from LGC Geotechnical (2017)

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with CTM 643 and standard geochemical methods. The results are presented in the table below.

Sample Location	pH	Minimum Resistivity (ohms-cm)
HS-2 @ 1-5 ft	8.73	5798
HS-6 @ 1-5 ft	8.08	1600
I-3 @ 1-5 ft	8.57	4650
*HS-4 @ 2.5-5 ft	6.33	737

*testing from LGC Geotechnical (2017)

Organic Matter Content of Soils: Organic matter content tests were performed in general accordance with ASTM D 2974 (Test Methods A & C). The results are presented in Table 9.

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Vander Eyk
Project No.: 17074-01
Boring No.: HS-4
Sample No.: R-1
Soil Identification: Light olive brown silty sand (SM)

Tested By: GB/JY Date: 07/21/17
Checked By: J. Ward Date: 07/31/17
Depth (feet): 5.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	K-2	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	474.2	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	75.4	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	398.8	Moisture Content (%)	0.0

After Wet Sieve	Container No.	K-2
	Wt. of Dry Soil + Container (g)	370.9
	Wt. of Container (g)	75.4
	Dry Wt. of Soil Retained on # 200 Sieve (g)	295.5

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
6"	150.0		
3"	75.0		
1 1/2	37.5		
3/4"	19.0		
3/8"	9.5		
#4	4.75	0.0	100.0
#8	2.36	0.1	100.0
#16	1.18	0.5	99.9
#30	0.600	5.1	98.7
#50	0.300	48.5	87.8
#100	0.150	182.6	54.2
#200	0.075	285.2	28.5
PAN			

GRAVEL: **0 %**
SAND: **71 %**
FINES: **29 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

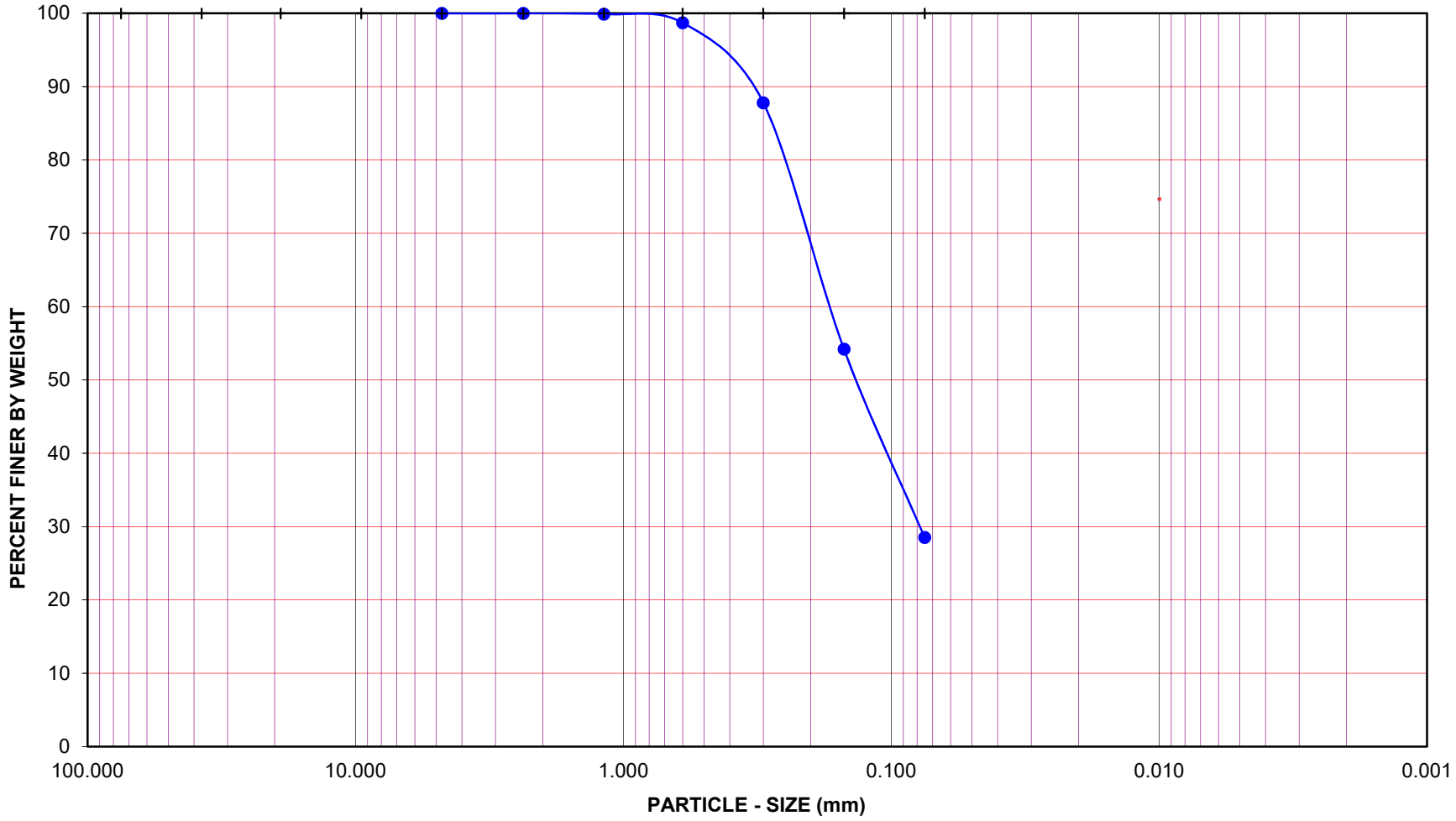
Remarks: _____

6725

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: Vander Eyk

Project No.: 17074-01

Boring No.: HS-4 Sample No.: R-1

Depth (feet): 5.0 Soil Type : SM

Soil Identification: Light olive brown silty sand (SM)

GR:SA:FI : (%) 0 : 71 : 29

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jul-17

6726

ATTERBERG LIMITS

ASTM D 4318

Project Name:	Ontario	Tested By:	Y. Nguyen	Date:	01/05/21
Project No. :	20220-01	Input By:	G. Bathala	Date:	01/14/21
Boring No.:	HS-2	Checked By:	J. Ward		
Sample No.:	R-3	Depth (ft.)	7.5		
Soil Identification:	Olive lean clay (CL)				

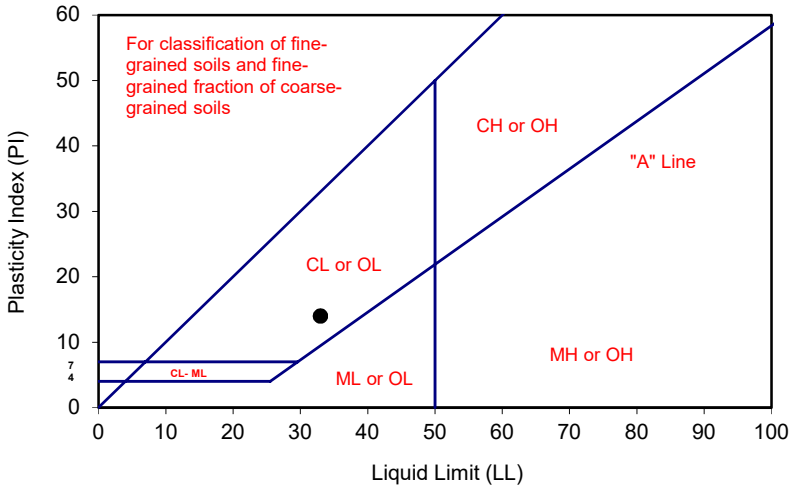
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			29	23	18	
Wet Wt. of Soil + Cont. (g)	10.04	9.95	21.28	21.31	20.91	
Dry Wt. of Soil + Cont. (g)	8.58	8.55	16.38	16.29	15.91	
Wt. of Container (g)	0.99	1.11	1.04	1.02	1.05	
Moisture Content (%) [Wn]	19.24	18.82	31.94	32.87	33.65	

Liquid Limit	**33**
Plastic Limit	**19**
Plasticity Index	**14**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 9.49

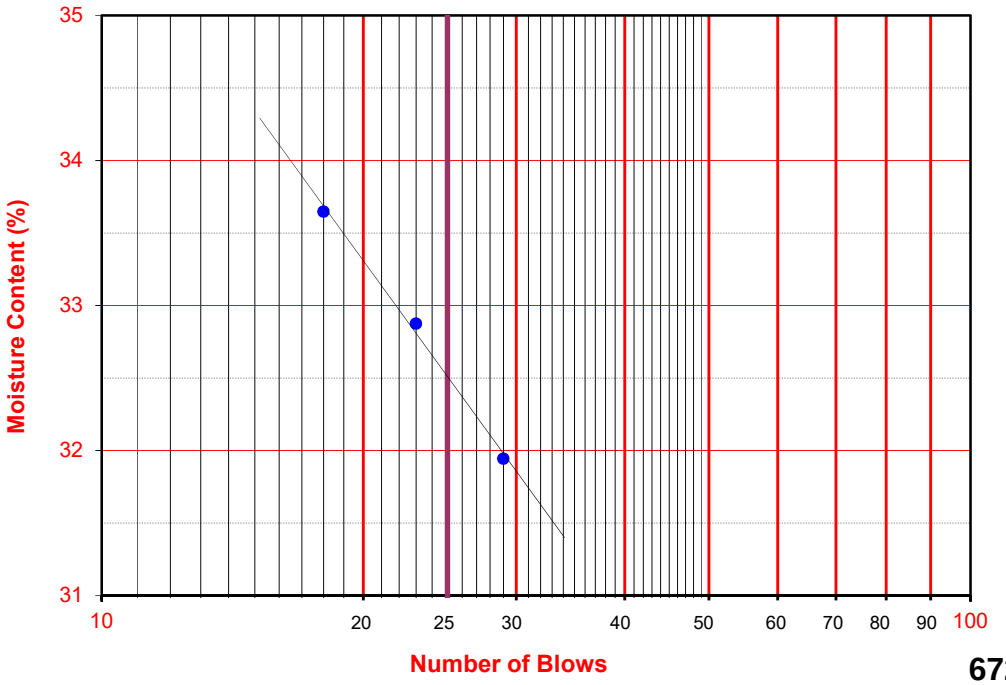
One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



PROCEDURES USED

	Wet Preparation
	Multipoint - Wet
X	Dry Preparation
	Multipoint - Dry
X	Procedure A
	Multipoint Test
	Procedure B
	One-point Test



6727

ATTERBERG LIMITS

ASTM D 4318

Project Name:	Ontario	Tested By:	Y. Nguyen	Date:	01/14/21
Project No. :	20220-01	Input By:	G. Bathala	Date:	01/20/21
Boring No.:	HS-7	Checked By:	J. Ward		
Sample No.:	R-3	Depth (ft.)	7.5		
Soil Identification:	Olive silt (ML)				

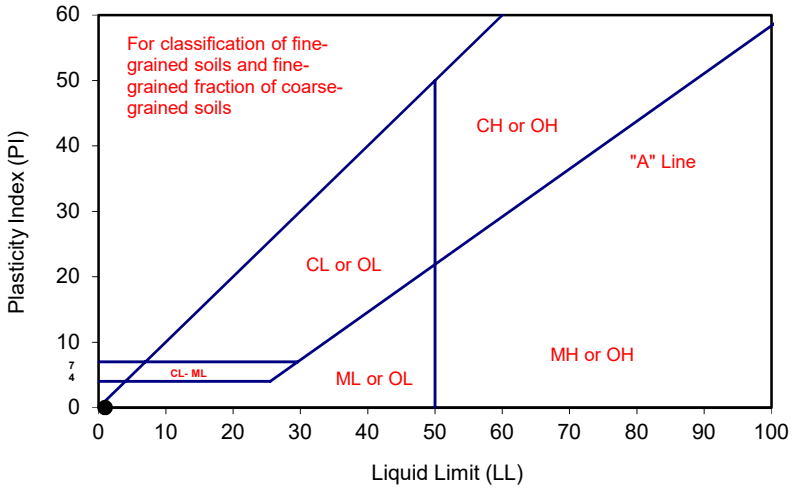
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			10			
Wet Wt. of Soil + Cont. (g)	**Cannot be rolled:**		21.78	**Cannot get more than 10 blows:**		
Dry Wt. of Soil + Cont. (g)	**NonPlastic**		18.38	**NonPlastic**		
Wt. of Container (g)			1.05			
Moisture Content (%) [Wn]			19.62			

Liquid Limit	**NP**
Plastic Limit	**NP**
Plasticity Index	**NP**
Classification	**NP**

PI at "A" - Line = 0.73(LL-20) =

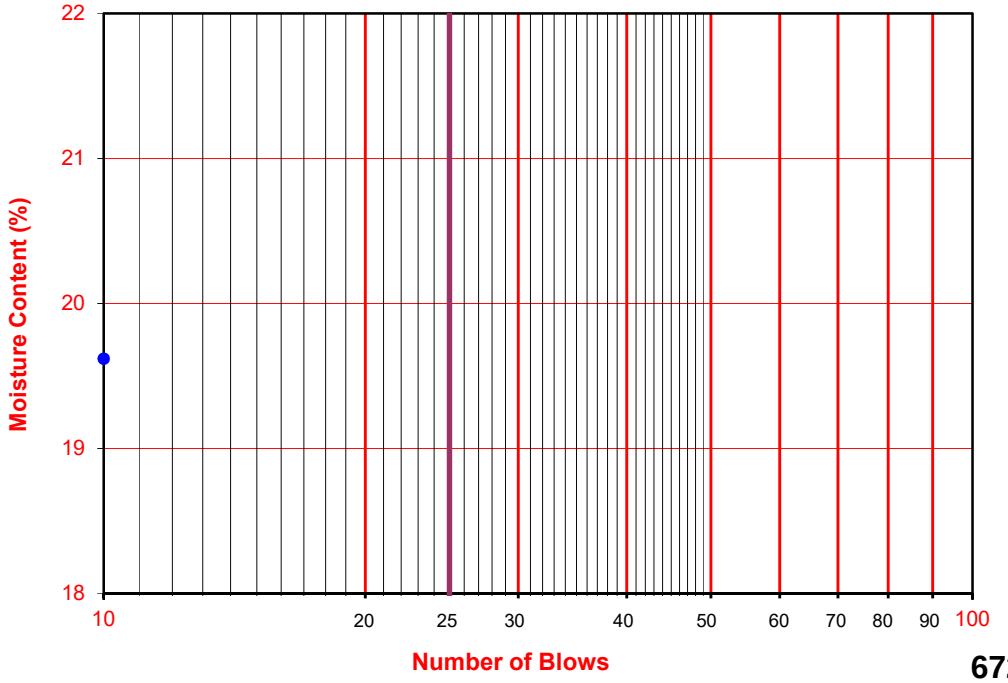
One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



PROCEDURES USED

	Wet Preparation
	Multipoint - Wet
X	Dry Preparation
	Multipoint - Dry
X	Procedure A
	Multipoint Test
	Procedure B
	One-point Test



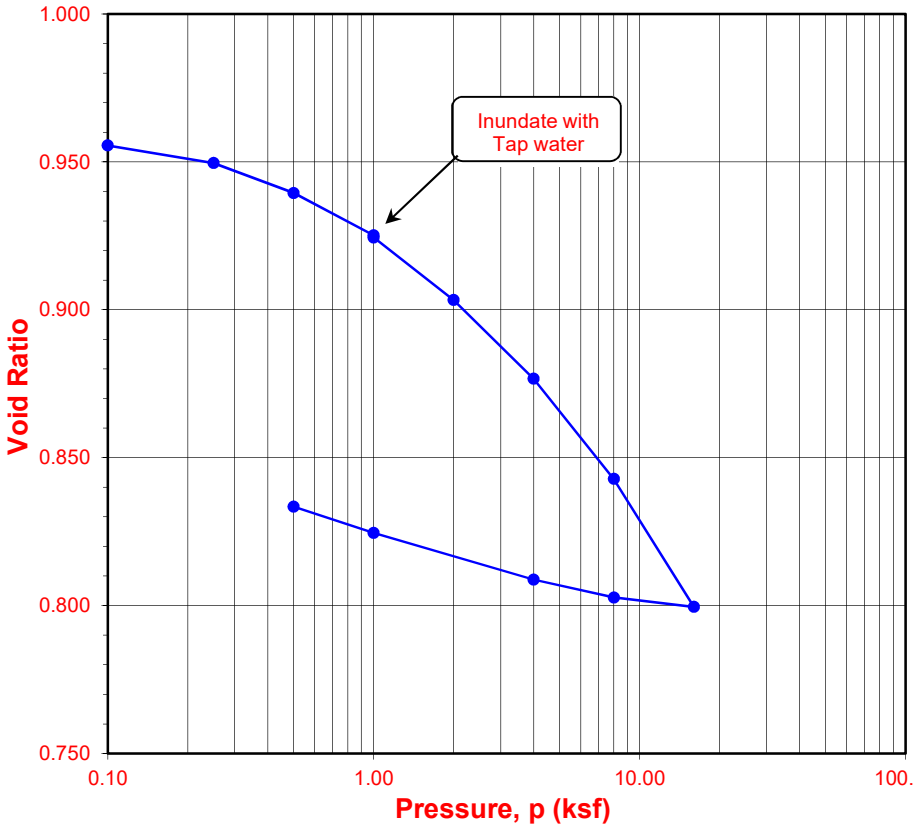
6728

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS

ASTM D 2435

Project Name:	Ontario	Tested By: GB/YN	Date: 01/04/21
Project No.:	20220-01	Checked By: J. Ward	Date: 01/27/21
Boring No.:	HS-2	Depth (ft.): 7.5	
Sample No.:	R-3	Sample Type: Ring	
Soil Identification:	Olive lean clay (CL)		

Sample Diameter (in.)	2.415
Sample Thickness (in.)	1.000
Wt. of Sample + Ring (g)	188.60
Weight of Ring (g)	45.53
Height after consol. (in.)	0.9367
Before Test	
Wt.Wet Sample+Cont. (g)	264.45
Wt.of Dry Sample+Cont. (g)	217.19
Weight of Container (g)	59.56
Initial Moisture Content (%)	30.0
Initial Dry Density (pcf)	91.5
Initial Saturation (%)	90
Initial Vertical Reading (in.)	0.2938
After Test	
Wt.of Wet Sample+Cont. (g)	246.28
Wt. of Dry Sample+Cont. (g)	212.88
Weight of Container (g)	61.21
Final Moisture Content (%)	31.47
Final Dry Density (pcf)	94.2
Final Saturation (%)	100
Final Vertical Reading (in.)	0.2277
Specific Gravity (assumed)	2.87
Water Density (pcf)	62.43



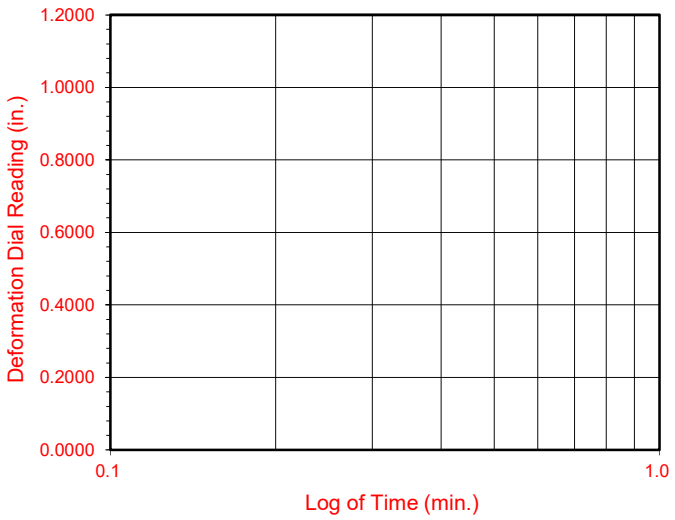
Pressure (p) (ksf)	Final Reading (in.)	Apparent Thickness (in.)	Load Compliance (%)	Deformation % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.10	0.2929	0.9991	0.00	0.09	0.956	0.09
0.25	0.2894	0.9956	0.05	0.45	0.950	0.40
0.50	0.2837	0.9899	0.10	1.01	0.940	0.91
1.00	0.2756	0.9818	0.18	1.82	0.925	1.64
1.00	0.2752	0.9814	0.18	1.86	0.924	1.68
2.00	0.2635	0.9697	0.27	3.03	0.903	2.76
4.00	0.2486	0.9548	0.40	4.52	0.877	4.12
8.00	0.2297	0.9359	0.56	6.41	0.843	5.85
16.00	0.2055	0.9117	0.77	8.83	0.800	8.06
8.00	0.2083	0.9145	0.65	8.55	0.803	7.90
4.00	0.2125	0.9187	0.54	8.13	0.809	7.59
1.00	0.2224	0.9286	0.36	7.14	0.825	6.78
0.50	0.2277	0.9339	0.28	6.61	0.833	6.33

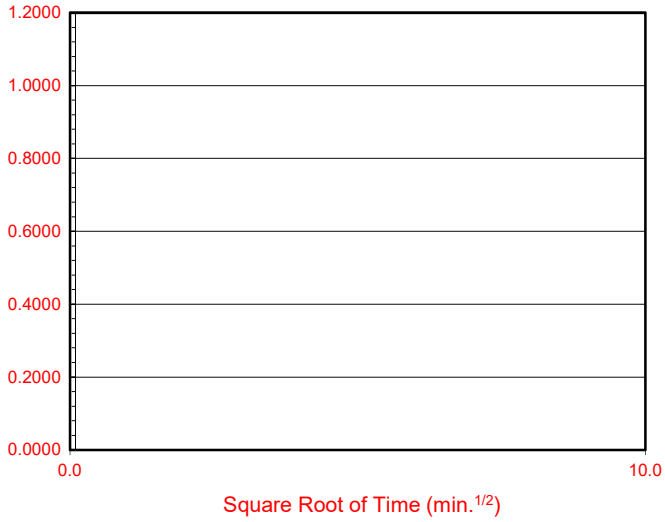
Time Readings

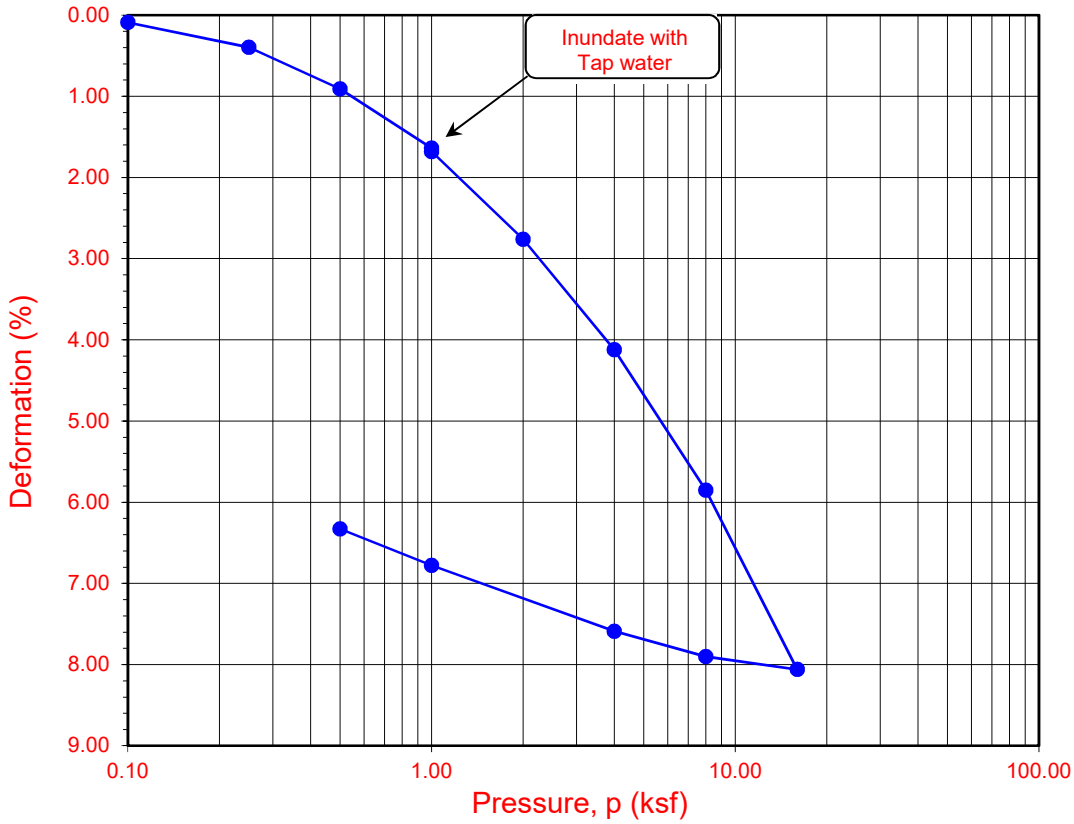
Date	Time	Elapsed Time (min)	Square Root of Time	Dial Rdgs. (in.)

6729

Time Readings







Boring No.	Sample No.	Depth (ft.)	Moisture Content (%)		Dry Density (pcf)		Void Ratio		Degree of Saturation (%)	
			Initial	Final	Initial	Final	Initial	Final	Initial	Final
HS-2	**R-3**	**7.5**	**30.0**	**31.5**	**91.5**	**94.2**	**0.957**	**0.833**	**90**	**100**

Soil Identification: Olive lean clay (CL)

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS
ASTM D 2435

Project No.: 20220-01

Ontario

01-21

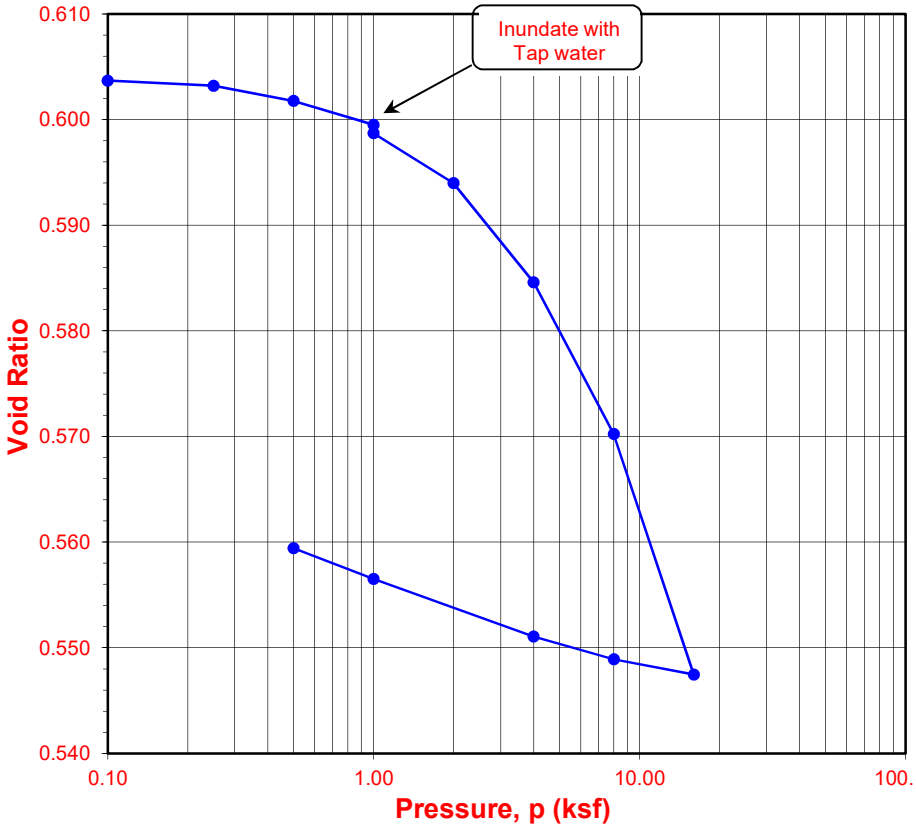
6730

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS

ASTM D 2435

Project Name:	Ontario	Tested By: GB/YN	Date: 01/12/21
Project No.:	20220-01	Checked By: J. Ward	Date: 01/27/21
Boring No.:	HS-7	Depth (ft.): 7.5	
Sample No.:	R-3	Sample Type: Ring	
Soil Identification:	Olive silt (ML)		

Sample Diameter (in.)	2.415
Sample Thickness (in.)	1.000
Wt. of Sample + Ring (g)	181.79
Weight of Ring (g)	42.94
Height after consol. (in.)	0.9723
Before Test	
Wt.Wet Sample+Cont. (g)	295.00
Wt.of Dry Sample+Cont. (g)	274.70
Weight of Container (g)	69.12
Initial Moisture Content (%)	9.9
Initial Dry Density (pcf)	105.1
Initial Saturation (%)	44
Initial Vertical Reading (in.)	0.2750
After Test	
Wt.of Wet Sample+Cont. (g)	250.56
Wt. of Dry Sample+Cont. (g)	226.31
Weight of Container (g)	57.19
Final Moisture Content (%)	19.22
Final Dry Density (pcf)	107.9
Final Saturation (%)	92
Final Vertical Reading (in.)	0.2430
Specific Gravity (assumed)	2.70
Water Density (pcf)	62.43

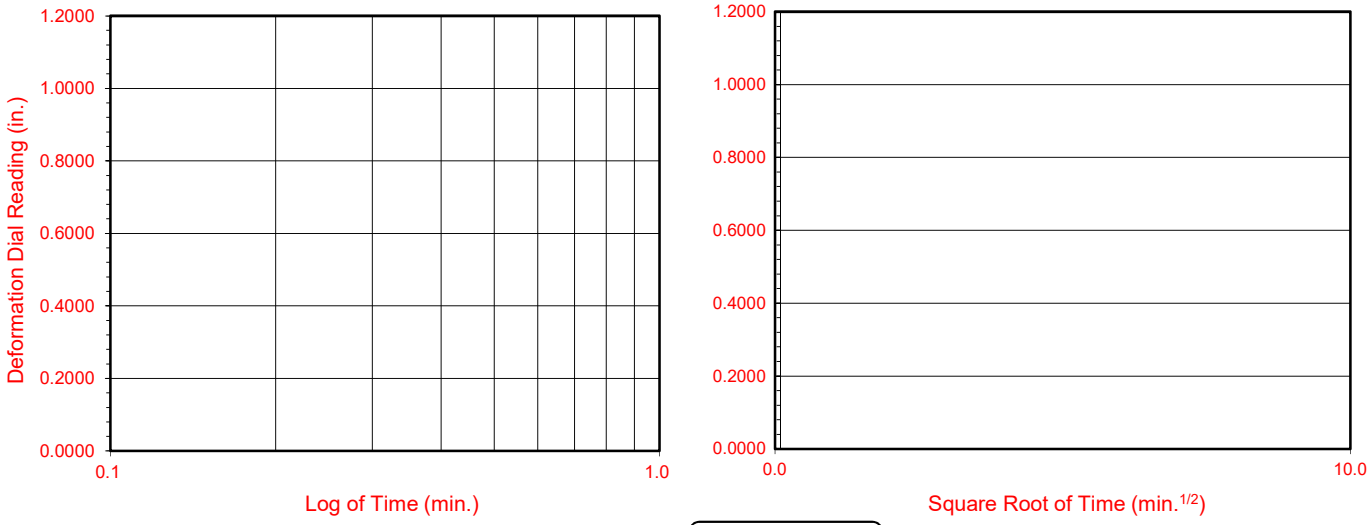


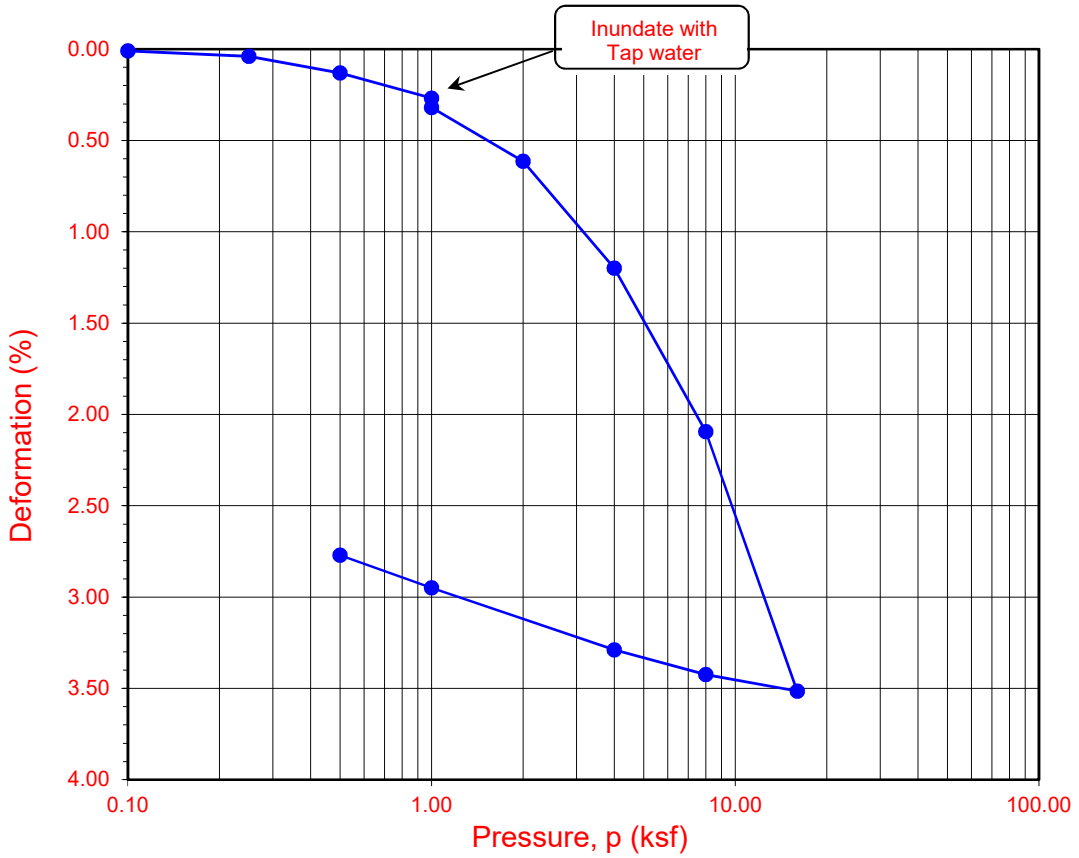
Pressure (p) (ksf)	Final Reading (in.)	Apparent Thickness (in.)	Load Compliance (%)	Deformation % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.10	0.2749	0.9999	0.00	0.01	0.604	0.01
0.25	0.2739	0.9989	0.07	0.11	0.603	0.04
0.50	0.2724	0.9974	0.13	0.26	0.602	0.13
1.00	0.2702	0.9952	0.21	0.48	0.600	0.27
1.00	0.2697	0.9947	0.21	0.53	0.599	0.32
2.00	0.2656	0.9906	0.33	0.94	0.594	0.61
4.00	0.2584	0.9834	0.46	1.66	0.585	1.20
8.00	0.2477	0.9727	0.64	2.74	0.570	2.10
16.00	0.2313	0.9563	0.86	4.38	0.547	3.52
8.00	0.2330	0.9580	0.78	4.21	0.549	3.43
4.00	0.2353	0.9603	0.68	3.97	0.551	3.29
1.00	0.2405	0.9655	0.50	3.45	0.557	2.95
0.50	0.2430	0.9680	0.43	3.20	0.559	2.77

Time Readings				
Date	Time	Elapsed Time (min)	Square Root of Time	Dial Rdgs. (in.)

6731

Time Readings





Boring No.	Sample No.	Depth (ft.)	Moisture Content (%)		Dry Density (pcf)		Void Ratio		Degree of Saturation (%)	
			Initial	Final	Initial	Final	Initial	Final	Initial	Final
HS-7	**R-3**	**7.5**	**9.9**	**19.2**	**105.1**	**107.9**	**0.604**	**0.559**	**44**	**92**

Soil Identification: Olive silt (ML)

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS
ASTM D 2435

Project No.: 20220-01

Ontario

01-21

ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS
ASTM D 4546

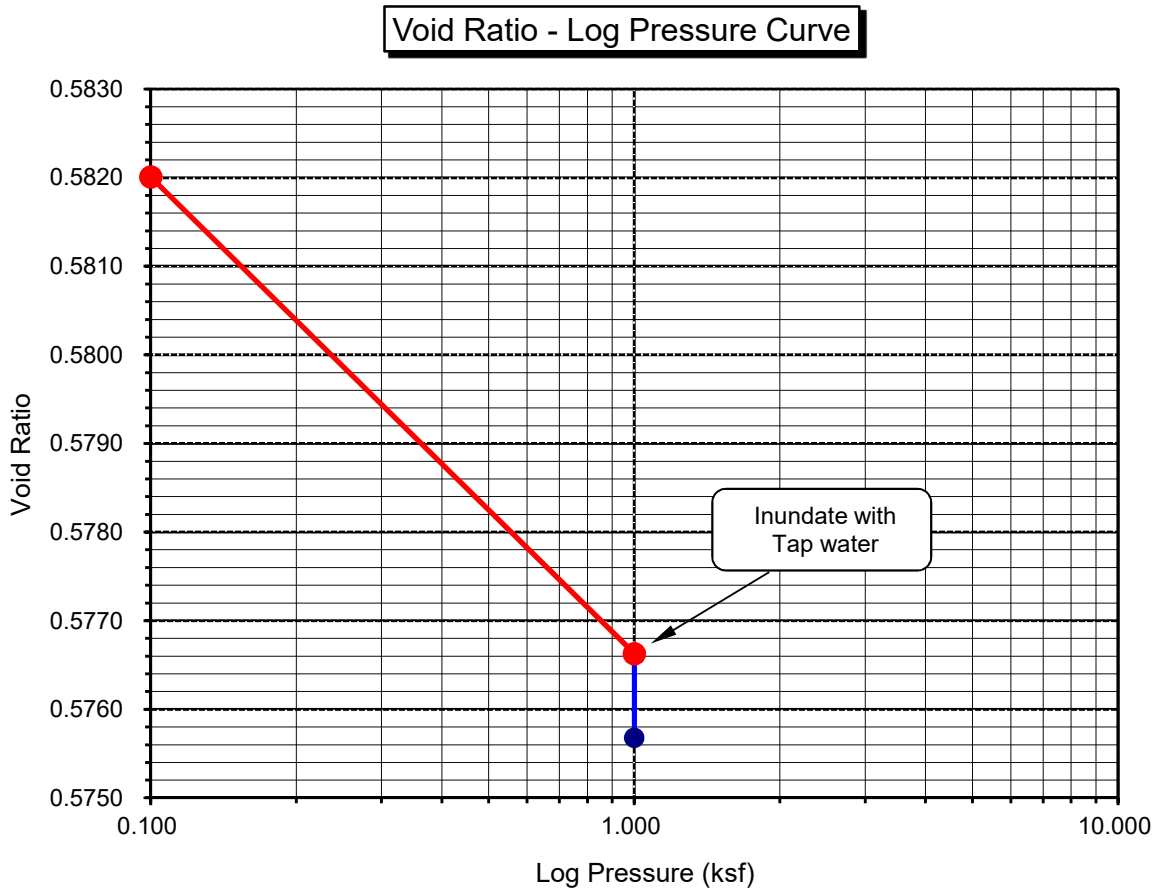
Project Name:	Ontario	Tested By:	G. Bathala	Date:	01/18/21
Project No.:	20220-01	Checked By:	J. Ward	Date:	02/03/21
Boring No.:	HS-4	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	7.5		
Sample Description:	Olive silty clay with sand (CL-ML)s				

Initial Dry Density (pcf):	106.5
Initial Moisture (%):	11.35
Initial Length (in.):	1.0000
Initial Dial Reading:	0.2965
Diameter(in):	2.415

Final Dry Density (pcf):	107.0
Final Moisture (%) :	19.2
Initial Void Ratio:	0.5825
Specific Gravity(assumed):	2.70
Initial Saturation (%)	52.6

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.2962	0.9997	0.00	-0.03	0.5820	-0.03
1.000	0.2910	0.9945	0.18	-0.55	0.5766	-0.37
H2O	0.2904	0.9939	0.18	-0.61	0.5757	-0.43

Percent Swell (+) / Settlement (-) After Inundation = -0.06



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS
ASTM D 4546

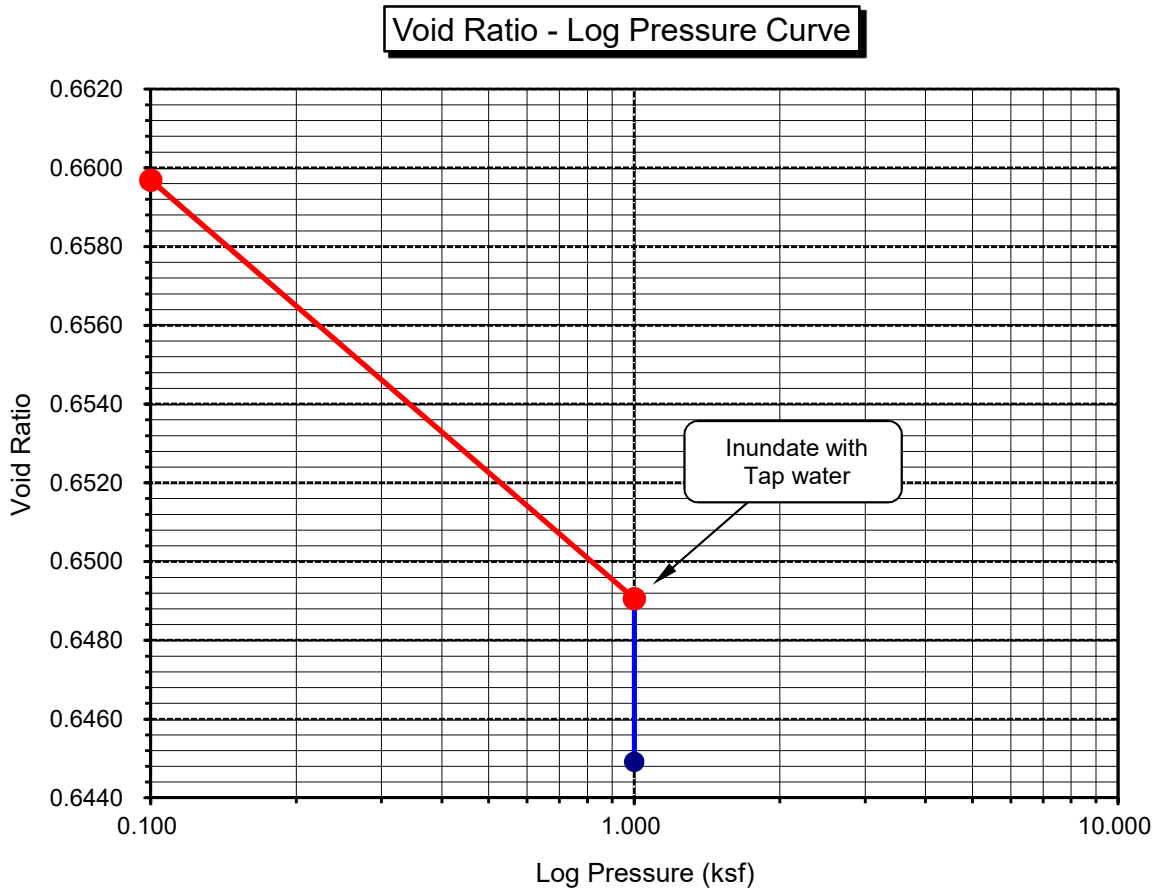
Project Name:	Ontario	Tested By:	G. Bathala	Date:	01/18/21
Project No.:	20220-01	Checked By:	J. Ward	Date:	02/03/21
Boring No.:	HS-8	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	5.0		
Sample Description:	Olive gray poorly-graded sand with silt (SP-SM)				

Initial Dry Density (pcf):	101.5
Initial Moisture (%):	2.58
Initial Length (in.):	1.0000
Initial Dial Reading:	0.3140
Diameter(in):	2.415

Final Dry Density (pcf):	102.5
Final Moisture (%) :	18.6
Initial Void Ratio:	0.6600
Specific Gravity(assumed):	2.70
Initial Saturation (%)	10.6

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.3138	0.9998	0.00	-0.02	0.6597	-0.02
1.000	0.3067	0.9927	0.07	-0.73	0.6491	-0.66
H2O	0.3042	0.9902	0.07	-0.98	0.6449	-0.91

Percent Swell (+) / Settlement (-) After Inundation = -0.25



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

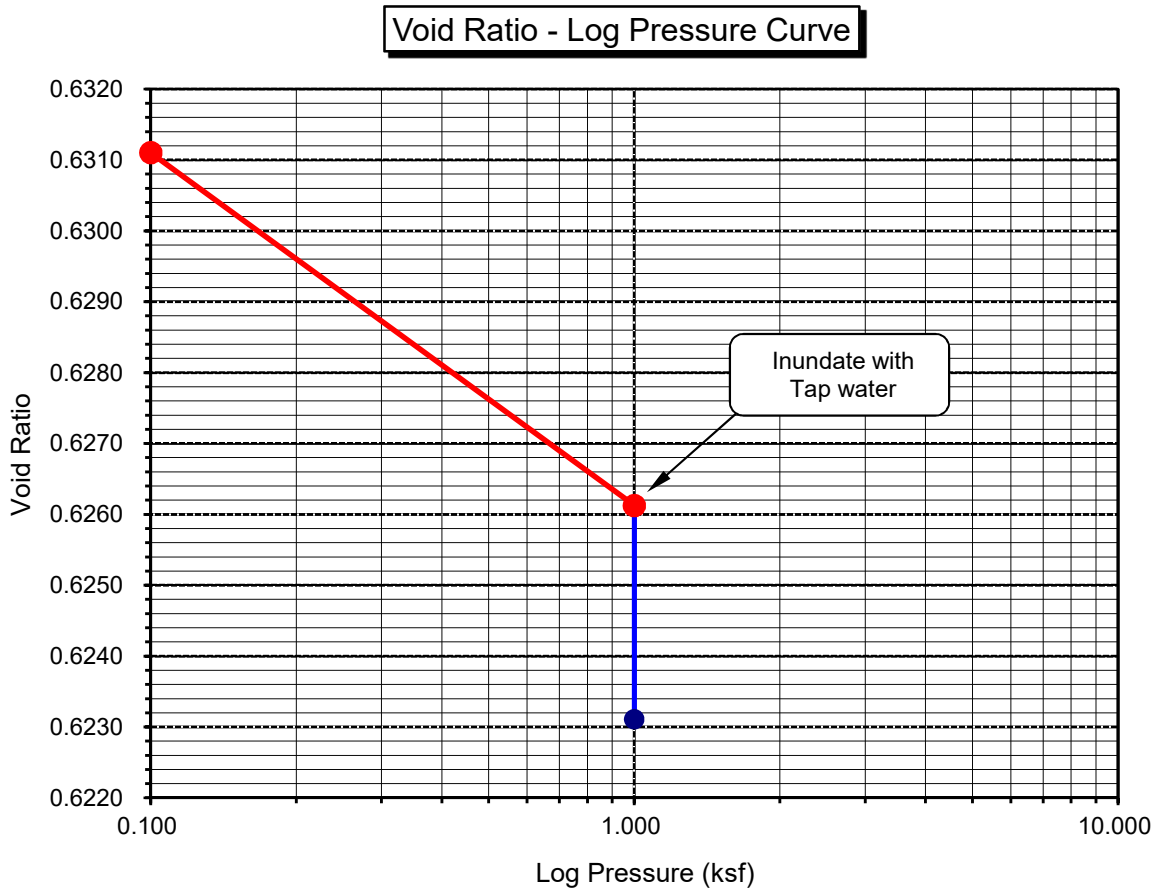
Project Name:	Ontario	Tested By:	G. Bathala	Date:	01/07/21
Project No.:	20220-01	Checked By:	J. Ward	Date:	01/27/21
Boring No.:	I-3	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	5.0		
Sample Description:	Light olive gray silty sand (SM)				

Initial Dry Density (pcf):	103.3
Initial Moisture (%):	2.15
Initial Length (in.):	1.0000
Initial Dial Reading:	0.2597
Diameter(in):	2.415

Final Dry Density (pcf):	103.9
Final Moisture (%) :	20.1
Initial Void Ratio:	0.6314
Specific Gravity(assumed):	2.70
Initial Saturation (%)	9.2

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.2595	0.9998	0.00	-0.02	0.6311	-0.02
1.000	0.2554	0.9957	0.11	-0.43	0.6261	-0.32
H2O	0.2535	0.9938	0.11	-0.62	0.6231	-0.51

Percent Swell (+) / Settlement (-) After Inundation = -0.19



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

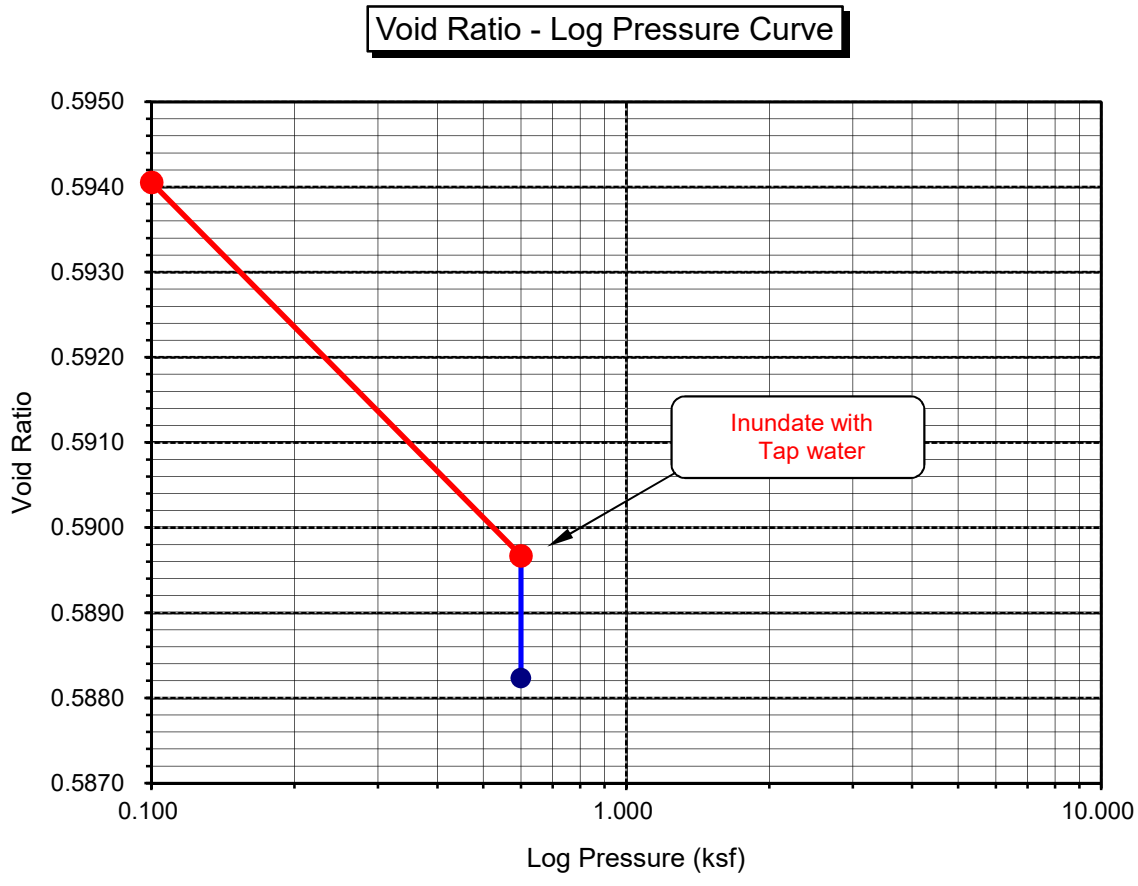
Project Name:	Vander Eyk	Tested By:	G. Bathala	Date:	07/20/17
Project No.:	17074-01	Checked By:	J. Ward	Date:	07/31/17
Boring No.:	HS-4	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.)	5.0		
Sample Description:	Light olive brown silty sand (SM)				

Initial Dry Density (pcf):	105.7
Initial Moisture (%):	5.83
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1924
Diameter(in):	2.415

Final Dry Density (pcf):	106.2
Final Moisture (%) :	15.1
Initial Void ratio:	0.5941
Specific Gravity(assumed):	2.70
Initial Saturation (%)	26.5

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1924	1.0000	0.00	0.00	0.5941	0.00
0.600	0.1957	0.9968	0.05	-0.32	0.5897	-0.27
H2O	0.1966	0.9959	0.05	-0.41	0.5882	-0.36

Percent Swell (+) / Settlement (-) After Inundation = -0.09



One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546)

Project Name:	Vander Eyk	Tested By:	G. Bathala	Date:	07/20/17
Project No.:	17074-01	Checked By:	J. Ward	Date:	07/31/17
Boring No.:	HS-8	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	10.0		
Sample Description:	Olive brown sandy silt (ML)				

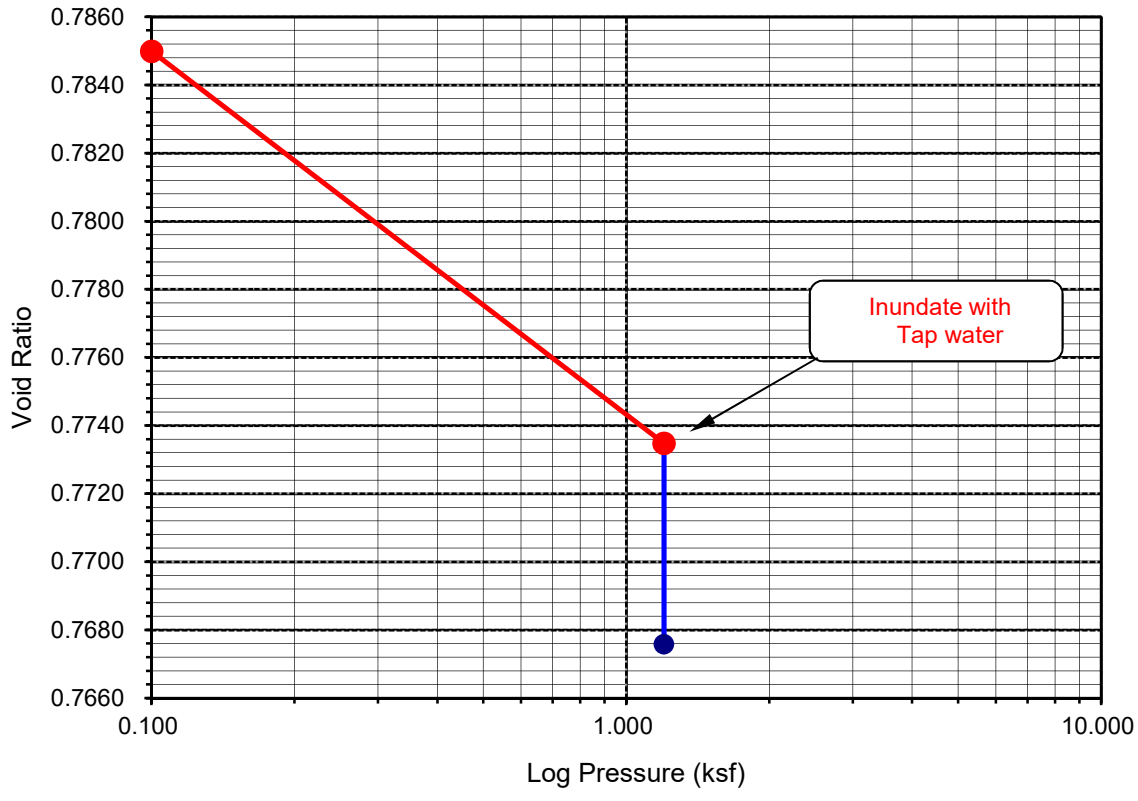
Initial Dry Density (pcf):	94.4
Initial Moisture (%):	4.99
Initial Length (in.):	1.0000
Initial Dial Reading:	0.1389
Diameter(in):	2.415

Final Dry Density (pcf):	95.4
Final Moisture (%) :	26.0
Initial Void ratio:	0.7851
Specific Gravity(assumed):	2.70
Initial Saturation (%)	17.2

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.1389	1.0000	0.00	0.00	0.7850	0.00
1.200	0.1458	0.9931	0.04	-0.69	0.7735	-0.65
H2O	0.1491	0.9898	0.04	-1.02	0.7676	-0.98

Percent Swell (+) / Settlement (-) After Inundation = -0.33

Void Ratio - Log Pressure Curve



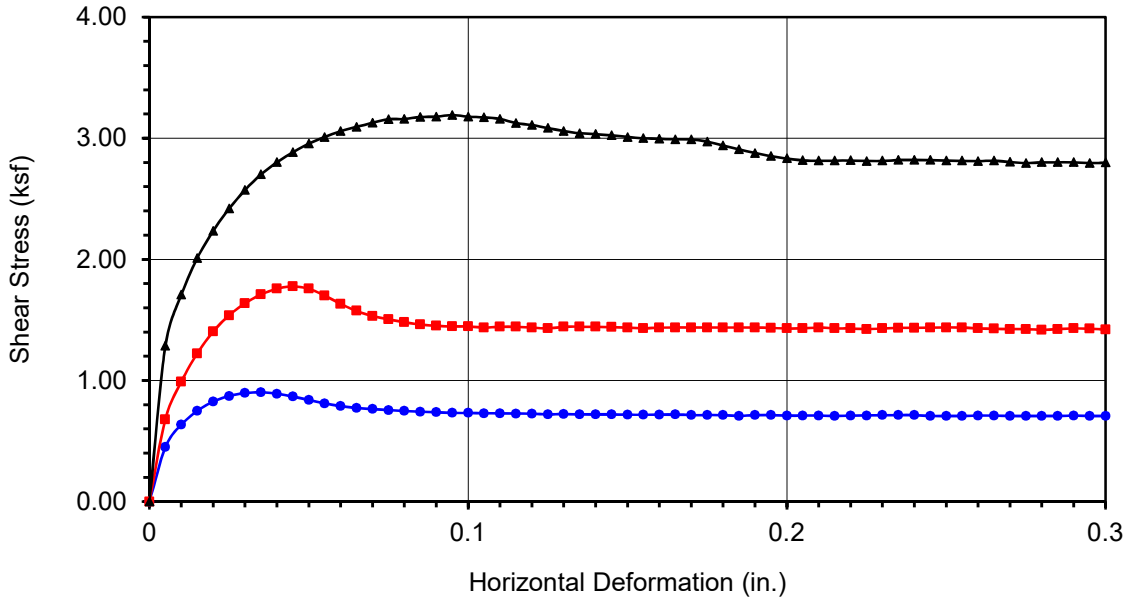
DIRECT SHEAR TEST

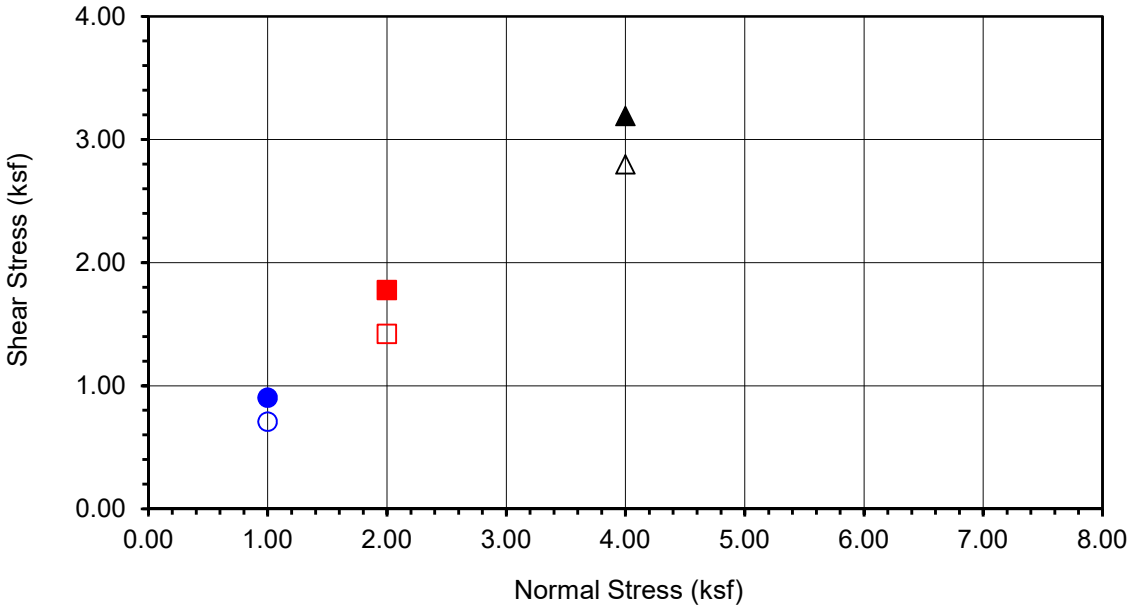
Consolidated Drained - ASTM D 3080

Project Name:	Ontario	Tested By:	G. Bathala	Date:	01/18/21
Project No.:	20220-01	Checked By:	J. Ward	Date:	02/03/21
Boring No.:	HS-6	Sample Type:	90% Remold		
Sample No.:	B-1	Depth (ft.):	1-5		

Soil Identification: Light olive brown silty sand (SM)

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	190.13	191.20	191.49
Weight of Ring(gm):	45.32	45.72	45.73
Before Shearing			
Weight of Wet Sample+Cont.(gm):	169.11	169.11	169.11
Weight of Dry Sample+Cont.(gm):	158.16	158.16	158.16
Weight of Container(gm):	57.18	57.18	57.18
Vertical Rdg.(in): Initial	0.0000	0.2644	0.2702
Vertical Rdg.(in): Final	-0.0123	0.2804	0.2941
After Shearing			
Weight of Wet Sample+Cont.(gm):	206.93	218.82	207.01
Weight of Dry Sample+Cont.(gm):	186.93	199.45	187.98
Weight of Container(gm):	57.95	69.38	57.32
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**HS-6**
Sample No.	**B-1**
Depth (ft)	**1-5**
Sample Type: 90% Remold	
Soil Identification: Light olive brown silty sand (SM)	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.902	■ 1.776	▲ 3.191
Shear Stress @ End of Test (ksf)	○ 0.707	□ 1.421	△ 2.798
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	10.84	10.84	10.84
Dry Density (pcf)	108.7	109.2	109.4
Saturation (%)	53.1	53.8	54.1
Soil Height Before Shearing (in.)	0.9877	0.9840	0.9761
Final Moisture Content (%)	15.5	14.9	14.6

DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: 20220-01

Ontario

01-21

6739

DS HS-6, B-1 @ 1-5

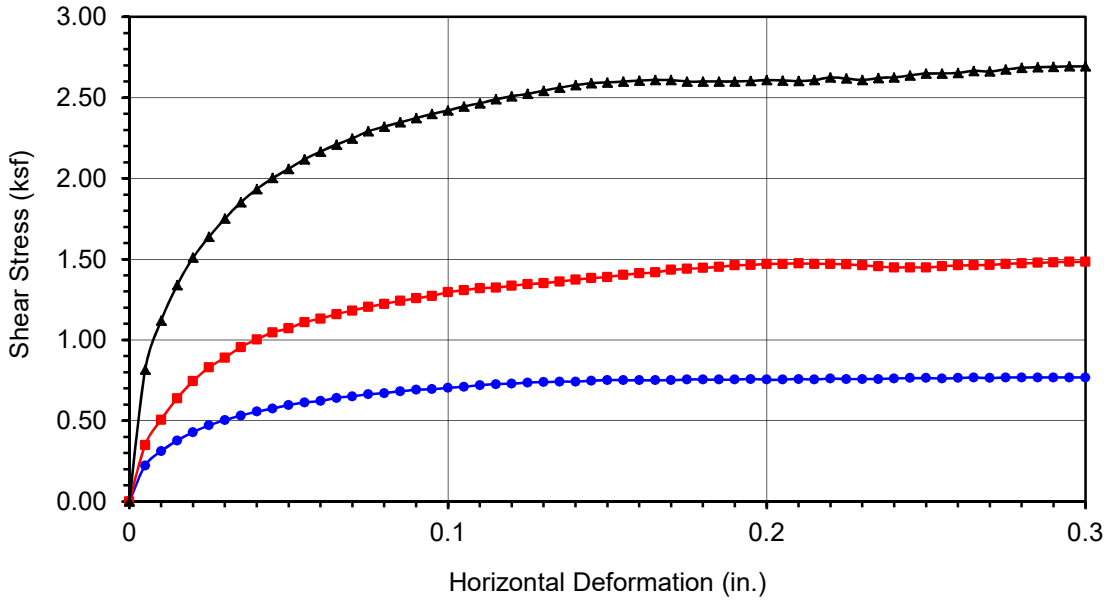
DIRECT SHEAR TEST

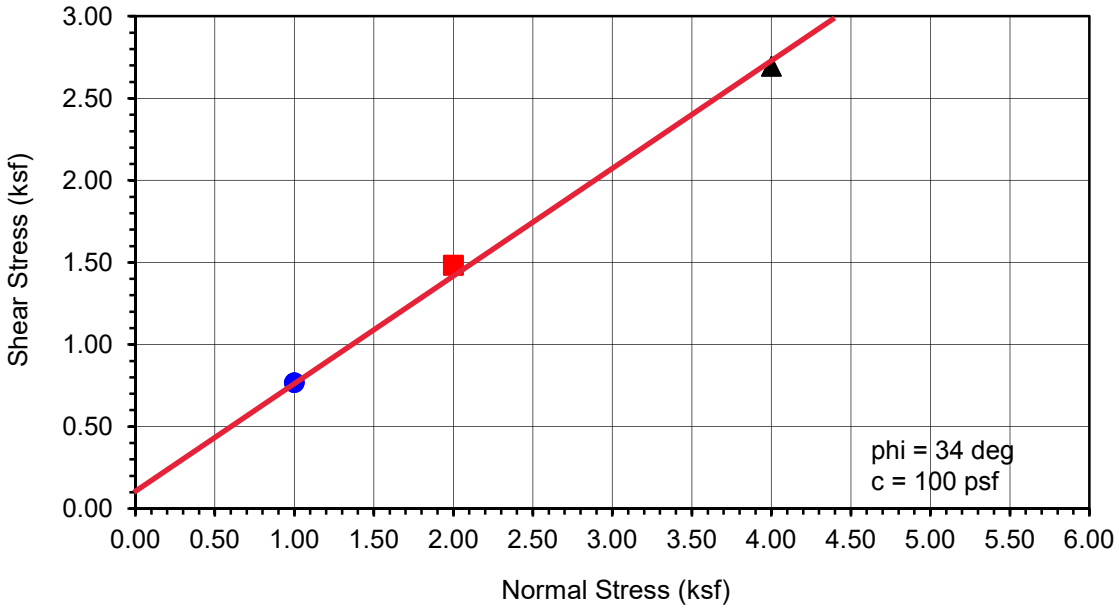
Consolidated Drained - ASTM D 3080

Project Name:	Vander Eyk	Tested By:	G. Bathala	Date:	07/19/17
Project No.:	17074-01	Checked By:	J. Ward	Date:	07/31/17
Boring No.:	HS-8	Sample Type:	Ring		
Sample No.:	R-1	Depth (ft.):	5.0		

Soil Identification: Olive brown silt with sand (ML)s

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	172.75	171.02	177.40
Weight of Ring(gm):	46.05	43.56	45.12
Before Shearing			
Weight of Wet Sample+Cont.(gm):	163.17	163.17	163.17
Weight of Dry Sample+Cont.(gm):	157.77	157.77	157.77
Weight of Container(gm):	60.10	60.10	60.10
Vertical Rdg.(in): Initial	0.0000	0.2720	0.2789
Vertical Rdg.(in): Final	-0.0079	0.2875	0.2956
After Shearing			
Weight of Wet Sample+Cont.(gm):	206.80	196.37	183.57
Weight of Dry Sample+Cont.(gm):	184.70	174.67	161.69
Weight of Container(gm):	69.43	57.12	39.68
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**HS-8**
Sample No.	**R-1**
Depth (ft)	**5**
Sample Type: Ring	
Soil Identification: Olive brown silt with sand (ML)s	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.767	■ 1.484	▲ 2.694
Shear Stress @ End of Test (ksf)	○ 0.767	□ 1.484	△ 2.694
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	5.53	5.53	5.53
Dry Density (pcf)	99.9	100.4	104.2
Saturation (%)	21.7	22.0	24.2
Soil Height Before Shearing (in.)	0.9921	0.9845	0.9833
Final Moisture Content (%)	19.2	18.5	17.9

DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: 17074-01

Vander Eyk

07-17

6741

DS HS-8, R-1 @ 5

R-VALUE TEST RESULTS

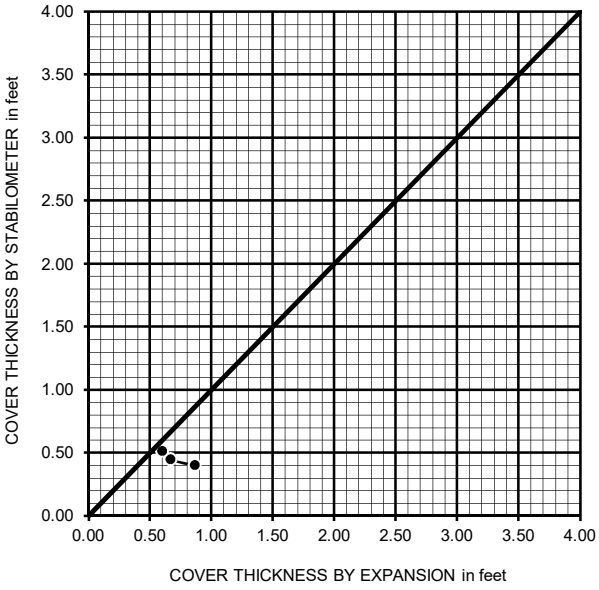
DOT CA Test 301

PROJECT NAME:	Ontario	PROJECT NUMBER:	20220-01
BORING NUMBER:	HS-5	DEPTH (FT.):	1-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	O. Figueroa
SAMPLE DESCRIPTION:	Olive brown silty sand (SM), organics noted	DATE COMPLETED:	1/15/2021

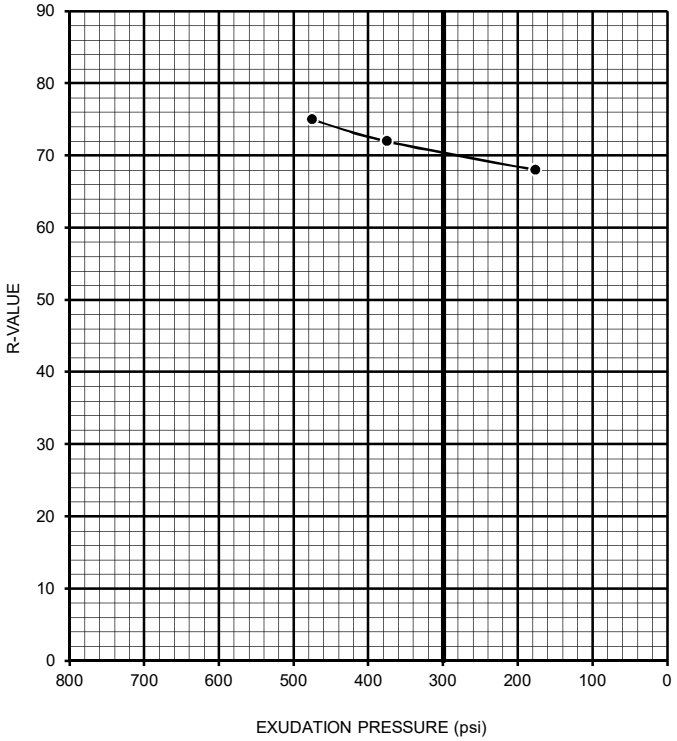
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	13.6	14.0	14.9
HEIGHT OF SAMPLE, Inches	2.47	2.45	2.50
DRY DENSITY, pcf	113.9	113.1	111.1
COMPACTOR PRESSURE, psi	250	200	175
EXUDATION PRESSURE, psi	476	375	176
EXPANSION, Inches x 10exp-4	26	20	18
STABILITY Ph 2,000 lbs (160 psi)	24	26	30
TURNS DISPLACEMENT	4.75	4.95	5.20
R-VALUE UNCORRECTED	75	72	68
R-VALUE CORRECTED	75	72	68

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	0.40	0.45	0.51
EXPANSION PRESSURE THICKNESS, ft.	0.87	0.67	0.60

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	65
R-VALUE BY EXUDATION:	70
EQUILIBRIUM R-VALUE:	65

Geotechnical Boring Log Borehole HS-1

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~744' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
			R-1	5 6 8	103.9	1.2	SM	@2.5' - Silty SAND: light brown, dry, medium dense	-#200
740	5		R-2	5 6 11	105.1	1.1	SP-SM	@5' - SAND with Silt: gray brown, dry, medium dense	
			R-3	5 8 10	107.5	1.7		@7.5' - SAND with Silt: gray, dry, medium dense	
735	10		R-4	5 7 10	107.0	8.6	SM	@10' - Silty SAND: brown, moist, medium dense	
730	15		SPT-1	4 7 8		4.8	SP	@15' - SAND: brown, slightly moist, medium dense	
725	20		R-5	7 10 13	108.0	19.3	SM	@20' - Silty SAND: brown, very moist, medium dense	
720	25		SPT-2	5 15 13		4.5	SP	@25' - SAND: brown, slightly moist, medium dense; single gravel clast	
715	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole HS-1

Date: 12/18/2021	**Drilling Company:** Cal Pac Drilling
Project Name: MCBC-Richland	**Type of Rig:** Track Rig
Project Number: 20220-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~744' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		R-6	6 12 18	98.1	5.4	SP-SM	@30' - SAND with Silt: gray and rusty brown, slightly moist, medium dense; iron oxide mottle	
710	35		SPT-3	3 5 8		18.0	ML	@35' - Sandy SILT: gray with red orange, very moist, stiff; iron oxide mottle	
705	40		R-7	11 16 21	112.6	15.0	SM	@40' - Silty SAND: olive brown, very moist, dense	
700	45		SPT-4	3 4 6		23.1		@45' - Sandy SILT: olive brown, very moist, stiff	
695	50		R-8	7 17 20	113.2	17.8	CL	@50' - Sandy CLAY: dusky brown, moist to very moist, very stiff	
690	55							Total Depth = 51.5' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	
685	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
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SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-2

Date: 12/18/2021	**Drilling Company:** Cal Pac Drilling
Project Name: MCBC-Richland	**Type of Rig:** Track Rig
Project Number: 20220-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~745' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
			R-1	3 4 6	108.4	4.5	SM	@2.5' - Silty SAND: brown, slightly moist, loose	-#200, EI, MD, CR
740	5		R-2	5 7 11	109.8	4.6		@5' - Silty SAND: brown, slightly moist, medium dense	
			R-3	3 4 6	90.1	30.0	CL	@7.5' - CLAY: olive, very moist, medium stiff	AL, CR
735	10		R-4	3 6 10		12.6	SM	@10' - Silty SAND: brown, moist, medium dense	
730	15		SPT-1	4 8 11		5.1	SP-SM	@15' - SAND with Silt: brown, brown, slightly moist, medium dense	
725	20		R-5	6 17 13	116.3	6.7	SM	@20' - Silty SAND: brown, slightly moist, medium dense; iron oxide mottle	
720	25		SPT-2	3 6 9		19.5	ML	Sandy SILT: gray brown; very moist, very stiff; iron oxide mottle	
								Total Depth = 26.5' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole HS-3

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~736' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
735	0	B-1						**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
			R-1	7 8 10	104.9	2.3	SP	@2.5' - SAND with Silt: gray brown, dry, medium dense; scattered very coarse sand	
730	5		R-2	7 12 16	103.2	1.9		@5' - SAND: gray, dry, medium dense	
			R-3	4 6 9	109.5	14.6	SM	@7.5' - Silty SAND: dusky brown, moist, medium dense; micaceous	
725	10		R-4	4 4 5	94.6	28.9	ML	@10' - Sandy SILT: gray, very moist, stiff	
720	15		SPT-1	6 7 8		3.5	SP	@15' - SAND: brown, dry, medium dense	
715	20		R-5	8 15 16	102.6	17.3	ML	@20' - Sandy SILT: gray, very moist, very stiff	
710	25		SPT-2	6 9 9		7.1	SP-SM	@25' - SAND with SILT: brown, moist, medium dense	
	30							Total Depth = 26.5' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole HS-4

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~721' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
720	0							**@0' to T.D. <u>Quaternary Young Eolian Deposits (Qye):</u>**	
			R-1	7 10 12	118.6	12.0	SM	@2.5' - Silty SAND: olive brown, moist, medium dense	
715	5		R-2	7 9 13	102.2	2.6	SP	@5' - SAND: olive brown, dry, medium dense	
			R-3	5 7 10	109.8	11.3	CL	@7.5' - Sandy CLAY: olive brown, slightly moist, stiff; minor caliche	CO
710	10		R-4	6 7 12	104.1	12.4	SM	@10' - Silty SAND: olive brown, moist, medium dense	
705	15		SPT-1	5 7 9		16.4	ML	@15' - Sandy SILT: gray brown, very moist, very stiff	
700	20		R-5	10 13 29	108.5	8.5	SM	@20' - Silty SAND: gray and red brown, moist, dense	
695	25		SPT-2	6 8 11		10.4	SM	@25' - Silty SAND: gray and red brown, moist, medium dense	
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

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▽	GROUNDWATER TABLE

TEST TYPES:

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SA	SIEVE ANALYSIS
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EI	EXPANSION INDEX
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AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole HS-4

Date: 12/18/2021	**Drilling Company:** Cal Pac Drilling
Project Name: MCBC-Richland	**Type of Rig:** Track Rig
Project Number: 20220-01	**Drop:** 30" **Hole Diameter:** 6"
Elevation of Top of Hole: ~721' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 2 of 2

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
690	30		R-6	14 50/6"	96.0	33.4	ML	@30' - Sandy SILT: gray, very moist, hard	
685	35		SPT-3	25 35 50/4"		2.1	SP	@35' - SAND with Gravel, gray, dry, very dense	
680	40		R-7	14 24 20	124.0	4.7	SM	@40' - Silty SAND: rusty brown, slightly moist, dense	
675	45		SPT-4	7 8 11		16.8	SC	@45' - Clayey SAND: gray brown, very moist, medium dense	
670	50		R-8	13 50/6"	111.4	14.3	SM	@50' - Silty SAND: light brown and brown, very moist, very dense	
665	55							Total Depth = 51.5' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	
	60								

LGC Geotechnical, Inc.

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CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-5

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~734' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
			R-1	6 7 11	100.6	2.3	SM	@2.5' - Silty SAND: light brown, dry, medium dense	-#200, RV
730	5		R-2	5 9 15	98.4	2.0	SP	@5' - SAND: gray, dry, medium dense	
			R-3	7 9 15	100.2	7.7	SM	@7.5' - Silty SAND: gray brown, moist, medium dense; minor caliche	
725	10		R-4	8 11 15	106.9	8.4		@10' - Silty SAND: brown, moist, medium dense	
720	15		SPT-1	6 6 9		8.7		@15' - Silty SAND: gray, moist, medium dense	
715	20		R-5	6 12 10	109.3	16.2	ML	@20' - Sandy SILT: gray brown, very moist, stiff	
710	25		SPT-2	2 6 6		21.9		@25' - Sandy SILT: gray and red orange, very moist, stiff	
705	30								

LGC Geotechnical, Inc.

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R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

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AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole HS-5

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~734' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	30		R-6	32 50/6"	110.6	3.4	SP	@30' - SAND with Gravel: gray, dry, very dense	
700	35		SPT-3	6 9 14		16.8	SC	@35' - Clayey SAND: rusty brown, very moist, medium dense	
695	40		R-7	9 17 50/6"	112.7	19.2	ML	@40' - Sandy SILT: gray and red orange, very moist, hard	
690	45		SPT-4	7 11 14		20.0	SM	@45' - Silty SAND: brown and red orange: very moist, medium dense	
685	50		R-8	11 13 16	104.6	20.0	CL	@50' - CLAY: dusky brown, very moist, very stiff	
680	55							Total Depth = 51.5' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	
675	60								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Geotechnical Boring Log Borehole HS-6

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~727' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@0' to T.D. <u>Quaternary Young Eolian Deposits (Qye):</u>**	
725			R-1	11 12 14	114.6	5.5	SM	@2.5' - Silty SAND: brown, slightly moist, medium dense	CR, DS, EI, MD, -#200
	5		R-2	5 9 12	105.2	19.3		@5' - Silty SAND: dusky brown, very moist, medium dense; scattered caliche	
720			R-3	5 6 11	107.8	9.1		@7.5' - Siilty SAND: brown, moist, medium dense	
	10		R-4	5 10 14	116.0	5.6		@10' - Silty SAND: gray brown, slightly moist, medium dense	
715									
	15		SPT-1	4 5 8		18.5		@15' - Silty SAND: gray brown, very moist, medium dense	
710									
	20		R-5	10 13 13	101.1	12.3		@20' - Silty SAND: gray and red brown, moist, medium dense	
705									
	25		SPT-2	18 26 36		2.2	SP	@25' - SAND with Gravel: gray, dry, very dense	
700								Total Depth = 26.5' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole HS-7

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~729' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@0' to T.D. <u>Quaternary Young Eolian Deposits (Qye):</u>**	
725			R-1	3 5 8	98.3	9.5	SM	@2.5' - Silty SAND: light gray, moist, medium dense	
	5		R-2	6 11 13	94.7	1.6	SP	@5' - SAND: gray, dry, medium dense	
720			R-3	5 7 9	105.5	9.9	ML	@7.5' - SILT: olive, slightly moist, stiff	AL, CN
	10		R-4	4 9 18	102.3	6.1	SM	@10' - Silty SAND: gray brown, slightly moist, medium dense	
715									
	15		SPT-1	5 7 10		16.4		@15' - Silty SAND: gray brown, very moist, medium dense	
710									
	20		R-5	5 8 14	99.4	17.5		@20' - Silty SAND: gray brown, very moist, medium dense	
705									
	25		SPT-2	2 5 8		29.0	ML	@25' - Sandy SILT: gray with red orange, very moist, stiff	
700								Total Depth = 26.5' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole HS-8

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 6"

Elevation of Top of Hole: ~726' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
725	0	B-1						**@0' to T.D. <u>Quaternary Young Eolian Deposits (Qye):</u>**	
			R-1	2 3 7	107.9	2.3	SP	@2.5' - SAND: brown, dry, loose	
	5		R-2	6 9 15	102.5	2.6	SP-SM	@5' - SAND with Silt: olive gray, dry, medium dense	-#200, CO
720			R-3	8 12 18	102.8	2.5	SP	@7.5' - SAND: gray, dry, medium dense	
	10		R-4	12 10 11	113.5	1.9		@10' - SAND: gray brown, dry, medium dense	
715									
	15		SPT-1	8 11 12		8.1	SP-SM	@15' - SAND with SILT: moist, medium dense	
710									
	20		R-5	5 11 29	109.7	6.9	SP	@20' - SAND: gray and brown, moist, dense	
705									
	25		SPT-2	6 14 20		33.2	ML	@25' - Sandy SILT: gray with red orange, very moist, hard	
700									
	30							Total Depth = 26.5' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole I-1

Date: 12/18/2021	**Drilling Company:** Cal Pac Drilling
Project Name: MCBC-Richland	**Type of Rig:** Track Rig
Project Number: 20220-01	**Drop:** 30" **Hole Diameter:** 8"
Elevation of Top of Hole: ~750' MSL	**Drive Weight:** 140 pounds
Hole Location: See Geotechnical Map	Page 1 of 1

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@0' to T.D. <u>Quaternary Young Eolian Deposits (Qye):</u>**	
			R-1	8 9 12	109.9	5.1	SM	@2.5' - Silty SAND: dusky brown, slightly moist, medium dense	
745	5		R-2	6 8 12	110.8	1.2	SP-SM	@5' - SAND with Silt: gray, dry, medium dense	
740	10		SPT-1	3 4 5		5.8	SM	@10' - Silty SAND: gray brown, slightly moist, loose	
735	15		R-3	16 14 43	98.5	2.8	SP	@16' - SAND: gray brown, dry, dense	
730	20							Total Depth = 18' Groundwater Not Encountered Infiltration Well Installed Per County Guidelines Backfilled with Cuttings on 12/19/2021	
725	25								
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole I-2

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~749' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0	B-1						**@0' to T.D. <u>Quaternary Young Eolian Deposits (Qye):</u>**	
			R-1	9 11 15	102.6	6.5	SM	@2.5' - Silty SAND: gray brown, slightly moist, medium dense	
745									
	5		R-2	4 6 11	95.7	20.5	ML	@5' - Sandy SILT: light gray brown: very moist, stiff	
740									
	10		SPT-1	2 3 4		16.6		@10' - Sandy SILT: brown, very moist, medium stiff	
735									
	15		R-3	11 5 8	108.5	3.5	SM	@14' - Silty SAND: brown, dry, medium dense	
								Total Depth = 16' Groundwater Not Encountered Infiltration Well Installed Per County Guidelines Backfilled with Cuttings on 12/18/2021	
730									
	20								
725									
	25								
720									
	30								

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THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole I-3

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~736' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
735	0	B-1						**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
			R-1	3 9 7	112.0	3.5	SM	@2.5' - Silty SAND with Gravel: brown, dry, medium dense, dry	#200, EI, CR CO
730	5		R-2	7 9 15	105.0	2.1	SP-SM	@5' - SAND with Silt: gray, dry, medium dense	
725	10		SPT-1	3 5 5		17.1	SM	@10' - Silty SAND: brown, very moist, loose	
720	15								
715	20		R-3	6 9 14	107.4	16.5		@20' - Silty Sand: gray with red orange, very moist, medium dense	
710	25							Total Depth = 22' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole I-4

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~738' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
735			R-1	3 4 6	100.4	22.0	ML	@2.5' - Sandy SILT: gray, very moist, medium stiff	
	5		R-2	6 12 16	108.8	1.5	SP	@5' - SAND: gray, dry, medium dense	
730									
	10		SPT-1	3 3 6		22.9	ML	@10' - Sandy SILT: olive brown, very moist, stiff	
725									
	15								
720			R-3	10 15 16	101.2	1.5	SP	@18' - SAND: gray brown, dry, medium dense	
	20							Total Depth = 20' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	
715									
	25								
710									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole I-5

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~725' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. <u>Quaternary Young Eolian Deposits (Qye):</u>**	
			R-1	7 9 9	107.4	4.1	SP-SM	@2.5'- SAND with Silt: brown, slightly moist, medium dense	
720	5		R-2	4 7 10	101.9	7.3	SM	@5' - Silty SAND: brown, slightly moist, medium dense	
715	10		SPT-1	2 3 3		6.7	SP-SM	@10' - SAND with Silt: brown, moist, loose	
710	15		R-3	6 10 13	111.7	10.0	SM	@18' - Silty SAND: gray brown, moist, medium dense	
705	20							Total Depth = 20' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	
700	25								
	30								

LGC Geotechnical, Inc.

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SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

DS	DIRECT SHEAR
MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Geotechnical Boring Log Borehole I-6

Date: 12/18/2021 | **Drilling Company:** Cal Pac Drilling

Project Name: MCBC-Richland | **Type of Rig:** Track Rig

Project Number: 20220-01 | **Drop:** 30" | **Hole Diameter:** 8"

Elevation of Top of Hole: ~723' MSL | **Drive Weight:** 140 pounds

Hole Location: See Geotechnical Map

Logged By ARN
Sampled By ARN
Checked By RLD

Elevation (ft)	Depth (ft)	Graphic Log	Sample Number	Blow Count	Dry Density (pcf)	Moisture (%)	USCS Symbol	DESCRIPTION	Type of Test
	0							**@0' to T.D. Quaternary Young Eolian Deposits (Qye):**	
720			R-1	4 5 7	108.6	10.2	SM	@2.5' - Silty SAND: dusky brown, moist, loose	
	5		R-2	3 6 9	112.5	9.6		@5' - Silty SAND: brown, moist, medium dense	
715									
	10		SPT-1	3 4 5		14.6		@10' - Silty SAND: brown, very moist, loose	
710									
	15								
705			R-3	4 10 14	107.5	19.2	ML	@18' - Sandy SILT: gray with red orange: very moist, medium dense	
	20							Total Depth = 20' Groundwater Not Encountered Backfilled with Cuttings on 12/18/2021	
700									
	25								
695									
	30								

LGC Geotechnical, Inc.

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED. THE DESCRIPTIONS PROVIDED ARE QUALITATIVE FIELD DESCRIPTIONS AND ARE NOT BASED ON QUANTITATIVE ENGINEERING ANALYSIS.

SAMPLE TYPES:

B	BULK SAMPLE
R	RING SAMPLE (CA Modified Sampler)
G	GRAB SAMPLE
SPT	STANDARD PENETRATION TEST SAMPLE
▽	GROUNDWATER TABLE

TEST TYPES:

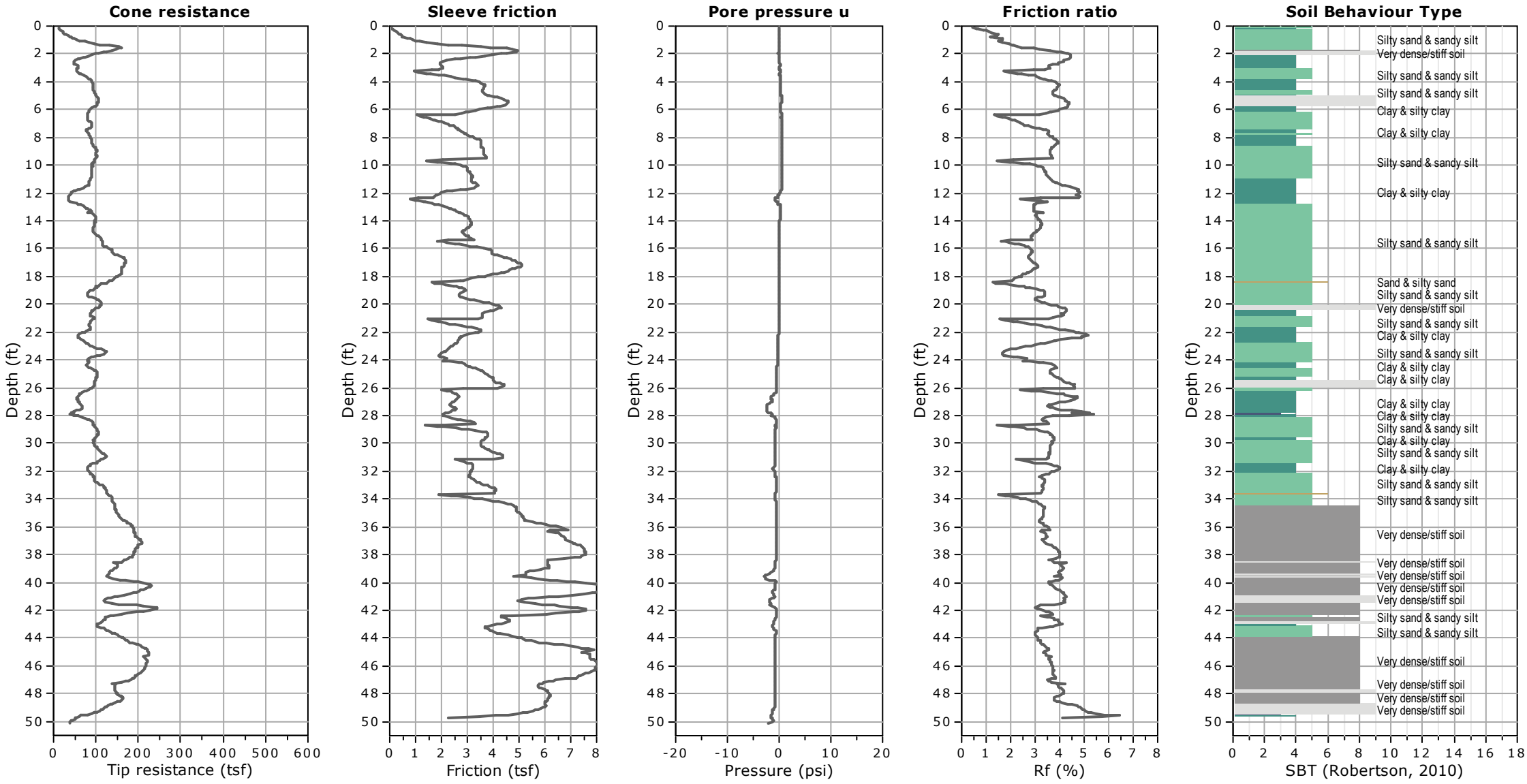
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MD	MAXIMUM DENSITY
SA	SIEVE ANALYSIS
S&H	SIEVE AND HYDROMETER
EI	EXPANSION INDEX
CN	CONSOLIDATION
CR	CORROSION
AL	ATTERBERG LIMITS
CO	COLLAPSE/SWELL
RV	R-VALUE
-#200	% PASSING # 200 SIEVE

Last Edited: 1/22/2021

Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: LGC Geotechnical / MCBC
Location: Ontario, CA

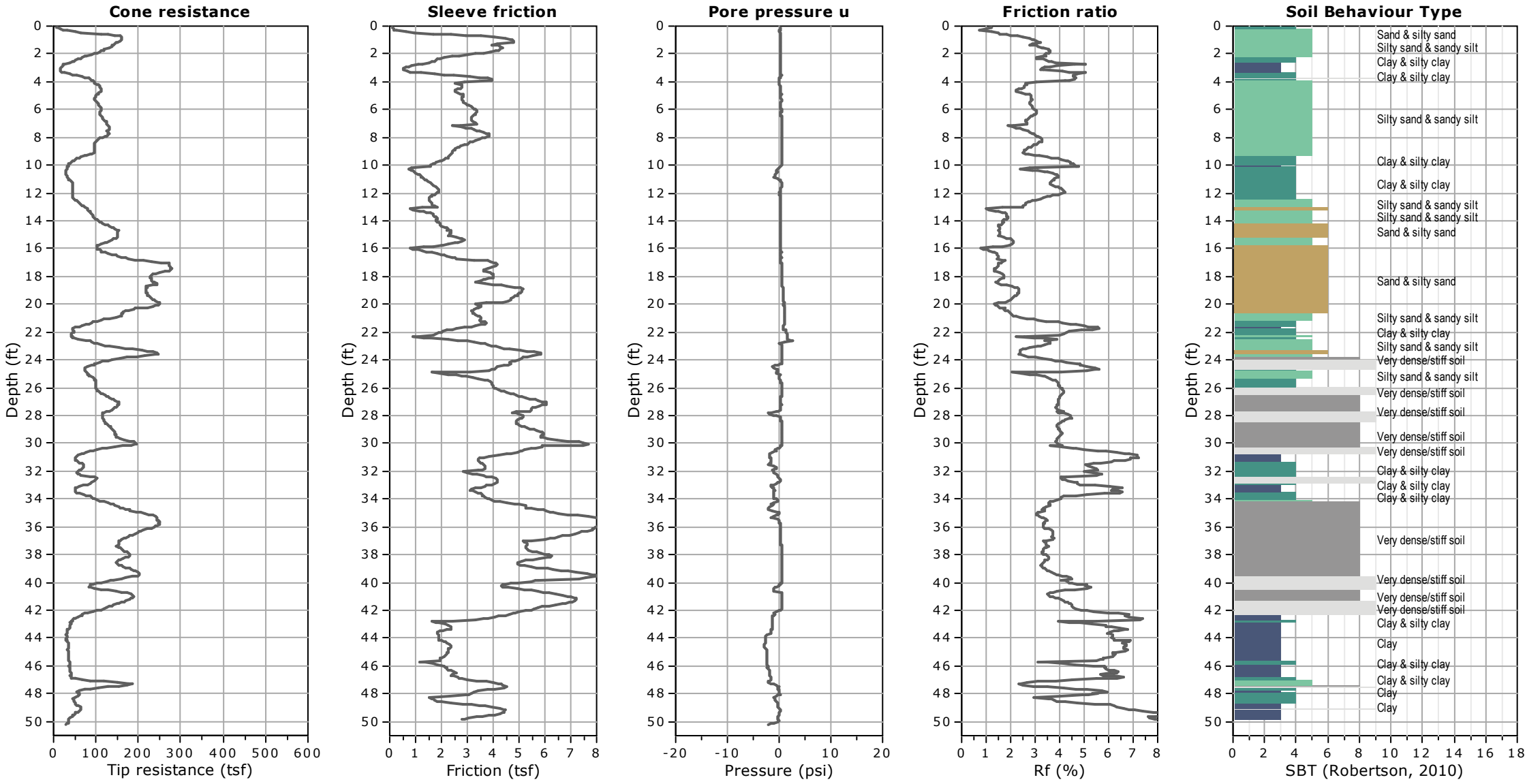
CPT-1
Total depth: 50.08 ft, Date: 12/17/2020



Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: LGC Geotechnical / MCBC
Location: Ontario, CA

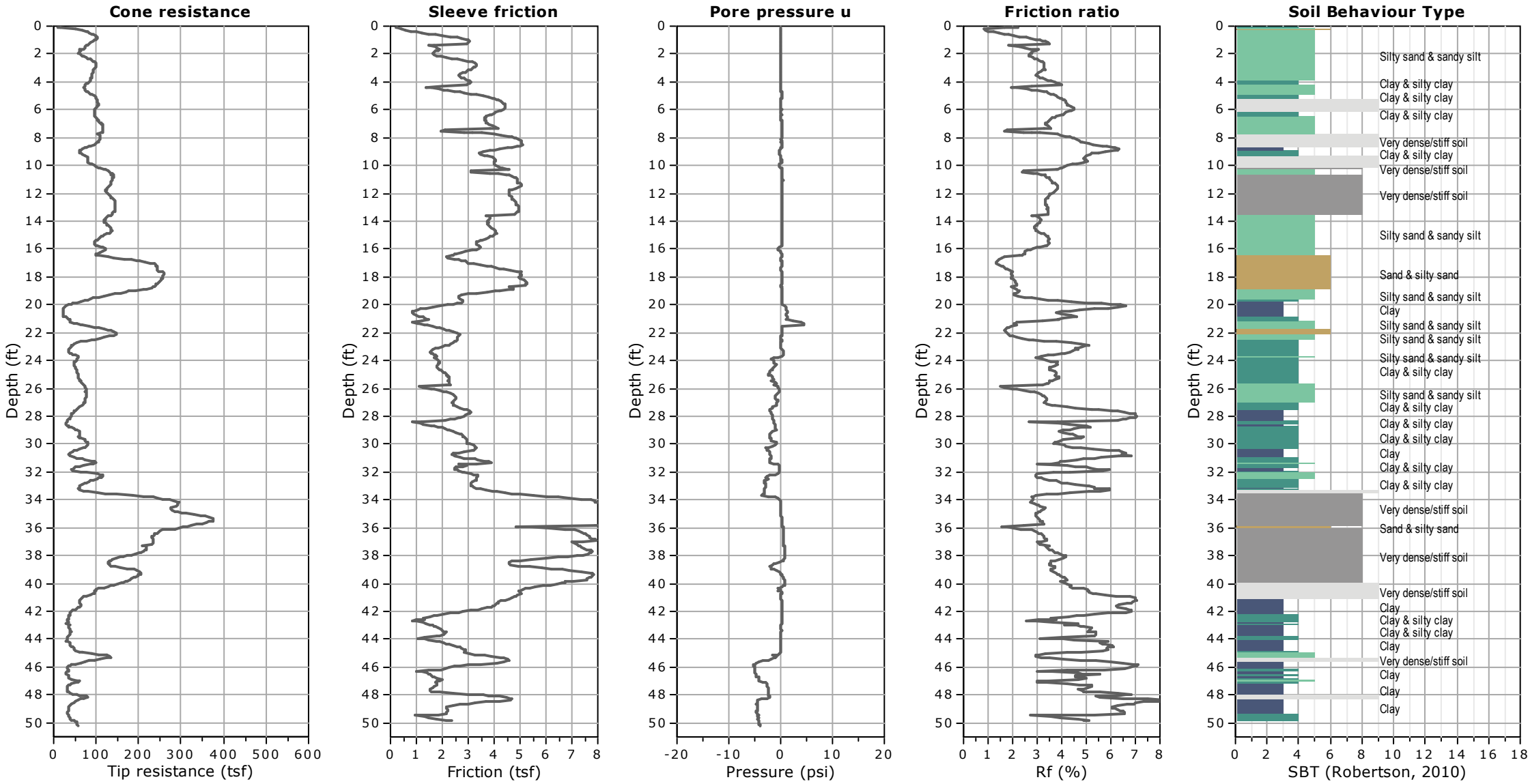
CPT-2
Total depth: 50.24 ft, Date: 12/17/2020



Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **LGC Geotechnical / MCBC**
Location: **Ontario, CA**

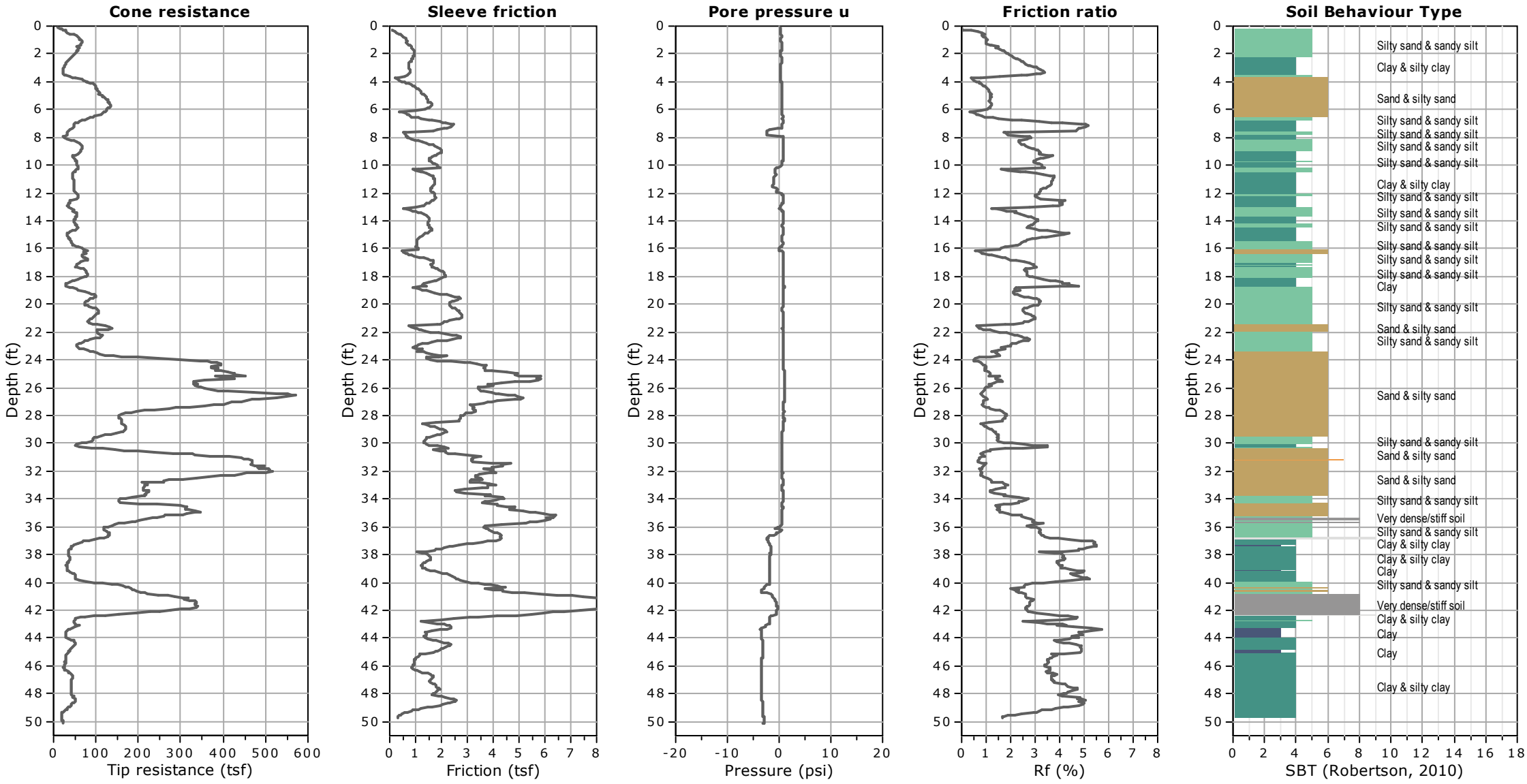
CPT-3
Total depth: 50.23 ft, Date: 12/17/2020



Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **LGC Geotechnical / MCBC**
Location: **Ontario, CA**

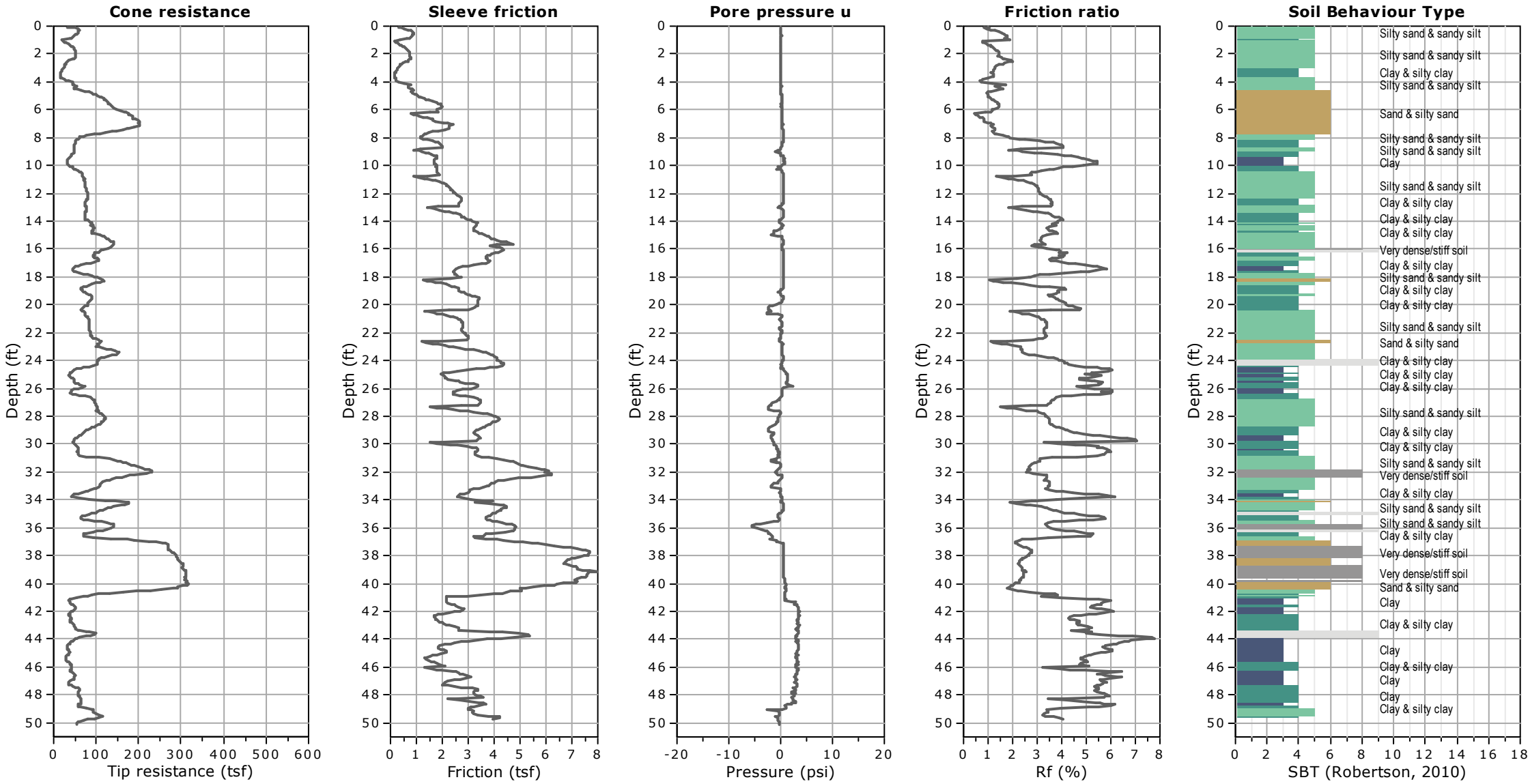
CPT-4A
Total depth: 50.13 ft, Date: 12/17/2020



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Project: LGC Geotechnical / MCBC
Location: Ontario, CA

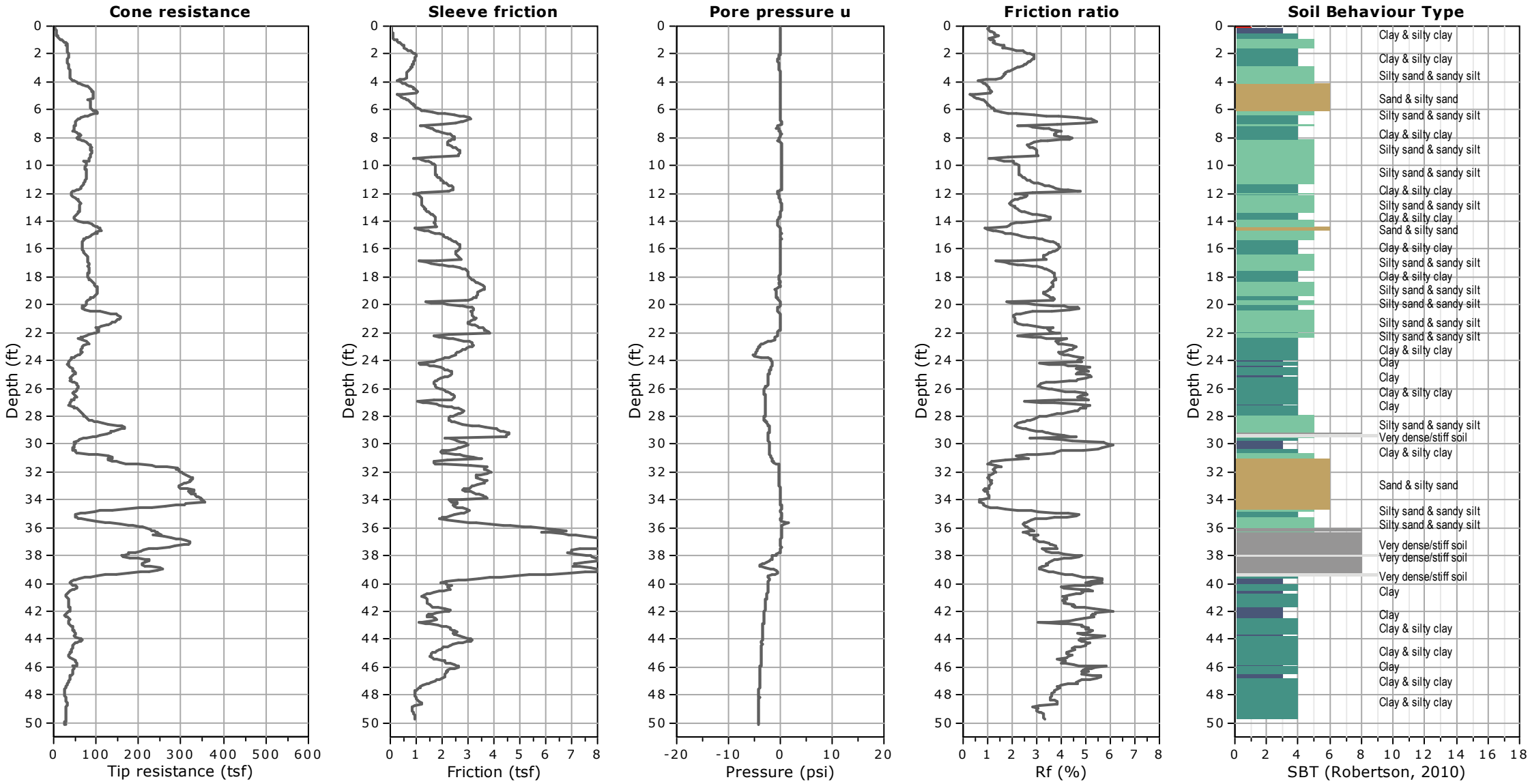
CPT-5
Total depth: 50.08 ft, Date: 12/17/2020



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Project: LGC Geotechnical / MCBC
Location: Ontario, CA

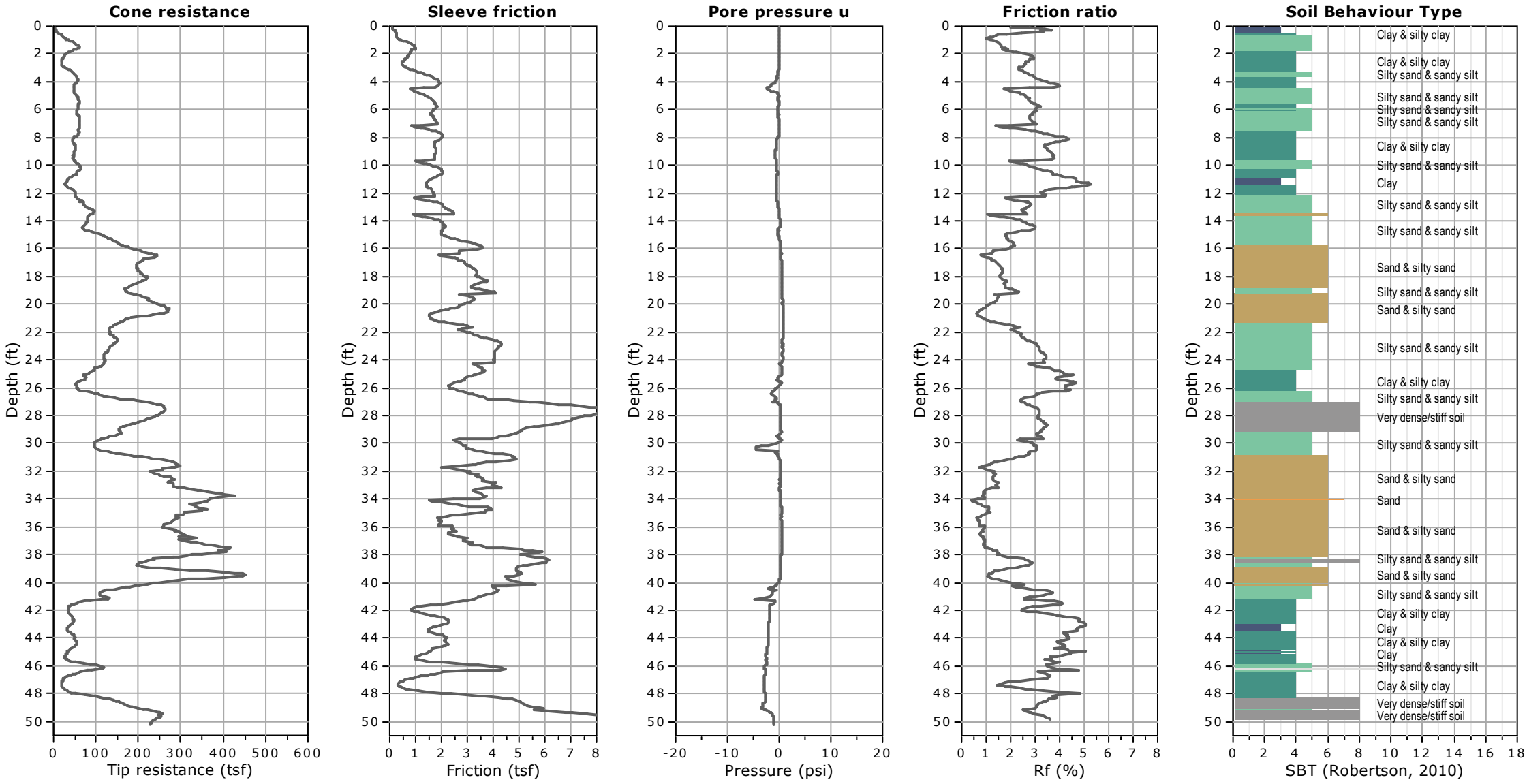
CPT-6
Total depth: 50.15 ft, Date: 12/17/2020



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steve@kehoetesting.com
www.kehoetesting.com

Project: **LGC Geotechnical / MCBC**
Location: **Ontario, CA**

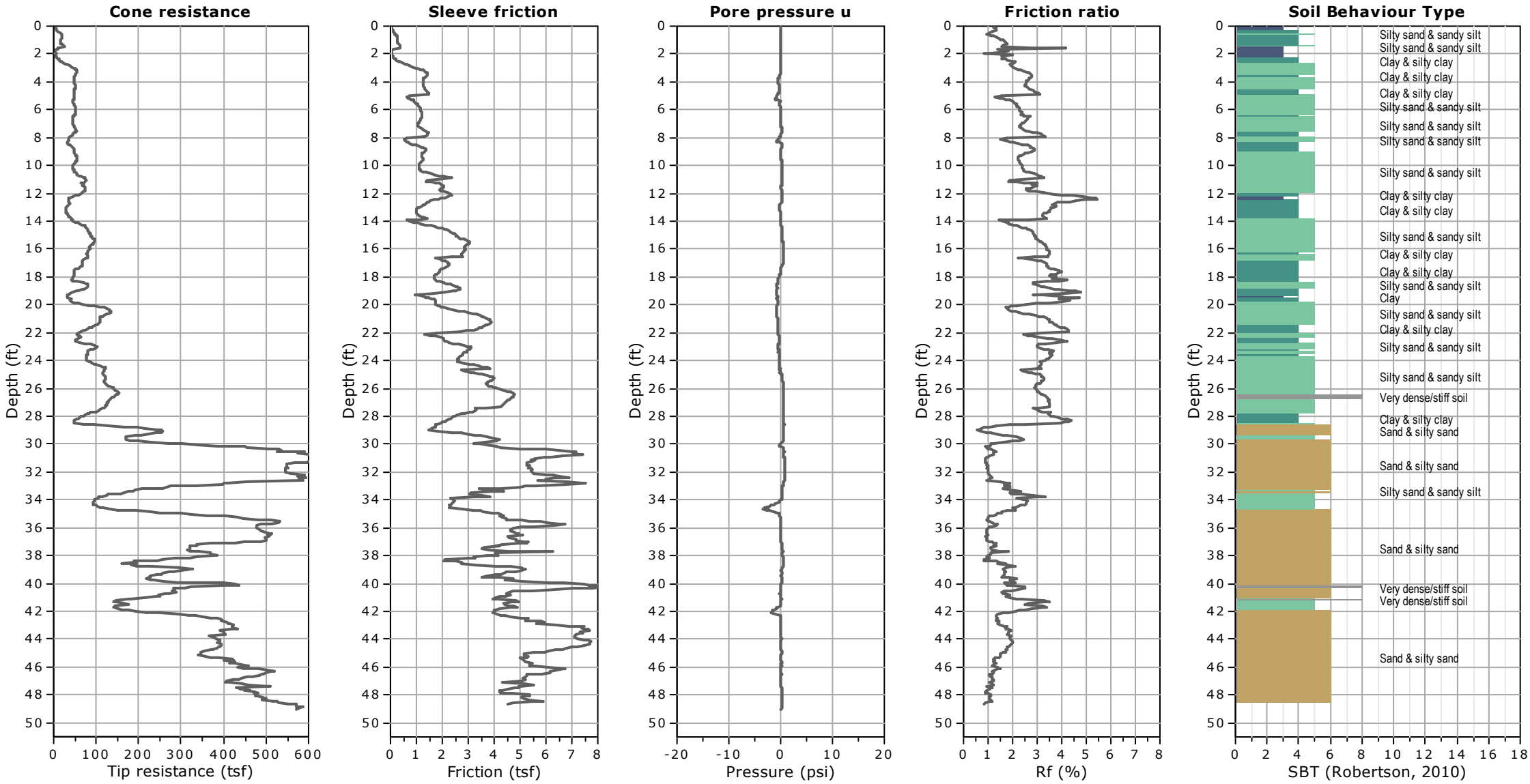
CPT-8
Total depth: 50.20 ft, Date: 12/17/2020



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www.kehoetesting.com

Project: **LGC Geotechnical / MCBC**
Location: **Ontario, CA**

CPT-9
Total depth: 49.02 ft, Date: 12/17/2020

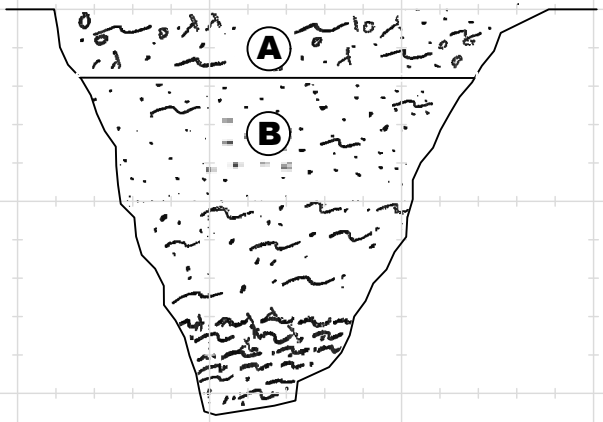


6768

Project Name: Richland - MCBC	Logged By: ARN	Trench No.: TP-11	
Project Number: 20220-01	Date: 12/7/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil***					
		@0'-1' Silty SAND: medium brown, slightly moist, medium dense; scattered gravel		**SM**	**GB-1 @ 0.4'**		
		@1'-1.8' Silty SAND: yellow brown; occasional rootlet; scattered pinhole porosity			**GB-2 @ 1.5'**		
					GB-3 @ 2.1'		
	B	***Quaternary Young Eolian Deposits***	**Qye**				
		@1.8'-4' SAND with SILT: gray brown, dry to slightly moist, medium dense		**SP**			
		@4'-8' Silty SAND: gray brown, slightly moist, medium dense		**SM**			
		@8'-9.5' Sandy SILT: maroon brown, moist, stiff; minor caliche; minor roots		**ML**	**GB-4 @ 8.4'**		
		@9.5'-T.D. Silty SAND: gray brown, slightly moist, medium dense		**SM**	**GB-5 @ 9.8'**		

GRAPHICAL REPRESENTATION BELOW: **Elevation: 726' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 10.3'
Groundwater: None
Backfilled: 12/7/20

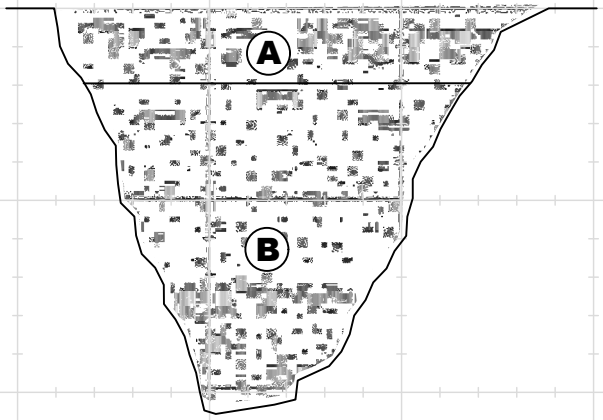
scale: 1in = 5 ft

6769

Project Name: Richland - MCBC	Logged By: ARN	Trench No.: TP-12	
Project Number: 20220-01	Date: 12/7/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil***					
		@0'-1.3' Silty SAND: medium to dark brown, moist, medium dense; abundant rootlets; occasional gravel; scattered wood chips		**SM**	**GB-1 @ 1'**		
					GB-2 @ 1.4'		
					GB-3 @ 1.6'		
		@1.3'-2' SAND with Silt: brown, slightly moist, medium dense		**SP**			
	B	***Quaternary Young Eolian Deposits***	**Qye**				
		@2'-7.1' SAND: gray, dry to slightly moist, medium dense			**GB-4 @ 6.5'**		
		@7.1'-7.7' Silty SAND: brown, moist, medium dense; abundant pervasive caliche; scattered burrows		**SM**	**GB-5 @ 7.2'**		
		@7.7'-T.D. SAND with Silt: medium brown, slightly moist, medium dense		**SP**	**GB-6 @ 8'**		

GRAPHICAL REPRESENTATION BELOW: **Elevation: 725' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 10.4'
Groundwater: None
Backfilled: 12/7/20

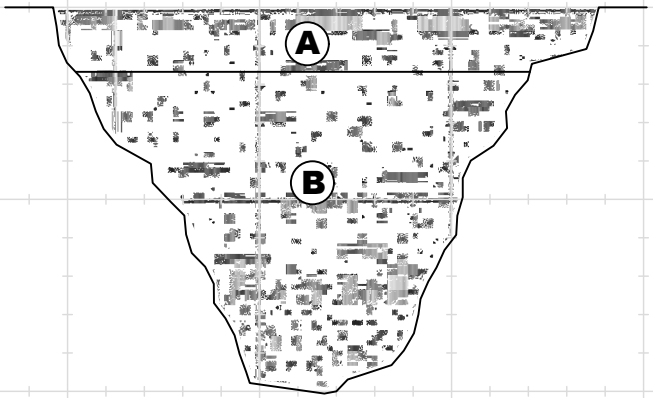
scale: 1in = 5 ft

6770

Project Name: Richland - MCBC	Logged By: ARN	Trench No.: TP-13	
Project Number: 20220-01	Date: 12/8/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil***					
		@0'-0.6' manure mixed with Silty SAND: brown and dark brown, moist, loose; dry vegetation in upper 0.5'		**SM**	**GB-1 @ 0.6'**		
		@0.6'-1.8' Silty SAND: medium to dark brown, slightly moist to moist, medium dense; some organic staining			**GB-2 @ 1.6'**		
					GB-3 @ 2'		
	B	***Quaternary Young Eolian Deposits***	**Qye**				
		@1.8'-5.5' Silty SAND: brown, moist, medium dense; occasional silty beds; some rootlets to 3'					
		@5.5'-7' Silty SAND: dusky brown, moist					
		@7'-7.8' pervasive caliche and very old rootlets			**GB-4 @ 7.4'**		
		@7.8'-T.D. SAND: brown, moist, medium dense		**SP**			

GRAPHICAL REPRESENTATION BELOW: **Elevation: 730' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



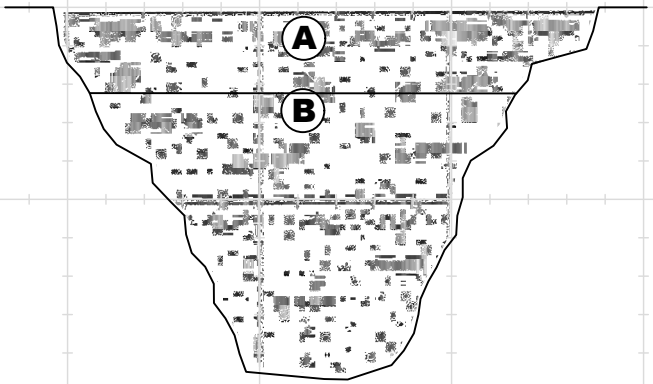
Total Depth: 10'
Groundwater: None
Backfilled: 12/8/20

scale: 1in = 5 ft

Project Name: Richland - MCBC	Logged By: ARN	Trench No.: TP-14	
Project Number: 20220-01	Date: 12/8/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil***					
		@0'-0.5' Silty SAND: brown and dark brown, moist, loose; scattered manure		**SM**	**GB-1 @ 0.7'**		
		@0.5'-1.2' Silty SAND: brown, slightly moist; abundant rootlets; some organic staining; visible porosity			**GB-2 @ 1.1'**		
		@1.2'-2.2' Sandy SILT: light tan brown, slightly moist, medium dense; abundant pinhole porosity; pervasive old rootlets; some organics		**ML**	**GB-3 @ 1.5'**		
	B	***Quaternary Young Eolian Deposits***	**Qye**				
		@2.2'-5' SAND: gray, dry, medium dense; abundant gravel		**SP**	**GB-4 @ 2.4'**		
		@5'-6' Silty SAND: brown, moist, medium dense		**SM**			
		@6'-T.D. SAND: brown and gray, slightly moist, medium dense; occasional gravel bed		**SP**			

GRAPHICAL REPRESENTATION BELOW: **Elevation: 727' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 9.5'
Groundwater: None
Backfilled: 12/8/20

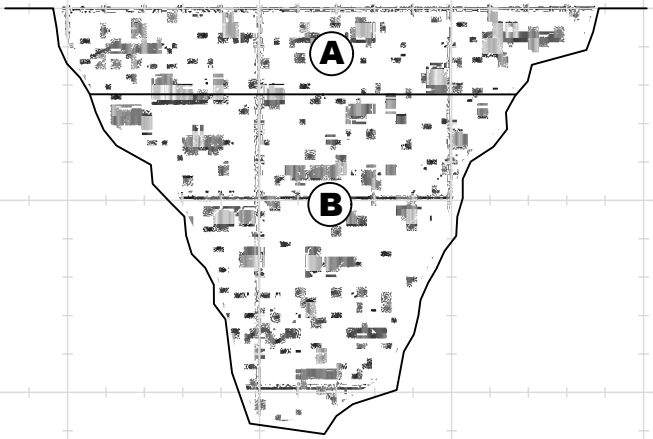
scale: 1in = 5 ft

6772

Project Name: Richland - MCBC	Logged By: ARN	Trench No.: TP-15	
Project Number: 20220-01	Date: 12/8/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil*** **@0'-1.4' Silty SAND: medium brown, dry, medium dense; scattered rootlet; dry vegetation in upper couple inches; moderately indurated**		**SM**	**GB-1 @ 0.4' GB-2 @ 1.0' GB-3 @ 1.8'**		
	B	***Quaternary Young Eolian Deposits*** **@2.2'-8' SAND: gray, dry, medium dense; abundant gravel @8'-T.D. Silty SAND: brown, slightly moist to moist, medium dense**	**Qye**	**SP SM**	**GB-4 @ 3.0'**		

GRAPHICAL REPRESENTATION BELOW: **Elevation: 733' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 11'
Groundwater: None
Backfilled: 12/8/20

scale: 1in = 5 ft

6773

Project Name: Richland - MCBC	Logged By: ARN	Trench No.: TP-16	
Project Number: 20220-01	Date: 12/9/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil*** **@0'-1.2' Silty SAND: brown, dry, loose; slight discoloration; scattered rootlets in upper couple inches** **@1.2'-3' SAND with Silt** **@3'-3.4' Silty SAND: yellow brown, dry, occasional rootlet**		**SM**	**GB-1 @ 0.2'** **GB-2 @ 1.1'** **GB-3 @ 1.4'**		
	B	***Quaternary Young Eolian Deposits*** **3.4'-5.5' SAND: gray, dry, medium dense; occasional gravel bed** **@5.5'-7.5' SAND with Silt: gray, slightly moist** **@7.5'-T.D. Silty SAND to Sandy SILT: gray brown, moist, medium dense/stiff; fine to very fine grained sand**	**Qye**	**SP** **SM**			

GRAPHICAL REPRESENTATION BELOW: **Elevation: 735' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 9.5'
Groundwater: None
Backfilled: 12/9/20

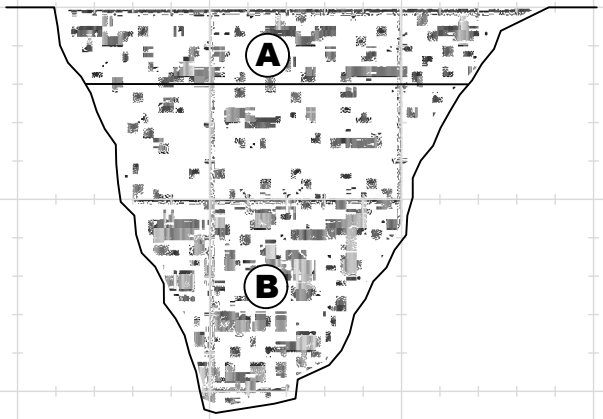
scale: 1in = 5 ft

6774

Project Name: Richland - MCBC	Logged By: ARN	Trench No.: TP-17	
Project Number: 20220-01	Date: 12/9/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil*** **@0'-1.9' Silty SAND: medium to dark brown, slightly moist, medium dense; scattered rootlets; mild organic staining**		**SM**	**GB-1 @ 0.5' GB-2 @ 1.7'**		
	B	***Quaternary Young Eolian Deposits*** **@1.9'-5' SAND with Silt: brown, slightly moist, medium dense; sand by 4 feet @5'-9.5' Gravelly SAND: gray, dry, medium dense @9.5' - T.D. SAND with Silt: brown, slightly moist, medium dense**	**Qye**	**SP SP-SM**	**GB-3 @ 2.1'**		

GRAPHICAL REPRESENTATION BELOW: **Elevation: 737' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 10.5'
Groundwater: None
Backfilled: 12/9/20

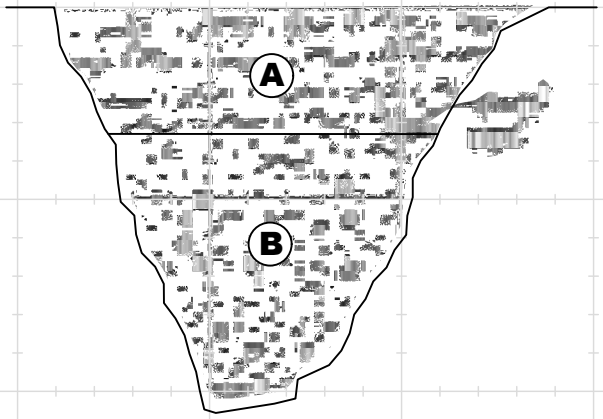
scale: 1in = 5 ft

6775

Project Name: Richland - MCBC	Logged By: ARN	Trench No.: TP-18	
Project Number: 20220-01	Date: 12/9/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil / Undocumented Fill***	afu				
		@0'-0.7' Sandy SILT: light brown, very dry, loose; scattered dead vegitation		ML	GB-1 @ 0.2'		
		@0.7'-1.6' Sandy SILT: medium brown, slightly moist, medium dense; scattered organic mottle			GB-2 @ 1.4'		
		@1.6'-3.2' same as above; no organic staining; refuse rope			GB-3 @ 1.9'		
	B	***Quaternary Young Eolian Deposits***	Qye				
		@3.2'-4.4' Silty SAND: brown, moist, medium dense		SM			
		@4.4'-8' SAND: gray, dry, medium dense		SP			
		@8'-T.D. Gravelly SAND: gray, slightly moist; moderate gravel bedding; clasts 3/4-inch in maximum dimension					

GRAPHICAL REPRESENTATION BELOW: **Elevation: 738' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 10.5'
Groundwater: None
Backfilled: 12/9/20

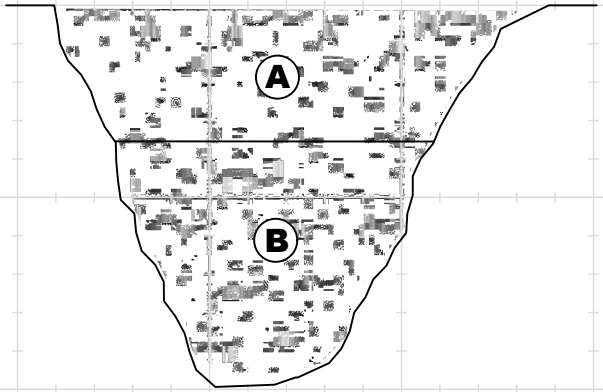
scale: 1in = 5 ft

6776

Project Name: Richland - MCBC	Logged By: ARN	Trench No.: TP-19	
Project Number: 20220-01	Date: 12/9/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil*** **@0'-0.1.7' Silty SAND: medium brown, dry, very loose; occasional gravel; scattered rootlets; organic staining**		**SM**	**GB-1 @ 1.0'**		
		@1.7'-3.4' same as above; no rootlets; no staining			**GB-2 @ 2.0'**		
	B	***Quaternary Young Eolian Deposits*** **@3.4'-4.5' SAND with Silt: gray moist, medium dense**	**Qye**	**SP**	**GB-3 @ 3.6'**		
		@4.5'-T.D. Silty SAND: medium brown, slightly moist to moist, medium dense; some caliche in siltier bed		**SM**	**GB-4 @ 7.0'**		

GRAPHICAL REPRESENTATION BELOW: **Elevation: 734' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



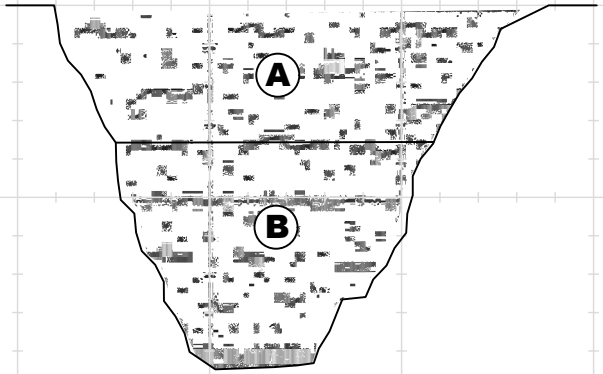
Total Depth: 9.9'
Groundwater: None
Backfilled: 12/9/20

scale: 1in = 5 ft

Project Name: Richland - MCBC	Logged By: ARN	Trench No.: TP-20	
Project Number: 20220-01	Date: 12/9/2020	Engineering Properties:	
Equipment: JCB 3CX Excavator	Location: Ontario		

Geologic Attitudes	Unit	SOIL DESCRIPTION:	GEOLOGIC UNIT	USCS	SAMPLE No	MOISTURE (%)	DRY DENSITY (PCF)
	A	***Topsoil***					
		@0'-1.2' Silty SAND: medium dark brown, slightly moist, very loose; scattered rootlets and organic staining		SM	GB-1 @ 0.2'		
					GB-2 @ 1.0'		
		@1.2'-3.5' Sand with Silt: medium brown, slightly moist, medium dense		SP	GB-3 @ 1.5'		
	B	***Quaternary Young Eolian Deposits***	Qye				
		@3.5'-9' Silty SAND: brown, moist		SM			
		@9'-T.D Sandy Silt to Silty SAND: brown, moist, medium dense; abundant caliche		ML-SM	GB-4 @ 9.0'		

GRAPHICAL REPRESENTATION BELOW: **Elevation: 732' MSL** **Surface Slope: 0 deg.** **Trend: N-S**



Total Depth: 9.5'
Groundwater: None
Backfilled: 12/9/20

scale: 1in = 5 ft

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Richland- MCBC
Project Number: 20220-01
Date: 12/21/2020
Boring Number: I-1

Test hole dimensions (if circular)	
Boring Depth (feet)*:	18
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	9:30	9:55	25.0	16.20	17.82	1.62	Yes
2	10:00	10:25	25.0	16.32	17.85	1.53	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Calculated Infiltration Rate(in/hr)
1	1:50	2:00	10.0	15.04	16.71	1.67	8.7
2	2:02	2:12	10.0	14.89	16.64	1.75	8.7
3	2:16	2:26	10.0	15.20	16.58	1.38	7.3
4	2:29	2:39	10.0	15.47	16.62	1.15	6.5
5	2:41	2:51	10.0	15.31	16.67	1.36	7.5
6	2:53	3:03	10.0	15.22	16.55	1.33	7.0

Calculated Infiltration Rate (No factors of safety)	**7.0**
Factor of Safety	**TBD**
Calculated Infiltration Rate (With Factor of Safety)	

Sketch:

Notes:

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 6/29/18

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Richland- MCBC
Project Number: 20220-01
Date: 12/21/2020
Boring Number: I-2

Test hole dimensions (if circular)	
Boring Depth (feet)*:	16
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	9:39	10:04	25.0	14.23	15.19	0.96	Yes
2	10:08	10:33	25.0	14.32	15.00	0.68	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Calculated Infiltration Rate(in/hr)
1	2:00	2:10	10.0	12.76	13.94	1.18	5.0
2	2:12	2:22	10.0	12.60	13.75	1.15	4.6
3	2:24	2:34	10.0	12.68	13.71	1.03	4.2
4	2:35	2:45	10.0	12.59	13.64	1.05	4.1
5	2:47	2:57	10.0	12.00	13.00	1.00	3.3
6	2:59	3:09	10.0	12.55	13.64	1.09	4.3

Calculated Infiltration Rate (No factors of safety)	**4.3**
Factor of Safety	**TBD**
Calculated Infiltration Rate (With Factor of Safety)	

Sketch:

Notes:

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 6/29/18

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Richland- MCBC
Project Number: 20220-01
Date: 12/21/2020
Boring Number: I-3

Test hole dimensions (if circular)	
Boring Depth (feet)*:	21.5
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	8:53	9:18	25.0	17.89	18.62	0.73	Yes
2	9:27	9:52	25.0	17.93	18.52	0.59	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Calculated Infiltration Rate(in/hr)
1	12:04	12:14	10.0	16.94	17.15	0.21	0.5
2	12:15	12:25	10.0	16.91	17.14	0.23	0.6
3	12:27	12:37	10.0	16.88	17.10	0.22	0.6
4	12:38	12:48	10.0	16.758	16.97	0.212	0.5
5	12:49	12:59	10.0	16.97	17.22	0.25	0.7
6	13:00	13:10	10.0	16.81	17.06	0.25	0.6

Calculated Infiltration Rate (No factors of safety)	**0.6**
Factor of Safety	**TBD**
Calculated Infiltration Rate (With Factor of Safety)	

Sketch:

Notes:

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 6/29/18

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Richland- MCBC
Project Number: 20220-01
Date: 12/21/2020
Boring Number: I-4

Test hole dimensions (if circular)	
Boring Depth (feet)*:	20
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	9:00	9:31	31.0	17.42	18.75	1.33	Yes
2	9:35	10:00	25.0	17.32	18.65	1.33	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Calculated Infiltration Rate(in/hr)
1	12:09	12:19	10.0	15.70	16.2	0.5	1.4
2	12:21	12:31	10.0	15.65	16.14	0.49	1.4
3	12:32	12:42	10.0	15.53	16.07	0.54	1.5
4	12:43	12:53	10.0	15.59	16.1	0.51	1.4
5	12:55	13:05	10.0	15.61	16.15	0.54	1.5
6	13:07	13:17	10.0	15.61	16.15	0.54	1.5

Calculated Infiltration Rate (No factors of safety)	**1.5**
Factor of Safety	**TBD**
Calculated Infiltration Rate (With Factor of Safety)	

Sketch:

Notes:

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 6/29/18

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Richland- MCBC
Project Number: 20220-01
Date: 12/22/2020
Boring Number: I-5

Test hole dimensions (if circular)	
Boring Depth (feet)*:	20
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	8:58	9:23	25.0	16.26	18.53	2.27	Yes
2	9:25	9:50	25.0	17.05	18.55	1.50	Yes

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Calculated Infiltration Rate(in/hr)
1	9:58	10:08	10.0	17.19	17.67	0.48	2.1
2	10:09	10:19	10.0	17.29	17.65	0.36	1.6
3	10:20	10:30	10.0	17.38	17.73	0.35	1.6
4	10:31	10:41	10.0	17.25	17.64	0.39	1.7
5	10:43	10:53	10.0	17.55	17.95	0.40	2.0
6	10:56	11:06	10.0	17.42	17.79	0.37	1.7

Calculated Infiltration Rate (No factors of safety)	**1.7**
Factor of Safety	**TBD**
Calculated Infiltration Rate (With Factor of Safety)	

Sketch:

Notes:

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 6/29/18

Infiltration Test Data Sheet

LGC Geotechnical, Inc
131 Calle Iglesia Suite 200, San Clemente, CA 92672 tel. (949) 369-6141

Project Name: Richland- MCBC
Project Number: 20220-01
Date: 12/22/2020
Boring Number: I-6

Test hole dimensions (if circular)	
Boring Depth (feet)*:	19.5
Boring Diameter (inches):	8
Pipe Diameter (inches):	3

*measured at time of test

Test pit dimensions (if rectangular)	
Pit Depth (feet):	
Pit Length (feet):	
Pit Breadth (feet):	

*Pre-Test (Sandy Soil Criteria)**

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval (min)	Initial Depth to Water (feet)	Final Depth to Water (feet)	Total Change in Water Level (feet)	Greater Than or Equal to 0.5 feet (yes/no)
1	8:49	9:14	25.0	16.45	16.92	0.47	No
2	9:16	9:41	25.0	16.84	17.24	0.40	No

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight, and then obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25 inches

Main Test Data

Trial No.	Start Time (24:HR)	Stop Time (24:HR)	Time Interval, Δt (min)	Initial Depth to Water, D_o (feet)	Final Depth to Water, D_f (feet)	Change in Water Level, ΔD (feet)	Calculated Infiltration Rate(in/hr)
1	10:04	10:34	30.0	16.51	17.00	0.49	0.7
2	10:36	11:10	34.0	16.82	17.33	0.51	0.7
3	11:13	11:43	30.0	16.61	17.09	0.48	0.7
4	11:48	12:18	30.0	16.72	17.14	0.42	0.6
5	12:20	12:50	30.0	16.73	17.09	0.36	0.5
6	12:51	13:21	30.0	16.82	17.18	0.36	0.5
7	13:24	13:54	30.0	16.73	17.12	0.39	0.6
8	13:56	14:26	30.0	16.72	17.08	0.36	0.5
9	14:31	15:01	30.0	16.9	17.24	0.34	0.5
10	15:06	15:36	30.0	16.58	17.03	0.45	0.6
11	15:39	16:09	30.0	16.73	17.06	0.33	0.5
12	16:15	16:45	30.0	16.62	17.06	0.44	0.6
						Calculated Infiltration Rate (No factors of safety)	**0.6**
						Factor of Safety	**TBD**
						Calculated Infiltration Rate (With Factor of Safety)	

Sketch:

Notes:

Based on Guidelines from: San Bernardino County (2013)
Spreadsheet Revised on: 6/29/18

Appendix J
General Earthwork and Grading Specifications for Rough Grading

General Earthwork and Grading Specifications for Rough Grading

1.0 General

1.1 Intent

These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ a qualified Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultant shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to confirm that the attained level of compaction is being accomplished as specified. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor

The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the project plans and specifications. The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of “equipment” of work and the estimated quantities of daily earthwork

contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the
Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate personnel will be available for observation and testing. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified. It is the contractor's sole responsibility to provide proper fill compaction.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed. The contractor is responsible for all hazardous waste relating to his work. The Geotechnical Consultant does not have expertise in this area. If hazardous waste is a concern, then the Client should acquire the services of a qualified environmental assessor.

2.2 Processing

Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be over-excavated as specified in the following section. Scarification shall continue until soils are broken down and free of oversize material and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Over-excavation

In addition to removals and over-excavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be over-excavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise over-excavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of the geotechnical consultant. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557).

4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557.

4.5 Compaction Testing

Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing

Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations

The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than
5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 The Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.

7.2 All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over

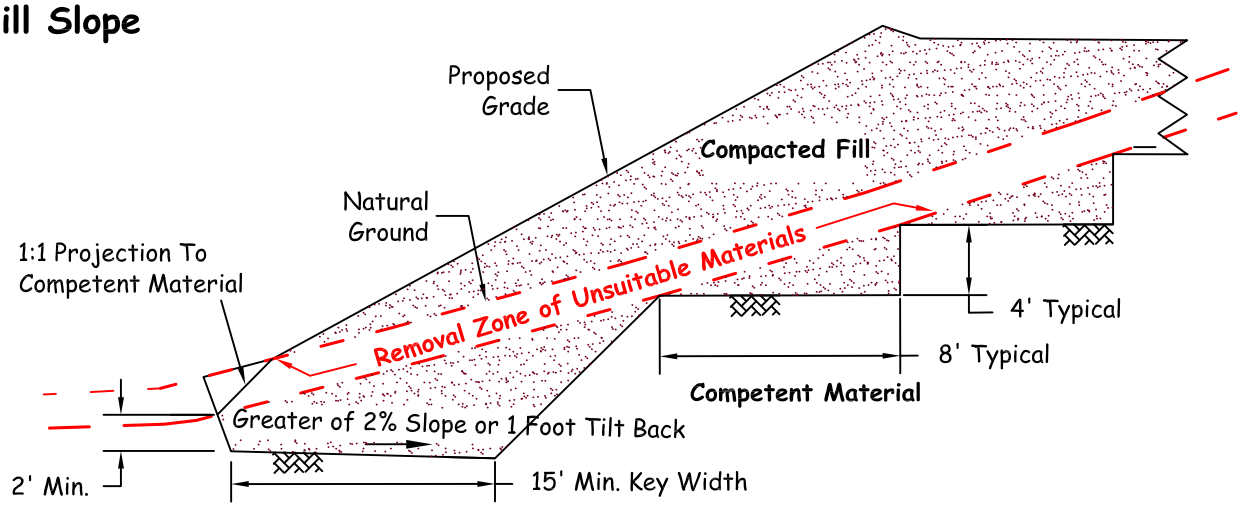
the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of maximum from 1 foot above the top of the conduit to the surface.

7.3 The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.

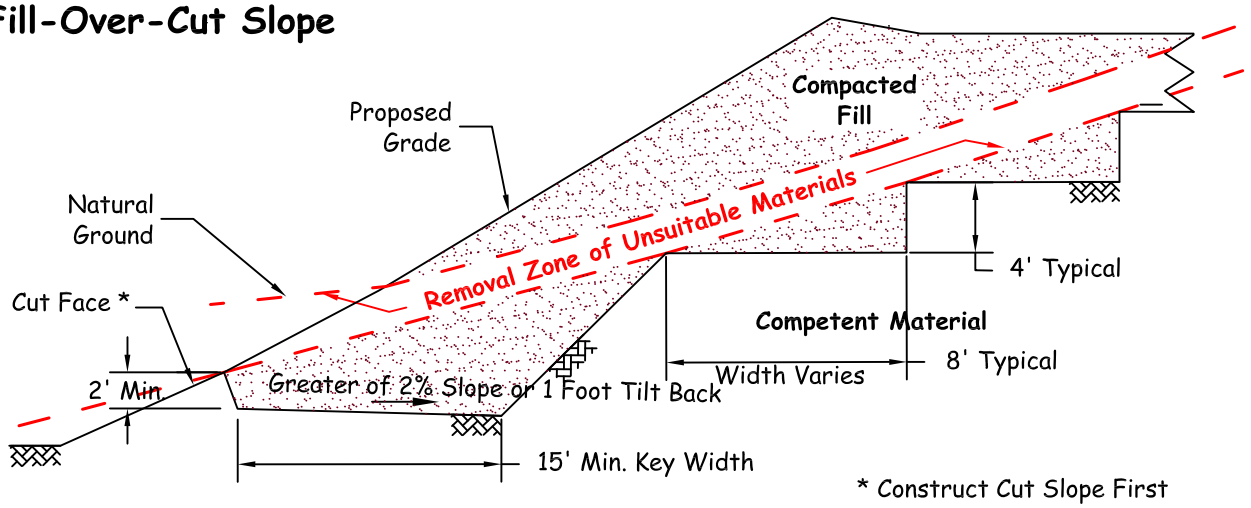
7.4 The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

7.5 Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

Fill Slope

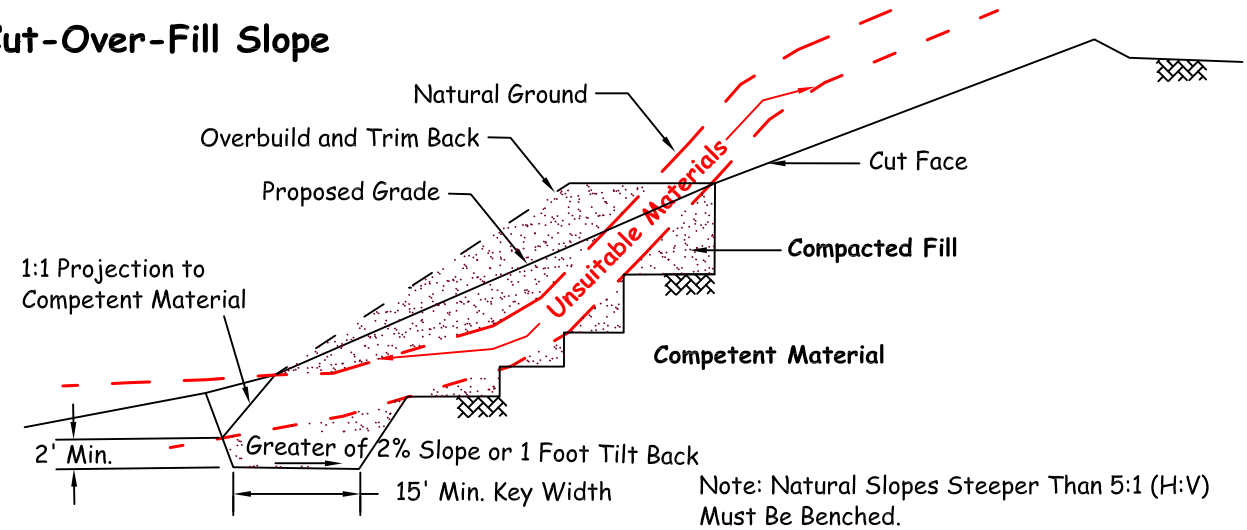


Fill-Over-Cut Slope



* Construct Cut Slope First

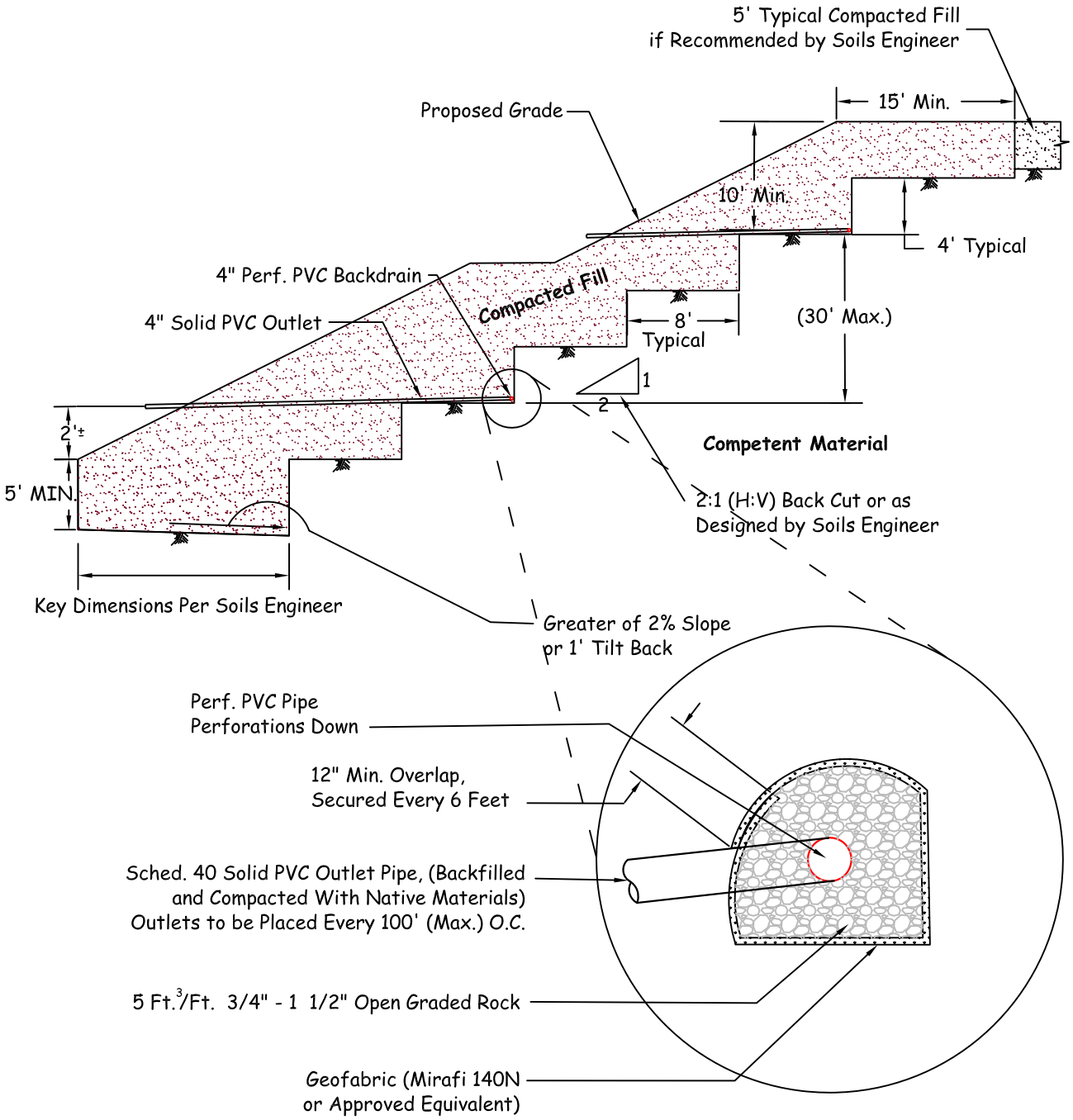
Cut-Over-Fill Slope



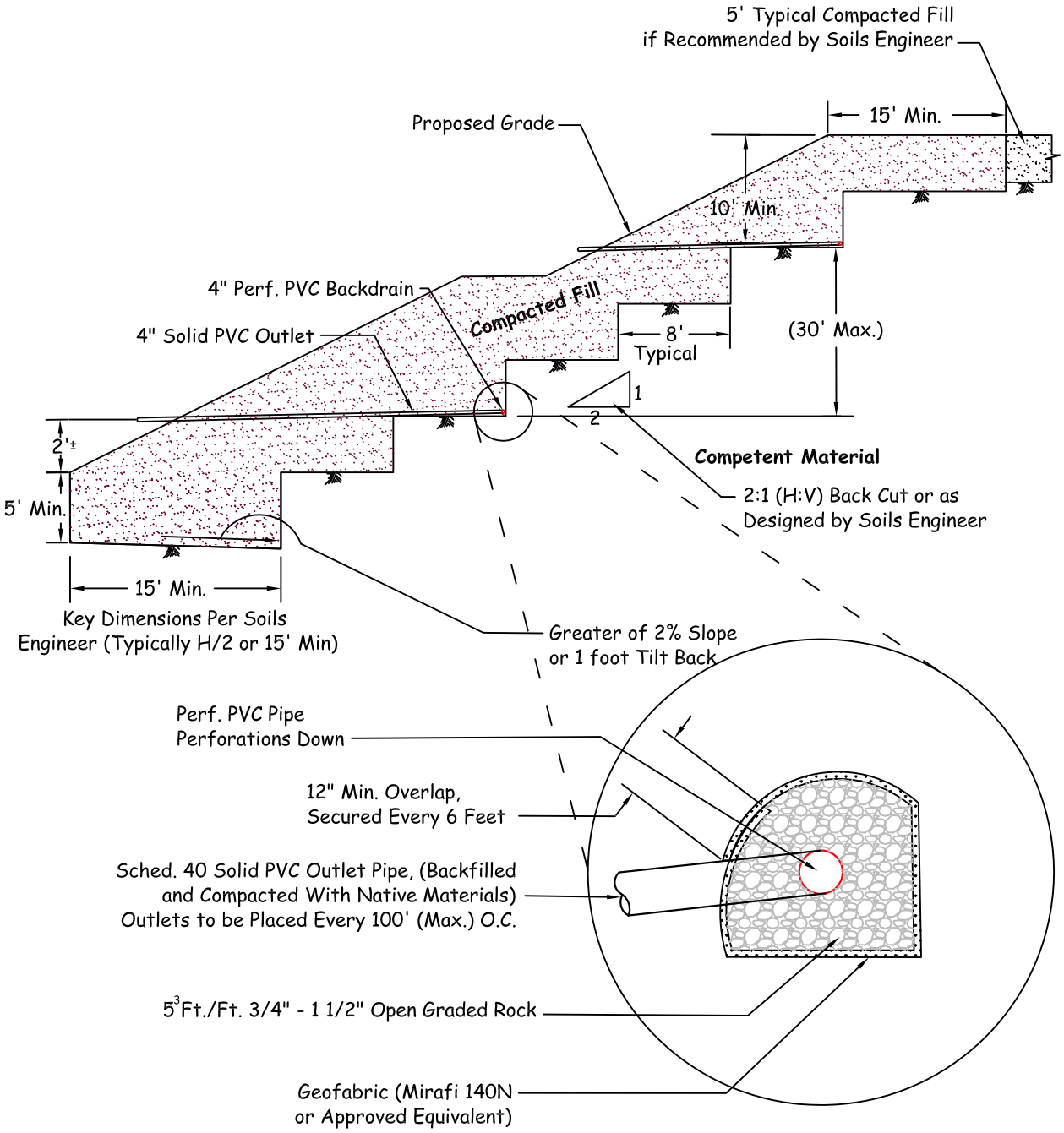
Note: Natural Slopes Steeper Than 5:1 (H:V) Must Be Benched.

LGC Geotechnical, Inc.

KEYING AND BENCHING

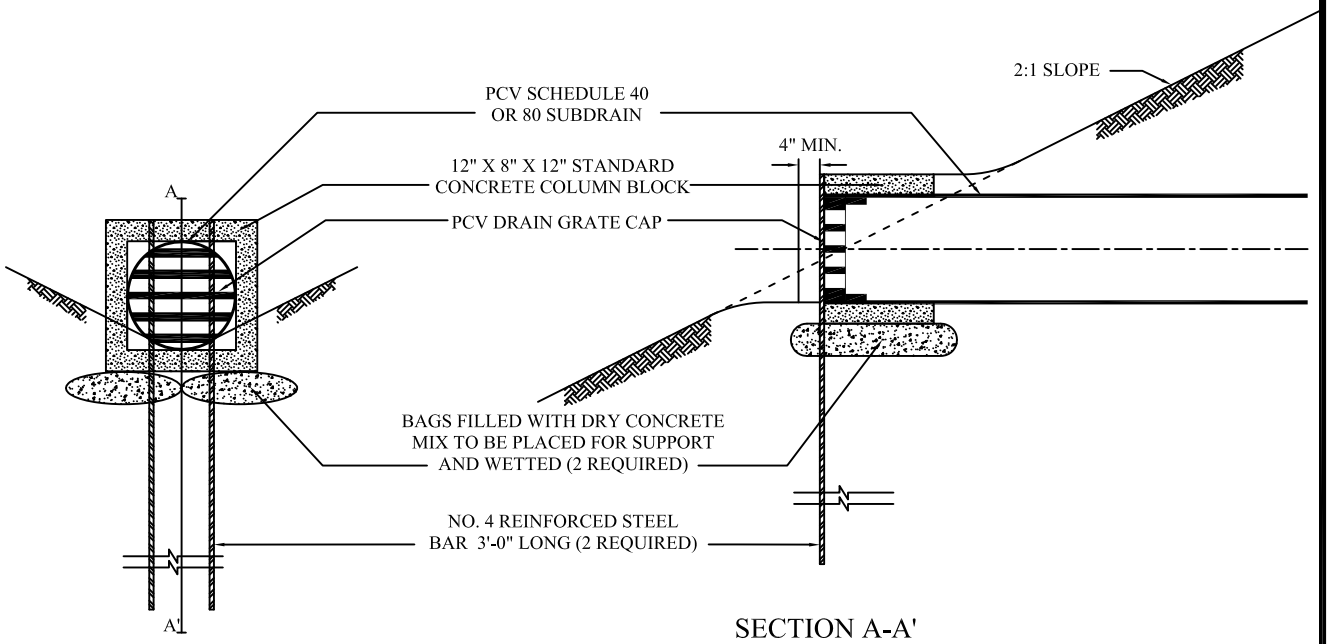


TYPICAL BUTTRESS DETAIL



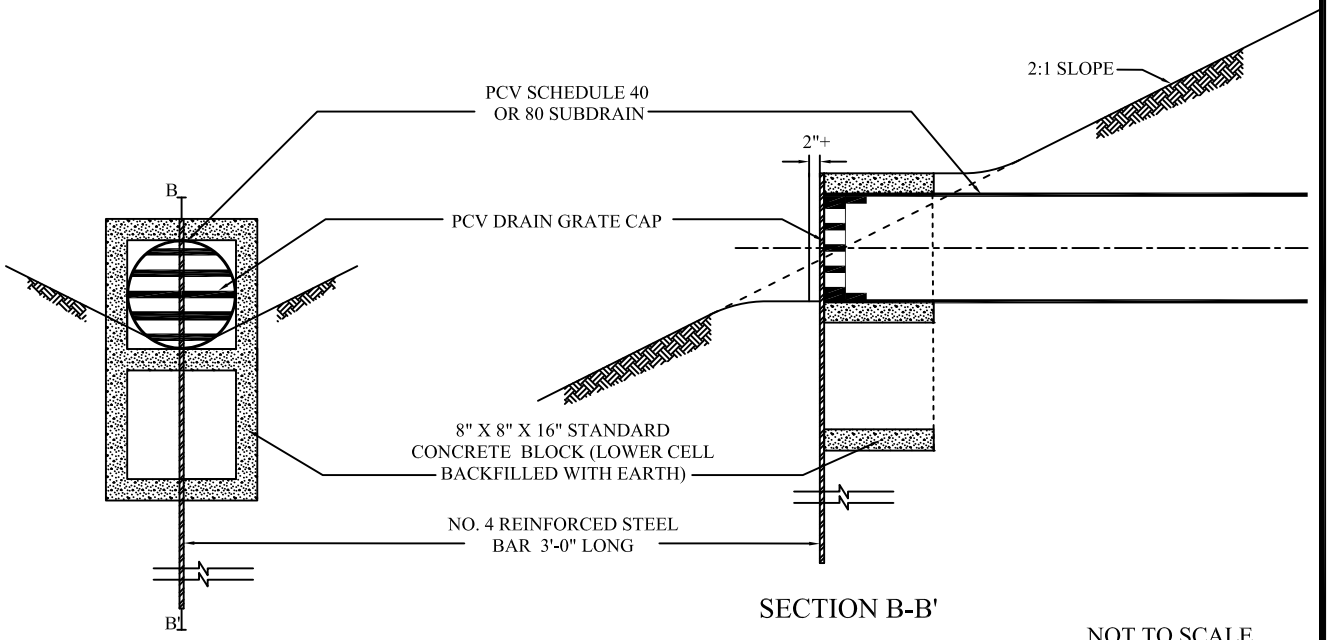
TYPICAL STABILIZATION FILL DETAIL

SUBDRAIN OUTLET MARKER -6" & 8" PIPE



SECTION A-A'

SUBDRAIN OUTLET MARKER -4" PIPE



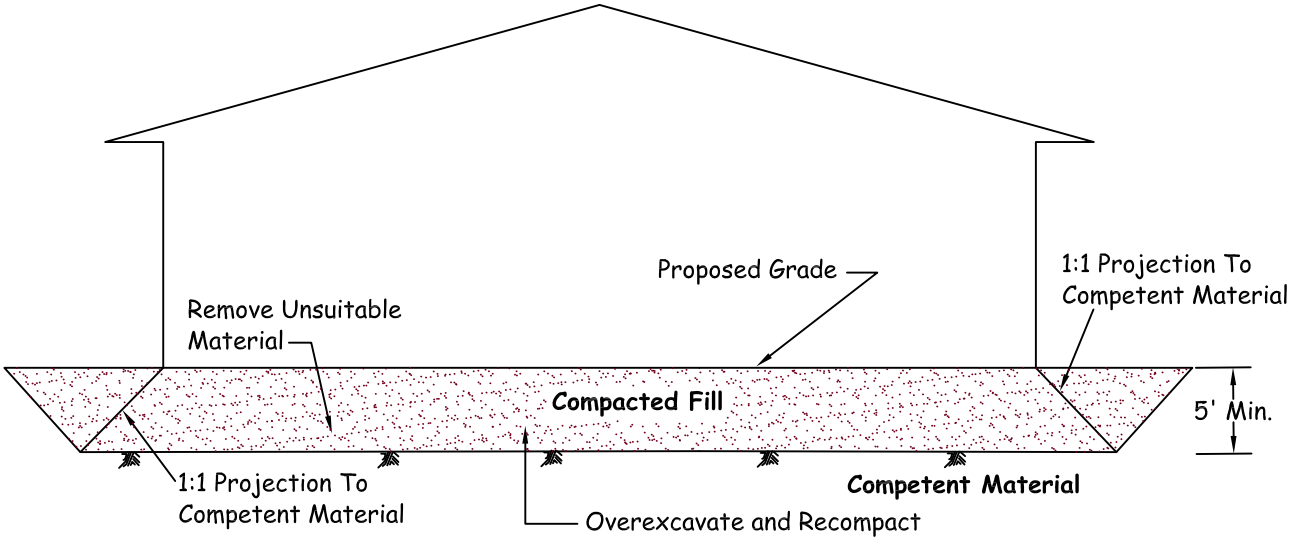
SECTION B-B'

NOT TO SCALE

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SUBDRAIN OUTLET MARKER DETAIL

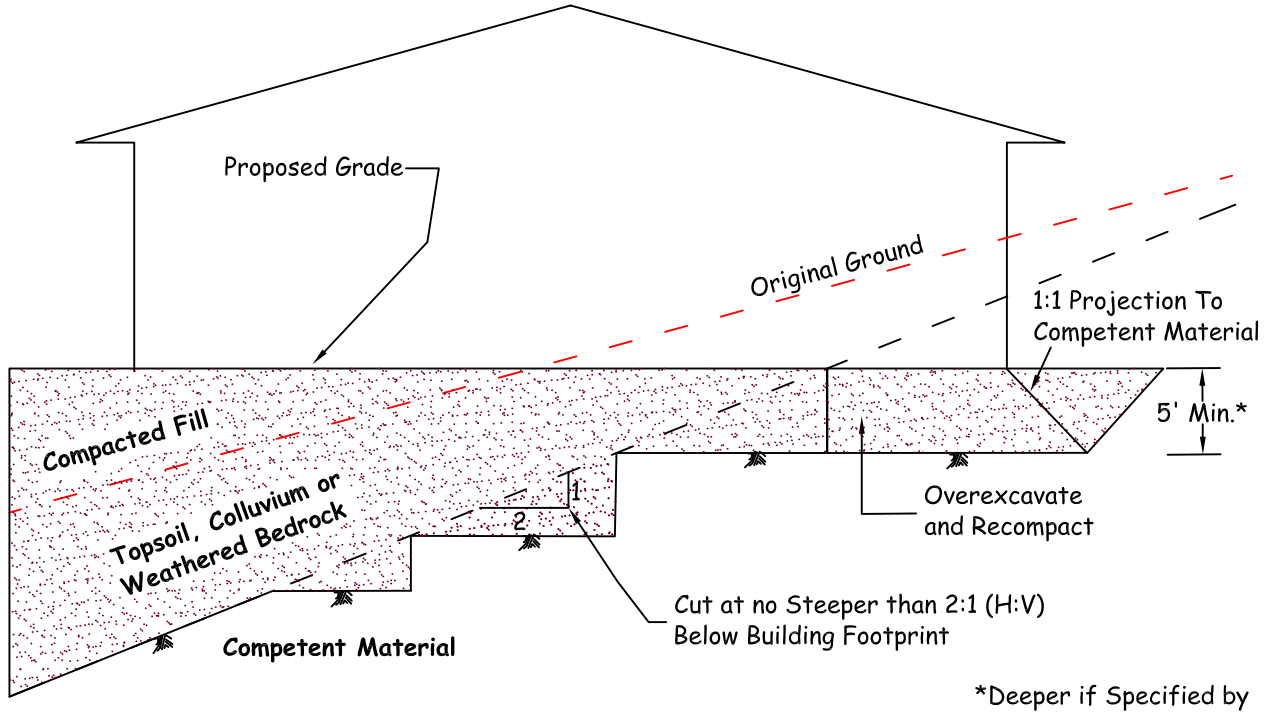
Cut Lot
(Exposing Unsuitable Soils at Design Grade)



Note 1: Removal Bottom Should be Graded With Minimum 2% Fall Towards Street or Other Suitable Area (as Determined by Soils Engineer) to Avoid Ponding Below Building

Note 2: Where Design Cut Lots are Excavated Entirely Into Competent Material, Overexcavation May Still be Required for Hard-Rock Conditions or for Materials With Variable Expansion Characteristics.

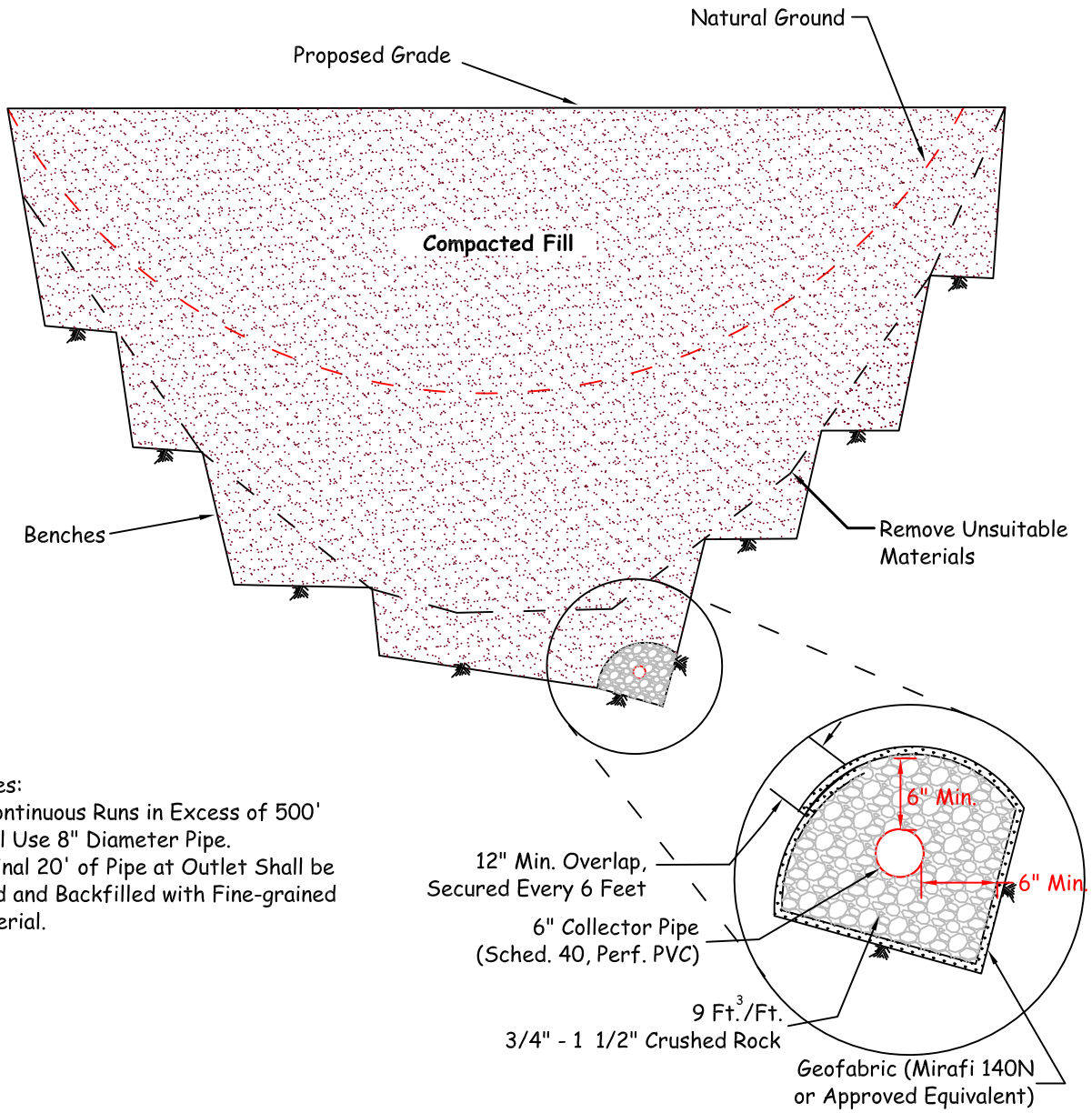
Cut/Fill Transition Lot



*Deeper if Specified by Soils Engineer

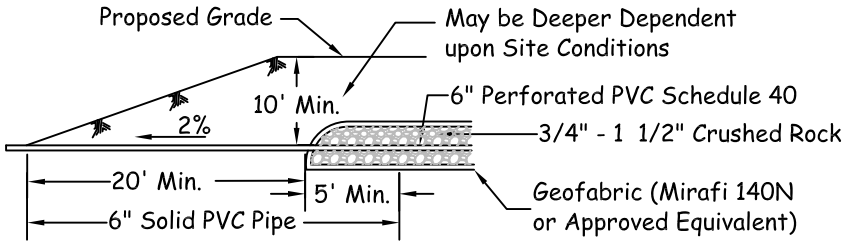
LGC Geotechnical, Inc.

CUT AND TRANSITION LOT OVEREXCAVATION DETAIL



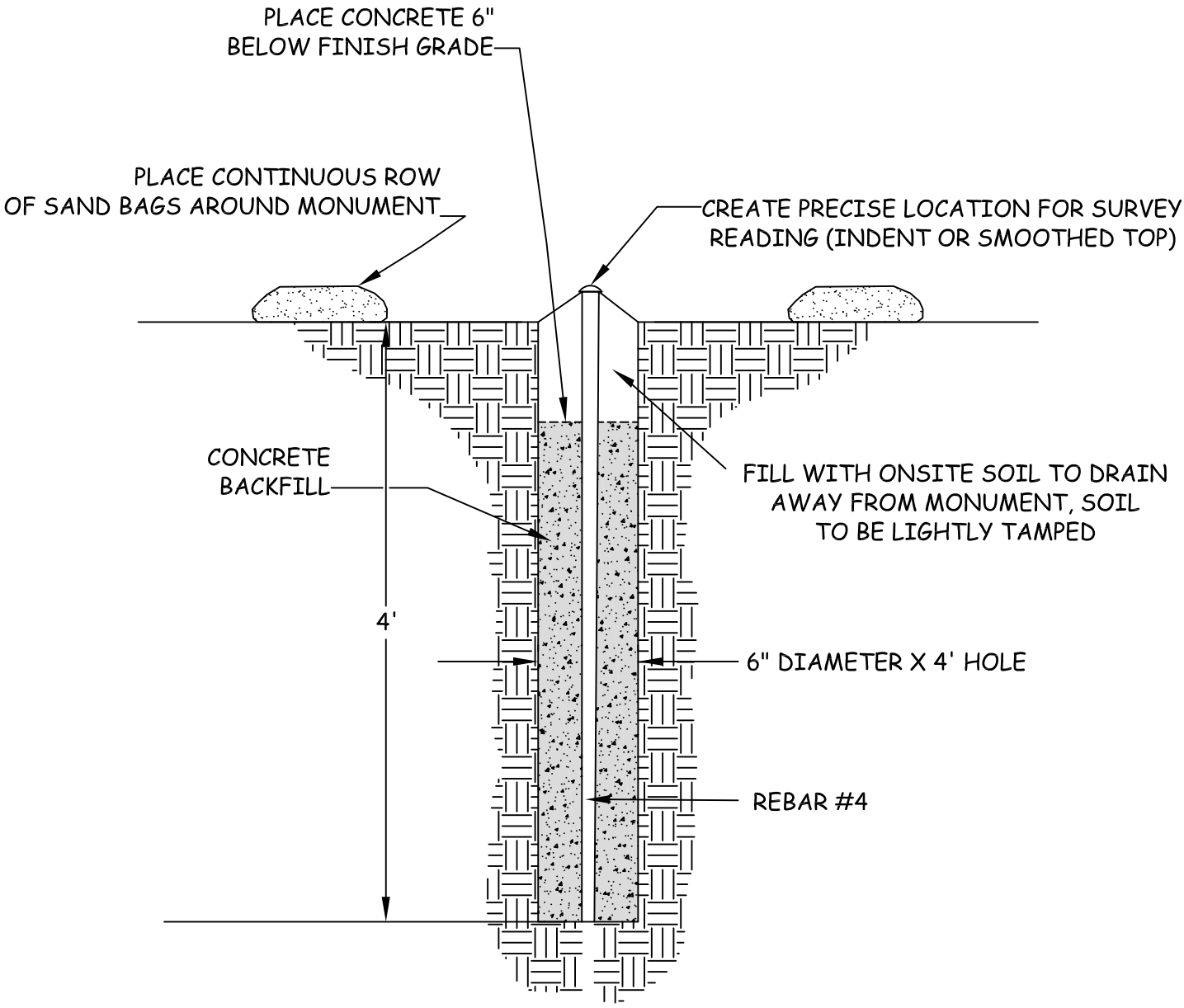
Notes:
1) Continuous Runs in Excess of 500' Shall Use 8" Diameter Pipe.
2) Final 20' of Pipe at Outlet Shall be Solid and Backfilled with Fine-grained Material.

Proposed Outlet Detail



LGC Geotechnical, Inc.

CANYON SUBDRAINS

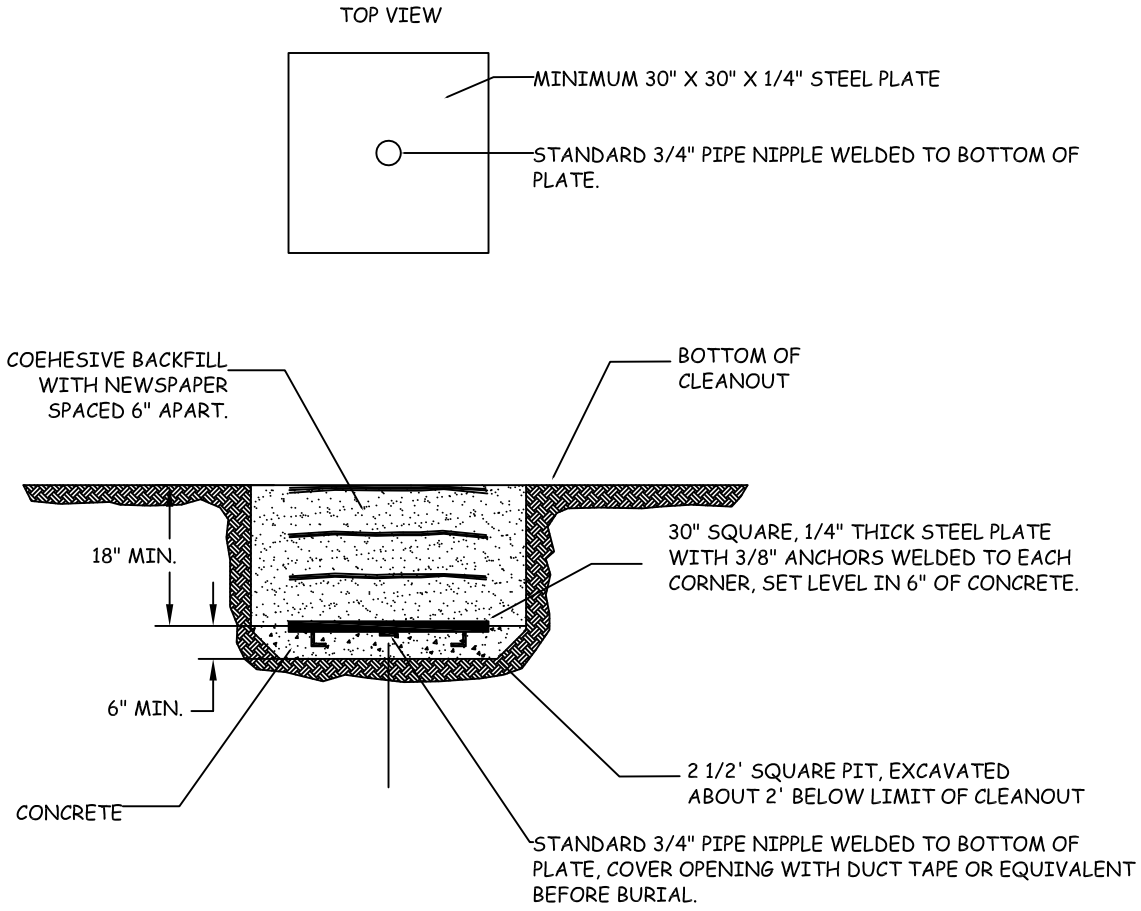


NO CONSTRUCTION EQUIPMENT WITHIN 25 FEET
OF ANY INSTALLED SETTLEMENT MONUMENTS

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TYPICAL SURFACE SETTLEMENT MONUMENT

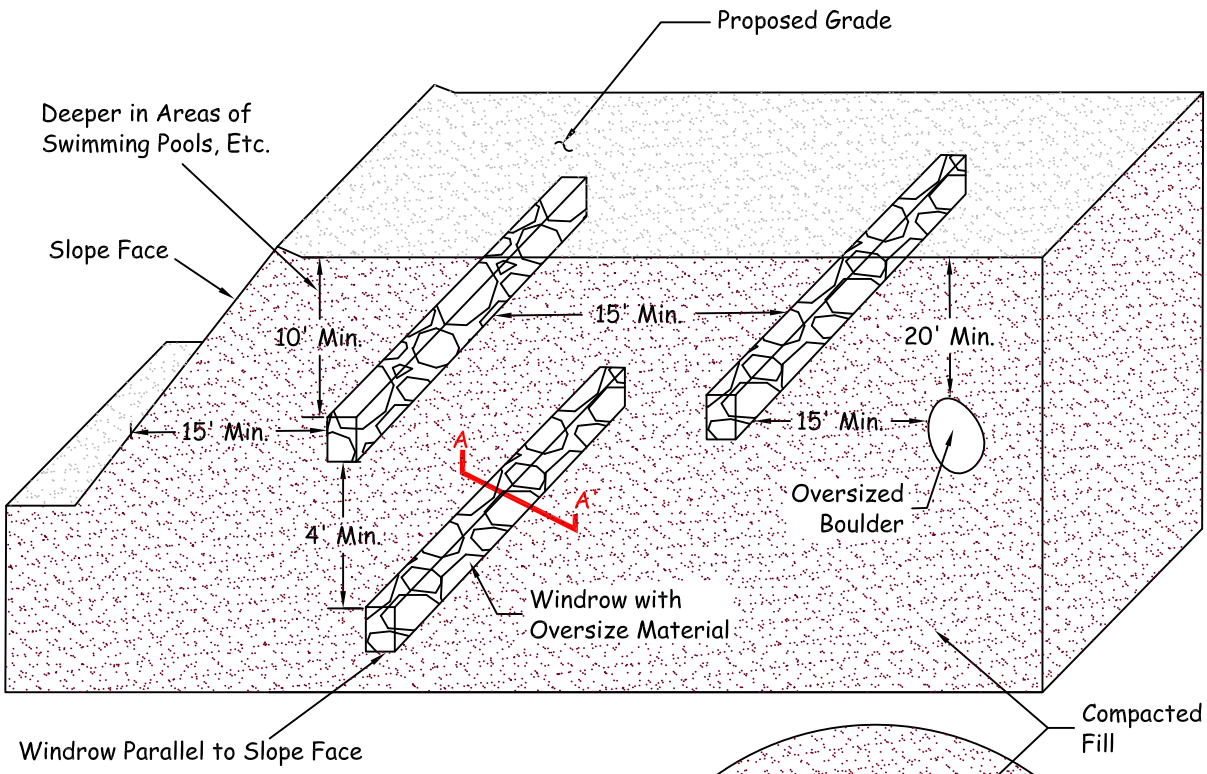
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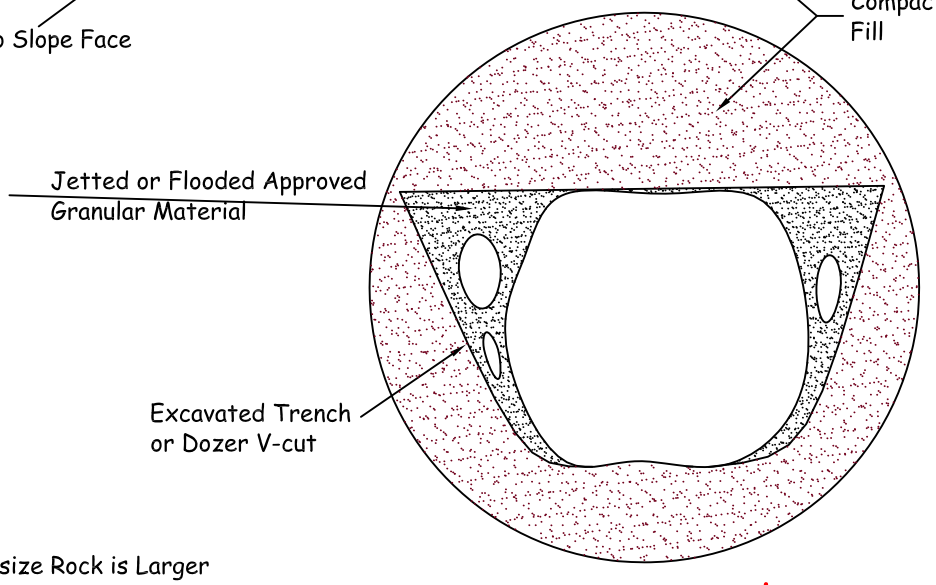


1. SURVEY FOR HORIZONTAL AND VERTICAL LOCATION TO NEAREST .01 INCH PRIOR TO BACKFILL USING KNOW LOCATIONS THAT WILL REMAIN INTACT DURING THE DURATION OF THE MONITORING PROGRAM. KNOW POINTS EXPLICITELY NOT ALLOWED ARE THOSE LOCATED ON FILL OR THAT WILL BE DESTROYED DURING GRADING.
2. IN THE EVENT OF DAMAGE TO SETTLEMENT PLATE DURING GRADING, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GEOTECHNICAL ENGINEER AND SHALL BE RESPONSIBLE FOR RESTORING THE SETTLEMENT PLATES TO WORKING ORDER.
3. DRILL TO RECOVER AND ATTACH RISER PIPE.

LGC Geotechnical, Inc.

TYPICAL SETTLEMENT PLATE AND RISER





Note: Oversize Rock is Larger
than 8" in Maximum Dimension.

Section A-A'

OVERSIZE ROCK DISPOSAL DETAIL

6799

BIOLOGICAL REPORT
FOR THE
RICH HAVEN 2022 SPECIFIC PLAN AMENDMENT
PROJECT SITE

Prepared for:
APPLIED PLANNING, Inc.
11762 De Palma Road, 1-C 310
Corona, CA 92883

Prepared by:

HARMSWORTH ASSOCIATES
31964 Silk Vine Drive
Winchester, CA 92596
(951) 223-3073

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1.0 INTRODUCTION

The Rich-Haven Specific Plan was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018 and 2021. The current project, The Rich Haven 2022 Specific Plan Amendment Project development concept permits a maximum of 7,194 dwelling units (all residential types), a maximum of 990,902 square feet of commercial/office space, a maximum of 1,183,525 square feet of light industrial uses, 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements.

The Rich Haven 2022 Specific Plan Amendment Project site is located in the City of Ontario, San Bernardino County, California (Figure 1). The site is approximately 590 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). Specifically, the site is east of Haven Avenue, south of East Riverside Drive, west of the SCE Mira Loma Substation and Hamner Avenue and north of Edison Avenue (Figures 2 and 3). The site is within NW, SW and SE Section 12 and NW and NE Section 13 of Township 2 South and Range 7 West of the Guasti, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1).

A site assessment and biological surveys were conducted at the site at the request of Applied Planning. The surveys conducted in late winter/spring 2022 included all of the project site; and consisted of;

- a general biological assessment,
- general plant and wildlife surveys,
- vegetation mapping,
- habitat assessment for assessing potential for special status plant species[1],
- habitat assessment for assessing potential for special status wildlife species[2],
- general assessment for Corps Waters/wetlands and CDFW streambeds.

Focused surveys for threatened, endangered and sensitive plant or wildlife species were not conducted as part of this assessment.

The entire Rich Haven 2022 Specific Plan Amendment Project site consists of approximately 590 acres of existing residential development, roads, disturbed areas, former agricultural areas and agricultural land located within the built-up city limits. The site has a history of disturbance and agricultural use, and has been extensively altered, with the entire area having been cleared, leveled, or otherwise reshaped at some point, which is evident from conditions on the site, and from comparing satellite imagery of the project site over the last several decades. No discernible natural hills, rock formations,

[1] Special status plant species = federal or state listed threatened or endangered species, or proposed endangered, threatened or candidate species, California Native Plant Society Species List (CNPS list 1-4), or otherwise sensitive species.

[2] Special status wildlife species = federal or state listed threatened or endangered species, or proposed endangered, threatened or candidate species, or otherwise sensitive species.

natural drainages or water courses remain at the site. Disking occurs regularly on portions not currently in active agricultural use. Earth movement and stockpiling of soils occurred in portions of the site.

The site slopes gently from north to southeast and topography varies from an elevation of approximately 716 feet above msl along the southeastern boundary to 795 feet above msl along the northern boundary of the site (Exhibit 3).

The site has a Mediterranean type climate, with hot dry summers, relatively cool winters and sparse rains. Annual precipitation for the region averages 13.3 inches, and average annual temperature ranges from 50^0 to 79^0 F. Rainfall during the 2021/2022 season was below normal throughout southern California (Appendix A).

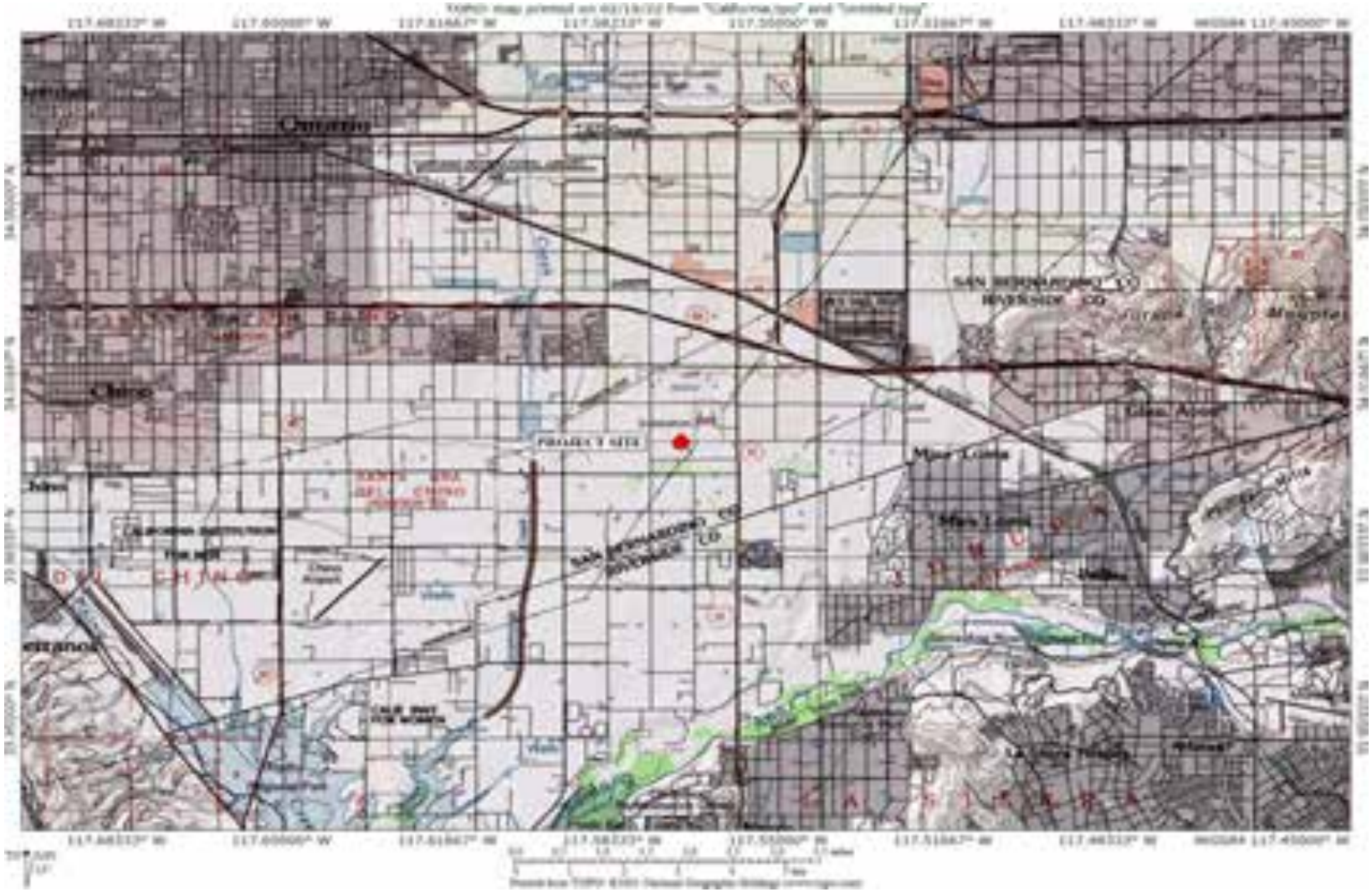


Figure 1: Location of the Rich Haven 2022 Specific Plan Amendment Project site in San Bernardino County, California. Source: USGS Topographical quadrant: Guasti.



Figure 2: Location of the Rich Haven 2022 Specific Plan Amendment Project site (in red). Source: Google Earth, Inc.



Figure 3: Rich Haven 2022 Specific Plan Amendment Project site (in red). Source: Google Earth, Inc.

2.0 METHODS

2.1 Biological Resources Information sources

In addition to the site visit, field surveys, vegetation mapping, wildlife inventories, and habitat assessments information on the biological resources of the project site was obtained by reviewing existing available data. Databases such as the California Natural Diversity Database (CNDDB 2022) and California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001) were reviewed regarding the potential occurrence of any special status species or sensitive habitat within or in close proximity of the project site.

Biological surveys conducted for the Rich Haven Specific Plan (Draft EIR, SCH Number 2006051081), City of Ontario 2007, were examined as a part of this review.

The resources used in this thorough archival review included the following;

- California Natural Diversity Data Base (CNDDB) for the USGS 7.5' quadrangle which comprised the study area: Guasti and neighboring quads for pertinent data,
- California Native Plant Society Inventory of rare and endangered vascular plants of California (Tibor 2001; CNPS On-line Inventory),
- Special Animals (including California Species of Special Concern), CDFW, Natural Heritage Division, January 2022,
- Special Vascular Plants, Bryophytes, and Lichens List, CDFW, Natural Heritage Division, January 2022,
- State and Federally Listed Endangered, Threatened and Rare Plants of California, CDFW, Natural Heritage Division, January 2022,
- State and Federally Listed Endangered and Threatened Animals of California, CDFW, Natural Heritage Division, January 2022,
- Published literature (Chesser *et. al.* 2013, Sibley 2000, Small 1994, Moyle *et al.* 1995, Jennings and Hayes 1994, Stebbins 1985, Webster *et al.* 1980, Burt and Grossenheider 1976),
- Specific surveys conducted at the project site, including; general biological surveys (City of Ontario 2007), special status plant surveys (Bonterra Consulting, 2005), burrowing owl surveys (Bonterra Consulting, 2005, VCS Environmental, 2022), San Bernardino kangaroo rat, Los Angeles pocket mouse, northwestern San Diego pocket mouse and San Diego Desert woodrat habitat assessments (Bonterra Consulting, 2005), Delhi Sands flower-loving fly surveys (Bonterra Consulting, 2005, 2006) and delineation of jurisdictional waters (RBF Consulting, 2006).

2.2 Vegetation mapping, habitat assessment for special status plant species and general botanical surveys

Vegetation mapping, habitat assessments and general botanical surveys were conducted on 21 February, 1 March, 28 and 30 May and 7 June 2022 by Glen Morrison. Vegetation types within the project site were mapped according the state-wide A Manual of California Vegetation, Second Edition (Sawyer *et al.* 2009). This is the mapping system recognized and recommend by regulatory agencies. Vegetation was mapped to the association level by hand on an aerial photographic base map conducted while walking throughout the study area. A general plant species list was compiled concurrently with the vegetation mapping surveys (Appendix B). Scientific and common nomenclature in Hickman (1993) was used as the taxonomic resource. The equivalent vegetation community under the old Holland classification system (Holland 1986) was also noted. Ornamentally planted species, and species found only in gardened areas were not included in the species list and associated numerical calculations if they did not also occur in a wild-growing capacity in the areas noted as supporting substantial amounts of wild plant life.

The habitat assessment for special status plant species was conducted concurrently with the vegetation mapping, and concentrated on habitats with the highest potential for yielding special status species, although all areas of the project site were checked. Each habitat within the study area was traversed on foot, examining the areas for particular features such as seeps, unique geologic types, exposures, etc., that would indicate the presence of a preferred habitat for special status plant species. Methods followed the state guidelines for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018).

2.3 Wildlife surveys and habitat assessment for special status wildlife

Field surveys for wildlife and habitat assessment for special status wildlife species were conducted on 11 February, 10 and 24 March, 18 and 26 May, 2 and 26 June 2022 by Paul Galvin. All portions of the site were traversed on foot to survey each vegetation community, look for evidence of wildlife presence and conduct an assessment of potential habitat for special status species. Wildlife species were detected during the field surveys by sight, vocalizations, burrows, tracks, scat, scrapings and other sign. No specialized techniques, such as trapping, mist nets or taped calls, were used during the surveys.

Latin and common names of wildlife referred to in this report follow Powell and Hogue (1979), Hogue 1993 and NatureServe http://www.natureserve.org/explorer/) for invertebrates; NatureServe for fish; North American Herpetology (http://www.naherpetology.org/nameslist) for amphibians and reptiles; American Ornithologists' Union Checklist of North American Birds - for birds; Baker at al. 2003 for mammals; and Grenfell et al. 2003, California Department of Fish and Game & California Interagency Wildlife Task Group

(http://www.dfg.ca.gov/whdab/pdfs/species_list.pdf) and Perrins et al. 1983 for common names.

2.4 Wetland Delineation

Although a formal wetland delineation was not conducted, the project area was checked in the field for the presence of streambeds, definable channels, wetland and riparian vegetation and hydric soils. All areas of topographic relief suspected of representing historic or current drainage patterns were inspected on-foot.

Field visits were conducted on 11 February, 10 March, 18 and 26 May, 2022 by Paul Galvin.

3.0 RESULTS

3.1 Soils

Historically, the soils on the study area are from the Delhi association and are nearly level to strongly sloping, somewhat excessively drained, very deep soils on alluvial fans in coarse-textured, wind-re-formed granitic material (NRCS Soil Survey 2022, Woodruff 1980).

The site has a history of agricultural use, and site soils have been extensively altered and amended over time. So current soils have been significantly altered compared with historic conditions. The following soils are mapped as occurring within the project area:

Delhi fine sand (Db)
This nearly level to strongly sloping soil is on alluvial fans that have been reworked by wind action. Typically the upper 40 inches consist of pale-brown (10YR 6/3) sand and fine sand, single grained, loose when dry. This soil is used for grapes, pasture plants, alfalfa and some citrus.

Hanford coarse sandy loam, 2 to 8 percent slopes (HcC)
This soil consists of well-drained and somewhat excessively drained soil on alluvial fans, and is derived from granitic materials. The upper 18 inches consist of grayish-brown (10YR 5/2) and very dark grayish brown (10YR 3/2) coarse sandy loam. This soil is used for irrigated citrus, truck crops, grapes, dryland grain, pasture and non-farm purposes.

Hilmar loamy fine sand (Hr)
Hilmar loamy fine sand consists of moderately well-drained drained, nearly level to gently sloping soils that formed in alluvium from granitic sources. They occur on alluvial fans. Surface soils are light grayish-brown (2.5Y 5/2) when dry, dark grayish brown (2.5Y 4/2) when moist; sandy loam. Vegetation is mostly annual forbs and grasses. Soils may be used for dryland crops and pasture.

Tujunga loamy sand, 0 to 5 percent slopes (TuB)
This gently to moderately sloping soil occurs on alluvial fans and on flood plains. This soil developed in alluvium predominantly from granitic materials. The upper 36 inches consist of light-gray (10YR 6/1), gray (10YR 5/1) when moist, loamy sand. This soil is used for dryland grain, pasture, range and, if protected from flooding, for irrigated truck crops.

3.2 Vegetation communities

The Rich Haven 2022 Specific Plan Amendment Project site has been significantly impacted due to years of disking, dumping, disturbance and agriculture (Photographs 1 through 10, Appendix E). Currently the site contains one vegetation community and three additional land types; Ruderal grassland, agriculture, disturbed and developed. Vegetation types within the project site were mapped according the state-wide A Manual of California Vegetation (Sawyer *et al.* 2009) to the extent possible. Since this system focuses on native vegetation communities many disturbed and man-made land covers do not fit cleanly into the system. The best fit possible was made to map and classify the onsite vegetation. The equivalent vegetation community under the old Holland classification system (Holland 1986) is also noted. Dirt roads and disturbed areas were mapped as the vegetation community which they occur.

Ruderal grassland
Ruderal is a low to medium growing herbaceous vegetation type dominated by annual grasses and forbs of Mediterranean origin. It is a type of non-native grassland community, mapped under the semi-natural herbaceous stands by Sawyer *et al.* (2009). Ruderal communities occurred in areas that were recently and frequently disturbed. Holland (1986) classified this habitat type as non-native grasslands.

On the project site, the ruderal grassland is associated with areas of recent disking, old agriculture and frequent disturbances. The dominant species varied across this area, but the most abundant species were Menzies' fiddleneck (*Amsinckia menziesii*), wall barley (*Hordeum murinum*), common red sage (*Kochia scoparia*) and London rocket (*Sisymbrium irio*). Other species present included redstem filaree (*Erodium cicutarium*), cheeseweed (*Malva parviflora*), stinknet (*Oncosiphon piluliferum*) and summer mustard (*Hirschfeldia incana*).

Native species Spencer primrose (*Camissoniopsis micrantha*), bush sunflower (*Encelia californica*) and California buckwheat (*Eriogonum fasciculatum*) occurred at a few locations.

Within the areas mapped as ruderal grassland were a few Goodding's black willow (*Salix gooddingii*), Spanish false fleabane (*Pulicaria paludosa*), southern cattail (*Typha domingensis*) and fragrant flatsedge (*Cyperus odoratus*) that occurred in the old ponds and wet areas associated with former agriculture practices.

A total of 179.7 acres of Ruderal grassland occurred in the project site (Figure 5).

Agriculture
The agricultural areas can include irrigated row crops, exotic trees, fields not in current use, recently disked fields and glass-houses, in addition to sheds, temporary dwellings and other structures.

On the project site agriculture included dairy areas (with associated buildings and structures) and irrigated fields (that were very strongly dominated by wall barley). There were some old ponds and wet areas associated with agriculture practices. Within this area there were also dirt piles, disturbed areas devoid of vegetation and access roads.

A total of 171.5 acres of Agriculture occurred onsite (Table 1; Figure 5).

Disturbed

Disturbed areas include recently and frequently disked or graded areas lacking vegetation. On the project site, the disturbed areas consisted of former agriculture areas and open areas that are devoid of vegetation. Within this area there were also dirt moving operations, stock-piling of soil and recently graded areas.

A total of 110.1 acres of disturbed occurred onsite (Table 1; Figure 5).

Developed

A significant portion of the site has been developed and was in active use by the residents of the properties onsite. The developed areas are a mixture of residential structures, associated parks and roads. Also included is an area in the southern portion that is under active development for new homes.

A total of 129.2 acres of developed occurred onsite (Table 1; Figure 5).

Table 1: Vegetation communities/Land cover types at the Rich Haven 2022 Specific Plan Amendment project site.

Vegetation communities/Land Cover Type	**PROJECT SITE**
Ruderal grassland	179.7
Agricultural	171.5
Disturbed	110.1
Developed	129.2
Site total	**590.5**

3.3 Plant Inventory

Plant species at the Rich Haven 2022 Specific Plan Amendment Project site consisted of species associated with open and disturbed habitats. A total of 68 vascular plant species, representing 31 families were detected at the project site during the current surveys (Appendix B). About 37% (25) were native and the remaining 43 species were exotic or planted. The best represented family was Asteraceae (12 species).

3.4 Special Status Plant Species

There are no historic site records for any special status plant species onsite (CNDDB 2022). Based on a review of CNDDB, the CNPS Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001, CNPS 2022), and field surveys, a few special status species were identified for additional analysis, although none are expected to occur onsite (Table 1).

No special-status plants were observed on the Rich Haven 2022 Specific Plan Amendment Project site during the 2022 site surveys. Due to the extensive historical, and ongoing human land use on the project site, and the alteration of land features (rocky outcrops, hillsides, creeks, drainages etc) that would typically provide refuge for rare plants and threatened plants amidst human activity, it is exceedingly unlikely that any special status plants could occur on the project site. Furthermore, the lack of any native-dominated plant cover, which would be the typical habitat for any potentially rare species in this area, suggests this is rather unlikely, as well.

In addition, focused surveys for special status plant species were conducted at the site in 2005 (Bonterra Consulting, 2005), and special status plant species were determined to be absent from the site.



Figure 4: Soils at the Rich Haven 2022 Specific Plan Amendment Project site. Source: NRCS Soil Survey 2022.



Figure 5: Vegetation map of Rich Haven 2022 Specific Plan Amendment Project site (in red). Source: Google Earth, Inc.

Table 2: Special status plant species that occurred or have the potential to occur in the Rich Haven 2022 Specific Plan Amendment Project site: Definitions - status: Fed = federal, FE = federal endangered, FT = federal threatened, FPE = federally proposed for listing as endangered, FPT = federally proposed for listing as threatened, FC = federal candidate species, FSC = federal special concern species, state = state of California, SE = state endangered, ST = state threatened, SCE = state candidate for listing as endangered, SCT = state candidate for listing as threatened, SC = state species of concern, FP = fully protected species, none = no federal or state listing, see Appendix C for CNPS Status. Occurrence onsite: Occurs = known to occur onsite, Unlikely = could occur due to presence of suitable habitat onsite but not detected during current survey, Not Expected = does not occur due to limited suitable habitat onsite and not detected.

Scientific Name	Common Name	Status	Occurrence Onsite	Habitat
Abronia villosa var. aurita *NYCTAGINACEAE*	Chaparral sand-verbena	Fed: None State: None CNPS 1B.1	Unlikely	Annual herb occurs on sandy soils in desert dunes, coastal scrub and chaparral. Blooms from January-September from 80-1600 meters.
Ambrosia pumila *ASTERACEAE*	San Diego ambrosia	Fed: none State: none CNPS: 1B.1	Unlikely	Dry sunny sites, grasslands, disturbed areas, <500ft, blooms June-September.
Centromadia pungens ssp. laevis ASTERACEAE	Smooth tarplant	Fed: None State: None CNPS 1B.1	Unlikely	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland
Chorizanthe parryi var. parryi POLYGONACEAE	Parry's spineflower	Fed: None State: None CNPS 1B.1	Unlikely	Coastal scrub and chaparral in open gravelly or sandy areas. Blooms from April-June from 40-1075 meters.
Deinandra paniculata ASTERACEAE	San Diego tarweed	Fed: None State: None CNPS 4.2	Unlikely	Valley and foothill grassland, coastal scrub, typically in non-wetlands
Dodecahema leptoceras *POLYGONACEAE*	Slender horned spine flower	Fed: FE State: SE CNPS: 1B.1	Unlikely	Sandy places in sage scrub, grassland. Blooms from April-June from 200-760 meters.
Horkelia cuneata ssp. puberula ROSACEAE	Mesa horkelia	Fed: None State: None CNPS: 1B.1	Unlikely	Perennial herb found in dry sandy soils in the outer coast ranges in chaparral, coastal scrub, and cismontane woodland. Blooms from February through July from 70-810 meters.
Mucronea californica	California spineflower	Fed: None	Unlikely	Coastal strand, chaparral, foothill woodland, northern

Scientific Name	Common Name	Status	Occurrence Onsite	Habitat
POLYGONACEAE		State: None CNPS: 4.2		coastal scrub, coastal sage scrub, valley grassland/dunes and coastal/annual herb/0-1,000m/March-July
Phacelia stellaris HYDROPHYLLACEAE	Brad's phacelia	Fed: None State: None CNPS 1B.1	Unlikely	Coastal scrub and dunes in open sandy areas. Blooms from spring.
Pseudognaphalium leucocephalum ASTERACEAE	White rabbit-tobacco	Fed: None State: None CNPS 2B.2	Unlikely	Coastal scrub, chaparral, cismontane woodland, riparian woodland, sandy, gravelly soil. Blooms from July – December.
Symphyotrichum defoliatum ASTERACEAE	San Bernardino aster	Fed: None State: None CNPS 1B.2	Unlikely	Grassland and meadow habitat near water and in disturbed areas.

3.5 Wetlands and streambeds

A formal jurisdictional delineation was not conducted onsite; however a general assessment of onsite drainage features was conducted as part of the biological assessment.

The site does not contain any lakes, rivers, creeks, streambeds, wetlands, vernal pools, temporary rain pools or riparian areas. There are no areas onsite that are subject to the jurisdiction to the US Army Corps of Engineers, the California Department of Fish and Wildlife or Regional Water Quality Control Board.

Some wet areas, shallow temporary ponds and earthen detention basins did occur within the old and existing agricultural areas. These were all man-made and associated with agricultural activities. They were not associated with any natural drainages, creeks or wetlands and are not subject to the jurisdiction to the US Army Corps of Engineers, the California Department of Fish and Wildlife or Regional Water Quality Control Board.

A formal jurisdictional delineation conducted in 2006 (RBF Consulting, 2006) found no areas of the site subject to the jurisdiction to the US Army Corps of Engineers, the California Department of Fish and Wildlife or Regional Water Quality Control Board.

3.6 Wildlife overview

Wildlife at the study area consisted of common species and species associated with open, disturbed habitats. The most abundant species detected during the site visit were birds such as European starling (*Sturnus vulgaris*), white-crowned sparrow (*Zonotrichia leucophrys*), mourning dove (*Zenaida macroura*) and house finch (*Carpodacus mexicanus*). A total of 39 wildlife species were detected during the site visits, including three reptile, 32 bird and four mammalian species (Appendix D).

3.7 Special status wildlife species

Three special-status wildlife species; California horned lark (*Eremophila alpestris actia*), loggerhead shrike (*Lanius ludovicianus*) and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*); were observed on the Rich Haven 2022 Specific Plan Amendment Project site during the 2022 site surveys. Based on a review of CNDDB (2022), published literature and field surveys and assessments, a number of special status wildlife species were identified as potentially occurring onsite, including some species with historic records from the project vicinity (Table 3). All special status wildlife species with some potential to occur onsite are addressed in Table 3. The three special status species detected and two additional special status species; Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*) and burrowing owl (*Athene cunicularia*) are additionally discussed below.

California horned lark (*Eremophila alpestris actia*)
California horned larks occur in open areas with little or no ground cover, such as grassland or ruderal vegetation and disturbed areas within scrub habitats. A few California horned larks were observed foraging along dirt roads onsite several times in spring 2022. No horned larks were detected during subsequent site visits, indicating that the larks were non-breeding wintering or migrating individuals. No nesting onsite was detected.

Loggerhead shrike (*Lanius ludovicianus*)
Loggerhead shrikes occur in grassland, scrub and other open habitats with perching structures. Nests are placed in trees and shrubs. Two loggerhead shrikes were observed foraging onsite during the February site visit. No loggerhead shrikes were detected during subsequent site visits, indicating that the shrikes were non-breeding wintering or migrating individuals. No nesting onsite is expected.

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)
San Diego black-tailed jackrabbit occurs along the coastal side of the southern California mountain ranges. It primarily occurs in open grasslands, agricultural fields and sparse coastal scrub. Nests under bushes or shrubs that have shallow depressions. Two San Diego black-tailed jackrabbit were observed foraging onsite during the February site visit.

Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*)
The federally endangered Delhi Sands Flower-Loving Fly is restricted to the Delhi Sands formation, on ancient inland sand dunes. The project site is located within the Ontario Recovery Unit of the Recovery Plan for Delhi Sands Flower-loving Fly (USFWS 1997). Historically, much of the project site supported Delhi fine sand, which is the soil type required for Delhi Sands Flower-Loving Fly occurrence.

However, the site has a history of agricultural use, and site soils have been extensively altered and amended over time. So current soils are significantly altered compared with historic conditions; and degraded from the perspective of supporting Delhi Sands Flower-Loving Fly.

Delhi Sands Flower-Loving Fly lay eggs in fine sand, where the larva develop over a 1-2 year period. Soil disturbances from agricultural and other activates likely kill the larva, which precludes the fly from these areas.

Delhi Sands Flower-Loving Fly require habitat with vegetation cover from absent (wind blow sand) to sparse (less than 50% vegetation cover). Suitable vegetation includes telegraph weed (*Heterotheca grandiflora*), California buckwheat (*Eriogonum fasciculatum*), California croton (*Croton californicus*), annual bur-sage (*Ambrosia acanthicarpa*) and other native or non-native species (USFWS 1997, 2008). All of these plant species are either absent from the site or present in very low numbers and site

vegetation is typically dense from non-native plant species (in most areas close to 100% vegetation cover).

Delhi Sands Flower-Loving Fly are unlikely to occur onsite for the following reason;

- Soils are significantly altered and degraded,
- Soil disturbances from agricultural and other activates likely kill any fly larva,
- Suitable native vegetation species are absent from the site, and,
- Site vegetation is generally too dense to support flies.

In addition, focused surveys for Delhi Sands flower-loving fly were conducted at the site in 2005 and 2006 (Bonterra Consulting, 2005 and 2006), and Delhi Sands flower-loving fly were determined to be absent from the site.

Burrowing owls (*Athene cunicularia*)

Burrowing owls (*Athene cunicularia*) occur in shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a yearlong resident. They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. As a critical habitat feature, they require the use of rodent or other burrows for roosting and nesting cover. They can also use pipes, culverts, and nest boxes (USFWS 2003, Haug *et al.* 1993, Zeiner *et al.* 1990).

No burrowing owls or their sign were detected during the surveys and there was no evidence that any burrowing owls occur onsite. No onsite burrows showed any evidence of owl occupancy. Burrowing owls are presumed absent from the site.

Focused surveys for burrowing owl were conducted at the site in 2005 (Bonterra Consulting, 2005), and several owls were detected. However, owls no longer occur at these locations.

Focused surveys for burrowing owl were conducted over the northern portions of the site in 2022 (VCS Environmental, 2022). No burrowing owls or their sign were detected during the surveys and there was no evidence that any burrowing owls occur onsite.

3.8 Wildlife movement corridors and linkages

The terms “wildlife corridors” and “linkages” are based upon fundamental ecological concepts, but can be easily misinterpreted because: 1) universally accepted definitions of these terms have not been established; 2) each term can be interpreted using different time scales (i.e. daily, seasonal, annual and evolutionary) and spatial scales (i.e. microclimate, local, community, and landscape) which changes their meaning; 3) the areas and values change from species to species; and, 4) the understanding of how these processes work is on-going and conclusions are subject to revision. The following definitions are intended to provide a working understanding of corridors and linkages and

are summarized from several sources (SCWP 2003, USCA9D 1990, Barrett and Livermore 1983, Beier 1993).

Wildlife corridor - Wildlife corridors are areas which animals can use to move from one patch of suitable habitat to another. These areas would be expected to have the least habitat fragmentation relative to surroundings areas. A wildlife corridor establishes connectivity for animals to move, live, reproduce and respond to functional ecological processes during the course of a year to several years. The quality and functionality of a particular wildlife corridor varies from species to species.

Wildlife crossings are generally small, narrow wildlife corridors that allow wildlife to pass through an obstacle or barrier such as a roadway to reach another patch of habitat. Wildlife crossings are manmade and include culverts, drainage pipes, underpasses, tunnels, and, more recently, crossings created specifically for wildlife movement over or under highways.

Both wildlife crossings and wildlife corridors function to prevent habitat fragmentation that would result in the loss of species that require large contiguous expanses of unbroken habitat and/or that occur in low densities.

Linkages – Linkages are areas that provide for long term movement or interaction of wildlife to maintain natural evolutionary and ecological patterns. Linkages are fundamental for gene flow and large scale ecological processes. These areas are usually defined by the zones of "least resistance" for the genes of a given species to move or "flow" between core reserve populations.

No wildlife corridors or linkages are known at the Rich Haven 2022 Specific Plan Amendment Project site. The site is open but much of the project vicinity is already developed and it is unlikely that the site is of any significance to wildlife movement.

Table 3: Special status wildlife species that occurred or have the potential to occur in the Rich Haven 2022 Specific Plan Amendment Project site. Definitions - status: Fed = federal, FE = federal endangered, FT = federal threatened, FPE = federally proposed for listing as endangered, FPT = federally proposed for listing as threatened, FC = federal candidate species, FSC = federal special concern species, state = state of California, SE = state endangered, ST = state threatened, SCE = state candidate for listing as endangered, SCT = state candidate for listing as threatened, CSC = California species of special concern, FP = fully protected species, CNDDB = species listed under the states CNDDB program, none = no federal or state listing. Occurrence onsite: Occurs = known to occur onsite, Unlikely = could occur due to presence of suitable habitat onsite but not detected during current survey, Not Expected = does not occur due to limited suitable habitat onsite and not detected.

Scientific Name	Common Name	ESA/CESA Status	Other Status	Occurrence onsite	Habitat/comments
Invertebrates					
Rhaphiomidas terminatus abdominalis	Delhi Sands Flower-Loving Fly	Fed: FE State: None	CNDDB Ranked	Unlikely	Restricted to the Delhi Sands formation, on ancient inland sand dunes.
Amphibians					
Spea hammondii	Western spadefoot	ESA: None CESA: None	DFG: SSC	Not Expected, no pools present	grassland, open habitats with sandy or gravelly soil; temporary rainpools for breeding
Reptiles					
Phrynosoma blainvillii	coast horned lizard	ESA: None CESA: None	CDFW: SSC	Unlikely	sandy washes and open sandy areas within coastal sage scrub, grassland, chaparral, oak and riparian woodland
Aspidoscelis hyperytha	orange-throated whiptail	ESA: None CESA: None	CDFW: WL	Unlikely	open, sparsely covered land, often with well-drained sandy or loose soils in coastal sage scrub, grassland, chaparral, oak woodland and riparian habitats
Aspidoscelis tigris stejnegeri	coastal whiptail	ESA: None CESA: None	CDFW: SSC	Unlikely	Semiarid habitats with open sparsely vegetated areas, scrub, chaparral, grassland and woodland habitats
Anniella stebbinis	Southern California legless lizard	ESA: None CESA: None	CDFW: SSC	Unlikely	Sandy, loose loamy soils in chaparral, oak woodland, coastal sage scrub
Salvadora hexalepis virgultea	Coast patch-nosed snake	ESA: None CESA: None	CDFW: SSC	Unlikely	habitat generalist, associated with brushy or shrubby vegetation
Arizona elegans occidentalis	California glossy snake	ESA: None CESA: None	CDFW: SSC	Unlikely	arid scrub, rocky washes, grasslands, chaparral. Appears to prefer microhabitats of open areas and areas with soil loose enough for easy burrowing.
Birds					
Accipiter cooperi	Cooper's hawk	ESA: None CESA: None	CDFW: WL	Unlikely	mature forests, open woodlands, wood edges, river groves, riparian woodland

Accipiter striatus	sharp-shinned hawk	ESA: None CESA: None	CDFW: WL	Unlikely	wide variety of habitats used by wintering and migrating birds, but mostly associated with woodland and scrubland; breeds in mountains, does not breed in southern California
Aquila chrysaetos	golden eagle	ESA: None CESA: None	CDFW: SSC, FP FW: BCC	Unlikely	Open mountains, foothills, plains, open country
Buteo regalis	ferruginous hawk	ESA: None CESA: None	CDFW: WL FW: BCC	Unlikely	plains, prairies, grasslands, does not breed in southern California
Buteo swainsoni	Swainson's hawk	ESA: None CESA: None	FW: BCC	Unlikely	prairies, grasslands, more widespread in migration
Circus cyaneus	northern harrier	ESA: None CESA: None	CDFW: SSC	Unlikely	grassland, marshes, agricultural land, open areas in scrub and chaparral; ground or shrub nesting
Elanus leucurus	white-tailed kite	ESA: None CESA: None	CDFW: FP	Unlikely	forages in grasslands; nests and roosts in oak and riparian woodland
Falco columbarius	merlin	ESA: None CESA: None	CDFW: WL	Unlikely	nests in open woodlands, savanna, does not breed in southern California, woodlands, open areas in winter, migration
Falco mexicanus	prairie falcon	ESA: None CESA: None	CDFW: WL FW: BCC	Unlikely	open arid country, grasslands, more widespread in winter
Falco peregrinus anatum	American peregrine falcon	ESA: SE CESA: None	CDFW: FP FW: BCC	Unlikely	nest on cliffs or rock outcroppings, usually near water; forages over open country (grassland, scrub, marshes)
Asio flammeus	short-eared owl	ESA: None CESA: None	CDFW: SSC	Potential	grasslands, open habitats
Athene cunicularia	burrowing owl	ESA: None CESA: None	CDFW: SSC FW: BCC	Potential	grasslands, farmland and other open habitats
Lanius ludovicianus	loggerhead shrike	ESA: None CESA: None	CDFW: SSC	Occurs, non-breeding individuals	grassland, scrub and other open habitats with perching structures; nests in trees and shrubs
Eremophila alpestris actia	California horned lark	ESA: None CESA: None	CDFW: WL	Occurs, non-breeding individuals	Open areas with little or no ground cover, such as grassland or ruderal vegetation
Agelaius tricolor	Tricolored blackbird	ESA: None CESA: ST	CDFW: SSC FW: BCC	Unlikely	Highly social and gregarious bird forms large colonies, typically in marshes and agricultural areas
Mammals					

Lasiurus xanthinus	Western yellow bat	ESA: None CESA: None	CDFW: SSC WBWG: H	Unlikely	Usually occur in riparian, oak or pinyon-juniper woodland and urban areas, Roosts in trees
Antrozous pallidus	pallid bat	ESA: None CESA: None	CDFW: SSC WBWG: H	Unlikely	Coastal sage scrub, oak woodland and chaparral; roosts in caves, mines, rock crevices, trees and buildings
Macrotus californicus	California leaf-nosed bat	ESA: None CESA: None	CDFW: SSC WBWG: H	Unlikely	roosts in caves or old mines
Corynorhinus townsendii	Western big-eared bat	ESA: None CESA: None	CDFW: SSC WBWG: H	Unlikely	roosts in caves, old mines or buildings
Myotis thysanodes	fringed myotis	ESA: None CESA: None	CDFW: SSC WBWG: H	Unlikely	caves, old buildings
Myotis volans	long-legged myotis	ESA: None CESA: None	CDFW: SSC WBWG: H	Unlikely	buildings, pockets and crevices in rocks
Myotis yumanensis	Yuma myotis	ESA: None CESA: None	CDFW: SSC WBWG: LM	Unlikely	caves, tunnels and buildings in arid areas
Eumops perotis californicus	California mastiff bat	ESA: None CESA: None	CDFW: SSC WBWG: H	Unlikely	widespread forager; roosts in cliffs and buildings
Chaetodipus fallax fallax	Northwestern San Diego pocket Mouse	ESA: None CESA: None	CDFW: SSC	Unlikely	occurs in open scrub and grassland areas, in the valleys and foothills
Onychomys torridus ramona	southern grasshopper mouse	ESA: None CESA: None	CDFW: SSC	Unlikely	annual grassland and coastal sage scrub
Perognathus longimembris brevinasus	Los Angeles little pocket mouse	ESA: None CESA: None	DFG: CSC CNDDB Ranked	Unlikely	occurs in lower elevation scrub and grassland with open ground and fine, sandy soil
Neotoma lepida intermedia	San Diego desert woodrat	Fed: none State: none	CDFW: SSC	Unlikely	cactus patches and rock outcroppings in coastal sage scrub
Lepus californicus bennettii	San Diego black-tailed jackrabbit	ESA: None CESA: None	CDFW: SSC	Occurs	coastal sage scrub, grassland and chaparral
Taxidea taxus	American badger	ESA: None CESA: None	CDFW: SSC	Unlikely	widespread in natural habitats

4.0 BIOLOGICAL CONSTRAINTS

There are a number of potential biological constraints at Rich Haven 2022 Specific Plan Amendment Project site. Any significant impacts to these biological constraints that would result from the proposed project would require appropriate mitigation.

Significance of impacts to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in California Environmental Quality Act (CEQA), Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established the following policy of the State of California:

> *Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities..*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to the CEQA Guidelines, (Section 15064.7, Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA Guidelines provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> *The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ..*

Therefore, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project;

> Appendix G of the State CEQA Guidelines indicate that a project may be deemed to have a significant effect on the biological resources if the project is likely to:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.1 List of the potential biological constraints at the Rich Haven 2022 Specific Plan Amendment Project site

1. Nesting birds,
2. Special status wildlife species present onsite; California horned lark, loggerhead shrike and San Diego Black-tailed jackrabbit.
    a. California horned lark is not federally or state listed as threatened or endangered. It is listed as a state Species of Special Concern (SSC) in California. Although listed as a SSC, the California horned lark is considered widespread and relatively common throughout coastal southern California. It primarily occurs in open grasslands, agricultural fields and sparsely vegetated areas. These habitats are still relatively common in southern California. Due to the presence of suitable habitat throughout southern California and the fact that larks are relatively widespread and common, impacts of the project on the California horned lark would not be considered significant. Potential nesting California horned larks would be protected by Mitigation Measure 1.
    b. Loggerhead shrike is not federally or state listed as threatened or endangered. It is listed as a state Species of Special Concern (SSC) in California. Although listed as a SSC, the loggerhead shrike is considered widespread and relatively common throughout coastal southern California

during the non-breeding season. It primarily occurs in open grasslands, agricultural fields and sparse scrub habitats. These habitats are still relatively common in southern California. Due to the presence of suitable habitat throughout southern California and the fact that shrikes are relatively widespread and common, impacts of the project on the loggerhead shrike would not be considered significant. Potential nesting loggerhead shrikes would be protected by Mitigation Measure 1.

c. San Diego black-tailed jackrabbit is not federally or state listed as threatened or endangered. It is listed as a state Species of Special Concern (SSC) in California. Although listed as a SSC, the San Diego black-tailed jackrabbit is considered abundantly widespread and relatively common throughout coastal southern California. It primarily occurs in open grasslands, agricultural fields and sparse coastal scrub. These habitats are still relatively common in southern California. Due to the presence of suitable habitat throughout southern California and the fact that jackrabbits are relatively widespread and common, impacts of the project on the San Diego black-tailed jackrabbit would not be considered significant.

4.2 Permits and consultations likely required

As a result of these potential biological constraints, any proposed project at the Rich Haven 2022 Specific Plan Amendment Project would require the following permits/consultations/co-ordination;

California Environmental Quality Act (CEQA);
CEQA Document

Federal Migratory Bird Treaty Act of 1918 (MBTA);
The MBTA governs the taking and killing of migratory birds, their eggs, parts, and nests and prohibits the take of any migratory bird, their eggs, parts, and nests. No take of migratory birds is allowed under this act. Construction work must comply with the MBTA.

4.3 Recommended mitigation measures

1) *Avoidance of Nesting Migratory Birds**:** If possible, all vegetation removal activities shall be scheduled from August 1 to February 1, which is outside the general avian nesting season. This would ensure that no active nests would be disturbed and that removal could proceed rapidly. If vegetation is to be cleared during the nesting season, all suitable habitat will be thoroughly surveyed within 72 hours prior to clearing for the presence of nesting birds by a qualified biologist (Project Biologist). The Project Biologist shall be approved by the City*

and retained by the Applicant. The survey results shall be submitted by the Project Applicant to the City Planning Department. If any active nests are detected, the area shall be flagged and mapped on the construction plans along with a minimum 300-foot buffer, with the final buffer distance to be determined by the Project Biologist. The buffer area shall be avoided until, as determined by the Project Biologist, the nesting cycle is complete or it is concluded that the nest has failed. In addition, the Project Biologist shall be present on the site to monitor the vegetation removal to ensure that any nests, which were not detected during the initial survey, are not disturbed.

2) *Avoidance of Nesting Burrowing Owls**:** No more than 72 hours prior to any site disturbances, focused surveys for the burrowing owl shall be conducted. If absence of this species is confirmed, project work can proceed. If however, burrowing owl is located on site, the appropriate resource agencies (CDFW and USFWS) shall be contacted. The Project Applicant shall consult with the wildlife agencies regarding the most appropriate methods and timing for removal of owls. As necessary, owls will be actively evicted following agency approved protocols (i.e., placing a one-way door at the burrow entrance to ensure that owls cannot access the burrow once they leave). Any such active eviction shall occur outside of the breeding/nesting season. That is, active eviction shall be accomplished between September 1 and February 15. If more than 30 days has elapsed between owl eviction and completion of clearing and grubbing activities, a subsequent survey for the burrowing owl shall be conducted to ensure that owls have not re-populated the site. Any reoccupation by owls will require subsequent protocol active eviction.*

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6.0 APPENDICES

6.1 Appendix A: Weather data

Public information national weather service San Diego CA; 2021-2022 rainfall season in review, http://www.nws.noaa.gov/climate

A dryer than normal rainfall season ended on 30 June 2022. Winter was dryer than average across all of California.

Areas	2020-2021 Total	Normal Total	% of Normal
Santa Barbara	10.5	17.73	59
Lancaster	3.63	5.1	71
downtown Los Angeles	12.39	14.77	84
Long Beach Airport	7.34	12.72	58
John Wayne Airport	7.09	12.76	56
Fullerton	6.65	14.72	45
Riverside	4.99	10.12	49
Oceanside Airport	7.87	10.54	75
San Diego	6.81	10.13	67
Palm Springs	2.81	5.49	51

CORONA, CALIFORNIA (042031)
Period of Record Monthly Climate Summary
Period of Record : 7/ 1/1948 to 7/31/1988

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	66.1	69.0	70.4	74.9	79.1	84.8	91.6	91.6	89.0	82.1	73.3	67.5	78.3
Average Min. Temperature (F)	40.2	41.6	42.9	46.0	50.6	54.6	58.6	59.3	56.7	50.8	44.4	40.0	48.8
Average Total Precipitation (in.)	2.52	2.18	1.82	0.93	0.21	0.03	0.03	0.11	0.30	0.31	1.38	1.67	11.49
Average Total SnowFall (in.)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.
Max. Temp.: 99.1% Min. Temp.: 99.4% Precipitation: 100% Snowfall: 100% Snow Depth: 100%
Check Station Metadata or Metadata graphics for more detail about data completeness.
http://www.wrcc.dri.edu/summary/climsmsca.html

6.2 Appendix B: Plant species detected at the Rich Haven 2022 Specific Plan Amendment Project site, 2022.

SCIENTIFIC NAME (SYNONYM)	COMMON NAME
ANGIOSPERMS - DICOTYLEDONES	**DICOTS**
ADOXACEAE	**MUSKROOT FAMILY**
Sambucus nigra spp. caerulea (= S. mexicana)	Blue Elderberry
AMARANTHACEAE	**AMARANTH FAMILY**
*Amaranthus albus**	Tumbling Pigweed
Amaranthus palmeri	Palmer's Pigweed
*Amaranthus retroflexus**	Rough Pigweed
ANACARDIACEAE	**SUMAC or CASHEW FAMILY**
*Schinus molle**	Peruvian Pepper Tree
APOCYNACEAE	**DOGBANE FAMILY**
Asclepias fascicularis	Narrow-leaved Milkweed
ASTERACEAE	**SUNFLOWER FAMILY**
Ambrosia acanthicarpa	Sand-bur or Annual Bur-sage
*Centaurea melitensis**	Tocalote
Encelia californica	California Brittlebush
*Erigeron bonariensis**	flax-leaved horseweed
Erigeron canadensis	Canada horseweed
Heterotheca grandiflora	Telegraph Weed
*Lactuca serriola**	Prickly or Wild Lettuce
Layia platyglossa	Common Tidy Tips
*Oncosiphon piluliferum**	Stinknet
Pseudognaphalium stramineum (= Gnaphalium s.)	Cotton-Batting Plant
*Pulicaria paludosa**	Spanish Sunflower
Verbesina encelioides (= V. encelioides ssp. exauriculata)*	Golden Crownbeard
BIGNONIACEAE	**TRUMPET-CREEPER FAMILY**
Jacaranda mimosifolia	Jacaranda
BORAGINACEAE	**BORAGE FAMILY**
Amsinckia menziesii (= A. m. var. m.)	Rigid Fiddleneck
Amsinckia tessellata var. gloriosa	Devil's Lettuce
BRASSICACEAE	**MUSTARD FAMILY**
*Capsella bursa-pastoris**	Shepherd's Purse
Hirschfeldia incana	Shortpod or Summer Mustard
*Sisymbrium irio**	London Rocket
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
Chenopodium album (= C. missouriense)*	Lamb's Quarter
Chenopodium berlandieri	Pitseed Goosefoot
*Kochia scoparia**	Kochia
*Salsola tragus**	Russian Thistle
CONVOLVULACEAE	**MORNING-GLORY FAMILY**
*Convolvulus arvensis**	Field Bindweed
CRASSULACEAE	**STONECROP FAMILY**
Crassula connata	Sand Pygmy-Stonecrop

EUPHORBIACEAE	**SPURGE FAMILY**
*Euphorbia maculata**	spotted spurge
FABACEAE	**LEGUME FAMILY**
Acmispon americanus var. americanus (= Lotus purshianus var. purshianus)	American Lotus
*Medicago sativa**	Alfalfa, Lucerne
*Melilotus officinalis**	Yellow Sweet-Clover
*Parkinsonia aculeata**	Jerusalem-Thorn or Mexican Palo Verde
GERANIACEAE	**GERANIUM FAMILY**
*Erodium brachycarpum**	Short-Fruited Filaree
*Erodium cicutarium**	Red-Stemmed Filaree
LAMIACEAE	**MINT FAMILY**
*Marrubium vulgare**	Common Horehound
MALVACEAE	**MALLOW FAMILY**
*Malva parviflora**	Cheeseweed
MYRSINACEAE	**MYSINE FAMILY**
*Lysimachia arvensis**	Scarlet Pimpernel
MYRTACEAE	**MYRTLE FAMILY**
*Eucalyptus camaldulensis**	River Red Gum
OLEACEAE	**OLIVE FAMILY**
*Olea europaea**	European Olive
ONAGRACEAE	**EVENING PRIMROSE FAMILY**
Camissoniopsis hirtella (= Camissonia h.)	Field Sun Cup
Camissoniopsis micrantha (= Camissonia m.)	Small-flowered Evening Primrose
POLYGONACEAE	**BUCKWHEAT FAMILY**
Eriogonum fasciculatum	California Buckwheat
Persicaria lapathifolium (= Polygonum l.)*	Pale Smartweed
*Polygonum aviculare**	Knotweed, Smartweed
*Rumex crispus**	Curly Dock
PORTULACACEAE	**PURSLANE FAMILY**
*Portulaca oleracea**	Common Purslane
SALICACEAE	**WILLOW FAMILY**
Salix gooddingii	Goodding's or Black Willow
Salix lasiolepis	Arroyo Willow
SAPINDACEAE	**SOAPBERRY FAMILY**
*Cupaniopsis anacardioides**	Carrotwood
SOLANACEAE	**NIGHTSHADE FAMILY**
*Nicotiana glauca**	Tree Tobacco
*Solanum americanum**	White Nightshade
URTICACEAE	**NETTLE FAMILY**
Urtica dioica	American Stinging Nettle
ZYGOPHYLLACEAE	**CALTROP FAMILY**
*Tribulus terrestris**	Puncture Vine
ANGIOSPERMS - MONOCOTYLENDONES	**MONOCOTS**
ARECACEAE	**PALM FAMILY**
Washingtonia filifera†	California Fan Palm
*Washingtonia robusta**	Mexican Fan Palm

CYPERACEAE	**SEDGE FAMILY**
Cyperus odoratus	Fragrant Umbrella-Sedge
POACEAE	**GRASS FAMILY**
*Arundo donax**	Giant Reed
*Bromus catharticus**	Rescue Grass
*Bromus diandrus**	Common Ripgut Grass
*Cynodon dactylon**	Bermuda Grass
Festuca perennis (= Lolium multiflorum)*	Italian Ryegrass
*Hordeum murinum**	Wall Barley
Leptochloa fusca ssp. uninervia (= L. uninervia)	Dense-Flowered Sprangletop
*Polypogon monspeliensis**	Rabbitfoot Grass
TYPHACEAE	**CATTAIL FAMILY**
Typha domingensis	Southern or Slender Cattail

KEY: Asterisk (*) = non-native species or cultivated; †Planted/horticultural; $^{+}$ = sensitive species; Sources: Taxonomy - Hickman (1993), http://ucjeps.berkeley.edu/interchange.html, March 2022; Common names and non-native species designations according to Roberts (1998), then Hickman (1993)

6.3 Appendix C: California Native Plant Society Categories

CNPS Status based on California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001):

List 1A: Plants Presumed Extinct in California
The plants of List 1A are presumed extinct because they have not been seen or collected in the wild for many years. Although most of them are restricted to California, a few are found in other states as well. There is a difference between "extinct" and "extirpated." A plant is extirpated if it has been locally eliminated. It may be doing quite nicely elsewhere in its range. All of the plants constituting List 1A meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

List 1B: Plants Rare, Threatened or Endangered in California and Elsewhere
The plants of List 1B are rare throughout their range. All but a few are endemic to California. All of them are judged to be vulnerable under present circumstances or to have a high potential for becoming so because of their limited or vulnerable habitat, their low numbers of individuals per population (even though they may be wide ranging), or their limited number of populations. All of the plants constituting List 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

List 2: Plants Rare, Threatened or Endangered in California, But More Common Elsewhere
Except for being common beyond the boundaries of California, the plants of List 2 would have appeared on List 1B. Based on the "Native Plant Protection Act," plants are considered without regard to their distribution outside the state. All of the plants constituting List 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection) of the California Department of Fish and Game Code and are eligible for state listing.

List 3: Plants About Which We Need More Information—A Review List
The plants that comprise List 3 are an assemblage of taxa that have been transferred from other lists or that have been suggested for consideration. The necessary information that would assign most to a sensitivity category is missing.

List 4: Plants of Limited Distribution—A Watch List
The plants in this category are of limited distribution in California and their vulnerability or susceptibility to threat appears low at this time. While these plants cannot be called "rare" from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Many of them may be significant locally. Should the degree of endangerment or rarity of a plant change, they will be transferred to a more appropriate list.

Threat Code Extensions and their meanings:

.1- Seriously endangered in California

.2- Fairly endangered in California

.3- Not very endangered in California

6.4 Appendix D: Wildlife species detected at the Rich Haven 2022 Specific Plan Amendment Project site, 2022.

FAMILY/SPECIES NAME	COMMON NAME
REPTILIA	**REPTILES**
PHRYNOSOMATIDAE	**ZEBRA-TAILED, EARLESS, FRING-TOED, SPINY, TREE, SIDE-BLOTCHED AND HORNED LIZARDS**
Sceloporus occidentalis	Western Fence Lizard
Uta stansburiana	Common Side-blotched Lizard
COLUBRIDAE	**HARMLESS EGG-LAYING SNAKES**
Pituophis catenifer	Gopher Snake
AVES	**BIRDS**
CATHARTIDAE	**NEW WORLD VULTURES**
Cathartes aura	Turkey Vulture
ACCIPITRIDAE	**HAWKS, KITES, EAGLES AND ALLIES**
Buteo jamaicensis	Red-tailed Hawk
RECURVIROSTRIDAE	**STILTS AND AVOCETS**
Himantopus mexicanus	Black-necked Stilt
CHARADRIIDAE	**LAPWINGS AND PLOVERS**
Charadrius vociferus	Killdeer
LARIDAE	**GULLS, TERNS AND SKIMMERS**
Larus delawarensis	Ring-billed Gull
COLUMBIDAE	**PIGEONS AND DOVES**
Columba livia	Rock Pigeon
Streptopelia decaocto	Eurasian Collared-Dove
Zenaida macroura	Mourning Dove
TROCHILIDAE	**HUMMINGBIRDS**
Calypte anna	Anna's Hummingbird
FALCONIDAE	**CARCARAS AND FALCONS**
Falco sparverius	American Kestrel
TYRANNIDAE	**TYRANT FLYCATCHERS**
Sayornis nigricans	Black Phoebe
Sayornis saya	Say's Phoebe
Tyrannus vociferans	Cassin's Kingbird
LANIIDAE	**SHRIKES**
Lanius ludovicianus+	Loggerhead Shrike
CORVIDAE	**JAYS AND CROWS**
Corvus brachyrhynchos	American Crow
Corvus corax	Common Raven
ALAUDIDAE	**LARKS**
Eremophila alpestris actia+	California Horned Lark
HIRUNDINIDAE	**SWALLOWS**
Stelgidopteryx serripennis	Northern Rough-winged Swallow
Petrochelidon pyrrhonota	Cliff Swallow
Hirundo rustica	Barn Swallow
MIMIDAE	**MOCKINGBIRDS AND THRASHERS**
Mimus polyglottos	Northern Mockingbird

STURNIDAE	**STARLINGS**
Sturnus vulgaris	European Starling
MOTACILLIDAE	**WAGTAILS AND PIPITS**
Anthus rubescens	American Pipit
PARULIDAE	**WOOD-WARBLERS**
Setophaga coronata	Yellow-rumped Warbler
EMBERIZIDAE	**EMBERIZIDS**
Passerculus sandwichensis	Savannah Sparrow
Melospiza melodia	Song Sparrow
Zonotrichia leucophrys	White-crowned Sparrow
ICTERIDAE	**BLACKBIRDS**
Agelaius phoeniceus	Red-winged Blackbird
Sturnella neglecta	Western Meadowlark
Icterus bullockii	Bullock's Oriole
FRINGILLIDAE	**FRINGILLINE AND CARDUELINE FINCHES**
Haemorhous mexicanus	House Finch
PASSERIDAE	**OLD WORLD SPARROWS**
Passer domesticus	House Sparrow
MAMMALIA	**MAMMALS**
LEPORIDAE	**RABBITS & HARES**
Sylvilagus audubonii	Desert Cottontail
Lepus californicus	Black-Tailed Jackrabbit
SCIURIDAE	**SQUIRRELS, CHIPMUNKS & MARMOTS**
Otospermophilus beecheyi	California Ground Squirrel
CANIDAE	**FOXES, WOLVES & RELATIVES**
Canis latrans	Coyote

Sources:

Invertebrates: Powell and Hogue (1979) and Hogue 1993.

Butterflies: NatureServe, http://www.natureserve.org/explorer/

Fish: NatureServe, http://www.natureserve.org/explorer/

Reptiles and amphibians: North American Herpetology (NAH) nomenclature updates: http://www.naherpetology.org/nameslist

Birds: American Ornithologists' Union Checklist of North American Birds - 7th Edition (2017): http://www.aou.org/checklist/index.php3

Mammals: Baker, R. J., L. C. Bradley, R. D. Bradley, J. W. Dragoo, M. D. Engstrom, R. S. Hoffmann, C. A. Jones, F. Reid, D. W. Rice, and C. Jones. 2003. Revised Checklist of North American Mammals North of Mexico. Museum of Texas Tech University. OP-229. http://www.nsrl.ttu.edu/pubs/opapers.htm

Common names: Grenfell, W. E., M. D. Parisi, and D. McGriff. 2003. Complete List of Amphibians, Reptiles, Birds and Mammals in California. California Department of Fish and Game & California Interagency Wildlife Task Group. http://www.dfg.ca.gov/whdab/pdfs/species_list.pdf; and Perrins, C. M, and A. L. A. Middleton (Eds.). 1983. The Encyclopedia of Birds. Andromeda Oxford Limited. 463pp.

6.5 Appendix E: Rich Haven 2022 Specific Plan Amendment Project site photographs 2022.



Photograph 1: From corner of Haven Avenue and Edison Avenue, looking east, May 2022.



Photograph 2: From corner of Haven Avenue and Ontario Ranch Road, looking east, May 2022.



Photograph 3: From corner of Hamner Avenue and Edison Avenue, looking west, May 2022.



Photograph 4: Along Hamner Avenue, looking west, May 2022.



Photograph 5: North of corner of Hamner Avenue and Ontario Ranch Road, looking northwest, May 2022.



Photograph 6: Along Ontario Ranch Road, looking north, June 2022.



Photograph 7: Along Haven Avenue, looking south, June 2022.



Photograph 8: From corner of Haven Avenue and East Riverside Drive, looking southeast, June 2022.



Photograph 9: Northern portion (south of Colony High School) of site looking northwest, June 2022.



Photograph 10: Northern portion (south of Colony High School) of site looking southeast, June 2022.

CULTURAL RESOURCES ASSESSMENT

Rich-Haven Specific Plan Areas of Change Project
City of Ontario, San Bernardino County, California

Prepared for:

Ross Geller
Applied Planning, Inc.
11762 De Palma Road, 1-C 310
Corona, California 92883

Prepared by:

David Brunzell, M.A., RPA
Qualified Archaeologist and Architectural Historian
Contributions by Timothy Blood, M.S.
BCR Consulting LLC
Claremont, California 91711

Project No. APP2201

Data Base Information:
Type of Study: Intensive Survey
Resources Recorded: P-36-12621, -12622, -12623, -25440, -26051
Keywords: Dairy, Historic-Period Buildings, Dairy, Transmission Alignment
USGS Quadrangle: 7.5-minute *Guasti, California* (1981); *Corona North* (1981)



August 18, 2022

MANAGEMENT SUMMARY

BCR Consulting LLC (BCR Consulting) is under contract to Applied Planning to complete a Cultural Resources Assessment of the proposed Rich-Haven Specific Plan Areas of Change Project in the City of Ontario (City), San Bernardino County, California. A cultural resources records search, additional research, intensive-level pedestrian field survey, Native American Heritage Commission (NAHC) Sacred Lands File Search, and vertebrate paleontological resources overview were conducted for the project in partial fulfillment of the California Environmental Quality Act (CEQA). Please note that the current study updates *Historic Architecture Assessment for the Rich Haven Specific Plan* prepared by Michael Dice for the project in 2006. While the original study was deemed adequate in 2006, per CEQA the current effort is necessary to:

- Update the cultural resources records search to ensure that expectations for historic-period and prehistoric resources are accurate;
- Update the field survey to assess potential for significant historic and prehistoric cultural resources due to changing field conditions;
- Update significance evaluations of all cultural resources to determine whether eligibility status has changed since the original study;
- Evaluate any resources that have become historic in age (i.e. 45 or more years old) since the original study took place.

The current study also relies on *The City of Ontario's Historic Context for the New Model Colony Area* by Galvin & Associates (2004) for historical context.

The records search has revealed that 16 previous cultural resource studies have taken place, and five cultural resources have been identified within one half-mile of the project site. Two of the previous studies assessed the project site for cultural resources (only Dice's included significance evaluations), and all five of the resources in the records search radius were identified within the project site boundaries. During the field survey, each of the five resources identified by the records search were recorded and evaluated or updated for California Register of Historical Resources (California Register) listing eligibility (i.e. significance under CEQA). Each of the five resources are recommended not eligible for the California Register. Therefore, no significant impact related to historical resources is anticipated and no further investigations are recommended for the proposed project unless:

- The proposed project is changed to include areas that have not been subject to this cultural resource assessment;
- Cultural materials are encountered during project activities.

The current study attempted to determine whether significant archaeological deposits were present on the proposed project site. Although none were yielded during the records search and field survey, ground-disturbing activities have the potential to reveal buried deposits not observed on the surface. Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a qualified archaeologist should be retained to assess the significance of the find. The qualified archaeologist should have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register or the National Register of Historic Places (National Register), plans for the treatment,

evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- Historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;
- Historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- Prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- Groundstone artifacts, including mortars, pestles, and grinding slabs;
- Dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks;
- Human remains.

Findings were negative during the Sacred Lands File search with the NAHC. The results of the Sacred Lands File search are provided in Appendix C. The State Legislature added requirements regarding tribal cultural resources for CEQA in Assembly Bill 52 (AB 52) that took effect July 1, 2015. AB 52 requires consultation with California Native American tribes and consideration of tribal cultural resources in the CEQA process. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process. To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a Proposed Project. Since the City will initiate and carry out the required AB52 Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff is available to answer questions and address concerns as necessary.

According to CEQA Guidelines, projects subject to CEQA must determine whether the project would “directly or indirectly destroy a unique paleontological resource”. The Paleontological Overview provided in Appendix E has recommended that:

> The geologic unit underlying this project are mapped as young Eolian sand and dune deposits from the Holocene period (Morton and Miller, 2006). Eolian units are considered to be of some preservation value, but any material found is unlikely to be fossil material due to the relatively modern associated dates of the deposits. The Western Science Center does not have any localities within the project area or within a 1 mile radius.
>
> Should excavation activity associated with the development of the project area extend beyond the current project into the surround alluvial units, paleontological resources would be possible. However, under current project parameters, and with the geologic units described, it would be unlikely for fossil material to be preserved.

If human remains are encountered during any project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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A: CULTURAL RESOURCE LOCATIONS AND RECORD SEARCH BIBLIOGRAPHY
B: DEPARTMENT OF PARKS AND RECREATION 523 FORMS
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INTRODUCTION

BCR Consulting LLC (BCR Consulting) is under contract to Applied Planning to complete a Cultural Resources Assessment of the proposed Rich-Haven Specific Plan Areas of Change Project in the City of Ontario (City), San Bernardino County, California. The project occupies approximately 584 acres and is bounded a plant nursery to the west, dairy properties to south, a high school to the east, and residential properties and a preschool to the north. A cultural resources records search, additional research, intensive-level pedestrian field survey, Sacred Lands File search with the Native American Heritage Commission (NAHC), and paleontological overview were conducted for the project in partial fulfillment of the California Environmental Quality Act (CEQA). The project site is located in Sections 12 and 13 of Township 2 South, Range 7 West, San Bernardino Baseline and Meridian. It is depicted on the United States Geological Survey (USGS) *Guasti, California* (1981) and *Corona North* (1981) 7.5-minute topographic quadrangles (Figure 1).

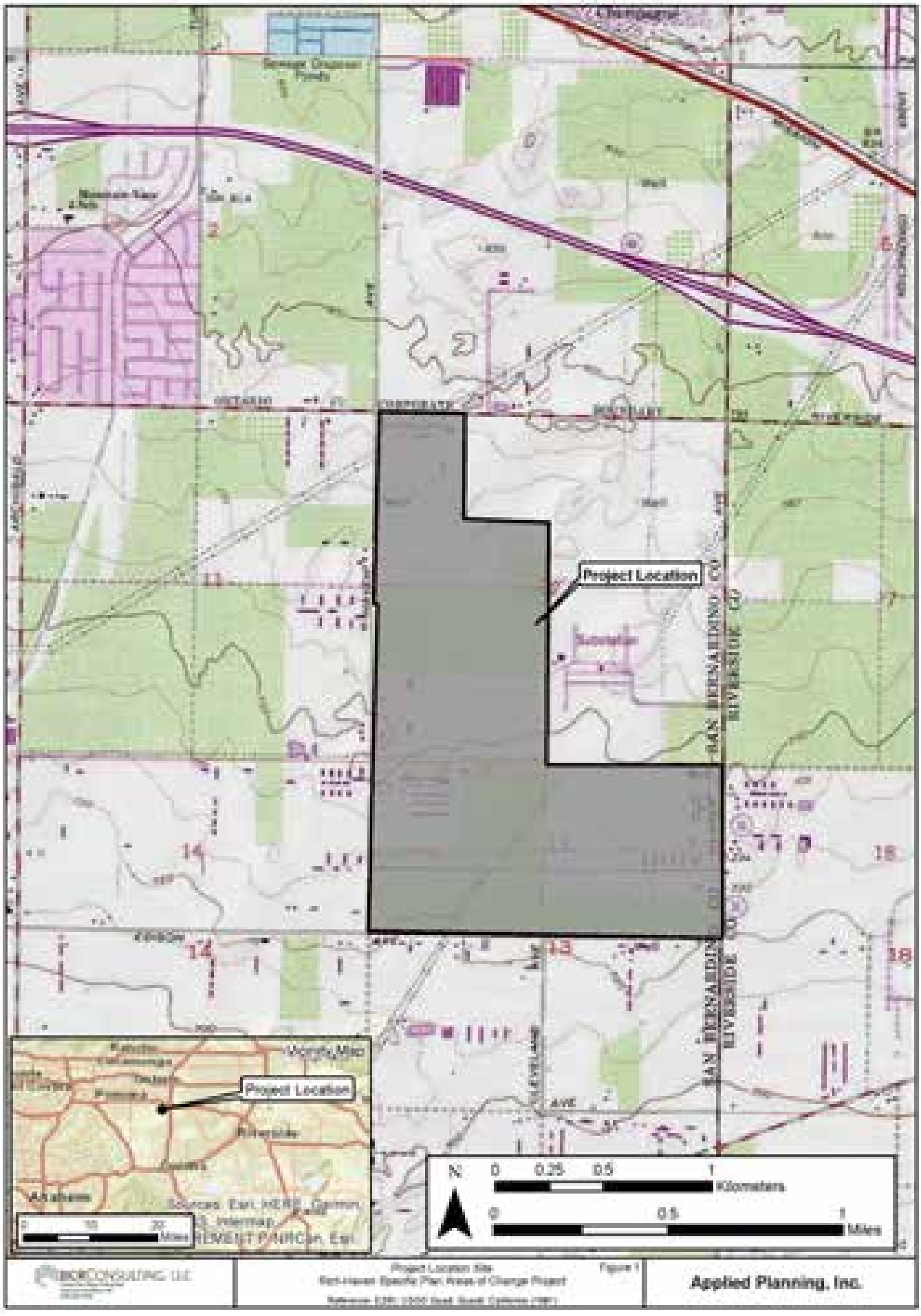
Regulatory Setting

The California Environmental Quality Act. CEQA applies to all discretionary projects undertaken or subject to approval by the state's public agencies (California Code of Regulations 14(3), § 15002(i)). Under CEQA, "A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (Cal. Code Regs. tit. 14(3), § 15064.5(b)). State CEQA Guidelines section 15064.5(a) defines a "historical resource" as a resource that meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources (California Register)
- Listed in a local register of historical resources (as defined at Cal. Public Res. Code § 5020.1(k))
- Identified as significant in a historical resource survey meeting the requirements of § 5024.1(g) of the Cal. Public Res. Code
- Determined to be a historical resource by a project's lead agency (Cal. Code Regs. tit. 14(3), § 15064.5(a))

A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing in the California Register of Historical Resources" (Cal. Code Regs. tit. 14(3), § 15064.5(a)(3)).

The significance of a historical resource is impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for the California Register. If an impact on a historical or archaeological resource is significant, CEQA requires feasible measures to minimize the impact (State CEQA Guidelines § 15126.4 (a)(1)). Mitigation of significant impacts must lessen or eliminate the physical impact that the project will have on the resource.


Project Location
SAN BERNARDINO CO
RIVERSIDE CO
Project Location
N
0
0.25
0.5
1
Kilometers
0
0.5
1
Miles
Applied Planning, Inc.

Section 5024.1 of the Cal. Public Res. Code established the California Register. Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register (Cal. Code Regs. tit. 14(3), § 15064.5(a)(3)). The eligibility criteria for the California Register are similar to those of the National Register of Historic Places (National Register), and a resource that meets one or more of the eligibility criteria of the National Register will be eligible for the California Register. The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under CEQA. Criteria for Designation:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
2. Associated with the lives of persons important to local, California or national history.
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). Fifty years is normally considered sufficient time for a potential historical resource, and in order that the evaluation remain valid for a minimum of five years after the date of this report, all resources older than 45 years (i.e. resources from the "historic-period") will be evaluated for California Register listing eligibility, or CEQA significance. The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

Finally, CEQA requires that significant effects on unique archaeological resources be considered and addressed. CEQA defines a unique archaeological resource as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

CEQA Guidelines Section 15064.5 Appendix G includes significance criteria relative to archaeological and historical resources. These have been utilized as thresholds of significance here, and a project would have a significant environmental impact if it would:

a) cause a substantial adverse change in the significance of a historical resource as defined in section 10564.5;

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 10564.5;

c) Disturb any human remains, including those interred outside of formal cemeteries.

City of Ontario Designation Criteria. In addition to evaluation for California Register listing eligibility, the City of Ontario Development Code Article 26: Historic Preservation (Section 9-1.2615) provides the following designation criteria for a property to qualify as a City Historic Landmark:

a. It exemplifies or reflects special elements of the City's history;

b. It is identified with persons or events significant in local, state, or national history;

c. It is representative of the work of a notable builder, designer, architect, or artist;

d. It embodies distinguishing architectural characteristics of a style, type, period, or method of construction;

e. It is a noteworthy example of the use of indigenous materials or craftsmanship;

f. It embodies elements that represent a significant structural, engineering, or architectural achievement or innovation;

g. It has a unique location, a singular physical characteristic, or is an established and familiar visual feature of a neighborhood, community or the City; or

h. It is one of the few remaining examples in the City, region, state, or nation possessing distinguishing characteristics of an architectural or historical type or specimen.

Cultural resources would be subject to evaluation for the above City Historic Landmark designation criteria.

Tribal Cultural Resources. The Legislature added requirements regarding tribal cultural resources for CEQA in Assembly Bill 52 (AB 52) that took effect July 1, 2015. AB 52 requires consultation with California Native American tribes and consideration of tribal cultural resources in the CEQA process. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process. To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is

traditionally and culturally affiliated with the geographic area of a Proposed Project. Since the City will initiate and carry out the required AB52 Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff are available to answer questions and address comments as necessary.

Paleontological Resources. CEQA provides guidance relative to significant impacts on paleontological resources, indicating that a project would have a significant impact on paleontological resources if it disturbs or destroys a unique paleontological resource or site or unique geologic feature. Section 5097.5 of the California Public Resources Code specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, California Penal Code Section 622.5 sets the penalties for damage or removal of paleontological resources. CEQA documentation prepared for projects would be required to analyze paleontological resources as a condition of the CEQA process to disclose potential impacts. Please note that as of January 2018 paleontological resources are considered in the geological rather than cultural category. Therefore, paleontological resources are not summarized in the body of this report. A paleontological overview completed by the Western Science Center is provided as Appendix E.

NATURAL SETTING

The project is located in the Chino Valley, which is bounded on the west by the San Jose Hills, on the south by the Chino Hills, on the north by the foothills of the San Gabriel Mountains (USGS 1981), and on the east by La Sierra and the Jurupa Mountains. Local rainfall ranges from 5 to 15 inches annually (Jaeger and Smith 1971:36-37). The area containing the project site exhibits a gradual southerly slope, and lies on a flood plain that feeds the Santa Ana River approximately four miles to the south (USGS 1981). The native biology of the region is difficult to reconstruct due to recent and historical agricultural, municipal, and industrial impacts. However, the project site is situated in the Upper Sonoran Life Zone, which is locally present between approximately 500 and 5,000 feet AMSL. This zone typically comprises cismontane valleys and low mountain slopes dominated by mixed coastal sage scrub and chaparral vegetation communities (Williams 2008).

CULTURAL SETTING

Prehistoric Context

The project site is located within the traditional boundaries of the Gabrielino (Bean and Smith 1978; Kroeber 1925). The Gabrielino probably first encountered Europeans when Spanish explorers reached California's southern coast during the 15th and 16th centuries (Bean and Smith 1978; Kroeber 1925). The first documented encounter, however, occurred in 1769 when Gaspar de Portola's expedition crossed Gabrielino territory (Bean and Smith 1978). Other brief encounters took place over the years and are documented in McCawley 1996 (citing numerous sources). The Gabrielino name has been attributed by association with the Spanish mission of San Gabriel, and refers to a subset of people sharing speech and customs with other Cupan speakers (such as the Juaneño/Luiseño/Ajachemem) from the greater Takic branch of the Uto-Aztecan language family (Bean and Smith 1978). Gabrielino villages occupied the watersheds of various rivers (locally including the Santa Ana) and intermittent streams. Chiefs were usually descended through the male line and

often administered several villages. Gabrielino society was somewhat stratified and is thought to have contained three hierarchically ordered social classes which dictated ownership rights and social status and obligations (Bean and Smith 1978:540-546). Plants utilized for food were heavily relied upon and included acorn-producing oaks, as well as seed-producing grasses and sage. Animal protein was commonly derived from rabbits and deer in inland regions, while coastal populations supplemented their diets with fish, shellfish, and marine mammals (Boscana 1933, Heizer 1968, Johnston 1962, McCawley 1996). Dog, coyote, bear, tree squirrel, pigeon, dove, mud hen, eagle, buzzard, raven, lizards, frogs, and turtles were specifically not utilized as a food source (Kroeber 1925:652).

History

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Period. The first European to pass through the area is thought to be a Spaniard called Father Francisco Garces. Having become familiar with the area, Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena (Beck and Haase 1974). Garces was followed by Alta California Governor Pedro Fages, who briefly explored the region in 1772. Searching for San Diego Presidio deserters, Fages had traveled through Riverside to San Bernardino, crossed over the mountains into the Mojave Desert, and then journeyed westward to the San Joaquin Valley (Beck and Haase 1974).

Mexican Period. In 1821, Mexico overthrew Spanish rule and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings, and released their neophytes (Beattie and Beattie 1974).

American Period. The American Period, 1848–Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought further diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that continue to this day (Beattie and Beattie 1974; Cleland 1941).

Ontario. Ontario, California was founded as a township in September 1882 by George and William B. Chaffey, named after their home of Ontario, Canada. The brothers purchased 6,218 acres of land with water rights and set aside 640 acres for the community of Ontario.

Half of the initial 640 acres was deeded to the Chaffey Agricultural College as an endowment. On December 10, 1891, Ontario was incorporated as a city under the California Constitution with a City Council-City Manager form of government. In 1903, Ontario was proclaimed a "Model Irrigation Colony" by an Act of Congress. Ontario had many modern innovations, many of which still show their value today. An impressive two-hundred feet wide and eight miles long, Euclid Avenue (on the National Register) was the stately back-bone of the colony. Provisions for an electric railway, water rights for each landowner, a local educational institution, electric lights, one of the first long distance telephone lines, and public access to water and transportation set a new standard for rural communities and irrigation practices and ensured the success of the Model Colony. Water originating from the nearby San Gabriel Mountains was readily available. In addition to accessible water, climate conditions in Ontario were similar to those in the Mediterranean with dry, hot summers and cool, moist winters as regular occurrences. Ontario first developed as an agricultural community, largely, but not exclusively, devoted to the citrus industry. In addition to oranges, the production of peaches, walnuts, lemons, olives and grapes were also important to the growth of Ontario and neighboring cities (City of Ontario; Galvin & Associates 2004:7).

In 1923, airplane enthusiasts Waldo Waterman and Archie Mitchell established Latimer Field. From that point on, Ontario became an aviation town. Urban growth pushed the fliers east until they took up their permanent residence located at the Ontario World Airport. During WWII, this airport was a busy training facility for pilots. After WWII, construction boomed in Ontario as the city's growth more than doubled by the end of the 1950s. In 1954, four new schools were built, with land for three more being purchased. That same year, the Interstate 10 opened for public use, diminishing or altering commercial traffic through Ontario. The downtown area found competition in neighborhood shopping centers that featured large parking lots and national brand chain stores (Rounds 1999:125-126). As the citrus industry declined, large tracts of orange groves gave way to new housing for settlers to the region. Following the 1960s and 1970s, the city's population had grown from 46,617 to 87,300 residents as Ontario expanded its boundaries eastward to encompass Guasti and the large tracts of vineyards beyond it (Rounds 1999:130). Ontario has become a diversified community with approximately 173,000 residents in 2015. Although the City boundaries have been extended from 0.38 square miles in 1891 to almost 50 square miles today, Ontario's Historic Downtown still retains the original subdivision pattern established by the Chaffey brothers (City of Ontario 2018).

Local Dairies. Dairies within the Chino Valley followed three distinct phases: Free grazing of cattle (1900-1930), mechanization of milking (1931-1949), and scientific, large capacity dairies (Post-1950). The first phase from 1900 to 1930, was marked by the free grazing of cattle with dairies that were situated around the perimeter of population centers to service those areas. The second phase of dairies was spurred by the growing population and saw the transition from free grazing to dry-lot dairying that utilized mechanization in the milking process. Due to a combination of labor shortage caused by World War II and subsequent population increase throughout the 1950's and 60's, dairies were forced to move onto smaller plots of land and utilize machinery. Technological advancements allowed for feeding and breeding techniques that produced larger herds which could be handled more efficiently by mechanization (Galvin and Associates 2004). The dairy industry in the Chino Valley had its peak in production during the 1980's, but as residential needs collided with agricultural land uses developers began to buy up the dairy properties and convert the land to residential subdivisions and other

commercial and industrial uses (Allen 2018; see also Dice 2006 and Galvin & Associates 2004).

PERSONNEL

David Brunzell, M.A., RPA acted as the Project Manager and Principal Investigator for the current study. Mr. Brunzell meets the United States Secretary of the Interior Professional Qualification Standards for Archaeology and Architectural History. Mr. Brunzell completed the Department of Park and Recreation (DPR) 523 forms and wrote the technical report with contributions from BCR Consulting Staff Archaeologist Timothy Blood, M.S. BCR Consulting Archaeological Crew Chief Nick Shepetuk, B.A. and Archaeological Field Technicians John Defachelle, B.A. and Fabian Reyes-Martinez, B.A. conducted the field survey.

METHODS

This work was completed pursuant to CEQA, the Public Resources Code (PRC) Chapter 2.6, Section 21083.2, and California Code of Regulations (CCR) Title 14, Chapter 3, Article 5, Section 15064.5. The work is also completed pursuant to City Development Code Article 26: Historic Preservation. The pedestrian cultural resources survey was intended to locate and document previously recorded or new cultural resources, including archaeological sites, features, isolates, and historic-period buildings, that exceed 45 years in age within defined project boundaries. The project site was examined using 15-meter transect intervals, where accessible. This study is intended to determine whether cultural resources are located within the project boundaries, whether any cultural resources are significant pursuant to the above-referenced regulations and standards, and to develop specific mitigation measures that will address potential impacts to existing or potential resources. Tasks pursued to achieve that end include:

- Cultural resources records search to review the results of any studies conducted within a half-mile radius of the project boundaries;
- Additional research through various local and regional resources;
- Systematic pedestrian survey of the entire accessible project site;
- California Register eligibility evaluation for resources identified;
- Development of recommendations and mitigation measures for cultural resources documented within the project boundaries, following CEQA;
- Completion of DPR 523 forms for any discovered cultural resources.

Research

Records Search. On March 10th, 2022 (prior to the field survey) a records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton. This archival research reviewed the status of all recorded historic and prehistoric cultural resources, and survey and excavation reports completed within one half-mile of the project site. Additional resources reviewed included the National Register, the California Register, and documents and inventories published by the California Office of Historic Preservation. These include the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures.

Additional Research. BCR Consulting performed additional research through City of Ontario permit records, the Robert E. Ellingwood Model Colony History Room of the Ontario Library, the San Bernardino County Historical Archives, and through various internet resources.

Field Survey

An intensive-level cultural resources field survey of the project site was conducted on February 25 and 28, and June 13, 2022. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across the accessible project site. Inaccessible areas such as fenced yards, building interiors, and livestock enclosures and feeding areas were not subject to systematic survey. Cultural Resources were recorded on DPR 523 forms. Digital photographs were taken at various points within the project site. These included overviews as well as detail photographs of all cultural resources. Cultural resources were recorded per the California OHP *Instructions for Recording Historical Resources* in the field using:

- Detailed note taking for entry on DPR Forms (see Appendix B)
- Hand-held Garmin Global Positioning systems for mapping purposes
- Digital photographic overviews and photographs of all cultural resources (see Appendix B and D).

RESULTS

Research

Records Search. Data from the SCCIC revealed that 16 previous cultural resources studies have taken place, and five cultural resources have been recorded within one half-mile of the project site. One of the previous studies from the record search and another provided by Applied Planning (Dice 2006) have assessed the project site for cultural resources revealing that five cultural resources have been previously recorded within its boundaries. The records search results are summarized in Table A, and a cultural resources location figure and complete records search bibliography are provided in Appendix A.

Table A. Cultural Resources and Reports Within One Half-Mile of the Project Site

USGS 7.5 Min Quad	Cultural Resources Within One Half-Mile of Project Site	Studies W/in One Half-Mile
Guasti (1981), *Corona North* (1981)	P-36-12621: Hist.-Period Residence (NW Corner of project) P-36-12622: Hist.-Period Residence (S Portion of Project) P-36-12623: Hist.-Period Residence (SE Corner of Project) P-36-25440-Hist.-Period Transmission Line (Central Project) P-36-26051-Hist.-Period Transmission Line (SE corner of Project)	SB-1029, 1358, 1499, 2162, 4134, 4677, 5701, 5976, 6095, 6818, 7655, 7756, 7956, 7968*, 7977; Dice 2006*

*Previously assessed a portion of the project site. SB-7968 did not include evaluations and has not been used as heavily the comprehensive study completed by Dice (2006).

Additional Research. Additional research was performed for the project site to provide the background for the historic-period cultural properties within its boundaries (see also Field Survey Results, below). Please note that figures for this section are provided in Appendix B.

P-36-12621. This property occupies the northwest corner of the project site. It was originally developed as a dairy farm complex between 1956-57 with a residence that was followed by the construction of two barns (Dice 2006). The property was purchased by dairy farmers Frank and Lois Hilarides in 1976 when another residence was built on the parcel and dairy production was expanded. Frank and Lois had operated a dairy farm in Cerritos since soon after their engagement in 1952. Population increases made dairy farming difficult in L.A. county which prompted the Hilarides to relocate the Chino Valley (Long Beach Press-Telegram 1952; Independent Press Telegram 1976). They built the 1976 residence on the property and Frank subsequently won awards for milk quality and was a member of the California Milk Advisory board (Chino Champion 1978; Chino Valley News 1980). Assessor records indicate that Frank and Lois remained at the property until selling in 1998.

P-36-12622. This property is located in the southwest corner of the project site. Lester J. Scritsmier developed the 38.99-acre plot of land in 1947 as a hog farm for the Standard Feeding Company. Three single-family residences were built and most likely used to house workers. The dominant industry at the time in the City of Ontario was citrus which makes it probable that this was the first hog ranch in the area. Scritsmier held onto the land until his death in 1985, after which it was sold by his wife, Sandra Scritsmier, in 2005 (Dice 2006). The property continued as a hog ranch until its demolition between 2006 and 2022.

P-36-12623. This property is located in the southeast corner of the project site. The buildings were constructed on a narrow 3.08-acre property in 1953. The adjacent 18.2 acre parcel likely comprised the dairy operation formerly connected with this property. Documentation indicates that John and Wilma Dykstra owned the property, and that it comprised a portion of the Dykstra Brothers Dairy. John died in 1994 although the dairy continued to operate. In 2003 it was sold to Ronald and Kristine Pietersma and the Bidardt family (Dice 2006).

P-36-25440. This resource is a segment of an east-west oriented approximately 12-mile 220kV electrical transmission alignment that crosses the southern portion of the project site. The alignment connects SCE Chino and Mira Loma Substations. It was originally built in 1937 as a parallel two-line single circuit but had several towers replaced in 1940. Insulators were replaced and other maintenance was performed on the greater alignment in 1953 (Tinsley Becker 2010). Topographic maps and aerial photos do not show the subject segment on the project site prior to 1981. It appears next to a second modern alignment between 1981 and 1985 (USGS 1981; United States Department of Agriculture 1985).

P-36-26051. This resource is a segment of the Hayfield-Chino 220kV electrical transmission alignment that crosses the southeast corner of the project site. The greater alignment was constructed between 1945 and 1946 as a three-phase single circuit line between Chino and east of Coachella. As substations were added, segments of the transmission line were renamed to match the names of their substations (Tinsley Becker 2014). One tower from this alignment is located in the subject segment. It is visible on aerials after 1959 and as such does not appear to be original (United States Department of Agriculture 1959, 1966). According to recent documentation, the original transmission line had been completely removed and replaced by modern transmission lines by 2014 (Tinsley Becker 2014).

Field Survey

BCR Consulting Archaeological Crew Chief Nick Shepetuk, B.A. and Staff Archaeologist Johnny Defachelle, B.A. completed the field survey on February 25 and 28 and June 13, 2022. The project site has been completely disturbed by modern residential developments, historic-period and modern dairy and agricultural developments, and by the installation of public utility alignments. Vegetation included seasonal grasses and ornamental plants. Average visibility was approximately 50 percent and sediment comprised sandy silt with very few rocks. Each of the five previously-recorded cultural resources identified during the records search were revisited during the field survey. These are described in detail below. No additional cultural resources were identified.

P-36-12621. This resource includes a parcel comprising one single-family residence built circa 1957 and two hay shelters and a detached garage built after 1980. The residence was built in the Minimal Traditional style and features a moderately pitched hipped roof, smooth stucco cladding and horizontal wood board siding below the façade windows, decorative wood shutters flanking a façade window, narrow rectangular wood vent below the façade gable pitch and porch supports with decorative brackets. The building windows, doors, roof, and possibly the wood porch supports on the north elevation have been replaced (Dice 2006:8). One building that occupies the project site was constructed in 1976. In 2006 the building was not old enough to be a potential historical resource because it was not yet 45 or more years old (i.e. historic in age). Since it is now over 45 years old, it warrants recordation and evaluation as a potential historical resource. It comprises a 1976 single-family residence that features a rectangular layout and a stucco finish. The house has two steep pitched front-gabled elevations, a cross-gabled second story with roof dormers featuring side walls and two single-hung windows flanked by decorative shutters on the north elevation, and a gabled inset dormer on the south elevation. Composite shingles cover the roof which features wide eaves that are boxed without brackets. Most of the windows on the front elevation are also single-hung modern windows with decorative shutters, but there is a bay window that is flanked by two single-hung windows to the left of the main entrance. A shallow porch supported by unelaborated square columns makes up the front entrance to the building which is accessed through a wood-paneled double-door. The porch exhibits a decorative brick façade. The building has an attached three-car garage, and a brick chimney sits near the center of the building. It has been re-roofed and the windows do not appear to be original.

P-36-12622. This resource comprised 12 buildings and structures, and 27 animal pens/barns/shelters (Dice 2006:9). It included three single-family residences that were built circa 1947 in the Minimal Traditional Style, two garages and two prefabricated buildings that were also built in 1947, and several ancillary structures for animal feed and storage (Dice 2006). All buildings and structures have been demolished and the property is occupied by new condominiums.

P-36-12623. Ben Taniguchi and Rebecca Smith recorded P-36-012623 in 2006 as four buildings constructed in 1953 that comprised part of a dairy (Dice 2006). Building A was originally described in 2006 as a vernacular style barn built in 1953 that sat on a concrete foundation with a single-story, timber frame. It had one bay on its principal façade with the main entrance consisting of a large wood sliding door on the east elevation. The building

featured a front gable roof with composition shingles that was moderately pitched. There were also four stalls located on the south elevation that were most likely used for hay storage. Building A was revisited by BCR Consulting on June 13, 2022 and it was in poor condition with the roof caved in and the walls slumped.

Building B was originally described in 2006 as a vernacular style barn built in 1953 that featured a timber framed, one-story, modified box plan with a side gable addition. The building featured a moderately-pitched, double front gabled roof with a side-gable addition constructed at an unknown date. The building was in fair condition, but had a side-gabled addition to the west elevation. BCR Consulting revisited the barn on June 13, 2022 and discovered that the side gable addition was the only part intact. The main barn was in poor condition with a roof that had caved in and walls that had slumped.

Building C was originally recorded in 2006 as a residence constructed in the Minimal Traditional style. It featured an L-shaped plan with an asymmetrical principal façade that has five bays. The building is covered by a moderately-pitched, hipped roof covered with composition shingles. The building is clad in stucco. The majority of the windows are wood sash double-hung type. The building exhibited no visible alterations and was in good condition. When BCR Consulting revisited the building on June 13, 2022, the building was in good condition and had undergone minimal alterations since 2006.

Building D was originally recorded in 2006 as a Minimal Traditional style, single-family residence built in 1953. It featured a single story and rectangular plan with an attached garage. It had an exterior of smooth stucco and moderately-pitched, side gable roof that consisted of composite shingles. There were four windows on the primary façade that are square wood sash fixed windows. Two of the windows were flanked by decorative wood shutters. The windows and doors had been replaced, and the building was in good condition. When BCR Consulting revisited the building on June 13, 2022, it was in good condition and had undergone minimal alterations since 2006.

P-36-25440. This resource was originally recorded as an approximate 12-mile 220kV electrical transmission line that connects the SCE Chino and Mira Loma substations (Tinsley Becker 2010). The segment within the project site comprises five 90-foot tall double-circuit lattice steel towers with four legs resting on simple concrete footings. The towers appear to be modern, which is consistent with the aerial photo review that indicates a 1981-1985 construction date (USGS 1981, United States Department of Agriculture 1985).

P-36-26051. This resource was originally recorded as the Hayfield-Chino 220kV Transmission Alignment that was constructed between 1945 and 1946. It runs between Colton at the Highgrove substation (renamed Vista) and ends in Chino at the SCE Chino Substation. One tower from this segment was identified within the project site. Although aerial photos show a tower in that location between 1959 and 1966, recent documentation indicates that the original transmission line had been completely removed and replaced by modern transmission lines by 2014 (Tinsley Becker 2014).

SIGNIFICANCE EVALUATIONS

During the field survey, three historic-period residential/agricultural properties and two historic-period transmission lines were identified. CEQA calls for the evaluation and recordation of historic and archaeological resources. The criteria for determining the significance of impacts to cultural resources are based on Section 15064.5 of the *CEQA Guidelines* and Guidelines for the Nomination of Properties to the California Register. Properties eligible for listing in the California Register and subject to review under CEQA are those meeting the criteria for listing in the California Register, or designation under a local ordinance. One of the residential/agricultural properties (designated P-36-12622) was identified during the records search, but it is excluded from evaluation because it has been demolished and replaced by modern condominiums. Also, while the electric transmission alignment designated P-36-25540 appeared in the records search, additional research has shown that the segment that crosses the project site is not historic in age. Since the segment is not historic in age, it does not warrant further consideration as a potential historical resource for the current study.

Significance Criteria

California Register of Historical Resources. The California Register criteria are based on National Register criteria. For a property to be eligible for inclusion on the California Register or as a City Landmark, one or more of the following criteria must be met:

1. It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S.;
2. It is associated with the lives of persons important to local, California, or U.S. history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, possesses high artistic values; and/or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

City of Ontario Designation Criteria. In addition to evaluation for California Register listing eligibility, the City of Ontario Development Code Article 26: Historic Preservation (Section 9-1.2615) provides the following designation criteria for a property to qualify as a City Historic Landmark:

a. It exemplifies or reflects special elements of the City's history;
b. It is identified with persons or events significant in local, state, or national history;
c. It is representative of the work of a notable builder, designer, architect, or artist;

d. It embodies distinguishing architectural characteristics of a style, type, period, or method of construction;

e. It is a noteworthy example of the use of indigenous materials or craftsmanship;

f. It embodies elements that represent a significant structural, engineering, or architectural achievement or innovation;

g. It has a unique location, a singular physical characteristic, or is an established and familiar visual feature of a neighborhood, community or the City; or

h. It is one of the few remaining examples in the City, region, state, or nation possessing distinguishing characteristics of an architectural or historical type or specimen.

Evaluations

P-36-12621 California Register Evaluation. Although the subject property fits within a local dairy context of the second half of the 20th century, considerable research has failed to associate it with important events related to the founding and/or development of the industry. It is therefore not eligible for the California Register under Criterion 1. Criterion 2: Due to a lack of documentation, it was not possible to ascertain who was the original owner of the building when it was constructed between 1956 and 1957. Research has shown that Frank and Lois Hilarides purchased the property and constructed a residence there in 1976. While Frank Hilarides was an award-winning dairyman who sat on the California Milk Advisory Board, research did not indicate that he had any particular impact on the progression of the dairy industry, nor was he notable in local, state, or national history. It is therefore not eligible for the California Register under Criterion 2. Criterion 3: One residence was built in the Minimal Traditional style and still maintains some of those elements such as a moderately pitched hipped roof, smooth stucco cladding with horizontal wood board siding below façade windows, decorative wood shutters flanking a façade window, a narrow rectangular wood vent below a façade gable pitch and porch supports with decorative brackets. However, there have been alterations to the building that include replacement of windows, doors, roof shingles and possibly the wood porch supports of the north elevation. These alterations have diminished its integrity as an example of the Minimal Traditional style. Also, the builder and architect are unknown and it does not appear to be the work of a master. With these considerations in mind, the 1956-1957 building does not appear to qualify for the California Register under Criterion 3 (see also Dice 2006:29). The 1976 residence remains in good condition, but it does not embody distinctive characteristics of a type, period, region, or method of construction, and does not represent the work of a master, or possess high artistic values. With these considerations in mind, the 1976 building does not appear to qualify for the California Register under Criterion 3. Criterion 4: Extensive research has exhausted this resources data potential, and as such the resource has not and is not likely to yield information important in prehistory or history. The subject property and its constituent historic-age buildings are therefore recommended not eligible under any of the four criteria for listing on the California Register, and as such the property is not recommended a historical resource under CEQA.

P-36-12621 City Historic Landmark Evaluation. While the property is a part of the dairy industry that developed in the mid to late 20th century in the Chino Valley, it is not currently

operational as a dairy and does not exemplify or reflect special elements of the City of Ontario (City Designation Criterion A). Research failed to connect any important people or events with the property (City Designation Criterion B). Research has not linked the property with a notable builder, designer, architect, or artist (City Designation Criterion C), and the buildings do not exhibit distinguishing architectural characteristics of a style, type, period, or method of construction (City Designation Criterion D). The property and its constituent buildings utilize common materials and methods that do not demonstrate noteworthy examples of the use of indigenous materials or craftsmanship (City Designation Criterion E). The buildings were not architecturally significant, and the dairy facilities are reflective of common dairy farming strategies that lack any significant structural, engineering, or architectural achievement or innovation (City Designation Criterion F). The property lacks unique characteristics or visual features that would qualify the property under City Designation Criterion G. Although few dairies remain from this era, the property exhibits a mix of styles that lack integrated features or distinguishing characteristics of a particular architectural or historic type or specimen (City Designation Criterion H). Based on the above evaluation, the subject property and its constituent buildings do not qualify as a City Historic Landmark.

P-36-12623 California Register Evaluation. Although the subject property fits within a local dairy context of the second half of the 20th century, considerable research has failed to associate it with important events related to the founding and/or development of the industry. It is therefore not eligible for the California Register under Criterion 1. Criterion 2: Although the Dykstra family who owned the property apparently operated a successful dairy business, research did not indicate that any family members made a significant impact on the dairy industry, nor were any of the family notable in local, state, or national history. It is therefore not eligible for the California Register under Criterion 2. Criterion 3: The two residences were built in the Minimal Traditional style and still maintain some of those elements. However, the buildings are not outstanding representations of the style. Also, the builder(s) and architect(s) are unknown and the residences do not appear to be the work of a master. The barns are utilitarian, lack architectural distinction, and are in poor condition. Finally, the property does not exhibit distinctive characteristics (such as Ranch-style milk parlor and circular driveways) that have been established as hallmarks of post 1950 dairy farms (see Dice 2006:24). Therefore, the property does not appear to qualify for the California Register under Criterion 3. Criterion 4: Extensive research has exhausted this resources data potential, and as such the resource has not and is not likely to yield information important in prehistory or history. The subject property and its constituent historic-age buildings are therefore recommended not eligible under any of the four criteria for listing on the California Register, and as such the property is not recommended a historical resource under CEQA.

P-36-12623 City Historic Landmark Evaluation. While the property is a part of the dairy industry that developed in the mid to late 20th century in the Chino Valley. It does not exemplify or reflect special elements of the City of Ontario (City Designation Criterion A). Research failed to connect any important people or events with the property (City Designation Criterion B). Research has not linked the property with a notable builder, designer, architect, or artist (City Designation Criterion C), and the buildings to not exhibit distinguishing architectural characteristics of a style, type, period, or method of construction

(City Designation Criterion D). The property and its constituent buildings utilize common materials and methods that do not demonstrate noteworthy examples of the use of indigenous materials or craftsmanship (City Designation Criterion E). The buildings were not architecturally significant, and the dairy facilities are reflective of common dairy farming strategies that lack any significant structural, engineering, or architectural achievement or innovation (City Designation Criterion F). The property lacks unique characteristics or visual features that would qualify the property under City Designation Criterion G. Although few dairies remain from this era, the property does not exhibit distinctive characteristics (such as Ranch-style milk parlor and circular driveways) that have been established as hallmarks of post 1950 dairy farms (see Dice 2006:24; (City Designation Criterion H). Based on the above evaluation, the subject property and its constituent buildings do not qualify as a City Historic Landmark.

P-36-26051 California Register Evaluation. Research has not connected the Hayfield-Chino Transmission Line with any important events in local, county, state or national histories and it does not directly connect to any important infrastructure like the “Third Boulder Line” or the Colorado River Aqueduct (see Tinsley Becker 2014). Consequently, the Hayfield-Chino Transmission Line is not eligible under Criterion 1. Research also failed to associate the resource with significant people. It is therefore not eligible under Criterion 2. The resource consists of a common steel lattice tower and as such does not embody the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, or possess high artistic values. As a result, the Hayfield-Chino Transmission Line is not eligible under Criterion 3. Criterion 4: Extensive research has exhausted this resources data potential, and as such the resource has not and is not likely to yield information important in prehistory or history. It is therefore not eligible under Criterion 4. Based on these results, P-36-26051 recommended not eligible under any of the four criteria for listing on the California Register, and as such the property is not recommended a historical resource under CEQA.

P-36-26051 City Historic Landmark Evaluation. The property does not exemplify or reflect special elements of the City of Ontario (City Designation Criterion A). No significant persons or events were associated with the Hayfield-Chino Transmission Line (City Designation Criterion B). Research has not linked the property or any of its elements with a notable builder, designer, architect, or artist (City Designation Criterion C), and it lacks distinguishing architectural characteristics of a style, type, period, or method of construction (City Designation Criterion D). The structure utilizes common materials and methods that do not exhibit a noteworthy example of the use of indigenous materials or craftsmanship (City Designation Criterion E). The architectural features are minimal and utilitarian, and are reflective of common electrical infrastructure of the day that do not point to any significant structural, engineering, or architectural achievement or innovation (City Designation Criterion F). This is a ubiquitous type of resource and as such does not qualify under City Designation G or H.

RECOMMENDATIONS

BCR Consulting conducted a cultural resources assessment of the Rich-Haven Specific Plan Project in the City of Ontario, San Bernardino County, California. Five cultural resources were identified within the project site, but none are recommended eligible for the

California Register or as a City Landmark. Therefore, no significant impact related to historical resources is anticipated and no further investigations are recommended unless:

- The proposed project is changed to include areas that have not been subject to this cultural resource assessment;
- Cultural materials are encountered during project activities.

The current study attempted to determine whether significant archaeological deposits were present on the proposed project site. Although none were yielded during the records search and field survey, ground-disturbing activities have the potential to reveal buried deposits not observed on the surface. Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a qualified archaeologist should be retained to assess the significance of the find. The qualified archaeologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register or the National Register, plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;
- historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- groundstone artifacts, including mortars, pestles, and grinding slabs;
- dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks;
- human remains.

Findings were negative during the Sacred Lands File search with the NAHC. The results of the Sacred Lands File search are provided in Appendix C. The Legislature added requirements regarding tribal cultural resources for CEQA in Assembly Bill 52 (AB 52) that took effect July 1, 2015. AB52 requires consultation with California Native American tribes and consideration of tribal cultural resources in the CEQA process. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process. To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a Proposed Project. Since the City will initiate and carry out the required AB52 Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff is available to answer questions and address concerns as necessary.

According to CEQA Guidelines, projects subject to CEQA must determine whether the project would "directly or indirectly destroy a unique paleontological resource". The Paleontological Overview provided in Appendix E has recommended that:

> The geologic unit underlying this project are mapped as young Eolian sand and dune deposits from the Holocene period (Morton and Miller, 2006). Eolian units are considered to be of some preservation value, but any material found is unlikely to be fossil material due to the relatively modern associated dates of the deposits. The Western Science Center does not have any localities within the project area or within a 1 mile radius.
>
> Should excavation activity associated with the development of the project area extend beyond the current project into the surround alluvial units, paleontological resources would be possible. However, under current project parameters, and with the geologic units described, it would be unlikely for fossil material to be preserved.

If human remains are encountered during any project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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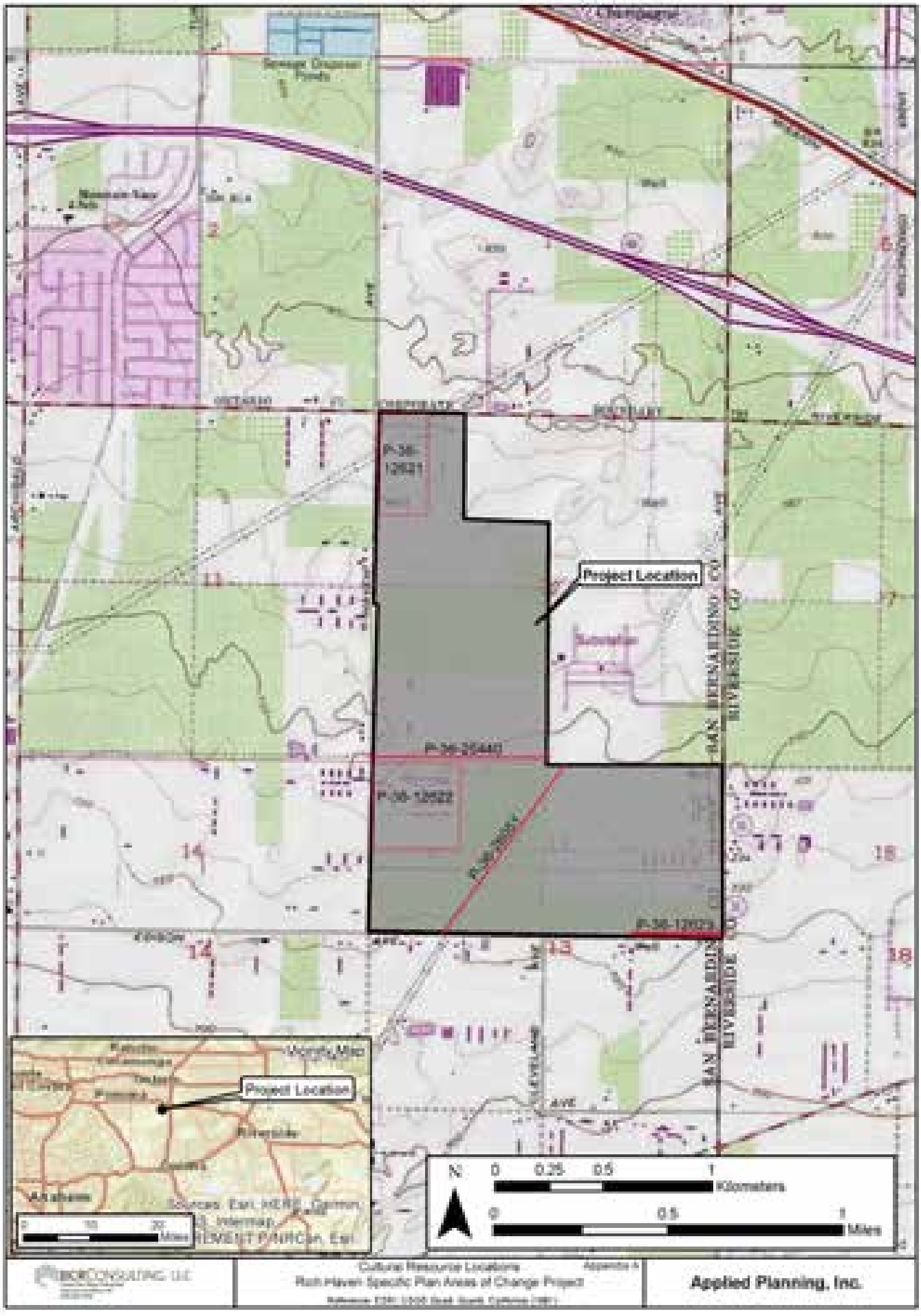
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APPENDIX A

CULTURAL RESOURCE LOCATIONS AND RECORD SEARCH BIBLIOGRAPHY



Cultural Resource Locations
Rich Haven Specific Plan Areas of Change Project
Appendix A

Applied Planning, Inc.

Report List

APP2201

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SB-01029	NADB-R - 1061029; Voided - 80-9.15	1980	FOSTER, JOHN M. and ROBERTA S. GREENWOOD	CULTURAL RESOURCE OVERVIEW FOR THE SERRANO SUBSTATION TO MIRA LOMA SUBSTATION TRANSMISSION ROUTE ALTERNATIVE CORRIDOR RIGHT-OF-WAY	GREENWOOD AND ASSOCIATES	36-000270, 36-000897, 36-000898, 36-000899, 36-000900, 36-000902, 36-001543, 36-001570, 36-001608, 36-002067, 36-002068, 36-002259, 36-002260, 36-002317, 36-003023, 36-003690, 36-004032, 36-060002
SB-01358	NADB-R - 1061358; Voided - 83-2.6	1983	MACKO, MICHAEL E., EDWARD B. WEIL, JILL WEISBORD, and JOHN COOPER	FINAL REPORT: MIRA LOMA-SERRANO 500 KV DC AND SERRANO-VILLA PARK 220 KV TRANSMISSION LINE PROJECT	APPLIED CONSERVATION TECHNOLOGY, INC.	36-003690, 36-004032, 36-005096, 36-005097, 36-006030
SB-01499	NADB-R - 1061499; Voided - 85-7.4A-B	1985	FOSTER, JOHN M. and ROBERTA S. GREENWOOD	CULTURAL RESOURCES OVERVIEW: CALIFORNIA PORTION, PROPOSED PACIFIC TEXAS PIPELINE PROJECT	GREENWOOD AND ASSOCIATES	
SB-02162	NADB-R - 1062162; Voided - 79-3.12	1979	BEAN, LOWELL JOHN and SYLVIA BRAKKE VANE	CULTURAL RESOURCES AND THE DEVERS-MIRA LOMA 500 KV TRANSMISSION LINE ROUTE (VALLEY TO MIRA LOMA SECTION) A STUDY OF THE PALEONTOLOGY, HISTORY AND ARCHAEOLOGY OF THE VICINITY OF THE LINE	CULTURAL SYSTEMS RESEARCH, INC.	
SB-04134	NADB-R - 1064134	2003	FULTON, PHIL	CULTURAL RESOURCES SURVEY OF 71.5 ACRES, PINHEIRO PROPERTY PROJECT, CITY OF ONTARIO, SAN BERNARDINO COUNTY, CA. 19PP	LSA	
SB-04677	NADB-R - 1064677	2005	SCOTT, KIM and SHERRI GUST	NATIONAL ARCHAEOLOGICAL DATABASE (NADB) INFORMATION SHEET, ARCHAEOLOGICAL AND PALEONTOLOGICAL RESOURCE ASSESSMENT REPORT FOR THE RICH HAVEN PROJECT, ONTARIO, CALIFORNIA		
SB-05701	NADB-R - 1065701; Paleo -	2006	Wetherbee, Matthew and Sarah Siren	A Phase I Cultural Resources Inventory and a Paleontological Assessment for the 111-Acre Avenue Specific Plan Project, City of Ontario, San Bernardino County, California.	Stantec Consulting Inc.	
SB-05976	NADB-R - 1065976	2007	Wetherbee, Matthew, Sarah Siren and Gavin Archer	Cultural Resource Assessment New Model Colony East Backbone Infrastructure, City of Ontario, San Bernardino County, California.	Stantec	36-012533
SB-06095	NADB-R - 1066095	2009	Applied Earthworks	Confidential Cultural Resources Specialist Report for the Tehachapi Renewal Transmission Project.	Applied Earthworks	36-003690, 36-019845, 36-019846, 36-019847, 36-019848

Report List

APP2201

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SB-06818	NADB-R - 1066818	2010	Tang, Bai “Tom”, Deirdre Encarnacion, Daniel Ballester, and Laura H. Shaker	Identification and Evaluation of Historic Properties: Chino Desalter Phase 3 Expansion Project, Riverside and San Bernardino Counties, California.	CRM TECH	
SB-07655	NADB-R - 1067655	2012	Hoffman, Robin, Timothy Yates, and Karen Crawford	Cultural Resources Inventory Report for the Proposed City Substation and Mira Loma-Jefferson Subtransmission Line Project, Riverside and San Bernardino Counties, California.	ICF International	
SB-07756	NADB-R - 1067756	2014	Tang, Bai "Tom"	Update to Historical/Archaeological Resources Survey: Chino Desalter Phase 3 Expansion Project, Riverside and San Bernardino Counties, California.	CRM Tech	
SB-07956		2007	Doolittle, Christopher J.	Archaeological Survey report for Southern California Edison's G.O. 131-D Assessment of the Chino A-Bank System and System Split Project San Bernadino County, California	Eath Tech, Inc.	
SB-07968		2011	Holm, Lisa and John Holson	Supplemental Archaeological Survey Report: Tehachapi Renewable Transmission Project Segement 8 East (Phases 2 and 3) and West (Phase 4), Los Angeles and San Bernardino Counties, California	Pacific Legacy, Inc.	36-012533, 36-012621, 36-012622
SB-07977		2010	Panich, Lee, Tsim D. Schneider, and John Holson	Supplemental Archaeological Survey Report: Tehachapi Renewable Transmission Project Segment 8 East (Phases 2 and 3), San Bernardino County California	Pacific Legacy, Inc.	36-013330, 36-013636

Resource List

APP2201

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-36-008857	CA-SBR-008857H	Resource Name - So. Sierras Power Line; Resource Name - Lytle Canyon Transmission Lines; PSBR-37H; SRI-1607 (Update)	Site	Historic	HP16	1986 (John F. Elliott, ECOS); 1997 (Philip de Barros and Joel Paulson, Professional Archaeological Services); 2010 (J. Coleman, Solano Archaeological Services); 2011 (Joshua TramPier, SRI); 2016 (Audry Williams, SCE)	SB-03418, SB-03530, SB-07960
P-36-012621		Resource Name - 10513 East Riverside Drive, Ontario; 13191 South Haven Ave	Building, Structure	Historic	HP02; HP04; HP33	2006 (TANIGUCHI+SMITH, Galvin Preservation Associates Inc)	SB-07968
P-36-012622		Resource Name - 13751 Haven Ave, Ontario; Standard Feeding Co.	Building, Structure	Historic	HP02; HP04; HP33	2006 (TANIGUCHI+SMITH, Galvin Preservation Associates Inc)	SB-07968
P-36-025440		Resource Name - Chino-Mira Loma No. 1 Transmission Line	Structure	Historic	HP11	2010 (Wendy Tinsley Becker, Urbana Preservation & Planning)	SB-06037
P-36-026051		Resource Name - Devers-San Bernardino 220kV; Other - P-33-015035; Resource Name - SCE Hayfield-Chino 220kV Transmission Line; Other - Julian Hinds-Mirage 220kV, Devers-Mirage 220 kV, Devers-San Bernardino No. 1 220kV; Other - Mira Loma-Vista 220 kV, and Chino Mira Loma No. 3 220 kV Transmission Lines; Voided - 36-027693	Structure	Historic	HP11	2012 (Davidson, et al., LSA Associates, Inc.); 2013 (Wendy Tinsley/Steven Treffers, Urbana Preservation/SWCA); 2014 (Daniel Ballester, CRM Tech); 2018 (Robert Cunningham, ECORP); 2019 (Riordan Goodwin, LSA)	SB-07946, SB-07955, SB-08426

APPENDIX B

DEPARTMENT OF PARKS AND RECREATIONS 523 FORMS

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PRIMARY RECORD**	**Primary #** P-36-12621 **HRI #** **Trinomial** **NRHP Status Code** 6Z
Other Listings **Review Code**	**Reviewer** **Date**

 ***Resource Name or #:** 10601 E. Riverside Drive

Please note: The subject residence at 10601 East Riverside Drive is part of a larger historic-period agricultural complex designated P-36-12621 in 2006 (Dice 2006). This effort documents the building that was constructed at this property in 1976. It was not thoroughly addressed in 2006 because it was not yet historic in age (45 or more years old). It is now old enough to warrant consideration as a potential historical resource. The 1976 building is documented on pages 1 and 2; the evaluation for the entire property is updated on page 3; and an updated record of the portions of the property that do not include the 1976 residence is provided on page 4.

P1. Other Identifier: N/A

***P2. Location:** ☐ **Not for Publication** ☑ **Unrestricted**

***a. County:** San Bernardino

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Guasti, CA **Date:** 1981 **T**2S; **R**7W; Section 12

c. Address: 10601 E. Riverside Drive City: Ontario Zip: 91761

d. UTM: Zone: 11S; 446967 mE/ 3764311 mN Elevation: 800' AMSL

e. Other Locational Data: Southeast of the intersection of Riverside Drive and Haven Avenue. APN: 021816104.

***P3a. Description:** The subject property is occupied by a 1976 single-family residence that features a rectangular layout and a stucco finish. The house has two steep pitched front-gabled elevations, a cross-gabled second story with roof dormers featuring side walls and two single-hung windows flanked by decorative shutters on the north elevation, and a gabled inset dormer on the south elevation. Composite shingles cover the roof which features wide eaves that are boxed without brackets. Most of the windows on the front elevation are also single-hung modern windows with decorative shutters, but there is a bay window that is flanked by two single-hung windows to the left of the main entrance. A shallow porch supported by unelaborated square columns makes up the front entrance to the building which is accessed through a wood-paneled double-door. The porch exhibits a decorative brick façade. The building has an attached three-car garage, and a brick chimney sits near the center of the building. It has been re-roofed and the windows do not appear to be original.

***P3b. Resource Attributes:** Single-Family Residential

P5a. Photo or Drawing **(**Photo required for buildings, structures, and objects.)



***P4. Resources Present:**
☑ Building ☐Structure
☐Object ☐Site ☐District
☐Element of District ☐Other

P5b. Description of Photo: (View, date, accession #)
Photo 1: View SW.

***P6. Date Constructed/ Age and Sources:** ☑Historic
CA 1976 (see BSO, page 2).
☐ Prehistoric ☐ Both

***P7. Owner and Address:**
American Superior Land, LLC.
3161 Michelson Dr., St. 425,
Irvine, CA 92612

***P8. Recorded by:**
N. Shepetuk
BCR Consulting LLC
Claremont, California 91711

***P9. Date:** 6/13/2022

***P10. Survey Type:**
Intensive.

***P11. Report Citation:** *Cultural Resources Assessment Rich-Haven Specific Plan Areas of Change Project, City of Ontario, San Bernardino County, California*

***Attachments:** ☐NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☑Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

 ***NRHP Status Code**: 6Z ***Resource Name or #** (Assigned by recorder) 10601 E. Riverside Dr.

B1. Historic Name: N/A
B2. Common Name: N/A
B3. Original Use: Single-Family Residence
B4. Present Use: Single-Family Residence

***B5. Architectural Style:** Custom

***B6. Construction History:** The subject property was constructed in 1976. Aerial imagery shows that the building footprint has remained the same with no additions. A building permit search through the city of Ontario showed no evidence of any alterations or additions. The Property Information Management System for San Bernardino County only showed Frank and his wife Lois Hilarides as the owners from 1976 to 1998 before it came under the ownership of L & F Properties from 1998 to 2021. It was recently acquired by American Superior Land LLC.

***B7. Moved?** ☑**No** ☐**Yes** ☐**Unknown** **Date:** N/A **Original Location:** N/A

***B8. Related Features:** None

B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme:** Agricultural Development
Area: Chino Valley **Period of Significance:** Late-20th Century
Property Type: Single Family Property **Applicable Criteria:** N/A

Applicable Criteria: N/A. **Additional Resource Attributes**: N/A
(Discuss importance in terms of historical/architectural context by theme, period, and geographic scope. Address Integrity.)
The subject property was originally developed as a dairy farm complex between 1956-57 with a residence that was followed by the construction of two barns (Dice 2006). The property was purchased by dairy farmers Frank and Lois Hilarides in 1976 when another residence was built on the parcel and dairy production was expanded. Frank and Lois had operated a dairy farm in Cerritos since soon after their engagement in 1952. Population increases made dairy farming difficult in L.A. county which prompted the Hilarides to relocate the Chino Valley (Long Beach Press-Telegram 1952; Independent Press Telegram 1976). They built the 1976 residence on the property and Frank subsequently won awards for milk quality and was a member of the California Milk Advisory board (Chino Champion 1978; Chino Valley News 1980). Assessor records indicate that Frank and Lois remained at the property until selling in 1998.

Local History
The history of the local dairy industry is closely tied to the surrounding cities: Corona, Ontario, Chino, and Norco (DeGrandpre 2018). An agricultural center had been established during the rancho (or Mexican) period and, being located on an alluvial plain at the nexus of three meandering watercourses, the region exhibited as much as four feet of fertile topsoil (USGS 1981). As a result, the area became known for successful orchard and row crops, and eventually (and perhaps most enduringly) dairy. Chino, which shares a border with Ontario, remained agricultural throughout the depression and World War II, but by the 1950s semi-rural subdivisions and dairies began to define the economic landscape (Musselwhite 2005). Favorable zoning encouraged dairy-farmers to settle, resulting in the formation of the most productive milk-producing community in the United States. Encroaching suburban settlements and the resulting zone changes have since caused many dairies to relocate, resulting in a reconfiguration of many parcels from agricultural to a retail/bedroom community (ibid).
(Continued on Continuation Sheet, page 3).

(Sketch Map with north arrow required.)



***B12. References:**

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***B14. Evaluators:** David Brunzell, BCR Consulting, Claremont, California

***Date of Evaluation:** 8/15/22

***B10 (continued from page 2).**

Evaluation

California Register of Historical Resources requires that a significance criterion (1-4) be met for a resource to be eligible. A resource is eligible if (1) it is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (2) it is associated with the lives of persons important in California's past; (3) it embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or (4) it has yielded or is likely to yield information important in prehistory or history. The California Register also requires that sufficient time has passed since a resource's period of significance (normally 45 years) to "obtain a scholarly perspective on the events or individuals associated with the resources" (CCR 4852 [d][2]). The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

Please note that the following evaluates the entire property designated P-36-12621.

Although the subject property fits within a local dairy context of the second half of the 20th century, considerable research has failed to associate it with important events related to the founding and/or development of the industry. It is therefore not eligible for the California Register under Criterion 1. Criterion 2: Due to a lack of documentation, it was not possible to ascertain who was the original owner of the building when it was constructed between 1956 and 1957. Research has shown that Frank and Lois Hilarides purchased the property and constructed a residence there in 1976. While Frank Hilarides was an award-winning dairyman who sat on the California Milk Advisory Board, research did not indicate that he had any particular impact on the progression of the dairy industry, nor was he notable in local, state, or national history. It is therefore not eligible for the California Register under Criterion 2. Criterion 3: One residence was built in the Minimal Traditional style and still maintains some of those elements such as a moderately pitched hipped roof, smooth stucco cladding with horizontal wood board siding below façade windows, decorative wood shutters flanking a façade window, a narrow rectangular wood vent below a façade gable pitch and porch supports with decorative brackets. However, there have been alterations to the building that include replacement of windows, doors, roof shingles and possibly the wood porch supports of the north elevation. These alterations have diminished its integrity as an example of the Minimal Traditional style. Also, the builder and architect are unknown and it does not appear to be the work of a master. With these considerations in mind, the 1956-1957 building does not appear to qualify for the California Register under Criterion 3 (see also Dice 2006:29). The 1976 residence remains in good condition, but it does not embody distinctive characteristics of a type, period, region, or method of construction, and does not represent the work of a master, or possess high artistic values. With these considerations in mind, the 1976 building does not appear to qualify for the California Register under Criterion 3. Criterion 4: Extensive research has exhausted this resources data potential, and as such the resource has not and is not likely to yield information important in prehistory or history. The subject property and its constituent historic-age buildings are therefore recommended not eligible under any of the four criteria for listing on the California Register, and as such the property is not recommended a historical resource under CEQA.

Updated Documentation of P-36-12621

P-36-12621 is on a parcel of 17.71 acres comprising five buildings, including a single-family residence constructed circa 1957, a 1976 residence, and two hay shelters and a detached garage constructed after 1980. The residence was recorded in 2006 as a minimal traditional style building that featured a moderately pitched hipped roof, smooth stucco cladding and horizontal wood board siding below the façade windows, decorative wood shutters flanking a façade window, narrow rectangular wood vent below the façade gable pitch and porch supports with decorative brackets (Dice 2006). BCR Consulting revisited the parcel on June 13, 2022 and identified the 1957 residence in the same condition and location recorded during the original study. The 1976 residence is located on the north side of the parcel at 10601 E. Riverside Drive. Since this is an independent residence that is over 45 years old, it has been individually designated and identified by address, and is evaluated on its own DPR form (above). The 2006 study recommended that the 1957 residence is not eligible for California Register of Historical Resources listing eligibility. BCR Consulting finds that this eligibility recommendation remains valid. The post-1980 elements are not historic in age and do not warrant further consideration.



***Recorded by:** Nick Shepetuk and Fabian Reyes-Martinez ***Date:** June 13, 2022 ☐ Continuation ☑ Update

P-36-12622 is on a parcel that consists of 38.99 acres and originally contained 12 buildings and structures, as well as 27 animal pens/barns/shelters (Dice 2006). BCR Consulting revisited the parcel on June 13, 2022 and discovered that all the buildings and structures had been demolished and condiminiums had been built with some units still being constructed.

Buildings A and B were originally recorded in 2006 as identical residences that were built in 1947 in the Minimal Traditional Style. Both were demolished during the construction of condominiums.

Buildings C and D were originally recorded in 2006 as garages that were constructed in 1947. Both were demolished during the construction of condominiums.

Building E was originally recorded in 2006 as a rectangular, prefabricated building that was built circa 1947. It was demolished during the construction of condominiums.

Building F was originally recorded in 2006 as a rectangular, prefabricated building that was most likely constructed in 1947. It was demolished during the construction of condominiums.

Building G was originally recorded in 2006 as a livestock sun shade that was demolished during the construction of condominiums.

Building I was originally recorded in 2006 as, “a shed roof supported by metal poles that covered a single width mobile home” (Dice 2006) that was demolished during the construction of condominiums.

Building H was originally recorded in 2006 as a residence constructed in the Minimal Traditional style in 1947. It was demolished during construction of condiminiums.

Building J was originally recorded in 2006 as a, “small outbuilding” (Dice 2006) and was demolished during construction of condiminiums.

Building K was originally recorded in 2006 as a modern double-width mobile home that was demolished during construction of condiminiums.

Building L was originally recorded in 2006 as large garage that was built circa 1990 and was demolished during construction of condiminiums.

Building M was originally recorded as, “several long and low barns of small animal pens in rows of three…located within the cluster of pens are some slightly larger structures that appear to be feed storage” (Dice 2006). All buildings and structures were demolished during the construction of condiminiums.



Reference:

Dice, Michael
2006 *Historic Architecture Assessment for the Rich Haven Specific Plan City of Ontario, San Bernardino County, California.* On File at the SCCIC. Fullerton, California.

*Recorded by: Nick Shepetuk and Fabian Reyes-Martinez *Date: June 13, 2022 ☐ Continuation ☑ Update

Ben Taniguchi and Rebecca Smith recorded P-36-012623 in 2006 as four buildings constructed in 1953 that comprised part of a dairy (Dice 2006).

Building A was originally described in 2006 as a vernacular style barn built in 1953 that sat on a concrete foundation with a single-story, timber frame. It had one bay on its principal façade with the main entrance consisting of a large wood sliding door on the east elevation. The building featured a front gable roof with composition shingles that was moderately pitched. There were also four stalls located on the south elevation that were most likely used for hay storage. Building A was revisited by BCR Consulting on June 13, 2022 and it was in poor condition with the roof caved in and the walls slumped.

Building B was originally described in 2006 as a vernacular style barn built in 1953 that featured a timber framed, one-story, modified box plan with a side gable addition. The building featured a moderately-pitched, double front gabled roof with a side-gable addition constructed at an unknown date. The building was in fair condition, but had a side-gabled addition to the west elevation. BCR Consulting revisited the barn on June 13, 2022 and discovered that the side gable addition was the only part intact. The main barn was in poor condition with a roof that had caved in and walls that had slumped.

Building C was originally recorded in 2006 as a residence constructed in the Minimal Traditional style. It featured an L-shaped plan with an asymmetrical principal façade that has five bays. The building is covered by a moderately-pitched, hipped roof covered with composition shingles. The building is clad in stucco. The majority of the windows are wood sash double-hung type. The building exhibited no visible alterations and was in good condition. When BCR Consulting revisited the building on June 13, 2022, the building was in good condition and had undergone minimal alterations since 2006.

Building D was originally recorded in 2006 as a Minimal Traditional style, single-family residence built in 1953. It featured a single story and rectangular plan with an attached garage. It had an exterior of smooth stucco and moderately-pitched, side gable roof that consisted of composite shingles. There were four windows on the primary façade that are square wood sash fixed windows. Two of the windows were flanked by decorative wood shutters. The windows and doors had been replaced, and the building was in good condition. When BCR Consulting revisited the building on June 13, 2022, it was in good condition and had undergone minimal alterations since 2006.

Reference:

Dice, Michael
2006 *Historic Architecture Assessment for the Rich Haven Specific Plan City of Ontario, San Bernardino County, California.* On File at the SCCIC. Fullerton, California.



Building A



Building B



Building C



Building D

*Recorded by: John Defachelle *Date: February 28, 2022 ☐ Continuation ☑ Update

This resource is a segment of an east-west oriented approximately 12-mile 220kV electrical transmission alignment that crosses the southern portion of the project site. The alignment connects SCE Chino and Mira Loma Substations. It was originally built in 1937 as a parallel two-line single circuit but had several towers replaced in 1940. Insulators were replaced and other maintenance was performed on the greater alignment in 1953 (Tinsley Becker 2010). Topographic maps and aerial photos do not show the subject segment on the project site prior to 1981. It appears next to a second modern alignment between 1981 and 1985 (United States Geological Survey 1981; United States Department of Agriculture 1985). BCR Consulting revisited the site on February 28, 2022 and found it in place as recorded in 2010.



P-36-025440 Overview (View West)

Reference:

Tinsley Becker, Wendy L.
2010 Site Record for P-36-025440. On File at the SCCIC. Fullerton, California.

United States Department of Agriculture
1985 Aerial Photographs of San Bernardino County. Electronic Document: historicaerials.com. Accessed Multiple Dates.

United States Geological Survey
1981 *Guasti, California* 7.5-Minute Topographic Quadrangle.

***Recorded by:** John Defachelle ***Date:** February 28, 2022 ☐ Continuation ☑ Update

This resource is a segment of the Hayfield-Chino 220kV electrical transmission alignment that crosses the southeast corner of the project site. The greater alignment was constructed between 1945 and 1946 as a three-phase single circuit line between Chino and east of Coachella. As substations were added, segments of the transmission line were renamed to match the names of their substations (Tinsley Becker 2014). One tower from this alignment is located in the subject segment. It is visible on aerials after 1959 and as such does not appear to be original (United States Department of Agriculture 1959, 1966). According to recent documentation, the original transmission line had been completely removed and replaced by modern transmission lines by 2014 (Tinsley Becker 2014). BCR Consulting revisited this resource on February 28, 2022 and found it in place as recorded in 2014.



Overview of P-36-026051 (View NW)

Reference:

Tinsley Becker, Wendy L.
2014 Site Record for P-36-026051. On File at the SCCIC. Fullerton, California.

United States Department of Agriculture
1959 Aerial Photographs of San Bernardino County. Electronic Document: historicaerials.com. Accessed Multiple Dates.

1959 Aerial Photographs of San Bernardino County. Electronic Document: historicaerials.com. Accessed Multiple Dates.

APPENDIX C

NATIVE AMERICAN HERITAGE COUNCIL SACRED LANDS FILE SEARCH

NATIVE AMERICAN HERITAGE COMMISSION

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Luiseño

VICE CHAIRPERSON
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Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

March 30, 2022

David Brunzell
BCR Consulting, LLC

Via Email to: bcrllc2008@gmail.com

Re: Rich-Haven Specific Plan Areas of Change Project, San Bernardino County

Dear Mr. Brunzell:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Bernardino County
3/30/2022

Agua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 — Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 — Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 — Gabrielino
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490 — Gabrielino
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino Tongva Indians of California Tribal Council
Christina Conley, Tribal Consultant and Administrator
P.O. Box 941078 — Gabrielino
Simi Valley, CA, 93094
Phone: (626) 407 - 8761
christina.marsden@alumni.usc.edu

Gabrielino-Tongva Tribe
Charles Alvarez,
23454 Vanowen Street — Gabrielino
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosa-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Rich-Haven Specific Plan Areas of Change Project, San Bernardino County.

Soboba Band of Luiseno Indians
Isaiah Vivanco, Chairperson
P. O. Box 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 654 - 5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Rich-Haven Specific Plan Areas of Change Project, San Bernardino County.

APPENDIX D

PROJECT PHOTOGRAPHS



Photo 1: Southern Project Site Overview (View North)



Photo 2: Southeastern Project Site Overview (View S)



Photo 3: Southern Project Site Overview (View S)



Photo 4: Southern Project Site Overview (View NW)


Photo 5: Southern Project Site Overview (View NE)


Photo 6: Northern Project Site Overview (View SE)



Photo 7: Northern Project Dump Site Overview (View SE)

APPENDIX E

PALEONTOLOGICAL RESOURCES OVERVIEW

WESTERN SCIENCE CENTER

March 2nd, 2022

BCR Consulting LLC
Nicholas Shepetuk
505 W 8th St.
Claremont, CA 91711

Dear Mr. Shepetuk,

This letter presents the results of a record search conducted for the Rich-Haven Specific Plan Areas of Change Project located in the City of Ontario, CA. The project area is located west of Interstate 15, east of Haven Avenue, north of Edison Avenue and south of East Riverside Drive in Township 2 South, Range 7 West, Sections 12 and 13 on the Guasti, California USGS 7.5 minute quadrangle.

The geologic unit underlying this project are mapped as young Eolian sand and dune deposits from the Holocene period (Morton and Miller, 2006). Eolian units are considered to be of some preservation value, but any material found is unlikely to be fossil material due to the relatively modern associated dates of the deposits. The Western Science Center does not have localities within the project area or within a 1 mile radius.

Should excavation activity associated with the development of the project area extend beyond the current project into surrounding alluvial units, paleontological resources would be possible. However, under current project parameters, and with the geologic units described, it would be unlikely for fossil material to be preserved.

If you have any questions, or would like further information, please feel free to contact me at bstoneburg@westerncentermuseum.org

Sincerely,

Brittney Elizabeth Stoneburg
Collections Technician

Rich-Haven Specific Plan Areas of Change Project

project area + one mile radius

Legend

- Q: Quaternary alluvium and marine deposits (Pliocene to Holocene)
- Rich-Haven Specific Plan Areas of Change Project



ALBERT A. WEBB ASSOCIATES



WATER SUPPLY ASSESSMENT AND WRITTEN VERIFICATION OF SUFFICIENT WATER SUPPLY

RICH-HAVEN SPECIFIC PLAN AMENDMENT NO. 3 (PSPA19-006)

Prepared for:

ONTARIO MUNICIPAL UTILITIES COMPANY

March 18, 2021

ALBERT A. WEBB ASSOCIATES

Corporate Headquarters
3788 McCray Street
Riverside, CA 92506
951.686.1070

Palm Desert Office
36-951 Cook Street #103
Palm Desert, CA 92211
760.568.5005

Murrieta Office
41391 Kalmia Street #320
Murrieta, CA 92562
951.686.1070

6901

W.O.: 2021-0011

March 18, 2021

Christopher Quach, P.E.
Senior Associate Engineer
ONTARIO MUNICIPAL UTILITIES COMPANY
1425 S. Bon View Avenue
Ontario, CA 91761

Re: Water Supply Assessment and Written Verification for Sufficient Water Supply (WSA/WV) for Rich-Haven Specific Plan Amendment No. 3 Project

Dear Mr. Quach,

Pursuant to your Notice to Proceed given on January 25, 2021 and our proposal dated January 12, 2021, transmitted herewith is the Water Supply Assessment and Written Verification of Sufficient Water Supply (WSA/WV) of the subject project pursuant to SB 610 and SB 221, respectively.

Sincerely,

ALBERT A. WEBB ASSOCIATES

Autumn DeWoody

Autumn DeWoody
Senior Environmental Analyst

Sam I. Gershon, RCE
Senior Vice President

REGISTERED PROFESSIONAL ENGINEER
SAM I. GERSHON
NO. C14489
CIVIL
STATE OF CALIFORNIA

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B. The Metropolitan Water District of Southern California. *2015 Urban Water Management Plan*, June 2016.

C. Inland Empire Utilities Agency and Water Facilities Authority. *2015 Urban Water Management Plan.* June 2016.

D. Chino Basin Desalter Authority. *2015 Urban Water Management Plan.* Prepared by Water Resources Planning. June 2016.

E. San Antonio Water Company. *2015 Urban Water Management Plan.* Prepared by Civiltec Engineering, Inc. June 2016.

F. December 2014 Purchase Order Agreement between MWD and IEUA, and IEUA Resolution No. 2014-12-1.

G. October 1985 City of Ontario Installment Purchase Agreement with WFA.

H. WFA Ordinance No. 99-07-02.

I. April 2003 Local Agency Agreement between IEUA and City of Ontario in relation to the Dry year Yield Program.

J. November 2014 Agreement between City of Ontario and Jurupa Community Services District in relation to the Dry Year Yield Program.

K. City of Ontario. *Water Master Plan*. Prepared by AKM Consulting Engineers, April 2012.

L. City of Ontario. *Recycled Water Master Plan Update.* April 2012.

M. Chino Groundwater Basin 1978 Judgment and amendments thereto.

N. 2008 City of Fontana and City of Ontario Agreement Regarding Transfer of Right of First Purchase of Recharged Reclaimed Water.

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SB 610 WATER SUPPLY ASSESSMENT

SECTION 1 - INTRODUCTION

Senate Bill 610 (SB 610) was signed into California state law with an effective date of January 1, 2002. SB 610 amended existing legal requirements for confirmation of water supply sufficiency as a condition of approval for development projects. The confirmation of water supply sufficiency is achieved through an assessment of the water supplier's existing and future water sources, and existing and projected water demand in relation to a "project" as defined by California Water Code (CWC) section 10912, resulting in the production of a project-specific Water Supply Assessment ("WSA" or "Assessment"). Additional analysis is required in the WSA if any portion of the water supply includes groundwater. The WSA is prepared and adopted by the water supplier and included in the California Environmental Quality Act (CEQA) analysis for the project. The CEQA Lead Agency must then independently determine, based on the entire record, whether water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses (CWC section 10911).

Law

CWC section 10910:

> *(a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.*

CWC section 10912:

For the purpose of this part, the following terms have the following meanings:

> *(a) "Project" means any of the following:*
>
> *(1) A proposed residential development of more than 500 dwelling units.*

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

1.1 Purpose

The Ontario Municipal Utilities Company (OMUC) is a department of the City of Ontario (City) and the water supplier to the City. OMUC commissioned this Assessment from Albert A. Webb Associates (WEBB) on January 25, 2021 to answer the following key question pursuant to SB 610: whether the projected supply for the next 20 years, based on normal, single dry and multiple dry years, will meet the demand projected for the project plus existing and planned future uses, including agricultural and manufacturing uses.

This WSA has been prepared for *Amendment No. 3* to the *Rich-Haven Specific Plan (PSPA19-006)* (SPA3 or "Project"). The City of Ontario Planning Department is preparing a 2021 addendum to The Ontario Plan Certified Environmental Impact Report (EIR) and therefore, this Project is considered to be "subject to CEQA" pursuant to CWC section 10910.

The Project is considered a "project" pursuant to the following CWC section 10912 definition:

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

1.2 Background

The Rich-Haven Specific Plan encompasses approximately 602 gross acres in the County of San Bernardino, within the City of Ontario's 8,200-acre Ontario Ranch (previously referred to as the New Model Colony [NMC]) (**Figure 1, Regional Location**). The Rich-Haven Specific Plan is bounded to the north by East Riverside Drive and the western property line for Colony High School, to the west by Haven Avenue, to the south by Edison Avenue, and bounded to the east by Mill Creek Avenue and Hamner Avenue (**Figure 2, Project Vicinity**).

The Rich-Haven Specific Plan was first adopted by the Ontario City Council on Dec. 4, 2007 which included approximately 512 acres with potential development of 4,256 residential units and 889,200 square feet of commercial/office use. The first Specific Plan Amendment (SPA1) was adopted by City Council in March 2016, which brought the Specific Plan into conformance with the City General Plan that was adopted in 2010, which is referred to as The Ontario Plan (TOP). The second SPA (SPA2) was adopted by City Council in February 2018 and included the annexation of Planning Areas 9A & 9B (an additional 72.3 acres). This annexation brought the entire "NMC East Mixed Use District" within the boundaries of the Rich-Haven Specific Plan. As such, the maximum residential dwelling units and maximum commercial/office area increased to 7,194 units and 1,131,702 square feet, respectively. Two implementing projects within the Specific Plan have been approved by the City including Tentative Tract Map (TTM) No. 20134 and TTM No. 20081 (**Figure 3 – Existing Land Use Plan and Implementing Projects**).

1.3 Proposed Project

The proposed Project is the third SPA (SPA3); the primary changes of which are to transfer 518 dwelling units (DUs) from the NMC East Mixed Use District to the Residential District of the Specific Plan, and replace approximately 50 acres of Commercial with Light Industrial use. As stated in the *2021 Addendum to The Ontario Plan Certified EIR for the Rich-Haven Specific Plan 2021 Amendment*, the changes made by the Project to the previously approved 2018 land use plan include:

- *Certain Specific Plan Planning Areas would be reorganized/re-classified;*
- *Alternative residential products would be implemented;*
- *The Regional Commercial within Planning Area 6A is moved into Planning Area 9A with no net change to the combined 6A/9A uses in the Specific Plan;*
- *The maximum allowable development of commercial/office uses would be decreased; and*
- *A new Light Industrial Land Use would be established, allowing for development of light industrial warehouse uses in the southeasterly portion of the Specific Plan, adjacent to Hamner Avenue.*[1]

The changes proposed by SPA3 compared to the prior approved land use plan are shown below in **Table 1-1a** and **Table 1-1b** in ~~strikethrough~~ for deletions and <u>underline</u> for additions**.** The proposed Project land uses are shown in **Figure 4 – Proposed Project Land Use.** Currently, TTM No. 20345 is being proposed to the City within Planning Area 6A. This project currently proposes condominiums with 77 single-family attached units and 26 single-family detached units on approximately 7 acres.

[1] *The Specific Plan Mixed Use District allows for combinations of commercial, office, light industrial, and residential development at various densities/intensities. Any given proposal within the Specific Plan Mixed Use District is required to conform to applicable Specific Plan Design Guidelines and Development Standards; and trip generation (Average Daily Trips, ADT) of such proposals shall not exceed trip generation estimates (the "trip budget") identified in The Ontario Plan EIR. Such proposals shall be subject to review and approval by the Planning Director or Assignee. Proposals that exceed The Ontario Plan EIR trip budget and/or do not conform to applicable Specific Plan Design Guidelines and Development Standards may require further amendment of the Specific Plan and additional CEQA analysis* (2021 Addendum, p. 2-5).

Table 1-1a Project Residential District Land Use Summary

Residential District Planning Area	Specific Plan Land Use	Maximum Dwelling Units (DU)	Gross Acres (ac)	Gross Density (DU/ac)
1A	Residential - SFD	~~58~~ 115	~~12.8~~ 25.5	4.5
1B	Residential - SFD	~~57~~ 175	~~112.7~~ 24.5	~~4.5~~ 7.1
1C	Residential - SFD	~~68~~ 731	~~14.9~~ 60.6	~~4.5~~ 12.1
~~1D~~	~~Residential - SFD~~	~~91~~	~~20.5~~	~~4.5~~
~~1E~~	~~Residential - SFD~~	~~109~~	~~23.4~~	~~4.5~~
~~1F~~	~~Residential - SFD~~	~~120~~	~~26.3~~	~~4.5~~
Subtotal		~~503~~ 1,021	110.6	~~4.5~~ 9.2
2	Edison Parcel Open Space Non-Recreational	--	20.0	~~--~~
3	Park Open Space Recreational	--	27.0	~~--~~
Subtotal			47.0	
4A	Residential – SFD/Attached	154	14.1	10.9
4B	Residential – SFD/Attached	101	9.2	11.0
4C	Residential – SFD/Attached	108	9.8	11.0
Subtotal		363	33.1	11.0
5A	Residential – SFD/Attached	109	9.1	12.1
5B	Residential – SFD/Attached	165	14.2	11.7
5C	Residential – SFD/Attached	332	27.0	12.3
5D	Residential – SFD/Attached	361	30.3	11.9
Subtotal[(1)]		967	80.6	12.0
5E	Edison Easement Open Space Non-Recreational	--	17.8	--
	Subtotal[(1)]	--	17.8	--
	Subtotal Residential Planning Areas	~~1,833~~ 2,351	224.3	~~6.7~~ 10.0
	Total Residential District	**2,351**	**289.1**	~~--~~

Notes: SFD = Single Family Detached

Source: RHSPA3, p.3-5.

(1) Planning Areas 5A-5E are included in approved TTM No. 20134, which proposes 196 single family dwelling units and 428 multi-family dwelling units for a total of 624 dwelling units. This is 343 units less than the maximum allowed by the Specific Plan.

Table 1-1b Project Mixed Use District Land Use Summary

Mixed Use District Planning Area	Specific Plan Land Use	Maximum Dwelling Units (DU)	Gross Acres (ac)	Commercial/Office		Light Industrial Maximum (SF)
				Minimum (SF)	Maximum (SF)	
6A[(1)] + 9A	Residential & Commercial	2,178	85.6	109,335	166,182	--
6B + 9B	Residential & Commercial	1,406	65.1	36,639	76,320	--
7A	~~Commercial~~ Light Industrial	~~725~~	~~81.1~~ 49.4	~~100,000~~	~~440,800~~	1,183,525
7A	Open Space Non-Recreational	--	6.6	--	--	--
7B	Commercial	~~--~~	25.1	125,000	300,000	--
8A	Residential & Commercial	852	61.4	95,000	325,000	--
8B	Residential & Commercial	~~200~~ 407	19.7	20,000	123,400	--
Total Mixed Use District		~~5,361~~ 4,843	312.9	~~360,974~~ 385,974	~~1,131,702~~ 990,902	1,183,525
Total Residential and Mixed Use Districts		**7,194**	**602.0**	**~~360,974~~ 385,974**	**~~1,131,702~~ 990,902**	**1,183,525**

Notes: SF = square feet

Source: RHSPA3, p.3-5.

(1) Planning Area 6A includes approved TTM No. 20081, which proposes a combined total of 587 DU on 50.1 acres with no Commercial land uses.

With implementation of the Project, the Rich-Haven Specific Plan will continue to allow for up to a maximum of 7,194 dwelling units (all residential types), a new maximum of 990,902 square feet of commercial/office uses, and a new maximum of 1,183,525 square feet of light industrial uses.

According to the SPA3, there are currently 11 wells on the Project site, which will be destroyed. Two new potable water production wells will be constructed – one in Planning Area 5 and another in Planning Areas 1 or 8. The Conceptual Domestic Water Plan in the SPA3 states the following (p. 4-16):

Local backbone domestic water mains to be constructed as part of the Rich-Haven Specific Plan project will include 8-inch to 12-inch [diameter] water mains throughout the local backbone street system. Additionally, the Chino Basin Watermaster Water Quality Map identifies the Rich Haven area within an optimum water quality zone and requires that the owner/developer dedicate a total of two wells within the Specific Plan area to the City of Ontario for production of potable water. The owner/developer of Planning Area 5 has identified a well location site within the greenbelt in the area east of Mill Creek Avenue. A second well location site within the Specific Plan area shall be located within Planning Areas 1 or 8 as approved by the City. Master planned domestic water main lines serving the surrounding area and within the Specific Plan, as identified in the most currently approved Water Master Plan Update, shall be constructed prior to issuance of first occupancy.

Within the project site, a network of minimum 8-inch water lines will be installed. The proposed on-site public water system sizing is subject to the recommendations and approval of the required hydraulic analysis. All water mains and wells internal to the Rich-Haven Specific Plan project, will be provided by the merchant builder. In-tract water system design will be provided at the time of subdivision. Offsite water improvements to serve the Specific Plan will be implemented according to the most current version of the City's Water Master Plan.

Eleven existing wells have been identified within the Rich-Haven Specific Plan project site.

In compliance with the Chino Basin Watermaster's Well Procedure for Developers, a well use/destruction plan and schedule for all existing private/agricultural wells shall be submitted to the City of Ontario for approval prior to the issuance of permits for any construction activity. If a private well is actively used for water supply, the Developer shall submit a plan to abandon

> *such well and connect users to the City's water system (residential to the domestic water system and agricultural to the recycled water system) when available. Wells shall be destroyed/abandoned per the California Water Resource Guidelines and required permitting from the County Health Department. A copy of such permit shall be provided to the Engineering and Public Works Agency prior to issuance of grading and/or building permits.*

City Ordinance No. 2689 requires all new development to connect to, and use recycled water for all approved uses, including but not limited to landscape irrigation (codified in City Municipal Code Sections 6-8.7 to 6-8.279). A Water Master Plan has been developed for the Rich-Haven Specific Plan, which shall conform to the City of Ontario's Water Master Plan and will include both domestic and recycled water infrastructure (RHSPA3, p. 4-14). *Recycled water will be used in the Rich-Haven Specific Plan area for irrigation of parks, schools, street landscaping, recreational trails, parkways, common area residential landscaping and commercial/industrial landscaping* (RHSPA3, p. 4-17).

1.4 Prior Water Supply Assessment

A WSA and Written Verification of Sufficient Water Supply (WV) prepared pursuant to Senate Bill 221 for the 8,200-acre NMC (Ontario Ranch) was prepared by WEBB on behalf of the City dated October 27, 2004. The 2004 NMC WSA/WV was used for demonstrating water supply sufficiency for previous amendments to the Rich-Haven Specific Plan. Because SPA3 proposes a new land use not previously included in the land use plan (i.e., Light Industrial) and the industrial land use has a maximum area of more than 650,000 SF, and the City has updated its water use and water supply information since 2004, a new WSA is prepared herein consistent with CWC section 10910(3).

Law

CWC Section 10910:

(h) Notwithstanding any other provision of this part, if a project has been the subject of a water assessment that complies with the requirements of this part, no additional water assessment shall be required for subsequent projects that were part of a larger project for which a water assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase in water demand for the project.

(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.

(3) Significant new information becomes available which was not known and could not have been known at the time when the assessment was prepared.

1.5 Project Relation to the Urban Water Management Plan

OMUC is the water supplier for the Project and has prepared a 2015 Urban Water Management Plan (UWMP), a copy of which is provided in Appendix A. Because the 2020 UWMP will not be adopted and supersede the previous UWMP until summer 2021, this WSA will rely on the 2015 UWMP. The 2015 UWMP was adopted by the City Council on July 21, 2016 and reviewed by the State Department of Water Resources (DWR). The assumptions on ultimate (buildout) water demand in the 2015 UWMP were derived from land use-based water demand factors (AKM, 2016), which build on the foundations laid out by the City's TOP land use plan (TOP, 2010). The

method used in the 2015 UWMP to calculate ultimate water demand assumed the NMC maximum residential densities (i.e., 5.0, 11.0, 25.0, and 40.0 du/ac) using adjusted gross acreages (i.e., acreages lacking rights-of-way for roads, flood control facilities, or railroads). Further, the method used for calculating the water demands of each Mixed Use District within the City was done individually based on unique density/intensity assumptions.

The land use designations on the Project site that were assumed in the 2015 UWMP are shown in **Figure 5 – Land Uses Assumed in the UWMP** and **Table 1-2** (next page).

Table 1-2 Land Uses Assumed in the UWMP

TOP Land Use Designation	TOP Adjusted Acreage[1]	Gross Acreage	Residential Units (Minimum)[2]	Residential Units (Maximum)[3]
Planning Areas 1A – 1F				
Low Density Residential (2.1 – 5.0 du/ac)	106.16	110.6	223	531
Planning Areas 2 and 3				
Open Space Non-Recreational (Edison Parcel)	18.01	20	0	0
Open Space Recreational	25.71	27	0	0
Planning Areas 4A - 4C				
Low Medium Density Residential (5.0-11.0 du/ac)	33.41	33	167	368
Planning Areas 5A - 5D				
Medium Density Residential (11.1 – 25.0 du/ac)	62.06	80.6	689	1,552
Planning Area 5E				
Open Space Non-Recreational (Edison Easement)	17.76	17.76	0	0
Subtotal	**263.1**	**289**	**1,079**	**2,451**
Planning Areas 6A – 9B				
NMC East Mixed Use Area[4] • > 14.0 – 50.0 du/ac. • 0.7 FAR for office and retail uses. • Subject to approved Specific Plans.	264.3	TOP Assumed Density/Intensity:[5] • 30% of area at 25 du/ac = 1,978 du. • 30% of area at 0.35 FAR for office & 40% of area at 0.30 FAR for retail uses=2,584,524 SF.		
Open Space Non-Recreational (SCE Corridor) / Neighborhood Edge	23.93	-	0	0
Total[6]	**551.33**	**577**	**--**	**4,429**

Source: For PAs 1A–5E, *Rich-Haven Specific Plan Amendment 3, Section 9.2 TOP Consistency Tables* (Nov. 2020).

Notes: TOP = The Ontario Plan; FAR = floor to area ratio; SCE = Southern California Edison; SF = square feet; du/ac = dwelling unit per acre; NMC = New Model Colony.

(1) Development area acreagesare based upon TOP Adjusted Gross Acreages. The TOP Adjusted Gross Acreage does not include the rights-of-way for roadways, flood control facilities, or railroads.

(2) Minimum dwelling units are calculated as the minimum density allowed multiplied by TOP Adjusted Acreage.

(3) Maximum dwelling units are calculated as the maximum density allowed multiplied by TOP Adjusted Acreage.

(4) From *City of Ontario, The Ontario Plan Draft EIR*, *Chapter 3. Project Description, p. 3-38.*

(5) From *Technical Memorandum, City of Ontario – Ultimate Citywide Water Demand Estimate, May 2016, Table 3 (TOP Approved Land Use Buildout Estimate (modified))*, included as Appendix B to the *Ontario 2015 UWMP.*

(6) Total areas and maximum units/square feet vary somewhat with each iteration of the land use plan because of adjustments to acreages over time and the Edison properties are not always included consistently.

As part of this Assessment, WEBB has confirmed with OMUC that there have been no substantial changes to the water supply portfolio as it is described in the 2015 UWMP and the same unit water demand factors are used herein as those used in the 2015 UWMP.

If a project's water demand has been accounted for in the water supplier's most recent UWMP, then the WSA may use the UWMP as the source of the information required in the WSA. The determination as to whether the Project's water demand has been accounted for in the most recent UWMP is located in Section 2 – Water Demand Analysis.

Relation of Water Supplier to other Urban Water Management Plans

The City is a member agency of the Inland Empire Utilities Agency (IEUA), which is the local distributor of recycled water and a local wholesale supplier of untreated imported water (State Water Project) from The Metropolitan Water District of Southern California (MWD). OMUC is also a member of the Water Facilities Authority (WFA), a Joint Powers Authority from which the City purchases treated imported water received from IEUA. In addition, OMUC is a member of the Chino Basin Desalter Authority (CDA), a Joint Exercise of Powers Agency from which OMUC purchases treated groundwater. Lastly, OMUC owns shares of the San Antonio Water Company (SAWCo), a mutual water company that provides potable water to OMUC through the WFA.

MWD has prepared a 2015 UWMP that includes IEUA and its member agencies (Appendix B); IEUA and WFA have prepared a 2015 Regional UWMP (Appendix C); CDA has prepared a 2015 UWMP (Appendix D); and SAWCo prepared a modified 2015 UWMP (Appendix E).

Law

CWC Section 10910:

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code [CEQA]*, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).*

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

1.6 Statewide and Local Water Conservation Efforts

Governor Brown proclaimed a statewide State of Emergency due to ongoing drought conditions on January 17, 2014. Since then, at least six Executive Orders and other Proclamations have been issued in response to impacts from extended statewide drought conditions. Executive Order B-37-16 issued on May 9, 2016, established a new water use efficiency framework for California. The order established longer-term water conservation measures that include permanent monthly water use reporting, new urban water use targets, reducing system leaks and eliminating wasteful practices, strengthening urban drought contingency plans and improving agricultural water management and drought plans. On April 7, 2017, Governor Brown issued Executive Order B-40-17 that ended the drought State of Emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. The Executive Order maintains the mandatory water reporting requirements and prohibitions on wasteful practices contained in Executive Order B-37-16, as described previously. In a related action, State agencies released a plan to implement Executive Order B-37-16 entitled, "Making Water Conservation a California Way of Life."

The Ontario City Council adopted Ordinance No. 3027 on September 1, 2015 in response to the Emergency Conservation Regulations mandated at that time by the State Water Resources Control Board. Ordinance 3027 updated the City's Water Conservation Plan that is codified in Chapter 8A, Title 6 of the City's Municipal Code ("Water Conservation Plan"). Updates included more stringent prohibitions and penalties, a voluntary conservation stage that is always in effect, and mandatory water shortage stages 1 through 4 that target a strict enforcement of water conservation routines following a water crisis (UWMP, p. 8-1). In addition, OMUC's citywide Water Shortage Contingency Plan describes the methods to achieve and the implications of reducing water supplies up to 50 percent (UWMP, Chapter 8). Lastly, the City and OMUC implement various programs to reduce water consumption, identified as Demand Management Measures in the UWMP, which include the Best Management Practices recommended by the California Urban Water Conservation Council, of which

the City and OMUC is a member. Currently, the City is in the voluntary stage of the Water Conservation Plan, which has the following voluntary water use restrictions:

- *Avoid hose washing of sidewalks, walkways, driveways, parking areas or other paved surfaces, except as required for sanitary purposes;*
- *Avoid using a hose for washing of an automobile unless equipped with a fitted shut-off nozzle;*
- *Public places (i.e., restaurant) where food is served, should avoid serving water unless requested by customer;*
- *Avoid watering outdoor landscaping more than every other day and during the hours of 6 AM and 6 PM;*
- *Avoid causing or allowing water to be applied to outdoor landscapes in a manner that causes runoff; and*
- *Promptly repair all leaks from indoor and outdoor plumbing fixtures*
- *Avoid using water to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar aesthetic structures unless such water is part of a recycling system.*

With the signing of Assembly Bill 1668 and SB606, the state has set an Indoor Residential Standard of 55 gallons per capita per day (GPCD) which will decrease to 50 GPCD by 2030 (CWC section 10609.4(a)). The per person unit water use factors used by the City in the 2015 UWMP for water demand planning purposes are based on a minimum of 60 gpd/person for high density residential with recycled water, up to 95 gpd/person for low density residential with recycled water use (UWMP Appendix B, p. 3).

1.7 Methodology of Analysis

This Assessment follows the DWR *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001* (DWR 2003). Section 1 of this Assessment describes the existing and proposed land use designations of the Project site, the proposed Project's

relation to a previous WSA and the water supplier's most recent UWMP. Section 2 provides the water demand analysis of the Project; Section 3 reviews the projected water supplies for the Project; Section 4 contains the required discussion of the water supplier's groundwater supplies; and Section 5 concludes the Assessment by answering the primary question at hand.

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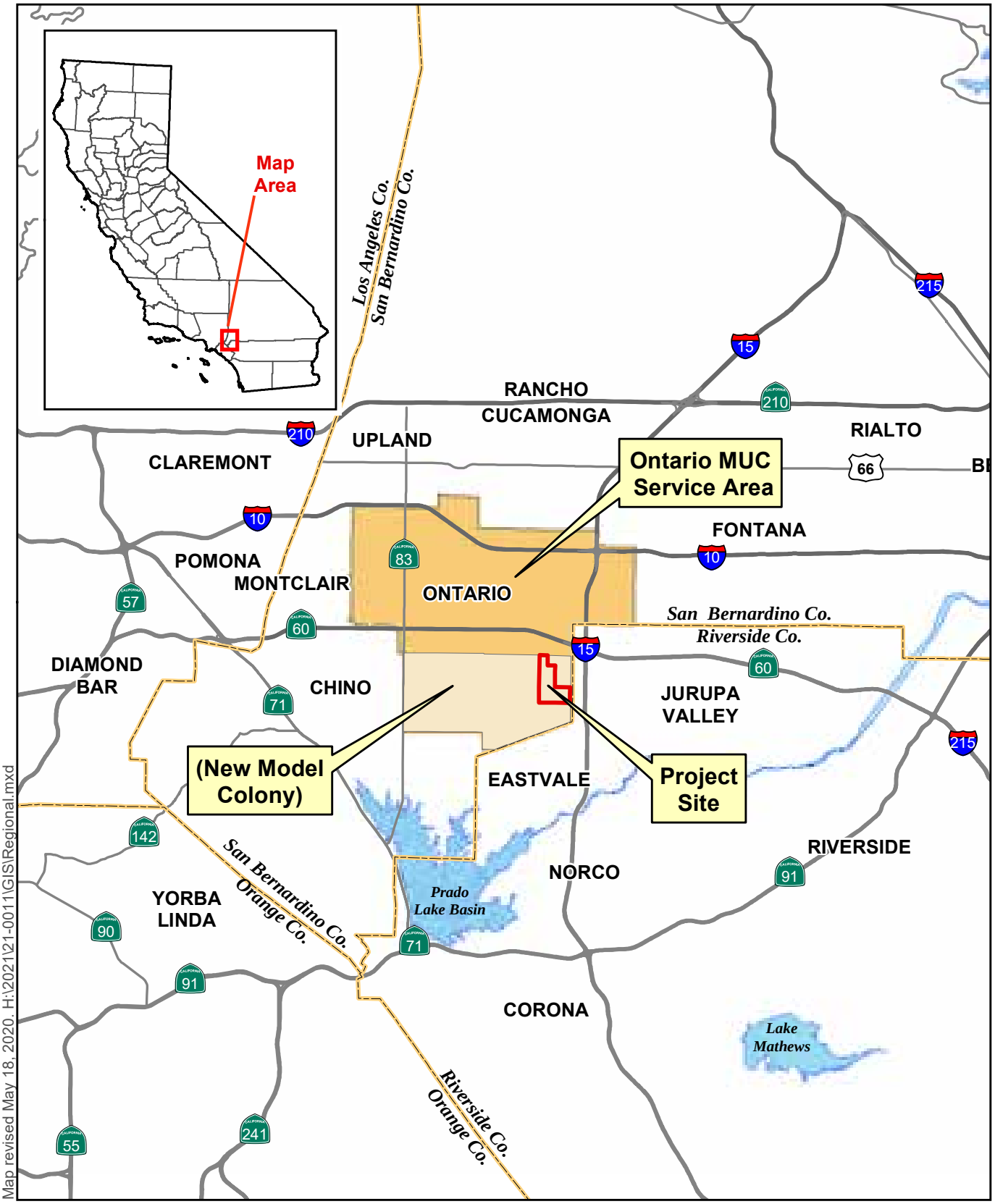


Figure 1 – Regional Location

Rich-Haven SPA3

6924



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Sources: San Bernardino Co. GIS, 2021 (streets) and 2020 (imagery).

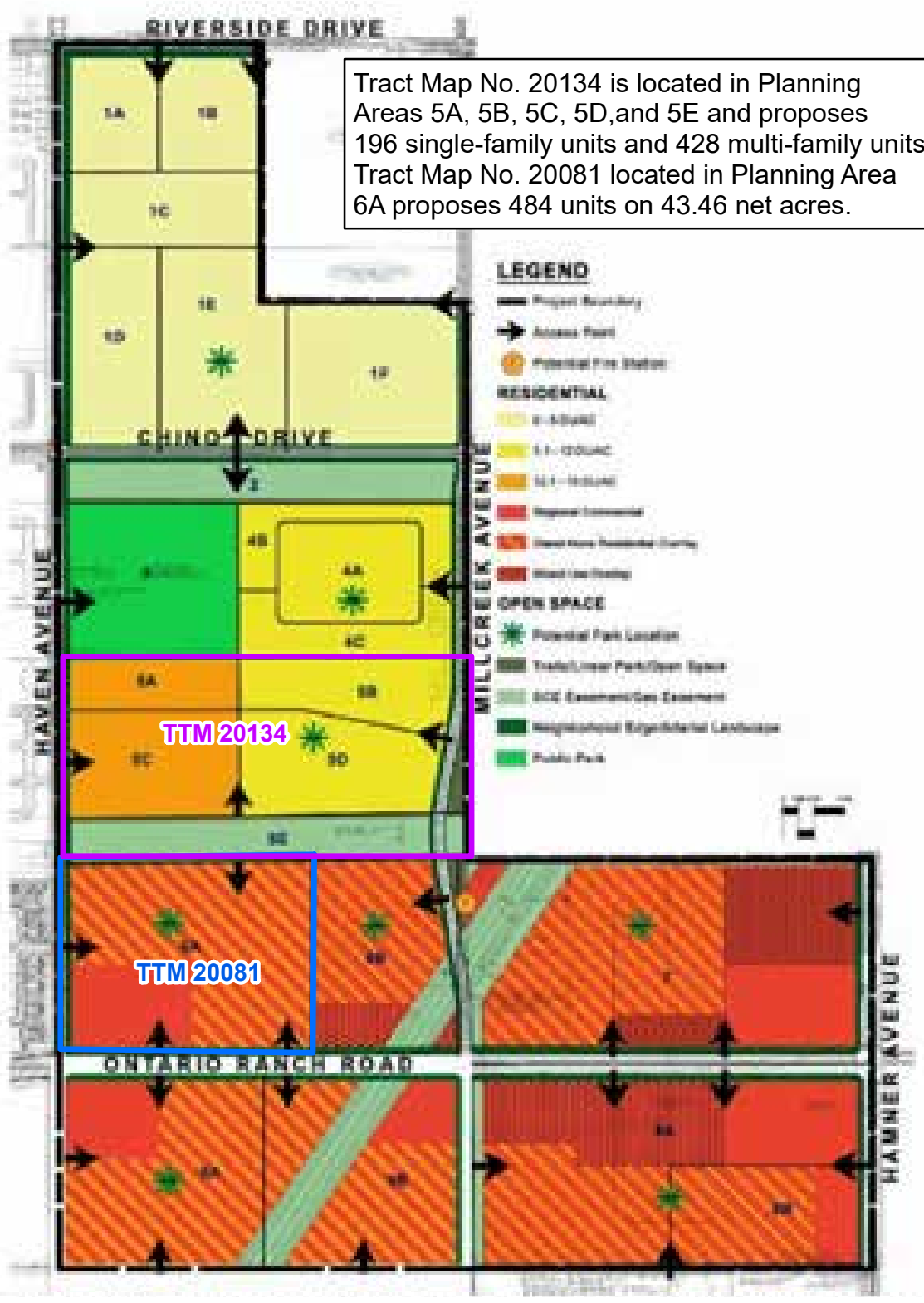
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Figure 2 - Project Vicinity

Rich-Haven SPA3

WEBB

6925



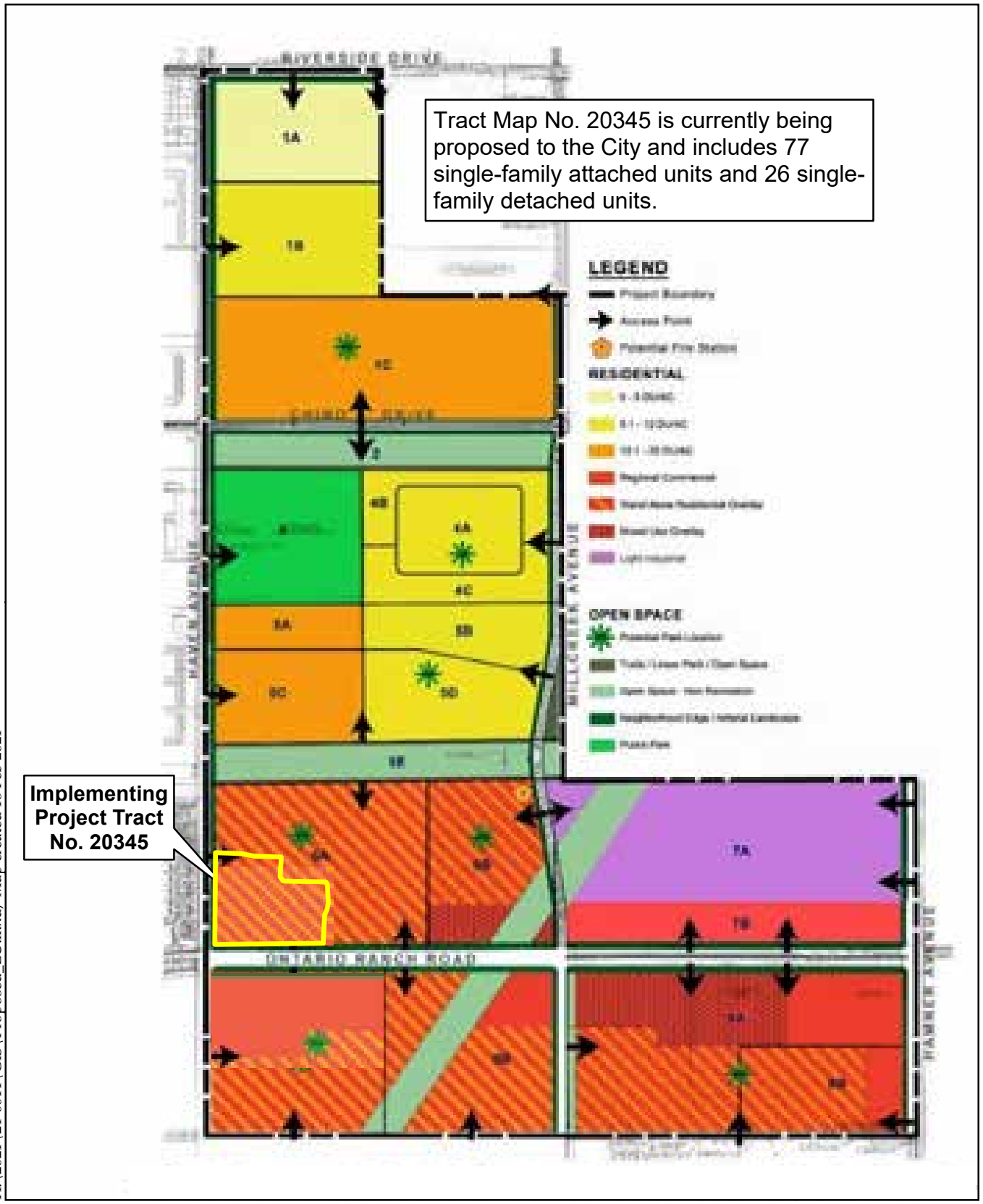
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Source: Rich Haven Specific Plan, Feb. 20, 2018, Figure 3-1

Figure 3 - Existing Land Use Plan and Implementing Projects

Rich-Haven SPA3

Not to Scale



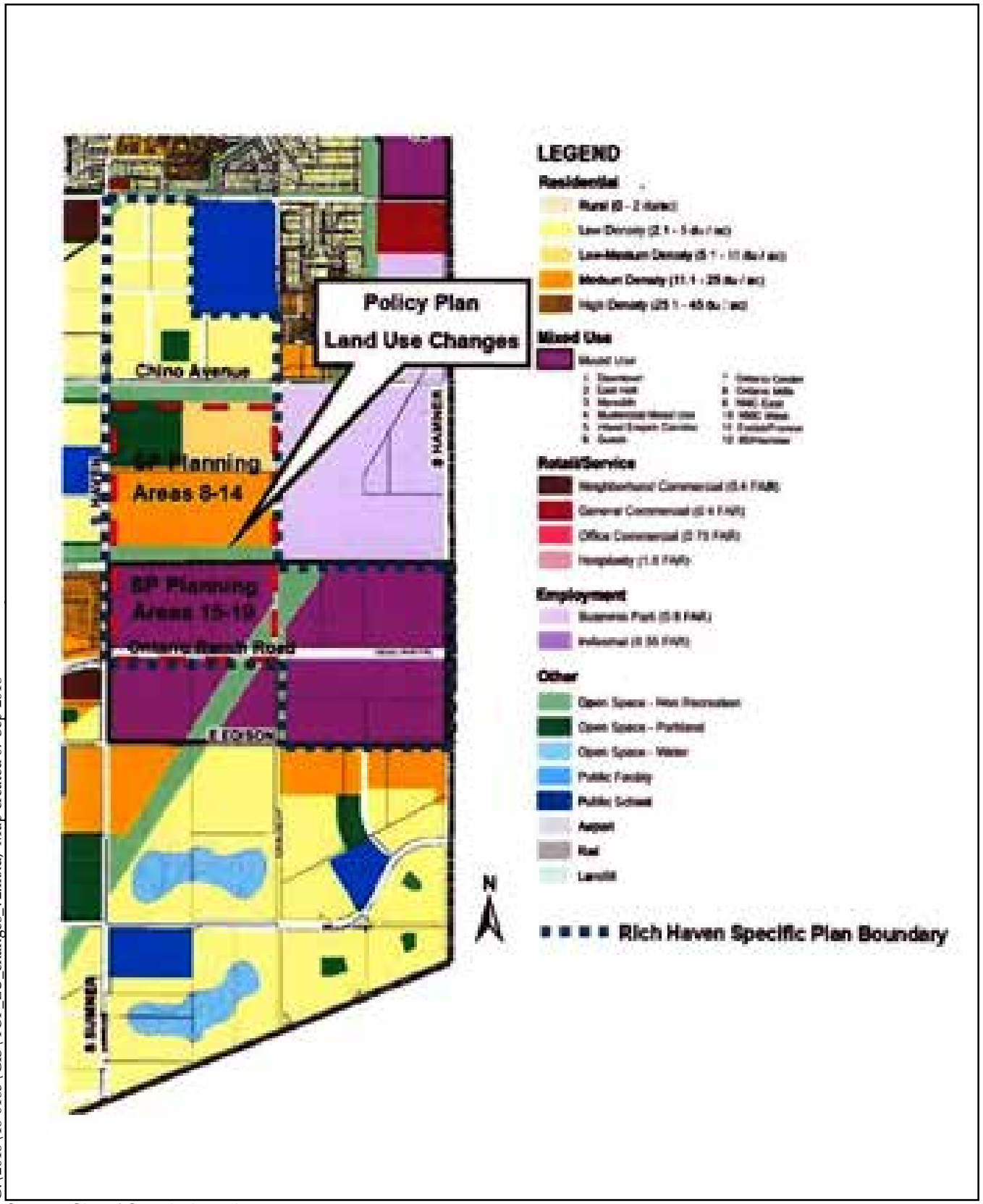
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Source: Rich Haven Specific Plan, Amendment, Nov. 2020, Figure 3-1

Figure 4 –Proposed Project Land Use

Rich-Haven SPA3

Not to Scale



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Source: City of Ontario Agenda Report, March 15, 2016, Exhibit "A", TOP Land Use Plan

Figure 5 - Land Uses Assumed in the UWMP

Rich-Haven SPA3 Water Supply Assessment

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SECTION 2 - WATER DEMAND ANALYSIS

The purpose of this section is to evaluate whether the proposed Project was considered in the water supplier's planning for water demand. This section will: 1) identify the various water use sectors, 2) identify water demand by those sectors for the next twenty years, and 3) compare the calculated water demand of the proposed Project to the water demand assumed in the most recent UWMP for the same property.

Law

CWC Section 10910:

(c) (2) (2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

2.1 Citywide Demographic Factors

A variety of demographic factors may affect water use. The UWMP Act lists several demographic factors to be detailed in UWMP's including climate, current and projected population, density, and the mix of customer types (CWC sections 10631(e)(1)-(2)). As

suggested by DWR, these data are provided herein and are taken generally from Ontario's 2015 UWMP (Appendix A).

Climate

The climate of the City including the Project site can be described as generally mild temperatures, virtually no days below freezing, and approximately 312 days of sunshine per year. The average annual high temperature is approximately 78 degrees Fahrenheit (°F), and the average annual low temperature is 53.2°F. The average annual rainfall is roughly 11.3 inches, which occurs between October and April. (UWMP, p. 3-8)

Population

The City is divided into two distinct areas: Old Model Colony (OMC) and Ontario Ranch. The OMC mostly consists of residential, commercial, and industrial developments including the Ontario Airport. Ontario Ranch is currently in the process of a planned conversion from agriculture to residential, commercial, industrial, and public uses. The combined OMUC service area population as of 2015, including both OMC and Ontario Ranch, is estimated at 168,777 persons. Based on the City General Plan (TOP) and anticipated development patterns, population at citywide buildout in 2040 is estimated at 368,239 persons as shown in **Table 2-1**, which is an increase of more than 118 percent over 20 years. Most of the anticipated growth will occur through infill, densification in the Old Model Colony and development in Ontario Ranch. (UWMP, p. 3-8)

Table 2-1 OMUC Service Area Population Estimates, 2010-2040

	2010	2015	2020	2025	2030	2035	2040[b]
Population Served[a]	163,924	168,777	180,591	202,262	236,647	288,709	368,239

Source: UWMP, p. 3-8.
(a) Does not include the residents located within the City but receive water service from Cucamonga Valley Water District.
(b) The City estimates buildout by 2040.

As of 2015, the number of housing units in the City is estimated at 47,871 units with a 5.3 percent vacancy rate. The population per household was estimated at 3.7 persons. The City aims to have a full range of housing types and community services that meet the special housing needs for all its residents, regardless of income level, age, or other status. (UWMP, p. 3-8)

2.2 City of Ontario's Current and Future Water Demand

OMUC serves at least 33,720 customer connections as part of its potable and non-potable water distribution system (UWMP, p. 2-1). In fiscal year 2019/2020 (FY 19/20), the total potable water demand in the OMUC service area was 31,385 acre-feet (AF) and the recycled water demand was 7,812 AF (OMUC 2021). The recorded water demands by customer type for the OMUC service area are provided in **Table 2-2**.

Table 2-2 Recorded Citywide Water Demand (AFY)

Customer Type	2005[a]		2010[a]		2015[b]		FY19/20
	Volume (AFY)	No. of Accounts	Volume (AFY)	No. of Accounts	Volume (AFY)	No. of Accounts[C]	Volume (AFY)[d]
Single Family Residential	16,421	28,932	13,253	29,473	10,941	26,838	12,502
Multi-family Residential	6,147	2,244	5,425	2,069	4,839	1,968-	5,068
Commercial	8,369	3,095	6,692	3,285	6,584	3,201-	5,359
Industrial	2,402	327	2,044	278	1,471	268-	2,078
Institutional/ Governmental	1,178	320	-	-	-	-	538
Landscape	6,813	1,246	7,170	1,245	4,564	1,100-	4,631
Agriculture	-	-	-	-	-	-	
Other	378	161	819	308	340	66	368
Sales/transfers/ exchanges	-	-	-	-	206	-	841
Subtotal	**41,709**	**36,325**	**35,403**	**36,658**	**28,945**	**33,441-**	**31,385**
Recycled Water	1,829	-	1,547	178	7,208	279	7,812
Total Demand	**43,538**	**36,325**	**36,950**	**36,836**	**36,153**	**33,720**	**39,197**

Note: Does not include water losses. AFY = acre feet per year
(a) AKM 2011, pp. 3-2.
(b) UWMP 2016, pp. 2-1, 4-2, Appendix B.
(c) CY 2015 Annual Report to Division of Drinking Water.
(d) OMUC 2021.

The projected citywide water demands from 2025 to 2040 are shown in **Table 2-3.**

Table 2-3 Future Citywide Water Demand (AFY)

Customer Type	2025	2030	2035	2040
Single Family Residential	12,063	13,271	14,864	16,557
Multifamily Residential	7,563	9,832	13,273	17,699
Commercial	7,635	8,398	9,406	10,277
Industrial	2,298	2,988	3,884	5,138
Institutional/Governmental	-	-	-	-
Landscape	5,032	5,535	6,365	7,422
Agriculture	-	-	-	-
Other	-	-	-	-
Sales/transfers/exchange to other agencies	-	-	-	-
Subtotal Potable Demand[(a)]	**34,591**	**40,024**	**47,792**	**57,093**
Recycled Water[(b)]	9,118	10,942	13,677	16,547
Total Demand	**43,709**	**50,966**	**61,469**	**73,640**

Notes: Does not include areas within the City that are not served by OMUC.
(a) UWMP 2016, p. 4-2.
(b) UWMP 2016, p. 4-3. Includes agricultural demands.
AFY = acre-feet per year

Water use patterns change during dry years. The expected changes to water demand and water supply during dry years are provided in Section 3 – Water Supply Analysis.

The two most common land use types in the OMUC service area are residential (8,762 acres or 28 percent) and industrial (4,671 acres or 15 percent), followed by undeveloped land (3,290 acres or 11 percent) (UWMP, p. 3-3). The ultimate citywide land use plan that was used for the 2015 UWMP plans for an increase of residential uses to 10,915 acres (34 percent of total), and the employment area including business parks and industrial uses is expected to cover about 8,103 acres (25 percent of total) at buildout (UWMP, p. 3-6). A comparison of acreage for existing (2015) and ultimate land uses within the OMUC service area according to the TOP is provided below in **Table 2-4**.

Table 2-4 Existing (2015) and Ultimate Citywide Land Use

Land Use Designation	Existing Land Use (acres)	Ultimate Land Use (acres)	Percent change
Rural residential	566	453	-20%
Single-family residential	7,074	7,466	6%
Multifamily residential	1,122	2,996	167%
Subtotal Residential:	**8,762**	**10,915**	**25%**
Commercial	1,821	3,321	82%
Industrial	4,671	8,103	73%
Open Space	734	2,293	212%
Public	341	99	-71%
Schools	457	627	37%
Airport	1,500	1,422	-5%
Landfill	209	137	-34%
Agriculture	2,939	-	-
Infrastructure	954	-	-
Right-of-ways	4,734	4,794	1%
Undeveloped	3,290	-	-
Unknown	735	-	-
Vacant buildings	198	-	-
Subtotal Non-Residential:	**22,583**	**20,796**	**-8%**
TOTAL	**31,345**	**31,711**	**1%**

Source: UWMP, p. 3-6.
Does not include areas within the City that are not served by OMUC.

The TOP anticipates buildout of the City by approximately 2040. As shown in Table 2-4, the land use types with the greatest increase in acreage from 2015 to buildout is planned to be in Open Space and Multifamily Residential. Conversely, the City is planning for a reduction in the area dedicated to Rural Residential, Public Facilities, Airport, and Landfill. Areas currently used by agriculture, infrastructure, undeveloped, unknown, and vacant buildings are expected to convert to other land use types. Overall, residential land uses may increase 25 percent from current, and non-residential land uses are expected to decrease moderately.

2.3 Project Site Land Use Assumed in the UWMP

The City's 2015 UWMP cites the same "Existing" and "Ultimate" Land Use Maps that were used in the City's 2012 Water Master Plan (AKM 2012), 2010 UWMP (AKM 2011), and 2010 TOP (p. 3-7). The land use designations within the Project site at the time of the 2015 UWMP and buildout assumptions are shown in Table 1-2 and Figure 5. The estimated water demand of the land uses assumed in the UWMP within the boundary of the Rich-Haven Specific Plan are detailed in **Spreadsheet 1**, using the City's current unit water demand factors. As summarized in **Table 2-5,** using the TOP land use types shown in the land use plan that was used in the 2015 UWMP, the UWMP buildout assumptions for the residential land uses including the mid-range (not the maximum) development assumptions for the NMC East Mixed Use District (Table 1-3), the estimated total water demand for the site that was accounted for in the 2015 UWMP is 2,241 acre-feet per year.

Table 2-5 Summary Water Demand of the Land Use Assumed in the UWMP

	Potable Water Demand (AFY)	Recycled Water Demand (AFY)	Total Water Demand (AFY)
Residential District	1,016	225	1,241
NMC East Mixed Use District	700	300	1,000
Total	**1,716**	**525**	**2,241**

Notes: AFY = acre feet per year; NMC = New Model Colony
Refer to Figure 5 and Spreadsheet 1.

All open space non-recreational planning areas were assumed to only have recycled water demand and no potable demand (i.e., Edison easements/parcels).

2.4 Project Water Demand[1]

The proposed Project land use summary is shown in Section 1, Tables 1-1a and 1-1b and Figure 4. The estimated total water demand of the proposed Project using the City's current unit water demand factors for potable and recycled water is detailed in **Spreadsheet 2.** As summarized in **Table 2-6,** the estimated total water demand for the Project is 2,771 AFY.

Table 2-6 Summary Project Water Demand

	Potable Water Demand (AFY)	Recycled Water Demand (AFY)	Total Water Demand (AFY)
Residential District	1,398	259	1,657
NMC East Mixed Use District	862	252	1,114
Total	**2,260**	**511**	**2,771**

Notes: AFY = acre feet per year; NMC = New Model Colony
Refer to Figure 4 and Spreadsheet 2.

All open space non-recreational areas were assumed to only have recycled water demand. Several additional assumptions had to be made that were not provided in the Project materials to estimate water demand for the Mixed Use District, as follows:

- For Mixed Use High Density Residential, the (gpd/du) water demand factors for potable and recycled were used (instead of gpd/acre) to reflect the anticipated vertical nature of the mixed use area;
- The Mixed Use Office water demand factor was used for all Mixed Use Regional Commercial areas to be conservative (instead of Mixed Use Non-Office water demand factor which is lower);
- When acreages were not provided in the Project land use plan for Regional Commercial areas in the Mixed Use District, the acreages were calculated assuming a floor-to-area (FAR) ratio of 0.70 and the given maximum building

[1] Rich-Haven Specific Plan Amendment No. 3.

square footage. FAR of 0.70 is the maximum allowed by the TOP for this Mixed Use District.

- No additional water demand was calculated for the Mixed Use Overlay in Planning Areas 6B and 8A, or the Edison easement in Planning Area 7B that is shown in the SPA3 land use map.

Conclusion

The estimated total water demand for the Project site that was assumed in the 2015 UWMP is approximately 2,241 AFY (Table 2-5). The estimated total water demand for the proposed Project is approximately 2,771 AFY (Table 2-6). This is a total difference of 530 AFY (potable and recycled combined); therefore, although the Project was accounted for in the latest UWMP, the proposed densification of the Residential District is higher than was assumed for the water demand projections of the latest UWMP. Because the water supplier's water demand projections assumed a lower development density than that which is proposed by the Project for the same property in the Residential District, it can be deduced that the water demand for the Project was not accounted for in the most recently adopted 2015 UWMP.

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SECTION 3 - WATER SUPPLY ANALYSIS

This section identifies the sources of potable water utilized and available to the water supplier of the proposed Project. The purpose of this section is to evaluate the water supplies that could be utilized by the proposed Project during normal, single-dry, and multiple-dry water years during a 20-year projection.

OMUC is the water supplier to the City and the proposed Project. OMUC has five sources of water supply: City wells in the Chino Groundwater Basin; treated groundwater from the Chino Desalter Authority (CDA); recycled water from Inland Empire Utilities Agency (IEUA); purchased water from San Antonio Water Company (SAWCo); and imported wholesale water from the Water Facilities Authority (WFA).

Law

CWC Section 10910(d)(1)*:*

The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

3.1. Documenting Wholesale Water Supplies

Many retail water suppliers in California, including OMUC, receive supplies from one or more water wholesalers. SB 610 requires the WSA to document wholesale supplies received by: 1) describing the quantities of water received from each wholesaler in prior years; 2) identifying existing entitlements, water rights, and/or water service contracts held by the City for the wholesale supply; 3) provide proof of entitlements, water rights, service contracts, relevant capital outlay programs, and construction permits for necessary infrastructure to deliver wholesale supplies, if any; and 4) regulatory approvals required to convey or deliver the wholesale supply.

Wholesale Supplies Received

OMUC receives wholesale water supplies from the WFA who purchases untreated imported water from IEUA, who in turn obtains it from The Metropolitan Water District of Southern California (MWD). WFA and IEUA are both wholesale water suppliers and IEUA is a member agency of MWD. MWD is a wholesaler and contractor for State Water Project water which MWD imports from northern California. State Water Project water is available as stipulated by DWR in response to the hydrology and environmental regulations that can change available supply.[1] Therefore, imported water supplies to southern California can be highly variable; in January 2014 for example, the allocation of State Water Project water to all contractors was reduced to 0 percent due to persistent drought conditions. Nonetheless, MWD has projected in its

[1] DWR, *State Water Project Delivery Capability Report*, published every 2 years, as well as "Notice to State Water Project Contractors" issued as often as needed.

2015 UWMP 100 percent water supply reliability over the next 20 years (2015-2035) during average, single-dry, and multiple-dry years (MWD, pp. 2-15 to 2-17).

The amount of imported water purchased by IEUA from MWD is limited by a purchase order agreement that allows IEUA to purchase up to 93,283 acre-feet per year (AFY) at its lowest rate (Tier I) through Dec. 31, 2024 (IEUA Resolution no. 2014-12-1 located in Appendix F). Of this amount, IEUA wholesales imported water to the WFA, Cucamonga Valley Water District, and the Fontana Water Company. The purchase order agreement includes an annual minimum purchase commitment of 39,835 AFY, which is consistent with the minimum operational needs of the four water treatment plants that treat the imported water from MWD (IEUA/WFA, p. 3-10).

The WFA was formed in 1980 as a Joint Powers Authority by the cities of Chino, Chino Hills, Ontario, Upland, and Monte Vista Water District in order to construct and operate water treatment facilities for providing supplemental potable water to the member agencies. In 1985, the City established an agreement to purchase capacity in the WFA water treatment plant; a copy of which is located in Appendix G. Then, in 1988 the WFA finished construction of the Agua de Lejos Water Treatment Plant (WTP) in Upland to treat the imported water from IEUA and MWD to meet drinking water standards.

Currently, the Agua de Lejos WTP has the capacity to treat and disinfect 81 million gallons per day (mgd). Recorded flows through the Agua de Lejos WTP have ranged from 40 to 50 mgd during the peak summer months and can be as low as 9-12 mgd during winter months (www.wfajpa.org/facilities). As documented in WFA Ordinance No. 99-07-02 (located in Appendix H), the City owns 31.4 percent of the plant capacity of the Agua de Lejos WTP. As of 2015, that proportion is equivalent to approximately 28,451.6 AFY (UWMP, p. 6-14). As of CY 2020, OMUC can purchase up to 9,915 AF of imported supply through WFA at Tier 1 rates. Beyond that amount, OMUC could continue to purchase at Tier 2 rates. As of FY 19/20, OMUC purchased 6,513 AF of wholesale water from the WFA (OMUC 2021).

The actual and projected wholesale water supplies that are expected to be available to IEUA and WFA through 2040 are shown in **Table 3-1**.

Table 3-1 Wholesale Water Supplies Available to IEUA and WFA (AFY)

Imported Water	2010[a]	2015[b]	2020	2025	2030	2035	2040
	Actual		Projected[b]				
IEUA (raw)	54,934	58,906	69,752	69,752	69,752	69,752	69,752
WFA (potable)[c]	14,864	27,606	32,783	32,783	32,783	32,783	32,783

Note: IEUA = Inland Empire Utilities Agency; WFA = Water Facilities Authority; AFY = acre feet per year.
(a) Data for 2010 Actual from *2010 IEUA UWMP*, Table 3-2; and *2010 WFA UWMP*, Table 3-1.
(b) Data for 2015 Actual through 2040 Projected from *IEUA and WFA 2015 UWMP*, pp. 3-9 – 3-10 (Appendix C).
(c) Assumes 47 percent of IEUA's imported supply is for WFA for all future years beginning in 2020.

IEUA and WFA jointly prepared a 2015 Regional UWMP which states the following in terms of future water supply reliability (IEUA/WFA, p. 1-1):

> *The water resources management strategies detailed in this 2015 UWMP illustrate that despite past periods of extraordinary growth and prolonged drought, the region is well positioned to ensure adequate water supplies, reduce dependence on imported supplies and increase drought resilient water sources, while addressing water quality management challenges. This 2015 Regional UWMP is reflective of IEUA's holistic water resources management strategies to prepare for future uncertainty and to ensure sufficient water resources for the region.*

To reduce dependence on imported water supplies, OMUC joined the "Dry Year Yield Storage Program," which is described below.

Dry Year Yield Storage Program

The Dry Year Yield (DYY) storage program is a cooperative Conjunctive Use Program Agreement between MWD, IEUA, Chino Basin Watermaster, Three Valleys Municipal

Water District, and the Chino Basin groundwater producers (Agreement No. 49960 [DYY 2014]). Under the DYY Program, MWD can store up to 100,000 AFY of water in the Chino Groundwater Basin during wet years when surplus water is available, and to reduce imported water deliveries up to 33,000 AFY in dry, drought, or emergency periods, but not to exceed the amount of water in the MWD storage account.

The City executed an agreement with IEUA to participate in the DYY program in 2003. The DYY Agreement was amended in September 2014 to clarify storage measurement and extraction from the MWD storage account, define baseline conditions in calculations of performance targets, define procedures for variances in performance targets, revise administrative milestones, and make miscellaneous updates (refer herein to Appendix I for original agreement and amendments). The 2014 DYY amendments also provided for a minimum imported water delivery of 40,000 AFY during "call" years, establishing minimum needs for direct deliveries from MWD. As of June 30, 2020, the storage balance in the DYY account is 45,961 AF (OMUC 2021).

Participation in the DYY program obligates OMUC to reduce its use of imported water from WFA by a fixed amount, known as the "shift obligation" when MWD makes a "call" for their water stored in the Chino Basin. OMUC's shift obligation is 8,076 AFY, which is the amount OMUC purchases from WFA during a baseline year. OMUC purchases an additional 2,000 AFY from WFA that is then sold to neighboring water supplier Jurupa Community Services District (JCSD) who does not have an imported water connection. In 2014, JCSD entered into an agreement with the City to participate in the DYY program (a copy of which is located in Appendix J). During years when MWD makes a "call" for the water in their storage account, OMUC will decrease its purchase of WFA imported water by a combined total of 10,076 AF (8,076 AF plus 2,000 AF) compared to the previous year. To meet its obligation in the DYY program during a "call" year, JCSD will deliver 2,000 AF to OMUC from the Chino Basin Desalter Authority (CDA) (assuming JCSD's imported water baseline is 2,000 AFY) (JCSD 2014).

DYY funds from DWR local assistance grants were used for the construction of three OMUC groundwater wells (Wells 45, 46, and 47) and an ion-exchange facility located at John Galvin Park to treat water extracted from Wells 44 and 52. When MWD makes a "call" for its stored water, OMUC can operate these facilities to meet its shift obligation. MWD will then pay for the cost of operations and OMUC would pay MWD (through IEUA) the full-service water rate. OMUC can use the DYY facilities to meet its normal water demands during other periods but OMUC is responsible for the well operation and maintenance costs. (UWMP, p. 6-7)

The additional groundwater capacity provided by this program allows OMUC to increase the percentage supply used to meet peak demands and allow OMUC to be less reliant upon imported water supplies. (UWMP, p. 6-7)

3.2. Documenting Water Supplies

As of the 2015 UWMP, approximately 69 percent of OMUC's water supply came from groundwater, 20 percent from imported water, and 11 percent of supply was recycled water (UWMP, p. 6-16).

The recorded water supplies available to OMUC from 2000 to FY 2018/2019 are provided in **Table 3-2** (next page) and the projected water supplies available to OMUC from 2020-2040 are provided in **Table 3-3.** In addition, each water supply source is identified as a water supply entitlement, water right, or water service contract per SB 610 guidance. Appropriative rights to groundwater are discussed in Chapter 4 – Groundwater Analysis.

Table 3-2 Recorded OMUC Water Supplies (AFY)

Source	2000[a]	2005[b]	2010[c]	2015[d]	FY 19/20[e]	Form of Right	Amount of Right
Wells	36,862	28,799	20,955	19,544	18,395	Appropriative	Varies (see Sec. 4)
Purchased							
WFA	9,258	13,406	8,923	6,413	6,513	Capacity Ownership	28,451.6 AFY (31.4% of plant capacity)
CDA	-	-	5,000	3,543	6,636	Capacity Ownership	8,533 AFY
SAWCo	-	-	-	443	565	Shareholder Entitlement	765 AFY
Subtotal Potable	**46,120**	**42,205**	**34,878**	**29,943**	**32,109**	**--**	**--**
Recycled	700[f]	-	1,547	3,859[g]	7,812[h]	Contract	Ontario's share of sewer flows.
Total Supply	**46,820**	**42,205**	**36,425**	**33,802**	**39,921**	**--**	**--**

Notes: WFA = Water Facilities Authority; CDA = Chino Basin Desalter Authority; SAWCo = San Antonio Water Company; FY = fiscal year; AFY = acre-feet per year.

(a) Webb 2004, p. 21.

(b) AKM 2011, pp. 3-8 and 5-12.

(c) AKM 2011, p. 4-2.

(d) UWMP 2016, p. 6-16.

(e) OMUC 2021.

(f) Webb 2004, p. 29.

(g) Does not include recycled water for agriculture deliveries (3,349 AF).

(h) Based on the City's share of sewer flows in FY19/20, up to 12,715 AF was available for beneficial use (OMUC 2021).

Table 3-3 Projected OMUC Water Supplies (AFY)

Source	2020	2025	2030	2035	2040	Form of Right	Amount of Right
Wells	11,782	13,465	16,234	21,627	30,795	Appropriative	Varies (see Sec. 4)
Purchased WFA	10,000	11,000	13,000	15,000	17,000	Capacity ownership	28,451.6 AFY (31.4% of plant capacity)
CDA	8,533	8,533	8,533	8,533	8,533	Capacity Ownership	8,533 AFY
SAWCo	765	765	765	765	765	Shareholder entitlement	765 AFY
Subtotal Potable	**31,080**	**33,763**	**38,532**	**45,925**	**57,093**	**--**	**--**
Recycled	8,289	9,947	12,434	15,545	16,547	Contract	Ontario's share of sewer flows.
Total Supply	**39,369**	**43,710**	**50,966**	**61,470**	**73,640**	**--**	**--**

Note: AFY = acre feet per year; FY = fiscal year;
Source: UWMP, Table 6-9, p. 6-16.

OMUC anticipates increasing its total water supply by pursuing: 1) full utilization of OMUC's groundwater rights in the Chino Basin allowed under the Chino Basin Groundwater Adjudication Judgment (including increased groundwater recharge with stormwater and recycled water described in Section 4); 2) expanding use of recycled water; and 3) expanding use of desalter water (UWMP, p. 6-16).

Water Supply Capacities

The capacity of each source of supply available to OMUC is provided in the *2012 Ontario Water Master Plan* (AKM 2012), which is provided in Appendix K. The City is currently preparing an update to its Water Master Plan; because it is not yet finalized and adopted, this Assessment will use the City's 2012 Water Master Plan. The capacity of the supply system refers to the maximum production rate based on the pumps and infrastructure. For example, the capacity of groundwater wells refers to a

pumping rate based on running the pumps at full utilization, 24-hours a day, 7 days a week. Although this maximum rate of pumping is assumed in terms of comparing capacities, pumps are rarely used at more than two-thirds capacity. Knowing the system capacity is important to ensure OMUC can meet all demands imposed upon the system, specifically meeting "average day demand" and "maximum day demand." Demand can be met with multiple supply sources, storage, or a combination of both. OMUC's reservoirs are not discussed in this Assessment, however, they are used to regulate hourly fluctuations in demand, provide fire flow, and supplement supply during an extended outage of a source (AKM 2012, p. 9-1).

OMUC is required to meet the following water supply criterion from the California Code of Regulations: "a source of supply equal to one maximum day demand, with one average day demand from local sources (AKM 2012, p. 9-1)." As the land uses and population changes in OMUC service area, so does the average and maximum day demands. The maximum capacities of existing sources of supply available to OMUC are provided in **Table 3-4**.

Table 3-4 Supply Capacities of Existing Sources

Source	AFY	mgd	gpm
Existing Wells[(a)]	63,936	57	39,638
WFA at Aqua de Lejos WTP[(b)]	28,490	25.4	17,663
CDA from Chino I Desalter	1,500	1.34	930
CDA from Chino II Desalter	7,033	6.3	4,357
Total Existing Capacity	**100,959**	**90**	**62,588**

Note: AFY = acre-feet per year; mgd = million gallons per day; gpm = gallons per minute.

From AKM 2012, Table 9-1 (Appendix K).

(a) OMUC, 2021.

(b) Combination of maximum capacities of WFA Turnouts 1 and 2 (16 mgd and 9 mgd, respectively).

The maximum capacities of the 'ultimate' sources of supply available to OMUC as of projections made in 2012, are provided in **Table 3-5**.

Table 3-5 Ultimate Capacities of Supply Sources

Source	AFY	mgd	gpm
Existing Wells[(a)]	63,936	57	39,638
Future Wells[(b)]	36,288	32.40	22,500
Subtotal	**100,224**	**89.4**	**62,138**
WFA at Aqua de Lejos WTP	28,490	25.4	17,663
CDA from Chino I Desalter	1,500	1.34	930
CDA from Chino II Desalter	7,033	6.28	4,361
Total	**137,247**	**122.42**	**22,954**

Note: AFY = acre-feet per year; mgd = million gallons per day; gpm = gallons per minute.
From Table 9-3 of AKM, 2012 (Appendix K).
(a) OMUC, 2021.
(b) Future well capacities assumed to 2,500 gpm each. 9 wells planned.

As stated in the 2012 Ontario Water Master Plan, the existing supply capacity of the OMUC groundwater wells alone meets the water supply criterion for both average day demand under existing and ultimate conditions, as well as maximum day demand for existing conditions (AKM 2012, p. 9-2). However, under ultimate conditions the supply capacity will require additional future wells, as shown in Table 3-5 to meet the water supply criterion for maximum day demand.

3.3. Descriptions of All Water Supply Projects

City Well Production

OMUC currently owns 17 active groundwater wells in the Chino Basin (OMUC 2021). The Chino Basin is one of the largest groundwater basins in southern California, with an estimated 5 million AF,[2] with another 1 million AF in additional storage capacity. OMUC is planning nine new wells with seven of those wells serving Ontario Ranch with a combined additional supply capacity of 36,288 AFY (AKM 2012, p. 9-2).

[2] The *2020 Safe Yield Recalculation Final Report* (May 15, 2020) indicates the estimated total volume of water in storage was 12.6 million AF in July 2018 (WEI 2020, p. 6-15).

In FY 19/20, OMUC pumped 18,395 AF (Table 3-2). OMUC's existing pumping capacity is approximately 63,936 AFY (Table 3-4). The recorded extractions from OMUC wells between 2011 and 2015 are shown in **Table 3-6.**

Table 3-6 Recorded Groundwater Production, 2011-2015 (AFY)

Supply	2011	2012	2013	2014	2015
City wells in Chino Basin	20,442	20,226	19,967	20,274	19,544

Note: AFY = acre feet per year
From UWMP, p. 6-5 (Appendix A).

As of 2015, approximately 58 percent of OMUC water supply came from groundwater pumped by its own wells in the Chino Basin. OMUC strives to maximize local water supplies and minimize the need for imported water from other regions (UWMP, p. 7-1). A thorough description of the City's groundwater rights pursuant to SB 610 guidance is provided in Section 4 – Groundwater Analysis.

Chino Basin Desalter Authority (CDA) Groundwater Production

OMUC is a member of the CDA, a joint exercise of powers agency created on September 25, 2001, along with JCSD, Santa Ana River Water Company, IEUA and the cities of Chino, Chino Hills, and Norco. Western Municipal Water District joined CDA on April 2, 2009. The goals of the CDA are:

- Achieve hydraulic control of the Chino Basin to prevent contaminated Chino Basin groundwater from entering Santa Ana River;
- Remove contamination (primarily nitrates, as well as TCE, PCE, and TCP) from groundwater in the southern portion of the Chino Basin; and
- Deliver the treated water to member agencies to offset the need for imported water.

CDA provides high-quality drinking water from two desalters (salt removers) that are anticipated to treat approximately 35,200 AFY of Chino Basin groundwater in 2020 and thereafter. This water is then sold to CDA members through "take or pay" contracts. The Chino I Desalter, located at 6905 Kimball Avenue in Chino, was completed in 2000 and expanded in August 2005 to its current rated capacity of 15,906 AFY (14.2 mgd). However, the Chino I Desalter cannot provide this rated capacity due to the high total dissolved solids (TDS) in the raw groundwater supply. The Chino II Desalter was completed in 2006 and is located at 11202 Harrel Street in the City of Jurupa Valley. The current rated capacity of Chino II Desalter is 11,201 AFY (10 mgd) and permitted capacity is 16,802 AFY (15 mgd), including 5,600 AFY (5 mgd) raw water bypass. However, the Chino II Desalter has not achieved the permitted capacity as a result of insufficient raw water supply. CDA is currently expanding the Chino II Desalter to a rated capacity of 25,427 AFY (22.7 mgd). (UWMP, p. 6-15)

Although Chino Desalter I capacity will not be increased, additional raw water capacity will be provided by five new CDA wells in the Chino Creek Well Field. All five wells have been drilled and equipped.

In FY 19/20, OMUC purchased approximately 6,636 AF from CDA (Table 3-2). As shown in Table 3-3, the water supply from CDA to OMUC is projected to stabilize at 8,533 AFY by 2020, which would be roughly 12 percent of the total 2040 water supply portfolio for OMUC. The City's capacity rights to CDA are described in Section 4 – Groundwater Analysis.

Inland Empire Utilities Agency (IEUA) Recycled Water Supply:

Recycled water is provided to OMUC from IEUA, which treats the City's wastewater at its four regional wastewater reclamation plants. OMUC has been using recycled water produced by IEUA since 1972. Currently, recycled water is used in the City for agricultural irrigation, landscape irrigation, golf course irrigation and industrial purposes.

OMUC is entitled to the recycled water generated from the City's share of sewer flows. In FY 19/20, this amount was 12,715 AF (OMUC 2021). In FY 19/20, 7,812 AF of recycled water was purchased by OMUC for direct use (Table 3-2). This represents roughly 60 percent utilization of recycled water supply available to OMUC in FY 19/20. Recorded and projected supplies of recycled water available to OMUC are listed in **Table 3-7**.

Table 3-7 Recorded and Future Recycled Water Supply (AFY)

Beneficial Use Type	2015	2020	2025	2030	2035	2040
Agricultural irrigation	3,349	2,177	1,372	1,118	529	295
Landscape irrigation	2,330	4,195	6,174	8,297	11,491	14,575
Golf course irrigation	540	600	615	570	700	720
Industrial use	989	957	957	957	957	957
Total	**7,208[a]**	**7,929**	**9,118**	**10,942**	**13,677**	**16,547**

Note: AFY = acre feet per year
From UWMP, p. 6-10 (Appendix A).
(a) Supply available for use in 2015 was 12,131 AF.

Over the next 20 years, landscape irrigation is projected to have the greatest increase in demand for recycled water within the OMUC service area. Agricultural properties are expected to convert to more urban land uses, while supplies to golf courses and industrial uses are expected to remain relatively stable. (UWMP, p. 6-12)

IEUA has prepared several recycled water studies, plans, and strategy documents to bring a regional recycled water delivery system to fruition. OMUC updated their Recycled Water Master Plan in 2012 (located in Appendix L) to fully coordinate with IEUA's recycled water planning efforts. OMUC is currently updating their 2012 Recycled Water Master Plan.

San Antonio Water Company (SAWCo) Potable Water Supply

SAWCo is a mutual water company and corporation located in Upland. SAWCo has provided water service to its active shareholders for over 130 years. Although SAWCo does not technically meet the threshold as a retailer or wholesale water agency that needs to prepare an UWMP, they have done so nonetheless in 2015; albeit modified from the State's format (SAWCo 2016).

SAWCo supplies water based on entitlement only, which is based on the number of shares held. The number of shares is finite and considered a commodity that can be divided or sold. The "entire water of the company" and the current entitlement for 2015 is equivalent to 11,552 AFY, which distributed among the 6,389 shares. The volume per share is variable. SAWCo has therefore determined, "…water use projections related to population growth and density, land use, zoning, development, and other typical indicators have no bearing on supply" (SAWCo 2016, p. 11). Notably, SAWCo expects to reduce entitlement in the future to 9,819 AFY based on supply trends and uses this amount for their water supply projections (SAWCo 2016, p. 36).

The City owns 295 shares of SAWCo, which equates to a current entitlement of 765 AFY of potable water to OMUC (UWMP, p. 6-8). In FY 19/20, OMUC received an actual volume of 565 AF (Table 3-2). OMUC has forecasted that future available supplies will be 765 AFY from 2020 to 2040 (Table 3-3). The City receives water from SAWCo indirectly through a connection made in 2015 from SAWCo to the WFA.

SAWCo water supplies are a mixture of surface water from San Antonio Creek, groundwater from the San Antonio Tunnel and three groundwater basins: Chino Basin, Cucamonga Basin and Six Basins (SAWCo 2016, p. 22). No new sources of supply are anticipated to be developed by SAWCo over the planning horizon. Actual and projected water productions (assuming water produced equals water demand) estimated by SAWCo are shown in **Table 3-8.**

Table 3-8 Recorded and Future SAWCo Water Supply (AFY)

Source	2015	2020	2025	2030	2035
Chino Basin	1,143.84	1,232.00	1,232.00	1,232.00	1,232.00
Cucamonga Basin	4,427.94	4,500.00	4,500.00	4,500.00	4,500.00
Six Basin	738.02	945.62	945.62	945.62	945.62
San Antonio Tunnel	696.80	949.52	949.52	949.52	949.52
Groundwater Sub-total	**7,006.60**	**7,627.14**	**7,627.14**	**7,627.14**	**7,627.14**
Surface Water (San Antonio Creek)	2,024.01	1,962.88	1,962.88	1,962.88	1,962.88
Total	**9,030.61**	**9,590.02**	**9,590.02**	**9,590.02**	**9,590.02**

Note: AFY = acre feet per year
From SAWCo 2016, Table 9, p. 22.

In terms of future reliability, SAWCo has stated the following in its 2015 UWMP (p. 32): "SAWCo has sufficient supplies to meet all obligations to its shareholders through the planning horizon." In addition, SAWCo has future transfer and exchange projects planned to mutually benefit certain shareholders during an emergency, including OMUC. The exact location, capacity and implementation schedule of these interconnections are under review (SAWCo 2016, p. 35).

3.4 Documenting Normal Year Water Supply and Demand

OMUC has assumed in its UWMP that customer water demand and available water supply are equal during "normal" precipitation years. However, OMUC has documented more than 100 percent of supply available during normal years, a single-dry year, and multiple-dry years according to Table 7-1 in the 2015 UWMP (Appendix A).

The normal year water supplies available to OMUC, as well as the normal year water demand projections are compared in **Table 3-9**. OMUC has estimated that sufficient supply will be available during any normal year occurring between 2020 and 2040.

Table 3-9 OMUC Projected Normal Year Supply and Demand (AFY)

	2020	2025	2030	2035	2040
Supply	39,369	43,710	50,966	61,470	73,640
Demand	39,369	43,710	50,966	61,470	73,640
Difference	0	0	0	0	0

Note: AFY = acre feet per year
From UWMP, Table 7-2 (Appendix A).

3.5 Documenting Dry Year Water Supply and Demand

The following assumptions are made in OMUC's 2015 UWMP to estimate future water supplies and demands during a single dry year (p. 7-5):

- *The provisions of a Stage 1 water shortage will be implemented, and customers will be subjected to a 10 percent consumption reduction.*
- *The supply of recycled water will be the same as in normal years and dry years.*
- *The reduction in WFA imported water supplies (equal to the shift obligation of 8,076 AFY) will be compensated by the extra groundwater production from the designated DYY wells during dry years. The DYY Program will expire in 2028 (unless renewed or replaced).*
- *The groundwater supply will be the same as in a normal year. The City has rights, storage and leases and can also purchase replenishment water.*[3]
- *Water losses have been included in the potable water demands as 7 percent of the annual demand.*

[3] Replenishment water, which is obtained by the Chino Basin Watermaster on behalf of all parties, can consist of reclaimed water, State water, and local supplies.

OMUC has determined that surplus water supplies will be available during a single dry year occurring anytime from 2020 to 2040, as shown in **Table 3-10**.

Table 3-10 OMUC Projected Single Dry Year Supply and Demand (AFY)

	2020	2025	2030	2035	2040
Supply	39,369	43,710	50,966	61,470	73,640
Demand	35,432	39,339	45,869	55,323	66,276
Difference	**+3,937**	**+4,371**	**+5,097**	**+6,147**	**+7,364**

Note: AFY = acre feet per year
From UWMP, Table 7-3 (Appendix A).

3.6 Documenting Multiple Dry Year Supply and Demand

OMUC has made the following assumptions in its UWMP to estimate future water supplies and demands during a three-year drought (UWMP, p. 7-6):

- *The first dry year is like a single dry year, in which customers voluntarily reduce consumption by 10 percent.*
- *The second dry year is considered a Stage 2 water shortage, and a 15 percent reduction in consumption is made mandatory. This will be imposed at the City Council's discretion.*
- *The third dry year is considered a Stage 3 water shortage, and a minimum of 20 percent consumption reduction is required. This will be imposed at the City Council's discretion.*
- *The supply of recycled water will be the same in normal years and dry years.*
- *The reduction in WFA supplies (8,076 AFY) will be compensated by extra groundwater production from the designated DYY wells during dry years. The DYY will expire in 2025 (unless renewed or replaced).*
- *The groundwater supply will be the same as in a normal year. The City has rights, storage and leases. The City can also purchase replenishment water.*

- *Water losses have been included in the potable water demands as 7 percent of the annual demand.*

OMUC has projected that surplus water supplies will be available during each year of a three-year drought that could occur anytime from 2020 to 2040, as shown in **Table 3-11.**

Table 3-11 OMUC Projected Multiple Dry Year Supply and Demand (AFY)

		2020	2025	2030	2035	2040
First Year	Supply	39,369	43,710	50,966	61,470	73,640
	Demand	35,432	39,339	45,869	55,323	66,276
	Difference	**+3,937**	**+4,371**	**+5,097**	**+6,147**	**+7,364**
Second Year	Supply	39,369	43,710	50,966	61,470	73,640
	Demand	33,464	37,154	43,321	52,250	62,594
	Difference	**+5,905**	**+6,557**	**+7,645**	**+9,221**	**+11,046**
Third Year	Supply	39,369	43,710	50,966	61,470	73,640
	Demand	31,495	34,968	40,773	49,176	58,192
	Difference	**+7,874**	**+8,742**	**+10,193**	**+12,294**	**+14,728**

Note: AFY = acre-feet per year
From UWMP, Table 7-4 (Appendix A).

3.7 Comparison of Available Water Supply and Demand

CWC section 10910 (c)(3) states: *If the projected water demand associated with the proposed project was not accounted for in the most recently adopted UWMP…the water assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.*

As described in Section 2, the annual total water demand for the proposed Project is estimated at 2,771 AFY and the total water demand estimated by the previously planned land use of the same area is 2,241 AFY (Tables 2-5 and 2-6). This increase of 530 AFY reflects a decrease as a result of the Project of -14 AFY recycled water demand and an increase of +544 AFY of potable water demand for the Project site that was not accounted for in the 2015 UWMP.

As shown in Table 3-3 and Table 3-9, the future water supplies available to OMUC do not exceed the future ultimate water demand. Further, the future water demands in the 2015 UWMP did not consider the increase in potable water demand from the proposed Project. However, the increased water demand of the Project is just 0.7 percent of the citywide ultimate 2040 water demand/water supply as estimated by the 2015 UWMP (i.e., 73,640 AFY). Notably, OMUC can purchase up to 9,915 AFY of imported supply through WFA at Tier 1 rates. Beyond that amount, OMUC could continue to purchase at Tier 2 rates. In FY 19/20, OMUC purchased about 6,513 AF from the WFA plant (Agua de Lejos WTP), which is well within their capacity rights of 28,451.6 AFY. There is ample availability for OMUC to purchase additional imported water from the WFA that is within their rights to meet the needs of the proposed Project.

With the signing of AB 1668 and SB 606, the state has set an Indoor Residential Standard of 55 gallons per capita per day (GPCD) which will decrease to 50 GPCD by 2030 (CWC section 10609.4(a)). The per person unit water use factors used by the City are based on a minimum of 60 gpd/person; therefore, a per-person savings of at least 5 gallons per day of indoor residential potable water use would be achieved. Assuming an ultimate citywide residential population of 372,392 persons[4] and water conservation efforts of at least 5 GPCD over the entire City, approximately 2,085 AFY of water could be conserved. This savings would more than cover the increased and unplanned potable water demand of the proposed Project.

[4] From *The Ontario Plan Approved Land Use Buildout Estimate (Modified)*, UWMP Appendix B p. 5.

Agricultural properties within OMUC service area are expected to convert to urban land uses, which is consistent with ongoing trends in the City. Most agricultural operations in the City are on private wells and/or use recycled water. As shown in Table 3-7, recycled water deliveries for agricultural irrigation are projected to decrease roughly 91 percent over the next 20 years. Further, industrial land uses (which may include some manufacturing uses) are the second most common type in the City (Table 2-2) and they are planned by the City General Plan to increase (Table 2-3).

Table 3-10 and Table 3-11 show that OMUC projects surplus water supplies available during single-dry and multiple-dry years in volumes sufficient enough to meet the demand of the proposed Project over the next 20 years. Section 4 will describe the supply available to OMUC through rights held to Chino Basin groundwater that are greater than the amount currently extracted. OMUC can also bank water and pump in excess of their rights in the Chino Basin with payment of a replenishment fee.

In conclusion, based on the information provided in the 2015 UWMP and updated information provided by OMUC for this Assessment, the City has sufficient water supplies to meet the demand of the Project by purchasing additional water from WFA, and by using existing groundwater supplies and pumping capacities that are more than adequate to meet the additional water demands of the proposed Project during normal, single-dry, and multiple-dry water years including future agricultural and manufacturing uses. With the implementation of water conservation efforts, OMUC will further ensure its ability to provide sufficient supply for the proposed Project. Section 4 will discuss the City's water rights in light of this water supply and capacity analysis.

SECTION 4 - GROUNDWATER ANALYSIS

SB 610 requires specific groundwater information to be included in the WSA if groundwater will be a source of water for the proposed project. As discussed in Section 3, groundwater is one of the sources of supply for OMUC and therefore part of the water supply for the proposed Project.

Law

CWC Section 10910 (f):

If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as over drafted or has projected that the basin will become over drafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

4.1 Review of Urban Water Management Plan (CWC Section 10910(f)(1))

The City's 2015 UWMP, prepared by AKM on behalf of the City of Ontario (OMUC) was adopted by City Council Resolution 2016-072 on June 21, 2016 (located in Appendix A). The UWMP includes information relevant to the identified water supply for the proposed Project and is incorporated herein. Relevant information includes: 1) current and projected water demands (*System Water Use*) through year 2040; 2) a description of the Chino Groundwater Basin (*System Supplies*); 3) the reliability of the water supply, projected supply and demand comparisons, and water shortage plans (*Water Supply*

Reliability and *Water Shortage Contingency Planning*); and 4) water demand management efforts (*Demand Management Measures*).[1]

The 2015 UWMP contains a Technical Memorandum that describes how the City's land use designations from the General Plan (TOP) were used to calculate future water demand by buildout in approximately 2040. The methods and calculations of the ultimate citywide water demand estimate are in Appendix B of the 2015 UWMP.

4.2 Groundwater Basin Descriptions (CWC Section 10910(f)(2))

The Chino Groundwater Basin is the direct source of groundwater for OMUC. Although water supplied to OMUC from SAWCo may include a combination of groundwater from other basins (i.e., San Antonio Tunnel, Cucamonga Basin, and Six Basins), the amount is minimal and the basins are described in the 2015 SAWCo UWMP (located in Appendix E).

Chino Groundwater Basin Description

The Chino Basin covers approximately 235 square miles in the upper Santa Ana River Watershed, and underlies parts of Los Angeles, San Bernardino, and Riverside Counties. The state Department of Water Resources (DWR) identifies the Chino Basin as Basin No. 8-002.01, which is a sub-basin of the Upper Santa Ana Valley (Bulletin 118).[2] It is estimated the Chino Basin has approximately 5 million AF of water in storage, and an estimated 1 million AF of additional unused storage capacity (UWMP, p. 6-2).[3] While still considered a single basin for hydrologic purposes, the Chino Basin is divided into five management zones based on similar hydrologic conditions.

[1] Words and phrases italicized parenthetically are in reference to chapters so titled in the 2015 UWMP.
[2] DWR collects, summarizes, and evaluates groundwater data in the "Bulletin 118" series, which present the results of basin evaluations and defines the boundaries of California's 515 alluvial groundwater basins. An update was provided in 2016. In Bulletin 118, DWR identifies each basin and sub-basin with a number code.
[3] The *2020 Safe Yield Recalculation Final Report* (May 15, 2020) indicates the estimated total volume of water in storage was 12.6 million AF in July 2018 (WEI 2020, p. 6-15).

Geographically speaking, the City is located in the approximate center of the Chino Basin. DWR Bulletin 118 (updated 03/05/18) describes the Chino Basin as follows:

> *The Chino Basin is bound on the northwest by the San Jose fault, on the north by the Cucamonga fault and impermeable rocks of the San Gabriel Mountains, and on the east by the Rialto-Colton fault. The basin is bound on the southeast by the Jurupa Mountains, Pedley Hills, La Sierra Hills, and the approximate location of the Santa Ana River. The Chino fault and impermeable rocks of the Chino Hills and Puente Hills bound the southwest side of the basin. In some areas, the basin boundary coincides with the Chino Basin (1978) groundwater adjudication boundary.*

The Chino Basin is an adjudicated basin and has been extensively studied by the court-appointed Chino Basin Watermaster (CBWM), with reports available at www.cbwm.org. The following is an excerpt that describes the Chino Basin geology from the Chino Basin Watermaster's management plan called the "Optimum Basin Management Program" or "OBMP" (1999, p. 2-2):

> *Chino Basin was formed when eroded sediments from the San Gabriel Mountains, the Chino Hills, Puente Hills, and the San Bernardino Mountains filled a structural depression. The bottom of the Basin – the effective base of the freshwater aquifer – consists of impermeable sedimentary and igneous rocks. The base of the aquifer is overlain by older alluvium of the Pleistocene period followed by younger alluvium of the Holocene period. The younger alluvium varies in thickness from over 100 feet near the mountains to a just few feet, south of Interstate 10 and generally covers most of the north half of the Basin in undisturbed areas. The younger alluvium is not saturated and thus does not yield water directly to wells. Water percolates readily in the younger alluvium and most of the large spreading basins are located in the younger alluvium. The older alluvium varies in thickness from about 200 feet thick near the*

southwestern end of the Basin to over 1,100 feet thick southwest of Fontana, and averages about 500 feet throughout the Basin.

Legal Right to Pump from the Chino Basin

Water rights to the Chino Basin were adjudicated by the Superior Court of the State of California for the County of San Bernardino in 1978 (a copy of the Judgment and amendments thereto are provided in Appendix M). The court's Judgment declared the safe yield of the Chino Basin at 140,000 acre-feet per year (AFY).[4] Withdrawal in excess of safe yield is termed overdraft. The Chino Basin Watermaster may determine that the operating safe yield (OSY) can be higher from year-to-year depending on factors including favorable precipitation and management efforts that maximize the beneficial use of the groundwater Basin.[5] The Chino Basin Watermaster has undertaken a safe yield redetermination. In July 2020, the court ordered that the safe yield be reduced by 3% and reset to 131,000 AFY for the period of July 1, 2020 to June 30, 2030. The court previously reset the safe yield from its initial 140,000 AFY to 135,000 AFY in 2017 for the period of 2010 to 2020.

The Chino Basin Watermaster is comprised of three stakeholder groups (or "pools"): Overlying Agricultural Pool Committee (representing dairymen, farmers, and the State of California); the Overlying Non-Agricultural Pool Committee (representing businesses and industries); and the Appropriative Pool Committee (representing local cities, public water districts and private water companies). The Chino Basin Watermaster carries out the provisions of the Judgment including monitoring of the Chino Basin and files an annual report on pumping and replenishment.

[4] Judgment (1978) defines Safe Yield as, "The long-term average annual quantity of groundwater (excluding replenishment or stored water but including return flow to the Basin from use of replenishment or stored water), which can be produced from the basin under cultural conditions of a particular year without causing an undesirable result."
[5] Judgment (1978) defines Operating Safe Yield (OSY) as, "The annual amount of groundwater which Watermaster shall determine, pursuant to criteria specified in Exhibit "I", can be produced from Chino Basin by the Appropriative Pool parties free of replenishment obligation under the physical solution herein."

The City is a member of both the Overlying Non-Agricultural Pool and the Appropriative Pool. The Judgment allocates a portion of the safe yield to the Overlying Non-Agricultural Pool and a portion of the OSY to the Appropriative Pool. Pursuant to the Judgment, the City has appropriative rights to 20.742 percent of the OSY allocated to the Appropriative Pool. The City has gained 53.338 percent of the safe yield assigned to the Overlying Non-Agricultural Pool. The assigned share of the safe yield and OSY change depending on the safe yield set by the court.

The Judgment allocates safe yield of the Chino Basin according to the three pools as described above (Appendix M, Paragraph 13). The members of each pool are then enjoined from producing water from the Chino Basin in excess of such allocated amount "except pursuant to the provisions of the Physical Solution" (Appendix M, Paragraph 13(a)-(c)).

The Physical Solution of the Judgment is described in broad terms by Paragraphs 39 through 57 of the Judgment. Paragraph 45 provides the Chino Basin Watermaster with the authority to levy and collect assessments for the purchase of water necessary to balance the production by any party in excess of that party's allocated share of safe yield of the Chino Basin. Paragraphs 49 and 50 then describe the sources of water which are authorized to function as sources of replenishment water and methods by which water can be replenished to the Chino Basin. Exhibit H, Paragraph 7, of the Judgment describes the way in which costs for replenishment water will spread among the members of the Appropriative Pool.

The afore-cited paragraphs of the Judgment evince a clear expectation that parties, including the City/OMUC, would produce water in excess of their adjudicated production rights. The injunction in Paragraph 13 of the Judgment should thus be interpreted to mean that parties are enjoined from producing water in excess of their adjudicated rights except to the extent that they will pay a replenishment assessment.

The ability to produce water from the Chino Basin is accordingly not a matter of availability, as contemplated and sanctioned by the Judgment for the reasons

discussed above, but rather a matter of cost. Water produced in excess of production rights will cost more than water produced within a party's production rights. Thus, the quantity and reliability of groundwater supplies under the Judgment for purposes of this Assessment is a matter of cost of the water produced from the Chino Basin rather than limitations on production which may otherwise operate to reduce the sufficiency of the groundwater supply.

In addition to the water supplies described in Section 3, OMUC has rights to groundwater held in the Chino Basin as described below (UWMP section 6.1.4) and in **Table 4-1** (next page):

- **Appropriative Right.** The City has appropriative rights to 20.742 percent of the OSY allocated to the Appropriative Pool. As of FY 19/20, the OSY is 44,834 AF; therefore, the City's assigned share is 9,299.5 AF. To supplement the 2017 decrease in safe yield, the City currently receives an additional 1,037 AFY transferred from unproduced Agricultural Pool rights ("Safe Yield Reduction").

- **Overlying Non-Agricultural Right.** The City has purchased and has rights to 53.338 percent of the safe yield assigned to the Overlying Non-Agricultural Pool, which is currently 7,350.3 AFY. As of FY 19/20, the City's assigned share is 3,921 AF.

- **Land Use Conversions.** The City gains rights to additional Chino Basin groundwater as a result of land use conversions from agricultural to non-agricultural uses. This is expected to increase from development of Ontario Ranch; the total of which is adjusted annually by the Watermaster. As of FY 19/20, the City received 4,254 AF from land use conversions.

- **Annual Early Transfers.** The Chino Basin Watermaster can approve an "Early Transfer" of water to the Appropriative Pool equal to the quantity of water not produced by the Overlying Agricultural Pool that is remaining after all land use

conversions are satisfied, pursuant to the Peace Agreement.[6] The Early Transfer Water is annually allocated among the Appropriative Pool members in accordance with their pro-rata share of the initial Safe Yield. For the City, this is 20.74 percent of the "early transfer" water that the Watermaster may transfer from the Overlying Agricultural Pool. The amount available for transfer changes from year to year but is projected to increase. In FY 19/20, the City received 5,178 AFY as its share of Early Transfer (CBWM 2020).

- **Groundwater Recharge Credits.** The City is entitled to water rights due groundwater recharge with stormwater and recycled water in the Chino Basin. The credited amount is based on the volume recharged and therefore varies annually but is projected to increase over time. In FY 2018/2019, 2,544 AF of recycled water was recharged for the City. In FY 19/20, no recharge was credited to the City (OMUC 2021).

- **Fontana Recycled Water Rights.** The City has a long-term contract to purchase up to 3,000 AFY of recharged recycled water rights from the City of Fontana (a copy of which is located in Appendix N). The City of Fontana does not operate a water system. The amount purchased by OMUC each year will vary. In FY 2018/2019, the City purchased 2,157 AF of Fontana's recycled water entitlement. In FY 19/20, no recharged water rights were purchased (OMUC 2021).

- **Groundwater Storage Accounts.** The City has rights to store water in the Chino Basin (Appropriative and Overlying Non-Agricultural) and has been increasing its various storage accounts in recent years. The City holds water in

[6] In 2007, the parties to the Chino Basin Judgement approved the "Peace Agreement" which is a set of measures proposed by Chino Basin Watermaster to supplement the OBMP Implementation Plan. Focus for the measures were placed on achieving hydraulic control (reduction of groundwater discharge from the Chino North Management Zone to the Santa Ana River). To achieve hydraulic control, re-operation (controlled overdraft) of the groundwater basin is proposed. Strategically placed wells would be constructed in the basin and the groundwater would be pumped to the Desalter to improve the long-term reliability of the basin.

both local storage accounts and supplemental accounts. Local storage accounts hold un-pumped OSY groundwater rights and stormwater that has been recharged into the Chino Basin. Supplemental accounts hold both imported water and recycled water that has been recharged into the Chino Basin. As of June 30, 2020, the City has 96,544 AF in storage pursuant to Appropriative rights and 3,461 AF in storage pursuant to Overlying Non-Agricultural rights (CBWM 2020).

Table 4-1 Ontario Groundwater Rights Summary

Right	Current FY 2019-2020	Future	Notes
Appropriative Pool	9,299.5 (20.742% of OSY)	8,470 (20.742% of OSY)	OSY determined by Watermaster.
Overlying Non-Agricultural Pool	3,921 (53.338% of SY)	At least 3,921 (53.338% of SY)	Current annual production right is 7,447.2 AF with carryover. Actual production was 1,552.7 AF.
Safe Yield Reduction	1,037	Varies	
Land Use Conversions	4,254	16,602	Varies annually.
Annual Early Transfer	5,178	20.742% of Early Transfer	Subject to change by Overlying Ag. Pool level of demand.
Groundwater Recharge Credits	0	9,600 (in 2035)	Based on volume of stormwater and/or recycled water recharged.
Fontana Recycled Water Rights	0	At least 3,000	Contract to purchase.
Subtotal (AFY)	23,689.5	±41,593	
SAWCo	600 (295 shares)	At least 765	Entitlement. Volume per share subject to change.
Total (AFY)	24,289.5	±42,358	
Groundwater Storage Accounts	39,261 (Excess Carry Over)	Varies (Excess Carry Over)	Dependent on annual availability of un-pumped OSY water, stormwater, imported water, and recycled water.
	57,283 (Local Supplemental)	Varies (Local Supplemental)	
Total Storage (AF)	96,544	±85,000	

Note: AF = acre-feet; AFY = acre-feet per year; OSY = operating safe yield; SY = safe yield.
Source: CBWM 2020, pp. 4.1, 11.1, 12, 12.1, 16.1,

4.3. Recorded Use of Groundwater by City of Ontario (CWC Section 10910 (f)(3))

The City's groundwater supply currently comes from 17 active groundwater wells located throughout the OMUC service area within the Chino Basin. As of FY 19/20, OMUC produced 18,395 AF from the basin (CBWM 2020, p. 20.1). The recorded groundwater production has generally decreased from 36,842 AFY in 2000, as shown in **Chart 4-1.**

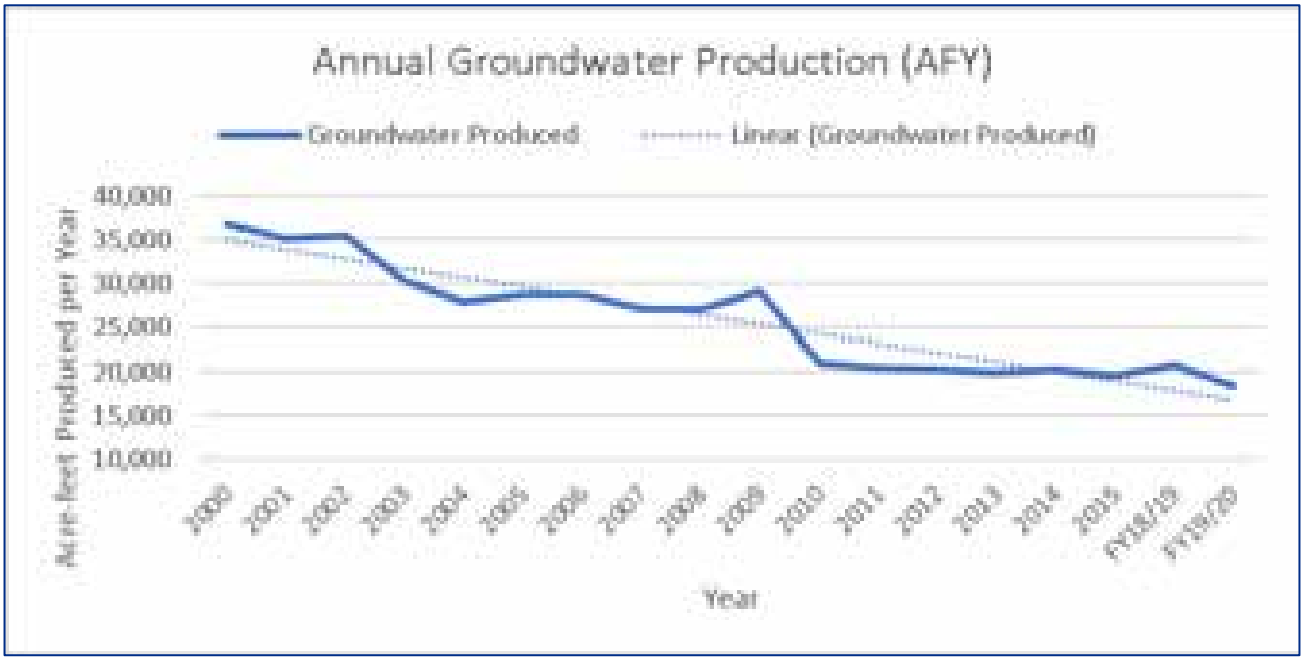


Chart 4-1 - Annual OMUC Groundwater Production, 2000 - FY19/20, (AFY)
(Sources: 2000-2009 from the 2012 Ontario Water Master Plan (Appendix K); 2010-2015 from City of Ontario's annual production reports and 2015 UWMP (Appendix A); FY 18/19 from CBWM, 2019, p. 9.1, FY 19/20 from CBWM, 2020, p. 20.1.

4.4. Projected Use of Groundwater by the City of Ontario (CWC Section 10910(f)(4))

The proposed Project will receive water from a combination of the City's groundwater wells, imported water from WFA, treated groundwater from CDA, and recycled water from IEUA.

Projected groundwater use by OMUC will continue as noted in Table 3-3. The use of groundwater will continue to be dependent upon the cost of extracting, treating, and transporting the water to customers. Groundwater from the Chino Basin will be utilized by OMUC either directly by pumping into its distribution system or by treating the groundwater (Wells 44 and 52) at the John Galvin Ion Exchange Plant and then pumping the treated groundwater into the City distribution system. The current and ultimate production capacity of OMUC wells is sufficient to meet current and ultimate demand (Table 3-4).

As shown in Table 4-1, the amount of water that OMUC expects to withdraw from the Chino Basin is well within appropriate right pursuant to the Chino Basin Adjudication of 1978 (Appendix M). In addition to its well production, OMUC will also purchase treated Chino Basin groundwater from CDA. OMUC has 1,500 AFY capacity rights in the Chino I Desalter and 7,033 AFY capacity rights in the Chino II Desalter. Projected use of groundwater via CDA is projected to remain at no more than 8,533 AFY.

4.5. Sufficiency of Groundwater Basin (CWC Section 10910(f)(5))

The City's legal right to pump water in an amount necessary to meet all demands as sanctioned and protected by the Judgment as discussed above, is buttressed by several programs and projects directed at ensuring the sufficiency of groundwater supplies from the Chino Basin, particularly during dry years. An adjudicated water right has perhaps the most substantial indicia of reliability of any water right that currently exists in California. An adjudicated right is based upon long-term studies whose purpose it is to protect the long-term functionality of the water source. These rights are coordinated in an established and binding manner with all the other users of the Chino Basin and are overseen by Chino Basin Watermaster which has the authority to mandate and proscribe activities whose purpose is to protect the water source and maximize its long-term beneficial use.

All Chino Basin Watermaster processes are governed by Rules and Regulations and receive active oversight from the Court which, as noted above, retains continuing

jurisdiction over the administration of the Judgment. Consequently, the sufficiency of the groundwater is not only directed by rigorous Chino Basin Watermaster management processes but validated and ensured by continuing Court oversight.

The OBMP for the Chino Basin has guided the Chino Basin Watermaster's activities since its adoption in 1998. Chino Basin Watermaster-led basin management activities to ensure the maximization of safe yield and OSY of the Chino Basin include objectives, projects, and programs identified in the Peace Agreement and the OBMP. Progress is reported in annual reports, biennial and triennial reports. The key programs include:

1) a comprehensive monitoring program;
2) a comprehensive recharge program;
3) development and implementation of a water supply plan for impaired areas of the Chino Basin;
4) development and implementation of a comprehensive groundwater management plan for Management Zone 1;
5) development and implementation of a regional supplemental water program;
6) development and implementation of cooperative programs with the California Regional Water Quality Control Board – Santa Ana Region and other agencies to improve Basin management;
7) development and implementation of a salt management program;
8) development and implementation of a groundwater storage program; and
9) development and implementation of storage and recovery programs.

As stated, the referenced elements of the OBMP collectively comprise a comprehensive regimen directed to ensuring and maximizing the long-term beneficial use of water in the Chino Basin. In particular, and specific to the location of current and future groundwater production facilities upon which the City relies or will rely to provide water to meet water demands within its service area, OBMP Program Element No. 3, "Develop and Implement Water Supply Plan for the Impaired Areas of the Chino Basin"

and Program Element No. 5, "Develop and Implement Regional Supplemental Water Program", address the sufficiency of groundwater from the Chino Basin. Fundamentally, the goal of Program Elements 3 and 5 is to develop a regional, long range, cost-effective, equitable, water supply plan for producers in the Chino Basin that incorporates sound basin management (OBMP, p. 4-16).

The "water demand planning assumptions" used to develop and evaluate water supply plans for Program Element Nos. 3 and 5 of the OBMP are reproduced below (OBMP, p. 4-17):

> ***Available Water Supply from the Impaired Area.*** *As urbanization of the agricultural areas of San Bernardino and Riverside counties in the southern half of the Chino Basin occurs, the agricultural water demands will decrease, and urban water demands will increase significantly. Future development in these areas is expected to be a combination of urban uses (residential, commercial, and industrial). The cities of Chino, Chino Hills, and Ontario, and the Jurupa Community Services District (JCSD) are expected to experience significant new demand as these purveyors begin serving urban customers in the former agricultural area. For planning purposes, the agricultural area is assumed to be fully developed by the year 2020. (OBMP, p. 4-17)*
>
> *Based on current [1999] estimates of overlying agricultural pool production, it is expected that at least 40,000 AFY of groundwater will need to [be] produced in the southern part of the Chino Basin to maintain the safe yield. It is anticipated that CDA will meet this requirement in FY 2019/2020.*
>
> ***Water Supply Plans.*** *Based on the data presented in Section 2 [OBMP, 1999], the municipal and industrial demands are projected to increase 30 percent between 2000 and 2020. Several agencies will experience increases in demand exceeding 30 percent over the next 20 years, including the cities of Chino, Chino Hills, Norco, Ontario, Cucamonga*

County Water District [now Cucamonga Valley Water District], Fontana Water Company (FWC), JCSD, and the West San Bernardino County Water District [now West Valley Water District]. Forecasts from municipal and industrial entities indicate that water supply sources for the Chino Basin in 2020 will consist predominantly of Chino Basin wells through direct use or treatment and use, groundwater and treated surface water from other basins, and the Metropolitan Water District of Southern California (MWD) supplies. (OBMP, p. 4-17)

For the purpose of the OBMP, it was assumed that there is approximately 48,000 AFY of agricultural production in the southern part of the Chino Basin in the year 2000, and that this production will reduce to about 8,000 AFY in the year 2020. This decline in agricultural production must be matched by new production in the southern part of the Chino Basin or the safe yield in the Chino Basin will be reduced. (OBMP, p. 4-18)

Recommended Water Supply Plan for the OBMP. *Considerable discussion of the alternative water supply plans occurred at the OBMP workshops in February through May of 1999. The discussions focused, in part, on the assumption and details of each alternative and cost. Based on technical, environmental, and cost considerations, the stakeholders selected Alternative 4A for detailed review and refinement. Alternative 6A was developed based on Alternative 4A and 5C, includes an accelerated desalting schedule and has no future supplemental water deliveries to the southern part of the Chino Basin. The Alternative 6A water supply plan consists of the following key elements. (OBMP, p. 4-19)*

Groundwater Production Pattern. *Groundwater production for municipal use will be increased in the southern part of the Chino Basin to: meet the emerging demand for municipal supplies in the Chino Basin, maintain safe yield, and to protect water quality in the Santa Ana River. All new southern*

Basin production will require desalting prior to use. The cities of Chino, Chino Hills, Ontario and Norco, and the JCSD will maximize their use of groundwater from the southern part of the Chino Basin prior to using other supplies.[7] *(OBMP, pp. 4-19 – 4-20)*

Imported Water. *Imported water use will increase to meet emerging demands for municipal and industrial supplies in the Chino Basin area, Chino Basin Watermaster replenishment, and conjunctive use. Expanded use of imported water in the northern part of the Chino Basin will have a lower priority than maintaining groundwater production in the southern part of the Chino Basin. (OBMP, p. 4-20)*

Recycled Water. *Recycled water use (direct use and recharge) will increase to meet emerging demands for non-potable water and artificial recharge. Under the current Chino Basin Plan, all new recycled water use will require mitigation for TDS and nitrogen impacts. Recycled water use will be expanded as soon as practical. The two new desalters [Chino I and Chino II Desalters] described above and the increase in storm water recharge will provide mitigation for the expanded use of recycled water. (OBMP, p. 4-20)*

As indicated in the foregoing OBMP text, the City overlies groundwater supplies in the southern part of the Chino Basin which must be pumped for purposes of meeting new demands, maintaining safe yield, and to protect water quality in the Santa Ana River. As agricultural production in the southern part of the Chino Basin declines, it will be necessary for these reasons to increase production for municipal uses. This is being achieved through the Chino I and Chino II Desalters, of which the City has a contractual right to purchase 8,533 AFY pursuant to the 2001 "Joint Exercise of Powers Agreement Creating the Chino Basin Desalter Authority" and subsequent

[7] Detailed discussion continues in this paragraph concerning the production capacity of the desalters and construction/expansion projects.

agreements. Thus, not only was increased Chino Basin water production by the City foreseen in the OBMP, but actually sanctioned and encouraged for purposes of achieving OBMP objectives.

The sufficiency of the groundwater supply that is available to OMUC is assured due to the abundance of groundwater in the central and southern portion of the Chino Basin, OBMP objectives that prioritize and assure production from the southern Chino Basin, coupled with desalting and ion-exchange treatment facilities that enable the use of this abundant supply for municipal (potable) purposes. As indicated in the quoted text of the OBMP, southern basin production, where the City is partially located, is the linchpin of several critical OBMP objectives. Thus, the sufficiency of groundwater is heightened and prioritized by the necessity of continued pumping from the southern Chino Basin under the OBMP which is administered by the Chino Basin Watermaster and ultimately enforced by continuing court jurisdiction over the Judgment.

The other referenced OBMP Program Elements are collectively directed to ensuring the sufficiency of Chino Basin groundwater supplies, particularly during dry years, and comprehensively address water quality and quantity, thus maximizing beneficial use over the long-term. Sufficiency of groundwater from the Chino Basin is further assured for the following reasons:

- IEUA is a member agency of MWD, which provides imported water from the State Water Project for direct use by parties to the Judgment in the Chino Basin and for Chino Basin recharge purposes (when supplies are available). IEUA has also reviewed the sufficiency of supplies for its service territory that includes the Chino Basin in connection with its 2015 UWMP.

- IEUA's UWMP is consistent with, and reiterative of, OBMP projects and programs (see Section 7.4 of IEUA/WFA in Appendix C). IEUA anticipates increased limitations for imported water for direct and recharge use while noting reductions during dry years (due to increased reliance on groundwater from the Chino Basin) and in the higher amount otherwise required in the absence of

OBMP projects and programs. The UWMP also analyzes the sufficiency of water supplies for single and multiple year drought scenarios and concludes the region is expected to meet 100 percent of its dry year demand under every scenario. Key assumptions included:

- Reliance on assurances provided by MWD in its 2015 UWMP that it could meet 100 percent of projected supplemental full-service water supply demands through 2040;
- Implementation of MWD's Chino Basin DYY Storage Program consistent with the contractual shift obligations of the participating agencies of up to 33,000 AF in a twelve-month period; and
- Sustain per capita water use reductions of 10 percent by 2015 and 20 percent by 2020.

IEUA concluded in its 2015 UWMP that the projected available water supply will meet projected water demand due to diversified water supply and water conservation measures. Based on IEUA water supply projections, there are sufficient water supplies to meet normal year water demands and single dry year demands. However, in the multiple dry year scenario a local supply gap of 283 AF is projected for 2040. IEUA and retail agencies plan to close the supply gap through utilizing local supplemental water supply opportunities and securing additional imported water as needed to accommodate for the variability in supply from the State Water Project (Appendix C, p. 3-16).

CWC section 10631(j) provides that urban water suppliers, that rely upon a wholesale agency for a source of water, such as IEUA, may rely upon water supply information provided by the wholesale agency in fulfilling UWMP informational requirements.

IEUA's independent analysis of contemporary regional water conditions in conjunction with MWD's most recent report, provide additional and reliable assurances concerning the sufficiency of imported water supplies that comprise a portion of overall Chino Basin supply sufficiency. As stated in the above-quoted OBMP text, however, "expanded use

of imported water in the northern part of the Chino Basin will have a lower priority than maintaining groundwater production in the southern part of the Chino Basin."

The City's participation in the DYY Storage Program described in Section 3, along with future water storage and recovery projects will drought-proof the Chino Basin and all other appropriative pool members from imported water shortages. This program is consistent with OBMP Program Element No. 9, "Develop and Implement Storage and Recovery Program." Benefits to the Chino Basin associated with this program include the construction of facilities to enhance imported water deliveries and the production of water from the Chino Basin. Further demonstrating the sufficiency of Chino Basin groundwater is MWD's DYY program to use the Chino Basin for dry year supply purposes, thus underscoring that sufficient Chino Basin groundwater is available during dry years not only for local use by agencies such as the City but also in connection with MWD's regional reliability programs.

In conclusion, the sufficiency of groundwater supplies available to OMUC is assured because of the OBMP programs overseen by the Chino Basin Watermaster and conducted under the auspices of continuing Court jurisdiction that specifically direct and assure the long-term production of water pursuant to the City's legal rights to produce such water necessary to meet ultimate water demands.

Conclusion

The City's total annual groundwater production has held relatively stable over the past 10 years at roughly 20,000 AFY (Chart 4-1). Production capacity meets current demands and is projected to increase to meet ultimate demand. The current water supply utilized by the City totals approximately 39,921 AFY (FY 19/20, Table 3-2). Currently, the City's water rights in the Chino Basin as recorded by the Chino Basin Watermaster total approximately 23,620 AFY, with an additional 96,544 AF in storage (Table 4-1). Although annual fluctuations will occur, the City's rights are projected to increase over the next 20 years due to more land use conversions and credits from recharge.

In conclusion, the water supplies available to OMUC currently meet and exceed citywide water demands. Groundwater production by OMUC is currently less than their existing rights and within their production capacity. Regardless, OMUC has the means and right to exceed their groundwater allocation in the Chino Basin when required to meet demand pursuant to the Judgment. Further, OMUC has rights to water held in storage that would supply all City demands for more than two years. In addition to groundwater, OMUC can supply water to the Project purchased from the WFA that is within their existing entitlements and capacities. Therefore, OMUC can meet the additional unplanned water demand of the proposed Project by producing additional groundwater or purchasing imported water supplies to which it has existing rights to and available capacity to use.

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SECTION 5 - PRIMARY ISSUE FOR ASSESSMENT

The lead agency for a proposed project *…shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy demands of the project, in addition to existing and planned future uses* (CWC section 10911). The lead agency is expected to approve or disapprove the project based on several factors, including but not limited to the WSA.

Law

> CWC Section 10910(g)(1): *Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.*
>
> CWC Section 10911(b): *The city or county shall include the water assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision 9a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.*
>
> *(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.*

The lead agency is expected to review the Assessment and decide whether additional water supply information is needed for its consideration of the proposed Project.

5.1 Findings

Whereas:

1. The City of Ontario Municipal Utilities Company (OMUC) has been identified as the water supplier for the proposed *Rich-Haven Specific Plan Amendment No. 3* project (Project). The Project modifies the previously approved land use plan to transfer 518 dwelling units (DUs) from the NMC East Mixed Use District to the Residential District of the Specific Plan, and replace approximately 50 acres of Commercial with Light Industrial use.
2. A previous WSA/WV was prepared in 2004 for the 8,200-acre New Model Colony that includes the Project site; however, it is no longer valid.
3. The estimated potable water demand for the Project is 2,260 AFY and the recycled water demand is 511 AFY for a total demand of 2,771 AFY.
4. The TOP land use plan and buildout assumptions located in Appendix B to the Ontario 2015 UWMP were used to calculate the Project site as it was described at the time of the 2015 UWMP. This estimated potable water demand is 1,716 AFY and 525 AFY of recycled water for a total demand of 2,241 AFY.
5. The 530 AFY increase in total water demand between what was assumed in the 2015 UWMP and the proposed Project is primarily the increase in potable water demand in the Project's Residential District as a result of transferring 518 units from the Mixed Use District.
6. The increased water demand for the Project was not included in the 2015 UWMP dated July 2016, which was adopted by the City of Ontario City Council by Resolution 2016-072 on July 21, 2016 (Appendix A).
7. OMUC produced 18,395 AF of groundwater in FY 19/20. OMUC has water rights in the Chino Groundwater Basin that currently total 23,620 AFY, as well as groundwater storage accounts that total 96,544 AF (Table 4-1). The water supply production capacity from City wells is currently 63,936 AFY, which is projected to increase to 100,224 AFY to meet demand (Table 3-5).

8. OMUC holds shareholder entitlements to potable water from SAWCo in the amount of 600 AFY, and capacity rights to imported water from the WFA in the amount of 28,452 AFY. OMUC also has capacity rights to potable water from the CDA in the amount of 8,533 AFY. In FY 19/20, OMUC purchased 565 AF from SAWCo, 6,513 AF from WFA, and 6,636 AF from CDA (Table 3-2).
9. OMUC is entitled to the recycled water generated by IEUA from the City's annual share of sewer flows. In FY 19/20, OMUC was entitled to 12,715 AF, of which 7,812 AF was put to non-potable direct use (Table 3-2).
10. As of FY 19/20, citywide potable and recycled water demand were 31,385 AF and 7,812 AF, respectively (Table 2-2); ultimate combined potable and recycled water demand is estimated at 73,640 AFY (Table 2-3). The current production capacities are greater than needed to meet the average day demands under citywide buildout conditions. Additional wells are planned to supply the anticipated ultimate maximum day demand.
11. OMUC has forecasted excess water supplies will be available to meet citywide demand during single-dry and multiple dry water years over the next 20 years (Table 3-10 and Table 3-11).
12. Based on the evidence provided herein, the total projected potable and recycled water supplies available to the OMUC during normal, single dry, and multiple dry water years over a 20-year projection will be sufficient to meet the projected water demand associated with the proposed Project in addition to the water supplier's existing and planned future uses, including agricultural and manufacturing uses. State mandated conservation efforts will reduce demand in the future.

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SECTION 6 - REFERENCES

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CDA 2019	Chino Basin Desalter Authority, *Special Board of Directors Meeting, July 11, 2019, Quarterly Operations Report.* (Available at https://www.chinodesalter.org/AgendaCenter/ViewFile/Agenda/_07112019-267)
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Executive Order B-40-17	State of California Executive Department, Executive Order B-40-17, April 7, 2017. (Available at https://www.gov.ca.gov/docs/4.7.17_Exec_Order_B-40-17.pdf.)
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IEUA/WFA	Arcadis. *Inland Empire Utilities Agency and Water Facilities Authority 2015 Urban Water Management Plan Final*. June 2016. (Appendix C)
IEUA Resolution No. 2014-12-1	*Purchase Order for System Water to be Provided by The Metropolitan Water District of Southern California (Purchaser: Inland Empire Utilities Agency) and IEUA Resolution No. 2014-12-1.* Effective January 1, 2015. (Appendix F)
JCSD 2014	*Amendment Number 1 to Agreement by and between City of Ontario and Jurupa Community Services District Establishing an Operational Plan for Metropolitan Water District/Chino Basin Groundwater Storage Program, Providing for Water Supply to Ontario's New Model Colony and Interconnection to Increase Water Supply Reliability.* November 21, 2014. (Appendix J)
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SECTION 7 - SPREADSHEETS

Land Use Plan for Rich-Haven Site that was assumed in 2015 UWMP

(Based on Land Use from The Ontario Plan - TOP)

TOP Land Uses and Buildout Densities Assumed in 2015 UWMP					Water Demand [1]						
Residential Planning Areas (PA)	TOP Land Use	Gross Acreage	TOP Max Permitted Dwelling Units per PA	TOP Max Density (du/ac)	Domestic Water Unit Demand Factor (gpd/ac) [2]	Domestic Water Demand (gpd)	Domestic Water Demand (Acre-Feet Per Year)	Recycled Water Unit Demand Factor (gpd/ac) [2]	Recycled Water Demand (gpd)	Recycled Water Demand (Acre-Feet Per Year)	Total Water Demand (Acre-Feet Per Year)
1A	Low Density Residential (2.1-5 du/ac)	12.8	56	5	1,900	24,320	27.24	540	6,912	8	34.98
1B	Low Density Residential	12.7	60	5	1,900	24,130	27.03	540	6,858	8	34.71
1C	Low Density Residential	14.9	74	5	1,900	28,310	31.71	540	8,046	9	40.72
1D	Low Density Residential	20.5	97	5	1,900	38,950	43.63	540	11,070	12	56.03
1E	Low Density Residential	23.4	124	5	1,900	44,460	49.80	625	14,625	16	66.18
1F	Low Density Residential	26.3	119	5	1,900	49,970	55.97	540	14,202	16	71.88
Subtotal		**110.6**	**530**	-		**210,140**	**235**		**61,713**	**69**	**305**
2	Open Space Non-Recreational	20	-	-		0	0	1,340	26,800	30	30.02
3	Open Space Recreational	27	-	-	1,000	27,000	30	1,340	36,180	41	70.77
Subtotal		**47**	**-**	-		**27,000**	**30**		**62,980**	**71**	**101**
4A	Low Medium Density Residential (5.1-11 du/ac)	14	156	11	3,960	55,440	62	625	8,750	10	71.90
4B	Low Medium Density Residential	9.2	110	11	3,960	36,432	41	625	5,750	6	47.25
4C	Low Medium Density Residential	9.8	102	11	3,960	38,808	43	625	6,125	7	50.33
Subtotal		**33**	**368**	-		**130,680**	**146**		**20,625**	**23**	**169**
5A	Medium Density Residential (11.1-25.0 du/ac)	9.1	229	25	6,690	60,879	68	670	6,097	7	75.02
5B	Medium Density Residential	14.2	362	25	6,690	94,998	106	670	9,514	11	117.07
5C	Medium Density Residential	27	453	25	6,690	180,630	202	670	18,090	20	222.60
5D	Medium Density Residential	30.3	509	25	6,690	202,707	227	670	20,301	23	249.80
5E	Open Space Non-Recreational	17.76	-	-		-	-	1,340	23,798	2	1.50
Subtotal		**98.4**	**1553**	-		**539,214**	**604**		**77,800**	**62**	**666**
Total Residential Planning Areas		**224.2**	**2451**	-		**880,034**	**986**	**2,680**	**136,340**	**153**	**1,138**
Total Residential District		**289.0**	**2,451**	-		**907,034**	**1,016**		**223,118**	**225**	**1,241**

Buildout Projections Assumed in 2015 UWMP for NMC East Mixed Use District [3]				Water Demand [1]						
Mixed Used District	TOP Assumed Residential Density (du/ac)/Commercial Intensity (FAR)	Acres by Land Use (Gross) [3]	TOP Assumed Buildout Projections for Commercial/Office (SF) or Dwelling Units (DU)	Domestic Water Unit Demand Factor (gpd/ac) [2] or (*gpd/du*) [5]	Domestic Water Water Demand (gpd)	Domestic Water Demand (AFY)	Recycled Water Unit Demand Factor (gpd/ac) [2] or (*gpd/du*) [5]	Recycled Water Demand (gpd)	Recycled Water Demand (AFY)	Total Water Demand (AFY)
NMC East	30% of 263.7 acres at 25 DU/ac	79.11	1,978	*120*	237,330	265.84	*18*	35,600	40	305.72
	30% of 263.7 acres at 0.35 FAR for Office	79.11		2,500	197,775	221.54	1,340	106,007	119	340.28
	40% of 263.7 acres at 0.3 FAR for Retail Uses	105.48	2,584,524	1,800	189,864	212.68	890	93,877	105	317.83
	Edison Easement- Open Space Non-Recreational	24.24	-		0	0.00	1,340	32,482	36	36.38
Total NMC East		**288**	**2,584,524**		**624,969**	**700**		**267,966**	**300**	**1,000**
Total Rich Haven		**577**	**4,429**		**1,532,003**	**1,716**		**491,084**	**525**	**2,241**

[1] Factors from Table 2 Future Domestic Water Unit Demand Factors, AKM, Technical Memorandum (May 2016).

[2] Recycled water assumed to be available for project. No potable water demand assumed for open space non-recreational planning areas.

[3] Ontario 2015 UWMP, Appendix B, p. 5, May 2016.

[4] From Draft Rich Haven Specific Plan Amendment 3, Section 9.2 TOP Consistency Tables (Nov. 2020).

[5] MU Residential Uses use Potable and Recycled Water Demand Factor of (GPD/DU)

FAR = floor to area ratio

ac - acre

du - dwelling units

Rich-Haven Specific Plan Amendment No. 3 Water Demand

(Based on Rich-Haven Specific Plan Amendment #3 Land Use Summary Table 3-1, 2021)

Rich-Haven Specific Plan Amendment # 3 Residential District					2015 UWMP Water Demand Factors				Rich-Haven Specific Plan Amendment #3 Water Demand				
Planning Areas	Project Land Use	Project Maximum Dwelling Units (DU)	Project Gross Acres (AC)	Project Gross Density (DU/AC)	Corresponding TOP Land Use	TOP Max Density	Potable Water Demand Factor (GPD/AC)	Recycled Water Demand Factor (GPD/AC)	Potable Water Demand (GPD)	PotableWater Demand (AFY)	Recycled Water Demand (GPD)	Recycled Water Demand (AFY)	Total Water Demand (AFY)
1A	Residential - SFD	115	25.5	4.5	Low Density Residential (w/ RW)	5	1,900	540	48,450	54.27	13,770.00	15.42	69.70
1B	Residential - SFD	175	24.5	7.1	Low Medium Density Residential (w/ RW)	11	3,960	625	97,020	108.68	15,312.50	17.15	125.83
1C	Residential - SFD	731	60.6	12.1	Medium Density Residential (w/ RW)	25	6,690	670	405,414	454.12	40,602.00	45.48	499.60
Subtotal		**1,021**	**110.6**	**9.2**					**550,884**	**617.07**	**69,684.50**	**78.06**	**695.12**
2	Edison Parcel	-	20.0	-	Open Space Non-Recreational (w/ RW)	-		1,340	0	0.00	26,800.00	30.02	30.02
3	Park	-	27.0	-	Open Space Recreational (w/ RW)	-	1,000	1,340	27,000	30.24	36,180.00	40.53	70.77
Subtotal		-	**47.0**	-					**27,000**	**30.24**	**62,980.00**	**70.55**	**100.79**
4A	Residential - SFD/Attached	154	14.1	10.9	Low Medium Density Residential (w/ RW)	11	3,960	625	55,836	62.54	8,812.50	9.87	72.42
4B	Residential - SFD/Attached	101	9.2	11.0	Low Medium Density Residential (w/ RW)	11	3,960	625	36,432	40.81	5,750.00	6.44	47.25
4C	Residential - SFD/Attached	108	9.8	11.0	Low Medium Density Residential (w/ RW)	11	3,960	625	38,808	43.47	6,125.00	6.86	50.33
Subtotal		**363**	**33.1**	**11.0**					**131,076**	**146.82**	**20,687.50**	**23.17**	**170.00**
5A	Residential - SFD/Attached	109	9.1	12.0	Medium Density Residential (w/ RW)	25	6,690	670	60,879	68.19	6,097.00	6.83	75.02
5B	Residential - SFD/Attached	165	14.2	11.6	Medium Density Residential (w/ RW)	25	6,690	670	94,998	106.41	9,514.00	10.66	117.07
5C	Residential - SFD/Attached	332	27.0	12.3	Medium Density Residential (w/ RW)	25	6,690	670	180,630	202.33	18,090.00	20.26	222.59
5D	Residential - SFD/Attached	361	30.3	11.9	Medium Density Residential (w/ RW)	25	6,690	670	202,707	227.06	20,301.00	22.74	249.80
Subtotal		**967**	**80.6**	**12**					**539,214**	**604.00**	**54,002.00**	**60.49**	**664.48**
5E	Edison Easement	-	17.8	-	Open Space Non-Recreational (w/ RW)	-		1,340	0	0.00	23,798.40	26.66	26.66
Subtotal		-	**17.8**	-					**0**	**0.00**	**23,798.40**	**26.66**	**26.66**
Residential Land Uses Total		**2,351**	**224.3**	**10**					**1,221,174**	**1,367.89**	**144,374.00**	**161.72**	**1,529.60**
All Residential District Planning Areas Total		**2,351**	**289.1**						**1,248,174**	**1,398**	**231,152.40**	**259**	**1,657**

Rich-Haven Specific Plan Amendment # 3 Mixed Use District							2015 UWMP Water Demand Factors				Rich-Haven Specific Plan Amendment #3 Water Demand				
Mixed Used Planning Areas	Land Use	Maximum Dwelling Units (DU)	Gross Acres (AC)	Gross Acres by Land Use	Gross Res. Density (du/ac)	Maximum Commerical / Office / Industrial (SF)	UWMP Land use	Max Density	Potable Water Demand Factor (GPD/AC) or (*GPD/DU*)[3]	Recycled Water Demand Factor (GPD/AC) or (*GPD/DU*)[3]	Potable Water Demand (GPD)	Potable Water Demand (AFY)	Recycled Water Demand (GPD)	Recycled Water Demand (AFY)	Total Water Demand (AFY)
				-	-	-								-	-
6B[1]+ 9B	Regional Commercial	-	65.1	2.50	-	76,320	MU-Office (w/ RW)	-	2,500	1,340	6,257.38	7.01	3,353.96	3.76	10.77
	Stand Alone Residential Overlay	1,406		49.24	28.60	-	MU-High Density Residential (w/ RW)	40	*120*	*18*	168,720.00	188.99	25,308.00	28.35	217.34
	Edison Easement/Neighborhood Edge	-		13.36	-	-	Open Space Non-Recreational (w/ RW)	-		1,340	-	-	17,902.40	20.05	20.05
7A	Light Industrial	-	49.4	49.40	-	1,183,525	Industrial (w/ RW)	-	1,400	890	69,160.00	77.47	43,966.00	49.25	126.72
	Open Space-Non Recreation	-	6.6	6.60	-	-	Open Space Non-Recreational (w/ RW)	-		1,340	-	-	8,844.00	9.91	9.91
7B[2]	Regional Commercial		25.1	25.10	-	300,000	MU-Office (w/ RW)	-	2,500	1,340	62,750.00	70.29	33,634.00	37.67	107.96
8A[1]	Regional Commercial	-	61.4	10.66	-	325,000	MU-Office (w/ RW)	-	2,500	1,340	26,646.33	29.85	14,282.43	16.00	45.85
	Stand Alone Residential Overlay	852		49.04	17.40	-	MU-High Density Residential (w/ RW)	40	*120*	*18*	102,240.00	114.52	15,336.00	17.18	131.70
	Edison Easement/Neighborhood Edge			1.70	-	-	Open Space Non-Recreational (w/ RW)	-		1,340	-	-	2,278.00	2.55	2.55
8B	Regional Commercial	-	19.7	4.05	-	123,400	MU-Office (w/ RW)	-	2,500	1,340	10,117.41	11.33	5,422.93	6.07	17.41
	Stand Alone Residential Overlay	407		15.65	26.00	-	MU-High Density Residential (w/ RW)	40	*120*	*18*	48,840.00	54.71	7,326.00	8.21	62.91
6A + 9A	Regional Commercial	-	85.6	5.45	-	166,182	MU-Office (w/ RW)	-	2,500	1,340	13,625.05	15.26	7,303.03	8.18	23.44
	Stand Alone Residential Overlay	2,178		79.45	27.40	-	MU-High Density Residential (w/ RW)	40	*120*	*18*	261,360.00	292.76	39,204.00	43.91	336.67
	Edison Easement	-		0.70	-	-	Open Space Non-Recreational (w/ RW)	-		1,340	-	-	938.00	1.05	1.05
Total Mixed-Use District Residential Land Uses		**4,843**		**193.38**	**25.0**						**581,160.00**	**650.98**	**87,174.00**	**97.65**	**748.63**
Total Mixed-Use District		**4,843**	**312.9**	**312.9**	**25.0**	**2,174,427**					**769,716.17**	**862**	**225,098.75**	**252**	**1,114**
Total- Rich Haven Residential and Mixed Use Districts		**7,194**	**602.0**	**602.0**	**17.22**						**2,017,890.17**	**2,260**	**456,251.15**	**511**	**2,771**

[1] The Rich-Haven Land Use Summary Table 3-1 does not contain acreages for Mixed Use Overlay that appears to be within PAs 6B and 8A. Potential water demand is captured in the unit water demand factors of PAs 6B and 8A.

[2] The Rich-Haven Land Use Summary Table 3-1 does not contain SCE easement acreages that appear to be within PA 7B. Potential water demand of these easements is assumed to be captured in the unit water demand factors of the nearby land uses within PA 7B.

[3] Mixed Use Residential (MU-High Density Residential) land uses used Potable and Recycled Water Demand Factor GPD/DU; Non-Residential land uses used Potable Water Demand Factor GPD/AC

[4] Acreages for Edison Easement/Neighborhood Edge in Mixed Use District were obtained from Section 9.2 (TOP Consistency Tables) of the SPA3.

[5] Unit water use factor for Mixed Use-Office instead of Mixed Use Non-Office was assumed to be conservative.

SFD = single family detached.

w/ RW = with recycled water

No potable water demand for Edison easements, neighborhood edge, or Edison parcel.

A FAR of 0.7 was assumed in order to calculate an acreage for Regional Commercial in PA 6B+9B, 8A, 8B, and 6A+9A. FAR of 0.7 is the maximum allowed per the TOP NMC East Mixed Use District

WRITTEN VERIFICATION OF SUFFICIENT WATER SUPPLY

RICH-HAVEN SPECIFIC PLAN AMENDMENT NO. 3

TABLE OF CONTENTS – WRITTEN VERIFICATION OF SUFFICIENT WATER SUPPLY

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SB 221 WRITTEN VERIFICATION OF SUFFICIENT WATER SUPPLY

1.1 INTRODUCTION

Senate Bill 221 (SB 221) was enacted in 2001 and became effective as of January 1, 2002. SB 221 establishes the relationship between the Water Supply Assessment (WSA) prepared for a project pursuant to Senate Bill 610 (SB 610), and the project approval under the Subdivision Map Act. SB 221 amends Section 11010 of the Business and Professional Code, and amends Section 65867.5 to add Sections 66455.3 and 66473.7 to the California Government Code. Pursuant to Government Code Section 66473.7, the public water supplier must provide a written verification of sufficient water supply (WV) prior to the approval of a tentative subdivision map, or a parcel map for which a tentative map was not required, or a development agreement for a subdivision of property of more than 500 dwelling units, except as specified, including the design of the subdivision or similar type of improvement.

1.2 Purpose

The purpose of the WV is to provide the legislative body of a city, county or the designated advisory agency with written verification from the applicable public water supplier that a sufficient water supply is available, or, in addition, a specified finding is made by the local agency that sufficient water supplies are, or will be, available prior to completion of the project.

The WV shall be supported by substantial evidence, which may include relevant portions of an applicable Urban Water Management Plan (UWMP) or a WSA prepared per SB 610. Many of the requirements for SB 610 compliance will satisfy the requirements of SB 221. There are four factors to be considered in a WV which are not required in a WSA as specified by Government Code Section 66473.7. Those four factors, which are specifically addressed in this WV are as follows:

1. Historical water supplies for at least 20 years;

2. Urban Water Shortage Contingency Analysis prepared for the water supplier's UWMP;

3. Supply reduction for "specific water use sector" per water supplier's resolution, ordinance, or contract; and

4. Amount of water that can be reasonably relied upon from specific supply projects, subject to the determinations outlined in Government Code Section 66473.7.

1.3 Project Description and Water Demand

This WV has been prepared in conjunction with a WSA for *Amendment No. 3* to the *Rich-Haven Specific Plan (PSPA19-006)* (SPA3 or "Project"). The Rich-Haven Specific Plan encompasses 602 acres within the City of Ontario's 8,200-acre Ontario Ranch. This includes Southern California Edison parcels and easements that are within the Project boundary. *Annexed in 1999, the presently agricultural Ontario Ranch is planned to be developed into residential, commercial, industrial, and public uses* (UWMP, p. 3-1). The proposed Project is the third specific plan amendment; the primary changes of which are to move 518 dwelling units (DUs) from the Mixed Use District to the Residential District of the Specific Plan, and replace approximately 50 acres of Commercial with Light Industrial use.

With the land use changes that are proposed by the Project implemented, the Rich-Haven Specific Plan will allow for up to a maximum of 7,194 DUs, a maximum of 990,902 square feet (SF) of commercial/office uses, and a maximum of 1,183,525 SF of light industrial uses. The Mixed Use District allows for combinations of commercial, office, light industrial, and residential development at various densities/intensities. The projected total water demand for ultimate development of the Rich-Haven Specific Plan with SPA3 is 2,771 acre-feet per year (AFY) (Table 2-6, Water Supply Assessment).

The City of Ontario Municipal Utilities Company (OMUC)[1] is the water supplier for the Project and for the City. OMUC commissioned a WSA and WV from Albert A. Webb Associates (WEBB) on January 25, 2021. The purpose of preparing this WV for the entire Project is to preclude the need for individual "Written Verification" letters being prepared for the individual residential development projects that will qualify for a WV within the Rich-Haven Specific Plan area. SB 221 applies to the Project because there will be residential subdivisions that will have more than 500 DUs which exceed the criteria set in 66473.7(a) of 500 DUs.

The key question for this WV to address per SB 221: whether the water supplier is able to provide a sufficient water supply based upon an analysis as to whether water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agriculture and industrial uses (DWR 2003).

1.4 Verification of Sufficient Water Supply

A detailed evaluation of OMUC's water supply was performed under the attached WSA for the Project. Attached to the WSA is the adopted City of Ontario 2015 UWMP which addresses normal, single dry, and multiple dry year conditions (Appendix A). The 2015 UWMP determined that sufficient water supply exists to support the demands of the OMUC service area. The WSA determined that the water demand of the Project is greater than the water demand for the same site that was assumed in the 2015 UWMP; therefore, the increased demand was not accounted for in the 2015 UWMP. However, the WSA concludes that sufficient water supply exists to support the Project.

20-Year Water Supply Availability

OMUC has been able to meet all water demands with its available water supplies for the past 20 years. Table 3-2 of the attached WSA shows the recorded water supplies

[1] OMUC is a department of the City of Ontario and the terms may be used interchangeably herein.

from 2000-2020 that were utilized to meet the demand within OMUC's service area. A supply source that is available to OMUC that is not included in Table 3-2 are the groundwater storage accounts to which OMUC has rights to store water in the Chino Basin. As of FY 19/20, the City has approximately 96,544 AF held in storage (Table 4-1).

Urban Water Shortage Contingency Analysis

The urban water shortage contingency analysis prepared for the most recent UWMP is contained within Chapter 8 of Ontario's 2015 UWMP (Appendix A). The UWMP water shortage contingency analysis is based on the provisions adopted in City of Ontario Ordinance No. 3027 (effective Oct. 1, 2015), which updated the City's Water Conservation Plan that is codified in Chapter 8A of the City municipal code. The analysis includes stages of action, prohibitions on end uses, penalties and enforcement measures, determination of water shortage reductions, revenue and expenditure impacts, catastrophic supply interruption, and minimum supply for the next three years.

Ordinance No. 3027 made the City's Water Conservation Plan consistent with the more stringent emergency conservation regulations mandated by the State Water Resources Control Board in response to statewide drought conditions. The purpose of the ordinance and the Water Conservation Plan are to minimize the potential for a water shortage through the practice of water conservation, and to minimize the effect of a shortage of water supplies on the water customers of the City. In addition, it is the intent of the ordinance and the Water Conservation Plan to adopt provisions that will significantly reduce the inefficient consumption of water, thereby extending the available water resources necessary for domestic, sanitation, and fire protection of the community to the greatest extent possible (Municipal Code Sec. 6-8.21).

The City's Water Conservation Plan describes the methods to respond to a water supply shortage of up to 50 percent. Fives stages of conservation are described

(Stages 0-4) with Stages 1-4 being mandatory with increasing conservation requirements and penalties depending on the severity of the shortage (UWMP, p. 8-1).

The water supply and water demand comparisons incorporated herein from the 2015 UWMP do reflect the implementation of water shortage contingency measures corresponding to Stages 0-4. Specifically, during normal years and the first single dry year, voluntary Stage 0 reductions in water consumption of up to 10 percent are assumed. During the second dry year, a Stage 2 mandatory reduction in water demand of 15 percent is assumed in demand projections. Further, the third dry year is assumed to be in a Stage 3 with mandatory minimum reductions in water demands of 20 percent. (UWMP, p. 7-6)

Supply Reduction for Specific Water Use Sector

OMUC's current Water Conservation Plan establishes voluntary and mandatory water conservation requirements which shall take effect upon implementation. During a water shortage crisis, certain mandatory restrictions on water use will be imposed on the public. Stage 0 prohibitions are entirely voluntary. Stages 1 to 4 prohibitions will be progressively implemented according to the severity of the water crisis (UWMP, p. 8-2). The restrictions and prohibitions on end users that correspond to Stages 0 to 4 are outlined in Table 8-2 of the City's 2015 UWMP (p. 8-3). OMUC does not have a water supply allocation plan. No single water use sector is identified in the Water Conservation Plan for supply reductions in the event of a water shortage crisis.

Amount of Water That Can Be Reasonably Relied Upon from Specific Supply Project(s)

This requirement of the WV pertains to projected water supplies that the water supplier can reasonably rely on that are not currently available to the public water system. All projected water supplies are currently available to OMUC but may not be fully utilized to date. Descriptions of the supplies available to OMUC are in Section 3 of the attached WSA.

1.5 Substantial Evidence of Verification of Sufficient Water Supply

This WV does not rely on projected water supplies that are not currently available to OMUC. The water supplies that OMUC will continue to rely on that are projected to be sufficient to meet current and future needs are described in Section 3 of the attached WSA. Because projected supply sources are currently available to OMUC, supporting information pursuant to Gov. Code section 66473.7 is not provided herein. This would include This would include written contracts or other proof of valid rights to supplies under development, an adopted capital outlay program to finance delivery of supplies under development, permits to construct supply infrastructure for supplies under development, and regulatory approvals for conveyance or delivery of supplies under development. Copies of the rights, contracts, and other entitlements to water supplies available to OMUC are provided in the appendices to the attached WSA.

1.6 Impacts to Agricultural and Industrial Users

Gov. Code section 66473.7 requires this WV to contain a description of reasonably foreseeable impacts of the proposed subdivision on the availability of water resources for agricultural and industrial uses within the water supplier's service area that are not currently receiving water from the water supplier but are utilizing the same sources of water. Water supplies that industrial and agricultural users may be using that are not provided to them by OMUC would be their private wells to access the Chino Groundwater Basin, which OMUC also utilizes. Adverse impacts to such entities as a result of the Project is not anticipated because the Chino Basin is an adjudicated basin with a court appointed Watermaster who monitors and enforces the provisions of the 1978 Judgment and subsequent orders of the court. As discussed in Section 4 of the attached WSA, the Watermaster develops and implements an Optimum Basin Management Program to sustainably manage the basin for all users.

The *Rich-Haven Specific Plan Draft Environmental Impact Report* (EIR) prepared by MBA and dated July 3, 2007, addressed the conversion of the existing agricultural land use to a mixed urban use development. As stated in the Draft EIR section on

Significant and Unavoidable Impacts: *Implementation of this project would permanently convert agricultural operations and agricultural production on the project site to urban uses. Specifically, the Prime Farmland would be permanently converted and no longer available for agricultural uses or agricultural production* (p. 6-1). The document further states, *The project is being proposed despite significant and unavoidable impacts because it represents one of thirty planning subareas within the NMC [Ontario Ranch] planned for cohesive, identifiable neighborhoods within the NMC [Ontario Ranch] for the purpose of implementing the vision of the NMC [Ontario Ranch]* (p. 6-2).

As discussed in the attached WSA, agricultural properties are projected to decrease with the conversion of Ontario Ranch to non-agricultural activities (Table 2-4). Table 3-7 of the attached WSA forecasts declines in recycled water use by agriculture. Further, industrial is currently (2015) one of the two most common land use types in the City, making up approximately 4,671 acres or 15 percent (UWMP, p. 3-3). The ultimate citywide land use plan plans for an increase of business parks and industrial uses to cover about 8,103 acres or 25 percent at buildout (UWMP*, p. 3-6*). Table 2-3 in the attached WSA shows an increasing citywide projection of water use by industrial uses from 1,839 AFY in 2020 to 5,138 AFY in 2040.

For each acre of agricultural land that converts to urban use, the initial Safe Yield of the appropriative pool member serving the converted land is increased by 2 acre-feet. In addition, properties that were on private wells are expected to connect to OMUC infrastructure. Therefore, OMUC's share of the safe yield will continue to increase as Ontario Ranch develops, and a decline in private wells is expected.

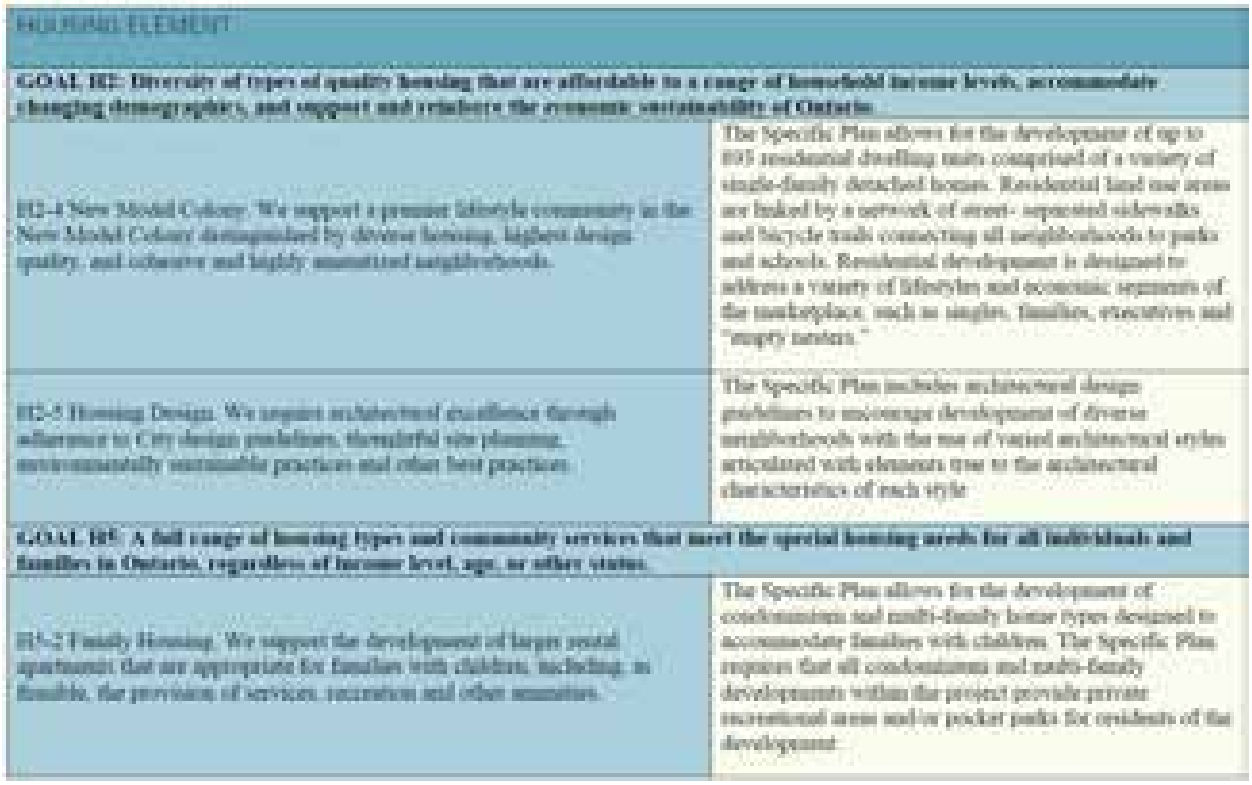
1.7 Priority to Proposed Lower Income Housing Projects

Pursuant to Gov. Code section 65589.7, the determinations made by the WV shall be consistent with the obligation of a public water system to grant a priority for the provision of available and future water resources or services to proposed housing

developments that help meet the City's (or County's) share of the regional housing needs for lower income households.

The 2015 UWMP states that 2,592 very low income units are planned between 2013 and 2021, and half of those units are designated for extremely low income families (p. 3-9). Further, the 2015 UWMP estimates 15,143 AFY of water demand will come from lower income households by buildout in 2040 (p. 4-4).

The following excerpt from the Draft Rich-Haven SPA3 General Plan Consistency Analysis describes the Project's consistency with applicable policies from the TOP Housing Element (p. 9-20):



HOUSING ELEMENT	
GOAL H2: Diversity of types of quality housing that are affordable to a range of household income levels, accommodate changing demographics, and support and reinforce the economic sustainability of Ontario	
H2-4 New Model Colony. We support a premier lifestyle community in the New Model Colony distinguished by diverse housing, highest design quality, and cohesive and highly connected neighborhoods.	The Specific Plan allows for the development of up to 810 residential dwelling units comprised of a variety of single-family detached homes. Residential land use areas are linked by a network of street- separated sidewalks and bicycle trails connecting all neighborhoods to parks and schools. Residential development is designed to address a variety of lifestyles and economic segments of the marketplace, such as singles, families, executives and "empty nesters."
H2-5 Housing Design. We require architectural excellence through adherence to City design guidelines, thoughtful site planning, environmentally sustainable practices and other best practices.	The Specific Plan includes architectural design guidelines to encourage development of diverse neighborhoods with the use of varied architectural styles articulated with elements true to the architectural characteristics of each style.
GOAL H5: A full range of housing types and community services that meet the special housing needs for all individuals and families in Ontario, regardless of income level, age, or other status.	
H5-2 Family Housing. We support the development of larger rental apartments that are appropriate for families with children, including, as feasible, the provision of services, recreation and other amenities.	The Specific Plan allows for the development of condominium and multi-family home types designed to accommodate families with children. The Specific Plan requires that all condominium and multi-family developments within the project provide private recreational areas and/or pocket parks for residents of the development.

1.8 Verification That Relies on Groundwater

Law

> *Gov. Code Sec. 66473.7 (h) Where a water supply for a proposed subdivision includes groundwater, the public water system serving the proposed subdivision shall evaluate, based on substantial evidence, the extent to which it or the landowner has the right to extract the additional groundwater needed to supply the proposed subdivision. Nothing in this subdivision is intended to modify state law with regard to groundwater rights.*

Section 4 of the attached WSA describes OMUC's legal right to extract groundwater from the Chino Basin.

1.9 Finding of Sufficient Water Supply

As depicted in Table 3-2 and Table 3-9 of the attached WSA, the City's existing and future total water supply (39,921 AFY in FY 19/20 and 73,640 AFY in 2040, respectively) are sufficient to meet the existing and anticipated water demands from its service area including the proposed Project's demand of 2,771 AFY (Table 2-6 of attached WSA). Based on the analysis herein and the attached WSA, OMUC finds that "sufficient water supply" is available to support the projected subdivisions within the Rich-Haven Specific Plan as currently described in SPA3.

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ALBERT A. WEBB ASSOCIATES

Corporate Headquarters
3788 McCray Street
Riverside, CA 92506
T: 951.686.1070

Palm Desert Office
41-990 Cook St., Bldg. I - #801B
Palm Desert, CA 92211
T: 951.686.1070

Murrieta Office
41870 Kalmia Street #160
Murrieta, CA 92562
T: 951.686.1070

PHASE I ENVIRONMENTAL SITE ASSESSMENT



1601 E. RIVERSIDE DRIVE
ONTARIO, CALIFORNIA 91761

Prepared For:

Richland Ventures, Inc
3161 Michelson Drive, Suite 425
Irvine, California 92612

July 28, 2016

Hillmann Project No: C3-6603

Your Property. Our Priority.
1745 W. Orangewood Avenue, Suite 110, Orange, CA 92868
Telephone (714) 634-9500 Fax: (714) 634-9507
www.Hillmann**Consulting.com**

July 28, 2016

Mr. John Schafer
Richland Ventures, Inc.
3161 Michelson Drive, Suite 425
Irvine, California 92612

RE: Phase I Environmental Site Assessment
10601 E. Riverside Drive
Ontario, CA 91761
Hillmann Project Number: C3-6603

Dear Mr. Schafer:

Hillmann Consulting, LLC, is pleased to provide the results of our Phase I Environmental Site Assessment of the above referenced property. This assessment was performed in accordance with the scope and limitations of ASTM Practice E 1527-13, which is the latest version of the E1527 standard published by the ASTM, and All Appropriate Inquiries (AAI) Final Rule 40 CFR Part 312.

This report is for the exclusive use of the entities named on the front cover, and no other party shall have any right to rely on any service provided by Hillmann Consulting, LLC, without prior written consent.

We appreciate the opportunity to provide environmental due diligence services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact the Project Manager at (714) 634-9500.

Very Truly Yours,
Hillmann Consulting, LLC

Scott Alburn
Environmental Technician

Christopher W. Baker
Vice president of Operations

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List of Abbreviations/Acronyms

Hillmann may use the following abbreviations and acronyms for common terminology described in our report. Not all abbreviations or acronyms may be applicable to this report:

ACM	– Asbestos Containing Material
AST	– Aboveground Storage Tank
ASTM	– American Standard for Testing Materials
CERCLA	– Comprehensive Environmental Response Compensation and Liability Act
CERCLIS	– Comprehensive Environmental Response Compensation and Liability Information System
CESQG	– Conditionally Exempt Small Quantity Generator
CORRACTS	– Corrective Action Sites
CREC	– Controlled Recognized Environmental Condition
DNPL	– Delisted National Priority List
DTSC	– Department of Toxic Substances Control
ENG	– Engineering
ERNS	– Emergency Response Notification System
FOI	– Freedom of Information
FOIA	– Freedom of Information Act
FOIL	– Freedom of Information Letter
HVAC	– Heating Ventilation & Air Conditioning
HREC	– Historic Recognized Environmental Condition
IAQ	– Indoor Air Quality
INST	– Institutional
LBP	– Lead-Based Paint
LQG	– Large Quantity Generator
LUST	– Leaking Underground Storage Tank
MSDS	– Material Safety Data Sheet
NFA	– No Further Action
NFRAP	– No Further Remedial Actions Planned
NPDES	– National Pollutant Discharge Elimination System
NPL	– National Priority List
RCRA	– Resource Conservation and Recovery Act
RCRIS	– Resource Conservation and Recovery Information System
REC	– Recognized Environmental Condition
RWQCB	– Regional Water Quality Control Board
SCAQMD	– South Coast Air Quality Management District
SQG	– Small Quantity Generator
TSDF	– Treatment Storage and/or Disposal Facility
USEPA	– United States Environmental Protection Agency
UST	– Underground Storage Tank

1.0 EXECUTIVE SUMMARY

Hillmann Consulting, LLC (Hillmann), performed a Phase I Environmental Site Assessment (ESA) of 10601 E. Riverside Drive in Ontario, California (the "Property"). This assessment has been conducted in accordance with the ASTM Standard Practice E 1527-13 for Phase I Environmental Site Assessments and All Appropriate Inquiries (AAI) Final Rule 40 CFR Part 312.

1.1 Project Details Summary Table

A summary of the pertinent details of the project is provided below:

PROJECT SUMMARY TABLE					
Name of Client	Richland Ventures, Inc.				
Client Project No.:	N/A				
Client Contact:	Mr. John Schafer				
Description of Project	Phase I Environmental Site Assessment				
Project Name:	N/A				
Street Address:	10601 E. Riverside Drive				
City:	Ontario	**County:**	San Bernardino	**State:**	California
Tax ID/Parcel Number:	0218-161-04-0000, 0218-161-05-0000, 0218-161-10-0000, 0218-161-11-0000				
Zoning Designation:	Field Crops, Dairy				
Approx. Property Area:	104.77 Acres				
Approximate Building Area:	2,500 SF Milk Barn, 3,000 SF Equipment Barn, 1,500 SF Mechanical Shed, one 2,200 SF home, one 1,400 SF home, one 1,300 SF home, 3,300 SF storage building, 1,800 SF dairy processing facility.				
Year Built:	Homes built in 1976, Dairy equipment built in 1982.				
General Type of Usage:	Field & Seed, Dairy Farm				
Property Owner:	L&F Properties				
Occupant(s):	Northview Dairy				
Assessment Personnel:	Mr. Jonathan McConnell				
Property Contact:	Mr. Daryl Koops				
Property Escort(s):	Mr. Daryl Koops				
Inspection Date:	July 12, 2016				
Weather Conditions:	Clear, 77 degrees F				

1.2 Findings Summary Table

The following table summarizes the key findings of this assessment. This table, alone, does not constitute the complete assessment. The report must be reviewed in its entirety.

Assessment Section	No Sig. Concern	Potential Env Concern	REC	Recommended Follow-up	Rep. Ref.
User Provided Info	X				3.0
Data Gaps	X				2.5
Regulatory Review		Property listed on numerous environmental databases for operations including the generating and disposal of wastes produced from Dairy operations.	No	NFA	4.1
Historical Review		Historical usage as agricultural/ orchard land	REC	Perform Phase II Investigation	4.4
Site Use		Use of the Property as a dairy farm.	REC	Perform Phase II Investigation	5.2
Adjoining Properties	X				4.1.2 5.2.8
Hazardous Materials		Usage and storage of various materials, hydraulic fluid, used oil, and lubricants were found in storage areas around the Property. Stained soil observed adjacent compressors.	REC	Perform Phase II Investigation	5.3
Bulk Petroleum Storage	X	Several unregulated underground storage tanks and above ground storage tanks of varying size were identified containing molasses, beer for livestock feed, water, and reclaimed water.		Additional investigation/ remedial actions	5.3
PCBs	X				5.3
Waste / Discharges		Water being discharged into leaching pond towards the southern portion of Northview Dairy. Several areas of landfilling were identified on the area.	REC	Perform Phase II Investigation	5.3
Asbestos Containing Materials (ACM)		Potential for ACM in Property buildings.		Compliance with regulations	7.1
Lead Based Paint (LBP)		Potential for LBP in Property buildings		Compliance with regulations	7.2
Radon	X				7.3
Mold	X				7.4

Assessment Section	No Sig. Concern	Potential Env Concern	REC	Recommended Follow-up	Rep. Ref.
Wetlands	X				7.5

NA = Not Applicable, TBD = To Be Determined, UNK = Unknown

1.3 General Description, Current and Historic Property Use

The Property consists of four rectangular and square shaped parcels on the south side of East Riverside Drive, between South Haven Avenue and Mill Creek Road. The Property is currently occupied by a dairy on the northern portion of the lot and vacant land on the southern portion. The Property is developed with three residential houses, one milk processing facility, and a storage building. The total Property area is approximately 104.77 acres and is located in a suburban developed area characterized by a mix of single and multi-family homes, plant nurseries, dairies, and a high school. The terrain of the Property appeared to be relatively flat. No natural surface bodies of water were observed.

The Property appears to have first been used as agricultural orchards in 1938 until a dairy was constructed on the northern portion of the Property in 1985. The dairy was listed as Northview Dairy and currently remains on the northern portion of the Property. By 2009, the southern portion of the Property changed from crops and orchards to undeveloped land. The Property currently resembles this configuration.

1.4 Findings, Opinions, and Conclusions

1.4.1 Notable Findings

WDS, HAZNET, EMI, ENF, San Bern. Co. Permit – Northview Dairy. The WDS listing indicates that the facility type is "Agricultural" and a facility status of "Active." The primary waste type includes "nonhazardous solid wastes or solid wastes that contain nonhazardous putrescible and non-putrescible solid, semisolid, and liquid wastes. These primary wastes have a moderate threat to water quality if a violation were to occur. The HAZNET listing indicates that in 1996 and 2000, the Property used a transfer station, treatment tank, and a recycler to dispose of aqueous solution with total organic residues less than 10 percent. No violations were noted on the Property. The EMI listing indicates that the site emitted up to six tons of total organic hydrocarbon gases and up to three tons of particulate matter between the years 2006 and 2014. The ENF listing indicates the site as "Agricultural" due to having solid wastes and NEC under stormwater runoff. No violations were noted on the Property. The San Bernardino County Permit listing indicates the site has a permit for a small quantity generator and hazardous materials 1-10 chemicals with San Bernardino County as the permitting agency. The FINDS listing indicates the environmental interest and information system is registered under the air emissions classification. The ECHO listing indicates the Property is listed under the National Pollutant Discharge Elimination System (NPDES) as a NPDES permit and a concentrated animal feeding operation. The site is also listed under the Emission Inventory System (EIS) which indicates the air emissions status as unknown. Considering a lack of reported spills or releases, as well as the relatively small quantity of reported wastes, the above listings are not considered to be RECs in connection with the Property.

A&E Project No. E96004.00, Report of Underground Storage Tank Removal – Northview Dairy, 10601 Riverside Drive, Ontario, California prepared by A&E Inc. and dated March 7, 1996. The Report references that on February 16, 1996, four underground storage tanks (USTs) at the Northview Dairy Farm were removed. Two 4,000-gallon storage tanks containing gasoline and two 6,000-gallon storage tanks containing diesel fuel were removed from the Property.

A&E observed no evidence of contaminated soil surrounding the USTs and a total of ten (10) soil samples were collected surrounding the storage tanks. Laboratory results detected no concentrations of diesel fuel or gasoline in any of the ten soil samples. Results also indicated no concentrations of benzene, toluene, ethylbenzene, xylenes, or methyl tert-butylethene in any of the ten soil samples. It was concluded by A&E Inc. that no significant release of fuels to the subsurface soil was observed at the subject site. A letter from the County of San Bernardino Fire Department, dated June 23, 1999, stated, "…it has been determined that the extent of contamination or lack thereof would indicate that no further investigation is warranted at this time."

File review issued at the Regional Water Quality Control Board (RWQCB) – Santa Ana Region (8) indicated records for the Property were found. Files included animal discharge reports, cleanup and abatement orders, and waste management plans for Northview Dairy. The provided Engineered Waste Management Plans state that in January of 2003, Northview Diary proposed to create measures of reducing potential run-off through construction of berms alongside the western and eastern borders. No violations were observed from Northview Dairy.

The truck trailer mounted above ground storage tank (AST) containing diesel fuel is considered a REC due to staining on the pavement from use of the attached pump station. Hillmann recommends that a sub-surface phase II inspection be conducted to measure the effects of petroleum in the soil. It is recommended that proper removal practices and disposal of diesel tanks prior to redevelopment on the central portion of the Property.

Storage of acid cleaners, zinc sulfate monohydrate powder, hydraulic fluid, used oil, and lubricants were all found within various storage areas around the Property. These materials should be removed and properly disposed prior to redevelopment of the Property.

Significant soil staining was observed in the vicinity of the operational and unused air compressors along the northeastern exterior wall of the garage.

Three locations of solid waste dumping was noted within a City of Ontario Assessor's Map. On the central portion of the Property, three locations of buried tree stumps, concrete rip rap, and buried construction debris are noted.

1.4.2 Non-ASTM Scope Considerations

Hillmann has also performed preliminary evaluations for ASTM "Non-Scope" items, such as asbestos-containing materials (ACM), lead-based paint, radon, mold and wetlands. Our observations and research did not identify any notable concerns, except for the following:

Considering the dates of construction of the existing buildings, asbestos containing materials (ACM) may be present at the Property. Suspected ACM observed during a preliminary visual screening included roofing materials, plaster walls, drywall, ceiling tiles, cove base, adhesive, and stucco. It is possible that additional quantities of suspect ACM may exist in enclosed areas or areas not accessed during the assessment. It is emphasized that this limited screening does not constitute a comprehensive asbestos survey of the premises and is meant only to provide a preliminary evaluation regarding the potential presence of ACM at the Property.

Considering the dates of construction of the existing buildings, lead-based paint may be present at the Property. In general, interior painted surfaces within the space were observed to be in fair condition with the exception of the ceiling within the garage where a majority of the paint was peeling from the roof and roof joists. It is emphasized that this limited screening does not constitute a comprehensive lead-based paint survey of the premises and is meant only to provide a preliminary evaluation regarding the potential presence of LBP at the Property.

1.4.3 Significant Data Gaps

No data gaps that significantly impacted Hillmann's ability to identify RECs in connection with the Property have been identified.

1.4.4 Recognized Environmental Conditions

Hillmann has performed a Phase I Environmental Site Assessment in accordance with the scope and limitations of ASTM Practice E 1527-13 of the Property as described in Section 2 of this report. Any additions to, exceptions to, or deletions from this practice are also described in Section 2 of this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the Property, except for the following:

Recognized Environmental Conditions (RECs):

- Based on the historic usage as agricultural land, historical applications of pesticides have likely occurred at the Property. Therefore, there is the potential for residual pesticide levels to exist in shallow soils in the Property, which is considered to be a REC.

- Due to the current Property usage as a dairy farm, there is a potential for vapor intrusion by methane gas, which is considered to be a REC.

- The southern portion of the property was utilized as farmland and orchard from the late 1930's until the mid-2000's. This activity is considered a REC due to the likely usage of pesticides and fertilizers.

- Three areas of unregulated dumping were identified on the Property. This activity is considered a REC due to the unknown nature of the landfilling.

Controlled Recognized Environmental Conditions (CRECs):

- No evidence of any CRECs in connection with the Property was identified.

Historical Recognized Environmental Conditions (HRECs):

- Based on previous reports published by A&E Inc., four underground storage tanks were removed from the Property on February 16, 1996. Two 4,000-gallon storage tanks containing gasoline and two 6,000-gallon storage tanks containing diesel fuel were removed. Ten soil samples were taken from the surrounding area with no visual signs of leaking.

Laboratory results reported detected no concentrations of diesel fuel or gasoline in any of the ten soil samples. The removal of the four underground storage tanks creates a historical recognized environmental condition for the Property.

1.5 Recommendations

1.5.1 Recognized Environmental Conditions

Based on the findings of the Phase I Environmental Site Assessment, a phase two environmental site assessment is recommended in order to address the following items:

- Agricultural/ orchard usage of the southern portion of the Property,
- Methane Gas Testing for the northern portion of the Property,
- Soils in the areas of unregulated dumping, and,
- Soils in the area of the leaking air compressors in the garage.

1.5.2 Non-ASTM Considerations

The following should be considered with regard to further investigation or management of Non-ASTM considerations addressed by this report:

- Compliance with all applicable rules and regulations pertaining to the presence of ACM and lead based paint at the Property.

2.0 INTRODUCTION

2.1 Purpose and Scope

This assessment was conducted utilizing generally accepted Phase I ESA industry standards in accordance with the ASTM Standard Practice E 1527-13. The ASTM describes these methodologies as representing good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products. As such, this practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner or bona fide prospective purchaser limitations on CERCLA liability (hereinafter, the "landowner liability protections," or "LLPs"): that is, the practice that constitutes all appropriate inquiries into the previous ownership and uses the property consistent with good commercial and customary practice as defined at 42 U.S.C. §9601(35) (B). The primary goal of the processes established by ASTM E1527-13 is to identify *recognized environmental conditions* in connection with the Property.

The term *recognized environmental condition (REC)* is defined by the ASTM as the presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

The ASTM has also defined the terms *historical recognized environmental conditions* and *controlled recognized environmental conditions* as two additional types of RECs. The term *historical recognized environmental condition (HREC)* is defined as a past release of any hazardous substances or petroleum products that has occurred in connection with the Property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the Property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls or engineering controls).

The term *controlled recognized environmental condition (CREC)* is defined as a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

Conditions determined to be *"de minimis conditions"* are not considered to be RECs nor CRECs. *De minimis condition* is defined by the ASTM as a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

The chief components of this assessment are described as follows:

- A non-invasive visual reconnaissance of the Property and adjoining properties in accordance with ASTM guidelines for evidence of RECs.

- Interviews of past and present owners and occupants and state and local government officials, seeking information related to the potential presence of RECs at the Property.

- A review of standard physical record sources for available topographic, geologic and groundwater data.

- Review of standard historic record sources, such as fire insurance maps, city directories, aerial photographs, prior reports and interviews, etc., to determine prior uses of the Property from the present, back to the Property's first developed use, or back to 1940, whichever is earlier.

- Review of standard environmental record sources including federal and state environmental databases, and additional environmental record sources, to identify potential regulatory concerns with the Property, adjoining properties and properties located within the surrounding area.

These methodologies are described as representing good commercial and customary practice for conducting an Environmental Site Assessment of a property for the purpose of identifying recognized environmental conditions.

2.1.1 Non-ASTM Scope Considerations

In accordance with our contract agreement, Hillmann may have addressed the following potential environmental concerns that are outside of the requirements of the ASTM E1527-13 standard:

Asbestos-Containing Materials (ACM): A preliminary visual inspection for the presence of suspect ACM within the accessed areas of buildings on the Property.

Lead-Based Paint (LBP): A preliminary visual inspection of the condition of painted surfaces in the accessed areas of buildings on the Property.

USEPA Designated Radon Potential: Review of general non-site specific data published by the USEPA regarding the potential for elevated indoor levels of radon gas to occur in the area of the Property.

Mold: A preliminary visual inspection within the accessed areas of buildings on the Property for evidence of systemic microbial problems, including visible mold growth, water damaged building materials or musty odors.

Wetlands: A preliminary review of data published by the US Fish and Wildlife Service regarding the presence or absence of mapped wetlands on the Property. The US Fish and Wildlife Service wetlands data is typically provided to Hillmann by Environmental Data Resources, Inc. (EDR).

2.2 Property Location/Legal Description

The Property is located at 10601 E. Riverside Drive in Ontario, California. The legal designations of the Property are Assessor's Parcel Numbers (APNs) 0218-161-04-0000, 0218-161-05-0000, 0218-161-10-0000, and 0218-161-11-0000. The Property is located along the south side of East Riverside Drive, between South Haven Avenue and Mill Creek Road. The latitude and longitude of the Property is approximately North 34.0171 degrees, and West 117.5724 degrees.

2.3 Significant Assumptions

The following significant assumptions are made:

- Hillmann can neither warrant nor guarantee the accuracy or completeness of the information obtained from EDR during the course of this assessment.

- Hillmann can neither warrant nor guarantee the accuracy or completeness of information that was obtained from ostensibly knowledgeable individuals, regulatory agency representatives or other secondary sources.

- Hillmann has assumed that the site operations at the time of the site visit reflect typical site conditions relative to potential environmental conditions and that no concealment of environmental conditions or releases by site owners or occupants has occurred. Likewise, Hillmann has also assumed that no areas of the Property with potential environmental concerns or RECs were concealed or otherwise not made known to us, intentionally or unknowingly, by the Property owners/occupants and/or site escort at the time of the site visit.

- For the purpose of estimating the approximate direction of groundwater flow in the absence of site specific groundwater data, unless indicated otherwise, Hillmann has assumed that the gradient of groundwater flow follows the surface topography of the Property and immediate surrounding area.

2.4 Limitations and Exceptions

2.4.1 Limiting Conditions

Hillmann was unaware of any significant limiting conditions at the time of the assessment.

2.4.2 Other Exceptions or Deletions:

No exceptions or deletions from the ASTM Standard E 1527-13 are reported.

2.5 Data Gaps

A *data gap* is defined by the ASTM as a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. A data gap is only significant if other information and/or professional experience raises reasonable concerns involving the data gap and the ability to determine the presence or absence of recognized environmental conditions.

Data Gap:	Significant (Yes/No)?	Discussion
Response to agency records requests not received as of date of report.	No	Any additional information indicative of a REC will be forwarded upon receipt.

2.6 Special Terms and Conditions

Hillmann has prepared this Phase I Environmental Site Assessment using reasonable efforts in each phase of its work to identify recognized environmental conditions associated with hazardous substances, wastes and petroleum products at the Property. The methodology of this Phase I Environmental Site Assessment was consistent with the ASTM Standard Practice for E 1527-13. Findings within this report are based on information collected from observations made on the day of the site visit and from reasonably ascertainable information obtained from governing public agencies and private sources.

This report is not definitive and should not be assumed to be a complete or specific definition of the conditions above or below grade. Information in this report is not intended to be used as a construction document and should not be used for demolition, renovation or other construction purposes. Hillmann makes no representation or warranty that the past or current operations at the Property are, or have been, in compliance with all applicable federal, state and local laws, regulations and codes.

Findings, conclusions and recommendations presented in this report are based on our visual observations of the Property, the research findings reasonably obtained, information provided by the Client, and/or a review of readily available and supplied drawings and documents. Hillmann relies completely on the information, whether written, graphic or verbal, provided by the subject Property contact(s) or as shown on any documents reviewed or received from the subject Property contact, owner or agent, or municipal source, and assumes that information to be true and correct. Although there may have been some degree of overlap in the information provided by these various sources, Hillmann did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this assessment.

Regardless of the findings stated in this report, Hillmann is not responsible for consequences or conditions arising from facts that were concealed, withheld or not fully disclosed at the time the assessment was conducted.

This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

The regulatory database report provided is based on an evaluation of the data collected and compiled by a contracted data research company. The report focuses on the Property and neighboring properties that could impact the Property. Neighboring properties listed in governmental environmental records are identified within specific search distances. The search distance varies depending upon the particular government record being checked. The regulatory research is designed to meet the requirements of ASTM Standard E 1527-13. The information provided in the regulatory database report is assumed to be correct and complete.

Subsurface conditions may differ from the conditions implied by the surface observations and can only be reliably evaluated through intrusive techniques.

Reasonable efforts have been made during this assessment to identify aboveground and underground storage tanks and ancillary equipment. "Reasonable efforts" are limited to information gained from visual observation of largely unobstructed areas, recorded database information held in public record and available information gathered from interviews. Such methods may not identify subsurface equipment that may have been hidden from view due to parked automobiles and other vehicles, snow cover, vegetative growth, pavement, construction or debris pile storage or incorrect information from sources.

Unless otherwise specified in Section 2.1 of this report, an ASTM Vapor Encroachment Screening of the Property utilizing the information collected during the course of this assessment is excluded from the scope of service for this assessment.

Hillmann is not a professional title insurance firm and makes no guarantee, explicit or implied, that the records which were reviewed represent a comprehensive or precise delineation of past Property ownership or tenancy for legal purposes.

In the event of any conflict between the terms and conditions of this report and the terms and conditions of the consulting services agreement between Richland Ventures, Inc. and Hillman Consulting, the consulting services agreement shall control.

3.0 USER PROVIDED INFORMATION

3.1 Prior Environmental Reports/Documentation

A&E Project No. E96004.00, Report of Underground Storage Tank Removal – Northview Dairy, 10601 Riverside Drive, Ontario, California prepared by A&E Inc. and dated March 7, 1996. The Report references that on February 16, 1996, four underground storage tanks (USTs) at the Northview Dairy Farm were removed. Below is a summary of the findings of the underground storage tank removal:

- Two 4,000-gallon storage tanks containing gasoline and two 6,000-gallon storage tanks containing diesel fuel were removed from the Property.

- A&E observed no evidence of contaminated soil surrounding the USTs and a total of ten (10) soil samples were collected surrounding the storage tanks.

- Laboratory results detected no concentrations of diesel fuel or gasoline in any of the ten soil samples. Results also indicated no concentrations of benzene, toluene, ethylbenzene, xylenes, or methyl tert-butylethene in any of the ten soil samples.

- It was concluded by A&E Inc. that no significant release of fuels to the subsurface soil was observed at the subject site.

- The report included a letter from the County of San Bernardino Fire Department, dated June 23, 1999, that stated, "…it has been determined that the extent of contamination or lack thereof would indicate that no further investigation is warranted at this time."

3.2 Title Records/Environmental Liens/Activity and Use Limitations

Review of title records is not included in the scope of work for this assessment project. No information regarding environmental liens or activity and use limitations was provided to Hillmann by the Client.

3.3 Specialized Knowledge or Experience

No indication of any specialized knowledge or experience regarding the Property was reported to Hillmann by the Client.

3.4 Commonly Known or Reasonably Ascertainable Information

No commonly known or specialized knowledge of the Property was reported to Hillmann by the Client.

3.5 Property Value Reduction due to Environmental Conditions

No information was provided by the Client to Hillmann regarding a reduction of the Property value due to environmental problems or conditions.

3.6 Reason for Performing Phase I ESA

It is Hillmann's understanding that the Phase I ESA was being performed in consideration of a pending real estate transaction involving the Property.

4.0 RECORDS REVIEW

4.1 Standard Environmental Record Sources

An EDR Radius Map report was obtained from Environmental Data Resources of Shelton, CT. The EDR Radius Map Report provided a search of standard environmental record sources in general accordance with the requirements of the ASTM E1527-13. Hillmann has reviewed the EDR Radius Map report and a summary of findings is presented in the following tables and report sections. Hillmann also reviewed the list of unmapped sites (referred to by EDR as "Orphan List" sites). Unmapped sites identified as falling within an applicable specific search distance or warranting discussion in the report, if any, have been included in the information presented below. Detailed descriptions of the meaning and significance of the regulatory databases can be found in the EDR Radius Map Report in Appendix E.

Regulatory Database	Search Distance	Property Listed?	Adj. Properties Listed?	Total Listings Within Search Distance
Fed. NPL/Proposed NPL	1-mile	No	No	0
Fed. Delisted NPL	½-mile	No	No	0
Fed. CERCLIS	½-mile	No	No	0
Fed. CERC-NFRAP	½-mile	No	No	0
Fed. RCRA CORRACTS	1-mile	No	No	0
Fed. RCRA TSD	½-mile	No	No	0
Fed. RCRA LQG	Site & Adj.	No	No	
Fed. RCRA SQG	Site & Adj.	No	No	
Fed. RCRA CESQG	Site & Adj.	No	No	
Fed. ENG Control List	Site	No		
Fed. INST Control List	Site	No		
Fed. ERNS	Site	No		
State/Tribal Hazardous Waste Site	1-mile	No	No	1
State/Tribal Landfill/Solid Waste	½-mile	No	No	0
State/Tribal Leaking Storage Tanks	½-mile	No	No	0
State/Tribal Registered Storage Tanks	Site & Adj.	No	No	
State/Tribal Eng. Control List	Site	No		
State/Tribal Inst. Control List	Site	No		
State/Tribal Voluntary Cleanup Sites	½-mile	No	No	0
State/Tribal Brownfields	½-mile	No	No	0
Supplemental Databases	Site & Adj.	Yes	Yes	

4.1.1 Property Listings

The Property was identified on the following databases:

WDS, HAZNET, EMI, ENF, San Bern. Co. Permit – Northview Dairy. The WDS listing indicates that the facility type is "Agricultural" and a facility status of "Active." The primary waste type includes "nonhazardous solid wastes or solid wastes that contain nonhazardous putrescible and non-putrescible solid, semisolid, and liquid wastes. These primary wastes have a moderate threat to water quality if a violation were to occur. The HAZNET listing indicates that in 1996 and 2000, the Property used a transfer station, treatment tank, and a recycler to dispose of aqueous solution with total organic residues less than 10 percent. No violations were noted on

the Property. The EMI listing indicates that the site emitted up to six tons of total organic hydrocarbon gases and up to three tons of particulate matter between the years 2006 and 2014. The ENF listing indicates the site as "Agricultural" due to having solid wastes and NEC under stormwater runoff. No violations were noted on the Property. The San Bernardino County Permit listing indicates the site has a permit for a small quantity generator and hazardous materials 1-10 chemicals with San Bernardino County as the permitting agency. The FINDS listing indicates the environmental interest and information system is registered under the air emissions classification. The ECHO listing indicates the Property is listed under the National Pollutant Discharge Elimination System (NPDES) as a NPDES permit and a concentrated animal feeding operation. The site is also listed under the Emission Inventory System (EIS) which indicates the air emissions status as unknown. Considering a lack of reported spills or releases, as well as the relatively small quantity of reported wastes, the above listings are not considered to be RECs in connection with the Property.

4.1.2 Adjoining Property Listings

San Bern. Co. Permit – TLC Sonlight Dairy #2, located at 13300 Haven, approximately 38 feet south-southwest at a lower elevation relative to the Property: The San Bernardino County Permit listing indicates the site has a permit category as "Hazmat Handler" and a facility status of "Inactive." Considering the status, the above listing is not considered to be a REC in connection with the Property.

San Bern. Co. Permit – OASIS Growers, Inc., located at 13210 Haven Ave, approximately 41 feet southwest at a lower elevation relative to the Property: The San Bernardino County Permit listing indicates the site has a permit category as "conditionally exempt small quantity generator" and a facility status of "Inactive." Considering the status, the above listing is not considered to be a REC in connection with the Property.

HIST UST, HAZNET – Jack Pinherio Dairy, located at 11011 Riverside Drive, approximately 85 feet north-northeast at a high elevation relative to the Property: The HIST UST listing provided a geotracker link that indicates the site had one 1,000-gallon tank containing unleaded fuel in 1978. The HAZNET listing indicates the site generated unspecified oil-containing waste, off-specification, aged or surplus organics, and other organic solids in 2006. Considering the lack of reported spills or releases the above listings are not considered to be RECs in connection with the Property.

San Bern. Co. Permit – Weststar Dairy, located at 10401 E. Riverside Drive, approximately 578 feet west-northwest and at a higher elevation relative to the Property: The San Bernardino County Permit listing indicates the site has a permit category as "Special Generator" and a facility status of "Inactive." Considering the status, the above listing is not considered to be a REC in connection with the Property.

San Bern. Co. Permit – Colony High School, located at 3850 E. Riverside Drive, approximately 1,226 feet northeast and at a higher elevation relative to the Property: The San Bernardino County Permit listing indicates the site has a permit category as "Conditionally Exempt Small Quantity Generator" and "Hazardous Materials 4-10 Chemicals" and a facility status of

"Active." Considering the status and lack of reported spills or releases, the above listing is not considered to be a REC in connection with the Property.

4.1.3 ASTM Search Distance Findings

The following is a summary of the findings of the regulatory database review with regard to sites identified as located within the ASTM specified search distance surrounding the Property. In order to keep this report informative and yet concise, Hillmann has provided a brief discussion of the listed site(s) for each database category that appears most likely to impact the Property based on distance, topography and/or case status. A copy of the full EDR Radius Map Report, including available details of all listed sites, is included in Appendix E.

Note that listings for the following databases, if identified, would be discussed above in Sections 4.1.1 and 4.1.2: Registered Storage Tanks, Federal RCRA Generators, Federal and State INST and ENG Controls, ERNS.

Federal NPL: No NPL listings were identified within a one-mile radius of the Property.

Federal Delisted NPL: No DNPL listings were identified within a ½-mile radius of the Property.

Federal CERCLIS: No CERCLIS listings were identified within a ½-mile radius of the Property.

Federal CERCLIS-NFRAP: No CERC-NFRAP listings were identified within a ½-mile radius of the Property.

Federal RCRA-CORRACTS: No CORRACTS listings were identified within a one-mile radius of the Property.

Federal RCRA-TSD: No TSD listings were identified within a ½-mile radius of the Property.

State/Tribal Hazardous Waste Sites: One (1) SHWS listings were identified within a one-mile radius of the Property on the EnviroStor database. The listing is described as Chaffey High School No. 10. This site is approximately 5,277 feet south and at a lower elevation relative to the Property. The listing indicates a "No Further Action" status as of 07/01/2005. The site type is noted as School Investigation. Soil was potentially affected by Toxaphene, TPH-diesel, Dieldrin, Heptachlor, Chlordane, DDD, DDE, and DDT. A Project Wide Inventory Project Report (INPR) was issues 09/08/2005. Considering distance and topographic relation, this site is not considered to be a REC in connection with the Property.

State/Tribal Landfill/Solid Waste Disposal Sites: No SWF/LF listing was identified within a ½-mile radius of the Property.

State/Tribal leaking Storage Tanks: No LUST listings were identified within a ½-mile radius of the Property.

State/Tribal Voluntary Cleanup Sites: No VCP listing was identified within a ½-mile radius of the Property.

State/Tribal Brownfields: No BROWNFIELDS listings were identified within a ½-mile radius of the Property.
Review of the sites identified within the ASTM search parameters did not identify any nearby or surrounding area sites that are considered to be a REC in connection with the Property, unless as discussed otherwise previously in this section.

4.2 Additional Environmental Record Sources

4.2.1 Supplemental Database Listings

Hillmann reviewed the EDR Radius Map report for listings on supplemental databases that were searched in addition to the Standard Environmental Record Sources. Any property or adjoining property listings on such databases, if identified, would be discussed in Section 4.1.1 and 4.1.2. None of the other supplemental database listings identified by the EDR Radius Map report are considered to be a REC in connection with the Property.

4.2.2 Local Agency & Internet Research

Hillmann performed a search of available local and municipal agencies for pertinent information pertaining to the Property, particularly with regard to potential environmental concerns such as petroleum storage tanks, storage and usage of hazardous substances and petroleum products, and/or known or suspected environmental contamination. Hillmann also conducted a cursory internet search of the Property address for information indicative of a REC. The following table summarizes the findings of the research:

Source:	Inquiry Made?	Type:	Outcome:
Environmental Protection Agency (EPA)	Yes	Online Request	Response not received prior to report issuance.
County of San Bernardino Fire Department Fire Department	No	FOIA Request	It was not reasonably ascertainable at the time of the Phase I ESA to obtain records from the San Bernardino County Fire Department.
Department of Toxic Substances Control (DTSC)	Yes	FOIA Request	Response indicates that no records for the Property address were found.
Regional Water Quality Control Board (RWQCB) – Santa Ana Region (8)	Yes	FOIA Request	Response indicated that records were found. Files indicated Animal Discharge annual reports, Notices to submit Nutrient Management Plans, and implementation of Engineered Waste Water Management Plans for Northview Dairy. These reports did not indicate any environmental concerns in relation to the Property. See below.
South Coast Air Quality Management District (SCAQMD)	Yes	FOIA Request	Response indicated that Northview Dairy obtained permits to operate the facility and engines.

Riverside County Geographical Information System (GIS)	Yes	On-line search	No information indicative of a REC was identified.
CA DTSC EnviroStor database http://www.envirostor.dtsc.ca.gov/public/	Yes	Internet	The Property address was searched. No results for the Property were found.
CA GeoTracker database http://geotracker.waterboards.ca.gov/	Yes	Internet	The Property address was searched. No results for the Property were found.
USEPA Envirofacts search http://www.epa.gov/enviro/index.html	Yes	Internet	The Property address was searched and Northview Dairy is listed as a general permit covered facility.
www.google.com	Yes	On-line search	The Property address search returns results as a dairy by the name of Northview Dairy.
www.realquest.com	Yes	On-line search	Basic Property information such as parcel number, date of construction, and building square footages were collected. Pertinent information, where obtained, is referenced in the appropriate sections of this report.
Other:	NA		

A file review issued at the Regional Water Quality Control Board (RWQCB) – Santa Ana Region (8) indicated records for the Property were found. Files included animal discharge reports, cleanup and abatement orders, and waste management plans for Northview Dairy. The provided Engineered Waste Management Plans state that in January of 2003, Northview Diary proposed to create measures of reducing potential run-off through construction of berms alongside the western and eastern borders. No violations were observed from Northview Dairy.

4.3 Physical Setting Sources

4.3.1 USGS 7.5 Minute Topographic Map

The USGS 7.5 minute series topographic maps covering the Property (Guasti, CA 2012 and Corona North, CA 2012) were reviewed. The maps indicated an approximate elevation at the Property of 789 feet above mean sea level. The topography indicated by the map appeared to be sloping downward to the south. The closest down gradient body of water appeared to be a channeled portion of the Santa Ana River, approximately 4.52 miles south.

4.3.2 Soils

Based on USDA Soil Conservation Service (SCS) data summarized by the EDR Geocheck-Physical Setting Source Addendum, the soil type at the Property is classified as "Delhi." The Delhi designation is described as fine sand, with somewhat excessively drained and high infiltration rates.

4.3.3 Geology

Based on geologic data summarized by the EDR Geocheck - Physical Setting Source Addendum, the geologic formation in the vicinity of the Property is described as a stratified sequence of the Cenozoic Era, Quaternary System, Quaternary Series.

4.3.4 Hydrology

No site specific hydro-geologic data was available for the Property.

4.4 Historical Use – Property and Adjoining Properties

Hillmann has conducted research in order to help identify the likelihood of past uses having led to recognized environmental conditions in connection with the Property. Standard historical sources have been sought in an attempt to document the past uses of the Property as far back as it can be shown that the Property contained structures; or from the time the Property was first used for residential, agricultural, commercial, industrial or governmental purposes.

4.4.1 Fire Insurance Maps

A search of Sanborn Fire Insurance Maps for the Property and surrounding area was conducted by Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut. EDR provided a Sanborn report that stated fire insurance maps covering the target property were not found.

4.4.2 City Directories

Hillman obtained an EDR City Directory Abstract report to obtain data of historic city directory listings for the Property. The following is a generalized summary of the findings of City Directory Research:

YEAR(S)	SUMMARY	
2003 – 2013	**Property:**	The Property is not listed on the City Directory report.
	Adjacent Properties:	The adjoining properties to the north are listed as East Seals and After School Academy. The adjoining property to the northeast is listed as Colony High School and McMurray BE Construction. The adjoining property to the west is listed as Fremontia Horticultural.
1985 – 2002	**Property:**	The Property is not listed on the City Directory report.
	Adjacent Properties:	The adjoining property to the north are listed as La Petite Academy. The adjoining property to the west is listed as West Star Dairy, Wind Frank, and Slegers Milk.
1975 – 1984	**Property:**	The Property is not listed on the City Directory report.
	Adjacent Properties:	The adjoining property to the west is listed as Slegers Hubert Dairy, Wind Frank, and Wind Fred, and Slegers LM.

4.4.3 Historical Topographic Map Review

Hillmann obtained and reviewed an "EDR Historical Topographic Map Report" from EDR containing historic aerial photography of the Property and adjoining properties. The following interpretation of land usage was made by review of the maps:

YEAR(S)	DESCRIPTION	
1897, 1900, 1903	**Property**	The Property is depicted as undeveloped land with a small structure on the northwestern corner of the Property.
	Adjacent Properties	The adjoining properties are depicted as undeveloped land.

1953/1954	**Property**	The Property is depicted as undeveloped land, vineyards, and orchards with a small structure on the northwestern corner of the Property.
	Adjacent Properties	The adjoining property to the north is depicted with a mix of undeveloped land and vineyards and one small structure. The adjoining property to the northeast is depicted as undeveloped land, vineyards, and orchards. The adjoining properties to the east are depicted as undeveloped land. The adjoining properties to the south and west are depicted as vineyards.
1954	**Property**	The Property is depicted as undeveloped land, vineyards, and orchards with a small structure on the northwestern corner of the Property. A well is depicted on the central of the western border.
	Adjacent Properties	The adjoining property to the north is depicted with a mix of undeveloped land and vineyards and one small structure. The adjoining property to the northeast is depicted as undeveloped land, vineyards, and orchards. The adjoining properties to the east are depicted as undeveloped land. The adjoining properties to the south and west are depicted as vineyards.
1966/1967	**Property**	The Property is depicted as undeveloped land, vineyards, and orchards with a small structure on the northwestern corner of the Property. A well is depicted on the central of the western border.
	Adjacent Properties	The adjoining property to the north is depicted as undeveloped. The adjoining property to the northeast is depicted as undeveloped land, vineyards, and orchards. The adjoining properties to the east are depicted as undeveloped land. The adjoining properties to the south and west are depicted as vineyards.
1973	**Property**	The Property is depicted as agricultural land with a well in the center along the western border and a small structure in the northwestern corner.
	Adjacent Properties	The adjoining properties to the north, northeast, and east are depicted as undeveloped land. The adjoining property to the south is depicted as having agricultural land. The adjoining properties to the west are depicted to have agricultural land with various rectangular structures.
1981	**Property**	The Property is depicted as having agricultural land, one well in the center along the western border, and various structures along the northern portion of the Property.
	Adjacent Properties	The adjoining properties to the north, northeast, and east are depicted as undeveloped land. The adjoining property to the south is depicted as agricultural land. The adjoining properties to the west are depicted as having agricultural and undeveloped land with various structures.
2012	**Property**	No building development is depicted on the Topographic map.
	Adjacent Properties	No building development is depicted on the Topographic map.

4.4.4 Aerial Photograph Review

Hillmann obtained and reviewed an "EDR Aerial Photo Decade Package Report" from EDR containing historic aerial photography of the Property and adjoining properties. In addition, Hillmann reviewed historic aerial photographs of the Property online at www.historicaerials.com. The following interpretation of land usage was made by review of the aerial photographs:

YEAR(S)	DESCRIPTION	
1938	**Property**	The Property appears to be used as agricultural land with a small structure in the northwestern corner, and undeveloped land.
	Adjacent Properties	The adjoining property to the north appears to be used as agricultural land with a small structure in the southwestern corner, and undeveloped land. The adjoining property to the northeast, east, south, and west appear to be used as agricultural land.
1948	**Property**	The Property appears to be used as agricultural land for orchards and vineyards with a small structure in the northwestern corner, and undeveloped land. A well appears to be in the central portion along the western border.
	Adjacent Properties	The adjoining property to the north appears to be used as agricultural land and undeveloped land with a small structure in the southwestern corner. The adjoining properties to the northeast, south, and west appear to be developed with agricultural land. The adjoining property to the east appears to be undeveloped land.
1953, 1959, 1966, 1967	**Property**	The Property appears to be used as agricultural land for orchards and vineyards with undeveloped land on the northern portion of the Property. A well appears to be in the central portion along the western border.
	Adjacent Properties	The adjoining properties to the north and east appear to be undeveloped land. The adjoining property to the northeast appears to be undeveloped land and agricultural land. The adjoining properties to the south and west appear to be agricultural land.
1975	**Property**	The Property appears to be used as agricultural and vacant land.
	Adjacent Properties	The adjoining properties to the north, south, and west appear to be agricultural land. The adjoining properties to the northeast and east appear to be undeveloped land.
1985	**Property**	The Property appears to be a dairy on the northern portion of the Property and agricultural land on the southern portion of the Property.
	Adjacent Properties	The adjoining properties to the north appear to be vacant land. The adjoining properties to the north, northeast, east, and south appear to be agricultural land. The adjoining properties to the west appear to be vacant land and a residential home.
1989, 1990	**Property**	The Property appears to be a dairy on the northern portion of the Property and agricultural land on the southern portion of the Property.
	Adjacent Properties	The adjoining properties to the north appear to be residential homes under construction. The adjoining properties to the northeast, east, and south appear as agricultural land. The adjoining properties to the west appear with one residential home and vacant land.
1994	**Property**	The Property appears to be a dairy under development and agricultural land.
	Adjacent Properties	The adjoining properties to the north appear to be residential homes under development and single and residential homes already built. The adjoining properties to the northeast, east, and south appear to be agricultural land. The adjoining properties to the west appear to be agricultural land, vacant lots, and small residential homes.
2002	**Property**	The Property appears to be a dairy and agricultural land.
	Adjacent Properties	The adjoining properties to the north appear to be residential homes. The adjoining property to the northeast appears to be a school under development. The adjoining properties to the east and south appear to be used as agricultural land. The adjoining properties to the west appear to be a mix of agricultural land and vacant lots.

2005, 2006	**Property**	The Property appears to be a dairy and agricultural land.
	Adjacent Properties	The adjoining properties to the north appear to be residential homes. The adjoining property to the northeast appears to be a school. The adjoining properties to the east and south appear to be agricultural land. The adjoining properties to the west appear to be a mix of agricultural land and vacant lots.
2009, 2010, 2012	**Property**	The Property appears to be a dairy and agricultural land.
	Adjacent Properties	The adjoining properties to the north appear to be residential homes. The adjoining property to the northeast appears to be a school. The adjoining properties to the east appear to be residential homes under construction. The adjoining property to the south appears to be vacant land. The adjoining properties to the west appear to be a mix of agricultural land and vacant lots.

4.4.5 Petroleum/Natural Gas Well Review

Hillmann reviewed historical record sources for evidence of historic petroleum and/or natural gas wells at the Property. In addition, Hillmann conducted a search of the property location on the Division of Oil, Gas & Geothermal Resources Well Finder database (http://maps.conservation.ca.gov/doggr/index.html). No record of any historical petroleum/natural gas wells at the Property was identified.

4.4.6 Historical Records Data Failure

Historic land use data prior to 1896 was not readily available at the time of the assessment. The Property was determined by this assessment to have been first developed with a commercial building dating back to 1924. It is Hillmann's opinion that no significant data gaps were encountered.

4.4.7 Summary of Historic Use Research

The Property appears to have first been used as agricultural orchards in 1938 until a dairy was constructed on the northern portion of the Property in 1985. The dairy was listed as Northview Dairy and currently remains on the northern portion of the Property. By 2009, the southern portion of the Property changed from crops and orchards to undeveloped land. The Property currently resembles this configuration.

The adjoining properties appear to have been undeveloped until orchards were planted on the northeastern adjoining property. By 1975, the orchards were taken out and the land was vacant until more orchards were planted again in 1994. In 2002, Colony High School was under construction and fully built by 2005. The adjoining properties to the north appeared to be undeveloped land until 1975 when it was used for agricultural purposes. By 1985, the properties were under construction for residential homes which were fully built by 2005. The adjoining properties to the east first appeared as agricultural land in 1938 and remained until it was redeveloped with residential homes. The southern adjoining property first appeared as agricultural land in 1938 until it was turned into undeveloped land in 2006. The adjoining properties to the west first appear as agricultural land in 1938 until a residential home was built on the southern portion of the site. By 1985, the northern portion of the properties was converted

into vacant land until Fremontia Horticultural was present on the western adjoining properties in 2005.

5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

The site reconnaissance consisted of visual and/or physical observations of the Property and improvements, adjoining properties as viewed from the Property boundaries and the surrounding area based on visual observations from adjacent public thoroughfares. Building exteriors were observed at ground level, unless otherwise indicated. Where applicable, Hillmann accessed and observed representative areas of building interiors to the extent they were made safely accessible with the cooperation of the site escort.

The site reconnaissance was conducted by Mr. Jonathan McConnell on July 12, 2016. Weather conditions at the time of the assessment included a temperature of approximately 77 degrees F and clear skies. Hillmann was escorted by Mr. Daryl Koops, Dairy Owner, with Northview Dairy.

5.1.1 Significant Inaccessible Areas

No significant areas were excluded from Hillmann's visual inspection.

5.2 General Site Setting

5.2.1 Site and Vicinity Characteristics

The Property consists of four rectangular and square shaped parcels on the south side of East Riverside Drive, between South Haven Avenue and Mill Creek Road. The Property is currently occupied by a dairy on the northern portion and vacant land on the southern portion. The total Property area is approximately 104.77 acres. The Property is located in a suburban developed area characterized by a mix of single and multi-family homes, plant nurseries, dairies, and a high school.

5.2.2 Topographic Characteristics

The terrain of the Property appeared to be relatively flat. No natural surface bodies of water were observed.

5.2.3 General Description of Structures

The Property is improved with approximately one 2,500 SF milk barn, one 3,000 SF equipment barn, and three homes of varying sizes. The property currently has five buildings located throughout the property. It was said that they were developed at the time of construction. The buildings are comprised of three houses, one milk processing facility, and a storage building. The first home located at 10601 is approximately 2,200 SF, the dairy processing facility is approximately 1,800 SF, the other home along of Riverside Drive is approximately 1,400 SF, the storage building is approximately 3,300 SF and the home on Haven Ave is approximately 1,300 SF. The buildings are set on a slab-on-grade foundation and have a roll on roof. The interior consists of typical home usages, equipment rooms, machinery, and maintenance rooms.

5.2.4 Sources of Heating and Cooling

Heating or cooling systems were present at the Property at the time of the assessment. All buildings with the exception of the dairy processing facility and storage building have a HVAC system that appeared to be fueled by natural gas at the time of the assessment.

5.2.5 Potable Water Source/Sewage Disposal System

The Property is currently not serviced by the municipal water and sewer systems. The water on the property comes from a well and grey water is recycled and used for livestock. The black water goes into septic systems throughout the property at each of the three homes.

5.2.6 Current Use(s) of the Property

The Property is currently used as a Dairy Farm. Hillmann did observe a leaching pond, several storage tanks, and a wastewater discharge area at the time of the site visit. The homes are currently occupied by family members of the owner. The storage building is used for farming equipment and contents storage. The sheds around the property are used for feed storage and farming equipment. Cattle pens are on the northern and central portion of the property with the reclamation pond towards the south then leaching ponds following.

5.2.7 Past Use(s) of the Property

No obvious indication of past Property usage likely to have involved the use, treatment, storage, disposal or generation of hazardous substances or petroleum products was observed at the time of the site visit. Please refer to Section 4.4 for findings of historical site use research.

5.2.8 Current Use(s) of the Adjoining Properties

The following describes adjacent and abutting properties:

Dir	Street Address	Description
N	2999 S. Haven St, 2943 Alder Creek Dr, 3551 – 3591 San Lorenzo River Rd., 3637 – 3655 San Lorenzo Rd., 2942 Tuolumne Pl	Residential homes and a preschool
NE	3850 E. Riverside Drive	Colony High School
E	3933, 3934 E. Bethany Way., 3936 E. Millcreek Paseo, 3936, 3933 E. Colony Paseo, 3250 S. Westmont Lane	Residential homes
S	No address assigned: APN: 0218-161-09-0000	Vacant land
W	13210 Haven Avenue	Plant nursery and vacant land

No visual observations indicative of a potential environmental concern were noted of the adjoining properties.

5.2.9 Past Use(s) of the Adjoining Properties

No indication of past uses of the adjoining properties was noted at the time of the site visit. Please refer to Section 4.4 for the findings of historical site use research.

5.2.10 Current/Past Uses of Surrounding Area

The Property is located in suburban area of Ontario, California. The vicinity of the Property consists of a mix of single and multi-family homes, plant nurseries, dairies, and a high school. No indications of past Property uses that differ substantially from current conditions were observed at the time of the site visit.

5.3 Interior & Exterior Observations

5.3.1 Storage/Usage of Hazardous Substances and Petroleum Products

The facility at the Property stored various hazardous materials including diesel fuel which was stored on the property in a large tank on front of the Property next to the milk barn. There was one large underground storage tank (UST) stored on the northern portion of the Property containing reclaimed water, one large UST stored on the western portion of the Property on Haven Ave said to be containing water for livestock, three large USTs were stored on the central portion of the Property containing molasses and old beer for livestock feed. In addition, several herbicides, lubricant containers, and other maintenance containers stored in manufacturer containers were observed on the Property. These features have the potential to represent an environmental concern to the Property and should be removed and disposed of in connection with site development activities.

5.3.2 Drums

Several drums were observed at the Property. All drums were observed to contain diesel fuel. There were no signs of leaking or spills near or around the drums. These features do not appear to represent an environmental concern to the Property but should be removed and disposed of in connection with site development activities.

5.3.3 Other Hazardous Substances/Petroleum Products

Storage of acid cleaners, zinc sulfate monohydrate powder, hydraulic fluid, used oil, and lubricants were all found within various storage areas around the Property.

5.3.4 Unidentified Substance Containers

No unidentified substance containers were observed on the Property at the time of the site visit.

5.3.5 Storage Tanks

Several unregulated underground storage tanks (USTs) and aboveground storage tanks (ASTs) were identified on the subject Property. Three USTs of approximately 8,000-gallon capacity each stored molasses on the Property. In addition, one 8,000-gallon UST containing beer used for feed for livestock, two 5,000-gallon UST of water, and one 5,000-gallon UST of reclaimed water were identified. One 1,000-gallon AST containing diesel fuel stored on a trailer was observed on the Property.

5.3.6 Polychlorinated Biphenyls (PCBs)

Three (3) pole-mounted transformers were present within the north and eastern side of the Property. No leaking or surface staining was observed around the vicinity of the transformers. The transformers do not represent a REC in relation to the Property.

5.3.7 Odors

Strong, unusual or pungent odors were noted on the Property all around the cattle pens and around the ponds. This is likely due to the off gases from decomposing fecal matter.

5.3.8 Pools of Liquid

One large pool of water was observed at the southern end of the dairy which is used as a leaching pond. The water reclamation and drainage is done through a series of piping and a screening of the water to remove fecal matter. The fecal matter is recycled by the owner for landscaping uses by a third party company. The pond appeared to be made of concrete material and appeared to not be lined. From the screening pond the liquid goes into the leaching ponds in the southern most portion of the Property.

5.3.9 Interior Stains or Corrosion

De minimis staining was observed on the pavement and soil in various locations at the Property. No interior stains or corrosion were noted at the Property. These features do not represent an environmental concern to the Property.

5.3.10 Interior Drains/Sumps

No floor drains or sump pits were noted at the Property.

5.3.11 Exterior Pits/Ponds/Lagoons

No evidence of exterior pits, ponds or lagoons was identified on the Property in connection with waste treatment or disposal, except as noted in section 5.3.8.

5.3.12 Stained Soil, Pavement/Stressed Vegetation

Significant soil staining was observed in the vicinity of the operational and unused air compressors along the northeastern exterior wall of the garage.

5.3.13 On-Site Solid Waste Dumping/Fill Material

Three locations of solid waste dumping was noted within a City of Ontario Assessor's Map. On the central portion of the Property, three locations of buried tree stumps, concrete rip rap, and buried construction debris are noted.

5.3.14 Wastewater

Water was observed to being drained from pipes into a leaching pond. The leaching pond has the potential to be an environmental concern due to elevated levels of contaminants.

5.3.15 Septic Systems

One (1) septic maintenance service was observed for a septic tank on the Property of the main house on the north. Hillmann was notified that the site had additional septic systems for the other two houses.

5.3.16 Wells

One (1) water well was observed on the north central portion of the Property at the time of the site visit. Well water is only used as a water supply was pumped into an above ground storage tank (AST) for potable water and cattle on the Property.

6.0 INTERVIEWS

6.1 Interviews with Past and Present Owners and Occupants

Type	Name; Affiliation/Title	Summary
Property Owner	Mr. John Schafer, Senior Vice President, Richland Ventures, Inc.	Mr. John Schafer was provided with an environmental questionnaire with instructions to have it completed by a party knowledgeable of the Property. Pertinent information, where obtained, is referenced in the appropriate sections of the report.
Property Occupants	Not applicable	Hillmann was not allowed to interview individual building occupants.
Past Owners, Occupants, Operators	Not applicable	Past owners/occupants of the Property were not available for interview at the time of the assessment.
Owners/Occupants of Adjacent or Nearby Properties	Not applicable	The Property was not an abandoned property with evidence of unauthorized uses or uncontrolled access; therefore, interviews with adjacent or nearby property owners or occupants were not conducted.

6.2 Interviews with State and/or Local Government Officials

Written and on-line requests for environmental records of the Property from State and Local governmental agencies are detailed in Section 4.2.2.

7.0 NON-ASTM SCOPE CONCERNS

In accordance with our contract agreement, Hillmann has conducted preliminary evaluations of the following "Non-ASTM Scope Considerations" that are outside of the requirements of the ASTM E1527-13 standard:

7.1 Asbestos-Containing Material (ACM)

Considering the dates of construction of the existing buildings, asbestos containing materials (ACM) may be present at the Property. Suspected ACM observed during a preliminary visual screening included roofing materials, plaster walls, drywall, ceiling tiles, cove base, adhesive, and stucco in the dairy facility and houses. It is possible that additional quantities of suspect ACM may exist in enclosed areas or areas not accessed during the assessment. It is emphasized that this limited screening does not constitute a comprehensive asbestos survey of the premises and is meant only to provide a preliminary evaluation regarding the potential presence of ACM at the Property.

7.2 Lead-Based Paint

Considering the dates of construction of the dairy facility and houses, lead-based paint does not seem to be present at the Property. In general, interior painted surfaces within the space were observed to be in fair condition. It is emphasized that this limited screening does not constitute a comprehensive lead-based paint survey of the premises and is meant only to provide a preliminary evaluation regarding the potential presence of LBP at the Property.

7.3 Radon

According to data compiled by the USEPA, as summarized by the EDR Radius Map Report with GeoCheck, the Property is located in an area with a moderate potential for radon concentrations that exceed current USEPA action guidelines. The County of San Bernardino is classified as a Zone 2 or 'moderate risk' area for radon. Accordingly, radon is unlikely to represent an environmental concern to the Property.

7.4 Mold

During the assessment, Hillmann conducted a preliminary inspection of the accessed areas of the building for evidence of excessive or amplified mold growth, or for conditions favorable for mold growth. No obvious evidence of excessive or amplified mold growth, or conditions favorable for mold growth, was observed on the Property during the site assessment.

7.5 Wetlands

Based on a review of the EDR Radius Map Report with GeoCheck, no NWI mapped wetlands were indicated at the Property.

It is emphasized that the absence of NWI mapped wetland areas indicated by the EDR report does not necessarily rule out the potential presence of regulated wetland areas on or immediately

adjoining the Property. A wetland delineation should be sought from a qualified firm if a more comprehensive determination regarding the presence or absence of wetlands on or adjacent to the Property is warranted.

8.0 ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training and experience to assess a *property* of the nature, history and setting of the subject *property*. Hillmann has developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



_____

Christopher W. Baker
Environmental Professional

9.0 REFERENCES

EDR Aerial Photo Decade Package, Environmental Data Resources, 2016

EDR City Directory Abstract Report, Environmental Data Resources, 2016

EDR Historical Topographic Map Report, Environmental Data Resources, 2016

EDR Radius Map Report with GeoCheck, Environmental Data Resources, 2016

EDR Sanborn Map Report, Environmental Data Resources, 2016

www.realquest.com

San Bernardino County's On-line Geographical Information System

A&E Project No. E96004.00, Report of Underground Storage Tank Removal – Northview Dairy, 10601 Riverside Drive, Ontario, California prepared by A&E Inc., March 7, 1996.

10.0 APPENDICES

Appendix A	Site Diagram / Vicinity Map
Appendix B	Site Photographs
Appendix C	Questionnaires / User Provided Information
Appendix D	Historical Records Documentation
Appendix E	Regulatory Records Documentation
Appendix F	Other Documents
Appendix G	Project Personnel Qualifications

APPENDIX A

SITE DIAGRAM / VICINITY MAP

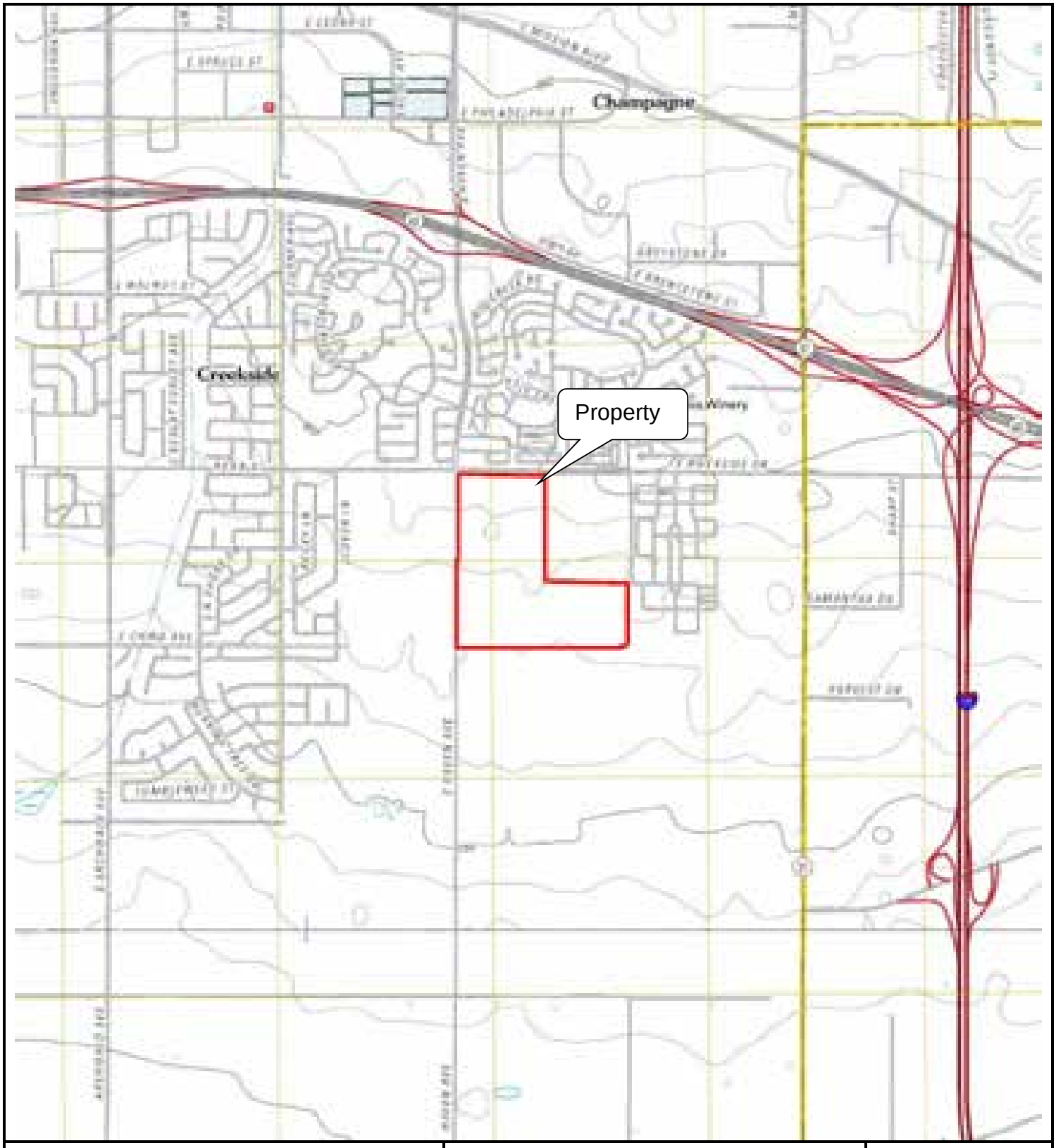


Figure 1: SITE VICINITY MAP	SCALE: (Not to Scale)	N

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Project Location:	10601 E. Riverside Drive, Ontario, CA 91761
Project No.:	C3-6603



Figure 2: SITE DIAGRAM	SCALE: (Not to Scale)	N ↑

HILLMANN CONSULTING

Project Location:	10601 E. Riverside Drive, Ontario, CA 91761
Project No.:	C3-6603

APPENDIX B

SITE PHOTOGRAPHS

PHOTO LOG
10601 E. Riverside Drive
Ontario, CA 91761
C3-6603



View of the northeast corner of the Property



View of the adjoining property to the west



View of the adjoining property to the west



View of the adjoining property to the northeast



View of the southern portion of the Property



View of an adjoining property to the north

PHOTO LOG
10601 E. Riverside Drive
Ontario, CA 91761
C3-6603



View of diesel fuel AST onsite



View of reclaimed water underground storage tank



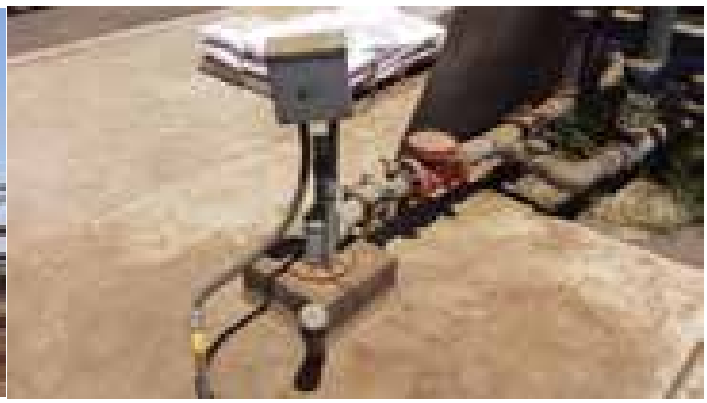
View of pole-mounted transformer on north border of the Property



View of pole-mounted transformer on eastern portion of the Property



View of water tank



View of well water tank

PHOTO LOG
10601 E. Riverside Drive
Ontario, CA 91761
C3-6603



View of leeching pond on southern portion of the dairy



Typical view of drum storage



View of storage containers within maintenance shed



View of AST containing used oil



View of storage containers on the Property



Typical view of dairy equipment on the Property

APPENDIX C

QUESTIONNAIRES/USER PROVIDED INFORMATION

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ENVIRONMENTAL DUE DILIGENCE – USER QUESTIONNAIRE

For Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the *report user* must provide the following information (if available) to the environmental professional. As per the Brownfields Amendments, failure to provide this information could result in a determination that "all appropriate inquiry" is not complete. Please complete the following questionnaire and provide any of the referenced information (if available) to Hillmann.

Respondent Name:	JOHN H. SCHAFER
Company/Affiliation:	BUYER REPRESENTATIVE
Address:	3161 MICHELSON DR., A 425, IRVINE, CA 92612
Response Date:	7-11-16

1. Environmental Cleanup Liens
Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

Yes ☐ *No* ☑

2. Activity and Land Use Limitations
Are you aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

Yes ☐ *No* ☑

3. Specialized Knowledge or Experience
Do you have any specialized knowledge or experiences related to the property, nearby properties, or are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

Yes ☐ *No* ☑

4. Purchase Price vs. Fair Market Value
Does the purchase price being paid for this property reasonably reflect the fair market value of the property?

Yes ☑ *No* ☐

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5. Commonly Known or Reasonably Ascertainable Information
Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases?

Yes □ *No* ☒

5a. Do you know the past uses of the property?

Yes □ *No* ☒

5b. Do you know of specific chemicals that are present or were once were present at the property?

Yes □ *No* ☒

5c. Do you know of spills or other chemical releases that have taken place at the property?

Yes □ *No* ☒

5d. Do you know of any environmental cleanups that have taken place at the property?

Yes □ *No* ☒

6. Obviousness of the Presence or Likely Presence of Contamination
As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?

Yes ☒ *No* □

DAIRY OPERATION

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Phase I ESA - Environmental Questionnaire

The following questionnaire should be completed by a representative of the Property that is most knowledgeable about its usage, condition and history. Please complete and either give to the Hillmann representative during the site inspection, or fax to 714-634-9507.

General:

Northview Dairy

Property Name: L-F South / L-F North

Street Address: 10601 Riverside Dr.

City, ST Zip: Ontario CA 9176

Completed by: Darrel Koops

Company: Northview Dairy

Signature: Darrel Koops

Date: 7-26-11

Number of years at or familiar with the Property: 36

Site Description:

Block & Lot #(s): _____

Property Size: 101 Acres ±

Number of building(s): 6

Building Size(s) 3 homes + 3 mix use

Year(s) Built: 1976

# of units: (if appl.) _____

Type of Property: Dairy Farm

Utilities and Services: (please check "Yes", "No" or "NA-Not Applicable") and indicate provider if "Yes".

Utility	Yes	No	NA	Name of Provider	Service	Yes	No	NA	Name of Provider
Water		✓			Fuel Oil	✓			Matheson Oil
Sewer		✓			HVAC Maint.				Valley Equipment
Power	✓			S.C.E	Elev Maint.			✓	
Nat Gas	✓			So. Cal. Gas	Septic Maint.	✓			
Telephone	✓			Verizon	Pool Maint.			✓	

7052

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Instructions: Please answer each question. Check "D/K" if you don't know, or otherwise lack sufficient knowledge of the Property to answer the question.

	PREVIOUS INVESTIGATIONS	
1.	Have any previous environmental investigations (e.g.- Phase I Environmental Site Assessment, soil/groundwater testing, radon testing, asbestos survey, tank closure/removal reports, etc.) been performed at the Property?	☑ Yes ☐ No ☐ D/K
2.	If yes, what concerns were indicated or recommendations made? *(please provide a copy of all previous environmental reports)* None. Fuel Tanks Removed & Groundcont. Fixed	
	PROPERTY USAGE	
3.	To the best of your knowledge, is the Property or any adjoining property currently occupied or formerly occupied for industrial purposes? If yes, please elaborate:	Property: ☐ Yes ☒ No ☐ D/K Adj. Property: ☐ Yes ☐ No ☐ D/K
4.	Is the property or any adjoining property currently used, or have they ever been used, as a gasoline filling station, dry cleaning facility, automotive service/repair shop, auto body repair shop, commercial printing facility, photo development laboratory shop, junkyard, landfill, or as a waste treatment, storage disposal, recycling or processing facility? If yes, please elaborate:	Property: ☐ Yes ☒ No ☐ D/K Adj. Property: ☐ Yes ☐ No ☐ D/K
5.	Have any hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries, or any other waste materials been dumped above grade, buried and/or burned on the property?	☐ Yes ☒ No
	BULK STORAGE TANKS	
6.	Are there currently, or have there been previously, any registered or unregistered above ground or underground storage tanks located at the Property? *If YES, please provide number, size, age of tanks, permits, closure reports, regulatory agency correspondence, and related information.*	Current Tanks: ☒ Yes ☐ No ☐ D/K Previous Tanks: ☐ Yes ☐ No ☐ D/K
7.	Are there currently, or have there been previously, any vent pipes, or access ways indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?	Current: ☐ Yes ☒ No ☐ D/K Previous: ☐ Yes ☐ No ☐ D/K
8.	Are there currently, or have there been previously, any leakage of hazardous substances or petroleum products from above ground or underground storage tank systems at the Property?	Current: ☐ Yes ☒ No ☐ D/K Previous: ☐ Yes ☐ No ☐ D/K

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	SPILLS, RELEASES, WASTES	
9.	Are there currently, or have there been previously, any waste discharges on or adjacent to the property, other than storm water or into a municipal sanitary sewer system? If yes, please elaborate:	Current: ☐ Yes ☒ No ☐ D/K Previous: ☐ Yes ☐ No ☐ D/K
10.	Are there currently, or have there been previous, any septic systems, dry wells or leach fields on the property? If yes, please elaborate: 3 Septic Tanks Adjoining the Homes	Current: ☑ Yes ☐ No ☐ D/K Previous: ☐ Yes ☐ No ☐ D/K
11.	Are there currently, or have there been previously, any flooring, drains or walls located within the facility that are, or have been, stained by substances (or, in the case of drains, used for) other than water or are emanating foul odors? If yes, please elaborate:	Current: ☐ Yes ☒ No ☐ D/K Previous: ☐ Yes ☐ No ☐ D/K
12.	Are there currently, or have there been previously, any spills or releases of hazardous substances or petroleum products within the building(s) or on the exterior of the Property?	Current: ☐ Yes ☒ No ☐ D/K Previous: ☐ Yes ☐ No ☐ D/K
13.	Has any non-native and/or contaminated fill material been deposited on the Property?	☐ Yes ☒ No ☐ D/K
14.	Have any current or former property occupants generated hazardous wastes or other wastes (such as waste oil, or medical wastes) that required non-conventional storage, handling and/or disposal methods? *If YES, please indicate type of waste and the name of the waste handling contractor:*	☐ Yes ☒ No ☐ D/K
	TRANSFORMERS/HYDRAULIC EQUIPMENT	
15.	Are any power transformers, capacitors or hydraulic equipment present at the Property? If yes, please elaborate: 3 Distribution Transformers Pole Mounted	☒ Yes ☒ No ☐ D/K
16.	If power transformers are present, who owns them? Southern Calif Edison	☒ Yes ☐ No ☐ D/K
17.	If hydraulic equipment is present, indicate age of equipment and name/telephone # of service contractor:	☐ Yes ☐ No ☐ D/K
	REGULATORY DISCLOSURE	
18.	Have there been any environmental liens or governmental notification or involvement relating to past or current use or disposal of hazardous substances with respect to the property of any facility or structure located on the property?	☐ Yes ☒ No ☐ D/K

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19.	If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system, or has the well been designated as contaminated by any government environmental/health agency? *(If not applicable, please check NO)*	☐ Yes ☒ No ☐ D/K
20.	Is there any environmental litigation, administrative action or cleanup action involving the property related to a release or threatened release of any hazardous substance or petroleum product?	☐ Yes ☒ No ☐ D/K
21.	Are you aware of testing of any environmental media (soil, groundwater, surface water, etc.) at the property which identified levels of contaminants in excess of regulatory standards and/or cleanup guidelines?	☐ Yes ☒ No ☐ D/K
	ENVIRONMENTAL/BUILDING CONDITIONS	
22.	Has asbestos testing ever been conducted at the Property? *If YES, please forward a copy of test results and/or survey reports:*	☐ Yes ☒ No ☐ D/K
23.	Are any asbestos containing materials present at the Property? If yes, please elaborate:	☐ Yes ☒ No ☐ D/K
24.	Has lead paint testing ever been conducted at the Property? *If YES, please forward a copy of test results.*	☐ Yes ☒ No ☐ D/K
25.	Is lead-based paint present at the Property? If yes, please elaborate:	☐ Yes ☒ No ☐ D/K
26.	Has radon testing ever been conducted at the Property? *If YES, please forward a copy of test results*	☐ Yes ☐ No ☒ D/K
27.	Are there any problems with water intrusion, water damaged surfaces or excessive mold growth within the buildings? *If yes, please elaborate:*	☐ Yes ☒ No ☐ D/K

COMMENTS:

For any questions answered "YES" that warrant further elaboration, please use the following space as necessary:

REPORT
of
UNDERGROUND STORAGE TANK REMOVAL

Northview Dairy
10601 Riverside Drive
Ontario, California

A&E PROJECT NO. E96004.00

March 6, 1996

A&E Inc.
Geotechnical and
Environmental
Engineering

COUNTY FIRE DEPARTMENT

HAZARDOUS MATERIALS DIVISION
Field Services - Environmental Protection
385 North Arrowhead Avenue, Second Floor - San Bernardino, CA 92415-0153
(909) 387-3080 - Fax (909) 387-4323

COUNTY OF SAN BERNARDINO

PETER R. [illegible]
Fire Chief
County Fire Warden

June 23, 1999

NORTH VIEW DAIRY
10601 RIVERSIDE DRIVE
ONTARIO, CA 91761

SUBJECT: REMOVAL OF FOUR UNDERGROUND STORAGE TANKS AT 10601 RIVERSIDE DRIVE, ONTARIO

The Department has received the sample results and/or closure report submitted by A & E INC dated March 7, 1996 and reviewed June 23, 1999. After review of the reports prepared by you or your agent, it has been determined that the extent of contamination or lack thereof would indicate that no further investigation is warranted at this time.

It is important to note that this can not be construed as a release of liability for the site or declaration that the site is free from contamination. Should further projects or environmental investigations reveal additional contaminants site you will be responsible and held liable for the investigation and remedial actions.

If you have any questions, please call (909) 387-3082.

Susan Williams

SUSAN WILLIAMS, REHS
Hazardous Materials Field Services

SW:jc

A&E Inc.
Geotechnical and Environmental Engineering

COASTAL OFFICE
[illegible]
Huntington Beach, CA [illegible]
(714) 841-[illegible]

REPORT
of
UNDERGROUND STORAGE TANK REMOVAL

Northview Dairy
10601 Riverside Drive
Ontario, California

A&E PROJECT NO. E960044W

March 7, 1996

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Appendices

A	FIGURES
B	CHINO VALLEY FIRE DEPARTMENT PERMIT
C	SAN BERNARDINO COUNTY UST REMOVAL PLANS
D	HAZARDOUS WASTE TRANSPORT MANIFEST
E	TANK DISPOSAL CERTIFICATION
F	AUTHORIZATION LETTER, COUNTY OF SAN BERNARDINO FIRE DEPARTMENT
G	LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORM

Executive Summary

a) On February 16, 1996, A&E removed four underground storage tanks (USTs) from the Northview Dairy Farm, at 10601 Riverside Drive, in the County of San Bernardino, California (Appendix A, Figures A1 and A2). Two of the USTs had each had a capacity of 4,000 gallons and had been used to store gasoline. The other two USTs had each had a capacity of 6,000 gallons and had been used to store diesel-fuel. There were three dispenser units and only small amounts of plumbing associated with the USTs (Appendix A, Figure A3).

b) A&E saw no visual evidence of contamination in the soil surrounding the USTs and noticed no significant unnatural odors in those soils. A&E observed that each of the USTs was in excellent condition when removed from the ground.

c) A&E collected a total of 10 soil samples from beneath the ends of the USTs and the dispenser unit area. The laboratory analyzed the sample for various fuel components (gasoline, diesel-fuel, BTEX, MTBE, and/or lead) and reported no detection of any of the fuel-related compounds in any of the 10 soil samples, except for a small and insignificant amount of lead in one of the samples.

d) A&E concludes that there was no significant contamination of the subsurface soils by any of the USTs, or their related plumbing. A&E recommends that this case be closed with no further work required.

1. INTRODUCTION

A&E Inc. presents in this report, and on behalf of its client, Mr. Frank Hilarides and the Northview Dairy, its observations and evaluation of field and laboratory data generated from the removal of four underground storage tanks. The tanks were located at the dairy facility at 10601 Riverside Drive in the unincorporated part of San Bernardino, California (Appendix A, Figure A1).

2. GEOLOGY

a) The site is shown on the USGS Guasti Quadrangle Map at an approximate elevation of 980 feet above mean sea level. It is shown approximately 1.1 miles westerly of a small extension of the Jurupa Mountains, and approximately 6 miles southeast of the closest extension of the San Bernardino Mountains. The site is in an area where the surface drainage appears to be towards the south.

b) According to a soil survey conducted by the Soil Conservation Service, of the United States Department of Agriculture, the soil at the subject site is classified as Delhi fine sand from the Delhi Series. According to the survey, the soil is granitic material of alluvial fans. The soil typically is excessively drained with very slow run-off. The soil consists of fine sand with a small silt content.

c) There is a groundwater well at the site approximately 50 feet northeast of the UST area. Groundwater was last measured at a depth of approximately 190 feet below surface elevation.

3. UST REMOVAL ACTIVITIES

The UST removal consisted of two distinct activities: the field work and laboratory analysis. A&E used procedures required by the Chino Valley Fire Department (CVFD), the San Bernardino County Fire Department (SBCFD), and the County of San Bernardino Department of Environmental Health Services (SBEH), to perform those activities. The field work to remove the USTs occurred on February 22 and 23, 1996. The Chino Valley Fire Department permit is shown in Appendix B. The SBEH approved plans are shown in Appendix C.

3.1 **FIELD**

a) On February 22, 1996, Maness Environmental Services performed the preliminary field work for the removal of the four USTs at the subject site. There was some remaining liquid in the four USTs, which was evaluated as gasoline, diesel-fuel, and/or water. The contents of the UST were pumped out by vacuum truck. The truck was owned and operated by Foss Environmental. Foss pumped a total of approximately 2025 gallons of fuels and water from the USTs. The fluid was transported to the treatment facility of Demenno Kerdoon, in Compton, California. The fluid was transported under hazardous-waste manifest, No. 95543181 (Appendix D, Hazardous-Waste Transportation Manifest) and Generator's US EPA ID No. CAL000009126.

b) The gasoline USTs were then de-gasses by Maness. When the internal atmosphere of all of the USTs were each recorded as 0%. They were then triple-rinsed by Maness and the rinseates then vacuumed from the USTs by Foss. The rinseate was transported to the treatment facility of Crosby and Overton as non-hazardous waste under the same Generator's number.

c) On Friday, February 23, 1996, at approximately 08:30 a.m., Inspector David Jensen of the CVFD, and Inspector Curtis Armstrong, of the SBCFD arrived at the site. At 09:00 a.m. Maness again measured the combustibility of the internal atmosphere of each of the USTs. The atmospheres each registered as 0% on the LEL meter and dry ice was then placed in the USTs. The USTs were then removed from the ground using a crane and under the watchful eyes of both inspectors Jensen and Armstrong. The USTs were inspected by A&E as they were removed from the ground. The two USTs that had been used to store gasoline were loaded on to a truck a hauled to the disposal facility of American Metal Recycling, Inc. (Appendix E, Tank Disposal Certificate).

d) The two USTs that had been used to store diesel-fuel were kept at the site. Both of the USTs were going to be used by the dairy for storage of feed-stock for animals at the dairy. Authorization for use of the USTs as storage vessels for the feed-stock was given by the County of San Bernardino Fire Department. The letter of authorization is shown in Appendix F.

e) A&E collected ten soil samples for laboratory analysis under the direction and witness of Inspector Armstrong. One soil sample was collected at a depth of two feet below each end of each of the USTs (8 total), one sample was collected from a depth of approximately 18 inches below the diesel-fuel dispenser unit, and one from approximately 18 inches beneath the area of the two gasoline dispenser units (Appendix A, Figure A3).

f) A&E collected the soil samples in pre-cleaned brass tubes. The tubes were driven into soil collected from the bottom of the excavations by the backhoe (as directed by Inspector Armstrong). The ends of the tubes were then lined with aluminum foil and capped with plastic end-caps. Each sample was then put in a cooler for transportation to a laboratory facility. A&E delivered them, under chain-of-custody (Appendix G, Laboratory Test Results and Chain-of-Custody), to the laboratory facility of Jones Environmental Laboratory, located in Fullerton, California. The laboratory facility of Jones Environmental Laboratory has been certified by the Department of Health Services of the State of California.

g) After the samples were collected the excavation was filled with the previously excavated material. The excavation area is unpaved at this time.

3.2 LABORATORY

A&E submitted the soil samples collected from the site to the laboratory and had each of those samples collected beneath the USTs that had stored diesel fuel, and the related plumbing and dispenser unit analyzed by the following EPA test methods:

- 8015M for Total Extractable Petroleum Hydrocarbons, as diesel fuel (TEPH)
- 8020 for the volatile aromatic compounds Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)

A&E submitted the soil samples collected from the site to the laboratory and had each of those samples collected beneath the USTs that had stored gasoline, and the related plumbing and dispenser units by the following EPA test methods:

- 8015M for Total Volatile Petroleum Hydrocarbons, as gasoline (TVPH)
- 8020 for the volatile aromatic compounds Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), and for Methyl Tert-Butyl Ether (MTBE).
- 6010 for TTLC Lead (Pb)

4. RESULTS

4.1 FIELD

a) The native soil at the site was a silty sand. It was moderately dense, damp to moist, and medium brown in color. There was no apparent staining of the soil, or significant volumes of unnatural odors in the soil.

b) A&E inspected each of the USTs as they were removed from the ground. Most of the identification tags were not recoverable. Each of the USTs appeared to be in excellent condition with no significant corrosion or holes.

4.2 LABORATORY

The laboratory reported no detected concentrations of diesel-fuel or gasoline in any of the 10 samples analyzed. The laboratory also reported no detected concentrations of benzene, toluene, ethylbenzene, xylenes, or methyl tert-butyl ether in any of the ten soil samples. The laboratory reported a small concentration of lead in one of the samples, however, that reported concentration was well within normal ranges for soil. The laboratory reports are shown in Appendix F, and are summarized in Table 1.

5. CONCLUSIONS

A&E believes that there has been no significant release of fuels to the subsurface soil at the subject site. The field observations and the laboratory reports indicated that the USTs, the plumbing, and the dispenser units did not leak, and that there was no significant release of fuel to the soil from over-spill.

6. RECOMMENDATIONS

A&E recommends that this site be closed with no further work required.

Table 1
Summary of Laboratory Test Results

Sample ID	Depth	Diesel-fuel (mg/Kg)	Gasoline (mg/Kg)	Volatile Aromatic Compounds (ug/Kg)				MTBE (mg/Kg)	Lead mg/L
				Benzene	Toluene	Ethylbenzene	Xylenes		
T1 N	12	--	ND	ND	ND	ND	ND	ND	ND
T1 S	12	--	ND	ND	ND	ND	ND	ND	ND
T2 N	12	--	ND	ND	ND	ND	ND	ND	ND
T2 S	12	--	ND	ND	ND	ND	ND	ND	ND
T3 N	14	ND	--	ND	ND	ND	ND	--	--
T3 S	14	ND	--	ND	ND	ND	ND	--	--
T4 N	14	ND	--	ND	ND	ND	ND	--	--
T4 S	14	ND	--	ND	ND	ND	ND	--	--
DG	2.5	--	ND	ND	ND	ND	ND	--	9.0
DD	2.5	ND	--	ND	ND	ND	ND	ND	--
Laboratory Detection Limits		10	1	5	5	5	5	1	5

mg/Kg Milligrams per kilogram, roughly equivalent to parts per million
ug/Kg Micrograms per kilogram, roughly equivalent to parts per billion
ND Not detected at laboratory detection limit
-- Not tested

7. LIMITATIONS

The information and opinions rendered in this report are exclusively for use by the Mr. Frank Hilarides, the Northview Dairy, and A&E Inc.. A&E will not distribute this report without their consent except as may be required by law or court order. The information and opinions expressed in this report are given in response to our limited assignment and should be evaluated and implemented only in light of that assignment. We accept responsibility for the competent performance of our duties in executing the assignment and preparing this report in accordance with the normal standards of our profession, but disclaim any responsibility for consequential damages.

8. SIGNATURES

Field work performed by and report written by :

André LaMontagne
Geologist
A&E Inc.

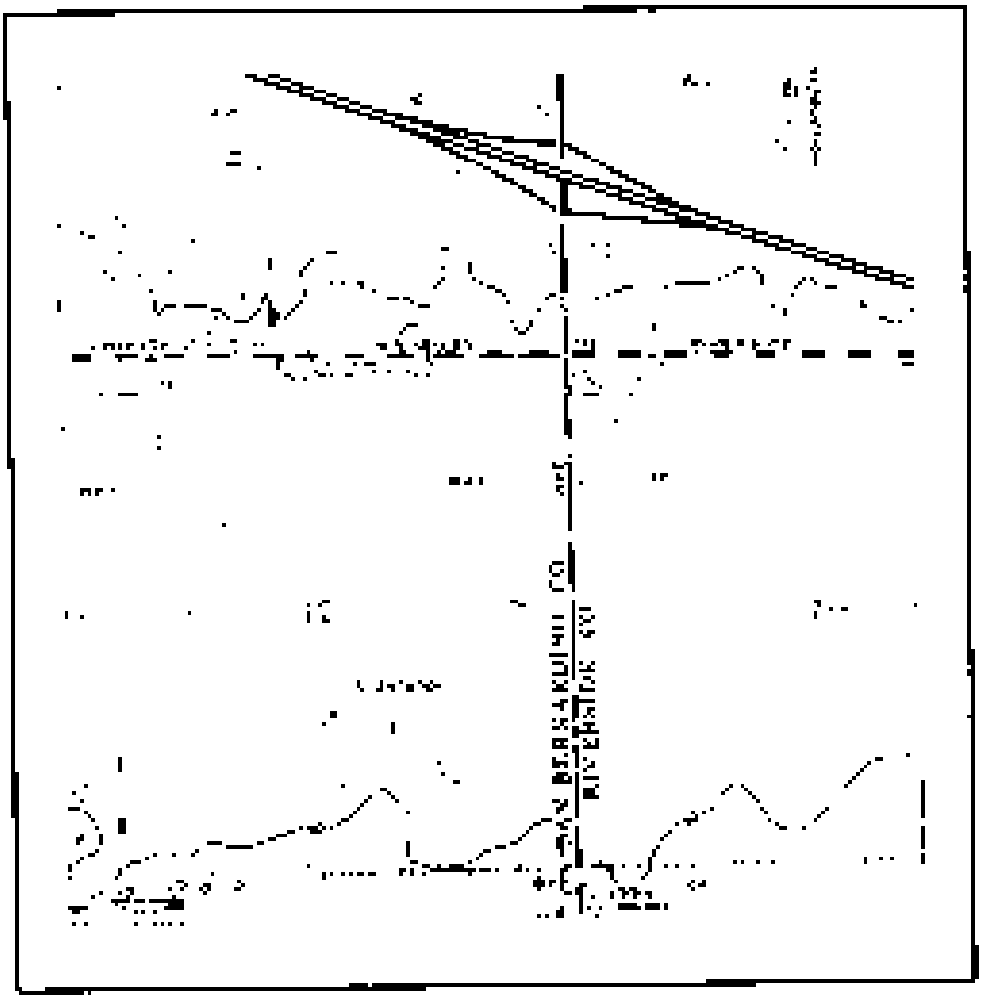
Report reviewed by and field work performed under:

Ernest Pepe
Registered Geologist No. 6437
A&E Inc.

March 7, 1996

APPENDIX A

FIGURES



BASE MAP: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)
GUASTI QUADRANGLE
PHOTO TAKEN 1967, REVISED 1981

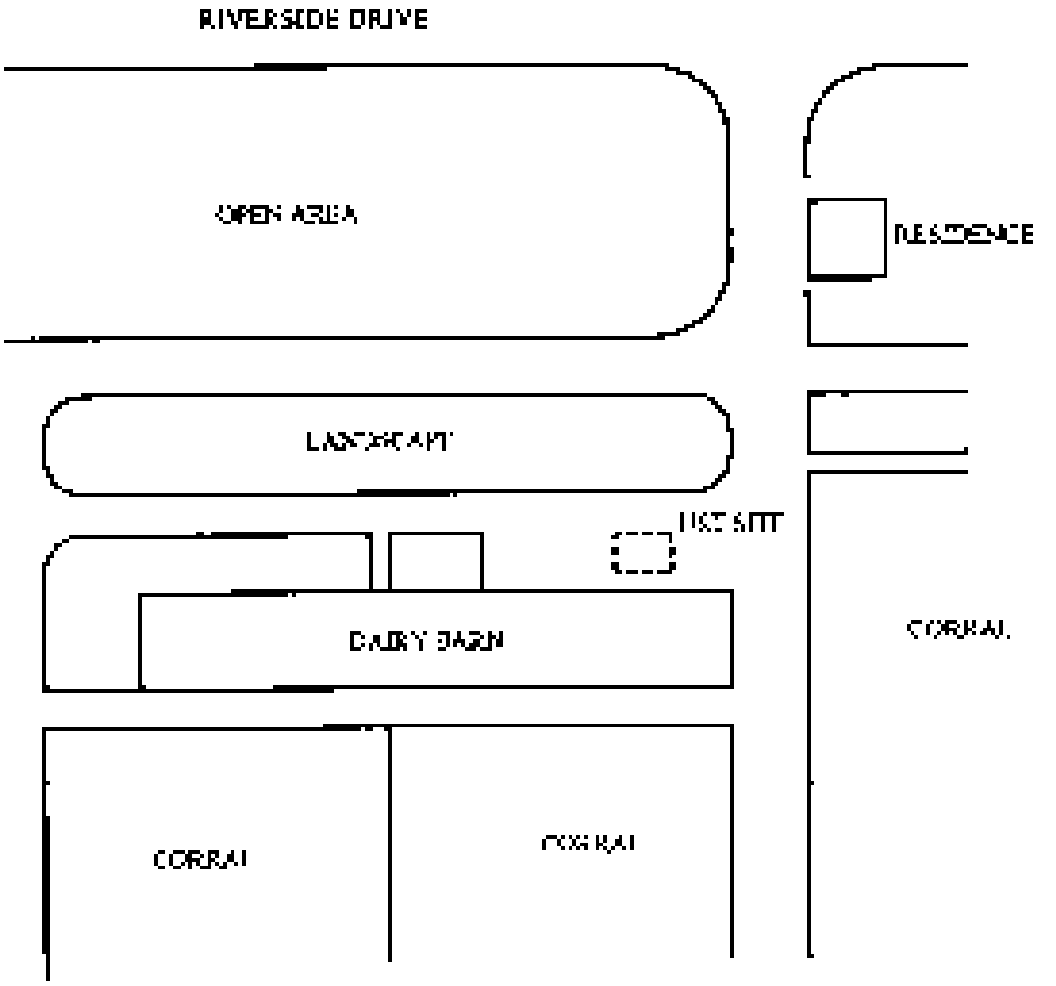
N

SCALE: 1" = 2,000'

A&E Inc.	FIGURE
SITE LOCATION AND TOPOGRAPHY	1A
Northview Dairy 13605 Riverside Drive San Bernardino County, CA	A&E Project No ES6004.08

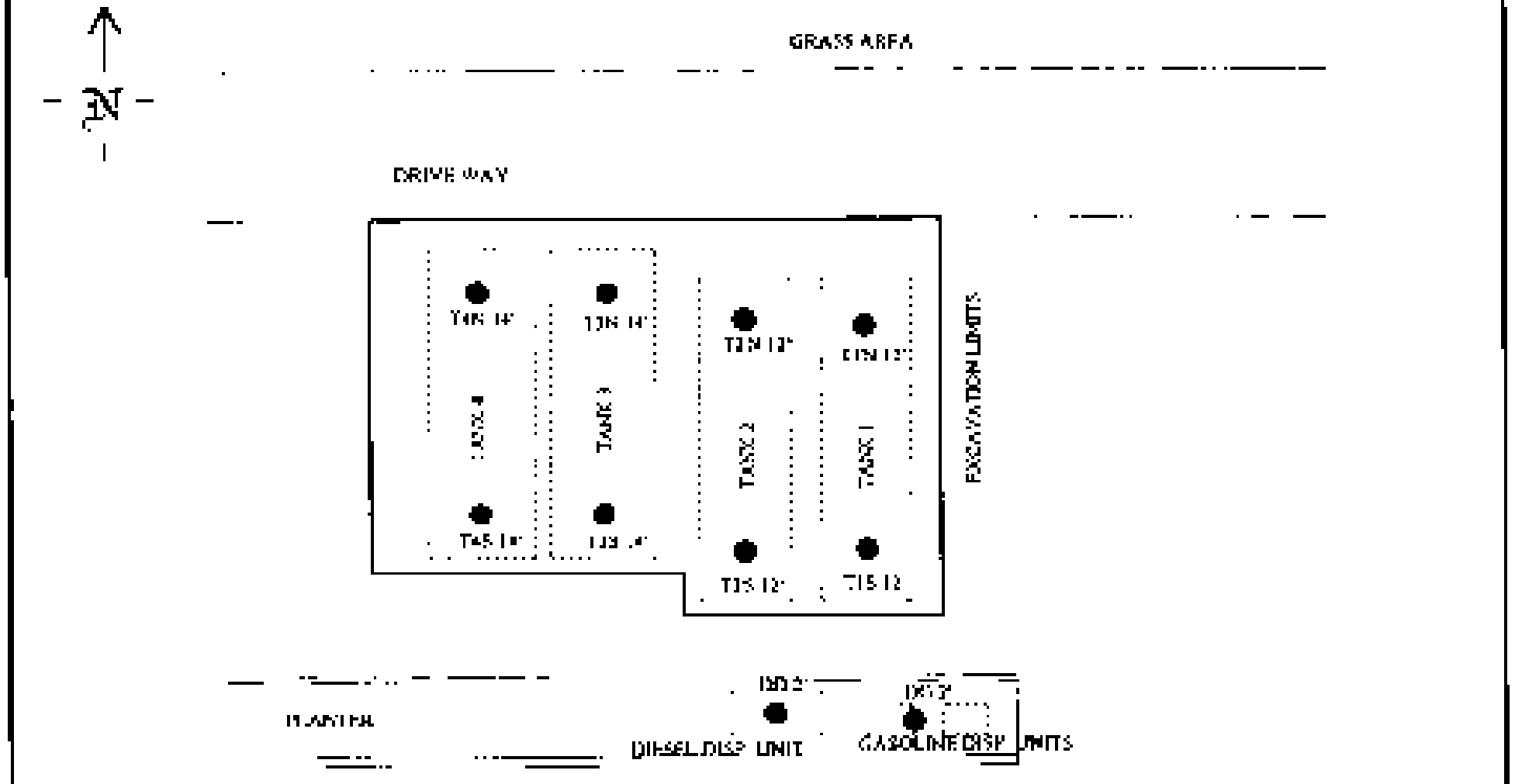
7068

TANKS
(2) 6,000 gal Diesel-fuel
(1) 4,000 gal Gasoline
Four dispenser units at tank site



SCALE: 1" = 100'

A&R Inc	FIGURE
SITE PLAN and UST LOCATIONS	2A
Northview Dairy 30601 Riverside Drive San Bernardino County, CA	A&R Project No 696064.00
	2/96



SCALE 1" = 10'

LEGEND

● Soil Sample Location

A&E Inc	FIGURE
SOIL SAMPLE LOCATIONS Northview Dairy 18601 Riverside Drive San Bernardino County, CA	A3 A&E Project No. 2096

7070

APPENDIX B

CHINO VALLEY FIRE DEPARTMENT
PERMIT

CHINO VALLEY INDEPENDENT FIRE DISTRICT

FIRE PROTECTION STANDARDS

REMOVAL OF UNDERGROUND FUEL STORAGE

The 1988 Uniform Fire Code, Section 79.115, "Abandonment and Status of Tanks", states:

The removal of underground fuel storage tanks is required after being out of service for a period of one year, and the following guidelines shall be used:

1. The applicant shall obtain a permit from the Fire Prevention Division.

2. An inspection, approval and permit from the San Bernardino County Environmental Health Services is required. A site plan shall be provided to the Fire Prevention Division prior to removal showing the tank location, tank size and contents of the tank(s) to be removed.

3. The removal of all residual liquids, solids or sludges shall be accomplished prior to removal.

4. The hole created by the removal of the tank shall be properly filled (check with the local Building Department on possible compaction requirements). If the hole must be left uncovered, a temporary barrier shall be provided around the perimeter to prevent injuries or falls into the hole.

5. The tank shall be made inert by using 15 pounds of dry ice for each 1,000 gallons tank capacity and eliminating all ignition sources in the area.

6. An inspection by the Fire Prevention Division is required and shall include obtaining the U.L. label.

7. The proper disposal of the tank is required per San Bernardino County Environmental Health Services and Department of Transportation.

8. Abandonment in place is not permitted unless approved in writing by the Fire Marshal and San Bernardino County Environmental Health Services.

Tom Mackham

TOM MACKHAM, FIRE MARSHAL

Ray D. Shackelford

RAY D. SHACKELFORD, FIRE CHIEF

STANDARD # 140

PAGE 1 OF 1

REVISED: 4/9/92

7072

APPENDIX C

SAN BERNARDINO COUNTY
UST REMOVAL PLANS

County of San Bernardino
DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES
385 North Arrowhead Avenue, San Bernardino, CA 92415-0160 • (909) 387-3082

LOG # C 21516-01 JOB CARD 6018

CONSTRUCTION AND/OR REMOVAL OF UNDERGROUND STORAGE FACILITY

POST THIS CARD AT JOB SITE

Site Name & Address: Northview Dairy
10601 Rochester Ave. Rancho

Contractor: Mesa Environmental

Address/Phone No.: 1611 E. Spring St. Long Beach CA 90755

	INSPECTION RECORD	APPROVED BY	DATE
FIRST INSPECTION	Excavation Clean, Approved Slope		
	Bedding Materials/Depth		
	Holiday Test, Tanks Set X		
	Manufacturer's UL #		
	Additional Requirements:		
	DO NOT BACKFILL UNTIL ABOVE APPROVED		
SECOND INSPECTION	Tank Air Test 5 PSI/30 Minutes		
	Product Lines 75 PSI/30 Minutes		
	Product Line Containment		
	Metal Piping Wrapped		
	Additional Requirements:		
FINAL INSPECTION	Approved Fill Boxes		
	Concrete or AC Paving 12" Beyond Excavation		
	Leak Detectors/Monitors Installed/Operational		
	Lockable Fluid-Tight Access for Monitoring Points		
	Precision Test Results		
	Additional Requirements:		
	FINAL APPROVAL AND CURRENT OPERATING PERMITS MUST BE OBTAINED PRIOR TO PLACING THESE TANKS INTO SERVICE ($5,000.00 FINE FOR NONCOMPLIANCE)		
TANK REMOVAL INSPECTION	Tank(s) Removed X 1 2-VK 2-VK C Houston 9-23-94		
	Restored Sample(s) (8015) (8015) 418.1 MTBE	/	/
	Additional Test Requirements: Total Pb		
	8010		
	Removals Can Not Be Finaled Until A Copy Of The Sample Results Have Been Received And Approved By This Department.		
	Final – Approved for Backfill		

Remarks:
2 Tanks (2K) to remain on site for now
for storage (Wallace),

FAILURE TO PROTECT AND MAINTAIN THIS CARD MAY RESULT IN JOB DELAY.
PRESERVE THIS RECORD OF INSPECTIONS.

FOR INSPECTION CALL 5 DAYS IN ADVANCE AT (909) 387-3082.

THIS PERMIT EXPIRES 9 MONTHS FROM DATE OF ISSUANCE

DISTRIBUTION: White – DEHS
Canary – Agency
Green – Owner

14-16887-631 Rev. 5/94

7074

Submit to:
San Bernardino County Department of Environmental Health Services
385 North Arrowhead Avenue, San Bernardino, CA 92415-0160

APPLICATION FOR REMOVAL OF UNDERGROUND STORAGE TANK

FEE: 416 — First Tank
158 — Each Additional Tank

Fire Agency: ONTARIO

Number of Tanks this Application: 4

JOB LOCATION

Name or Contact Person: Northview Dairy — Phone No: 909-947-4955
Job Address: 1060 Riverside Dr.
City: Ontario — State: CA — Zip Code:

OWNER

Name: Northview Dairy — Phone No: 909-947-4955
Billing Address: 1060 Riverside Dr
City: Ontario — State: CA — Zip Code:

CONTRACTOR

Name: MANUEL ENOS — Phone No: (310) 595-4555
Billing Address: 1101 E Spring St — City: Long Beach — State: CA — Zip Code: 90806
Workmen's Comp. By: Wesco Insurance — Policy No: WCA-04-01284-00
State Contractor's License No: 553153 — Types: A B HAZ — Expiration Date: 12-96

Water/Sewer Agency: _____

NOTE: The State of California has determined that tanks used for the storage of any hazardous or flammable substance shall be considered hazardous waste when all contents have been removed.
All storage tanks shall be hauled as hazardous waste, accompanied by a state hazardous waste manifest, and taken to a licensed treatment, storage and disposal facility (TSDF) or the tanks are triple rinsed on site and the rinsate manifested and hauled to a licensed TSDF. The tank then can be recycled as nonhazardous.
For information on licensed TSDFs that can accept nonhazardous tanks, contact the State of California Department of Health Services, Toxic Substances Control at (800) 358-5342.

Print Name: Daniel Mangiaracina — Phone Number: (310) 595-4555
Signature: [signature] — Date: 3-15-96

- OFFICE USE ONLY -

Under Permit: ☑ Yes ☐ No
Est. No.: 96-01-354
No. of Tanks: 4
Fees Current: ☑ Yes ☐ No
Delinquent Amount: _____
Expiration Date: 2/15/96

Amount: $664.00
Check No: 7677
Date Paid: 3/26/96
Taken By: LC
Log No.: OFFICE 01
Job Card Issued No.: 7076

7075

APPENDIX D

HAZARDOUS WASTE TRANSPORTATION MANIFESTS

California—Environmental Protection Agency
Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1	Information in the shaded areas is not required by Federal law.
CALD000099126	0 0 0 0 0	1 of 1	

3. Generator's Name and Mailing Address: ~~NORTHRIDGE-DART~~ NORTHRIDGE DAIRY
10601 RIVERSIDE DR. ONTARIO, CA. 90994

4. Generator's Phone ( )

A. State Manifest Document Number: 95543180

B. State Generator's ID:

5. Transporter 1 Company Name: FOSS ENVIRONMENTAL
6. US EPA ID Number: CAD052699562
C. State Transporter's ID: 609777
D. Transporter's Phone: 310-432-1304

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address: CROSBY & OVERTON, 1630 W. 17TH STREET, LONG BEACH, CA. 90813
10. US EPA ID Number: CAD008490919
G. State Facility's ID:
H. Facility's Phone: 310-432-5445

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.	I. Waste Number
a. NON-RCRA HAZARDOUS WASTE LIQUIDS CONTAMINATED LIQUIDS	001	TT	1163	G	State 134 / EPA/Other
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above
PETROLEUM PRODUCTS 5%
WATER 95%
PROFILE#

K. Handling Codes for Wastes Listed Above
a. b.
c. d.

15. Special Handling Instructions and Additional Information
WEAR PROPER PROTECTIVE CLOTHING
24 HOUR EMERGENCY CONTACT: FOSS
24 HOUR PHONE: 310 432-1304

SITE: 10601 RIVERSIDE DR.
ONTARIO, CA.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
		1	1	1

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
		1	1	1

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

DO NOT WRITE BELOW THIS LINE.

IN CASE OF EMERGENCY OR SPILL CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

GENERATOR TRANSPORTER FACILITY

DTSC 8022A (1/90)
EPA 8700-22

Yellow: GENERATOR COPY

7077

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAL000019116 | Manifest Document No. | 2. Page 1 of | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
NEW
NORTHRIDGE DAIRY
10601 RIVERSIDE DR. ONTARIO, CA. 90994
4. Generator's Phone ( )

A. State Manifest Document Number: 95543181
B. State Generator's ID
C. State Transporter's ID 6000774
D. Transporter's Phone 310-632-1304
E. State Transporter's ID
F. Transporter's Phone
G. State Facility's ID
H. Facility's Phone

5. Transporter 1 Company Name: ROSS ENVIRONMENTAL
6. US EPA ID Number: CAD982698652
7. Transporter 2 Company Name
8. US EPA ID Number
9. Designated Facility Name and Site Address
DEMENNO KERDOON
2000 N. ALAMEDA
COMPTON, CA. 90222-3711
10. US EPA ID Number: CAT080013352

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.	I. Waste Number
a. RQ WASTE FLAMMABLE LIQUIDS, N.O.S., 3 UN1993 II, (D001)	001	TT	2000	G	State 134 / EPA (Other) D001
b.					State / EPA (Other)
c.					State / EPA (Other)
d.					State / EPA (Other)

J. Additional Descriptions for Materials Listed Above
PETROLEUM PRODUCTS IN WATER 991

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
WEAR PROPER PROTECTIVE CLOTHING
24 HOUR EMERGENCY CONTACT: _____
24 HOUR PHONE: _____

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]		1	2	16

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
ROBERT GARCIA		01	12	16

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

DO NOT WRITE BELOW THIS LINE.

GENERATOR

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; within California, CALL 1-800-852-7550

DTSC 8022A (1/93)
EPA 8700-22

Yellow: GENERATOR COPY

APPENDIX E

TANK DISPOSAL CERTIFICATION

AMERICAN METAL RECYCLING, INC.

3202 South Milliken Avenue
Ontario, CA 91761
(714) 983-8000

No. 44155

TANK DISPOSAL FORM

Date: 7-20 19 96
Job #
P.O. #

CONTRACTOR Pacific Env.
ADDRESS
JOB SITE
ADDRESS Foster Freight
CITY Ontario
A.M.R. 3202 S. Milliken Ave., Ontario, CA 91761
TRANSPORTER
TIME IN
TIME OUT
SPECIAL INSTRUCTIONS

QTY	TANKS RECEIVED GALLONS	DATE	NET TONS	TOTAL
10 Dd Tanks		TOTAL		NET TONS

All tanks received are over-sized vessels and must be cut into pieces no larger than 36" x 36" x 36" before leaving the facility. Customer is responsible for all taxes, fees, and charges incurred in the disposal of these tanks. Customer represents and warrants that the tanks listed above contain no hazardous substances.

F = FIBERGLASS S = STEEL

CERTIFICATE OF TANK DISPOSAL / DESTRUCTION

THIS IS TO CERTIFY THAT THE ABOVE LISTED TANKS HAVE BEEN DISPOSED OF AS SPECIFIED ABOVE. ALL MATERIALS SPECIFIED

SIGNATURE OF AUTHORIZED REPRESENTATIVE OF COMPANY

DATE

APPENDIX F

AUTHORIZATION LETTER
COUNTY OF SAN BERNARDINO FIRE DEPARTMENT

COUNTY FIRE DEPARTMENT

North Arrowhead Avenue • San Bernardino, CA 92415-0179 • (909) 387-5932
Fax (909) 387-4282

COUNTY OF SAN BERNARDINO

RICHARD W. SCHULTZ
Fire Chief
County Fire Warden

February 22, 1996

ANDRE LAMONTAGNE
A & C INC.
17111 GOLDENWEST SUITE B4
HUNTINGTON BEACH, CA 92647

SUBJECT: RE-USE OF UNDERGROUND STORAGE TANKS

Dear Mr. Lamontagne,

Regarding our conversation on the 21st about the underground storage tanks for diesel fuel situated on the property of Northview Dairy, located at 10601 Riverside Drive in the unincorporated county area south of Ontario:

Once the tanks have been uncorked, with the San Bernardino County Fire Department Hazardous Materials Management Field Services personnel in attendance as required, and with removal criteria met, i.e., triple rinse, etc.; provisional control of the tanks then passes to and becomes complete control under the auspices of the property/tank(s) owner.

Our conversation meets the requirement of California Code of Requirements Title 23, Division 3, Chapter 16, Article 7, Section 2672 (b)(4):

"An owner of an underground storage tank or any part thereof that is destined for a specific re-use shall advise the local agency, within the time frame specified by that agency, of:

(A) The name of the new owner (NA)
(B) Name of the new operator (NA)
(C) The location of use; and - noted
(D) Nature of use - noted

for notification of the LIA (local implementing agency), Hazardous Materials Management of the Fire Department.

Sincerely,

MICHAEL D. RUDDLESTON, Fire Prevention Supervisor
San Bernardino County Fire Department

COUNTY FIRE DEPARTMENT

HAZARDOUS MATERIALS DIVISION
FIELD SERVICES • ENVIRONMENTAL PROTECTION
385 North Arrowhead Avenue, Second Floor • San Bernardino, CA 92415-0153
(909) 387-3080 • Fax (909) 387-4323

COUNTY OF SAN BERNARDINO

PETER R. HILLS
Fire Chief
County Fire Warden

June 23, 1999

NORTH VIEW DAIRY
10601 RIVERSIDE DRIVE
ONTARIO, CA 91761

SUBJECT: REMOVAL OF FOUR UNDERGROUND STORAGE TANKS AT 10601 RIVERSIDE DRIVE, ONTARIO

The Department has received the sample results and/or closure report submitted by A & E INC dated March 7, 1996 and reviewed June 23, 1999. After review of the reports prepared by you or your agent, it has been determined that the extent of contamination or lack thereof would indicate that no further investigation is warranted at this time.

It is important to note that this can not be construed as a release of liability for the site or declaration that the site is free from contamination. Should further projects or environmental investigations reveal additional contaminants site you will be responsible and held liable for the investigation and remedial actions.

If you have any questions, please call (909) 387-3082.

Susan Williams

SUSAN WILLIAMS, REHS
Hazardous Materials Field Services

SW/jc

APPENDIX G

LABORATORY REPORTS
and
CHAIN-OF-CUSTODY FORM

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY REPORT

Client:	A.A.E. Inc	Report Date:	3/29/96
Client Address:	17311 Gothard St. Ste B4	JEL Ref. No.:	A2479
	Huntington Beach, CA 92647	Client Ref. No.:	E950604.50
Attn:	Andre LaMontagne	Date Sampled:	3/23/96
		Date Received:	3/27/96
Project:	NorthView Dairy	Date Analyzed:	3/27/96
Project Address:	10801 Riverside Dr., Ontario, CA	Physical State:	Soil

ANALYSES REQUESTED

1 EPA 8020 - Volatile Aromatic Hydrocarbons
2 Mod 8015 Gasoline - Volatile Hydrocarbons
3 Mod 8015 Diesel - Semi-Volatile Hydrocarbons

Approved:

Steve Jones, Ph.D
Laboratory Manager

P.O. BOX 5360 • FULLERTON, CA 92635 (714) 449-9937 • FAX (714) 449-9685

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	A & L Inc.	Report Date:	2/28/96
Client Address:	17111 Goldenwest, Suite 3H	JEL Ref. No.:	A2470
	Huntington Beach, CA 92647	Client Ref. No.:	P96004.01
Attn:	Andre LaMontagne	Date Sampled:	2/21/96
		Date Received:	2/23/96
Project:	NorthView Dairy	Date Analyzed:	2/23/96
Project Address:	10601 Riverside Dr., Ontario, CA	Physical State:	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

	Concentration (ug/Kg)				Reporting Limits (ug/Kg)	Surrogate Recoveries
Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes		
DG - 2'	ND	ND	ND	ND	5.0	80
DH - 2'	ND	ND	ND	ND	5.0	80
T1N 12'	ND	ND	ND	ND	5.0	85
T1S 12'	ND	ND	ND	ND	5.0	87
T2N 12'	ND	ND	ND	ND	5.0	82
T2S 12'	ND	ND	ND	ND	5.0	81
T3N 14'	ND	ND	ND	ND	5.0	83
T3S 14'	ND	ND	ND	ND	5.0	85
T4N 14'	ND	ND	ND	ND	5.0	88
T4S 14'	ND	ND	ND	ND	5.0	90

ND = Not Detected

P.O. BOX 5387 - FULLERTON, CA 92635 - (714) 449-9937 - FAX (714) 449-9685

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	A & L, Inc	Report Date:	2/26/96
Client Address:	1711 Goldenwest, Suite B4	JEL Ref. No.:	A2470
	Huntington Beach, CA 92647	Client Ref. No.:	E960654.00
Attn:	Andre LaMontagne	Date Sampled:	2/2/96
		Date Received	2/2/96
Project:	NorthView Dairy	Date Analyzed:	2/2/96
Project Address:	15601 Riverside Dr., Ontario, CA	Physical State:	Soil

EPA 8020 - Volatile Aromatic Hydrocarbons

Sample Spiked: T45-1J

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Toluene	91%	98%	8.5%	65 - 129
p-Xylene	103%	120%	9.4%	65 - 129

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

P.O. BOX 5867 - FULLERTON, CA 92635 (714) 449-9937 - FAX (714) 449-9685

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	A.S.T., Inc	Report Date:	3/29/96
Client Address:	17311 Goldenwest, Suite B4	JEL Sub. No.:	A2470
	Huntington Beach, CA 92647	Client Ref. No.	E96004.00
Attn:	Andre LaMontagne	Date Sampled:	3/21/96
		Date Received:	3/21/96
Project:	NorthView Dairy	Date Analyzed:	3/27/96
Project Address:	10601 Riverside Dr., Ontario, CA	Physical State:	Soil

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample ID	Concentration (mg/kg)	Surrogate Recoveries (%)	Reporting Limit (mg/kg)	MTBE
[illegible]-2	ND	80	1.0	ND
T1N-12	ND	85	1.0	ND
T1S-12	ND	83	1.0	ND
T2N-12	ND	82	1.0	ND
T2S-12	ND	80	1.0	ND

ND = Not Detected

P.O. BOX 5337 • FULLERTON, CA 92635 (714) 522-9937 • FAX (714) 525-9685

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	A & E Inc.	Report Date:	3/29/96
Client Address:	3151 Corporate, Suite B4	JEL Ref. No.:	03470
	Huntington Beach, CA 92647	Client Ref. No.:	Owens 30
Attn:	Andre LaMontagne	Date Sampled:	2/23/96
		Date Received:	2/23/96
Project:	NorthView Dairy	Date Analyzed:	2/23/96
Project Address:	15601 Riverside Dr, Ontario, CA	Physical State:	Soil

Modified EPA 8015 - Volatile Hydrocarbons (Gasoline)

Sample Spiked: T45-1a

Parameter	MS Recovery[1a]	MSD Recovery[1b]	RPD	Acceptability Range[1c]
Gasoline	100%	111%	2.5%	65 - 135

Spiked Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

P.O. BOX 5007 • FULLERTON, CA 92635 (714) 449-9937 • FAX (714) 449-9685

Jones Environmental

TESTING LABORATORIES

JONES ENVIRONMENTAL

LABORATORY RESULTS

Client:	A & E, Inc.	Report Date:	2/29/96
Client Address:	17011 Beaverwood, Suite 24 Huntington Beach, CA 92647	J.E.L. Ref. No.:	A2479
		Client Ref. No.:	E96004-00
Attn:	Andre Labbenlagne	Date Sampled:	2/21/96
		Date Received:	2/21/96
Project:	NorthView Diary	Date Analyzed:	2/27/96
Project Address:	10601 Riverside Dr., Ontario, CA	Physical State:	Soil

Modified EPA 8015 - Semi-Volatile Hydrocarbons (Diesel)

Sample ID	Concentration (mg/Kg)	Surrogate Recovery %	Reporting Limit (mg/Kg)
DD - 2'	ND	94	20
T3N 14'	ND	103	20
T3S 14'	ND	111	20
T4N 13'	ND	103	20
T4S 14'	ND	96	20

ND - Not Detected

P.O. BOX 5027 • SAN DIMAS, CA 91773 (714) 599-9703 • FAX (714) 599-9885

Jones
Environmental

TESTING LABORATORIES
JONES ENVIRONMENTAL

QUALITY CONTROL INFORMATION

Client:	A & E, Inc.	Report Date:	7/29/96
Client Address:	17131 Gothard Street Suite B4	J&L Ref. No.:	A2a10
	Huntington Beach, CA 92647	Client Ref. No.:	8560-4-00
Attn:	Andre LaMontagne	Date Sampled:	7/24/96
		Date Received:	7/25/96
Project:	NorthView Dairy	Date Analyzed:	7/27/96
Project Address:	10601 Riverside Dr., Ontario, CA	Physical State:	Soil

Modified EPA 8015 - Semi-Volatile Hydrocarbons (Diesel)

Sample Spiked: TAS 14'

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	114%	98%	15.1%	65 - 125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

P.O. BOX 6252 • FULLERTON, CA 92635 (714) 449-9937 • FAX (714) 449-9685

JONES ENVIROMENTAL
TESTING LABORATORIES

Chain-Of-Custody Record

Client: Chevron Depot
Project Name:
Project Address: 1060 Rincon Rd
Carmel, CA
Project Manager:
Date: 2/23/96
Client Project #: 6100.00
Turn Around Requested:
- Standard Turnaround
- Rush 24-48 Hours
- Rush 72-96 Hours
- Metals
- Metals Only

JEL Project #: A2470
Page: 1 of 1
Rush Turn Around:
- Sample Location to Arrive at
- Chilled Upon Drop
- Sampled Cooler Style

Analysis Requested: Gasoline (8015 Mod.) | BTEX (8020) | MTBE (8020) | Oil & Grease (5520) | Lead (7421)

Sample ID	Sample Location	Date	Time	Laboratory Sample Number	Gasoline (8015 Mod.)	BTEX (8020)	MTBE (8020)	Oil & Grease (5520)	Lead (7421)	Container/Comments
DG - 2'		2/23/96	9 am	A2470-1	X	X	X			1
DD - 2'				A2470-2	X	X				
TW 12'				A2470-3	X	X	X			1
TS 12'				A2470-4	X	X	X			
TW 12'				A2470-5	X	X	X			
TS 12'				A2470-6	X	X	X			
TW 14'				A2470-7	X	X				1
TS 14'				A2470-8	X	X				
TW 14'				A2470-9	X	X				
TS 14'				A2470-10	X	X				1

Relinquished by (signature): [signature]
Company: A. C. Env.
Date: 2/23/96
Time: 1225

Received by (signature): [signature] Matussy
Company: Jones Env.
Date: 2/23/96
Time: 1225

Total Number of Containers: 10

Relinquished by (signature):
Company:
Date:
Time:

Received by Laboratory (signature):
Company:
Date:
Time:

Special Comments:

7092

BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

JONES ENVIRONMENTAL LABORATORIES
P.O. BOX 5387
FULLERTON, CA 92635
714-449-9937

Date Reported: 03/04/96
Date Received: 02/29/96
Laboratory No.: 96-02453-1

Sample Description: A & S NORTHVIEW DAIRY JEL PROJ. #A3470; DG-3'

Sampling Date/Time: 02/23/96

Title 22 Waste Type: Type 1: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	9.0	mg/kg	5.0	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schultz
Laboratory Director

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpret

4100 Atlas Ct. - Bakersfield, CA 93308 - (805) 327-4911 - FAX (805) 327-1918

JONES
ENVIRONMENTAL
TESTING LABORATORIES

2493

Chain-Of-Custody Record

7094

Sample ID	Sample Location	Date	Time	Laboratory Sample Number
1 DG-2'		2/9/96		
2 T1S 12'				
3 T1S 8'				
4 T2W 12'				
5 T2S 12'				

Analysis Requested

JEL Project #

Page

Turn Around Time

Sample Condition as Received

Chilled ☐ yes ☐ no

Seals ☐ yes ☐ no

Container/Comments

Total Number of Containers

Additional Comments

1) Relinquished by (Signature)	Date 2/9/96	2) Received by (Signature)		Date	
Company JEL	Time	Company		Time	
3) Relinquished by (Signature)	Date	4) Received by Laboratory (Signature)		Date 2/10/96	
Company	Time	Company		Time	

LABORATORIES INC. SAMPLE RECEIPT FORM - Rev. No.: 11-91

NUMBER: 01-2493 | TIME RECEIVED: 3:20 | DATE RECEIVED: 7-21-94 | RECEIVED BY: GB

SHIPPING SPECIFICATIONS

Fed Express ☐ UPS ☐ Hand Delivery ☐

Lab Field Service ☑ Other ☐ (Specify) _____

SHIPPING CONTAINER

Ice Chest ☑ Box ☐

None ☐ Other ☐ (Specify) _____

SAMPLE CONDITION

Temperature _____ °C Ice ☐ Blue Ice ☐ None ☑ If temperature is not between 2 and 6 °C please explain: _____

Custody Seals: Ice Chest ☐ Containers ☐ None ☑

Samples received? Yes ☑ No ☐ All samples intact? Yes ☑ No ☐ Description match COC? Yes ☑ No ☐

SAMPLE CONTAINERS

Number #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
[illegible]																								

BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

JONES ENVIRONMENTAL LABORATORIES
P.O. BOX 5387
FULLERTON, CA 92635
714-449-9937

Date Reported: 03/04/96
Date Received: 02/29/96
Laboratory No.: 96-02493-2

Sample Description: A & E NORTHVIEW DAIRY JEL PROJ. SA2470: TIN 12'

Sampling Date/Time: 02/23/96

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	None Detected	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schultz
Laboratory Director

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4100 Atlas Ct. - Bakersfield, CA 93308 - (805) 327-4911 - FAX (805) 327-1918

BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

JONES ENVIRONMENTAL LABORATORIES
P.O. BOX 5387
FULLERTON, CA 92635
714-449-9937

Date Reported: 03/04/96
Date Received: 02/29/96
Laboratory No.: 96-02493-3

Sample Description: A & E NORTHVIEW DAIRY JKL PROJ. #A2470: TIS 12'

Sampling Date/Time: 02/23/96

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	None Detected	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schultz
Laboratory Director

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BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

JONES ENVIRONMENTAL LABORATORIES
P.O. BOX 5387
FULLERTON, CA 92635
714-449-9937

Date Reported: 03/04/96
Date Received: 02/29/96
Laboratory No.: 96-02493-4

Sample Description: A & E NORTHVIEW DAIRY JEL PROJ. #A2470: T2N 12'

Sampling Date/Time: 02/23/96

Title 22 Waste Type: Type 1: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Lead	None Detected	mg/kg	2.5	SW-6010	5.0	1000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schultz
Laboratory Director

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation
4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

JONES ENVIRONMENTAL LABORATORIES
P.O. BOX 5187
RIVERSIDE, CA 92517
714-449-9937

Date Reported: 01/04/96
Date Received: 12/29/95
Laboratory No.: 96-02893-5

Sample Description: A & K NORTHVIEW DAIRY JEL PROJ. #A2470: TIS 13'

Sampling Date/Time: 12/13/95

Title 22 Waste Type: Type 1: Millable Solid - No Free Liquid

Components	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/l	Regulatory Criteria TTLC mg/kg
Lead	None Detected	mg/kg	7.5	SW 6010	5.0	1000.

Comments: All above concentrations are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) of sample subjected to appropriate techniques to determine total levels.

P.Q.L. - Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC - Soluble Threshold Limit Concentration
TTLC - Total Threshold Limit Concentration

REFERENCES:
SW - "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schulte
Laboratory Director

A&E Inc.

Geotechnical and Environmental Engineering

COASTAL OFFICE

[illegible] Goldenwest, Suite B4
Huntington Beach, CA 92647
(714) 847-3436

March 12, 1996

INVOICE FOR SERVICES

Sold To:	Remit Payment To:
Frank Hulander NORTHVIEW DAIRY 10601 Riverside Drive Ontario, CA 91761-2602	A&E INC. 17161 Goldenwest Suite B4 Huntington Beach, CA 92647

ITEM	COST
A&E Project No E96004 01 UST Removals -SF 35717	
Field-work	$ 390 00
Subcontractors (Vacuum truck, Back-hoe, UST haulers, etc)	6,820 00
Laboratory Analyses	1,105 00
Expenses	185 00
Report	800 00
	Subtl. $ 9,300 00
Additional Product removal, transportation, disposal	$ 2,300 00
	Total $ 11,600 00

Terms Net 30 Days 1-1/2% per month will be charged after 30 days

Dear Frank

As you can see the project came in under budget (the subtotal), although just barely However, the over-all cost of the project was more than the proposal. That of course was due to the large amount of product that was in the USTs upon our arrival As well, The China Valley Fire Department did require some additional lead tests that were not anticipated A&E thanks you for providing us with the work and if we can be of any further assistance please call me at (714) 847-3436 Thank you

Sincerely,

Andre LaMontagne
A&E Inc

00524 CERTIFIED MAIL NO. P 411951

CALIFORNIA PRELIMINARY NOTICE

In accordance with sections 3097 and 3098, California Civil Code THIS IS NOT A LIEN. This is NOT a reflection on the integrity of any contractor or subcontractor. You are hereby notified that MANESS ENVIRONMENTAL
P.O. BOX 90939 LONG BEACH, CA 90809
has furnished or will furnish labor, service, equipment or materials of the following general description
REMOVE UST AND DISPOSE
for building, structure, or other work of improvement located at 10601 RIVERSIDE DR., ONTARIO, CA
The name of the person or firm who contracted for the purchase of such labor, services, equipment or materials furnished or to be furnished is:
A & E, INC. HUNTINGTON BEACH, CA 92647
TRUST FUNDS TO WHICH SUPPLEMENTAL FRINGE BENEFITS ARE PAYABLE (Material men not required to furnish)

An estimate of the total price of the labor, services, equipment or material is $10,000.00

(310) 595-4555

NOTICE TO PROPERTY OWNER

If bills are not paid in full for the labor, services, equipment or materials furnished or to be furnished, a mechanic's lien leading to the loss, through court foreclosure proceedings, of all or part of your property being so improved may be placed against the property even though you have paid your contractor in full. You may wish to protect yourself against this consequence by (1) requiring your contractor to furnish a signed release by the person or firm giving you this notice before making payment to your contractor or (2) any other method or device that is appropriate under the circumstances.

2/26/96
DPN PREPARED BY: SYLVIA ROGERS DATE
FRANK HILARIDES
10601 RIVERSIDE
ONTARIO, CA

CONTRACTOR
MANESS ENVIRONMENTAL
1101 E. SPRING ST.
LONG BEACH, CA 90806

...ia Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
CAD982484258			

3. Generator's Name and Mailing Address: FLEMING FOODSERVICE DAIRY, 10401 RIVERSIDE DR. ONTARIO, CA. 91864	A. State Manifest Document Number: 95543181
4. Generator's Phone ( )	B. State Generator's ID:
5. Transporter 1 Company Name: 7093 ENVIROSOURCE	6. US EPA ID Number: CAD982484258
	C. State Transporter's ID: 6027-A
	D. Transporter's Phone: 310-830-1393
7. Transporter 2 Company Name:	8. US EPA ID Number:
	E. State Transporter's ID:
	F. Transporter's Phone:
9. Designated Facility Name and Site Address: DEHART RECYCLING 2000 N. ALAMEDA ST. COMPTON, CA. 90222-2117	10. US EPA ID Number: CAD980813352
	G. State Facility's ID: CAT080013352
	H. Facility's Phone: 310 537-7100

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.	I. Waste Number
a. RQ WASTE FLAMMABLE LIQUIDS, N.O.S., 3 (D001) II, (D001)	0 0 1	DM	00001	G	State 134 EPA/Other D001
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

THIS WASTE STREAM HAS BEEN QUALIFIED FOR RECYCLE TREATMENT AT THE DEHART FACILITY IN COMPTON, CALIFORNIA. THIS HAS THE NECESSARY QUALIFIED WASTE STREAM AS PERMITTED. DEA EPA NUMBER IS CAT080013352.

J. Additional Descriptions for Materials Listed Above	K. Handling Codes for Wastes Listed Above
PETROLEUM PRODUCTS IN WATER 982	a. F 01 b.
	c. d.

15. Special Handling Instructions and Additional Information
WEAR PROPER PROTECTIVE CLOTHING
24 HOUR EMERGENCY CONTACT: _____
24 HOUR PHONE: _____

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
FRANK RICHARDS		12	12	16

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
ROBERT LOPEZ		12	12	16

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]		12	12	16

DO NOT WRITE BELOW THIS LINE.

Yellow: TSCP SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS.
(Generators who submit hazardous waste for transport out-of-state, produce completed copy of this copy and send to DTSC within 30 days.)

DTSC 8022A (1/93)
EPA 8700-22

7102

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

SEPARATE FORMS AND CONTINUATION SHEET(S) ARE NOT ACCEPTED

7103

Certificate of Treatment/Recycling

ISSUED TO: Matthews Water

FOR

MANIFEST NUMBER 95543181 DATE RECEIVED 2/22/96

The aqueous waste received on the above manifest will be treated to standards mandated by the FEDERAL CLEAN WATER ACT and to effluent requirements established by the Sanitation Districts of Los Angeles County. Waste Treatment and recycling is performed under permits granted to DeMENNO/KERDOON, a California corporation, by the California Department of Health Services, in coordination with the Environmental Protection Agency, in accordance with the provisions of the Resource Conservation and Recovery Act (RCRA) of 1976, together with applicable federal and state regulations including but not limited to waste discharge requirements established by the Sanitation Districts of Los Angeles County.

When the above described waste material is accepted by DeMENNO/Kerdoon and treated/recycled and the aqueous phase discharged for further treatment by the Sanitation Districts, the certificate holder's responsibility for the waste material is eliminated under both RCRA and Proposition 65. Upon request, DeMENNO/KERDOON will issue this certificate that all waste material has been handled in accordance with applicable permits and the certificate holder's liability has been terminated.

DeMENNO/KERDOON
"Compliance Through Recycling"

By: Cyrus Pourhassanian Date: 3/11/96

Cyrus Pourhassanian
Laboratory Manager

2000 North Alameda Street □ Compton □ California □ 90222
Telephone(310)537-7100 □ Facsimile (310)-639-2946

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-96)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See instructions on back of page 6.

1 of 6

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1	Information in the shaded areas is not required by Federal law.
CAF C190 0 0 0 0 0 0		1 of 1	

3. Generator's Name and Mailing Address
[illegible] PRESTIGE DAIRY
10601 RIVERSIDE DR. ONTARIO, CA. 91761-3602

4. Generator's Phone ( )

4a. State Manifest Document Number: 95543180

4b. State Generator's ID:

5. Transporter 1 Company Name: TORO ENVIRONMENTAL

6. US EPA ID Number:

5c. State Transporter's ID: 209-[illegible]

5d. Transporter's Phone: 310-432-1302

7. Transporter 2 Company Name:

8. US EPA ID Number:

7a. State Transporter's ID:

7b. Transporter's Phone:

9. Designated Facility Name and Site Address
CROSBY & OVERTON
1630 W. 17TH STREET
LONG BEACH, CA. 90813

10. US EPA ID Number: CAD 0 1 9 7 1 4 4 0 1 7

9a. State Facility's ID: [illegible]

9b. Facility's Phone: 310-432-5445

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.	I. Waste Numbers
a. [illegible] HAZARDOUS WASTE, LIQUID, N.O.S. (CONTAINS CAUSTIC), 8, UN3266, II	001	DT	01153	G	State: [illegible] EPA/Other: 9001
b.					State: EPA/Other:
c.					State: EPA/Other:
d.					State: EPA/Other:

J. Additional Descriptions for Materials Listed Above
PETROLEUM PRODUCTS 52
WATER 852
PROFILE #2017

K. Handling Codes for Wastes Listed Above
a. T5 b.
c. d.

15. Special Handling Instructions and Additional Information
WEAR PROPER PROTECTIVE CLOTHING
24 HOUR EMERGENCY CONTACT: [illegible]
24 HOUR PHONE: 310-432-[illegible]

SITE: LOCAL STREETS OF ONTARIO, CA.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]	1	2	9

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]	1	2	9

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space
GOOD IS NOT FILLED IN, 55 GALLONS
EPA # IS NOT FILLED IN.

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Scott L. Cook	[illegible]	1	2	9

DO NOT WRITE BELOW THIS LINE.

Yellow — TSDF SENDS THIS COPY TO GENERATOR WITHIN 30 DAYS. (Generators who submit hazardous waste for treatment, storage, or disposal to any facility within the United States must produce completed copy of this copy and send to DTSC within 30 days)

GENERATOR — TRANSPORTER — FACILITY

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802, WITHIN CALIFORNIA, CALL 1-800-852-7550

DTSC 8022A (1/95)
EPA 8700-22

7104

7105

CROSBY & OVERTON, INC.

CERTIFICATE OF TREATMENT
ISSUED TO

WORTHINGTON DAIRY

MANIFEST NUMBER #65541150 DATE RECEIVED 02/23/96

THE REFERENCED WASTE WAS RECEIVED AND TREATED TO STANDARDS MANDATED BY THE FEDERAL CLEAN WATER ACT AND EFFLUENT REQUIREMENTS SET FORTH BY THE LOS ANGELES COUNTY SANITATION DISTRICTS. WASTE TREATMENT IS PERFORMED UNDER PERMITS GRANTED TO CROSBY & OVERTON, INC., BY THE DEPARTMENT OF TOXIC SUBSTANCE CONTROL, TOGETHER WITH THE ENVIRONMENTAL PROTECTION AGENCY, IN ACCORDANCE WITH THE PROVISIONS OF THE RESOURCE CONSERVATION AND RECOVERY ACT OF 1976 TOGETHER WITH APPLICABLE FEDERAL AND STATE REGULATIONS. CROSBY & OVERTON HAS ALL OF THE NECESSARY PERMITS TO ACCEPT THE REFERENCED WASTE AND ALL THE WASTE HAS BEEN HANDLED IN ACCORDANCE WITH SCRA AND PROPOSITION 65 SUCH THAT THE CERTIFICATE HOLDER'S LIABILITY HAS BEEN TERMINATED.

CROSBY & OVERTON, INC.

LIC. REP. [illegible] 02/23/96

WATER TREATMENT SUPERVISOR DATE

CROSBY & OVERTON, INC. 1610 W. 16th STREET, LONG BEACH, CA 90813 (310)432-5445, FAX (310)435-1940

DeMENNO/KERDOON TEL: 1-213-639-2946 Feb 22.96 15:15 No.005 P.01

DeMenno / Kerdoon

DEMENNO / KERDOON'S LABORATORY IS CERTIFIED BY THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM (ELAP) CERT. # 2031

GENERATOR'S WASTE PROFILE WORKSHEET

GENERATOR'S INFORMATION

A. GENERATOR'S NAME Northwood Dairy (Frank Holarides) B. EPA ID# CAL 000 009 126

C. GENERATOR'S ADDRESS 10601 Riverside Dr. D. PHONE (909) 947-4451

CITY, STATE, ZIP Ontario, CA 91761-3602

E. GENERATOR CONTACT Frank Holarides G. TITLE Landowner Property Owner

F. CUSTOMER NAME NAESS ENVIRONMENTAL SERVICES INC. H. PHONE (310) 393-6555

TRANSPORTER NAME NAESS ENVIRONMENTAL SERVICES K. PHONE (310) 393-6555

L. TRANSPORTER EPA ID# CAD009684234 M. CONTACT RICHARD OSUNA

NAME OF WASTE DIESEL AND GASOLINE MIXTURE

CALIFORNIA HAZARDOUS WASTE CODE NO. 343 C. EPA HAZARDOUS WASTE CODE NO. D001

DESCRIBE PROCESS GENERATING WASTE INTERIOR CLEANING OF UNDERGROUND STORAGE TANKS CONTAINING DIESEL FUEL AND GASOLINE

DOES THIS WASTE CONTAIN PCB'S?	yes	X no
DOES THIS WASTE CONTAIN DIOXIN? (F0020-F0028)	yes	X no
DOES THIS WASTE CONTAIN SULFIDES OR CYANIDES?	yes	X no
DOES THIS WASTE CONTAIN SOLVENTS? (IF YES, IDENTIFY IN ITEMS A OR D ABOVE.)	yes	X no
DOES THIS WASTE CONTAIN PLATING WASTE?	yes	X no
HAS THIS WASTE BEEN MIXED WITH RCRA LISTED WASTE? (F, K, & OR P EPA WASTE CODES)	yes	X no

IF YOU HAVE MSDS FOR COMPONENTS IN THIS WASTE, PLEASE ATTACH ..... MSDS ATTACHED ☐

IF YOU HAVE CURRENT ANALYSIS OF THIS WASTE, PLEASE ATTACH ..... CHEMICAL ANALYSIS ATTACHED ☐

GENERATOR'S CERTIFICATION

I HEREBY CERTIFY THAT THE INFORMATION PROVIDED ON THIS DOCUMENT, IS TRUE AND ACCURATE, AND NO INTENTIONAL MISREPRESENTION HAS BEEN COMMITTED BY ANYONE. I FURTHER CERTIFY THAT ANY SAMPLE(S) PROVIDED WITH THIS WASTE PROFILE WERE TAKEN AND PRESERVED IN ACCORDANCE WITH 40 CFR 261, APPENDIX I AND ARE ACCURATE AND REPRESENTATIVE OF MY ACTUAL WASTE STREAM. I HEREBY AGREE TO NOTIFY DE MENNO / KERDOON SHOULD THIS WASTE STREAM CHANGE IN ANY WAY.

AUTHORIZED SIGNATURE Frank Holarides DATE 2-21-96

PRINT NAME AND TITLE Frank Holarides Property Owner

7106

APPENDIX D

HISTORICAL RECORDS DOCUMENTATION

10601 E. Riverside Drive

10601 E. Riverside Drive

Ontario, CA 91761

Inquiry Number: 4667480.9

July 11, 2016

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

07/11/16

Site Name:

10601 E. Riverside Drive
10601 E. Riverside Drive
Ontario, CA 91761
EDR Inquiry # 4667480.9

Client Name:

Hillmann Environmental Co.
1745 W Orangewood Avenue
Orange, CA 92868-0000
Contact: Kristine Savona

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1994	1"=500'	Acquisition Date: June, 01 1994	USGS/DOQQ
1990	1"=500'	Flight Date: August, 29 1990	USDA
1989	1"=500'	Flight Date: August, 03 1989	USDA
1985	1"=500'	Flight Date: July, 28 1985	USDA
1975	1"=500'	Flight Date: August, 01 1975	USGS
1967	1"=500'	Flight Date: May, 15 1967	USDA
1959	1"=500'	Flight Date: October, 15 1959	USDA
1953	1"=500'	Flight Date: February, 02 1953	USDA
1948	1"=500'	Flight Date: July, 10 1948	USGS
1938	1"=500'	Flight Date: June, 14 1938	USDA

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INQUIRY #: 4667480.9
YEAR: 2012
= 500'
N
EDR


INQUIRY #: 4667480.9
YEAR: 2010
= 500'
N
EDR



INQUIRY #: 4667480.9

YEAR: 2009

= 500'

N

EDR

7112



INQUIRY #: 4667480.9

YEAR: 2006

= 500'

N

EDR

7113



INQUIRY #: 4667480.9

YEAR: 2005

= 500'

N

EDR

7114



INQUIRY #: 4667480.9

YEAR: 1994

= 500'

N

EDR

7115



INQUIRY #: 4667480.9

YEAR: 1990

= 500'

N

EDR

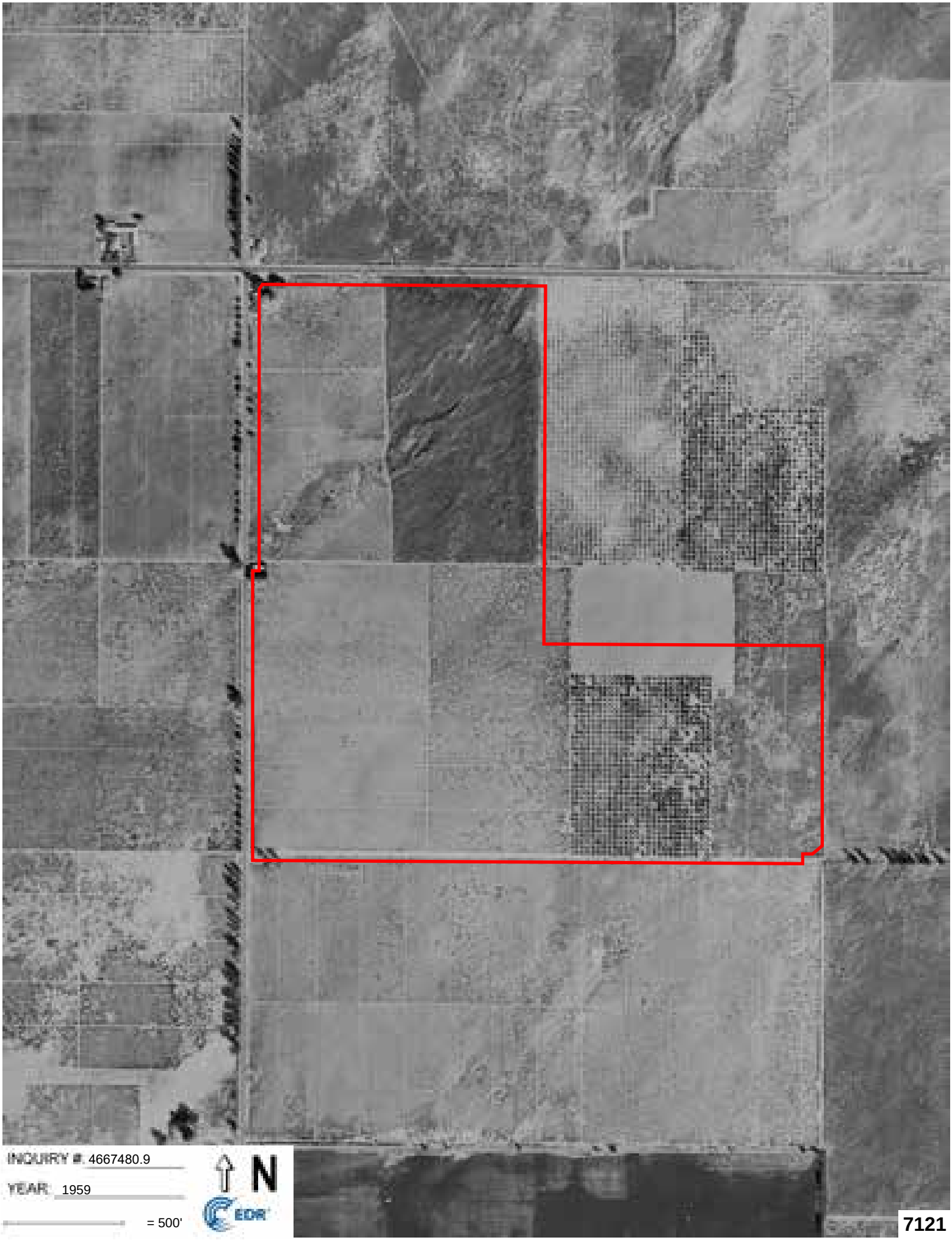
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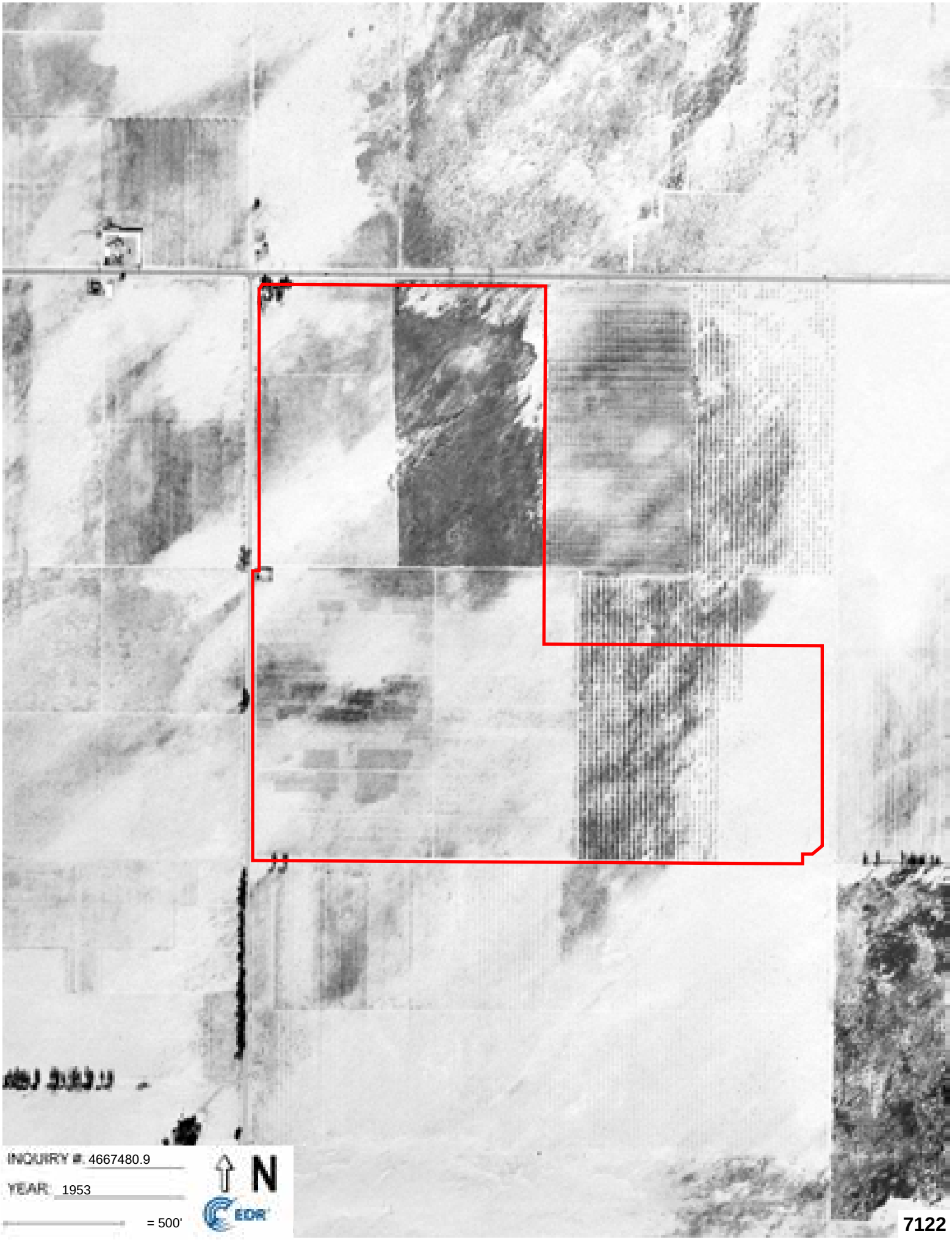

INQUIRY #: 4667480.9
YEAR: 1989
= 500'
N
EDR
7117

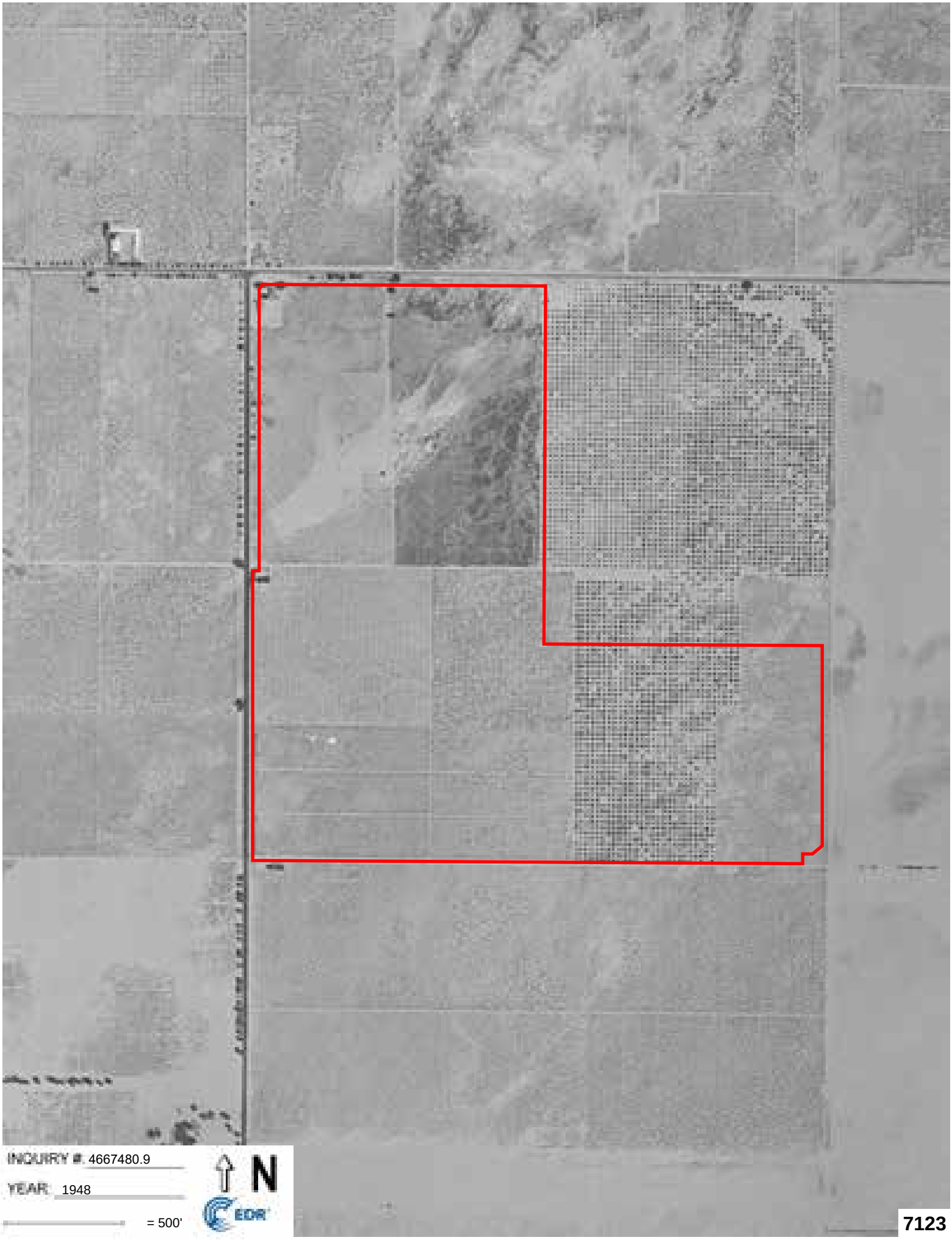

INQUIRY #: 4667480.9
YEAR: 1985
= 500'
N
EDR


INQUIRY #: 4667480.9
YEAR: 1975
= 500'
N
EDR


INQUIRY #: 4667480.9
YEAR: 1967
= 500'
N
EDR
7120


INQUIRY #: 4667480.9
YEAR: 1959
= 500'
N
EDR


INQUIRY #: 4667480.9
YEAR: 1953
= 500'
N
EDR
7122


INQUIRY #: 4667480.9
YEAR: 1948
= 500'
N
EDR


INQUIRY #: 4667480.9
YEAR: 1938
= 500'
N
EDR

10601 E. Riverside Drive

10601 E. Riverside Drive

Ontario, CA 91761

Inquiry Number: 4667480.4

July 07, 2016

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

07/07/16

Site Name:

10601 E. Riverside Drive
10601 E. Riverside Drive
Ontario, CA 91761
EDR Inquiry # 4667480.4

Client Name:

Hillmann Environmental Co.
1745 W Orangewood Avenue
Orange, CA 92868-0000
Contact: Kristine Savona

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Hillmann Environmental Co. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA
Project: C3-6603

Coordinates:

Latitude:	34.017096 34° 1' 2" North
Longitude:	-117.572431 -117° 34' 21" West
UTM Zone:	Zone 11 North
UTM X Meters:	447147.50
UTM Y Meters:	3764199.26
Elevation:	789.00' above sea level

Maps Provided:

2012	1897
1981	
1973	
1966, 1967	
1954	
1953, 1954	
1903	
1900	

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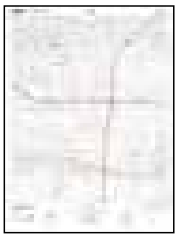
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Corona North
2012
7.5-minute, 24000



Guasti
2012
7.5-minute, 24000

1981 Source Sheets

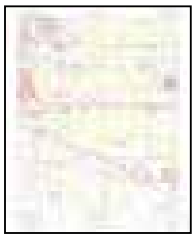


Guasti
1981
7.5-minute, 24000
Photo Revised 1981
Aerial Photo Revised 1978

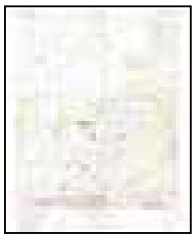


Corona North
1981
7.5-minute, 24000
Photo Revised 1981
Aerial Photo Revised 1978

1973 Source Sheets



Guasti
1973
7.5-minute, 24000
Photo Revised 1973
Aerial Photo Revised 1973

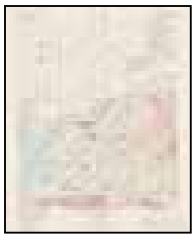


Corona North
1973
7.5-minute, 24000
Photo Revised 1973
Aerial Photo Revised 1973

1966, 1967 Source Sheets



Guasti
1966
7.5-minute, 24000
Aerial Photo Revised 1966



Corona North
1967
7.5-minute, 24000
Aerial Photo Revised 1966

Topo Sheet Key

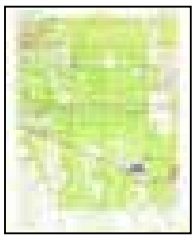
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1954 Source Sheets



Ontario
1954
15-minute, 62500

1953, 1954 Source Sheets

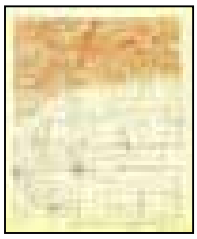


Guasti
1953
7.5-minute, 24000
Aerial Photo Revised 1952



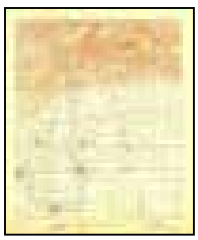
Corona North
1954
7.5-minute, 24000
Aerial Photo Revised 1952

1903 Source Sheets



Cucamonga
1903
15-minute, 62500

1900 Source Sheets

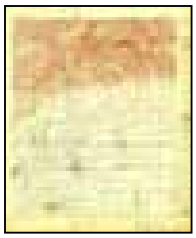


Cucamonga
1900
15-minute, 62500

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

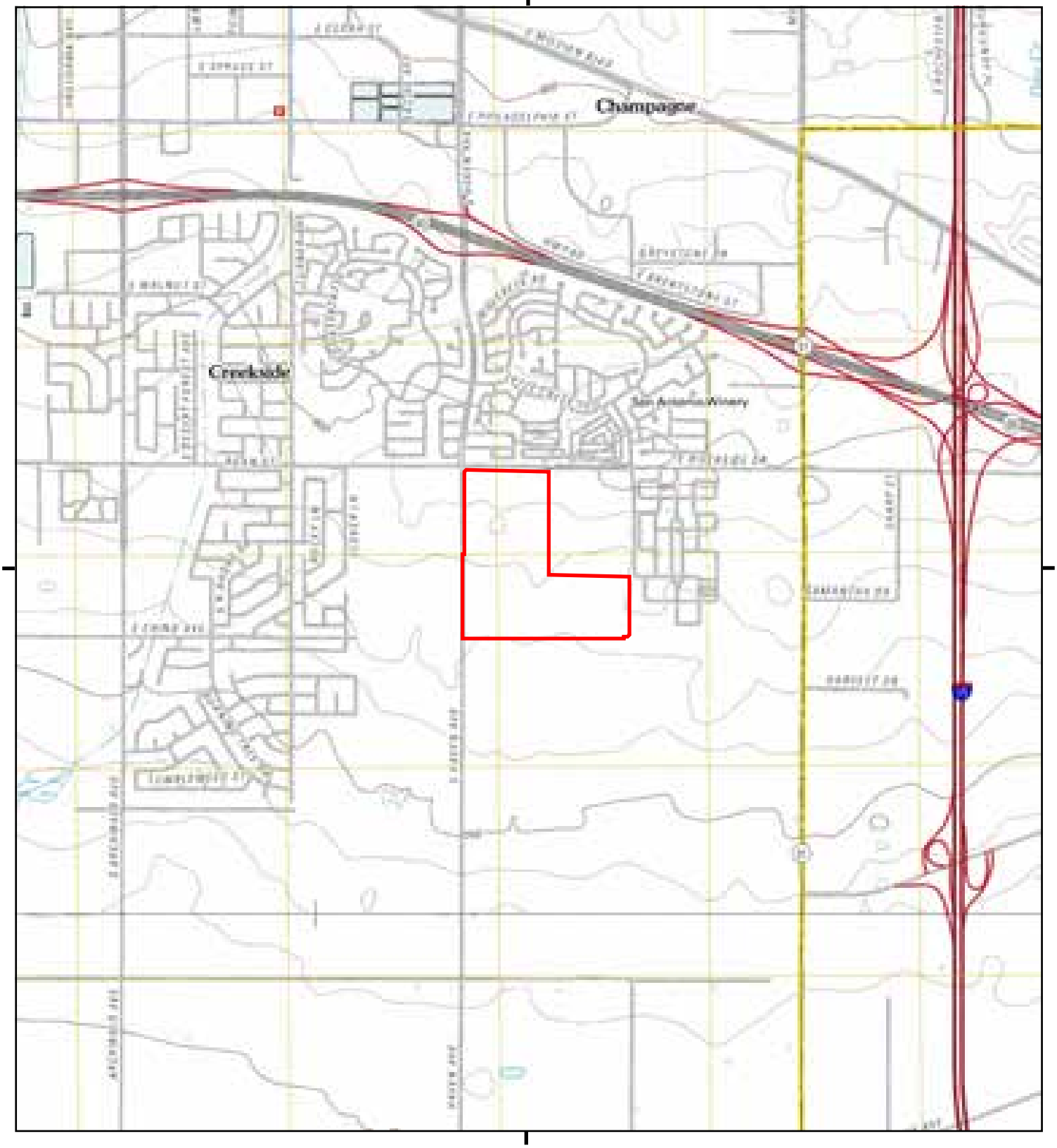
1897 Source Sheets



Cucamonga
1897
15-minute, 62500

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

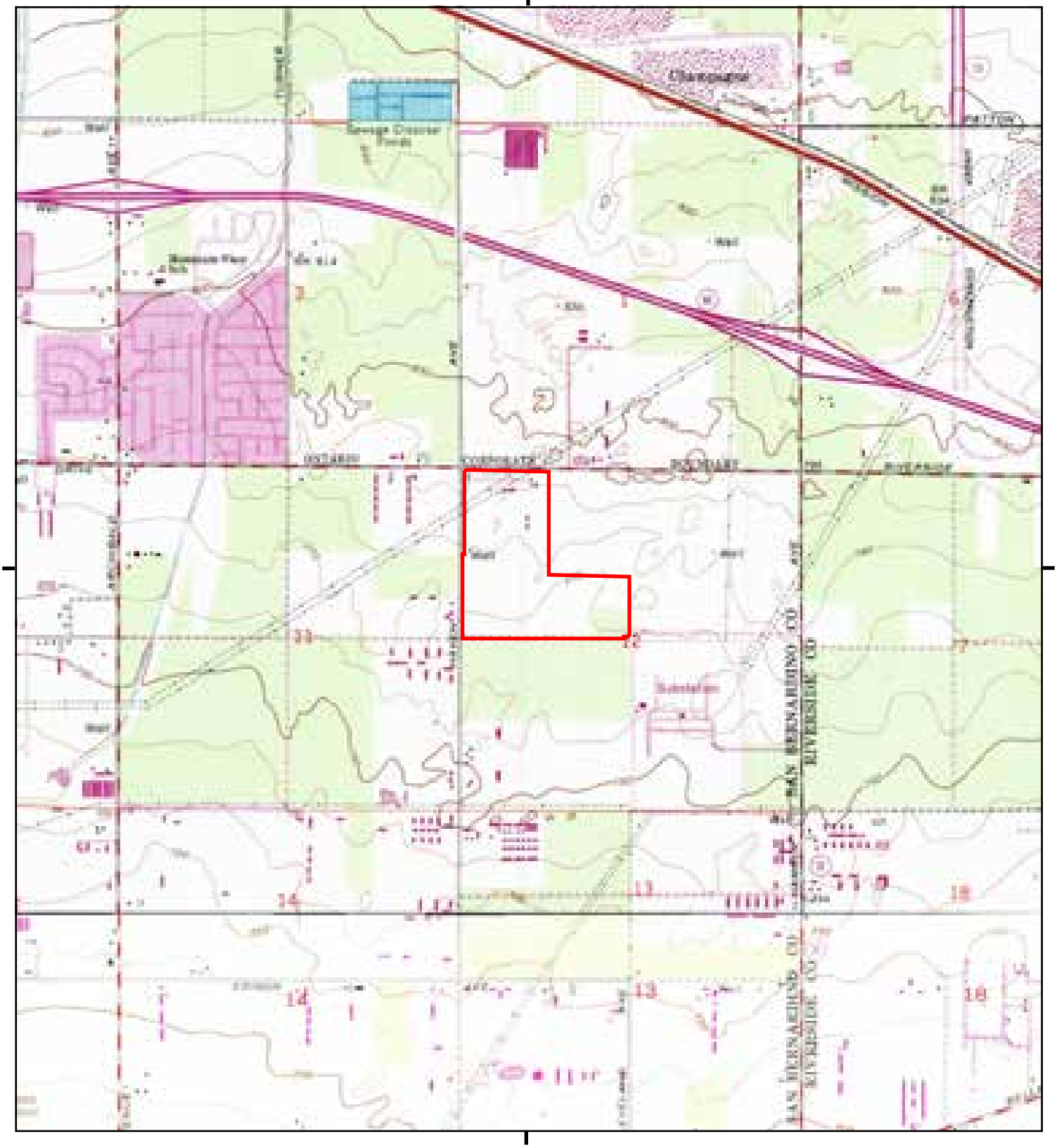
TP, Guasti, 2012, 7.5-minute
S, Corona North, 2012, 7.5-minute

SITE NAME: 10601 E. Riverside Drive
ADDRESS: 10601 E. Riverside Drive
Ontario, CA 91761
CLIENT: Hillmann Environmental Co.

N

Historical Topo Map

1981



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

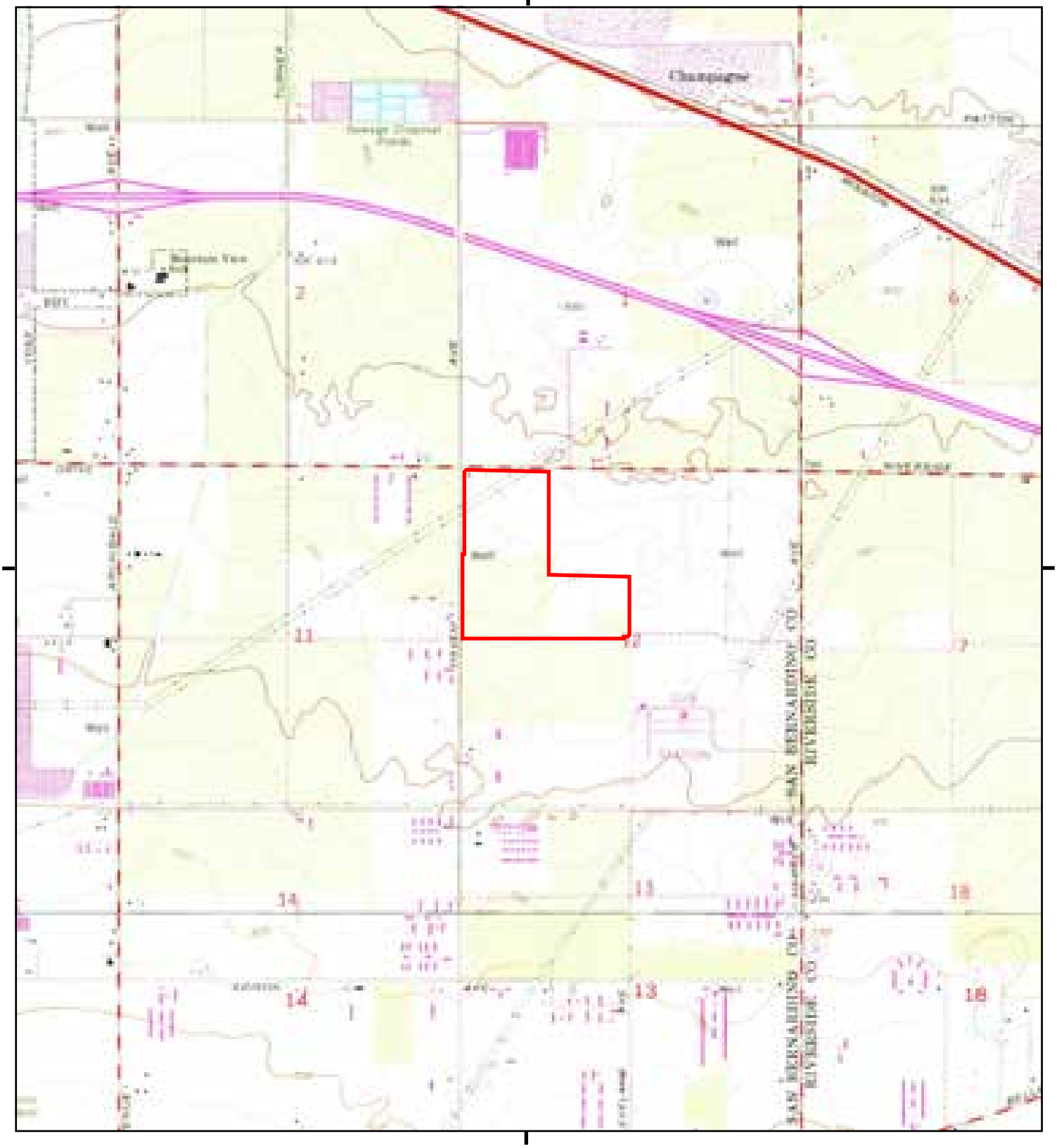
TP, Guasti, 1981, 7.5-minute
S, Corona North, 1981, 7.5-minute

SITE NAME: 10601 E. Riverside Drive
ADDRESS: 10601 E. Riverside Drive
Ontario, CA 91761
CLIENT: Hillmann Environmental Co.

N

Historical Topo Map

1973



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

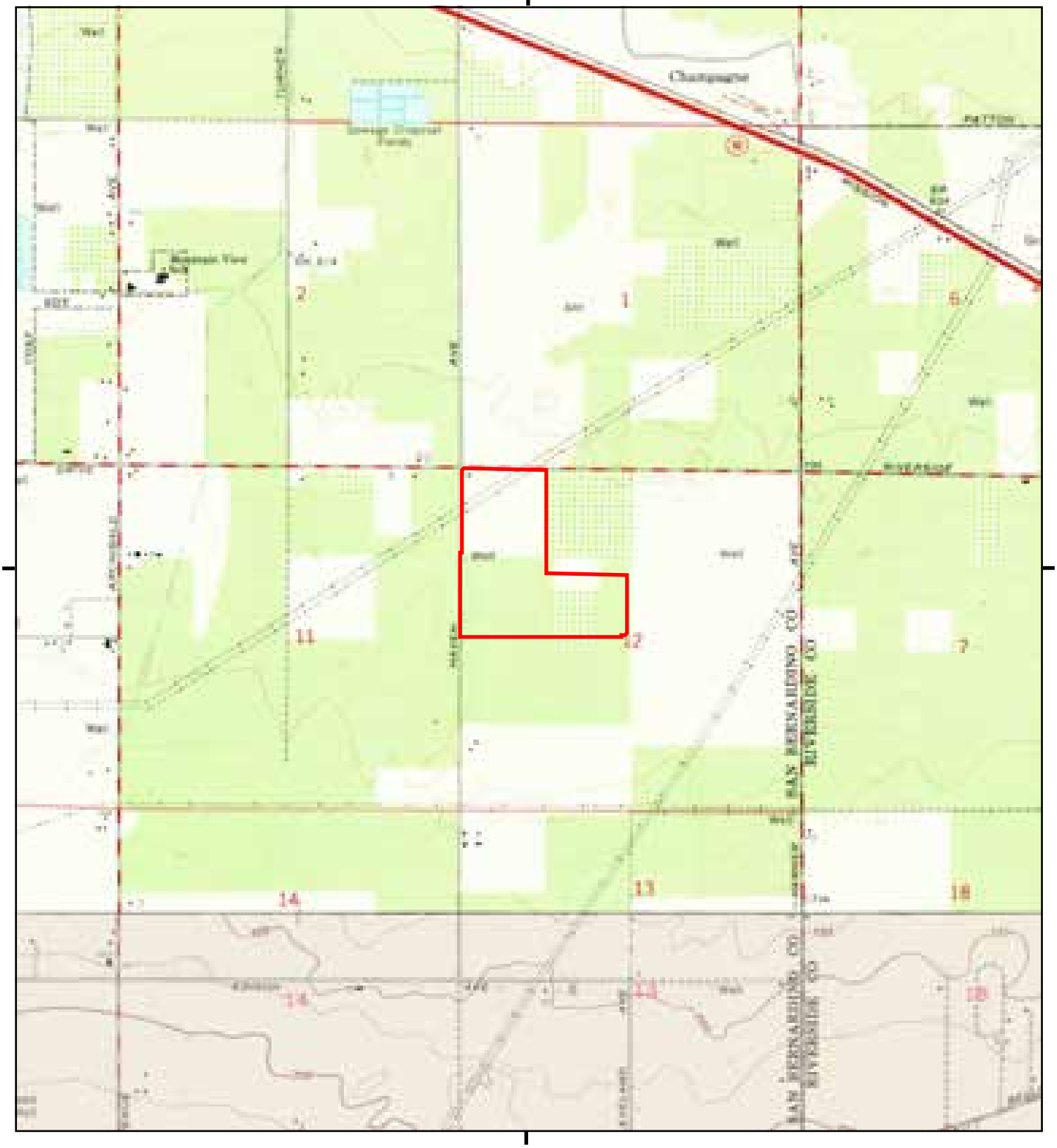
TP, Guasti, 1973, 7.5-minute
S, Corona North, 1973, 7.5-minute

SITE NAME: 10601 E. Riverside Drive
ADDRESS: 10601 E. Riverside Drive
Ontario, CA 91761
CLIENT: Hillmann Environmental Co.

N

Historical Topo Map

1966, 1967



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

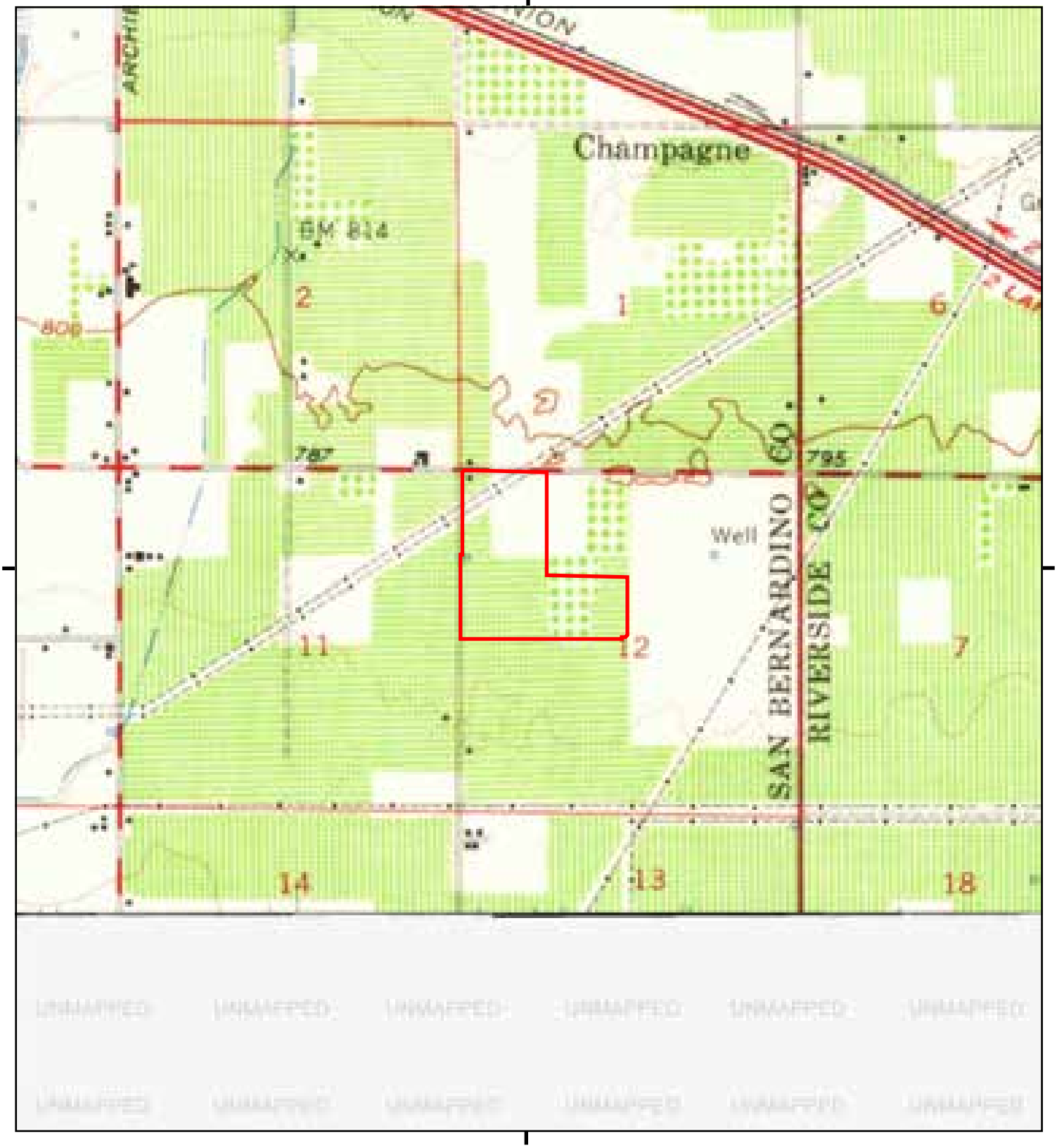
TP, Guasti, 1966, 7.5-minute
S, Corona North, 1967, 7.5-minute

SITE NAME: 10601 E. Riverside Drive
ADDRESS: 10601 E. Riverside Drive
Ontario, CA 91761
CLIENT: Hillmann Environmental Co.

N

Historical Topo Map

1954



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

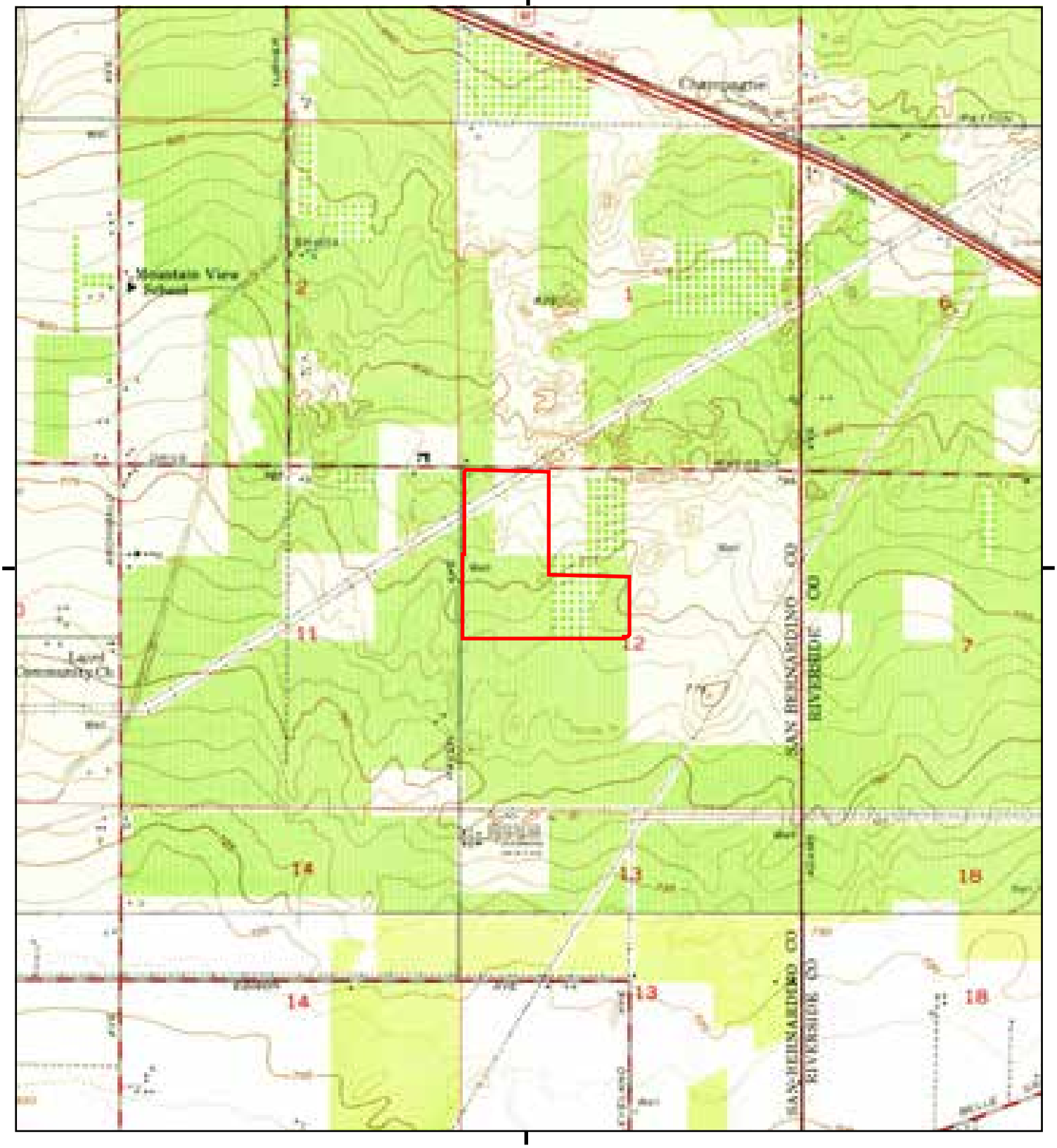
TP, Ontario, 1954, 15-minute

SITE NAME: 10601 E. Riverside Drive
ADDRESS: 10601 E. Riverside Drive
Ontario, CA 91761
CLIENT: Hillmann Environmental Co.

N

Historical Topo Map

1953, 1954



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

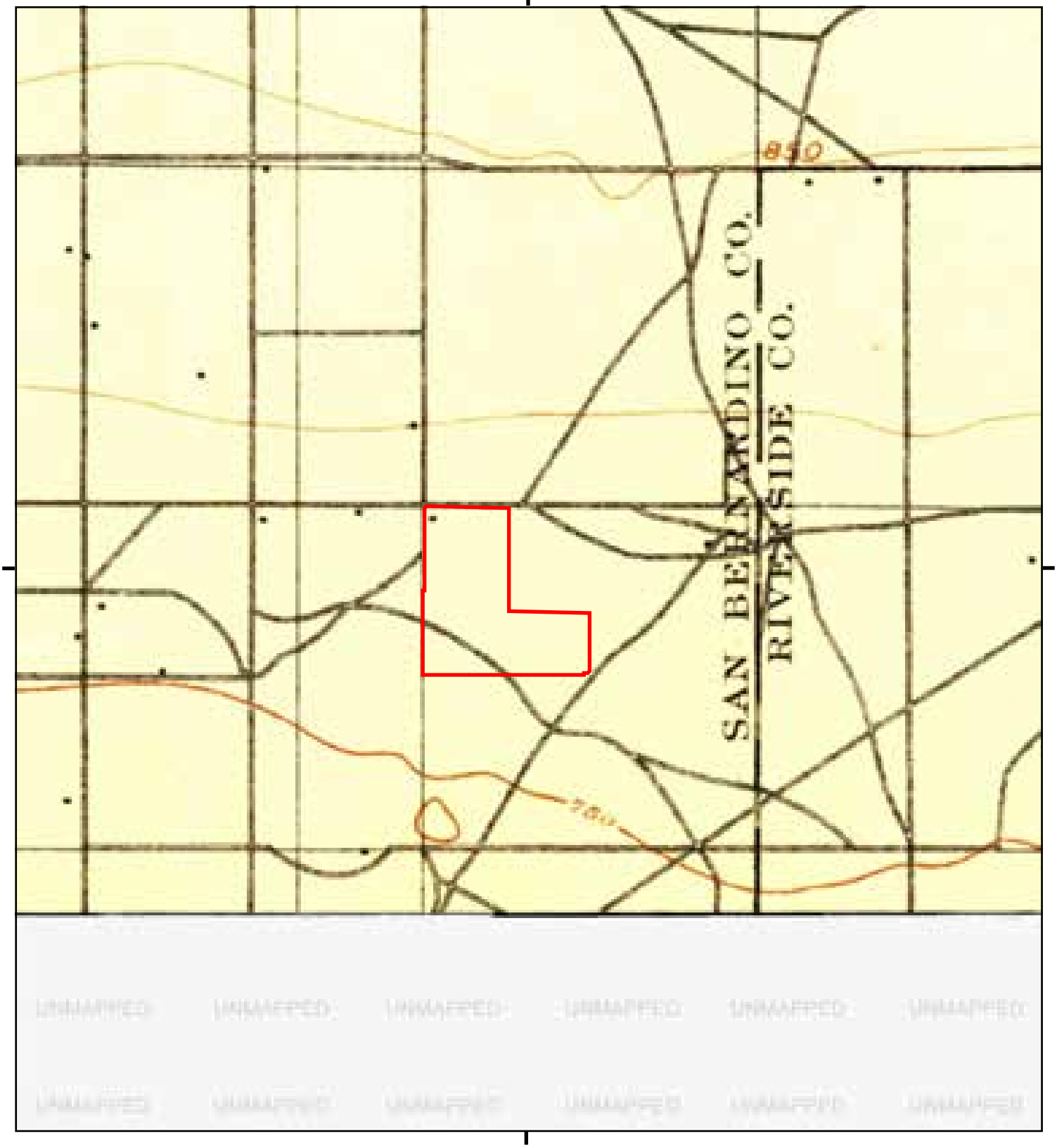
TP, Guasti, 1953, 7.5-minute
S, Corona North, 1954, 7.5-minute

SITE NAME: 10601 E. Riverside Drive
ADDRESS: 10601 E. Riverside Drive
Ontario, CA 91761
CLIENT: Hillmann Environmental Co.

N

Historical Topo Map

1903



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

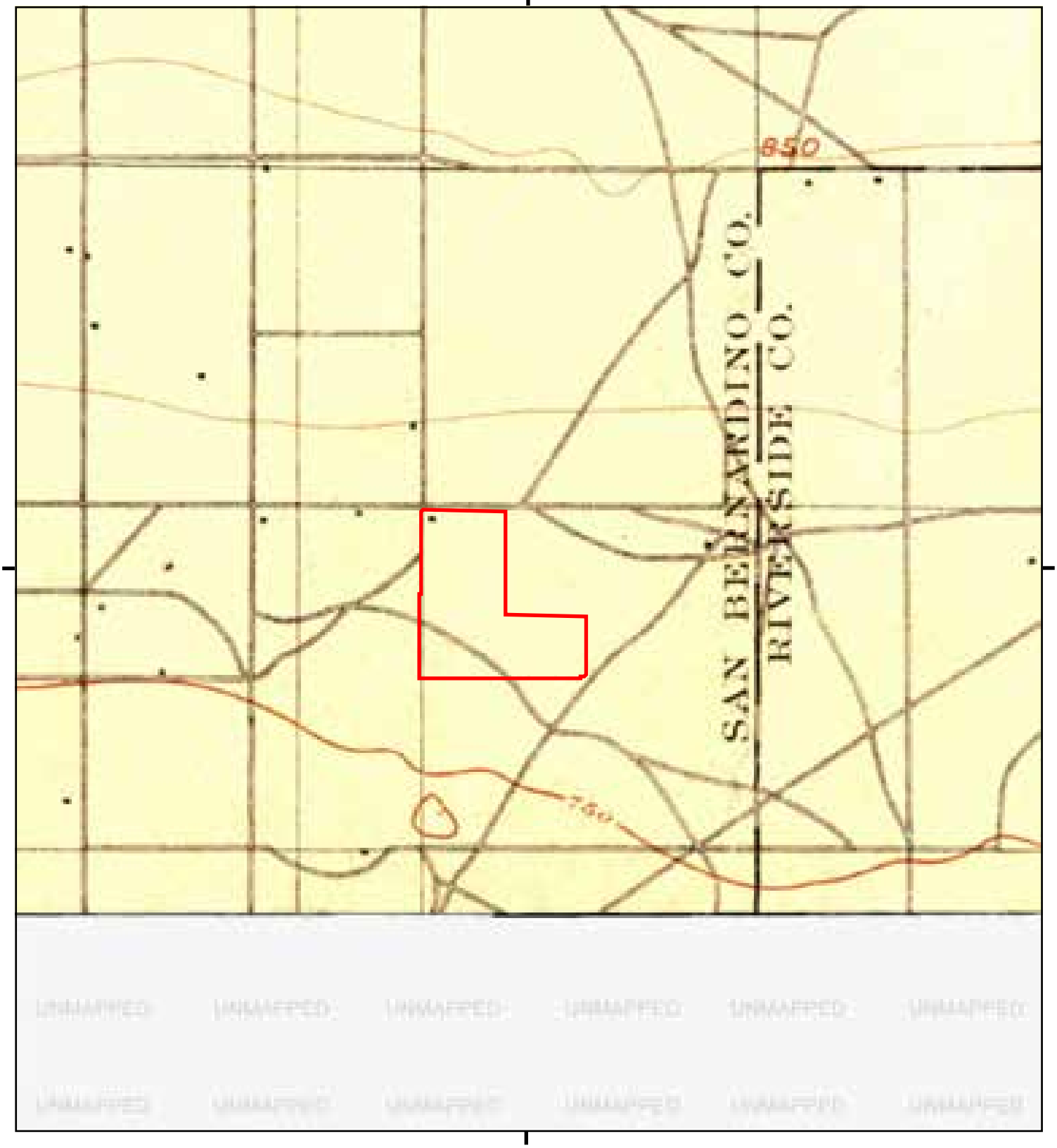
TP, Cucamonga, 1903, 15-minute

SITE NAME: 10601 E. Riverside Drive
ADDRESS: 10601 E. Riverside Drive
Ontario, CA 91761
CLIENT: Hillmann Environmental Co.

N

Historical Topo Map

1900



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

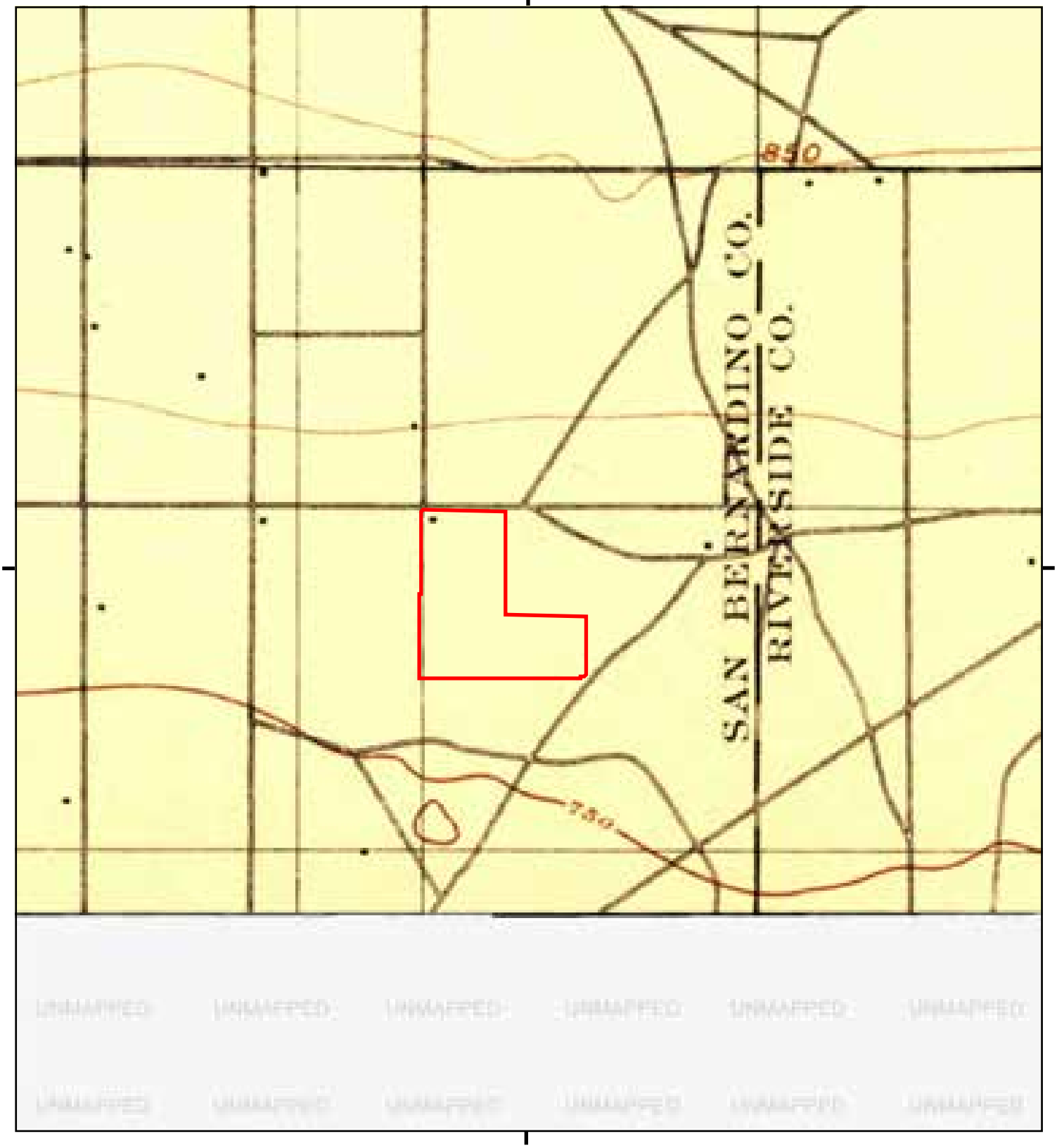
TP, Cucamonga, 1900, 15-minute

SITE NAME: 10601 E. Riverside Drive
ADDRESS: 10601 E. Riverside Drive
Ontario, CA 91761
CLIENT: Hillmann Environmental Co.

N

Historical Topo Map

1897



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Cucamonga, 1897, 15-minute

SITE NAME: 10601 E. Riverside Drive
ADDRESS: 10601 E. Riverside Drive
Ontario, CA 91761
CLIENT: Hillmann Environmental Co.

N

10601 E. Riverside Drive

10601 E. Riverside Drive

Ontario, CA 91761

Inquiry Number: 4667480.3

July 07, 2016

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

07/07/16

Site Name:

10601 E. Riverside Drive
10601 E. Riverside Drive
Ontario, CA 91761
EDR Inquiry # 4667480.3

Client Name:

Hillmann Environmental Co.
1745 W Orangewood Avenue
Orange, CA 92868-0000
Contact: Kristine Savona

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Certified Sanborn Results:

Certification # A66B-4CAF-9360

PO # NA

Project C3-6603

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: A66B-4CAF-9360

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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10601 E. Riverside Drive
10601 E. Riverside Drive
Ontario, CA 91761

Inquiry Number: 4667480.5
July 11, 2016

The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1922 through 2013. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2013	Cole Information Services	-	-	-	-
	Cole Information Services	-	X	X	-
2008	Haines Company, Inc.	-	X	X	-
2003	Haines & Co Publishers	-	X	X	-
2002	Cole Information Services	-	-	-	-
1996	GTE Directories	-	-	-	-
1995	GTE Directories	-	X	X	-
1991	GTE California Incorporated	-	-	-	-
1990	GTE	-	X	X	-
1985	GTE	-	X	X	-
1981	General Telephone Company of California	-	-	-	-
1980	GTE General Telephone Company of California	-	X	X	-
1975	GTE Directories	-	X	X	-
1970	General Telephone Company of California	-	X	X	-
1965	Luskey Brothers & Co	-	-	-	-
1964	Luskey Brothers & Co	-	-	-	-
1961	Luskey Brothers& Co Publishers	-	-	-	-
1960	Luskey Brothers & Co Publishers	-	-	-	-
1956	General Telephone Company Publishers	-	-	-	-
1955	Luskey Brothers Co Publishers	-	-	-	-
1951	Los Angeles Directory Company Publishers	-	-	-	-
1950	The Pacific Telephone and Telegraph Co	-	-	-	-

EXECUTIVE SUMMARY

Year	Source	TP	Adjoining	Text Abstract	Source Image
1949	San Bernardino Directory Co. Publishers	-	-	-	-
1946	Los Angeles Directory Company Publishers	-	-	-	-
1945	Southern California Telephone Company	-	-	-	-
1942	San Bernardino Directory Co Publisher	-	-	-	-
1941	Associated Telephone Company Limited	-	-	-	-
1940	Los Angeles Directory Co.	-	-	-	-
1938	Los Angeles Directory Co.	-	-	-	-
1936	San Bernardino Directory Co Publisher	-	-	-	-
1934	Los Angeles Directory Co.	-	-	-	-
1931	Los Angeles Directory Co.	-	-	-	-
1930	San Bernardino Directory Co Publisher	-	-	-	-
1926	Los Angeles Directory Co Publisher	-	-	-	-
1923	Los Angeles Directory Company	-	-	-	-
1922	R.L. Polk & Co Publishers	-	-	-	-

EXECUTIVE SUMMARY

SELECTED ADDRESSES

The following addresses were selected by the client, for EDR to research. An "X" indicates where information was identified.

Address	*Type*	*Findings*
10513 E. Riverside Drive	Client Entered	
3850 E. Riverside Drive	Client Entered	X
13210 Haven Avenue	Client Entered	X
10401 E. Riverside Drive	Client Entered	X
3250 S. Westmont Lane	Client Entered	
2999 S. Haven Avenue	Client Entered	X

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

10601 E. Riverside Drive
Ontario, CA 91761

FINDINGS DETAIL

Target Property research detail.

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

E RIVERSIDE DR

3850 E RIVERSIDE DR

Year	Uses	Source
2013	COLONY HIGH	Cole Information Services
	CHAFFEY JOINT UNION HIGH SCHOOL DIST	Cole Information Services
	CITY OF ONTARIO	Cole Information Services

10401 E RIVERSIDE DR

Year	Uses	Source
2013	FREMONTIA HORTICULTURAL	Cole Information Services

E. Riverside Drive

3850 E. Riverside Drive

Year	Uses	Source
2003	CHAFFEY HI SC COLONY	Haines & Co Publishers
	STEINY & CO INC	Haines & Co Publishers
	MCMURRAY B E CONSTRUCTION	Haines & Co Publishers

10401 E. Riverside Drive

Year	Uses	Source
2003	SLEGERS Ben	Haines & Co Publishers
	SLEGERS Ben	Haines & Co Publishers
1995	WEST STAR DAIRY	GTE Directories
1990	Slegers L M milk	GTE
	Slegers Thelma M Ont	GTE
	West Star Dairy	GTE
1985	SLEGERS L M	GTE
1980	+SLEGERS L M	GTE General Telephone Company of California
1975	Slegers Hubert Dairy	GTE Directories
	Siegers L M milk	GTE Directories

FINDINGS

Haven Avenue

13210 Haven Avenue

Year	Uses	Source
2003	XXXX	Haines & Co Publishers
1990	Wind Frank	GTE
	Wind Fredrick A	GTE
1985	MOUW VICKIE	GTE
	WIND FRANK	GTE
1980	WIND FRANK	GTE General Telephone Company of California
1975	Wind Fred	GTE Directories
1970	WIND FRED	General Telephone Company of California

S HAVEN AVE

2999 S HAVEN AVE

Year	Uses	Source
2013	EAST SEALS	Cole Information Services

S. Haven Avenue

2999 S. Haven Avenue

Year	Uses	Source
2008	EAST SEALS	Haines Company, Inc.
2003	AFTER SCHOOL ACADEMY	Haines & Co Publishers
1995	LA PETITE ACADEMY	GTE Directories
1990	La Petite Academy	GTE

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
10601 E. Riverside Drive	2013, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
10401 E RIVERSIDE DR	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
10401 E. Riverside Drive	2013, 2008, 2002, 1996, 1991, 1981, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
13210 Haven Avenue	2013, 2008, 2002, 1996, 1995, 1991, 1981, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
2999 S HAVEN AVE	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
2999 S. Haven Avenue	2013, 2002, 1996, 1991, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
3250 S. Westmont Lane	2013, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
3850 E RIVERSIDE DR	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
3850 E. Riverside Drive	2013, 2008, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922

APPENDIX E

REGULATORY RECORDS DOCUMENTATION

10601 E. Riverside Drive
10601 E. Riverside Drive
Ontario, CA 91761

Inquiry Number: 04667480.2r
July 08, 2016

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

10601 E. RIVERSIDE DRIVE
ONTARIO, CA 91761

COORDINATES

Latitude (North):	34.0170960 - 34° 1' 1.54''
Longitude (West):	117.5724310 - 117° 34' 20.75''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	447146.3
UTM Y (Meters):	3764004.8
Elevation:	789 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5620426 GUASTI, CA
Version Date:	2012
South Map:	5640930 CORONA NORTH, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140603
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
10601 E. RIVERSIDE DRIVE
ONTARIO, CA 91761

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	NORTHVIEW DAIRY	10601 RIVERSIDE DR	WDS		TP
A2	NORTHVIEW DAIRY	10601 RIVERSIDE AVE	HAZNET		TP
A3	NORTHVIEW DAIRY	10601 E RIVERSIDE DR	EMI		TP
A4	NORTH VIEW DAIRY	10601 RIVERSIDE DR	ENF, San Bern. Co. Permit		TP
A5	NORTHVIEW DAIRY	10601 E RIVERSIDE DR	FINDS, ECHO		TP
6	TLC SONLIGHT DAIRY #	13300 HAVEN	San Bern. Co. Permit	Lower	38, 0.007, SSW
7	OASIS GROWERS, INC.	13210 HAVEN AVE	San Bern. Co. Permit	Lower	41, 0.008, SW
8	JACK PINHEIRO DAIRY	11011 RIVERSIDE DR	HIST UST, HAZNET	Higher	85, 0.016, NNE
9		3413 OAKLEAF CT	EDR Hist Auto	Higher	333, 0.063, NW
10	WESTSTAR DAIRY	10401 E RIVERSIDE DR	San Bern. Co. Permit	Higher	578, 0.109, WNW
11	COLONY HIGH SCHOOL	3850 E RIVERSIDE DR	San Bern. Co. Permit	Higher	1226, 0.232, ENE
12	CHAFFEY HIGH SCHOOL	EDISON AVENUE / HAVE	ENVIROSTOR, SCH	Lower	5277, 0.999, South

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
NORTHVIEW DAIRY 10601 RIVERSIDE DR ONTARIO, CA 91761	WDS Facility Status: A Facility Id: 8 365124001	N/A
NORTHVIEW DAIRY 10601 RIVERSIDE AVE ONTARIO, CA 91761	HAZNET GEPAID: CAL000009126	N/A
NORTHVIEW DAIRY 10601 E RIVERSIDE DR ONTARIO, CA 91761	EMI Facility Id: 145085	N/A
NORTH VIEW DAIRY 10601 RIVERSIDE DR ONTARIO, CA 91761	ENF Status: Historical Status: Active Facility Id: 630526 San Bern. Co. Permit Facility Status: ACTIVE Facility Id: FA0000449 Facility Id: FA0010949	N/A
NORTHVIEW DAIRY 10601 E RIVERSIDE DR ONTARIO, CA 91761	FINDS Registry ID:: 110054316940 ECHO	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST ---------- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
SLIC ---------- Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing

UST ---- Active UST Facilities
AST ---- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---- Voluntary Cleanup Priority Listing
VCP ---- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ---- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---- Waste Management Unit Database
SWRCY ---- Recycler Database
HAULERS ---- Registered Waste Tire Haulers Listing
INDIAN ODI ---- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---- Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---- Delisted National Clandestine Laboratory Register
HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
US CDL ---- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST ---- SWEEPS UST Listing
CA FID UST ---- Facility Inventory Database

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing

SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
DOCKET HWC	Hazardous Waste Compliance Docket Listing
UXO	Unexploded Ordnance Sites
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
Financial Assurance	Financial Assurance Information Listing
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
WASTEWATER PITS	Oil Wastewater Pits Listing
WIP	Well Investigation Program Case List

EXECUTIVE SUMMARY

FUELS PROGRAM..... EPA Fuels Program Registered Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants
EDR Hist Cleaner..... EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF..... Recovered Government Archive Solid Waste Facilities List
RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 05/02/2016 has revealed that there is 1 ENVIROSTOR site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHAFFEY HIGH SCHOOL Facility Id: 36000007	***EDISON AVENUE / HAVE***	***S 1/2 - 1 (0.999 mi.)***	***12***	***20***

Status: No Further Action

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there is 1 HIST UST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JACK PINHEIRO DAIRY	***11011 RIVERSIDE DR***	***NNE 0 - 1/8 (0.016 mi.)***	***8***	***17***

Other Ascertainable Records

San Bern. Co. Permit: San Bernardino County Fire Department Hazardous Materials Division.

A review of the San Bern. Co. Permit list, as provided by EDR, and dated 03/15/2016 has revealed that there are 4 San Bern. Co. Permit sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WESTSTAR DAIRY Facility Status: INACTIVE Facility Id: FA0000701	10401 E RIVERSIDE DR	WNW 0 - 1/8 (0.109 mi.)	10	20
COLONY HIGH SCHOOL Facility Status: ACTIVE Facility Id: FA0008049	3850 E RIVERSIDE DR	ENE 1/8 - 1/4 (0.232 mi.)	11	20

Lower Elevation	Address	Direction / Distance	Map ID	Page
TLC SONLIGHT DAIRY # Facility Status: INACTIVE Facility Id: FA0010954	13300 HAVEN	SSW 0 - 1/8 (0.007 mi.)	6	17
OASIS GROWERS, INC. Facility Status: INACTIVE Facility Id: FA0011158	13210 HAVEN AVE	SW 0 - 1/8 (0.008 mi.)	7	17

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected

listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there is 1 EDR Hist Auto site within approximately 0.125 miles of the target property.

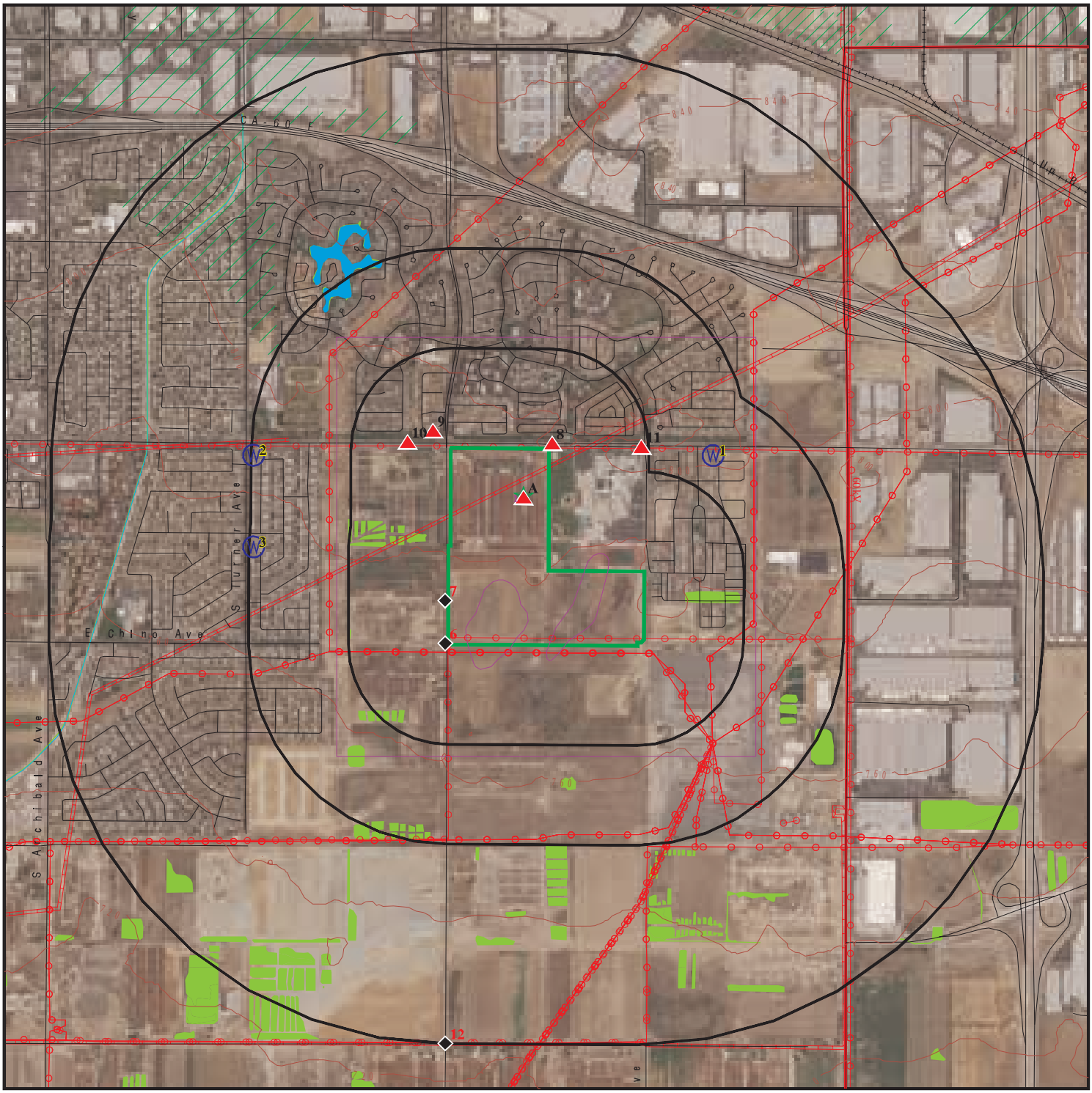
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	3413 OAKLEAF CT	NW 0 - 1/8 (0.063 mi.)	9	19

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
MILLIKEN SANITARY LANDFILL	CDL
INLAND EMPIRE UTILITIES AGENCY	ENVIROSTOR
	ENVIROSTOR

OVERVIEW MAP - 04667480.2R



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

County Boundary

Power transmission lines

Pipelines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

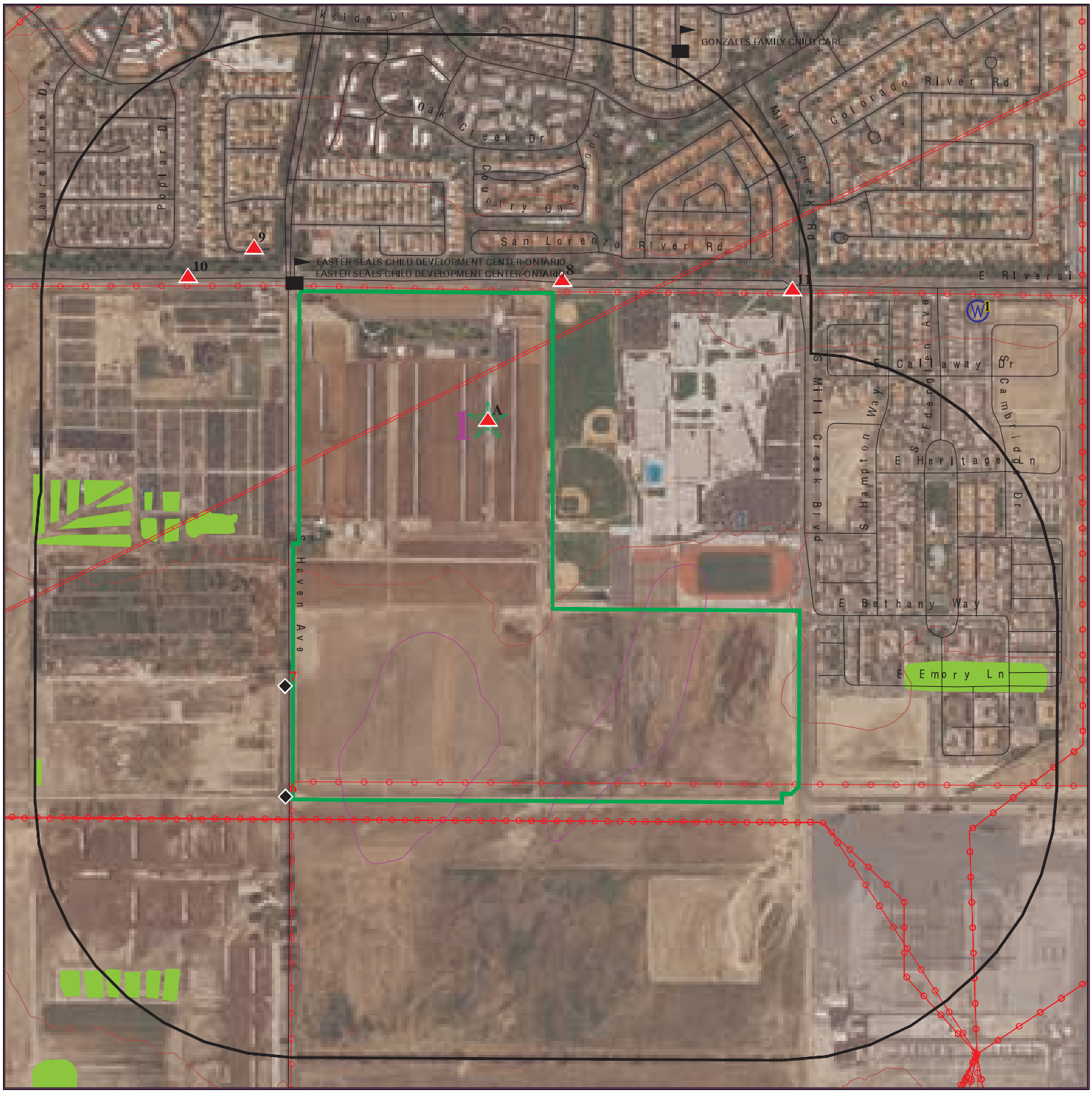
N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	10601 E. Riverside Drive	CLIENT:	Hillmann Environmental Co.
ADDRESS:	10601 E. Riverside Drive Ontario CA 91761	CONTACT:	Kristine Savona
		INQUIRY #:	04667480.2r
LAT/LONG:	34.017096 / 117.572431	DATE:	July 08, 2016 7:48 am

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DETAIL MAP - 04667480.2R



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/8 1/4 1/2 Miles

Indian Reservations BIA

Power transmission lines

Pipelines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	10601 E. Riverside Drive	CLIENT:	Hillmann Environmental Co.
ADDRESS:	10601 E. Riverside Drive Ontario CA 91761	CONTACT:	Kristine Savona
		INQUIRY #:	04667480.2r
LAT/LONG:	34.017096 / 117.572431	DATE:	July 08, 2016 7:49 am

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	1	NR	1
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		1	0	NR	NR	NR	1
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001	1	0	NR	NR	NR	NR	1
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001	1	0	NR	NR	NR	NR	1
ENF	0.001	1	0	NR	NR	NR	NR	1
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001	1	0	NR	NR	NR	NR	1
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
San Bern. Co. Permit	0.250	1	3	1	NR	NR	NR	5
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001	1	0	NR	NR	NR	NR	1
WIP	0.250		0	0	NR	NR	NR	0
ECHO	0.001	1	0	NR	NR	NR	NR	1
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		1	NR	NR	NR	NR	1
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		7	5	1	0	1	0	14

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
Target
Property

NORTHVIEW DAIRY
10601 RIVERSIDE DR
ONTARIO, CA 91761

WDS **S103439150**
N/A

Site 1 of 5 in cluster A

Actual:
789 ft.

WDS:

Facility ID:	Santa Ana River 365124001
Facility Type:	Agricultural - Facility that treats and/or disposes of the wastes associated with confined and concentrated animal feeding, confined animal feeding, confined animal holding, confined and concentrated aquatic animal production facilities, and aquaculture. the treatment and/or disposal of agricultural return water is included in this category.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAG018001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	8
Facility Telephone:	Not reported
Facility Contact:	FRANK HILARIDES
Agency Name:	HILARIDES FRANK
Agency Address:	10601 RIVERSIDE DR
Agency City,St,Zip:	ONTARIO 917612602
Agency Contact:	FRANK HILARIDES
Agency Telephone:	Not reported
Agency Type:	Private
SIC Code:	241
SIC Code 2:	Not reported
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Primary Waste:	STORMS
Waste Type2:	N
Waste2:	Stormwater Runoff
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Secondary Waste:	Solid Wastes
Secondary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Design Flow:	0
Baseline Flow:	0
Reclamation:	No reclamation requirements associated with this facility.
POTW:	The facility is not a POTW.
Treat To Water:	Moderate Threat to Water Quality. A violation could have a major adverse impact on receiving biota, can cause aesthetic impairment to a significant human population, or render unusable a potential domestic or municipal water supply. Awsthetic impairment would include nuisance from a waste treatment facility.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best

NORTHVIEW DAIRY (Continued) **S103439150**

management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

A2 Target Property **NORTHVIEW DAIRY**
10601 RIVERSIDE AVE
ONTARIO, CA 91761

HAZNET **S113024764**
N/A

Site 2 of 5 in cluster A

Actual: 789 ft.

HAZNET:

envid:	S113024764
Year:	2000
GEPAID:	CAL000009126
Contact:	FRANK HILARIDES PARTNER
Telephone:	9099473361
Mailing Name:	Not reported
Mailing Address:	10601 E RIVERSIDE DR
Mailing City,St,Zip:	ONTARIO, CA 917612602
Gen County:	Not reported
TSD EPA ID:	CAT000613927
TSD County:	Not reported
Waste Category:	Aqueous solution with total organic residues less than 10 percent
Disposal Method:	Transfer Station
Tons:	0.17
Cat Decode:	Aqueous solution with total organic residues less than 10 percent
Method Decode:	Transfer Station
Facility County:	San Bernardino

envid:	S113024764
Year:	1996
GEPAID:	CAL000009126
Contact:	HILARIDES FRANK
Telephone:	9099473361
Mailing Name:	Not reported
Mailing Address:	10601 E RIVERSIDE DR
Mailing City,St,Zip:	ONTARIO, CA 917612602
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Aqueous solution with total organic residues less than 10 percent
Disposal Method:	Treatment, Tank
Tons:	3.9615
Cat Decode:	Aqueous solution with total organic residues less than 10 percent
Method Decode:	Treatment, Tank
Facility County:	San Bernardino

envid:	S113024764
Year:	1996
GEPAID:	CAL000009126
Contact:	HILARIDES FRANK
Telephone:	9099473361
Mailing Name:	Not reported
Mailing Address:	10601 E RIVERSIDE DR
Mailing City,St,Zip:	ONTARIO, CA 917612602
Gen County:	Not reported
TSD EPA ID:	CAT080013352

NORTHVIEW DAIRY (Continued) **S113024764**

TSD County:	Not reported
Waste Category:	Aqueous solution with total organic residues less than 10 percent
Disposal Method:	Recycler
Tons:	8.4442
Cat Decode:	Aqueous solution with total organic residues less than 10 percent
Method Decode:	Recycler
Facility County:	San Bernardino

A3 Target Property **NORTHVIEW DAIRY** **EMI** **S109282128**
10601 E RIVERSIDE DR **N/A**
ONTARIO, CA 91761

Site 3 of 5 in cluster A

Actual: 789 ft.

EMI:

Year:	2006
County Code:	36
Air Basin:	SC
Facility ID:	145085
Air District Name:	SC
SIC Code:	241
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	6.168050386487260234
Reactive Organic Gases Tons/Yr:	4.309
Carbon Monoxide Emissions Tons/Yr:	.001
NOX - Oxides of Nitrogen Tons/Yr:	.002
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	3.802
Part. Matter 10 Micrometers and Smllr Tons/Yr:	1.8603186

Year:	2007
County Code:	36
Air Basin:	SC
Facility ID:	145085
Air District Name:	SC
SIC Code:	241
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	6.168050386487260234
Reactive Organic Gases Tons/Yr:	4.309
Carbon Monoxide Emissions Tons/Yr:	.001
NOX - Oxides of Nitrogen Tons/Yr:	.002
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	3.802
Part. Matter 10 Micrometers and Smllr Tons/Yr:	1.8603186

Year:	2008
County Code:	36
Air Basin:	SC
Facility ID:	145085
Air District Name:	SC
SIC Code:	241
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported

NORTHVIEW DAIRY (Continued) **S109282128**

Total Organic Hydrocarbon Gases Tons/Yr:	8.273690237618093329
Reactive Organic Gases Tons/Yr:	5.78
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	3.89
Part. Matter 10 Micrometers and Smllr Tons/Yr:	1.903377

Year:	2009
County Code:	36
Air Basin:	SC
Facility ID:	145085
Air District Name:	SC
SIC Code:	241
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	9.5333524191239594
Reactive Organic Gases Tons/Yr:	6.6600000000000001
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	4.1900000000000004
Part. Matter 10 Micrometers and Smllr Tons/Yr:	2.0501670000000001

Year:	2010
County Code:	36
Air Basin:	SC
Facility ID:	145085
Air District Name:	SC
SIC Code:	241
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	5.4248067563698799
Reactive Organic Gases Tons/Yr:	3.7897699999999999
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	3.8789699999999998
Part. Matter 10 Micrometers and Smllr Tons/Yr:	1.897980021

Year:	2011
County Code:	36
Air Basin:	SC
Facility ID:	145085
Air District Name:	SC
SIC Code:	241
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	5.4248067564
Reactive Organic Gases Tons/Yr:	3.78977
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	3.87897

NORTHVIEW DAIRY (Continued) **S109282128**

Part. Matter 10 Micrometers and Smllr Tons/Yr:1.897980021

Year:	2012
County Code:	36
Air Basin:	SC
Facility ID:	145085
Air District Name:	SC
SIC Code:	241
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	5.4248067564
Reactive Organic Gases Tons/Yr:	3.78977
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	3.87897
Part. Matter 10 Micrometers and Smllr Tons/Yr:	1.897980021

Year:	2013
County Code:	36
Air Basin:	SC
Facility ID:	145085
Air District Name:	SC
SIC Code:	241
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7.6400251291
Reactive Organic Gases Tons/Yr:	5.47255
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	3.76648
Part. Matter 10 Micrometers and Smllr Tons/Yr:	1.842938664

Year:	2014
County Code:	36
Air Basin:	SC
Facility ID:	145085
Air District Name:	SC
SIC Code:	241
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	55.647875
Reactive Organic Gases Tons/Yr:	4.45183
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	3.69528
Part. Matter 10 Micrometers and Smllr Tons/Yr:	1.780385904

A4 **NORTH VIEW DAIRY** **ENF** **S103979598**
Target **10601 RIVERSIDE DR** **San Bern. Co. Permit** **N/A**
Property **ONTARIO, CA 91761**

Site 4 of 5 in cluster A

Actual:
789 ft.

ENF:

Region:	8
Facility Id:	630526
Agency Name:	Hilarides, Frank
Place Type:	Growing
Place Subtype:	Animal Feeding
Facility Type:	Agricultural
Agency Type:	Privately-Individual
# Of Agencies:	1
Place Latitude:	Not reported
Place Longitude:	Not reported
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0001
Threat To Water Quality:	2
Complexity:	C
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Solid wastes, NEC
Facility Waste Type 2:	Stormwater runoff
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	ANIWSTCOWS
Program Category1:	ANIMALWASTE
Program Category2:	ANIMALWASTE
# Of Programs:	1
WDID:	8 365124001
Reg Measure Id:	211596
Reg Measure Type:	Enrollee
Region:	8
Order #:	R8-2013-0001
Npdes# CA#:	CAG018001
Major-Minor:	Minor
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	06/11/2008
Effective Date:	12/10/1976
Expiration/Review Date:	06/01/2018

NORTH VIEW DAIRY (Continued) **S103979598**

Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Y
Individual/General:	I
Fee Code:	10 - Confined animal feeding facility
Direction/Voice:	Passive
Enforcement Id(EID):	391918
Region:	8
Order / Resolution Number:	Not reported
Enforcement Action Type:	Oral Communication
Effective Date:	08/07/2012
Adoption/Issuance Date:	08/07/2012
Achieve Date:	Not reported
Termination Date:	08/07/2012
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Oral Com 08/07/2012 for Hilarides, Frank
Description:	Not reported
Program:	ANIWSTCOWS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	8
Facility Id:	630526
Agency Name:	Not reported
Place Type:	Growing
Place Subtype:	Animal Feeding
Facility Type:	Agricultural
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	Not reported
Place Longitude:	Not reported
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported

NORTH VIEW DAIRY (Continued) **S103979598**

# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Solid wastes, NEC
Facility Waste Type 2:	Stormwater runoff
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	ANIWSTCOWS
Program Category1:	ANIMALWASTE
Program Category2:	ANIMALWASTE
# Of Programs:	1
WDID:	Not reported
Reg Measure Id:	332712
Reg Measure Type:	NPDES Permits
Region:	8
Order #:	R8-2007-0001
Npdes# CA#:	CAG018001
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	12/24/2013
Effective Date:	09/07/2007
Expiration/Review Date:	09/06/2012
Termination Date:	06/06/2013
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	G
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	347337
Region:	8
Order / Resolution Number:	Not reported
Enforcement Action Type:	Oral Communication
Effective Date:	12/10/1976
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	12/10/1976
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Oral Comm..
Description:	Not reported
Program:	ANIWSTCOWS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1

NORTH VIEW DAIRY (Continued) **S103979598**

Total Assessment Amount: $0.00
Initial Assessed Amount: $0.00
Liability $ Amount: $0.00
Project $ Amount: $0.00
Liability $ Paid: $0.00
Project $ Completed: $0.00
Total $ Paid/Completed Amount: $0.00

San Bern. Co. Permit:
Region: SAN BERNARDINO
Facility ID: FA0000449
Owner: FRANK HILARIDES
Permit Number: PT0003668
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS
Facility Status: ACTIVE
Expiration Date: 03/31/2017

Region: SAN BERNARDINO
Facility ID: FA0010949
Owner: KENT AVERY
Permit Number: PT0018885
Permit Category: SMALL QUANTITY GENERATOR
Facility Status: ACTIVE
Expiration Date: 05/31/2016

Region: SAN BERNARDINO
Facility ID: FA0010949
Owner: KENT AVERY
Permit Number: PT0018884
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS
Facility Status: ACTIVE
Expiration Date: 05/31/2016

A5 **NORTHVIEW DAIRY** **FINDS** **1015971442**
Target **10601 E RIVERSIDE DR** **ECHO** **N/A**
Property **ONTARIO, CA 91761**

Site 5 of 5 in cluster A

Actual: 789 ft.

FINDS:

Registry ID: 110054316940

Environmental Interest/Information System
AIR EMISSIONS CLASSIFICATION UNKNOWN

ECHO:
Envid: 1015971442
Registry ID: 110054316940
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110054316940

6
SSW
< 1/8
0.007 mi.
38 ft.

TLC SONLIGHT DAIRY #2
13300 HAVEN
ONTARIO, CA 91761

San Bern. Co. Permit **S108536512**
N/A

Relative:
Lower

Actual:
772 ft.

San Bern. Co. Permit:
Region: SAN BERNARDINO
Facility ID: FA0010954
Owner: TONY & MICHELLE LOURENCO
Permit Number: PT0018891
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES
Facility Status: INACTIVE
Expiration Date: 11/30/2012

7
SW
< 1/8
0.008 mi.
41 ft.

OASIS GROWERS, INC.
13210 HAVEN AVE
ONTARIO, CA 91762

San Bern. Co. Permit **S108724356**
N/A

Relative:
Lower

Actual:
775 ft.

San Bern. Co. Permit:
Region: SAN BERNARDINO
Facility ID: FA0011158
Owner: PLASCENCIA, RUBEN
Permit Number: PT0019170
Permit Category: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR
Facility Status: INACTIVE
Expiration Date: 09/30/2008

8
NNE
< 1/8
0.016 mi.
85 ft.

JACK PINHEIRO DAIRY
11011 RIVERSIDE DR
ONTARIO, CA 91761

HIST UST **S112951651**
HAZNET **N/A**

Relative:
Higher

Actual:
802 ft.

HIST UST:
File Number: 0002A02B
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002A02B.pdf
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

JACK PINHEIRO DAIRY (Continued) **S112951651**

Click here for Geo Tracker PDF:

HAZNET:

envid:	S112951651
Year:	2006
GEPAID:	CAC002600711
Contact:	JIM LUNDQUIST
Telephone:	7142001538
Mailing Name:	Not reported
Mailing Address:	3090 BRISTOL ST STE 200
Mailing City,St,Zip:	COSTA MESA, CA 92626
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Transfer Station
Tons:	1.05
Cat Decode:	Unspecified oil-containing waste
Method Decode:	Transfer Station
Facility County:	San Bernardino

envid:	S112951651
Year:	2006
GEPAID:	CAC002600711
Contact:	JIM LUNDQUIST
Telephone:	7142001538
Mailing Name:	Not reported
Mailing Address:	3090 BRISTOL ST STE 200
Mailing City,St,Zip:	COSTA MESA, CA 92626
Gen County:	Not reported
TSD EPA ID:	CAD099452708
TSD County:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Recycler
Tons:	3.54
Cat Decode:	Unspecified oil-containing waste
Method Decode:	Recycler
Facility County:	San Bernardino

envid:	S112951651
Year:	2006
GEPAID:	CAC002600711
Contact:	JIM LUNDQUIST
Telephone:	7142001538
Mailing Name:	Not reported
Mailing Address:	3090 BRISTOL ST STE 200
Mailing City,St,Zip:	COSTA MESA, CA 92626
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Off-specification, aged or surplus organics
Disposal Method:	Transfer Station
Tons:	0.1
Cat Decode:	Off-specification, aged or surplus organics
Method Decode:	Transfer Station
Facility County:	San Bernardino

JACK PINHEIRO DAIRY (Continued) **S112951651**

envid:	S112951651
Year:	2006
GEPAID:	CAC002600711
Contact:	JIM LUNDQUIST
Telephone:	7142001538
Mailing Name:	Not reported
Mailing Address:	3090 BRISTOL ST STE 200
Mailing City,St,Zip:	COSTA MESA, CA 92626
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Not reported
Tons:	3.54
Cat Decode:	Unspecified organic liquid mixture
Method Decode:	Not reported
Facility County:	San Bernardino

envid:	S112951651
Year:	2006
GEPAID:	CAC002600711
Contact:	JIM LUNDQUIST
Telephone:	7142001538
Mailing Name:	Not reported
Mailing Address:	3090 BRISTOL ST STE 200
Mailing City,St,Zip:	COSTA MESA, CA 92626
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Other organic solids
Disposal Method:	Transfer Station
Tons:	0.15
Cat Decode:	Other organic solids
Method Decode:	Transfer Station
Facility County:	San Bernardino

Click this hyperlink while viewing on your computer to access additional CA_HAZNET: detail in the EDR Site Report.

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9 **EDR Hist Auto** **1015437607**
NW **3413 OAKLEAF CT** **N/A**
< 1/8 **ONTARIO, CA 91761**
0.063 mi.
333 ft.

Relative:
Higher

Actual:
795 ft.

EDR Historical Auto Stations:

Name:	LARRYS AUTOMOTIVE CARE
Year:	2007
Address:	3413 OAKLEAF CT

10
WNW
< 1/8
0.109 mi.
578 ft.

WESTSTAR DAIRY
10401 E RIVERSIDE DR
ONTARIO, CA 91761

San Bern. Co. Permit

S102682475
N/A

Relative:
Higher

Actual:
795 ft.

San Bern. Co. Permit:
Region: SAN BERNARDINO
Facility ID: FA0000701
Owner: SLEGERS, BEN
Permit Number: PT0008730
Permit Category: SPECIAL GENERATOR
Facility Status: INACTIVE
Expiration Date: 04/30/1997

Region: SAN BERNARDINO
Facility ID: FA0000701
Owner: SLEGERS, BEN
Permit Number: PT0008729
Permit Category: SPECIAL HANDLER
Facility Status: INACTIVE
Expiration Date: 04/30/1997

11
ENE
1/8-1/4
0.232 mi.
1226 ft.

COLONY HIGH SCHOOL
3850 E RIVERSIDE DR
ONTARIO, CA 91761

San Bern. Co. Permit

S109692106
N/A

Relative:
Higher

Actual:
803 ft.

San Bern. Co. Permit:
Region: SAN BERNARDINO
Facility ID: FA0008049
Owner: CHAFFEY JOINT UHS DISTRICT
Permit Number: PT0014153
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS
Facility Status: ACTIVE
Expiration Date: 01/31/2017

Region: SAN BERNARDINO
Facility ID: FA0008049
Owner: CHAFFEY JOINT UHS DISTRICT
Permit Number: PT0025245
Permit Category: CONDITIONALLY EXEMPT SM QTY GENERATOR
Facility Status: ACTIVE
Expiration Date: 01/31/2017

12
South
1/2-1
0.999 mi.
5277 ft.

CHAFFEY HIGH SCHOOL NO. 10
EDISON AVENUE / HAVEN AVENUE
ONTARIO, CA 91710

ENVIROSTOR SCH

S106665372
N/A

Relative:
Lower

Actual:
724 ft.

ENVIROSTOR:
Facility ID: 36000007
Status: No Further Action
Status Date: 07/12/2006
Site Code: 404573
Site Type: School Investigation

CHAFFEY HIGH SCHOOL NO. 10 (Continued) **S106665372**

Site Type Detailed: School
Acres: 58
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 52
Senate: 20
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 33.9957
Longitude: -117.5867
APN: NONE SPECIFIED
Past Use: * UNKNOWN
Potential COC: Chlordane DDD DDE DDT Toxaphene TPH-diesel Dieldrin Heptachlor
Confirmed COC: Toxaphene TPH-diesel Dieldrin Heptachlor Chlordane DDD DDE DDT
Potential Description: SOIL
Alias Name: CHAFFEY JOINT UNION SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: CHAFFEY JUSD-PROPOSED CHAFFEY HS 10
Alias Type: Alternate Name
Alias Name: 404573
Alias Type: Project Code (Site Code)
Alias Name: 36000007
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 10/13/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 09/08/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/16/2012
Comments: Closeout memo for Revised PEA Determination re: change in Site boundaries; NFA

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 01/18/2006
Comments: Field Work Scheduled for 1/12/06 and 1/13/06

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

CHAFFEY HIGH SCHOOL NO. 10 (Continued) **S106665372**

Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	07/03/2006
Comments:	DTSC issued a No Further Action determination based on a Preliminary Environmental Assessment Report.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	06/06/2007
Comments:	DTSC received notice on 5/25/2007, that site boundaries had changed. Based on a site visit on 5/23/2007, and information provided, DTSC issued a No Further Action determination for the additional site areas.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	07/25/2006
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Facility ID:	36000007
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	58
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404573
Assembly:	52
Senate:	20
Special Program Status:	Voluntary Cleanup Program
Status:	No Further Action
Status Date:	07/12/2006
Restricted Use:	NO
Funding:	School District
Latitude:	33.9957
Longitude:	-117.5867
APN:	NONE SPECIFIED
Past Use:	* UNKNOWN
Potential COC:	Chlordane, DDD, DDE, DDT, Toxaphene, TPH-diesel, Dieldrin, Heptachlor

CHAFFEY HIGH SCHOOL NO. 10 (Continued) **S106665372**

Not reported
Confirmed COC: Toxaphene, TPH-diesel, Dieldrin, Heptachlor, Chlordane, DDD, DDE, DDT
Not reported
Potential Description: SOIL
Alias Name: CHAFFEY JOINT UNION SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: CHAFFEY JUSD-PROPOSED CHAFFEY HS 10
Alias Type: Alternate Name
Alias Name: 404573
Alias Type: Project Code (Site Code)
Alias Name: 36000007
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 10/13/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 09/08/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/16/2012
Comments: Closeout memo for Revised PEA Determination re: change in Site boundaries; NFA

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 01/18/2006
Comments: Field Work Scheduled for 1/12/06 and 1/13/06

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 07/03/2006
Comments: DTSC issued a No Further Action determination based on a Preliminary Environmental Assessment Report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/06/2007
Comments: DTSC received notice on 5/25/2007, that site boundaries had changed. Based on a site visit on 5/23/2007, and information provided, DTSC issued a No Further Action determination for the additional site areas.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo

CHAFFEY HIGH SCHOOL NO. 10 (Continued) **S106665372**

Completed Date:	07/25/2006
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

Count: 3 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ONTARIO	S108407441		ON HAVEN AVE, AND RIVERSIDE DR	91761	CDL
ONTARIO	S101481941	MILLIKEN SANITARY LANDFILL	INTERSECTION: MILLIKEN AVE & M	91761	ENVIROSTOR
ONTARIO	S106797660	INLAND EMPIRE UTILITIES AGENCY	REGIONAL PLANT #1, 1662 E. WAL	91761	ENVIROSTOR

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/13/2015
Date Data Arrived at EDR: 01/06/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 135

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/06/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/16/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/28/2016
Date Data Arrived at EDR: 03/30/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 51

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/28/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 05/04/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/04/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 05/04/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/04/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/16/2016
Date Data Arrived at EDR: 05/18/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 34

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/18/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 61

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/14/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/26/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Semi-Annually

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 105

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 112

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 61

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/14/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 49

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/14/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 12/03/2015
Date Data Arrived at EDR: 02/04/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 120

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/26/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 119

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 05/04/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/04/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/01/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 02/29/2016
Date Data Arrived at EDR: 03/07/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 58

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/15/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/22/2015
Date Data Arrived at EDR: 12/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/06/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/15/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 54

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/14/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 04/07/2016
Date Data Arrived at EDR: 04/12/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 50

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/13/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 02/18/2016
Date Data Arrived at EDR: 03/07/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 88

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/01/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 05/04/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/04/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 05/10/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/18/2016
Date Data Arrived at EDR: 03/07/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 88

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/31/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 06/07/2016
Date Data Arrived at EDR: 06/09/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 14

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 06/01/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/08/2016
Date Data Arrived at EDR: 03/11/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 54

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/26/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 03/08/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 57

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/07/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/28/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 04/11/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 51

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 61

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/14/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 61

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/14/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/10/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/15/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/15/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/20/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/01/2015
Date Data Arrived at EDR: 09/03/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/18/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/12/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/24/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/24/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/25/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/07/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2015
Date Data Arrived at EDR: 08/26/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/25/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/12/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/12/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31
Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/20/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/20/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 03/18/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 28
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 05/06/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/09/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/10/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 04/26/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2015
Date Data Arrived at EDR: 07/09/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 69
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/04/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/27/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/15/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/11/2016
Date Data Arrived at EDR: 03/15/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 80

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/07/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/09/2016
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 44

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 06/03/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 06/03/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015
Date Data Arrived at EDR: 09/09/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 55

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/08/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 67

Source: Department of Defense
Telephone: 571-373-0407
Last EDR Contact: 06/20/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 03/01/2016
Date Data Arrived at EDR: 03/03/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 33

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/28/2016
Date Data Arrived at EDR: 03/30/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 40

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/28/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 02/08/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 37

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/22/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 48

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/26/2016
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 53

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 04/25/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/17/2016
Date Data Arrived at EDR: 02/23/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 38

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 10/14/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 58

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/15/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Annually

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/22/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 37

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/11/2016
Date Data Arrived at EDR: 04/12/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 50

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/12/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 03/15/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 54

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/14/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 02/29/2016
Date Data Arrived at EDR: 03/08/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 57

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/07/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/16/2016
Date Data Arrived at EDR: 05/18/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 36

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/18/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 03/08/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 69

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/07/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 03/15/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 54

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/14/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 02/12/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 89

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/16/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/20/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/24/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/20/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/22/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 86

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 04/12/2016
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 48

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 48

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List
Cupa Facility List

Date of Government Version: 06/06/2016
Date Data Arrived at EDR: 06/09/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 12

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 18

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 04/29/2016
Date Data Arrived at EDR: 05/03/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 45

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/27/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 22

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/24/2016
Date Data Arrived at EDR: 02/26/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 35

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 05/02/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 04/08/2016
Date Data Arrived at EDR: 05/03/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 50

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/22/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 37

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 05/02/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 04/04/2016
Date Data Arrived at EDR: 04/06/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 28

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/16/2016
Date Data Arrived at EDR: 03/21/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 44

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 04/26/2016
Date Data Arrived at EDR: 04/28/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 50

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 03/01/2016
Date Data Arrived at EDR: 03/03/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 67

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/27/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 26

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 04/26/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 51

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206
Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 06/15/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/30/2016
Date Data Arrived at EDR: 04/01/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 38
Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/18/2016
Date Data Arrived at EDR: 04/20/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 42
Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/20/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 56
Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/29/2016
Date Data Arrived at EDR: 04/06/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 68
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 03/28/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/02/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 11
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 11/04/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 34
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/05/2016
Date Data Arrived at EDR: 04/26/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 36

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 03/02/2016
Date Data Arrived at EDR: 03/07/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 58

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 04/07/2016
Date Data Arrived at EDR: 04/26/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 36

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/26/2016
Date Data Arrived at EDR: 03/01/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 64

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 06/15/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 06/01/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 21

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 03/15/2016
Date Data Arrived at EDR: 03/18/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 47

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 04/18/2016
Date Data Arrived at EDR: 05/06/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 42

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/17/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/17/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/11/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/11/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 03/09/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 56

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 06/15/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/13/2016
Date Data Arrived at EDR: 04/15/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/20/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 04/13/2016
Date Data Arrived at EDR: 04/15/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 47

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/20/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/02/2016
Date Data Arrived at EDR: 04/06/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 56

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/06/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/02/2016
Date Data Arrived at EDR: 04/06/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 56

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/05/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 03/15/2016
Date Data Arrived at EDR: 03/18/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 52

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/06/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/06/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 04/08/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 26
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/15/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/23/2016
Date Data Arrived at EDR: 05/24/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 28
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/07/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 15
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 05/27/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/15/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 55
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/08/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 02/10/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 51

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 05/31/2016
Date Data Arrived at EDR: 06/02/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 19

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 03/18/2016
Date Data Arrived at EDR: 03/21/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 44

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/22/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 48

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/08/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/21/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 44

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/08/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 04/05/2016
Date Data Arrived at EDR: 04/08/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 26

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/01/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 34

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/24/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/07/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 16

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 05/03/2016
Date Data Arrived at EDR: 05/10/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 38

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 03/28/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 49

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/25/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/28/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/13/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/28/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 54

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/25/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/26/2016
Date Data Arrived at EDR: 03/17/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 48

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/16/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 04/12/2016
Date Data Arrived at EDR: 04/19/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 43

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 04/29/2016
Date Data Arrived at EDR: 05/03/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 45

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/13/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/12/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/12/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/06/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 42

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/06/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/18/2015
Number of Days to Update: 25

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 06/06/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 50

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/13/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

10601 E. RIVERSIDE DRIVE
10601 E. RIVERSIDE DRIVE
ONTARIO, CA 91761

TARGET PROPERTY COORDINATES

Latitude (North):	34.017096 - 34° 1' 1.55''
Longitude (West):	117.572431 - 117° 34' 20.75''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	447146.3
UTM Y (Meters):	3764004.8
Elevation:	789 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5620426 GUASTI, CA
Version Date:	2012
South Map:	5640930 CORONA NORTH, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

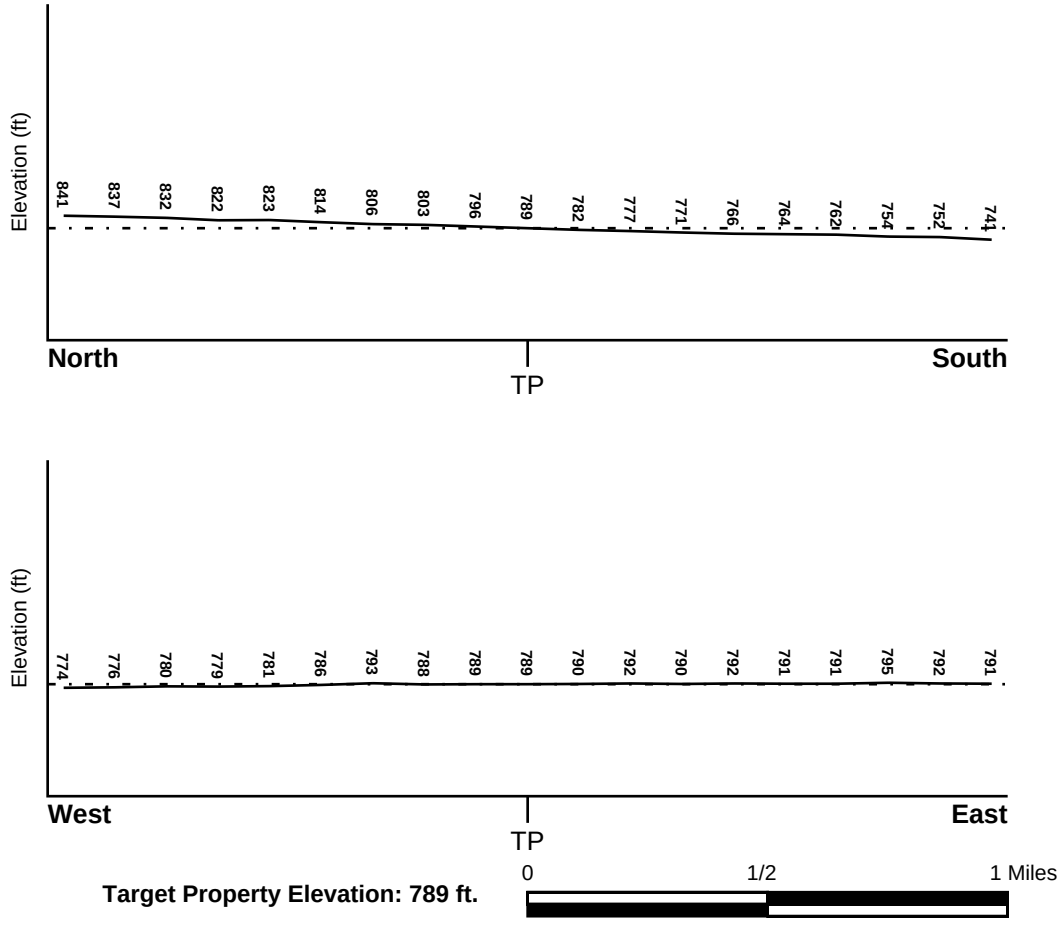
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
SAN BERNARDINO, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06071C - FEMA DFIRM Flood data

Additional Panels in search area: 06065C - FEMA DFIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
GUASTI	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Location Relative to TP:	1/2 - 1 Mile ENE
Site Name:	Milliken San Ldfl
Site EPA ID Number:	CAD980695076
Groundwater Flow Direction:	Southwest
Measured Depth to Water:	200 feet to 240 feet.
Hydraulic Connection:	Information is not available about the hydraulic connection between aquifer(s) underlying the site.
Sole Source Aquifer:	No information about a sole source aquifer is available
Data Quality:	Information based on site-specific subsurface investigations is documented in the CERCLIS investigation report(s)

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site--specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

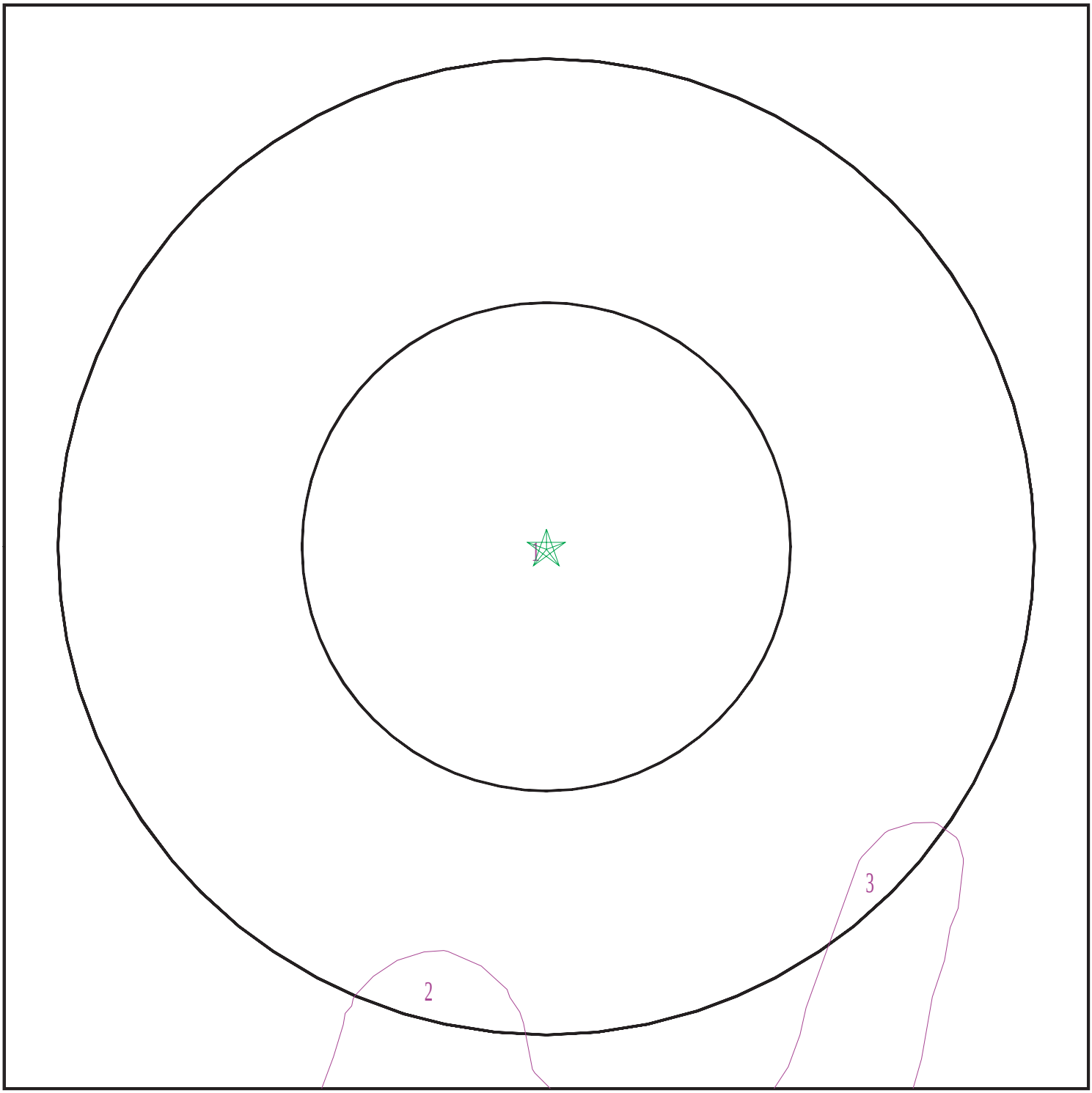
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 04667480.2r



SITE NAME:	10601 E. Riverside Drive	CLIENT:	Hillmann Environmental Co.
ADDRESS:	10601 E. Riverside Drive Ontario CA 91761	CONTACT:	Kristine Savona
		INQUIRY #:	04667480.2r
LAT/LONG:	34.017096 / 117.572431	DATE:	July 08, 2016 7:49 am

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: DELHI

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	18 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 5.6
2	18 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 6.1

Soil Map ID: 2

Soil Component Name: Hanford

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.1
2	11 inches	59 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 5.6

Soil Map ID: 3

Soil Component Name: TUJUNGA

Soil Surface Texture: gravelly loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	18 inches	gravelly loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.1
2	18 inches	59 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 6.1

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS40000139833	1/2 - 1 Mile West
3	USGS40000139805	1/2 - 1 Mile West

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

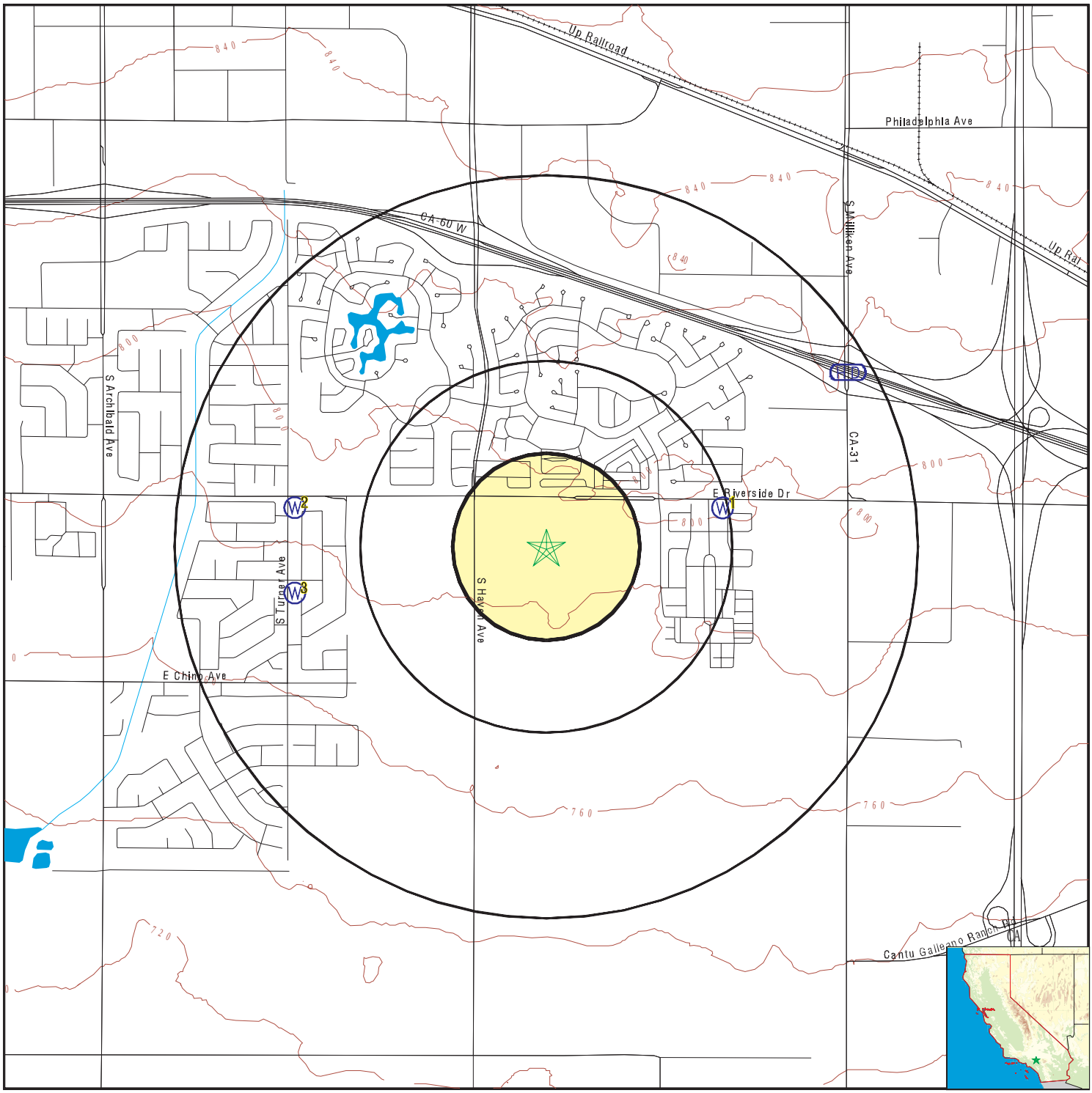
No PWS System Found

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CADW60000003548	1/4 - 1/2 Mile ENE

PHYSICAL SETTING SOURCE MAP - 04667480.2r



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	10601 E. Riverside Drive	CLIENT:	Hillmann Environmental Co.
ADDRESS:	10601 E. Riverside Drive Ontario CA 91761	CONTACT:	Kristine Savona
		INQUIRY #:	04667480.2r
LAT/LONG:	34.017096 / 117.572431	DATE:	July 08, 2016 7:49 am

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
ENE **CA WELLS** **CADW60000003548**
1/4 - 1/2 Mile
Higher

Objectid:	3548
Latitude:	34.018614
Longitude:	-117.564156
Site code:	340186N1175642W001
State well numbe:	Not Reported
Local well name:	'CHINO-1208387'
Well use id:	4
Well use descrip:	Residential
County id:	36
County name:	San Bernardino
Basin code:	'8-2.01'
Basin desc:	Chino
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000003548

2
West **FED USGS** **USGS40000139833**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340107117350001		
Monloc name:	002S007W11B002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070203	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.0186237
Longitude:	-117.5842188	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	780
Vert measure units:	feet	Vertacc measure val:	20
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

3
West **FED USGS** **USGS40000139805**
1/2 - 1 Mile
Lower

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340055117353001		
Monloc name:	002S007W11E001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070203	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.0152905
Longitude:	-117.5842188	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	220
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
91761	7	0

Federal EPA Radon Zone for SAN BERNARDINO County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for SAN BERNARDINO COUNTY, CA

Number of sites tested: 18

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.678 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX F

OTHER DOCUMENTS
(where applicable)

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

Information Management
Public Records Unit

Direct Dial: (909) 396-3700
FAX: (909) 396-3330

PUBLIC RECORDS REQUEST FORM

PRU Office Use Only
CONTROL NUMBER

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely, and identify specifically the type of records you are requesting. Please limit your request to one facility or one site address for each request form filed, and three requested items per form. Additional forms or pages can be used if requesting information for more than one facility or for records not identified on this form. Requests should reasonably describe identifiable records prepared, owned, used, or retained by the District. Public Records Unit staff is available to assist you in identifying those records in the District's possession. The District is not required by law to create a new record or list from an existing record.

REQUESTOR INFORMATION

NAME: Kristine Savona		DATE: 7/6/2016
COMPANY: Hillmann Consulting, LLC		
MAILING ADDRESS: 1745 W. Orangewood Avenue, Suite 110		
CITY: Orange	STATE: CA	ZIP CODE: 92868
PHONE NUMBER: 714-634-9500	FAX NUMBER: 714-634-9507	
EMAIL ADDRESS: ksavona@hillmanngroup.com;		

REQUESTED RECORDS (*3 items per form*)

☐ Applications (APPLS)	X Complaints	X Asbestos Notifications/Records
☐ Permits to Operate (P/O)	X Site Inspection Reports (I/R)	☐ Facility Potential to Emit (PTE)
☐ Equipment List Report (EQL)	☐ Emissions Summary	☐ Facility Positive Balance (NSR)
X Notices of Violation (NOV)	☐ Source Test Reports (S/T RPTS)	☐ Toxic-Health Risk Assessment (HRA)
X Notices to Comply (N/C)	X Air Monitoring Data	☐ Other (describe below or on additional pages):

TIME PERIOD OF DOCUMENTS REQUESTED From: 1900 To: 2016

REQUESTED FACILITY INFORMATION (If Applicable)

FACILITY NAME:		
FACILITY ADDRESS: 10601 E. Riverside Drive		
CITY: Ontario STATE: CA		ZIP CODE: 91761
FACILITY I.D. NO. (if known):	APPL. AND/OR PERMIT NO. (if known):	

***Direct cost of duplication**: $.15 per page for paper copies (first 10 pages free) and $5.00 per copied audio tape. No charge for copied Diskettes or CDs. Transfer of gathered electronic records onto CD or Diskette typically costs $10.00 each, but costs will vary (see Instructions for Requesting Records).*

X I wish to inspect the requested records, where applicable, or receive the requested records electronically at no charge. I do not want copies produced at this time.

X I request that the SCAQMD contact me prior to copying the requested records if the cost exceeds $20.00.

☐ I would like copies of the requested records and I hereby agree to reimburse the SCAQMD for the direct cost of duplication in accordance with Gov. Code Sec. 6253(b).



Signature of Requestor

Note: After a preliminary estimate, advance payment may be required.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

INSTRUCTIONS FOR REQUESTING RECORDS

(California Public Records Act, Govt. Code Sections 6250-6276.48)

1. In order to expedite your request, requests for records should be in writing. Requests will be processed in the order in which they are received. A Public Records Request Form can be faxed to you by calling (909) 396-3700 and following the menu options. A form is also available on the A.Q.M.D.'s web page at http://www.aqmd.gov. Select the "Contact Us" menu, followed by the "Public Records" menu. Requests may be submitted by facsimile to (909) 396-3330, or by email to PublicRecordsRequests@aqmd.gov.

2. Requests must be for records prepared, owned, used, or retained by the District (Gov. Code Sec. 6252(e)). Requests should be for clearly identifiable records. If necessary, the District will assist the requestor in making a request that describes reasonably identifiable records (Gov. Code Sec. 6253.1). Copies will not be provided if disclosure would infringe upon a copyright, trade secret, or is otherwise exempt in accordance with state law.

3. A search for facility records can only be conducted by one or all of the following:

   Facility Name, Address, or Identification Number;

   Facility Application Number, or Permit to Operate Number; or

   Facility Notice of Violation/Notice to Comply Number.

4. You will be notified by mail within ten (10) days whether your request seeks copies of disclosable public records prepared, owned, used, or retained by this agency. In most cases, your request will be completed within 3-4 weeks.

5. If the search for records finds the records voluminous, you will be notified of the approximate number of pages and/or length of time it will take to process your request.

6. If the records you requested have been marked confidential by the source of the record, you will be notified and given the option of continuing with the District's trade secret process.

7. If your request is to review records, rather than receive copies, the District will notify you once the records are gathered, and arrangements will be made for your review.

8. The charge for the direct cost of duplication is as follows: Paper Copies, $0.15/page each over 10 pages (first 10 pages are free); Copied CD's or Copied Diskettes, no charge; and Copied Audio Tapes, $5.00 each. When records are requested in electronic format, the requestor shall bear the cost of producing a copy of the record, including the cost to construct the record and the cost of programming and computer services necessary to produce a copy of the record when either of the following applies: (1) the District would be required to produce a copy of an electronic record and the record is one that is produced only at otherwise regularly scheduled intervals, or (2) the request would require data compilation, extraction, or programming to produce the record. (Gov. Code Sec. 6253.9(b)). The transfer of gathered electronic records onto CD or Diskette typically cost $10.00 each. An invoice will accompany your records when completed.

9. For further clarification please refer to the California Public Records Act (California Gov. Code Sec. 6250 et seq.) and/or the District's Guidelines for Implementing the California Public Records Act. The Guidelines are available in the lobby of the District Headquarters or on the District's web site at www.aqmd.gov.

If you have questions pertaining to the submittal of a Public Records Act request, you may contact the Public Records Unit, **(909) 396-3700, Tuesday through Friday, 7:00 a.m. to 5:30 p.m. Our Fax number is (909) 396-3330. Our email address is PublicRecordsRequests@aqmd.gov.**

(Rev. 10/05/06-lkoenig)

July 6, 2016

California Regional Water Quality Control Board – Santa Ana Region (8)
Underground Storage Tank (UST) File Review Division
3737 Main Street, Suite #500
Riverside, CA 92501-3348
Phone (951) 782-4499
Fax (951) 781-6288
FileReview8@waterboards.ca.gov

RE: Environmental Files:

10601 E. Riverside Drive
Ontario, California 91761

Dear Sir/Madam:

Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. We would like to know if any environmental files (UST, groundwater, wells, etc.) exist for this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you.

Sincerely,



Kristine Savona
Office Manager
Hillmann Consulting, LLC
ksavona@Hillmanngroup.com

Request Confirmaĕon

Request Information

Tracking Number : EPA-R9-2016-008331

Requester Name : Ms. Kristine Savona

Date Submitted : 07/06/2016

Request Status : Submitted

Description :

10601 E. Riverside Drive, Ontario, California 91761. Dear Sir/Madam: Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. Under the Freedom of Information Act, we are requesting any information your office has regarding this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you.

July 6, 2016

State of California
Department of Toxic Substances Control
Region 4 – Cypress Regional Office
5796 Corporate Avenue
Cypress, CA 90630-4732
Phone (714) 484-5337
Fax (714) 484-5318
PubReqAct@dtsc.ca.gov

RE: Environmental Files:

10601 E. Riverside Drive
Ontario, California 91761

Dear Sir/Madam:

Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. Under the Freedom of Information Act, we are requesting any information your office has regarding this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you.

Sincerely,



Kristine Savona
Office Manager
Hillmann Consulting, LLC
ksavona@Hillmanngroup.com

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Barbara A. Lee, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Edmund G. Brown Jr.
Governor

July 12, 2016

Hillmann Consulting, LLC
Scott Alburn, Environmental Technician
1745 W. Orangewood Ave., Ste 110
Orange CA 92686

Location: 10601 E. Riverside Drive, Ontario CA 91761

Public Records Act Number: 1-070616-03

Dear Mr. Alburn:

We have received your Public Records Act Request for records from the Department of Toxic Substances Control.

After a thorough review of our files we have found that no such records exist at this office pertaining to the sites/facilities referenced above.

We would like to inform you about Envirostor, a database that provides information and documents on over 5,000 DTSC cleanup sites. EnviroStor can be accessed at: http://www.envirostor.dtsc.ca.gov/public. Also, a computer is available in the Central Files of each DTSC Regional Office for use by community members to view EnviroStor.

If you have any questions, would like further information regarding your request or would like an appointment to visit Sacramento's Central Files, please contact me at (916) 255-3758.

Sincerely,

Theresa M. Vigil
Theresa M. Vigil
Sacramento Regional Central Files
Department of Toxic Substances Control

Information Management
Public Records Unit

[redacted]

COMPLETION LETTER

July 15, 2016

KRISTINE SAVONA
HILTON WORLDWIDE
7930 JONES BRANCH DRIVE SUITE 100
MCLEAN, VA 22102

Ref.: CONTROL NO. 86504
Received [redacted]

Re: NOTICE OF COMPLETION, TERMINATION & WITHDRAWAL NOTIFICATIONS
FOR [redacted] RIVERSIDE DRIVE, CORAL GABLES

After a thorough search of this agency's records, the following requested records were found:
[redacted] RIVERSIDE DR, CORAL GABLES

The following requested records were not found:
NOTICE OF COMPLETION, TERMINATION & WITHDRAWAL NOTIFICATIONS FOR [redacted]
RIVERSIDE DR, CORAL GABLES

YOUR REQUESTED LETTER RECORDS WERE PROVIDED ELECTRONICALLY ON [redacted]

Please review your records. If you have any questions, please do not hesitate to contact me. I can be reached through Friday, 8:00 a.m. to 4:30 p.m.

Sincerely,

MARTA MILLAN
City of Coral Gables
Public Records Coordinator

/rc

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

Information Management
Public Records Unit

Direct Dial: (909) 396-3700
FAX: (909) 396-3330

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REQUESTOR INFORMATION

NAME: Kristine Savona		DATE: 7/6/2016
COMPANY: Hillmann Consulting, LLC		
MAILING ADDRESS: 1745 W. Orangewood Avenue, Suite 110		
CITY: Orange	STATE: CA	ZIP CODE: 92868
PHONE NUMBER: 714-634-9500	FAX NUMBER: 714-634-9507	
EMAIL ADDRESS: ksavona@hillmanngroup.com;		

REQUESTED RECORDS (*3 items per form*)

☐ Applications (APPLS)	X Complaints	X Asbestos Notifications/Records
☐ Permits to Operate (P/O)	X Site Inspection Reports (I/R)	☐ Facility Potential to Emit (PTE)
☐ Equipment List Report (EQL)	☐ Emissions Summary	☐ Facility Positive Balance (NSR)
X Notices of Violation (NOV)	☐ Source Test Reports (S/T RPTS)	☐ Toxic-Health Risk Assessment (HRA)
X Notices to Comply (N/C)	X Air Monitoring Data	☐ Other (describe below or on additional pages):

TIME PERIOD OF DOCUMENTS REQUESTED From: 1900 To: 2016

REQUESTED FACILITY INFORMATION (If Applicable)

FACILITY NAME:		
FACILITY ADDRESS: 10513 Riverside Drive		
CITY: Ontario STATE: CA		ZIP CODE: 91761
FACILITY I.D. NO. (if known):	APPL. AND/OR PERMIT NO. (if known):	

***Direct cost of duplication**: $.15 per page for paper copies (first 10 pages free) and $5.00 per copied audio tape. No charge for copied Diskettes or CDs. Transfer of gathered electronic records onto CD or Diskette typically costs $10.00 each, but costs will vary (see Instructions for Requesting Records).*

X I wish to inspect the requested records, where applicable, or receive the requested records electronically at no charge. I do not want copies produced at this time.

X I request that the SCAQMD contact me prior to copying the requested records if the cost exceeds $20.00.

☐ I would like copies of the requested records and I hereby agree to reimburse the SCAQMD for the direct cost of duplication in accordance with Gov. Code Sec. 6253(b).



Signature of Requestor

Note: After a preliminary estimate, advance payment may be required.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

INSTRUCTIONS FOR REQUESTING RECORDS

(California Public Records Act, Govt. Code Sections 6250-6276.48)

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2. Requests must be for records prepared, owned, used, or retained by the District (Gov. Code Sec. 6252(e)). Requests should be for clearly identifiable records. If necessary, the District will assist the requestor in making a request that describes reasonably identifiable records (Gov. Code Sec. 6253.1). Copies will not be provided if disclosure would infringe upon a copyright, trade secret, or is otherwise exempt in accordance with state law.

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   Facility Name, Address, or Identification Number;

   Facility Application Number, or Permit to Operate Number; or

   Facility Notice of Violation/Notice to Comply Number.

4. You will be notified by mail within ten (10) days whether your request seeks copies of disclosable public records prepared, owned, used, or retained by this agency. In most cases, your request will be completed within 3-4 weeks.

5. If the search for records finds the records voluminous, you will be notified of the approximate number of pages and/or length of time it will take to process your request.

6. If the records you requested have been marked confidential by the source of the record, you will be notified and given the option of continuing with the District's trade secret process.

7. If your request is to review records, rather than receive copies, the District will notify you once the records are gathered, and arrangements will be made for your review.

8. The charge for the direct cost of duplication is as follows: Paper Copies, $0.15/page each over 10 pages (first 10 pages are free); Copied CD's or Copied Diskettes, no charge; and Copied Audio Tapes, $5.00 each. When records are requested in electronic format, the requestor shall bear the cost of producing a copy of the record, including the cost to construct the record and the cost of programming and computer services necessary to produce a copy of the record when either of the following applies: (1) the District would be required to produce a copy of an electronic record and the record is one that is produced only at otherwise regularly scheduled intervals, or (2) the request would require data compilation, extraction, or programming to produce the record. (Gov. Code Sec. 6253.9(b)). The transfer of gathered electronic records onto CD or Diskette typically cost $10.00 each. An invoice will accompany your records when completed.

9. For further clarification please refer to the California Public Records Act (California Gov. Code Sec. 6250 et seq.) and/or the District's Guidelines for Implementing the California Public Records Act. The Guidelines are available in the lobby of the District Headquarters or on the District's web site at www.aqmd.gov.

If you have questions pertaining to the submittal of a Public Records Act request, you may contact the Public Records Unit, **(909) 396-3700, Tuesday through Friday, 7:00 a.m. to 5:30 p.m. Our Fax number is (909) 396-3330. Our email address is PublicRecordsRequests@aqmd.gov.**

(Rev. 10/05/06-lkoenig)

7257

July 6, 2016

California Regional Water Quality Control Board – Santa Ana Region (8)
Underground Storage Tank (UST) File Review Division
3737 Main Street, Suite #500
Riverside, CA 92501-3348
Phone (951) 782-4499
Fax (951) 781-6288
FileReview8@waterboards.ca.gov

RE: Environmental Files:

10513 E. Riverside Drive

APN: 0218-161-04-0000, 0218-161-05-0000,
0218-161-10-0000, 0218-161-11-0000

Ontario, California 91761

Dear Sir/Madam:

Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. We would like to know if any environmental files (UST, groundwater, wells, etc.) exist for this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you.

Sincerely,



Kristine Savona
Office Manager
Hillmann Consulting, LLC
ksavona@Hillmanngroup.com

Kristine Savona

From: Edwards, Mary@Waterboards <Mary.Edwards@waterboards.ca.gov> on behalf of WB-RB8-FileReview8 <FileReview8@waterboards.ca.gov>
Sent: Thursday, July 07, 2016 11:41 AM
To: Scott Alburn
Cc: Kristine Savona
Subject: RE: RWQCB Public Records Request

Hi Scott,

I show no records for 10513 E. Riverside Drive Ontario, CA 91761. If you have any questions you can call me at 951 782 4499.

Thanks,
Mary

From: Scott Alburn [mailto:salburn@hillmanngroup.com]
Sent: Wednesday, July 06, 2016 4:48 PM
To: WB-RB8-FileReview8
Subject: RWQCB Public Records Request

Good Afternoon,

Please see the attached public records request.

Best,

Scott Alburn
Environmental Technician

Hillmann Consulting, LLC
1745 W. Orangewood Ave., Suite 110
Orange, CA 92686
Office: (714) 634-9500
Cell: (714) 393-8186

salburn@hillmanngroup.com

www.HillmannConsulting.com



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[illegible]

[illegible]

COMPLETION LETTER

July 15, 2016

KRISTINE SAXON
[illegible]
[illegible]
[illegible]

Ref.: CASE/REQ. NO. 86596
Received [illegible]

Re: NOTICE OF COMPLAINT FOR VIOLATIONS & ASSESSMENT FOR VIOLATIONS NOTICED DURING INSPECTION CONDUCTED ON [illegible]

After a thorough search of this agency's records
NO RECORDS WERE FOUND FOR THE ABOVE REFERENCED MATTER
FOR YOUR INFORMATION

If you have any questions please contact Desk Officer Monday Friday 8:00 am to 4:30 p.m.

Sincerely

MARIA MELENDEZ
Law Offices Public
Public Records Coordinator

Request Confirmation

Request Information

Tracking Number : EPA-R9-2016-008337

Requester Name : Ms. Kristine Savona

Date Submitted : 07/07/2016

Request Status : Submitted

Description :

10513 E. Riverside Drive, APN: 0218-161-04-0000, 0218-161-05-0000, 0218-161-10-0000, 0218-161-11-0000, Ontario, California 91761. Dear Sir/Madam: Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. We would like to know if any environmental files (UST, groundwater, wells, etc.) exist for this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you.

July 6, 2016

State of California
Department of Toxic Substances Control
Region 4 – Cypress Regional Office
5796 Corporate Avenue
Cypress, CA 90630-4732
Phone (714) 484-5337
Fax (714) 484-5318
PubReqAct@dtsc.ca.gov

RE: Environmental Files:

10513 E. Riverside Drive

APN: 0218-161-04-0000, 0218-161-05-0000, 0218-161-10-0000, 0218-161-11-0000

Ontario, California 91761

Dear Sir/Madam:

Hillmann Consulting, LLC is conducting an environmental investigation of the above referenced property. Under the Freedom of Information Act, we are requesting any information your office has regarding this property. If any records are located, we would like to obtain copies or schedule a file review. If no records are available, please contact me to confirm. Thank you.

Sincerely,



Kristine Savona
Office Manager
Hillmann Consulting, LLC
ksavona@Hillmanngroup.com

Department of Toxic Substances Control

Barbara A. Lee, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

July 12, 2016

Hillmann Consulting, LLC
Scott Alburn, Environmental Technician
1745 W. Orangewood Ave., Ste 110
Orange CA 92686

Location: 10513 E. Riverside Drive, Ontario CA 91761, APN: 0218-161-04-0000, 0218-161-05-0000, 0218-161-10-0000, and 0218-161-11-0000

Public Records Act Number: 1-070616-05

Dear Mr. Alburn:

We have received your Public Records Act Request for records from the Department of Toxic Substances Control.

After a thorough review of our files we have found that no such records exist at this office pertaining to the sites/facilities referenced above.

We would like to inform you about Envirostor, a database that provides information and documents on over 5,000 DTSC cleanup sites. EnviroStor can be accessed at: http://www.envirostor.dtsc.ca.gov/public. Also, a computer is available in the Central Files of each DTSC Regional Office for use by community members to view EnviroStor.

If you have any questions, would like further information regarding your request or would like an appointment to visit Sacramento's Central Files, please contact me at (916) 255-3758.

Sincerely,

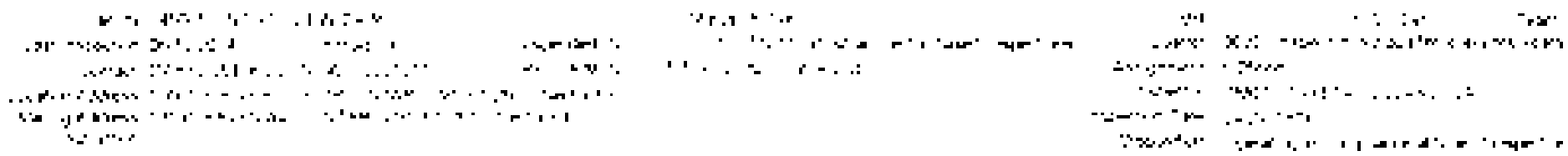
Theresa M. Vigil
Theresa M. Vigil
Sacramento Regional Central Files
Department of Toxic Substances Control

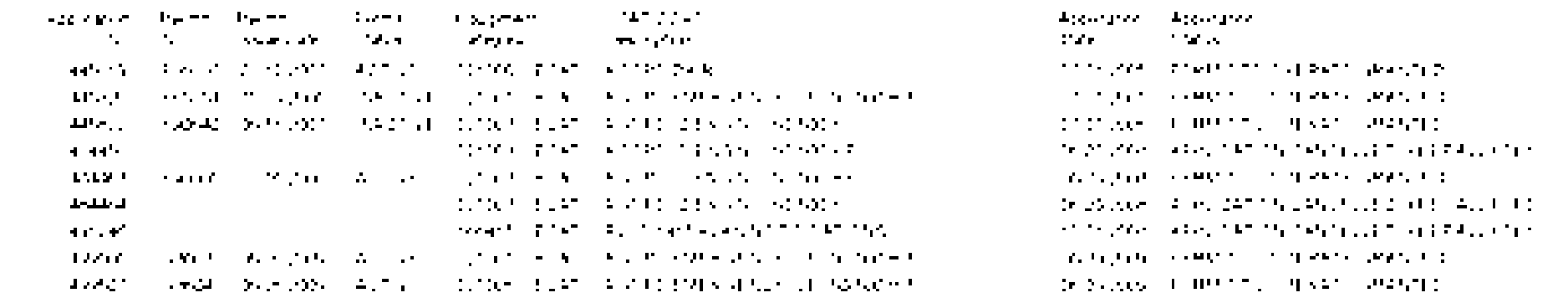
SCAQMD Facility Equipment List Report

SCAQMD Facility Equipment List Report

SCAQMD Facility Equipment List Report

SCAQMD Facility Equipment List Report





SCAQMD Facility Equipment List Report

[illegible]

[illegible]

[illegible]

SCAQMD Facility Equipment List Report

SCAQMD Facility Equipment List Report

APPENDIX G

PROJECT PERSONNEL QUALIFICATIONS

Christopher Baker, LEED AP

Vice President of Operations

EDUCATION:

B.A. Economics, University of Maryland

CERTIFICATIONS:

LEED Accredited Professional

NIOSH 582 Certified

EPA AHERA Asbestos Inspector/Management Planner Certified

EPA AHERA Project Designer/Supervisor Certified

State of VA Licensed Asbestos Inspector/Management Planner

State of VA Licensed Asbestos Project Monitor

AIHA Asbestos Analyst Registry Board Approved ID# 4593

EPA Trained in IAQ Evaluation and Remediation

Radiation Safety Trained

Scitec XRF Operator's License

Trained/certified in accordance with 29 CFR 1910.146 permit-required confined spaces.

YEARS OF EXPERIENCE:

With Hillmann: 25 years

Total: 25 years

PROFESSIONAL EXPERIENCE:

Mr. Baker is the Vice President of Operations at Hillmann, responsible for business operations, fiscal management and field staff management. Mr. Baker performs and manages staff for IAQ evaluations and mold and moisture assessments. He responds and coordinates restoration response following disasters, fires, pipe breaks, etc. He is responsible for management of industrial hygiene services on over 2,000,000 square feet of asbestos abatement projects, and provides project management on asbestos abatement projects. Mr. Baker is an ASTM Qualified Environmental Professional for the performance of Phase I and Phase II Environmental Site Assessments. He writes remedial specifications and Operation & Maintenance (O&M) Programs for commercial and residential buildings and co-wrote Standard Operating Procedure for heavy construction contractors working in naturally occurring asbestos.

He also coordinates, conducts and performs quality assurance of various environmental surveys including asbestos, lead in water, lead in paint, radon and mold in industrial, commercial and residential properties.

As a LEED AP, Mr. Baker provides green building services toward LEED accreditation in the Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality and Innovation & Design categories. He prepares sustainable strategies to enhance indoor environments including moisture management, hazardous materials compliance, indoor air quality management, pollutant source control and ventilation effectiveness. Mr. Baker also implements systems maintenance practices, water conservation programs and energy efficient building operation plans to reduce environmental impacts.

Representative experience includes:

Tishman Speyer Properties, Various locations nationwide: Hillmann has been providing the complete environmental program for Tishman Speyer's properties since 1987. Our services include phase I environmental site assessments, asbestos surveys, air monitoring, bid administration, O&M programs, industrial hygiene and indoor air quality programs. The estimated contract value is $1,000,000 annually. Mr. Baker functions as a Project Principal, Project Manager and Environmental Assessor. This project is ongoing.

Citigroup – Complete Environmental Program, Various locations nationwide: Mr. Baker is the Project Principal, Project Manager and Environmental Assessor for this contract on which Hillmann has been providing complete environmental program including Phase I environmental site assessments, asbestos and lead surveys, air monitoring, bid administration and O&M programs, industrial hygiene and indoor air quality programs, geology services, radon testing and hazardous materials assessments. Estimated cost to date: $8,250,000. This project is ongoing.

J.C. Penney Company, Inc., Various locations nationwide: Since 1994, Hillmann has been providing complete environmental consulting for J.C. Penney including: Phase I & II ESA's, IAQ, Mold, Asbestos, Lead, Water testing, from identification through testing through remediation. Mr. Baker's role included Project Manager and Environmental Assessor responsibilities. Estimated cost to date: $2,000,000. This project is ongoing.

Verizon Environmental Services, Various locations nationwide: Since 1996, Hillmann has been providing Verizon with asbestos and lead investigations, abatement design, air monitoring and mold and water sampling and emergency response services including IAQ, noise, confined space, characterization, and ventilation evaluation. Mr. Baker functions as Project Manager on this contract. Estimated cost to date: $12,600,000. This project is ongoing.

National Labor Relations Board, Washington, DC: Mr. Baker is the Project Manager for this project. Hillmann provides Indoor Air Quality Testing nationwide and Disaster Recovery from Hurricane Katrina in New Orleans. Cost to date: $20,000.

Howard County Public Schools, Howard County MD: Mr. Baker is the Project Principal and Project Manager on this contract for which Hillmann provides abatement oversight, design, and limited sampling services. A total of 57 projects were completed in 26 different schools without incident. The contract was completed in 2007. Cost: $83,000.

Fairfax County Public Schools, Fairfax County, VA: As Project Principal and Project Manager for this contract, Mr. Baker provided oversight and management for this asbestos, lead and mold consulting as well as various Indoor Air Quality projects. A total of 236 projects were completed in over 50 different school/center/office buildings without incident. The contract was completed in 2006. Cost: $125,000 annually.

St. Anselm's Abbey and School, Washington, DC: Mr. Baker is responsible for Project Management and Field Technician Services on this ongoing asbestos and lead investigation contract. Cost: $5,000.

Diocese of Arlington, Fairfax & Arlington Counties, VA: Mr. Baker is the Project Principal and Project Manager overseeing asbestos, IAQ, lead and mold consulting services. Over 150 projects have been completed in 39 different buildings. The Diocese is a continuous client since 1989. Cost: $500,000

Maryland Aviation Association, BWI Airport Area, MD: Hillmann performed Phase I and Phase II site assessments at various properties for potential purchases. These services were provided on an on-going basis under term contracts from 2002 until April, 2010. Mr. Baker functioned as Project Principal / Project Manager overseeing its execution. Cost: $13,000.

Tyson's Corner Center, McLean, VA: Hillmann is providing asbestos and lead surveys and remediation oversight, UST services, IAQ and mold services, and Phase I environmental site assessments for this ongoing contract. Mr. Baker functions as the Project Principal, Project Manager and Field Technician. Cost: $400,000. This project is ongoing.

Tishman Speyer Properties: Subsurface Investigation and Soil Segregation on a City Block, Washington, DC: Hillmann was retained to perform subsurface investigations and soil segregation on a city block slated for construction. Several Phase II subsurface investigations were conducted on the site to determine environmental impacts to soil and groundwater. Subsurface investigations were conducted with both direct push and hollow stem auger technology. Analytical results indicated soil and groundwater contamination from metals and PAH compounds. Hillmann performed the process of advancing borings within the footprint of the planned excavation to pre-classify soils for regulatory disposal. Our team was then responsible for complete oversight of the segregation and disposal of impacted soil. Based on semi-volatile compounds identified in the soil from past use, Hillmann designed an injection program whereby a reagent was introduced into the excavation footprint. The injection program was 100% successful in removing all compounds above regulatory criteria. Metals were successfully removed and all residual PAH compounds remediated with a no further action letter received from the regulating agency. Mr. Baker serves as Project Principal, Project Manager and Environmental Assessor for this project, which completed in 2009. Cost $147,000.

Wexford Development, LLC, Various locations nationwide: Hillmann provides complete environmental consulting for this client including Phase I & II ESA's, UST removal, IAQ, mold, asbestos, lead, and water testing. Mr. Baker functions as a Project Principal, Project Manager and Environmental Assessor in its execution. Cost: $154,000. This project is ongoing.

Coca-Cola Bottling Co., Various facilities in MA, NY, NJ, MD, VA and DC: Hillmann is providing asbestos surveys, bid administration, design and monitoring, and in-house support of the environmental program. Mr. Baker, acted as a Project Principal and Project Manager in its execution. This contract completed in 2003. Cost: $30,000.

Fairfax County Risk Management, VA: Hillmann provided indoor air quality and industrial hygiene sampling in Fairfax County, VA for a 5-year term contract beginning November 2001 through March 2006. Mr. Baker was the Project Principal and Project Manager on the contract. Cost: $50,000 annually.

General Growth Properties, Various nationwide facilities: National service agreement for phase I site assessments and hazardous materials surveys, including asbestos surveys and investigations, project monitoring, mold work, bulk sampling and analysis. Mr. Baker is the Project Principal and Project Manager on the contract. This project is ongoing. Cost: $250,000.

National Guard Bureau – various maintenance shops in MA, RI, ME, NH, VT, PA and VA: Hillmann provided complete baseline industrial hygiene surveys covering an indoor air quality evaluation, a noise survey, a ventilation survey and personal air sampling of selected operations. The testing and assessment parameters included: Temperature, Relative Humidity, Carbon Dioxide, Carbon Monoxide, Lighting, Audiodosimetry, Sound Level Measurements, Ventilation System, Welding Fumes, Total hydrocarbons, Airborne Fibers, Wipes, Lead, Asbestos, Ergonomics, PPE, Safety, House Keeping and Safety and OH Programs. Mr. Baker functioned as a Project Manager on the contract, which completed in 2007. Cost: $150,000.

Washington Hilton, Washington, DC: Hillmann has been providing Hotel management with asbestos consulting services since June 2005 in the form of a full building asbestos survey, asbestos abatement oversight and air monitoring, bid administration and remedial design. Various remedial designs and abatement operations are performed for construction and operations and maintenance purposes. Hillmann designed and oversaw the abatement of 10,000 square feet of friable textured ceiling material from a conference level hallway. The abatement was phased to allow the continuous operation of the various meeting and ballrooms. Mr. Baker functioned as the Project Principal and Project Manager for this contract, which was completed in 2008. Cost: $100,390.

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PSPA22-001, AN AMENDMENT TO THE RICH-HAVEN SPECIFIC PLAN TO BRING THE SPECIFIC PLAN INTO COMPLIANCE WITH THE ONTARIO PLAN POLICY PLAN (GENERAL PLAN) LAND USE PLAN THAT INCLUDES: [1] THE REDUCTION OF LOW-MEDIUM DENSITY RESIDENTIAL LAND USE ACREAGE FROM 102.1 ACRES TO 24.5 ACRES; [2] INCREASE THE MEDIUM DENSITY RESIDENTIAL LAND USE ACREAGE FROM 96.7 ACRES TO 113.4 ACRES; [3] INCREASE THE LIGHT INDUSTRIAL LAND USE ACREAGE FROM 49.4 ACRES TO 116.5 ACRES; [4] A REDUCTION TO THE MIXED-USE OVERLAY LAND USE ACREAGE FROM 29.4 ACRES TO 20.5 ACRES; [5] A REDUCTION TO THE REGIONAL COMMERCIAL LAND USE ACREAGE FROM 74 ACRES TO 58.4 ACRES; [6] INCREASE THE MIXED-USE STANDALONE RESIDENTIAL OVERLAY LAND USE ACREAGE FROM 141.9 ACRES TO 144.1 ACRES; [7] INCREASE THE OPEN SPACE – NON-RECREATION LAND USE ACREAGE FROM 38.2 ACRES TO 55 ACRES; AND [8] VARIOUS CHANGES TO THE SPECIFIC PLAN LAND USE MAP (PLANNING AREAS), DEVELOPMENT STANDARDS, EXHIBITS, AND TEXT MODIFICATION, TO REFLECT THE PROPOSED LAND USES, GENERALLY LOCATED BY RIVERSIDE DRIVE, COLONY HIGH SCHOOL AND THE SCE SUBSTATION TO THE NORTH, HAMNER AVENUE/MILL CREEK AVENUE TO THE EAST, OLD EDISON AVENUE TO THE SOUTH, AND HAVEN AVENUE TO THE WEST, AND MAKING FINDINGS IN SUPPORT THEREOF—APNS: 0218-161-14, 0218-016-06, 0218-016-10, 0218-016-11, 0218-016-19, 0218-016-15, 0218-016-07, 0218-016-18, 0218-203-08, 0218-016-14, 0218-016-12, 0218-016-13, 0218-203-07, 0218-203-04, 0218-203-03, 0218-203-05, 0218-203-06, 0218-211-39, 0218-211-01, 0218-211-21, 0218-211-36, 0218-211-37 AND 0218-211-15.

WHEREAS, RICHLAND DEVELOPERS, INC AND BROOKCAL ONTARIO, LLC ("Applicant") has filed an Application for the approval of a Specific Plan Amendment (SPA), File No. PSPA22-001, as described in the title of this Resolution (hereinafter referred to as "Application" or "Project"); and

WHEREAS, the Application applies to 584.9 gross acres of land located within the Rich-Haven Specific Plan, which is generally bounded by Riverside Drive, Colony High School and the SCE substation to the north, Hamner Avenue/Mill Creek Avenue to the east, Old Edison Road to the south, and Haven Avenue to the west. The Rich-Haven Specific Plan is presently improved with a combination of SCE Easements, vacant agricultural and dairy farms, and residential subdivisions; and

WHEREAS, the properties to the north of the Rich-Haven Specific Plan are within the Creekside Specific Plan, Civic and Specific Plan Agricultural Overlay Zoning District, and are developed with a flood control channel, Colony High School, and the SCE Mira Loma Substation. The properties to the east are within the Edenglen Specific Plan, Civic and the Specific Plan Agricultural Overlay Zoning District, and are developed with Colony High School, a Residential Subdivision, the SCE Mira Loma Substation and industrial warehouse and commercial uses within the City of Eastvale. The properties to the south are within the Esperanza Specific Plan and the Specific Plan Agricultural Overlay Zoning District and are developed with agricultural and dairy farms. The properties to the west are within the West Haven Specific Plan and the Avenue Specific Plan and are developed with residential subdivisions and commercial land uses; and

WHEREAS, to achieve consistency with the TOP 2050 Official Land Use Plan (Figure LU-01), the SPA proposes to amend the following land uses:

(1) Change 61.5 acres of Low Medium Density Residential (5.1 – 12 du/ac) to 16.7 acres of Medium Density Residential (11.1- 25 du/ac) and 44.8 acres of Light Industrial; and

(2) Change 17.3 acres of Mixed-Use Stand-Alone Residential Overlay and 5 acres of Mixed-Use Overlay to 22.3 acres of Light Industrial; and

WHEREAS, the new industrial land use designation was established by TOP to create a land use buffer between the SCE Mira Loma Substation and existing/future residential development; and

WHEREAS, the SPA includes the restructuring of planning areas that would reduce the number of subareas to align with the proposed land uses; and

WHEREAS, the proposed Planning Areas 2C, 3C and 5A are located adjacent to Residential Planning areas. To minimize impacts from future industrial development to the adjacent residential land uses the SPA included additional industrial design standards and setback requirements; and

WHEREAS, the SPA included minimum industrial building and landscape setback requirements for interior property lines common with residential land uses. A minimum 100-foot building setback is required from a residential property line that includes a 40-foot landscape setback to allow for the installation of a double row of trees. Also, a 10-foot landscape setback is required between the building and drive-aisle. The landscape setbacks will allow for the planting of multiple rows of trees between the residential properties and any proposed industrial building. The objective is to create an urban forest within the required landscaped setback areas and plant large evergreen trees to provide the maximum amount of screening year-round; and

WHEREAS, the SPA includes separate industrial design standards that include orienting truck courts away from residential areas to minimize noise impacts; enhanced second story elevations facing residential; and limiting vehicular activity and evening hours of operation on drive aisles adjacent to residential land uses; and

WHEREAS, the SPA proposes to reduce the existing residential acreage by 77.8 acres. To maintain the total number of existing 7,194 residential dwelling units allocated within the Rich Haven Specific Plan the amendment will reassign units to different Planning Areas; and

WHEREAS, the SPA includes updates to the light industrial development standards and land use matrix, updates to the existing residential and mixed-use development standards and land use matrix, updates to various exhibits reflecting the restructuring of planning areas, along with text/map changes to reflect the proposed land use designation changes. All changes and additions to the Specific Plan (exhibits, tables, and development standards) are contained within the revised Specific Plan document, and are highlighted in red; and

WHEREAS, the Rich Haven Specific Plan has been prepared in conformance with the goals and policies of the City of Ontario Policy Plan (General Plan). Section 9 of the Specific Plan, “General Plan Consistency”, describes the manner in which the Rich Haven Specific Plan complies with the Policy Plan goals and policies applicable to the Rich Haven Specific Plan; and

WHEREAS, the Rich Haven Specific Plan does not conflict with the Land Use Policies of the General Plan (Policy Plan component of TOP) and will provide for development, in a manner consistent with the General Plan. The policy (General Plan) analysis in the Appendix “Policy Plan (General Plan) Consistency,” of the Specific Plan describes the manner in which the Rich Haven Specific Plan complies with the Policy Plan goals and policies applicable to the Rich Haven Specific Plan; and

WHEREAS, an Environmental Impact Report (“EIR”) (State Clearinghouse No. 2022100425), including the adoption of a Mitigation Monitoring and Reporting Program and a Statement of Overriding Consideration have been prepared in accord with the California Environmental Quality (CEQA), the State CEQA Guidelines and the City of Ontario Guidelines to address the environmental effects of the Specific Plan Amendment; and

WHEREAS, Ontario Development Code Table 2.02-1 (Review Matrix) grants the City Council the responsibility and authority to review and act on the subject Application; and

WHEREAS, the Project has been reviewed for consistency with the Housing Element of the Policy Plan component of The Ontario Plan, as State Housing Element law (as prescribed in Government Code Sections 65580 through 65589.8) requires that development projects must be consistent with the Housing Element, if upon consideration of all its aspects, it is found to further the purposes, principals, goals, and policies of the Housing Element; and

WHEREAS, the Project is located within the Airport Influence Area of Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and is subject to, and must be consistent with, the policies and criteria set forth in the Ontario International Airport Land Use Compatibility Plan ("ALUCP"), which applies only to jurisdictions within San Bernardino County, and addresses the noise, safety, airspace protection, and overflight impacts of current and future airport activity; and

WHEREAS, during the Rich Haven Specific Plan Amendment review, opportunities for the involvement of citizens, California Native American Indian tribes (Government Code Section 65352.3.), public agencies, public utility companies, and civic, education, and other community groups, through public hearings or other means were implemented consistent with California Government Code Section 65351; and

WHEREAS, City of Ontario Development Code Division 2.03 (Public Hearings) prescribes the manner in which public notification shall be provided and hearing procedures to be followed, and all such notifications and procedures have been completed; and

WHEREAS, on May 23, 2023, the Planning Commission of the City of Ontario conducted a hearing to consider the Environmental Impact Report, Mitigation Monitoring and Reporting Program, and Statement of Overriding Considerations, and the Project, and concluded said hearing on that date, voting to issue Resolution Nos. PC23-042 and PC23-043, recommending the City Council adopt the Final Environmental Impact Report, Mitigation Monitoring and Reporting Program, and Statement of Overriding Considerations, and approve the Application; and

WHEREAS, as the first action on the Project, on June 20, 2023, the City Council approved a resolution adopting a Final Environmental Impact Report, Mitigation Monitoring and Reporting Program, and Statement of Overriding Considerations, each prepared pursuant to CEQA, the State CEQA Guidelines, and the City of Ontario Local CEQA Guidelines, and concluded said hearing on that date; and

WHEREAS, on June 20, 2023, the City Council of the City of Ontario conducted a hearing to consider the Project, and concluded said hearing on that date; and

WHEREAS, all legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND RESOLVED by the City Council of the City of Ontario, as follows:

SECTION 1. ***Housing Element Compliance.*** Pursuant to the requirements of California Government Code Chapter 3, Article 10.6, commencing with Section 65580, as the decision-making body for the Project, the City Council finds that based upon the facts and information contained in the Application and supporting documentation, at the time of Project implementation, the project is consistent with the Housing Element of the Policy Plan (General Plan) component of The Ontario Plan, as the project site is not one of the properties in the Housing Element Sites Inventory contained in Tables B-1 and B-2 of the Housing Element Technical Report.

SECTION 2. ***Environmental Determination and Findings.*** As the decision-making body for the Project, the City Council has reviewed and considered the information contained in Environmental Impact Report (EIR), Mitigation Monitoring and Reporting Program and a Statement of Overriding Considerations prepared for the project and supporting documentation. Based upon the facts and information contained in the EIR (State Clearinghouse No. 2022100425) and supporting documentation, the City Council finds as follows:

(1) The Rich Haven Specific Plan Amendment EIR, Mitigation Monitoring and Reporting Program and a Statement of Overriding Considerations contains a complete and accurate reporting of the environmental impacts associated with the Project; and

(2) The Rich Haven Specific Plan Amendment EIR, Mitigation Monitoring and Reporting Program and a Statement of Overriding Considerations was completed in compliance with CEQA and the Guidelines promulgated thereunder; and

(3) The Rich Haven Specific Plan Amendment EIR, Mitigation Monitoring and Reporting Program, and a Statement of Overriding Considerations reflects the independent judgment of the City Council; and

SECTION 3. ***Airport Land Use Compatibility Plan ("ALUCP") Compliance.*** The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

(1) On April 19, 2011, the City Council of the City of Ontario approved and adopted the Ontario International Airport Land use Compatibility Plan, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the decision-making body for the Project, the City Council has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the City Council, therefore, finds and determines that the Project, is consistent with the policies and criteria set forth within the ONT ALUCP; and

SECTION 4. ***Concluding Facts and Reasons.*** Based upon the substantial evidence presented to the City Council during the above-referenced hearing, and upon the specific findings set forth in Section 1 through 3, above, the City Council hereby concludes as follows:

(1) ***The proposed Specific Plan, or amendment thereto, is consistent with the goals, policies, plans and exhibits of the Vision, Policy Plan (General Plan), and City Council Priorities components of The Ontario Plan.*** The proposed Rich-Haven Specific Plan amendment will provide land use consistency with The Ontario Plan Policy Plan (General Plan). The proposed amendments will accommodate the construction of future residential, industrial, and commercial developments and eliminate sensitive land uses within the southeast portion of the Rich-Haven Specific Plan which is consistent with goals, policies, plans and City Council priorities of The Ontario Plan.

(2) ***The proposed Specific Plan, or amendment thereto, would not be detrimental to the public interest, health, safety, convenience, or general welfare of the City.*** The proposed Rich-Haven Specific Plan amendment will provide land use consistency with The Ontario Plan Policy Plan (General Plan). The proposed Specific Plan Amendment will not be detrimental to the public interest, health, safety, convenience, or general welfare of the City. The land use changes will provide a combination of residential, mixed-use, commercial, and light industrial uses within the Rich-Haven Specific Plan, which is consistent with the type and intensity of development specified in The Ontario Plan.

(3) ***In the case of an application affecting specific property(ies), the proposed Specific Plan, or amendment thereto, will not adversely affect the harmonious relationship with adjacent properties and land uses.*** The proposed amendments will accommodate the construction of future residential, industrial, and commercial developments. The amendment will also eliminate residential sensitive land uses within the southeast portion of the Rich-Haven Specific Plan and establish a light industrial land use buffer between residential land uses and the existing SCE Mira Loma Substation in order to establish a harmonious relationship between the existing surrounding land uses and planned uses within the southeast quadrant of the specific plan.

(4) ***In the case of an application affecting specific property(ies), the subject site is physically suitable, including, but not limited to, parcel size, shape, access, and availability of utilities, for the request and anticipated development.*** The subject site is physically suitable to accommodate future residential, commercial, mixed use and light industrial land uses. The Rich-Haven Specific Plan amendment includes development standards to facilitate the proposed land uses, which will be developed with adequate lot sizes, access, and utilities to serve the project site.

SECTION 5. ***City Council Action.*** Based upon the findings and conclusions set forth in Sections 1 through 4, above, the City Council hereby APPROVES the herein described Specific Plan Amendment, attached hereto as “Attachment A,” and incorporated herein by this reference.

SECTION 6. ***Notice of Determination Filing.*** Within 5 days following final application approval, The Applicant shall provide the Notice of Determination (“NOD”) filing fee and applicable Department of Fish and Wildlife mitigation fee to the City of Ontario Planning Department. Required fees shall be paid by check, made payable to the "Clerk of the Board of Supervisors", which shall be forwarded to the San Bernardino County Clerk of the Board of Supervisors, along with all applicable environmental forms/notices, pursuant to the requirements of the California Environmental Quality Act (“CEQA”). Failure to provide required fees within the above-specified time will result in an extension to the statute of limitations for the filing of a CEQA lawsuit against the Project, from 30 days to 180 days.

SECTION 7. ***Final Documents.*** Within 30 days following approval of this Ordinance, the Applicant shall provide the following to the City:

(1) Two bound copies of the final Specific Plan Amendment document; and

(2) One CD containing a complete Microsoft Word copy of the final Specific Plan Amendment document, including all required revisions and a complete PDF copy of the final Specific Plan document, including all required revisions.

SECTION 8. ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 9. ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East "B" Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. ____ was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023, by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. ____ duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

ATTACHMENT A:

File No. PSPA22-001
Rich Haven Specific Plan Document

(Document follows this page)

RICH - HAVEN
SPECIFIC PLAN AMENDMENT
ONTARIO, CALIFORNIA

Amended Draft May 15, 2023

Proposed additions in blue underline

Proposed deletions in ~~red strikethrough~~



CITY COUNCIL APPROVED: DECEMBER 4, 2007 ORDINANCE NO. 2884

CITY COUNCIL APPROVED SPECIFIC PLAN AMENDMENT (FILE NO. PSPA16-001): MARCH 15, 2016
RESOLUTION NO.'S 2016-024, 2016-025

CITY COUNCIL APPROVED SPECIFIC PLAN AMENDMENT (FILE NO. PSPA16-005): FEBRUARY 20, 2018
RESOLUTION NO.'S 2018-017, 2018-018

CITY COUNCIL APPROVED SPECIFIC PLAN AMENDMENT (FILE NO. PSPA19-006): MAY 18, 2021
RESOLUTION NO.~~S~~ 2021-047

CITY COUNCIL APPROVED SPECIFIC PLAN AMENDMENT (FILE NO. PSPA22-001: TBD, 2023
RESOLUTION NO. xxxx-xxx

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SECTION 1 - INTRODUCTION

The Rich-Haven Specific Plan applies to approximately ~~584.2~~584.9 gross acres of land in the southern portion of the City of Ontario, within the Ontario Ranch, (previously referred to as the New Model Colony - NMC). The Rich-Haven Specific Plan must be consistent with the planning guidelines of the City's The Ontario Plan, adopted by the City of Ontario in 2010 ~~or~~ and as amended in 2022.

The Ontario Plan (TOP) establishes the direction and vision for the City of Ontario, providing a single guidance system that will shape the Ontario community for the future. The Plan provides for policies to accommodate chance over 30-year period. The Ontario Plan consists of a six-part Component Framework: 1) Vision, 2) Governance Manual, 3) Policy Plan, 4) City Council Priorities, 5) Implementation, and 6) Tracking and Feedback.

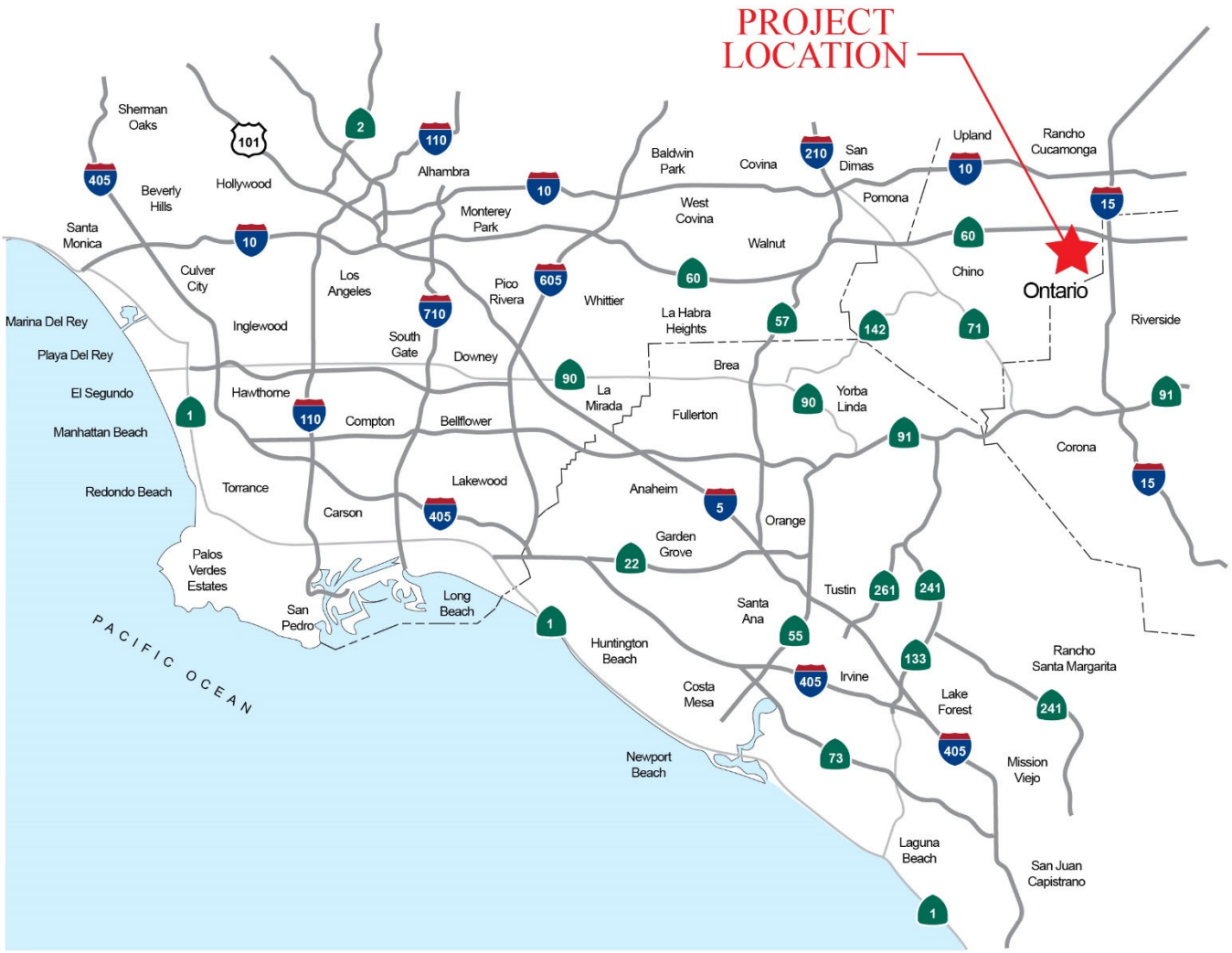
The Rich-Haven Specific Plan defines a development that can be financed, marketed, and absorbed within a reasonable time frame. At ~~584.2~~584.9 ~~-~~gross acres, Rich-Haven will be developed as a cohesive community, incorporating a series of well-integrated neighborhoods, including residential, regional commercial, commercial, mixed use, light industrial and community facility land uses. Upon adoption, the Rich-Haven Specific Plan will be implemented through the development standards, design guidelines, and land use plan contained within this document. Development within the Rich-Haven Specific Plan area that is consistent with this Plan and the City's TOP will not require subsequent specific plans or environmental review, as the planning requirements for consistent development will have already been satisfied.

The Rich-Haven Specific Plan is a regulatory document prepared pursuant to California Government Code, Title 7, Division 1, Chapter 3, Article 8, and Sections 65450 through 65457, and serves as the regulating zoning document for the property within the Specific Plan area.

1.1 LOCATION AND SETTING

The Rich-Haven Specific Plan is located in southwestern San Bernardino County, within the City of Ontario. The City of Ontario is located approximately 40 miles east of downtown Los Angeles, 20 miles west of San Bernardino, and 30 miles northeast of Orange County. The project site is located west of Interstate 15 (I-15), and south of State Route 60 (SR-60), within the 8,200-acre Ontario Ranch. The Rich-Haven Specific Plan area is located in the southeast portion of The Ontario Plan (TOP). The TOP land use designations for the project area are Low Density Residential, Low-Medium Density Residential, Medium Density Residential, Industrial, Mixed-Use, Open Space~~-~~ ~~-~~Non Recreation and Open Space~~-~~ ~~Parkland~~Recreation.

The project site is bounded to the north by Riverside Drive and the property line for Colony High School and the Southern California Edison substation. Haven Avenue bounds the project to the west. Mill Creek Avenue and Hamner Avenue form the eastern boundaries and Old Edison Road forms the boundary to the south. The Esperanza Specific Plan is located to the south of the eastern half of the site. See Figure 1-1, *Regional Map*, and Figure 1-2, *Local Map*.



NOT TO SCALE

RICH-HAVEN SPECIFIC PLAN
REGIONAL MAP
FIGURE 1-1



NOT TO SCALE

RICH-HAVEN SPECIFIC PLAN
LOCAL VICINITY MAP
FIGURE 1-2

1.2 SPECIFIC PLAN PURPOSE AND OBJECTIVES

The Rich-Haven Specific Plan serves to implement the City's TOP Policy Plan (General Plan) for the project site and provides zoning regulations for the development of the project site by establishing permitted land uses, development standards, design guidelines, infrastructure requirements, and implementation requirements for development. The Rich-Haven Specific Plan includes the potential development of up to 7,194 dwelling units, a maximum ~~990,902~~ 925,002 square feet of commercial/office uses and a maximum of ~~1,183,525~~ 2,767,148 square feet of light industrial uses.

The City's TOP overall vision for the Ontario Ranch is to create a self-sustaining place of diversity, extending into Ontario's existing fabric of development. The City's TOP also envisions each neighborhood and commercial center within the Ontario Ranch as a place uniquely identifiable for its residents, employees, and visitors, united through an area-wide network of greenways, trails, open spaces, amenities, and infrastructure.

The Rich-Haven Specific Plan provides the specific regulations necessary to meet and enhance the City's TOP's vision and goals. To do so, the Rich-Haven Specific Plan establishes its own vision, objectives, and policies, and provides regulations and standards pertaining to the density, permitted, conditional, and prohibited uses, implementation, and design of Rich-Haven.

The vision for Rich-Haven is to "*create a vibrant community with a mixture of uses all connected through a series of trails providing opportunities for people to live, work and play.*" In order to actualize this vision, a series of objectives are provided to augment the NMC-wide objectives and policies identified within the City's TOP. These objectives and policies are as follows:

Livable Neighborhood Development

- Incorporate Traditional Neighborhood Design guiding principles during the design phase to provide for opportunities to achieve the project's vision statement, including:
  - **Central Focus**. To create a community with a central focus that combines commercial, civic, cultural, and recreational uses.
  - **Connections**. To provide a series of sidewalks and trails connecting community parks, civic uses, employment areas, mixed-use and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
  - **Traditional Street Network**. To design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, as well as creating a visually favorable and comfortable environment for pedestrians and bicyclists.
  - **Main Street Environment**. To design commercial/retail areas to a human scale with storefronts oriented to the street providing a "Main Street" atmosphere for strolling and shopping, all within walking distance from most homes.

- **Public Spaces**. To create plazas, parks, and community gathering places placed within centralized areas providing synergy between adjacent land uses.

- **Identifiable Neighborhoods**. To design neighborhoods around a discernable center, which may include a small park, square, school or mixed-use center, within a five-minute walking distance.

- **Mix of Housing**. To provide neighborhoods with a range of household types: a variety of single-family detached homes, attached units for young families, and live/work units for small at-home businesses.

- Design a mixed-use environment to ensure compatible uses that are cohesive and integrate a diversity of residential neighborhoods, with a range of commercial uses, and supporting open spaces.
- Utilize transportation, utility, and greenways/open space networks to establish clear edges and boundaries.
- Accommodate residential, commercial, open space, public, and other uses in accordance with the generalized distribution of uses depicted within the City's TOP Land Use Plan.
- Implement elements that will ensure walkability throughout the Project Area to discourage automobile dependency and encourage walking, biking, and other forms of transportation. This is achieved through the incorporation of subarea greenways and pedestrian connections and through sensitive site design of mixed-use development.
- Implement technological advances within residential communities, including internet access, to allow residents to shop and work from home and to decrease reliance on automobiles.
- Provide opportunity for at least one major public plaza/square as a centerpiece of community activities, including events and celebrations, outdoor performances, community meetings, picnics, farmers markets, and similar functions.
- Establish a clearly defined "edge" for the City's TOP area, where appropriate, that avoids the use of walls and creation of a "walled" enclave.
- Incorporate electrical transmission corridors and similar elements to form "edges" for residential neighborhoods and centers and/or accommodate public greenways/trails/corridors.

Residential District

- Create a livable community with neighborhoods designed at a human scale and oriented for pedestrian access to mixed-use, educational, and recreational uses.
- Provide for a range and diversity of housing products (detached single-family, detached and attached condominiums, and townhomes) that respond to a variety of homeownership needs and desires.
- Design residential projects to complement the character of adjacent neighborhoods.
- Encourage interaction among residents through the provision of an organized, simple, and "neo-traditional" system of streets, pathways, and entries to allow residents to walk or bike to parks, recreation, and public facilities (including schools).
- Promote outdoor activity and casual social contact among residents and neighbors by designing neighborhoods around a central park where they can gather.
- Provide a focal point of activity within each residential planning area that may include a park, school, common area, or public meeting facility.
- Encourage architectural styles and traditional design elements that reflect the historic and eclectic mixture of architecture, reflective of the greater Ontario area.
- Increase densities adjacent to commercial centers.
- Establish clear defined "edges" and "entries" that contribute to the neighborhood identity.
- Avoid the use of walls to separate residential areas from arterials and other high traffic volume streets by expanded landscape setbacks, frontage roads, and other appropriate techniques.
- Include clustered multi-family housing within the Residential District, in order to create a diverse range of housing products and opportunities, while still in keeping with the overall low-density residential designation.
- Locate higher-density residential uses that provide population to support adjacent regional commercial centers.
- Provide sufficient on-site recreational amenities within higher density developments.
- Include community oriented uses such as public meeting rooms, plazas and courtyards, and similar uses.
- Establish visual and physical links among the individual multi-family developments to create a cohesive and continuous corridor.
- Design building elevations to promote visual interest.
- Provide linkages between community service facilities, multi-family corridors, and residential neighborhoods.

Regional Commercial/Mixed-Use District

- Accommodate a diversity of large scale retail, community and neighborhood shopping, office, medical research, entertainment, hotel/motel, dining, housing, cultural, public, and similar uses that will serve the project area and neighboring Planning Areas.
- Function with a high level of activity and/or employment.
- Accommodate development of multi-family housing, mixed-use buildings that incorporate housing and retail/office, and live/work facilities.
- Accommodate single-use buildings and mixed-use structures containing a variety of uses from residential over retail or office-to-office over retail.
- Encourage traditional, mixed-use design of commercial buildings, by requiring a lower maximum floor area ration (FAR) for single-use buildings, and a higher maximum FAR for mixed-use buildings.
- Develop plaza areas and other amenities to provide places of social interaction.
- Include one or more public "squares" to serve as gathering places.
- Incorporate modulated building volumes, mass, height, and articulated facades to create individual spaces.
- Site a portion of the buildings on peripheral streets to provide connectivity to adjacent uses.
- Orient buildings towards the local streets whenever possible to create an urban edge and sense of arrival and place.
- Include sidewalks of sufficient width to accommodate pedestrian activity and outdoor restaurants, newsstands, and other uses.
- Create visual interest through the opening of streets and sidewalks/plazas towards building elevations.
- Incorporate landscaping to enhance the environment.
- Visually integrate parking structures to continue the intended design character of the district.
- Incorporate multi-family housing to create a cohesive and continuous corridor.
- Ensure an appropriate mix of uses (residential and commercial) that are compatible.
- Encourage pedestrian access and ease of use within the mixed-use area by designing pedestrian and bike paths.
- Create a "Main Street" environment with buildings designed to a human scale where pedestrian activity is not overwhelmed by automobile traffic.
- Utilize urban design to create a "Gateway" or portal to the Ontario Ranch.

Industrial District

- Incorporate transitions and/or buffers between commercial/mixed-use and industrial areas and adjacent residential areas.
- To contribute to the regional jobs to housing balance by providing employment opportunities while minimizing development impacts on surrounding neighborhoods.
- To create a high-quality industrial park development that attracts an array of businesses and provides employment opportunities within proximity to area residents.
- Provide safe and efficient access/circulation routes for the distribution/transportation of goods.

Circulation

- Provide a circulation system designed to promote pedestrian activity through a network of off-street pedestrian walkways linking each neighborhood to parks, mixed-use commercial, and residential uses.
- Design a hierarchy of streets connected in a grid network with a variety of routes for pedestrians and vehicles, creating a visually attractive, enhanced, and comfortable environment for pedestrians and bicyclists.
- Design streets to incorporate landscaped parkways and pedestrian walkways separated from the street to enhance safety and enjoyment of residents and visitors.
- Provide opportunities for transit connections and alternative modes of transportation.

Recreation/Trails

- Provide new recreational opportunities for residents through the development of a series of public and private parks.
- Provide a series of pedestrian trails connecting community parks, civic uses, mixed-use, and transit stops designed to be pedestrian friendly to avoid unnecessary automobile trips.
- Incorporate off-street multi-use trails within the Southern California Edison easements.
- Incorporate a system of on- and off-street bicycle pathways with access from the residences to mixed-use areas.
- Use landscaping and streetscape materials that are low maintenance in recreation and trail areas.
- Provide a system of on-street bikeways integrated throughout the project to provide access to schools, parks, and commercial uses.

- ❖ Provide new recreational opportunities for residents through the development of a series of parks ranging in size.

Community Facilities

- ❖ Incorporate existing major utilities into the overall fabric of the community.
- ❖ Provide opportunities for incorporation of community facilities (e.g. schools, fire station) as identified by the various agencies.

1.3 LAND USE PLAN OVERVIEW

The Rich-Haven Specific Plan proposes a land use plan that includes a mixture of uses, and is based on Traditional Neighborhood Design principles and concepts, including pedestrian and bicycle connectivity, a traditional grid street network, and a variety of housing types and architectural styles. The land use plan provides a logical extension of commercial and residential uses and a transitional Light Industrial buffer adjacent to existing utility facilities and industrial/warehouse land uses.

The Specific Plan area is separated into a Residential District encompassing approximately ~~271.3~~ 218.7 gross acres, ~~and~~ Regional Commercial/Mixed-Use~~/Light Industrial~~ District~~s~~ encompassing approximately ~~312.9~~ 230.9 gross acres, and Light Industrial District encompassing approximately 135.3 gross acres. The Residential District is planned to include low-, low medium-, and medium ~~-, and high~~-density residential units, park and open space areas, and a public park~~ and a fire station site~~. A variety of uses, as identified within Section 5, *Development Regulations* and allowed by the City's TOP, are proposed within the Regional Commercial/ Mixed-Use District. Together, the Residential District, ~~and~~ the Regional Commercial/Mixed-Use District and Light Industrial District include a project-wide total of a maximum of 7,194 dwelling units, a maximum of ~~990,902~~925,002 square feet of commercial/office uses and a maximum of ~~1,183,525~~2,767,148 square feet of industrial uses.

1.3.1 Residential District

The Rich-Haven Residential District includes approximately ~~271.3~~218.7 gross acres within Specific Plan Planning Areas 1A, 1B, 1C, 2B, 3A and 3B ~~4C, and F~~and ~~5D through 5~~. This District provides for a variety of housing types at low and medium densities, and a total of ~~1,833~~2,393 dwelling units. In addition to housing, the Residential District also includes approximately 27.0 acres of public parks and 20.0 acres of open space within the Southern California Edison parcel.

Housing units planned within the Residential District are oriented around park and open space amenities, fostering identifiable sub-neighborhoods and enhanced opportunities for people to meet and recreate. Some residential neighborhoods may be gated with private streets. Integrated throughout the Residential District is a series of trails and sidewalk systems providing connectivity and opportunities to utilize alternative modes of transportation to the public park, Regional Commercial/Mixed-Use District, and the greater Ontario area.

1.3.2 Regional Commercial/ Mixed-Use District

The Regional Commercial/Mixed-Use District includes approximately ~~256.9~~230.9 gross acres within Specific Plan Planning Areas ~~6, 7B, 8 and 9~~ 4A, 4B, 5B, 6B, 7,8, 9, 10A and 10B. This District is envisioned per the City's TOP as a highly active area with a variety of uses that are responsive to market demands, including commercial, office, residential, medical office, and research, as well as other uses identified in Section 5, *Development*

Regulations. In total, a maximum of ~~4,843~~4,801 dwelling units and a maximum of ~~990,902~~925,002 ~~-~~square feet of regional commercial uses are planned within this District. Residential uses shall include both mixed-use, multi-family attached residential as well as stand-alone residential neighborhoods, accommodated for through a "Stand Alone Residential Overlay".

To provide developers with the opportunity to respond to changes in the market, the ultimate mix of uses developed within the Regional Commercial/Mixed-Use District is flexible.

1.3.3 Light Industrial Land Use District

The Industrial District includes approximately ~~56.0~~135.3 ~~-~~gross acres within Specific Plan Planning Areas 2C, 3C, 5A, 5C and 6A ~~7A~~. This District is envisioned per the City's TOP as a transitional area with a potential for a variety of uses that are responsive to market demands, including uses allowed within the Regional Commercial/Mixed Use District and Industrial uses identified in Section 5, *Development Regulations.* In total, a maximum of ~~1,183,525~~2,767,148 square feet of Light Industrial uses are allowed within this District.

To provide developers with the opportunity to respond to changes in the market, the ultimate mix of uses developed within the Industrial Land Use District is flexible.

1.4 SPECIFIC PLAN AUTHORITY AND REQUIREMENTS

1.4.1 AUTHORITY

The California Government Code establishes the authority for a legislative body to adopt an ordinance or resolution requiring that a specific plan be prepared. As with General Plans, the Planning Commission must hold a public hearing before the planning agency can recommend the adoption of a specific plan. The City Council may then adopt a specific plan by ordinance.

The Specific Plan is regulatory in nature, and serves as zoning law for the properties involved. Development plans, site plans, and tentative tract and parcel maps must be consistent with both this Rich-Haven Specific Plan and the City of Ontario's TOP. The scope of subjects covered in the Specific Plan is the same as that of the City's TOP to the extent that the subject under consideration involves the Ontario Ranch portion of the City of Ontario.

The Rich-Haven Specific Plan is established through the authority granted to the City of Ontario by the California Government Code, Title 7, Division 1, Chapter 3, Article 8, Sections 65450 through 65457 (Specific Plans).

1.4.2 REQUIREMENTS

The California Government Code, Article 8, Sections 65450 et seq., establishes the minimum requirements and review procedures for specific plans, requiring that a specific plan include text and diagrams that specify all of the following in detail:

- The distribution, location, and extent of the uses of land, including open space, within the area covered by the plan.
- The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan, and needed to support the land uses described in the plan.
- Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable.
- A program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out the project.

1.4.3 DEVELOPMENT APPROVAL COMPONENTS

Rich-Haven's development approval process is as follows:

SPECIFIC PLAN – The Rich-Haven Specific Plan is a regulatory document that establishes the zoning, land use designations, densities, and design guidelines for the entire Specific Plan Project Area. The Rich-Haven Specific Plan will implement the City's TOP, as amended by this Specific Plan proposal. The Specific Plan will be considered by the Planning Commission and City Council and will be adopted by Ordinance. Subsequent tract or parcel maps and site development plans must be in compliance with the adopted Specific Plan.

ENVIRONMENTAL IMPACT REPORT – The Rich-Haven Specific Plan is a discretionary project and is subject to the requirements of the California Environmental Quality Act (CEQA). As part of the approval process for the Specific Plan, an Environmental Impact Report must be considered and certified by the City prior to approval of the Specific Plan.

SUBDIVISION MAPS – A series of subdivision maps will be reviewed and approved by the City of Ontario for the residential components of the project area that will include information on lot layout and dimensions, roads, grading, easements, and slope. Subsequent to approval by the City, final maps will be prepared that will become the legal recorded documents that will establish legal parcels. Development in the Regional Commercial, Mixed-Use and Light Industrial Districts of this Specific Plan ~~(Planning Areas 6, 7, 8, and 9)~~ will require approval of parcel subdivision and/or condominium maps by the City of Ontario for residential, mixed-use, light industrial and commercial plans.

DEVELOPMENT PLAN REVIEW – Development of individual planning areas within the Rich-Haven Specific Plan will be subject to the Development Plan Review process consistent with the City of Ontario's Development Code.

DEVELOPMENT AGREEMENT – Unless done in a coordinated manner and with adequate fiscal planning, development projects within Ontario Ranch are likely to present a challenge in their implementation because of the lack of existing public facilities, including streets, sewer, transportation, drinking water, school, and utility facilities. California law has established a mechanism for ensuring the adequate provision of such facilities, while at the same time providing assurances to applicants that, upon approval of the project, the applicants can proceed with their projects. Approval of this Specific Plan without a development agreement may result in a waste of resources, escalate housing prices for the consumer, and discourage investment in and commitment to comprehensive planning, as envisioned by the City, which seeks to make maximum efficient utilization of resources at the least economic cost to the public.
Therefore, a statutory development agreement, authorized pursuant to California Government Code sections 65864 et seq., shall be required in conjunction with the approval of this Specific Plan. For the abovementioned reasons, the development agreement for this Specific Plan shall include, among other things, methods for financing

acquisition and construction of infrastructure, acquisition and development of adequate levels of parkland and schools, as well as the provision of adequate housing opportunities for various segments of the community consistent with the regional housing needs assessment. Such development agreement shall have been fully approved before the issuance of the first building permit for this project.

1.4.4 RELATIONSHIP TO THE ONTARIO PLAN, AIRPORT LAND USE COMPATIBILITY PLANS AND ZONING

On ~~January 26th~~August 16, ~~2010~~2022, the City of Ontario adopted The Ontario Plan (TOP) which serves as the City's new business plan and includes a long term Vision and a principle based Policy Plan (General Plan).

The City's Policy Plan, which acts as the City's General Plan, designates the project site for the following land uses:

- Low Density Residential (2.1-5.0 dwelling units per acre) – Planning Area~~s~~ 1A~~, 1B, 1C, 1D, 1E and 1F~~.
- Low Medium Residential (5.1- 11.0 dwelling units per acre) – Planning Areas 1B ~~4A, 4B, 4C and 4D.~~
- Medium Density Residential (11.1-25.0 dwelling units per acre) – Planning Area~~s 5A~~, ~~5B, 5C, and 5D~~ 1C, 2B, 3A and 3B.
- Mixed Use (14.0-50.0 dwelling units per acre for residential and maximum 0.7 FAR for commercial/office) – Planning Areas ~~6A, 6B, 7B, 8A, 8B, 9A and 9B~~ 4A, 4B, 5B,7, 9 and 10A.
- General Commercial (maximum 0.4 FAR) – Planning Area 6B, 8 and 10B.
- Industrial (maximum 0.55 FAR) – Planning Areas 2C, 3C, 5A, 5C and 6A ~~7A~~.
- Open Space: Parkland – Planning Area ~~3~~ 2A .
- Open Space: Non-Recreation – Planning Areas SCE 1 and portions of 3A, 3C, 4B, 5A, 5B and 6A ~~2 and 5E~~.

Section 9 – (TOP Residential, Mixed Use and Light Industrial Use Consistency Tables) provides a summary of the minimum and maximum number of units allowed within each Residential Planning Area ~~(PA 1, 4 and 5)~~ and shows that the Rich Haven Specific Plan Land Use Plan is consistent with the assigned TOP Land Use Designation.

The Mixed Use Planning Areas ~~(6A, 6B, 7B, 6D, 7B, 8A, 8B, 9A and 9B)~~ TOP ~~Land Use designated~~ designates ~~areas~~ within the Rich Haven Specific Plan allow for a combination of Regional Commercial, Mixed-Use Overlay and a Stand-Alone Residential Overlay uses. Projects within these areas shall be required to maintain a Residential density range of 14.0 – 50 du/ac and shall not exceed 0.7 Floor Area Ratio for any commercial/office use to be consistent with City's TOP policies. Light Industrial projects shall not exceed 0.55 Floor Area Ratio to be consistent with City's TOP policies. The Consistency Tables within Section 9 includes a detailed breakdown of how each Mixed Use and Light Industrial Planning Area is consistent with the TOP.

The Rich-Haven Specific Plan is located within the Airport Influence Area (AIA) of the Ontario International Airport ~~and Chino Airport~~ and required to be consistent with ~~both~~ the Ontario Airport Land Use Compatibility Plan~~s~~.

1.4.5 CEQA COMPLIANCE

An Environmental Impact Report (EIR) has been prepared for the project to analyze significant environmental impacts of the project, discuss feasible alternatives, and recommend feasible mitigation measures in compliance with the provisions of the California Environmental Quality Act (CEQA). This EIR has analyzed the entire Rich-Haven Specific Plan area and addresses potential impacts associated with development of the Specific Plan area. The EIR includes recommended mitigation measures and will analyze implementing actions for development. The EIR has been prepared to fulfill the requirements for environmental documentation for most subsequent discretionary and ministerial applications for development within the Rich-Haven Specific Plan.

~~Subsequently, addendums to The Ontario Plan Environmental Impact Report were prepared for the annexation of Planning Areas 9A and 9B into the Rich Haven Specific Plan and for land use changes to Planning Areas 1, 7 and 9.~~

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, in the southeast portion of The Ontario Plan (TOP). The 2021 Specific Plan Area is bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. Location of the 2021 Specific Plan is presented at Figure 2.1-1. The location of the 2022 RHSP Specific Plan Amendment evaluated in this Initial Study (IS) is coincident with the 2021 Specific Plan.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in this Initial Study (IS) proposes a new amendment of the RHSP as described herein.

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan

Amendment. This evaluates potential environmental impacts of buildout of the Specific Plan Area in total that would result from the 2022 RHSP Specific Plan Amendment.

1.5 SPECIFIC PLAN ORGANIZATION

The Rich-Haven Specific Plan is organized into the following sections:

INTRODUCTION – This section includes an overview of the Specific Plan, an overview of the Development Plan, identifies the Specific Plan's authority and requirements, and also includes a glossary of terms.

EXISTING CONDITIONS – Provides the location of the property, the surrounding land uses, and discusses environmental opportunities and constraints of the site.

LAND USE – Contains the overall design concepts that define the community as well as the neighborhoods, regional commercial, mixed-use and light industrial areas.

INFRASTRUCTURE AND SERVICES – Establishes circulation improvements, identifies development criteria for the community facilities, and provides master planned and conceptual infrastructure requirements for water, wastewater, storm drainage, and dry utilities in the Specific Plan Area.

DEVELOPMENT REGULATIONS – Sets forth the land use designations, development standards and regulations and describes the development plan of the Specific Plan area for residential~~,~~ commercial, mixed-use and light industrial uses.

DESIGN GUIDELINES – Sets forth the Design Programs and provides requirements for development, including site planning, architecture, landscaping and signage.

ADMINISTRATION AND IMPLEMENTATION – Sets forth administrative procedures for implementing the mixed-use implementation mechanisms, modification, and procedures for amending the Specific Plan, and establishes the implementation, phasing, financing, improvement responsibilities, and subsequent Design Review submittal requirements.

THE ONTARIO PLAN CONSISTENCY – The City of Ontario Policy Matrix describes the relationship of the Rich-Haven Specific Plan to the policy requirements of the City's TOP.

1.6 GLOSSARY OF TERMS

The meaning and constructions of words, phases, title, and terms shall be the same as provided in the City of Ontario Development Code unless otherwise provided herein.

Ancillary use: A use which is incidental or supplementary to a primary permitted use.

Area, gross: A unit of land measure, including easements, existing and future rights-of-way and other future dedications.

Area, net: A unit of land measure, not including the area within the established rights-of-way of a public or private street, or any other area dedicated or required to be dedicated in the future for a public use.

Conditional Use Permit (CUP): A zoning instrument used primarily to review the location, site development, or operation of certain land uses. A conditional use permit is granted at the discretion of the Planning Commission or Zoning Administrator and is not the automatic right of the applicant or landowner.

Daily Vehicle Trips: The number of vehicle trips per a specific use during an average day.

Development Advisory Board (DAB): A board in the City as established by the City Council charged with the responsibility for the review and approval of development plans.

Dwelling unit, single family: An attached or detached building not to contain more than one kitchen and which, regardless of the form of ownership, is not designed to accommodate more than one household.

Dwelling unit, multi-family: One or more rooms designed, occupied, or intended for occupancy as separate living quarters, with cooking, sleeping, and sanitary facilities provided within the same unit for the exclusive use of the household.

Floor area ratio (FAR): The total building square footage on a given lot, divided by the lot area of the same lot. Building square footage includes all structures on the lot, including accessory structures.

Height, building: The vertical dimension of a building or any other structure, measured from the highest point of the roof to adjacent grade within five feet of the building immediately below the point of measurement, not including chimneys, antennas, elevators, or other appurtenant structures.

Home occupation: An occupation conducted by the occupant of a dwelling as a secondary use in which there is no display, no stock-in-trade, no commodity sold on the premises, no person employed other than residents of the dwelling, and no mechanical equipment used except for that necessary for housekeeping purposes.

Light Industrial: The Light Industrial Specific Plan area, accommodates lighter manufacturing and assembly activities, storage and warehousing activities and other similar uses developed at a maximum intensity of 0.55 FAR. This land use district is intended to serve as a buffer between heavier industrial uses and commercial, residential, parks and schools.

Lane: A public or private way permanently reserved as a secondary means of access to abutting property.

Live/Work: A dwelling unit that acts as both a residence and a place of commercial activity, where the residential use is the primary use, and the commercial activity is the secondary use.

Mixed use: Horizontal mixed use includes a variety of uses adjacent to each other from commercial to office, etc. Vertical mixed use includes a mixture of uses vertically stacked on one parcel or building from office over commercial to residential over commercial.

Open Space/Non-Recreation: Any parcel or area of land or water essentially unimproved and set aside, dedicated, designated, or reserved for public or private use.

Setback, front yard: The horizontal distance between the front property line and a line parallel thereto at the nearest point of a structure on the site.

Setback, rear yard: The horizontal distance between the nearest part of a main building and the nearest point of the rear property line.

Setback, side yard: The horizontal distance between the side property line and a line parallel thereto at the nearest point of a structure on the site.

Street, arterial: A street with signals at important intersections and stop signs on the side streets, that collects and distributes traffic to and from other arterial streets, and moves regional traffic.

Street, collector: A street that collects traffic from local streets and connects with arterial streets. Collector streets may be signalized under certain conditions.

Street, local: A street designed to provide vehicular access to abutting property.

Trip Allocation: The number of average daily trips for individual planning areas.

Trip Budget: The total average daily vehicular trips generated by use located within the project.

Use: The purposes for which a site or a structure is arranged, designed, intended, constructed, or erected.

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SECTION 2 - EXISTING CONDITIONS

This section of the Rich-Haven Specific Plan discusses the existing physical natural and man-made conditions of the Rich-Haven Specific Plan area at the time of the preparation of the Specific Plan, including existing land uses, infrastructure and improvements, topography, geology, and vegetation and wildlife.

2.1 OWNERSHIP/WILLIAMSON ACT CONTRACTS

Within the Specific Plan area, one private property owner has property currently under Williamson Act contracts. See Figure 2-1, Ownership Map.

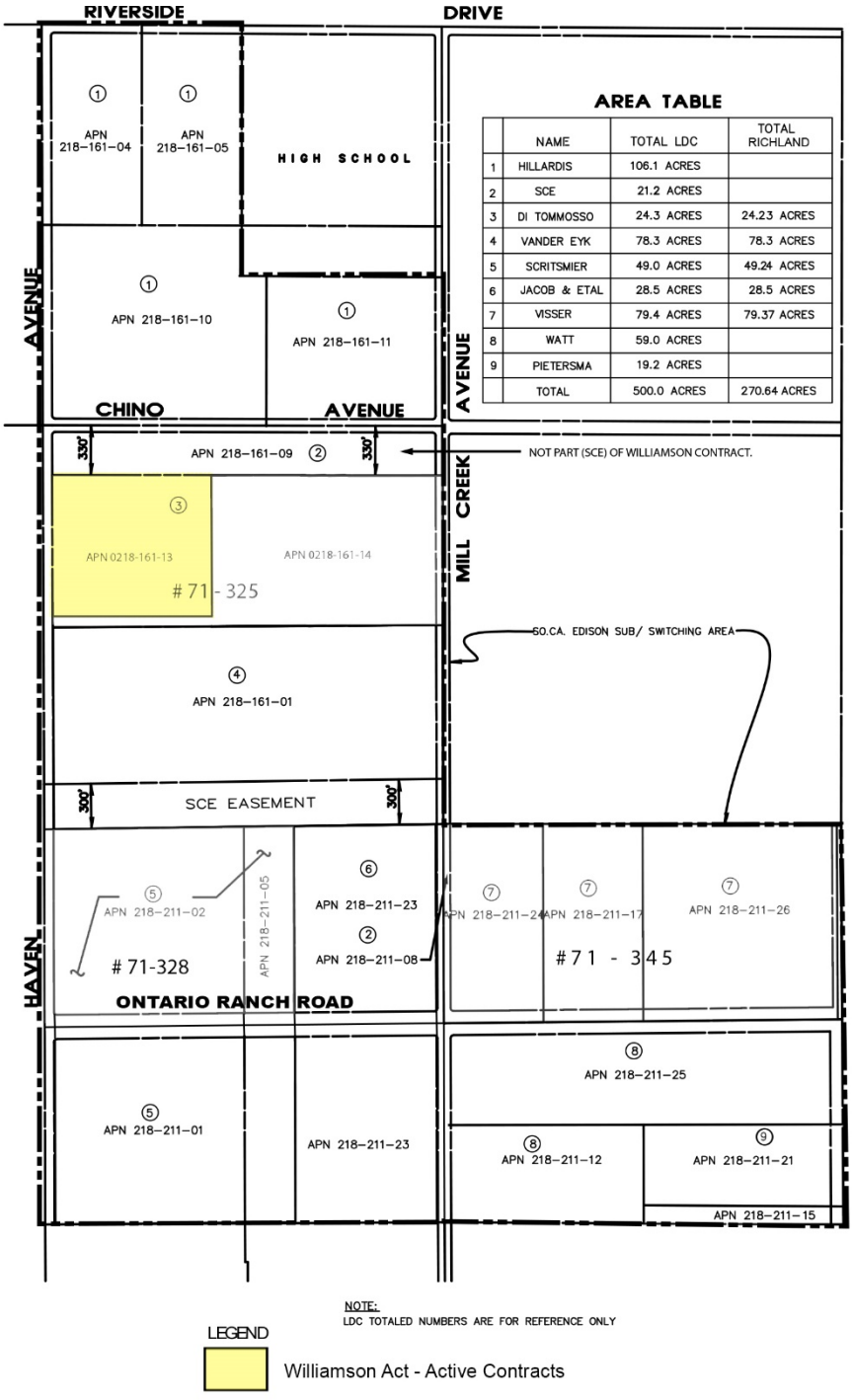
2.2 LAND USES

2.2.1 ON-SITE LAND USES

The Rich-Haven project site is presently used for agricultural purposes, including the raising of livestock, however the southern portion of the project site along Ontario Ranch Road is transitioning to commercial and residential development with the ongoing implementation of the Rich Haven Specific Plan. Fallow and cultivated fields are present, with multiple dry basins and windrows throughout the central portion of the site. Additionally, Southern California Edison (SCE) easements containing power transmission lines cross the site in an east to west direction directly south of the Chino Avenue alignment (mid-way between Chino Avenue and Ontario Ranch Road) and directly south of Ontario Ranch Road. Transmission lines also run north/south along the east side of Mill Creek Avenue, and northeast to southwest diagonally across the site near the intersection of Mill Creek Avenue and Ontario Ranch Road. See Figure 2-2, *Existing Conditions.*

2.2.2 SURROUNDING LAND USES

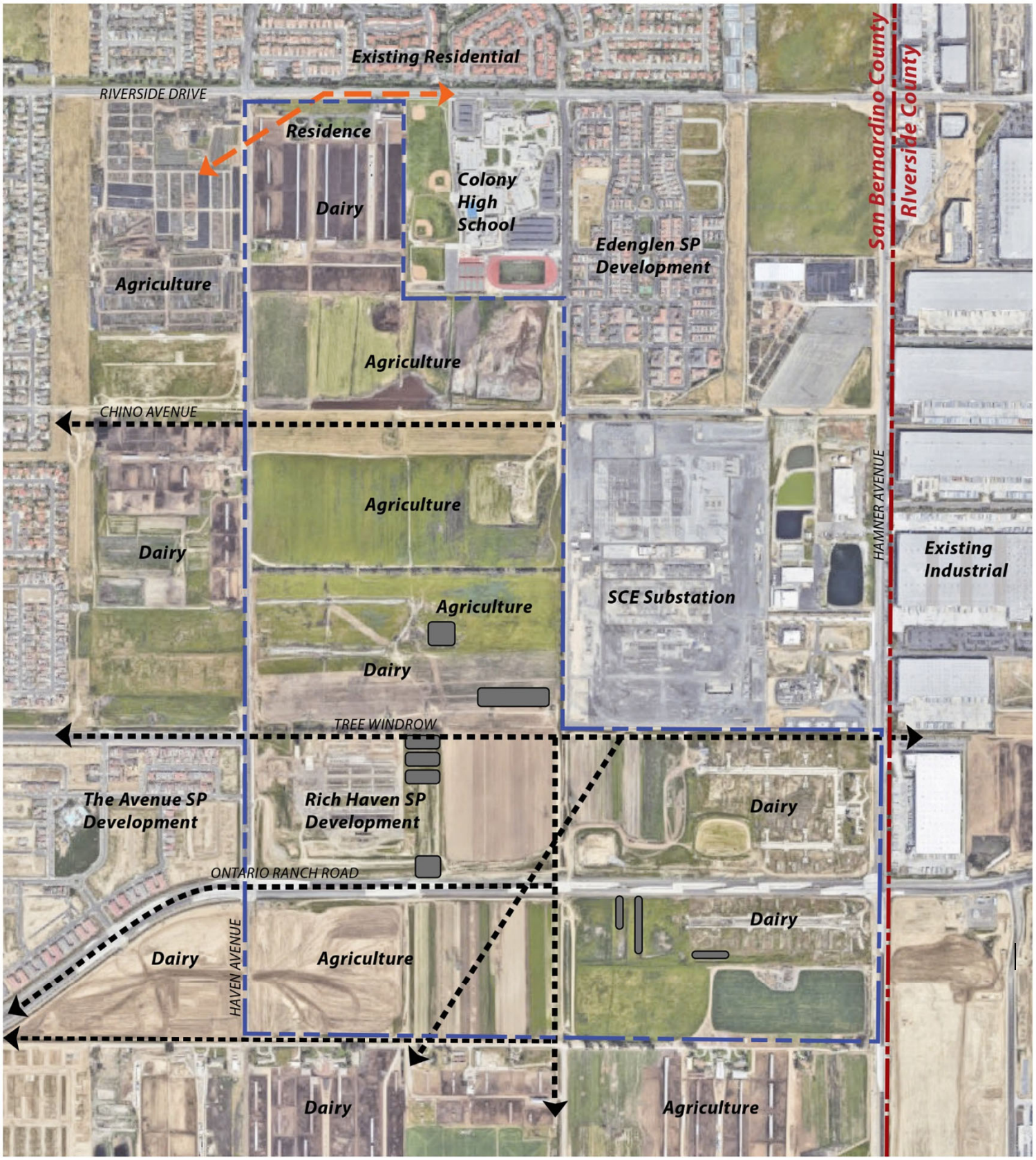
Existing land uses in the vicinity include residential development to the north, and Colony High School to the northeast. A Southern California Edison (SCE) Substation is located adjacent to the project on the east, separating the site from existing industrial uses to the east of the Substation. Both active and fallow agricultural lands, including dairy farms, are present to the west and south of the project area. To the west, east, and south, new development is proposed for the adjacent existing agricultural areas.



NOT TO SCALE

RICH-HAVEN SPECIFIC PLAN
OWNERSHIP MAP
FIGURE 2-1

Revised Exhibit



LEGEND

- SCE Power Line
- 30 Foot Natural Gas Line
- Project Boundary
- County Boundary
- Dairy Pond

NOT TO SCALE

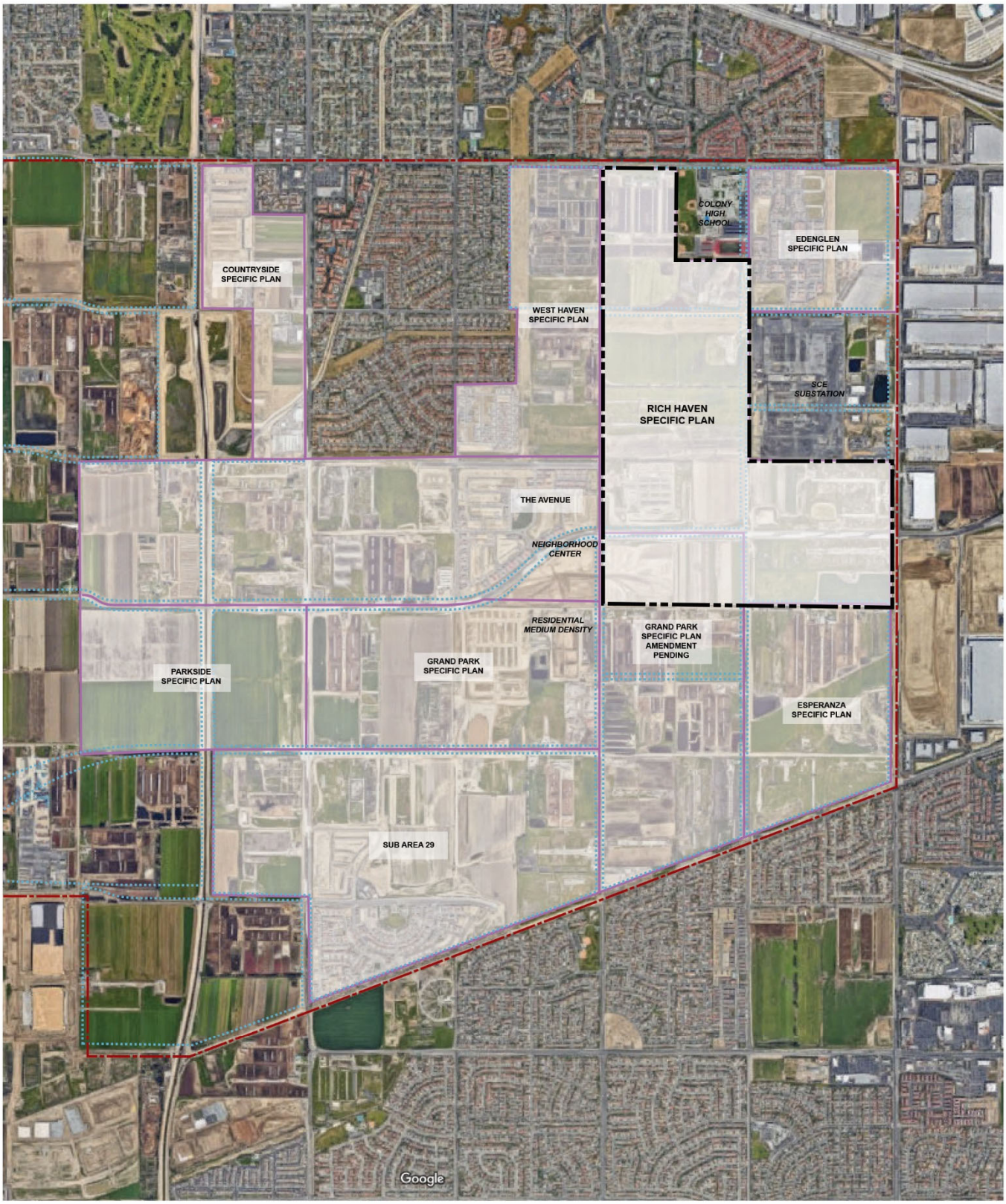
Revised Exhibit

RICH-HAVEN SPECIFIC PLAN

EXISTING LAND USES

FIGURE 2-2

~~May 2021~~ TBD 2023



NOT TO SCALE

RICH-HAVEN SPECIFIC PLAN

SURROUNDING PROPOSED LAND USES

FIGURE 2-3

Projects proposed in the immediate area include the West Haven Specific Plan area, directly to the west of the project across Haven Avenue, designated low- and medium-density residential, and an elementary school. The Edenglen Specific Plan area is adjacent to the project on the northeast side, and also proposes low and medium-density residential areas. The Esperanza Specific Plan located adjacent to the southern portion of the project and includes a mixture of residential uses and a school. Residential low and medium-density and Neighborhood Commercial uses are also designated in The Avenue Specific Plan consistent with the City's TOP for the lands generally to the southeast of the Rich-Haven Specific Plan. See Figure 2-3, *Surrounding Land Uses.*

2.2.3 ONTARIO AIRPORT INFLUENCE AREA SECTION

The Rich Haven Specific Plan is located within the Ontario Airport Influence Area and shall be subject to the Ontario International Airport and Land Use Compatibility Plan (ONT ALUCP) for additional requirements.

~~Existing conditions and impacts include:~~

- ~~**Safety Zones –** The project site is located outside the ONT ALUCP Safety Zones. Refer to *ONT ALUCP.*~~

- ~~**Noise Impact Zones –** Portions of the Rich Haven SP are located within the 60-65 dB CNEL Noise Impact Zone. New Residential land uses within the 60-65 dB CNEL noise impact zone must incorporate exterior-to-interior noise level reduction (NLR) design features and be capable of attenuating exterior noise to 45 dB interior noise level. Acoustical data documenting that the structure will be designed to comply with the criteria must be provided. Refer to *ONT ALUCP.*~~

- ~~**Airspace Protection Zones –** Allowable structure heights for the project site are greater than 200 feet.~~
  - ~~**Policy A1b of the ONT ALUCP** states: The FAA requires that it be notified about any proposal to construct or alter a structure that would be taller than 200 feet above the ground level regardless of the structure's proximity to ONT or any other airport. Refer to *ONT ALUCP.*~~

- ~~**Overflight Notification Zones –** Portions of the project site are located within a Recorded Overflight Notification Zone and the following is required. Refer to *ONT ALUCP:*~~
  - ~~New Residential land uses are required to have a Recorded Overflight Notification appearing on the Property Deed and Title incorporating the following language: (NOTICE OF AIRPORT IN VICINITY: This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to~~

some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors.) Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.)

- Portions of the project site are located within Real Estate Transaction Disclosure Notification Zone and the following is required:
  - The applicant is required to meet the Real Estate Transaction Disclosure in accordance with California Codes (Business and Professions Code Section 11010-11024). New residential subdivisions within an Airport Influence Area are require to file an application for a Public Report consisting of a Notice of Intention (NOI) and a completed questionnaire with the Department of Real Estate and include the following language within the NOI:

- ***NOTICE OF AIRPORT IN VICINITY****: This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors.) Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.*

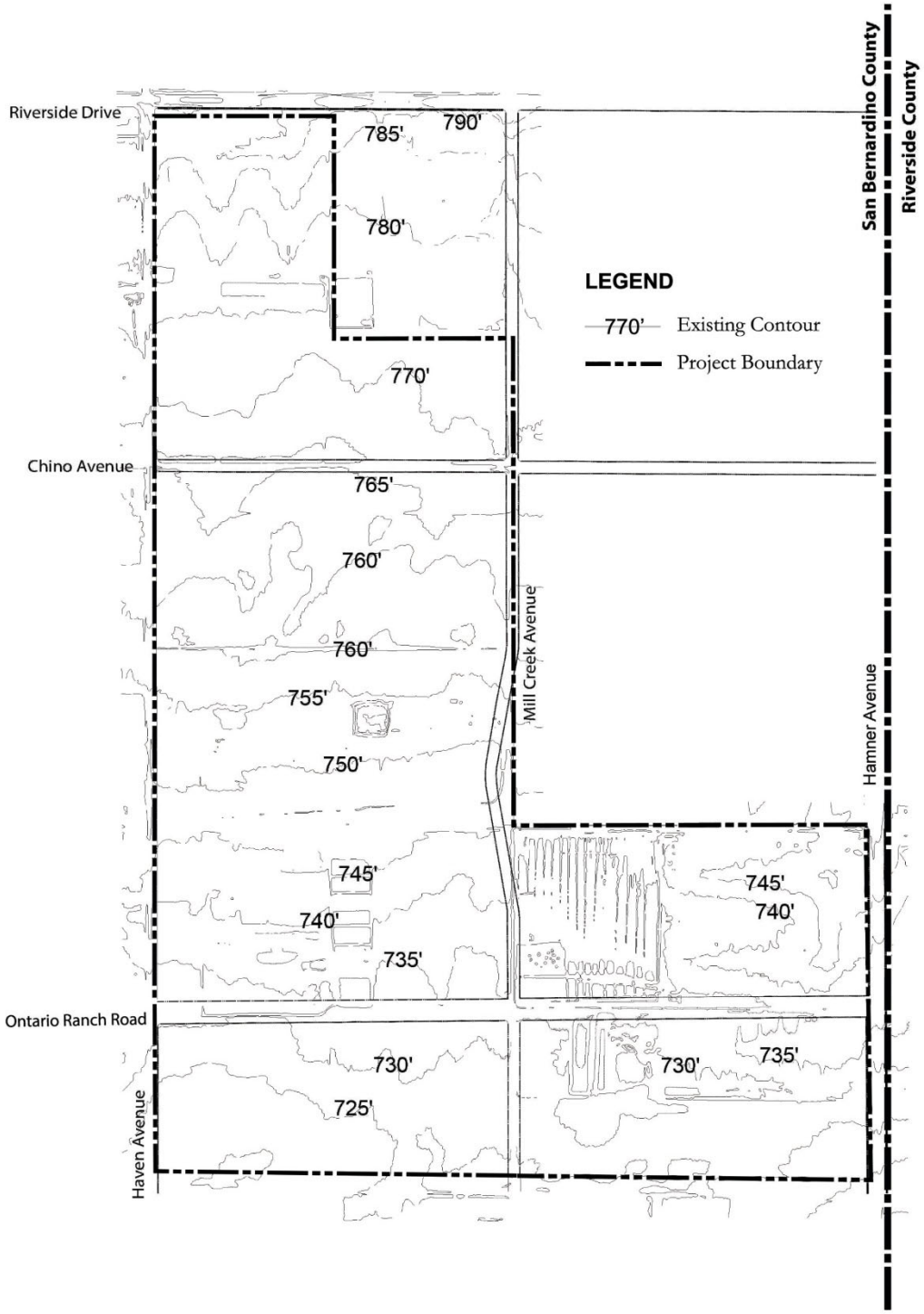
2.3 EXISTING IMPROVEMENTS

Roadway and utility infrastructure improvements within and adjacent to the Rich-Haven project are expanding to accommodate the implementation of several Specific Plans that surround the project site and to accommodate approved development projects within the Rich-Haven project area. Riverside Drive, portions of Mill Creek, Chino Avenue, Haven Avenue and Ontario Ranch Road have been constructed to their ultimate design and improvements will continue to be expanded as future development occurs around and within the project area.

Remaining structures associated with the current agricultural and dairy uses of the site are present mainly in the northwest and southeast portions of the project area. Dairy ponds are also present in active and abandoned dairy properties. See Figure 2-2, *Existing Land Uses.*

2.4 TOPOGRAPHY

Like the rest of the Ontario Ranch, the Rich-Haven Specific Plan area is relatively flat, located in the central portion of the Chino Basin. Ground elevations in the Ontario Ranch vary from 780 to 630 feet above sea level, and, like the area at large, the Rich-Haven Specific Plan Area is relatively flat with an average slope of approximately two percent (2%). See Figure 2-4*, Site Topography*.



NOT TO SCALE

RICH-HAVEN SPECIFIC PLAN
SITE TOPOGRAPHY

FIGURE 2-4

2.5 CIRCULATION AND ACCESS

The Ontario Ranch is served by two freeways, State Route 60 to the north and Interstate 15 to the east, and one state highway, Euclid Avenue (SR-83) to the west. Euclid Avenue (SR-83) is a major divided arterial, with four to six lanes.

The Rich-Haven Specific Plan is directly accessed by arterial and collector roads that pass through and adjacent to the site, including Riverside Drive to the north, Haven Avenue to the west and Hamner Avenue to the east. Riverside Drive is a three-lane primary arterial with an existing 60-foot right-of-way. Haven Avenue is a two-lane major arterial with an existing 60-foot right-of-way. Hamner Avenue is a four lane major arterial with an existing 80-foot right-of-way. Mill Creek Avenue is unimproved south of the Colony High School, and is a rural dirt road as it passes the project site.

Chino Ave is unimproved and currently proposed to be a two lane modified collector between Haven Avenue and Hamner. Various internal roads have been constructed with recent development of several residential projects withing the specific plan area, including Tracts 20081 and 20134. Additional internal roads are anticipated to be constructed in the near future with the ongoing residential developments within the area. In some cases, existing Agricultural operations are currently being served by private dirt roads.~~Chino Avenue is unimproved and is currently designated as a four-lane collector street. Few other internal roadways exist, with the exception of unimproved dirt roads serving the site's agricultural operations. The existing Ontario Ranch Road roadway alignment to the south of the project site is proposed to be realigned through a portion of the Rich-Haven Specific Plan.~~

2.6 INFRASTRUCTURE AND UTILITIES

See Figure 2-5 for existing onsite and surrounding electric, communications, wells, and gas lines locations.

2.6.1 WATER

The Rich-Haven Specific Plan area is located within the Chino Groundwater Basin, and water demand from the Rich-Haven Specific Plan is currently served by private wells, as the Ontario Ranch area currently does not have a water distribution infrastructure system. The Chino Groundwater Basin, the primary source of groundwater for the City of Ontario, has an estimated storage capacity of 13 million acre-feet and a current storage of approximately 7.5 million acre-feet.

The project site is located within the 1010 and 925 Pressure Zones of the City's water delivery system. Existing infrastructure near the project within the 1010 Pressure Zone includes 12-inch water main within Archibald Avenue and Turner Avenue to the west of the project, and both a 10-inch and a 12-inch water main within Riverside Drive, adjacent

to the project to the north. The 925 Pressure Zone includes an existing 16-inch high-pressure water main along a portion of the east side of Hamner Avenue, within the County of Riverside, owned by Jurupa Community Services District. There is a City of Ontario existing water line in Hamner Avenue which has an existing 24"/30" water main.

In compliance with the Chino Basin Water Master's Well Procedure for Developers, a well use/destruction plan and schedule for all existing private/agricultural wells shall be submitted to the City of Ontario for approval prior to the issuance of permits for any construction activity. If a private well is actively used for water supply, the Developer shall submit a plan to abandon such well and connect users to the City's water system (residential to the domestic water system and agricultural to the recycled water system) when available. Wells shall be destroyed/abandoned per the California Water Resource Guidelines and require permitting from the County Health Department.

A copy of such permit and Form DWR 188 Well Completion Form shall be provided to the Development Engineering Department and the Utilities Engineering Department prior to issuance of grading and/or building permits. If the Developer proposes temporary use of an existing agricultural well for purposes other than agriculture, such as grading, dust control, etc., the developer shall make a formal request to the City of Ontario for such use prior to issuance of permits for any construction activity. Upon approval, the Developer shall enter into an agreement with the City of Ontario and pay any applicable fees as set forth by the agreement.

2.6.2 SEWER

Wastewater from the project site is currently disposed of through private septic systems. An existing 10-inch sewer line is located within Riverside Drive, although, it does not service the site. The Eastern Trunk Sewer line is also located in the vicinity of the project, running north to south, to the west of the Rich-Haven project site in Archibald Avenue.

Four wastewater treatment plants are in the vicinity of the Ontario Ranch: RP1 to the north, RP2 to the North, Carbon Canyon Wastewater Treatment Plant (CCWTP) to the southwest, and RP5 also to the southwest. Sewage will ultimately be conveyed to RP5 from the Rich-Haven Specific Plan area through the Eastern Trunk Sewer line to the Kimball Interceptor.

2.6.3 STORM DRAINAGE

The major improved drainage facility affecting the Rich-Haven Specific Plan is the Cucamonga Creek Channel, which runs parallel to Archibald Avenue, west of the project site. Cucamonga Creek Channel is a major north-to-south rectangular concrete line channel, carrying storm water from the mountains to the Santa Ana River.
Lower Deer Creek Channel feeds into the Cucamonga Creek Channel, by way of the Chris Basin, a county-owned groundwater recharge basin west of the project site. Lower Deer Channel also conveys flows from a very small portion of the eastern half of the Ontario Ranch area.

Drainage facilities on-site include unimproved basins and open earthen swales along area roadways. Because of the existing agricultural uses, normal rainfall does not cause runoff. Ground waters within the NMC, as a whole, contain high concentrations of salt, attributable to historic agricultural activities such as dairy farming. The high organic content of on-site soils has contributed incrementally to the degradation of surface and groundwater quality.

2.6.4 ELECTRIC

Currently, the project site is located within the service territory of the Southern California Edison Company (SCE). SCE facilities located within and adjacent to the project area consist of a substation, 500 kV, 220kV, 115kV, 66kV, and 12kV lines, and SCE Communications lines. See Figure 2-5*, Existing On-Site Facilities.*

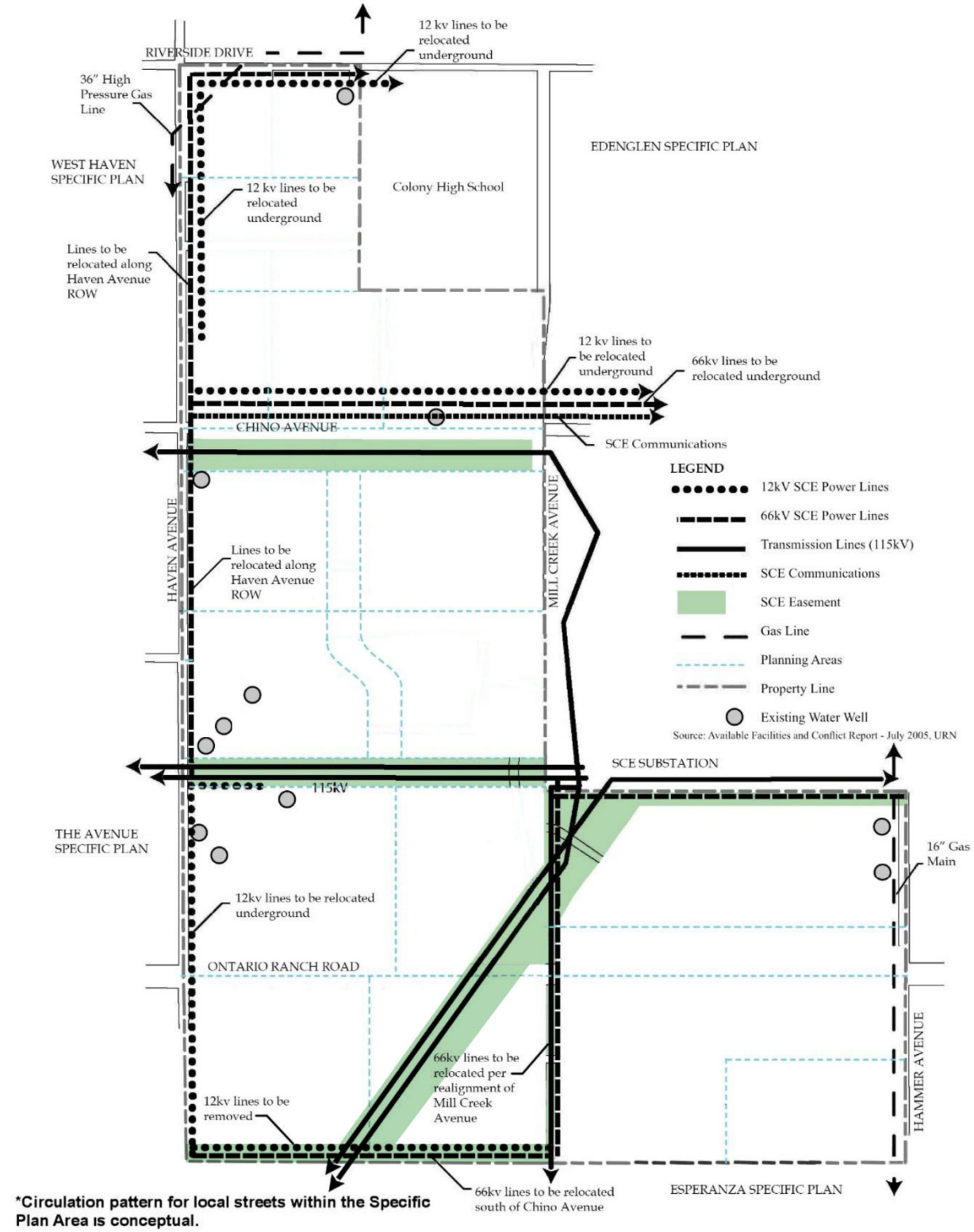
Electric power transmission lines associated with the adjacent Southern California Edison (SCE) Substation transverse the site. Electric power 115kv transmission lines are present within a 330-foot wide SCE easement, crossing the site east to west.

Electric power 115kv transmission lines are also present between Chino Avenue and Ontario Ranch Road within a 300-foot SCE easement, which also crosses the site east to

west. In a 355-foot-wide SCE easement running northeast to southwest near the intersection of Mill Creek Avenue and Ontario Ranch Road, 115kv transmission lines cross the site as they follow Mill Creek Avenue north. These lines connect to north-to-south 115kv transmission lines along the east side of Mill Creek Avenue, ultimately connecting to the SCE Substation.

In addition to the 115kv transmission lines, there are existing 66kv, 12kv, and SCE communications lines that transverse the site. Electric power 66kv and 12kv lines exist along the north side of the existing old Ontario Ranch Road roadway alignment running east to west. Electric power 66kv, 12kV, and communication lines are located along the north side of Chino Avenue running east to west. Along the east side of Haven Avenue electric power 66kv and 12kv lines exist running north to south. Electric power 66kv lines exist along the east side of Mill Creek Avenue running north to south. Electric power 66kv, 12kV, and communication lines are located along the north side of Chino Avenue running east to west as well as, along northern portion of property between Mill Creek Avenue and Hamner Avenue. All existing facilities with 34.5kV or less will be underground in accordance to City ordinance.

Until the development of the tract at the Southern boundary, Edison Avenue shall remain in place with low maintenance landscaping between Edison Avenue right-of-way and the perimeter block wall for the community. At full build out, Edison Avenue shall be removed and replaced with a new maintenance access road per SCE requirements. This road may serve a dual purpose as a pedestrian trail. New permanent landscaping shall be installed between the property boundary and community perimeter block wall. All trees used in land shall be per SCE height requirements.



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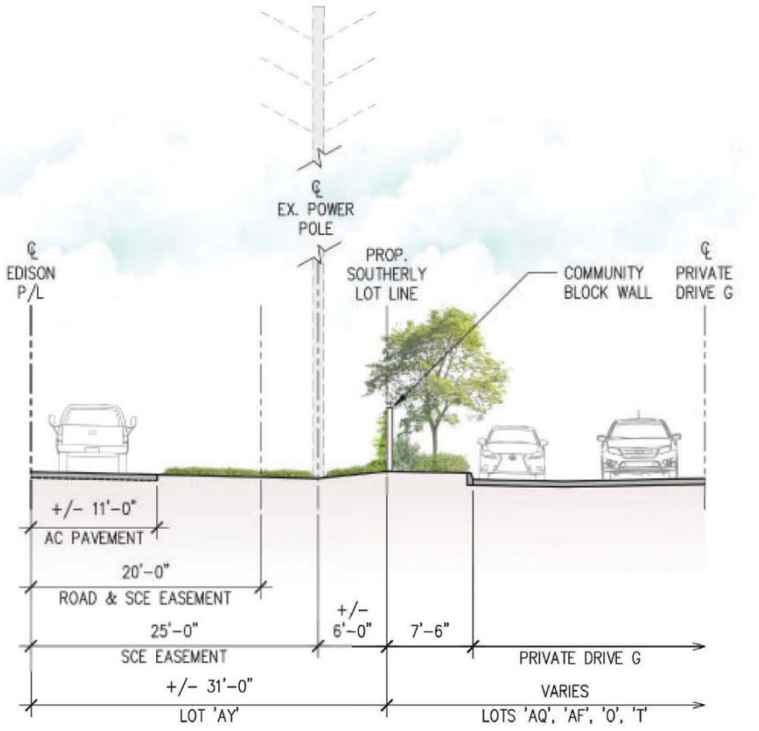
RICH-HAVEN SPECIFIC PLAN
EXISTING ONSITE FACILITIES
Revised Exhibit
FIGURE 2-5

New Exhibit

Southern Boundary

Proposed Interim Condition Typical Section

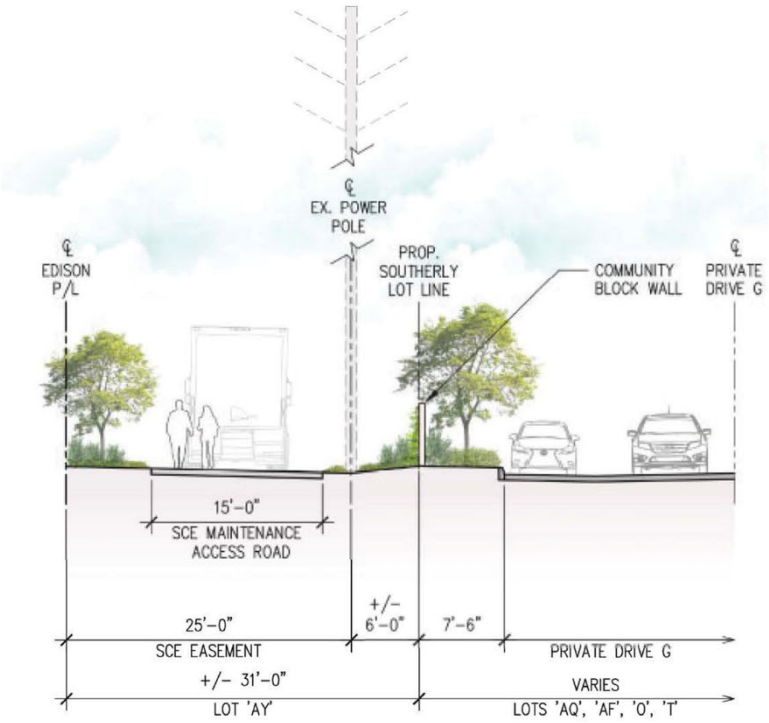
- Edison Avenue roadway remains in place until Southern tract developes
- Low maintenance temporary landscaping between Edison Avenue and community perimeter block wall



Southern Boundary

Proposed Future Built-Out Condition

- Edison Avenue roadway removed
- New maintenance access road installed per SCE requirements
- New permanent landscaping installed between property line and community perimeter block wall
- Trees shall be per SCE height requirements



RICH-HAVEN SPECIFIC PLAN

PA 4B & 5B-SOUTHERN BOUNDARY CONDITION-INTERIM & BUILD-OUT

FIGURE 2-6

2.6.5 NATURAL GAS

Southern California Gas Company (The Gas Company) provides natural gas service to the area. The Gas Company has an existing 36" high pressure main extending through the site at the northwest corner of the project along a gas easement that continues extending east along Riverside Drive and turns north at about 1,000 feet before the extension of Mill Creek Avenue. There is a four-inch main that extends in an east/west direction along Riverside Drive and parallels the 36" high-pressure main along Riverside Drive for about 800 feet. A three-inch main is located on the west side of Haven Avenue and extends in a north/south direction and continues south to existing Ontario Ranch Road, transitioning east for about 1,200 feet. In addition, a 16" main extends in a north/south direction along the west side of Hamner Avenue.

2.6.6 COMMUNICATIONS SYSTEMS

Currently, Verizon provides telephone service within the project area. Verizon has existing underground facilities located on the east side of Haven Avenue that transition to overhead lines just south of Riverside Avenue to Chino Avenue, where the lines cross over to the west side of Haven Avenue terminating approximately 1,200 feet south.

SBC has existing underground telephone lines on the east side of Hamner Avenue extending in a north/south direction.

Charter Spectrum and Frontier have existing overhead facilities on the south side of Riverside Drive.

2.6.7 SOLID WASTE

The Ontario Municipal Utilities Company (OMUC) currently, by request, provides solid waste collection and disposal services to the Ontario Ranch.

2.7 GEOLOGY AND SOILS

A Preliminary Geotechnical Investigation for a majority of the project was prepared by Petra in September 2005 and revealed from subsurface investigation that the project site is underlain by Quaternary-age alluvial deposits to the maximum depth explored (51.5 feet below ground surface). A relatively thin layer of artificial fill mantles the ground surface throughout the entire site. Surface layers of manure, generally six to 12-inches thick were observed within existing cattle pens at the dairy farms, in addition to stockpiles of manure, some several feet high, within the dairies and the pig farm.

2.7.1 SEISMICITY

The project site is located within the Southern California area, dominated by northwest-trending faults associated with the San Andreas system. No active or potentially active faults are known to extend through the site. Several active or potentially active faults are in close proximity and include the Chino-Central Avenue fault approximate 7 mile to the northeast, the San Jose fault 10 miles to the southeast, Cucamonga fault 11 miles to the south, Whittier fault and Glen Ivy fault 11 miles to the northeast, and the San Andreas fault 19 miles to the southwest.

2.8 VEGETATION & WILDLIFE

Little or no naturally occurring vegetation is present on the project site, due to its historic dairy and agricultural use. Existing vegetation within dairy lands include cattle pastures, while agricultural uses consist of cultivated and fallow fields, in addition to windrows along internal, unimproved roadways.

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SECTION 3 - LAND USE

This section of the Rich-Haven Specific Plan discusses the land uses proposed within the Rich-Haven development. Land uses include the residential, commercial, mixed-use, retail, office, light industrial, parks and open space, and community facility components planned for Rich-Haven.

3.1 COMMUNITY DESIGN

The Rich-Haven Specific Plan is envisioned as a high quality residential and mixed-use community, designed with reference to "Traditional Neighborhood Design" principles. Rich-Haven is organized into ~~two~~three Districts, a Residential District, ~~and~~ a Regional Commercial/Mixed-Use District and a Light Industrial District. Each district is designed around Planning Areas, which form smaller neighborhoods. ~~Each Planning Area can contain a variety of residential and/or commercial product types, but will be organized around one common internal street system. Rich-Haven's Residential District contains Planning Areas 1 through, 5F, and the Regional Commercial/Mixed-Use District is comprised of Planning Areas 6, 7, 8 and 9.~~

3.1.1 TRADITIONAL NEIGHBORHOOD DESIGN

To best create Rich-Haven's distinct Residential District and plan for a well-integrated Regional Commercial/Mixed-Use District, the Rich-Haven Specific Plan proposes numerous Traditional Neighborhood Design (TND) principles. The application of TND principles can simultaneously give Rich-Haven identity as well as better connect it to the rest of the Ontario Ranch. The TND principles to be implemented at Rich-Haven include:

- **CONNECTIONS –** Rich-Haven is designed to provide both internal and external connectivity, providing connections between Rich-Haven's own land use components and between Rich-Haven and surrounding future and existing developments. Sidewalks, linear parks and bike trails will internally connect Rich-Haven's residential areas, neighborhood parks, community facilities, proposed public parks, and the retail, commercial, and office uses of the Regional Commercial/Mixed-Use District. Additionally, Rich-Haven's Land Use Plan includes a segment of the SCE Corridor Trail System, which extends through all of the Ontario Ranch, connecting Rich-Haven's residents with important uses and amenities outside of Rich-Haven.

  Connectivity within Rich-Haven is also achieved by designing the community at a walkable scale and density, similar to those of traditional neighborhoods. This allows non-drivers, such as children, seniors, and those with disabilities to be active and independent.

  TRADITIONAL STREET NETWORK – The Rich-Haven Land Use Plan is designed around a hierarchy of streets, connected by a grid network with a variety of routes for pedestrians and vehicles. The Rich-Haven street grid extends through both the Residential and Regional Commercial/Mixed-Use Districts. Traditional street

networks are visually favorable and comfortable environment for pedestrians, bicyclists, and Rich-Haven's residents at large.

- **INCORPORATION OF NEIGHBORHOOD AND COMMUNITY INSTITUTIONS –** The Rich-Haven Specific Plan proposes a public park site within the Rich-Haven community. Inclusion of a school site helps to define Rich-Haven as a cohesive and complete community, and draws on the traditional organization of a community around a neighborhood school. Other community facilities, including a fire station, will also be located within the Residential District.

- **IDENTIFIABLE NEIGHBORHOODS –** Identifiable neighborhoods can make Rich-Haven more attractive to residents and employers by increasing a "sense of community" and belonging. This document's Design Guidelines stress the use of defined neighborhood edges and entrances within the Residential District to make this District's neighborhoods more distinct and identifiable. Within the Regional Commercial/Mixed-Use District, neighborhoods will be identifiable through other means, as the normally defined edges between adjacent uses are intentionally blurred to create a well-integrated mixed-use neighborhood. The mix of residential and commercial uses within the Regional Commercial/Mixed-Use District can itself provide neighborhood identity.

- **MIX OF HOUSING TYPES –** A variety of housing types and varying architectural styles are proposed within Rich-Haven, in order to address varying housing needs caused by the different lifestyles of families, singles, students, executives, retirees, and empty nesters.

- **PUBLIC SPACES –** Rich-Haven's residential neighborhoods are organized around a number of small parks and open space areas. These public spaces provide opportunities for neighbors to meet and socialize, and children to play, within a safe and visible environment. The Regional Commercial/Mixed-Use District will also be organized around common public facilities including central parks, plazas, and paseos.

- **MAIN STREET ENVIRONMENT –** The Regional Commercial/Mixed-Use District may include retail, commercial, office and residential uses, along with well-incorporated central parks, plazas, and paseos, designed to a human scale. Creation of a Main Street environment aids in keeping pedestrian activity from being overwhelmed by automobile traffic. A vital "town center" atmosphere will offer the opportunity for higher-density residential uses to be within a five-minute walk of all goods and services offered in the heart of each mixed-use neighborhood. These higher-density units will provide for a more vibrant Main Street environment.

3.2 LAND USE PLAN

The Rich-Haven Land Use Plan outlines how land uses, dwelling units, and commercial square footage are allocated within the community's two Districts. The Land Use Plan is organized into 109 Planning Areas, with Planning Areas 1A, 1B, 1C, 2B, 3A, and 3B ~~through 5~~ comprising of the Residential District, and Planning Areas ~~6, 7, 8 and 9~~ 4A, 4B, 5B, 6B, 7, 8, 9, 10 A and 10B comprising the Regional Commercial/Mixed-Use District. The Light Industrial District comprises of Planning Areas 2C, 3C, 5A, 5C and 6A. In total, the Land Use Plan proposes a maximum of 7,194 dwelling units (including all residential dwelling unit types), a maximum of ~~990,902~~925,002 square feet of commercial/office space, a maximum of ~~1,183,525~~2,767,148 square feet of industrial space, 27 acres of public parkland, approximately 20.0 acres SC Edison Parcel open space~~, a 1.5 acre fire station site,~~ along with additional private parklands and Edison Easements.

Figure 3-1, *Specific Plan Land Use Plan*, and Table 3-1, *Land Use Plan Summary*, describe how these uses and dwelling units are allocated within the ~~two~~ three districts and ~~9~~ 21 Planning Areas of the Rich-Haven Specific Plan.

3.2.1 RESIDENTIAL DISTRICT

Rich-Haven's Residential District includes approximately ~~271.3~~218.7 acres organized into ~~5~~ 6 Planning Areas, each planned around local parks and open space. In total, the Residential District includes ~~1,833~~2,393 dwelling units, approximately 27.0 acres of public park and 20.0 acres of open space within the Southern California Edison parcel.

Rich-Haven's Residential District Planning Areas include a variety of housing products that respond to a variety of homeownership needs and desires. These housing products may include detached single-family, detached and attached condominiums, townhomes, and live/work units. Clustered multi-family housing may be included throughout the District, including its lower density neighborhoods. In general, the density of the District's neighborhoods increase from north to south, with:

- Planning Area 1A up to 5.0 dwelling units per acre,
- Planning Areas 1B, ~~4A, 4B, 4C, 5B and 5D up to 12.0~~ up to 11.0 dwelling units per acre,
- Planning Areas 1C, 2B, 3A and 3B~~, 5A, and 5C~~ up to 25.0 dwelling units per acre.



* Circulation pattern for local streets within Specific Plan Area to be established at Tentative Tract Map submittal.

** Residential development along the frontage of Haven Avenue within Planning Areas ~~5A, 5C~~3A and ~~6A~~ 4A and residential development along the frontage of Ontario Ranch Road within Planning Area~~s 6A~~ 4A, 4B and 5B~~and 7~~ shall average a density of 18 to 25 dwelling units per acre to support Bus Rapid Transit (BRT) along Haven Avenue.

*** After full dedication of Master Plan streets and neighborhood edges, residential development within ~~Planning Areas 6A + 9A~~Stand Alone Residential Overlay ~~and residential development within Planning Areas 6B + 9B~~ shall meet a minimum net density of 14 dwelling units per acre. The minimum density in Planning Areas ~~6A + 9A and Planning Areas 6B + 9B~~ can be averaged between ~~the~~ two areas, which ~~and~~ shall be established at Tentative Tract submittal for each Planning Area.

**** Planning Area 6B~~7B~~ shall have a minimum depth of 300 feet along Ontario Ranch Road measured from the back of the ROW and Neighborhood Edge.

RICH HAVEN SPECIFIC PLAN

LAND USE PLAN

FIGURE 3-1

Revised Table

Planning Area [3, 4, 5]	Land Use	Gross Acreage	Dwelling Units [1] Maximum	Residential Density [2]	Commercial/ Office Maximum Square Footage	Light Industrial Maximum Square Footage
1A	Low Density Residential	25.5	128	5.0	-	-
1B	Low Medium Density Residential	24.5	270	11.0	-	-
1C	Medium Density Residential	60.6	1,055	17.4	-	-
SCE 1	Edison Parcel	20.0	-	-	-	-
2A	Public Park	27.0	-	-	-	-
2B	Medium Density Residential	8.1	190	23.5	-	-
2C	Light Industrial	23.4	-	-	-	560,617
3A	Medium Density Residential Open Space-Non Recreation	36.1 8.3	560	15.5	-	-
3B	Medium Density Residential	8.6	190	22.1	-	-
3C	Light Industrial Open Space-Non Recreation	21.4 8.5	-	-	-	512,701
4A	Stand Alone Residential Overlay	45.0	1,099	24.4	-	-
4B	Regional Commercial Stand Alone Residential Overlay Open Space-Non Recreation	5.0 35.2 0.4	1,150	32.7	166,182	-
5A	Light Industrial Open Space-Non Recreation	21.3 3.7	-	-	-	502,805
5B	Regional Commercial Stand Alone Residential Overlay Open Space-Non Recreation	5.0 26.6 7.5	1,150	43.2	83,820	-
5C	Light Industrial	1.0	-	-	-	7,500
6A	Light Industrial Open Space-Non Recreation	49.4 6.6	-	-	-	1,183,525
6B	Regional Commercial	25.1	-	-	300,000	-
7	Mixed Use Overlay	20.5	552	26.9	162,500	-
8	Regional Commercial	20.5	-	-	162,500	-
9	Stand Alone Residential Overlay	20.4	300	14.7	-	-
10A	Stand Alone Residential Overlay	16.9	550	32.5	-	-
10B	Regional Commercial	2.8	-	-	50,000	-
Total		**584.9**	**7,194**	**-**	**925,002**	**2,767,148**

NOTES:

1. ALL RESIDENTIAL DWELLING UNITS SHOWN IN LAND USE SUMMARY ARE MAXIMUMS.

2. RESIDENTIAL DENSITIES AREA CALCULATED USING RESIDENTIAL ACREAGES ONLY, THEREFORE OPEN SPACE- NON RECREATION ACREAGES ARE NOT INCLUDED.

3. WITHIN THE SPECIFIC PLAN DOCUMENT, REFERENCES TO PLANNING AREA ARE ONLY 1 THROUGH 10. SUB-PLANNING AREAS SUCH AS 1A, 1B, ETC. ARE DESIGNATED TO HELP ADDRESS OWNERSHIP PATTERNS AND ARE NOT INTENDED TO BE USED FOR DENSITY TRANSFER.

4. RESIDENTIAL DEVELOPMENT ALONG THE FRONTAGE OF HAVEN AVENUE WITHIN PLANNING AREAS 3A AND 4A SHALL AVERAGE A DENSITY OF 18 TO 25 DWELLING UNITS PER ACRE TO SUPPORT BUS RAPID TRANSIT (BRT) ALONG HAVEN AVENUE.

5. RESIDENTIAL DEVELOPMENT WITHIN PLANNING AREAS 4A, 4B, ~~5A~~5B, 7, 9 AND 10A SHALL MEET A MINIMUM NET DENSITY OF 14 DWELLING UNITS PER TOP ADJUSTED GROSS ACREAGE. THE MINIMUM 14 DWELLINGS PER ACRE MAY BE AVERAGED OVER A SINGLE PLANNING AREA SUBJECT TO PLANNING DIRECTOR REVIEW AND APPROVAL AND SHALL BE CODIFIED WITHIN A DEVELOPMENT AGREEMENT.

RICH HAVEN SPECIFIC PLAN

LAND USE SUMMARY

TABLE 3-1

Consistent with the City's TOP, the Rich-Haven Specific Plan encourages residential neighborhoods designed around Traditional Neighborhood Design (TND) principles, planned to include multiple pedestrian routes, bikeways, and multi-use trails, neo-traditional street-grid systems, a diversity of housing types, and the integration of public facilities into the community fabric.

The land use plan for the Rich-Haven Residential District responds by including park and open space amenities throughout, including linear parks and SCE parcel/easement areas that provide pedestrian and bikeway connectivity. The internal backbone streets proposed within the District are planned on a traditional grid system, creating a visually attractive street network that connects well both internally, between the Residential and Regional Commercial/Mixed-Use Districts, and between Rich-Haven and its surrounding development. Additionally, the Residential District includes a variety of housing types, with a gradient increase in density from the north to the south, and may include gated neighborhoods. Finally, the Residential District is designed to include community facilities and public institutions, including a proposed public park and fire station site.

3.2.2 REGIONAL COMMERCIAL/MIXED-USE DISTRICT

The Regional Commercial/Mixed-Use District includes approximately ~~256.9~~ 230.9 gross acres within Planning Areas ~~6, 7B, 8, and 9~~4A, 4B, 5B, 6B, 7, 8, 9, 10A and 10B. This District is envisioned as a highly active area with a variety of commercial uses, including retail, office, residential, medical, research, entertainment and other comparable uses identified in Section 5, *Development Regulations.* As a true mixed-use district, residential uses are also to be included in areas with the overlays. In total, a maximum of ~~4,843~~4,801 dwelling units and a maximum of ~~990,902~~925,002 square feet of regional and local commercial uses are planned within this District. Additionally, the Regional Commercial/Mixed-Use District includes appropriate required acreage of private parklands, ~~a 1.5 acrefire station site~~ and additional open space found within the existing Southern California Edison easements.

Residential uses allowed within the Regional Commercial/Mixed-Use District include high-density attached residential / mixed-use, as well as standalone residential neighborhoods~~,~~ accommodated through a "Stand Alone Residential Overlay". The Stand Alone Residential Overlay is identified on the Land Use Plan Figure 3-1 and may include gated residential neighborhoods. Within this overlay area, residential uses are permitted without being vertically mixed with commercial uses, and may include single-family detached residential units. Stand Alone Residential Development within the Mixed Use Areas (Planning Areas ~~6A + 9A, 6B + 9B, 7, 8A and 8B~~4A, 4B, 5B, 9 and 10A) are required to be developed at a minimum average density of 14 units per TOP adjusted Gross Acreage, consistent with the City's TOP. Compliance with the TOP's minimum density shall be established with Tentative Tract Map submittal.

The community design concept to be implemented within the Regional Commercial/Mixed-Use District is one of a Main Street environment, with uses seamlessly integrated and designed at a pedestrian friendly scale. Like the Residential District, the Regional Commercial/Mixed-Use District will be designed with a high level of connectivity, both between its own land use components, between the District and the rest of Rich-Haven, and between Rich-Haven and the rest of the Ontario Ranch. The integration of common public spaces, including plazas, paseos and small park areas will be included in the design of this District, and a mix of housing products will provide a diversity of opportunities for the District's residents, further executing the Traditional Neighborhood Design Principles encouraged by the City's TOP.

Commercial development within Planning Area ~~7B~~ 6B is proposed to extend along Ontario Ranch Road between Mill Creek Avenue and Hamner Avenue incorporating a minimum of 25.1 gross acres. There is no maximum area allowed to be within Planning Area ~~7B~~6B. ~~Additional mixed use development above the 25.1 acre minimum will be reduced from the remaining acres within Planning Area 7A.~~

The design concept to be implemented within Planning Area ~~7B~~ 6B is intended to encourage retail, office, medical office and restaurant uses to establish a commercial/mixed use character along Ontario Ranch Road with a pedestrian friendly scale and a high level of connectivity to the balance of the Regional Commercial/Mixed Use development components, the residential development and the rest of the Ontario Ranch. Within Planning Area ~~7B~~6B, a minimum of 100,000 square feet and a maximum of 300,000 square feet of retail/office, medical office and/or retail uses are allowed.

3.2.3 LIGHT INDUSTRIAL LAND USE DISTRICT

The Light Industrial Land Use District includes approximately ~~56.0~~135.3 gross acres within Planning Areas ~~7A~~2C, 3C, 5A, 5C and 6A. This District is intended to allow for large scale industrial and warehouse uses to provide a transition to the SCE substation and similar industrial uses to the east of the project site. A maximum of ~~1,183,525~~2,767,148 square feet of industrial uses are planned within this District.

The TOP and Specific Plan Land Use Plans designates the land use on SCE easement area within the Industrial District as "Open Space – Non Recreational". In Planning Areas 3C (portions abutting Light Industrial), 5A, and ~~7A~~6A, when adequately screened, this land use designation allows for truck, trailer and vehicle parking that is compatible with the adjacent Light Industrial uses.

3.3 COMMUNITY FACILITIES

A variety of community facilities are included within the Rich-Haven Specific Plan Land Use Plan, including private parks and open space, a proposed public park site, a fire station site, and a network of greenbelts and landscaped neighborhood edges.

3.3.1 PARKS

A series of private parks will be provided throughout the Rich-Haven community, in both the Residential and Regional Commercial/Mixed-Use Districts. Linear parks are proposed within the Edison easements, and a series of private parks are proposed within each of the community neighborhoods or districts. Refer to Figure 3-1, *Land Use Plan*, for general individual private park locations.

The Policy Plan (Policy PR1-5) has established a standard of 5-acres of parklands (public and private) per 1,000 residents, with a minimum of 2-acres of developed private park space per 1,000 residents (Policy PR1-16). The proposals within the Rich-Haven Land Use Plan will include enough parkland to meet the minimum ratio of 2-acres per 1,000 residents. The remaining acreage of parkland required will be accommodated through the payment of in-lieu park fees.

A portion of the required park area may be provided within the SCE Easement. Any easement area will be required to be improved and maintained by the Master Development and/or Homeowners Association in order to receive park credit. Refer to Section 5.4.1.13 of the Development Regulations.

Additionally, a 27.0-acre public park area will be located in Planning Area ~~3~~2A. Access to this park will be provided along Haven Avenue and internal streets.

3.3. 2 FIRE STATION

A potential 1.5-acre fire station pad is allowed within the Regional Commercial/Mixed-Use District. The fire station would serve surrounding areas, and be located in the southern portion of the Specific Plan area, potentially within Planning Area ~~7~~5C. See Figure 3-1 for approximate location.

3.3. ~~3~~2 GREENBELTS AND LANDSCAPED NEIGHBORHOOD EDGES

Greenbelts

Greenbelts throughout the Rich-Haven Specific Plan encompass a network of easements belonging to Southern California Edison (SCE) ~~with exception to Planning Area 2 fee-owned rights-of-way~~. These greenbelts crisscross the Ontario Ranch, are to be jointly used as a trails and bikeways system and identified as the SCE Corridor Trail connecting the various neighborhoods of the Ontario Ranch.

The greenbelts extend across the Rich-Haven Specific Plan area in ~~three~~ two places; ~~east to west along the southern side of the proposed Chino Avenue;~~ east to west between Twinkle and Hamner Avenue to the south of Rich-Haven Planning Areas ~~5~~3A; and extending diagonally to the southwest across the proposed Mill Creek (Cleveland) Avenue. See Figure 4-3*, Trails and Bikeways Plan*.

Access to the SCE trails will be provided through the various residential areas of the Rich-Haven development, providing pedestrian and bicycle accessibility between residential areas, parks, schools, and shopping and town centers. The corridor will include a multi-use pathway, fencing, signage, and landscaping, and will be accessible to wheelchairs, bicycles, and pedestrians. The multi-use pathway will also provide access for maintenance equipment and vehicles.

Landscape Neighborhood Edges

Landscape neighborhood edges will be located along the internal backbone roadway system of the Specific Plan and include expanded parkways.

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SECTION 4 - INFRASTRUCTURE AND SERVICES

This section of the Rich-Haven Specific Plan discusses the proposed infrastructure and public services that will support Rich-Haven's residential, commercial, mixed use and light industrial districts. Infrastructure discussed herein includes the construction of master planned facilities. Public services include schools, parks, fire, law enforcement, library, telephone and technology wiring, natural gas, electricity, and solid waste disposal. A discussion of project grading is also provided.

General Notes

1. Master planned utilities serving and surrounding ~~the~~ each project site development, as identified in the approved respective Master Plan, shall be constructed prior to issuance of first occupancy.
2. All development and corresponding utilities shall be constructed and be consistent with the NMC Construction Agreement.
3. Public Utilities construction shall be avoided within private alleys; where city has limited access.
4. Public Utilities construction (especially water lines) shall be avoided beneath roundabouts/traffic circles.
5. All signalized intersections and approaches on designated truck routes shall be concrete.

4.1 CIRCULATION PLAN

The Circulation Plan for the Rich-Haven Specific Plan will provide effective movement of automobiles and trucks as well as pedestrians, bicyclists, and transit. The Rich-Haven Specific Plan will be served by a system of new and varied parkway, arterial, and collector roadways to be improved per City's The Ontario Plan (TOP) and current Master Plan of Streets and Highways, and, through proposed local backbone streets to be constructed as part of the project site development. Improvements will be constructed for Haven Avenue, Ontario Ranch Road, Hamner Avenue, Chino Avenue, and Mill Creek Avenue, which run through or border the project site.

Within the Specific Plan area, local backbone streets will provide efficient movement of vehicles and pedestrians. Roadways will be designed to meet current and approved design standards. Figure 4-1~~B~~, *Conceptual Circulation Plan*, illustrates backbone on-site roadway circulation, access points, potential roundabout locations, signalized intersections, and non-signalized access points. Access points are from Hamner Avenue to the east, and Haven Avenue to the west of the project site, as noted in figure 4-1. The location of final access points and round-about locations will be determined at time of the tentative tract mapping in the residential areas and site plan review in commercial areas. The traffic study will verify the need for additional right-of-way at critical intersections to accommodate left and right turn lanes.

The minimum design speeds to be used for centerline curve radii, super-elevation, corner sight distance, vertical and horizontal alignment and sight distance, are listed below:

- Ontario Ranch Road:	50 mph	- Haven Avenue:	45 mph
- Chino Avenue:	40 mph	- Mill Creek Avenue:	40 mph

- Riverside Drive: 45 mph - Hamner Avenue: 50 mph

4.1.1 STREET NETWORK

The proposed Rich-Haven street network is based on the existing underlying grid system of improved and unimproved streets, adjacent to and within the project site~~.~~, ~~A~~and will be consistent with the City's Master Plan of Streets and Highways. See *Street Cross Sections*, *Figure 4-2A through 4-2E*. The developer(s) of the Rich-Haven Specific Plan area will be responsible for all off-site improvements for the entire project frontage or as otherwise indicated. Phasing of the improvements will be implemented as required by the City Engineer and pursuant to the mitigation measures identified in the Environmental Impact Report (EIR) and/or the Conditions of Approval established on the approved tentative tract maps for the project. Additionally, bus turnouts and shelters, to serve the future residents, shall be provided on arterial and collector roadways prescribed by the City.

The following is a description of the streets to be improved within the Rich-Haven Specific Plan and NMC L.L.C. associated improvements:

HAMNER AVENUE – Bounding the project at the east, Hamner Avenue is designated as a divided Other Principal Arterial with eight lanes and a minimum right-of-way of 140 feet. Access to Hamner Avenue via driveways from residential units and on-street parking will be prohibited. Vehicular access locations to the proposed development from Hamner Avenue will be allowed at controlled locations identified on the Land Use Plan. Additional access locations may be approved by the City Engineer to provide for safe and efficient traffic distribution for the intended mix of land uses. The developer shall be responsible for those improvements to Hamner Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or to the Conditions of Approval established on the approved tentative tract maps for the project. Bus turnouts will be required to the satisfaction of the City of Ontario and Omnitrans. Proposed traffic signals along Hamner Avenue are shown in Figure 4-1.

Hamner Avenue is a designated truck route. Ontario Ranch designated truck routes will direct truck traffic along arterial roadways and out of residential areas.

HAVEN AVENUE – Located on the western boundary of the project site, Haven Avenue is classified by the Mobility Element of Policy Plan (Figure M-2 Functional Roadway Classification Plan) as a proposed Other Principal Arterial, with four travel lanes and a double row of parkway trees. Haven Avenue, as it borders the project site, is proposed at a minimum right-of-way of 124 feet with multi-purpose trail. Right of way areas with parkways and sidewalks are also proposed. Access to this street via driveways from residential units and on-street parking will be prohibited. The developer shall be responsible for those improvements to Haven Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or to the Conditions of Approval established on the approved tentative tract maps for the project. Bus turnouts

will be required to the satisfaction of the City of Ontario and Omnitrans. Proposed traffic signals along Haven Avenue are shown in Figure 4-1.

ONTARIO RANCH ROAD – Bounding and crossing the site along the south, Ontario Ranch Road is classified the Mobility Element of Policy Plan (Figure M-2 Functional Roadway Classification Plan) as an Other Principal Arterial, with eight travel lanes at build-out, and a minimum right-of-way of 160 feet. The right of way area is proposed with landscaped buffers/parkways, sidewalks and an 8-foot multipurpose trail on the south side between Mill Creek Avenue and Hamner Avenue within the Rich-Haven Specific Plan. Access to this street via driveways from residential units and on-street parking will be prohibited. Ontario Ranch Road connects the project site to Hamner Avenue to the east, the rest of the Ontario Ranch to the west and the City of Chino further to the west. To the east of the project is the Cantu-Galeano Ranch Road/I-15 Interchange. The developer shall be responsible for those improvements to Ontario Ranch Road as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or to the Conditions of Approval established on the approved tentative tract maps for the project. Bus turnouts will be required to the satisfaction of the City of Ontario and Omnitrans. Proposed traffic signals along Ontario Ranch Road are shown in Figure 4-1.

Ontario Ranch Road is a designated truck route. Ontario Ranch designated truck routes will direct truck traffic along arterial roadways and out of residential areas.

RIVERSIDE DRIVE – Bounding the site on the north, Riverside Drive is designated as a Minor Arterial with a 108-foot right-of-way with a landscape buffer along its neighborhood edge. A sidewalk and parkway is also proposed within the right of way area, as well as an 8-foot multipurpose trail on the north side between Haven Avenue and Mill Creek Avenue and curb adjacent 5-foot bike lanes on both sides of the street. Access to this street via driveways from residential units and on-street parking will be prohibited. The developer shall be responsible for those improvements to Riverside Drive as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or to the Conditions of Approval established on the approved tentative tract maps for the project. Bus turnouts will be required to the satisfaction of the City of Ontario and Omnitrans. Proposed traffic signals along Riverside Drive are shown in Figure 4-1.

CHINO AVENUE – Crossing the site from east to west, Chino Avenue is identified as a modified Collector Street the Mobility Element of Policy Plan (Figure M-2 Functional Roadway Classification Plan), to be improved to one~~two~~ travel lane~~s~~ in each direction with a minimum 88-foot right-of-way, which includes raised median between Haven Avenue and Mill Creek Avenue and two roundabouts, ~~a~~ parkway, sidewalk on the south side, 8 foot multipurpose trail on the north side between Haven Avenue and Mill Creek Avenue and curb adjacent 5-foot bike lanes on both sides of the street. Access to this street via driveways from residential units and on-street parking will be prohibited. The developer shall be responsible for those improvements to Chino Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or to the Conditions of Approval established on the approved tentative tract maps for the project.

Bus pads~~turnouts~~ will be required to the satisfaction of the City of Ontario and Omnitrans. Proposed traffic Signals along Chino Avenue are shown in Figure 4-1.

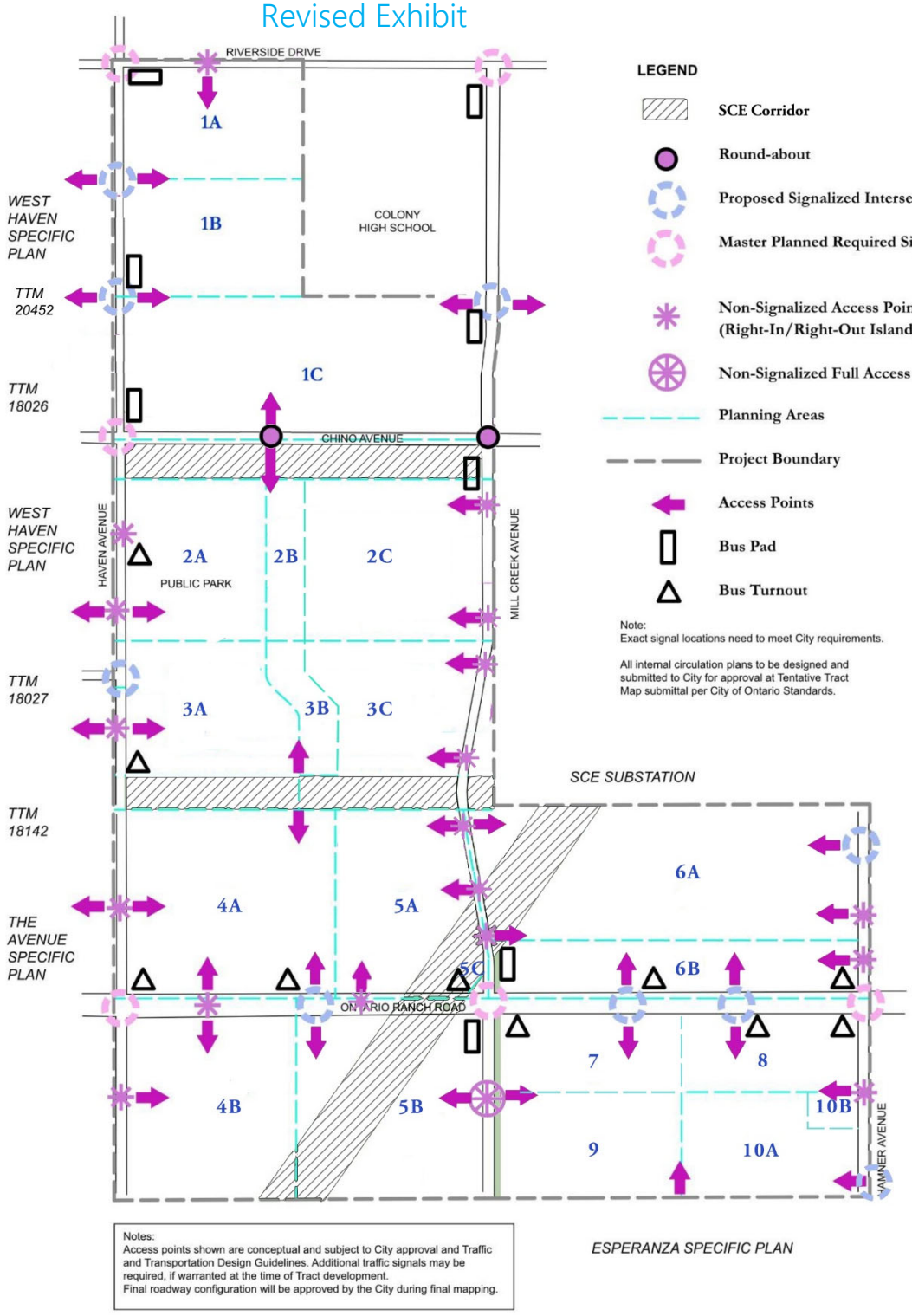
MILL CREEK AVENUE – Bisecting the site from north to south, Mill Creek Avenue is identified as a Collector Street the Mobility Element of Policy Plan (Figure M-2 Functional Roadway Classification Plan), to be improved to four lanes, with a minimum 88-foot right-of-way. For the portion of Mill Creek Avenue between Ontario Ranch Road and Chino Avenue, proposed minimum right of way is 83-feet. Right of way areas are also proposed that consist of raised median in select locations to provide traffic directing measures at industrial project driveways, a sidewalk, an adjacent parkway, an 8 foot multipurpose trail on the west side between Chino Avenue, and Ontario Ranch Road ~~and curb adjacent 5-foot bike lanes on both sides of the street~~. Access to this street via driveways from residential units and on-street parking will be prohibited. The roadway will be realigned ~~to the west starting approximately 50 feet south of the existing high school and continuing south beyond the project area~~along the frontage of the Mira Loma Substation. The ultimate alignment of Mill Creek Avenue will be determined as part of the Master Infrastructure Improvements to be determined by the City and NMC, LLC. The developer shall be responsible for those improvements to Mill Creek Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or to the Conditions of Approval established on the approved tentative tract maps for the project. Bus turnouts will be required to the satisfaction of the City of Ontario and Omnitrans. Proposed traffic signals for Mill Creek Avenue are shown in Figure 4-1.

LOCAL BACKBONE STREETS – Connecting the above regional backbone roadways, the project's local backbone streets will connect the project's various components and provide for safe and efficient vehicular circulation. Internal project access points will be taken from Haven Avenue on the west side of the project, Mill Creek Avenue and Hamner Avenue on the east side, while another access point will occur along Hamner Avenue. ~~The internal streets within the Regional Commercial/Mixed-Use District will form a central loop off of Ontario Ranch Road.~~ Alternative internal street connections may be allowed subject to the approval of the City Engineer. See Figure 4-2E, Street Cross Sections.

LOCAL NEIGHBORHOOD/PRIVATE STREETS – Local Neighborhood/Private Streets that carry neighborhood related traffic and be constructed with a 60-foot right-of-way, which includes a minimum 12-foot landscaped parkway with sidewalk. Themed Streets will have an additional 5-foot wide lettered lot along the theme street edge, located adjacent to ROW. To be maintained by HOA. See Figure 4-2E, Street Cross Sections.

COMMON DRIVES – Common Drives will be constructed with a 20-foot minimum right-of-way. Common Drives will contain a minimum 20-foot travel lane and 24-foot travel lane for emergency access roads. A 30-foot minimum distance is required between buildings on each side of the common drive. Final alley design shall be subject to review and approval by the planning, engineering, and fire departments. See Figure 4-2E, Street Cross Sections.

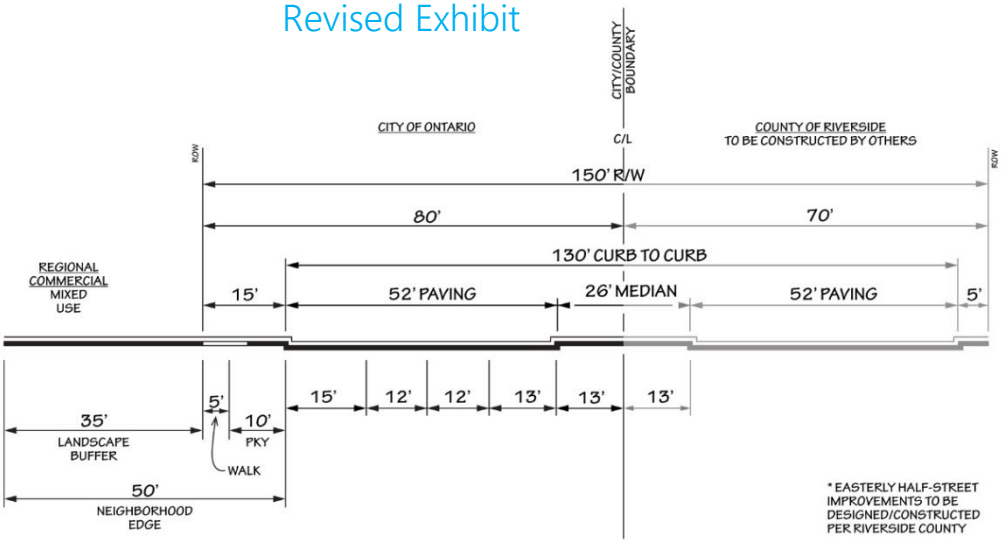
Revised Exhibit



NOT TO SCALE

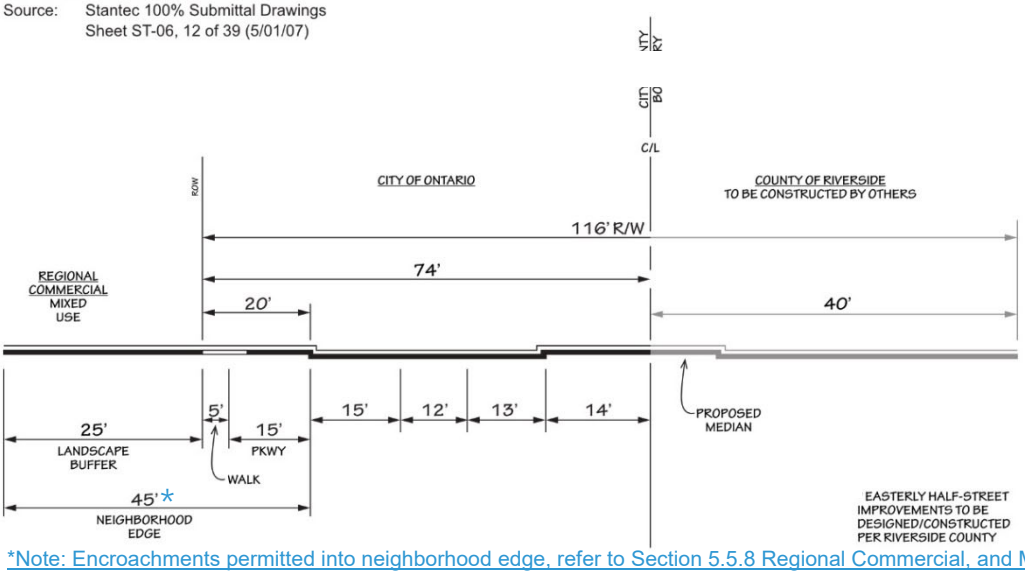
RICH-HAVEN SPECIFIC PLAN
CONCEPTUAL CIRCULATION PLAN
FIGURE 4-1

Revised Exhibit



Hamner Avenue - Westside
Between Riverside Drive and Ontario Ranch Road
Divided Other Principal Arterial
Interim Improvements

On-Street Parking Prohibited
Source: Stantec 100% Submittal Drawings
Sheet ST-06, 12 of 39 (5/01/07)

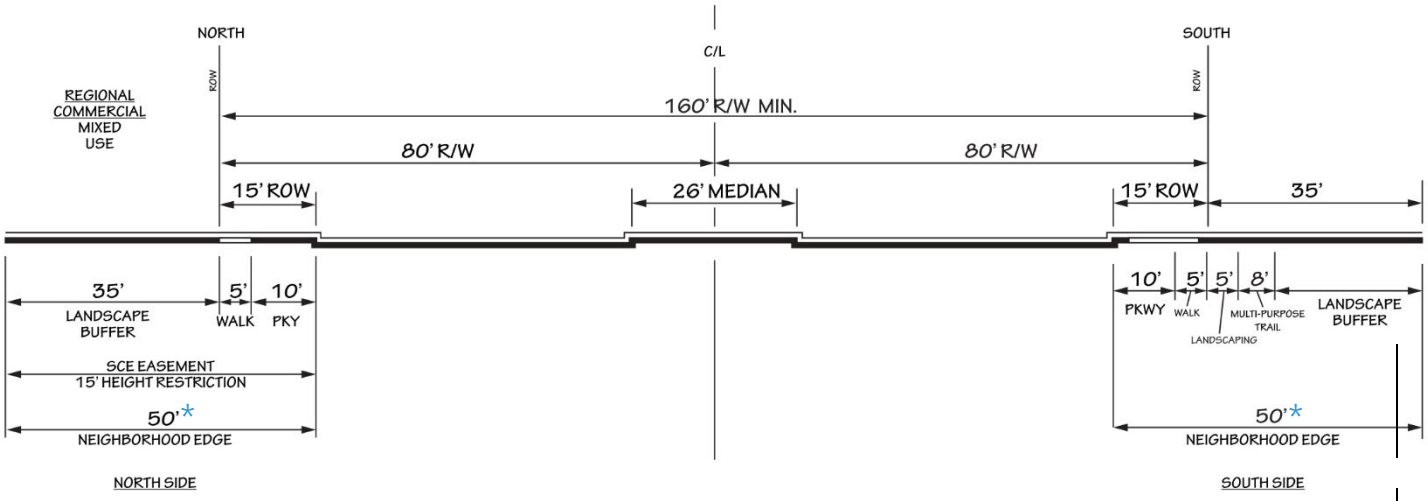


*Note: Encroachments permitted into neighborhood edge, refer to Section 5.5.8 Regional Commercial, and Mixed Use Development Standards

Hamner Avenue - Westside
South of Ontario Ranch Road
Divided Other Principal Arterial
On-Street Parking Prohibited
(three-lanes/median)

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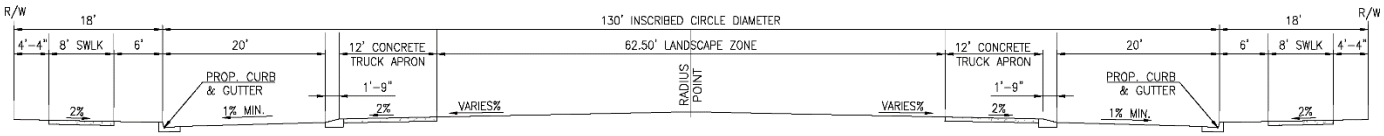
RICH-HAVEN SPECIFIC PLAN
STREET CROSS SECTIONS
FIGURE 4-2A



Ontario Ranch Road

Between Haven Avenue and Hamner Avenue
Divided Other Principal Arterial w/ Bikeway
On-Street Parking Prohibited
Source: Stantec 35% Submittal Drawings, Sheet DT-01

*Note: Encroachments permitted into neighborhood edge, refer to Section 5.5.8 Regional Commercial, and Mixed Use Development Standards



Roundabout Section (Chino Avenue)

On-Street Parking Prohibited

Source: X Engineering & Consulting

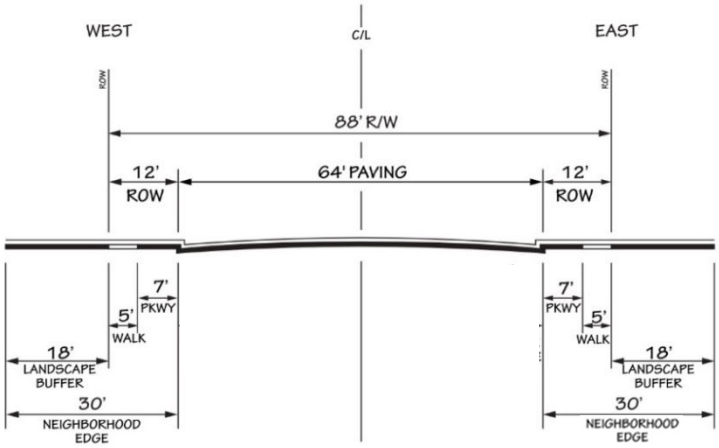
New Exhibit

Note: Refer to Chapter 7 for Streetscape Design.

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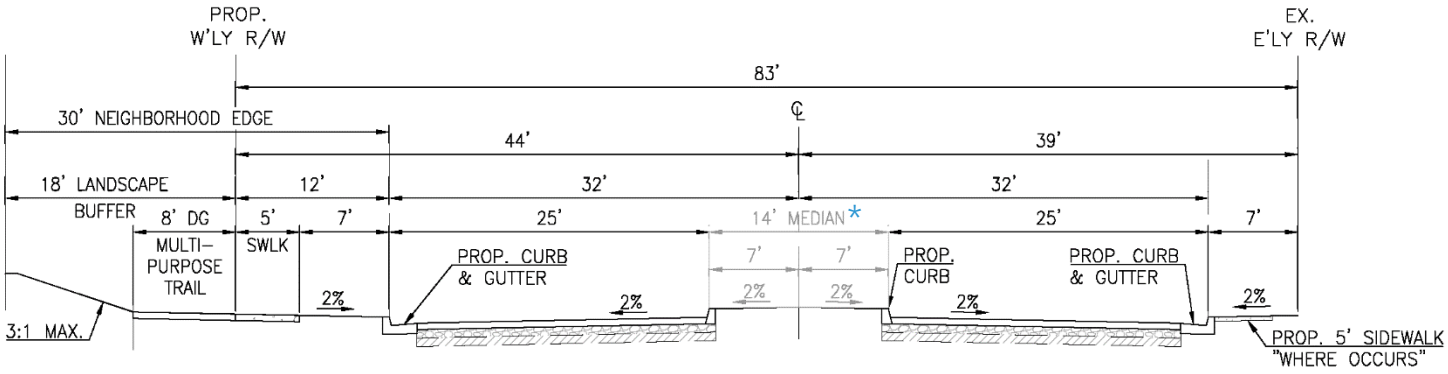
65-100102001

RICH-HAVEN SPECIFIC PLAN
STREET CROSS SECTIONS
FIGURE 4-2B



Mill Creek Avenue
Collector Street
On-Street Parking Prohibited

Source: Stantec 100% Submittal Drawings
Sheet ST-06, 3 of 32



*Raised median at select locations to provide traffic directing measures at Industrial project driveways.

Mill Creek Avenue (Between Ontario Ranch Road and Chino Avenue)
Collector Street
On-Street Parking Prohibited

Source: X Engineering & Consulting

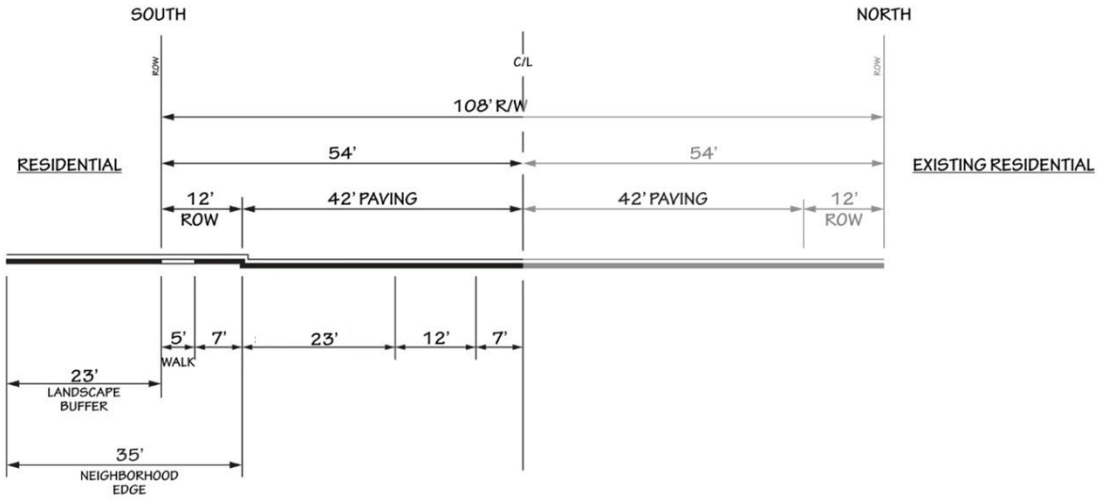
Revised Exhibit

Note: Refer to Chapter 7 for Streetscape Design.

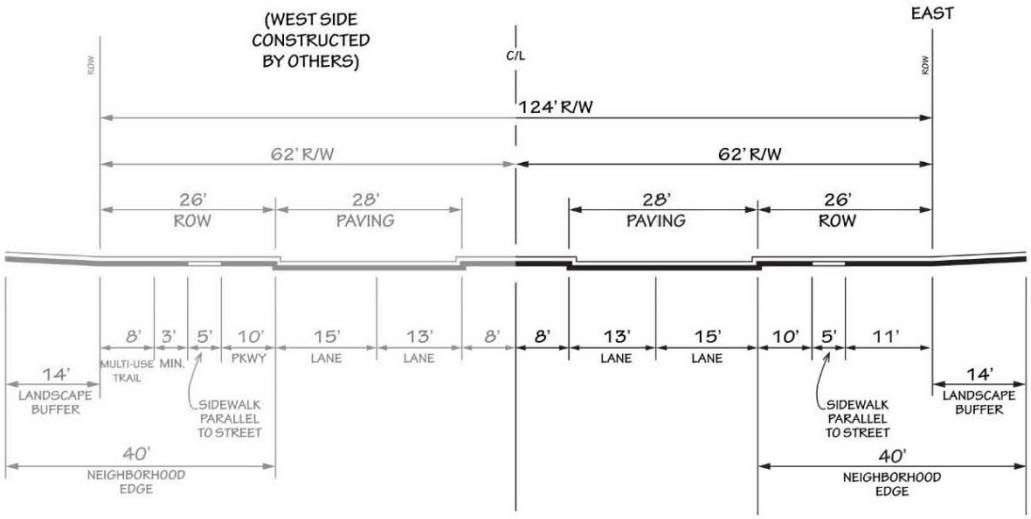
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RICH-HAVEN SPECIFIC PLAN
STREET CROSS SECTIONS
FIGURE 4-2C



Riverside Drive
Arterial
On-Street Parking Prohibited



Haven Avenue
Divided Other Principal Arterial
On-Street Parking Prohibited

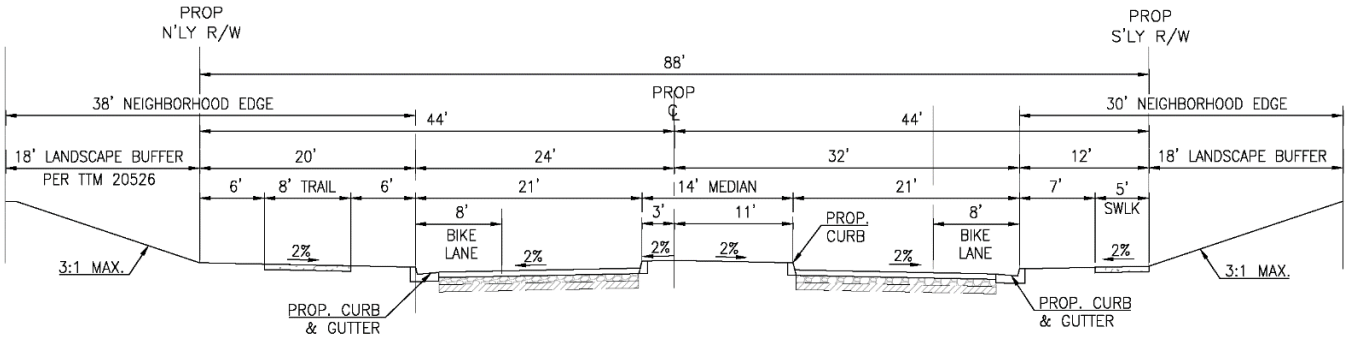
Revised Exhibit

Note: Refer to Chapter 7 for Streetscape Design.

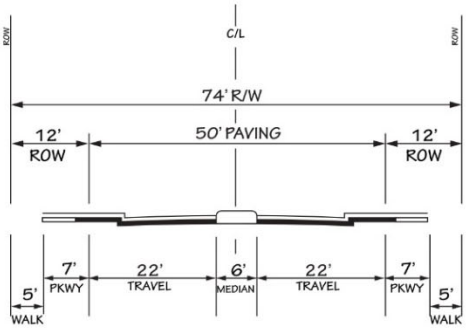
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RICH-HAVEN SPECIFIC PLAN
STREET CROSS SECTIONS
FIGURE 4-2D



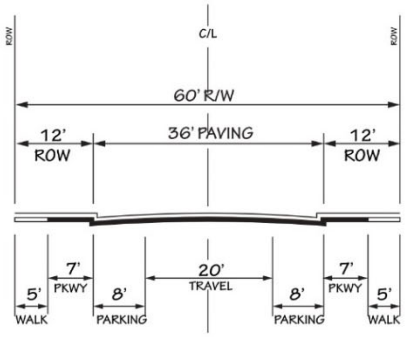
Chino Avenue Revised Exhibit
Collector Street
On-Street Parking Prohibited
Source: X Engineering & Consulting



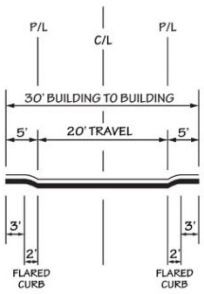
ENTRY STREETS ADJACENT TO COMMERCIAL AREAS SHALL BE DESIGNED TO ACCOMMODATE A WB-50 VEHICLE, WHICH MAY RESULT IN DIMENSIONS THAT EXCEED THIS CROSS-SECTION.

FINAL ROADWAY SECTION WIDTHS WILL BE DETERMINED BY THE CITY ENGINEER BASED ON THE NEED FOR INTERSECTION LEFT AND/OR RIGHT TURNS.

Residential Entry Street (Public or Private)
No Parking Permitted



Residential Neighborhood Street (Public or Private)
Parking Permitted
Sidewalk and Parkway widths may increase along "Theme Edges", and near the school



Common Drive/Alley (Private)
20' travel minimum
*24' travel for emergency access road.
** 5' minimum setback from curb or sidewalk to porch or living area.

Note: Refer to Chapter 7 for Streetscape Design.

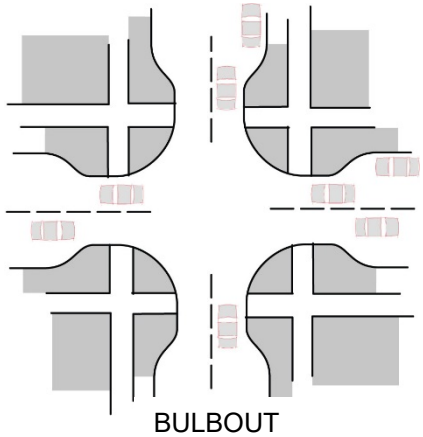
*minimum dimension

RBF CONSULTING
NOT TO SCALE
65-100102001

RICH-HAVEN SPECIFIC PLAN
STREET CROSS SECTIONS
FIGURE 4-2E

4.1.2 TRAFFIC CALMING

The Rich-Haven Land Use Plan is designed on a traditional grid and with a hierarchy of streets, offering a variety of routes for pedestrians and vehicles. Traditional street networks can result in a visually favorable and comfortable environment for pedestrians, bicyclists, and Rich-Haven's residents at large. Traffic calming measures incorporated within the Rich-Haven Specific Plan development will include round-abouts and curb-bulbouts. See Figure 4-1~~B~~, *Conceptual Circulation Plan* for locations of proposed round-abouts. Additional traffic calming measures include the incorporation of landscaped parkways and medians to add interest in the street, encouraging drivers to slow their travel speed and observe the surroundings.



Additionally, within the Regional Commercial/Mixed-Use District, on-street parallel parking will be used to control the speed of traffic in and near pedestrian zones. Angled parking may also be used at the discretion of the City Engineer.

4.1.3 PEDESTRIAN AND BICYCLE CIRCULATION

The Rich-Haven Specific Plan is consistent with and implements the Multipurpose Trails and Bikeway Corridor within the Mobility Element of the Policy Plan (Figure M-3).

In addition to the hierarchical street grid, which can increase available routes, the Rich-Haven Specific Plan proposed pedestrian trails and bikeways plan will be interconnected with the Ontario Ranch multi-purpose trail system, which includes a comprehensive network of greenways, pedestrian paths, and bike trails. See Figure 4-3*, Trails and Bikeway Plan.*

Internal project streets will be constructed with sidewalks, providing pedestrian access and inter-connectivity between the project's Residential and Regional Commercial/Mixed-Use Districts. The pedestrian system will also allow for easy pedestrian access to Rich-Haven's proposed approximately 27.0-acre public park site and

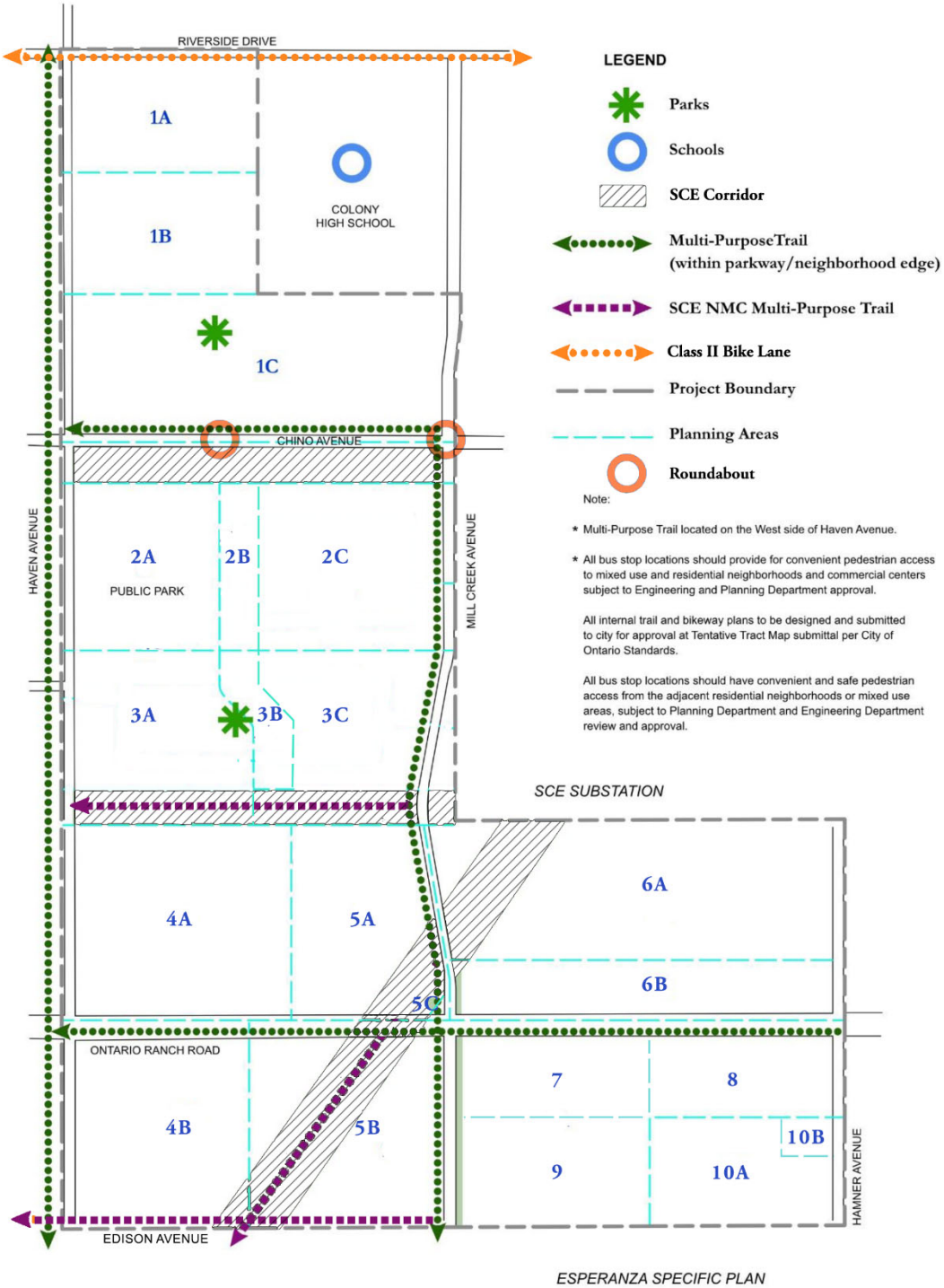
several smaller private parks, Colony High School, and proposed elementary school sites within the West Haven Specific Plan and Esperanza Specific Plan.

Multi-purpose trails and sidewalks connect with a network that flows throughout the Ontario Ranch, connecting Rich-Haven with schools and other proposed residential areas in the region. Directional signage will be provided to facilitate movement to and from crosswalks and trail connections. Within the Residential District, the pedestrian sidewalks on cul-de-sac streets will connect to the Multi-purpose trails and Bikeway Corridor Plan trails within the linear parks. Internal paseos, sidewalks, and pathway connections will be incorporated into the Regional Commercial/Mixed-Use District to connect with residential areas and multi-purpose trails.

Additionally, Ontario Ranch multi-purpose trails are designated within proposed parkways along Haven Avenue, Ontario Ranch Road, Chino Avenue, Mill Creek Avenue and Riverside Drive. These multi-purpose will be accessed from the project directly, or through the multi-purpose trails within the SCE parcel/easements. Bike racks will be provided as per City standards.

As part of the City's Master Plan of Trails, the SCE Corridor Trail will be extended within the linear park areas located within the SCE easements, as shown within Figure 4-3, *Trails and Bikeway Plan*. Access to the SCE Corridor Trail will be provided throughout the Specific Plan area at key points to provide safe accessibility to the multi-purpose trails and opportunities to utilize alternate modes of transportation between the residential and commercial uses and to the greater NMC.

On-street curb adjacent 5-foot bike lanes will be provided on both sides on Riverside Drive, and Chino Avenue ~~and Mill Creek Avenue~~.



NOT TO SCALE
65-100102001

RICH-HAVEN SPECIFIC PLAN
TRAILS AND BIKEWAY PLAN
FIGURE 4-3

4.1.4 TRANSIT

Public transit in the City of Ontario is currently provided by Omnitrans, which does not presently provide regular fixed route transit services inside the Ontario Ranch area. Bus turnouts and shelters, to serve the future residents, shall be provided on arterial and collector roadways prescribed by Omnitrans and approved by the City, as per Figure-3 found in Ontario Ranch East Proposed Bus Facilities plan.

In addition, the Riverside Transit Authority (RTA) service area boundaries are located to the east of Planning Areas 7 and 8, along Hamner Avenue. Currently, service by RTA will not be provided within the Rich-Haven Specific Plan Area.

4.2 WATER MASTER PLAN

Rich-Haven's Water Master Plan shall conform to the City of Ontario's Water Master Plan and will include both domestic (potable) and recycled water infrastructure. Water service will be provided by the City of Ontario as identified within the Water Master Plan. The NMC Construction Agreement (Phases 1a-1e) water facilities are proposed to include two reservoirs, four wells, a treatment plant, and potable and recycled water lines. All Master Planned potable water infrastructure surrounding the Specific Plan shall be the responsibility of the NMC Developers' consortium and/or the Rich Haven Developer(s). In addition, the Master Planned domestic and recycled water main lines ~~serving~~ surrounding and within the Specific Plan, as identified in the most currently approved Water Master Plan Update shall be constructed prior to issuance of the first certificate of occupancy.

Water, recycled water, and sewer utilities may be designated as "public utilities" if located within public or private streets. All public utilities within private streets shall be designed per City standards and contained within acceptable easements. The CC&Rs shall contain language that requires all proposed work by the HOA within said easements to be plan checked and inspected by the City, including applicable fees. Generally, utilities will not be accepted as public within alleys, parking areas, or driveways. Utilities within commercial and industrial parking lots and loading areas will be designated as private. The extent to which said utilities would be accepted, as public utilities shall be determined, at the full discretion of the City, during final design plan review.

4.2.1 DOMESTIC WATER

The ultimate utility sizing and alignment shall follow the most currently approved Master Plan.

In the interim scenario in Ontario Ranch, when the ultimate master planned pipeline network has not been completed, there may be instances whereby just constructing the master planned pipeline improvements to serve the project may not meet the required fire flow demands. Therefore, the proposed project may be required to construct additional pipelines whether specifically called out in the Master Plan or not; or upsize

master planned pipelines in order to meet the necessary fire flow requirements per Fire Department and/or the criteria as provided for in the Water Master Plan. Developer shall submit a hydraulic analysis to the City for review/approval to demonstrate adequate fire flow protection requirements.

REGIONAL DOMESTIC WATER PLAN

The Rich Haven Specific Plan falls into two pressure zones, with the portion of the project north of Chino Avenue falling within the 1010 Pressure Zone, and the portion of the project south of Chino Avenue falling within the 925 Pressure Zone. See Figure 4-4A *Master Planned Domestic Water Plan, please refer to The City's Master Plan for specific sizing and alignment*.

1010 Pressure Zone. New domestic water mains to be constructed as part of the development of Rich-Haven include a 24-inch main from the 1010 Pressure Zone reservoir north of the project site to Riverside Drive and Hamner Avenue, a 24-inch domestic main in Archibald between Ontario Ranch Road and the Pressure Reducing Station at Schaefer Avenue, an 18-inch main in Riverside Drive from Hamner Avenue to Haven Avenue, an 18-inch main in Chino Avenue from Haven Avenue to Vineyard Avenue, the designated Master Plan domestic water line along Haven Avenue between Riverside and Chino Avenues. In addition, the 24-inch main in Hamner Avenue and Riverside Drive reduces down to a 12-inch main to Chino Avenue and heads west along Chino Avenue to Mill Creek Avenue ultimately connecting to the existing 12-inch water main within Mill Creek Avenue.

Smaller 12-inch water mains will be constructed adjacent to the project site that ultimately connects to the regional water system in Riverside Drive, Haven Avenue, and Hamner Avenue.

925 Pressure Zone NMC Builder's Loop. New domestic water mains to be constructed as part of the NMC Builder's Loop include a 24-inch to 42-inch main in Hamner Avenue from the 925 Pressure Zone reservoir to Eucalyptus Avenue, a 24-inch main in Eucalyptus Avenue from Hamner Avenue to Archibald Avenue, a 24-inch main in Archibald Avenue from Eucalyptus Avenue to Ontario Ranch Road, and a 24-inch main in Archibald Avenue from Ontario Ranch Road to the Pressure Reducing Station #17 at Schaefer Avenue.

Within the 925 Pressure Zone, 12-inch water mains will be constructed in Haven Avenue, Mill Creek Avenue, and Ontario Ranch Road and ultimately connect to the regional NMC Builder's Loop. Additionally, a 12-inch water main will be constructed within Chino Avenue from Haven Avenue to Mill Creek, and an 18-inch water main from Mill Creek to Hamner Avenue. Within the project site, a network of minimum 8-inch water lines will be installed. The proposed on-site public water system sizing is subject to the recommendations and approval of the required hydraulic analysis.

NMC Builders is currently constructing the first series of master planned domestic water main lines per the construction agreement with the City. The 925 PZ alignment is from

Riverside Drive PRS #18, then easterly in Riverside, southerly in Milliken, westerly in Eucalyptus, and northerly in Archibald to Schaefer PRS #17. Proposed Rich Haven Specific Plan development shall connect to the above mentioned series of domestic water lines via 2 separate points of connection. The above mentioned alignment shall be fully operational prior to first occupancy.

CONCEPTUAL DOMESTIC WATER PLAN

Local backbone domestic water mains to be constructed as part of the Rich-Haven Specific Plan project will include 8-inch to 12-inch water mains throughout the local backbone street system. Additionally, the Chino Basin Water master Water Quality Map identifies the Rich Haven area within an optimum water quality zone and requires that the owner/developer dedicate a total of two wells within the Specific Plan area to the City of Ontario for production of potable water. The owner/developer of Planning Area 5 has identified a well location site within the greenbelt in the area east of Mill Creek Avenue. A second well location site within the Specific Plan area shall be located within Planning Areas 1 or 8 as approved by the City. Master planned domestic water main lines serving the surrounding area and within the Specific Plan, as identified in the most currently approved Water Master Plan Update, shall be constructed prior to issuance of first occupancy.

Within the project site, a network of minimum 8-inch water lines will be installed. The proposed on-site public water system sizing is subject to the recommendations and approval of the required hydraulic analysis. All water mains and wells internal to the Rich-Haven Specific Plan project, will be provided by the merchant builder. In-tract water system design will be provided at the time of subdivision. Offsite water improvements to serve the Specific Plan will be implemented according the most current version of the City's Water Master Plan. See Figure 4-4B, Conceptual Domestic Water Plan.

Eleven existing wells have been identified within the Rich-Haven Specific Plan project site.

In compliance with the Chino Basin Water Master's Well Procedure for Developers, a well use/destruction plan and schedule for all existing private/agricultural wells shall be submitted to the City of Ontario for approval prior to the issuance of permits for any construction activity. If a private well is actively used for water supply, the Developer shall submit a plan to abandon such well and connect users to the City's water system (residential to the domestic water system and agricultural to the recycled water system) when available. Wells shall be destroyed/abandoned per the California Water Resource Guidelines and require permitting from the County Health Department. A copy of such permit shall be provided to the Engineering and Public Works Agency prior to issuance of grading and/or building permits.

4.2.2 RECYCLED WATER

The ultimate utility sizing and alignment shall follow the most currently approved Master Plan.

REGIONAL RECYCLED WATER PLAN

Recycled Water will be provided by City of Ontario. The Rich Haven SP development shall connect to the forthcoming NMC Builders' first phase of recycled water pipeline, generally described as follows: (#1) From IEUA's RP-1, southerly to Riverside Drive, easterly to Archibald, southerly in Archibald to Merrill (including the Pressure Reducing Station at Archibald & Chino Avenue); and (#2) Ontario Ranch Road, between Archibald and Hamner. The above mentioned NMC Builders recycled water pipeline shall be fully operational prior to first occupancy. The Specific Plan area is located within two pressure zones. The portion of the project north of Chino Avenue will be served by the 1050 Pressure Zone and the area south of Chino Avenue will be served by the 930 Pressure Zone. A range of recycled water lines will be constructed both on-site and off-site to service the project. There will be 8-inch to 24-inch lines constructed within the 1050 Pressure Zone, and 8-inch to 24-inch lines within the 930 Pressure Zone. Master Planned domestic and recycled water main lines serving the surrounding area and within the Specific Plan, as identified in the most currently approved Water Master Plan Update, shall be constructed prior to issuance of first occupancy. Offsite recycled water improvements to serve the Specific Plan will be implemented according the most current version of the City's Recycled Water Master Plan.

LOCAL BACKBONE RECYCLED WATER PLAN

The Rich Haven Specific Plan shall comply with City Ordinance 2689 and make use of recycled water for all approved uses, including but not limited to irrigation of parks, schools, street landscaping, recreational trails, HOA maintained on-site common areas and commercial/industrial landscaping. An engineering report approved by the City and the California Department of Public Health is required prior to the use of recycled water.

The local backbone recycled water system will be built with 8-inch to 12-inch lines throughout the backbone street system. In-tract recycled water system design will be provided at the time of subdivision. See Figure 4-5A, *Master Planned Recycled Water Plan, please refer to The City's Master Plan for specific sizing and alignment*.

Recycled water will be used in the Rich Haven Specific Plan area for irrigation of parks, schools, street landscaping, recreational trails, parkways, common area residential landscaping and commercial/industrial landscaping. See Figure 4-5B Conceptual *Recycled Water Plan Areas* for locations of recycled water use. Locations of common residential landscaping areas will be determined at the time of the Tentative Tract Map.

An Engineer's Report approved by the City and the Department of Health is required prior to the use of recycled water in the Rich-Haven development. There may be an interim period where recycled water supply does not have adequate pressure depending on the timing of development and construction of a regional booster station.

Master planned recycled water main lines serving surrounding and within the Specific Plan, as identified in the most currently approved Water Master Plan Update shall be constructed prior to issuance of first occupancy.

Additional backbone recycled water improvements shall include:

- In-tract system of recycled water lines;
- Haven Ave. pipeline, between southerly property limits to Chino Ave.;
- Pressure Reducing Station @ Haven Ave. and Chino Ave.;
- Riverside Drive pipeline between Haven Ave. and Cucamonga Creek; and
- Pipeline between Riverside Drive and IEUA's RP-1 facility
- Haven Avenue pipeline between Chino Avenue and Riverside Drive.

Please note that the recycled water system, in Rich Haven, is in two separate pressure zones (1050 pressure zone = north of Chino Ave. and, 930 pressure zone = south of Chino Ave.)

It should be noted that NO recycled water can be used on single family single lot ownership properties. And there shall be a clear physical separation between potable and recycled water systems such as a wall, fence, sidewalk, or mow strip. Common areas are to use recycled water and either maintained by HOA or CFD, and shall be In a ROW or within a lettered lot.

4.3 SEWER MASTER PLAN

The ultimate utility sizing and alignment shall follow the most currently approved Master Plan. Sewer service for the Rich-Haven Specific Plan will be provided by the City of Ontario. Rich-Haven's Sewer Master Plan shall comply with the Sewer Master Plan, which is designed as a gravity sewer system that generally drains to the west and east from the central spine road. The areas located between Haven Avenue and Mill Creek Avenue should flow into Haven Avenue trunk sewer, while flows generally east of the spine road will flow to the Mill Creek Avenue trunk sewer. Within the project site a network of minimum 8-inch sewer lines will be installed. The proposed on-site public sewer system sizing is subject to the recommendations and approval of the required sewer analysis.

REGIONAL SEWER PLAN

The Specific Plan area is within three separate Master Plan Trunk Sewer Tributary Areas and six Master Plan Trunk Sewers. Regional sewer improvements include:

a. The Mill Creek Avenue Trunk Sewer with a proposed 12-inch line within Mill Creek north of Chino Avenue transitioning to 15-inch sewer line from Ontario Ranch Road south to Eucalyptus Avenue and then a 21-inch lines south to Bellegrave Avenue;
b. The Merrill/Bellegrave Trunk Sewer with a 24-inch line in Bellegrave/Merrill Avenue from Mill Creek Avenue to Celebration Avenue transitioning to a 27-inch line to Archibald Avenue to connect to the Eastern Trunk Sewer;
c. The South Haven Trunk Sewer with a 15-inch line in Haven Avenue from south of Ontario Ranch Road to Merrill/Bellegrave Avenue;
d. The North Haven Trunk Sewer with a 21-inch line in Haven Avenue from Riverside Drive to Ontario Ranch Road; and,
e. The Ontario Ranch Road trunk Sewer with a 27-inch line in Ontario Ranch Road from Haven Avenue to Turner Avenue transitioning to a 30-inch line to Archibald to connect to the Eastern Trunk Sewer.
f. An additional 21-inch sewer line will be constructed in Haven Avenue from the Haven Pump Station north of the project site to Riverside Drive.

Wastewater in these facilities will be conveyed from the Eastern Trunk Sewer south to the Inland Empire utility Agency's Kimball Interceptor in Kimball Avenue, which will then convey waste water west to Regional Plant 5. See figure 4-6A, Master Planned Sewer Plan, please refer to The City's Master Plan for specific sizing and alignment. Offsite sewer improvements to serve the Specific Plan, and/or capacity improvements such as the potential purchase of additional capacity in the Eastern Trunk Sewer, will be implemented according to the most current version of the City's Sewer Master Plan and required sewer analysis.

LOCAL BACKBONE SEWER PLAN

In order to serve residential and commercial uses, the merchant builder will install 8-inch to 10-inch sewer mains within the local backbone street system. In-tract sewer system design will be provided at the time of subdivision processing. See Figure 4-6B, *Conceptual Sewer Plan*. Within the project site, a network of a minimum of 8-inch sewer lines will be installed. The proposed on-site public sewer system sizing is subject to the recommendations and approval of the required sewer analysis.

4.4 DRAINAGE MASTER PLAN

REGIONAL BACKBONE DRAINAGE PLAN

The Master Plan of Drainage proposes multiple storm drain facilities that will serve the Rich Haven project site. Within Hamner Avenue a 36-inch to 54-inch storm drain will be constructed from north of Ontario Ranch Road to Bellegrave Avenue, a 72-inch to a 10' x 8' box storm drain in Mill Creek Avenue from Chino Avenue to Bellegrave Avenue, a 48-inch to 96-inch storm drain in Haven Avenue from Riverside Avenue to Bellegrave Avenue, and a 48-inch to 72-inch storm drain that generally runs north-south Colony High School and connects to the proposed Haven Avenue storm drain. Additionally, there will be a 48" storm drain in Ontario Ranch Road starting at Haven Avenue and running approximately 1/3 of the way towards Mill Creek and a 54" storm drain in Ontario Ranch Road running from halfway between Haven Avenue and Mill Creek Avenue through until it connects with a 48" drain East of Mill Creek. All storm drains serving the project site will drain

south to the County Line Channel and ultimately to the Cucamonga Creek Channel. See Figure 4-7A, Master Planned Drainage Plan, please refer to the City's Master Plan for specific sizing and alignment. Offsite drainage improvements to serve the Specific Plan will be implemented according the most current version of the City's Drainage Master Plan.

STORMWATER QUALITY MEASURES

The grading and drainage of the Rich Haven Specific Plan area shall be designed to retain, infilter, and/or biotreat surface runoff to the maximum extent practicable, in order to comply with the requirements of the current San Bernardino County NPDES Stormwater Program's MS4 Permit and Water Quality Management Plan (WQMP) for priority development projects. The objective of the WQMP for this project is to minimize the detrimental effects of urbanization on the beneficial uses of receiving waters, including effects caused by increased pollutants and changes in hydrology. These effects shall be minimized through the implementation of on-site and off-site Low Impact Development (LID) Site Design Best Management Practices (BMPs) that reduce runoff and pollutant transport by minimizing impervious surfaces, maximizing on-site infiltration, and specifically retain/in-filter or biotreat the 85th percentile storm event. In addition, non-structural and structural Source Control Best Management Practices (BMPs), —shall also be implemented and documented in the project's approved Water Quality Management Plan(s) to reduce pollutant generation and transport from the project site.

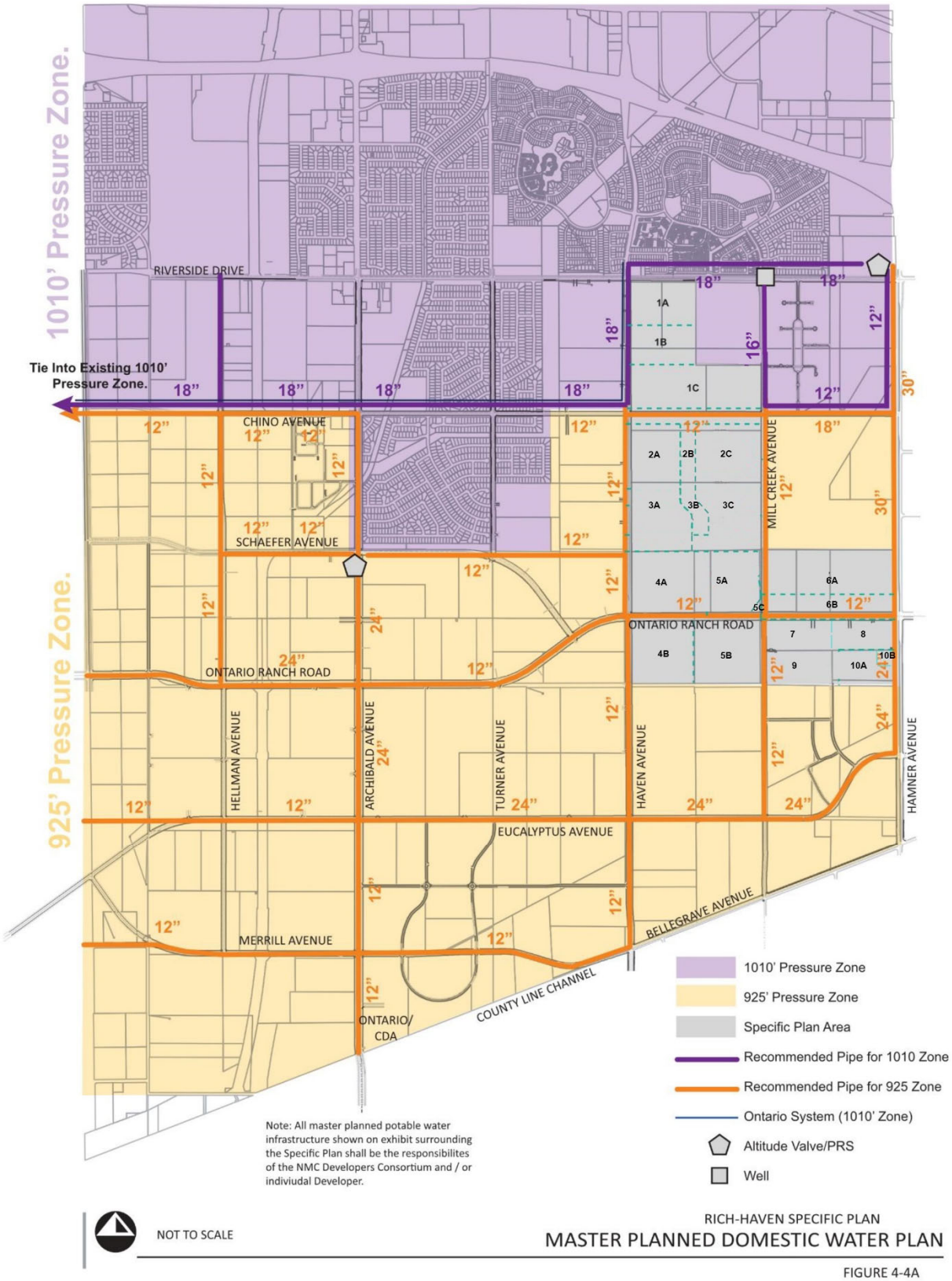
Prior to the issuance of a grading or construction permit, each development project within this Specific Plan area which disturbs >1 acre of land shall prepare a Storm Water Pollution Prevention Plan (SWPPP and shall obtain coverage under the California State Water Resources Control Board's (State Water Board) current "General Permit to Discharge Storm Water Associated with Construction Activity" and the current Area-wide Urban Storm Water Runoff (Regional NPDES) Permit. The SWPPP will identify and detail all appropriate Best Management Practices (BMPs) to be implemented or installed during construction of the project and permit coverage shall be evidenced by the issuance of a Waste Discharger's Identification number.

In addition to the preparation of a SWPPP for construction-related activities, and as part of the approval of any grading plans within the Specific Plan Area, project applicants will be required to submit a Water Quality Management Plan (WQMP) on the current SB County model template form, available at: http://www.sbcounty.gov/dpw/land/npdes.asp. The WQMP shall identify and detail all on-site and off-site Low Impact Development Site Design BMPs, Source Control BMPs, and Treatment Control BMPs to be implemented or installed within the project, in order to reduce storm water pollutants and site runoff.

All Priority Land Use (PLU) areas within the Specific Plan Area shall comply with the statewide Trash Provisions adopted by the State Water Resources Control Board (SWRCB) and trash requirements in the most current San Bernardino County Area-Wide MS4 Permit.

LOCAL BACKBONE DRAINAGE PLAN

The local storm drain system will convey flows within the project streets to a series of culverts, with pipe sizes ranging from 24-inches to 108-inches. It should be noted that storm drainpipe sizes are conceptual. Final design will be determined upon submittal of individual tentative tract maps and associated hydrology studies. See Figure 4-7B, *Conceptual Drainage Plan*.



Note: All master planned potable water infrastructure shown on exhibit surrounding the Specific Plan shall be the responsibilites of the NMC Developers Consortium and / or indiviudal Developer.

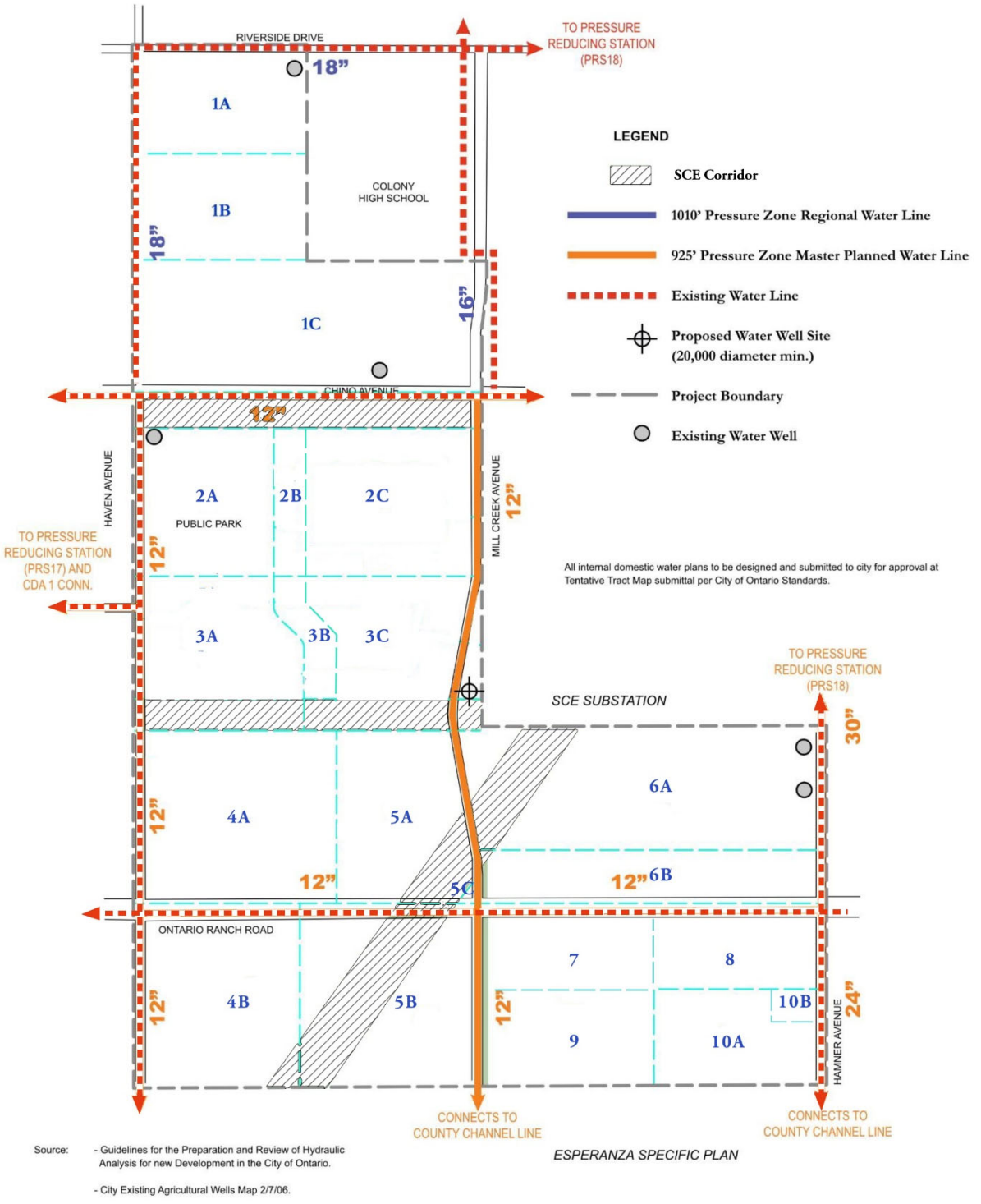
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RICH-HAVEN SPECIFIC PLAN

MASTER PLANNED DOMESTIC WATER PLAN

FIGURE 4-4A

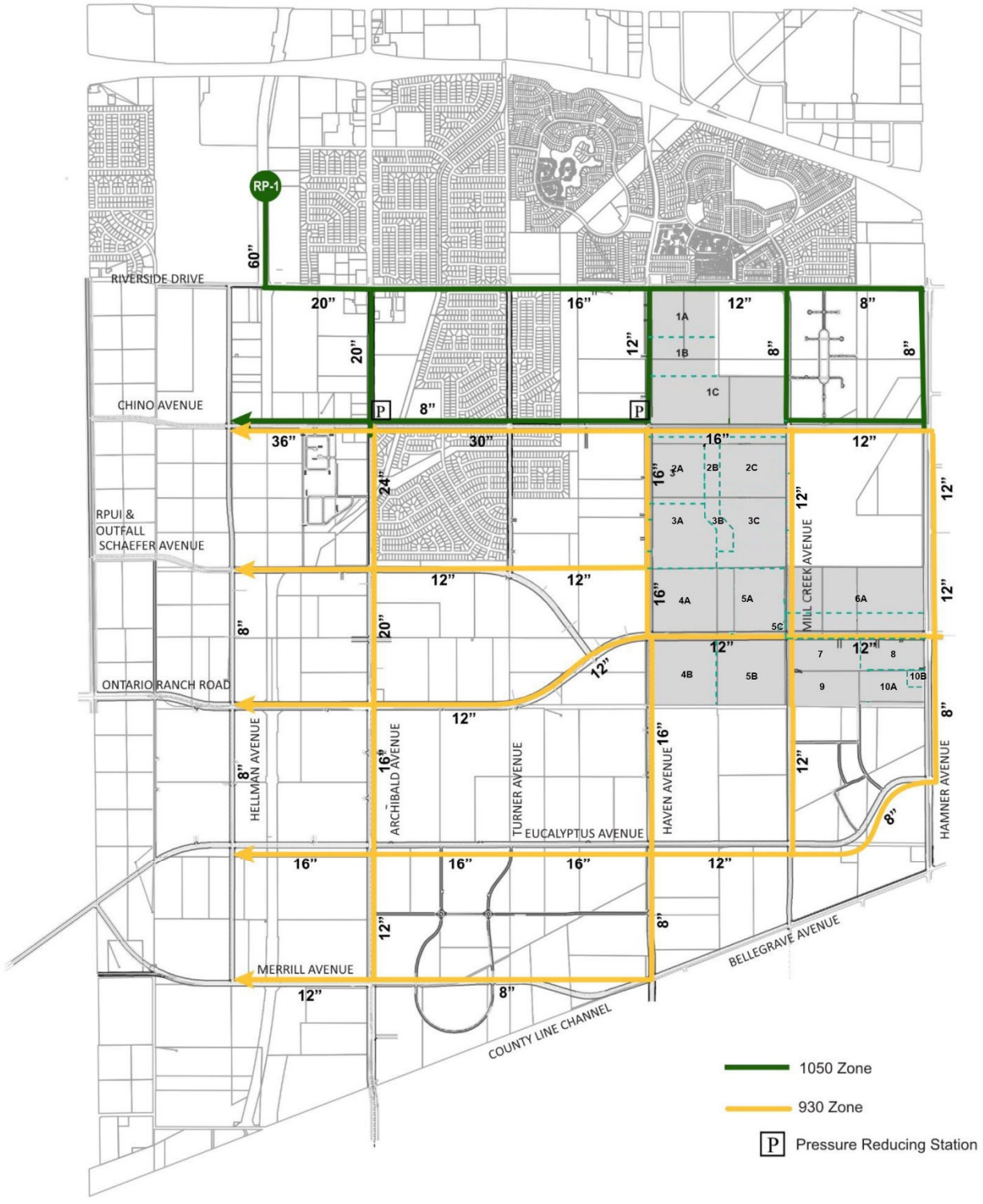
Revised Exhibit



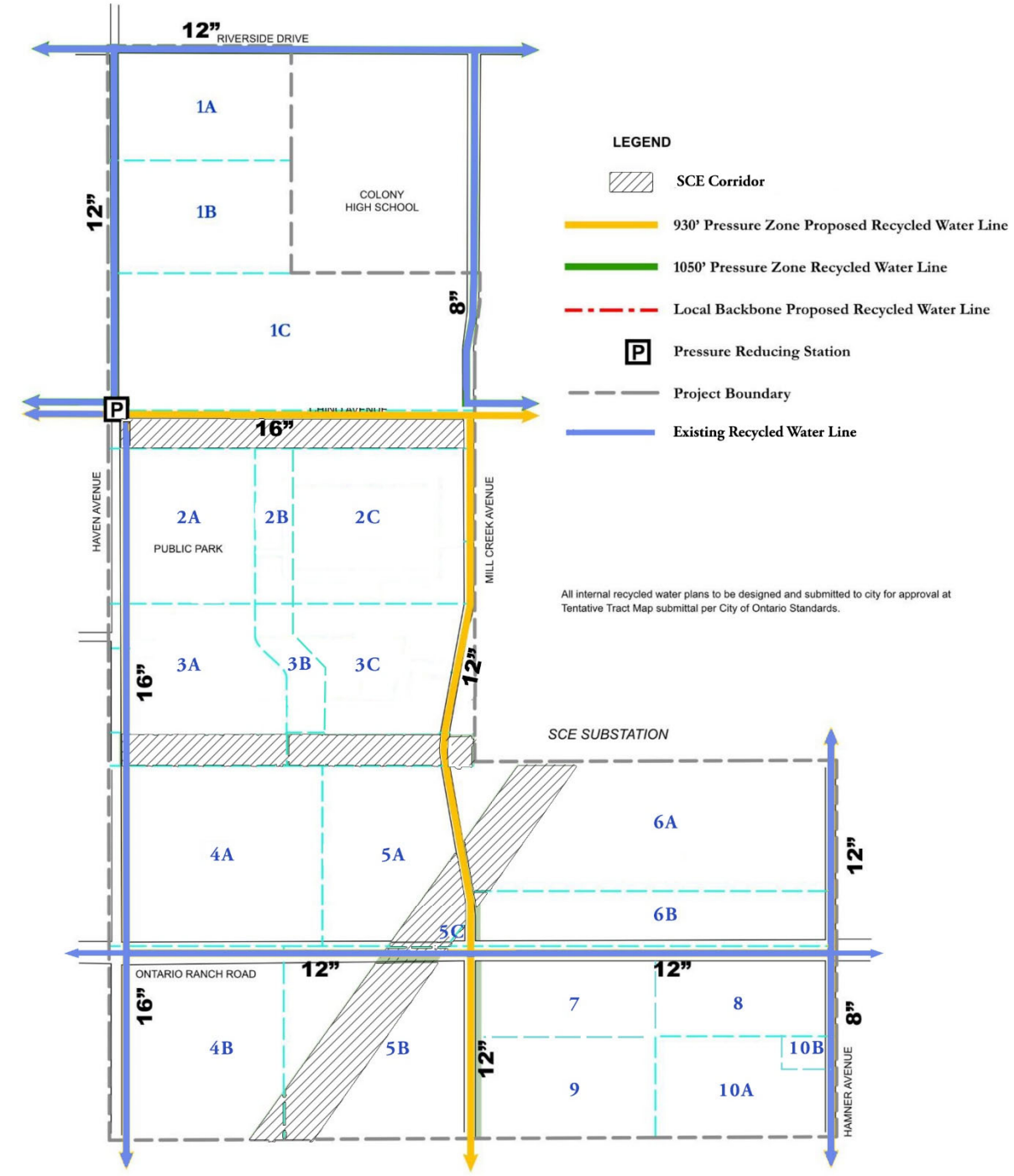
RICH-HAVEN SPECIFIC PLAN
CONCEPTUAL DOMESTIC WATER PLAN
FIGURE 4-4B

Revised Exhibit

Revised Exhibit



Revised Exhibit



Source: - Guidelines for the Preparation and Review of Hydraulic Analysis for new Development in the City of Ontario.

- City Existing Agricultural Wells Map 2/7/06.

ESPERANZA SPECIFIC PLAN

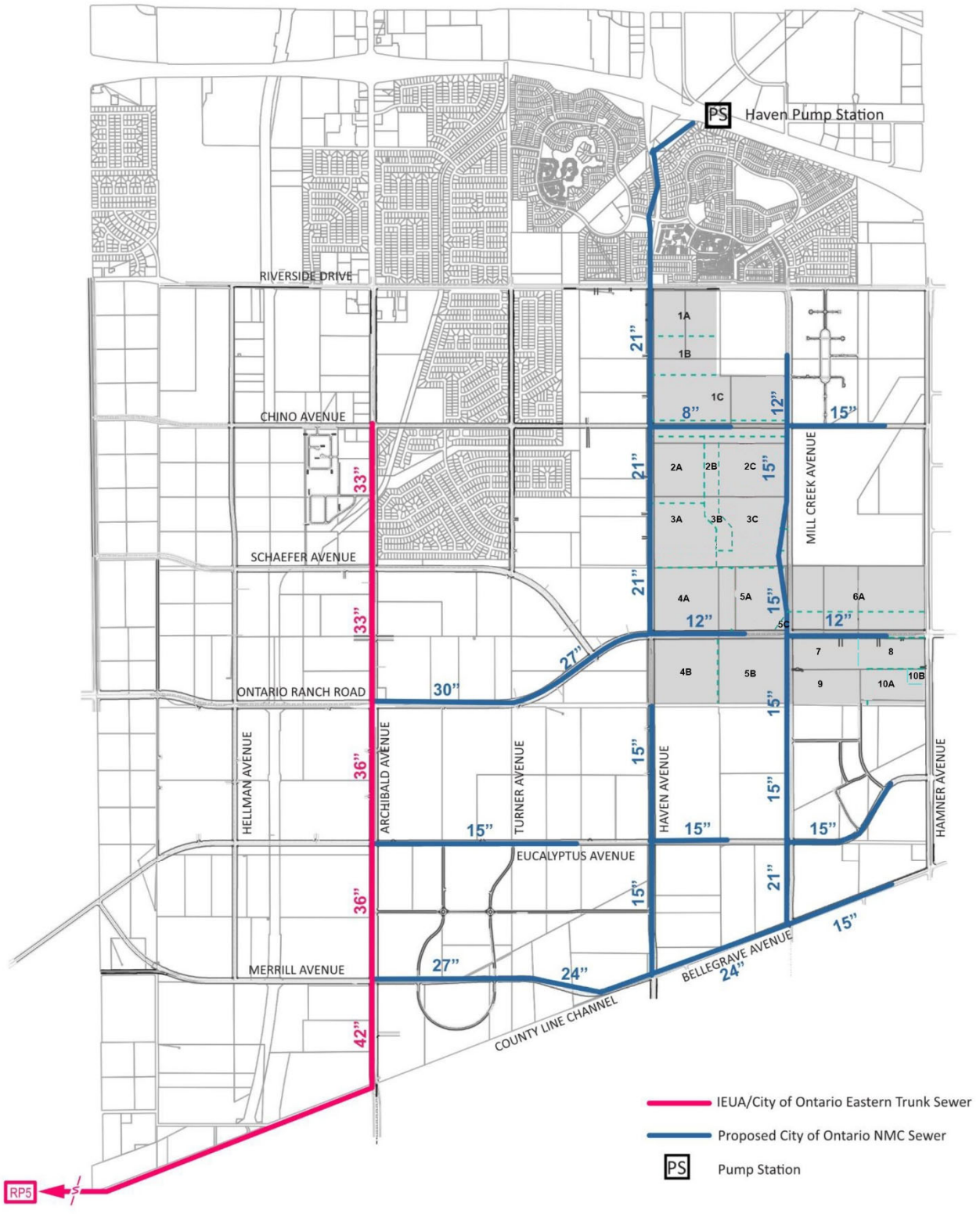
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RICH-HAVEN SPECIFIC PLAN

CONCEPTUAL RECYCLED WATER PLAN

FIGURE 4-5B

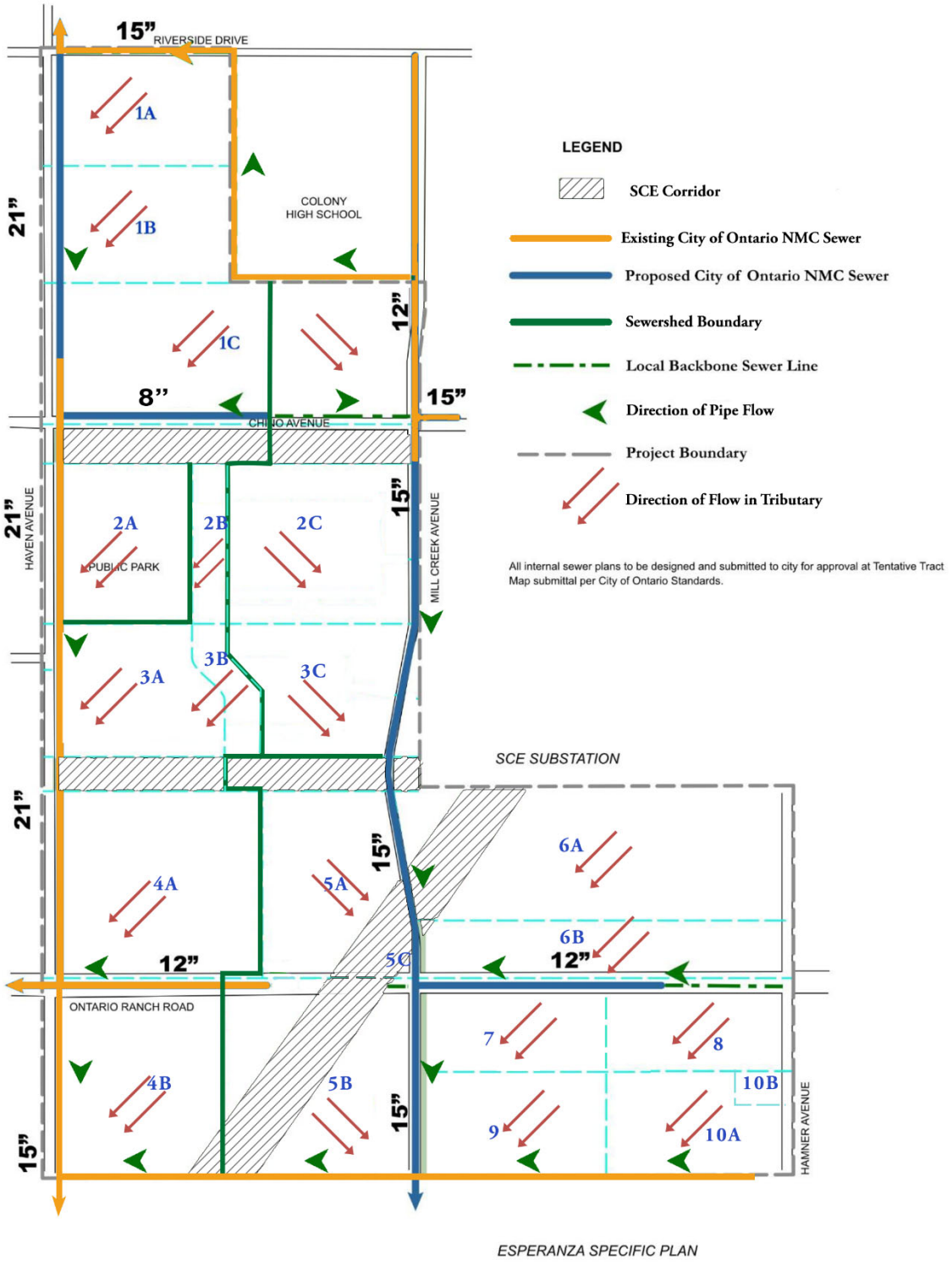


Rich-Haven Specific Plan

MASTER PLANNED Sewer Plan

FIGURE 4-6A

Revised Exhibit

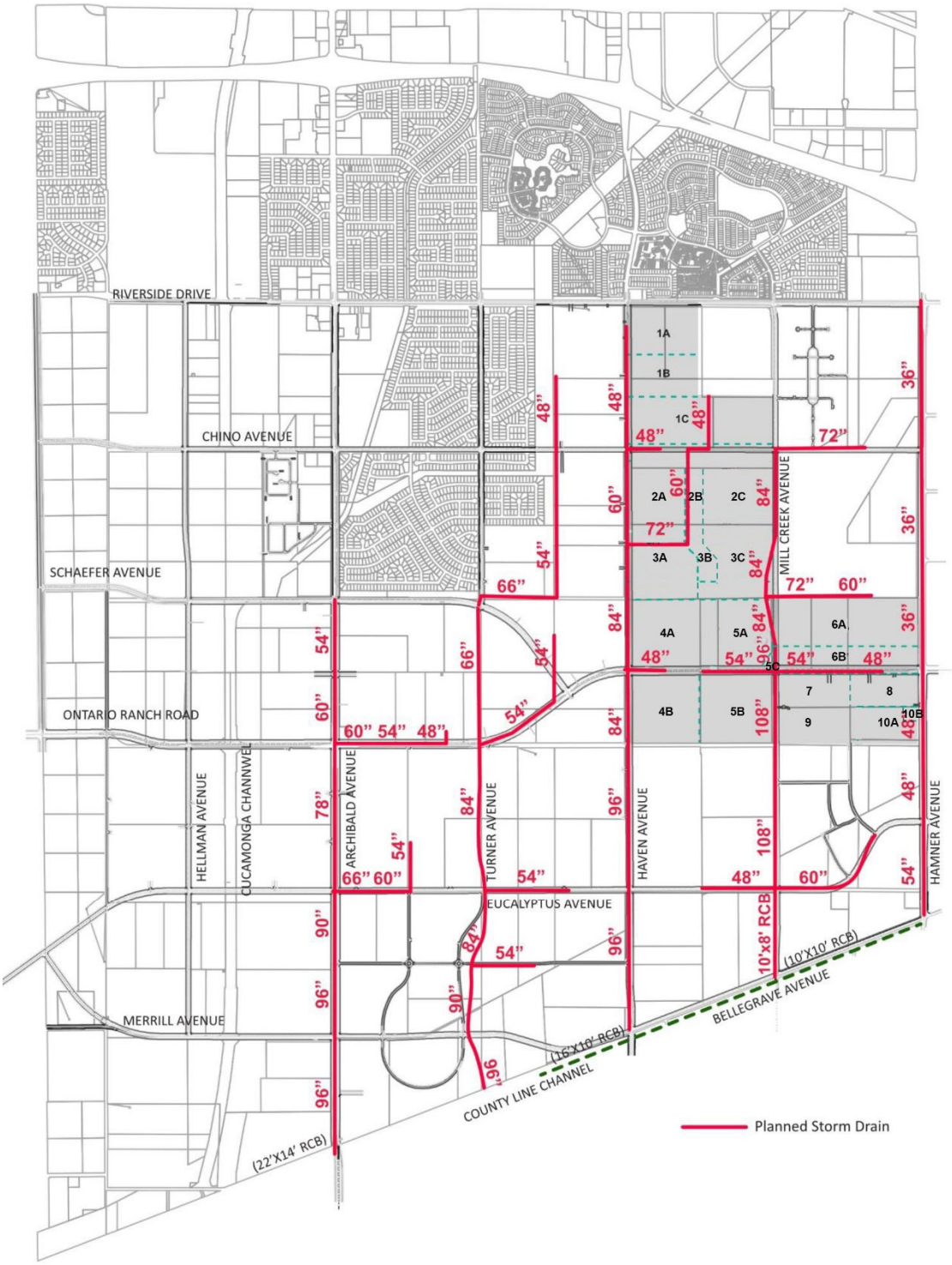


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RICH-HAVEN SPECIFIC PLAN
CONCEPTUAL SEWER PLAN
FIGURE 4-6B

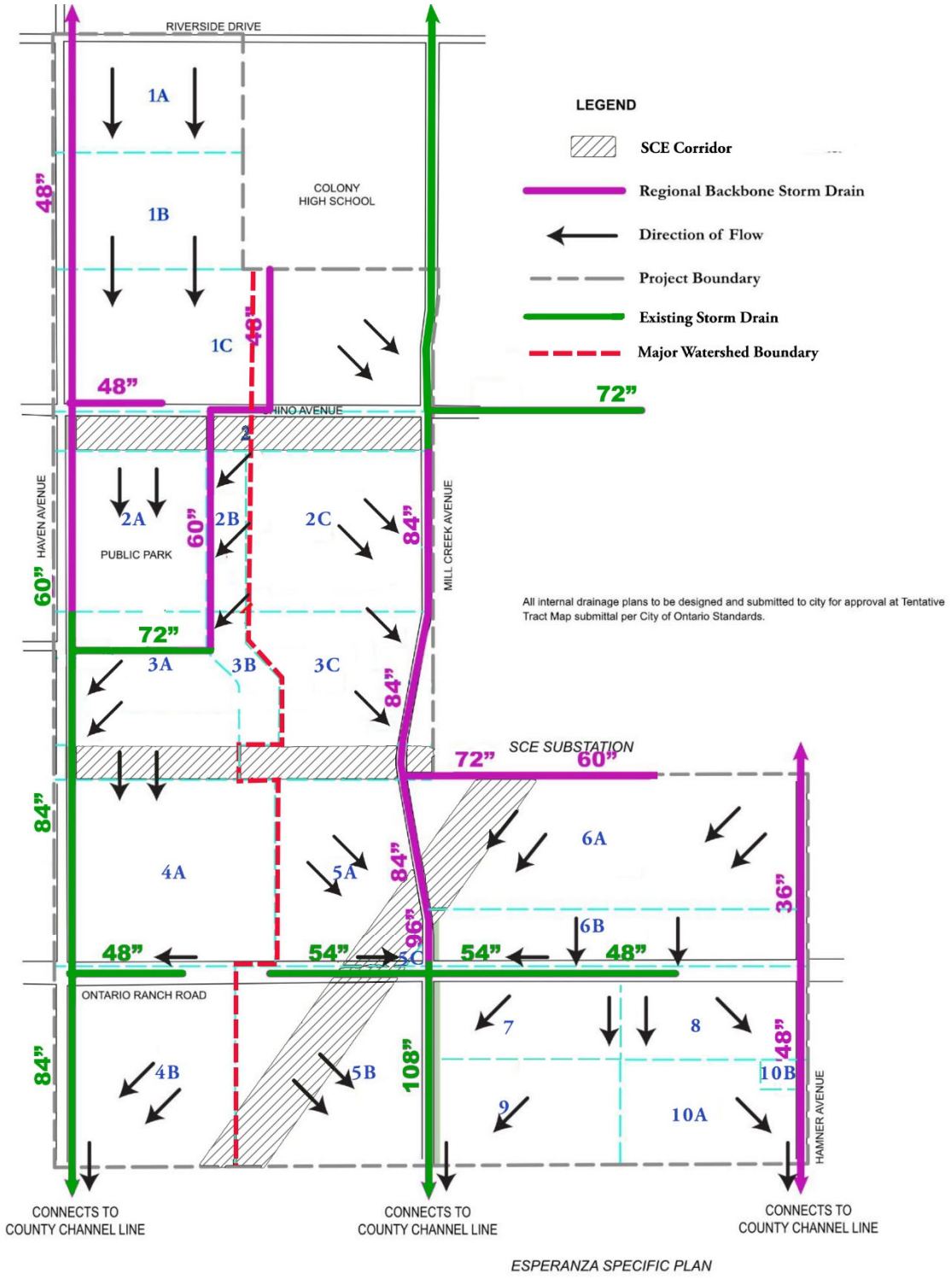
Revised Exhibit



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Rich-Haven Specific Plan
MASTER PLANNED Drainage Plan
FIGURE 4-7A

Revised Exhibit



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RICH-HAVEN SPECIFIC PLAN

CONCEPTUAL DRAINAGE PLAN

FIGURE 4-7B

4.5 GRADING PLAN

The existing topography of the project site is relatively flat, and the Rich-Haven grading plan will use the existing grade and elevations wherever possible. The grading plan will include the excavation of any remaining agricultural soils unsuitable for development, clearing of any existing vegetation, demolition of existing structures, and the creation of building pads. ~~Where slope conditions are present, the property line shall be located at the top of the slope~~. Exposed retaining walls facing roadways shall be no greater that six-feet in height, and where feasible, be built of decorative materials consistent with the theme of the neighborhood. See Figure 4-8, *Grading Plan*.

Grading plans will be reviewed and approved by the City of Ontario prior to the issuance of grading permits. All grading plans and activities will comply with the City grading ordinance, dust and erosion control requirements, and NPDES requirements.

The City of Ontario is in the process of adopting a protocol to assess the potential for methane generation on proposed building sites in areas previously used for certain agricultural practices such as dairies. It is anticipated that prior to issuance of a grading permit, a methane site assessment would be conducted and submitted to the City, with additional testing required during grading if required by the assessment. If testing indicates that mitigation is required, designs would be submitted to the City as part of building permit review and approval. Section 8, *Administration and Implementation,* of this Specific Plan includes more detail of the anticipated protocol.

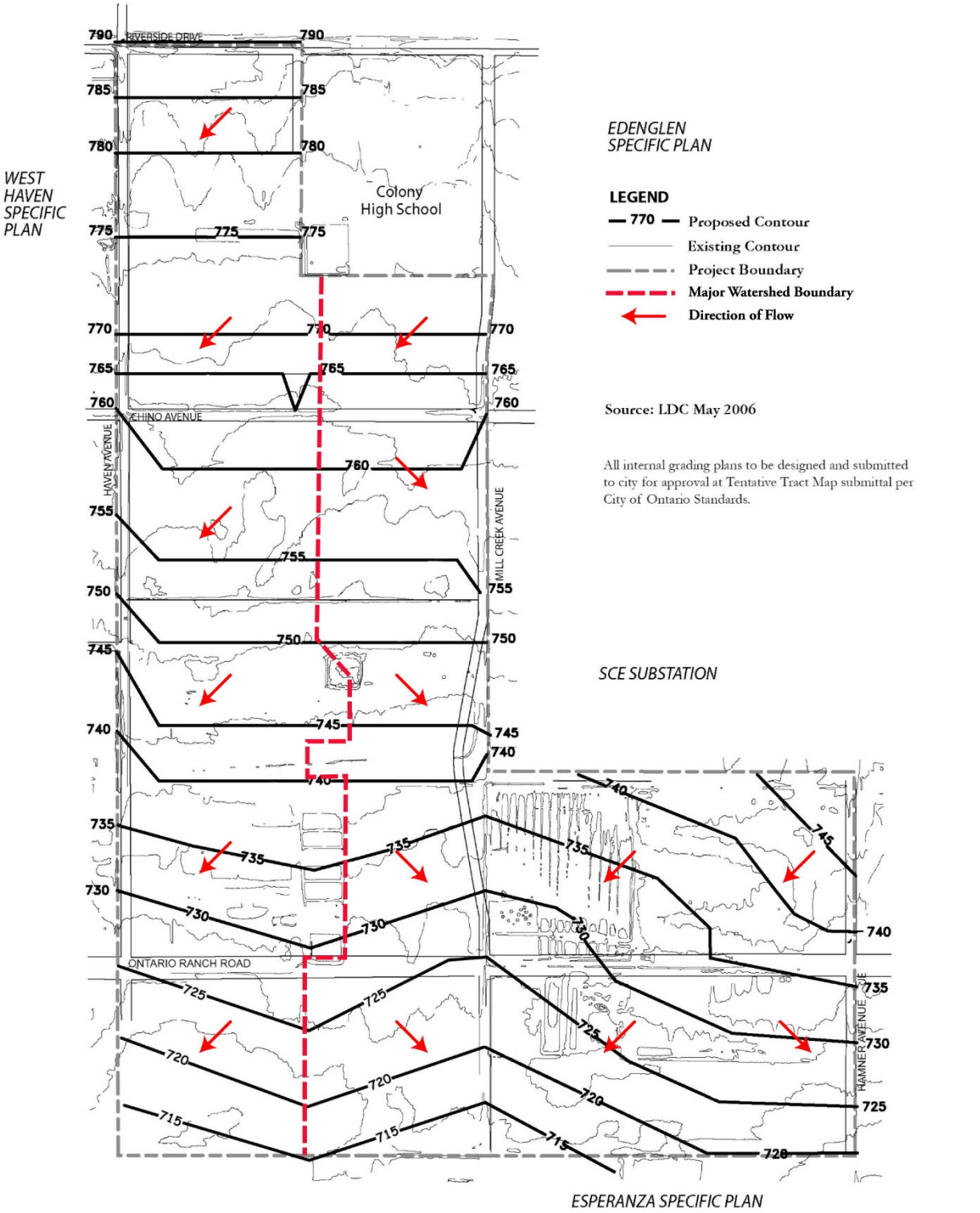
4.6 SERVICES

4.6.1 SCHOOLS

The Rich-Haven project site is within the jurisdiction of the Mountain View School District, serving grades K-8, and the Chaffey Joint Union School District, serving grades 9 through 12. Nearby Mountain View District grade schools include Creek View Elementary to the north, Ranch View School to the west, and Grace Yokley School to the northwest. Chaffey Joint Union's Colony High School is located adjacent to the project on the northeast. Surrounding proposed school facilities include an elementary school to the west within the West Haven Specific Plan area and south within the Esperanza Specific Plan area and to the west in The Avenue Specific Plan area.

The following are the estimated student population for the Rich-Haven Specific Plan area (based on student generation numbers, City of Ontario) under the Specific Plan:

Grades K-5	Grades 6-8	Grades 9-12
Generation factor .38/DU	Generation factor .22/DU	Generation factor .20/DU
.38 x 7,194 = 2,734	**.22 x 7,194 = 1,583**	**.20 x 7,194 = 1,439**



RBF CONSULTING

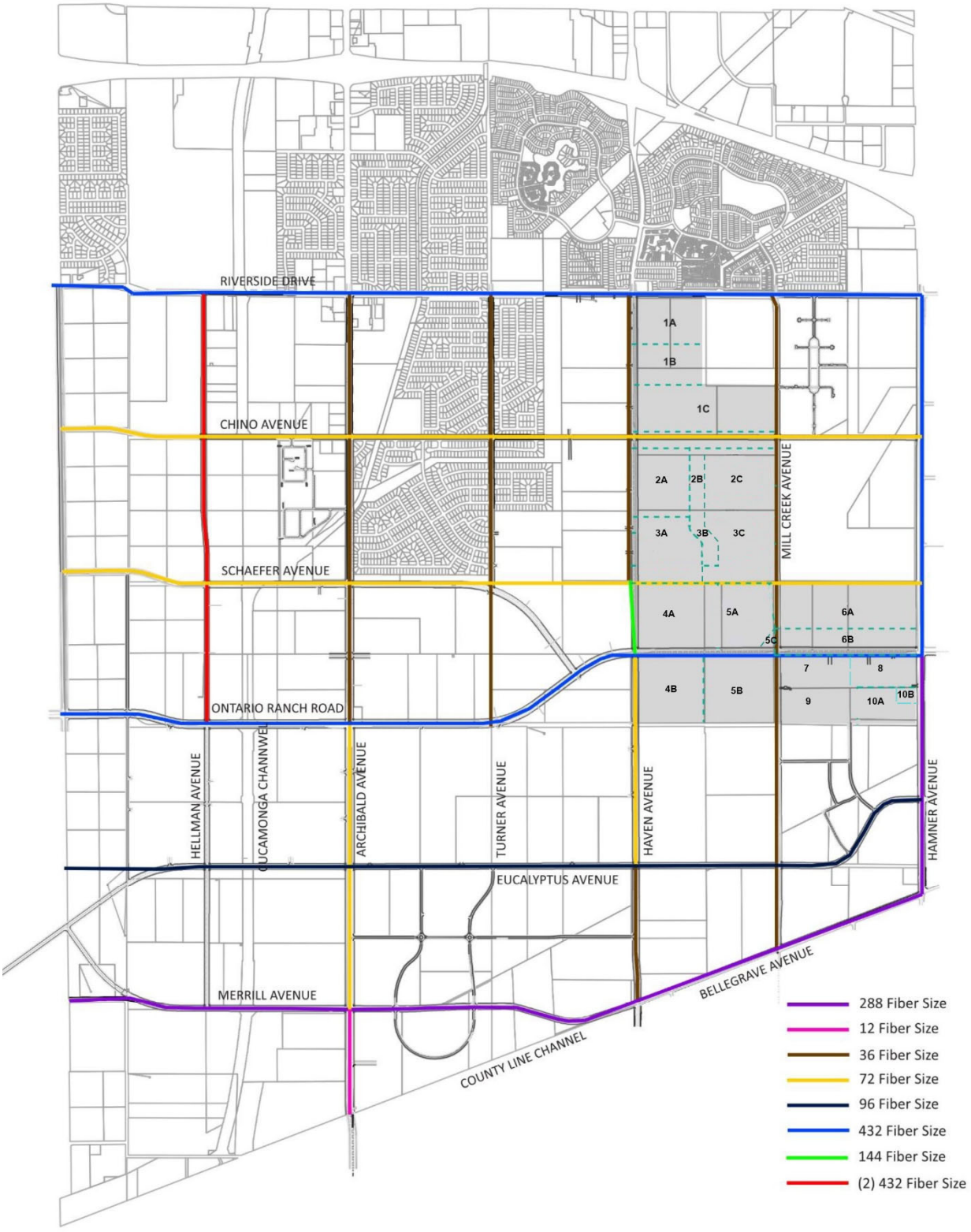
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RICH-HAVEN SPECIFIC PLAN

GRADING PLAN

FIGURE 4-8



NOT TO SCALE

Rich-Haven Specific Plan

MASTER PLANNED Fiber Optic Plan

FIGURE 4-9

4.6.2 PARKS

The City of Ontario has an established standard of 5 acres of park and recreation area for every 1,000 residents for regional parks, with a minimum of 2 acres of open park areas per 1,000 residents. The City has also established three standard park sizes: Private Parks of a minimum of 0.25-acres and serving a one-quarter mile radius; Public Neighborhood Parks of 10 to 20 acres and servicing a one-half mile radius; and Public Community Parks of twenty acres or more, servicing a two mile radius.

Within the Rich-Haven Specific Plan area a minimum requirement for open park areas is 2 acres per 1,000 residents, which can include hardscape urban plazas within the Regional Commercial/Mixed-Use District and SCE easements. Portions of the SCE easements may be allocated towards local park credit in the event they are improved and maintained to the appropriate standards. Refer to Section 5, Development Standards. Parks in excess of 2 acres per 1,000 residents may be eligible for "regional" classification under the City's 5 acre/1,000 residents.

The Rich-Haven Specific Plan Land Use Plan identifies three conceptual locations for private parks within the Residential District and four within the Regional Commercial/Mixed-Use District of the project. These parks may include picnic areas, tot lots, trails, and open play fields. The private park requirement may be met within any residential development, attached or detached. Fees will be paid to fulfill the balance of the City's park requirements (the remaining 3-acres per 1,000 residents).

The Rich Haven Specific Plan includes a 27 acre public park identified as Planning Area ~~3~~2A. It is located along Haven Avenue south of Chino Drive and the SCE Easement that parallels Chino Drive.

4.6.3 FIRE

The Ontario Fire Department provides fire and emergency medical service (EMS) for the Ontario Ranch from existing fire stations. The response capability consists of eight paramedic engine companies, and two truck (ladder) companies and 2 Battalion Supervisors, totaling 42 emergency personnel on duty 24 hours per day, 7 days a week.

The closest fire station to the proposed project site is Ontario Fire Station No. ~~6~~9, located ~~northwest~~ southwest of the project site at ~~2931 E. Philadelphia~~2661 E Grand Pk St. The Department's current response time from Station No. ~~6~~ 9 to the proposed site exceeds current emergency response goals. The department has a goal to achieve an average response time to all emergency calls within 8 minutes. To be consistent with the City's TOP Policy Plan, fire protection services planned for the NMC planning area will be subject to this goal.

A potential 1.5-acre fire station pad is proposed in the Regional Commercial / Mixed-Use District as part of the Rich-Haven Specific Plan, which will serve Rich-Haven and adjacent

neighborhoods. Final location will be reviewed and approved by the Ontario Fire Department.

4.6.4 LAW ENFORCEMENT

The Rich Haven Specific Plan will be within the jurisdiction of the City of Ontario Police Department, which currently operates one main and three satellite stations. The nearest police station to the Rich-Haven project site is at Archibald Avenue and Walnut Avenue.

4.6.5 LIBRARY

The City of Ontario Library is part of the Inland Library System, a public library cooperative of library branches in San Bernardino, Riverside, and Inyo Counties. The City currently has a main library and a branch library at Colony High School.

4.6.6 FIBER OPTICS

The proposed backbone street fiber optics (conduits, tracer wire, and fiber) will be placed underground within a duct and structure system to be installed by the Master Developer in a joint trench, as Illustrated in Figure 4-9. . In-tract fiber and conduit shall be installed by the Developers per the in-tract fiber optic design guidelines. Maintenance of the installed system will be the responsibility of the City/Special District. Development of the Project requires the installation by the Developers of all fiber optic infrastructure and peripheral equipment necessary to service the Project as a stand-alone development. See Figure 4-9.

4.6.7 NATURAL GAS

The Gas Company will provide natural gas service to the project site. The Gas Company as necessary will install natural gas mains within the Rich-Haven site, with possible integration with existing 3-inch and 6-inch mains within Riverside Drive, Hamner Avenue, and Ontario Ranch Road. The 36-inch High Pressure main located within the northwestern corner will remain.

4.6.8 ELECTRICITY

SCE will provide electrical service to the project site from existing facilities in the Ontario Ranch area; any new facilities will be located underground, and be owned and operated by the City of Ontario.

SCE facilities located within and adjacent to the project area consist of 115kV, 66kV, 12kV, and communications. Facilities less than 34.5kV will be located underground in the event that they are located adjacent to any streets proposed to be improved in conjunction with site improvements. See Figure 2-5*, Existing On-Site Facilities.*

SCE has a number of easements within and adjacent to the project area. The easement extending along the north side of the existing Ontario Ranch Road will be vacated as part of the project concurrently with removal of the existing 12kV lines. The existing 66kV lines will be relocated along the Ontario Ranch Road to the north. The SCE existing 66kV lines located along Haven Avenue will be relocated outside the project area and within the Haven Avenue right-of-way.

As part of the project, Mill Creek Avenue will be realigned to the west. With the realignment of Mill Creek Avenue, existing 115kV SCE towers located along Mill Creek Avenue may require to be relocated to the north of Ontario Ranch Road, in addition to the potential for the relocation of 115kV and 66kV lines located to the south of Ontario Ranch Road.

4.6.9 SOLID WASTE

Solid waste and recyclables in the City of Ontario are collected by the Ontario Municipal Utilities Company (OMUC) and transported to the Burtec West Valley Materials Recovery Facility in the City of Fontana. Refuse is ultimately landfilled at the El Sobrante Landfill in Riverside County. The development shall follow the Solid Waste Department Refuse and Recycling Planning Manual for the City of Ontario. The community trash enclosures may be utilized within the Specific Plan development depending on the types of architectural layouts.
The following shall apply:

i) Commercial – Developer shall comply with Municipal Code Sec. 6-3.314 Commercial Storage Standards, and Sec. 6-3.601 Business Recycling Plan.

ii) Apartment – For apartments using commercial bin service developer shall comply with Municipal Code Sec. 6-3.314 Commercial Storage Standards and Sec 6-3.601 Business Recycling Plan.

iii) Residential – For curbside automated container service developer shall comply with Municipal Code Sec. 6-3.308.9(a) and (d), Residential Receptacles, Placement.

iv) Recycling Requirements – Developer shall comply with Municipal Code, Article 6. Recycling Requirements for Specified Business Activity, Sec. 6-3.601 Business Recycling Plan, and Sec. 6-3.602 Construction and Demolition Recycling Plan.

v) Site Improvement Plans shall follow the City of Ontario refuse collections standards. All project sites shall be designed to meet all the Integrated Waste Department's requirements, including the requirements for Sizing of Storage, Location of Collection Area, Accessibility for Collection Vehicles, and Collection of Sorted/Diverted Waste Types.

The City of Ontario will assess development fees to new developments to pay for the necessary expansion of solid waste collection services.

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SECTION 5 - DEVELOPMENT REGULATIONS

5.1 Introduction

The provisions contained herein will regulate design and development within the Rich-Haven Specific Plan. This section has been prepared in accordance with California Government Code Section 65450, et seq., and the City of Ontario Development Code.

The Development regulations outlined in this section of the Specific Plan set forth the standards for development of all uses within the community. Regulations are proposed for residential, commercial, office, mixed use, light industrial and open space uses. Individual planning areas are defined by density and have been included in accordance with the goals and objectives of this document.

The following General Development Standards apply to all uses within the Rich-Haven Specific Plan.

5.2 General Provisions

5.2.1 DEFINITION OF TERMS

The meaning of words, phrases, titles, and terms shall be the same as provided in the City of Ontario Development Code unless specifically provided herein.

5.2.2 APPLICABILITY

The Rich-Haven Specific Plan is a regulatory plan, which, upon adoption by ordinance, will constitute the zoning of the property. Development plans or agreements, tract or parcel maps, precise development plans, or any other action requiring ministerial or discretionary approval for the subject property must be consistent with the approved Specific Plan. Actions deemed to be consistent with the Specific Plan shall be judged to be consistent with the City of Ontario's TOP Policy Plan (General Plan) as mandated in California Government Code, Section 65454. Should the regulations contained herein differ from the regulations of the City of Ontario Development Code, the regulations of the Specific Plan shall take precedence. Where the Rich-Haven Specific Plan is silent, City Code shall apply. These regulations shall reinforce the specific site planning, architectural design, and landscape guidelines contained in Section 6, *Design Guidelines*, of the Rich-Haven Specific Plan.

5.2.3 SEVERABILITY

In the event that any regulation, condition, program, portion, or policy of this Specific Plan or the application thereof to any person or circumstance is held to be invalid or unconstitutional by any court of competent jurisdiction, such portions shall be deemed separate, distinct, and independent provisions and shall not affect the validity of the remaining provisions of this Specific Plan or applications thereof which can be implemented without the invalid provision or application.

5.2.4 ADMINISTRATION

The Rich-Haven Specific Plan is adopted by ordinance and will serve as the implementation tool for the City's TOP Policy Plan as well as the zoning for the project site. The Specific Plan Development Regulations as outlined herein address general provisions, permitted uses, and development standards for the land uses within the project site.

5.2.5 METHODS AND INTERPRETATION

Development within the Rich-Haven Specific Plan shall be implemented through the approval by the City of Ontario of parcel maps, tract maps, and development permits. The administration process described herein provides for the mechanisms for review and approval of development projects within Rich-Haven consistent with the Specific Plan objectives.

Unlisted Uses

Any land use proposal not specifically covered by the provisions contained herein shall be subject to the City of Ontario Development Code.

Boundaries

The boundaries and acreage of the individual planning areas or portions thereof are approximate. Precise boundaries and acreages will be established in conjunction with the subdivision map or site development plan for each planning area or portions thereof within the project. Minor boundary and acreage variations (15% maximum deviation) shall be permitted without an amendment to this Specific Plan, subject to review by the Planning Director for conformance with the intent of the Specific Plan.

5.3 GENERAL SITE DEVELOPMENT CRITERIA

The following general site development criteria shall apply to all land development proposed within the Rich-Haven Specific Plan.

5.3.1 TOP ADJUSTED GROSS ACREAGE

Development area acreages are based upon TOP Adjusted Gross Acreages. The TOP Adjusted Gross Acreage is defined as the existing parcel size before removing the required dedication.

5.3.2 GRADING

Development within the project site shall utilize grading techniques as approved by the City of Ontario. Grading concepts shall respond to the Design Guidelines included in this Specific Plan and the grading section of the development plan, and shall be subject to a grading permit issued by the City of Ontario. Methane remediation may be required, subject to a remediation protocol developed by the City of Ontario (see discussion in Sections 4.5, *Grading*, and 8.6, *Methane Remediation*, herein).

5.3.3 SUBSEQUENT BUILDING MODIFICATION

Subsequent building modification by homeowners and/or builders, including additions and/or projections into setback areas permitted by the Specific Plan, shall match the architectural style of the primary unit and shall be constructed of the same materials and colors as the primary unit and/or in context with the overall Design Guidelines.

5.3.4 TECHNOLOGY

All homes and businesses shall accommodate the most modern technology for computer internet access, phone, fax, and television via the "Ontario Fiber Optic Conduct". Broadband fiber optics cable will be installed on all peripheral streets per the approved Broadband Master Plan. The homebuilder will provide broadband to the homes.

5.3.5 UTILITIES

All new and existing public utility distribution lines of less than 34.5kV shall be subsurface throughout the Rich-Haven Specific Plan, in accordance with City ordinance.

Water, recycled water, sewer, and storm drain utilities may be designated as "public utilities" if located within public streets. All public utilities within private streets shall be designed per City standards and contained within applicable easements. The CC&R's shall contain language that requires all proposed work by the HOA within said easements to be plan checked and inspected by the City, including applicable fees. Generally, utilities will not be accepted within alleys, parking areas and driveways, although they may be

permitted subject to review and approval by the engineering and public works departments. Utilities within commercial parking lots and loading areas will be designated as private. The extent to which said utilities will be accepted as public utilities shall be determined, at the full discretion of the City, during final design plan review.

5.3.6 DEVELOPMENT INTENSITY

The Rich-Haven Land Use Plan allocates a total number of units to each residential Planning Area as indicated in Table 3-1, *Land Use Plan Summary,* included in Section 3, *Land Use*, of this Specific Plan. Variations in the number and type of dwelling units within each residential planning area may occur at the time of final design of the neighborhood depending upon the residential project identified for development. Increases in allocation of residential units up to a maximum of fifteen percent (15%) are permitted among the residential planning areas within the Specific Plan provided the total number of units established for the Specific Plan area is not exceeded. The maximum number of residential dwelling units permitted within the Specific Plan shall be 7,194 dwelling units.

Provisions for transfer of residential units between Planning Areas is outlined in Section 8, *Administration and Implementation*, of this Specific Plan.

Note: Section 5.3.7 was intentionally omitted as part of the Rich Haven Specific Plan Amendment (File # PSPA16-001).

5.3.8 MIXED-USE OVERLAY

Mixed-Use projects are specifically allowed in Planning Areas 4A, 4B, 5B, 7, 9 and 10A ~~6, 7, 8 and 9~~ of this Specific Plan. Mixed-use projects may be horizontal or vertical mixed-use. Vertical mixed-use projects may consist of office or residential over retail/commercial/ hospitality uses or residential over office or retail/commercial/hospitality uses. When proposing a vertically Mixed-Use residential project, Podium or Wrap Apartments/Condominiums development standards shall be used.

5.3.9 LIVE/WORK

"Live/Work" is a mixed-use building type that is designed to accommodate non-residential work areas in addition to, or combined with, living quarters. The residential and commercial spaces are clearly identified and separated and all uses are in compliance with applicable government codes. Live/Work units, although suitable for home occupation uses, have specialized workspaces that can accommodate more intensive work activities than would be appropriate for an exclusive residential building. Live/Work opportunities shall be limited to the Regional Commercial/Mixed-Use District of the Specific Plan (Planning Areas ~~6, 7, 8 and 9~~ 4B, 5B, 6B, 7, 8 and 10B) and may develop in one of three scenarios: 1) live/work may be included in a vertical mixed-use setting with residential units located over retail/commercial/office; 2) live/work may also occur in multi-family live/work buildings such as townhomes and lofts, and would be a stand-alone multi-family workspace; or 3) live/work may also occur in single-family cottage products. Refer to Section 5.10 of this chapter for performance standards related to Live/Work uses.

5.4 RESIDENTIAL DISTRICT DEVELOPMENT STANDARDS

5.4.1 RESIDENTIAL PERFORMANCE STANDARDS

The following Performance Standards shall apply to all residential uses within the Residential District of this Specific Plan (Planning Areas 1A, 1B, 1C, 2B, 3A, and 3B ~~5C D~~) and High Density Residential uses within the Stand Alone Residential Overlay of the Regional Commercial/Mixed-Use District (Planning Areas 4A, 4B, 5B, 9 and 10A).

5.4.1.1 Mixture of Housing Types

Within each residential Planning Area and the Stand Alone Residential Overlay Zone in the Regional Commercial/Mixed-Use District, a mix of housing floor plans is required as shown below. This requirement is not applicable to multi-family for-rent product.~~:~~

Number of Dwelling Units:	Number of Differing Floor Plans:
5 –10	As required by Planning Commission
11 – 25	2
26 – 50	3
51 – 75	3
76 – 100	4
Over 100	4; +1 additional floor plan with 4 elevations for each additional 50 units exceeding 100

5.4.1.2 Projections into Required Yards

Residential roof overhangs and decorative architectural features such as fireplaces, bay windows, niches, and similar elements may project a maximum of two feet into any required front or side yard setback, five feet into rear yard. Structural features such as exposed staircases may encroach a maximum of five feet into any required rear yard setback. Porches and balconies, including post and columns, may project into yards as prescribed within the following prototypes.

5.4.1.3 Lot Coverage

Lot coverage includes the main structure, garages, and accessory structures, and excludes driveways and areas devoted to recreational uses.

5.4.1.4. Building Height

i. Primary Structure: The building height of single-family detached homes may not exceed two stories plus an attic of less than five hundred (500) square feet, with a maximum height of 35 feet.

ii. Primary Structure: The building height of multi-family residential units may not exceed three stories, with a maximum height of 35 feet in the Residential District, and five stories and 55 feet in the Regional Commercial/Mixed-Use District.

iii. Primary Structure: The Stand-Alone Residential Overlay within Planning Areas ~~6, 7, 8 and 9~~4A, 4B, 5B, 9 and 10A may exceed the three-story limit, subject to Planning Department review and approval.

iv. Architectural features such as, but not limited to, weather vanes, chimneys, etc. as are appropriate to the architectural style of the home may extend in height five feet (5') above the stated building height of the Primary Structure for low and medium density units.

v. Accessory structures are limited to one story or 14 feet.

5.4.1.5 Lot Width

Lot width shall be measured at the front yard property line for main residences. Lot width on a cul-de-sac or knuckle shall be measured at the front yard setback. A ten per cent (10%) admin exception for lot widths shall be permitted consistent with the Development Code.

5.4.1.6 Front Porches

The minimum depth of a porch shall be 7 feet, with an area of 70 square feet of clear space. The porch depth may be reduced to 5 feet, where appropriate to mass and scale of the building, subject to Planning Department review and approval.

5.4.1.7 Standards for Non-Residential Uses

Development standards for non-residential uses located within residential districts shall comply with the City of Ontario Development Code.

5.4.1.8 Dairy Separation Requirements for Residential Uses

The following separation requirements from existing dairies/feed lots shall apply to new residential development or structures used for public assembly purposes from existing dairies/feed lots.

A minimum 100' separation shall be required between a new residential, commercial or industrial development or structure used for public assembly and an existing animal feed trough, corral/pen or an existing dairy/feed lot including manure stockpiles and related wastewater detention basins. The 100-foot separation requirement may be satisfied by an off-site easement acceptable to the Planning Director with adjacent properties, submitted with the initial final map and recorded prior to or concurrent with the final map.

5.4.1.9 Walls, Fencing and Landscaping

The criteria for walls, fences and landscaping shall be as follows:

i. Maximum wall height in Traffic Safety Site Areas and/or front corner side yard areas shall be 3-feet.

ii. Maximum wall height at all other locations on lot shall be 6-feet, except as required for sound attenuation.

iii. Maximum height of exposed portions of retaining walls shall be 3-feet.

iv. Front yard landscaping and irrigation shall be provided by the Developer/Builder for all single-family products (Planning Areas ~~1-~~ ~~5~~1A, 1B, 1C, 2B, 3A and 3B and Stand Alone Residential Overlay within Planning Areas ~~6, 7, 8 and 9~~4A, 4B, 5B, 9 and 10A).

~~iv.~~v. The maximum wall height permitted between residential and light industrial shall be 8-feet. Any wall higher than 8-feet shall be subject to approval by the Planning Director.

~~v.~~vi. Privacy walls may be increased to 8 foot maximum on retaining side if there is retaining condition required (retaining 3' maximum portion), subject to approval from the Planning Director.

5.4.1.10 Residential Permitted Uses

a. Single-family detached residences and two family residences (duplex).
b. Single-family attached residence.
c. Townhomes.
d. Cluster and courtyard homes.
e. Attached and detached condominiums.
f. Guest house/second unit in accordance with the City of Ontario Development Code.
g. Public parks, community centers, and similar facilities.
h. Home Occupation in accordance with the City of Ontario Development Code.
i. Residential Community Care Facility (6 or less).
j. Public School K-12 in accordance with the City Development Code.
k. Police Store front/ Sub Station.
l. Fire Station/Emergency Services.
m. Satellite Dishes/Ham Radio Antennas in compliance with the City of Ontario Development Code.
n. Day Care Facilities serving up to 7 children (per State guidelines).
o. Recreational Facilities ancillary to a permitted use.
p. Amusement Temporary (Carnival, etc.) in accordance with the City of Ontario Development Code.
q. Temporary Structures (construction office, community information and subdivision sales office, etc.) in accordance with the City of Ontario Development Code.
r. Animal regulations in accordance with the City of Ontario Development Code.
s. Home schools.

t. Open space and conservation areas.

u. Parking lots in conjunction with a permitted or conditionally permitted use

v. Signs in accordance with the signage regulations and guidelines within this Specific Plan.

x. RV parking in accordance with the City of Ontario Development Code. No RV storage in front or side street side yard. No RV street parking for more than 72 hours.

y. Model homes and temporary related signage, sales, and parking facilities.

5.4.1.11 Residential Uses Subject to a Conditional Use Permit,

a. Senior Center.

b. Senior Housing.

c. Assisted Living/Congregate Care in accordance with the City of Ontario Development Code.

d. Convalescent Facility.

e. Live/Work Units – Refer to Section 5.5.10, Live/Work Development Standards.

f. Places of public assembly (including places of worship).

g. Residential Day Care Facilities serving up to 14 children (per State guidelines).

h. Public safety facilities.

i. Public utilities.

j. Bed and Breakfast in accordance with the City of Ontario Development Code.

k. Tennis and Swim Club.

l. Private School K-12 in accordance with the City of Ontario Development Code.

m. Mobile/Manufactured Homes in accordance with the City of Ontario Development Code.

n. Agricultural operations.

5.4.1.12 Parking

a. Parking shall be provided in accordance with the City of Ontario Development Code, except as specifically provided herein.

b. Residential uses shall provide two spaces within an enclosed garage per dwelling unit, for all one- and two-family (i.e. duplex) residential structures.

~~b.~~c. 18-foot aprons in front of single car garage shall count as a required parking space.

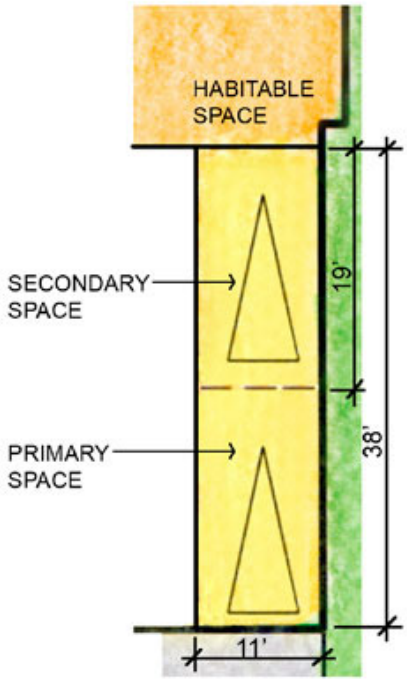
~~c.~~d. Residential dwellings with three or more attached residential units are subject to the following parking requirements:

i. One-bedroom units require 1.75 parking spaces per unit, with at least 1 space in a garage or carport.

ii. Two-bedroom units require 2 parking spaces per unit, with at least 1 space in a garage or carport.

iii. Three or more bedroom units require 2.5 spaces, with at least 2 spaces in a garage or carport.

iv. Tandem configurations measuring 11 feet by 38 feet are permitted for covered or enclosed spaces where both spaces serve the same residence. A maximum of 25% of the required covered spaces may be tandem, for multi-family projects with densities over 12 DU/AC and single family detached projects with lots or exclusive use areas below 3,000 SF. A reduction to a minimum depth of 34 feet may be allowed per Planning Director approval for a percentage units.



TANDEM PARKING

v. Carports shall be a minimum of 9' in width and 18' in depth.

vi. One car garage shall be a minimum of 10' in width and 20' in depth.

vii. ~~In~~ For multi-family ~~triplex units, 0.4 per unit of additional visitor and guest parking space is required.~~community, with density equal to or greater than 25 du/ac, the parking requirement will be as follows:

Unit Type	Resident	Guest	Total
Studio Unit	1.0	0.4	1.4
One Bedroom Unit	1.2	0.4	1.6
Two Bedroom Unit	1.5	0.4	1.9
Three Bedroom Unit	2.0	0.4	2.4
Senior Housing	0.5	0.1	0.6

~~v.~~viii. Community recreation and leasing centers shall provide additional parking for administrative staff beyond the parking requirement for the community.

~~vi. In multi-family projects, resident parking may be reduced for units within 300 feet of the Ontario Ranch Road ROW and for units~~

~~(including live work units) that face onto Ontario Ranch Road according to the following table:~~

~~Studio Unit~~	~~1.0 space per unit + required guest parking~~
~~One Bedroom Unit~~	~~1.25 space per unit + required guest parking~~
~~Two Bedroom Unit~~	~~1.5 space per unit + required guest parking~~
~~Three Bedroom Unit~~	~~2.0 space per unit + required guest parking~~
~~Senior Housing~~	~~0.5 space per unit + required guest parking~~

~~vii.~~ix. A minimum of 75% of the required residential parking for units that qualify for reduced parking requirements must be within a garage or carport. Guest parking for these units shall be provided in accordance with the City of Ontario Development Code.

~~viii.~~x.

~~ix.~~ Surface parking is permitted within SCE easements subject to approval from the utility provider. This surface parking may not be included towards meeting minimum resident and guest parking requirement~~s.~~

5.4.1.13 Common Open Space

Residential projects shall comply with the following common open space requirements to fulfill open park area requirements in accordance with Section 4.6.2, Parks herein. In addition to common open space requirements in this section, residential units are required to have private open space, in accordance with development standards for the given prototype. Refer to Section 5.4.2, Residential Prototypes herein.

The minimum amount of open park area required of any residential projects shall be determined by the following:

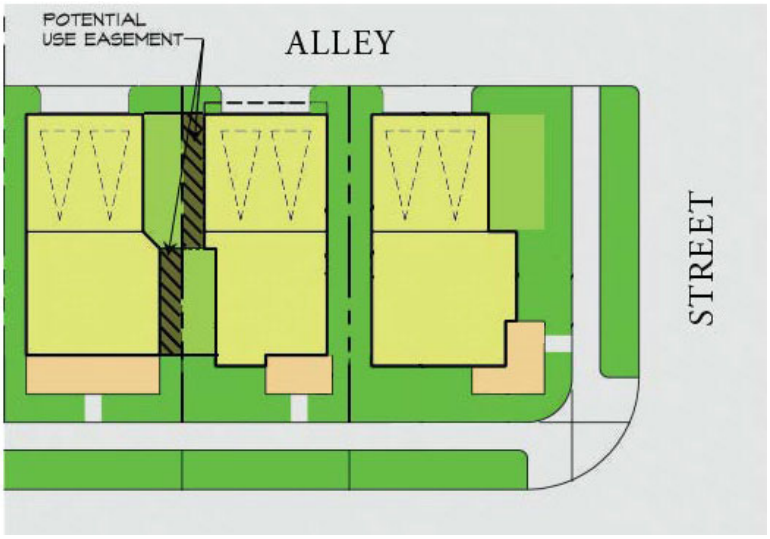
(# of dwelling units) x (occupancy factor) x (0.002) = Area of park and/or public plaza to be permanently established.

This standard fulfills the 2-ac./1000 population open park area requirements for Rich-Haven. This open space requirement may be met within any development containing residential components, attached or detached, or by satisfying the in-lieu park development impact fee as approved by the City. Fees will be paid to fulfill the balance of the City's parks requirement.

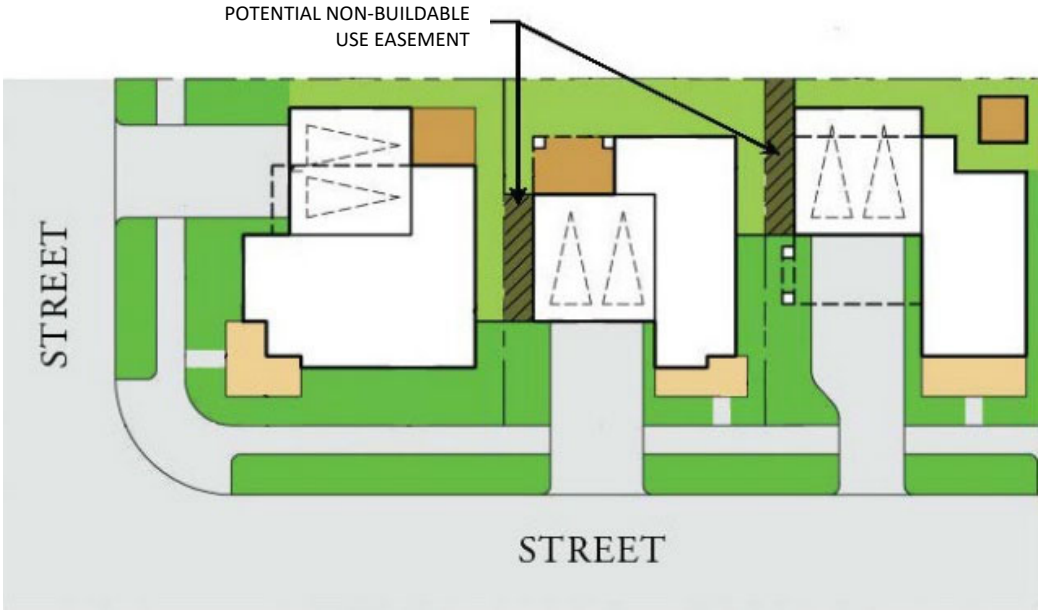
For residential projects, private open space may be provided in at least one third (1/3) of high-density residential units across the entire project to create architectural variety. When private open space is not provided, an equivalent amount of common open space will be provided outside. This space will not count towards public/park open space requirements.

5.4.1.14 Use and Benefit Easements

In order to optimize usable yard area, decrease the visual impact of the garage from the street or otherwise provide a better quality of life some single family detached home types may utilize "use and benefit easements." The "use and benefit easements" shall be recorded on the subject property's deed and shall be described in the Covenants, Conditions, and Restrictions of the respective homeowner's association.



SFD ALLEY LOAD EXAMPLE



SFD CONVENTIONAL EXAMPLE

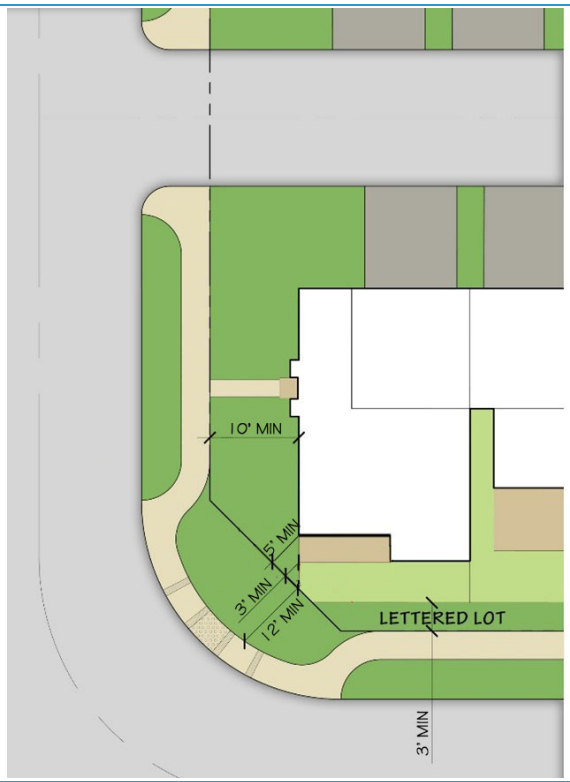
5.4.1.15 Corner Setbacks at City Modified Bends

In order to optimize private open space and provide increased planting areas for landscaping, the public sidewalk shall be realigned to be curb adjacent between the beginning and end of the inside curve (see photo example below). This will allow for pedestrian and ADA accessible ramps.

The city standard detail for a Modified Bend will only be modified to realign the sidewalk location to allow for increased landscaping within the right of way (ROW) and the adjacent lettered lot/common landscape area. The curb radius and ROW corner cut off dimensions will remain per the current City standard.

Buildings will maintain a minimum setback of ~~three~~five (~~3~~5) feet from property line (ROW). Courtyard walls and Privacy walls within the corner cut-off are allowed on the property line as long as a minimum 12-foot planting area is maintained between the wall and the back of the realigned sidewalk within the cut-off area. (See graphic standards following).





Corner Setbacks at City Modified Bends:

- ~~Meets 3' State~~5’ ~~B~~building setback at corner cutoff~~.~~
- ~~Request exception for 5-foot landscape lot at corner cutoff.~~ 3’ patio setback
- ~~Provides~~ 12' minimum for landscaping between wall and sidewalk~~.~~

5.4.2 RESIDENTIAL PROTOTYPES

Prototypes specify building type, orientation, lot size, and configuration. There are fourteen prototypes in the following section. Seven are single-family configurations and seven are multi-family or attached configurations, some containing more than one alternative. The use of multiple prototypes is required to achieve the desired variety across the community. Additional prototypes may be proposed or existing prototypes amended, subject to Planning Department review and approval. The list of prototypes has been included here for reference.

1. Conventional 7,200 SF Single Family Detached
2. Conventional 4,500 SF Single Family Detached
3. Conventional 2,700 SF Single Family Detached
4. Two-Pack or "Z" Lot Single Family Detached
5. Alley Loaded Single Family Detached
6. Courtyard Single Family Detached Lots
7. Cluster Single Family Detached
8. Cluster Single Family Detached (No Driveways)
9. Duplex/Triplex
10. Row Town Homes
11. Courtyard Town Homes
12. Tuck Under Town Homes
13. Tuck Under Apartments/Condominiums
14. Wrap Apartments/Condominiums
15. Podium Apartments/Condominiums

The following standards illustrate and provide the lot development criteria for each prototype.

5.4.2.1 Development Standards, Conventional 7,200 SF Single Family Detached

5.4.2.1.1 Lot Criteria:

Minimum Area:	7,200 SF
Maximum Lot Coverage:	55%

5.4.2.1.2 Lot Dimensions:

Standard Lot:	Minimum Width @ Front PL[4]:	60’
	Minimum Depth:	100’
Corner Lot:	Minimum Width @ Front PL[4]:	65’
	Minimum Depth:	100’

5.4.2.1.3 Building Setbacks[1]:

Front Setbacks	
Living Area:	18’
Porch / Balcony:	15’
Garage - Front Loaded:	20’ (Garage door to back of sidewalk)
Garage - Side Loaded:	10’ (Side of garage to back of sidewalk)
Side Setbacks	
Living Area / Accessory Structure	
Interior PL:	5’
Corner PL:	10’
Porch / Balcony	
Interior PL:	3’
Corner PL:	7’
Garage	
Interior PL:	5’
Corner PL (Front Loaded, No Side Access):	10’ (Side of garage to back of sidewalk)
Corner PL (Side Access with Driveway):	18’ (Garage door to back of sidewalk)
Rear Setbacks	
Living Area:	15’
Garage (Single Story Plate Line):	5’
Garage (Two Story Plate Line):	15’
Patio Cover:	5’
Second Story Deck / Balcony:	10’
Accessory Structure:	5’

5.4.2.1.4 Building Height[2]:

Primary Structure:	35’
Accessory Structure:	14’
Projections / Architectural Features:	3’ above primary structure, or 10% of the building height
Wall, Fence and Hedge Height	
Front or Corner Side Yard:	3’
All other locations:	6’
Retaining Walls:	3’

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Lots within cul-de-sac, standard knuckles or modified configurations shall provide a minimum 35’ lot width at front property line and shall meet the minimum lot width established for the product type at the building setback. All minimum side and rear yard setbacks shall be maintained at all times.



CONVENTIONAL 7,200 SF SINGLE FAMILY DETACHED
*Building footprints are conceptual. Actual floor plans may differ.

5.4.2.2 Development Standards, Conventional 4,500 SF Single Family Detached

5.4.2.2.1 Lot Criteria:

Minimum Area:	4,500 SF
Maximum Lot Coverage:	55%

5.4.2.2.2 Lot Dimensions:

Standard Lot:	Minimum Width @ Front PL[4]:	50’
	Minimum Depth:	90’
Corner Lot:	Minimum Width @ Front PL[4]:	55’
	Minimum Depth:	90’

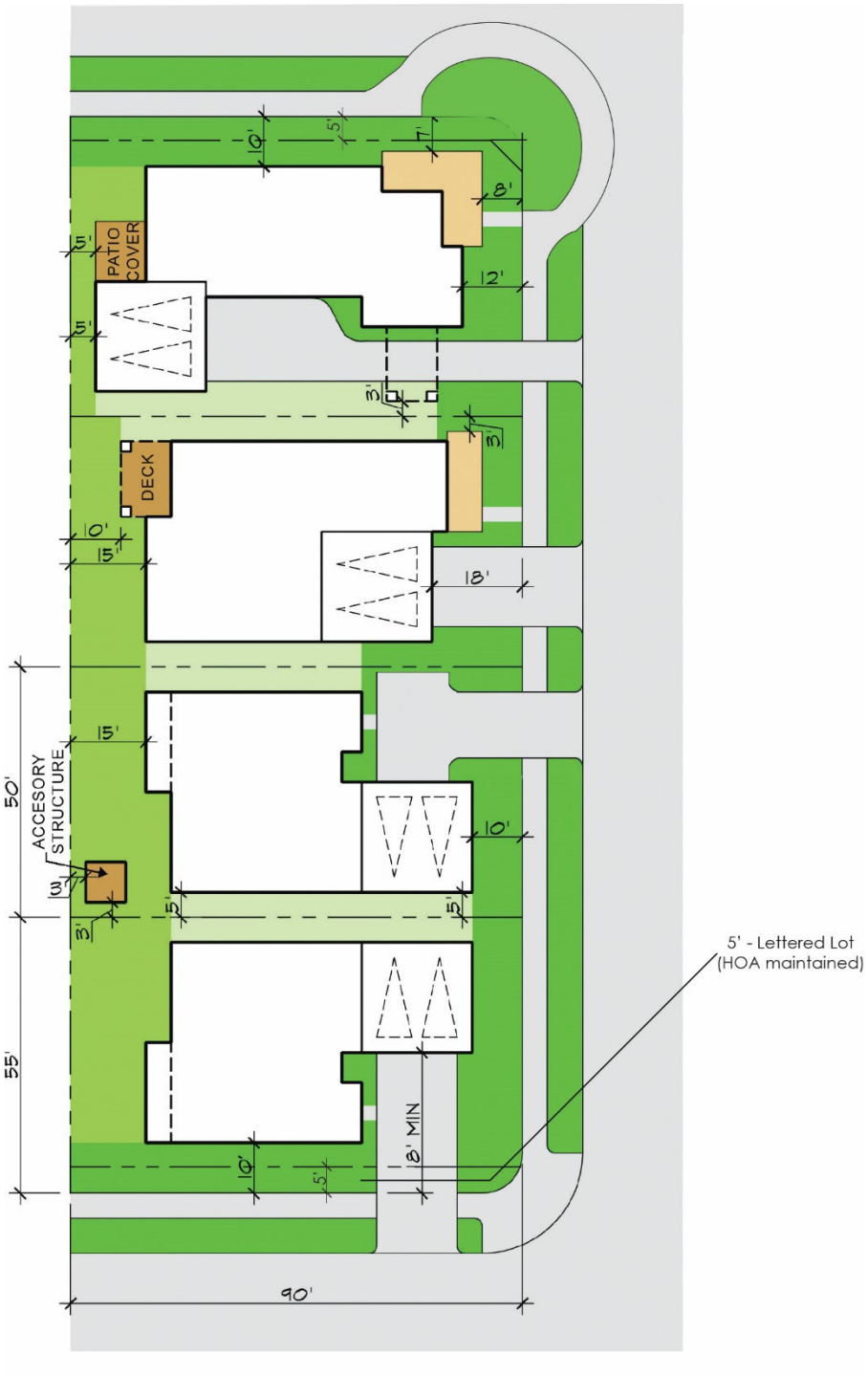
5.4.2.2.3 Building Setbacks[1]:

Front Setbacks	
Living Area:	12’
Porch / Balcony:	8’
Garage - Front Loaded:	18’ (Garage door to back of sidewalk)
Garage - Side Loaded:	10’ (Side of garage to back of sidewalk)
Side Setbacks	
Living Area	
Interior PL:	5’
Corner PL:	10’
Porch / Balcony	
Interior PL:	3’
Corner PL:	7’
Garage	
Interior PL:	5’
Corner PL (Front Loaded, No Side Access):	10’ (Side of garage to back of sidewalk)
Corner PL (Side Access with Driveway):	18’ (Garage door to back of sidewalk)
Accessory Structure:	3’
Rear Setbacks	
Living Area:	15’
Garage (Single Story Plate Line):	5’
Garage (Two Story Plate Line):	15’
Patio Cover:	5’
Second Story Deck / Balcony:	10’
Accessory Structure:	3’

5.4.2.2.4 Building Height[2]:

Primary Structure:	35’
Accessory Structure:	14’
Projections / Architectural Features:	3’ above primary structure, or 10% of the building height
Wall, Fence and Hedge Height	
Front or Corner Side Yard:	3’
All other locations:	6’
Retaining Walls:	3’

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Lots within cul-de-sac, standard knuckles or modified configurations shall provide a minimum 35’ lot width at front property line and shall meet the minimum lot width established for the product type at the building setback. All minimum side and rear yard setbacks shall be maintained at all times.



CONVENTIONAL 4,500 SF SINGLE FAMILY DETACHED
*Building footprints are conceptual. Actual floor plans may differ.

5.4.2.3 Development Standards, Conventional 2,700 SF Single Family Detached

5.4.2.3.1 Lot Criteria:

Minimum Area:	2,700 SF
Maximum Lot Coverage:	55%

5.4.2.3.2 Lot Dimensions:

Standard Lot:	Minimum Width @ Front PL[4]:	45’
	Minimum Depth:	60’
Corner Lot:	Minimum Width @ Front PL[4]:	50’
	Minimum Depth:	60’

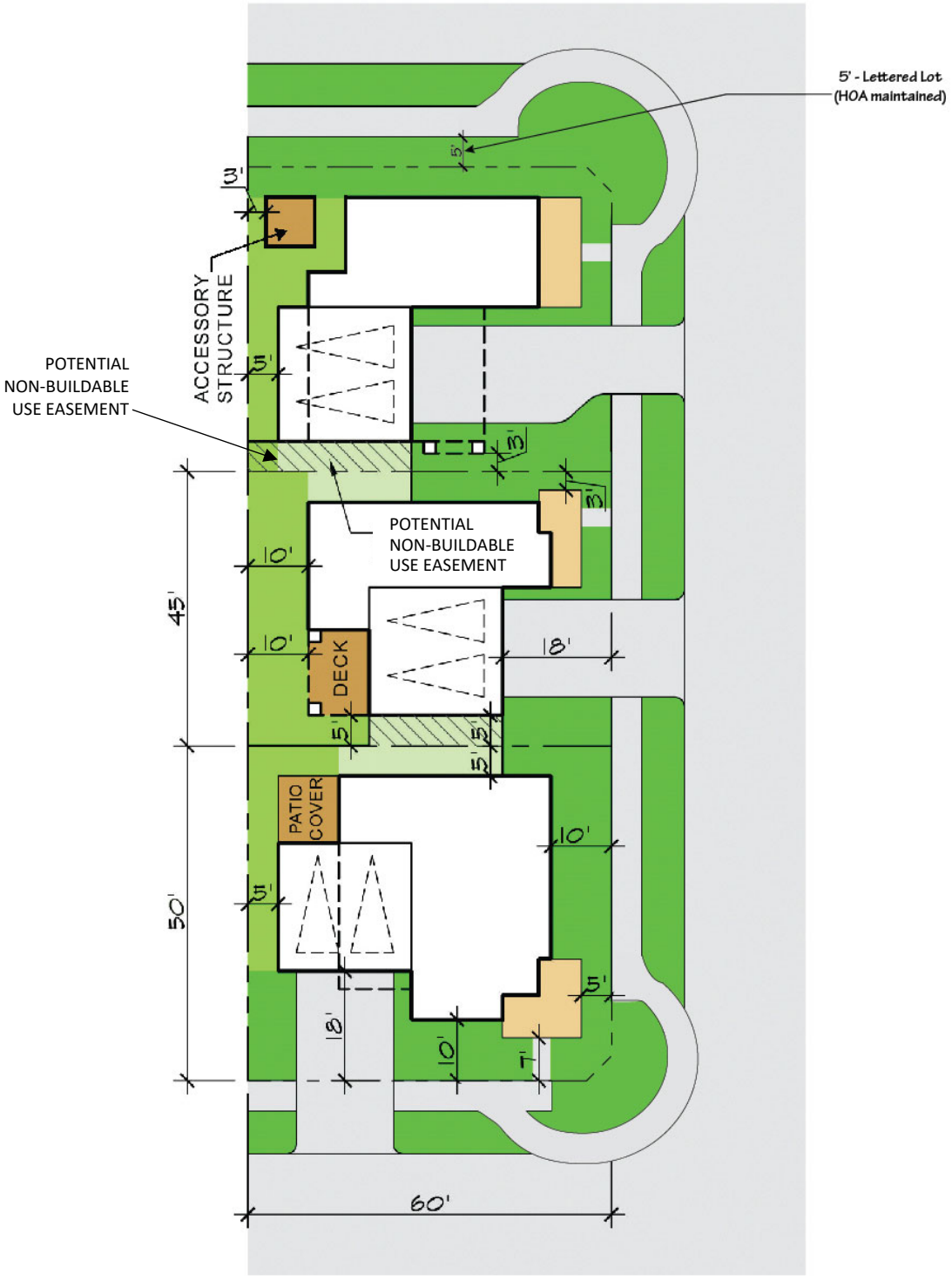
5.4.2.3.3 Building Setbacks[1]:

Front Setbacks	
Living Area:	10’
Porch / Balcony:	5’
Garage - Front Loaded	
From Public or Private Street:	18’ (Garage door to back of sidewalk)
From Common Drive or Alley:	5’ (Garage door to back of curb)
Garage - Side Loaded:	10’ (Side of garage to back of sidewalk)
Side Setbacks	
Living Area	
Interior PL:	5’
Corner PL:	10’
Porch / Balcony	
Interior PL:	3’
Corner PL:	7’
Garage	
Interior PL:	5’
Corner PL (Front Loaded, No Side Access):	10’ (Side of garage to back of sidewalk)
Corner PL (Side Access with Driveway):	18’ (Garage door to back of sidewalk)
Accessory Structure:	3’
Rear Setbacks	
Living Area:	10’
Garage (Single Story Plate Line):	5’
Garage (Two Story Plate Line):	10’
Patio Cover:	5’
Second Story Deck / Balcony:	10’
Accessory Structure:	3’

5.4.2.3.4 Building Height[2]:

Primary Structure:	35’
Accessory Structure:	14’
Projections / Architectural Features:	3’ above primary structure, or 10% of the building height
Wall, Fence and Hedge Height	
Front or Corner Side Yard:	3’
All other locations:	6’
Retaining Walls:	3’

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Lots within cul-de-sac, standard knuckles or modified configurations shall provide a minimum 35’ lot width at front property line and shall meet the minimum lot width established for the product type at the building setback. All minimum side and rear yard setbacks shall be maintained at all times.



CONVENTIONAL 2,700 SF SINGLE FAMILY DETACHED
*Building footprints are conceptual. Actual floor plans may differ.

5.4.2.4 Development Standards, Two-Pack OR "Z" Lot Single Family Detached

5.4.2.4.1 Lot Criteria:

Minimum Area:	2,800 SF
Maximum Lot Coverage:	55%

5.4.2.4.2 Lot Dimensions:

Standard Lot:	Minimum Width @ Front PL[4]:	40'
	Minimum Depth:	72'
Corner Lot:	Minimum Width @ Front PL[4]:	45'
	Minimum Depth:	72'

5.4.2.4.3 Building Setbacks[1]:

Front Setbacks	
Living Area:	10'
Porch / Balcony:	5'
Garage - Front Loaded	
From Public or Private Street:	18' (Garage door to back of sidewalk)
From Common Drive or Alley:	5' (Garage door to back of curb)
Side Setbacks	
Living Area	
Interior PL:	4'
Corner PL:	10'
Porch / Balcony	
Interior PL:	3'
Corner PL:	7'
Garage	
Interior PL:	4'
Corner PL (Front Loaded, No Side Access):	10' (Side of garage to back of sidewalk)
Corner PL (Side Access with Driveway):	18' (Garage door to back of sidewalk)
Accessory Structure:	3'
Rear Setbacks	
Living Area:	10'
Garage (Single Story Plate Line):	4'
Garage (Two Story Plate Line):	10'
Patio Cover:	5'
Second Story Deck / Balcony:	10'
Accessory Structure:	3'

5.4.2.4.4 Building Height[2]:

Primary Structure:	35'
Accessory Structure:	14'
Projections / Architectural Features:	3' above primary structure, or 10% of the building height
Wall, Fence and Hedge Height	
Front or Corner Side Yard:	3'
All other locations:	6'
Retaining Walls:	3'

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Lots within cul-de-sac, standard knuckles or modified configurations shall provide a minimum 35' lot width at front property line and shall meet the minimum lot width established for the product type at the building setback. All minimum side and rear yard setbacks shall be maintained at all times.
5. Permanent structures or utility lines are not allowed with the potential use easements.



TWO-PACK OR "Z" LOT SINGLE FAMILY DETACHED
*Building footprints are conceptual. Actual floor plans may differ.

5.4.2.5 Development Standards, Alley Loaded Single Family Detached

For Common Lot or Single Lot Subdivisions, perimeter setbacks shall be measured from street right of way or property line. Minimum building separations shall apply for all interior conditions.

5.4.2.5.1 Lot Criteria:

Minimum Area:	1,800 SF
Maximum Lot Coverage:	55%

5.4.2.5.2 Lot Dimensions:

Standard Lot:	Minimum Width @ Front PL[4]:	30’
	Minimum Depth:	60’
Corner Lot:	Minimum Width @ Front PL[4]:	35’
	Minimum Depth:	60’

5.4.2.5.3 Building Setbacks[1, 3]:

Front Setbacks (Street Frontage)	
Living Area:	10’
Porch / Balcony:	5’
Building Separation (Greenbelt or Paseo Frontage)	
Front to Front:	30’
Front to Side:	25’
Covered Porch to Covered Porch:	15’
Side Setbacks	
Living Area / Accessory Structure	
Interior PL:	4’
Corner PL:	10’
Porch / Balcony	
Interior PL:	3’
Corner PL:	5’
Garage	
Interior PL:	4’
Garage Separation (Door to Door):	30’
Building Separation (Side to Side):	8’
Rear Setbacks	
Living Area, Second Story Deck, Balcony:	3’
Garage (From Common Drive or Alley):	5’
Garage Separation (Door to Door)	30’
Patio Cover:	5’
Accessory Structure:	3’

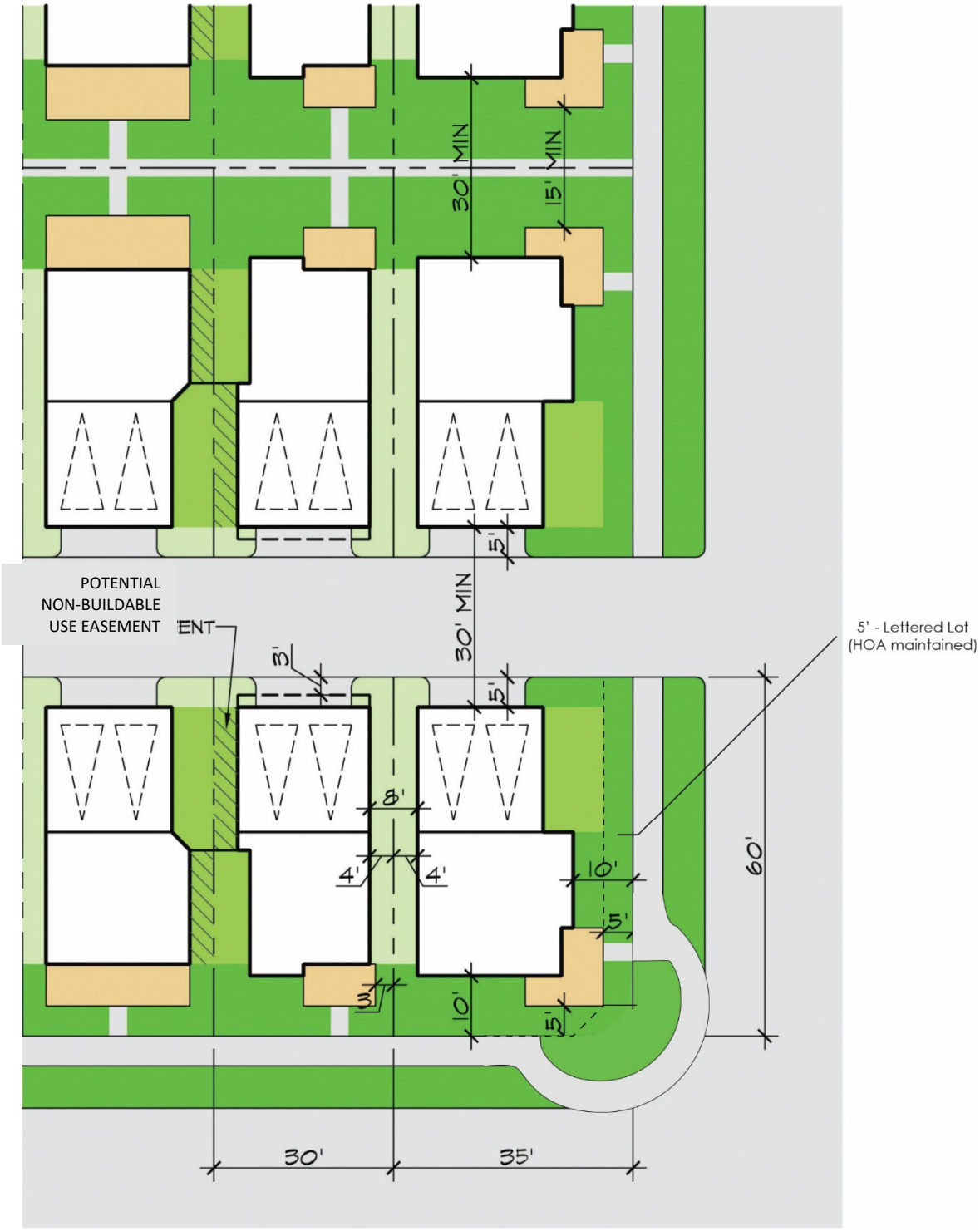
5.4.2.5.4 Building Height[2]:

Primary Structure:	35’
Accessory Structure:	14’
Projections / Architectural Features:	3’ above primary structure, or 10% of the building height
Wall, Fence and Hedge Height	
Front or Corner Side Yard:	3’
All other locations:	6’
Retaining Walls:	3’

5.4.2.5.4 Private Open Space:

The ground floor of each home shall have a minimum contiguous area of 150 sq. ft. with no dimension less than 10 feet in any direction. Refer to the Setbacks above.

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Lots within cul-de-sac, standard knuckles or modified configurations shall provide a minimum 35’ lot width at front property line and shall meet the minimum lot width established for the product type at the building setback. All minimum side and rear yard setbacks shall be maintained at all times.
5. Permanent structures or utility lines are not allowed with the potential use easements.



ALLEY LOADED SINGLE FAMILY DETACHED

5.4.2.6 Development Standards, Courtyard Single Family Detached

For Common Lot or Single Lot Subdivisions, perimeter setbacks shall be measured from street right of way or property line. Minimum building separations shall apply for all interior conditions.

5.4.2.6.1 Lot Criteria:

Minimum Area:	2,000 SF
Maximum Lot Coverage:	65%
Maximum Units per Cluster:	6

These standards shall also apply where the cluster homes are plotted with less than six (6) units.

5.4.2.6.2 Lot Dimensions:

Standard Lot:	Minimum Width:	45’
	Minimum Depth:	55’
Street Adjacent:	Minimum Width:	50’
	Minimum Depth from Street PL:	55’

5.4.2.6.3 Building Setbacks[1, 3]:

Front Setbacks

Living Area from Street:	10’
Porch / Balcony from Street:	5’
Building Separation	
Front to Front:	30’
Front to Side:	25’
Covered Porch to Covered Porch:	15’

Side Setbacks

Interior PL (Living Area/Porch/Balcony/Side of Garage):	4’
Living Area Adjacent to Street (Corner Lot):	10’
Building Separation (Side to Side):	8’

Rear Setbacks

Interior PL:	10’
Building Separation (Rear to Rear):	20’
Building Separation (Rear to Side):	14’

Garage Setbacks

Front Loaded from Public or Private Street:	18’ (Garage door to back of sidewalk)
Side Load from Public or Private Street:	10’ (Side of garage to back of sidewalk)
Garage from Alley or Common Drive:	3’
Building Separation (Door to Door, Door to Living Area):	30’

5.4.2.6.4 Building Height[2]:

Primary Structure:	35’
Accessory Structure:	14’
Projections / Architectural Features:	3’ above primary structure, or 10% of the building height

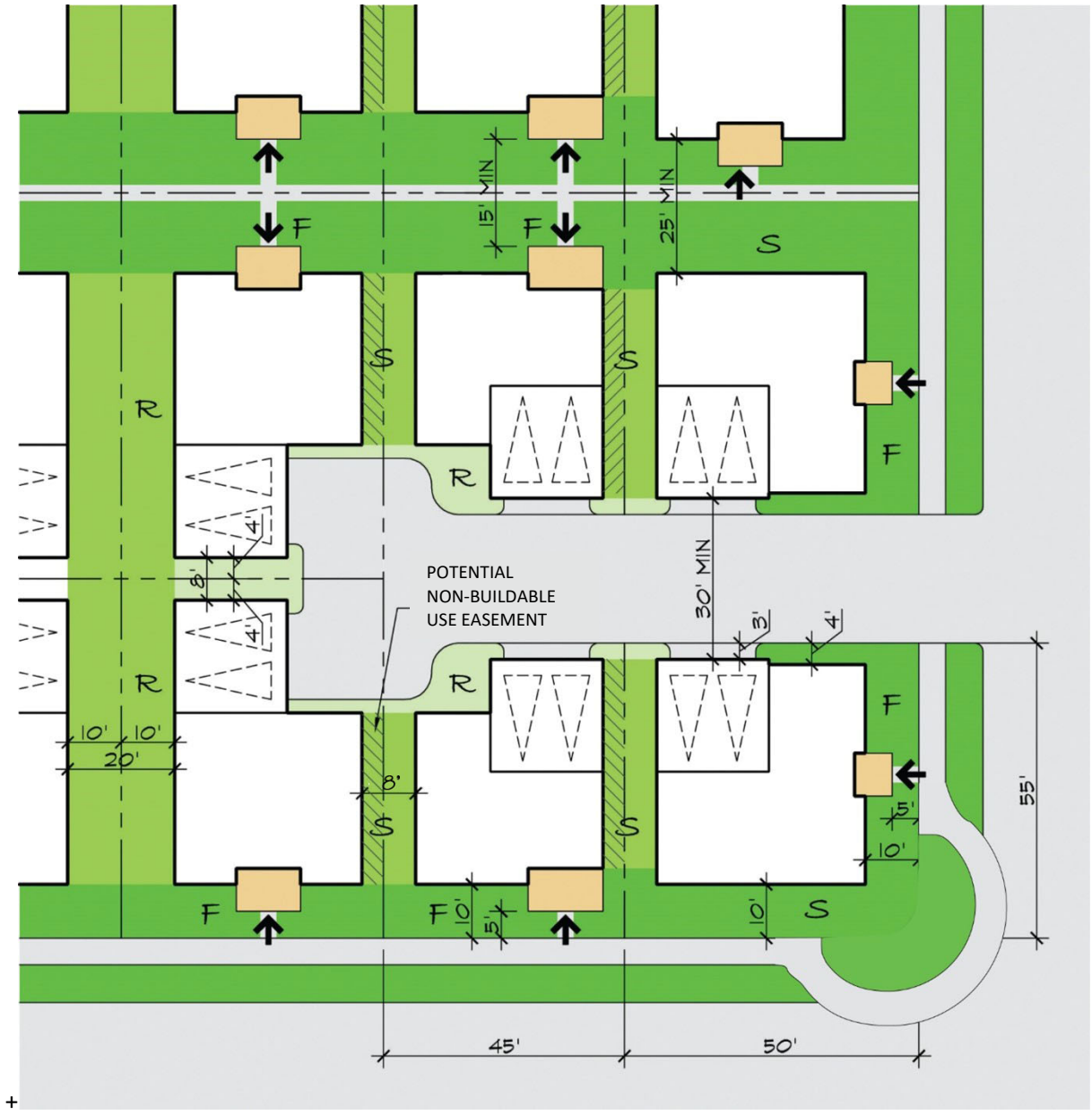
Wall, Fence and Hedge Height

Front or Corner Side Yard:	3’
All other locations:	6’
Retaining Walls:	3’

5.4.2.6.5 Private Open Space:

The ground floor of each home shall have a minimum contiguous area of 150 sq. ft. with no dimension less than 10 feet in any direction. Refer to the Setbacks above.

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Permanent structures or utility lines are not allowed with the potential use easements.



COURTYARD SFD

*Building footprints are conceptual. Actual floor plans may differ.

*Private lanes shall be enhanced with pavers, colored concrete or similar decorative material and approved by the Planning Director. Builders are encouraged to enhance driveways using decorative materials, or scored natural concrete.

*Pervious pavers may be used as a decorative feature of the courtyard paving to provide storm water infiltration.

5.4.2.7 Development Standards, Cluster Single Family Detached

For Common Lot or Single Lot Subdivisions, perimeter setbacks shall be measured from street right of way or property line. Minimum building separations shall apply for all interior conditions.

5.4.2.7.1 Lot Criteria:

Minimum Area:	2,000 SF
Maximum Lot Coverage:	65%
Maximum Units per Cluster:	8

These standards shall also apply where the cluster homes are plotted with less than six (6) units.

5.4.2.7.2 Lot Dimensions:

Standard Lot:	Minimum Width:	42’
	Minimum Depth:	60’
Street Adjacent:	Minimum Width:	47’
	Minimum Depth from Street PL:	60’

5.4.2.7.3 Building Setbacks[1, 3]:

Front Setbacks	
Living Area from Street:	10’
Living Area from common drive aisle [5]	5’
Porch / Balcony from Street:	5’
Porch/Balcony from common drive aisle [5]	5’
Building Separation	
Front to Front:	40’ to living
Front to Side:	35’
Covered Porch to Covered Porch:	36’
Side Setbacks	
Interior PL (Living Area/Porch/Balcony/Side of Garage):	~~5’~~4’
Living Area Adjacent to Street (Corner Lot):	10’
Building Separation (Side to Side):	~~10’~~8’
Accessory Structure [4]	3’
Rear Setbacks	
Interior PL:	5’*
Building Separation (Rear to Rear):	10’
Building Separation (Rear to Side):	10’
Accessory Structure [4]	3’
Garage Setbacks	
Front Loaded from Public or Private Street:	18’ (Garage door to back of sidewalk)
Side Load from Public or Private Street:	10’ (Side of garage to back of sidewalk)
Garage from Alley or Common Drive:	18’ (50% driveways may be reduced to 5’)
Building Separation (Door to Door, Door to Living Area):	40’

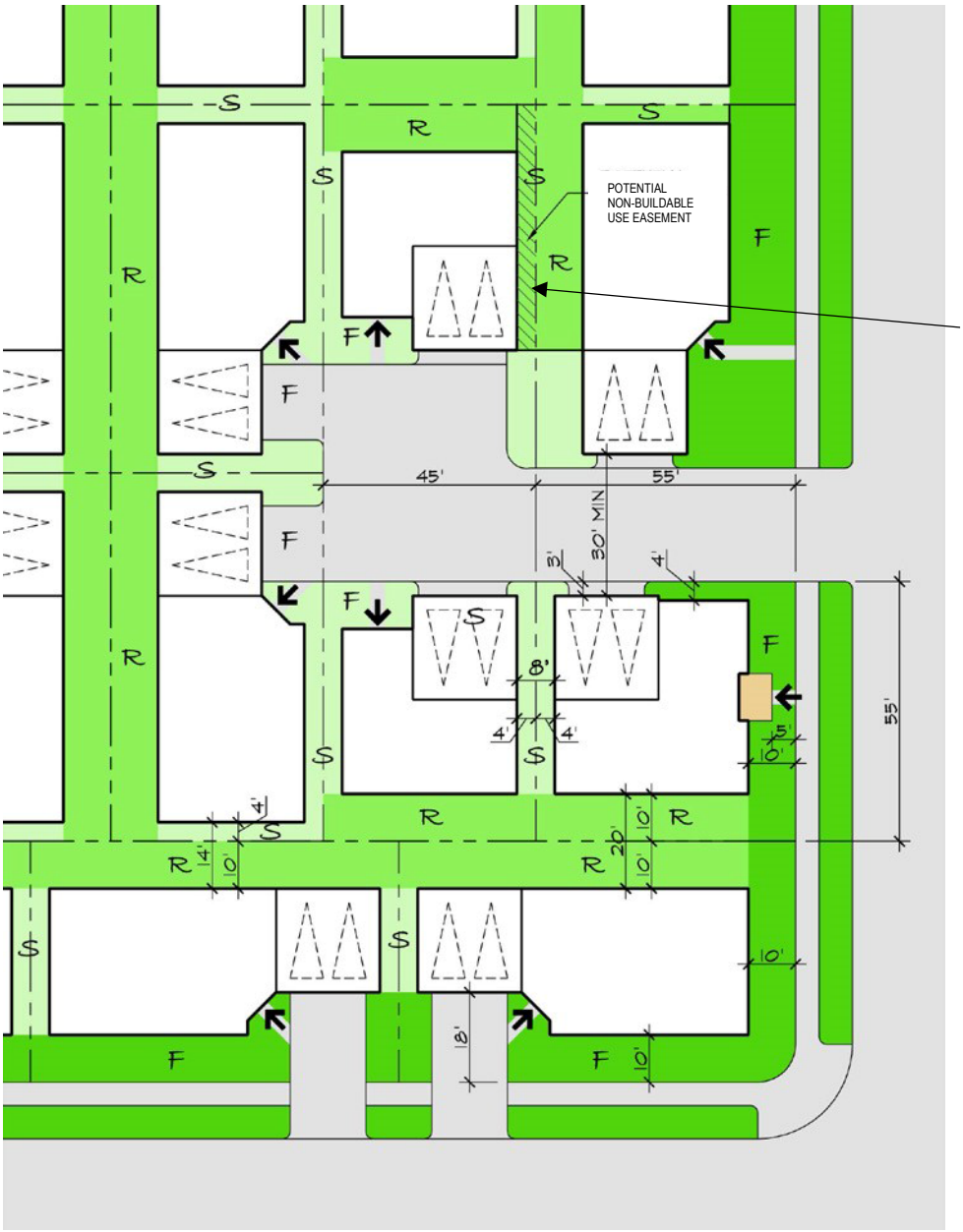
5.4.2.7.4 Building Height[2]:

Primary Structure:	35’
Accessory Structure:	14’
Projections / Architectural Features:	3’ above primary structure, or 10% of the building height
Wall, Fence and Hedge Height	
Front or Corner Side Yard:	3’
All other locations:	6’
Retaining Walls:	3’

5.4.2.7.5 Private Open Space:

*The ground floor of each home shall have a minimum contiguous area of 150 sq. ft. with no dimension less than 10 feet in any direction. Refer to the Setbacks above.

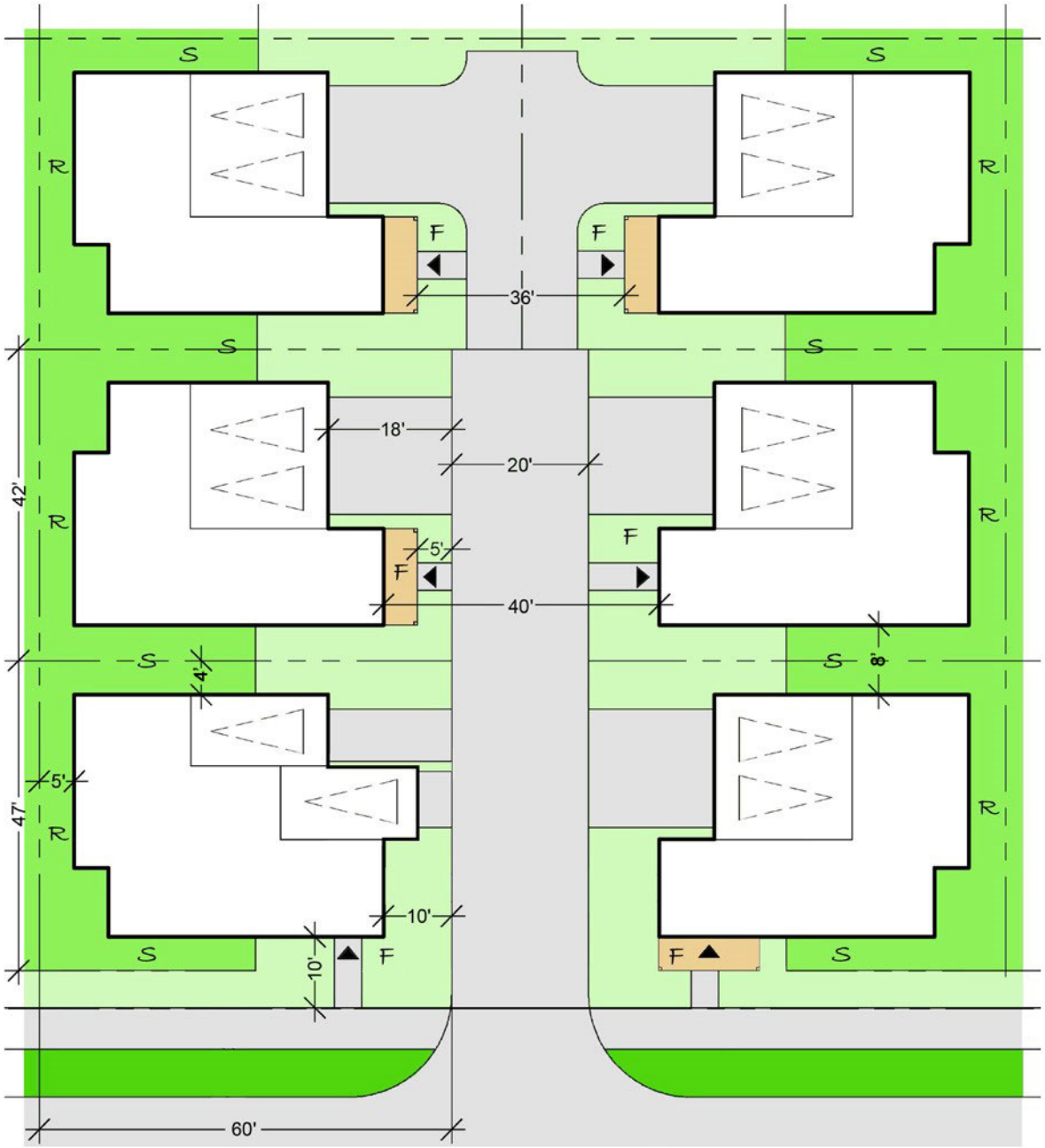
1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Accessory structures shall maintain a 3 FT setback from property line. Permanent structures shall not be permitted within use easement area.
5. Common drive aisle is defined by project ingress/egress to each cluster pack and does not include the cluster pack drive aisle for garage access.
6. Permanent structures or utility lines are not allowed with the potential use easements.



CLUSTER SFD – Alt. 1

*Building footprints are conceptual. Actual floor plans may differ.

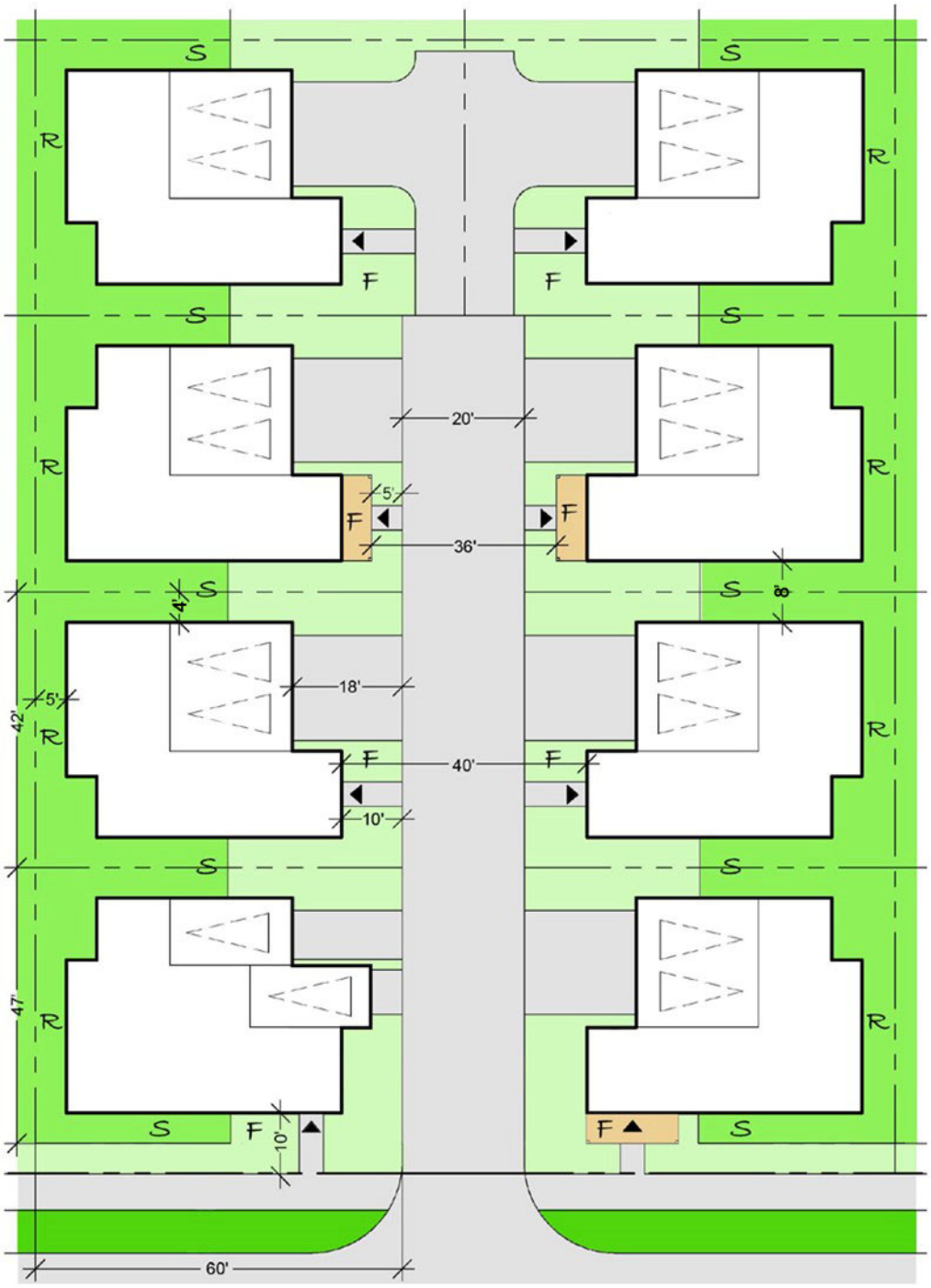
*Private lanes shall be enhanced with pavers, colored concrete or similar decorative material and approved by the Planning Director. Builders are encouraged to enhance driveways using decorative materials or scored natural concrete.



CLUSTER SFD – Alt. 2

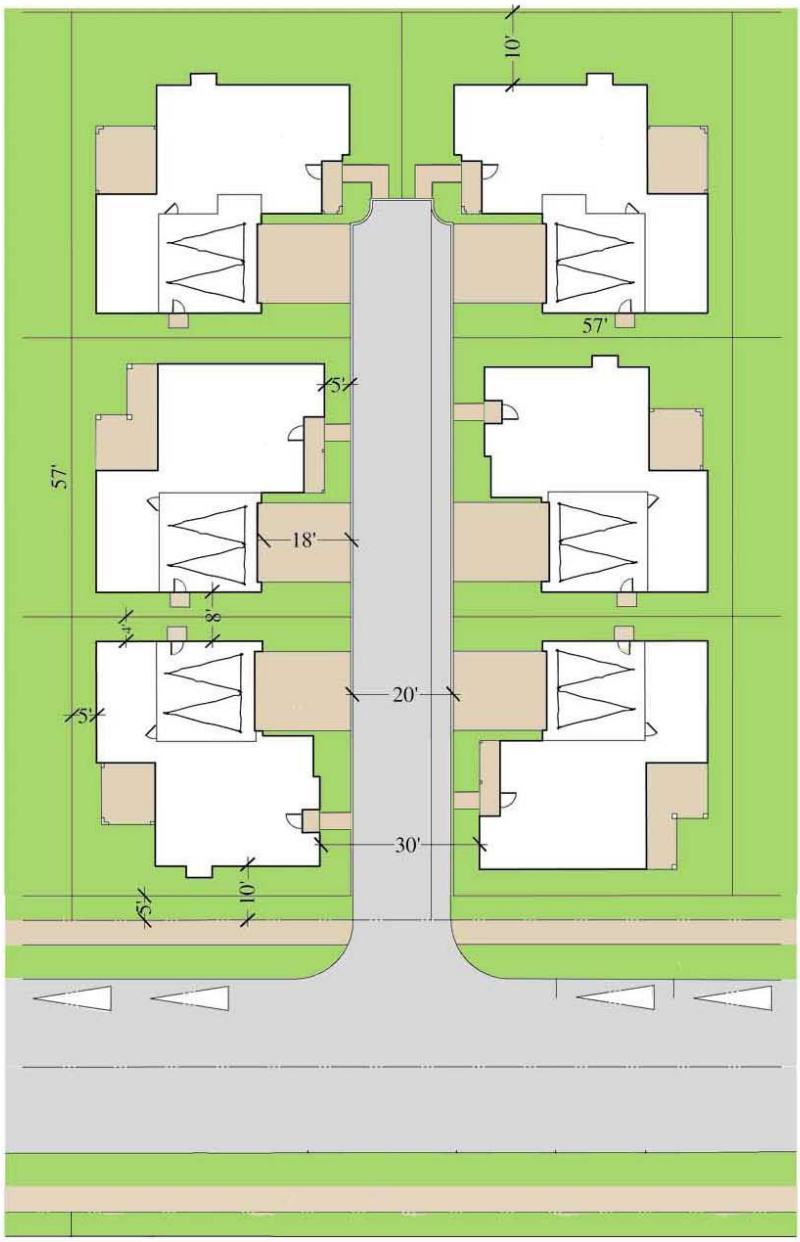
*Building footprints are conceptual. Actual floor plans may differ.

*Private lanes shall be enhanced with pavers, colored concrete or similar decorative material and approved by the Planning Director. Builders are encouraged to enhance driveways using decorative materials or scored natural concrete.



CLUSTER SFD – Alt. 3

*Building footprints are conceptual. Actual floor plans may differ.
*Private lanes shall be enhanced with pavers, colored concrete or similar decorative material and approved by the Planning Director. Builders are encouraged to enhance driveways using decorative materials or scored natural concrete.



CLUSTER SFD – Alt. 4

*Building footprints are conceptual. Actual floor plans may differ.

*Private lanes shall be enhanced with pavers, colored concrete or similar decorative material and approved by the Planning Director. Builders are encouraged to enhance driveways using decorative materials or scored natural concrete.

5.4.2.8 Development Standards, Cluster Single Family Detached (No Driveways)

For Common Lot or Single Lot Subdivisions, perimeter setbacks shall be measured from street right of way or property line. Minimum building separations shall apply for all interior conditions.

5.4.2.8.1 Lot Criteria:

Minimum Area:	2,000 SF
Maximum Lot Coverage:	65%
Maximum Units per Cluster:	8

These standards shall also apply where the cluster homes are plotted with less than six (6) units.

5.4.2.8.2 Lot Dimensions:

Standard Lot:	Minimum Width:	36’
	Minimum Depth:	48’
Street Adjacent:	Minimum Width:	40’
	Minimum Depth from Street PL:	48’

5.4.2.8.3 Building Setbacks[1, 3]:

Front Setbacks

Living Area from Street:	10’
Living Area from common drive aisle [5]	5’
Porch / Balcony from Street:	5’
Porch/Balcony from common drive aisle [5]	5’

Building Separation

Front to Front:	30’ to living or garage
Front to Side:	N/A
Covered Porch to Covered Porch:	30’

Side Setbacks

Interior PL (Living Area/Porch/Balcony/Side of Garage):	4’
Living Area Adjacent to Street (Corner Lot):	10’
Building Separation (Side to Side):	8’
Accessory Structure [4]	3’

Rear Setbacks

Interior PL:	5’*
Building Separation (Rear to Rear or Side):	10’
Accessory Structure [4]	3’

Garage Setbacks

Front Loaded from Public or Private Street:	18’ (Garage door to back of sidewalk)
Side Load from Public or Private Street:	Not Allowed
Garage from Alley or Common Drive:	5’
Building Separation (Door to Door, Door to Living Area):	30’

5.4.2.8.4 Building Height[2]:

Primary Structure:	35’
Accessory Structure:	14’

Projections / Architectural Features: 3’ above primary structure or 10% of the building height

Wall, Fence and Hedge Height

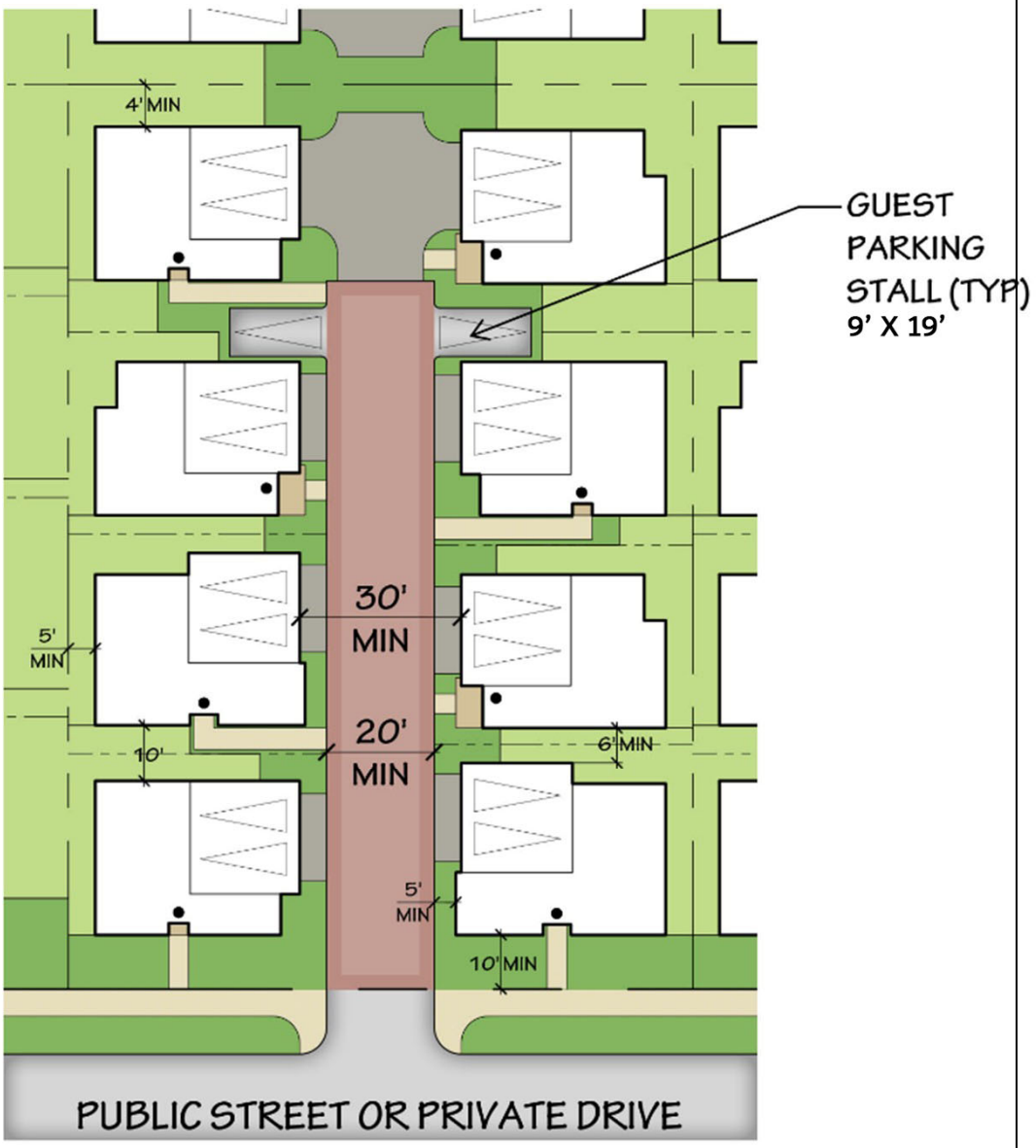
Front or Corner Side Yard:	3’
All other locations:	6’
Retaining Walls:	3’

5.4.2.8.5 Private Open Space:

*The ground floor of each home shall have a minimum contiguous area of 150 sq. ft. with no dimension less than 8 feet in any direction. Refer to the Setbacks above.

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Accessory structures shall maintain a 3 FT setback from property line. Permanent structures shall not be permitted within use easement area.
5. Common drive aisle is defined by project ingress/egress to each cluster pack and does not include the cluster pack drive aisle for garage access.
6. Permanent structures or utility lines are not allowed with the potential use easements.

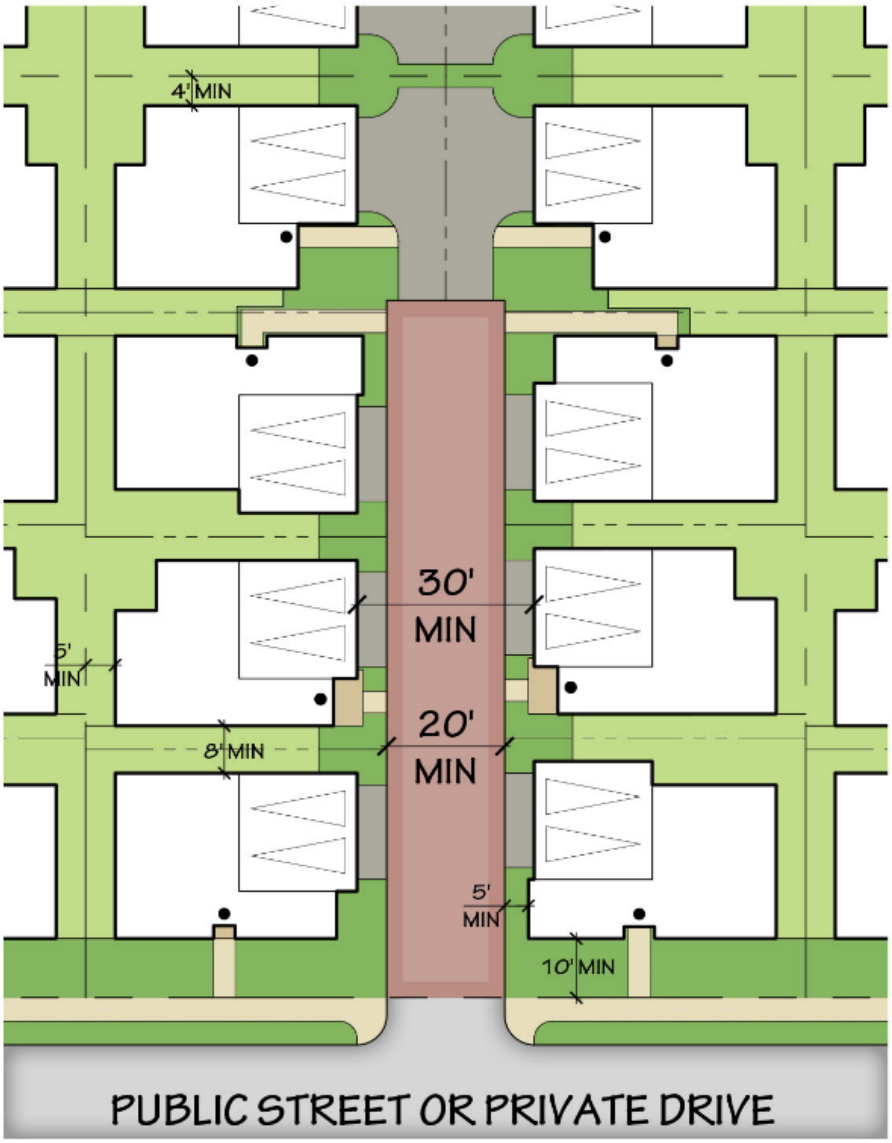
New Exhibit



CLUSTER SFD (No Driveways)– Alt. 1

*Building footprints are conceptual. Actual floor plans may differ

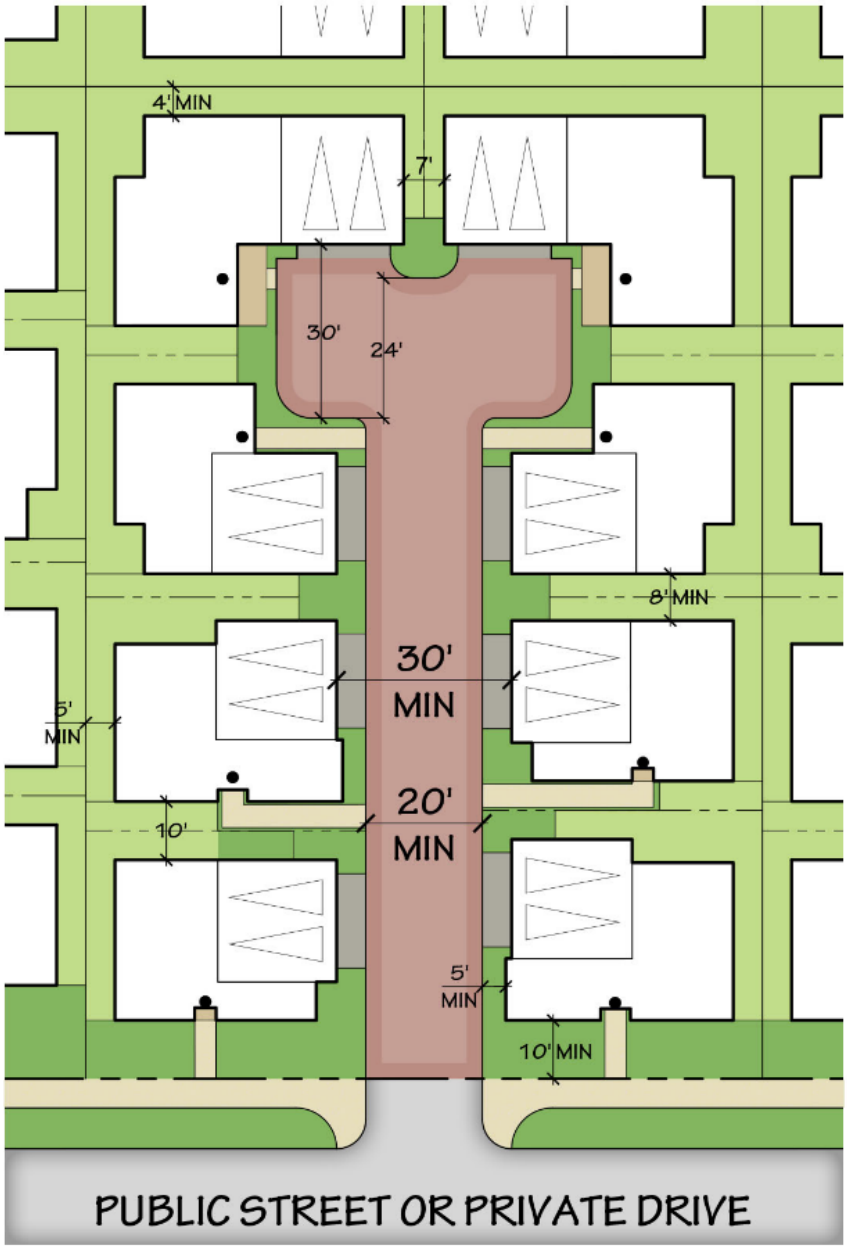
New Exhibit



CLUSTER SFD (No Driveways)– Alt. 2

*Building footprints are conceptual. Actual floor plans may differ

New Exhibit



CLUSTER SFD (No Driveways)– Alt. 3

*Building footprints are conceptual. Actual floor plans may differ

5.4.2.~~8~~9 Development Standards, Duplex/Triplex

For Common Lot or Single Lot Subdivisions, perimeter setbacks shall be measured from street right of way or property line. Minimum building separations shall apply for all interior conditions.

5.4.2.~~8~~9.1 Lot Criteria:

Minimum Area:	1,800 SF (per unit)
Maximum Lot Coverage:	65%

5.4.2.~~8~~9.2 Building Setbacks[1, 3]:

Front Setbacks	
Living Area:	~~12'~~10'
Porch / Balcony:	0'
Building Separation	
Front to Front:	30'
Front to Side:	25'
Covered Porch to Covered Porch:	15'
Side Setbacks	
Interior PL (Non-Entry)	5'
Interior PL (Entry, i.e. at Carriage Flat)	6'
Living Area Adjacent to Street (Corner Lot):	10'
Porch/Balcony Adjacent to Street (Corner Lot):	~~7'~~5'
Front Door to Front Door:	25'
Building Separation (Side to Side)	
Front Entry Residence:	10'
Side-Yard Entry Residence (i.e. Carriage Flat):	12'
Rear Setbacks	
Living Area, Second Story Deck, Balcony	
Interior PL:	10'
Alley or Common Drive:	5'
Patio Cover:	5'
Accessory Structure:	3'
Building Separation (Rear to Rear):	20'
Garage Setbacks	
Garage Door at Street (With Driveway):	18' (Garage door to back of sidewalk)
Side of Garage at Street (No Driveway):	10' (Side of garage to back of sidewalk)
Garage from Alley or Common Drive:	3'
Building Separation (Door to Door):	30'

5.4.2.~~8~~9.3 Building Height[2]:

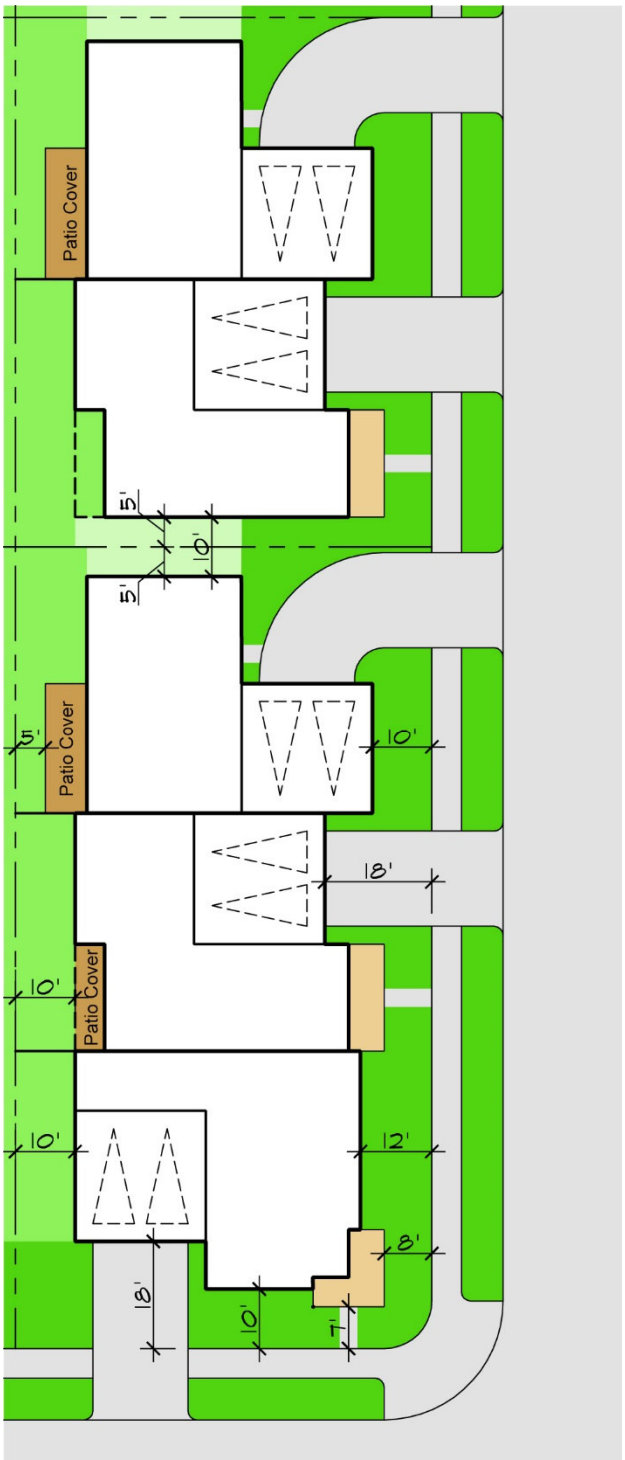
Primary Structure:	35'
Accessory Structure:	14'
Projections / Architectural Features:	3' above primary structure or 10% of the building height
Wall, Fence and Hedge Height	
Front or Corner Side Yard:	3'
All other locations:	6'
Retaining Walls:	3'

5.4.2.~~8~~9.4 Parking: Refer to Section 5.4.1.12 for parking requirements.

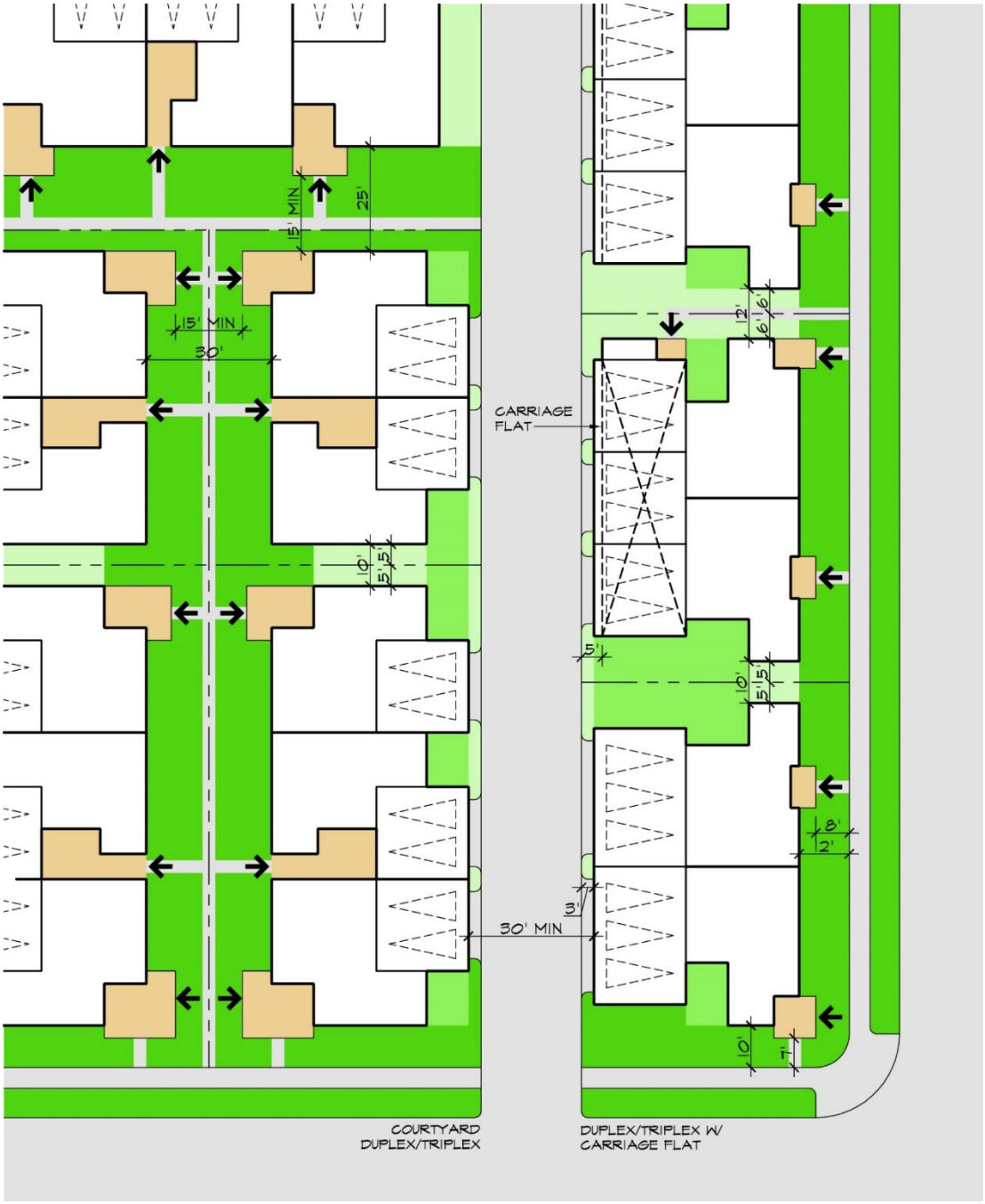
5.4.2.~~8~~9.5 Private Open Space:

Each home shall have a minimum cumulative private open space area of 140 sq. ft. Upper floor decks and balconies may only be counted towards the private open space requirement when they have a minimum contiguous area of 35 sq. ft. and have no dimension less than 5 feet in any direction. Refer to the Setbacks above.

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.



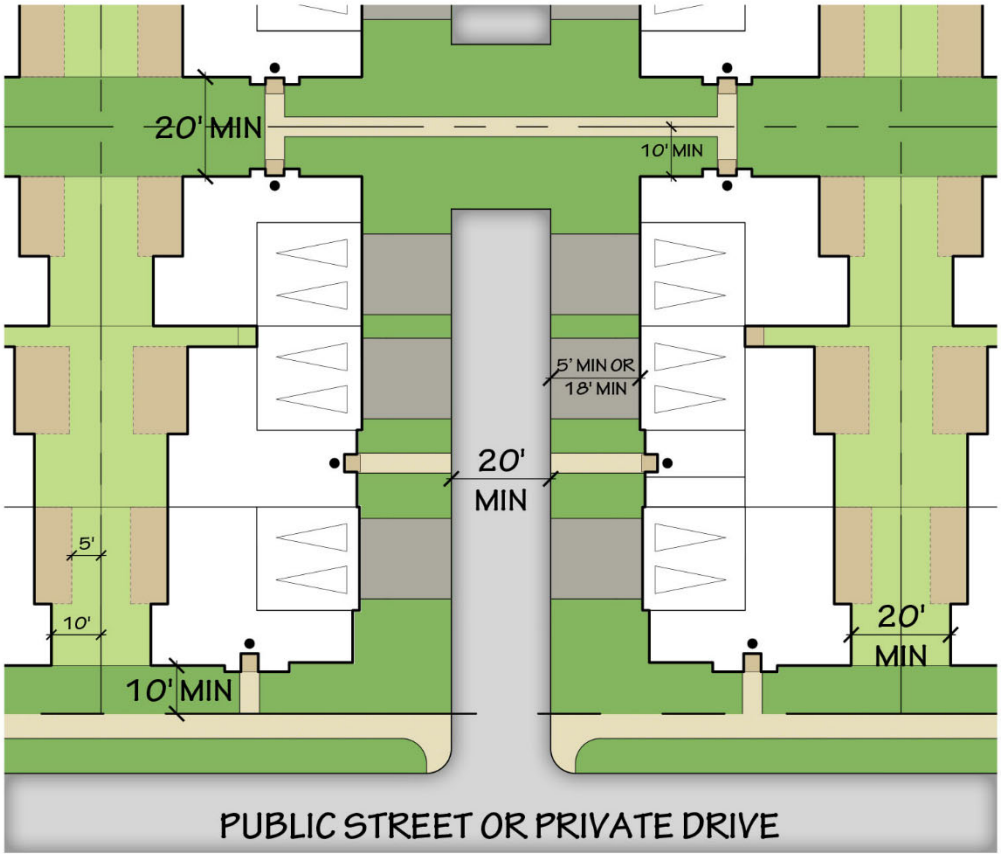
CONVENTIONAL DUPLEX/TRIPLEX – Alt. 1
*Building footprints are conceptual. Actual floor plans may differ.



ALLEY DUPLEX/TRIPLEX – Alt. 2

*Building footprints are conceptual. Actual floor plans may differ.

New Exhibit



ALLEY DUPLEX/TRIPLEX – Alt. 3

*Building footprints are conceptual. Actual floor plans may differ.

5.4.2.~~9~~10 Development Standards, Row Town Homes

5.4.2.~~9~~10.1 Lot Criteria:

Minimum Area:	1,800 SF (per unit)
Maximum Lot Coverage:	60%
Maximum Units per Building:	16

(or as established by the approved Development Plan for Medium Density Residential uses)

5.4.2.~~9~~10.2 Building Setbacks[1, 3]:

Front Setbacks

Living Area:	10’
Living Area from common drive aisle [5]	5’
Porch / Balcony:	5’
Porch / Balcony from common drive aisle [5]	5’

Building Separation (Greenbelt or Paseo Frontage)

Front to Front:	25’
Front to Side:	25’
Covered Porch to Covered Porch:	15’

Side Setbacks

Interior PL (Living Area, Porch/Balcony, Side of Garage):	4’
Living Area Adjacent to Street (Corner Lot):	10’
Porch/Balcony Adjacent to Street (Corner Lot):	5’
Building Separation (Side to Side):	8’
Front Door to Front Door:	25’

Rear Setbacks

Living Area, Second Story Deck, Balcony:	5’
Patio Cover:	5’

Garage Setbacks

Garage Door at Street (With Driveway):	18’ (Garage door to back of sidewalk)
Side of Garage at Street (No Driveway):	10’ (Side of garage to back of sidewalk)
Garage at Alley or Common Drive:	3’
Building Separation (Door to Door):	30’

5.4.2.~~9~~10.3 Building Height[2]:

Primary Structure:	35’
Accessory Structure:	14’
Projections / Architectural Features:	3’ above primary structure, or 10% of the building height

Wall, Fence and Hedge Height

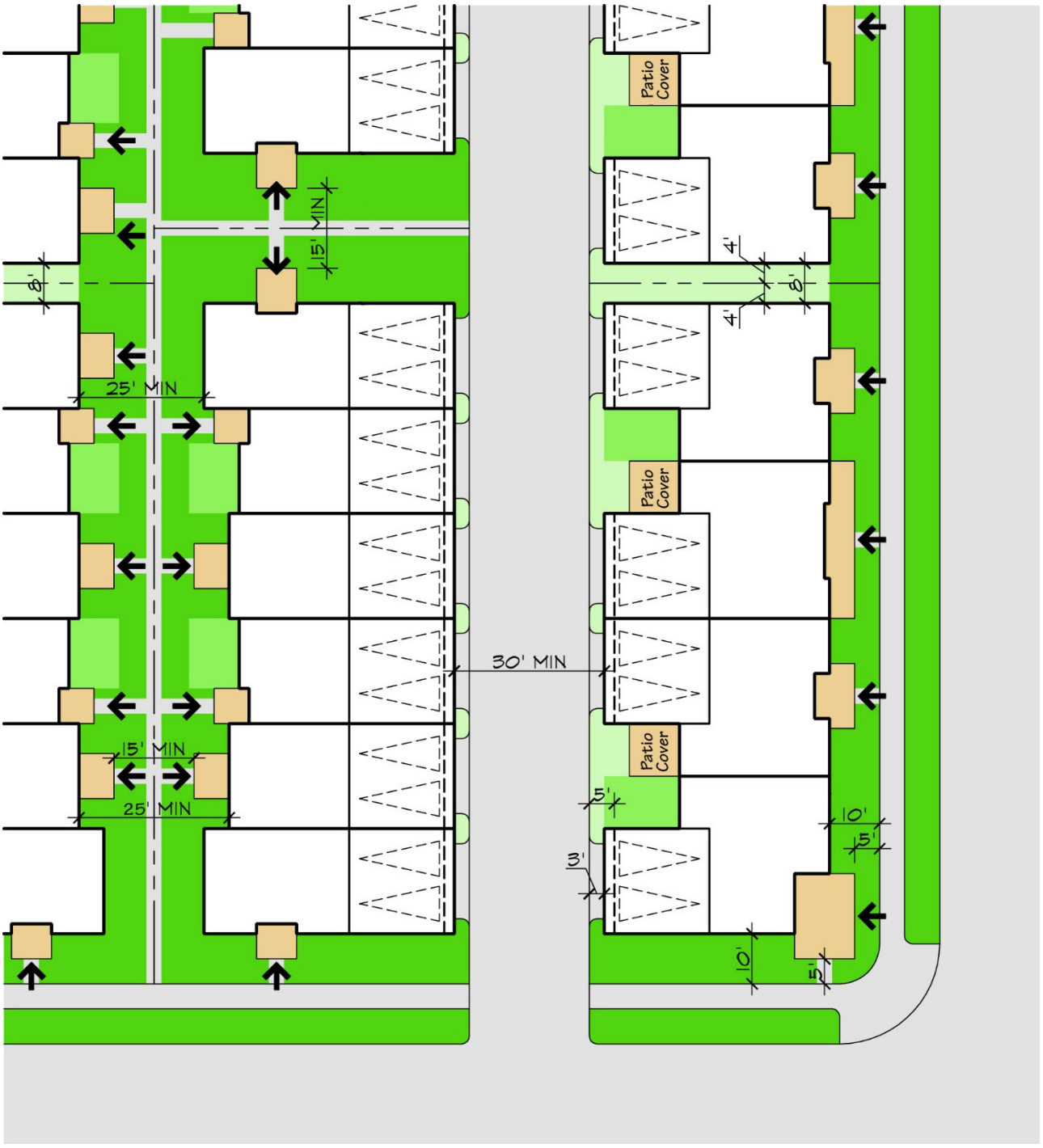
Front or Corner Side Yard:	3’
All other locations:	6’
Retaining Walls:	3’

5.4.2.~~9~~10.4 Parking[4]: Refer to Section 5.4.1.12 for parking requirements.

5.4.2.~~9~~10.5 Private Open Space:

Each home shall have a minimum cumulative private open space area of 140 sq. ft. Upper floor decks and balconies may only be counted towards the private open space requirement when they have a minimum contiguous area of 35 sq. ft. and have no dimension less than 5 feet in any direction. Refer to the Setbacks above.

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Lots within cul-de-sac, standard knuckles or modified configurations shall provide a minimum 35’ lot width at front property line and shall meet the minimum lot width established for the product type at the building setback. All minimum side and rear yard setbacks shall be maintained at all times.
5. Common drive aisle is defined by project ingress/egress and does not include the drive aisle for garage access.



ROW TOWN HOMES – Alt. 1

*Building footprints are conceptual. Actual floor plans may differ.



ROW TOWN HOMES – Alt 2

*Building footprints are conceptual. Actual floor plans may differ.

5.4.2.~~10~~11 Development Standards, Courtyard Town Homes

5.4.2.~~10~~11.1 Lot Criteria:

Minimum Area:	1,800 SF (per unit)
Maximum Lot Coverage:	60%
Maximum Units per Building:	16 (or as established by the approved Development Plan for Medium Density Residential uses)

5.4.2.~~10~~11.2 Building Setbacks[1, 3]:

Front Setbacks	
Living Area:	10’
Living Area from common drive aisle [5]	5’
Porch / Balcony:	5’
Porch / Balcony from common drive aisle [5]	5’
Building Separation (Greenbelt or Paseo Frontage)	
Front to Front:	25’
Front to Side:	25’
Covered Porch to Covered Porch:	15’
Side Setbacks	
Living Area	
Interior PL:	4’
Corner PL (Adjacent to Street):	10’
Porch/Balcony Adjacent to Street (Corner Lot):	5’
Building Separation (Side to Side):	8’
Rear Setbacks	
Living Area Rear Yard	10’
Living Area (from alley or common drive)	5’
Patio Cover:	5’
Garage Setbacks	
Garage Door at Street:	18’ (Garage door to back of sidewalk)
Side of Garage at Street:	10’ (Side of garage to back of sidewalk)
Garage at Alley or Common Drive:	3’
Building Separation	
Door to Door at Alley or Common Drive:	30’
Side to Side:	8’
Rear to Rear	15’

5.4.2.~~10~~11.3 Building Height[2]:

Primary Structure:	35’
Accessory Structure:	14’
Projections / Architectural Features:	3’ above primary structure, or 10% of the building height)

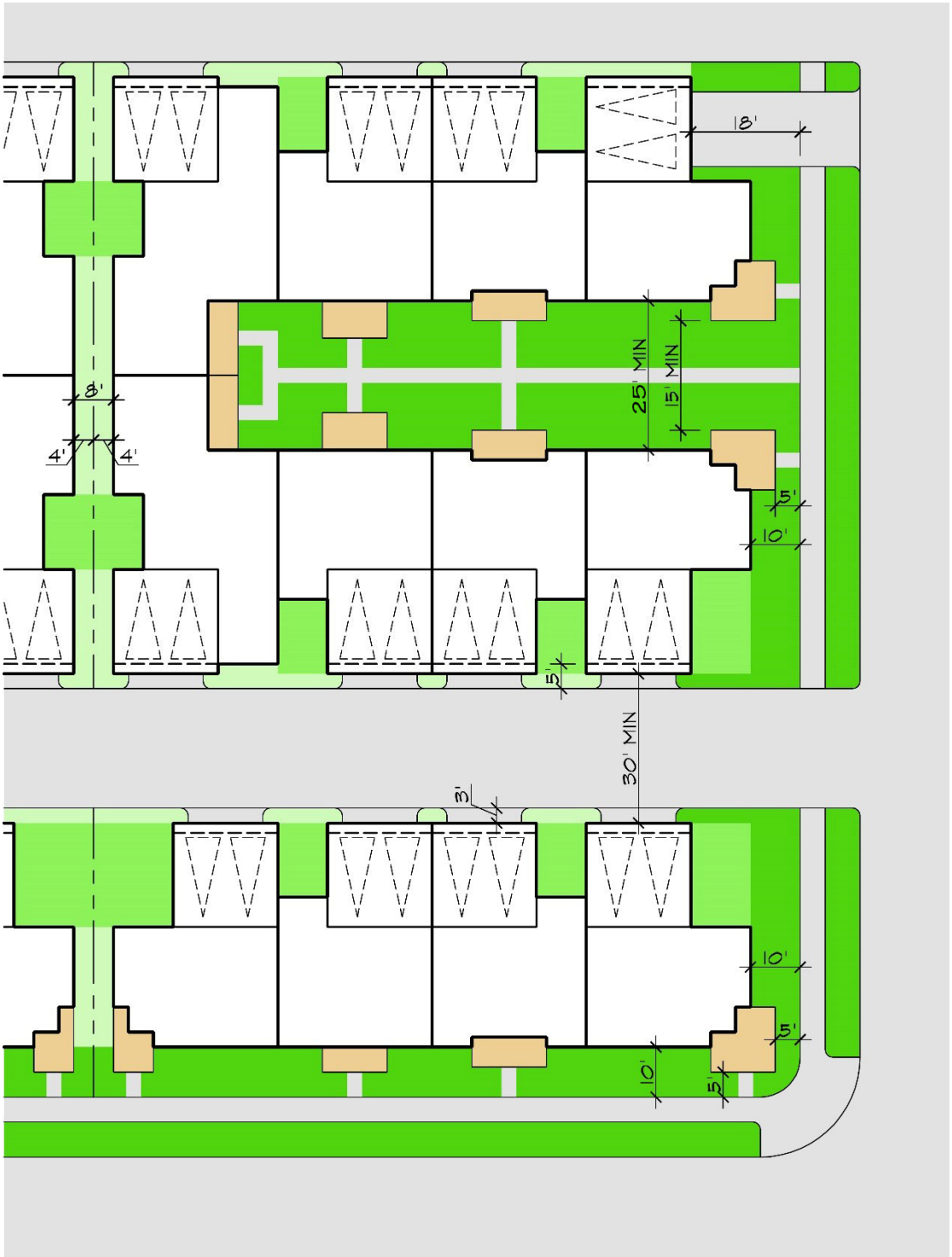
5.4.2.~~10~~11.4 Parking[4]:

Refer to Section 5.4.1.12 for parking requirements.

5.4.2.~~10~~11.5 Private Open Space:

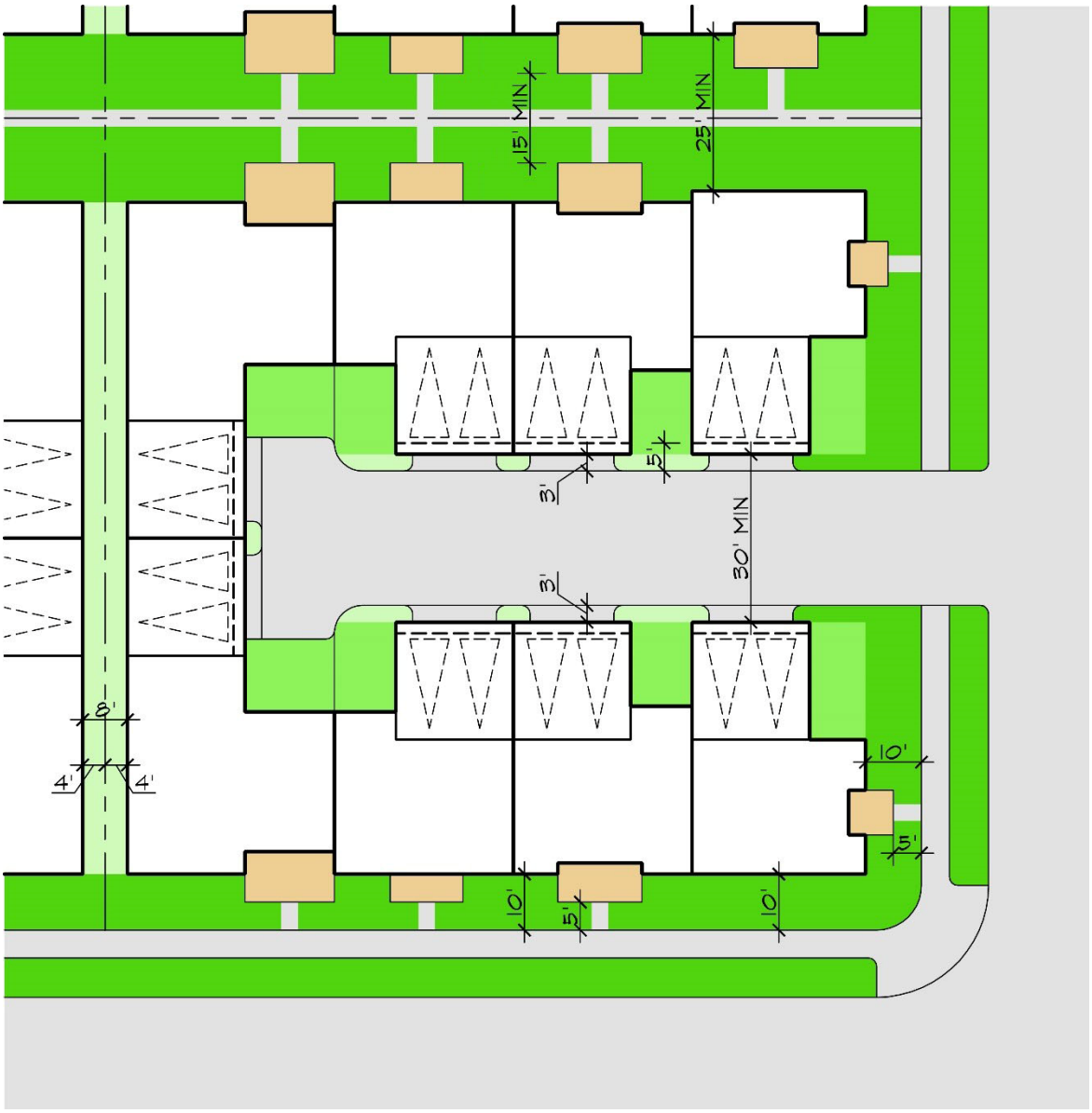
Each home shall have a minimum cumulative private open space area of 140 sq. ft. Upper floor decks and balconies may only be counted towards the private open space requirement when they have a minimum contiguous area of 35 sq. ft. and have no dimension less than 5 feet in any direction. Refer to the Setbacks above.

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Lots within cul-de-sac, standard knuckles or modified configurations shall provide a minimum 35’ lot width at front property line and shall meet the minimum lot width established for the product type at the building setback. All minimum side and rear yard setbacks shall be maintained at all times.
5. Common drive aisle is defined by project ingress/egress and does not include the courtyard drive aisle for garage access.



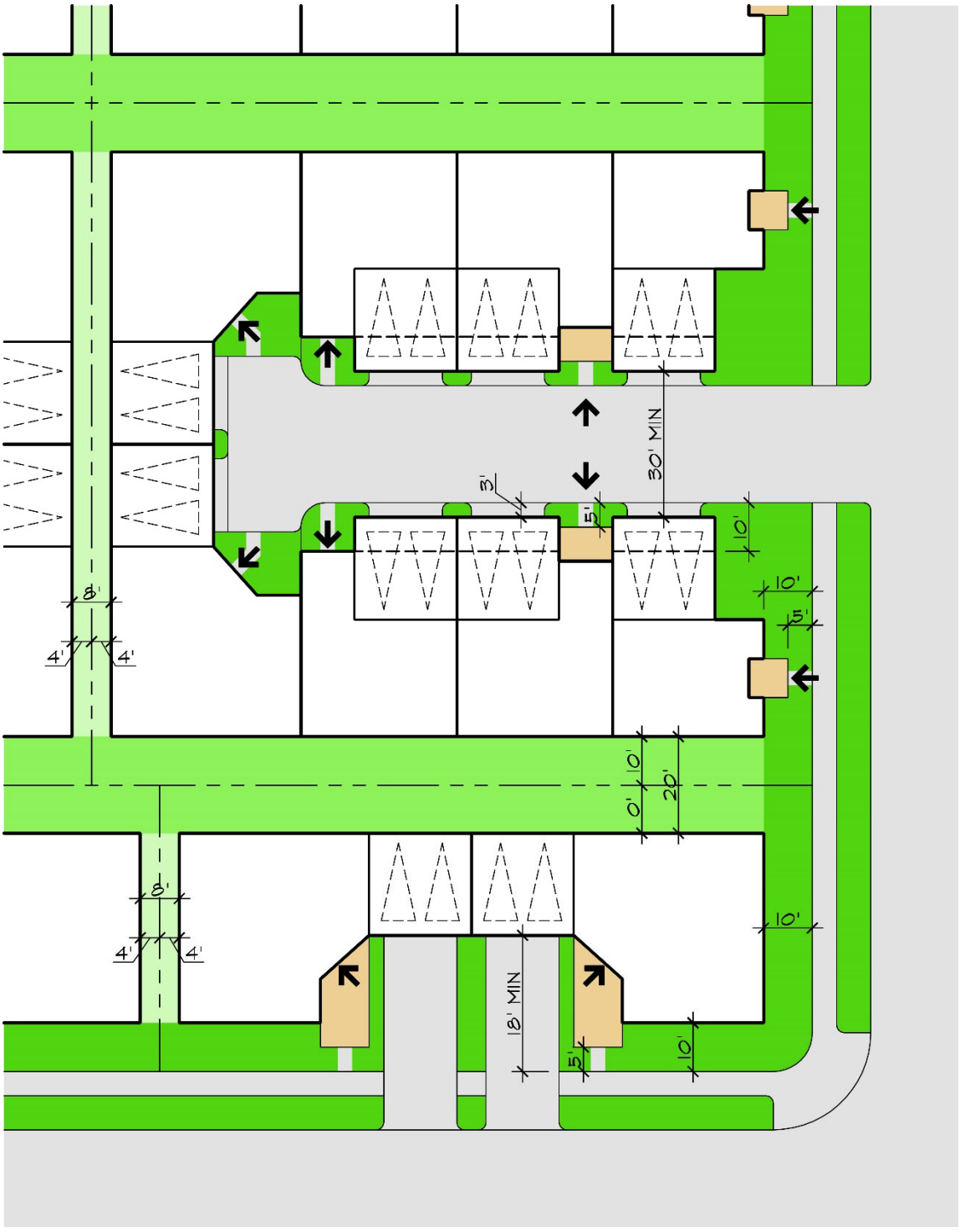
COURTYARD TOWN HOMES – Alt 1

*Building footprints are conceptual. Actual floor plans may differ.



COURTYARD TOWN HOMES – Alt. 2

*Building footprints are conceptual. Actual floor plans may differ.

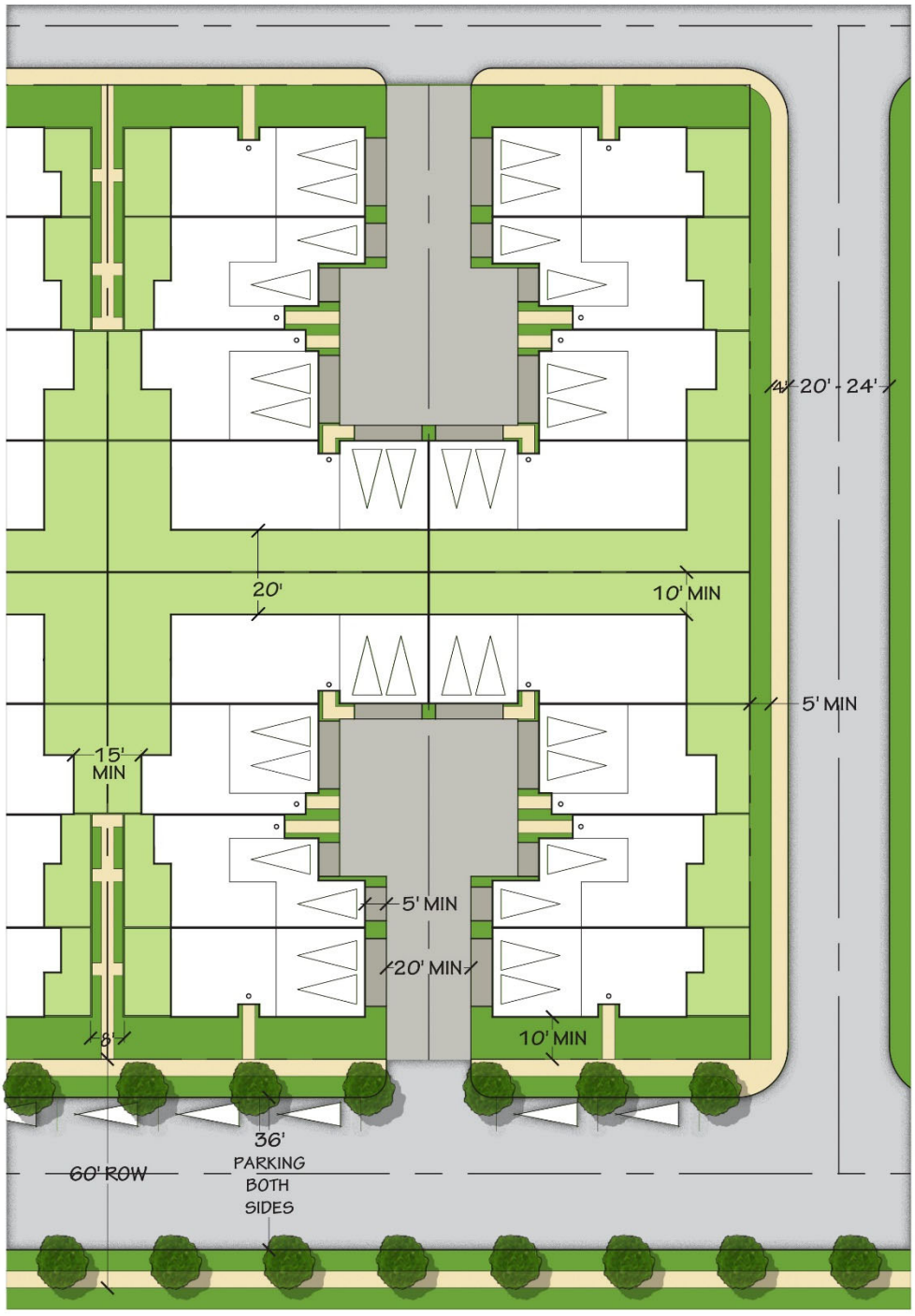


COURTYARD TOWN HOMES – Alt. 3

*Building footprints are conceptual. Actual floor plans may differ.



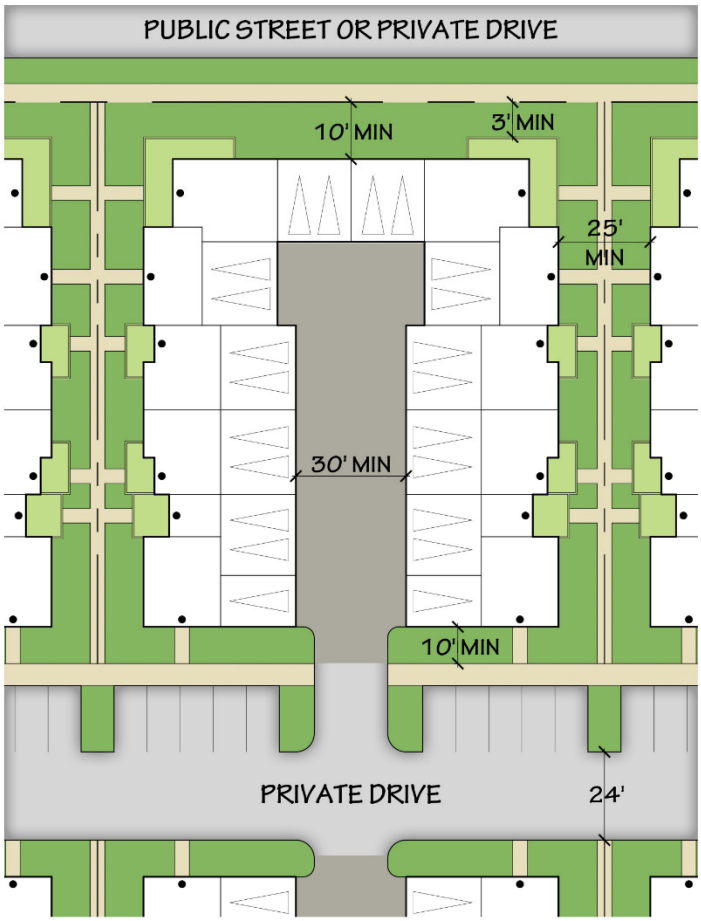
COURTYARD TOWN HOMES – Alt. 4
*Building footprints are conceptual. Actual floor plans may differ



COURTYARD TOWN HOMES – Alt. 5

*Building footprints are conceptual. Actual floor plans may differ

New Exhibit



COURTYARD TOWN HOMES – Alt. 6

*Building footprints are conceptual. Actual floor plans may differ

.

5.4.2.~~11~~12 Development Standards, Tuck Under Town Homes[5] and Flats

5.4.2.~~11~~12.1	**Lot Criteria**	
	Minimum Area:	1,400 SF (per unit)
	Maximum Lot Coverage:	60%
	Maximum Units per Building:	24
	(or as established by the approved Development Plan for High Density Residential uses)	
5.4.2.~~11~~12.2	**Building and Remote Parking Setbacks[1, 4]:**	
	~~Living Area~~Front:	10’
	Porch / Balcony:	5’
	Side:	10’
	Garage:	5’
	Garage Frontage onto Street:	Prohibited
	From Interior PL Adjacent to Detached Residential:	25’
	From SCE PL / Easements:	15’
	Building from Street:	20’
	Parking, Drive Isle & Driveway from Street:	10’
5.4.2.~~11~~12.3	**Setbacks at Alley, Common Drive, or Adjacent to Remote Parking[1]:**	
	Living Area:	5’
	Garage & Carport:	~~5’3~~5’
	Porch / Balcony:	3’
5.4.2.~~11~~12.4	**Building Separation[1, 3]:**	
	Front to Front:	~~30’~~25’
	Front to Side:	~~25’~~20’
	Front to Rear:	Prohibited
	Porch to Porch:	15’
	Side to Side:	15’
	Side to Porch:	15’
	Garages	
	Door to Door:	30’
	Side to Side (Including Remote Parking):	15’
5.4.2.~~11~~12.5	**Building Height[2]:**	
	Primary Structure:	~~35’45~~55’ / ~~3~~4-story
	Accessory Structure:	14’ / 1-story
	Projections / Architectural Features:	3’ above primary structure, or 10% of the building height
5.4.2.~~11~~12.6	**Parking[4]:**	
	Refer to Section 5.4.1.12 for parking requirements.	

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Parking stalls perpendicular to the street shall be screened by landscaping, berms, or decorative walls that match the architectural style of the nearest development. Screening shall be a minimum height of 36” (to ensure concealment of vehicle grills).
5. Tuck Under Rental Townhomes provided for an improved mix of dwelling unit types do not need to conform to the Development Standards Section 5.4.2.11 for Courtyard Townhomes

5.4.2.~~11~~12.7 Private Open Space:

Ground floor units shall have a minimum cumulative private open space area of ~~150~~ 140 sq. ft. Upper floor decks and balconies may only be counted towards this private open space requirement when they have a minimum contiguous area of 40 sq. ft. and have no dimension less than 5 feet in any direction.

Upper floor units with no ground floor living area (i.e. carriage units and stacked flats) shall have a minimum contiguous area of 40 sq. ft. with no dimension less than 5 feet in any direction.

Stand-alone multi-family developments over 18 du/ac, shall have private outdoor living space with a minimum contiguous area of 40 sq. ft. for each unit, with no dimension less than 5 feet in any direction qualified by one of the following:

- Courtyard (front, rear or interior open to the sky)
- Front Porch
- 2nd story balcony (no encroachment into rear setback)
- Rooftop deck

5.4.2.~~11~~12.8 Common Open Space:

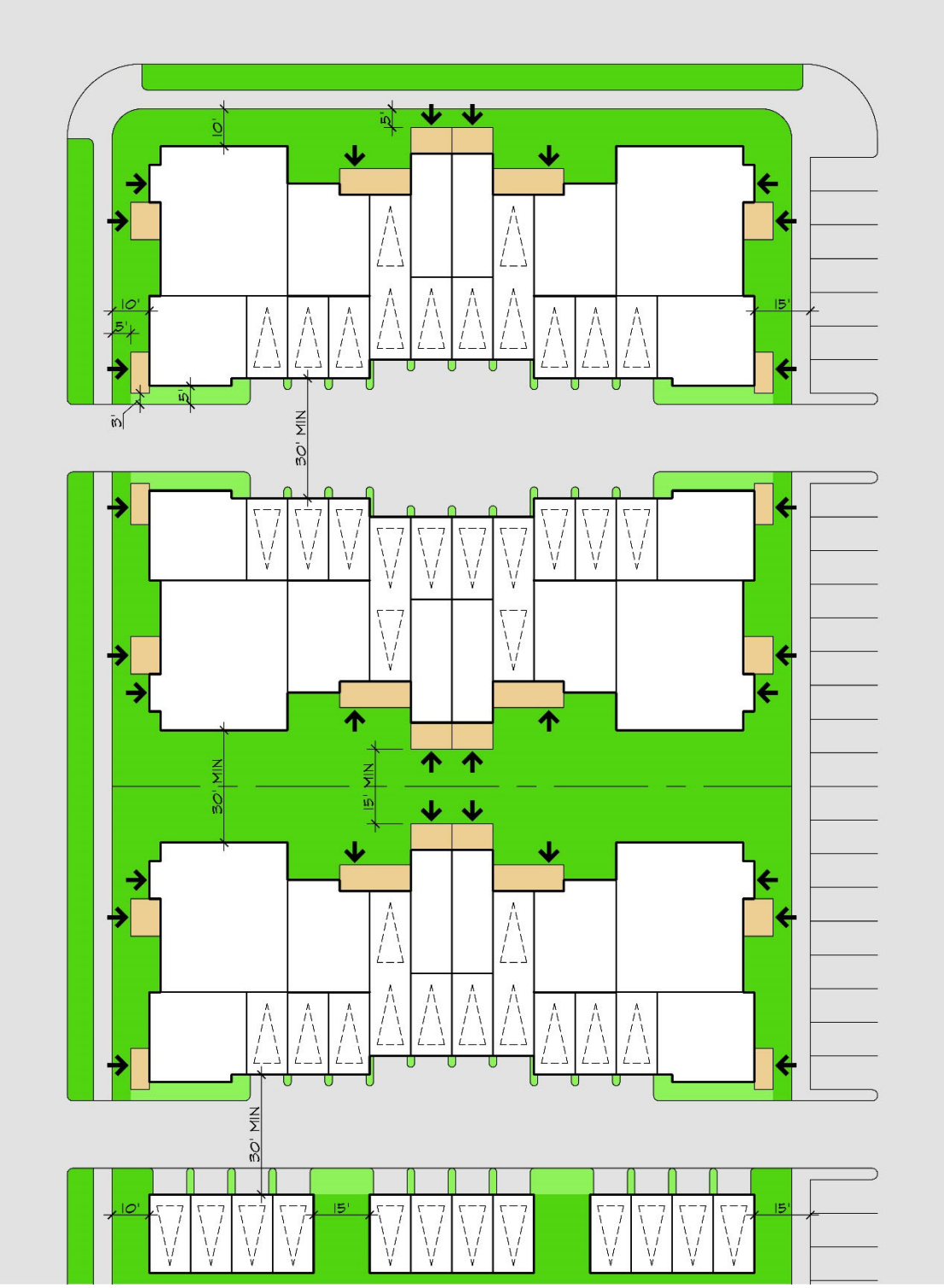
A minimum of 250 sq. ft. of common open space shall be provided per unit as follows:

Common open space shall require a minimum contiguous area of 300 sq. ft. with no dimension less than 15 feet in any direction. Hardscape courtyard and plaza areas shall require a minimum contiguous area of 400 sq. ft., with no dimension less than 20 feet in any direction, to qualify as common open space.

Common open space may include but is not limited to landscaping, plazas, picnic areas, pools and spas, court games, gyms, gardens, tot lots, paseos, trails or other recreational facilities/uses.

Common and private open spaces are to be permanently maintained in an orderly fashion.

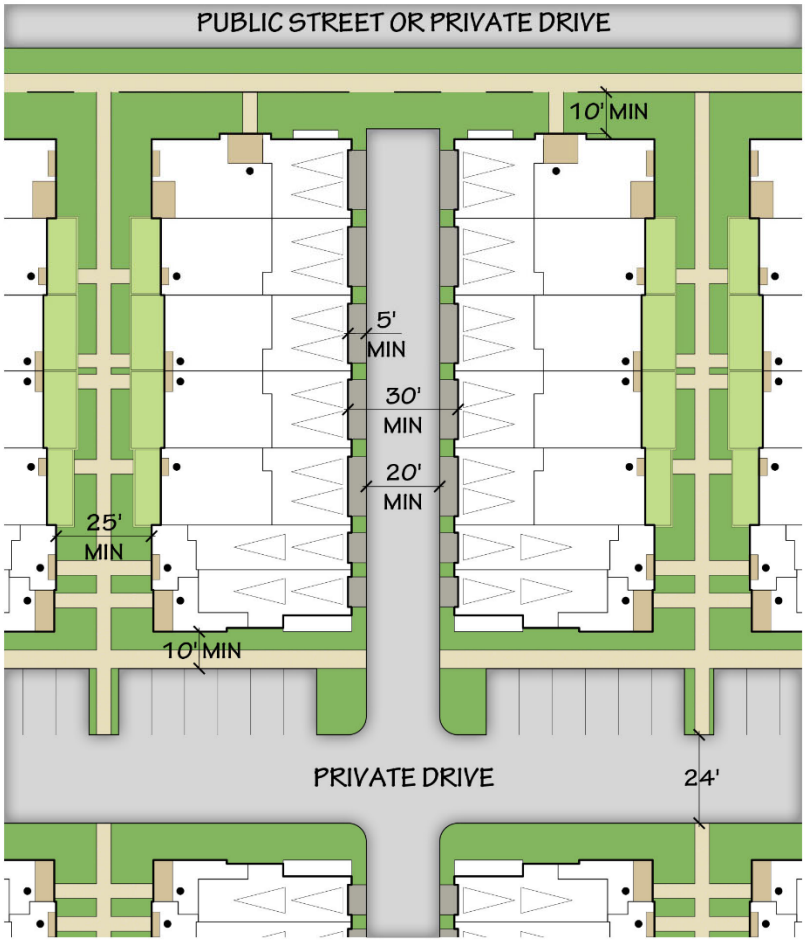
Required common open space may not be satisfied by the utilization of parking areas, driveways, service areas, or unusable slopes (slopes greater than or equal to 3:1). Greenbelts, and on-site circulation improvements including bicycle and walking paths may be counted toward common open space requirements.



TUCK UNDER TOWNHOMES AND FLATS – Alt. 1

*Building footprints are conceptual. Actual floor plans may differ.

New Exhibit



TUCK UNDER TOWNHOMES AND FLATS – Alt. 2

*Building footprints are conceptual. Actual floor plans may differ.

5.4.2.~~12~~13 Development Standards, Tuck Under Apartments/Condominiums

5.4.2.~~12~~13.1 Lot Criteria:

Maximum Lot Coverage:	60%
Maximum Units per Building:	24

(or as established by the approved Development Plan for High Density Residential uses)

5.4.2.~~12~~13.2 Lot Dimensions:

Minimum Project Area:	3.0 acres
Minimum Lot Width:	N/A
Minimum Lot Depth:	N/A

5.4.2.~~12~~13.3 Building and Remote Parking Setbacks[1, 4]:

From Ontario Ranch Road (30' neighborhood edge):	0' from neighborhood edge (30' from R.O.W.)
From Mill Creek (18' neighborhood edge):	10' from neighborhood edge (28' from R.O.W.)
From Interior Property Line adjacent to Detached Residential:	10' to bldg. 5' to remote parking/detached garage 0' to carport
From Haven (14' neighborhood edge):	0' from neighborhood edge (14' from R.O.W.)
From SCE Property Line/Easements:	0' to bldg. (5)
From Private or Local Street:	0' from neighborhood edge
Allowable Porch/Balcony/Architectural Projections:	5' maximum encroachment into setbacks
From Alley, Common Drive, or Adjacent to Remote Parking:	0'

5.4.2.~~12~~13.4 Building Separation[1, 3]:

Front to Front:	25'
Front to Side:	20'
Porch to Porch:	15'
Side to Side:	10'
Side to Porch:	10'

5.4.2.~~12~~13.5 Building Height[2]:

Primary Structure:	45' / 3-story
Accessory Structure:	1 story/ 14'
Projections/Architectural Features:	3' above Primary Structure

5.4.2.~~12~~13.6 Parking[4]:

Refer to Section 5.4.1.12 for parking requirements

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Parking stalls perpendicular to the street shall be screened by landscaping, berms, or decorative walls that match the architectural style of the nearest development. Screening shall be a minimum height of 36" (to ensure concealment of vehicle grills).

5.4.2.~~12~~13.7 Private Open Space:

Ground floor units shall have a minimum cumulative private open space area of 75 sq. ft. Upper floor decks and balconies may only be counted towards this private open space requirement when they have a minimum contiguous area of 40 sq. ft. and have no dimension less than 5 feet in any direction.

Upper floor units with no ground floor living area (i.e. carriage units and stacked flats) shall have a minimum contiguous area of 40 sq. ft. with no dimension less than 5 feet in any direction.

Stand-alone multi-family developments over 18 du/ac, shall have private outdoor living space with a minimum contiguous area of 40 sq. ft. for each unit, with no dimension less than 5 feet in any direction qualified by one of the following:

- Courtyard (front, rear or interior open to the sky)
- Front Porch
- 2nd story balcony (no encroachment into rear setback)
- Rooftop deck

Private open space may be provided in at least one third (1/3) of high-density residential units across the entire project to create architectural variety. When private open space is not provided, an equivalent amount of common open space will be provided outside. This space will not count toward public/park open space requirements.

5.4.2.~~12~~13.8 Common Open Space:

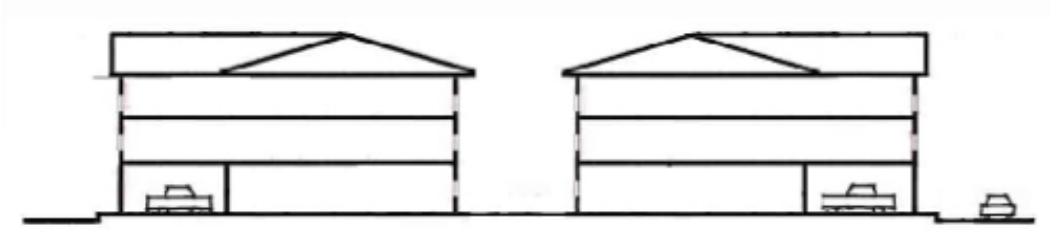
A minimum of 250 sq. ft. of common open space shall be provided per unit as follows:

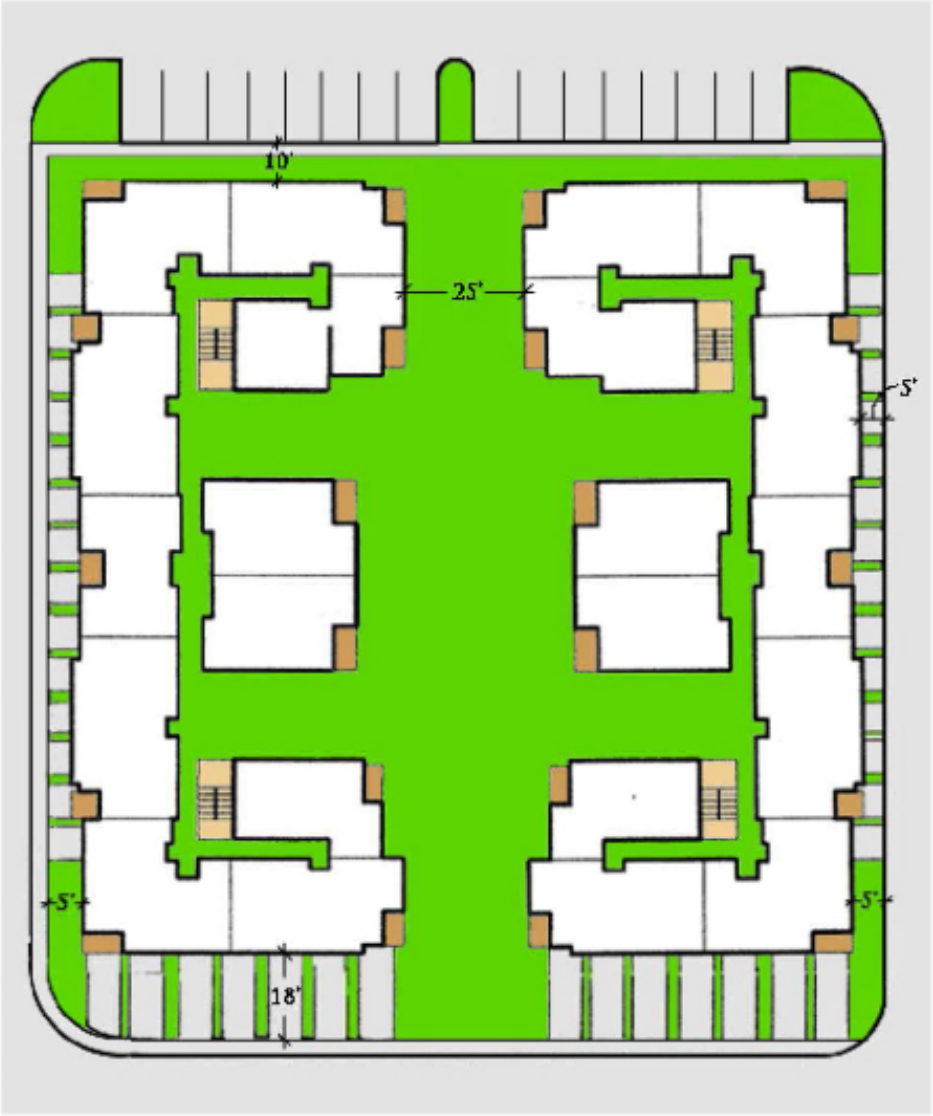
Common open space shall require a minimum contiguous area of 300 sq. ft. with no dimension less than 15 feet in any direction. Hardscape courtyard and plaza areas shall require a minimum contiguous area of 400 sq. ft., with no dimension less than 20 feet in any direction, to qualify as common open space.

Common open space may include but is not limited to landscaping, plazas, picnic areas, pools and spas, court games, gyms, gardens, tot lots, paseos, trails or other recreational facilities/uses.

Common and private open spaces are to be permanently maintained in an orderly fashion.

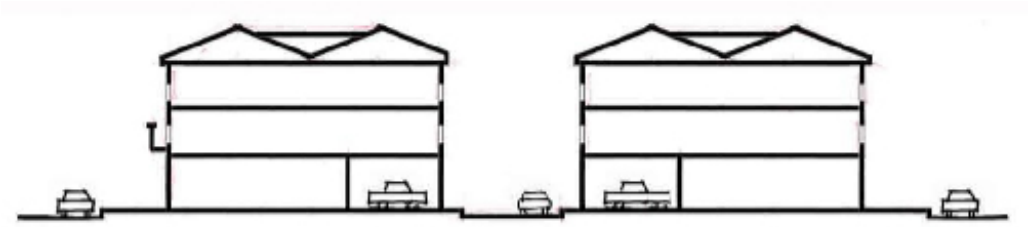
Required common open space may not be satisfied by the utilization of parking areas, driveways, service areas, or unusable slopes (slopes greater than or equal to 3:1). Greenbelts, and on-site circulation improvements including bicycle and walking paths may be counted toward common open space requirements.

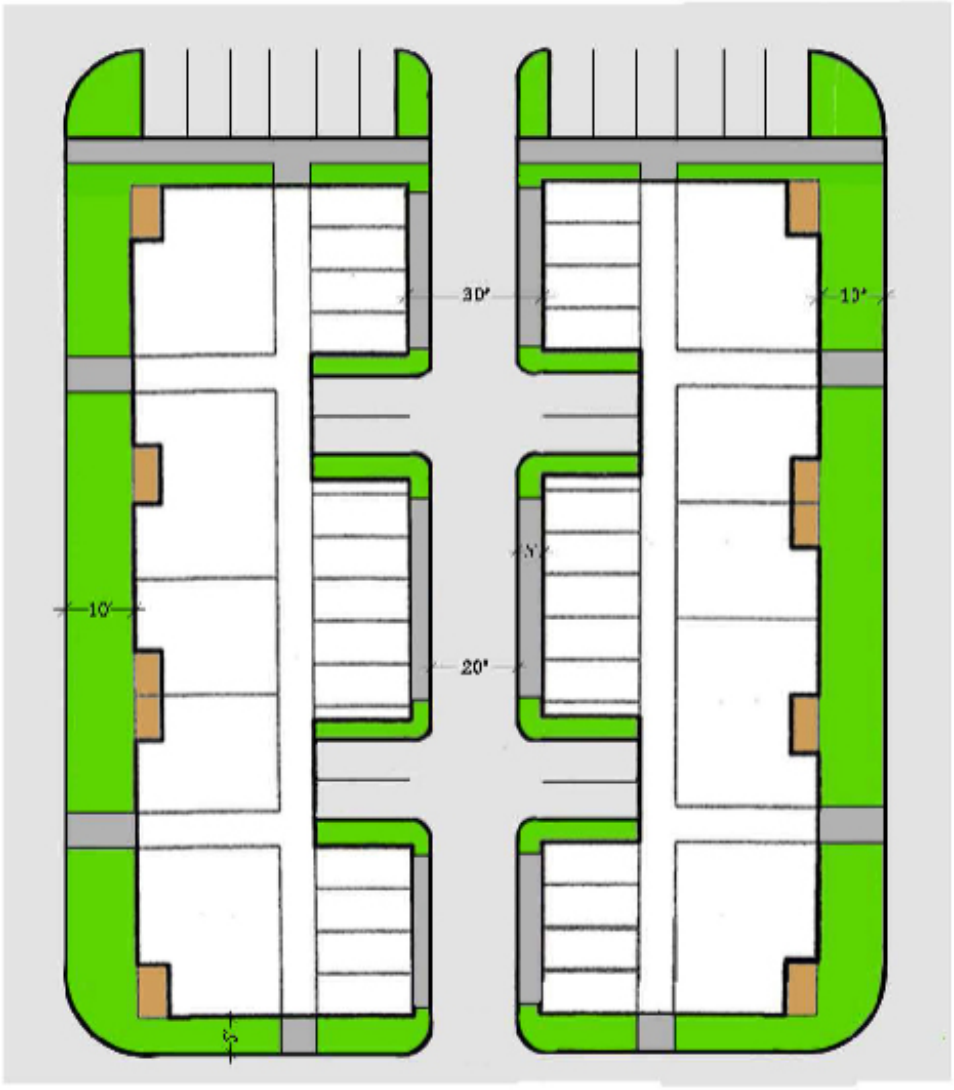




TUCK UNDER APARTMENTS/CONDOMINIUMS – ALT. 1

*Building footprints are conceptual. Actual floor plans may differ.





TUCK UNDER APARTMENTS/CONDOMINIUMS – ALT. 2

5.4.2.~~13~~14 Development Standards, Wrap Apartments/Condominiums

5.4.2.~~13~~14.1 Lot Criteria:

Maximum Lot Coverage:	60%
Maximum Units per Building:	24

(or as established by the approved Development Plan for High Density Residential uses)

5.4.2.~~13~~14.2 Lot Dimensions:

Minimum Project Area:	3.0 acres
Minimum Lot Width:	N/A
Minimum Lot Depth:	N/A

5.4.2.~~13~~14.3 Building and Remote Parking Setbacks[1, 4]:

From Ontario Ranch Road (35' neighborhood edge):	15' from neighborhood edge (50' from R.O.W.)
From Mill Creek (18' neighborhood edge):	10' from neighborhood edge (28' from R.O.W.)
From Interior Property Line adjacent to Detached Residential:	25'
From Haven (14' neighborhood edge):	10' from neighborhood edge (24' from R.O.W.)
From SCE Property Line/Easements:	15'
From Private or Local Street:	10' from neighborhood edge
Allowable Porch/Balcony/Architectural Projections:	5' maximum encroachment into setbacks
From Alley, Common Drive, or Adjacent to Remote Parking:	10'

5.4.2.~~13~~14.4 Building Separation[1, 3]:

Front to Front:	30'
Front to Side:	25'
Porch to Porch:	15'
Side to Side:	15'
Side to Porch:	15'

5.4.2.~~13~~14.5 Building Height[2]:

Primary Structure:	65' / 5-story
Accessory Structure:	1 story/ 14'
Projections/Architectural Features:	3' above Primary Structure

5.4.2.~~13~~14.6 Parking[4]:

Refer to Section 5.4.1.12 for parking requirements

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Parking stalls perpendicular to the street shall be screened by landscaping, berms, or decorative walls that match the architectural style of the nearest development. Screening shall be a minimum height of 36" (to ensure concealment of vehicle grills).

5.4.2.~~13~~14.7 Private Open Space:

Ground floor units shall have a minimum cumulative private open space area of 75 sq. ft. Upper floor decks and balconies may only be counted towards this private open space requirement when they have a minimum contiguous area of 40 sq. ft. and have no dimension less than 5 feet in any direction.

Upper floor units with no ground floor living area (i.e. carriage units and stacked flats) shall have a minimum contiguous area of 40 sq. ft. for each unit, with no dimension less than 5 feet in any direction.

Stand-alone multi-family units over 18 du/ac, shall have private outdoor living space with a minimum contiguous area of 40 sq. ft. with no dimension less than 5 feet in any direction qualified by one of the following:

- Courtyard (front, rear or interior open to the sky)
- Front Porch
- 2nd story balcony (no encroachment into rear setback)
- Rooftop deck

Private open space may be provided in at least one third (1/3) of high-density residential units across the entire project to create architectural variety. When private open space is not provided, an equivalent amount of common open space will be provided outside. This space will not count toward public/park open space requirements.

5.4.2.~~13~~14.8 Common Open Space:

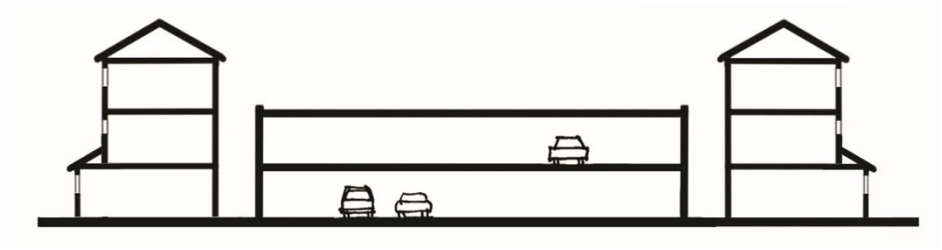
A minimum of 250 sq. ft. of common open space shall be provided per unit as follows:

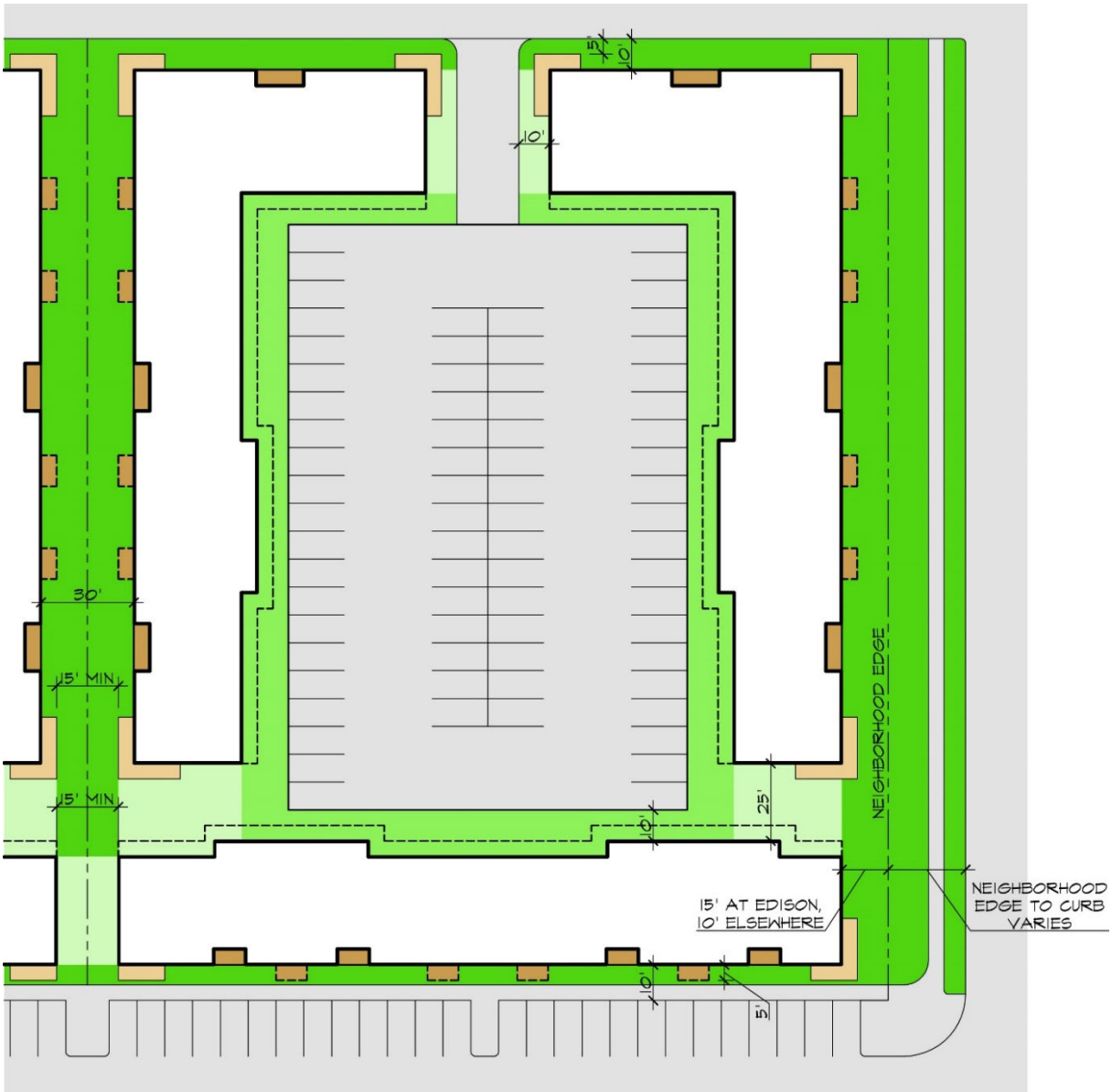
Common open space shall require a minimum contiguous area of 300 sq. ft. with no dimension less than 15 feet in any direction. Hardscape courtyard and plaza areas shall require a minimum contiguous area of 400 sq. ft., with no dimension less than 20 feet in any direction, to qualify as common open space.

Common open space may include but is not limited to landscaping, plazas, picnic areas, pools and spas, court games, gyms, gardens, tot lots, paseos, trails or other recreational facilities/uses.

Common and private open spaces are to be permanently maintained in an orderly fashion.

Required common open space may not be satisfied by the utilization of parking areas, driveways, service areas, or unusable slopes (slopes greater than or equal to 3:1). Greenbelts, and on-site circulation improvements including bicycle and walking paths may be counted toward common open space requirements.





WRAP APARTMENTS/CONDOMINIUMS

*Buildings footprints are conceptual. Actual floor plans may differ.

5.4.2.~~14~~15 Development Standards, Podium Apartments/Condominiums

5.4.2.~~14~~15.1 Lot Criteria:

Maximum Lot Coverage:	60%
Maximum Units per Building:	24

(or as established by the approved Development Plan for High Density Residential uses)

5.4.2.~~14~~15.2 Lot Dimensions:

Minimum Project Area:	3.0 acres
Minimum Lot Width:	N/A
Minimum Lot Depth:	N/A

5.4.2.~~14~~15.3 Building and Remote Parking Setbacks[1, 4]:

From Ontario Ranch Road (35' neighborhood edge):	15' from neighborhood edge (50' from R.O.W.)
From Mill Creek (18' neighborhood edge):	10' from neighborhood edge (28' from R.O.W.)
From Interior Property Line adjacent to Detached Residential:	25'
From Haven (14' neighborhood edge):	10' from neighborhood edge (24' from R.O.W.)
From SCE Property Line/Easements:	15'
From Private or Local Street:	10' from neighborhood edge
Allowable Porch/Balcony/Architectural Projections:	5' maximum encroachment into setbacks
From Alley, Common Drive, or Adjacent to Remote Parking:	10'

5.4.2.~~14~~15.4 Building Separation[1, 3]:

Front to Front:	30'
Front to Side:	25'
Porch to Porch:	15'
Side to Side:	15'
Side to Porch:	15'

5.4.2.~~14~~15.5 Building Height[2]:

Primary Structure:	65' / 5-story
Accessory Structure:	1 story/ 14'
Projections/Architectural Features:	3' above Primary Structure

5.4.2.~~14~~15.6 Parking[4]:

Refer to Section 5.4.1.12 for parking requirements

1. All setbacks and building separations are minimums and shall be measured from the property line unless otherwise noted.
2. Building heights shown are maximum dimensions.
3. Building separations are to be measured between main walls.
4. Parking stalls perpendicular to the street shall be screened by landscaping, berms, or decorative walls that match the architectural style of the nearest development. Screening shall be a minimum height of 36" (to ensure concealment of vehicle grills).

5.4.2.~~14~~15.7 Private Open Space:

Ground floor units shall have a minimum cumulative private open space area of 150 sq. ft. Upper floor decks and balconies may only be counted towards this private open space requirement when they have a minimum contiguous area of 40 sq. ft. and have no dimension less than 5 feet in any direction.

Upper floor units with no ground floor living area (i.e. carriage units and stacked flats) shall have a minimum contiguous area of 40 sq. ft. with no dimension less than 5 feet in any direction.

Multi-family projects over 18 du/ac, shall have private outdoor living space for a percentage of the units, with a minimum contiguous area of 40sq. ft. for each unit with no dimension less than 5 feet in any direction qualified by one of the following:

- Courtyard (front, rear or interior open to the sky)
- Front Porch
- 2nd story balcony (no encroachment into rear setback)
- Rooftop deck

Private open space shall be provided for at least one third (1/3) of multi-family residential units of the project. This also helps create architectural variety. When private open space is not provided, an equivalent amount of common open space will be provided outside. This space will not count toward public/park open space requirements.

5.4.2.~~14~~15.8 Common Open Space:

A minimum of 250 sq. ft. of common open space shall be provided per unit as follows:

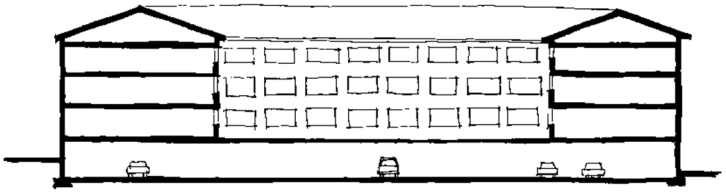
Common open space shall require a minimum contiguous area of 300 sq. ft. with no dimension less than 15 feet in any direction. Hardscape courtyard and plaza areas shall require a minimum contiguous area of 400 sq. ft., with no dimension less than 20 feet in any direction, to qualify as common open space.

All required open space shall be useable hard or softscaping. Hardscaping, including community pools and courtyard/plaza space, may not comprise more than 60 percent of common open space requirements.

Common open space may include but is not limited to landscaping, plazas, picnic areas, pools and spas, court games, gyms, gardens, tot lots, paseos, trails or other recreational facilities/uses.

Common and private open spaces are to be permanently maintained in an orderly fashion.

Required common open space may not be satisfied by the utilization of parking areas, driveways, service areas, or unusable slopes (slopes greater than or equal to 3:1). Greenbelts, and on-site circulation improvements including bicycle and walking paths may be counted toward common open space requirements.





PODIUM APARTMENTS/CONDOMINIUMS

*Building footprints are conceptual. Actual floor plans may differ.

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5.5 REGIONAL COMMERCIAL/MIXED-USE DISTRICT DEVELOPMENT STANDARDS

Applies to Planning Areas ~~6, 7B, 8 and 9~~4A, 4B, 5B, 6B, 7, 8, 9, 10A and 10B

The purpose of the Regional Commercial/Mixed-Use District and complementary Stand Alone Residential Overlay is to foster dynamic neighborhoods. The cooperative development of the Regional Commercial District and Stand Alone Residential Overlay generates mixed-use neighborhoods with the potential to integrate diverse uses into a single land use concept, allowing for seamless relationships between compatible uses. This district, and corresponding overlay, provides for complementary regional commercial, mixed-use, and integrated residential opportunities. This place making district enables a main street environment with feasible commercial opportunities where pedestrian activity is as important to the streetscape as vehicular activity; a place where the town center atmosphere is a short walk for residents to enjoy the goods and services within the heart of the Regional Commercial District.



The City of Ontario Development Code defines Mixed-Use (MU).
The intent of the Regional Commercial/Mixed Use District is to go beyond this definition, to address Mixed-use as the horizontal or vertical mixing of mutually-supporting retail, service, office, hospitality, and high density residential uses connected to each other within a walkable environment.

Portions of Planning Area~~s 6, 7B, 8~~ 7 ~~and 9~~ may be developed as a Mixed-Use enclave~~s~~ that create~~s~~ a vital and attractive environment for residents, visitors, and employees in a higher-density active, urban environment.

5.5.1 APPLICABILITY

According to the City's TOP, the creation of mixed-use, commercial, and public spaces that emphasize pedestrian activity is a fundamental premise of the Land Use Plan. Development within Planning Areas ~~6, 7B, 8 and 9~~ 4A, 4B, 5B, 6B, 7, 8, 9, 10A and 10B, the regional commercial mixed-use area, will be designed to promote community activity. Major public places (square, plazas, promenades, etc.) will be incorporated to accommodate connectivity, events, and enhance pedestrian activity and connectivity.

Buildings will be sited in close relation to common sidewalks and public places, with parking strategically located to balance retailer and user needs with pedestrian connectivity.

The Land Use Plan provides an incentive for the development of mixed use projects by granting a story bonus and corresponding increase in the maximum floor area ratio from 0.5:1 for commercial/office uses to 2.0:1 for mixed use buildings. In order to secure the additional density bonus and height, the applicant shall follow the development standards and design guidelines associated with the Regional Commercial/Mixed Use District of this Specific Plan and incorporate traditional neighborhood principles.

Notwithstanding Development Code, the Regional Commercial/Mixed Use development regulations and design guidelines contained herein shall apply to new construction of commercial or mixed-use projects within the Regional Commercial/Mixed Use District. New construction of "commercial only" projects may utilize either the Regional Commercial/Mixed-Use regulations of this Specific Plan, or the commercial and professional office zoning designations contained within the Development Code, *Commercial and Professional Districts*. Declaration of zoning regulations utilized shall take place upon project application. Residential development within the Regional Commercial/Mixed-Use District zone may occur as part of a horizontal or vertical mixed use project, or as a "residential only" project within the Stand Alone Residential Overlay. See Figure 3-1, *Land Use Plan*. All residential development within the Regional Commercial/Mixed Use District or Stand Alone Residential Overlay shall be subject to the regulations, design guidelines, and development standards of this Specific Plan.

5.5.2 DEFINITION OF TERMS

The meaning of words, phrases, titles, and terms shall be the same as provided in the City of Ontario Development Code, unless specifically provided herein and those as identified within Section 1, Introduction of this document.

5.5.3 MIX OF USES

The Land Use Plan for the Regional Commercial/Mixed Use District provides standards and concepts for the development of high activity economic employment centers that are supported by residents of the area and the greater region. Specific uses shall be selected in response to market demands. Any permitted mix or combination of uses can be provided within a single structure, parcel, or leasehold in the Regional Commercial / Mixed Use District.

The Regional Commercial/Mixed Use District allows for a seamless transition between pure commercial and pure residential uses. Defined edges of adjacent uses are intentionally blurred to foster a dynamic urban environment. Transitions between private residential neighborhoods within the Stand Alone Residential Overlay and active

public/commercial spaces should portray the sense of a cohesive community without walls, fences, or sharp edges.

Though independent from the residential planning areas, Regional Commercial/Mixed Use District development should be abutted by, and integrated with, higher density housing and amenities to create a cohesive district.

The Regional Commercial/Mixed Use District allows for a wide spectrum of commercial uses (neighborhood to regional scale), retail commercial, office and professional, public and quasi-public, medium to very-high density residential, and hospitality uses. Commercial uses that are neighborhood serving in scale, and generate pedestrian activity are encouraged along interior pedestrian and vehicular circulation corridors.

Total commercial development (integrated, stand alone, or commercial only) within the Planning Areas 4B, 5B, 6B, 7, 8, and 10B~~6, 7B, 8 and 9~~, Regional Commercial/Mixed Use District may not exceed ~~1,039,200~~925,002 ~~-~~square feet, based on the trip budget maximum identified within the Ontario Ranch Transportation Implementation Plan.

Horizontal and vertical mixture of uses are permitted and encouraged within the Regional Commercial/Mixed Use District. Vertical mixed-uses are building configurations with commercial, office or service/community on the lower level, and office and/or residential on upper levels. While development of a mixed-use nature is preferred, and allowed by right, mixed-use development is not a required project component within the Regional Commercial/Mixed Use District.

Residential projects are allowed by right, as part of the Mixed-Use or Stand-Alone Residential Overlays, either in single family detached or multi-family configurations. The Stand Alone Residential Overlay allows for higher density residential neighborhoods in an urban setting.

Live/Work, within Stand-Alone Residential or Mixed-Use Overlays, is an appropriate transitional use between primarily commercial and primarily residential areas within the district, and allowed by right, anywhere in the District and Stand Alone Residential Overlay. But, Live/Work uses are not required.

5.5.4 DEVELOPMENT CAPACITY

Commercial, residential, and service uses in any configuration are limited by development and design standards of this section, and specific development capacities established by trip generation allotments. The Rich-Haven Land Use Plan allocates a total number of units to each residential Planning Area as indicated in Table 3-1, *Land Use Plan Summary*, included in Section 3 of this Specific Plan. Variations in the number, type, and intensity of residential dwelling units and commercial uses may occur at the time of final design of the planning area depending upon the project and development timing.

5.5.5 OPEN PARK AREA (COMMON OPEN SPACE)

Residential projects and residential uses within mixed-use buildings/projects shall comply with the following common open space requirements to fulfill open park area requirements in accordance with Section 4.6.2, Parks herein. In addition to common open space requirements in this section, residential units are required to have private open space. These standards are discussed, by product type, in Section 5.4.

The minimum amount of open park area required of any residential components within the Regional Commercial/Mixed Use District or Stand Alone Residential Overlay shall be determined by the following:

(Number of dwelling units) x (occupancy factor) x (0.002) = Area (acres) of park and/or public plaza to be permanently established. Occupancy factors to be applied at Tentative Tract Map submittal, for each development proposal.

This standard fulfills the 2-acres/1000 population open park area requirements for Rich-Haven. This open space requirement may be met within any mixed-use development containing residential components, attached or detached, or by satisfying the in-lieu park development impact fee as approved by the City. Fees will be paid to fulfill the balance of the City's parks requirement.

Mixed-Use development, commercial or residential uses, shall be organized around or in conjunction with common public facilities including parks, plazas, paseos, and other open space features. Open space and landscaping plans should incorporate spaces of varying size, locations, and uses to serve the full gamut of uses within the Regional Commercial/Mixed Use District.

5.5.5.1 MIXED-USE BUILDING COMPUTATION OF MAXIMUM AREA OF PARK TO BE DEDICATED

Open park area in residential components, except for residential paseos, shall require a minimum contiguous area of 200 sq. ft. with no dimension less than 10 feet in any direction. Hardscape plaza areas within Regional Commercial/Mixed-Use areas shall require a minimum contiguous area of 400 sq. ft., with no dimension less than 20 feet in any direction, to qualify as open park area.

Required open park area may not be satisfied by the utilization of parking areas, driveways, service areas, or unusable slopes (slopes greater than or equal to 3:1). Greenbelts, and on-site circulation improvements including bicycle and walking paths may be counted toward open park area requirements.

Common open space may include but is not limited to landscaping, plazas, picnic areas, pools and spas, court games, gyms, gardens, tot lots, paseos, and trails.

5.5.6 DESIGN

All new development in the Regional Commercial/Mixed Use District is subject to the architectural and design criteria in the Design Guidelines for Mixed-Use Development.

5.5.7 COMMERCIAL COMPONENT

This section sets forth the permitted use regulations for commercial uses, as stand-alone buildings or as part of a mixed-use building/development within Planning Areas 4B, 5B, 6B, 7, 8, and 10B~~6, 7B, 8 and 9~~ of the Rich-Haven Specific Plan. ~~-~~The primary use of commercial areas within Rich-Haven can be either regional or neighborhood commercial services. Permitted uses for Regional Commercial and Mixed Use development within the Mixed Use District are shown in the table below.

Should the regulations contained herein differ from the regulations of the City of Ontario Development Code, the regulations of the Specific Plan shall take precedence. Where the Rich-Haven Specific Plan is silent, City Code shall apply.

5.5.7.1 PERMITTED USES

All the following uses are permitted as defined in the City of Ontario Development Code. The zoning code is structured to allow permitted uses to occur as accessory uses or as permitted use. Therefore, a department store that contains a super market and pharmacy would be permitted, whether in the same building or as individual buildings. As such, permitted commercial uses within the Regional Commercial/Mixed-Use District land use shall be consistent with those uses defined by the City of Ontario Development Code.

Table Legend: X = Permitted, -- = Not Permitted

PERMITTED USES	Regional Commercial	Mixed Use
Antique shop	X	X
Appliance store	X	--
Art supply store	X	X
Automotive minor repair, as ancillary use only (i.e. brakes, tires, electrical)	X	--
Automotive Parts/Supply	X	--
Bakery retail	X	X
Banks/Credit unions	X	X
Barber/beauty shop	X	X
Beauty supply store	X	X
Book store	X	X
Business management	X	X

PERMITTED USES	Regional Commercial	Mixed Use
Camera supply store	X	X
Catering establishment	X	X
Clothing and accessory store	X	X
Coffee House/Café	X	X
Commercial sports facilities such as batting cages, indoor golf, etc.	X	--
Computer and home electronics retail	X	X
Computer, electronics home repair	X	X
Cutlery	X	X
Dance hall/Studio hall	X	X
Delicatessen/cafeteria	X	X
Department Store	X	--
Discount/Variety store	X	--
Dry Cleaners (commercial off-site cleaning operations only)	X	X
Dry Cleaners (Commercial)	X	X
Family entertainment centers	X	X
Florist shop	X	X
Furniture sales	X	
General merchandise/retail store	X	X
General offices for: advertising agency, economic consultant, insurance companies, escrow companies, interior decorator, real estate, public utilities, personnel agency, management consultant, collection agency	X	X
Government offices	X	X
Garden Supply/Hardware store	X	X
Health Clubs	X	X
Health/Specialty food store	X	X
Hobby supply store	X	--
Home appliance store	X	X
Hospital	X	X
Ice cream parlor	X	X
Ice skating rinks/in-line or roller hockey rinks	X	--
Jewelry store	X	X
Jewelry, watch and clock repair	X	X
Locksmith/key shop	X	X
Luggage and leather goods	X	X
Medical Clinic/Healthcare Center/ Emergency care facility	X	--
Movies theatres	X	--
Music and Video stores	X	X
Nursery school or child care center	X	X
Office supplies and equipment	X	X
Other financial services	X	X
Personal service shops	X	X

PERMITTED USES	Regional Commercial	Mixed Use
Pet and pet supply stores	X	--
Photocopy services	X	X
Photography studio	--	X
Plant nurseries (retail)	X	--
Police Station	X	X
Fire Station	X	--
Private clubs, lodge halls, union halls	X	X
Private/non-profit cultural facilities such as, but not limited to, art galleries, music halls, museums	X	X
Produce stands	X	--
Professional offices for: architect, accountant, attorney, chiropractor, contractor, dentist, doctor, engineer, optometrist, land planner, and other similar professions	X	X
Recreational equipment sales	X	X
Residential Units (apartments and for sale units)		X
Restaurant, family sit down full service, specialty and fast food refer to Section 5.5.8.8 of this chapter	X	X
Shoe store, repair	X	X
Sporting goods store	X	X
Sports related research facility	X	X
Stationary & gift shops	X	X
Super Market	X	--
Travel agencies	X	X
Warehouse/Club store	X	--

PERMITTED USES SUBJECT TO A CONDITIONAL USE PERMIT	Regional Commercial	Mixed Use
Banks, and Credit unions with drive-thru in accordance with the City of Ontario Development Code and Section 5.5.8.5 herein	X	--
Billiard parlor/Pool hall	X	--
Bowling alleys	X	--
Car wash-full service	X	--
Car wash-self-service as an ancillary use	X	--
Drug store/pharmacy with drive-thru in accordance with the City Development Code and Section 5.5.8.8 herein	X	--
Gas station in accordance the City Development Code	X	--
Hotels	X	X
Kiosks/carts	X	--

PERMITTED USES SUBJECT TO A CONDITIONAL USE PERMIT	Regional Commercial	Mixed Use
Laundromat (coin operated)	X	X
Liquor store	X	X
Live performance facility, night club	X	X
Live/Work, subject to the provisions of Section 5.6, herein	--	X
On-site alcoholic beverage sales establishment including bars, taverns, cocktail lounges (when not an integral part of a restaurant)	X	X
Places of worship including but not limited to churches, temples, mosques or synagogues	X	X
Public utilities	X	X
Schools, Colleges, Universities, Professional Schools	X	X
Self Storage[2]	X	--
Swim club	X	--
Helistop/Heliport/Helipad[1]	X	X
Tennis club	X	--
Video Arcade	X	X
Virtual-Reality facilities	X	X
Wireless Facilities	X	X

ACCESSORY USES AND STRUCTURES	
Accessory uses and structures are permitted when customarily associated with and subordinate to a permitted use on the same site and would include:	
a. Enclosed, screened outdoor storage	
b. Maintenance facilities and structures	
c. Satellite Dishes (In compliance with the City of Ontario Development Code.)	

TEMPORARY USES AND INTERIM USE
Temporary uses are subject to the City of Ontario Development Code and include the following:
a. Amusement (i.e. circuses, carnivals etc.)
b. Christmas Tree, Pumpkin, and similar lots
c. Outdoor displays
d. Parking lot sales
e. Street/Craft fairs and Farmer Markets
f. Temporary Structures
g. Agricultural Operations

UNLISTED USES
Those uses not specifically listed are subject to a determination of use by the Planning Director as either permitted, permitted subject to a conditional use permit or prohibited consistent with the purpose of the land designation of this District and the Specific Plan. Decisions of the Director are appeal able to the Planning Commission.

1. The Planning Commission shall be the approving authority for any Helistop/Heliport/Helipad use. California State and FAA approvals are also required prior to operating the facility.
2. Only within Planning Area 5B, Floor Area Ratio limits (FAR) limits will not apply to Self-Storage and shall follow the City's development code standards.

5.5.8 REGIONAL COMMERCIAL, AND COMMERCIAL USES WITHIN MIXED USE DEVELOPMENT STANDARDS

The following standards provide the lot development criteria for commercial uses within Planning Areas 4B, 5B, 6B, 7, 8, and 10B~~6, 7B, 8 and 9~~. Refer also to General Standards in Section 5.3.

Minimum Lot Size/Area: Minimum lot size shall be large enough to accommodate the proposed use, meet all Development Standards, and cumulatively meet commercial thresholds as specified within the Specific Plan.

Floor Area Ratio (Calculated based on gross site acreage)	
Minimum Retail/Office	0.2:1
Maximum Retail/Office	0.5:1
Minimum Landscape Coverage	15%, all setback from right-of-way areas shall be landscaped.
Building Setbacks (minimum)	
From Hamner Avenue Right-Of-Way	35 feet[4] [5]
From Ontario Ranch Road Right-Of-Way	35 feet[4] [5]
From Mill Creek Avenue Right-Of-Way	18 feet[4]
From Private or Local Street	15 feet[2]
From Interior Property Line Adjacent to Residential	0 feet
(Stand Alone Residential) Overlay District	25 feet
From detached residential on adjacent property	25 feet
From SCE Property Line/Easements	10 feet
Building to Building	0 feet if attached; free standing buildings shall maintain a setback of 2/3 the height of the building, or 25', whichever is less.
Allowable Porch/Balcony Encroachment into Setback	5 feet
Parking Setbacks[3] (minimum)	
From Hamner Avenue Right-Of-Way	35 feet
From Ontario Ranch Road Right-Of-Way	35 feet
From Mill Creek Avenue Right-Of-Way	18 feet
From Private or Local Street	10 feet
From detached residential on adjacent property	5 feet
From SCE Property Line/Easements	0 feet
Building Height (Maximum)	
Single Use Structure	75 feet
Architectural Projections (including towers, focal elements, cupolas, etc.)	85 feet

Porte-cocheres	35 feet

(1) Per the City of Ontario Development Code. Commercial parking standards still apply.
(2) Refer to Section 7, Landscape Design Guidelines for further setback/design requirements.
(3) Parking stalls perpendicular to street shall be screened by landscaping, berms, or decorative walls that match architectural style of nearest development. Screening shall mature to a minimum height of 36" (to screen car grilles)
(4) Buildings shall be set back to the Neighborhood Edge or to the given setback from R.O.W., whichever is more restrictive. Where a Neighborhood Edge condition does not exist, setbacks from R.O.W. shall govern.
(5) One and two-story buildings may encroach 10 feet and drive-thru lanes may encroach up to 12 feet into the neighborhood edge subject to Planning Department review and approval.

5.5.8.1 Circulation

Serving as a commercial retail destination with neighborhood elements, Rich-Haven Specific Plan shall have street frontage monumentation announcing the major entrance to the development from Ontario Ranch Road. Within Rich-Haven Specific Plan major vehicular access to commercial elements and residential areas shall be clearly designated and intuitive, supplemented with special paving, landscaping and signage. Intersection nodes, where both vehicular and primary pedestrian activities occur, may feature enhanced paving to signify the mix of these activities. Parking should be oriented toward specific tenants and away from the street, with clearly marked pedestrian pathways to building entrances.

A strong pedestrian connection should be provided between the commercial area and the residential neighborhoods ~~within Planning Areas 6, 7, 8 and 9,~~ to enhance the walk-ability of the development.

5.5.8.2 Parking Standards

The following standards apply for required off-street parking of stand-alone commercial uses based on gross interior floor area within the Regional Commercial/Mixed-Use District:

Restaurant	1 per 100 sq. ft.
Fast Food drive-thru	1 per 75 sq. ft.
Retail	1 per 250 sq. ft.
Banking	1 per 250 sq. ft.
Medical	1 per 250 sq. ft.
Office	1 per 250 sq. ft.
Day Care	1 per 500 sq. ft.

All other uses not identified in the table shall conform to The City of Ontario Development Code.

Speed humps or other devices may be used to control vehicular traffic speeds in and near pedestrian zones. Double loaded parking aisles may be either 90-degree or angled. Parking drive aisles shall be a minimum of 25 feet for 90-degree or 2-way angled parking. Drive aisle may be reduced to 20 feet wide for

one-way angled parking. A dashed line along main travel routes is recommended to provide a street appearance. Walkways within the parking fields are required to have scored concrete, stamped concrete or paver treatment to integrate pedestrian paths of travel.

Standard parking stalls shall be no less than 9 feet wide by 18 feet deep.

Refer to Mixed-Use/Commercial Landscape Design Guidelines, section 7.8.

5.5.8.2.1 Loading

All large commercial uses, except medical, require one loading space unless otherwise noted. Refer to Loading and Service Design, of the Regional Commercial/Mixed Use District Design Guidelines for further loading requirements. Appropriate queuing, six to eight car stacking, for drive-thru banks and pharmacies shall be provided.

On-street loading spaces shall have appropriate loading, time/day signage for the space and shall be in addition to required parking for the mixed-use building/tenant.

5.5.8.2.2 Shared Parking Programs

Where opportunities exist for shared parking between uses with staggered peak parking demands, owners and developers should make every possible effort to take advantage of this opportunity to reduce total number of parking spaces within each site or parcel. The intent of a shared parking program is to reduce land devoted to parking, thereby providing for open spaces, walkways or other amenities. The parking standards may be reduced, up to a 40% reduction, based on a shared parking reduction study as outlined within the Specific Plan.

5.5.8.2.3 SCE Easement Parking

Surface Parking is permitted within SCE easements subject to approval from utility provider. This surface parking may not be included towards meeting minimum resident, guest or commercial parking requirements.

5.5.8.3 Pedestrian Orientation and Connectivity

Fostering pedestrian activity along interior circulation corridors is critical to the interactive, urban nature of the Regional Commercial/Mixed Use District. Interior circulation corridors, with commercial and mixed-use frontages shall have appropriate planting and paving features to accommodate pedestrian activity.

Shaded courtyards or plazas are encouraged to be incorporated into building layout and design to provide comfortable pedestrian spaces. Such courtyards may feature elements that enhance the pedestrian experience such as fountains, trellises, umbrellas, shade trees, comfortable tables, chairs and

benches, kiosks, etc. Please refer to Section 7.8, Mixed-Use/ Commercial Landscape Design Guidelines.

5.5.8.4 Patio Dining

Outdoor seating, in conjunction with business, is encouraged to enliven the street scene along commercial edges. Patio dining areas may be either connected or separated from building face. If separated, the space between seating area and building face must be a minimum of 8 feet to allow pedestrian traffic. In all cases, the seating area must have an internal minimum dimension of 5' clear. There is a maximum 20-foot encroachment onto park/paseo or urban edge/setback areas. Along Ontario Ranch Road, patio dining may encroach a maximum of 10 feet. Patio areas may be enclosed by the tenant by open rail compatible with the architecture of the building, hedges or other suitable separation. Please also refer to Section 6.5.4.1, Patio Dining.

5.5.8.5 Drive-thru Facilities

A drive-through facility shall be operated only as (a) part of a restaurant which also has an indoor dining area, (b) a banking facility or (c) a drug Store, and in such locations provided for such uses within the Regional Commercial/Mixed-Use District, subject to satisfying the requirements listed below.

All drive-through facilities shall be subject to the following performance standards:

a. Separation from Sensitive Land Uses

1. A drive-through facility shall be separated from any single-family residential development or single-family residential district by no less than 300 feet. A drive-through facility within a Regional Commercial/Mixed Use District shall be separated from any "stand alone" multi-family building by no less than 150 feet. This standard may be modified, particularly for non-restaurant drive-through uses if mitigation measures satisfactory to the City are presented in the overall design program.

2. The drive-through facility shall be architecturally treated with service and delivery "back of house" areas visually screened from residential development with a reverse corner design in addition to a wall, landscaping, or other screening features, or by other natural or constructed barriers, such as other commercial or mixed-use development.

b. Minimum Site or Part of Center or Development Complex

A restaurant with drive-through facilities shall have a minimum one/half acre land area (legal lot or tax parcel) or shall be part of a commercial center or larger development complex of at least one acre.

c. Setbacks

Buildings shall orient toward the street. The building shall maintain a 15 foot landscaped setback from the property line. Design elements, such as trellises, may encroach into the setback when well integrated with the landscape. Landscaped berms shall screen the parking lot and drive through aisle.

All structures, parking areas, drive-through stacking and exit lanes, intercom system, trash enclosure, etc., shall be set back a minimum of 20 feet from any property line, or if part of a commercial center or larger development complex, 20 feet or more from any perimeter property line of the center or complex.

Site design shall minimize pedestrian/vehicle conflicts by creating opportunities for courtyards, plazas, outdoor dining, and landscaped pathways that promote safe and convenient pedestrian movement.

d. Aesthetics

All structures, signs and related facilities shall be subject to architectural design criteria established for this Specific Plan, and subject to design review by the City Planning Department to ensure the integrity of the overall design program in the Regional Commercial/Mixed-Use District. All development shall be visually compatible to surrounding uses in form, materials, colors, and scale.

In addition, all signs are subject to the Sign Criteria established as part of this Specific Plan and Design Guidelines.

e. Circulation

Drive-through restaurants shall have a drive-through lane that measures a minimum of 144 feet in length from entry to pick-up window, accommodating 6 vehicles. The lane shall not enter from the street. The lane shall have a minimum width of 11 feet on straight section and 12 feet on curved section. Drive-through lanes shall be screened through building orientation, landscaping, low screen walls, hedges, or trelliswork.

1. Vehicle conflicts with pedestrians and bicycles shall be minimized.

2. All drive-thru facilities shall be consistent with The City of Ontario Development Code.

3. The project applicant may be required to prepare and submit to the City as part of the initial application a traffic circulation study. The study shall address: 1) the function of the internal street(s) or driveway(s) that serve the subject parcel for bypass, parking access and drive-thru queuing; 2) the placement, design, and adequacy of the vehicle queuing aisle; 3) the on-site circulation, parking lot design and pedestrian/bicycle safety for the parking supporting the use; and 4) additional information as requested by the City Engineer. The traffic circulation study shall identify potential adverse impacts and include measures for mitigating such impacts.

4. There shall be no curb cuts for driveways to any individual drive-through parcel from any City thoroughfares. All circulation to and from drive-through parcels shall be contained within a larger commercial or mixed-use project, with points of access to City thoroughfares via established curb cuts approved in the Specific Plan. Adequate sight distance shall be provided for exiting from the drive-through parcel to the internal circulation routes within the commercial or mixed-use center.

5. Appropriate cueing, six to eight car stacking, for drive-thru banks and pharmacies shall be provided.

f. Parking

1. One parking space shall be provided for each 75 square feet of gross interior, non-food preparation, floor area for each restaurant drive-through use. Up to 8 spaces in the drive-through queue (8 x 25' minimum = 200') may be applied towards meeting the parking standard. One parking space shall be provided for each 250 square feet of gross interior floor area for each banking or drug store use.

2. All parking areas shall comply with development standards of this Specific Plan.

3. Parking shall be restricted to customers and employees only for restaurant drive-through parcels. The parking restrictions shall be posted in the parking lots and enforced by the restaurant management.

g. Restrooms

Access to bathroom facilities located within the restaurant development shall be from within the structure, with no direct access from the parking area.

h. Noise

1. Noise levels from the drive-through facilities shall not exceed the City noise standards.
2. The project applicant shall provide the plans and specifications for any potential noise sources, such as intercom system, trash compactor, etc. Plans shall include measures to mitigate any potential adverse impact from such noise sources.
3. Speaker boxes of any point to point intercom system shall be oriented away from residential development and other sensitive receptors located in the general area of the drive-through facility.
4. Outdoor maintenance and cleaning activities shall be limited if determined necessary by the City to achieve compatibility with surrounding land uses.
5. The on-site manager shall not permit any loud music, noise or other sounds by means of phonograph, radio, or other broadcasting apparatus or device, and shall not permit fighting, quarreling, loitering, or loud noise or other nuisance which disturbs the quiet and peace of the premises or the neighborhood. Outdoor music as part of an outdoor dining area shall be allowed subject to City approved noise thresholds, between the hours of 9 am to 9 pm, with speakers oriented away from residential uses.
6. Generally speaking, drive-through operations for any use shall be limited to the hours of 6:30 am to 11:30 pm, unless mitigation measures are provided to the City's satisfaction to address potential noise impacts on adjacent uses. Deliveries shall be limited to hours of operation.

I. Light and Glare

1. A wall or hedge along the outer perimeter of the parking area(s) and drive-through lane(s), except for areas of ingress and egress, may be required if determined necessary by the City to prevent unwanted light and glare. The height, design and specific location of such

barrier shall be subject to architectural criteria established within the Specific Plan Design Guidelines.

2. All lighting fixtures shall be designed, installed and maintained so as to direct light only onto the subject parcel.

3. All lighting in the parking lot(s) and drive-through area(s) shall comply with the provisions of the City of Ontario Lighting Code. No motion sensor lighting shall be allowed within any areas exposed to residential uses.
4. All lighting shall be subject to a 30-day lighting level review period, during which time illumination levels shall be evaluated and adjusted where determined necessary by the City.

j. Maintenance

1. The site shall be maintained in a litter free condition and no undesirable odors shall be generated on the site. The on-site manager shall make all reasonable efforts to see that the trash or litter originating from the use is not deposited on adjacent properties. Trash enclosures and bins shall be enclosed on all sides to suppress odors and prevent spillage of materials. Employees shall be required daily to pick up trash or litter originating from the site within 150 feet of the perimeter of the property. Graffiti shall be removed within 48 hours.

2. The project applicant shall prepare and submit a litter control plan and a recycling plan to the City, if not part of an overall recycling plan established for the commercial or mixed-use project.

3. The on-site manager of the use shall take whatever steps are deemed necessary to assure the orderly conduct of employees, patrons, and visitors on the premises.

4. A copy of the above maintenance standards and any applicable Planning staff Conforming Use Permit conditions shall be posted alongside the necessary business licenses and be visible at all time to employees.

k. Special Notice Requirements: Drive-through facilities located in areas designated within the Specific Plan, conforming to the above standards, shall be ~~reviewed and approved by City Planning staff by issuance of a Conforming Use Permit~~permitted.

Drive-thru uses which do not comply with those locations shown in the Specific Plan or that substantially vary from the guidelines noted above

shall be subject to a Conditional Use Permit process through the City of Ontario, including any public noticing and/or hearing processes required through such process. Any notice of any public hearing on a proposed drive-through facility or a physical modification of an existing drive through facility shall be given to the blind, aged, and disabled communities, in order that they may participate in the hearing.

l. ***Additional Conditions:*** The above performance standards constitute the minimum deemed necessary under general circumstances and in most cases to prevent adverse effects from drive-through facilities. Other and further standards may be required as conditions of approval defined by City Planning staff to ensure that such uses are in accord with the intent of the Specific Plan and in concert with the integrity of the commercial or mixed-use project.

m. ***Discontinuation of Use:*** If any drive-through facility approved pursuant to this Part is discontinued for a period of 12 months or longer, the Conforming Use or Conditional Use Permit for such use shall be void. Subsequent uses shall be reviewed and approved under the same criteria, as may be amended from time to time. If such parcels are (a) within the originally established "Conforming Use Areas" or (b) on a site granted a Conditional Use Permit and, in the opinion of the City Planning Department, such subsequent use is deemed less impacting than the originally approved Conditional Use, then such uses shall be afforded the Confirming Use Permit process for their project approvals.

Discontinuation of use for a period of 12 months or longer of any drive-through facility approved pursuant to this Part for, the Conforming Use or Conditional Use Permit (CUP) for such use shall be void. Please refer to City of Ontario CUP process.

5.5.9 ~~REGIONAL COMMERCIAL/~~MIXED-USE DEVELOPMENT STANDARDS

The following are the development standards for Mixed-Use projects proposed within Planning Area~~s 6, 7B, 8A~~7~~ and 9~~. Refer also to Section 5.3 for Residential Development Standards. ~~The northwest corner of~~ Planning Area ~~8A~~7, adjacent to Mill Creek Avenue and Ontario Ranch Road is designated as mixed-use and would allow for the development of a 4-story wrap or podium residential product type, including ground floor retail interfacing with commercial development to the east within Planning Area ~~8A~~6B.

Minimum Lot Size/Area: Minimum lot size shall be large enough to accommodate the proposed use, meet all Development Standards, and cumulatively meet commercial thresholds as specified within the Specific Plan.

Maximum Floor Area Ratio

Mixed Use Buildings[(1)]	2.0:1

Minimum Landscape Coverage	15%, all setback from right-of-way areas shall be landscaped.
Building Setbacks (minimum)	
From Hamner Avenue Right-Of-Way	35 feet[4] [5]
From Ontario Ranch Road Right-Of-Way	35 feet[4] [5]
From Mill Creek Avenue Right-Of-Way	18 feet[4]
From Private or Local Street	10 feet[2]
From Interior Property Line	0 feet
From Interior Property Line adjacent to Residential District (Stand Alone Residential)	25 feet
From SCE Property Line/Easements	15 feet
Building to Building	0 feet, free standing buildings shall maintain a setback of 2/3 the height of the building, or 25', whichever is less.
Allowable Porch/Balcony Encroachment into Setback	5 feet
Parking Setbacks[3] (minimum)	
From Hamner Avenue Right-Of-Way	35 feet
From Ontario Ranch Road Right-Of-Way	35 feet
From Mill Creek Avenue Right-Of-Way	18 feet
From Private or Local Street	10 feet
From Interior Property Line	5 feet
From Interior Property Line adjacent to Residential District (Stand Alone Residential)	5 feet
From SCE Property Line/Easements	0 feet
Building Height (Maximum)	
Vertical Mixed Use	75 feet
Architectural Projections (including towers, focal elements, cupolas, etc.)	Up to 10 feet above the height of the building; projections shall not be habitable space.
Porte-cocheres	35 feet
Structured Parking	Structured parking for mixed-use buildings may not exceed the height of the adjacent building, which it serves.

[1] Per the City of Ontario Development Code. Commercial parking standards still apply. For residential units, parking standards within Section 5.4.1.12 of the Specific Plan shall apply.
[2] Refer to Sections 7.6.7, 7.6.9, and 7.6.10 for further setback/design requirements.
[3] Parking stalls perpendicular to street shall be screened by landscaping, berms, or decorative walls that match architectural style of the development. Screening shall mature to a minimum height of 36" (to screen car grilles)

(4) Buildings shall be set back to the Neighborhood Edge or to the given setback from R.O.W., whichever is more restrictive. Where a Neighborhood Edge condition does not exist, setbacks from R.O.W. shall govern.
(5) One and two-story buildings may encroach 10 feet into the neighborhood edge subject to Planning Department review and approval.

5.5.9.1 Retail/Shop Space "Veneer"

To achieve a desired commercial frontage on pedestrian corridors, retail/shop space veneers on residential buildings may be incorporated, and are encouraged, on the first story level. Retail service stores are the intended occupant for retail/shop space veneers, creating an incubator space for small independent businesses such as, but not limited to, travel agencies, hair salons, personal services, dry cleaners, art galleries, wine tasting venues, and similar pedestrian serving commercial ventures. Restaurants and incidental food usages such as coffee or juice bars and sandwich shops are also allowed and encouraged. Refer to the table in Section 5.5.7.1 for the full list of permitted uses.

A minimum shop depth of 25 feet is required, with building entries fronting onto streets, private drives, interior circulation corridors, pedestrian corridors, or plazas. Heavy service uses are not allowed in retail veneer spaces, therefore, separate delivery entrances to these shops are not required. Retail veneer is specifically not a live/work product. Therefore, direct residential entrance to these retail shops is not permitted. Residential unit entrances and associated parking spaces shall be separate from retail veneer entrances and parking. Vertical mixed-use buildings in a retail veneer/residential configuration are encouraged to provide building separations for pedestrian plazas or walkways connecting to the residential neighborhoods. These separations are encouraged to be no greater than 500 feet apart. Retail/shop space veneers must meet development standards in this section, design guidelines, and all applicable building codes.

5.5.9.2 Circulation

Serving as a commercial retail destination with neighborhood elements, Rich-Haven Specific Plan shall have street frontage monumentation announcing the major entrance to the development from Ontario Ranch Road at Hamner Ave. Within Rich-Haven Specific Plan major vehicular access to commercial elements and residential areas shall be clearly designated and intuitive, supplemented with special paving, landscaping and signage. Intersection nodes, where both vehicular and primary pedestrian activities occur, may feature enhanced paving to signify the mix of these activities. Parking should be oriented toward tenant customer access and away from the street, with clearly marked pedestrian pathways to building entrances.

A strong pedestrian connection should be provided between the mixed-use area and the residential neighborhoods ~~within Planning Areas 6A, 6D, 7B, 8A, 8B, 9A and 9B,~~ to enhance the walkability of the development.

5.5.9.3 Parking Standards

The following standards apply for required off-street parking of mixed-use uses based on gross interior floor area within the Regional Commercial/Mixed-Use District:

Restaurant	1 per 100 sq. ft.
Fast Food drive-thru	1 per 75 sq. ft.
Retail	1 per 250 sq. ft.
Banking	1 per 250 sq. ft.
Medical	1 per 250 sq. ft.
Office	1 per 250 sq. ft.
Day Care	1 per 500 sq. ft.

All other uses not identified in the table shall conform to Off-Street Parking and Loading Standards of the City of Ontario Development Code.

In mixed-use areas, on-street parallel and/or angled parking may be used to satisfy the project parking requirement. Speed humps or other devices may also be used to control vehicular traffic speeds in and near pedestrian zones. Double loaded parking aisles may be either 90-degree or angled. Parking drive aisles shall be a minimum of 25 feet for 90-degree or 2-way angled parking. Drive aisle may be reduced to 20 feet wide for one-way angled parking. A dashed line along main travel routes is recommended to provide a street appearance. Walkways within the parking fields are required to have scored concrete, stamped concrete or paver treatment to integrate pedestrian paths of travel.

Standard parking stalls shall be no less than 9 feet wide by 18 feet deep.

Refer to Mixed-Use/Commercial Landscape Design Guidelines, section 7.8.

5.5.9.3.1 Loading

All large commercial tenants, except medical, require one loading space unless otherwise noted. Refer to Loading and Service Design, of the Regional Commercial/Mixed Use District Design Guidelines for further loading requirements. Appropriate queuing, six to eight car stacking, for drive-thru banks and pharmacies shall be provided.

Mixed-use buildings/tenants are encouraged to employ shared loading areas and on-street parallel parking as loading spaces. On-street loading spaces shall have appropriate loading, time/day signage for the space and shall be in addition to required parking for the mixed-use building/tenant.

5.5.9.3.2 Shared Parking Programs

Where opportunities exist for shared parking between uses with staggered peak parking demands, owners and developers should make every possible effort to take advantage of this opportunity to reduce total number of parking spaces within each site or parcel. The intent of a shared parking program is to reduce land devoted to parking, thereby allowing increased densities in mixed-use areas or providing for open spaces, walkways or other amenities. The parking standards may be reduced, up to a 40% reduction, based on a shared parking reduction study as outlined within the Specific Plan.

5.5.9.4 Pedestrian Orientation and Connectivity

Fostering pedestrian activity along interior circulation corridors is critical to the interactive, urban nature of the Regional Commercial/Mixed Use District. Interior circulation corridors, with commercial and mixed-use frontages shall have appropriate planting and paving features to accommodate pedestrian activity.

Shaded courtyards or plazas are encouraged to be incorporated into building layout and design to provide comfortable pedestrian space. Such courtyards may feature elements that enhance the pedestrian experience such as fountains, trellises, umbrellas, shade trees, comfortable tables, chairs and benches, kiosks, etc. Please refer to Section 7.8, Mixed-Use Landscape Design Guidelines.

5.5.9.5 Streetscape Interaction

Along major pedestrian walkways (greater than 300 linear feet of mixed-use frontage) and plazas that are adjacent to adequate customer parking and commercially viable, it is encouraged that the linear street frontage, excluding driveways and pedestrian connections, be designed to accommodate pedestrian-oriented neighborhood service uses including retail, office, or other community service uses. The minimum depth of these uses shall be 25 feet. Residential parking is permitted behind this use.

5.5.9.6 Patio Dining

Outdoor seating, in conjunction with business, is encouraged to enliven the street scene along commercial edges. Patio dining areas may be either connected or separated from building face. If separated, the space between

seating area and building face must be a minimum of 8 feet to allow pedestrian traffic. In all cases, the seating area must have an internal minimum dimension of 5' clear. A maximum encroachment of 20 feet is allowed onto park/paseo or urban edge/setback areas. Along Ontario Ranch Road, patio dining may encroach a maximum of 10 feet into these setback areas. Patio areas may be enclosed by the tenant by open rail compatible with the architecture of the building, hedges or other suitable separation. Please also refer to Section 6.5.4.1, Patio Dining.

5.5.9.7 Drive-thru Facilities

Please refer to Section 5.5.8.5 for Drive-thru Facility development standards.

5.5.10 LIVE/WORK

Intended Character: The "Live/Work" designation is a residential building type that accommodates non-residential work areas adjacent to or below residential living areas, having specialized work-spaces that can accommodate more intensive work activities than appropriate for an exclusive residential building. Live/Work is allowed and encouraged in single family detached, and multi-family attached, with orientation to streets at transitional locations between pure commercial and pure residential areas. The Live/Work standards for the Rich-Haven Specific Plan assume no employees for Live/work uses. Live/Work is an appropriate transitional use between primarily commercial and primarily residential areas within the Regional Commercial/Mixed Use District.

5.5.10.1 Applicability, Live/Work

The standards provided herein apply to single-family attached home type or alley-loaded single family uses within Planning Areas 4A, 4B, 5B, 9, and 10A ~~6A, 7, 8 and 9~~ within the Regional Commercial/Mixed Use District. Refer to Table 5-1, *Site Development Standards Summary* and applicable residential development standards within Section 5.4. The following standards are intended to supplement the standards provided within Section 5.4.

5.5.10.2 Live/Work Permitted Occupational Standards

This section is a supplement to Sub-sections 5.4.3, 5.4.4, 5.5.3, and 5.5.7.1 permitted uses, and all commercial activities specified herein shall be restricted to the ground floor of each dwelling unit, with exception to the Vertical Mixed Use Building, where uses can be included on the second level. Free-standing commercial buildings are to use appropriate commercial building standards and not the live/work standards.

Live Work Permitted Uses

a. Home Occupations

As defined within the City Development Code

b. Artist and Craft Activities

Activities of artists and crafts persons working in low-impact media or processes (e.g., painters, graphic artists, potters, carvers, musicians.)

c. Cottage Production Activities

Production of goods or services involving low impacts and no employees (e.g., jewelry making, garment making, small leather goods, printing, computer or small goods repair, media production and recording studios.)

d. Service Activities

Office or service work with few or no impacts, no employees, (e.g., software developers, analysts, writers, accountants, secretarial services, personal services such as hair stylists, music teachers, tutors, doctors, therapists, child daycare, contract workers, telecommuters, office bases for off-site services such as building and landscape contractors, sales representatives.)

e. Public Access Businesses

Public Access Businesses typically have frequent one-on-one interaction with individual client groups who meet in home offices. Examples of these types of permitted uses are:

1. Architect/Landscape Architect/Engineer/Land Planner
2. Interior Decorator or Designer
3. Fine Arts Studio and Sales/Ceramics and Pottery Studio and Sales/Clothing Design Studio and Sales
4. Graphic Design Studio and Sales
5. Photography Studio/Portraiture and Sales
6. Planning Consultant
7. Attorney/consultant
8. Income Tax Service/Escrow Service/Insurance Agency
9. Internet Service Provider/Webmaster
10. Consulting and Business Service
11. Music or Dance Instruction (tutor)
12. Real Estate Developer/Specialty Contractor
13. Licensed Small-family child-Care Home
14. Personal Fitness Training
15. Tutor

f. Mobile Businesses

Mobile businesses typically involve a significant time away from the office where work is either acquired or performed at the client's residence or place of business. Examples of these types of permitted uses are:

1. Pick-up and Delivery Service
2. Cleaning Service
3. Pool Maintenance
4. Building Contracting
5. Gardening and Landscape Service
6. Electronic and Computer Equipment Repair and Fix-it Service
7. Catering Service
8. Flower Arranging and Plant Service
9. Specialty Food Products and Delivery

Live Work Permitted Uses

g. Other Permitted Businesses

Notwithstanding the specific permitted uses outlined above, the Planning Director may authorize other uses using reasonable discretion, as long as such other uses are not otherwise precluded by law. The Planning Director may authorize other uses using reasonable discretion, as long as such other uses are not otherwise precluded by law. The Planning Director will consider the effect on the project, and will not approve a use that has a materially adverse impact on other units in the condominium project, or surrounding neighborhood. The Director's decision may be appealed to the Planning Commission or the Director may refer the request to the Planning Commission as a Conditional Use Permit.

Live/Work Prohibited Uses

Prohibited uses are those uses that are not compatible with the permitted uses for the project, as well as all uses which are contrary to any city development code of other governmental condition of approval for the project. The following uses are expressly prohibited:

1. Medical/Dental Office
2. Chiropractic/Acupuncture Service
3. Massage/Acupressure Service
4. Veterinarian/Kennel/Animal Care Facility
5. Tattoo or Body Piercing Service
6. Fortuneteller
7. Banquet Facility
8. Adult Business
9. Recycling Center
10. Sales, repair or maintenance of vehicles, including automobiles, boats, motorcycles, aircraft, trucks, or recreational vehicles, provided that light maintenance of resident owned vehicles shall be allowed so long as such maintenance is conducted entirely within the interior of a garage.
11. Trade or Private School
12. Religious Institution
13. Any use that regularly or periodically generates vibrations, excessive noise, heat or smell, which affects any other condominium units within the project, as determined by the Planning Director; or surrounding properties, as determined by the City of Ontario Planning Director
14. Other uses that the Planning Director reasonably determines would detract from the overall image of the project or which might adversely affect the value of the individual condominiums within the project.

5.5.10.3 Live/Work Development Standards

Live/Work is the blend of residential and working components within a single dwelling. The development standards found in Section 5.4 set forth the base criteria. The following standards are written to give further standards on the commercial aspects of the building, and also the interaction between living and working areas.

5.5.10.3.1 Orientation

Most of the residential living quarters are anticipated to be located above the ground floor; however, if properly designed to mitigate conflicts concerning livability and privacy, ground floor or partial ground floor living quarters are allowed.

5.5.10.3.2 Entries and Private Outdoor Space

There should be direct pedestrian access from the front street to each individual business.

Direct pedestrian access from the business to the residential unit is also encouraged.

Residential units may be accessed from the fronting street or from the rear or side of the building.

5.5.10.3.3 Living Quarters and Work Space

Living quarters are permitted above the work space, to the side or in back (toward garage) of the work space. A minimum square footage of living area per residential unit shall be 400 sq. ft. Work space shall have a minimum square footage of 200 sq. ft. and a maximum square footage of 800 sq. ft.

5.5.10.3.4 Parking and Storage

All parking required for the workspace shall be provided for on-site, at the rear of the units or underground. Live/Work units are required to provide an additional .25 visitor spaces/unit, which may be located on-street. This requirement is in addition to the parking requirements of Section 5.4.

Garbage container storage areas, heating and mechanical equipment, and off-street parking and loading facilities must be located at the rear of the units.

5.5.10.3.5 Loading

Mixed-use and Live/Work settings are encouraged to employ shared loading areas and on-street parallel parking as loading spaces. On-street loading spaces shall have appropriate loading, time/day signage for the space and shall be in addition to required parking for the mixed-use building/tenant.

Otherwise, no loading or unloading is permitted in the public right-of-way. No loading or unloading activities shall interfere with parking or vehicular access. Loading areas, where provided, shall not be visible from the public street.

Loading activities serving live/work uses shall be limited to 9:00 a.m. to 5:00 p.m. on weekdays and 9:00 a.m. to noon on weekends.

5.5.10.3.6 Signage

Signage is intended to promote and enhance on-site businesses, maintain a quality neighborhood, provide direction for pedestrian and vehicular circulation, support a residential living environment and retain the character of the local neighborhood. No free-standing or monument signage is allowed for live/-work uses.

A signage program shall be prepared by the merchant builder and submitted for review and approval by the City of Ontario. See Section 6.5.5 Signage Guidelines for signage program.

5.5.10.4 Live/Work Performance Standards

5.5.10.4.1 Business License

A business license must be obtained for all live/work activities. Licenses will define:

a. Permitted number of employees
b. Business hours of operation
c. Potential public safety concerns, nuisances such as noise, vibrations etc.

5.5.10.4.2 Review Procedures

If the use requires City approval, then the application for live/work commercial uses shall be reviewed and approved by ~~the~~ both the Builder and Master Associations before submittal to the City.

5.5.11 STAND ALONE RESIDENTIAL OVERLAY

5.5.11.1 Development Standards

Stand Alone Residential Overlay developments within the Regional Commercial/Mixed-Use District shall comply with the Residential Development Standards outlined in the Residential District. Refer to the applicable tables in Section 5.4 for Stand Alone Residential Overlay development standards.

5.6 LIGHT INDUSTRIAL DEVELOPMENT STANDARDS

Applies to Planning Areas 2C, 3C, 5A, 5C and 6A~~7A~~

The purpose of the Light Industrial district is to create a high-quality industrial environment that is compatible with the Rich-Haven specific plan development area and the City's TOP (The Ontario Plan). This district provides for uses that will be complementary to adjacent SCE Substation and Planning Area 7B which includes regional commercial. (See Section 5.5 - Regional Commercial/Mixed-Use District Development Standards).

5.6.1 APPLICABILITY

The development regulations contained herein provide specific land use development standards for the project. Regulations address both general and specific standards for Light Industrial development. Application of the following regulations is intended to encourage the most appropriate use of the land, ensure the highest quality of development, and protect the public health, safety, and general welfare.

Whenever the provisions and development standards contained herein conflict with those contained in the City of Ontario

Development Code, the provisions of the Rich-Haven Specific Plan shall take precedence. Where the Rich-Haven Specific Plan is silent, City codes shall apply. These regulations shall reinforce specific site planning, architectural design, and landscape design guidelines contained in Section 6, "Design Guidelines" of the Rich-Haven Specific Plan.

All architectural and landscape improvements shall be consistent with the Design Guidelines contained in Section 6 of the Rich-Haven Specific Plan, "Design Guidelines." All architectural and landscape plans shall be submitted to the City of Ontario for approval.

5.6.2 DEFINITION OF TERMS

The meaning and construction of words, phrases, titles, and terms shall be the same as provided in the City of Ontario Development Code Article 2, "Definitions," unless otherwise specifically provided for herein.

The definition of architectural and design terms shall be the same as those provided in the City of Ontario Glossary of Design Terms which follows the City of Ontario Development Code.

5.6.3 DEVELOPMENT CAPACITY

Light Industrial uses in any configuration are limited by development and design standards of this section. The Rich-Haven Land Use Plan allocates a total maximum of ~~1,183,525~~2,767,148 square feet of light industrial use in Planning Areas 2C, 3C, 5A, 5C and 6A~~7A~~. (See Section 3, Land Use Summary, Table 3-1). Variations in the number, type, and intensity of Industrial buildings may occur at the time of final design ~~of Planning areas 4A, 5B, 6B, 6C, and 7A~~ depending upon the project and development timing.

5.6.4 PERMITTED USES

The following table establishes the uses which are permitted within the Light Industrial District of Rich-Haven Specific Plan. The following symbols used in the table represent the following:

P Permitted Use
C Conditional Use Permit required
A Ancillary Use (allowed in conjunction with a primary permitted use)

Ancillary uses will be reviewed concurrently with each land use proposal.

PERMITTED USES

Land Use Types	Light Industrial
AGRICULTURAL USES	
COMMERCIAL GROWING ESTABLISHMENT *(Activities typically include, but not are not limited to the commercial growing of produce by row, field, tree, and crop production. Also included is agricultural research. Marijuana cultivation not allowed per city ordinance)*	P
WHOLESALE AND RETAIL PLANT NURSERIES *(Activities typically include, but are not limited to, sales of indoor and outdoor plants, including, but not limited to, trees, shrubs, groundcovers, and grass sod, as well as seeds, pots and potting supplies, and growing supplies).*	P
COMMUNITY GARDENS, URBAN FARMS, AND RELATED USES	A
KENNELS AND CATTERIES	P
CONSTRUCTION	
CONTRACTORS: *(limited to businesses whose primary activity is performing specific activities involved in building construction, engineering and capital improvement projects, or the preparation of sites for construction)*	
Completely within a building	P
With Outdoor Storage (screened for public view)	P
RESIDENTIAL USES	
CARETAKER'S UNIT - AREA DEVOTED TO USE NOT TO EXCEED 1,000 SQUARE FEET.	A
WHOLESALE TRADE	
DURABLE GOODS - GENERAL	
Motor Vehicles and Motor Vehicle Parts and Supplies	P

Land Use Types	Light Industrial
Sporting and Recreational Goods and Supplies	P
Toy and Hobby Goods and Supplies	P
Recyclable Materials (includes wholesale activity only; refer to NAICS 562920 (Material Recovery Facilities) for recovery/processing (recycling) activities)	C
Jewelry, Watches, Precious Stones, and Precious Metals	P
DURABLE GOODS - LIMITED	
Furniture and Home Furnishings	P
Professional and Commercial Equipment and Supplies	P
Household Appliances, and Electrical and Electronic Goods	P
Hardware and Plumbing, and Heating Equipment and Supplies	P
NON-DURABLE GOODS *(excluding industrial gases, petroleum bulk stations and terminals, and fireworks and explosives merchant wholesalers)*	P
RETAIL TRADE	
INTERNET FULFILLMENT/WAREHOUSING/DISTRIBUTION (E-COMMERCE)	P
NONSTORE RETAILERS	
Electronic (internet) Shopping and Auctions, and Mail-Order Houses *Houses (includes direct business to consumer internet retail sales, auction houses, and/or mail order retail sales)*	P
Vending Machine Operators	P
OTHER DIRECT SELLING ESTABLISHMENTS	P
INDUSTRIAL RETAIL SALES *(retail of goods and/or product either manufactured, warehoused or wholesaled on-site)*	
Maximum 15% of building floor area or 8,000 square feet, whichever is less)	A
Over 15% of building floor area or 8,000 square feet	C
INSTITUTIONAL USES	
EDUCATIONAL FACILITIES *(Universities, Colleges, and Vocational Training)*	
• Technical and Trade School	C
Business Schools and Computer and management Training	C
Other Schools and Institutions:	
Fine Arts Schools (nonacademic instruction, including music, dance, performing arts, drama, photography, ceramics, painting and sculpture)	
• GFA less than 2,000 SF	P
• GFA 2,000 SF or more	C
Sports and Recreation Instruction (cheerleading, gymnastics, and martial arts)	
• GFA less than 10,000 SF	P
• GFA 10,000 SF or more	C
Industrial Clinics	P
Religious Facilities - Religious assembly and places of worship.	C

Land Use Types	Light Industrial
Public Utility/Service structure	C
Automobile Driving School	C
Other Schools of Instruction (public speaking, survival training, and speed reading)	C
Water Systems - Water wells, water storage, treatment and filtration facilities.	C
HEALTH CARE AND SOCIAL ASSISTANCE	
AMBULATORY HEALTH CARE SERVICES	
Offices of Physicians and Dentists, Other Health Practitioners, Outpatient Centers, Laboratory Testing Services, Home Healthcare Services, and Community Clinics *(excludes massage establishments—see NAICS 812199)*	P
Other Ambulatory Health Care Services	
Ambulance Services	P
All Other Ambulatory Health Care Services:	
• Blood and Organ Banks	P
• All Other Miscellaneous Ambulatory Health Care Services (limited to blood pressure screening, health screening, hearing testing, industrial clinics, pace- maker monitoring, physical fitness evaluation, and smoking cessation program services)	P
SOCIAL ASSISTANCE	
Community Food and Housing, Emergency and Other Relief Services	
Community Food Services (limited to food banks, meal delivery programs, and fixed and mobile soup kitchens)	C
Child Day Care Services	
Child Day Care Centers (Employer Provided Services)	P
ARTS, ENTERTAINMENT AND RECREATION	
AMUSEMENT, GAMBLING, AND RECREATION INDUSTRIES	
Other Amusement and Recreation Industries	
Fitness and Recreational Sports Centers (limited to health clubs and gyms, fitness and sports training facilities, tennis clubs, swim clubs and other similar activities and facilities)	
• GFA Less than 10,000 SF	P
• GFA 10,000 SF or more	C
All Other Amusement and Recreation Industries, limited to the following (NAICS 713990):	
• Batting Cages -- Indoor	C
• Batting Cages -- Outdoor	C
Shooting and Archery Ranges and Galleries — Indoor Only	C
Simulated Racing (limited to go-carts, radio controlled vehicles and other similar facilities)	C
Simulated Shooting Games — Indoor Only (limited to laser tag and paint ball)	C
Skating Rinks and Parks (indoor only)	C
COMMERCIAL USES	
REPAIR AND MAINTENANCE	
Motor Vehicle Repair and Maintenance *(Note: See Motor Vehicle Storage (NAICS 493190) for vehicle storage requirements)*	

Land Use Types	Light Industrial
Auto Repair (Minor) - Activities include, but are not limited to automotive and light truck repair; retail sales of goods and services for automobiles and light trucks; and the cleaning and washing of automobiles and light trucks. Uses typically include, but are not limited to, repair of brakes, tires, electrical, etc. and car washes.	P
Automotive Glass Replacement Shops (limited to stationary and mobile services)	P
Automotive Oil Change and Lubrication Shops	P
Auto Repair (Major) - In addition to the types of repair operations included as part of Automobile and Light Truck Repair - Major, activities typically include, but are not limited to, automotive body work, painting, and installation of major accessories; automobile customizing; engine and transmission repair/rebuild and towing facilities.	C
All Other Automotive Repair and Maintenance	
• Emissions Testing (test only facilities)	P
• Rustproofing and Undercoating Shops	P
• Spray-On Bedliner Installation Shops	P
Plug-In Electric Vehicle (PEV) Charging Facilities (ancillary to an allowed land use)	P
Commercial and Industrial Machinery and Equipment *(except Automotive and Electronic) Repair and Maintenance)*	P
Personal and Household Goods Repair and Maintenance	
Home and Garden Equipment and Appliance Repair and Maintenance - Computers, home electronics and small home appliances. Electrical equipment, Furniture refinishing/re-upholstery. Lawnmower and garden equipment.	P
Reupholsters and Furniture Repair	P
Other Personal and Household Goods Repair and Maintenance -- Without Retail Sales *(limited to garment alteration and repair, gun repair, jewelry repair, key duplicating, musical instrument repair and tailor shops)*	P
Boat Repair and Maintenance Services (no retail sales of new boats)	P
Motorcycle Repair and Maintenance Services (no retail sales of new motorcycles)	P
Death Care Services	
Funeral Parlors and Mortuary Services (excludes funeral establishments)	P
Dry cleaning and Laundry Services	
Linen and Uniform Supply	
• Linen Supply	P
• Industrial Launderers	P
Other Personal Services	
Personal Fitness Trainer	P
Battery/Energy Storage and Interconnect to SCE (as an ancillary use)	C
Battery/Energy Storage exclusively to serve project energy use	P
PUBLIC ADMINISTRATION	
JUSTICE, PUBLIC ORDER, AND SAFETY ACTIVITIES	
Police Protection (limited to stations, substations and storefront facilities)	P

Land Use Types	Light Industrial
Fire Protection	P
PUBLIC UTILITY/SERVICE STRUCTURE	C
COMMUNICATION USES	
RADIO AND TELEVISION BROADCASTING STUDIOS *(Activities typically include, but are not limited to, broadcasting and other information relay services accomplished primarily through the use of electronic and telephonic mechanisms. Uses typically include, but are not limited to, television and radio studios)*	
Motion Picture and Video Industries *(except Motion Picture and Video Exhibition -- movie theaters)*	P
Sound (Audio) Recording Facilities	P
BROADCASTING *(except Internet—see Other Information Services)*	P
Radio Stations	P
Television Broadcast Studios	P
DATA PROCESSING, HOSTING AND RELATED SERVICES	P
OTHER INFORMATION SERVICES	
Internet Publishing and Broadcasting	P
REAL ESTATE, RENTAL AND LEASING	
RENTAL AND LEASING SERVICES	
Automotive Equipment Rental and Leasing	
Truck, Utility Trailer, and Recreational Vehicle Rental and Leasing	P
Office Ancillary to a Primary Industrial Use (less than 10%)	P
ADMINISTRATIVE AND SUPPORT, AND WASTE MANAGEMENT AND REMEDIATION SERVICES	
ADMINISTRATIVE AND SUPPORT SERVICES	
Office Administrative Services and Facilities Support Services *(limited to services provided for others on a contract or fee basis)*	A
Business Support Services	
Business Service Centers:	
• Private Mail Centers, and Postal Services and Supplies	C
• Other Business Service Centers (limited to mailbox rental, photocopying, duplicating, blueprinting, mailing services, document copying services, facsimile services, word processing services, on-site PC rental services, and office product sales)	P
Services to Buildings and Dwellings *(limited to exterminating and pest control, janitorial, landscaping, carpet and upholstery cleaning, building exterior and chimney cleaning, power washing, gutter cleaning, light building maintenance, parking lot cleaning and swimming pool maintenance services)*	P
Other Support Services *(limited to packaging and labeling services, convention and trade show organizers, and document shredding services)*	P
Remediation and Other Waste Management Services	
Material Recovery Facilities (MRFs) (consists of the removal of recyclable materials from a waste stream):	
• Electronic Equipment Recycling	C

Land Use Types	Light Industrial
WATER SYSTEMS - WATER WELLS, WATER STORAGE, TREATMENT AND FILTRATION FACILITIES.	C
EATING AND DRINKING PLACES & FOOD SERVICES	
Special Food Services	
Food Service Contractors	P
Caterers	P
Mobile Food Services	P
Food Bank or Meal Delivery Services	C
Drinking Places	
Alcoholic Beverage Sales for On-Premises Consumption as a Primary Business Activity (such as bars, cocktail lounges, nightclubs, taverns, and other similar facilities)	
• GFA less than 10,000 SF	C
• GFA 10,000 SF or more	C
Alcoholic Beverage Sales for On-Premises Consumption as an Ancillary Business Activity (such as ancillary to restaurants)	C
Eating Establishments *(Activities typically include, but are not limited to, the retail sale from the premises of food or beverages prepared for on-premises consumption. Uses typically include, but are not limited to):*	
• Full-service restaurants, serving ready-to-eat food and beverages for on-site consumption.	P
• Fast-food restaurants, serving ready-to-eat food and beverages for on-site or off-site consumption, without drive-through facilities.	P
Cafeterias and Buffets	P
Snack and Nonalcoholic Beverage Bars	P
MANUFACTURING	
FOOD MANUFACTURING:	
General *(but excluding animal slaughtering and processing and seafood product preparation and packaging)*	P
Limited *(including bread, tortilla, snack foods, roasted nuts and peanut butter, coffee and tea, flavoring syrup and concentrate, seasoning and dressing, spice and extract, and all other miscellaneous food manufacturing)*	P
APPAREL MANUFACTURING	P
COMPUTER AND HOME ELECTRONIC MANUFACTURING	P
BAKERY (INDUSTRIAL)	C
ELECTRICAL COMPONENTS	P
FURNITURE AND RELATED PRODUCTS MANUFACTURING	P
HOME APPLIANCE AND EQUIPMENT MANUFACTURING	P
GLASS (AND GLASS PRODUCT) MANUFACTURING	C
PETROLEUM AND COAL PRODUCTS MANUFACTURING	C
TRANSPORTATION EQUIPMENT MANUFACTURING	P
BATTERY/ENERGY STORAGE AND INTERCONNECT TO SCE (AS AN ANCILLARY USE)	C
BATTERY/ENERGY STORAGE EXCLUSIVELY TO SERVE PROJECT ENERGY USE	P

Land Use Types	Light Industrial
WOOD PRODUCT MANUFACTURING	P
INSTRUMENT MANUFACTURING (NAVIGATIONAL, MEASURING, ETC.)	P
LEATHER PRODUCT MANUFACTURING (EXCLUDING TANNING AND FINISHING):	
Footwear manufacturing	P
Other Leather and Allied Product Manufacturing *(limited to manufacturing of luggage, handbags, purses, personal leather goods and other leather products)*	P
TEXTILE PRODUCT MILLS *(transform fabric into product, except apparel)*	P
BEVERAGE AND TOBACCO PRODUCT MANUFACTURING:	
Beverage manufacturing	
Soft Drink, Bottled Water and Ice Manufacturing	C
Alcoholic Beverage Manufacturing, including breweries, wineries and distilleries, and related tasting rooms. Facilities with tasting rooms require a CUP:	
• GFA less than 10,000 SF	P
• GFA 10,000 or More SF	C
ARTISAN CRAFTS *(made by hand) such as glassworks, jewelry, and pottery)*	P
PAPER MANUFACTURING:	
Converted paper Product Manufacturing	C
CHEMICAL MANUFACTURING *(excludes pesticides and fertilizers)*	
Pharmaceutical and Medicine Manufacturing *(excludes biological product manufacturing—see NAICS 325414, below)*	C
Soap, Cleaning Compound, and Toilet Preparation Manufacturing	C
PLASTICS AND RUBBER PRODUCTS MANUFACTURING	
Plastics Product Manufacturing	C
Rubber Product Manufacturing	C
FABRICATED METAL PRODUCT MANUFACTURING	
Primary Metal Manufacturing	C
Cutlery and Hand Tool Manufacturing	C
Architectural and Structural Metals Manufacturing	C
Hardware Manufacturing	C
Spring and Wire Product Manufacturing	C
Machine Shops, Turned Product, and Screw, Nut and Bolt Manufacturing	P
Coating (e.g., anodizing, electroplating, etc.), Engraving, Heat Treating, and Allied Activities	

Land Use Types	Light Industrial
Painting, Powder Coating and Polishing Metal and Metal Products for the Trade	C
Other Fabricated Metal Product Manufacturing	
Ball and Roller Bearing Manufacturing	P
MACHINERY MANUFACTURING	
MACHINERY MANUFACTURING *(Activities typically include, but are not limited to, the mechanical or chemical transformation of raw or semi-finished materials or substances into new products, including manufacture of products; assembly of component parts (including required packaging for retail sale); blending of materials such as lubricating oils, plastics, and resins; and treatment and fabrication operations. Examples of activities include the following)*	
MISCELLANEOUS MANUFACTURING *(Jewelry, office supplies, sporting goods, toys, etc.)*	P
PRINTING AND RELATED ACTIVITIES	P
WAREHOUSE/STORAGE & TRANSPORTATION	
Warehouse/Distribution Facility *(Activities typically include, but are not limited to, warehousing, storage, freight handling, shipping, trucking services; storage)*	P
Completely within a building	P
Outdoor Storage Accessory to an Allowed Use	A
Outdoor Storage as the Primary Use with screening	C
Refrigerated Warehousing and Storage	P
Battery/Energy Storage and Interconnect to SCE (as an ancillary use)	C
Battery/Energy Storage exclusively to serve project energy use	P
POSTAL SERVICE *(Limited to US Postal Service and contract services. See "Private Mail Centers and Postal Services and Supplies" (NAICS 561431) for commercial mail services)*	P
OTHER	
Trailers and trailer storage	P
~~Any use deemed similar to permitted uses by the Planning Director~~	~~P~~
UNLISTED USES	
Those uses not specifically listed are subject to a determination by the Planning Director as either permitted, permitted subject to a conditional use permit or prohibited consistent with the purpose if the land designation if this District and the Specific Plan. Decisions of the Director are appeal able to the Planning Commission.	

General Note, refer to Ontario ALUCP for additional development criteria and policies that may affect building heights, allowable FAR, and allowable land uses.

5.6.5 GENERAL DEVELOPMENT STANDARDS

The following general site development criteria shall apply to all development projects within the Rich-Haven Specific plan area.

5.6.5.1 Gross Acres

Except as otherwise indicated, gross acres for all development areas are measured to the center line of streets.

5.6.5.2 Grading

Development within the project site shall utilize grading techniques as approved by the City of Ontario. Grading concepts shall respond to the design guidelines included in the Rich-Haven Specific Plan.

5.6.5.3 Building Modification

Building additions and/or alterations permitted by the Rich-Haven Specific Plan shall match the architectural style of the primary unit and shall be constructed of the same materials, details, and colors as the primary unit.

5.6.5.4 Utilities

All new and existing public utility distribution lines of 34.5 kV or less shall be subsurface throughout the project.

5.6.5.5 Technology

All businesses shall accommodate modern telecommunications as defined by the Fiber Optic Master Plan and in accordance with the City of Ontario Structured Wiring Standards (Ontario Municipal Code).

5.6.5.6 Solid Waste/Recycling

Development within the project shall comply with City of Ontario requirements for the provision and placement of solid waste and recycling receptacles.

5.6.5.7 Traffic

All traffic signs regulating, warning, and/ or guiding traffic on public or private roads shall conform to the California MUTCD, latest edition.

5.6.6 LIGHT INDUSTRIAL DEVELOPMENT STANDARDS

This section includes the development standards for Light Industrial uses that establish the minimum criteria for the development of Industrials within the Planning Areas 2C, 3C, 5A, 5C and 6A ~~7A~~ specified within the Rich-Haven Specific Plan.
Refer to the Rich-Haven Specific Plan EIR for additional development criteria and policies that may affect but not be limited to the restriction of allowable land uses, the allowable Floor Area Ratio (FAR), overall site design, building heights and so on.

5.6.6.1 Light Industrial Development Standards

Industrial developments within the Rich Haven Specific Plan Industrial District shall comply with the Development Standards outlined below.

LIGHT INDUSTRIAL DEVELOPMENT STANDARDS

SITE REQUIREMENTS	
Minimum Site Area:	1 Acre (43,560 SF)
Floor Area Ratio:	0.55 (Max. Allowed)
Minimum Landscape Coverage:	10%
BUILDING REQUIREMENTS	
Minimum Building Setbacks: (1,2)	
• From Hamner Avenue	35’
• From Mill Creek Avenue	~~18’~~20’
• Commercial Mixed Use District	10’
• Interior Property Lines	0’
Parking & Drive Aisle Setbacks:	
• From Hamner Avenue	35’
• From Mill Creek Avenue	18’
• Interior Property Lines	0’
• Adjacent to Commercial Mixed Use District	10’
• Adjacent to Building Office Elements	10’
• Adjacent to Solid Building Wall	5’
• Primary Drive Aisle to Building	10’
• Secondary Drive Aisle (back alley) to Building	5’
Maximum Building Height:	
• Main Structure	55’
• Architectural Projections and Focal Elements Such As Towers, Cupolas, and other Appurtenances.(3)	65’
Maximum Building Area:	
• Industrial Uses	~~1,183,525 sf~~2,767,148

Walls, Fences, and Hedges	Per - Walls, Fences, and Obstructions of the Ontario Development Code Requirements.
ADJACENT TO RESIDENTIAL	
Building Setback from Property Line	100’
Perpendicular Parking Setback from Property Line	34’
Building Setback from Parking and Drive Aisle	10’
Landscape Buffer Width at PL without Parking	40’
Landscape Buffer Width at PL with Parking	34’
Minimum Screen Wall Height	8’
Maximum Screen Wall Height	14’
Maximum Light Height	14’

(1) All setback areas shall be landscaped.

(2) All setbacks are measured from the public right-of-way to habitable area not architectural appurtenance or projection. An architectural projection is defined as an element that articulates the building elevation such as eaves, window and door pop out surrounds, bay windows, pot shelves, chimneys, enhanced window sills, shutter details, window trim, balconies, pedestrian colonnades and other similar elements. Such elements may project a maximum of 3 feet into required setback areas.

(3) Architectural element only not to be used for signage, subject to Planning Director approval.

~~(3)~~

5.6.6.2 Signage Standards

All signage within the boundaries of the Rich-Haven Specific Plan shall conform to the City's Development Code and shall require a signage program.

5.6.6.3 Lighting

The design of lighting fixtures shall be approved by the City as part of the City's Development Plan Review.

5.6.6.4 Required Number of Parking and Loading Spaces

Off-street parking facilities in Industrial uses are to be provided for each use per City of Ontario Development Code.

Surface parking within the SCE Easement may be included towards meeting required City Parking subject to Planning Department review and Planning Director approval.

Surface Parking is permitted within SCE easements subject to approval from utility provider. This surface parking may be included towards meeting minimum parking requirements.

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SECTION 6 - DESIGN GUIDELINES

INTRODUCTION 6.1

It is the intent of these guidelines to provide guidance and a framework for development of highly livable residential neighborhoods offering a variety of planning concepts, densities and home sizes. In addition, a unique, vibrant mixed-use district will serve the homes within the Rich-Haven Specific Plan area, as well as the surrounding communities.

These guidelines will further serve to implement the objectives, policies and principles of the City's TOP by drawing upon the rich architectural diversity, quality and history of Ontario's established neighborhoods. The scale, character, charm and authenticity of the City's historic districts will be interpreted and integrated into 21st Century forms and lifestyles. The palette of landscape materials, street fixtures & furniture, walls and monumentation will reinforce the unity of vision woven throughout the Rich-Haven Specific Plan area and tie the diverse districts and neighborhoods into a cohesive, livable, timeless community. Residential Guidelines can be found in Section 6.2 of this document. High Density Residential Design Guidelines can be found in Section 6.3. Regional Commercial/Mixed-Use Design Guidelines can be found in Section 6.5 of this document.



6.1.1 COMMUNITY DESIGN OBJECTIVES

- Secure the long-term vitality of the City's TOP by implementing its objectives, policies and principles.
- Create a land use concept that weaves a mixed use component into the community fabric.
- Create a community of cohesive neighborhoods that provide a wide variety of architectural configurations and housing prototypes.
- Create a palette of landscape materials, features and details that blend diverse architectural elements into cohesive neighborhoods.
- Create a hierarchy of pedestrian and vehicular circulation within the community.
- Utilize the existing easements for open space and trails.
- Provide safe and convenient pedestrian links from residential areas to school, park and commercial sites that serve the community.
- Provide the opportunity for diverse, pedestrian oriented recreation areas to serve as local parks.
- Create a palette of architectural styles and community features that evoke traditional, timeless qualities.
- Utilize architectural massing to define private yard areas.
- Create neighborhoods where residential entries and living areas dominate the primary street scene.

6.1.2 ARCHITECTURAL PHILOSOPHY

While the overall goal is one of architectural harmony, variety is an important objective, and is strongly encouraged. Quality is crucial in working towards architectural harmony. Quality if manifested in, but not limited to, materials, design and construction.

The function of the architectural portion of this supplement is to provide detailed guidance regarding the level of design, variety and quality is required of the architecture for these neighborhoods. Should there be a conflict between these guidelines and City ordinances, the more stringent shall govern.

The architectural parameters outlined in this section apply to all lots. Architecture shall have full architectural treatment on all four sides, regardless of orientation (a.k.a. 360º architecture). Additional enhancements shall be provided at corner lots and critical edges. Refer to Section 6.2.1.7 for specific criteria.

RESIDENTIAL DESIGN GUIDELINES 6.2

GENERAL DESIGN ELEMENTS & OBJECTIVES 6.2.1

The primary goal for the Rich-Haven community is to create homes with a balance of form, massing and scale that respects the critical relationship within and between the individual neighborhoods and the overall Rich-Haven community. The following principles establish the essential characteristics that will promote and support these goals:

6.2.1.1 A palette of styles, materials and details shall convey timeless qualities.

- Overarching architectural themes combine compatible historic architectural characters to create aesthetic harmony within and between neighborhoods.
- Use authentic exterior finish material and detailing.
- Windows and doors shall be positioned authentically and sensitively.
- Principal windows with recesses, surrounds, enhanced headers/sills, window groupings, or other decorative features for shadow, depth, and detail are required on all front elevations and elevations adjacent to a critical edge (see Section 6.2.1.7 for additional requirements at critical edges.)
- Use colors appropriate for the architectural style, with traditional colors for doors, windows, shutters, decorative iron and tile work, awnings, stucco, roofs and enriched materials. Permitted roof materials are limited to concrete or clay barrel tile, flat concrete or slate tile, simulated wood shakes and asphalt shingles (on Federalist, Cape Cod or similar style where shingles were traditionally appropriate).




Covered porch with distinctive gable end treatment.


Forecourt door to walled patio area on an attached product personalizes and accentuates entry.


Recessed entry, roof articulated with dormer window above.

6.2.1.2 Homes shall orient to the street and be plotted with care and sensitivity to their environs.

- Individually site each home, taking into consideration adjacent plan types and yard orientations, landscaping, views and other adjacent features.
- Sensitively combine one & two story profiles within each home as well as within each neighborhood.
- Variable front setbacks may take into account: covered porches, porte-cocheres or other roofed features, not just the garage or habitable space.
- No two identical single-family plans shall be plotted next to each other. In the case of two plans side by side, one shall be reversed and each shall offer different elevations, details and color schemes.

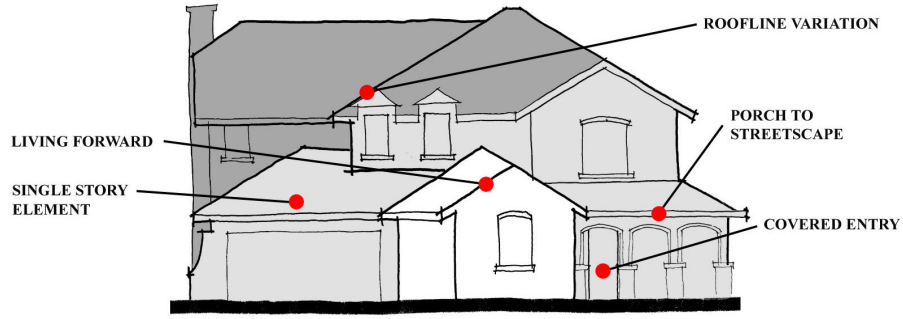
6.2.1.3 Individual residential entry statements shall be emphasized.

- Architectural designs shall utilize plan forms that emphasize the entry to each home by creatively and harmoniously combining porches, balconies and massing.
- Wing walls, buttresses, patio walls and/or gates, forecourt doors and covered walkways are all appropriate features to accentuate entries.
- All residences shall have their addresses illuminated as close to the front door as possible and the address numbers painted on the curb with white reflective paint on a black background.
- Where secondary access is provided via alleys or common drives, illuminated addresses shall be provided on or near the garage or gate serving the residence.

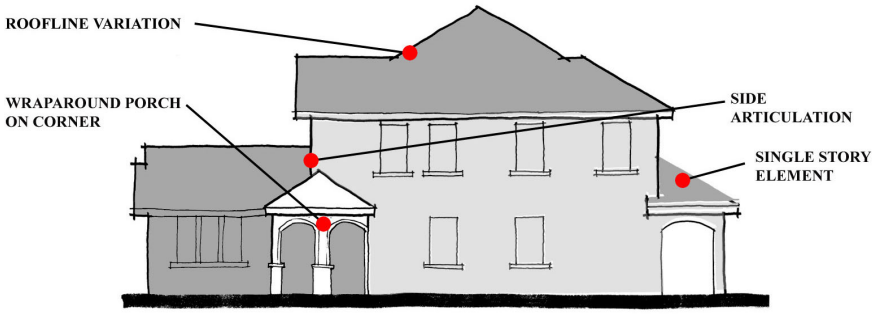
6.2.1.4 Scaled massing and roof forms, either symmetrical or asymmetrical, shall be appropriate to each architectural style.

- A minimum of three front façade breaks of horizontal and/or vertical orientation, each a minimum of 2' from the adjacent mass, shall be required.
- The rear elevations shall incorporate one façade break of at least 2' to create visual interest both individually and collectively as a neighborhood.
- Roof pitches shall be reinforce the intended architectural style. Where an architectural style dictates a steeper roof pitch, it is acceptable to limit that steeper pitch to accent roofs and not the entire home.
- Each architectural style shall exhibit historically accurate roof forms, i.e. gables, hips, sheds, or combinations thereof.
- Eaves and rakes shall be dependent on the architectural style to which they are applied.
- Dormers, where style dictates, are appropriate.
- Each architectural style has its own distinctive massing characteristics that shall be respected and reflected in its execution. A Federalist Colonial home is symmetrical reflecting its austere and traditional social roots whereas a Santa Barbara style home can be more relaxed and asymmetrical. Every style is not appropriate for every plan form and attempts to force a style upon an inappropriate plan form shall be prohibited.

CONVENTIONAL- ACCESS MASSING

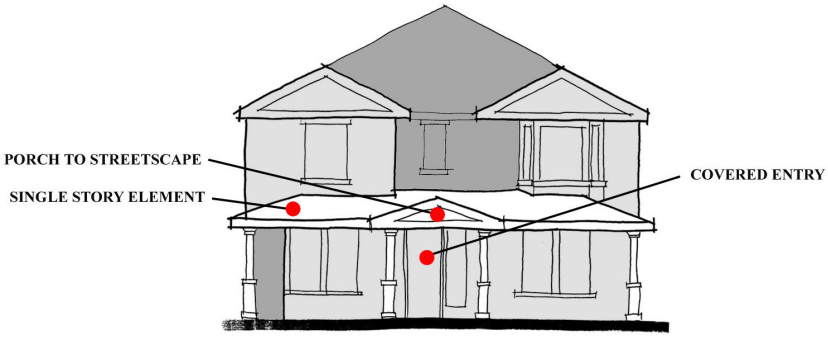


FRONT ELEVATION
CONVENTIONAL ACCESS

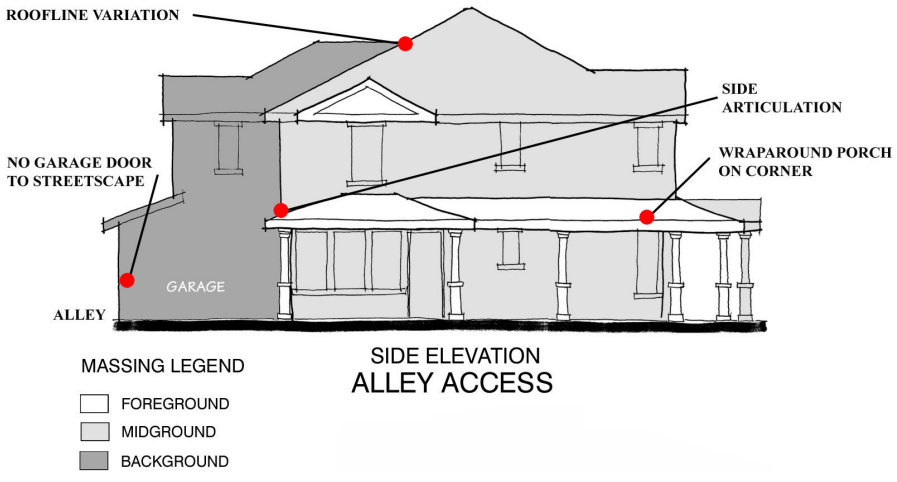


SIDE ELEVATION
CONVENTIONAL ACCESS

ALLEY-ACCESS MASSING



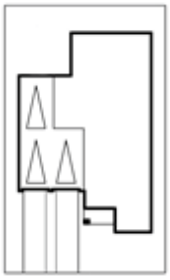
FRONT ELEVATION
ALLEY ACCESS

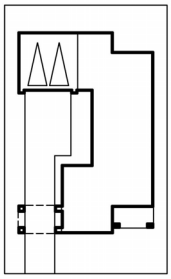


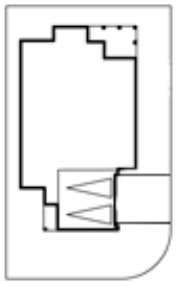
SIDE ELEVATION
ALLEY ACCESS

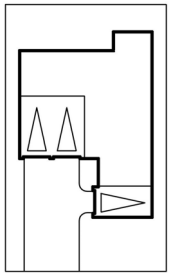

Detached, deep recessed garage.


Landscape strip centered on driveway.


Tandem


Deep Recessed


Corner Lot w/ Side Access


Side Load and/or Split

6.2.1.5 The garage door shall be de-emphasized in order to enrich the visual impact of the community.

- Proper treatment of the garage is critical in creating a sense of variety and quality.
- The number of homes with Garage Forward or Shallow-Recessed garage configurations shall be limited to 25% per builder project.
- On homes with Garage Forward or Shallow-Recessed garage configurations, garage doors shall be recessed or surrounded by pop-outs of 12" minimum.
- Pairs of single garage doors are encouraged.
- A 2' offset of one to two of three front-facing garage bays is required.
- Tandem arrangements are encouraged, as well as Swing In conditions.
- Attached homes having front entry garages adjacent to one another along interior lot lines require a 2' offset of garage faces.
- "Hollywood-Style" driveways, e.g. driveways with a 30" landscape strip centered on an 8' wide driveway, are encouraged. Locating a planter with sufficient area for a vine to trail onto a garage is also appropriate.
- Each driveway shall have either a pattern of scoring lines or enriched material to create a pleasing texture and design compatible with the architectural style.
- Innovative garage locations and configurations are encouraged - a minimum of one plan per conventional front loaded neighborhood is to have at least one of the following garage configurations:

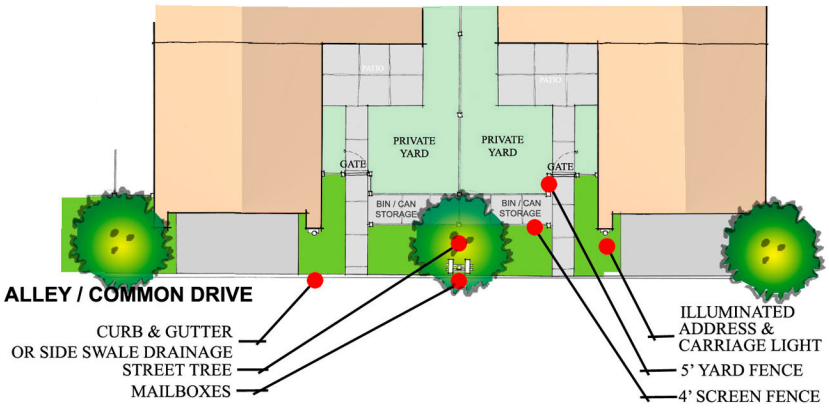
1. ***Shallow-Recessed*** garages are recessed at least 5' from the habitable portion of the home.
2. ***Medium-Recessed*** garages are recessed at least 7' from the habitable portion of the home.
3. ***Side Load and/or Split*** garages are accessed 90 degrees from the street and drive cut, or a separate one or two car Garage is loaded 90 degrees from the third car space.
4. ***Deep-Recessed*** garages are located at the rear of the home, thus creating an opportunity for a porte-cochere and/or a "Hollywood-Style" landscape strip to enrich the driveway.
5. ***Corner Lot w/ Side Access*** garages are entered from the side of a home plotted on a corner lot, usually away from the home's entry. Using this condition, usually an alternate of a standard front loaded condition, enhances the side elevation of the home and creates a more articulated side elevation. ("Hollywood Style" driveway shown)
6. ***Tandem*** garages can also have a pull through condition with an additional garage door opposite the main garage door to allow passage through the garage to either the rear lot of the home or to an additional garage at the rear of the home.
7. See Section 6.3.4 for detached carports and parking structures at ***High Density Configurations.***

6.2.1.6 Alleys and common drives provide a number of useful design opportunities:

- Additional access ways serve as the capillaries of the community vehicular circulation system.
- They help to reduce the visual and traffic impact of garages on the primary street scene.
- They can help to reduce the visual impact of community walls.
- They can enhance the perception of community scale.
- They often serve as the residents' "front door"

In order to optimize these opportunities, proposed alley or common drive programs should meet or exceed the following design objectives:

- Provide full architectural elevation enhancement along alleys and common drives.
- Provide addresses, mailboxes, guest parking, street signage, etc. to enhance the residential character of alleys and common drives.
- All residences shall have their addresses illuminated on or near the garage or gate serving the residence.
- Provide adequate landscape opportunities along alleys and common drives.
- Vary the height and location of walls and fences to add visual interest to alleys and common drives.
- No center swale drainage.
- Provide adequate home and street lighting along alleys and common drives.
- Provide adequate storage and/or screening for storage of trash and recyclables.




Pedestrian gate for side access at Common Drive with window treatment and landscaping on first floor.


Full architectural treatment with opportunities for low walls and landscaping as screening on common drives.


Mailboxes and trash screening

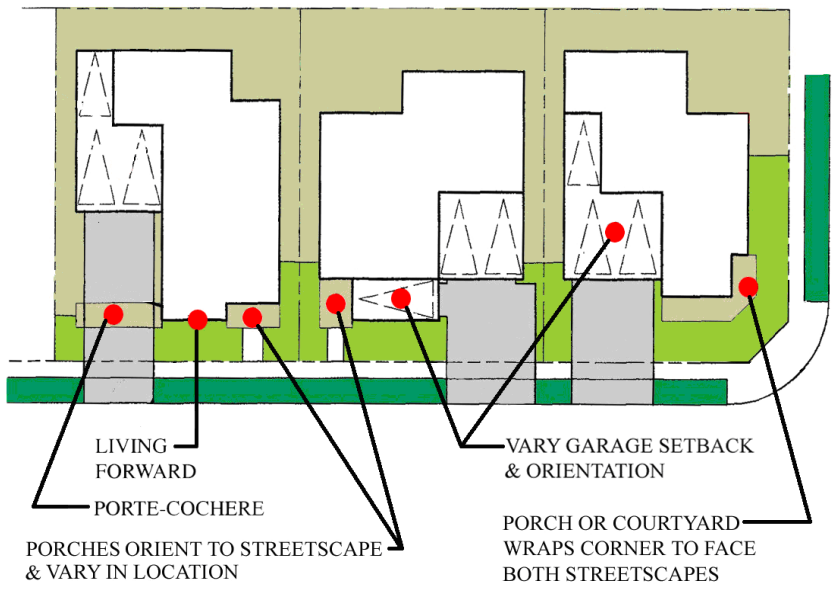

Deck


Wrap Around Porch


Porch

6.2.1.7 Corner lots and critical edges shall receive special attention by providing architectural and/or landscape enhancements.

- Variety is crucial to the success of Rich-Haven's streetscape, and enhanced architectural edge patterns are imperative in achieving that variety. Many lots in Rich-Haven are located on critical edges and/or front the street on two or even three sides. These elevations require additional architectural enhancements, varied setbacks, and building breaks that might normally be reserved for front elevations.
- More than 50% of corner lots must be plotted with a single story home, assuming a one story home is offered as a standard home. If not, a one story element of a two story home must be plotted adjacent to the more traveled street.
- Enhanced architecture shall be oriented to the street so that interactive elements along critical edges create a human scale and are consistent with the architectural style of the house. Interactive elements are those that orient the home to the street and engage it with the neighborhood. (Please see the table on the next page for appropriate locations of interactive elements) These elements include, but are not limited to the following:
    1. porches
    2. wrap around porches (at corners and critical edges)
    3. verandahs
    4. porte cocheres
    5. balcones
    6. decks
    7. porticos
    8. trellises
    9. arbors
    10. courtyards



- The quality design and orientation of interactive elements provide "eyes on the street" and contribute to pedestrian safety, a sense of place and activity, and neighborhood socialization. As a guideline, each house plan in a collection must contain at least one interactive element at the street elevation, with corner homes and homes on critical edges to have an additional interactive element on the side or rear elevation adjacent to that edge. The following locations shall be considered a critical edge:
  1. Neighborhood Entries
  2. Theme Streets
  3. Paths, Parks, Open Spaces and School Sites
  4. Roundabouts and Theme Intersections
  5. Alleys and Common Drives

Locating Interactive Elements	Porches	Wrap Around Porches (at corner conditions)	Verandahs or Patios	Porte-Cocheres	Balconies	Decks	Porticos	Trellises	Arbors	Courtyards
Neighborhood Entries	X	X	X	X	X	X	X	X	X	X
Theme Streets	X	X	X	X	X	X	X	X	X	X
Paths, Parks, Open Spaces and School Sites			X		X	X		X	X	X
Roundabouts and Theme Intersections		X	X		X	X		X	X	X
Alleys and Common Drives	X	X	X		X	X		X	X	X





Wrap material, gable end treatment and window detailing to side elevation where required.

- Any elevation adjacent to a critical edge shall require additional architectural enhancement along with the required interactive elements. Refer to Section 6.2.4 for details appropriate for each architectural style. Architectural enhancements at critical edges shall meet or exceed the following:
  1. The use of additional finish materials and/or colors other than monochromatic stucco as appropriate for the architectural style, such as stone, brick, or siding.
  2. Window and Door enhancements of divided light patterns and trim or recesses appropriate for the architectural style
  3. Varied setbacks and building breaks.

6.2.2 ARCHITECTURAL CONFIGURATIONS

An architectural configuration is defined by the placement of the residential entry, orientation of the garage, and respective density. Prototypes are attached or detached product types relative to a specific architectural configuration. The use of multiple configurations and prototypes is required to achieve the desired variety across the community. Additional prototypes may be proposed or existing prototypes amended, subject to Planning Department review and approval. For detailed requirements and conditions specific to each prototype, refer to Section 5.4.2. The list of prototypes has been repeated below for reference.

- Conventional 7,200 SF Single Family Detached
- Conventional 4,500 SF Single Family Detached
- Conventional 2,700 SF Single Family Detached
- Two-Pack or "Z" Lot Single Family Detached
- Alley Loaded Single Family Detached
- Courtyard Single Family Detached Lots
- Cluster Single Family Detached
- Duplex/Triplex
- Row Town Homes
- Courtyard Town Homes
- Tuck Under Town Homes
- Tuck Under Apartments/Condominiums
- Wrap Apartments/Condominiums
- Podium Apartments/Condominiums

6.2.2.1 General Design Elements and Objectives

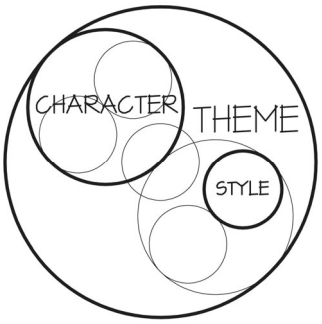
The following principles apply to all residential product types within Rich-Haven, regardless of lot size and architectural style:

- Create off set or articulated wall planes for front and rear elevations.
- Create the opportunity for front & rear single story elements or, in the case of higher density prototypes, reduce or 'step-down' the massing at key focal areas and intersections.
- Utilize roof hips, dormers, staggered gables, etc. to vary roof forms and create visual interest.
- Create the opportunity for usable outdoor spaces with front porches, courtyards, decks or balconies.
- Diversify the orientation and placement of porches, residential entries, and garages.
- Provide full architectural treatment & finish to any elevation facing a public street, park, or open space.
- For single family detached prototypes, a variation of at least 5'-0" in lot width or building frontage shall define a prototype.
- Consider dedicated plans or elevations for key entry, corner, or end locations. Corner plans or elevations could include multiple or "wrap around" porches, alternate garage locations/access, etc.
- All trash enclosures shall meet or exceed the City's requirements in addition to the following:
    1. Trash enclosures that are viewable from public areas should be adequately screened and constructed of materials complementary to the adjacent architecture.
    2. Trash enclosures, parking areas and service areas should be screened from adjacent residential neighborhoods.
    3. Where possible, trash enclosures should be:
        - Located to provide convenient access to residents and service providers. Attention should be paid to the proximity of adjacent residential entries, balconies, patios and yard areas.
        - Adjacent to main or major entries, but not as their "focal point."
    4. Screening may occur in the form of masonry walls, landscaping, trellises and/or other landscape or hardscape elements subject to City approval. Screening shall also mitigate overhead views from residents of adjacent buildings. The proposed height of the screen shall be adequate to fully obscure the view of the service area.
    5. All project sites shall be designed to meet all the Integrated Waste Department's requirements, including the requirements for Sizing of Storage, Location of Collection Area, Accessibility for Collection Vehicles, and Collection of Sorted/Diverted Waste Types.

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ARCHITECTURAL THEMES

6.2.3



Overarching architectural themes combine compatible historic characters to create harmony within and between neighborhoods. Each character is defined by its historic influences and common features, but has distinct architectural styles associated with it. This architectural hierarchy of a style within a character within a theme is shown in the diagram at right. Rich-Haven has three diverse architectural themes that are based on the successful and dominant historic styles found in Ontario: Spanish, European and American.

6.2.3.1 Use of Architectural Themes

In ***Low Density neighborhoods***, the use of multiple themes with a range of styles is required. This approach creates variety in the massing, scale, proportions and materials, which is appropriate to the scale of the street scene. It also reflects the diversity found in the city's historic neighborhoods.

Small Lot, Medium Density and High Density neighborhoods shall utilize only one architectural theme of compatible architectural styles and characters. This approach creates the compatibility necessary to address the intensity, scale, and massing associated with medium and high-density prototypes in these neighborhoods.

6.2.3.2 Architectural Compatibility

Styles may be compatible with multiple themes when they have one or more of the following criteria in common:

- ***Styles have common historic influences.*** Characters that evolved from similar eras and regions of the world will have similar characteristics. For example, the European Cottage and the Tudor/English Country characters both originated from Western Europe and are characterized by steeper roof pitches, stone or brick accents and multi-paned windows and are therefore both part of the European theme.
- ***Styles utilize similar materials.*** Styles that grew from a variety of eras and regions can still have similar materials. For example, the Craftsman Bungalow character and the American Traditional character have different influences, but both will have flat tile roofs, siding and/or shingle feature walls, and may have brick accents; they are therefore both part of the American theme.



6.2.3.3 Architectural Compatibility Matrix

Selection of architectural styles for development shall be based on compatibility. Compatible architectural styles are identified on the following matrix.

Specific Plan Architectural Characters

COMPATIBILITY	ARCHITECTURAL STYLES	Early California		Spanish Eclectic		European Cottage		English Country		Craftsman Bungalow				American Traditional				Ranch		
		Spanish Colonial	Monterey	Mediterranean	Mission	French Eclectic	Richardsonian Romanesque	Tudor	Stick	Craftsman (Arts & Crafts)	Mediterranean Bungalow	California Bungalow	Colonial (East Coast) Bungalow	American Foursquare	Colonial	Dutch Colonial	Neoclassical	Western Farmhouse	California Ranch	Vernacular Bungalow
	THEMES																			
	Spanish	X	X	X	X						X	X						X	X	X
	European	X		X		X	X	X	X	X	X		X			X				
	American	X	X		X	X			X	X	X	X	X	X	X	X	X	X	X	X

- In the matrix, "X" denotes compatibility of the architectural style with a given theme.
- For common features that define the architectural styles listed in this matrix not found in these guidelines, refer to the City of Ontario's Historic Preservation Program and "A Field Guide to American Houses" by Virginia and Lee McAlester.
- This is not intended to be an all-inclusive list, but a reference for selecting compatible architectural characters and styles.
- Other styles may be considered at the discretion of the Planning Department.
- Proposed styles must meet the requirements of Section 6.2.4 and be detailed to a level equal to the examples shown therein.
- It is strongly recommended that if a different style is submitted, graphic examples of the historic style be provided for review prior to submittal.

ARCHITECTURAL CHARACTERS

6.2.4

The use of historic styles in residential architecture has been popular over the years and reinforces the timeless qualities of the community and its neighborhoods. This approach is encouraged within Rich-Haven, based on the following criteria:

Hierarchy of Architectural Elements – Details are critical to the success of an elevation at recreating a historic style. Each detail or element outlined falls under one of two types:

- **Required items** are critical to the elevation to achieve a specific character.
- **Selected items** will help to better define the character. These elements are more distinct and create differentiation between the Styles within the same Character. Not all elements are appropriate for all designs. Applicants must work with City staff to determine which elements are most appropriate for a given elevation.

Use of Architectural Elements – The level of architectural detailing necessary to achieve the architectural Character is relative to the scale of a home or residential building. The use of Required and Selected elements shall be scaled based on the width of the architectural frontage. Refer to the table at right to determine the percentage of Required items and the minimum number of Selected items required that will apply to the elevation (front, side or rear) that is fronting a street or critical edge. The minimum number of Selected Architectural items may be chosen from any architectural category (Materials & Details, Entries & Porches, etc.).

Architectural Quality – To promote the use of quality architectural details, two of the Required Architectural items may be substituted for one Selected Architectural item. Required Landscape and Hardscape items may not be substituted. Selected Landscape and Hardscape items enhance the minimum Required landscape, and are not appropriate as a substitute for them.

Do Not Mix Elements from Different Styles on One Elevation – Avoid mismatching elements from one style with another, e.g. No Gothic columns with Craftsman architecture on the same home.

- Refer to the City of Ontario's Historic Preservation Program and "A Field Guide to American Houses" by Virginia and Lee McAlester for common features characteristic of a given style not found in these guidelines.
- Each style shall offer the Required Elements as described in its associated Architectural Character. However, the elevation shall exhibit the unique characteristics of its particular Style, being certain to include the requisite number of Architectural and Landscape Selected items.

Authentic Architectural Treatment – There shall be a consistent level of authenticity, regardless of the chosen style.

- All elements must be appropriate for the proposed elevation and are subject to approval by the City of Ontario.
- Additional or alternate Selected items may be required to create enough differentiation between styles within the same Character and Theme.

Architectural Frontage	Required Architectural Items	Selected Architectural Items	Selected Landscape Items	Selected Hardscape Items
Fifty Feet or Greater (≥50')	100%	4	2	2
Forty Feet or Greater (40' - 49')	90%	4	2	2
Thirty Feet or Greater (30' - 39')	80%	3	1	1
Less than Thirty Feet (<30')	70%	3	1	1

- Refer to Section 6.2.1.7 for additional criteria on Corner Lots and Critical Edges.
- High Intensity Attached prototypes are subject to 75% of required architectural items.

Historic Background

The Early California character is reminiscent of some of the earliest houses in the United States, located in formerly Spanish Territories. This rural character includes the Spanish Colonial and Monterey styles. Early California homes are defined by rustic details and simple forms that define a central courtyard. These humble homes in remote outposts often began as only one room, and grew over time. The few decorative details can be found in the porches and balconies, window and door treatments, and courtyards.

Landscape in the Early California character tends to be minimal in design and focused on efficient useable space. Landscape design emphasizes planes, geometric shapes, and formal layouts.
Planting is Mediterranean or California Native and consists of generally drought-tolerant plant material.

6.2.4.1 Early California Character

6.2.4.1.1 Architectural Styles

Early California styles include, but are not limited to:

- Spanish Colonial
- Monterey

6.2.4.1.2 Architectural Massing & Proportion

Required:

- Boxy and simple massing, can be symmetrical or asymmetrical.
- Proportions were more horizontal and humble than vertical and imposing.

Selected:

- Plan designed around an interior courtyard.
- Rambling floor plans with separate roof forms for each element.

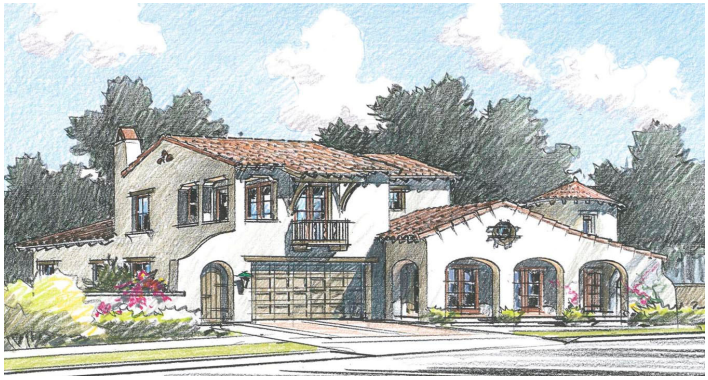
6.2.4.1.3 Architectural Materials & Details

Required:

- Stucco with smooth to light lace texture – specialty textures to be reviewed by City staff.
- Trim can be either stucco or timber.
- Simple, expressive detailing devoid of excessive ornamentation.
- Simple wrought iron work in balconies, window grilles, handrails, doors, gates, hardware and fences.

Selected:

- First and second stories can be of different materials as seen in the Monterey style, utilizing a combination of brick and stucco or stucco and siding.
- Heavy timber detailing (beams, out-lookers, posts) in either wood or wood-like foam.
- Simple rustic shutters.



Conventional Single Family Detached prototype depicting the Early California style.

6.2.4.1.4 Entries & Porches

Required:

- Long narrow porches or recessed front door.
- Porch roof supported by heavy timber posts or large stucco columns.
- Decorative light fixtures, wall and/or ceiling hung.

Selected:

- Square columns are preferred over round, but all columns are encouraged.
- Entry Courtyards with relationship to interior spaces.



Walled Entry Courtyard.

6.2.4.1.5 Doors & Windows

Required:

- Multi panel doors with little or no glass and sidelights or transoms.
- Windows are vertically oriented.
- Raised Panel entry doors.
- Recessed feature window and door openings.

Selected:

- Roofed or open balconies with either wood, wrought iron or wood rails.
- Arched top doors.
- Gates.



Heavy Timber deck.



Arched feature window.



Porch with heavy timber detailing.



Simple Massing with Modest Wrought Iron Accents at Balcony and entry Awnings.



Heavy timber Deck Overlooking Entry Courtyard below


Simple roof forms with exposed rafter tails, porch with shed roof.


Contrasting dark brown fascia and window trim with pale stucco body and red "S" tile roof.


Low pitched gabled roof forms with simple pipe detailing at gable ends.

6.2.4.1.6 Roof Forms & Materials

Required:

- Predominantly gable and shed roof forms, with minimal hips.
- Open eaves, not boxed.
- Fascia may either be stucco or wood.
- Clay or concrete – Barrel or "S".
- Low-pitched roofs (3:12 – 5:12).
- Simple gable end accents of stucco or tile vents.

Selected:

- Eaves often with simple, rustic rafter tails.
- Boosted tiles add to authenticity.
- Extended eaves over windows with heavy timber bracing or brackets.
- Board and batten or siding at gable ends can be seen in the Monterey style.

6.2.4.1.7 Color

Required:

- Stucco - White, Eggshell or other light earth tones.
- Roof Tile – Earthy reds, browns and terra cotta tones.

Selected:

- Trim (Wood) – Earth toned dark.
- Trim (Stucco) – Darker than stucco, lighter than wood trim.
- Entry Doors and other Accents – Bright accent colors to be consistent with historic precedent.

6.2.4.1.8 Landscape

Required:

- Plant types shall be chosen from the Community Plant Matrix (Section 7.7).
- Front yard landscape is required to be installed by the builder (Section 5.4.1.9).
- Front yards shall include a minimum of one 24" box tree
- Plant Color Palette shall coincide with designated Planning Area requirement (Section 6.4).
- Tree quantities shall be per guidelines set forth by the City of Ontario.
- Trees shall be installed at a minimum 24" box size.
- A minimum of 5 different shrub species shall be used.
- Shrub/groundcover areas other than lawn areas shall contain 75% shrub, 25% groundcover coverage with 5 gallon shrubs spaced at 3' O.C., and 1 gallon shrubs spaced at 2' O.C~~., and flatted groundcovers spaced at 12" O.C~~.
- Vines shall be attached to all public facing property walls sized at 1 gallon and spaced 10'-15' O.C. maximum.
- Shrub/groundcover areas other than lawn shall be top-dressed with a 3" deep layer of shredded wood fiber mulch.
- Lawns shall be sodded.
- Automatically controlled irrigation system conforming to all water conservation Ordinances set forth by the City of Ontario.
- Simple landscape layouts utilizing defined edges.

Selected:

- Tree quantities to exceed minimum requirements.
- Additional plant species over the minimum to include flowering trees and/or shrubs and annuals.
- Tree sizing to exceed the minimum 24" box size.
- Variety of shrub sizing to include 15% - 15 gallon, 65% - 5 gallon, and 20% - 1 gallon shrubs.
- Shrub/groundcover areas, other than lawn areas, to contain 100% shrub coverage with mulch between shrubs at time of planting.

6.2.4.1.9 Hardscape

Required:

- Defined logical hardscape to all front doors and private yard entries.
- Paving material shall be concrete (broom finish) or decomposed Granite.
- Colors and finishes shall be compatible and/or harmonious with adjacent architecture.

Selected:

- Enhanced concrete finish to be sandblasted, acid etched, and/or integrally colored.
- 3' high maximum decorative landscaping walls and pilasters of smooth or fine stucco plaster finish.
- Details and accents to include clay pots and wrought iron ornamentation.

- Multiple paving materials and/or finishes.

Historic Background

The Spanish Eclectic character is influenced by Italian, Moorish, Gothic, Byzantine and Renaissance detailing found in Spain and Portugal. This character includes the Mediterranean and Mission styles. It is enhanced with more elaborate ornamentation as seen in Mexico than its more modest Early California precedents. The entire history of Old and New World Spanish architecture influences this character's unusually rich and varied decorative treatments. The Spanish Eclectic character gained popularity and validation primarily after the Panama-California Exposition in San Diego in 1915. Bertram Goodhue adapted the richness of Spanish architecture in Latin America, going beyond the California "Mission" style, and demonstrated that this character could withstand academic and professional scrutiny and be worthy of its own place in architectural history.

Landscaping for the Spanish Eclectic character introduces rich hardscape materials and details, as well as a varied and ornamental planting palette. Layouts can be either formal or informal and utilize clay tile paving and decorative ceramic tile inserts. Planting is used for its form and color as well as its function and provides colorful accents throughout the living space.

6.2.4.2 Spanish Eclectic Character

6.2.4.2.1 Architectural Styles

Spanish Eclectic styles include, but are not limited to:

- Mediterranean
- Mission

6.2.4.2.2 Architectural Massing & Proportion

Required:

- Asymmetrical massing.
- Often combining one story elements on a two story home.
- Most commonly L-shaped or rambling floor plan.

Selected:

- Round turret or tower elements.

6.2.4.2.3 Architectural Materials & Details

Required:

- Stucco with smooth to light lace texture – specialty textures to be reviewed by staff.
- Trim can be either stucco, cut stone or timber.
- Ornate low-relief carvings, highlighting arches, columns and window surrounds.
- Decorative wrought iron in balconets, window grilles, handrails, doors, gates, hardware and fences.

Selected:

- Shutters with appropriate decorative wrought iron hardware such as shutter dogs, straps, clavos and/or hinges.
- Sculpted wing walls.
- Clay tile (or other materials, similar in appearance) vents, guardrail in-fills and/or screens.
- Niches or stucco recesses.
- Ceramic tile insets, coping or edges.



Conventional Manor Home prototype (triplex with front and side garage access) depicting the Spanish Eclectic style.

6.2.4.2.4 Entries & Porches

Required:

- Arcaded porches or recessed front door.
- Porch roof supported by large columns with arches (half round, elliptical or eyebrow) between columns.
- Decorative light fixtures, wall and/or ceiling hung.

Selected:

- Square columns are preferred over round, but all columns are encouraged.
- Entry Courtyards.

6.2.4.2.5 Doors & Windows

Required:

- Multi panel doors with little or no glass and sidelights or transoms.
- Windows are vertically oriented.
- Raised Panel entry doors often emphasized by columns, pilasters, or patterned tiles.
- Arched and recessed feature window, of half round, parabolic or elliptical shape.

Selected:

- Roofed or open balconies with either wood, wrought iron or wood rails.
- Arched top doors.
- Gates.



Round turret or tower with recessed front door.



Porch of large stucco columns with arches.



Recessed entry and windows, decorative wrought iron detailing at awnings.



Arched recessed porch and shaped parapets.



Recessed windows, wrought iron balcony accent and arcade.



Round turret with arched entry door.



Low pitched gabled roof with simple recess at gable ends and cementitious window and door surrounds.



"S" tile roof with open eaves accentuated by decorative eave treatment and tile venting.



Tight rake with no exposed fascia, recessed feature window and decorative chimney cap.

6.2.4.2.6 Roof Forms & Materials

Required:

- Predominantly gables with occasional hips and parapets.
- 12" or tight eaves.
- Tight rakes, often with no fascia exposed.
- Fascia may either stucco or wood.
- Clay or concrete – Barrel or "S".
- Low-pitched roofs (3:12 – 5:12).
- Decorative gable end treatments of stucco recesses, tile vents and/or wrought iron accents.

Selected:

- Rakes with scalloped detailing.
- Eaves with decorative stucco profile or corbels.
- Elaborate chimney caps.
- Extended eaves over windows with decorative bracing or brackets.
- Shaped dormers or parapets.

6.2.4.2.7 Color

Required:

- Stucco - White, Eggshell or other light earth tones.
- Roof Tile – Earthy reds, browns and terra cotta tones.

Selected:

- Trim (Wood) – Earth toned dark.
- Trim (Stucco) – Darker than stucco, lighter than wood trim.
- Entry Doors and other Accents – Bright accent colors to be consistent with historic precedent.

6.2.4.2.8 Landscape

Required:

- Plant types shall be chosen from the Community Plant Matrix (Section 7.7).
- Front yard landscape is required to be installed by the builder (Section 5.4.1.9).
- Front yards shall include a minimum of one 24" box tree
- Plant Color Palette shall coincide with designated Planning Area requirement (Section 6.4).
- Tree quantities shall be per guidelines set forth by the City of Ontario.
- Trees shall be installed at a minimum 24" box size.
- A minimum of 5 different shrub species shall be used.
- Shrub/groundcover areas other than lawn areas shall contain 75% shrub, 25% groundcover coverage with 5 gallon shrubs spaced at 3' O.C., and 1 gallon shrubs spaced at 2' O.C.~~, and flatted groundcovers spaced at 12" O.C~~.
- Vines shall be attached to all public facing property walls sized at 15 gallon and spaced 25' O.C. maximum.
- Shrub/groundcover areas other than lawn shall be top dressed with a 3" deep layer of shredded wood fiber mulch.
- Lawn areas shall be sodded.
- Automatically controlled irrigation system conforming to all water conservation Ordinances set forth by the City of Ontario.
- Simple landscape layouts utilizing defined edges.

Selected:

- Additional plant species over the minimum to include flowering trees and/or shrubs and annuals.
- Tree sizing to exceed the minimum 24" box size.
- Variety of shrub sizing to include 15% - 15 gallon, 65% - 5 gallon, and 20% - 1 gallon shrubs.
- Shrub/groundcover areas, other than lawn areas, to contain 100% shrub coverage with groundcover between shrubs at time of planting.



Smooth stucco pilasters with ceramic tile detailing.

6.2.4.2.9 Hardscape

Required:

- Defined logical hardscape to all front doors and private yard entries.
- Paving material shall be concrete (broom finish) or clay tile.
- Colors and finishes shall be compatible and/or harmonious with adjacent architecture.

Selected:

- Integral colored concrete paving with stamped tile pattern.
- 3' high maximum decorative landscaping walls and pilasters of smooth or fine stucco plaster finish.
- Details and accents to include clay pots, and/or ornamental tiles.
- Multiple paving materials and/or finishes.

Historic Background

The European Cottage character captures natural elements and rustic materials found in medieval Europe and the United Kingdom. This character includes the French Eclectic and Richardsonian Romanesque styles. Characterized by an asymmetrical, romantic farmhouse or informal gentrified form, the character is dependent on steeply hipped and/or gabled roofs. Tower elements or sculptured swooping walls at the front elevation break up the façade to create an absence of a visually stiff cross gable. The impression offered by this character is one of timeless charm and human scale.

Landscape associated with European Cottage architecture primarily utilizes natural building materials, and informal layouts. Landscape generally consists of colorful plantings, flowering borders, vines, and deciduous trees.

6.2.4.3 European Cottage Character

6.2.4.3.1 Architectural Styles

European Cottage Styles include, but are not limited to:

- French Eclectic.
- Richardsonian Romanesque.

6.2.4.3.2 Architectural Massing & Proportion

Required:

- Asymmetrical massing.
- Vertical proportions, smaller openings.

Selected:

- Round Tower.

6.2.4.3.3 Architectural Materials & Details

Required:

- Trim can be either stucco, wood or clad foam/simulated wood and/or stone.
- Stucco, brick or stone exterior material combinations.

Selected:

- Shutters are predominately featured, along with appropriate iron hardware. Shutter shape to match shape of window. The use of rectangular shutters with arched top windows (and vice versa) is prohibited.
- Recessed stucco accents (pigeoniers, arched openings, etc.) with smooth stucco finish.
- Sculpted stucco walls.
- Wood siding accents.
- Wrought iron or cast stone balusters.
- Juliet style balconies of wood and/or wrought iron.



Alley Loaded Single Family Detached prototype depicting the European Cottage style.

6.2.4.3.4 Entries & Porches

Required:

- Recessed entry can be arched and/or have quoins and pediments.

Selected:

- Porches can be defined by stone columns or multi-columned wood posts.
- Decorative light fixtures can be ceiling or wall mounted.

6.2.4.3.5 Doors & Windows

Required:

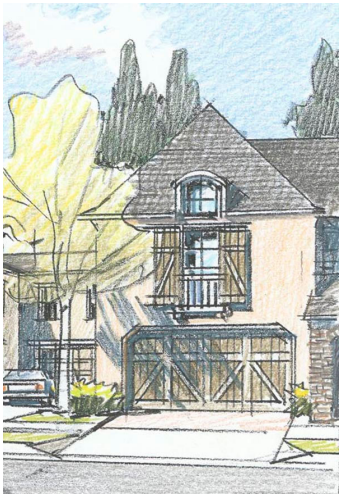
- Extensive use of multi-paned glass doors (French doors).
- Single entry door, can be accented with transom or side-lights.
- Windows are vertically oriented with multi-paned accents (diamond or rectangular pattern).

Selected:

- Shallow arched windows as accents.
- Stained glass accent windows.
- Recessed or bay window as feature.
- Pot-shelves or window boxes at focal windows.



Recessed entry door with multi-paned windows and decorative light fixtures.



Windows are placed in alignment. Garage door is enhanced and recessed with shadow line even though it is located forward in plan.



Use of multi-paned dormer and bay windows.



Massing can be simple, steep roof pitch with a focus on a recessed entry and multi-paned windows.



Steep roof pitches with articulated massing and gable end venting as accents.



Siding accent at gable end, use of pot shelves and Juliet balconies to activate the street scene.



Light stucco with contrasting dark window trims and roof colors.

6.2.4.3.6 Roof Forms & Materials

Required:

- Gable, hip and Dutch gable roof forms.
- Front facing gables as dominant element.
- 8:12 pitch at accent roofs.
- Gable end venting in various styles.

Selected:

- Wide variety of roof dormer forms that break the fascia, continuing the wall plane below.
- Minimal overhangs – approximately 8" with boxed eaves.
- Slate, faux shingle/shake and/or asphalt shingles are appropriate.
- Accentuated with "bell cast" or flared roof treatments at the eave.
- Metal accent roofs at bay windows or turret.
- Half stucco chimneys with stone or brick on the lower portion.

6.2.4.3.7 Color

Required:

- White or off-white, tan or light gray earth tones.
- Trim colors typically contrast base color.

6.2.4.3.8 Landscape

Required:

- Plant types to be chosen from the Community Plant Matrix (Section 7.7).
- Front yard landscape is required to be installed by the builder (Section 5.4.1.9).
- Front yards shall include a minimum of one 24" box tree
- Plant Color Palette to coincide with designated Planning Area requirement (Section 6.4).
- Tree quantities shall be per guidelines set forth by the City of Ontario.
- Trees to be installed at a minimum 24" box size.
- A minimum of 5 different shrub species shall be used.
- Shrub/groundcover areas other than lawn areas to contain 75% shrub, 25% groundcover coverage with 5-gallon shrubs spaced at 3' O.C., and 1-gallon shrubs spaced at 2' O.C~~., and flatted groundcovers spaced at 12" O.C~~.
- Vines shall be attached to all public facing property walls sized at 15 gallon and spaced 25' O.C. maximum.
- Shrub/groundcover areas other than lawn shall be top dressed with a 3" deep layer of shredded wood fiber mulch.
- Lawn areas shall be sodded.
- Automatically controlled irrigation system conforming to all water conservation Ordinances set forth by the City of Ontario.
- Informal landscape layouts.

Selected:

- Additional plant species over the minimum to include flowering trees or shrubs, trees or shrubs with colored foliage, and annuals.
- Tree sizing to exceed the minimum 24" box size.
- Variety of shrub sizing to include 15% - 15 gallon, 65% - 5 gallon, and 20% - 1 gallon shrubs.
- Shrub/groundcover areas, other than lawn areas, to contain 100% shrub coverage with groundcover between shrubs at time of planting.
- Flowering borders of shrubs and perennials.

6.2.4.3.9 Hardscape

Required:

- Defined logical hardscape to all front doors and private yard entries.
- Paving materials to be concrete (broom finish), decomposed Granite, Flagstone, or Cobble.
- Colors and finishes compatible and/or harmonious with adjacent architecture.

Selected:

- Enhanced concrete finish to be sandblasted, acid etched or integrally colored with stamped Flagstone or Cobble pattern.
- 3' high maximum decorative landscaping walls and pilasters with stacked stone or cobble stone veneer.
- Details and accents to include clay pots, flower boxes, wood arbors, and/or wood trellises.

- Multiple paving materials and/or finishes.

Historic Background

The Craftsman Bungalow character evolved from the late 19th century English Arts & Crafts movement as a reaction against the Industrial Revolution. This movement emphasized the harmonious relationship between Nature and Man, in contradiction to the Victorian era that preceded it. California architects like Bernard Maybeck and Greene & Greene continued developing this movement with their intricate details, characterized by the use of hand finished materials, rusticated texture and Asian influence.

The Craftsman variation of the Bungalow became increasingly popular with first time home buyers in the early 20th century. They were charming, modest and the answer to homebuyers looking for inexpensive yet stylish homes. They could be constructed from kits purchased through catalogues or built by local contractors with stock plans. The Craftsman Bungalow character includes the Craftsman, Mediterranean Bungalow, California Bungalow, and Colonial Bungalow styles.

Craftsman landscape design focuses on an artistic use of natural, built, and recycled materials including stone, brick, artistic tile, and wood. Planting emphasizes form, accent, and integration with arts and crafts elements, and can take on both formal and informal arrangements.

6.2.4.4 Craftsman Bungalow Character

6.2.4.4.1 Architectural Styles

Craftsman Bungalow Styles include, but are not limited to:

- Craftsman (Arts & Crafts)
- Mediterranean Bungalow
- California Bungalow
- Colonial (East Coast) Bungalow

6.2.4.4.2 Architectural Massing & Proportion

Required:

- Asymmetrical massing, usually one but occasionally two stories.
- Horizontal massing with deep overhangs.

6.2.4.4.3 Architectural Materials & Details

Required:

- Stucco body with gable end and body accents in combinations of wood shingles, siding, board and batten.
- Wood porch rails.

Selected:

- Simple and large gable end vents.
- Exposed rafter tails, usually decorative.
- Smooth stucco, lapped siding or shingles.
- Foundation or wainscot accent using stone (usually river rock) or brick.
- Stone or brick with rag finished grout.



Alley Loaded Single Family Detached prototype depicting the Craftsman Bungalow style.

6.2.4.4.4 Entries & Porches

Required:

- Wide and deep front porches in partial or full front massing.
- Exposed wood post and beam detailing with battered stone or brick pilaster base.
- Horizontally oriented 1x4 guard/porch rails.

6.2.4.4.5 Doors & Windows

Required:

- Divided or undivided glass or multi-panel solid with side lights or transoms.

Selected:

- Windows with multi-paned upper sash.
- Wood or wood-like trim surrounds.
- Grouped or bands of windows.



Articulated and asymmetrical two-story massing, extensive shingle siding, large porch, and appropriate geometry for divided lights and multi-paned glass.



Exposed wood columns with battered stone base at porch.



Covered porch with paneled wood siding and wood trims.



Tapered posts with brick bases, grouped windows and wood detailing.



Entry door with side lights, shingle siding and wood posts with brick bases.


Low slope gabled roofs with large overhangs.


Low slope roof with large, exaggerated overhangs with wood supports and fascia.

6.2.4.4.6 Roof Forms & Materials

Required:

- Low-pitched gabled roofs with the occasional shed.
- 3:12 – 4:12 roof pitch.
- Flat concrete or slate-type tile.

Selected:

- Extended eaves – 18" minimum overhang, accentuated with exposed and decorative rafter tails.
- Sculpted fascia often extends past adjacent rafter tails.
- Exposed attic vents at gable ends.
- Gabled or shed dormers.
- Triangle knee bracing on gable ends.
- Additional stick-work in gables.
- False beams under gables.

6.2.4.4.7 Color

Required:

- Wide variety from light to dark with contrasting or complementary trim.


Dark Earth tones with wood gable end and heavy timber accents.

6.2.4.4.8 Landscape

Required:

- Plant types to be chosen from the Community Plant Matrix (Section 7.7).
- Front yard landscape is required to be installed by the builder (Section 5.4.1.9).
- Front yards shall include a minimum of one 24" box tree
- Plant Color Palette to coincide with designated Planning Area requirement (Section 6.4).
- Tree quantities shall be per guidelines set forth by the City of Ontario.
- Trees to be installed at a minimum 24" box size.
- A minimum of 5 different shrub species shall be used.
- Shrub/groundcover areas other than lawn areas to contain 75% shrub, 25% groundcover coverage with 5-gallon shrubs spaced at 3' O.C., and 1-gallon shrubs spaced at 2' O.C~~., and flatted groundcovers spaced at 12" O.C~~.
- Vines shall be attached to all public facing property walls sized at 15 gallon and spaced 25' O.C. maximum.
- Shrub/groundcover areas other than lawn shall be top dressed with a 3" deep layer of shredded wood fiber mulch.
- Lawn areas shall be sodded.
- Automatically controlled irrigation system conforming to all water conservation Ordinances set forth by the City of Ontario.

Selected:

- Additional plant species over the minimum to include flowering trees and/or shrubs, and annuals.
- Accent plants with sculptural forms and unique qualities.
- Tree sizing to exceed the minimum 24" box size.
- Variety of shrub sizing to include 15% - 15 gallon, 65% - 5 gallon, and 20% - 1 gallon shrubs.
- Shrub/groundcover areas, other than lawn areas, to contain 100% shrub coverage with groundcover between shrubs at time of planting.

6.2.4.4.9 Hardscape

Required:

- Defined logical hardscape to all front doors and private yard entries.
- Paving materials to be Concrete (broom finish), decomposed Granite, Flagstone, or Brick.
- Colors and finishes compatible and/or harmonious with adjacent architecture.

Selected:

- Enhanced concrete finish to be sandblasted, acid etched, or integrally colored with stamped flagstone or brick pattern.
- 3' high maximum decorative landscaping walls and pilasters with brick or stone veneer and caps.
- 3' high maximum ornamental wood fencing with artistic designs.
- Details and accents to include glazed or stone pots, wood arbors, and/or hand-painted ceramic tile.
- Multiple paving materials and/or finishes.

Historic Background

The American Traditional character evolved from the first homes built in the New England Colonies and the plantation homes of the South. This character includes the American Foursquare, Colonial, Dutch Colonial, and Neoclassical styles. As lifestyles evolved from the one story saltbox, the need for more space and specific room functions was necessary, leading to the addition of second stories, dormers in gabled roofs and wings of smaller continuous gable forms. Details of this character demonstrate the Colonial Revival influence with the use of brick veneer and/or wood siding.

Landscape related to Traditional architecture lends itself to efficiency and durability while incorporating natural building materials and flowering accents. Planting styles originated from Colonial America and reflect pastoral landscape elements such as large evergreen and deciduous trees and large sweeps of lawn.

6.2.4.5 American Traditional Character

6.2.4.5.1 Architectural Styles

American Traditional styles include, but are not limited to:

- American Foursquare
- Colonial
- Dutch Colonial
- Neoclassical

6.2.4.5.2 Architectural Massing & Proportion

Required:

- Symmetrical facades.
- Two-story massing.

6.2.4.5.3 Architectural Materials & Details

Required:

- Predominantly stucco sand finish.

Selected:

- Accents of brick, horizontal siding and/or shingle.



Alley Loaded Manor Home Triplex prototype depicting the Traditional style.



Alley Loaded Single Family Detached prototype depicting Traditional style.

6.2.4.5.4 Entries & Porches

Required:

- Centered porch typically expressed as a projecting pediment with classical columns and front facing gable end roof.

Selected:

- Can utilize large stucco pillars, most often 4 in number, supporting a covered gallery of lighter wooden columns or open deck above.
- Open railing at porch or gallery/deck above.

6.2.4.5.5 Doors & Windows

Required:

- Wood paneled front door.
- Evenly spaced multi-paned windows with wood or wood-like trim.

Selected:

- Louvered shutters.
- Semi-circular front door or elliptical transom light above.



Paneled front door with arched transom above, classical columns supporting gabled porch roof.


Multi-paned windows with shutters and lap siding.


Multi-paned window in hipped dormer, extensive use of shingle siding.


One story massing with windows grouped to mimic French doors with side lights, gable end treated with vent.



Symmetrical proportions and window placement with classical portico element at entry.



Very simple and straight forward massing is successful with quality materials like wood paneling and brick veneer, colors contrast with bright white trims.



Massing can be more articulated with materials appropriate to each mass, combining stucco, siding and brick on one elevation.

6.2.4.5.6 Roof Forms & Materials

Required:

- Front to back gable or hipped roof as primary roof form with secondary front facing gables or shed elements.
- Flat concrete or composition tile.
- 5:12 to 7:12 pitches with overhangs from 12" to 24".

Selected:

- Dutch gable or gambrel roof.
- Gable end venting.
- Dormers.
- Masonry chimneys.
- Wide band, frieze trim or dentils at eave.

6.2.4.5.7 Color

Required:

- White with dark accents or light color with white accents.



Barn shaped roof with coloring similar to siding is accented with bright white trim and dark shutters, use of large multi-paned French doors and windows.

6.2.4.5.8 Landscape

Required:

- Plant types to be chosen from the Community Plant Matrix (Section 7.7).
- Front yard landscape is required to be installed by the builder (Section 5.4.1.9).
- Front yards shall include a minimum of one 24" box tree
- Plant Color Palette to coincide with designated Planning Area requirement (Section 6.4).
- Tree quantities shall be per guidelines set forth by the City of Ontario.
- Trees to be installed at a minimum 24" box size.
- A minimum of 5 different shrub species shall be used.
- Shrub/groundcover areas other than lawn areas to contain 75% shrub, 25% groundcover coverage with 5-gallon shrubs spaced at 3' O.C., and 1 gallon shrubs spaced at 2' O.C.~~, and flatted groundcovers spaced at 12" O.C~~.
- Vines shall be attached to all public facing property walls sized at 15 gallon and spaced 25' O.C. maximum.
- Shrub/groundcover areas other than lawn shall be top-dressed with a 3" deep layer of shredded wood fiber mulch.
- Lawn areas shall be sodded.
- Automatically controlled irrigation system conforming to all water conservation Ordinances set forth by the City of Ontario.
- Large sweeping lawns.

Selected:

- Additional plant species over the minimum to include flowering trees and/or shrubs, and annuals.
- Accent plants with sculptural forms.
- Tree sizing to exceed the minimum 24" box size.
- Variety of shrub sizing to include 15% - 15 gallon, 65% - 5 gallon, and 20% - 1 gallon shrubs.
- Shrub/groundcover areas, other than lawn areas, to contain 100% shrub coverage with groundcover between shrubs at time of planting.

6.2.4.5.9 Hardscape

Required:

- Defined logical hardscape to all front doors and private yard entries.
- Paving materials to be Concrete (broom finish), decomposed Granite, Flagstone, or Brick.
- Colors and finishes compatible and/or harmonious with surrounding architecture.

Selected:

- Enhanced concrete finish to be sandblast, acid etch, or integral colored and stamped flagstone or brick pattern.
- 3' high maximum decorative landscaping walls and pilasters with brick or stone veneer and caps.
- 3' high maximum decorative fencing to be vertical wood picket or vertical tubular steel picket with ornamentation.
- Details and accents to include wood or iron trellises, and/or iron, brass, or aluminum ornamentation.
- Multiple paving materials and/or finishes.

Historic Background

Early California ranchers developed the first California adaptation of the Ranch styles in response to their lifestyle, available materials and environmental considerations. The Ranch character includes the Western Farmhouse, California Ranch, and Vernacular Bungalow styles. The one story profile of these homes was influenced from a variety of architectural styles from Craftsman to Spanish Colonial architecture. However, the detailing of these styles was simplified when adapted to the Ranch character. Especially popular in the 1950's and 60's, the Ranch Character is characterized by an asymmetrical plan, a low-pitched roof with moderate overhangs, and ribbon windows.

Landscape in the Ranch Character centers on efficiency, durability, and useful space. Layouts can be formal or informal, but are usually minimal in design. Planting is placed to serve a specific purpose, and often produces edible fruit, flowers, or foliage.

6.2.4.6 Ranch Character

6.2.4.6.1 Architectural Styles

Ranch styles include, but are not limited to:

- Western Farmhouse
- California Ranch
- Vernacular Bungalow

6.2.4.6.2 Architectural Massing & Proportion

Required:

- Asymmetrical plan with wide street frontage with attached garage or carport.
- Simple rectilinear forms and detailing.
- One-story massing/strong horizontal emphasis.

Selected:

- Many plans were U-shaped to emphasize interior/exterior relationships.
- Open plan blending interior & exterior spaces.

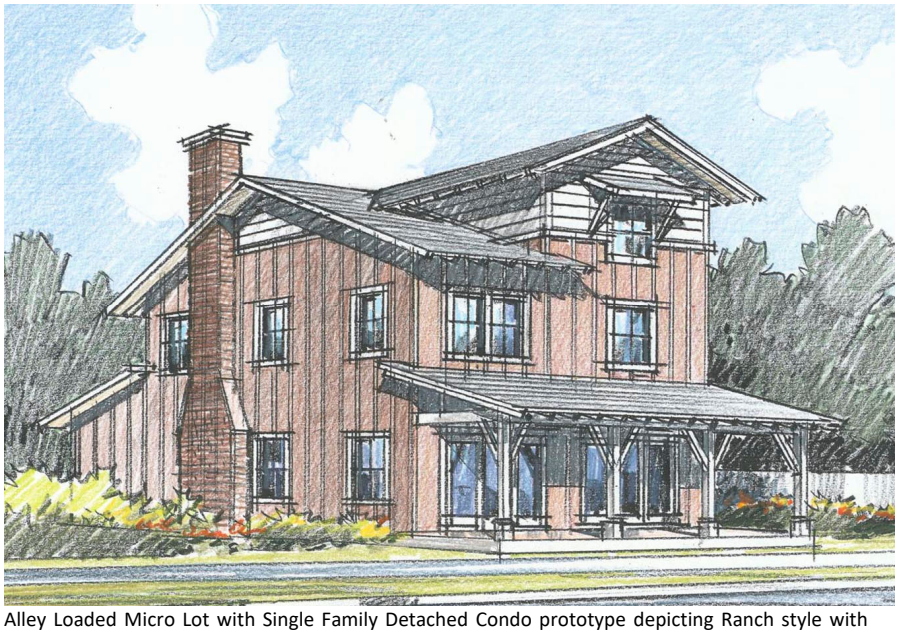
6.2.4.6.3 Architectural Materials & Details

Required:

- Simple, Minimalist posts and trims.

Selected:

- Board & batten or horizontal siding.
- High brick foundations/wainscots.
- Exposed truss ceilings.



Alley Loaded Micro Lot with Single Family Detached Condo prototype depicting Ranch style with exposed rafter tails, board and batten and lap siding.

6.2.4.6.4 Entries & Porches

Required:

- Long and continuous porches along front and/or rear facades, typically an extension of the main roof or utilizing a lower pitch that breaks into the main roof plane.
- Simple wood column and railing details.

6.2.4.6.5 Doors & Windows

Required:

- Wide, sliding glass doors leading out to a patio.
- Orderly window placement– without recesses.

Selected:

- Ribbon windows.
- Shutters.
- Barn door garage doors.



Simple post and beam porch breaks up two story mass.



Loaded Single Family Detached prototype with simple windows and lap siding.



Simple post and beam support at porch.



Ribbon windows.



Simple repetitive windows with minimal treatment, can have shutters.



Long horizontal gable roof, with extensive use of lap siding and brick accent at chimney.



Muted tones with bright white trim and darker accent at shutters.



Pale tones with bright white trim, use of stucco and board and batten siding break up two story massing.



Simple one story massing with long continuous porch articulating entire front façade.

6.2.4.6.6 Roof Forms & Materials

Required:

- Long horizontal gable roofs of 4:12 pitch.
- Flat concrete or shake tiles.

Selected:

- Minimum 24" overhangs.
- Brick chimney.
- Exposed rafter beams.
- Dormers.

6.2.4.6.7 Color

Required:

- Muted tones with brighter trim and accents.



Long continuous porch that breaks into main roof, muted stucco tones.

6.2.4.6.8 Landscape

Required:

- Plant types to be chosen from the Community Plant Matrix (Section 7.7).
- Front yard landscape is required to be installed by the builder (Section 5.4.1.9).
- Front yards shall include a minimum of one 24" box tree
- Plant Color Palette to coincide with designated Planning Area requirement (Section 6.4).
- Tree quantities shall be per guidelines set forth by the City of Ontario.
- Trees to be installed at a minimum 24" box size.
- A minimum of 5 different shrub species shall be used.
- Shrub/groundcover areas other than lawn areas to contain 75% shrub, 25% groundcover coverage with 5-gallon shrubs spaced at 3' O.C., and 1-gallon shrubs spaced at 2' O.C.~~, and flatted groundcovers spaced at 12" O.C.~~
- Vines shall be attached to all public facing property walls sized at 15 gallon and spaced 25' O.C. maximum.
- Shrub/groundcover areas other than lawn shall be top-dressed with a 2" deep layer of shredded wood fiber mulch.
- Lawn areas shall be sodded.
- Automatically controlled irrigation system conforming to all water conservation Ordinances set forth by the City of Ontario.

Selected:

- Tree quantities to exceed minimum requirements
- Additional plant material over the minimum to include flowering trees and/or shrubs, and annuals.
- Tree sizing to exceed the minimum 24" box size.
- Variety of shrub sizing to include 15% - 15 gallon, 65% - 5 gallon, and 20% - 1 gallon shrubs.
- Shrub/groundcover areas, other than lawn areas, to contain 100% shrub coverage with groundcover between shrubs at time of planting.

6.2.4.6.9 Hardscape

Required:

- Defined logical hardscape to all front doors and private yard entries.
- Paving materials to be Concrete (broom finish), decomposed Granite, Concrete Pavers, Brick, or Cut Stone.
- Colors and finishes compatible and/or harmonious with surrounding architecture.

Selected:

- Enhanced concrete finish to be sandblasted, acid etched, or integrally colored and stamped cut stone pattern.
- 3' high maximum decorative landscaping walls and pilasters with brick or cultured stone veneer and caps.
- 3' high maximum decorative wood fencing with horizontal members or split rail fence design.
- Details and accents to include wood or iron trellises and/or wrought iron ornamentation.
- Multiple paving materials and/or finishes.

Historic Background

One of the many revival characters prevalent in Southern California, English Country homes recall the architecture of the English countryside. This character includes the Tudor and Stick styles. This picturesque and romantic style of steeply pitched roofs and half-timbered gables became popular in the 1920's. Variations in one and two story shapes with asymmetrical facades are embellished with brick veneer.

English Country architecture lends itself to natural building materials in a more refined state such as brick and cut stone. Planting is arranged both formal and informal, but lines and edges are always well defined with hedges or a strong change in material.

6.2.4.7 English Country Character

6.2.4.7.1 Architectural Styles

English Country styles include, but are not limited to:

- Tudor
- Stick

6.2.4.7.2 Architectural Massing & Proportion

Required:

- Informal, asymmetrical massing.
- Angularity & verticality.

Selected:

- Cantilevered second floor pop-outs.

6.2.4.7.3 Architectural Materials & Details

Required:

- Simulated wood or stucco trim around windows and doors, usually heavy.
- Stucco walls featuring brick or stone elements.
- Siding or half-timber accents.

Selected:

- Extensive use of brick or stone exterior finish.



Single Family Detached depicting English Country style with exterior brick and wood finish.

6.2.4.7.4 Entries & Porches

Required:

- Decorative light fixtures, either wall mounted or pendant.
- Covered entry, either by recess, alcove, tower or small front porch.

Selected:

- Simple posts and railings.

6.2.4.7.5 Doors & Windows

Required:

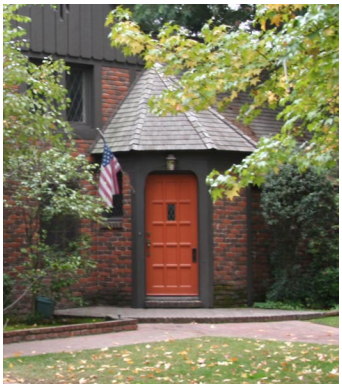
- Multi-paned windows.
- Articulated doors, often with multi-paned windows.
- Various window shutter shapes and forms.

Selected:

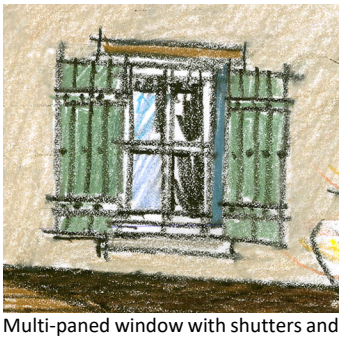
- Diamond or other specialty pattern multi-paned feature window.
- Stained glass as an accent window or in entry door.
- Entry door with diamond pattern accent window.



Covered Front porch with extensive use of brick veneer.



Turret at entry, contrasting brick veneer inlayed with half-timber detailing.



Multi-paned window with shutters and wood trim.



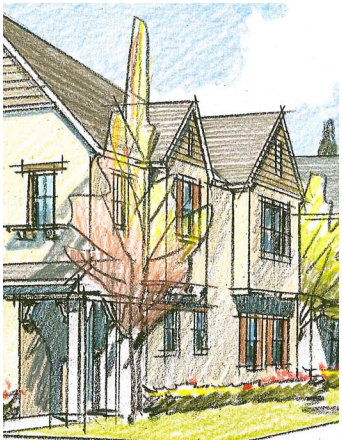
Covered Entry with decorative light fixture.



Recessed entry with enhanced brick detailing and multi-paned windows.


Dormer with lap siding accents, contrasting light and dark earth tones.


Attached product with articulated roof massing and cantilevered pop outs.


Cantilevered second floor pop-outs with siding accents at gable ends.

6.2.4.7.6 Roof Forms & Materials

Required:

- Flat concrete tile with slate or shake type appearance.
- Steep pitched gables, ends treated with half-timber detailing, trusses or substantial amounts of siding.
- 6:12 to 8:12 pitches.

Selected:

- Dormers.
- Tight rakes with extended 12” eaves.
- Large central chimneys of brick or stone.

6.2.4.7.7 Color

Required:

- Light earth tone base colors with contrasting trim colors.
- Dark window trims.


Steep pitched roof with half-timbered gabled end in contrasting colors.

6.2.4.7.8 Landscape

Required:

- Plant types to be chosen from the Community Plant Matrix (Section 7.7).
- Front yard landscape is required to be installed by the builder (Section 5.4.1.9).
- Front yards shall include a minimum of one 24" box tree
- Plant Color Palette to coincide with designated Planning Area requirement (Section 6.4).
- Tree quantities shall be per guidelines set forth by the City of Ontario.
- Trees to be installed at a minimum 24" box size.
- A minimum of 5 different shrub species shall be used.
- Shrub/groundcover areas other than lawn areas to contain 75% shrub, 25% groundcover coverage with 5-gallon shrubs spaced at 3' O.C., and 1-gallon shrubs spaced at 2' O.C~~., and flatted groundcovers spaced at 12" O.C~~.
- Vines shall be attached to all public facing property walls sized at 15 gallon and spaced 25' O.C. maximum.
- Shrub/groundcover areas other than lawn shall be top-dressed with a 2" deep layer of shredded wood fiber mulch.
- Lawn areas shall be sodded.
- Automatically controlled irrigation system conforming to all water conservation Ordinances set forth by the City of Ontario.
- Strong defined landscape edges.

Selected:

- Additional plant species over the minimum to include flowering trees and/or shrubs, and annuals.
- Accent plants with sculptural forms and unique qualities.
- Tree sizing to exceed the minimum 24" box size.
- Variety of shrub sizing to include 15% - 15 gallon, 65% - 5 gallon, and 20% - 1 gallon shrubs.
- Shrub/groundcover areas, other than lawn areas, to contain 100% shrub coverage with groundcover between shrubs at time of planting.

6.2.4.7.9 Hardscape

Required:

- Defined logical hardscape to all front doors and private yard entries.
- Paving materials to be Concrete (broom finish), Concrete Pavers, Flagstone, Cut Stone, or Brick.
- Colors and finishes compatible and/or harmonious with surrounding architecture.

Selected:

- Enhanced concrete finish to be sandblasted, acid etched, or integrally colored and stamped flagstone or cut stone pattern.
- 3' high maximum decorative landscaping walls and pilasters with brick or stone veneer and caps.
- Details and accents to include classic style limestone or concrete pots and statuary.
- Metal ornamentation made from iron, brass, bronze, or aluminum.
- Multiple paving materials and/or finishes.

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Historic Background

The Transitional character is derived from one parent Traditional Architectural Styles like Spanish, Bungalow, Farmhouse, Ranch, Cottage, etc. It's a blending of classic styles with clean contemporary elements. This style embraces and reinterprets elements from the Traditional style for a "old made new" updated look. Transitional theme is characterized by simplified geometry, and massing. Courtyards and indoor-outdoor relationship with large openings and floor to ceiling windows are features of this style.

Landscape in the Transitional character tends to be minimal in design and focused on efficient useable space. Landscape design emphasizes planes, geometric shapes, and informal layouts.
Planting is Native and consists of generally drought-tolerant plant material.

6.2.4.8 Transitional

6.2.4.8.1 Architectural Styles

Transitional Styles include, but are not limited to:

- Transitional Spanish
- Transitional Farmhouse
- Transitional Colonial

6.2.4.8.2 Architectural Massing & Proportion

Required:

- Boxy and simple massing, can be symmetrical or asymmetrical.
- Proportions are more horizontal and humbler than vertical and imposing.
- Simple plan with uncomplicated roof.

Selected:

- Plan designed with interior or exterior courtyard.
- Asymmetrical shape with cross-gables and side wings.
- Covered porches.

6.2.4.8.3 Architectural Materials & Details

Required based on parent architectural style:

- Smooth or light sand finish plaster – specialty textures to be reviewed by City staff.
- Clean cut, smooth finish stone.
- Modern siding material
- Trim can be either metal or timber.
- Simple, expressive detailing devoid of ornamentation.
- Simple timber or metal in balconies, handrails, doors, gates, hardware and fences.

Selected:

- Slate profile or standing seam metal roofing.
- Metal cladding, corten steel and exposed concrete or split-faced block on walls as surprise element.
- Simple timber shutters.



Conventional Single FamilPy Detached prototype depicting the Transitional Spanish style.

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6.2.4.8.4 Entries & Porches

Required:

- Porches with bold clean form.
- Porch roof supported by timber or metal posts.
- Simple light fixtures, wall and/or ceiling hung.

Selected:

- Entry Courtyards with relationship to interior spaces.

6.2.4.8.5 Doors & Windows

Required:

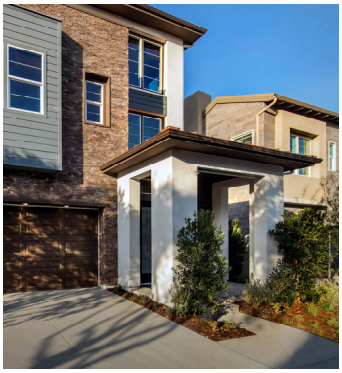
- Windows and doors painted or stained to match the color palette of the structure.
- Windows are vertically oriented.
- Single hung windows at front elevation.
- Solid wood entry door, windows allowed.

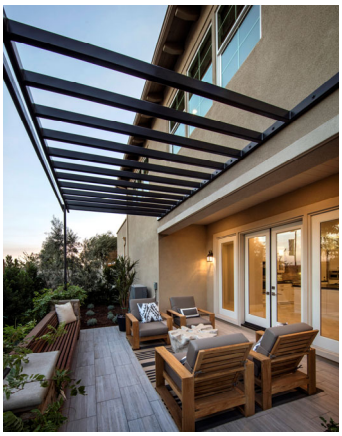
Selected:

- Folding glass doors and retractable windows.
- All window and door ratios consistent throughout the house.
- Exterior shutters well-proportioned to the size of the opening.


Entry porch with door on accent wall


Feature window projection.


Covered entry porch with low-pitched roof


Porch with simple metal detailing.


Simple asymmetrical massing and forms


Contrasting materials and textures for various massing elements

New Page


Simple roof forms with standing seam metal roof.


Simple well-proportioned windows.


Low pitched gabled roof forms with open eaves.

6.2.4.8.6 Roof Forms & Materials

Required:

- Predominantly gable and shed roof forms, with minimal hips.
- Open eaves, not boxed.
- Fascia may either be metal or wood.
- Flat tile, concrete or asphalt shingle, Slate tile or standing seam metal roof.
- Low and high pitched roofs based on parent architectural style (3:12 – 8:12).
- Simple gable end accents or vents.

Selected:

- Accent parapet.
- Eaves often with simple rafter tails.
- Extended eaves over windows and patio openings with timber or metal bracing or brackets.
- Board and batten or siding at gable ends can be seen in the Transitional Farmhouse style.

6.2.4.8.7 Color

Required:

- Plaster –White, Eggshell or other light earth tones.
- Roof – Earthy reds, browns for Transitional Spanish and Grey tones for Transitional Farmhouse.

Selected:

- Trim – painted and contrasting to wall color.
- Entry Doors and other Accents – White, colored or mill finish depending on the scheme.

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6.2.4.8.8 Landscape

Required:

- Plant types shall be chosen from the Community Plant Matrix (Section 7.7).
- Front yard landscape is required to be installed by the builder (Section 5.4.1.9).
- Front yards shall include a minimum of one 24" box tree
- Plant Color Palette shall coincide with designated Planning Area requirement (Section 6.4).
- Tree quantities shall be per guidelines set forth by the City of Ontario.
- Trees shall be installed at a minimum 24" box size.
- A minimum of 5 different shrub species shall be used.
- Shrub/groundcover areas other than lawn areas shall contain 75% shrub, 25% groundcover coverage with 5 gallon shrubs spaced at 3' O.C., and 1 gallon shrubs spaced at 2' O.C.
- Vines shall be attached to all public facing property walls sized at 1 gallon and spaced 10'-15' O.C. maximum.
- Shrub/groundcover areas other than lawn shall be top-dressed with a 3" deep layer of shredded wood fiber mulch.
- Lawns shall be sodded.
- Automatically controlled irrigation system conforming to all water conservation Ordinances set forth by the City of Ontario.
- Simple landscape layouts utilizing defined edges.

Selected:

- Tree quantities to exceed minimum requirements.
- Additional plant species over the minimum to include flowering trees and/or shrubs and annuals.
- Tree sizing to exceed the minimum 24" box size.
- Variety of shrub sizing to include 15% - 15 gallon, 65% - 5 gallon, and 20% - 1 gallon shrubs.
- Shrub/groundcover areas, other than lawn areas, to contain 100% shrub coverage with mulch between shrubs at time of planting.

6.2.4.8.9 Hardscape

Required:

- Defined logical hardscape to all front doors and private yard entries.
- Paving material shall be concrete (broom finish) or decomposed Granite.
- Colors and finishes shall be compatible and/or harmonious with adjacent architecture.

Selected:

- Enhanced concrete finish to be sandblasted, acid etched, and/or integrally colored.
- 3' high maximum decorative landscaping walls and pilasters of smooth or fine stucco plaster finish.
- Details and accents to include clay pots and wrought iron ornamentation.
- Multiple paving materials and/or finishes.

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Historic Background

The Mid-century Modern Architectural style is from mid-twentieth century, becoming popular after the Second World War. The designers in 1940s and 1950s created this progressive style as a catalyst for social change after the war. The style also inspired art and furniture design of that era. Mid-century homes in Palm Springs, California are the famous examples of this style realized in residential architecture in America. This is a minimalist style emphasizing flat planes, open floor plans with elevation changes and large windows that connect with nature.

Landscaping for the Mid-century Modern style stays true to the surrounding landscape with native plants and hardscape materials. Layouts are usually informal although formality may be introduced to enhance natural or architectural elements. Just like the architecture, landscape also includes clean lines. Planting is used for its form, texture and color. Water features, sculptures and large rocks are sometimes added for interest.

6.2.4.9 Mid-century Modern

6.2.4.9.1 Architectural Styles

Mid-century Modern styles include, but are not limited to:

- Desert Mid-century
- Ranch-style Mid-century
- Split-level Mid-century

6.2.4.9.2 Architectural Massing & Proportion

Required:

- Horizontal proportions.
- Asymmetrical massing.
- Primarily one story home with occasional two story elements.
- Most commonly L-shaped, rectilinear floor plan.
- Simple geometry and clean lines.
- Large openings.

Selected:

- Plan designed around an interior courtyard.
- Rambling floor plans with separate roof forms for each element.

6.2.4.9.3 Architectural Materials & Details

Required:

- Concrete block or Stucco with smooth to light lace texture – specialty textures to be reviewed by staff.
- No ornamentation or decorative add-ons.

Selected:

- Trim, where applicable, can be either painted wood or metal.
- Board and batten.
- Brick, concrete or stone accent walls.



Conventional Home prototype (Single Family Detached with front entry and side garage access) depicting the Mid-century Modern style.

New Page

6.2.4.9.4 Entries & Porches

Required:

- Front door with roof overhang or tucked under second story.
- Porch roof supported metal or wooden columns.
- Minimalist Mid-century light fixtures, wall and/or ceiling hung.

Selected:

- Brick or stone cladding accent.
- Courtyard or atrium entry.

6.2.4.9.5 Doors & Windows

Required:

- Large single pane ribbon windows, floor to ceiling glass.
- Vertically hung secondary windows.
- Windows set flush with exterior wall.
- Simple wooden door with or without transom or sidelights .

Selected:

- Roofed or open balconies with roof overhangs or low pitched roofs.
- Metal and wood gates.



Floor to ceiling windows and doors connecting indoor-outdoor spaces.



Entry gate with contrasting accent wall and vertical element.



Entry with roof overhang accentuating horizontal planes.



Entry porch with accent color door and metal column support.



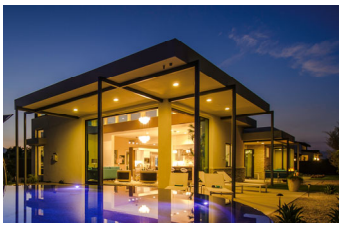
Concrete block vertical element and low pitched butterfly roof.



Horizontal windows under roof overhang and vertically oriented secondary windows.

New Page


Low pitched roof with overhang and windows and doors flush with exterior wall.


Metal columns supporting low-pitched roof over backyard porch.


Low-pitched roofs behind a parapet

6.2.4.9.6 Roof Forms & Materials

Required:

- Low-pitched hip roofs or shed roofs.
- 12" overhangs.
- Tight rakes, often with no fascia.
- Asphalt shingles
- Low-pitched roofs (2:12 – 3:12).

Selected:

- Roof forms behind a parapet.
- Clean and simple eaves and rakes with no detailing.
- Extended eaves over windows and balconies with simple bracing or brackets.

6.2.4.9.7 Color

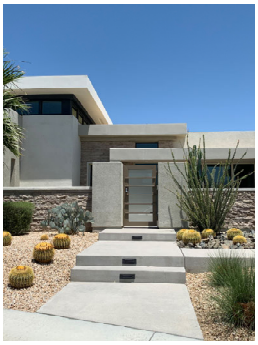
Required:

- Stucco - White, Eggshell or other light earth tones.
- Roof Tile – light colors complimenting overall color scheme.

Selected:

- Entry Doors and other Accents – to be consistent with the overall color scheme.
- True to material colors for stone, brick, concrete and other accents.

New Page


Minimalist Native landscaping with prominent horizontal planes

6.2.4.9.8 Landscape

Required:

- Plant types shall be chosen from the Community Plant Matrix (Section 7.7).
- Front yard landscape is required to be installed by the builder (Section 5.4.1.9)
- Front yards shall include a minimum of one 24" box tree.
- Plant Color Palette shall coincide with designated Planning Area requirement (Section 6.4).
- Tree quantities shall be per guidelines set forth by the City of Ontario.
- Trees shall be installed at a minimum 24" box size.
- A minimum of 5 different shrub species shall be used.
- Shrub/groundcover areas other than lawn areas shall contain 75% shrub, 25% groundcover coverage with 5 gallon shrubs spaced at 3' O.C., and 1 gallon shrubs spaced at 2' O.C.
- Vines shall be attached to all public facing property walls sized at 15 gallon and spaced 25' O.C. maximum.
- Shrub/groundcover areas other than lawn shall be top dressed with a 3" deep layer of shredded wood fiber mulch.
- Lawn areas shall be sodded.
- Automatically controlled irrigation system conforming to all water conservation Ordinances set forth by the City of Ontario.
- Simple landscape layouts utilizing defined edges.

Selected:

- Additional plant species over the minimum to include flowering trees and/or shrubs and annuals.
- Tree sizing to exceed the minimum 24" box size.
- Variety of shrub sizing to include 15% - 15 gallon, 65% - 5 gallon, and 20% - 1 gallon shrubs.
- Shrub/groundcover areas, other than lawn areas, to contain 100% shrub coverage with groundcover between shrubs at time of planting.

6.2.4.9.9 Hardscape

Required:

- Defined logical hardscape to all front doors and private yard entries.
- Paving material shall be concrete (broom finish) or clay tile.
- Colors and finishes shall be compatible and/or harmonious with adjacent architecture.

Selected:

- Integral colored concrete paving with stamped tile pattern.
- 3' high maximum decorative landscaping walls and pilasters of smooth or fine stucco plaster finish.
- Details and accents to include clay pots, and/or ornamental tiles.
- Multiple paving materials and/or finishes.

6.3 HIGH DENSITY RESIDENTIAL DESIGN GUIDELINES



The primary goal for High Density residential elements within the Rich-Haven ~~Regional Commercial,~~ Mixed-Use and Stand Alone Residential Overlay District is to infuse the dynamic commercial mixed-use neighborhood with residential and pedestrian assets while providing for a range of housing types. The following principles establish the essential characteristics that will promote the support these goals.

High Density Residential components of a Mixed-Use project are intended as an extension of a dense, urban fringe project. However they are intended to capture the flavor of an all American small town lifestyle in terms of its neighborhood character and architectural charm. The architecture of these residential projects should be designed to reinforce the overall community design concept. The following design guidelines apply to high-density residential development within Planning Areas ~~6A, 7, 8 and 9~~ 4A, 4B, 5B, 7, 9 and 10A.

6.3.1 GENERAL DESIGN ELEMENTS & OBJECTIVES

6.3.1.1 Architectural Styles

- Variety in architectural style and treatment is encouraged within and between residential product types.
- High-density single-family residential product shall follow the architectural character and plotting requirements as defined in the Residential Design Guideline section of this chapter.
- High intensity attached residential products are only subject to 75% of required items per character.

6.3.1.2 Mixture of Housing Types

- Interesting residential streetscapes shall be designed.
- In a given high density planning area, no more than 150 units shall be of the same prototype, unless varied with different elevational styles and/or massing.

6.3.1.3 Projections into Required Yards

- Building articulation is encouraged as it fosters greater variety along the streetscape.
- Architectural projections may encroach a maximum of 2 feet into required front, rear or side setback areas.
- An architectural projection is defined as an element that articulates the building elevation such as media niches, bay windows, chimneys, balconies, porches, and other similar elements. Encroachments may be supported by a foundation.

ARCHITECTURAL COMPONENTS 6.3.2

6.3.2.1 Building Facades

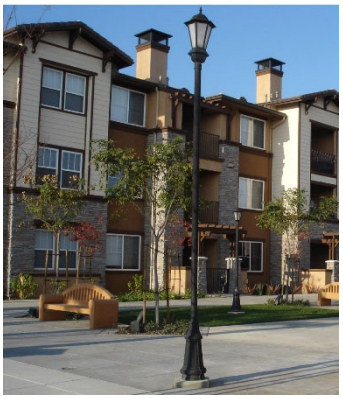
- The scale of buildings shall be broken down through the use of varied building massing and forms on a single structure.
- Buildings shall incorporate offsets both horizontally and vertically, minimizing expansive uninterrupted wall planes.
- No more than one third (1/3) of the front façade may comprise a single wall plane.
- Horizontal or vertical offsets shall be 2' minimum.

6.3.2.2 Roof Forms

- Roof treatments shall be consistent with the architectural style of the building.
- Variety in roof forms, ridge heights and direction of gables is required in order to avoid monotonous roof lines along master planned streets and paseos.
- Roof slopes and overhangs shall be consistent with the architectural style of the building.
- Broken roof pitches extending over porches, patios or other similar features are encouraged where appropriate to the architectural style.

6.3.2.3 Roof Materials

- A variety of roof materials is encouraged throughout the High Density development in order to avoid a monotonous roof-scape appearance.
- Roof materials shall be compatible with the architectural style of the residence as indicated on the architectural checklist for each style.
- Fascia may be either stucco, wood, or tile. If wood is used, it shall be stained or painted.
- Skylights are permitted, but shall be designed as an integral part of the roof. White "bubble" skylights are not permitted. Skylight framing material shall be bronze anodized or colored to match the adjacent roof.
- Permitted roof materials are limited to concrete or clay barrel tile, flat concrete or slate tile, simulated wood shakes and asphalt shingles (on Federalist, Cape Cod or similar style where shingles were traditionally appropriate).
- Copper or metal details and accents may be used on a limited basis. When used, they shall have a matte finish to minimize glare.





Varied building massing and form in a single structure.

6.3.3 ARCHITECTURAL FEATURES & ACCENTS









6.3.3.1 Windows

Principal windows, with recess, surround, enhanced header/sill, window grouping, or other decorative features for shadow, depth and detail, are required on all elevations. Features such as 12" deep pot-shelf with roof element and corbels can define principal windows and greatly enhance elevations.

All other windows and openings shall be trimmed or otherwise treated.

- Stucco trim elements, when used, shall be sand or smooth finish on the first floor.
- Trim elements with 1 ½" reveal on small decorative windows are encouraged.
- Trim shall be of different color or material than principal wall treatment.

6.3.3.2 Garage Doors

- All garage doors on front elevations shall be recessed 12" or be surrounded with 12" minimum pop-outs.
- Door lights, when used, shall be appropriate to the architectural style of the building.
- On court streets, drive aisles, or common drives, the face of garage doors shall be recessed a minimum of 6" or be surrounded with 6" minimum pop-outs.

6.3.3.3 Front Doors and Entries

- Entries for direct access prototypes shall provide a focal point to each residential unit and shall be sun protected with overhangs, recesses, porches, or trellises.
- Common entries shall be well articulated and identifiable for pedestrian and vehicular users.

6.3.3.4 Courtyards

- Courtyards are encouraged and, when used, shall appear as an extension of the architecture of the main building.
- Courtyard walls shall be finished to match the building and may be embellished with stone, ceramic tiles, steps, recesses, cut-outs, or wrought iron accents as appropriate to the architectural style of the building.
- Courtyard walls shall not exceed 3.5' in height and shall be setback from sidewalks a minimum of 3' to allow for landscaping.

6.3.3.5 Balconies

- Balconies shall be designed to be in scale and proportion with the architecture of the adjoining building.
- Covered or trellised balconies are preferred.
- Scuppers or internal drains are required on all balconies for drainage.
- Balcony supports shall be proportional to porch size.
- Balconies may encroach into setbacks a maximum of 36 inches.

6.3.3.6 Chimneys

- Chimneys, when provided, shall be compatible in design, material, and color with the adjoining building.
- Chimneys caps shall be compatible with the architecture of the building. Vents
- 'B' type vents for gas appliances, water heaters, and heating units shall be painted to match the adjacent material. Such elements shall be located to minimize visual impact to building elevations.

6.3.3.7 Exterior Stairs

- Exterior stairs must be designed as an integral part of the architecture. Stairs are included in the setback calculation and must remain within the building envelope, as defined by an outermost wall and/or roof.
- Stair guardrail design must be consistent with the architecture of the building.

6.3.3.8 Awnings

- Awnings must be designed as an integral part of the architecture.
- Unacceptable awning treatments include: metal louvers (except Bermuda style shutters, or those consistent with architectural style) or untreated fabric. Project names, texts, or logos are acceptable as decorative awning treatments, however not as primary signage.

6.3.3.9 Mechanical Equipment

- No mechanical equipment (air conditioning/heating units, etc.) shall be mounted on, or attached to, any sloped roof. Mechanical equipment, when mounted on flat roofs, must be completely screened by parapet walls at least as tall as the equipment screened.
- Ground mounted air conditioning units must be screened by walls at least 6" higher than the unit(s) and located away from pedestrian paths and project amenities.
- Mechanical devices such as exhaust fans, vents, and pipes shall be painted to match adjacent roof surfaces.

6.3.3.10 Meters

- Natural gas meters shall be grouped and screened behind walls or hedges. Builders shall contact the gas company for minimum clearances.
- Electrical meters located on exterior street elevations shall be ganged and located behind doors. Builders shall contact the power company for minimum clearances.
- Screen walls and electrical enclosures shall be designed integral to the project's architecture.

6.3.3.11 Solar Panels

- Panels shall be mounted directly to a sloped roof plane and be integral to the roof design.
- Roof mounted solar panel equipment shall be similar to the roof in color and appearance and have a reflectivity value of 20% or less.
- Non-camouflaged solar panel equipment shall be located behind parapet walls of equal height to the equipment.
- Frames shall be colored to compliment the roof. Mill finish aluminum frames are prohibited.
- Support solar equipment shall be enclosed and screened from view.

6.3.3.12 Satellite Dishes

- All antenna and satellite dishes visible from any public or private street, sidewalk, open space or adjacent lot must be submitted for review and is subject to the CCR's and all federal regulations.

6.3.3.13 Gutters and Downspouts

- Exposed gutters and downspouts, when used, shall be colored to match/compliment the surface to which they are attached.

ACCESSORY STRUCTURES 6.3.4



6.3.4.1 Clubhouse and Recreation Buildings

- Clubhouses, recreation buildings, and other support buildings shall match the architectural style and detailing of the residential buildings.

6.3.4.2 Storage Buildings

- Storage buildings must have the same level of architectural detailing as the residential buildings within the project.

6.3.4.3 Detached Garages

- Detached garages must use a similar roof treatment and building material as the residential buildings they serve.
- Six-car detached garage structures are preferred as a maximum.
- Detached garage structures with more than six parking spaces shall have a minimum 2' garage door offset within the length of the structure.

6.3.4.4 Carports

- Design, including materials, roofing, screening and color, shall match project style and design.
- Carport length shall not exceed the width of 8 parking spaces.

6.3.4.5 Parking Structures

- Parking structure facades, where exposed to streets or to project active common open space areas, shall be compatible with building architecture; preferably building architecture should wrap in front of the garage.
- Pedestrian access to parking structures shall be clearly delineated.
- Pedestrian entryways shall be separated from auto circulation, where feasible.
- Pedestrian access for tenants, residents, and guests, where applicable, shall be combined in the same entry.
- Parking spaces, open or enclosed, shall be no less than 9 feet wide by 19 feet deep. Compact parking shall be allowed at dimensions of 8 feet wide by 15 feet deep, and not comprise more than 25% of the total parking spaces.
- Elevators/stairways/exits shall be clearly marked for ease of pedestrian use.
- Reserved/Guest parking, as applicable, shall be marked on the stall or by placard.
- Tandem parking configurations are allowed for tenants, t may include one standard and one compact stall.

6.3.4.6 Trash Enclosures

- Trash enclosures shall be constructed of concrete masonry units finished similar to buildings in the development.
- All trash enclosures shall have opaque metal gates that are designed consistent with the development.
- Each trash enclosure shall have a lighted access that meets federal accessibility standards.
- All project sites shall be designed to meet all the Integrated Waste Department's requirements, including the requirements for Sizing of Storage, Location of Collection Area, Accessibility for Collection Vehicles, and Collection of Sorted/Diverted Waste Types.

~~NEIGHBORHOOD CRITERIA~~

~~The community of Rich Haven is a composition of 8 planning areas with 3 unique residential districts and one mixed use district.~~
~~Each district is defined by an overall architectural theme. Densities increase from North to South with the lowest densities in Rich Haven North and the highest densities in the Mixed Use District. Refer to Figure 3.1 Land Use Plan for Planning Area Allocations.~~

~~Rich Haven North~~

~~Planning Areas: 1a – 1c~~
~~Primary Architectural Theme: Spanish~~
~~Minimum Number of Floor Plans: 3 per model complex~~
- ~~Select a minimum of one style from the Primary Character:~~
  - ~~Spanish Eclectic Character~~
- ~~Additional styles shall be selected from the following Secondary Characters:~~
  - ~~American Traditional Character~~
  - ~~Early California Character~~
  - ~~English Country Character~~

~~Note: The Developer/Builder can propose a change in Architectural style theme to the Planning Department director for approval, including additional Architectural styles not currently included in the Architectural Compatibility Matrix 6.2.3.3~~
~~For potentially compatible styles refer to the Architectural Compatibility Matrix in Section 6.2.3.3.~~

~~Landscape Palette:~~
- ~~Street Tree: Quercus Ilex, Holly Oak~~
- ~~Plant Palette: See Community Plant Matrix, Section 7.7~~
- ~~Planting color scheme: Warm – Red, orange, and yellow flowering plants. Foliage can be dark green, medium green, yellow-green, or grey.~~

~~Rich Haven Central~~

~~Planning Areas: 2~~**~~B~~** ~~through 4a – 4c~~
~~Primary Architectural Theme: American~~
~~Minimum Number of Floor Plans: 3 per model complex~~
- ~~Select a minimum of one style from the Primary Character:~~
  - ~~American Traditional Character~~
- ~~Additional styles shall be selected from the following Secondary Characters:~~
  - ~~Craftsman Bungalow Character~~
  - ~~Spanish Eclectic Character~~

~~Note: The Developer/Builder can propose a change in Architectural style theme to the Planning Department director for approval, including additional Architectural styles not currently included in the Architectural Compatibility Matrix 6.2.3.3~~
~~For potentially compatible styles refer to the Architectural Compatibility Matrix in Section 6.2.3.3.~~

Number of Dwelling Units	Number of Differing Floor Plans and Elevations
5-10	As required by Planning Commission
11-25	2
26-50	3
51-75	3
76-100	4
Over 100	4; +1 additional floor plan with 4 elevations for each additional 50 units exceeding 100

PLAN/ELEVATION MIXES

Landscape Palette:
- Street Tree: Podocarpus gracilior – Fern Pine (tree standard)
- Plant Palette: See Community Plant Matrix, Section 7.7
- Planting color scheme: Warm – Red, orange, and yellow flowering plants. Foliage can be dark green, medium green, yellow-green or grey.

Rich-Haven South

Planning Areas: 5ACD
Primary Architectural Theme: European
Minimum Number of Floor Plans: 3 per model complex
- Select a minimum of one style from the Primary Character:
- English Country Character
- Additional styles shall be selected from the following Secondary Characters:
- French Eclectic Style
- Richardsonian Romanesque Style
- Craftsman (Arts & Crafts) Style
- Mediterranean Bungalow Style

Note: The Developer/Builder can propose a change in Architectural style theme to the Planning Department director for approval, including additional Architectural styles not currently included in the Architectural Compatibility Matrix 6.2.3.3
For potentially compatible styles refer to the Architectural Compatibility Matrix in Section 6.2.3.3.

Landscape Palette:
- Street Tree: Koelreuteria Paniculata, Goldenrain Tree
- Plant Palette: See Community Plant Matrix , Section 7.7
- Planting color scheme: Cool – Blue, Lavender, Peach, and White flowering plants. Foliage can be dark green, medium green, or grey.

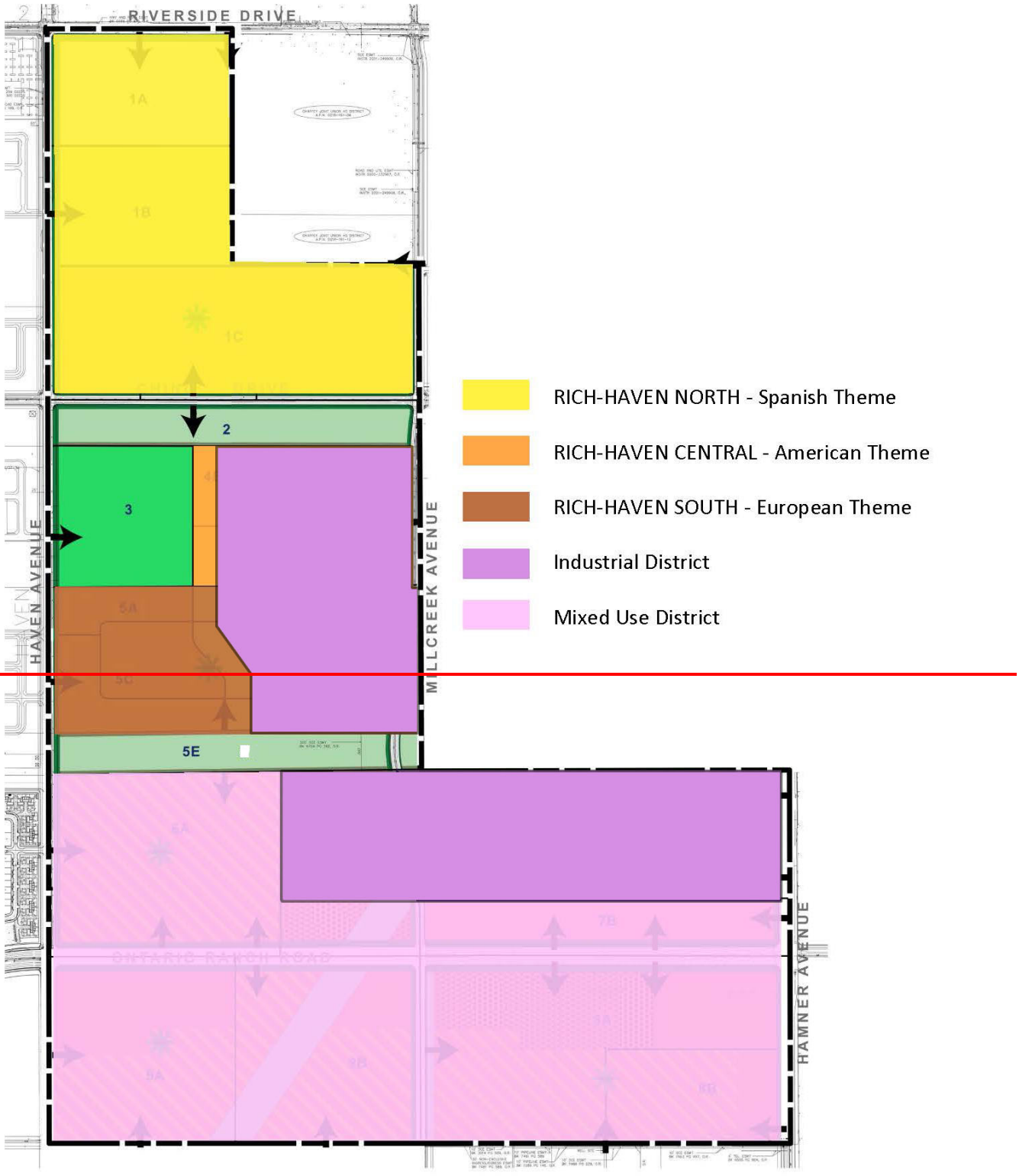
Neighborhood Design Criteria Each planning area, or neighborhood, within these districts is distinguished by architectural configurations and prototypes, along with its adjacency to various amenities and public uses including parks, open space, and schools.

Architectural Design Criteria Within each district the themes, groups or styles work together to mimic the historic districts of Old Ontario, including College Park and Armsley Square. To maintain compatibility, each district has an architectural and landscape character designated, identified as a Primary Character, with additional Architectural Design Criteria available from Section 6.2.3.3

Architectural Compatibility – The designated Architectural Design Criteria have been selected using the Architectural Compatibility Matrix (found in Section 6.2.3.3 of this document) to provide differentiation among neighborhoods. Other styles may be considered for substitution at the discretion of the Planning Department based on the matrix and the Architectural Compatibility criteria outlined in Section 6.2.3.2.

~~**Prototypes and Floor Plan Criteria** - Refer to Section 5 of this Specific Plan for development regulations and further explanation of uses, parking, setbacks, etc. for all neighborhoods. Please refer to the table entitled "Plan/Elevation Mixes" for additional requirements on plan and elevation mixes.~~

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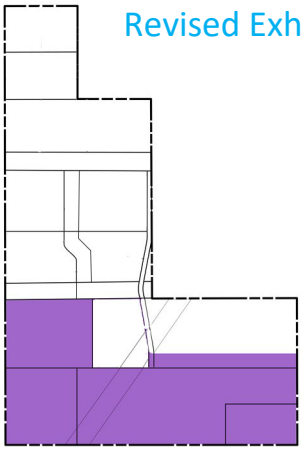
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6.5 REGIONAL COMMERCIAL/MIXED-USE DESIGN GUIDELINES

~~6.5~~

Regional Commercial/Mixed-Use guidelines apply to Planning Areas ~~6A, 6D, 7B, 8 and 9~~4B, 5B, 6B, 7, 8, and 10B. Refer to Section 6.3 for High Density residential guidelines, which apply to the Stand-Alone Residential Overlay and residential components within Planning Areas ~~6, 7B, 8 and 9~~4A, 4B, 5B, 9 and 10A.

Revised Exhibit



It is the intent of these guidelines to provide guidance and a frame-work for development of vibrant and viable Regional Commercial Mixed-Use services, including office/professional, hospitality, retail, commercial, civic, quasi-public, and high density residential uses.

The Regional Commercial/Mixed-Use district provides for immediate office/professional/service needs of the Rich-Haven neighborhoods and the greater regional areas. In addition, the Regional Commercial/Mixed-Use District may have the capacity to provide day-to-day commercial retail services, truly enabling this area to serve as a "community gathering place" where residents may stop and linger while enjoying a cup of coffee, reading the newspaper, or socializing with their neighbors in a pleasant pedestrian environment.

These guidelines will further serve to implement the goals, policies and principles of the City's TOP by drawing upon the rich architectural diversity, quality and history of Ontario's established neighborhoods. Architecture of all commercial buildings, mixed-use or single use, shall complement the overall traditional community image of the Rich-Haven Specific Plan. The intent is to allow for a variety of building size, types, configuration, and uses to coexist while providing sufficient architectural direction to ensure a unified, cohesive development.



6.5.1 COMMUNITY DESIGN OBJECTIVES

- Secure the long-term vitality of The Ontario Plan by implementing its objectives, policies and principles.
- Create a Mixed-Use land use concept that seamlessly transitions high density living into commercial/service activities.
- Create a community of cohesive land uses, which provide for a wide variety of architectural configurations and housing prototypes.
- Create a palette of landscape materials, features and details that blend diverse architectural elements into cohesive neighborhoods.
- Create a palette of way finding signage that infuses the community with character and reinforces the viability of mixed land uses.
- Create a hierarchy of pedestrian and vehicular circulation within the community.
- Provide safe and convenient pedestrian links from residential areas to school, park and commercial sites that serve the community.
- Create a palette of architectural styles and community features that evoke traditional, timeless qualities.
- Utilize architectural massing to define use and public/private spaces.
- Create mixed-use neighborhoods where interactive architecture dominates the primary street scene.

6.5.2 ARCHITECTURAL PHILOSOPHY



The purpose of the Regional Commercial/Mixed-Use land use is to foster dynamic neighborhoods. This place making land use enables a main street environment where bustling pedestrian activity is as important to the streetscape as vehicular activity; a place where the town center atmosphere is a short walk for residents to enjoy the goods and services at the heart of the mixed use district. Commercial components stand alone or mixed-use elements, within the Regional Commercial/Mixed-Use district should reflect an architectural style reminiscent of small-town American town centers. Architectural execution of this style is described in subsequent sections.

6.5.3 GENERAL DESIGN ELEMENTS & OBJECTIVES

~~6.5.3~~

A palette of styles, massing, materials, and details shall convey a timeless sense of place.

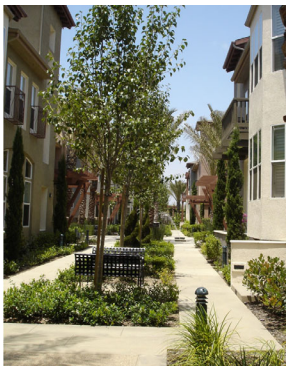
- Use appropriate finish materials and detailing.
- Vary vertical/horizontal scale and massing within and between buildings.
- Visual massing/style breaks between commercial/retail and residential uses are encouraged.
- Roof styles and materials shall be architecturally and aesthetically compatible, not uniformly consistent, among and between buildings/uses.
- Architectural styles shall be authentic; mixing of details between styles is allowed where details are complementary.



Visual breaks between commercial and residential uses

Active architecture shall orient toward Edison Avenue and primary auto and pedestrian circulation corridors.

- Offset wall planes should be used, where appropriate, as an integral part of the building design.
- Building offsets or recesses should be used to accentuate building entries and form pedestrian nodes.
- Windows and doors shall be positioned sensitively to engage public spaces while maintaining privacy.
- Articulation of tenant entries for pedestrian identification should be achieved through wall plane offsets, architectural detailing and color schemes.
- Signage, monumentation, and landscaping shall supplement pedestrian corridor and plaza spaces created by articulated architecture.

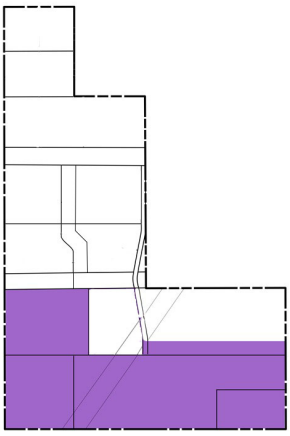


Pedestrian linkages

Pedestrian linkages shall be active, useable transition spaces between uses.

- Hard distinct edges between uses are discouraged.
- Signage, paving, landscaping shall visually identify pedestrian linkages/corridors.
- Pedestrian circulation shall be continuous from residential to commercial/regional sections of the district.
- Articulation can include, but is not limited to:
  1. Vertical and horizontal offsets
  2. Color blocking
  3. Appropriate use of detail elements.

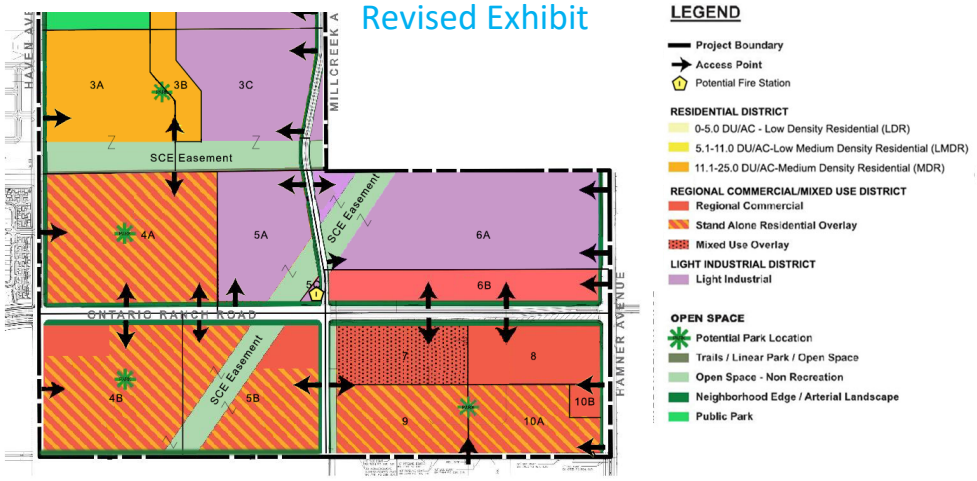
Revised Exhibit



The primary goal for the Rich Haven Regional Commercial /Mixed-Use District is to create a dynamic environment for the interaction of vibrant commercial, retail, regional services and high density residential neighborhoods. Sensitive spatial and architectural form, massing, and

transitions are critical to the relationship between compatible uses. The following principles establish the essential characteristics that will promote the support these goals.

Revised Exhibit



REGIONAL COMMERCIAL / MIXED-USE LAND USE PLAN

Neighborhood Design Criteria:

- Visual and practical interaction of mutually supporting commercial and residential uses.
- Integration of open space and pedestrian linkages with regional commercial tenant needs
- Foster clustering of high-density residential buildings to create smaller “neighborhoods” within planning area.
- Maximize architecture along theme streets
- Limit direct garage access along theme streets
- Provide Community entry at Haven and Theme Street
- Provide theme street intersection treatment
- Provide pedestrian link to neighborhoods and High School site to north.

6.5.4 ARCHITECTURAL COMPONENTS

~~6.5.4~~

Quality architectural and aesthetic design of a project has its foundations in the primary forms of the buildings. Guidelines for the following component intend to cultivate varied and interesting architecture while allowing room for creativity and project stylization.



Articulation through the use of color blocking and detail elements

Building Form and Mass

Building forms shall be simple and well-proportioned resulting in a balanced composition of elements.

- Layering of wall planes and volumes should provide a rhythm of dynamic building shadows.
- Building massing shall consist of a mix of building heights to provide visual interest to the commercial area.
- Tower elements and other vertical/prominent building features should be used to accentuate key elements such as building entries, pedestrian nodes, plazas or courtyards.
- Taller buildings shall have greater articulation.

Modulation and variation of building masses between adjacent buildings is encouraged. Three and four story elevations should have varied massing and architecture, both in height and depth, along the façade. The preference is for the project to feel less like a set of monolithic structures and more like a collection of distinct building in the eclectic style of the district. This can be accomplished though massing, color blocking, wall plane breaks, and variations in architectural styling and façade treatment.

Building mass shall be proportional to the tenant use to create obvious and identifiable delineation between uses.

Materials and Colors

Materials and colors should be applied to create cohesive and authentic architectural styles and streetscapes.

- All surface treatments or materials should be designed to appear as an integral part of the design, not merely an application.
- All materials should wrap architectural elements in their entirety, on primary elevations and where exposed to primary public spaces.
- Material changes should occur at inside corners.
- Materials applied to any elevations shall turn the corner of the building a minimum of 8', or to a logical termination point in relation to architectural features or massing.
- Highly reflective surfaces/materials, including colored glass and highly polished materials, are not allowed.
- Rough cut, rustic appearances through the use of stone, brick, or siding are encouraged. Only finished materials are allowed, no exposed or untreated concrete masonry units, unless consistent with the architectural style.



Exterior Design

Buildings shall have articulation along auto and pedestrian corridors to generate pedestrian scaling and visual interest along the streetscape.

- No single building shall have a singular wall plane or building height on the primary elevation.
- Front wall planes of commercial/mixed-use buildings, including retail/shop space veneer configurations, shall be articulated.
- Articulation can include, but is not limited to:
    1. Vertical and horizontal offsets.
    2. Color blocking.
    3. Appropriate use of detail elements.

- Mixed-Use buildings, multi-tenant shop buildings with more than one ground floor tenant: no more than sixty six percent (66%) of the front elevation may consist of a single contiguous wall plane on a tenant by tenant basis

  OR

- On an overall building, a cumulative total of no more than sixty six percent (66%) of the front elevation may have the same setback dimension; with no more than forty percent (40%) of the elevation comprising a continuous wall plane.

- Massing of large expanses of street exposure or pedestrian corridor exposure walls are encouraged to be visually broken down through the use of architectural features and treatments, and color changes, including but not limited to, pilasters, trellis elements, decorative light fixtures, and material inlays, murals, graphics, or other visual variations.

Primary exposures/elevations shall be appropriately detailed and articulated consistent with the architectural style and character of the development, as established by these guidelines.

- First-story pedestrian scale character and commercial retail exposure is crucial to business viability. In-line retail/commercial/service space shall be designed for the optimization of space, exposure, and aesthetic articulation.

Architectural massing and style among buildings shall be compatible.

- No two adjacent mixed-use buildings shall have identical architectural appearance, or use of materials, or color palette unless pairing is integral feature of project design theme.
- Combinations and composition shall be varied, although massing may be comparable.
- Some repeat materials may be used; however, they may not be used with the same color palette unless architectural pairing is integral feature of project design theme.
- Offset wall planes should be used, where appropriate, as an integral part of the building design.
- Projections, overhangs and recesses may be used to provide shadow articulations, and scale to building elevations.
- Building offsets or recesses may be used to accentuate building entries and form pedestrian nodes.
- At least 40% of the ground floor of the primary exposure of an in-line/shop-space/free standing show use, excluding restaurant pads, shall be devoted to transparent windows and/or doors.
- Big-box tenants shall use appropriate glass frontage, subject to tenant by tenant review and approval.



Offset Wall Planes

Variety in massing and articulation emphasizes pedestrian scale.

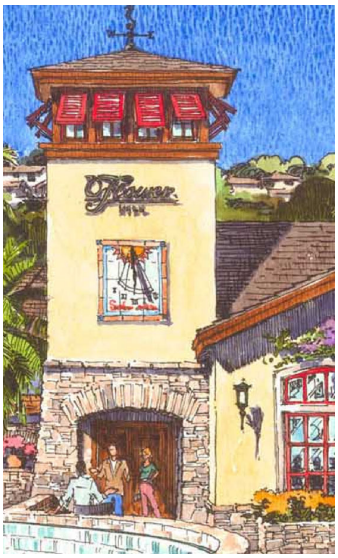
- Primary exposure of commercial buildings greater than one story should suggest the presence of a “usable” second story and shall reduce the impact of higher volumes through the use of details consistent with the architectural style.



Variety in building height

Secondary exposure of commercial buildings greater than one story shall provide an appropriate level of articulation to engage the street-scene.

- Articulation can be achieved through the use of wall plane offsets, break of parapet lines, details such as windows and shutters, material inlays, and color or texture changes.
- Secondary exposures shall be architecturally compatible, though not as detailed, with primary exposures.


Tower Elements

Roof Form and Slope

Building height shall be varied to provide visual interest to the commercial center as viewed from community streets, open space, or other public spaces.

- Variety in roof forms, ridge heights and direction of gables is required.
- Tower elements or other prominent building features should be used to accentuate key elements such as building entries, pedestrian nodes, plazas, or courtyards.
- Form and materials should be integrated with the overall character of the development.
- Although the majority of commercial roof area may be flat, visible elevations should be treated with sloping roof elements, including hips or gable forms (as appropriate to the primary architectural style), or parapet treatments.
- Roof pitch shall be in proportion to the design of the building and in conformance with code regulations for the roof material.
- Secondary roof elements that accentuate special features may have more gentle or extreme slopes, as consistent with the primary architectural style.
- Architecturally exposed roof materials shall consist of flat, barrel, or "S" concrete or slate tiles or shakes.
- Metal roofs are permitted as feature elements consistent with the architectural style.
- Fascia elements should be consistent with the primary architectural style.

6.5.4.1 Architectural Features and Accents

Buildings and/or Tenant Entries

Entries shall be visually appealing and identifiable to users.

Each commercial building and/or tenant shall provide well-articulated, identifiable path of entry for pedestrian and vehicular users from the site into the buildings themselves.

- Commercial/retail entryways shall be clearly identifiable from the perceived "face" of the building so as not to confuse or mislead patrons.
- Landscape, hardscape, and architectural design elements for the project site and building entries shall work together to create a sense of arrival.
- Appropriate signage and lighting shall be provided for emphasis.
- Mixed-use buildings should incorporate design features such as porches, bays, balconies, arcades, street-level windows, and second story windows where feasible.

Patio Dining

Outdoor seating is encouraged to enliven the street-scene along mixed-use edges.

- Outdoor business activity is permitted in the interior circulation ROW only if additional public sidewalk is provided greater that the required 8 foot width.
- Seating areas shall be 5 feet in minimum dimension from the store/building front. Edge of seating area shall be a minimum of 8 feet from the ROW/landscape.
- Seating areas shall have a maximum 20 foot encroachment onto park/paseo areas.
- Patio areas may be enclosed by the tenant using an open rail compatible to the architecture of the building, or hedges, or other suitable separation.
- Patio areas do not require railing or enclosure.

Storefront Windows

Accenting of display windows on the first floor is a strong tool for the articulation of store frontage. Display windows shall be at pedestrian eye level to stimulate street-scene interest and promote viable business.

- A minimum of 40% glazing is required on all multi-tenant commercial buildings and the commercial base of a multi-story mixed-use building.
- Window treatments, where feasible are encouraged. Exterior window treatments include, but are not limited to:
  1. Recessing/surrounds of not less than 6".
  2. Trim elements
  3. Headers and sills
  4. Awnings (cloth, metal, or trellises)
  5. Shutters (proportional to window where consistent with the architectural style).
  6. Mullion patterns, as appropriate to the architectural style.



Character is infused into architecture through the use of details, special features, and accents.

Creativity and articulation at the human scale will help engender a stronger sense of place in the Regional Commercial/Mixed-Use District along pedestrian and auto corridors.

6.5.4.2 Storefront Windows

- Awnings, when provided should be designed consistent with the architectural style and color palette of the main structure.
- Unacceptable awning treatments include: metal louvers (except Bermuda style shutters) or untreated fabric. Project names, texts, or logos are acceptable as decorative awning treatments, however not as primary signage.

Exterior Lighting

Exterior lighting fixtures shall be compatible with the architectural style of the building, and proportional in size to the scale of the building.

6.5.4.3 Accessory Elements

Loading and Service Design

Site design shall specifically address the needs of pick-up, delivery, and service vehicles related to commercial/retail uses.

- Service entrances and vehicles shall be sited such that they do not interfere with owners/tenants/customer access.
- Appropriate on-site service vehicle parking/turnouts shall be provided in an efficient, non-obtrusive location appropriate to the scale and needs of the project.
- Loading vehicles, when parked, shall not impede normal traffic flow.
- Service and storage areas shall be effectively screened from public view.
- Screening shall be by fences or walls with aesthetically compatible landscaping, and/or comparable materials that effectively obscure loading/service areas.
- Loading zones, where adjacent to residential development (30 feet or closer), shall be partially roofed to dampen sound and screened from pedestrian view of the area.
- Enclosed service areas or service alleys serving multiple tenants need screen only access points of the service area.

Exterior Storage

- Storage buildings are discouraged.

Trash Enclosures

Trash enclosures and other service elements should be screened from view.

- Solid walls or fences compatible with the building architecture and enclosed with opaque metal gates shall be used for screening.
- No refuse collection or storage areas shall be located between a street and the front of a building.
- Refuse collection areas shall be designed to contain all refuse generated onsite between collections.
- All project sites shall be designed to meet all the Integrated Waste Department's requirements, including the requirements for Sizing of Storage, Location of Collection Area, Accessibility for Collection Vehicles, and Collection of Sorted/Diverted Waste Types.

Gutters and Downspouts

- Gutters and downspouts shall be internally routed, with a continuous paved path to storm drain system, or use decorative exposed gutters and downspouts.

Mechanical Equipment

- All mechanical equipment including satellite equipment shall be screened from site by the use of parapets, decorative screens of compatible color, style, and material, or other appropriate architectural features.
- Devices are to be located in unobtrusive locations and care shall be taken to screen view from public thoroughfares at the pedestrian level.
- Where ground mounted, these devices shall be buffered by landscape or screening. All equipment must be shown on submitted plans as part of the Design Review process.

Meters

- All electrical meters shall be located on the rear or side elevation of a pure retail buildings and interior to an architectural feature compatible with the architectural style of the mixed-use or pad restaurant building and subject to all applicable building codes.
- Natural gas meters shall be grouped and screened by walls, on a secondary or rear elevation of the building.
- Electrical meters located on exterior street elevations shall be ganged and located behind doors.
- Screening electrical meters behind doors in not required where meters are located in screened service areas or in “back of house” areas not intended for general public access and service courts.
- Builders should contact the utility provider for minimum clearances.
- Screen walls and electrical enclosures should be designed integral to the primary commercial building’s architecture.

6.5.5 SIGNAGE GUIDELINES

The purpose of these sign guidelines is to promote an overall "sense of place" through signage that is architecturally integrated and visually interesting while conforming to applicable code requirements.



6.5.5.1 Signage Design Objectives

- To identify the project with elements that convey a distinct character which enhances the collective architectural them and "story".
- To incorporate an environmental communication system categorized into five groups of sign types: identity, direction, information, regulation, and special amenities.
- To ensure the efficient circulation of vehicle traffic within the site.
- To clearly identify vehicular entry points and to direct vehicles to designated parking areas.
- To enhance the pedestrian experience through the design of way finding components: directories, directional signage and destination identifiers.
- To establish the tenant sign criteria to serve as the basis of the leaseholder submittal process for the review and approval of tenant sign proposals.





6.5.5.2 Definitions

Sign – Any arrangement of letters, numeral, or design superimposed or painted on, suspended from, or incised into a surface and used as an outdoor display or notice, pictorial or otherwise, for the purpose of delineating identity, advertising available services and/or products, or for providing instructions and/or direction and/or information.

Advertising Sign – Those which direct attention to the goods or services sold, leased, or otherwise provided and made available, which shall include the name of the leasehold premises and may include names or sub-tenancies located thereon.

Awning Sign – A message integrated into the surface of an architectural awning structure mounted parallel to the building façade.

Blade Sign – A wall-mounted projecting or canopy-suspended sign at the pedestrian level adjacent to a building entry.

Pylon Sign – Those which are vertically freestanding, providing site and major tenant identification oriented to principal vehicle thoroughfares and entries.

Monument Sign – Those which are horizontally freestanding, integrated into the landscape, providing primary or secondary identification of single tenants.

Multi-Face Sign – Those having more than one face, each of which fronts

Permanent Sign – Those of substantial, durable materials and finishes intended for long-term use.

Temporary Sign – Those intended for short duration, normally during the planning and construction phase of development or for temporary events.

Sign Area – Shall be the sum of the areas enclosed within parallelograms drawn around each letter and/or pictorial or architectural embellishment. Where letters or embellishments are connected, as in script writing, the parallelograms shall encompass each group connected. Where a frame or backing for the letters, embellishments, etc., constitutes an integral part of the sign, the total area enclosed shall be considered.

Façade – The exterior wall of a building exclusive of projecting signs, columns, pilasters, canopies, marquees, decorations, or the like.

Parapet – That portion of the exterior wall of a building occurring above the roof.

Marquee – A rigid canopy extending outwards from the building façade, generally over the main entrance or along a principal façade.





6.5.5.3 General Sign Design & limits

- Tenant sign size and quantity must be compatible with architectural scale and structure as determined by the Owner and conform to City of Ontario Sign Code as determined by the Planning Department.
- The dimensions and shape of sign panels or elements mounted on building facades or marquees shall be scaled proportionately to the architecture.
- Double or multi-face signs shall count as one (1) unit when computing number of signs allowed.
- The area of one (1) face shall be used in computing area of double or multi-faced signs.
- Sign elements shall not project more than 2’-0” beyond the lease line unless reviewed and approved by the Owner.
- All projecting blade signs must maintain a minimum 8’-0” clearance height above grade.







6.5.5.4 Identity Signs

- Primary project identity signs shall be situated at appropriate locations and may be any of the following: an entry-spanning gateway sign, entry flanking monument sign or double-sided pylon sign. The project identity signage should be creatively interesting and visually engaging.
- Secondary project or tenant identity signs are typically ground-mounted monument signs. The design of the monument sign shall be in keeping with the character established for the project with variations to include individual tenant identities.
- Commercial tenant identity wall signage shall adhere to the criteria set forth within the Commercial Sign Design Guidelines to be established and implemented as part of a comprehensive sign program for each project. The design of commercial tenant signage shall be in keeping with the character established for the project with variations to include individual tenant identities.
- Retail tenant identity signs shall adhere to individual national identity/corporate branding standards and remain in keeping with the character established for the project.
- Residential Development identity signs shall adhere to the criteria set forth within the Residential Sign Design Guidelines contained within the comprehensive sign program for each project. The design of the residential identity sign shall be in keeping with the character established for the project with variations to include individual tenant identities.
- Code-required identity signs are required for restrooms, telephones, fire extinguishers, elevators, escalators and stairs within the project. All code-required identity signs throughout the project shall incorporate the appropriate international symbols as established by the Society of Environmental Graphic Design (SEGD).



6.5.5.5 Directional Signs





- Direction signs shall be located at any vehicular or pedestrian decision point within the leaseholder project.
- Vehicular direction signs shall clearly direct to destination anchors within the leaseholder project and to on-premise parking areas.
- Vehicular direction signs shall be consistent in size, shape and design throughout the leaseholder project.
- Typography on vehicular direction signs should be legible and have enough contrast to be read from an appropriate windshield viewing distance.
- Vehicular direction signs shall incorporate reflective vinyl copy for night-time illumination.
- Vehicular signs should have no more than three messages per sign.
- All direction signs throughout the project should incorporate the appropriate identity symbol as established by the Society for Environmental Graphic Design (SEGD) and comply with all state, local and federal regulations.

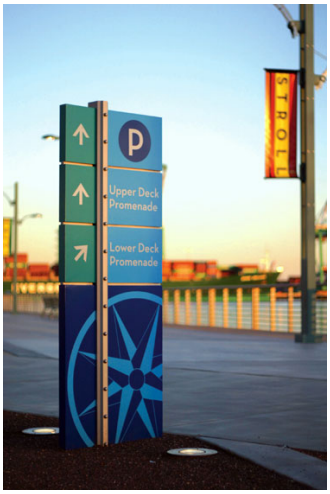


6.5.5.6 Information Signs

- Wall-mounted or freestanding directories are appropriate within a mixed-use district.
- Parking information signs should be located at parking entrances for mixed-use structured parking.













6.5.5.7 Regulation Signs

- Regulatory signs that may be required within the project include: non-smoking no parking, do not enter, no dogs, no skateboarding, and accessibility-related (ADA) signs.
- Vehicle regulatory signs including stop, yield, do not enter, wrong way, speed limit, no parking and one way are intended to impose legal obligations and/or restrictions on all traffic. It is essential, therefore, that their use be authorized by the public body or official having jurisdiction, and that signs conform with the Manual on Uniform Traffic Control Devices. A traffic engineering consultant is required to verify location of regulation signs on public right-of-way.
- Signs within the project must be in compliance with the following local and national guidelines:
    1. CalDAG 96 – Combined ADA and CA Title 24
    2. AASHTO Part 1 Guidelines for Supplemental signs
    3. MUTCD – Manual of Uniform Traffic Control Devices
    4. City of Ontario Municipal Code, except where modified by this document.
    5. San Bernardino County ordinances, except where modified by this document.

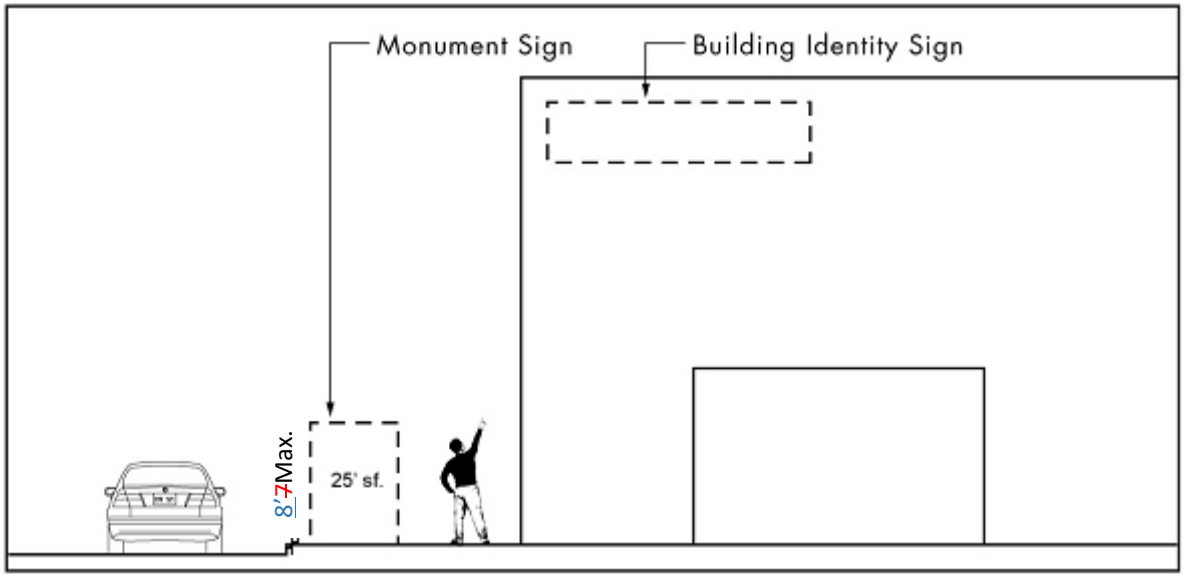
6.5.5.8 Amenities

- Project banners may be incorporated on architectural features and light fixtures. The design and application of banner elements shall be subject to approval by Owner.



6.5.5.9 Commercial Sign Design Guidelines

- Commercial project leaseholders are allotted a total of one and a half (~~1~~1.5) square foot of signage per linear foot of frontage for building signs.
- Commercial project leaseholders are allowed the following signs:
    1. Building Identity Sign
    2. Monument Sign (as allocated and approved by Owner)
    3. Placement of Identity on an Information Sign
- Environmental graphics color palettes should be compatible with the architectural design of the buildings.



COMMERCIAL SIGN DIAGRAM
Note: Sign area based on 1 square foot per l lineal foot of frontage

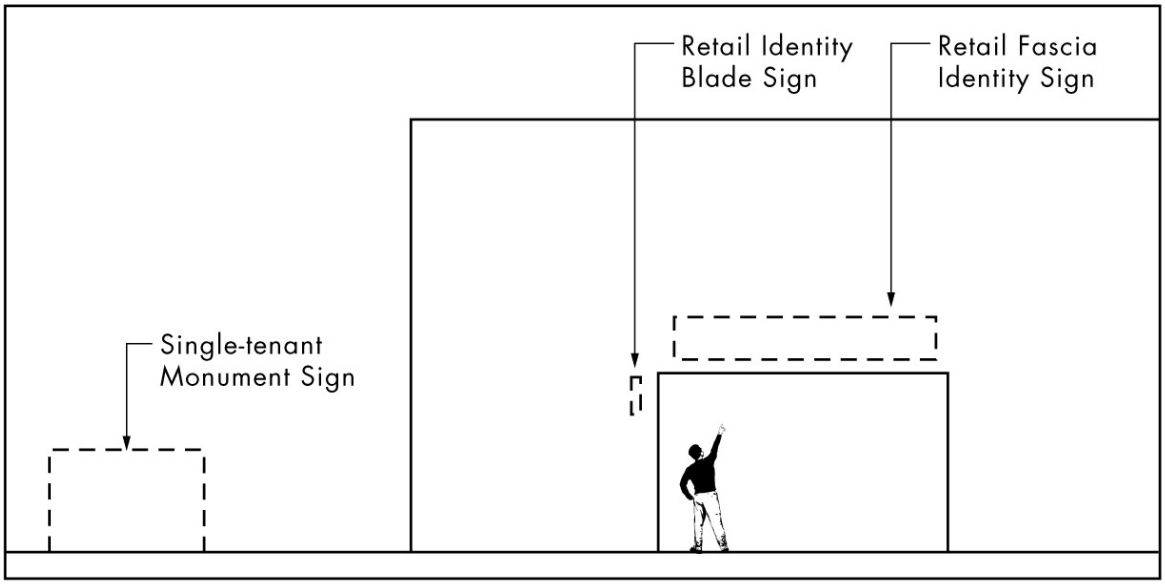




6.5.5.10 Retail Sign Design Guidelines



- Retail project leaseholders are allotted a total of one and a half (~~1~~1.5) square foot of signage per linear foot of frontage for building signs.
- Retail project leaseholders are encouraged to incorporate the following signs into their project:
  1. Retail Fascia Identity Sign
  2. Retail Blade Identity Sign (required 8'-0" clearance above grade)
  3. Single-tenant Monument Sign (where applicable)
  4. Building Awnings
  5. Multi-Tenant Pylon Signs
- Environmental graphics color palettes should be bold and vibrant within the Retail project.







6.5.5.11 Residential Sign Design Guidelines

- Residential developments are allotted a total of one (1) square foot of signage per linear foot of street frontage for building signs.
- Residential developments are encouraged to incorporate the following signs into their project:
    1. Fascia Identity Sign (into residential lobbies)
    2. Building/Tenant Address System
- Environmental graphics color palettes should be harmonious with the architecture and integrate bold accent colors.







6.5.5.12 Fabrication & Installation

It is intended that all finished work be of the highest quality to pass eye-level examination and scrutiny.

General Fabrication Specification

- Construct all work to eliminate burrs, dents, cutting edges and sharp corners.
- Finish welds on exposed surfaces to be imperceptible in the finished work.
- Surfaces which are intended to be flat shall be without dents, bulges, oil canning, gaps or other physical deformities.
- Except where approved otherwise by the Owner, conceal all fasteners.
- Make access panels tight-fitting, light-proof and flush with adjacent surfaces.
- Carefully follow manufacturer's recommended fabrication procedures regarding expansion/contraction, fastening and restraining of acrylic plastic.
- Exercise care to assure that painted, polished and plated surfaces are unblemished in the finished work.

Non-Permitted Sign Construction

The following construction methods are not permitted:

- Letters with exposed fastening and unfinished edges (unless architecturally consistent).
- Paper, cardboard, Styrofoam or untreated cloth.
- Signs employing flashing, flickering, rotating or moving lights (except as approved by owner).

6.5.5.13 Sign Maintenance

All signs shall be kept in "like new" condition and shall be promptly restored to such condition if damaged or otherwise marred. Copy and text employed on signs shall be kept accurate and current.

6.5.5.14 Sign Location

All signs shall be contained within the premises to which applicable and shall be so oriented as to preclude hazardous obstructions to person and/or vision of pedestrians and/or vehicle operators. All sign locations to be submitted in elevation and plan view for Owner approval per the Comprehensive Sign Program for each project.

6.5.5.15 Temporary Signs

Temporary signs may be authorized at the discretion of the Owner on leased premises during the period of initial planning and construction. For continued use subsequent to the first 60-days of leasehold operations justification in the form of written definition of intended permanent sign program shall be submitted to the Owner for consideration and disposition.

- Temporary signs should reflect the project design or brand to generate excitement for the project.
- Branded Construction Fence or Storefront Barricade may be used as a communication devise to generate excitement for the project.
- Leasing Signs shall be allowed upon approval by Owner.
- Sandwich Board signs which are architecturally consistent with the project shall be allowed upon approval by Owner.
- Other Environmental Graphics may be utilized upon approval by Owner.

6.5.5.16 Sign Illumination

All sign elements must be internally and/or externally illuminated. Hot spots and light leaks are not permitted and must be repaired by the Leaseholder. All illuminated signs shall be fabricated, installed, and comply with national/local building and electrical codes and shall bear the U.L. label. All signs shall conceal all identification labels and U.L. labels to conform to U.L. codes. All conductors, transformers, cabinets, housing and other equipment shall be concealed and/or incorporated into storefront and/or sign components.







- To protect the visual environment, all leaseholders' light fixtures in regards to brightness and glare, shall be subject to approval by Owner.

Leaseholders' primary sign, secondary sign (if applicable) and canopy signs shall remain illuminated during business hours as designated by the owner. Lighting in these zones are required to be circuited and switched separately from other store fixtures on the leaseholders' panel and controlled by a time-clock. Leaseholder shall provide a disconnect switch at sign transformer or near electrical junction box per the Comprehensive Sign Program.

SECTION 6.6 LIGHT INDUSTRIAL DESIGN GUIDELINES

Industrial design guidelines apply to Planning Area 2C, 3C, 5A, 5C and 6A~~7A~~. The following Design Guidelines have been developed to ensure a quality, cohesive design structure for Industrial development in Rich-Haven. They will provide the City with the necessary assurances that the Specific Plan will develop in accordance with the design quality and character proposed in this section.

Key design elements will contribute significantly to the visual order and consistency of the entire Specific Plan area and provide a quality development. The fundamental elements of these common features; site design, architectural design, and sustainable standards are established by these Design Guidelines. Landscape design guidelines can be found in Section 7.9 for industrial land uses.

The design guidelines are intended to be flexible and illustrative in nature, with the capability of responding to unanticipated conditions, the market and design trends.

6.6.1 COMMUNITY DESIGN OBJECTIVES

- To secure the long-term vitality of the General Plan by implementing its objectives, policies and principles.
- To provide the City with the necessary assurances that the Specific Plan area will develop in accordance with the design quality and character proposed herein.
- To serve as design criteria for developers, builders, engineers, architects, landscape architects and other professionals in preparing plans for construction.
- To lend guidance to the City staff, Planning Commission and City Council in the review and evaluation of future development projects in the Specific Plan area.
- To provide for the development of industrial facilities which utilize the site's prime location to Ontario Airport.
- To create a high quality industrial development that attracts an array of businesses and provides employment opportunities to area residents.
- To provide industrial uses within the project boundaries which are compatible with surrounding uses.
- To develop a flexible plan that meets the needs of an ever-changing business market, while assuring compliance with high development standards.

- To provide a plan for roadways, infrastructure, and utilities to support on-site land uses as the project evolves.
- To create features and details that blend with diverse architectural styles and elements.
- To create a hierarchy of pedestrian and vehicular circulation.
- To create a palette of architectural styles and that evoke timeless qualities.
- To encourage creativity and innovation, as well as consistent quality in the implementation of these guidelines.

6.6.2 INDUSTRIAL DESIGN PHILOSOPHY

These Design Guidelines will ensure that the Specific Plan community is an environment that reflects the vision embodied in the following concepts:

- Develop a quality, cohesive design concept and identity for the Rich-Haven area. Incorporate Industrial uses into the fabric of the community by placing importance on perimeter edges that integrate with adjacent uses and the rest of the community.
- The architectural image of the Specific Plan will be perceived primarily from the public realm. Therefore, building massing, scale and roof forms, as the primary design components, require articulation in their architectural expression as they relate to the publicly visible areas.
- Establish design standards that ensure lasting value for industrial developments. Utilize colors, materials, textures, features and other design elements that are timeless in their character to ensure an overall design philosophy that will not become dated.

6.6.3 SITE DESIGN

Industrial developments in the Rich-Haven Specific Plan will allow for employment opportunities to be created for the City of Ontario and surrounding region. Residents of Ontario Ranch will have the ability to access employment not only by automobile but also via pedestrian multi-purpose trails from the surrounding residential neighborhoods.

Industrial uses should continue the pedestrian friendly character of the area and implement appropriate site planning, architectural and landscape design techniques to be complimentary to the adjacent land uses.

Site design should facilitate the intended functions of developed and open space areas and provide for appropriate interactions between buildings, activity areas, vehicular access, parking, pedestrian paths and bicycle travel.

The following concepts are intended to facilitate site design quality within the Rich-Haven Specific Plan.

6.6.3.1 BUILDING ORIENTATION

- Provide a well-organized site plan that emphasizes pedestrian connectivity and attractive landscape areas for the public through the location and arrangement of buildings, circulation, and parking areas.
- Buildings should be oriented to provide for an aesthetically pleasing streetscape edge along publicly visible edges including Mill Creek Avenue and Hamner Avenue.
- Building sides which are oriented to visible edges should provide more architectural detail and interest such as color blocking, material changes, windows, building wall offsets, pop-outs and architectural accent features to avoid long expanses of monotonous, blank, untreated walls. (See Photo 7.1).
- Orient buildings towards street frontages to create an inviting public perimeter. Enhanced elevations shall be provided for buildings that front Hamner Ave and Mill Creek Ave.
- Provide visible pedestrian access to buildings from the street, parking areas, and perimeter sidewalks through signage, prominent architectural features, and landscape design.
- Create employee break areas within setback areas with trellis structures, create park like amenity for employees
- Locate loading and storage areas away from streets when feasible, ensure adequate space for vehicle backing and maneuvering on-site, and provide adequate parking for loading vehicles so normal traffic flow is not impeded.
- Orient and screen elements such as trash enclosures, loading bay doors, and service docks to minimize their visibility.
- Locate service entrance to prevent conflict with front entry.
- Place electrical rooms and transformers away from front entries and street views.

6.6.3.2 PARKING LOTS

- Parking is encouraged to be located to the side and rear of the building, when available. Landscape buffers should be provided to screen parking lot areas that are visible from perimeter streets. (See Photo 7.2).
- Parking lots should be designed to minimize impact to pedestrian walkways and service access. Large parking lots should be avoided, however if necessary, a landscaped pedestrian walkway

should be provided for safe access to buildings.

- Site entries shall compliment the architectural development by utilizing enhanced pavement treatment in vehicular areas, accent trees, and color planting. Enhanced paving shall extend from the back of the approach apron, into the site, to the first intersecting drive aisle or parking space.

- A theme wall/entry monument may be installed at the major project entries.

- Parking areas shall provide trees within the vehicular use areas at a ratio of one tree for every 10 parking stalls. The trees shall consist of 24" and 36" box sized trees.

- Locate visitor and short-term parking areas at the front and sides of buildings near primary building entrances.

- Organize landscaped areas, drive entrances, and/or buildings to create separate parking areas to prevent the parking lot from being the dominant visual element.

- Screen parking areas and loading docks facing the street using landscape buffers planted with screen trees and drought tolerant vegetation.

- SCE easement utilized for industrial parking or activity shall be completely screened from the public right of way, residential land uses and trails by a decorative block wall or other form of screening consistent with the design guidelines and require Planning Director review and approval.



Photo 7.1 - Example of main building accents oriented towards street and entry



Photo 7.2 - Example of an Industrial edge along a perimeter street such as Hamner Avenue

6.6.3.3 LOADING STORAGE & REFUSE AREAS

- Loading docks and storage areas should be oriented away from adjacent streets. Any visual impact to public views should be screened through the use of walls, berms and/or landscaping. Adequate room should be provided for trucks maneuvering or waiting to unload. Attractive and durable materials shall be used for the design of visible screening walls that is complimentary to the primary building design.

- Refuse areas, containers and equipment shall be easily accessed by service vehicles but screened from view of the streets, parking lots, and connecting walkways through the use of walls, berms and/or landscaping. Screening details should incorporate elements that are compatible with the architecture style of the building. Equipment and enclosures shall not be located near pedestrian walkways. Roof-mounted equipment shall be screened by the roof/parapet.

- Screen walls should be 14ft high. Lower screen wall heights may be permitted through a line of sight study. Landscaping should be incorporated to visually soften the appearance of walls.

- No required parking or loading facilities shall be located in any required landscape setback.

- Driveways and parking areas should be separated from adjacent sidewalks or landscaped areas by a curb not less than six inches high.

6.6.4 ARCHITECTURAL DESIGN

The architectural design guidelines for industrial buildings will respond to the general characteristics of the surroundings as well as to the overall thematic vision of the Rich-Haven Specific Plan area. They are intended to provide well designed, attractive, high quality buildings through the use of the following design elements, features and principles.

6.6.4.1 SCALE AND MASSING

- The general scale and massing of an industrial building is large and monolithic. Due to the nature and purpose of these buildings, this is unavoidable, however, design techniques can be used to mitigate and soften the appearance. These design features are especially important where the building is highly visible from the public realm.

- Building height variations, architectural projections, pop-outs, stepping of floors, accent detailing, material change and color variety are ~~encouraged~~ required to compliment the surrounding industrial land uses. Massing elements shall relate to the architecture style of the building and should be proportional and visually pleasing.

- Avoid blank walls by providing articulation on building elevations visible from a public right-of-way through elements such as cornices, parapets, expression lines, and changes in materials and/or colors.

- For larger buildings that are visible from adjacent public streets, they shall include architectural treatments to avoid long expanses of untreated walls, and break up building massing, through the use of building height changes, projections, changes in color, building material ~~or~~ and texture ~~or similar architectural treatments~~.

- Typical ground-mounted equipment (such as transformers and heating units) should be screened by landscaping where they would otherwise be within public view.

- Where long, linear walls or fences are needed, a combination of wall/fence with dense landscaping shall be provided.

- The mass of new structures, as visible from public streets, should be softened by landscaping or lessened by small-scale elements such as windows, panels, entrances, and other detail features to avoid monotony in design (See Photo 7.3).

- Ensure scale, massing, fenestration, materials, and colors are consistent with the building's architectural style and compatible with the overall design in the Specific Plan area.

- Provide the greatest level of articulation on the front facades that are visible from the public rights-of-way and at the main entrances.

6.6.4.2 ROOF FORM AND MATERIALS

- Roof forms if visible, should be simple and avoid a massive appearance. Buildings shall use height variations to breakup the roofline and create a more interesting visual appearance (SEE 6.6.4.5 Base & Top Treatments).

- Roofing materials should be durable yet compatible to the building's architectural style.

6.6.4.3 ENTRY DESIGN

- Entries and windows are encouraged to face streets and pedestrian walkways. Primary building entries shall be easily identified through the massing of the building. Greater height can be used to highlight and accentuate entries in the form of tower elements, tall voids, a central mass or an entry plaza. Secondary entries may use smaller building masses to communicate their locations.

- Design office buildings, business parks, and office areas of industrial or warehouse buildings with an emphasis on the use of windows, architectural details, and building articulation.

- Integrate the design of industrial/warehouse office areas into the overall building composition so they create powerful architectural statements and not visually disjointed "add-ons".

- Major vehicular and pedestrian entries to the site from the public street system should be readily visible. Major entries to planning areas, other than truck entries should be marked by accent pavement with accent trees and other enhanced landscape features.

- Design entry features as a significant aspect of a building's overall composition through massing, detailing, architectural treatments, and/or special materials and colors.

- Employ recessed or covered building entrances to provide shade and visual relief.

6.6.4.4 DESIGN FLEXIBILITY

- Building design should be flexible in order to adjust to various future market demands. Parcel sizes should be flexible and vary in size to accommodate a variety of building types.



Photo 7.3 - Example of building and landscape treatments to soften views from the public right of way

6.6.4.5 BASE & TOP TREATMENTS

- Building design should encourage the use of base and top treatments to help balance the "weight" of the building visually. Bases should appear to "ground" the building, while tops create a defined edge to the roofline. Base treatments may include changes in texture or material and enriched landscaping. Top treatments may also include changes in texture or material, and may also include cornices or roof overhangs.

6.6.4.6 MATERIAL CHANGES

- Avoid the false appearance of lightweight veneers by hiding material changes through careful detailing. Material changes should not occur at external corners, but may occur at "reverse" or interior corners or as a "return."

6.6.4.7 COLOR

- Employ a minimum of four different colors, materials, and~~/or~~ textures on each building.
- For larger building surfaces colors should be muted and softer colors used. Accent colors may include brighter and darker colors. Color blocking can be used to break up large monotonous wall planes in conjunction with wall offsets and pop-outs.
- Avoid terminating a change in material or color at a building edge; instead, select a logical termination point in relation to the architectural features or massing.
- Paint exposed downspouts, service doors, and mechanical screens the same color as the adjacent wall. Exposed downspouts are not permitted on elevations that front onto a street.

6.6.4.8 LIGHT INDUSTRIAL ADJACENT TO RESIDENTIAL

- To minimize noise impacts orient truck courts away from residential areas.
- Enhance second story elevations facing residential with, but not limited to, glazing, canopies, building articulation or niches, color blocking, etc.
- Limit activity and evening hours of operation on drive aisles adjacent to residential.

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SECTION 7 - LANDSCAPE PLAN

7.1 MASTER LANDSCAPE PLAN

7.1.1 COMMUNITY VISION

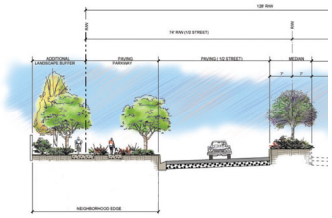


The landscape design concept for Rich-Haven is to create open spaces and lifestyle opportunities for a community that evokes traditional and timeless qualities. The emphasis in the landscape design is on community and neighborhood, focusing on the individuals and their interaction with their livable surroundings. Using innovative design to focus the street scene on entries and living areas, as opposed to garages and property walls, emphasizes neighborhood scale within the community. Importance is placed on connectivity and linkages between homes, parks, schools, retail and employment. A variety of park types and sizes provide for a wide array of activities to various community groups and users. Incorporating design elements such as clear sightlines, pedestrian lighting, and a separation of pedestrian from vehicular circulation impresses a premium on safety and individual security. Landscape elements selected will establish a community with a landscape that incorporates the diverse and traditional styles of the neighborhood and community architecture, yet share a common palette and streetscape pattern that unify neighborhoods and the community at large.



7.2 COMMUNITY STREET SCENE

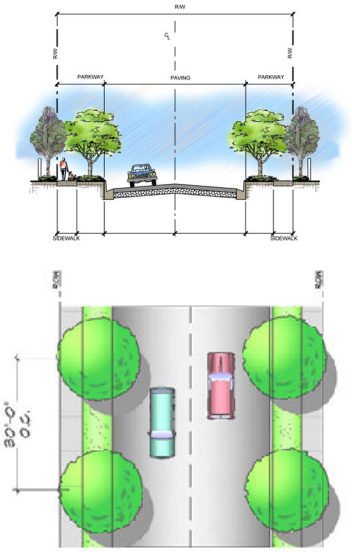
7.2.1 COMMUNITY ARTERIALS



See Master Planned Circulation Plan (Figure 4-1A) for arterial locations as they apply to the Rich-Haven community.

Landscape guidelines concerning major community arterials in the Ontario Ranch are addressed by the City of Ontario in the Ontario Ranch Streetscape Master Plan. Street tree, under-story tree, and shrub palettes have been determined by the City of Ontario and shall be complied with where applicable within the Rich-Haven community.

7.2.2 NEIGHBORHOOD STREETSCAPE



7.2.2.1 Residential Theme Streets

Residential Theme Streets are those significant residential streets that are commonly designed to be used as 'separator' streets between residential neighborhoods, and therefore are usually faced by two different home types. These streets will be designed to connect and unify various neighborhoods and planning areas through the use of community theme elements such as unified street trees, lighting fixtures, directional signage, and construction materials.

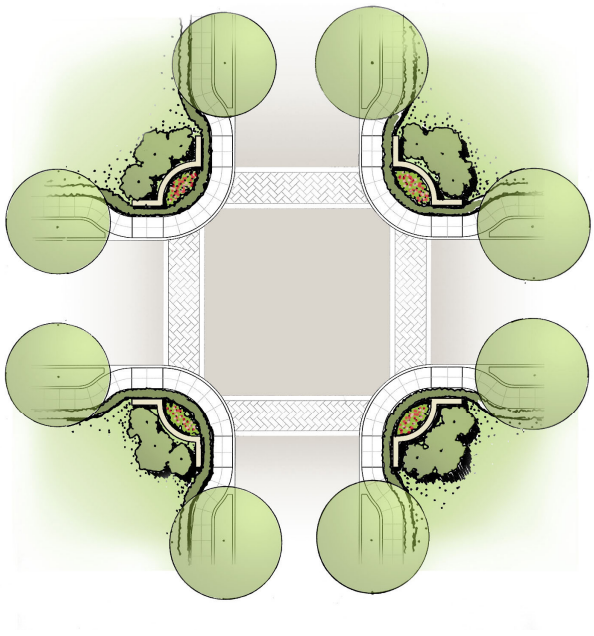
Also, residential Theme Streets will act as primary pedestrian corridors in addition to vehicle corridors. These streets will be designed with a differentiating street trees/parkway planting treatment or a widened landscape edge to provide convenient and safe pedestrian circulation throughout the Rich-Haven community.

- Street Trees shall be spaced at 30' O.C. When feasible, utilities and other obstructions shall be located outside of an 8' clear space 30' on center reserved for street trees.
- Street Trees shall be installed at 24" box size minimum.
- Street Trees located closer than 5' of walks, walls, or other hardscape shall have a linear root barrier installed per manufacturer's recommendation.
- Street Trees shall align on both sides of the street in a soldier course wherever possible subject to site conditions.
- The number of trees per street shall be based on 1 Street Tree per 30' of linear street measured between beginnings of curves at intersections. The number of street trees shall only be reduced from this amount with permission from the City of Ontario.
- Parkways between sidewalk and roadside curb shall be planted with low water using groundcover, turf or approved equal.
- For all trees proposed in turf areas, a minimum 7' area clear of turf, and in parks a 10' area clear of turf, measured from the outside diameter of the tree trunk, shall be maintained to prevent damage from lawn maintenance equipment. Trees in parkway turf area shall have a turf free, groundcover only section the length and width to equal the parkway size.
- Street light fixtures shall be consistent, decorative in nature, and selected from the City of Ontario's approved street light fixtures.
- Sidewalks shall be scored with a 24" x 24" score pattern.
- Turf shall only be used where play or pedestrian use is expected; such as parks, play areas or limited areas in parkways for access from street parking to avoid excessive water use.

7.2.2.2 Theme Street Intersections

Monumentation at the Local Theme Streets shall consist of ornamental walls with the following criteria:

- Walls shall be 2'-6" in height and be located outside sight triangles calculated per City of Ontario guidelines.
- Design shall be simple and timeless in nature and be symbiotic with the surrounding architectural styles. Walls will be finished in an antique brick veneer or stone veneer. Suggested finishing techniques include sandblasted concrete and mortar wash over stone.
- Color shall match or be in harmony with the surrounding neighborhood architecture.
- Landscape associated with walls shall be selected to provide an accent in color and/or form.
- Landscape shall not exceed 24" high within sight triangles calculated per City of Ontario guidelines.
- Specimen type trees shall be chosen to accent the corner monumentation shall be multi-trunk, with unique branching, flowers or fall color.



Plan View – Local Theme Street Wall Locations



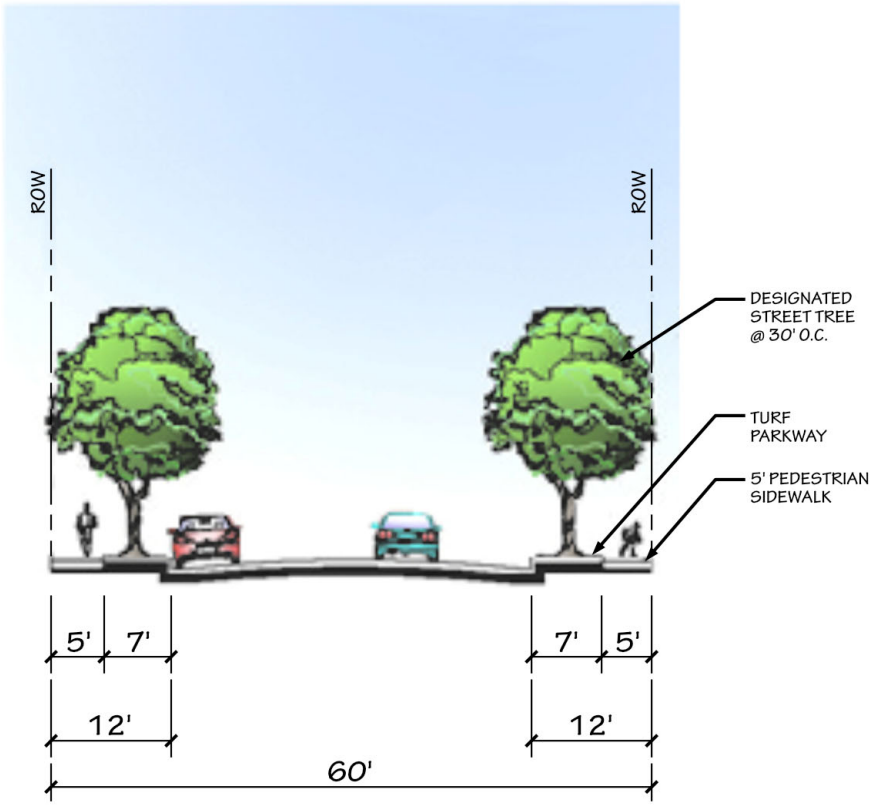
Example Theme Street Wall Elevation

~~THEME STREET IDENTIFICATION~~

~~FIGURE 7.1~~

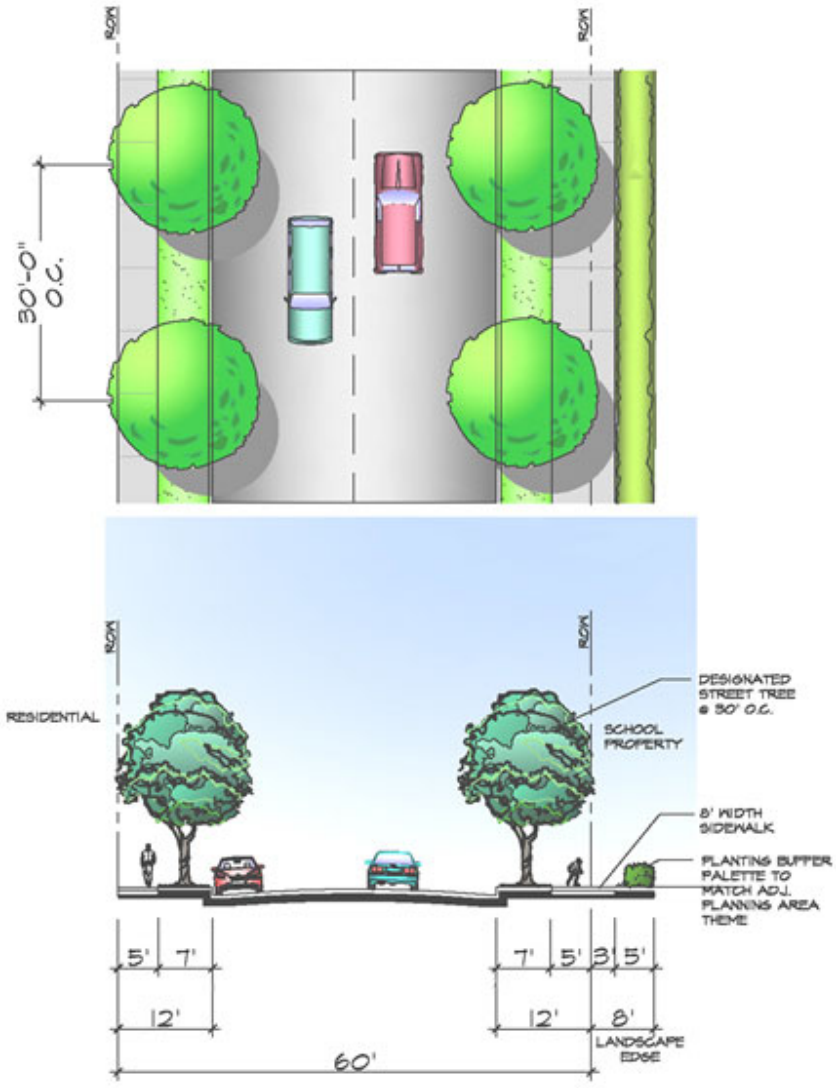
7.2.2.3 Local Neighborhood Streets

- Local Neighborhood Streets unify and identify smaller neighborhoods and/or housing types within the Community. Primary identifiers include a common street tree type and similar hardscape materials.
- See Planning Area Landscape criteria (Section 6.4) for street tree designation on local neighborhood streets.
- Street trees shall be installed at 24" box size minimum at 30' O.C.
- Street Trees located within 5' of walks, walls, or other hardscape shall have a linear root barrier installed per manufacturer's recommendation.
- Parkways between sidewalk and roadside curb shall be planted with low water using groundcover, turf or approved equal.



Local Neighborhood Street
Parking Permitted

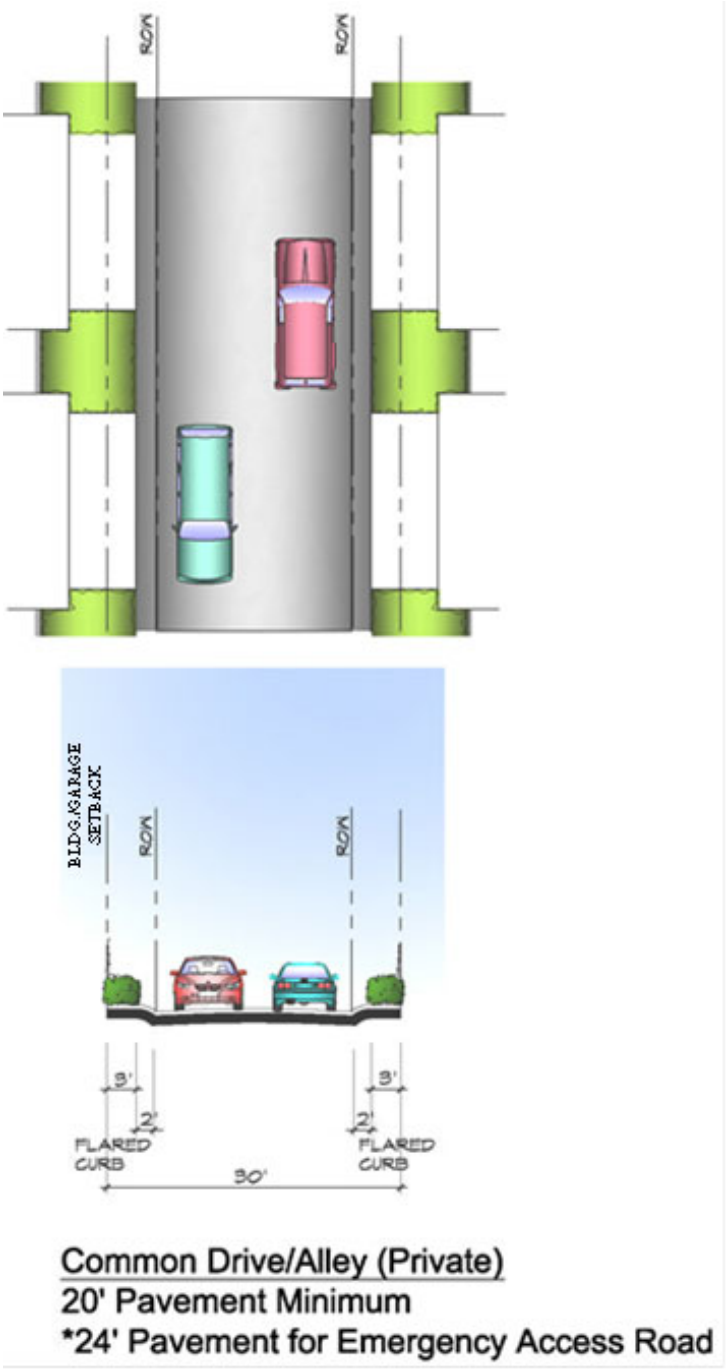
- Where a Local Neighborhood Street exists adjacent to School Property, there shall be an additional 8’ landscape edge provided on the School side to allow for a widened sidewalk and landscape buffer.



Local Street Next to School
Parking Permitted

7.2.2.4 Common Drive/Alley

- Landscape materials and details shall soften and enhance essential service and vehicular access, creating a utility oriented residential street type. Shrubs and vines shall be used in conjunction with screen wall and fence types to provide a cohesive circulation element for alley-loaded product types.



Common Drive/Alley (Private)
20' Pavement Minimum
*24' Pavement for Emergency Access Road

7.2.3 COMMUNITY INTERSECTIONS ~~7.2.3~~

The City of Ontario, Ontario Ranch Streetscape Master Plan defines improvement requirements at intersections of City maintained primary and secondary arterials. In addition, the Streetscape Master Plan categorizes Major and Secondary Gateways and Intersections within the Ontario Ranch. These Design Standards and Guidelines for the intersection of streets shall be complied with.

7.3 ENTRIES AND MONUMENTATION

7.3.1 COMMUNITY MONUMENTATION



The Ontario Ranch Streetscape Master Plan defines guidelines for size, materials, and placement of monumentation at Major and Secondary Gateways and Intersections within the public right-of-way. All monumentation designs are subject to approval by the City of Ontario. And, all monuments shall be placed in accordance with City of Ontario Traffic and Transportation Design Guidelines for Monument Placement.

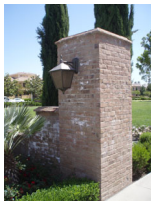
7.3.2 NEIGHBORHOOD MONUMENTATION

7.3.2.1 Community Entries

Neighborhood monumentation will exist primarily at intersections associated with Residential Theme Streets, Community entries, Neighborhood entries, and at residential area parks.







Community Entries are defined as those junctions where Residential Theme Streets intersect with major City of Ontario arterials, yet are not defined as Major Intersections per the Ontario Ranch Streetscape Plan. Community Entries shall consist of ornamental walls subject to the following criteria:

- Walls shall be maximum 6’-0” in height and be located outside sight triangles calculated per City of Ontario guidelines.
- Design shall be simple and timeless in nature and be symbiotic with the surrounding architectural styles. Walls will be finished in an antique brick veneer or stone veneer. Suggested finishing techniques include sandblasted concrete and mortar wash over stone.
- Color shall match or be in harmony with the surrounding neighborhood architecture.
- Landscape associated with walls shall be selected to provide an accent in color and/or form.
- Landscape shall not exceed 24” height within sight triangles calculated per City of Ontario guidelines.
- Signage lettering will be wrought iron, brass, brushed aluminum, or similar high quality material.
- Ornamentation will be wrought iron, brass, stained wood, or similar high quality material.
- Other than decorative lanterns, monument lighting will be screened from pedestrian and vehicular traffic view.
- Community Entry monumentation is subject to City of Ontario approval.



Example Community Entry
Elevation

Where Private Development Entries coincide with Theme Street intersections, Guidelines for Private Development Entries shall prevail.

7.3.2.3 Neighborhood Entries

Monumentation at Neighborhood Entries shall consist of ornamental walls and signage subject to the following criteria:

- Walls shall be a minimum 2'- 6" in height and a maximum of 4'-0" in height, and be located outside sight distance triangles as calculated by City of Ontario criteria.
- Design shall be simple and timeless in nature and be harmonious with adjacent architectural styles.
- Walls will be finished in an antique brick mix veneer or stone veneer. Concrete wall and pilaster caps will be permitted. Suggested finishing techniques include sandblasted concrete and mortar wash over stone.
- Signage will be wrought iron, brass, aluminum, tile mosaic, or recessed lettering in light sandblasted concrete.
- Ornamentation to be wrought iron, brass, wood, or similar high quality material.
- Other than decorative lanterns, monument lighting shall be screened from pedestrian view
- Landscape associated with walls shall be selected to provide an accent in color and/or form.
- Landscape shall not exceed 24" high within sight triangles calculated per City of Ontario guidelines.
- Neighborhood monumentation is subject to approval by the City of Ontario.



Example Neighborhood Signage

7.3.2.4 Park Monumentation

At a minimum, monument signs will be placed at the primary entrances of community parks. These signs will be subject to the following criteria:

- Monumentation is strongly encouraged to include pilasters, arbors, and other design elements to create an entry statement or gateway into the park.
- Signage walls shall be 3'-5' in height and located outside sight distance triangles as calculated by City of Ontario criteria.
- Designs shall be simple yet strong in form and be harmonious with surrounding neighborhood architectural styles.
- Park names shall be embedded in light sandblasted concrete or on tile mosaic. Embedded letters filled with black or bronze enamel is permitted.
- Walls will be finished in an antique brick mix veneer or a stone veneer. Pre-cast or poured-in-place concrete wall caps and pilaster caps are permitted. Suggested finishing techniques include sandblasted concrete and mortar wash over stone.
- Additional walls without signage may be used throughout the park as a design element, but shall be consistent in material and theme throughout the individual park.
- Other than decorative lanterns, monument lighting shall be screened from pedestrian view.
- Park Monumentation is subject to approval by the City of Ontario.



Example Park Entry

7.4 PARKS AND OPEN SPACE









The parks contained within the residential development areas of the Rich Haven Specific Plan will be designed to provide a variety of uses and activities within the overall community. Each park will consider the unique opportunities of its location and provide complimentary facilities to suit the neighborhood setting. The parks will be developed as a "system" rather than an open space "island", providing facilities, activities and open space to the surrounding neighborhoods.

Safety and visibility will be incorporated within the park system design. Design principles include maintaining clear site lines, adequate lighting, and elimination of "hiding spaces". All parks shall be equipped with necessary maintenance and convenience facilities such as benches, trash receptacles, restrooms, ash urns, and bicycle racks.

All parks shall meet ADA guidelines in terms of accessibility.

All Parks shall be irrigated with Recycled Water.

All parks, open space areas, greenbelts, parkways and parking lots shall consider, where feasible, incorporating the latest Low Impact Design (LID) Best Management Practices for storm water collection and infiltration as discussed in Section 4.4 of this Specific Plan. These methods shall include: pervious pavement, engineered soil (amended soil), vegetated swales, retention/infiltration basins and trenches, dry wells and bio-treatment basins and structures, where infiltration is infeasible. Landscape design will need to coordinate with Civil engineer in planning and implementation of all these methodologies.

7.4.1 RESIDENTIAL DISTRICT PARKS ~~7.4.1~~

7.4.1.1 General Design Elements and Objectives

Suggested program elements for Residential District parks may include some or all of these elements:

ACTIVE

- Basketball court
- Sand Volleyball
- Turf field with clearance for pick-up games (football, soccer, softball, etc.)
- Perimeter walking/jogging trail
- Tot Lot (5-12 years)
- Tot Lot (ages 2-5) w/ play structure
- Open turf play field
- Softball backstop

PASSIVE

- Shade Trees and open lawn area.
- Picnic Tables
- Solid cover shade overheads
- Benches
- Gazebo structure
- Pavilion structure with barbecues and tables suitable for parties
- Individual solid cover shade structures with tables beneath
- Rose, flower or native plant garden
- Giant Chess Board

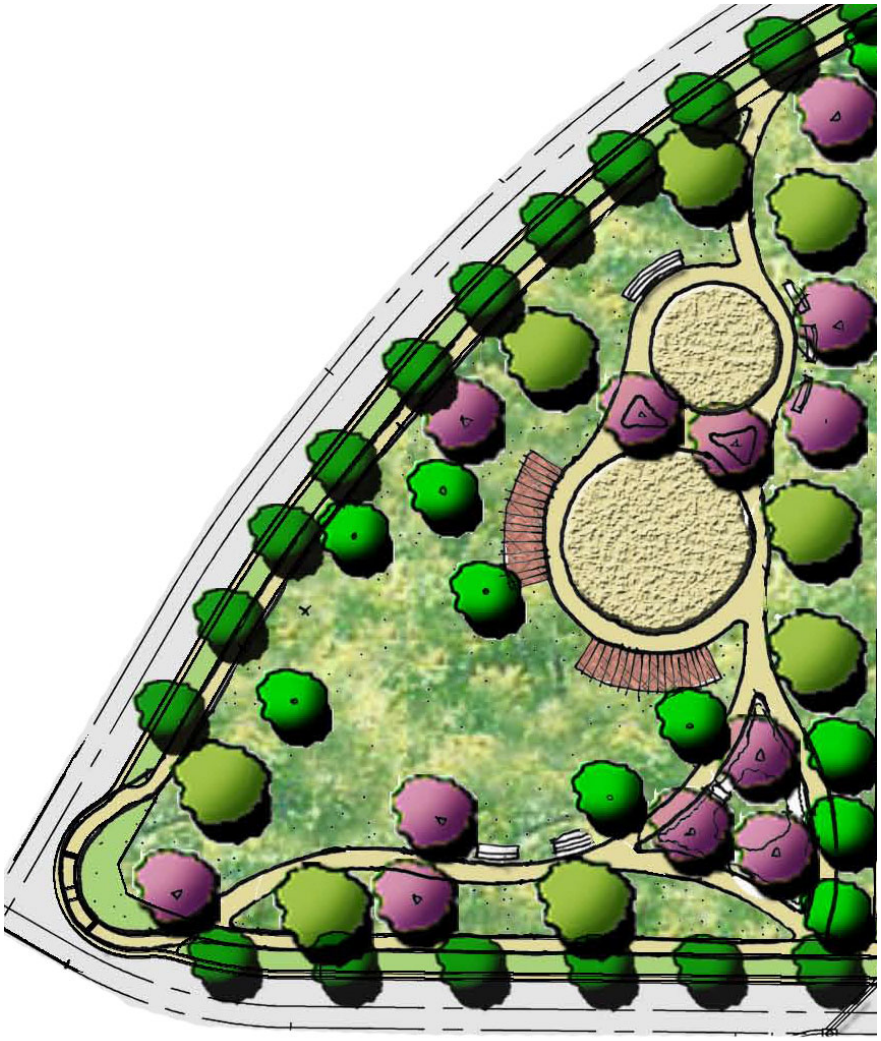
General requirements:

- At least 80% of the site should be generally level. Open field areas shall be at a minimum 2% minimum grade.
- Play areas shall meet all federal and local ADA guidelines and requirements in terms of accessibility.
- Installed play equipment shall meet all current American Society for Testing and Materials (ASTM) standards regarding play equipment, play surfacing, and fall absorbency.
- Installed play equipment shall meet all current Consumer Product Safety Commission (CPSC) guidelines for public playground safety, including but not limited to, fall zone clearances, critical heights, and assembly guidelines.
- ADA compliant restrooms shall be provided.
- Bike racks shall be provided.
- Trash receptacles and ash urns shall be provided.
- Wherever possible, Residential District Park areas should be finish graded to accept street runoff water and serve a dual purpose as stormwater runoff spreading and infiltration areas, as well as recreational areas.

Residential Park Concept

Park design is conceptual in nature. Final designs shall be reviewed and approved by the City of Ontario.

- Clear and effective sightlines shall be maintained from surrounding roadways and throughout the park.
- Clearly delineated crosswalks shall be provided to connect surrounding amenities to adjacent use areas.
- On-site parking and a formal pick-up/drop-off area near the major entry point shall be provided.
- Parks shall have clearly delineated crosswalks to set them off from surrounding amenities to adjacent areas.
- Security lighting shall be provided around the park at 100' minimum spacing with 70-watt bulbs on minimum 14' high poles.

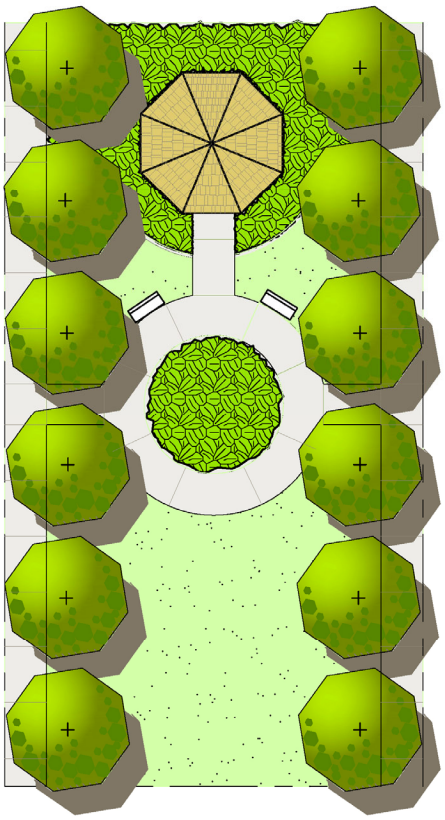


POCKET/LINEAR PARKS 7.4.2

Small Pocket/Linear Parks will be incorporated into the design of neighborhoods in order to both soften the built environment and provide open natural spaces for residents to experience and enjoy.

Example Pocket/Linear Park

- The pocket/linear park program may contain formal or informal layouts. They also will contain walkways and trails.
- Pocket/linear parks are exempt from the requirement to contain restroom facilities.
- Pocket/linear parks shall contain maintenance and convenience furnishings such as benches, trash receptacles, and ash urns.
- Built pergolas, arbors, gazebos, and walls are encouraged design features. Open lattice or solid roofs are allowed on overhead structures.
- Security lighting in the form of bollard lighting or decorative post lighting is encouraged.
- Pocket/Linear Parks shall be a minimum of 30' in width and 0.25 acres in size.
-



Landscape within the Southern California Edison easements is subject to SCE requirements and review. All landscape plans shall be submitted and approved by SCE before implementation.

See the City of Ontario, Ontario Ranch Streetscape Master Plan for more guidelines concerning SCE Easements in the Rich-Haven project area.

7.4.3 SCE EASEMENTS

7.4.3.1 SCE Requirements

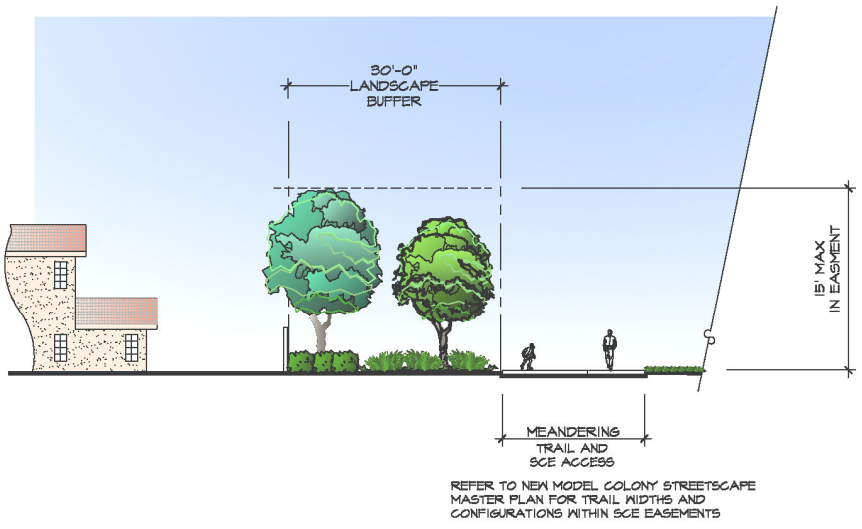
- Landscape design will follow current local and regional SCE guidelines concerning use of hardscape materials, planting materials, irrigation equipment, and clearances.

7.4.3.2 Design

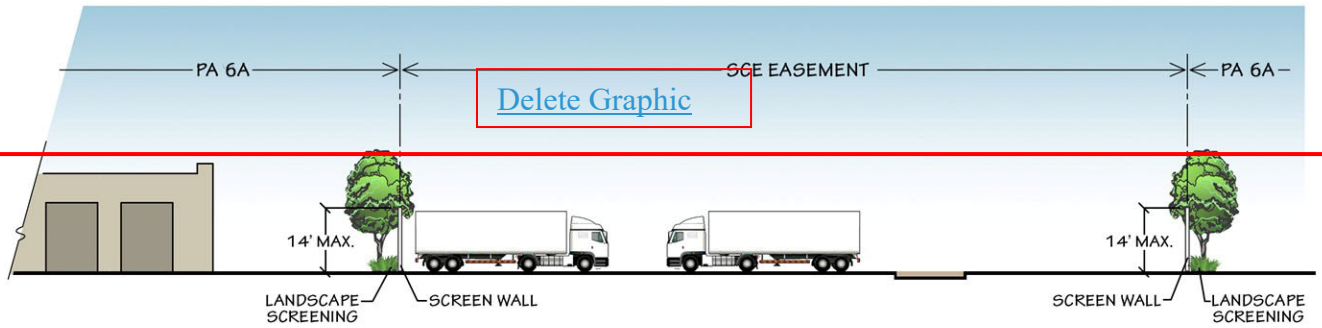
- SCE easements will be designed as linear green spaces.
- It is expected and encouraged that SCE maintenance access will also be designed to be used by the community for pedestrian and bicycle use.
- Community Gardens shall be considered as a design element in SCE easements.

7.4.3.3 Screening

- Where use of an SCE Easement is deemed unsightly, a 30' minimum area shall be used to buffer and screen the use from adjacent areas.
- Provide a separation for trails and landscape from SCE easements with a minimum 24" high block garden wall or 12" high curb and dense hedge material to prevent blowing dust, soil and tumble weeds from damaging trail and landscape.



SCE EASEMENT EDGE/PATH



~~SCE EASEMENT IN PA 7~~

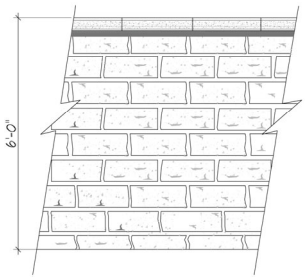
7.5 COMMUNITY WALLS AND FENCES

7.5.1 RESIDENTIAL DISTRICT WALL AND FENCE TYPES

Community Walls will be set back and de-emphasized wherever possible. Where walls are determined necessary, the requirements listed herein will apply. The spacing of pilasters and wall offsets shall be subject to City of Ontario Planning Department review and approval. (See Figure 7.2)

7.5.1.1 Solid Walls

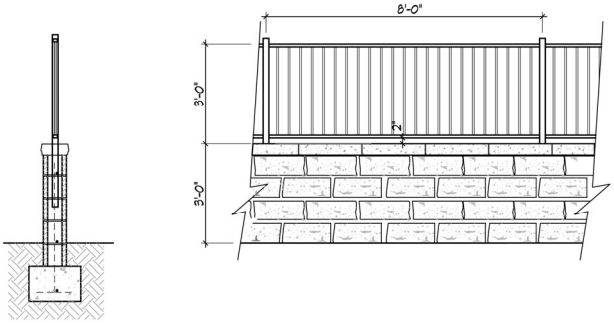
- Solid walls shall not exceed 8' in height unless expressly required in a sound study conducted by a qualified acoustic engineer. Walls that exceed 6' in height are subject to approval by the planning department.
- Walls facing and/or viewed by public spaces shall be decorative in nature consisting of split face block, stone or brick veneer, or plaster.
- Wall caps shall be either precast concrete, concrete block, or plaster stucco finish. Mortar caps are not allowed.
- Wall materials and color shall match or be in harmony with adjacent architectural features.



Typical Wall Elevation

7.5.1.2 View Fencing

- View fencing may be implemented where property walls abut park, open space, or where views are deemed appropriate.
- View fencing shall consist of 3' high maximum wrought iron, tubular steel, or glass over 3' high decorative block wall.
- Steel fencing shall be black in color and appropriately treated to prevent rust.



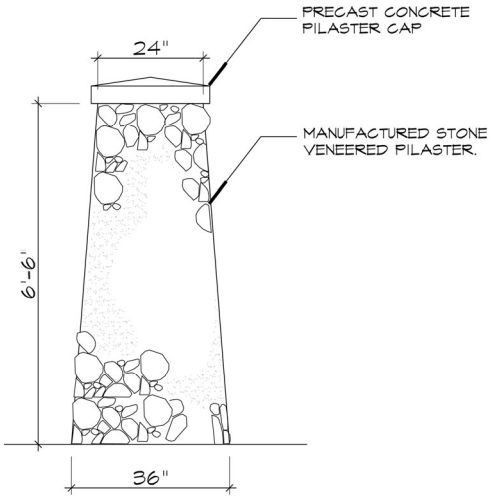
Typical View Fence Elevation

7.5.1.3 Private Homeowner Lot Fencing

- Private fencing between homeowner lots shall be 6’ high.
- Private fencing shall be of solid wall or view fence construction subject to section 7.5.1.1 and 7.5.1.2.
- Interior side residential walls, not exposed to public view, may consist of precision face block with a cap consistent in color with any adjacent walls.

7.5.1.4 Pilasters

- Decorative pilasters shall be used on walls adjacent to or viewable from public areas.
- Pilasters shall be decorative in nature consisting of split face block, stone or brick veneer, or plaster.
- Pilaster materials and color shall match or be in harmony with adjacent architectural features.
- The spacing of pilasters and wall offsets shall be subject to City of Ontario Planning Department and review.



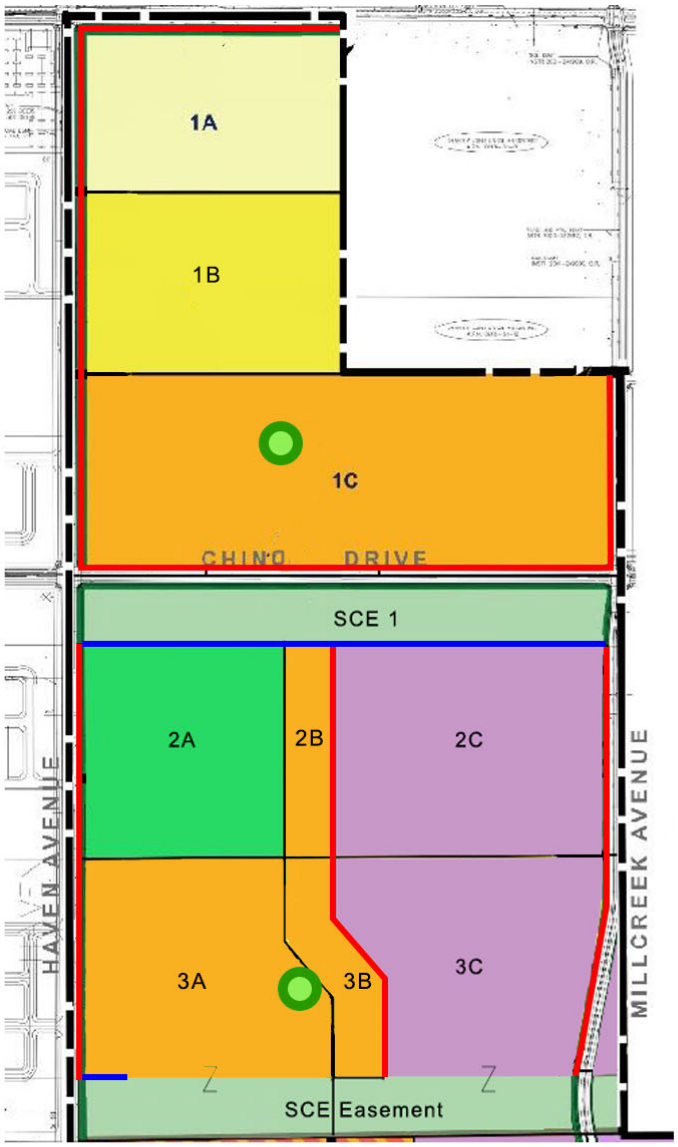
Example Pilaster Elevation

7.5.1.5 Retaining Walls

- Retaining walls shall not exceed 5 feet above rough grade and must be set 5’ clear from rear and side property lines.
- Retaining walls that terrace must include a 3’ clear planting area between walls and/or hardscape.
- Retaining walls must be screened with substantial planting.
- Retaining walls must be properly waterproofed and drained.
- Retaining walls facing or viewable from public areas shall decorative in nature consisting of split face block, brick or stone veneer, or plaster.

Residential District
Community Wall
Figure 7. 2

Breaks may occur in walls shown to accommodate local neighborhood entries, walks, and trails subject to City of Ontario approval.

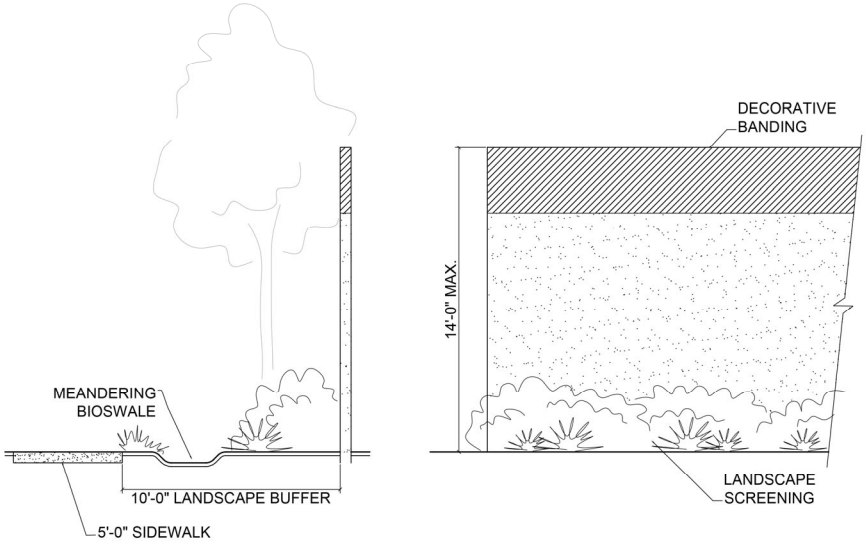


Revised Exhibit

7.5.2 INDUSTRIAL DISTRICT WALL AND FENCE TYPES ~~7.5.2~~

7.5.2.1 Solid Walls

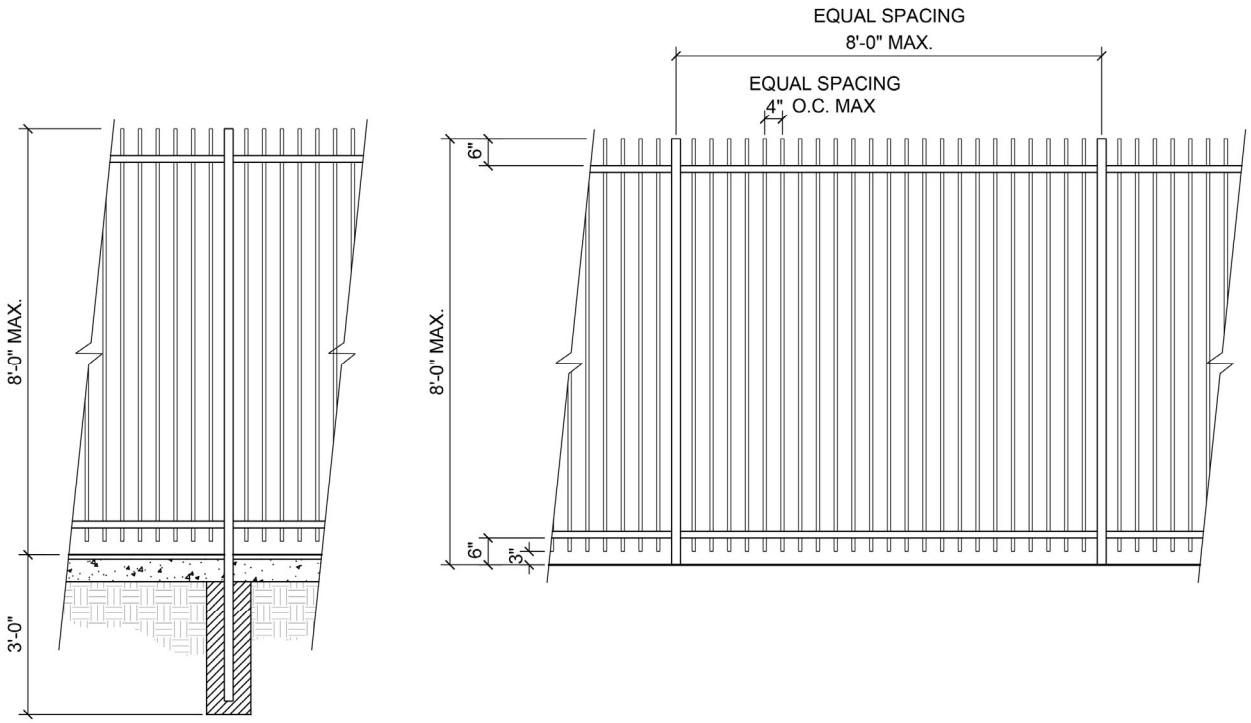
- Solid walls shall not exceed 14’ in height unless expressly required in a sound study conducted by a qualified acoustic engineer.
- Walls facing and/or viewed by the public spaces shall be decorative in nature. Approved materials include concrete tilt-up walls with a decorative banding or finish detailing, split face block or stucco.
- Walls in excess of 50 feet long shall include a decorative pilaster or horizontal plane break every 100 feet.
- Wall materials and colors shall match or be in harmony with adjacent buildings or architectural features.



TYPICAL SOLID WALL ELEVATION

7.5.2.2 Perimeter Fencing

- Perimeter fencing may be implemented along SCE easements, compatible land uses or where visual access is deemed appropriate.
- Perimeter fencing shall consist of 6’ to 8’ high tubular steel or aluminum fencing with or without vertical pickets.
- Perimeter fencing shall be black in color and appropriately treated to prevent rust. Alternative colors may be approved subject to approval by the Planning Director.



TYPICAL PERIMETER FENCE ELEVATION

7.6 GENERAL LANDSCAPE

~~7.6~~

7.6.1 IRRIGATION GUIDELINES

- All planting areas shall be irrigated with an automatic irrigation system.
- Parks, parkways, HOA landscaped areas, and other common areas shall be irrigated with recycled water. See Section 4.2.2 for recycled water system.
- ~~LMD~~ HOA areas are to be controlled with a central control irrigation system.
- Trees shall have a bubbler system on a dedicated bubbler valve.
- Drip systems are permitted.
- Above grade Backflow Preventers shall be located in planting areas, protected with locking enclosures, and screened with plant material.
- Irrigation systems shall be zoned for exposure (south and west exposures together, north and east exposures together), topography, and varying water requirements (hydro-zones) of plant material.
- Turf shall be zoned separately from shrub and groundcover systems.

7.6.2 UTILITY PLACEMENT

- Various utility boxes shall be grouped together as much as possible.
- Utility boxes shall be placed in landscape easements and shrub/groundcover areas. Utility boxes shall not be placed in lawn areas unless absolutely necessary.
- Utility boxes shall not be placed closer than 50 feet to street corners or intersections measured from the beginning of curve.
- Above grade utility boxes shall be screened with planting to the extent possible to allow required access and clearance.

7.6.3 SLOPES

- Slopes shall be irrigated separately from flat areas on dedicated valves.
- All landscape slopes 3:1 or greater to have jute matting installed and all slopes2:1 ~~Slopes shall be covered with jute mesh per manufacturer's recommendations and specifications~~or greater to have erosion control blankets with a 3 year durability installed.
- Slopes shall be planted with trees, shrubs, and groundcover to cover 100% of the slope at maturity to help prevent slope erosion.
- Turf shall only be used on slopes with a grade equal to or flatter than 4.1.

7.6.4 STREET ENDS AND ALLEYS

- Where street ends or alleys do not terminate in housing, a trailhead, or a park, the terminus shall be treated with landscape screening or a focal point as appropriate.

7.7 COMMUNITY PLANT MATRIX

7.7.1 TREES

		Architectural Characters											
Botanical Name	**Common Name**	**Early California**	**Spanish Eclectic**	**European Cottage**	**Craftsman Bungalow**	**American Traditional**	**Ranch**	**English Country**	**Common Drives**	**Parks**	**Corner Entry/Accents**	**SCE Easements**	**Light Industrial**
Agonis flexuosa	Peppermint Tree	●	●			●		●		●			●
Arbutus unedo	Strawberry Tree		●		●		●			●			●
Bauhinia blakeana	Hong Kong Orchid Tree			●	●					●	●		●
Callistemon viminalis	Weeping Bottlebrush												●
Cedrus atlantica 'Glauca'	Atlas Cedar			●		●		●		●			●
Cedrus deodara	Deodar Cedar				●	●		●		●			●
Cecidium floridium	Blue Palo Verde	●	●		●					●			●
Cercis canadensis	Eastern Redbud			●	●		●			●	●		●
Cercis occidentalis	Western Redbud	●			●		●			●			●
Celtis sinensis	Chinese Hackbery			●			●	●		●			●
Chamaerops humilis	Mediterranean Fan Palm		●						●	●	●		●
Chitalpa tashkentensis	Chitalpa			●	●		●			●			●
Cordyline australis	Giant Dracaena	●	●							●			●
Cinnamomum camphora	Camphor Tree					●	●	●		●			●
Citrus spp.	Citrus	●			●		●						●
Cupressus glabra	Smooth Arizona Cypress					●		●		●			●
Cupressus sempervirens	Italian Cypress		●			●		●	●	●			●
~~Eriobotrya deflexa~~	~~Bronze Loquat~~	~~●~~			~~●~~		~~●~~		~~●~~	~~●~~		~~●~~	~~●~~
Eucalyptus species	Eucalyptus												●
Feijoa sellowiana	Pineapple Guava	●			●		●			●	●		●
Ginkgo biloba	Maidenhair Tree			●	●					●	●		●
Geijera parviflora	Australian Willow	●			●			●		●			●
Jacaranda mimosifolia	Jacaranda		●		●	●				●	●		●
Koelreuteria bipinnata	Chinese Flame Tree			●	●			●		●	●		●
Koelreuteria paniculata	Golden Rain Tree			●			●	●		●	●	●	●
Lagerstroemia indica	Crape Myrtle			●		●		●	●	●	●	●	●
Laurus nobilis	Sweet Bay	●				●	●			●			●
Liriodendron tulipifera	Tulip Tree			●	●			●		●			●
~~Magnolia grandiflora vars.~~	~~Magnolia~~			~~●~~		~~●~~		~~●~~		~~●~~	~~●~~		~~●~~
Melaleuca nesophila	Pink Melaleuca	●	●		●					●			●
Melaleuca quinquenervia	Cajeput Tree				●	●		●	●	●			●
Olea europea – fruitless variety	Fruitless Olive		●				●	●		●	●		●

7.7.1 TREES

		Architectural Characters											
Botanical Name	**Common Name**	**Early California**	**Spanish Eclectic**	**European Cottage**	**Craftsman Bungalow**	**American Traditional**	**Ranch**	**English Country**	**Common Drives**	**Parks**	**Corner Entry/Accents**	**SCE Easements**	**Light Industrial**
Parkinsonia aculeata	Mexican Palo Verde	●	●		●					●			●
Phoenix canariensis	Canary Island Palm												●
Phoenix dactylifera	Senegal Date Palm		●						●	●			●
Pinus brutia	Calabrian Pine			●		●		●		●			●
Pinus canariensis	Canary Island Pine		●	●	●					●			●
Pinus eldarica	Afghan Pine			●		●		●		●			●
Pinus halepensis	Aleppo Pine												●
Pinus pinea	Italian Stone Pine			●		●		●		●			●
Pinus thunbergiana	Japanese Black Pine												●
Pinus torreyana	Torrey Pine												●
Pistacia chinensis	Chinese Pistache		●		●		●			●	●		●
Platanus x acerifolia	London Plane Tree				●	●		●		●			●
Platanus racemosa	California Sycamore					●	●	●		●			●
Podocarpus gracilior	Fern Pine				●	●		●		●			●
Punica granatum	Pomegranate	●			●		●			●			●
Quercus agrifolia	Coast Live Oak	●	●			●	●			●			●
Quercus engelmanii	Engleman Oak	●	●		●		●			●			●
Quercus ilex	Holly Oak	●				●		●		●			●
Rhaphiolepis indica 'Majestic Beauty'	India Hawthorn			●	●			●	●	●		●	●
Rhus lancea	African Sumac		●		●		●			●			●
Schinus molle	California Pepper	●	●		●		●			●	●		●
Tipuana tipu	Tipu Tree			●	●			●		●		●	●
Trachycarpus fortunei	Windmill Palm		●		●					●			●
Tristania conferta	Brisbane Box					●	●	●		●		●	●
Ulmus parvifolia	Chinese Elm			●		●		●		●			●
Washingtonia filifera	California Fan Palm												●
Zelkova serrata	Sawleaf Zelkova			●		●		●		●			●

NOTE:

- Designated Street Trees for each planning area are listed in Section 6.4
- Designated Theme Street Trees are listed in Section 7.2.2
- See NMC Master Plan for landscape requirements for all master plan roadways.

7.7.2 SHRUBS

		Architectural Characters										
Botanical Name	**Common Name**	**Early California**	**Spanish Eclectic**	**European Cottage**	**Craftsman Bungalow**	**American Traditional**	**Ranch**	**English Country**	**Common Drives**	**Parks**	**Corner Entry/Accents**	**Light Industrial**
Acacia redolens 'Prostrata'	Prostrate Acacia	●			●		●					●
Agave spp.	Century Plant											●
Aloe spp.	Aloe	●			●		●					●
Alyogene huegelii	Blue Hibiscus		●	●	●					●		●
Arctostaphylos spp.	Manzanita	●		●			●			●		●
Aspidistra elatior	Cast Iron Plant			●		●		●	●			●
Baccharis x 'Centennial'	Prostrate Desert Broom											●
Baccharis Pilularis 'Twin Peaks'	Dwarf Coyote Bush											●
~~Bougainvillea cvs.~~	~~Bougainvillea~~	~~●~~	~~●~~		~~●~~		~~●~~					~~●~~
Buxus microphylla japonica	Japanese Boxwood			●		●		●	●	●		●
Callistemon viminalis 'Little John'	Dwarf Bottlebrush	●			●		●		●	●		●
Carex Divulsa	Berkley Sedge											●
Carex Pansa	California Meadow Sedge											●
Carex Praegracilis	Clustered Field Sedge											●
Carissa 'Green Carpet'	Prostrate Natal Plum											●
Carissa grandiflora 'Emerald Carpet'	Dwarf natal Plum		●		●			●			●	●
Carpenteria californica	Bush Anemone	●			●		●			●	●	●
Ceanothus spp.	California Lilac	●			●		●			●	●	●
Ceanothus griseus horizontalis	Caramel Creeper											●
Cistus purpureus	Orchid Rockrose	●	●		●		●			●		●
Convolvulus cneorum	Bush Morning Glory			●	●	●				●		●
Convolvulus mauritanicus	Ground Morning Glory		●	●		●				●	●	●
Cotoneaster spp.	Cotoneaster		●		●		●			●	●	●
Cotoneaster Horizontalis	Rock Contoneaster											●
Diplacus hybrids	Monkey Flower	●			●		●			●	●	●
Dalea gregii	Trailing Indigo Bush											●
Dietes bicolor	Fortnight Lily			●	●	●			●	●		●
Dietes vegeta	Fortnight Lily			●	●	●			●	●	●	●
Dodonea viscosa	Hopseed bush											●
Echium fastuosum	Pride of Madeira		●		●		●			●	●	●
Elaeaganus pungens	Silverberry	●		●			●			●	●	●
Ensete ventricosum 'Maurelii'	Abyssinian Banana		●						●	●		●
Euryops pectinatus	Grey-leafed Euryops	●			●		●			●		●
Fuschia t. 'Gartenmeister Bonstedt'	Fuschia			●	●	●				●		●

7.7.2 SHRUBS

		Architectural Characters										
Botanical Name	Common Name	Early California	Spanish Eclectic	European Cottage	Craftsman Bungalow	American Traditional	Ranch	English Country	Common Drives	Parks	Corner Entry/Accents	Light Industrial
Gaura lindheimeri	Gaura			●	●	●				●	●	●
Hemerocallis cvs.	Daylily			●	●			●	●	●		●
Heteromeles arbutifolia	Toyon	●					●	●		●		●
Ilex spp.	Holly			●		●		●	●		●	●
Juniper horizontalis 'Varieties'	Trailing Juniper Varieties											●
Juniperus spp.	Juniper					●	●	●	●	●		●
Juniperus chinensis x pfitzeriana	Pfitzer Juniper											●
Lantana spp.	Lantana	●	●	●			●		●	●	●	●
Lantana camara	Bush Lantana											●
Lantana montevidensis	Trailing Lantana											●
Lavandula augustifolia	English Lavender		●	●	●					●	●	●
Lavandula augustifolia 'Hidcote'	Pink English Lavender		●	●	●					●	●	●
Leptospermum scoparium cvs.	New Zealand Tea Tree		●				●	●		●	●	●
Leptospermum laevigatum	Australian Tea Tree											●
Leucophyllum candidum	Violet Silverleaf											●
Leucophyllum frutescens*	Texas Ranger											●
Leucophyllum laevigatum	Chihahuan Rain Sage											●
Leucophyllum pruinosum	Sierra Bouquet											●
Leymus arenarius	Lyme Grass											●
Ligustrum japonica 'Texanum'	Texas Privet			●			●	●	●	●	●	●
Liriope muscari	Big Blue Lily Turf			●		●		●		●	●	●
Liriope muscari 'Silvery Sunproof'	Variegated Big Blue Lily Turf			●	●	●				●	●	●
Lomandra longifolia	Nyalla											●
Lonicera japonica 'Halliana'	Hall's Honeysuckle		●			●	●			●		●
Mahonia repens	Creeping Mahonia											●
Muhlenbergia capillaris	Pink Muhly											●
Muhlenbergia rigens	Deer Grass											●
Myoporum pacificum	Creeping Myoporum											●
Myrtus communis 'Compacta'	Dwarf Myrtle			●		●		●	●	●	●	●
Osmanthus fragrans 'Goshiki'	ncn			●	●	●				●		●
Pennisetum setaceum	Fountain Grass	●	●		●		●			●	●	●
~~Phormium tenax cvs.~~	~~New Zealand Flax~~	~~●~~	~~●~~	~~●~~			~~●~~			~~●~~	~~●~~	~~●~~
Photinia fraseri	Fraser's Photinia				●	●		●		●		●
Pittosporum tobira cvs.	Mock Orange		●		●			●	●	●		●

7.7.2 SHRUBS

		Architectural Characters										
Botanical Name	**Common Name**	**Early California**	**Spanish Eclectic**	**European Cottage**	**Craftsman Bungalow**	**American Traditional**	**Ranch**	**English Country**	**Common Drives**	**Parks**	**Corner Entry/Accents**	**Light Industrial**
Pittosporum tobira 'Wheelers Dwarf'	Wheelers Dwarf Pittosporum											●
Plumbago auriculata	Cape Plumbago			●	●	●			●	●		●
Prunus caroliniana 'Compacta'	Dwarf Cherry Laurel											●
Rhamnus californica	Coffeeberry											●
Rhaphiolepis indica cvs.	India Hawthorn					●	●	●		●	●	●
Rhaphiolepis springtime	Indian Hawthorn											●
Rhaphiolepis 'Pink Lady'*	Indian Hawthorn											●
Rosa spp.	Rose		●			●		●		●	●	●
Rosa banksiae	Lady Bank's Rose		●		●			●			●	●
Rosa floribunda 'Carpet Rose'	Carpet Rose											●
Rosmarinus officinalis 'Majorca Pink'	Rosemary	●			●		●	●		●		●
Rosmarinus o. 'Tuscan Blue'*	Bush Rosemary											●
Salvia apiana	White Sage											●
Salvia gregii 'Flame'	Furman's Red Autumn Sage	●	●		●		●			●	●	●
Salvia leucantha	Mexican Bush Sage	●			●		●			●	●	●
Salvia mellifera	Black Sage											●
Santolina virens	Green Santolina	●			●		●			●	●	●
Scaevola 'Mini-Pink'	ncn	●			●		●			●		●
Senecio mandraliscae	Senecio											●
Strelitzia reginae	Bird-Of-Paradise		●		●					●	●	●
Tecoma stans	Yellow Trumpet Flower											●
Trachelospermum jasminoides	Star Jasmine											●
Viburnum japonicum	Viburnum											●
Viburnum tinus 'Spring Bouquet'	Dwarf Laurustinus			●			●	●		●	●	●
Westingia fruticosa	Coast Rosemary											●
Xylosma congestum cvs.	Shiny Xylosma			●		●		●		●		●
Yucca aloifolia	Spanish Bayonet											●
Yucca baccata	Banana Yucca											●
Yucca elata	Soaptree Yucca											●
Yucca gloriosa	Spanish Dagger											●
Yucca rigida	Blue Yucca											●
Yucca whipplei	Our Lord's Candle											●

7.7.3 GROUNDCOVERS

Botanical Name	Common Name	Architectural Characters: Early California	Spanish Eclectic	European Cottage	Craftsman Bungalow	American Traditional	Ranch	English Country	Common Drives	Parks	Corner Entry/Accents	Light Industrial
Arctostaphylos spp.	Manzanita	●			●		●			●		●
Baccharis pilularis	Dwarf Coyote Brush	●			●		●			●		●
Fragaria chiloensis	Wild Strawberry			●			●	●	●	●	●	●
Juniperus spp.	Juniper		●			●		●		●		●
Myoporum spp.	Myoporum	●			●		●			●		●
Pelargonium peltatum	Ivy Geranium			●	●	●			●	●	●	●
Rosmarinus officinalis 'Prostratus'	Prostrate Rosemary	●	●		●		●		●	●	●	●
Thymus praecox	Thyme			●		●	●		●	●	●	●
Trachelospermum jasminoides	Star Jasmine			●		●		●	●	●	●	●
Verbena peruviana	Verbena		●		●			●	●	●	●	●
Vinca Minor	Dwarf Periwinkle			●		●		●	●	●	●	●

7.7.4 VINES

		Architectural Characters										
Botanical Name	**Common Name**	**Early California**	**Spanish Eclectic**	**European Cottage**	**Craftsman Bungalow**	**American Traditional**	**Ranch**	**English Country**	**Common Drives**	**Parks**	**Corner Entry/Accents**	**Light Industrial**
Bougainvillea spp.	Bougainvillea	●	●		●		●		●			●
Clytostoma callistegioides	Violet Trumpet Vine			●		●		●	●	●		●
Distictus buccinatoria	Blood Red Trumpet Vine	●	●	●			●		●	●		●
Jasminum polyanthum	Pink Jasmine			●		●		●	●	●		●
Macfadyena unguis-cati	Cat's Claw	●	●		●		●		●	●		●
Pandorea jasminoides	Bower Vine			●	●			●	●	●		●
Parthenocissus tricuspidata	Boston Ivy			●		●		●	●	●		●
Rosa banksiae	Lady Bank's Rose	●	●	●				●	●			●
Solanum jasminoides	Potato Vine				●	●	●		●	●		●
Vigna caracalla	Snail Vine			●	●	●			●	●		●
Wisteria sinensis	Wisteria			●	●			●	●	●		●

7.8 REGIONAL COMMERCIAL / MIXED-USE LANDSCAPE DESIGN GUIDELINES

~~7.8~~

7.8.1 COMMUNITY VISION

~~7.8.1~~

To create a distinct and unified landscape character for the Regional Commercial/Mixed-Use District that will provide visual cohesiveness, pedestrian connections and functional spaces throughout the different districts and streetscapes.

Soft and hard landscape design is to give character and define the hierarchy of open spaces within this mixed-use area using the following principles:

- The provision of an open space network that includes passive space, social space, activity areas and facilities. Consideration should be given to the orientation of such areas with regard to sunlight and shade
- Using plant species and trees at an appropriate scale to define, identify, separate and enclose space
- The encouragement of visual links and view corridors throughout the neighborhood
- Creating a balance between lush community landscapes while considering the needs for commercial visibility
- Co-ordination and appropriate scale of street furnishings, signage and lighting
- The use of materials to stimulate the senses through texture, smell, color and contrast
- Safety through visibility and pathways located where they are overlooked by buildings
- The use of landmarks, public art and focal points at entrances/key buildings
- The use of materials to define pedestrian dominated areas and slow traffic
- To screen utility equipment, loading and trash collection areas.
- Adequate aftercare and maintenance of all areas

These Landscape Design and Development Guidelines provide design criteria for the Rich Haven Regional Commercial Mixed-Use District as a whole including Planning Areas 4A, 4B, 5B, 6B, 7, 8, 9, 10A and 10B~~6, 7, 8 and 9~~.

Also provided within the Landscape Palate Matrix is a list of additional planting materials that will give a more urban feel to this mixed-use area.







7.8.1.1 PA ~~6, 7, 8 and 9~~4A, 4B, 5B, 6B, 7, 8, 9, 10A and 10B "Urban" Parks

The Planning Areas 4A, 4B, 5B, 6B, 7, 8, 9, 10A and 10B ~~6, 7, 8 and 9~~ parks will be located at the south end of the project within the Mixed-Use District. Where the aforementioned Parks in Planning Areas 1A, 1B, 1C, 2B, 2C, 3A, 3B and 3C lend themselves to a more informal and pastoral arrangement, the ~~Planning Areas 6A, 6D, 7B, 8A, 8B, 9A, and 9B~~Mixed-Use District parks have~~s~~ an opportunity for a more formal village green style park. With a strong axial design, this park would be divided into different areas. This park would provide facilities and varied activities to all user groups, and contain more specialized elements such as themed gardens, a bandstand and / or community gathering facilities.

Suggested program elements include:

ACTIVE

- Tot lot (ages 2-5)
- Tot lot (ages 5-12)
- Play lawn
- Lighted dancing/party square with bandstand
- Pools
- Clubhouse

PASSIVE

- Rose Garden
- Native Plant Garden
- Annual/Perennial Flower Garden
- Giant Chess Board
- Gazebo structure
- Benches

General requirements:

- At least 80% of the site should be generally level. Open field areas shall be at a minimum 2% grade.
- Play areas shall meet all federal and local ADA guidelines and requirements in terms of accessibility.
- Installed play equipment shall meet all current American Society for Testing and Materials (ASTM) standards regarding play equipment, play surfacing, and fall absorbency.
- Installed play equipment shall meet all current Consumer Product Safety Commission (CPSC) guidelines for public playground safety, including but not limited to, fall zone clearances, critical heights, and assembly guidelines.
- ADA compliant restrooms shall be provided.
- Bike racks shall be provided.
- Trash receptacles and ash urns shall be provided.
- Security lighting shall be provided around the park at 100' minimum spacing with 70-watt bulbs on minimum 14' high poles.
- Clear and effective sightlines shall be maintained from surrounding roadways and throughout the park.

~~7.8.2~~

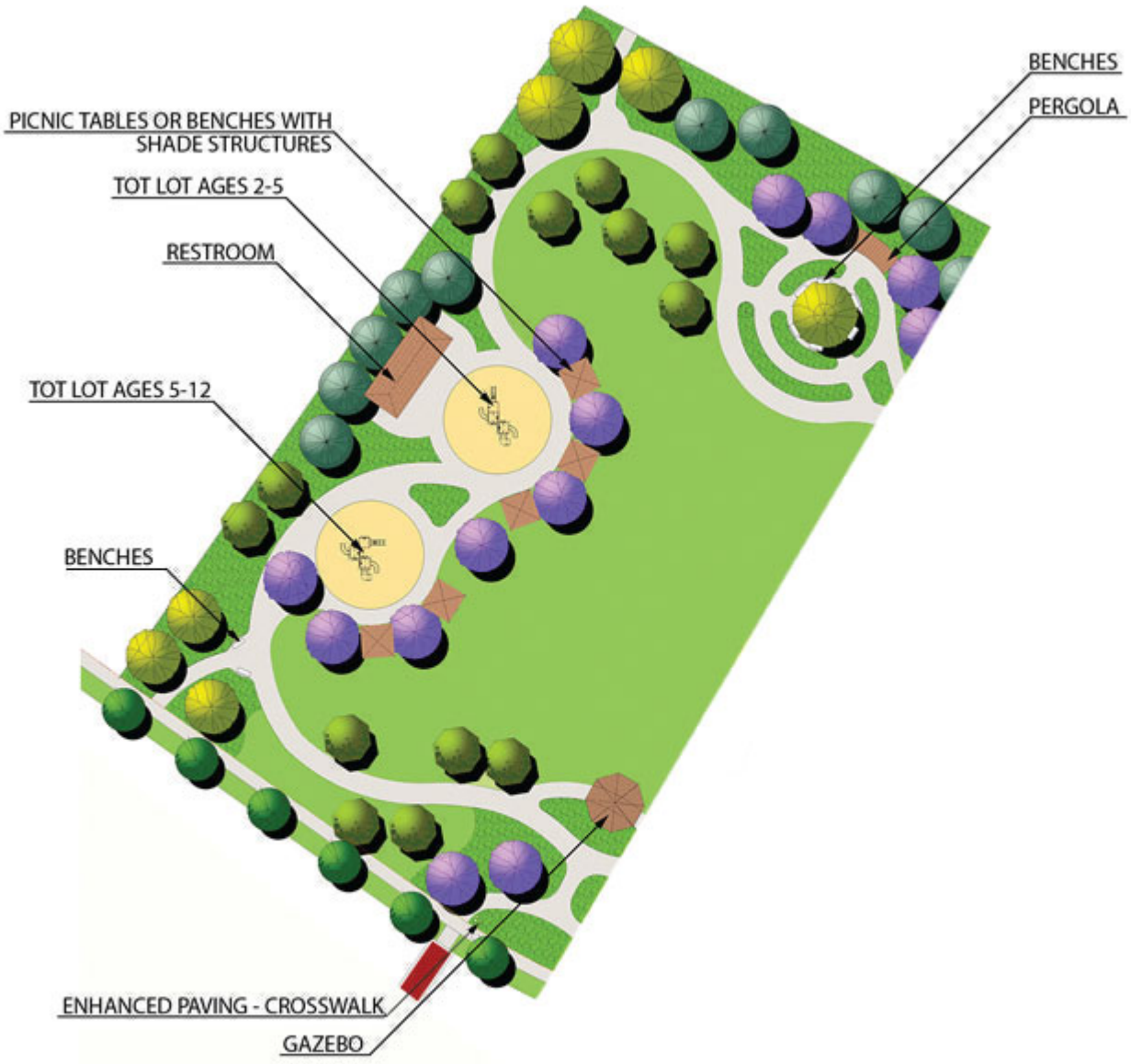
7.8.2 COMMUNITY PARKS (NON-PUBLIC)





7.8.2.1 General Design Elements and Objectives

- Community parks provide focal points at the entries, and an attractive frontage for surrounding buildings.
- Community Parks include active recreation areas of 5 acres or more.
- These parks are the main recreation areas for the mixed use neighborhoods and provide a buffer between residential and mixed used development.
- Facilities will provide for a broad range of uses and activities, by all segments of the neighborhood population.
- Trees help define and enclose space and furnishing co-ordinate with that in other parks and with the overall architectural style.
- The active recreation area should include lighted playing fields and courts.
- Community Park should provide some on-site parking and formal pick-up/drop-off area.
- Design shall provide a play area near the main hub of park.
- Security lighting shall be provided throughout the park.
- Maintain clear and effective sightlines to make park visible from surrounding roadways.
- Wherever possible, Community Park areas should be finish graded to accept street runoff water and serve a dual purpose as stormwater runoff spreading and infiltration areas, as well as recreational areas.

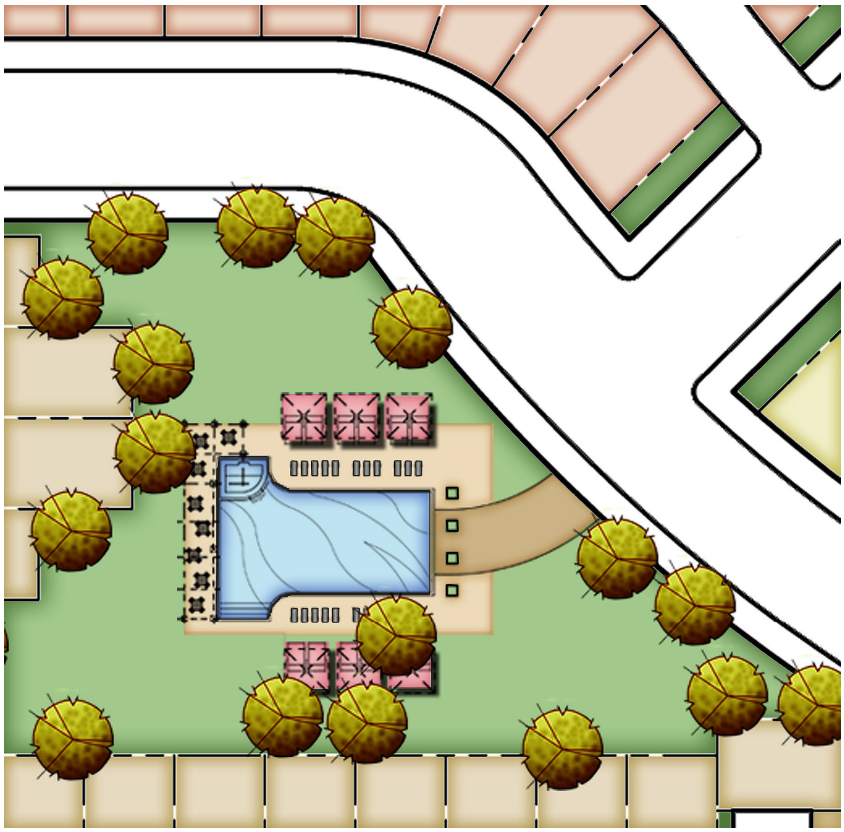

BENCHES
PERGOLA
PICNIC TABLES OR BENCHES WITH SHADE STRUCTURES
TOT LOT AGES 2-5
RESTROOM
TOT LOT AGES 5-12
BENCHES
ENHANCED PAVING - CROSSWALK
GAZEBO

7.8.3 POOL AREAS ~~7.8.3~~

7.8.3.1 General Design Elements and Objectives



- Located within easy access of residential units, facilities include a pool, restroom building, cabanas, lounge chairs, shade structures, tables and chairs.
- Planting in this area provides a buffer to adjacent residences.



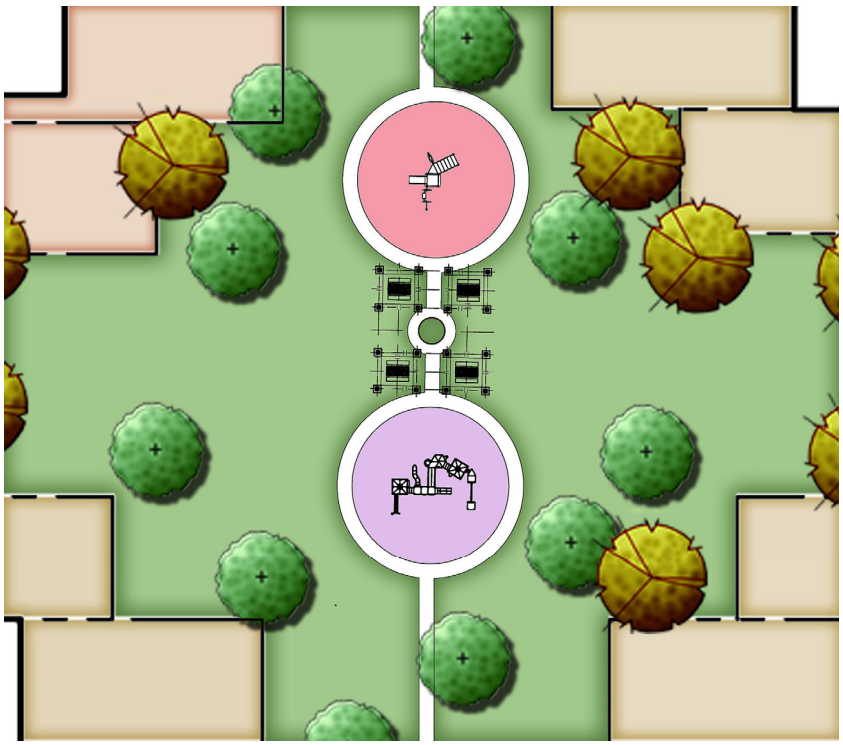
TYPICAL PARK AMENITIES

7.8.4 TOT LOTS



7.8.4.1 General Design Elements and Objectives

- The tot lot is located in easily accessible areas away from traffic.
- Trees are used to help provide structure and shade while shaded seating areas enable comfortable supervision.
- Play equipment is to cater for a range of ages and be installed with a colorful safety surface.

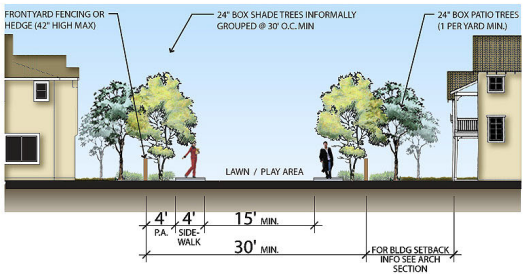


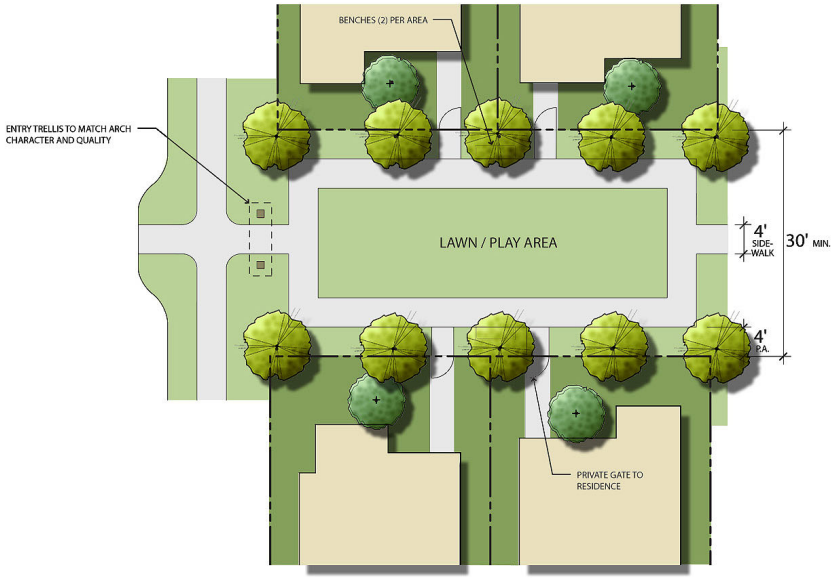
7.8.5 PASEO GARDENS ~~7.8.5~~

7.8.5.1 General Design Elements and Objectives



- This space acts as a buffer between commercial districts and residential areas
- It is intended to provide a semi private space for activity, play or relaxation for residents
- The entry and end points are defined by a trellis
- The sidewalk parts to provide circulation to adjacent housing and rejoins to enable direct circulation
- Benches are located along sidewalks
- Landmarks and public art help to provide a sense of place and character.



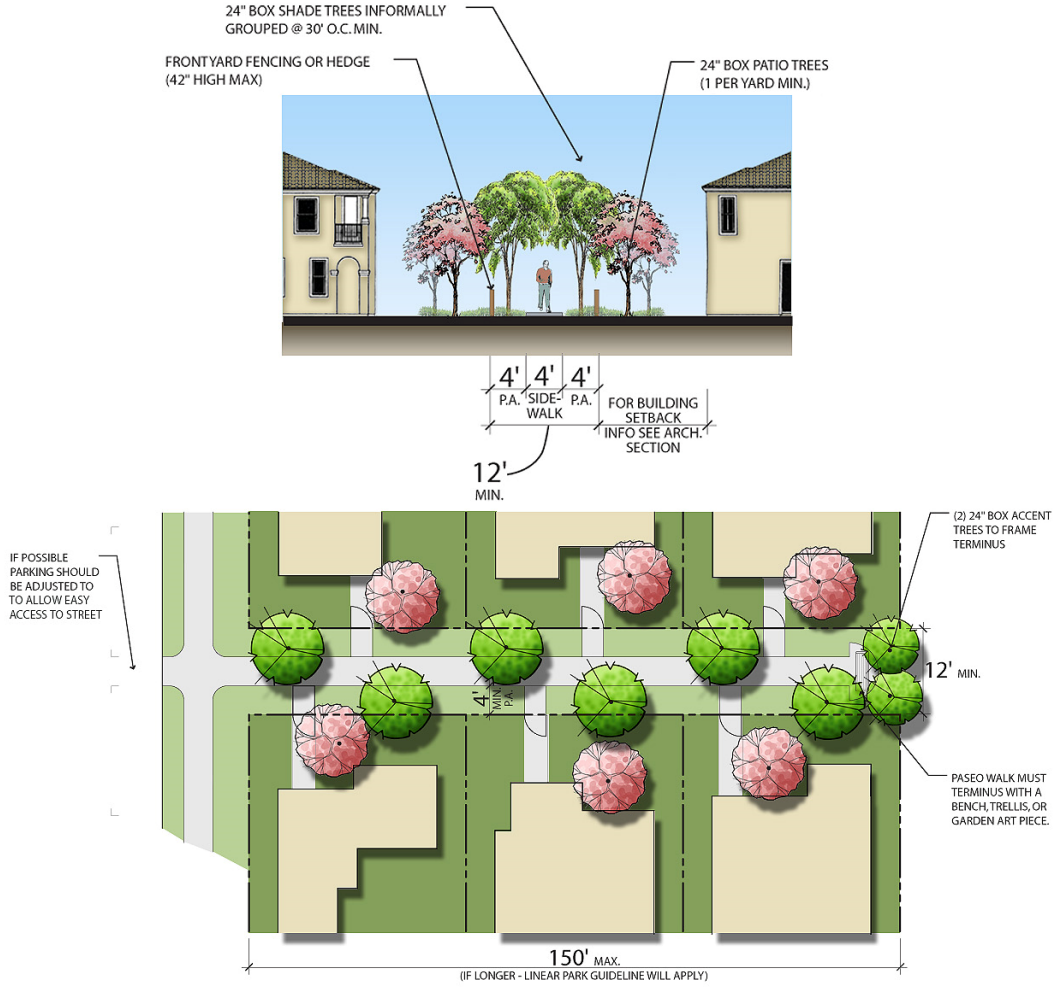


7.8.6 PASEOS



7.8.6.1 General Design Elements and Objectives

- Paseos provide a safe and informal greeting zone for residents and attractive access from the houses
- They end in a terminus with a focal point framed by trees
- Paseos provide safe and informal passive play areas
- Paseo lighting should balance scale, safety and glare. It should be integrated into the paseo design. It may be provided by free standing fixtures, integrated into the adjacent buildings, or both



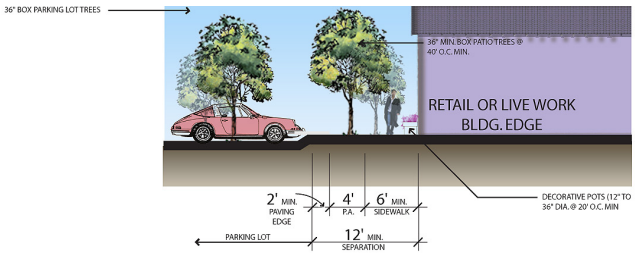
7.8.7 PARKING/SHOPPING INTERFACE

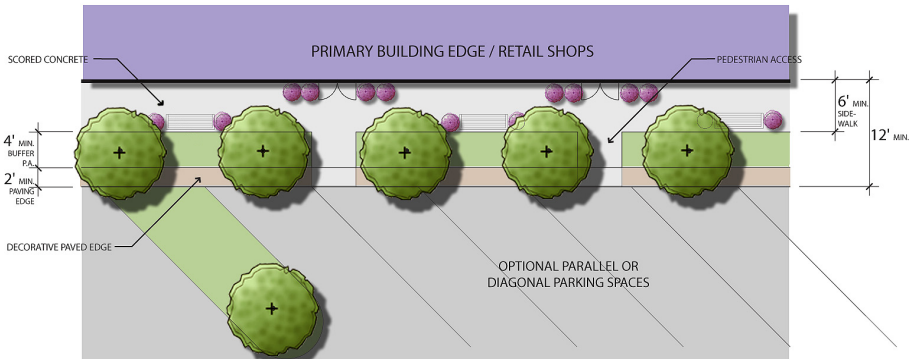
~~7.8.7~~



7.8.7.1 General Design Elements and Objectives

- The intent is to provide a safe and comfortable pedestrian experience and reduce the presence of the parking area from shoppers with buffer planting
- These areas are intended to be used predominantly for circulation, but rest areas are also provided for people watching
- Adequate seating and resting areas are to be provided within this zone
- Various functions are defined with use of enhanced paving (interlocking pavers, brick, stone, or stamped concrete)
- A 2' decorative paving edge is to be used in direct/primary store front openings
- The overall dimension from curb to building can be reduced from 12' to 8' when adjacent to a building, but not a direct/primary store front
- Pedestrian paved surfaces should typically be scored concrete with colored stamped concrete or paved accents
- Planters and furniture should be located as to not block building entries or prohibit ADA access
- Furnishings are coordinated throughout the project



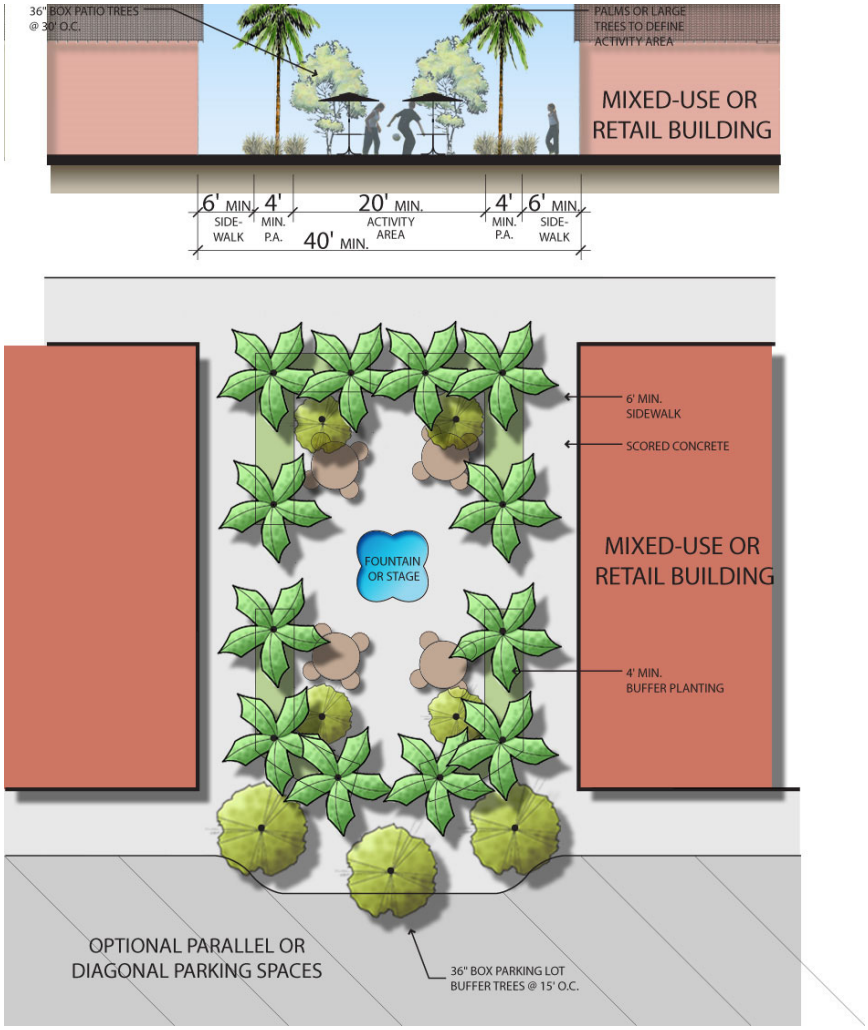


7.8.8 RETAIL PLAZAS



7.8.8.1 General Design Elements and Objectives

- Plazas are intended to provide active and passive pedestrian spaces that encourage user interaction.
- Fountains, stages, public art, and game tables are not a requirement, but are appropriate in these areas.
- Both shaded and open seating areas should be included.
- Refer to Section 6.3.4.3 for patio dining guidelines.
- Plaza design should consider their use during holiday and specialty sales festivals, and community events.



7.8.9 RESTAURANTS/OUTDOOR EATING AREAS ~~7.8.9~~

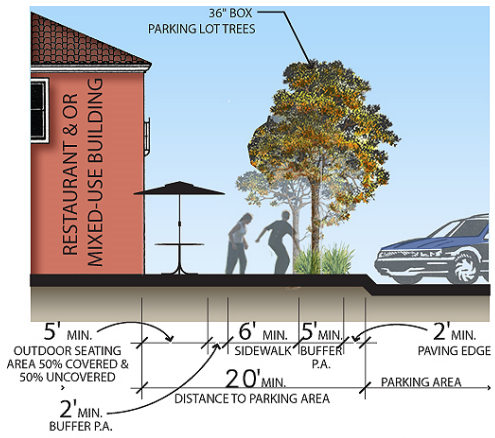
7.8.9.1 General Design Elements and Objectives

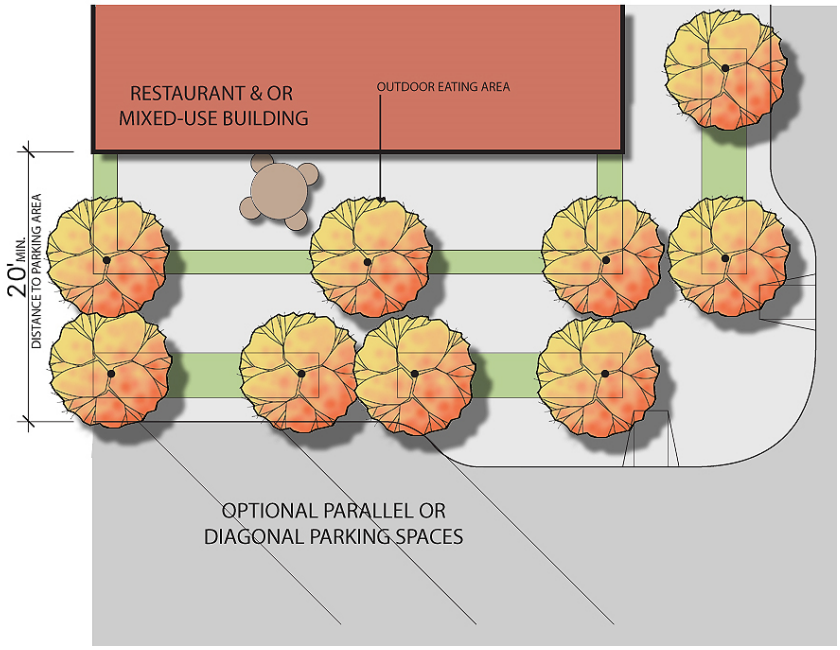
- These are intended to provide shaded and non-shaded dining areas.
- Shade devices such as awnings or umbrellas should be provided especially in West or South facing exposures.
- Planting should provide a comfort barrier, but also allow for people watching.
- The 2'-wide minimum plant barrier can be substituted with a rail; less the 2' wide.









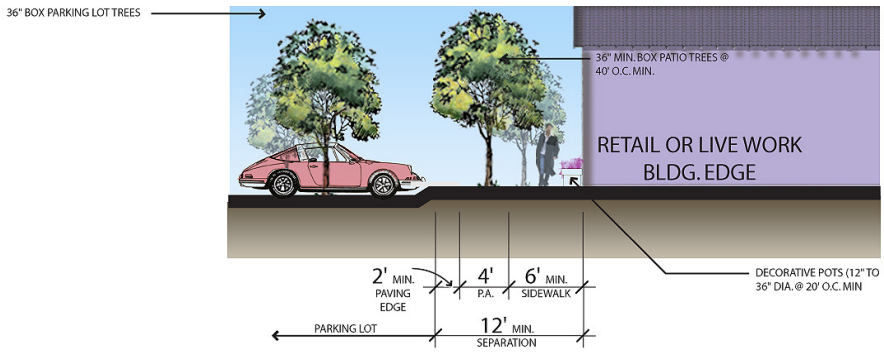


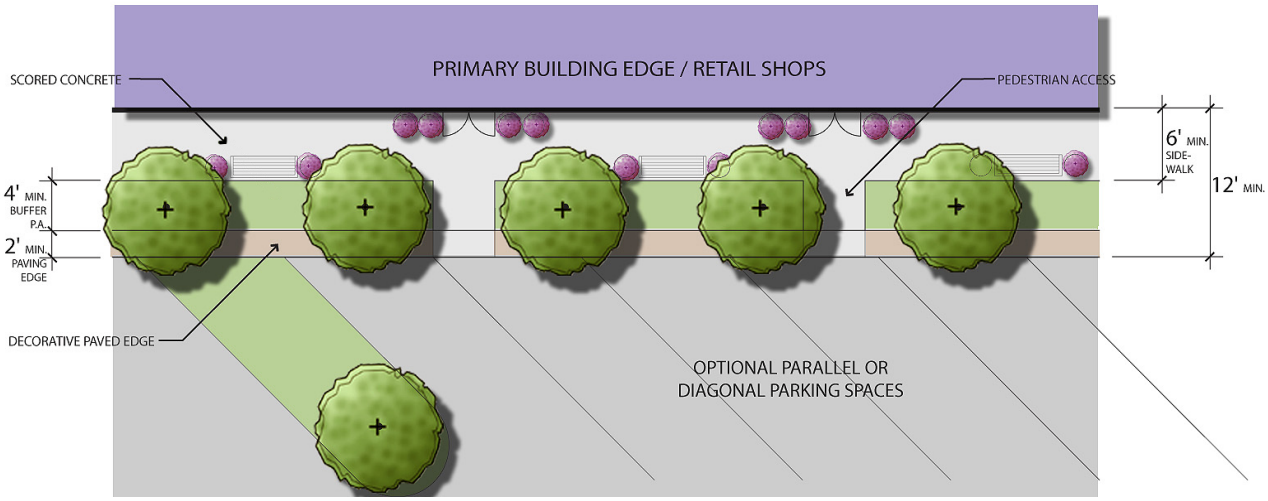
7.8.10 BUILDING EDGE/RETAIL SHOPS

7.8.10.1 General Design Elements and Objectives



- This area is intended to be used predominantly for circulation, but rest areas are also provided for people watching
- Planting creates a buffer zone between the parking lot and promenade
- Furnishings are coordinated throughout the project



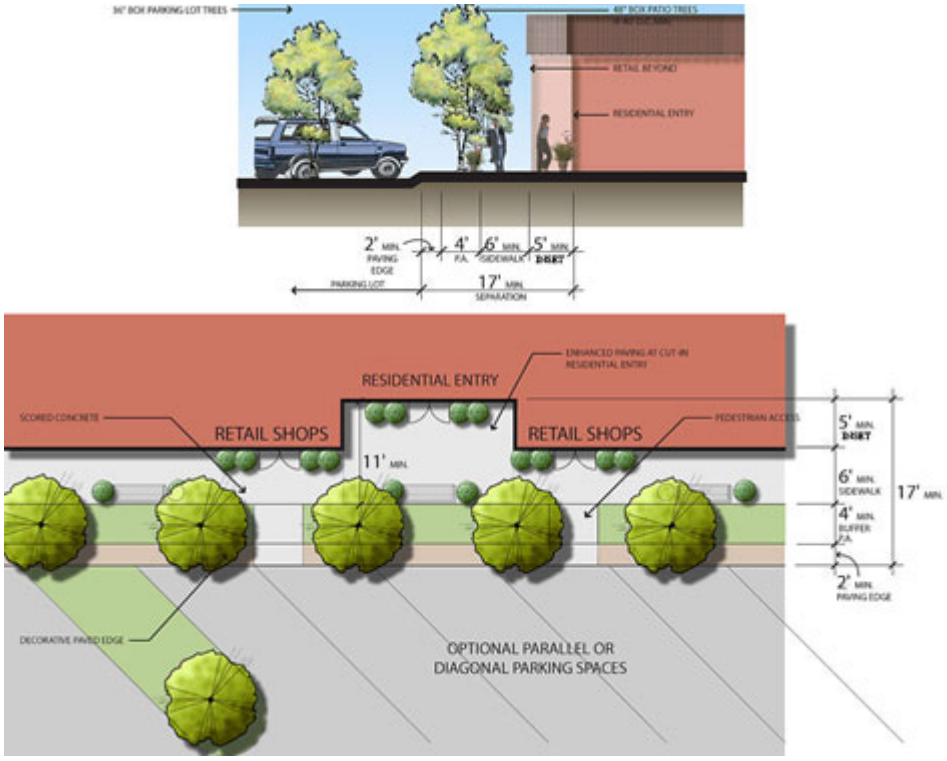


7.8.11 PARKING/RESIDENTIAL ENTRY ~~7.8.11~~

7.8.11.1 General Design Elements and Objectives



- The intention is to define residential entryways with enhanced paving and planting to create a mini courtyard while allowing the space to continue functioning as a promenade.

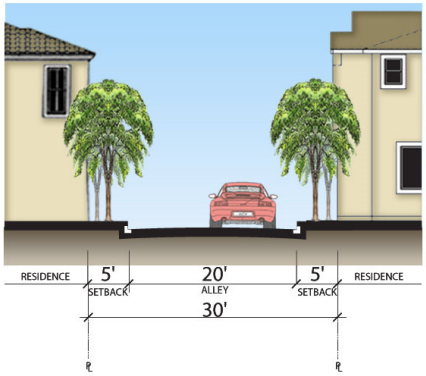


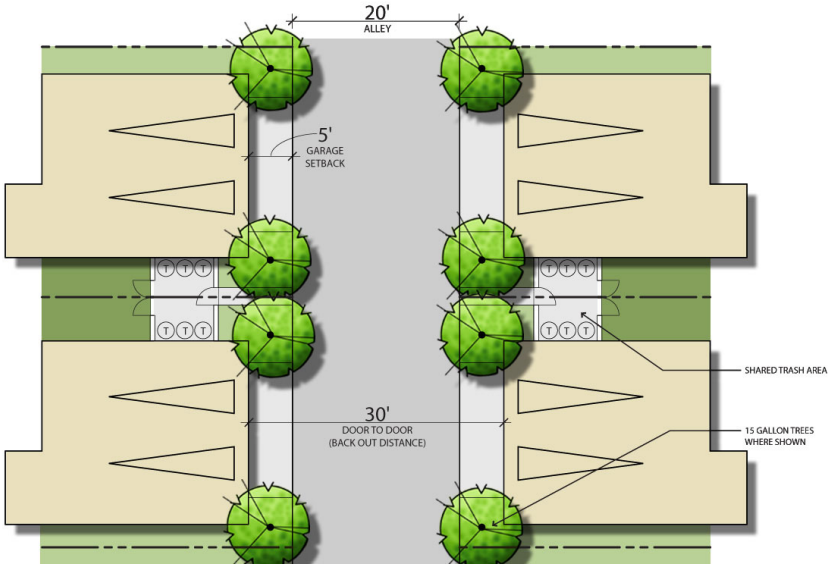
7.8.12 COMMON DRIVE

7.8.12.1 General Design Elements and Objectives



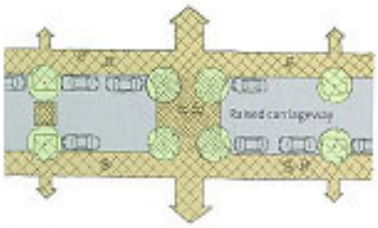
- The intent is to provide access for vehicles and trash storage and removal in an attractive space that encourages neighbor interaction.
- The drive shall be 24’ wide where common drives provide emergency access.
- Garage to garage distance shall not be less than 30’.
- Living space facing a common drive shall allow for a minimum 5’ landscape setback measured from the curb or sidewalk (if any).
- Low patio walls shall allow for a minimum 3’ landscape setback measured from the curb or sidewalk (if any).



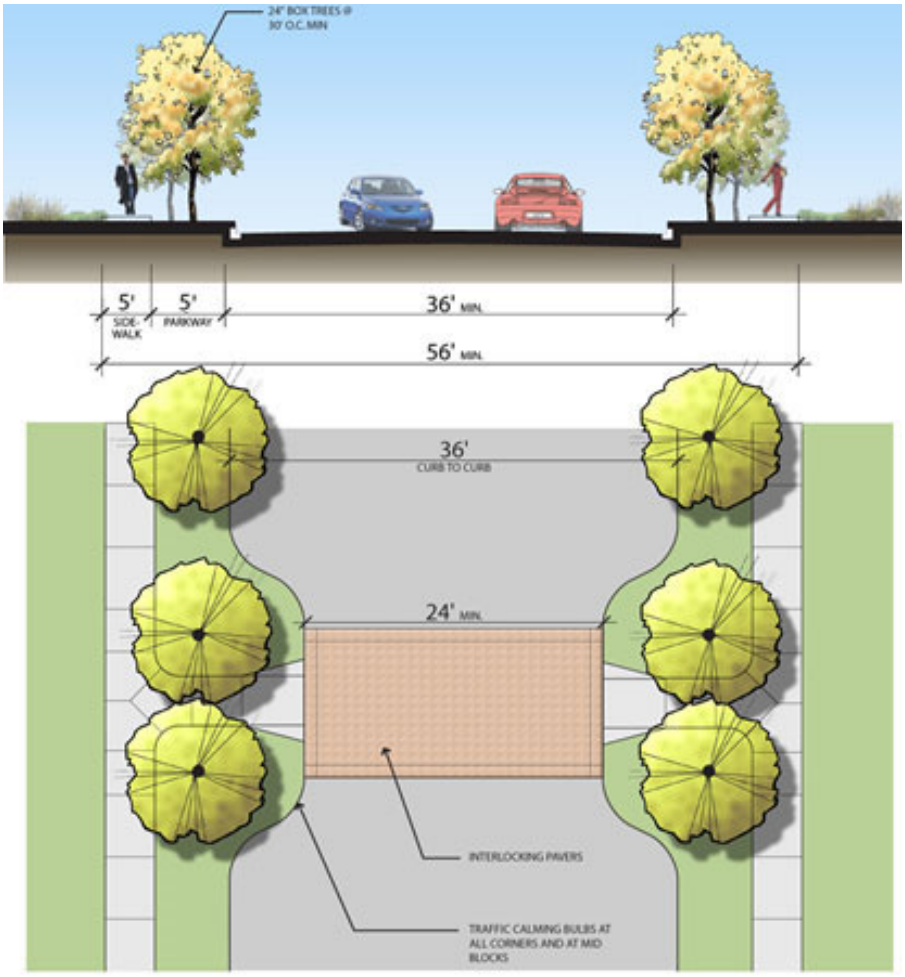


7.8.13 RESIDENTIAL LOCAL STREETS (PRIVATE) ~~7.8.13~~

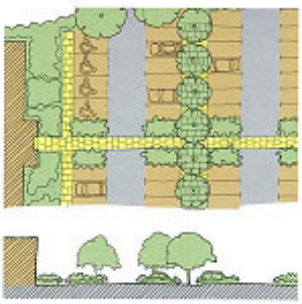
7.8.13.1 General Design Elements and Objectives



- The intent is to calm traffic and make a safer neighborhood.
- Interlocking pavers define the pedestrian right of way and slow vehicles.
- Bulb outs bring the street to a comfortable crossing width.

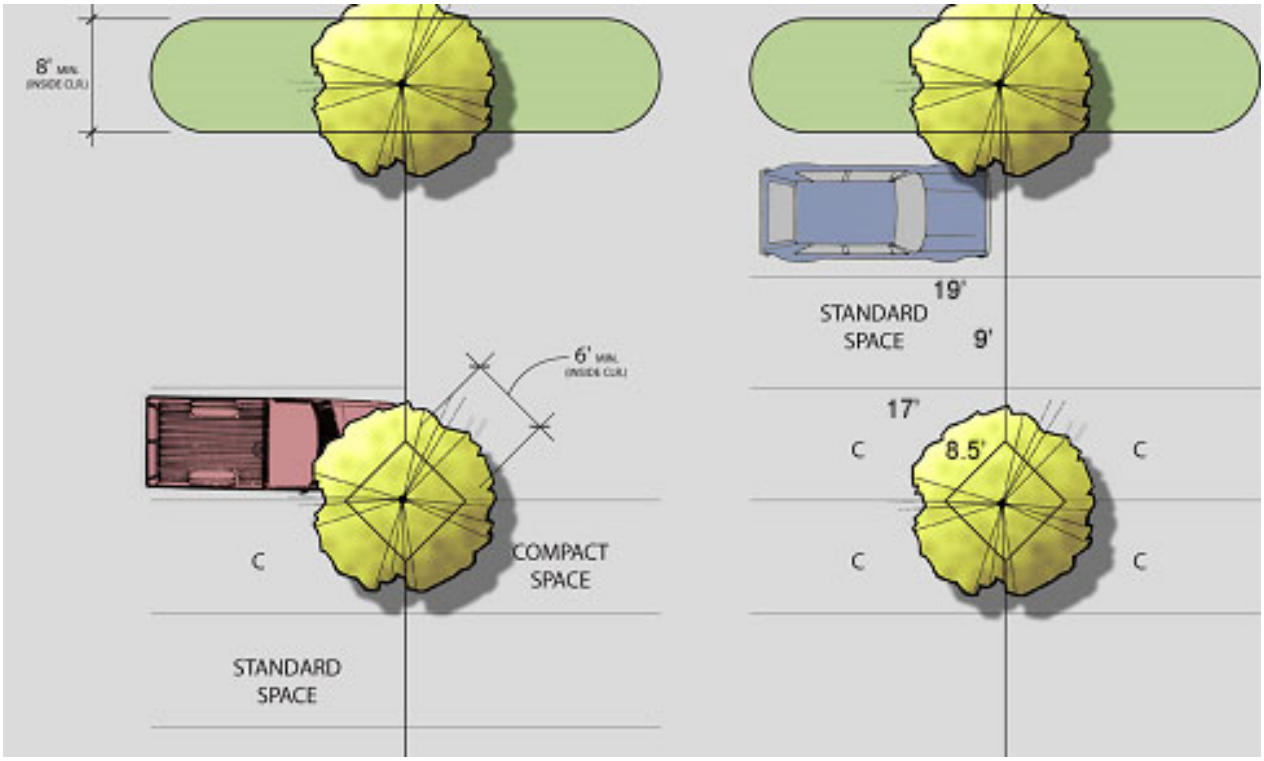


7.8.14 PARKING/LANDSCAPED ISLANDS



7.8.14.1 General Design Elements and Objective

- Canopy trees screen parking lots from the street while allowing views into the districts and buildings.
- Vertical trees, such as Italian Cypress and Palms, should be combined to promote safety and visibility from major boulevards.
- Planting materials should be of a robust/hardy nature.



7.8.15 ENTRY TRAFFIC PLAZA ~~7.8.15~~



7.8.15.1 General Design Elements and Objectives

- The intention is to provide efficient circulation through the one way road system.
- Traffic Plazas also provide good opportunity to create an entry statement.

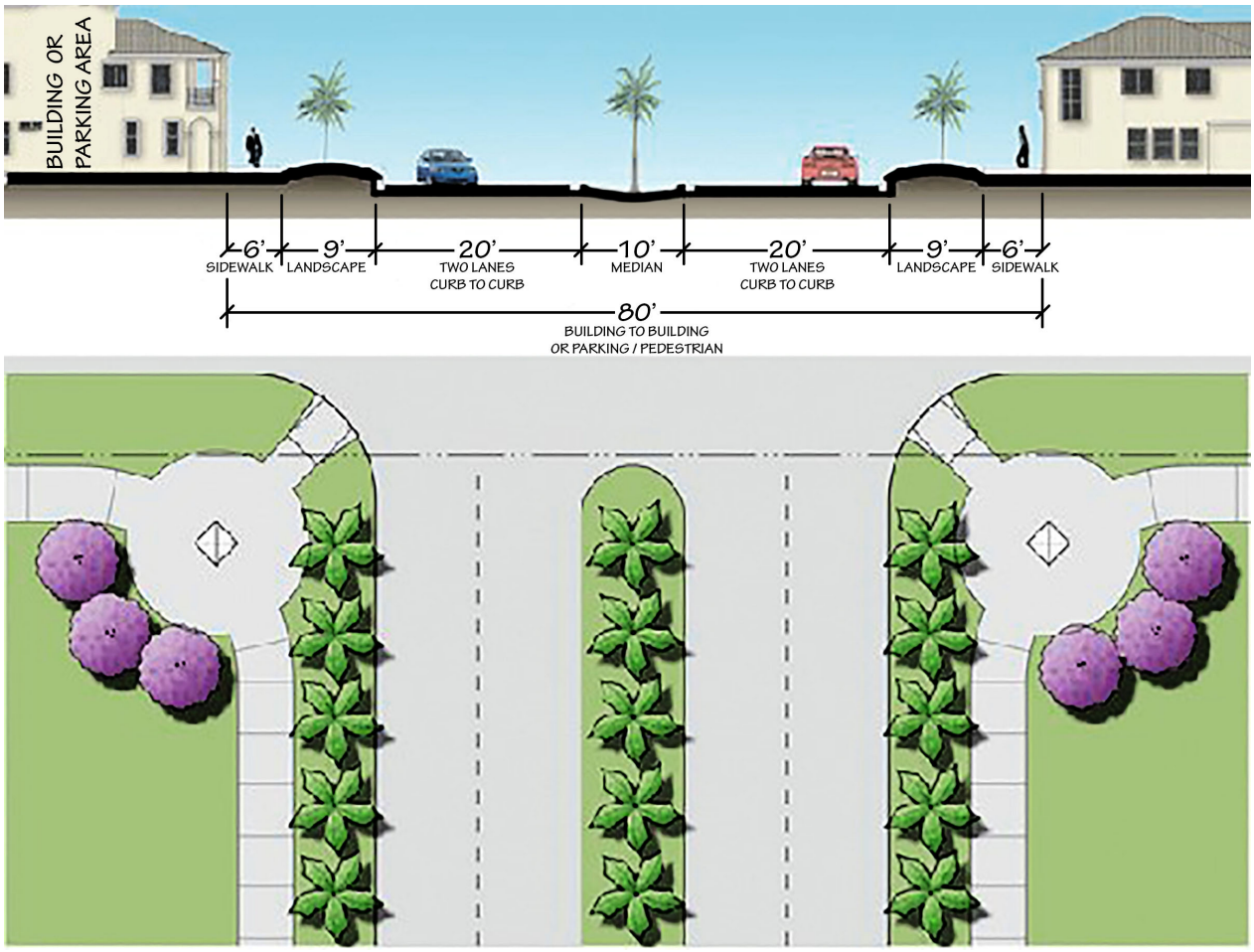


7.8.16 PROJECT ENTRY



7.8.16.1 GENERAL DESIGN ELEMENTS AND OBJECTIVES

- The intention is to provide an enhanced entry experience while using large scale plant material to denote entries significance.
- Large bold plant materials are to be used at main intersections and entrances.
- Image below subject to Engineering Department approval.



7.9 INDUSTRIAL LANDSCAPE DESIGN GUIDELINES

This section describes the minimum landscape requirements that shall be followed in the design of all public and private improvements within industrial uses in the specific plan. All proposed landscaping shall promote the aesthetic character and value of the Rich-Haven Specific Plan area.

7.9.1 GENERAL PROVISIONS

- The landscape design shall meet the requirements of the City of Ontario Landscape Development Standards as outlined within the Ontario Development Code and Traffic and Transportation Design Guidelines for sight-distance requirements.

- The landscape design shall incorporate a mix of container size trees and shall comply with the following minimum percentages:
  - 5% of trees shall be 48" box size.
  - 10% of trees shall be 36" box size.
  - 30% of trees shall be 24" box size.



Photo 7.4 - Example of typical screen wall with landscaping

- The use of drought tolerant plants is strongly encouraged (See Photo 7.5).



Photo 7.5 - Example of Industrial building and drought tolerant landscaping

Exhibit 7.1 Example Project Entry Drives

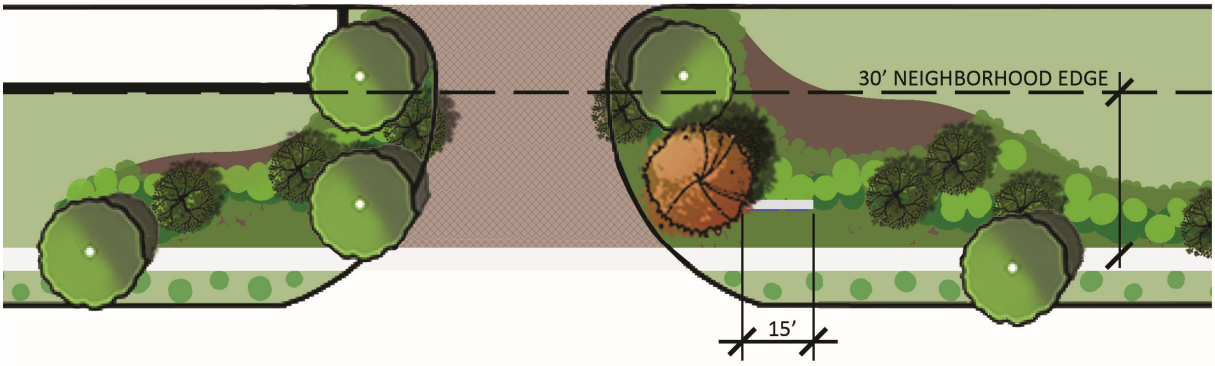
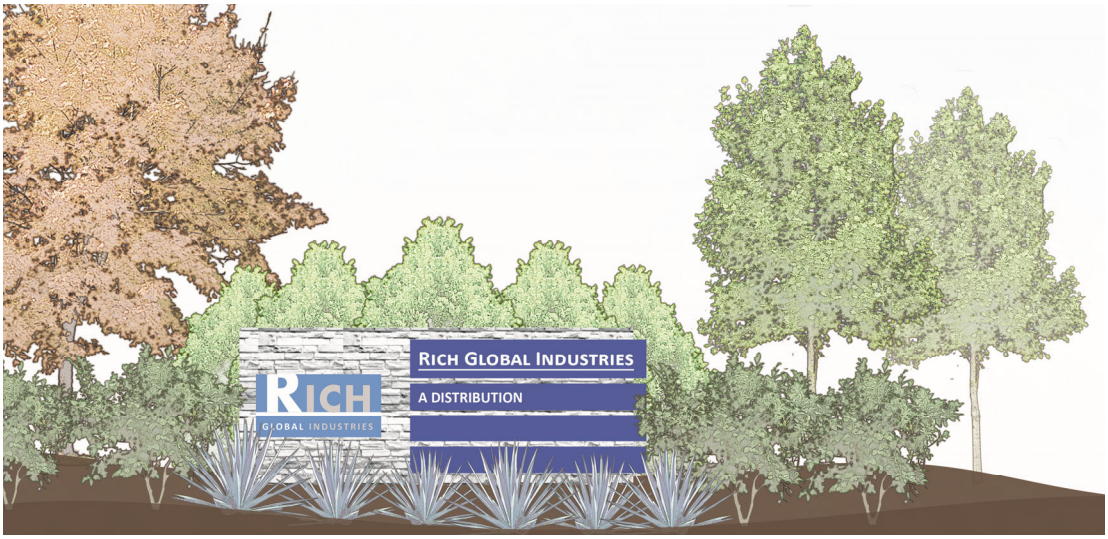
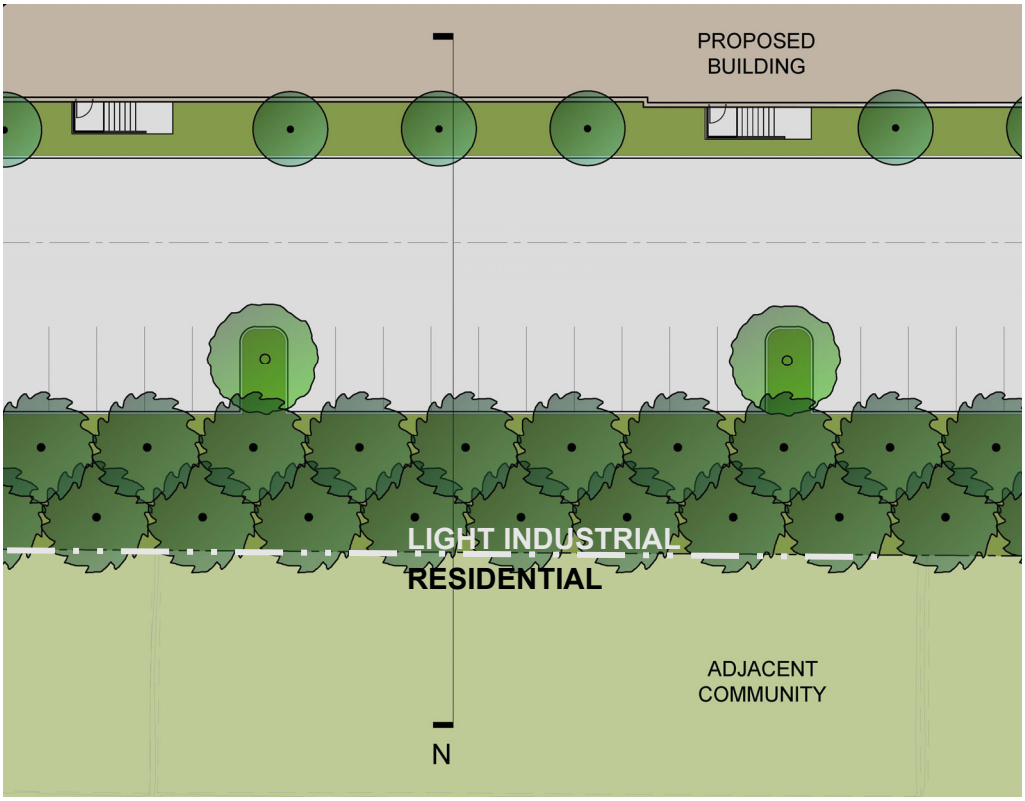


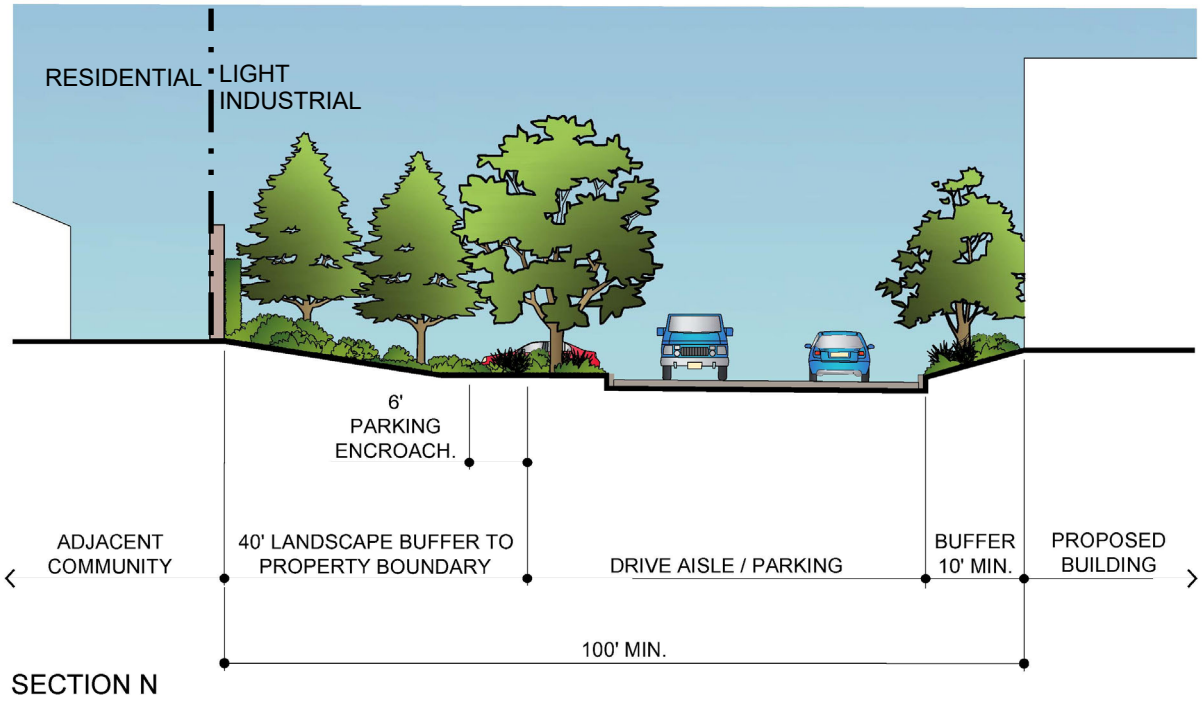
Exhibit 7.2 Example Project Entry Monument



New Exhibits

Exhibit 7.3 Industrial-Residential Edge Condition





- Urban forest style landscaped setback area between, planted with large evergreen trees.

- Plants shall be grouped into designated 'hydro-zones' with similar irrigation requirements.

- All detention basins shall receive container plants and a hydroseed application of low water using plants that can also tolerate seasonal water inundation.

- Rock riprap material shall be installed where stormwater drain lines connect to infiltration areas or wherever paved area drainage surface flows directly into depressed landscape areas, via curb cuts or other surface conveyances.

- Trees and landscape design for Master Planned streets such as Mill Creek Avenue and Hamner Avenue, shall meet the requirements of the Ontario Ranch Streetscape Master Plan.

- All utility equipment such as backflow units, electrical transformers, fire detector checks, and fire check valves shall be screened with evergreen shrubs and should be painted a dark green color.

- Compacted decomposed granite (DG) material may be incorporated at accent areas such as project entry drives and other focal areas, but limited to a max of 5% of the landscape area. Large accent boulders may be incorporated into DG areas.

- Low water type of plants including California natives and succulents that thrive in the area's micro-climate shall be incorporated.

- Project entry drives and corner intersection areas shall receive an "intensified" landscape treatment consisting of, but not limited to colorful ground cover and shrubs, and flowering accent trees.

- Parking stalls facing public streets shall include a 36" high hedge adjacent to parking area.

- Landscape shall be irrigated with automatic irrigation systems.

- Irrigation systems shall incorporate smart weather- based or moisture sensor irrigation controller(s) for water conservation.

- Design of low flow drip irrigation systems, where appropriate.

- Irrigation backflow units shall be specified in a theft proof lockable protective steel cage enclosures.

- Irrigation controllers shall be in a theft proof enclosure or inside the building's electrical room.

7.9.2 LANDSCAPE STANDARDS

- All landscape area planters shall have a minimum inside dimension of 5’ feet wide, plus the required curbs.
- Provide parking lot trees in planter islands at the ratio of one tree for every 10 parking spaces.
- All 2:1 slopes and greater shall be installed with permanent rolled erosion control product (RECP netting), typical.
- A layer of mulch within all landscaped areas shall be provided to retain soil moisture and mitigate soil erosion. Compacted decomposed granite material is an acceptable alternative if Southern California native plants (Coastal Sage Scrub or Chaparral plant communities) are used to a maximum of 5% of the landscape area. Planting plans shall show plant spacing no greater than the maximum mature width.
- All slopes 3:1 or greater shall be stabilized with spreading erosion control ground cover.
- Foundation shrubs shall be incorporated at base of building to minimize scale of building (min. 5 gal. size at 36” max. spacing).
- Project entry drives may incorporate enhanced vehicular decorative paving, which may consist of colored concrete with a stamped pattern or score-line grid pattern at 45 degree angle or similar.
- A 24” clearance from back of parking lot curb to parking lot screen hedge shall be provided for car bumper overhang. Mulch over weed abatement filter fabric shall be provided within this area.
- Provide durable perimeter screening trees for shade and windbreaks.
- Provide 36” high strappy leaf shrubs to screen utilities such as backflow devices. Use taller evergreen shrubs to screen the sides of transformer units and include maximum 12” high groundcovers in areas to access utilities.
- Landscape shall define and accent entries, pedestrian walkways and architectural features. Landscape shall be attractive and appropriate to define and complement the space and use.
- Entry monuments shall be designed in accordance with City of Ontario Traffic and Transportation Guidelines for monument placement.
- The Landscaping Plan shall comply with City Standard drawings and Traffic and Transportation Guidelines for sight-distance.

7.9.3 PERIMETER STREETSCAPE DESIGN

Streetscape design guidelines establish a hierarchy for the landscape development along the surrounding roadways, as well as establish a framework for consistency of design. Two roadways surround the project site as follows:

- Mill Creek Avenue to the west
- Hamner Avenue to the East

Landscape development surrounding this project will help to set the character, while maintaining consistency with the City of Ontario's pedestrian pathway system as illustrated in the "Trails and Open Space System" section of the Ontario Ranch Streetscape Master Plan.

7.9.4 WALLS AND FENCES

The following section is intended to encourage design quality, as walls and fences are an important component to ensuring a safe and secure environment within the Rich-Haven Specific Plan.

- Walls at loading areas shall be at least fourteen feet in height, or as approved by the City in response to screening loading activities from off-site views from the adjacent public right-of-way.
- Chain link fencing shall be permitted for use in interior truck courts, in non-public viewing areas. Chain link fencing may not be used along public views.
- Walls fronting on streets may be constructed of concrete tilt up or masonry materials such as split face or slump stone (See Photo 7.4).
- Tubular Steel fencing shall be permitted along certain areas if they are not required to be screened from public views.
- Entry monuments shall be designed and located in accordance with City of Ontario Traffic and Transportation Guidelines for monument placement.
- Any proposed entry gates shall be reviewed by the Traffic and Transportation Division, and permitted only if approved.

7.9.5 SITE LIGHTING

The following section addresses illumination of on-site areas for purposes of safety, security, and nighttime ambience, including lighting for parking areas, pedestrian walkways, graphics and signage, architectural and landscape features, shipping and loading areas, and any additional exterior areas.

- Streetlights shall conform, both in type and location, to the Standards of the City of Ontario at the time of installation.
- A comprehensive lighting plan shall be prepared and approved in conjunction with the site plans submitted for approval to the DAB. In addition, all plans shall be reviewed and approved by the Ontario Police Department.
- Exterior lighting should be located and designed to minimize direct glare beyond the parking lot.
- The design of lighting fixtures shall be consistent throughout individual planning areas, and shall be compatible with the architectural style of the building within each development.
- Lighting sources shall be shielded, or diffused in order to avoid glare to pedestrians and motorists. Lighting fixtures should be selected and located to confine the area of illumination to within the site boundaries.
- Architectural lighting of building facades is encouraged to enhance and emphasize the buildings identity.

7.9.6 SUSTAINABLE DESIGN STRATEGIES

Sustainable practices can lessen the environmental impacts of development in many ways through the use of certain design techniques. These techniques can include reduced pervious surfaces, improved water detention and conservation, preservation of habitat areas, water- efficient irrigation, and improved pedestrian and bicycle amenities which reduce reliance on smog-generating vehicles. This Specific Plan encourages the implementation of sustainable design strategies referenced below with the goal to reduce Greenhouse Gas Emissions.

7.9.6.1 SITE PLANNING

- Incorporate “green” practices in developing buildings and infrastructure.
- Wherever possible, design and grade the project to direct 2-year storm event runoff from building roofs and paved areas, into landscaped swales/areas for capture and retention/infiltration. In particular, open space, parks, landscaped setback areas and trails

are to be used for this purpose. Include deciduous trees to shade paved areas and building walls on south and west.

- Stabilize slopes to limit erosion as part of the Stormwater Management Plan and erosion control plan.

7.9.6.2 ENERGY EFFICIENCY

Where feasible and appropriate, the following energy conservation strategies are encouraged:

- Passive design strategies can dramatically affect building energy performance. These measures include building shape and orientation, passive solar design, and the use of natural lighting.
- Develop strategies to provide natural lighting to reduce reliance on artificial lighting.
- Install high-efficiency lighting systems with advanced lighting controls.
- Use a properly sized and energy-efficient heat/ cooling system in conjunction with a thermally efficient building shell.
- Promote the use of light-colored roofing with a high solar reflectance in order to reduce the heat island effect from roofs.
- Include deciduous trees to shade paved areas and building walls on the south and west sides.

7.9.6.3 MATERIALS EFFICIENCY

- Sustainable construction materials and products are encouraged to have characteristics such as reused and recycled content, zero or low off gassing of harmful air emissions, zero or low toxicity, sustainably harvested materials, high recyclability, durability, longevity, and local production. Such products promote resource conservation and efficiency. Using recycled-content products also helps develop markets for recycled materials that are being diverted from California's landfills, as mandated by the Integrated Waste Management Act.
- Encourage the use of low VOC paints and wallpapers.
- Encourage the use of low VOC Green Label carpet.
- Consider using recycle base, crushed concrete base, recycle content asphalt, shredded tires in base and asphalt in roads, parking areas and drive aisles, if feasible and economically viable.

- Design with adequate space to facilitate recycling collection and to incorporate a solid waste management program that prevents waste generation.

7.9.6.4 WATER EFFICIENCY

- Strive to minimize wastewater by using ultra low- flush toilets, low-flow shower heads and other water conserving fixtures.

- Encourage the use of recirculating systems for centralized hot water distribution.

- Smart irrigation controller which automatically adjusts the frequency and/or duration of irrigation events in response to changing weather conditions for all landscaped areas are required.

- Drip irrigation, bubblers, micro-irrigation or other low precipitation irrigation or water conserving technology shall supply water for irrigation.

- Encourage the use of recycled water to irrigate landscape areas throughout the project. The non-potable irrigation system shall be designed to meet all applicable standards of the California Regional Water Quality Control Board, California Department of Health, San Bernardino County Health Department, City of Ontario Department of Water and Power, and Ontario Municipal Code.

7.9.6.5 OCCUPANT AND HEALTH SAFETY

- Choose construction materials and interior finish products with zero or low emissions to improve indoor air quality as feasible.

- Provide adequate ventilation and a high-efficiency, in-duct filtration system. Heating and cooling systems that ensure adequate ventilation and proper filtration can have a dramatic and positive impact on indoor air quality.

- Provide effective drainage from the roof and surrounding landscape.

- Encourage building systems to control humidity.

- Provide outdoor employee break areas with shade structure or shade trees on the west and south sides as feasible.

7.9.6.6 LANDSCAPE DESIGN

- Use low or medium water use and native plant materials where appropriate. Minimize turf areas in order to promote water conservation. Limit the use of turf to areas which experience

high functional use and are needed to accommodate outdoor activities. Only use warm-season turf varieties which are suited to the climate.

- Provide plant materials that are well suited to the solar orientation and shading of buildings.
- Group plants according to water use, slope aspect and sun/shade requirements. Irrigate each hydro-zone on a separate valve using high-efficiency irrigation techniques.
- Use wood or shredded bark mulch and soil amendments to retain soil moisture.
- Incorporate native vegetation into the plant palette for Rich-Haven.

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SECTION 8 - ADMINISTRATION AND IMPLEMENTATION

8.1 ADMINISTRATION

The City of Ontario shall administer the provisions of the Rich-Haven Specific Plan in accordance with the State of California Government Code, Subdivision Map Act, the City's General Plan, The Ontario Plan (TOP), and the Development Code.

8.1.1 ADOPTION

The Rich-Haven Specific Plan shall be adopted by ordinance in accordance with the City's TOP.

8.1.2 ENFORCEMENT

The Rich-Haven Specific Plan serves as the implementation tool for the City's TOP and zoning for the Specific Plan area. The Specific Plan addresses permitted uses, development standards, and community design guidelines.

The City shall enforce the provisions of this Specific Plan in the same manner that the City enforces the provisions of the Development Code.

Permitted and conditional uses included, as part of the Specific Plan, shall be compatible with permitted and conditional uses established within the Development Code for residential, commercial, and industrial uses.

8.1.3 INTERPRETATION

The development standards and regulations contained in this Specific Plan shall replace and supplement the standards contained in the Development Code, except where specifically provided in the Specific Plan. Whenever the provisions contained in the Specific Plan conflict with the Development Code, the provisions of this Specific Plan shall prevail. Any ambiguity concerning the content or application of the Rich-Haven Specific Plan shall be resolved by the Planning Director or designee. Such interpretations shall take into account the stated goals and intent of the Specific Plan.

8.1.4 SEVERABILITY

If any portion of these regulations is declared to be invalid or ineffective in whole or in part, such decision shall not affect the validity of the remaining portions thereof. The legislative body hereby declares that they would have enacted these regulations and each portion thereof irrespective of the fact that any one or more portions be declared invalid or ineffective.

8.1.5 RESIDENTIAL UNIT TRANSFER

Figure 3-1, *Specific Plan Land Use Plan*, and Table 3-1, *Specific Plan Land Use Summary*, sets forth the planning area identification, total residential acreage, density, and total dwelling units planned for each of the Planning Areas. Residential unit transfer allows for the redistribution of residential units and associated daily trip budget allocations from one Planning Area to another, within the Specific Plan. If the number of units developed within a Planning Area is below the maximum number of designated units, the remainder of those units may be transferred to another residential Planning Area within the Specific Plan. Such transfers may be approved administratively by the City of Ontario upon a determination by the Planning Director or designee that the transfer meets all of the following criteria:

a. The total number of residential units within the Specific Plan boundary shall not exceed the allowed maximum of 7,194 dwelling units. The allowed maximum of 7,194 dwelling units is based on the assumption that the Non-Residential (Commercial/Industrial) units are developed at the Minimum Non-Residential Square Footage (SF) quantities. If Non-Residential Square Footage or Residential Units are going to be adjusted, then dwelling units and non-residential square footages shall be exchanged at a rate to not change overall proposed water and sewer demands.

b. A landowner may transfer unused residential units and associated allocated daily vehicle trips from any previously approved Residential Planning Area(s) to a proposed Planning Area(s) as unused residential units, eligible for residential unit transfer. When a development application is submitted to the City for a Planning Area(s), the developer must submit with the application a project residential unit reconciliation summary that identifies units previously declared eligible for residential unit transfer and the total number of projected future residential units remaining to be developed in the balance of the project.

c. The number of excess residential units identified for transfer from one Planning Area to another Planning Area(s) may not exceed 15% of the total residential units in the receiving Planning Area, as identified in Table 3-1, *Specific Plan Land Use Summary*.

d. Unit transfers within the Regional Commercial/Mixed-Use District shall be subject to an agreement between those landowners within the Regional Commercial/Mixed-Use District identifying approval of the developer or major landowner of the transferring planning area.

e. There would be no significant adverse effect or projected demands on parks, schools, infrastructure, or community facilities:

i. Water and Sewer Technical Studies shall be prepared to study how the transfers change the quantity and locations of sewer and water demands and how those changes impact the Water and Sewer Master Plan Systems and local sewer and water systems.

ii. If unit transfers result in net changes to the overall projected water demands or the water demands are transferred between the 1010PZ and 925PZ, then the developer initiating the changes shall be responsible for processing an Amendment to the Water Master Plan as part of the entitlement process of Implementation.

iii. If unit transfers result in net changes to the overall projected sewer demands or the sewer demands are transferred between different Master Plan Trunk Sewer Tributary Areas, then the developer initiating the changes shall be responsible for processing an Amendment to the Sewer Master Plan as part of the entitlement process of Implementation.

f. Grading would remain in substantial conformance with the approved Specific Plan.

g. No new significant environmental issues would result.

NOTE: SECTION 8.1.6 WAS INTENTIONALLY OMITTED AS PART OF THE RICH HAVEN SPECIFIC PLAN AMENDMENT (FILE # PSPA16-001).

8.1.7 SPECIFIC PLAN CONSISTENCY, MODIFICATIONS, AND AMENDMENTS

Development proposals within the Rich-Haven Specific Plan area shall be deemed consistent if proposals meet the permitted uses, standards and guidelines within this Specific Plan.

8.1.7.1 Substantial Conformance and Minor Modifications

Minor modifications to the Rich-Haven Specific Plan shall not require a Specific Plan Amendment, and shall be subject to a "substantial conformance" determination, an administrative mechanism by which minor modifications to the Specific Plan which do not result in significant impacts and are consistent with the intent of the Plan, shall be permitted without a formal amendment process. The City of Ontario Planning Director shall make determinations of substantial conformance.

Minor modifications that meet the above "substantial conformance" determination may include, but are not limited to, modifications necessary to comply with Final Conditions of Approval or modifications affecting infrastructure, public services and facilities, landscape palette, and other issues except those affecting project financing and development regulations. The following minor modifications to the Rich-Haven Specific Plan shall not require a Specific Plan Amendment, and shall be subject to the substantial conformance determination procedure set forth above:

- Change in utility and/or public service provider or location;
- Change in roadway alignment, width, or improvements;
- A residential density transfer between any individual planning areas within the Specific Plan Area, including between Districts, as long as the number of dwelling units and associated daily vehicle trips transferred out of the Regional Commercial/Mixed-Use District are included in the Trip Budget Allocation, the maximum number of daily trips for the project is not exceeded, and residential transfer of units to the Residential District are in compliance with Section 8.1.5, *Residential Unit Transfer*.
- An adjustment of any planning area boundary within the Residential District not to exceed 15% of the acreage within that planning area boundary, as identified within Figure 3-1, *Specific Plan Land Use Plan*, and Table 3-1, *Specific Plan Land Use Summary*.
- Variation in the number and type of dwelling units within each planning area boundary may occur at the time of final design depending on the residential product identified for development with the Residential District.
- Minor changes to landscape materials, wall materials, wall alignment, entry design, and streetscape design which are consistent with the design criteria set forth in Section 7, *Landscape Plan*, of the Rich-Haven Specific Plan.

- ❖ Minor changes to the architectural or landscape design guidelines, which are intended to be conceptual in nature and flexible in implementation.
- ❖ Modification of any design element in this Specific Plan that improves circulation, reduces grading, improves drainage, or improves infrastructure.

The Minor Modifications described and listed above are not conclusive. Any Minor Modification that is deemed by the Planning Director to be in substantial conformance with the purpose and intent of the Specific Plan shall be permitted.

8.1.7.2 Specific Plan Amendments

Development proposals that do not meet the above Specific Plan consistency requirements, or that are not found to be in substantial conformance with the Specific Plan, shall require a Specific Plan Amendment. The applicant may request amendments to the Rich-Haven Specific Plan at any time pursuant to Section 65453(a) of the Government Code.

An amendment to the Specific Plan will require review and approval by the City of Ontario Development Advisory Board, Planning Commission, and City Council. Such amendments are governed by California Government Code, Section 65500, and require an application and fee to be submitted to the City of Ontario Planning Department, stating in detail the reasons for the proposed amendment.

In the event the proposed amendment requires supplemental environmental analysis pursuant to the California Environmental Quality Act (CEQA), the applicant(s) will be responsible for associated fees for the preparation of necessary CEQA documentation.

8.1.8 APPEALS

An appeal from any determination, decision, or requirement of City staff, Development Advisory Board, or the Planning Commission shall be made in conformance to the appeal procedures established by the Ontario Development Code.

8.2 IMPLEMENTATION

The Rich-Haven Specific Plan is implemented through City approval of parcel map(s), tract map(s), and site development plans. Any development proposals shall be subject to the review procedures established in this Specific Plan. Implementation of the Rich-Haven Specific Plan development regulations is intended to encourage the most appropriate use of the land, ensure the highest quality of development, and protect the public health, safety, and general welfare.

8.2.1 DEVELOPMENT PERMIT

Development projects within the Rich-Haven Specific Plan area shall be subject to the Development Plan Review process established in the City of Ontario Development Code. Adoption of the Rich-Haven Specific Plan by the City of Ontario includes adoption of the design guidelines contained within the Specific Plan and which provide direction for the design of development projects within the Plan area. The design guidelines are intended to be flexible in nature while establishing basic evaluation criteria for review by the City of projects during the design review process.

The Development Permit process constitutes a design review of project architecture, site plans, and landscape plans. Development permits are approved with conditions of approval.

8.2.2 SUBDIVISION MAPS

Tentative maps shall be prepared and filed with the Planning Department in accordance with the City of Ontario Development Code. Approval by the City Council of Final Tract Map(s) and/or Parcel Maps within the Rich-Haven Specific Plan area shall be required in order to create legal lots for residential, commercial and industrial development. Tentative Tract and/or Parcel Maps will be reviewed and approved pursuant to applicable provisions of the Development Code and shall be consistent with this Specific Plan.

A vesting tentative map may instead be filed in accordance with the provisions of the Development Code. A vesting tentative map shall be filed in the same form, shall have the same content, accompanying data and reports, and shall be processed in the same manner described for tentative maps.

8.2.3 SUBSEQUENT DEVELOPMENT ENTITLEMENTS

8.2.3.1 Development Agreements (DA)

Development Agreements for planning areas may be executed between the City and the Developer in order to set forth the terms, conditions, and obligations of all parties signatory to the contract. California Government Code, Section 65864, et seq., and the procedures for Development Agreements, adopted by the City of Ontario, provide the authority for the Development Agreement.

8.2.3.2 Conditional Use Permits (CUP)

Conditional Use Permits shall be required for land use classifications typically having unusual site development features or operating characteristics requiring special consideration so that they may be designed, located, and operated compatibly with uses on adjoining properties and in the surrounding area. Conditional Use Permits must be first granted by the Zoning Administrator or Planning Commission before a use is allowed within a particular district.

~~CUP performance standards herein for drive-thru facilities (Section 5.3.8.8) constitute the minimum deemed necessary under general circumstances and in most cases to prevent adverse effects from drive through facilities. Other and further standards may be required as conditions of approval defined by City Planning staff to ensure that such uses are in accord with the intent of the Specific Plan and in concert with the integrity of the commercial or mixed-use project.~~

8.2.4 ADDITIONAL ENTITLEMENT REQUIREMENTS

In order to ensure orderly expansion of the City Utility Systems and other City Infrastructure, the following Additional Entitlement Requirements are imposed upon all Subdivision Maps and Developments within the Specific Plan area.

8.2.4.1 Conceptual Design Report

Prior to approval of any entitlement application (Subdivision Maps, Development Plan Reviews, etc.), a conceptual design report shall be prepared and submitted to the Development Engineering Department and the Utilities Engineering Department for review and approval for the established extent of all public improvements required for the project. The study shall identify existing and future rights-of-ways (ROW) and infrastructure improvements and establish all vertical and horizontal alignments for each utility. The report shall include cross-sections, profiles, and any supporting details needed to demonstrate that utilities can be adequately accommodated in the public ROW. The study shall account for all utility conflicts, right-of-way variations, existing obstructions, and the timing of utility installation. This shall also include Water Sub-Area Master Plans

(WSAMP) and Sewer Sub-Area Master Plans (SSAMP) to assure compliance with all Master Plan Design Criteria, including Hydraulic Design Criteria. Utilities cannot be located along an alignment that conflicts with existing conditions (e.g. electrical poles, private property, etc.) unless that applicant is accepting the responsibility of modifying the existing conditions (e.g. undergrounding, relocation, ROW acquisition, etc.).

8.2.4.2 Preliminary Design Report

As a condition of entitlements (Subdivision Maps, Development Plan Reviews, etc.) within the Specific Plan and prior to submittal of Infrastructure Improvements Plans, a Preliminary Design Report (PDR) for all public infrastructure shall be submitted and approved by the Development Engineering Department and the Utilities Engineering Department. The PDR shall include the following:

Conceptual Design Compliance: A discussion modifying or confirming the conceptual design established with the Project's Conceptual Design Report. The study shall confirm all rights-of-ways (ROW), infrastructure improvements, and vertical and horizontal alignments for each utility.

Street Cross Sections and Profiles: Street Cross Sections and Profiles shall be provided for each public street, private street and Public Utility Easement (PUE) containing a public utility and at any points along the alignments where the ROW varies. The cross sections shall show the location and size of each utility and shall annotate the property/ROW lines, the type of finished surface material, the distance of each utility from centerline, the depth from finished surface to top of pipe, and the distance between utilities (outside wall to outside wall).

Constructability Review: The report shall include a discussion of the constructability issues along the proposed alignment and identify the recommended construction methods that may be utilized. The study shall perform field investigation (field survey and potholing) in order to identify potential utility conflicts, right-of-way variations, existing obstructions, and constructability issues created by the timing of utility installation.

Supporting Details: The PDR shall include any supporting details needed to demonstrate that utilities can be adequately accommodated in the public ROW, including the placement of large appurtenances, clearance from existing obstructions, etc.

30% Design Drawings: The PDR findings shall be incorporated into a 30% design plan set.

8.2.4.3 Utilities Systems Map (USM)

Prior to approval of any entitlement application (Subdivision Maps, Development Plan Reviews, etc.), as a part of the entitlement application a Conceptual Utilities Systems Map (USM) shall be prepared and submitted to the Development Engineering Department and the Utilities Engineering Department for review and approval. The USM is a summary plan sheet exhibit that shows all the public offsite infrastructure requirements and demands for the Development Project (and/or Subdivision), the onsite private infrastructure improvements, and the interaction between the public and private utilities systems. As a Condition of Approval for the Development Project (and/or Subdivision), the Conceptual Utilities Systems Map shall be updated into a Final Utilities Systems Map to reflect the changes that occur between entitlement and Final Plan and Permit Approval. Reference the Ontario Municipal Utilities Company Utilities Engineering Department's Utilities Systems Map (USM) Requirements for details.

8.2.4.4 Integrated Waste Management Report (IWMR) and Solid Waste Handling Plan (SWHP)

Prior to approval of any entitlement application (Subdivision Maps, Development Plan Reviews, etc.), as a part of the entitlement application a Conceptual Integrated Waste Management Report (IWMR) and a Conceptual Solid Waste Handling Plan (SWHP) shall be prepared and submitted to the Development Engineering Department and the Utilities Engineering Department for review and approval. The Conceptual SWHP will include an exhibit that demonstrates the project site's design conformance with the Integrated Waste Department's requirements, including the requirements for Sizing of Storage, Location of Collection Areas, Accessibility for Collection Vehicles, and Collection of Sorted/Diverted Waste Types. The Conceptual IWMR is a report that presents project specific information that is not able to be demonstrated within the Solid Waste Handling Plan, including discussions on: project solid waste operations; project compliance with all applicable laws, statues, policies, and requirements; and, conformance with all the Integrated Waste Department's requirements, including the requirements for Sizing of Storage, Location of Collection Areas, Accessibility for Collection Vehicles, and Collection of Sorted/Diverted Waste Types. As a Condition of Approval for the Development Project (and/or Subdivision), the Conceptual SWHP and the Conceptual IWMR shall be updated into a Final SWHP and Final IWMR to reflect the changes that occur between entitlement and Final Plan and Permit Approval. The SWHP and IWMR may be required to be updated whenever there are new occupants, new uses or changes to existing uses, Tenant Improvements, Business Licenses, and Certificates of Occupancy. Reference the Ontario Municipal Utilities Company - Utilities Engineering Department's Integrated Waste Management Report (IWMR) and Solid Waste Handling Plan (SWHP) Requirements for details.

8.3 PHASING

Development within the Rich-Haven Specific Plan area is expected to occur in phases. The first phase of development is anticipated to occur along Ontario Ranch Road. Subsequent development phases will extend northerly with the extension of master planned roadways and utility improvements. The following minimum criteria shall be met for each Subdivision and Development of each Phase:

i. For Domestic Water, all the Master Plan, the Regional and Local Infrastructure identified in Section 4 and the Conceptual Domestic Water Plan for the Water Pressure Zone within the Phase shall be completed as a part of infrastructure requirements of the Phase. Also, any domestic water infrastructure necessary to provide primary looping, secondary looping and, satisfy all the hydraulic criteria and the fire flow shall be completed as a part of the infrastructure requirements of the Phase.
ii. For Recycled Water, all the Master Plan, the Regional and Local Infrastructure identified in Section 4 and the Conceptual Recycled Water Plan for the Recycled Water Pressure Zone within the Phase shall be completed as a part of the infrastructure requirements of the Phase. Also, any recycled water infrastructure necessary to provide primary looping, secondary looping and, satisfy all the hydraulic criteria shall be completed as a part of the infrastructure requirements of the Phase.
iii. For Sewer, all the Master Plan, the Regional and Local Infrastructure identified in Section 4 and the Conceptual Sewer Plan for the Master Plan Sewer Tributary Area within the Phase and upstream of that shall be completed as a part of the infrastructure requirements of the Phase. Also, any sewer infrastructure necessary to meet all the hydraulic criteria shall be completed as a part of the infrastructure requirements of the Phase.

8.3.1 COMMUNITY FACILITIES AND SERVICES

The timing for installation of community facilities, including park and trail facilities, and payment of impact fees for public services for the Specific Plan will be determined as part of the City's approval process in accordance with the provisions of the existing City fee ordinance. Community facilities, such as bike routes, will be developed in conjunction with construction of public improvements. Those portions of the Neighborhood Parks, paseos, and open space areas adjacent to individual developments within each Planning Area will be constructed to provide amenities as development progresses.

8.4 PROJECT FINANCING

The financing of construction, operation, and maintenance of public improvements and facilities (the "facilities"), and public service will include funding through a combination of financing mechanisms. Final determination as to the facilities to be constructed and as to maintenance responsibilities – whether publicly or privately maintained, will be made prior to recordation of the final maps. In order for the project to be fiscally self-sufficient, the following financing options can be considered for implementation:

Facilities and Services:

- Private capital investment for the construction of facilities.
- Community Facilities District (CFD) established pursuant to the Mello-Roos Community Facilities District Act of 1982, or other special district, to provide funding for the construction of a variety of public facilities and the provision of public services.

Operation and Maintenance:

- By individual private property owner.
- By private property owners or Home Owners Association.
- By Community Facilities District (CFD) established pursuant to the Mello-Roos Community Facilities District Act of 1982, or other special district.

City Council approval is a prerequisite for the implementation of any and all special district financing mechanism. The use of the Mello-Roos Community Facilities District Act of 1982 [the "Act") to finance public facilities and services will be at the City's sole discretion. Moreover, the use of the Act must be consistent with the City's adopted goals and policies concerning the use of the act.

8.5 MAINTENANCE RESPONSIBILITIES

During the course of maintenance of public utilities (including storm drain) within private and public streets, the City will pave the streets and restore landscaping per City standards. Restoration of any enhancements above and beyond City standards, including but not limited to architectural, hardscaping and landscaping enhancements shall be the responsibility of the HOA or other entity maintaining those enhancements. This applies to all areas where public utilities are located including but not limited to public and private streets, gated communities, alleys, etc.

Improvements constructed within the Rich-Haven Specific Plan will be maintained through a combination of public and private entities as described below and shown within Table 8-4, *Maintenance Responsibilities*, and:

8.5.1 PROJECT FINANCING

The financing of construction, operation and maintenance of public improvements and facilities ("facilities"), and public services will include funding through a combination of financing mechanisms. Final determination as to the facilities to be constructed and maintenance responsibilities – whether publicly or privately maintained, will be made prior to recordation of the final maps. In order for the project to be fiscally self-sufficient, the following financing options can be considered for implementation:

Facilities and Services:

- Private capital investment for the construction of facilities.
- Community Facilities District (CFD) established pursuant to the Mello-Roos Community Facilities District Act of 1982, or other special district, to provide funding for the construction of a variety of public facilities and the provision of public services.

Operation and Maintenance:

- By individual private property owner.
- By private Property Owners Association or Homeowners Association.
- By Community Facilities District (CFD) established pursuant to the Mello-Roos Community Facilities District Act of 1982, or other special district.

City Council approval is a prerequisite for the implementation of any and all special district financing mechanisms. The use of the Mello-Roos Community Facilities District Act of 1982 (the "Act") to finance public facilities and services will be at the City's sole discretion. Moreover, the use of the Act must be consistent with the City's adopted goals and policies concerning the use of the Act.

8.6 METHANE REMEDIATION

The City of Ontario is in the process of adopting protocol to assess the potential for methane generation on proposed building sites in areas previously used for certain agricultural practices. The preliminary protocol requires the following, which may be modified after approval of a final protocol:

- Prior to issuance of a grading permit, a methane site assessment shall be prepared to determine whether the property was ever used as a dairy, poultry ranch, hog ranch, livestock feed operation, manure stockpile site, manure burial site, agricultural pond, or for any other purpose that might result in the deposition of materials which could produce significant methane. The report will provide recommendations as to which areas should be tested after grading and which areas that should be exempt from methane testing, based upon historic site usage.
- The assessment report shall be submitted to the City of Ontario for review and approval. Areas identified in the assessment, which indicate a potential for methane generation, shall be tested 30 days after rough grading has been completed. Testing would occur on a weekly basis for four weeks.

  After testing, recommendations for methane mitigation measures are made on a lot-by-lot basis depending on the concentrations detected in the soil gas probes. Mitigation designs would be submitted to the City of Ontario, along with the result of the methane testing, for review and approval as part of building permit issuance.

Table 8-4
Maintenance Responsibilities

	City and/or Special District	Private Homeowners Association (HOA)	Private Homeowners/ Commercial/Industrial Property Owners	Utility Entity
Master Plan Roadways *(Riverside Drive, Haven Avenue, Milliken Avenue, Mill Creek Avenue, Chino Avenue, Ontario Ranch Road*)	√			
Interior Project Streets *(curb to curb Primary Entry Street, Secondary Entry Streets, Neighborhood Streets, and street lights)*	√			
Parkway of Master Plan Roadways *(curb to perimeter walls including landscape, sidewalks, street lights)*	√			
Parkways of Interior Project Streets[1] *(landscaping, sidewalks)*		√		
Interior Tract Graffiti Removal		√		
Private interior yard walls			√	
Private Recreational Areas		√		
Monument Signs and Master Plan Roadways	√			
Monument signs within tract entry		√		
Traffic Signals	√			

	City and/or Special District	Private Homeowners Association (HOA)	Private Homeowners/ Commercial/Industrial Property Owners	Utility Entity
Traffic Control Signs	√		√	
Alleys		√		
Community Trail (SCE Corridor Trail)	√			
Off-site and In-Tract water, sewer, and storm drain improvements *(Only those facilities in public roads and those in private streets within public utilities easements that meet public improvement design criteria)*	√			
On-site water, sewer, and storm drain improvements *(improvements that are: private, laterals, and lines behind meters and/or DCDAs, improvements serving only one lot/parcel, not within public or private roads, not within public utility easements, or not meeting public improvement design criteria)*		√	√	
Neighborhood Park *(5 acres or more)*	√			
Pocket/Linear Park		√		
Residential/Urban Parks		√		
Front Yard Landscaping Areas *(Planning Areas 1A, 1B, 1C, 2B,3A,& 3B)~~, 4, & 5 & 5D)~~)*		√		
Landscaping and Common Areas *(Planning Areas ~~6, 6D,7, 8 and 9~~4A, 4B, 5B, 5C, 6B, 7,8, 9, 10 A and 10B)*			√	
Community Theme Wall and Entry Monuments *(outside face for Graffiti removal)*	√			
Community Theme Wall and Entry Monuments *(structural integrity and face repair)*		√		
Community Neighborhood Entries *(within Neighborhood edges on Master Plan Roadways)*	√			
Driveway & Parking Areas (including landscaping) Serving Commercial Property		√		
Private Streets in Gated Communities		√		
Alley Landscaping and Lighting		√		
Electricity				√
Natural Gas				√
Communications Systems	√			√
Police	√			
Fire	√			
NPDES Facilities (Off-site)/WQMP[2]		√		
NPDES Facilities on private property		√		

1. Include restoration work following public street repairs.
2. Only those facilities in public roads, public right-of-way and/or easements, to be maintained through an Encroachment Agreement with the City of Ontario.

8.7 MITIGATION MONITORING

Pursuant to Public Resources Code (PRC) Section 21081.6, a summary of conditions of project approval shall be prepared to mitigate or avoid significant effects on the environment. An approved Mitigation Monitoring Program shall insure that the project and all future development within the project area comply with all applicable environmental mitigation and permit requirements. The final approved Mitigation Monitoring program shall be attached as an appendix to this Specific Plan upon EIR certification.

Rich Haven SECTION 9

Revised Section

9.1 General Plan Consistency

California Government Code (Title 7, Division 1, Chapter 3, Article 8, Section 65450-65457) permits the adoption and administration of specific plans as an implementation tool for elements contained in the local general plan. Policy plans must demonstrate consistency in regulations, guidelines, and programs with the goals and policies set forth in the general plan. The Rich Haven Specific Plan has been prepared in conformance with the goals and policies of the City of Ontario Policy Plan. The policy analysis in ***Table 9-1, "Policy Plan Consistency,"*** describes the manner in which the Rich Haven Specific Plan complies with The Ontario Plan (TOP) policies applicable to the project.

PLAN POLICY	SPECIFIC PLAN CONSISTENCY
LAND USE ELEMENT	
GOAL LU-1: A community that has a spectrum of housing types and price ranges that match the jobs in the City and that make it possible for people to live and work in Ontario and maintain a quality of life.	
LU-1.1 Strategic Growth. We concentrate growth in strategic locations that help create place and identity, maximize available and planned infrastructure, foster the development of transit, and support the expansion of the active and multimodal transportation networks throughout the City.	The Specific Plan outlines a pedestrian sidewalk and multi-use trail network connecting neighborhoods to open space and adjacent future commercial land uses.
LU-1.2 Sustainable Community Strategy. We integrate state, regional, and local Sustainable Community/Smart Growth principles into the development and entitlement process.	Sustainable Community/Smart Growth principles are incorporated into the Rich Haven Land Use Plan. Pedestrian sidewalks and bicycle paths to be constructed as part of the project throughout the community provide connectivity among residential planning areas and schools to help reduce vehicle trips and miles traveled. The design of residential areas incorporates tree-lined parkways providing shade for pedestrians and parked cars. Safe and efficient pedestrian and bicycle connectivity is provided throughout the project. The Rich Haven architectural design guidelines allow for a variety of architectural styles that respond to local climate conditions. Some styles allow the incorporation of flat roofs that facilitate the use of solar collectors. All new construction will utilize design features, fixtures, appliances, and heating and cooling controls to conserve energy and water. The landscape concept for

PLAN POLICY	SPECIFIC PLAN CONSISTENCY
	Rich Haven incorporates a plant palette of drought tolerant materials and requirements that the development implement planting and irrigation systems designed to conserve water. Park and recreation areas will include shaded areas, bicycle racks, and other amenity features to encourage pedestrian and other non-vehicular activities.
LU-1.3 Adequate Capacity. We require adequate infrastructure and services for all development.	The Rich Haven Specific Plan establishes an infrastructure and public facilities plan to ensure that adequate roadways and public utilities including sewer, water, and drainage facilities along with schools, parks, and other public facilities are provided to serve the project.
LU-1.4 Multimodal Mobility. We require development and urban design, where appropriate, that reduces reliance on the automobile and capitalizes on active transportation, transit, electric vehicles, and multimodal transportation opportunities	The Rich Haven Specific Plan requires the construction of Class 1 Bike Paths, which are an integral element to creating accessibility and mobility within Rich Haven. The Specific Plan requires locations and construction of bus turnouts that may be required within the project to be coordinated with and constructed to the satisfaction of the City of Ontario and Omnitrans.
LU-1.6 Complete Community. We incorporate a variety of land uses and building types in our land use planning efforts that result in a complete community where residents at all stages of life, employers, workers, and visitors have a wide spectrum of choices of where they can live, work, shop and recreate within Ontario.	Rich Haven provides for development of up to ~~1,833~~7,194 ~~-~~residential dwelling units in a variety of residential single-family detached and multi-family attached housing types oriented toward open space amenities.

PLAN POLICY	SPECIFIC PLAN CONSISTENCY
GOAL LU-2: Compatibility between a wide range of uses and resultant urban patterns and forms.	
LU-2.6 Infrastructure Compatibility. We require infrastructure to be aesthetically pleasing and in context with the community character.	Arterial streets within Rich Haven will be uniformly landscaped in an aesthetically pleasing manner with 8-10-foot-wide landscaped parkways on each side of the street and 16 -26 foot wide landscaped medians in each street. A planting buffer area varying in width from 40-50 feet in width will be provided adjacent to sidewalks within the project adjacent to all arterial roadways. Decorative project monuments will be constructed at key project entries providing community identification and establishing a sense of arrival and a welcoming feeling for the community.
LU-2.9 Methane Gas Sites. We require sensitive land uses and new uses on former dairy farms or other methane-producing sites be designed to minimize health risks.	The project will comply with appropriate mitigation measures identified in the project EIR for soil remediation and proper venting to address the potential existence of methane gases within the project.
GOAL LU-4: Development that provides short-term value only when the opportunity to achieve our Vision can be preserved.	
LU-4.3 Infrastructure Timing. We require that the necessary infrastructure and services be in place prior to or concurrently with development.	Approval of the Rich Haven Specific Plan [L SEP] is accompanied by an application for approval of a development agreement. The development agreement shall include, but not be limited to, methods for financing, acquisition, and construction of infrastructure, acquisition, and development of adequate levels of parkland and schools, as well as the provision of adequate housing opportunities for various

PLAN POLICY	SPECIFIC PLAN CONSISTENCY
	segments of the community consistent with the City's regional housing needs assessment. The Rich Haven development agreement shall be fully approved before the issuance of the first building permits for the project.
GOAL LU-5: Integrated airport systems and facilities that minimize negative impacts to the community and maximize economic benefits.	
LU-5.2 Airport Planning Consistency. We coordinate with airport authorities to ensure The Ontario Plan is consistent with state law, federal regulations, and/or adopted master plans, and airport land use compatibility plans for ONT and Chino Airport.	The Specific Plan will comply with the ALUCP requirements for Ontario Airport (ONT) and Chino Airport as outlined in Rich Haven Specific Plan Section 3-4.
LU-5.7 ALUCP Consistency with Land Use Regulations. We comply with state law that requires general plans, specific plans, and all new development to be consistent with the policies and criteria set forth within an Airport Land Use Compatibility Plan for any public-use airport.	The Specific Plan will comply with the ALUCP requirements for Ontario Airport (ONT) and Chino Airport as outlined in Rich Haven Specific Plan Section 3-4.
HOUSING ELEMENT	
GOAL H-2 Diversity of types of quality housing that are affordable to a range of household income levels, accommodate changing demographics, and support and reinforce the economic sustainability of Ontario.	
H-2.4 Ontario Ranch. We support a premier lifestyle community in the Ontario Ranch, distinguished by diverse housing, highest design quality, and cohesive and highly amenitized neighborhoods.	The Specific Plan allows for the development of up to ~~893~~ 7,194 residential dwelling units comprised of a variety of single-family detached and multi-family attached homes. Residential land use areas are linked by a network of street- separated sidewalks and bicycle trails connecting all neighborhoods to parks and schools. Residential development is designed to address

PLAN POLICY	SPECIFIC PLAN CONSISTENCY
	a variety of lifestyles and economic segments of the marketplace, such as singles, families, executives and "empty nesters."
H-2.5 Housing Design. We require architectural excellence through adherence to City design guidelines, thoughtful site planning, environmentally sustainable practices, and other best practices.	The Specific Plan includes architectural design guidelines to encourage development of diverse neighborhoods with the use of varied architectural styles articulated with elements true to the architectural characteristics of each style.
GOAL H-5 A full range of housing types and community services that meet the special housing needs for all individuals and families in Ontario, regardless of income level, age, or other status.	
H-5.2 Family Housing. We support the development of larger rental apartments that are appropriate for families with children, including, as feasible, the provision of services, recreation, and other amenities.	The Specific Plan allows for the development of condominium and multi-family home types designed to accommodate families with children. The Specific Plan requires that all condominium and multi-family developments within the project provide private recreational areas and/or pocket parks for residents of the development.
PARKS AND RECREATION ELEMENT	
GOAL PR-1: A system of safe and accessible parks that meets the needs of the community.	
PR-1.5 Acreage Standard. We strive to provide 5 acres of parkland (public and private) per 1,000 residents.	The project will comply with the City requirement for the payment of an in-lieu fee in amount equivalent to three acres of parkland per 1,000 residents to fund the development of public parks and the requirement that

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	each new development provide park acreage on-site equivalent to 2 acres per 1,000 residents. The Specific Plan includes the provision of private pocket parks in each Planning Area.
PR-1.6 Private Parks. We expect development to provide a minimum of 2 acres of developed private park space per 1,000 residents.	The Specific Plan includes the provision of private pocket parks in each Planning Area with a total acreage provided equivalent to 2 acres of developed private park per 1,000 residents.
PR-1.9 Phased Development. We require parks be built in new communities before a significant proportion of residents move in.	Development within the Specific Plan is required to be reviewed and approved pursuant to the City's Subdivision Ordinance, which requires the approval of tentative and final subdivision maps for the project. Conditions of approval associated with the City's approval of tentative subdivision maps will provide for the timing of construction of parks as part of the development.
PR-1.11 Environmental Function of Parks. We require new parks to meet environmental management objectives.	The Specific Plan requires all new development to be reviewed and approved pursuant to the provisions of the City's Subdivision Ordinance and Development Plan Review process, which provides for review by the City's Planning Department which may require the development to incorporate environmental management objectives into the design of parks.
PR-1.12 Trails. We promote connections between parks and local trails including those managed by other public agencies.	The Specific Plan is designed for bicycle and pedestrian accessibility provided throughout the community through a network of off-street bike and pedestrian trails within Vineyard and Riverside Avenues. These

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	trails are connected to a Class I bike path system located within Archibald Avenue, Ontario Ranch Road, and Haven Avenue. Connectivity to this network of off-street trails from all residential Planning Areas is provided through the local street system.
PR-1.14 Multi-family Residential Developments. We require that new multi-family residential developments of five or more units provide recreational facilities or open space, in addition to paying adopted impact fees.	The Specific Plan requires that all condominium and multi-family developments within the project provide private recreational areas and/or pocket parks for residents of the development in addition to the payment by the developer of adopted impact fees.
ENVIRONMENTAL RESOURCES ELEMENT	
GOAL ER-1: A reliable and cost-effective system that permits the City to manage its diverse water resources and needs.	
ER-1.3 Conservation and Sustainable Water Supply. We work with regional water providers and users to conserve water and ensure sustainable local water supplies as more frequent droughts reduce long term local and regional water availability.	The Specific Plan requires all public and common area landscaping within the project to utilize plant materials listed on the approved Specific Plan Landscape Plant Matrix, which is comprised of drought tolerant and California Friendly plant materials. The Specific Plan requires that irrigation systems for both public and private landscaped areas be designed to be as water-efficient as possible and includes the following minimum requirements. • All irrigation systems shall have automatic controllers designed to properly water plant materials given the

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	site's soil conditions, and irrigation systems for all public landscapes shall have automatic rain shut-off devices. • Drip irrigation is ~~not~~ permitted within ~~LMD~~ CFD landscape areas. • Spray systems shall have low volume matched-precipitation heads. • All ~~LMD~~ CFD areas are to be controlled with central control irrigation systems, and all trees are to be irrigated utilizing a flush grade bubbler system on a separate valve. All ~~LMD~~ CFD areas shall be designed to City Standard Specifications.
ER-1.5 Water Resource Management. Environmental justice areas are prioritized as we coordinate with local agencies to protect water quality, prevent pollution, address existing contamination, and remediate contaminated surface water and groundwater.	The Specific Plan requires that the developer obtain approval of a Storm Water Pollution Prevention Plan (SWPPP) prior to issuance of grading or construction permits. The SWPPP will be prepared to comply with California State Water Resources Control Board's current "General Permit to Discharge Storm Water Associated With Construction Activity" and current "Area Wide Urban Storm Water Runoff (Regional NPDES) Permit." The SWPPP will identify and detail all appropriate Best Management Practices (BMP's) to be implemented or installed during construction of the project. In addition to the preparation of a SWPPP for construction-related activities, and as part of the approval of any grading plans for the project, the

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	developer is required to submit a Water Quality Management Plan (WQMP) on the regional model form provided by the City. The WQMP shall identify and detail all Site Design BMP's, Source Control BMP's and Treatment Control BMP's to be implemented or installed as part of the project in order to reduce storm water pollutants and site runoff.
ER-1.6 Urban Run-off Quantity. We encourage the use of low impact development strategies, including green infrastructure, to intercept run-off, slow the discharge rate, increase infiltration, and ultimately reduce discharge volumes to traditional storm drain systems.	The Specific Plan requires that grading and drainage for the project be designed to retain, infilter, and/or biotreat surface runoff to the maximum extent practicable, in order to comply with the requirements of the current San Bernardino County NPDES Stormwater Program's MS4 Permit and Water Quality Management Plan (WQMP) for priority development projects. These effects shall be minimized through the implementation of on-site and off-site Low Impact Development (LID) Site Design Best Management Practices (BMPs) that reduce runoff and pollutant transport by minimizing impervious surfaces, maximizing on-site infiltration, and specifically retain/infilter or biotreat the 85th percentile storm event. In addition, non-structural and structural Source Control Best Management Practices (BMPs), shall also be implemented and documented in the project's approved Water Quality Management Plan(s) to reduce pollutant generation and transport from the project site. Participation in an alternative regional or watershed-based Treatment Control BMP is

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	regulated by the requirements of the San Bernardino County MS4 Urban Runoff Permit and the SB County Water Quality Management Plan Technical Guidance Document.
ER-1.7 Urban Run-off Quality. We require the control and management of urban run-off, consistent with Regional Water Quality Control Board regulations.	The Specific Plan requires that the project comply with the most recent requirements of the San Bernardino County NPDES Storm Water Program's Quality Management (WQMP) for significant new development projects. A final WQMP is required to be submitted by the developer for approval by the City prior to the issuance of any grading and construction permits for the project.
ER-1.8 Wastewater Management. We require the management of wastewater discharge and collection consistent with waste discharge requirements adopted by the Regional Water Quality Control Board.	The Specific Plan requires the construction of a wastewater system consistent with City requirements and also requires that the project obtain approval of a WQMP for the project prior to the issuance of any grading or construction permit.
GOAL ER-3: Cost-effective and reliable energy system sustained through a combination of low impact buildings, site and neighborhood energy conservation, and diverse sources of energy generation that collectively helps to minimize the region's carbon footprint.	
ER-3.1 Conservation Strategy. We require conservation as the first strategy to be employed to meet applicable energy-saving standards.	The Specific Plan requires all public and common area landscaping within the project to utilize plant materials listed on the approved Specific Plan Landscape Plant Matrix, which is comprised of drought tolerant and California Friendly plant materials. The Specific Plan

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	requires that irrigation systems for both public and private landscaped areas be designed to be as water-efficient as possible. The Specific Plan requires the construction of separate water mains for the use of recycled water in public and common areas of the project. The Specific Plan includes architectural styles that respond to local climate conditions and allow for the incorporation of flat roofs that facilitate the use of solar collectors. All new construction will utilize fixtures, appliances, and heating and cooling controls to conserve water and energy.
ER-3.2 Green Development– Communities. We encourage the use of the LEED Neighborhood Development rating system, or similar mechanism, to guide the planning and development of all new communities.	The Specific Plan includes architectural guidelines, which allow for a variety of styles that respond to local climate conditions. Some styles allow the incorporation of flat roofs that facilitate the use of solar collectors. All new construction will utilize design features, fixtures, appliances, and heating and cooling controls to conserve energy and water. The landscape concept for Rich Haven incorporates a plant palette and a planting and irrigation system designed to conserve water. Park and recreation areas will include shaded areas, bicycle racks, and other amenity features to encourage pedestrian and other non-vehicular activities.
ER-3.3 Building and Site Design. We require new construction to incorporate energy efficient building and site design strategies, which could include appropriate solar orientation, maximum use of natural daylight, passive solar, and natural ventilation.	The Specific Plan includes architectural design guidelines, which allow for styles that respond to local climate conditions. Some styles allow for flat roofs that facilitate the use of solar collectors.

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GOAL ER-4: Improved indoor and outdoor air quality and reduced locally generated pollutant emissions.	
ER-4.4 Indoor Air Quality. We will comply with State Green Building Codes relative to indoor air quality. We seek funding to improve indoor air quality for households with poor indoor air quality, with priority for lower income households in environmental justice areas.	All development within the Specific Plan will be required to comply with the State Green Building Code as implemented by the City.
GOAL ER-5 Protected high value habitat and farming and mineral resource extraction activities that are compatible with adjacent development.	
ER-5.2 Entitlement and Permitting Process. We comply with state and federal regulations regarding protected species.	The project will comply with all mitigation measures identified in the project EIR with regard to biological resources
ER-5.3 Right to Farm. We support the right of existing farms to continue their operations within the Ontario Ranch.	The Specific Plan requires a minimum 100-foot wide agricultural buffer be provided by the development between any new residential structure and any existing animal feed trough, corral/pen or an existing dairy/feed lot.
ER-5.4 Transition of Farms. We protect both existing farms and sensitive uses around them as agricultural areas transition to urban uses.	The Specific Plan requires a minimum 100-foot wide agricultural buffer be provided by the development between any new residential structure and any existing animal feed trough, corral/pen or an existing dairy/feed lot.

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COMMUNITY ECONOMICS ELEMENT	
GOAL CE-1: A complete community that provides for all incomes and stages of life.	
CE-1.6 Diversity of Housing. We collaborate with residents, housing providers, and the development community to provide housing opportunities for every stage of life; we plan for a variety of housing types and price points to encourage the development of housing supportive of our efforts to attract business in growing sectors of the community while being respectful of existing viable uses.	The Specific Plan allows for the development of up to ~~1,833~~7,194 residential dwelling units comprised of a variety of single-family detached and multi-family attached homes. A network of street-separated sidewalks and Multipurpose Trails connecting all neighborhoods to parks and schools links residential land use areas. Residential development is designed to address a variety of lifestyles and economic segments of the marketplace, such as singles, families, executives and "empty nesters."
GOAL CE-2: A City of distinctive neighborhoods, districts, corridors, and centers where people choose to be.	
CE-2.1 Development Projects. We require new development and redevelopment to create unique, high-quality places that add value to the community.	The Specific Plan includes architectural and landscape design guidelines.
CE-2.2 Development Review. We require those proposing new development and redevelopment to demonstrate how their projects will create appropriately unique, functional, and sustainable places that will compete well with their competition within the region.	The Specific Plan requires all new development to be reviewed and approved pursuant to the provisions of the City's Subdivision Ordinance and Development Plan Review process which provides for review by the City's Planning Department which may require the development to demonstrate how the project will create appropriately unique, functional and sustainable places.

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CE-2.5 Private Maintenance. We require adequate maintenance, upkeep, and investment in private property because proper maintenance on private property protects property values.	The Specific Plan includes a Maintenance Responsibility Matrix defining the private responsibilities for maintenance of private roadways, parkways, trails, common areas, parks, yards, walls, and monuments within the project.
CE-2.6 Public Maintenance. We require the establishment and operation of maintenance districts or other vehicles to fund the long-term operation and maintenance of the public realm whether on private land, in rights-of-way, or on publicly-owned property.	The Specific Plan includes a Maintenance Responsibility Matrix defining the responsible public entities, including special districts, for maintenance of roadways, sidewalks, traffic signals, off site and on site public water, sewer, and storm drain infrastructure facilities.
SAFETY ELEMENT	
GOAL S-1: Minimized risk of injury, loss of life, property damage, and economic and social disruption caused by earthquake-induced and other geologic hazards.	
S-1.1 Implementation of Regulations and Standards. We require that all new habitable structures be designed in accordance with the most recent California Building Code adopted by the City, including provisions regarding lateral forces and grading.	All development within the Specific Plan will be required to comply with the State of California Building Code as adopted and implemented by the City.
GOAL S-3: Reduced risk of death, injury, property damage and economic loss due to fires, accidents and normal everyday occurrences through prompt and capable emergency response.	
S-3.8 Fire Prevention through Environmental Design. We require new development to incorporate fire prevention consideration in the design of	The Specific Plan requires new development to be reviewed and approved pursuant to the City's

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streetscapes, sites, open spaces, and buildings.	Subdivision Ordinance and Development Plan Review process, allowing for the Fire Department review, and requiring the incorporation of any required fire prevention design elements in streetscapes, open spaces and buildings.
GOAL S-4: An environment where noise does not adversely affect the public's health, safety, and welfare.	
S-4.1 Noise Mitigation. We utilize the City's Noise Ordinance, building codes, and subdivision and development codes to mitigate noise impacts.	
GOAL S-5: Minimize the risk of injury, property damage, and economic loss resulting from windstorms and wind-related hazards.	
S-5.1 Dust Control Measures. We require the implementation of Best Management Practices for dust control at all excavation and grading projects.	Construction within the Specific Plan will comply with a City approved construction management plan and all mitigation measures identified in the project EIR with regard to dust control.
GOAL S-6: Reduced potential for hazardous materials exposure and contamination.	
S-6.9 Remediation of Methane. We require development to assess and mitigate the presence of methane, per regulatory standards and guidelines.	The project will comply with all mitigation measures identified as part of the project EIR for soil remediation and proper venting to address the potential existence of methane gases within the project.
GOAL S-7: Residential neighborhoods, commercial areas, and industrial districts that are kept safe through a multi-faceted approach of prevention, suppression, and community involvement in public safety.	
S-7.4 Crime Prevention through Environmental Design (CPTED). We require new development to incorporate CPTED in the design of streetscapes, sites,	The Specific Plan requires all new development to be reviewed and approved pursuant to the provisions of

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open spaces, and buildings.	the City's Subdivision Ordinance and Development Plan Review process which provides for review by the City's Police Department, which may require the development to incorporate CPTED in the design of streetscapes, sites, open spaces and buildings.
MOBILITY ELEMENT	
GOAL M-1: A system of roadways that meets the mobility needs of a dynamic and prosperous Ontario.	
M-1.1 Roadway Design and Maintenance. We require our roadways to: • Comply with federal, state, and local design and safety standards; • Meet the needs of multiple transportation modes and users; • Handle the capacity envisioned in the City of Ontario Master Plan of Streets and Highways; • Be maintained in accordance with best practices; • Be compatible with the streetscape and surrounding land uses; and • Promote the efficient flow of all modes of traffic through the implementation of intelligent transportation systems and travel demand management strategies.	The Specific Plan requires the construction of a network of Master Plan Roadways designed consistent with the requirements of the City's Functional Roadway Classification Plan and the New Model Colony Streetscape Master Plan. The roadway system is designed to maintain a peak hour Level of Service (LOS) E or better at all intersections as discussed in the project EIR. Site design, source control, and treatment BMP's for the project are required to be submitted by the developer for approval by the City prior to issuance of permits for the project.
GOAL M-2: A system of trails and corridors that facilitate and encourage active modes of transportation.	

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M-2.3 Pedestrian Walkways. We require streets to include sidewalks and visible crosswalks at major intersections where necessary to promote safe and comfortable mobility between residential areas, businesses, schools, parks, recreation areas, and other key destination points.	The Specific Plan includes a plan for construction of an off-street pedestrian circulation system comprised of an interconnected, paved sidewalk system within all roadway rights-of-ways, separated from vehicular travel lanes by a landscaped parkway. The Rich Haven pedestrian system provides connectivity among residential neighborhoods to the pocket parks and the elementary school within Rich Haven.
GOAL M-3: A public transit system that is a viable alternative to automobile travel and meets basic transportation needs of the transit-dependent.	
M-3.2 Alternative Transit Facilities at New Development. We require new development adjacent to an existing or planned transit stop to contribute to the creation of transit facilities, such as bus shelters, transit bays and turnouts, and bicycle facilities, such as secure storage areas.	The Specific Plan requires the developer of the project to coordinate with the local mass transit provider, Omnitrans, to accommodate adequate area for any bus turnouts within the Master Plan Roadways as required by Omnitrans.
COMMUNITY DESIGN ELEMENT	
GOAL CD-1: A dynamic, progressive city containing distinct and complete places that foster a positive sense of identity and belonging among residents, visitors, and businesses.	
CD-1.2 Place Types. We establish Place Types in urban, mixed use, and transit-oriented areas to foster the City's identity as a premier community and require new development within each Place Type to incorporate prescribed urban patterns, forms, and placemaking priorities.	The Specific Plan includes design guidelines to guide the physical character of all future residential development and all community and neighborhood features, including the overall landscape treatment within the project. The proposed community character

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	establishes a unified aesthetic treatment and design theme. The community vision for Rich Haven is based upon the architectural and landscape influences found in Ontario and throughout Southern California. The architectural styles and landscape concept chosen for the community have been selected in order to be reflective of older neighborhoods of historic Ontario as well as to accommodate innovative transitional influences. Together, the architectural styles and landscape concept are designed to create a neighborhood character for Rich Haven that will be sustainable over time.
CD-1.5 View Corridors. We require all major north-south streets be designed and redeveloped to feature views of the San Gabriel Mountains, which are part of the City's visual identity and a key to geographic orientation. Such views should be free of visual clutter, including billboards and may be enhanced by framing with trees.	The major north south streets in Rich Haven are designed to frame the views of the San Gabriel Mountains. The Specific Plan requires the construction of extensive landscaping on both sides of each street and in the median of each street. All new utility lines will be placed underground.
GOAL CD-2: A high level of design quality resulting in neighborhoods, commercial areas, public spaces, parks, and streetscapes that are attractive, safe, functional, human- scale, and distinct.	
CD-2.1 Quality Building Design and Architecture. We encourage all development projects to convey visual interest and character through: • Building volume, massing, and height to provide context-appropriate scale and proportion; • A true architectural style which is carried out in plan, section, and	The Specific Plan includes design guidelines to guide the construction of the project by requiring building massing to address the street and the pedestrian experience, the use of selected architectural styles to be implemented in a comprehensive manner throughout each neighborhood around all building elevations, and

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elevation through all aspects of the building and site design and appropriate for its setting; and • Exterior building materials that are articulated, high quality, durable, and appropriate for the architectural style.	the use of building materials and architectural features and elements which are true to each selected style.
CD-2.2 Neighborhood Design. We create distinct residential neighborhoods that promote a sense of community and identity by emphasizing access, connectivity, livability, and social interaction through such elements as: • A pattern of smaller, walkable blocks that promote activity, safety, and access to nearby amenities and services; • Varied parcel sizes and lot configurations to accommodate a diversity of housing types; • Traffic calming measures to slow traffic and promote walkability while maintaining acceptable traffic flows and emergency evacuation access; • Floor plans that encourage views onto the street and de-emphasize the visual and physical dominance of garages (introducing the front porch as the "outdoor living room"), as appropriate; and • Landscaped parkways, with sidewalks separated from the curb and designed to maximize safety, comfort, and aesthetics for all users.	The Rich Haven Specific Plan is designed as a walk-able community of traditional residential neighborhoods organized around a simple grid street system offering a variety of home types within an open space setting. Residents can walk or bike to parks and schools via an interconnected network of sidewalks and trails throughout the community. Traditional site planning elements, varied residential product design and architecture, well-landscaped streets and enhanced entries combine to create welcoming neighborhoods within the community with aesthetic and functional harmony. Streets are linked together in a grid pattern with sidewalks separated from the street by landscaped parkways providing a simple and understandable system for pedestrian and vehicular travel connecting neighborhoods, open space amenities, public facilities, and recreational areas. A variety of housing types, including detached single-family homes, attached single-family homes, and multifamily homes are planned for Rich Haven, all of which are located close to schools, parks, and open space amenities. Residential development standards and design

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	guidelines contained in the Specific Plan ensure that homes are designed at a human scale emphasizing architecture fronting the street. Residential development standards are designed to minimize views of garage doors through use of alternating garage configurations. Traffic calming features incorporated into neighborhood streets include a traditional grid pattern with sidewalks separated by landscaping on either side of the street, and the use of intersection chokers and roundabouts where appropriate.
CD-2.5 Streetscapes. We design new and, when necessary, retrofit existing streets to improve walkability, bicycling and transit integration, strengthen connectivity, and enhance community identity through improvements to the public right-of-way such as sidewalks, street trees, parkways, curbs, street lighting and street furniture.	The Specific Plan is designed with a comprehensive street system to accommodate the safe and efficient movement of automobiles as well as bike trails and a multi-purpose trail to accommodate bicycle and pedestrian mobility and connectivity throughout the community. Streets are designed as a grid system of short blocks allowing for various access points and travel routes. Streets are designed with sidewalks separated from the street to create an inviting environment for walking. Streets connect neighborhoods, parks and schools through a variety of travel paths. Bicycle accessibility is provided throughout the community through a network of off-street multi- purpose trails within Vineyard Avenue and Riverside Avenue which connect to a Class II bike path and Multipurpose Trail. Connectivity to this network of off street bike trails from all residential Planning Areas

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	is provided through the local street system.
CD-2.6 Connectivity. We promote development of local street patterns, multimodal networks, and connected public spaces that create and unify neighborhoods, rather than divide them, and create cohesive and continuous corridors, rather than independent "islands" through the following means: • Local street networks that provide access both between subdivisions and within neighborhoods and discourage through traffic; • A local street system that is logical and understandable for the user. A grid system is preferred to avoid circuitous and confusing travel paths between internal neighborhood areas and adjacent arterials and to provide adequate emergency and evacuation access; and • Pedestrian and bicycle networks that provide convenient access to neighborhoods and nearby destinations, such as schools, parks, other public spaces, commercial areas, and transit stops.	Off-street pedestrian circulation is available throughout Rich Haven by means of the interconnected, paved sidewalk system within the roadway right-of-way, separated from travel lanes by a landscaped parkway and within off-street Multipurpose Trails. The Rich Haven pedestrian system provides connectivity among residential neighborhoods to pocket parks and the elementary school within Rich Haven. Streets are designed in a simple grid system with short blocks promoting a sense of small neighborhoods.
CD-2.7 Sustainability. We collaborate with the development community to design and build neighborhoods, streetscapes, sites, outdoor spaces, landscaping, and buildings to reduce energy demand through solar orientation, maximum use of natural daylight, passive solar and natural ventilation, building form, mechanical and structural systems, building materials, and construction techniques.	Sustainable Community/Smart Growth principles are incorporated into the Rich Haven Land Use Plan. The sustainable goals for the project as stated in the Specific Plan include the following: 1. Encourage walking and other non-vehicular modes of travel. 2. Provide pedestrian connectivity throughout the project.

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	3. Provide shaded outdoor areas. 4. Encourage the use of architectural elements designed to reduce interior heat gain. 5. Encourage the use of recycled, recyclable, and environmentally friendly building materials. 6. Require the use of low energy glass, low water plumbing features, and energy efficient appliances. 7. Encourage the use of drought tolerant landscaping and water efficient irrigation methods. Pedestrian and bicycle connectivity is provided among residential planning areas, schools, and parks helping to reduce vehicle trips and miles traveled. The design of residential areas incorporates tree-lined parkways providing shade for pedestrians and parked cars. Safe and efficient pedestrian and bicycle connectivity is provided throughout the project through a network of off-street bicycle trails, multi- use trails, and sidewalks. The Rich Haven architectural design guidelines allow for a variety of styles that respond to local climate conditions. Some styles allow the incorporation of flat roofs that facilitate the use of solar collectors. All new construction will utilize design features, fixtures, appliances, and heating and cooling controls to

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	conserve energy and water. The landscape concept for Rich Haven incorporates a drought tolerant plant palette and requires planting and irrigation systems designed to conserve water. Park and recreation areas will include shaded areas, bicycle racks, and other amenity features to encourage pedestrian and other non-vehicular activities.
CD-2.8 Safe Design. We incorporate defensible space design into new and existing developments to ensure the maximum safe travel and visibility on pathways, corridors, and open space and at building entrances and parking areas by avoiding physically and visually isolated spaces, maintaining visibility and accessibility, and using lighting.	Residential development standards and design guidelines contained within the Specific Plan require home designs with fronts of homes, not garages, oriented toward the street to ensure that "eyes are on the street" in each neighborhood. Residences are oriented around open space, parks, and trails. Parking areas and garages are located to the rear of residences to avoid dominance of the streetscape by automobiles and to enhance a pedestrian environment on all streets.
CD-2.9 Landscape Design. We encourage durable, sustainable, and drought-tolerant landscaping materials and designs that enhance the aesthetics of structures, create and define public and private spaces, and provide shade and environmental benefits.	The landscape concept for Rich Haven incorporates the use of durable landscaping materials, a drought tolerant plant palette, and a planting and irrigation system designed to conserve water. Park and recreation areas will include shaded areas, bicycle racks, and other amenity features to encourage pedestrian and other non-vehicular activities. All materials utilized in private and public common areas will be durable landscaping materials.

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CD-2.11 Entry Statements. We encourage the inclusion of amenities, signage, and landscaping at the entry to neighborhoods, commercial centers, mixed use areas, industrial developments, and public places that reinforce them as uniquely identifiable places.	Signage and landscaping will be provided at neighborhood entries within Rich Haven. Community and neighborhood entry monumentation is required by the Specific Plan and is designed to establish a hierarchy for each Planning Area of the community. At key entries a monumentation program will be utilized to help identify the community as well as convey a sense of arrival and a welcoming feel for both vehicular and pedestrian traffic. These monuments and "gateways" are to be designed with durable, lasting materials approved by the City of Ontario. The "gateways" leading into the community of Rich Haven will be elegant in appearance, classic in form, evoking the sense of arrival.
CD-2.12 Site and Building Signage. We encourage the use of sign programs that utilize complementary materials, colors, and themes. Project signage should be designed to effectively communicate and direct users to various aspects of the development and complement the character of the structures.	The Specific Plan requires the developer of Rich Haven to obtain approval by the City of a Master Sign Program to address project entries, neighborhood identification and way finding signage within the project.
GOAL CD-3: Vibrant urban environments that are organized around intense buildings, pedestrian and transit areas, public plazas, and linkages between and within developments that are conveniently located, visually appealing and safe during all hours.	
CD-3.1 Unique Identity. We promote development that heightens the unique character and identity of each Place Type by requiring compatible land uses and land planning, site design, and building design that promotes an active	The Specific Plan includes architecture and landscape design guidelines to enrich the community landscape and architectural style for Rich Haven. The design

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public realm.	guidelines are organized to define the basic landscape design principles for the project, to guide the implementation of the "design vision," and to ensure the design integrity of the project. All landscape plans, streetscape plans, and graphic designs with regard to community identity, neighborhood identity, or entry monumentation within the project are required to conform to the landscape design guidelines as set forth in the Specific Plan and are subject to review and approval by the City of Ontario. The landscaping proposed for Vineyard, Riverside, Chino, and Hellman Avenues shall be designed in accordance with the City's New Model Colony Streetscape Master Plan.
CD-3.3 Complete and Connected Network. We require that pedestrian, vehicular, and bicycle circulation on both public and private property be coordinated to provide connections internally and externally to adjacent neighborhoods and properties (existing and planned) through a system of local roads and trails that promote walking and biking to nearby destinations (including existing and planned parks, commercial areas, and transit stops) and are designed to maximize safety, comfort, and aesthetics.	The Specific Plan is designed for bicycle and pedestrian accessibility throughout the community through a network of off-street bike and pedestrian trails within Vineyard and Riverside Avenues. Connectivity to this network of off street trails from all residential Planning Areas is provided through the local street system.
CD-3.5 Active Frontages. We create lively pedestrian streetscapes by requiring primary building, business, and residential entrances, outdoor dining, and storefronts be located on ground floors adjacent to sidewalks or public spaces and designed to maximize safety, comfort, aesthetics, and the intended functionality (as defined by the Place Type).	The Specific Plan includes architectural design guidelines, which promote street facing front entries and architectural elements visible from adjacent streets, sidewalks, and parks within the project.
GOAL CD-5: A sustained level of maintenance and improvement of properties, buildings, and infrastructure that protects the	

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property values and encourages additional public and private investments.	
CD-5.1 Maintenance of Buildings and Property. We require all public and privately-owned buildings and property (including trails and easements) to be properly and consistently maintained.	The Specific Plan includes a Maintenance Responsibility Matrix defining the public, private, and utility entities responsible for maintenance of roadways, parkways, trails, sidewalks, common areas, parks, yards, walls and monuments, traffic signals, infrastructure, and utilities within the project.
CD-5.2 Maintenance of Infrastructure. We require the continual maintenance of infrastructure.	The Specific Plan includes a Maintenance Responsibility Matrix defining the responsible entities for continual maintenance of roadways, sidewalks, traffic signals, off site and on site public water, sewer, and storm drain infrastructure facilities.
SOCIAL RESOURCE ELEMENT	
GOAL SR-2: A range of educational and training opportunities for residents and workers of all ages and abilities that improves their life choices and provides a skilled workforce for our businesses.	
SR-2.4 Access to Schools. We work with local and regional partners to improve the safety in and around schools and to improve access for citizens of all ages and abilities to schools and community services, such as after school and other programs.	

9.2 The Ontario Plan Consistency tables

9.2.1 RESIDENTIAL

TOP Land Use Designation	Specific Plan – Land Use/Planning Area	TOP Adjusted Acreage	Gross Acreage	Residential Units (Minimum)	Residential Units (Maximum)	Specific Plan Units Proposed	Specific Plan Proposed Gross Density (du/ac)
Low Density Residential (0 - 5.0 du/ac)	1A – Single Family Residential	24.16	25.5	~~24~~25	~~120~~128	~~115~~128	~~4.5~~5.0
Low Medium Density Residential (5.1 - ~~12~~11.0 du/ac)	1B – Single Family Residential	24.16	24.5	123	~~289~~270	~~175~~270	~~7.1~~11.0
Medium Density Residential (~~12.1~~11.1 - 25.0 du/ac)	1C – Single Family Residential	57.83	60.6	699	1,445	~~731~~1,055	~~12.1~~17.4
Total		**106.15**	**110.6**	**~~846~~847**	**~~1,854~~1,843**	**~~1,021~~1,453**	**~~9.2~~13.1**

TOP Land Use Designation	Specific Plan – Land Use/Planning Area	TOP Adjusted Acreage	Gross Acreage	Residential Units (Minimum)	Residential Units (Maximum)	Specific Plan Units Proposed	Specific Plan Proposed Gross Density (du/ac)
OS-NR (Open Space Non-Recreational)	Edison Parcel	18.01	20.0				
OS-R (Open Space Recreational)	Park	25.71	27.0				
Total		**43.72**	**47.0**				

TOP Land Use Designation	Specific Plan – Land Use/Planning Area	TOP Adjusted Acreage	Gross Acreage	Residential Units (Minimum)	Residential Units (Maximum)	Specific Plan Units Proposed	Specific Plan Proposed Gross Density (du/ac)
~~Low~~ Medium Density Residential (~~5.0 - 11.0~~11.1-25.0 du/ac)	2B~~4A~~ - Small Lot Single Family Residential	14.14	~~14~~8.1	~~71~~40	~~156~~97	~~58~~190	~~4.1~~23.5
~~Low~~ Medium Density Residential (~~5.0 - 11.0~~11.1-25.0 du/ac)	~~4B~~ 3A - Small Lot Single Family Residential & Open Space Non-Recreation	10.01	~~9.2~~36.1	~~50~~180	~~110~~433	~~57~~560	~~5.7~~15.5*
			8.3				
~~Low~~ Medium Density Residential (~~5.0 - 11.0~~11.1-25.0 du/ac)	~~4C~~ 3B - Small Lot Single Family Residential	9.26	~~9.8~~8.6	~~46~~43	~~102~~103	~~68~~190	~~7.3~~22.1
Total		**33.41**	**~~33~~52.8**	**~~167~~263**	**~~368~~633**	**~~183~~940**	**~~5.5~~17.8***

* Residential densities are calculated using residential acreages only, therefore Open Space Non-Recreation acreages are not included.

~~TOP Land Use Designation~~	~~Specific Plan – Land Use/Planning Area~~	~~TOP Adjusted Acreage~~	~~Gross Acreage~~	~~Residential Units (Minimum)~~	~~Residential Units (Maximum)~~	~~Specific Plan Units Proposed~~	~~Specific Plan Proposed Density (du/ac)~~
~~Medium Density Residential (11.1 - 25.0 du/ac)~~	~~5A – Small Lot Single Family Residential~~	~~9.14~~	~~9.1~~	~~101~~	~~229~~	~~109~~	~~11.9~~
~~Medium Density Residential (11.1 - 25.0 du/ac)~~	~~5B – Small Lot Single Family Residential~~	~~14.48~~	~~14.2~~	~~161~~	~~362~~	~~165~~	~~11.4~~
~~Medium Density Residential (11.1 - 25.0 du/ac)~~	~~5C - Small Lot Single Family Residential~~	~~18.1~~	~~27~~	~~201~~	~~453~~	~~332~~	~~18.3~~
~~Medium Density Residential (11.1 - 25.0 du/ac)~~	~~5D - Small Lot Single Family Residential~~	~~20.34~~	~~30.3~~	~~226~~	~~509~~	~~361~~	~~17.7~~
~~OS-NR (Open Space Non-Recreational)~~	~~5E – Edison Easement~~	~~17.76~~	~~17.76~~				
~~**Total**~~		~~**79.82**~~	~~**98.36**~~	~~**689**~~	~~**1,552**~~	~~**967**~~	~~**15.6**~~

TOP Land Use Designation	Specific Plan – Land Use/Planning Area	TOP Adjusted Acreage	Gross Acreage	Residential Units (Minimum)	Residential Units (Maximum)	Specific Plan Units Proposed	Specific Plan Proposed Gross Density (du/ac)
Low Density Residential (~~2.1~~0 – 5.0 du/ac)	1A~~-1F~~ Single Family Residential	106.16	~~110.6~~ 25.5	~~223~~53	~~531~~128	~~503~~128	~~4.7~~5.0
Low Medium Density Residential (5.1 – 11.0 du/ac)	~~4A-4C~~1B Small Lot Single Family and multi-family Residential	33.41	~~33~~24.5*	~~167~~125	~~368~~270	~~183~~270	~~5.5~~11.0
Medium Density Residential (11.1 – 25.0 du/ac)	~~5A-5D~~1C, 2B, 3A and 3B Small Lot Single Family and multi-family Residential	62.06	~~80.6~~ 85.1	~~689~~944	~~1,552~~2,127	~~967~~1,995	~~15.6~~23.4
RESIDENTIAL TOTAL		**201.63**	**~~224.2~~ 163.4***	**~~1,079~~ 1,122**	**~~2,451~~ 2,525**	**~~1,653~~ 2,393**	**~~8.2~~14.6**

* Residential densities are calculated using residential acreages only, therefore Open Space Non-Recreation acreages are not included.

9.2.2 MIXED-USE

TOP Land Use Designation	Rich Haven Specific Plan PA ~~6A~~ 4A – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~**Regional Commercial (0.7 Max FAR Allowed**~~	~~5.25~~						~~160,083~~	~~see totals for 6A + 9A below~~
~~NMC East~~ Mixed Use – Rich Haven ~~Area~~ (14 - 50 du/ac) 0.7 Commercial FAR	**Stand Alone Residential Overlay (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)**	38.39	45.0	~~537~~630	~~1,920~~2,250	~~480~~1,099	~~see totals for 6A + 9A below~~24.4	~~1,170,588~~	~~see totals for 6A + 9A below~~
Total		~~**43.64**~~ **38.39**	~~**49.90**~~ **45.0**	**630**	**2,250**	**1,099**	**24.4**	~~**1,330,671**~~	~~**see totals for 6A + 9A below**~~

TOP Land Use Designation	Rich Haven Specific Plan PA 4~~G~~B – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum
~~NMC East~~ Mixed Use – Rich Haven ~~Area~~ (14 - 50 du/ac) 0.7 Commercial FAR	**Stand Alone Residential Overlay (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)**	~~17.26~~	35.2	~~242~~493	~~863~~1,760	**1,150**	~~see totals for 6B + 9B below~~ 32.7	~~526,292~~ 1,073,318	~~see totals for 6B + 9B below~~ 166,182
~~NMC East~~ Mixed Use – Rich Haven ~~Area~~ (14 - 50 du/ac) 0.7 Commercial FAR	~~**Mixed Use (14 - 50 du/ac for residential or**~~ **Max 0.7 FAR for ~~-~~Regional Commercial~~)~~**	~~4.39~~	5.0	~~61~~	~~220~~			~~133,860~~ 152,460	
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~**Open Space**~~	~~1.58~~							~~see totals for 6B + 9B below~~

Open Space Non-Recreational (SCE Corridor)/neighborhood edge	**Edison Easement**	~~3.54~~	0.4						~~see totals for 6B + 9B below~~
Total		**26.77**	~~**28.60**~~ 40.6	493	1,760	1,150	32.7	~~526,292~~ 1,088,578	~~see totals for 6B + 9B below~~ 166,182

TOP Land Use Designation	Rich Haven Specific Plan PA 5B and 5C – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum	Rich Haven SP Proposed Light Industrial SF Maximum
Mixed Use – Rich Haven (14 - 50 du/ac) 0.7 Commercial FAR	**Stand Alone Residential Overlay (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)**		31.6*	372	1,330	1,150	43.2	811,087	83,820	
Industrial 0.55 FAR	**Light Industrial**		1.0							7,500
Open Space Non-Recreational (SCE Corridor)/neighborhood edge	**Edison Easement**		11.2							
Total			**65.1**	**372**	**1,330**	**1,150**	**43.2**	**1,491,059**	**83,820**	**7,500**

* Residential densities are calculated using residential acreages only, therefore Commercial acreages are not included.

TOP Land Use Designation	Rich Haven Specific Plan PA 6~~7~~A and 6~~7~~B – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum	Rich Haven SP Proposed Light Industrial SF Maximum
Industrial 0.55 FAR	**Light Industrial**	45.83	49.4					329,923		1,183,525
~~NMC East Mixed Use Area (14 – 50 du/ac) 0.7 Commercial FAR~~General Commercial 0.40 FAR	**Commercial**	23.24	25.1					492,751	300,000	
Open Space Non-Recreational (SCE Corridor)/neighborhood edge	**Edison Easement**	7.3	6.6							
Total		**76.37**	**81.10**					**822,674**	**300,000**	**1,183,525**

TOP Land Use Designation	Rich Haven Specific Plan PA ~~8~~A7 – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~Regional Commercial (0.7 Max FAR Allowed)~~	~~11.75~~						~~358,281~~	
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~Stand Alone Residential Overlay (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)~~	~~21.86~~		~~306~~	~~1,093~~	~~852~~	~~39~~	~~666,555~~	
~~NMC East~~ Mixed Use – Rich Haven ~~Area~~ (14 - 50 du/ac) 0.7 Commercial FAR	Mixed Use Overlay (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)	~~19.05~~	20.5	~~267~~287	~~953~~1,025	552	26.9	~~580,873~~ 625,086	162,500
~~Open Space Non-Recreational (SCE Corridor)/neighborhood edge~~	~~Edison Easement~~	~~1.70~~							
Total		~~**54.60**~~	~~**61.40**~~ 20.5	287	1,025	~~**852**~~552	26.9	625,086	~~**325,000**~~ 162,500

TOP Land Use Designation	Rich Haven Specific Plan PA ~~8~~B – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum
~~NMC East~~ Mixed Use – Rich Haven ~~Area~~ (14 - 50 du/ac) 0.7 Commercial FAR	Regional Commercial (0.7 Max FAR Allowed)	~~3.75~~	20.5					~~114,345~~ 625,086	162,500
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~Stand Alone Residential Overlay (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)~~	~~15.57~~		~~218~~	~~779~~	~~200~~	~~13~~	~~474,760~~	

Total		~~19.32~~	~~19.70~~ 20.5			~~200~~		625,086	~~123,400~~ 162,500

TOP Land Use Designation	Rich Haven Specific Plan PA ~~9~~A – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~**Regional Commercial (0.7 Max FAR Allowed)**~~	~~7.30~~					~~222,592~~		
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~Medium Density Residential (11.1-25.0 du/ac)	**Stand Alone Residential Overlay (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)**	~~27.97~~	20.4	~~392~~286	~~1,399~~1,020	**300**	~~852,861~~14.7		
~~Open Space Non-Recreational (SCE Corridor)/neighborhood edge~~	~~**Edison Easement**~~	~~0.70~~							
Total		~~**35.97**~~	~~**35.27**~~ 20.4	286	1,020	300	14.7		~~see totals for 6A + 9A below~~

TOP Land Use Designation	Rich Haven Specific Plan PA ~~9~~B10A – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~**Regional Commercial (0.7 Max FAR Allowed)**~~	~~4.55~~						~~138,739~~	

~~NMC East~~ Mixed Use~~–~~ Rich Haven ~~Area~~ (14 - 50 du/ac) 0.7 Commercial FAR	**Stand Alone Residential Overlay (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)**	~~23.63~~	16.9	~~331~~237	~~1,182~~845	**550**	~~see totals for 6B + 9B below~~32.5	~~720,526~~	
~~Open Space Non-Recreational (SCE Corridor)/neighborhood edge~~	~~**Edison Easement**~~	~~8.24~~							
Total		~~**36.42**~~	**16.9**	**237**	**845**	**550**	**32.5**		~~see totals for 6B + 9B below~~
TOP Land Use Designation	**Rich Haven Specific Plan PA ~~6A + 9A~~10B – Land Uses**	**TOP Acreage**	**Gross Acreage**	**Residential Units 14 du/ac (Minimum)**	**Residential Units 50 du/ac (Maximum)**	**Rich Haven SP Proposed Residential Units**	**Rich Haven SP Proposed Gross Residential Density (du/ac)**	**Commercial Acreage (0.7 FAR Max. SF)**	**Rich Haven SP Proposed Commercial SF Maximum**
~~NMC East~~ Mixed Use ~~–~~ Rich Haven ~~Area~~ (14 - 50 du/ac) 0.7 Commercial FAR	**Regional Commercial (0.7 Max FAR Allowed)**	~~12.55~~	2.8					~~382,675~~ 85,378	~~166,182~~ 50,000
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~**Stand Alone Residential Overlay (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)**~~	~~66.36~~		~~929~~	~~3,319~~	~~2,178~~	~~33~~	~~2,023,449~~	
~~Open Space Non-Recreational (SCE Corridor)/neighborhood edge~~	~~**Edison Easement**~~	~~0.70~~							
Total		~~**79.61**~~	~~**85.17**~~2.8			~~**2,178**~~		85,378	~~**166,182**~~ 50,000

~~**TOP Land Use Designation**~~	~~**Rich Haven Specific Plan PA 6B + 9B – Land Uses**~~	~~**TOP Acreage**~~	~~**Gross Acreage**~~	~~**Residential Units 14 du/ac (Minimum)**~~	~~**Residential Units 50 du/ac (Maximum)**~~	~~**Rich Haven SP Proposed Residential Units**~~	~~**Rich Haven SP Proposed Residential Density (du/ac)**~~	~~**Commercial Acreage (0.7 FAR Max. SF)**~~	~~**Rich Haven SP Proposed Commercial SF Maximum**~~
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~**Regional Commercial (0.7 Max FAR Allowed)**~~	~~4.55~~						~~138,739~~	

~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~**Stand Alone Residential Overlay (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)**~~	~~40.89~~		~~573~~	~~2,045~~	~~1,406~~	~~34~~	~~1,246,818~~	
~~NMC East Mixed Use Area (14 - 50 du/ac) 0.7 Commercial FAR~~	~~**Mixed Use (14 - 50 du/ac for residential or Max 0.7 FAR for Commercial)**~~	~~4.39~~		~~61~~	~~220~~			~~133,860~~	
~~Open Space Non-Recreational (SCE Corridor)/neighborhood edge~~	~~**Edison Easement/Neighborhood Edge**~~	~~13.36~~							
~~**Total**~~		~~**63.19**~~	~~**65.10**~~			~~**1,406**~~			~~**76,320**~~

9.2.3 INDUSTRIAL

TOP Land Use Designation	Rich Haven Specific Plan PA 2C – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum	Rich Haven SP Proposed Light Industrial SF Maximum
Industrial 0.55 FAR	**Light Industrial**		23.4					560,617		560,617
Total			**23.4**					**560,617**		**560,617**

TOP Land Use Designation	Rich Haven Specific Plan PA 3C – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum	Rich Haven SP Proposed Light Industrial SF Maximum
Industrial 0.55 FAR	**Light Industrial**		21.4					512,701		512,701
Open Space Non-Recreational (SCE Corridor)/neighborhood edge	**Edison Easement**		8.5							
Total			**29.9**					**512,701**		**512,701**

TOP Land Use Designation	Rich Haven Specific Plan PA 5A – Land Uses	TOP Acreage	Gross Acreage	Residential Units 14 du/ac (Minimum)	Residential Units 50 du/ac (Maximum)	Rich Haven SP Proposed Residential Units	Rich Haven SP Proposed Gross Residential Density (du/ac)	Commercial Acreage (0.7 FAR Max. SF)	Rich Haven SP Proposed Commercial SF Maximum	Rich Haven SP Proposed Light Industrial SF Maximum
Industrial 0.55 FAR	**Light Industrial**		21.3					502,805		502,805
Total			**21.3**					**502,805**		**502,805**

CITY OF ONTARIO *Agenda Report* **June 20, 2023**	**SECTION:** **PUBLIC HEARINGS**
Department: Planning Prepared By: Edmelynne V Hutter Staff Member Presenting: Scott Murphy, Executive Director Community Development Reviewed By: Kimberly Ruddins, Rudy Zeledon Approved By:	Submitted To: Council/OHA Approved: _____ Continued To: _____ Denied: _____ Item No: 31

SUBJECT: **A PUBLIC HEARING TO CONSIDER AN AMENDMENT TO THE COUNTRYSIDE SPECIFIC PLAN**

RECOMMENDATION: That the City Council consider and adopt:

A. A Resolution adopting an Addendum to the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001); and
B. A Resolution adopting an Amendment to the Countryside Specific Plan (File No. PSPA22-002).

THE FOLLOWING COUNCIL GOALS ARE BEING ACHIEVED:
Invest in the Growth and Evolution of the City's Economy
Focus Resources in Ontario's Commercial and Residential Neighborhoods
Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)
Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in Ontario Ranch

FISCAL IMPACT: Adoption of the Countryside Specific Plan Amendment would result in both short and long-term fiscal impacts to the City. Short-term impacts include infrastructure improvements to serve future residential developments. The cost of these improvements is included in the Nexus Study and Development Impact Fees previously adopted by the City Council. The developer will be required to install improvements or pay the Development Impact Fees associated with the various improvements. Long-term fiscal impacts include the ongoing operations and maintenance services (police, fire, maintenance, etc.) necessary to serve the future developments. To address this impact, the developer will be required to form and/or join a Community Facilities District to cover the additional public service costs. No Original Model Colony dollars will be used to fund the future Ontario Ranch development.

BACKGROUND & ANALYSIS: The Project site is comprised of 23.2 acres of land located on the west side of Archibald Avenue, approximately 875 feet south of the intersection of Riverside Drive and

Archibald Avenue, within Planning Area 1 – Neighborhood 2 of the Countryside Specific Plan. The properties to the north and east are zoned MDR-18 (Medium Density Residential – 11.1 – 18.0 dwelling units per acre) and developed with multiple family apartments. The properties to the south and west are zoned Countryside Specific Plan and developed with single-family detached homes. The Project site is currently used for agriculture activities and is improved with farm equipment storage buildings and livestock enclosures. The Project site is generally flat and drains to the southwest portion of the site.

The Countryside Specific Plan (File No. PSP04-001) was approved, and the related Environmental Impact Report (Final Environmental Impact Report; State Clearinghouse No. 2004071001) was certified by the City Council on April 18, 2006. The Countryside Specific Plan, adopted on May 2, 2006, established the land use designations, development standards, and design guidelines on 178 gross acres of land, which included the potential development of 819 dwelling units and approximately 9.4 acres of paseos and parks throughout the Specific Plan Area.

On August 16, 2022, the City Council certified The Ontario Plan 2050 Update Supplemental Environmental Impact Report in conjunction with The Ontario Plan 2050 (File No. PGPA20-002) General Plan update. Within The Ontario Plan 2050 and Supplemental Environmental Impact Report, the Project site land use was designated and analyzed as Low Medium Density Residential (LMDR): 5.1 to 11.0 du/ac and Medium Density Residential (MDR): 11.1 to 25.0 dwelling units per acre. The previous land use designation was Low Density Residential (LDR): 2.1 to 5.0 dwelling units per acre.

On June 9, 2022, the Applicant, RD Ontario LLC, submitted applications for a Specific Plan Amendment (File No. PSPA22-002) and Tentative Tract Map No. 20536 (File No. PMTT22-021) to facilitate the construction of 265 single-family and multiple-family dwellings on the Project site.

Specific Plan Amendment - The Specific Plan Amendment proposes to revise the Countryside Specific Plan to increase the overall Planning Area 1 residential density from 6.32 to 7.64 dwelling units per net acres, with the overall dwelling unit count increasing from 442 to 601 dwelling units. As part of The Ontario Plan 2050 Update, the land use designation for the Project Site was changed from Low Density Residential (2.1 to 5 dwelling units per acre) to Low Medium Density Residential (5.1 to 11 dwelling units per acre) and Medium Density Residential (11.1 to 25 dwelling units per acre). The Specific Plan Amendment proposes to update the land use designation of Planning 1 Neighborhood 2 to implement The Ontario Plan 2050 Policy Plan land use designations and adjust the total unit count to reflect the increase in densities. Currently, Planning Area 1- Neighborhood 2 regulations allow development of 106 dwelling units. The Specific Plan Amendment will increase the allowable dwelling units from 106 dwelling units to 265 dwelling units, consistent with the densities identified in The Ontario Plan 2050 Update. The Specific Plan Amendment would also allow development of three new residential types: Cluster Court 3, Row Townhomes, and Residential Dwelling 3,000. These new residential types would accommodate the residential density requirements.

Planning Area 1 - Neighborhood 2 reallocates dwelling units into three subareas, Neighborhood 2A, 2B and 2C. Development in Neighborhood 2A is planned for a new Cluster Court 3 (8-Plex)

residential type, with 83 units at a density of 13.17 dwelling units per acre, with vehicle access from a common drive, Neighborhood 2B is planned for Row Townhomes (6-Plex) residential type, with 126 units at a density of 17.92 dwelling units per acre, with vehicle access from a common alley, and Neighborhood 2C is planned for single-family detached dwellings, with minimum 3,000 square feet lot areas providing for 56 units at a density of 8.75 dwelling units per acre.

All changes and additions to the Specific Plan (exhibits, tables, development standards and design guidelines) are contained within the revised Specific Plan document accompanying this report. All additions to the Specific Plan have been highlighted in blue with underline and all deletions have been highlighted in red with a strikethrough.

On May 1, 2023, the Development Advisory Board conducted a Public Hearing on Tentative Tract Map No. 20536 and recommended that the Planning Commission approve the Tentative Tract Map.

On May 23, 2023, the Planning Commission conducted a Public Hearing on Tentative Tract Map No. 20536 and the Specific Plan Amendment. During the course of the hearing, the Planning Commission approved Tentative Tract Map No. 20536 and recommended that the City Council approve the Specific Plan Amendment.

AIRPORT LAND USE COMPATIBILITY PLAN COMPLIANCE: The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

On April 19, 2011, the City Council approved and adopted the Ontario International Airport Land Use Compatibility Plan, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the decision-making body for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the Ontario International Airport Land Use Compatibility Plan compatibility factors, including [1] Safety Criteria (Ontario International Airport Land Use Compatibility Plan Table 2-2) and Safety Zones (Ontario International Airport Land Use Compatibility Plan Map 2-2), [2] Noise Criteria (Ontario International Airport Land Use Compatibility Plan Table 2-3) and Noise Impact Zones (Ontario International Airport Land Use Compatibility Plan Map 2-3), [3] Airspace protection Zones (Ontario International Airport Land Use Compatibility Plan Map 2-4), and [4] Overflight Notification Zones (Ontario International Airport Land Use Compatibility Plan Map 2-5). As a result, the City Council finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the Ontario International Airport Land Use Compatibility Plan.

HOUSING ELEMENT COMPLIANCE: The Project is consistent with the Housing Element of the Policy Plan (general plan) component of The Ontario Plan, as the Project site is not one of the properties in the Housing Element Sites contained in Tables B-1 and B-2 (Housing Element Sites

Inventory) of the Housing Element Technical Report.

ENVIRONMENTAL REVIEW: The Project analyzed under the Addendum to Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001, certified by the City Council on April 18, 2006) (Certified Environmental Impact Report) consists of increasing the allowed number of dwelling units within Planning Area 1 Neighborhood 2 of the Countryside Specific Plan, subdividing the Project site for condominium purposes and includes 141 numbered lots, 27 lettered lots, onsite and offsite improvements such as private streets, private drives, sidewalks, landscaping, utilities infrastructure and utilities connections.

The Application is a project pursuant to the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) and an Addendum has been prepared to determine possible environmental impacts. Although the proposed Project could have a significant effect on the environment, because all potentially significant effects have been analyzed adequately in an earlier Certified Environmental Impact Report and have been avoided or mitigated pursuant to that earlier Certified Environmental Impact Report, including revisions or mitigation measures that are imposed on the proposed Project, nothing further is required. The Project will introduce no new significant environmental impacts beyond those previously analyzed in the Certified Environmental Impact Report, and all mitigation measures previously adopted by the Environmental Impact Report, are a condition of project approval and are incorporated in the Addendum.

CITY OF ONTARIO PLANNING DEPARTMENT

PLANNING COMMISSION AGENDA REPORT

May 23, 2023

303 East B Street, Ontario, California 91764 Phone: 909.395.2036 / Fax: 909.395.2420

FILE NOS: PSPA22-002 & PMTT22-021

SUBJECT: A public hearing to consider [1] an Amendment to the Countryside Specific Plan, for the following changes: [i] Divide Neighborhood 2 into different subsets: Neighborhood 2A, 2B, and 2C; [ii] increase the unit count in Planning Area 1 from 442 units to 601 units and density from 5.56 du/ac to 7.74 du/ac; [iii] change Planning Area 1 uses to include Attached Homes and eliminating the RD 6000-square-foot lot size; and [iv] various text changes to be consistent with TOP 2050 Policy Plan; and [2] a Tentative Tract Map No. 20536, subdividing 23.2 acres of land for condominium purposes, into 141 numbered lots and 27 lettered lots to facilitate the development of 265 dwellings, located approximately 875 feet south of the intersection of Riverside Drive and Archibald Avenue, within the Planning Area 1 Neighborhood 2 of the Countryside Specific Plan. (APNs: 0218-111-60, 0218-111-61) **submitted by RB Ontario LLC. City Council action is required for File No. PSPA22-021.**

PROPERTY OWNER: Barth Family Trust; Trustees: Robert B. Barth and Yang K. Barth

RECOMMENDED ACTION: That the Planning Commission consider and [1] recommend the City Council approve an Addendum to the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001), [2] recommend the City Council approve File No. PSPA22-002 a Specific Plan Amendment, and [3] approve File No. PMTT22-021 (Tentative Tract Map 20536), pursuant to the facts and reasons contained in the staff report and attached Resolutions, and subject to the conditions of approval appended to the attached Resolutions as "Attachment A."



Figure 1: Project Location

PROJECT SETTING: The Project site is comprised of 23.2 acres of land located on the west side of Archibald Avenue, approximately 875 feet south of the intersection of Riverside Drive and Archibald

Case Planner:	Edmelynne V. Hutter
Planning Director Approval:	
Submittal Date:	June 9, 2023

Hearing Body	*Date*	*Decision*	*Action*
DAB	5/1/2023	Approval	Recommend
PC	5/23/2023	Approval / Approved	Recommend & Final
CC			

Avenue, within Planning Area 1 – Neighborhood 2 of the Countryside Specific Plan (see Figure 1: Project Location). The properties to the north and east are zoned MDR-18 (Medium Density Residential – 11.1 – 18.0 DU/ac) and developed with multiple family apartments. The properties to the south and west are zoned Countryside Specific Plan and developed with single-family detached homes. The Project site is currently used for agriculture activities and is improved with farm equipment storage buildings and livestock enclosures. The Project site is generally flat and drains to the southwest portion of the site. The existing surrounding land uses, zoning, and Policy Plan (general plan) and specific plan land use designations are summarized in the "Surrounding Zoning & Land Uses" table located in the Technical Appendix of this report (see Exhibit D—Existing Site Photographs, attached).

PROJECT ANALYSIS:

(1) Background — The Countryside Specific Plan (File No. PSP04-001) was approved, and the related Environmental Impact Report ("Certified EIR"; State Clearinghouse No. 2004071001) was certified by the City Council on April 18, 2006. The Countryside Specific Plan, adopted on May 2, 2006, established the land use designations, development standards, and design guidelines on 178 gross acres of land, which included the potential development of 819 dwelling units and approximately 9.4 acres of paseos and parks throughout the Specific Plan Area.

On August 16, 2022, the City Council certified The Ontario Plan 2050 Update Supplemental Environmental Impact Report ("SEIR") in conjunction with The Ontario Plan 2050 ("TOP 2050") (File No. PGPA20-002) General Plan update. Within the TOP 2050 and SEIR, the Project site land use was designated and analyzed as Low Medium Density Residential (LMDR): 5.1 to 11.0 du/ac and Medium Density Residential (MDR): 11.1 to 25.0 du/ac. The previous land use designation was Low Density Residential (LDR): 2.1 to 5.0 du/ac.

On June 9, 2022, the Applicant submitted applications for a Specific Plan Amendment ("SPA") (File No. PSPA22-002) and Tentative Tract Map No. 20536 (File No. PMTT22-021) to facilitate the construction of 265 single-family and multiple-family dwellings on the Project site.

On May 1, 2023, the Development Advisory Board (DAB) conducted a Public Hearing on Tentative Tract Map 20536 (File No. PMTT22-02) and recommended the Planning Commission approve the Project.

(2) Amendment to Countryside Specific Plan ("SPA") (File No. PSPA22-002) — To accommodate the proposed Tentative Tract map application, the SPA proposes to amend the Countryside Specific Plan to increase the overall residential density from 6.32 to 7.64 dwelling units per net acres with the overall dwelling unit count from 442 to 601 dwelling units (see Exhibit A—Countryside Specific Plan Land Use Map and Exhibit B – Countryside Specific Plan Land Use Summary, attached). As part of TOP 2050 Update,

the land use designation for the Project Site was changed from Low Density Residential (2.1 to 5 du/ac) to Low Medium Density Residential (5.1 to 11 du/ac) and Medium Density Residential (11.1 to 25 du/ac). The SPA proposes to update the land use designation of Planning 1 Neighborhood 2 to implement TOP Policy Plan land use designations and adjust the total unit count to reflect the increase in densities. Currently, Planning Area 1-Neighborhood 2 (RD- 6,000 residential type) regulations allow development of 106 dwelling units designed under RD 6,000 residential type standards. The SPA will replace Neighborhood 2 residential types with a mixture of Cluster Court, Row Townhomes, and RD 3,000 residential types, increasing the allowable dwelling units from 106 dwelling units to 265 dwelling units, consistent with the densities identified in The Ontario Plan 2050 Update.

Planning Area 1 - Neighborhood 2 reallocates dwelling units into three subareas, Neighborhood 2A, 2B and 2C. Development in Neighborhood 2A is planned for Row Townhome (6-Plex) residential type, with 83 units at a density of 13.17 du/ac, Neighborhood 2B planned for a new Cluster Court 3 (8-Plex) residential type, with 126 units at a density of 17.92 du/ac with vehicle access from a common drive, and Neighborhood 2C planned for single-family detached dwellings, with minimum 3,000 square feet lot areas providing for 56 units at a density of 8.75 du/ac.

All changes and additions to the Specific Plan (exhibits, tables, development standards and design guidelines) are contained within the revised Specific Plan document accompanying this report. All additions to the Specific Plan have been highlighted in red and all deletions have been highlighted in red with a strikethrough.

Approval of the related Tentative Tract Map, discussed below, is contingent upon the approval of the proposed Specific Plan Amendment and related Addendum to the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001, certified by the City Council on April 18, 2004).

(3) Tentative Tract Map — The proposed Project would subdivide two existing agricultural parcels into 141 numbered lots and 27 lettered lots (see Exhibit C: Tentative Tract Map). The numbered lots would accommodate 56 single-family detached parcels, 83 Cluster Court 3 single-family detached parcels, and 126 attached Row Townhome units on two parcels. The proposed lettered lots would accommodate park land, private recreation area, private drives, and private alleys. The tentative tract map also includes dedication of easements for reciprocal access, neighborhood edges, utilities, solid waste collection and public services. Tentative Tract Map approval is contingent on City Council approval of the proposed SPA.

(a) Site Design — The Project site is rectangular in shape with the proposed parcels and private drives in a grid pattern. Residential parcels will border the Project perimeter with the exception of the north half of the west perimeter where an existing park will be expanded into the Project site. The subdivision is designed with 24 feet wide private drives throughout and will provide direct access to single family driveways or

common alleys for the Cluster Court 3 and Row Townhome dwelling units. Lot C, proposed as the subdivision's recreational center, is centrally located north of Private Drive 'J' and near the entry drive from Archibald Avenue.

(b) Site Access/Circulation — The Project will provide vehicle access from Archibald Avenue to the east, Welsummer Avenue to the south and Lewiston Street to the west. Interior Private Drives 'B', 'C', 'D' and 'F' create a loop road for the subdivision. Private Drives 'G', 'H', 'I' and 'J' intersect the loop road and create smaller residential blocks as well as provide access to a future recreational amenity.

Multipurpose trails are planned along the east project edge on Archibald Avenue and along the north Project boundary, in compliance with the Countryside Specific Plan. Interior 4-feet-wide pedestrian sidewalks would be provided along the Private Drives.

(c) Landscaping — The Tentative Tract Map will require right-of-way improvements (street, curb, gutter, sidewalk, and parkway) along the surrounding streets. The on-site and off-site landscape improvements will assist toward creating safe paths and areas for pedestrians to access the Project site.

(d) Signage — All Project signage is required to comply with sign regulations provided in Ontario Development Code Division 8.1. Prior to the issuance of a Building Permit for the installation of any new on-site signage, the Applicant is required to submit Sign Plans for Planning Department review and approval.

(e) Utilities (drainage, sewer) — Public utilities (water and sewer) are available to serve the Project. Furthermore, the Applicant has submitted a Preliminary Water Quality Management Plan ("PWQMP"), which establishes the Project's compliance with storm water discharge/water quality requirements. The PWQMP includes site design measures that capture runoff and pollutant transport by minimizing impervious surfaces and maximizes low impact development ("LID") best management practices ("BMPs"), such as retention and infiltration, biotreatment, and evapotranspiration. The PWQMP proposes the use of the Mill Creek Wetland BMP, as planned in the NMC Builders, LLC, Stormwater Treatment Allocation Distribution Table, for stormwater retention and treatment. Any overflow drainage will be conveyed to the public street by way of parkway drains and culverts.

(4) Williamson Act Contract — The Project Site has an active Land Conservation Contact (LLC# 72-384). Agricultural lands under a Williamson Act Contract are governed by the California Land Conservation Act of 1965, also known as the Williamson Act. Upon annexation of the agriculture preserve, the City of Ontario assumed responsibility for administration of the Land Conservation Contracts which existed in the Ontario Ranch area. The City adopted the Agricultural Overlay Zoning District, or a "Right-to-Farm" Ordinance, that would allow existing agricultural uses within Ontario Ranch to continue for as long as the landowner desired.

A Land Conservation Contract (LCC) has a minimum term of ten (10) years. However, this term is automatically renewed each year for an additional year, thereby keeping the term of the contract to a period of ten years. This perpetual contract continues until the administering entity (County or City) or the owner files a Notice of Non-renewal, which will then terminate the contract at the end of its remaining term, usually nine (9) years. When a Non-renewal is filed, the property tax assessment gradually reverts to being computed based upon full market value rather than use. There are no penalties associated with Non-renewals.

Property owners desiring to remove the use restrictions imposed by their LCC prior to the expiration of the contracts' term (after a Non-renewal is filed) may petition to have the LCC cancelled. Specific criteria must be met, a cancellation fee must be paid, and the reasonable cost of processing the petition must be paid before contracts can be cancelled. The cancellation fee normally equals twelve and one-half (12.5%) percent of the property's current full market value.

At this time the Property owner does not wish to cancel the LCC on the property, until the entitlements for the Project have been approved and the final sale of the property is complete. The Applicant will be required to submit an LCC application for the non-renewal and cancellation of LCC number 72-84, which will require Planning Commission and City Council review and approval. Final tract map recordation and the issuance of a grading permit cannot be approved until the LCC is cancelled.

PUBLIC NOTIFICATION: The subject application was advertised as a public hearing in at least one newspaper of general circulation in the City of Ontario (the Inland Valley Daily Bulletin newspaper). In addition, the Project site was posted with one or more large public notification signs and notices were mailed to all owners of real property located within a minimum of 300 feet of the exterior boundaries of the property that is the subject of the hearing, as shown on the records of the County Assessor.

CORRESPONDENCE: As of the preparation of this Agenda Report, Planning Department staff has not received any written or verbal communications from the owners or occupants of properties surrounding the Project site or from the public in general, regarding the subject application.

AGENCY/DEPARTMENT REVIEWS: Each City agency/department has been provided the opportunity to review and comment on the subject application and recommend conditions of approval to be imposed upon the application. At the time of the Agenda Report preparation, recommended conditions of approval were provided and are appended to the attached Resolutions as "Attachment A."

AIRPORT LAND USE COMPATIBILITY PLAN (ALUCP) COMPLIANCE: The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires

that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

On April 19, 2011, the City Council of the City of Ontario approved and adopted the ONT ALUCP, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the decision-making body for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the Planning Commission, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the ONT ALUCP.

COMPLIANCE WITH THE ONTARIO PLAN: The proposed Project is consistent with the principles, goals and policies contained within the Vision, Governance, Policy Plan (general plan), and City Council Priorities components of The Ontario Plan ("TOP"). More specifically, the goals and policies of TOP that are furthered by the proposed Project are as follows:

(1) City Council Goals.

- Invest in the Growth and Evolution of the City's Economy
- Focus Resources in Ontario's Commercial and Residential Neighborhoods
- Invest in the City's Infrastructure (Water, Streets, Sewers, Parks, Storm Drains and Public Facilities)
- Ensure the Development of a Well Planned, Balanced, and Self-Sustaining Community in the New Model Colony

(2) Vision.

Distinctive Development:

- Commercial and Residential Development

➢ Development quality that is broadly recognized as distinctive and not exclusively tied to the general suburban character typical of much of Southern California.

(3) Governance.

Decision Making:

- Goal G1: Sustained decision-making that consistently moves Ontario towards its Vision by using The Ontario Plan as a framework for assessing choices.

  - G 1-2. Long-term Benefit. We require decisions to demonstrate and document how they add value to the community and support the Ontario Vision.

(4) Policy Plan (General Plan)

Land Use Element:

- Goal LU-1 Balance: A community that has a spectrum of housing types and price ranges that match the jobs in the City and that make it possible for people to live and work in Ontario and maintain a quality of life.

  - LU-1.1 Strategic Growth. We concentrate growth in strategic locations that help create place and identity, maximize available and planned infrastructure, foster the development of transit, and support the expansion of the active and multimodal transportation networks throughout the City.

  - LU-1.3 Adequate Capacity. We require adequate infrastructure and services for all development.

  - LU-1.6 Complete Community. We incorporate a variety of land uses and building types in our land use planning efforts that result in a complete community where residents at all stages of life, employers, workers, and visitors have a wide spectrum of choices of where they can live, work, shop and recreate within Ontario.

- Goal LU-2 Compatibility: Compatibility between a wide range of uses and a resultant urban patterns and forms.

  - LU-2.6 Infrastructure Compatibility. We require infrastructure to be aesthetically pleasing and in context with the community character.

- Goal LU-3 Flexibility: Staff, regulations and processes that support and allow flexible response to conditions and circumstances in order to achieve the Vision.

  - LU-3.1 Development Standards. We maintain clear development standards which allow flexibility to achieve our Vision and provide objective standards that ensure predictability and deliver the intended physical outcomes.

Housing Element:

- Goal H-2 Housing Supply & Diversity: Diversity of types of quality housing that are affordable to a range of household income levels, accommodate changing demographics, and support and reinforce the economic sustainability of Ontario.

➢ H-2.4 Ontario Ranch. We support a premier lifestyle community in the Ontario Ranch, distinguished by diverse housing, highest design quality, and cohesive and highly amenitized neighborhoods.

➢ H-2.5 Housing Design. We require architectural excellence through adherence to City design guidelines, thoughtful site planning, environmentally sustainable practices, and other best practices.

Community Economics Element:

- Goal CE-1 Complete Community: A complete community that provides for all incomes and stages of life.

➢ CE-1.6 Diversity of Housing. We collaborate with residents, housing providers, and the development community to provide housing opportunities for every stage of life; we plan for a variety of housing types and price points to encourage the development of housing supportive of our efforts to attract business in growing sectors of the community while being respectful of existing viable uses.

- Goal CE-2 Placemaking: A City of distinctive neighborhoods, districts, corridors, and centers where people choose to be.

➢ CE-2.1 Development Projects. We require new development and redevelopment to create unique, high-quality places that add value to the community.

➢ CE-2.2 Development Review. We require those proposing new development and redevelopment to demonstrate how their projects will create appropriately unique, functional, and sustainable places that will compete well with their competition within the region.

➢ CE-2.4 Protection of Investment. We require that new development and redevelopment protect existing investment by providing architecture and urban design of equal or greater quality.

➢ CE-2.5 Private Maintenance. We require adequate maintenance, upkeep, and investment in private property because proper maintenance on private property protects property values.

Safety Element:

- Goal S-1 Seismic & Geologic Hazards: Minimized risk of injury, loss of life, property damage, and economic and social disruption caused by earthquake-induced and other geologic hazards.

➢ S-1.1 Implementation of Regulations and Standards. We require that all new habitable structures be designed in accordance with the most recent California Building Code adopted by the City, including provisions regarding lateral forces and grading.

➢ S-1.2 Entitlement and Permitting Process. We follow state guidelines and the California Building Code to determine when development proposals must conduct geotechnical and geological investigations.

▪ Goal S-4 Noise Hazards: An environment where noise does not adversely affect the public's health, safety, and welfare.

➢ S-4.1 Noise Mitigation. We utilize the City's Noise Ordinance, building codes, and subdivision and development codes to mitigate noise impacts.

Mobility Element:

▪ Goal M-1 Roadway System: A system of roadways that meets the mobility needs a dynamic and prosperous Ontario.

➢ M-1.1 Roadway Design and Maintenance. We require our roadways to:

- Comply with federal, state, and local design and safety standards;
- Meet the needs of multiple transportation modes and users;
- Handle the capacity envisioned in the City of Ontario Master Plan of Streets and Highways;
- Be maintained in accordance with best practices;
- Be compatible with the streetscape and surrounding land uses; and
- Promote the efficient flow of all modes of traffic through the implementation of intelligent transportation systems and travel demand management strategies.

➢ M-1.4 Complete Streets. We work to provide a complete, balanced, context-aware, multimodal transportation network that meets the needs of all users of streets, roads, and highways, including motorists, pedestrians, bicyclists, children persons with disabilities, seniors, movers of commercial goes, and uses of public transportation. We prioritize implementation of complete streets improvements in environmental justice areas to facilitate opportunities to use active transportation systems.

Community Design Element:

▪ Goal CD-1 Image & Identity: A dynamic, progressive city containing distinct and complete places that foster a positive sense of identity and belonging among residents, visitors, and businesses.

➢ CD-1.1 City Identity. We take actions that are consistent with the City being a leading urban center in Southern California while recognizing, enhancing, and preserving the character of our existing viable neighborhoods.

➢ CD-1.2 Place Types. We establish Place Types in urban, mixed use, and transit-oriented areas to foster the City's identity as a premier community and require new development within each Place Type to incorporate prescribed urban patterns, forms, and placemaking priorities.

➢ CD-1.3 Existing Neighborhoods. We require the existing character of viable residential and non-residential neighborhoods be preserved, protected, and enhanced.

▪ Goal CD-2 Design Quality: A high level of design quality resulting in neighborhoods, public spaces, parks, and streetscapes that are attractive, safe, functional, human-scale, and distinct.

➢ CD-2.1 Quality Building Design and Architecture. We encourage all development projects to convey visual interest and character through:

- Building volume, massing, and height to provide context-appropriate scale and proportion;
- A true architectural style which is carried out in plan, section, and elevation through all aspects of the building and site design and appropriate for its setting; and
- Exterior building materials that are articulated, high quality, durable, and appropriate for the architectural style.

➢ CD-2.2 Neighborhood Design. We create distinct residential neighborhoods that promote a sense of community and identity by emphasizing access, connectivity, livability, and social interaction through such elements as:

- A pattern of smaller, walkable blocks that promote activity, safety, and access to nearby amenities and services;
- Varied parcel sizes and lot configurations to accommodate a diversity of housing types;
- Traffic calming measures to slow traffic and promote walkability while maintaining acceptable traffic flows and emergency evacuation access;
- Floor plans that encourage views onto the street and de-emphasize the visual and physical dominance of garages (introducing the front porch as the "outdoor living room"), as appropriate; and
- Landscaped parkways, with sidewalks separated from the curb and designed to maximize safety, comfort, and aesthetics for all users.

➢ CD-2.5 Streetscapes. We design new and, when necessary, retrofit existing streets to improve walkability, bicycling and transit integration, strengthen connectivity,

and enhance community identity through improvements to the public right-of-way such as sidewalks, street trees, parkways, curbs, street lighting and street furniture.

- CD-2.6 Connectivity. We promote development of local street patterns, multimodal networks, and connected public spaces that create and unify neighborhoods, rather than divide them, and create cohesive and continuous corridors, rather than independent "islands" through the follow means:

  - Local street networks that provide access to both between subdivisions and within neighborhoods and discourage through traffic;
  - A local street system that is logical and understandable for the user. A grid system is preferred to avoid circuitous and confusing travel paths between internal neighborhood areas and adjacent arterials and to provide adequate emergency and evacuation access; and
  - Pedestrian and bicycle networks that provide convenient access to neighborhoods and nearby destinations, such as schools, parks, and other public spaces, commercial areas, and transit stops;

- CD-2.7 Sustainability. We collaborate with the development community to design and build neighborhoods, streetscapes, sites, outdoor spaces, landscaping, and buildings to reduce energy demand through solar orientation, maximum use of natural daylight, passive solar and natural ventilation, building form, mechanical and structural systems, building materials, and construction techniques.

- CD-2.8 Safe Design. We incorporate defensible space design into new and existing developments to ensure the maximum safe travel and visibility on pathways, corridors, and open space and at building entrances and parking areas by avoiding physically and visually isolated spaces, maintaining visibility and accessibility, and using lighting.

- CD-2.9 Landscape Design. We encourage durable, sustainable, and drought-tolerant landscaping materials and designs that enhance the aesthetics of structures, create and define public and private spaces, and provide shade and environmental benefits.

- CD-2.10 Parking Areas. We require all development, including single-family residential, to minimize the visual impact of surface, structured, and garage parking areas visible from the public realm in an aesthetically pleasing, safe and environmentally sensitive manner. Examples include:

  - Surface parking: Shade trees, pervious surfaces, urban run-off capture and infiltration, and pedestrian paths to guide users through the parking field;
  - Structured parking: facade articulation, screening, appropriate lighting, and landscaping; and

- Garage parking: providing access to single-family residential garages through alley access, recessing garages from the frontage to emphasize front doors or active living spaces.

➢ CD-2.11 Entry Statements. We encourage the inclusion of amenities, signage, and landscaping at the entry to neighborhoods, commercial centers, mixed use areas, industrial developments, and public places that reinforce them as uniquely identifiable places.

➢ CD-2.12 Site and Building Signage. We encourage the use of sign programs that utilize complementary materials, colors, and themes. Project signage should be designed to effectively communicate and direct users to various aspects of the development and complement the character of the structures.

➢ CD-2.13 Entitlement Process. We work collaboratively with all stakeholders to ensure a high degree of certainty in the efficient review and timely processing of all development plans and permits.

- Goal CD-5 Protection of Investment: A sustained level of maintenance and improvement of properties, buildings, and infrastructure that protects the property values and encourages additional public and private investments.

➢ CD-5.1 Maintenance of Buildings and Property. We require all public and privately-owned buildings and property (including trails and easements) to be properly and consistently maintained.

➢ CD-5.2 Maintenance of Infrastructure. We require the continual maintenance of infrastructure.

HOUSING ELEMENT COMPLIANCE: The Project is consistent with the Housing Element of the Policy Plan (general plan) component of The Ontario Plan, as the Project site is not one of the properties in the Housing Element Sites contained in Tables B-1 and B-2 (Housing Element Sites Inventory) of the Housing Element Technical Report.

ENVIRONMENTAL REVIEW: The Project analyzed under the Addendum to Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001, certified by the City Council on April 18, 2006) ("Certified EIR") consists of subdividing the Project site for condominium purposes and includes 141 numbered lots, 27 lettered lots, onsite and offsite improvements such as private streets, private drives, sidewalks, landscaping, utilities infrastructure and utilities connections.

The Application is a project pursuant to the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) ("CEQA") and an Addendum has been prepared to determine possible environmental impacts. Although the proposed Project could have a significant effect on the environment, because all potentially significant effects have

been analyzed adequately in an earlier Certified EIR, and have been avoided or mitigated pursuant to that earlier Certified EIR, including revisions or mitigation measures that are imposed on the proposed Project, nothing further is required. The Project will introduce no new significant environmental impacts beyond those previously analyzed in the Certified EIR, and all mitigation measures previously adopted by the Environmental Impact Report, are a condition of project approval and are incorporated in the Addendum.

TECHNICAL APPENDIX:

Surrounding Zoning and Land Use:

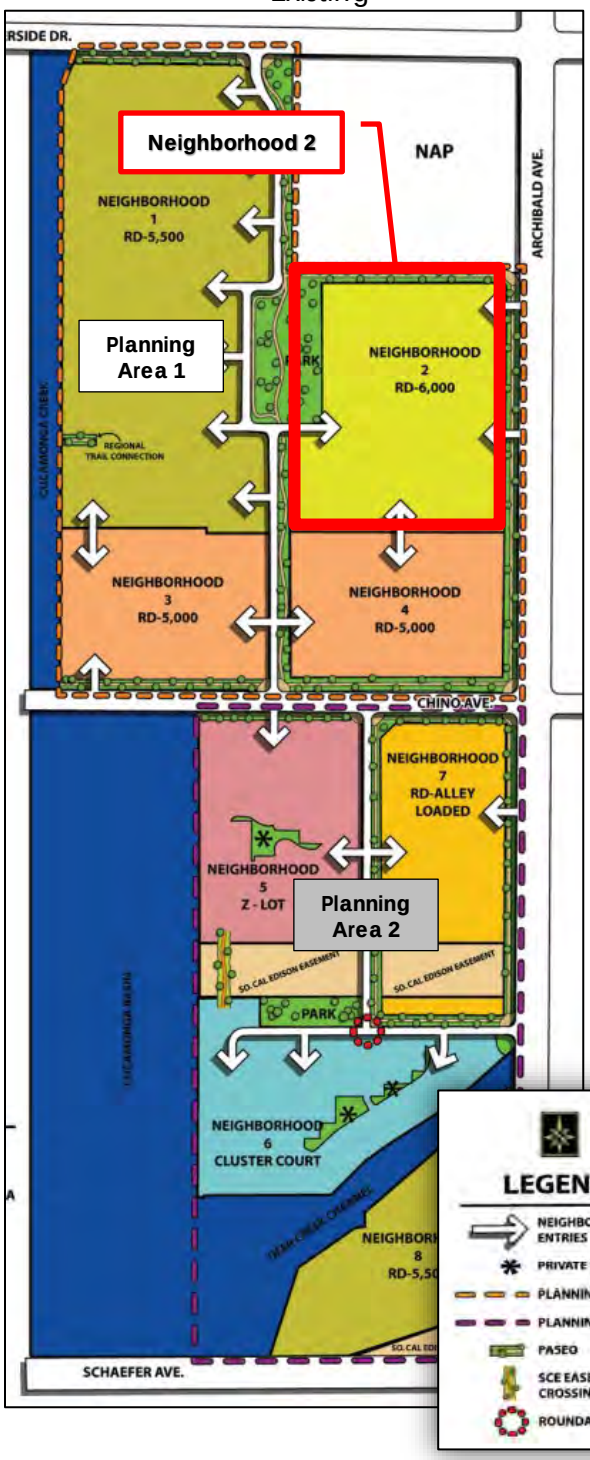
	Existing Land Use	*Policy Plan Designation*	*Zoning Designation*	*Specific Plan Land Use*
Site:	Agriculture	Medium Density Residential (MDR; 11.1 – 25.0 du/ac); Low Medium Density Residential (LMDR; 5.1 – 11.0 du/ac)	Countryside Specific Plan (Planning Area 1)	Neighborhood 2 [RD-6,000]
North:	Multiple Family Residential	Medium Density Residential (MDR; 11.1 – 25.0 du/ac)	MDR-18 (Medium Density Residential - 11.1 – 18.0 du/ac)	N/A
South:	Single Family Residential, Agriculture	Low Density Residential (LDR; 2.1 – 5.0 du/ac)	Countryside Specific Plan (Planning Area 2)	Neighborhood 4 [RD-5,000]
East:	Multiple Family Residential	Medium Density Residential (MDR; 11.1 – 25.0 du/ac)	MDR-18 (Medium Density Residential - 11.1 – 18.0 du/ac)	N/A
West:	Single Family Residential, Recreation	Low Density Residential (LDR; 2.1 – 5.0 du/ac)	Countryside Specific Plan (Planning Area 1)	Neighborhood 1 [RD-5,500]

General Site Statistics

Item	*Proposed Required Min./Max.*	*Provided (Ranges)*	*Meets Y/N*
Project area (in acres):	N/A	23.2	
Maximum project density (dwelling units/ac):	5.1 du/ac (Min.) 25.0 du/ac (Max.)	11.4 du/ac	Y
Minimum lot size (in SF):	RD Cluster Court 3: 2,000 SF RD Townhome: 1,400 SF per unit RD 3,000: 3,000 SF	RD Cluster Court 3: 2,081 SF RD Townhome: TBD with Development Plan submittal RD 3,000: 3,015 SF	Y
Minimum lot depth (in FT):	RD Cluster Court 3: N/A RD Townhome: N/A RD 3,000: 70 FT	RD Cluster Court 3: N/A RD Townhome: N/A RD 3,000: 70.25 FT	Y
Minimum lot width (in FT):	RD Cluster Court 3: 33 FT RD Townhome: N/A RD 3,000: 40 FT	RD Cluster Court 3: 33 FT RD Townhome: N/A RD 3,000:	Y

Exhibit A: COUNTRYSIDE SPECIFIC PLAN LAND USE MAP

Existing



Proposed

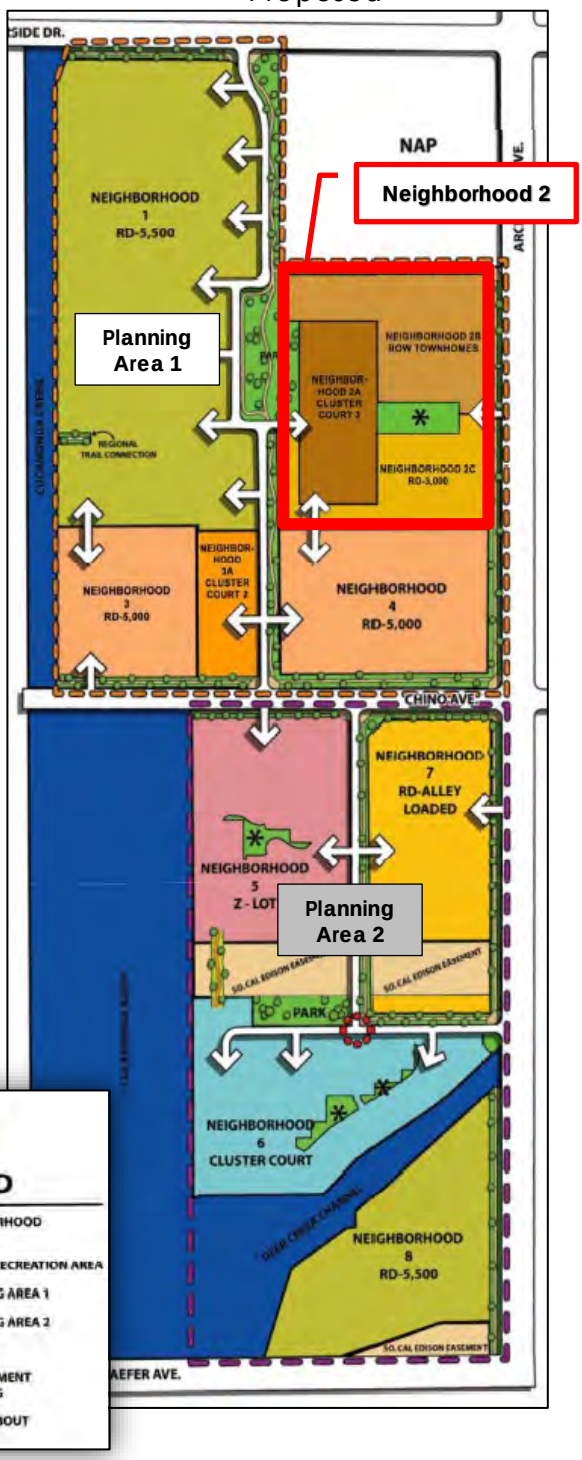


Exhibit B: COUNTRYSIDE SPECIFIC PLAN LAND USE SUMMARY

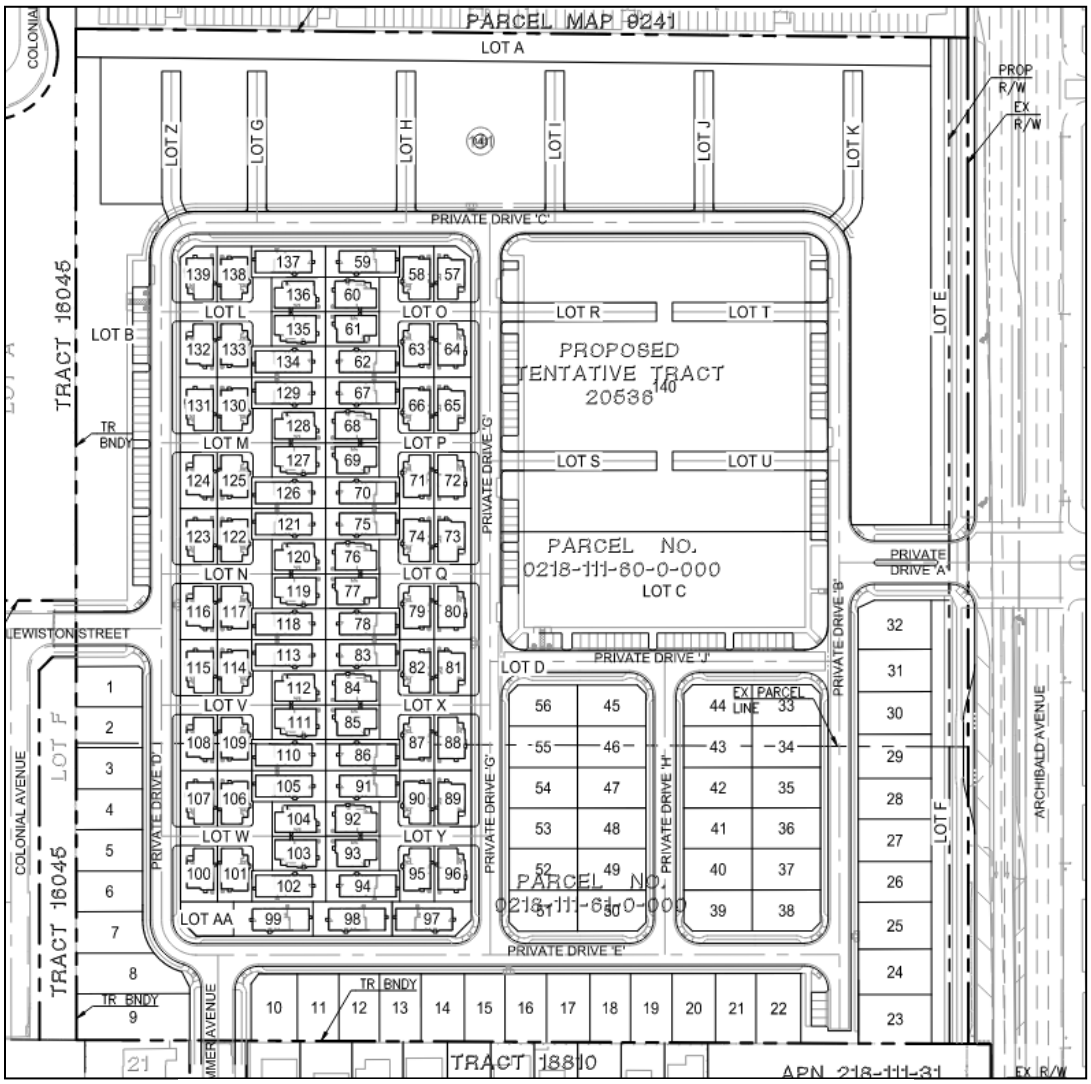
RESIDENTIAL LAND USES				
	Acres (Net)	DUs	Type	Net Density
PLANNING AREA 1- NORTH OF CHINO AVENUE				
Neighborhood 1	34.09	187	RD 5,500	5.49 du/acre
~~Neighborhood 2~~	~~20.46~~	~~106~~	~~RD 6,000~~	~~5.18 du/aacre~~
Neighborhood 2A	6.30	83	RD Cluster Court 3	13.17 du/acre
Neighborhood 2B	7.03	126	RD Row Townhomes	17.92 du/acre
Neighborhood 2C	6.40	56	RD 3,000	8.75 du/acre
Neighborhood 3	8.22	39	RD 5,000	4.74 du/acre
Neighborhood 3A	3.16	37	RD Cluster Court-2	11.71 du/acre
Neighborhood 4	12.43	73	RD 5,000	5.87 du/acre
Subtotal Planning Area 1:	~~78.36~~77.63	~~442~~ 601		~~5.56~~ 7.74du/acre
PLANNING AREA 2- SOUTH OF CHINO AVENUE				
Neighborhood 5	12.76	98	RD Z-Lot	7.68 du/acre
Neighborhood 6	14.82	141	RD Cluster Court	9.51 du/acre
Neighborhood 7	11.21	60	RD Alley Loaded	5.35 du/acre
Neighborhood 8	12.32	84	RD 5,500	6.82 du/acre
Subtotal Planning Area 2:	51.11	383		7.49 du/acre
Subtotal Residential (Net)	~~129.47~~128.74	~~825~~984		~~6.37~~7.64 du/acre
OTHER LAND USES (ACRES GROSS)				
Park	~~5.61~~ 6.82 (1)			
Paseo	3.78			
Neighborhood Buffers	3.73			
Streets	19.10			
SCE Easement	7.31			
Deer Creek Channel	9.03			
Subtotal Other:	~~48.49~~49.53			
PROJECT TOTAL:	**178.03 AC (GROSS)**	~~825~~984		

Notes:

1. *Includes 0.97 acres of private recreation area in Neighborhood 2, 0.46 acres of private recreation area in Neighborhood 5 and 0.42 acres of private recreation area in Neighborhood 6.*

Table 2
Land Use Summary

Exhibit C: TENTATIVE TRACT MAP NO. 20536



LEGEND

TRACT BOUNDARY	
PROPOSED LOT	
EXISTING RIGHT-OF-WAY	
PROPOSED RIGHT-OF-WAY	
EXISTING EASEMENT	
EXISTING WATER	W
PROPOSED WATER	W
EXISTING SEWER	S
PROPOSED SEWER	S
EXISTING RECLAIMED WATER	RW
EXISTING STORM DRAIN	
PROPOSED STORM DRAIN	
TRASH ENCLOSURE	TRASH
TRANSFORMER	

LETTERED LOT SUMMARY

LETTERED LOTS:	27 LOTS
TOTAL AREA FOR LETTERED LOTS:	8.41 AC
TOTAL AREA FOR PRIVATE DRIVE AISLES & ALLEYS:	5.44 AC
TOTAL AREA FOR OPEN SPACE/PARK AREA:	2.97 AC

NUMBERED LOT SUMMARY ATTACHED RESIDENTIAL

NUMBER OF LOTS:	141 LOTS
NUMBER OF UNITS:	265 UNITS
MAXIMUM AREA:	149,796 SF
MINIMUM AREA:	2,081 SF
AVERAGE AREA:	4,452 SF
TOTAL AREA:	14.30 AC

ZONING

EXISTING ZONING:	COUNTRYSIDE SPECIFIC PLAN ZONE
EXISTING LAND USE:	AGRICULTURAL
PROPOSED LAND USE:	SINGLE FAMILY ATTACHED & DETACHED
PROPOSED DENSITY:	TOP 2050 LOW MEDIUM AND MEDIUM DENSITY
PROVIDED OFF-STREET PARKING:	101

TENTATIVE TRACT MAP SUMMARY

NUMBERED LOTS:	141 LOTS
LETTERED LOTS:	27 LOTS
TOTAL AREA GROSS:	23.2 AC
TOTAL AREA NET:	22.7 AC
TOTAL AREA TO BE DEDICATED:	0.5 AC
TOTAL AREA FOR NUMBERED LOTS:	14.30 AC
TOTAL AREA FOR LETTERED LOTS:	8.41 AC

Exhibit D: EXISTING SITE PHOTOS

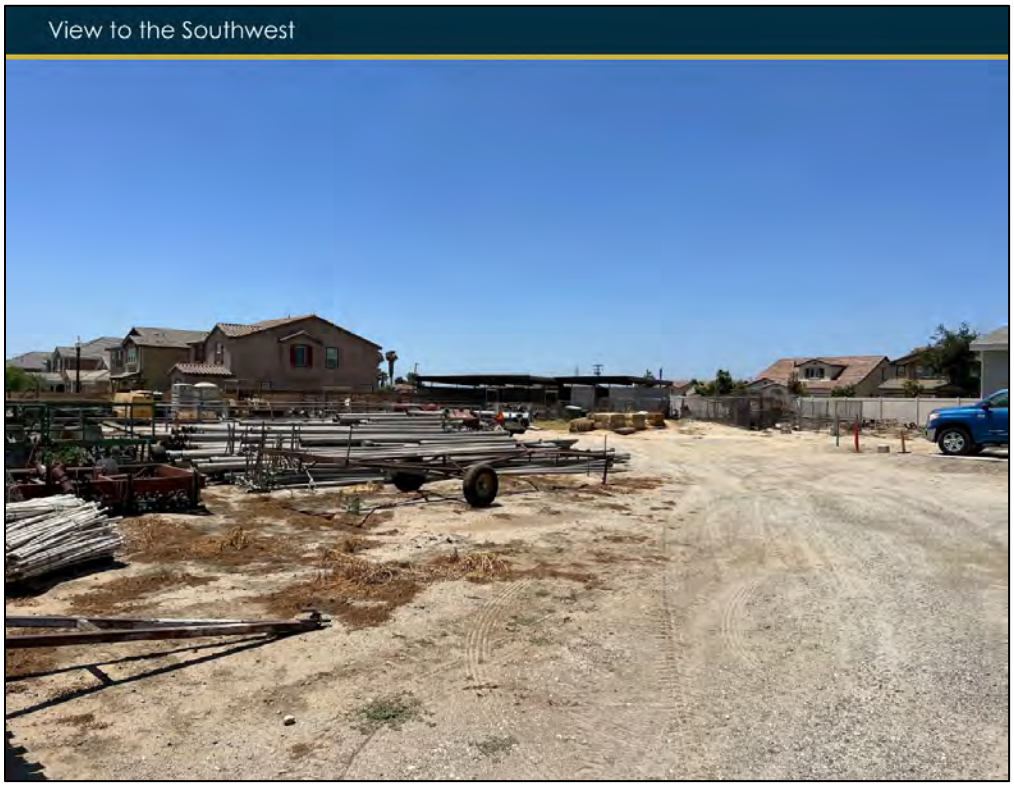


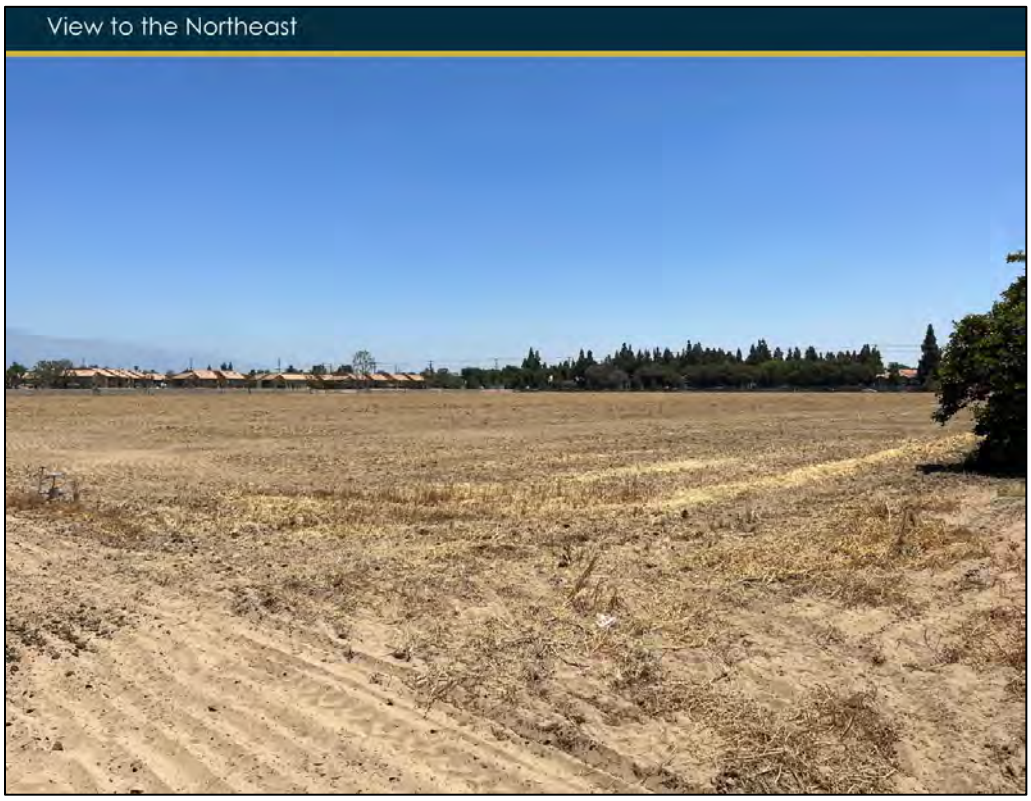


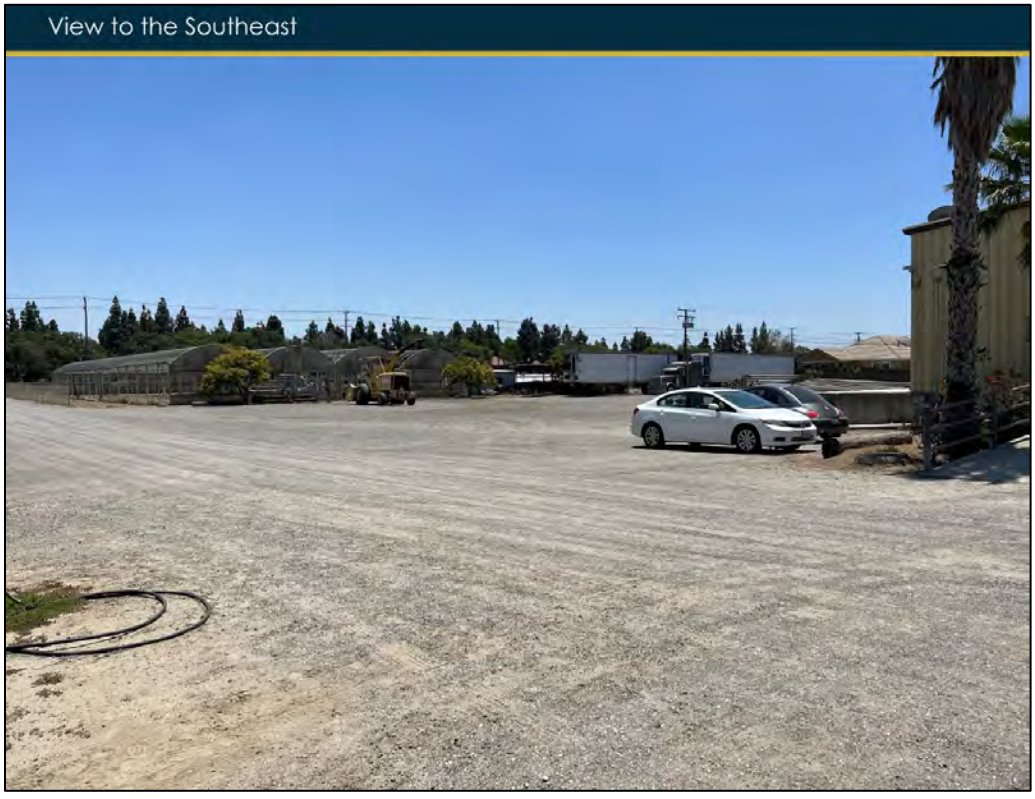
View to the Northwest



View to the Southwest




View to the Northeast


View to the Southeast

RESOLUTION NO. PC23-039

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ONTARIO RECOMMENDING THAT CITY COUNCIL APPROVE AN ADDENDUM TO THE COUNTRYSIDE SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT, PURSUANT TO THE REQUIREMENTS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AS AMENDED, FOR FILE NOS. PSPA22-002 AND PMTT22-021

WHEREAS, RB ONTARIO LLC (hereinafter referred to as "Applicant") has filed Applications for the approval of a Specific Plan Amendment, File No. PSPA22-002, which amendments to the Countryside Specific Plan to increase the number of allowable dwellings, include Cluster Court 3 residential type, and update associated text and exhibits; and Tentative Tract Map No. 20536, File No. PMTT22-021, to subdivide the 23.2-acre Project site into 141 numbered lots and 27 lettered lots to facilitate development of single- and multiple-family residential units located on the west side of Archibald Avenue approximately 875 feet south of Riverside Drive in the City of Ontario, California (hereinafter referred to as "Application" or "Project"); and

WHEREAS, the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001) was certified on April 18, 2006 (hereinafter referred to as "Certified EIR"), in which development and use of the Project site was discussed; and

WHEREAS, the Planning Director of the City of Ontario has prepared and approved for attachment to the certified Environmental Impact Report, an Addendum to the Certified EIR (hereinafter referred to as "EIR Addendum") in accordance with the requirements of the California Environmental Quality Act of 1970, together with State and local guidelines implementing said Act, all as amended to date (collectively referred to as "CEQA"); and

WHEREAS, the EIR Addendum concluded that implementation of the Project could result in a number of significant effects on the environment that were previously analyzed in the Certified EIR, and that the Certified EIR identified mitigation measures that would reduce each of those significant effects to a less-than-significant level; and

WHEREAS, pursuant to State CEQA Guidelines Section 15164(a), a lead agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary to a project, but the preparation of a subsequent or supplemental EIR is not required; and

WHEREAS, the City determined that none of the conditions requiring preparation of a subsequent or supplemental EIR would occur from the Project, and that preparation of an Addendum to the Certified EIR was appropriate; and

WHEREAS, on May 1, 2023, the Development Advisory Board conducted a hearing to considered the EIR Addendum relative to the Tentative Tract Map request, and concluded said hearing on that date, voting to issue Decision No. DAB23-026, recommending the Planning Commission approve the EIR Addendum; and

WHEREAS, the City of Ontario is the lead agency on the Project, and the Planning Commission is the recommending authority for the proposed Specific Plan Amendment and the decision-making body for the proposed Tentative Tract Map; and

WHEREAS, the approval of the proposed Tentative Tract Map is contingent on City Council approval of the Specific Plan Amendment and associated EIR Addendum; and

WHEREAS, the Planning Commission has reviewed and considered the EIR Addendum for the Project, has concluded that none of the conditions requiring preparation of a subsequent of supplemental EIR have occurred, and intends to take actions on the Project in compliance with CEQA and state and local guidelines implementing CEQA; and

WHEREAS, the EIR Addendum for the Project is on file in the Planning Department, located at 303 East B Street, Ontario, CA 91764, and available for inspection by any interested person at that location and are, by this reference, incorporated into this Resolution as if fully set forth herein; and

WHEREAS, all legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND RESOLVED by the Planning Commission of the City of Ontario, as follows:

SECTION 1: ***Environmental Determination and Findings.*** As the recommending authority for the Specific Plan Amendment and the decision-making body for the Tentative Tract Map, the Planning Commission has reviewed and considered the information contained in the administrative record for the Project. Based upon the facts and information contained in the administrative record, including all written and oral evidence presented to the Planning Commission, the Planning Commission finds as follows:

(1) The environmental impacts of this project were reviewed in conjunction with an Addendum to Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001; certified by the Ontario City Council on April 18, 2006, in conjunction with File No. PSP04-001); and

(2) The EIR Addendum and administrative record have been completed in compliance with CEQA, the State CEQA Guidelines, and the City of Ontario Local CEQA Guidelines; and

(3) The City's "Guidelines for the Implementation of the California Environmental Quality Act (CEQA)" provide for the use of a single environmental assessment in situations where the impacts of subsequent projects are adequately analyzed. This Application introduces no new significant environmental impacts; and

(4) All previously adopted mitigation measures shall be a condition of project approval, as they are applicable to the Project, and are incorporated herein by this reference; and

(5) The EIR Addendum contains a complete and accurate reporting of the environmental impacts associated with the Project, and reflects the independent judgment of the Planning Commission; and

(6) There is no substantial evidence in the administrative record supporting a fair argument that the project may result in significant environmental impacts.

SECTION 2: ***Additional Environmental Review Not Required.*** Based on the Addendum, all related information presented to the Planning Commission, and the specific findings set forth in Section 1, above, the Planning Commission finds that the preparation of a subsequent or supplemental Environmental Impact Report is not required for the Project, as the Project:

(1) Does not constitute substantial changes to the Certified EIR that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and

(2) Does not constitute substantial changes with respect to the circumstances under which the Certified EIR was prepared, that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects; and

(3) Does not contain new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the Certified EIR was certified/adopted, that shows any of the following:

(a) The project will have one or more significant effects not discussed in the Certified EIR; or

(b) Significant effects previously examined will be substantially more severe than shown in the Certified EIR; or

(c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the Project, but the City declined to adopt such measures; or

(d) Mitigation measures or alternatives considerably different from those analyzed in the Certified EIR would substantially reduce one or more significant effects on the environment, but which the City declined to adopt.

SECTION 3: ***Planning Commission Action.*** Based upon the findings and conclusions set forth in Sections 1 and 2, above, the Planning Commission hereby recommends the City Council finds, that based upon the entire record of proceedings before it, and all information received, that there is no substantial evidence that the Project will constitute substantial changes to the Certified EIR, and does hereby recommends the City Council adopt the EIR Addendum, attached hereto as "Attachment A," and incorporated herein by this reference.

SECTION 4: ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 5: ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East "B" Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

SECTION 6: ***Certification to Adoption.*** The Secretary shall certify to the adoption of the Resolution.

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The Secretary Pro Tempore for the Planning Commission of the City of Ontario shall certify as to the adoption of this Resolution.

I hereby certify that the foregoing Resolution was duly and regularly introduced, passed and adopted by the Planning Commission of the City of Ontario at a regular meeting thereof held on the 23rd day of May 2023, and the foregoing is a full, true and correct copy of said Resolution, and has not been amended or repealed.

Richard Gage
Planning Commission Vice-Chairperson

ATTEST:

Rudy Zeledon
Community Development Assistant Director and Secretary to the Planning Commission

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, Gwen Berendsen, Secretary Pro Tempore of the Planning Commission of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. PC23-039, was duly passed and adopted by the Planning Commission of the City of Ontario at their regular meeting held on May 23, 2023, by the following roll call vote, to wit:

AYES: Anderson, Dean, Gage, Ricci

NOES: None

ABSENT: DeDiemar, Lampkin

ABSTAIN: None

Gwen Berendsen
Secretary Pro Tempore

ATTACHMENT A:

Addendum to Countryside Specific Plan Environmental Impact Report

(Addendum to follow this page)

The Addendum is attached to the City Council Resolution

RESOLUTION NO. PC23-040

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ONTARIO, CALIFORNIA, RECOMMENDING CITY COUNCIL APPROVAL OF FILE NO. PSPA22-002, A SPECIFIC PLAN AMENDMENT FOR THE FOLLOWING CHANGES: [I] DIVIDE PLANNING AREA 1 NEIGHBORHOOD 2 INTO DIFFERENT SUBSETS: NEIGHBORHOODS 2A, 2B, AND 2C; [II] INCREASE THE PLANNING AREA 1 UNIT COUNT FROM 442 UNITS TO 601 UNITS AND DENSITY FROM 5.56 DU/AC TO 7.74 DU/AC; [III] CHANGE PLANNING AREA 1 USES TO INCLUDE ATTACHED HOMES AND ELIMINATING THE RD 6000-SQUARE-FOOT LOT SIZE; AND [IV] VARIOUS TEXT CHANGES TO BE CONSISTENT WITH THE ONTARIO PLAN 2050 POLICY PLAN, AND MAKING FINDINGS IN SUPPORT THEREOF—APNS: 0218-111-60 AND 0218-111-61

WHEREAS, RB ONTARIO LLC (hereinafter referred to as "Applicant") has filed an Application for the approval of a Specific Plan Amendment, File No. PSPA22-002, as described in the title of this Resolution (hereinafter referred to as "Application" or "Project"); and

WHEREAS, the Application applies to 23.2 acres of land generally located on the west side of Archibald Avenue, approximately 875 feet south of Riverside Drive, within the Countryside Specific Plan, and is presently improved with agricultural uses; and

WHEREAS, the properties to the north and east of the Project site are within the MDR-18 (Medium Density Residential – 11.1 – 18.0 du.ac) and are developed with multiple family dwellings. The properties to the south and west are within Planning Area 1 of the Countryside Specific Plan, and are developed with single-family detached dwellings; and

WHEREAS, on May 2, 2006, the City Council adopted Ordinance No. 2828, approving the Countryside Specific Plan (File No. PSP04-001), establishing a master plan for the development of 178 acres of land, inclusive of the Project site; and

WHEREAS, the Countryside Specific Plan has been amended over the years to reflect updated policies in The Ontario Plan and market conditions; and

WHEREAS, the Project request consists of dividing Planning Area 1-Neighborhood 2 into different subsets (Neighborhoods 2A, 2B and 2C), increasing the unit count in Planning Area 1 from 442 units to 601 units and increasing the density from 5.56 dwelling units/acre to 7.74 dwelling units/acre, changing Planning Area 1-Neighboorhood 2 uses to include Attached Homes, eliminating the RD-6000-square-foot

lot size, and various text changes to be consistent with The Ontario Plan 2050 Policy Plan; and

WHEREAS, the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001) was certified on April 18, 2006 (hereinafter referred to as "Certified EIR"), in which development and use of the Project site was discussed; and

WHEREAS, the Planning Director of the City of Ontario prepared and approved for attachment to the certified Environmental Impact Report, an Addendum to the Certified EIR (hereinafter referred to as "EIR Addendum") in accordance with the requirements of the California Environmental Quality Act of 1970, together with State and local guidelines implementing said Act, all as amended to date (collectively referred to as "CEQA"); and

WHEREAS, the environmental impacts of this project were thoroughly analyzed in the EIR Addendum, which concluded that implementation of the Project could result in a number of significant effects on the environment that were previously analyzed in the Certified EIR, and that the Certified EIR identified mitigation measures that would reduce each of those significant effects to a less-than-significant level; and

WHEREAS, the City's "Local Guidelines for the Implementation of the California Environmental Quality Act (CEQA)" provide for the use of a single environmental assessment in situations where the impacts of subsequent projects are adequately analyzed; and

WHEREAS, the Application is a project pursuant to the California Environmental Quality Act — Public Resources Code Section 21000 et seq. — (hereinafter referred to as "CEQA") and an EIR Addendum has been prepared to determine possible environmental impacts; and

WHEREAS, Ontario Development Code Table 2.02-1 (Review Matrix) grants the Planning Commission the responsibility and authority to review and make recommendations on the subject Application; and

WHEREAS, the Project has been reviewed for consistency with the Housing Element of the Policy Plan component of The Ontario Plan 2050, as State Housing Element law (as prescribed in Government Code Sections 65580 through 65589.8) requires that development projects must be consistent with the Housing Element, if upon consideration of all its aspects, it is found to further the purposes, principals, goals, and policies of the Housing Element; and

WHEREAS, the Project is located within the Airport Influence Area of Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and is subject to, and must be consistent with, the policies

and criteria set forth in the Ontario International Airport Land Use Compatibility Plan (hereinafter referred to as "ALUCP"), which applies only to jurisdictions within San Bernardino County, and addresses the noise, safety, airspace protection, and overflight impacts of current and future airport activity; and

WHEREAS, City of Ontario Development Code Division 2.03 (Public Hearings) prescribes the manner in which public notification shall be provided and hearing procedures to be followed, and all such notifications and procedures have been completed; and

WHEREAS, as the first action on the Project, on May 23, 2023, the Planning Commission issued a Resolution recommending the City Council adopt the EIR Addendum, finding that the proposed Project introduces no new significant environmental impacts and applying all previously adopted mitigation measures to the Project, which were incorporated by reference; and

WHEREAS, on May 23, 2023, the Planning Commission of the City of Ontario conducted a hearing to consider the Project, and concluded said hearing on that date; and

WHEREAS, all legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND RESOLVED by the Planning Commission of the City of Ontario, as follows:

SECTION 1: ***Environmental Determination and Findings.*** As the recommending authority for the Project, the Planning Commission has reviewed and considered the information contained in the Addendum, the initial study, and the administrative record for the Project, including all written and oral evidence provided during the comment period. Based upon the facts and information contained in the Addendum, the initial study, and the administrative record, including all written and oral evidence presented to the Planning Commission, the Planning Commission finds as follows:

(1) The environmental impacts of the Project were reviewed in conjunction with an Addendum to Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001; certified by the Ontario City Council on April 18, 2006, in conjunction with File No. PSP04-001); and

(2) The EIR Addendum and administrative record have been completed in compliance with CEQA, the State CEQA Guidelines, and the City of Ontario Local CEQA Guidelines; and

(3) The City's "Guidelines for the Implementation of the California Environmental Quality Act (CEQA)" provide for the use of a single environmental assessment in situations where the impacts of subsequent projects are adequately analyzed. This Application introduces no new significant environmental impacts; and

(4) All previously adopted mitigation measures shall be a condition of project approval, as they are applicable to the Project, and are incorporated herein by this reference; and

(5) The EIR Addendum contains a complete and accurate reporting of the environmental impacts associated with the Project, and reflects the independent judgment of the Planning Commission; and

(6) There is no substantial evidence in the administrative record supporting a fair argument that the project may result in significant environmental impacts.

SECTION 2: ***Subsequent or Supplemental Environmental Review Not Required.*** Based on the EIR Addendum, all related information presented to the Planning Commission, and the specific findings set forth in Section 1, above, the Planning Commission finds that the preparation of a subsequent or supplemental Certified EIR is not required for the Project, as the Project:

(1) Does not constitute substantial changes to the Certified EIR that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and

(2) Does not constitute substantial changes with respect to the circumstances under which the Certified EIR was prepared, that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects; and

(3) Does not contain new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the Certified EIR was certified/adopted, that shows any of the following:

(a) The Project will have one or more significant effects not discussed in the Certified EIR; or

(b) Significant effects previously examined will be substantially more severe than shown in the Certified EIR; or

(c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the Project, but the City declined to adopt such measures; or

(d) Mitigation measures or alternatives considerably different from those analyzed in the Certified EIR would substantially reduce one or more significant effects on the environment, but which the City declined to adopt.

SECTION 3: ***Housing Element Compliance.*** Pursuant to the requirements of California Government Code Chapter 3, Article 10.6, commencing with Section 65580, as the recommending authority for the Project, the Planning Commission finds that based upon the facts and information contained in the Application and supporting documentation, at the time of Project implementation, the project is consistent with the Housing Element of the Policy Plan (General Plan) component of The Ontario Plan, as the project site is not one of the properties in the Housing Element Sites Inventory contained in Tables B-1 and B-2 of the Housing Element Technical Report.

SECTION 4: ***Airport Land Use Compatibility Plan ("ALUCP") Compliance.*** The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

On April 19, 2011, the City Council of the City of Ontario approved and adopted the Ontario International Airport Land use Compatibility Plan, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the recommending authority for the Project, the Planning Commission has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the Planning Commission, therefore, finds and determines that the Project, when implemented in conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the ONT ALUCP; and

SECTION 5: ***Concluding Facts and Reasons.*** Based upon the substantial evidence presented to the Planning Commission during the above-referenced hearing,

and upon the specific findings set forth in Sections 1 through 4, above, the Planning Commission hereby concludes as follows:

(1) ***The proposed Specific Plan, or amendment thereto, is consistent with the goals, policies, plans and exhibits of the Vision, Policy Plan (General Plan), and City Council Priorities components of The Ontario Plan.*** The proposed Specific Plan Amendment is consistent with the Vision, Policy Plan (General Plan), and City Council Priorities components of The Ontario Plan 2050, in that the Specific Plan Amendment contributes towards the legislative framework for the implementation of The Ontario Plan components, guiding growth and development within the Project area to achieve optimum results from the City's physical, economic, environmental, and human resources.

(2) ***The proposed Specific Plan, or amendment thereto, would not be detrimental to the public interest, health, safety, convenience, or general welfare of the City.*** The development standards and guidelines established by the proposed Specific Plan Amendment have been created with the intent to safeguard and further the public interest, health, safety, convenience, and/or general welfare, and to ensure that the purposes of The Ontario Plan 2050 and the proposed Specific Plan Amendment, are maintained.

(3) ***In the case of an application affecting specific properties, the proposed Specific Plan, or amendment thereto, will not adversely affect the harmonious relationship with adjacent properties and land uses.*** The location of the proposed Specific Plan Amendment, and the proposed conditions under which future developments will be constructed and maintained, is consistent with the Policy Plan component of The Ontario Plan 2050 and the City's Development Plan, and, therefore, will not adversely affect the harmonious relationship with adjacent properties and land uses.

(4) ***In the case of an application affecting specific properties, the subject site is physically suitable, including, but not limited to, parcel size, shape, access, and availability of utilities, for the request and anticipated development.*** The proposed Specific Plan Amendment has been reviewed by all City departments, which have established that the project site is physically suitable for the anticipated development in terms of parcel size, shape, and availability of utilities.

SECTION 6: ***Planning Commission Action.*** Based upon the findings and conclusions set forth in Sections 1 through 5, above, the Planning Commission hereby RECOMMENDS THE CITY COUNCIL APPROVE the herein described Application, as presented and attached hereto as "Attachment A," and incorporated herein by this reference.

SECTION 7: ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 8: ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East "B" Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

SECTION 9: ***Certification to Adoption.*** The Secretary shall certify to the adoption of the Resolution.

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The Secretary Pro Tempore for the Planning Commission of the City of Ontario shall certify as to the adoption of this Resolution.

I hereby certify that the foregoing Resolution was duly and regularly introduced, passed and adopted by the Planning Commission of the City of Ontario at a regular meeting thereof held on the 23rd day of May 2023, and the foregoing is a full, true and correct copy of said Resolution, and has not been amended or repealed.

Richard Gage
Planning Commission Vice-Chairperson

ATTEST:

Rudy Zeledon
Community Development Assistant Director and Secretary to the Planning Commission

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, Gwen Berendsen, Secretary Pro Tempore of the Planning Commission of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. PC23-040, was duly passed and adopted by the Planning Commission of the City of Ontario at their regular meeting held on May 23, 2023, by the following roll call vote, to wit:

AYES: Anderson, Dean, Gage, Ricci

NOES: None

ABSENT: DeDiemar, Lampkin

ABSTAIN: None

Gwen Berendsen
Secretary Pro Tempore

ATTACHMENT A:

File No. PSPA22-002
Countryside Specific Plan Amendment

(Specific Plan Amendment document to follow this page)

The Countryside Specific Plan Amendment is attached to the City Council Resolution

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING AN ADDENDUM TO THE COUNTRYSIDE SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT, PURSUANT TO THE REQUIREMENTS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AS AMENDED, FOR FILE NO PSPA22-002.

WHEREAS, RB ONTARIO LLC (hereinafter referred to as "Applicant") has filed an Application for the approval of a Specific Plan Amendment, File No. PSPA22-002, which consists of amendments to the Countryside Specific Plan to increase the number of allowable dwellings, include Cluster Court 3, Row Townhomes and RD 3000 residential types, and update associated text and exhibits, to facilitate development of single- and multiple-family residential units located on the west side of Archibald Avenue approximately 875 feet south of Riverside Drive, in the City of Ontario, California (hereinafter referred to as "Application" or "Project"); and

WHEREAS, the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001) was certified on April 18, 2006 (hereinafter referred to as "Certified EIR"), in which development and use of the Project site was discussed; and

WHEREAS, the Planning Director of the City of Ontario has prepared and approved for attachment to the certified Environmental Impact Report, an Addendum to the Certified EIR (hereinafter referred to as "EIR Addendum") in accordance with the requirements of the California Environmental Quality Act of 1970, together with State and local guidelines implementing said Act, all as amended to date (collectively referred to as "CEQA"); and

WHEREAS, the EIR Addendum concluded that implementation of the Project could result in a number of significant effects on the environment that were previously analyzed in the Certified EIR, and that the Certified EIR identified mitigation measures that would reduce each of those significant effects to a less-than-significant level; and

WHEREAS, pursuant to State CEQA Guidelines Section 15164(a), a lead agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary to a project, but the preparation of a subsequent or supplemental EIR is not required; and

WHEREAS, the City determined that none of the conditions requiring preparation of a subsequent or supplemental EIR would occur from the Project, and that preparation of an Addendum to the Certified EIR was appropriate; and

WHEREAS, on May 23, 2023, the Planning Commission of the City of Ontario conducted a hearing to consider the Addendum and concluded said hearing on that date, voting to issue Resolution No. PC23-039 recommending that the City Council conclude that none of the conditions requiring preparation of a subsequent or supplemental EIR

have occurred, and further recommending that the City Council take actions on the Project in compliance with CEQA and state and local guidelines implementing CEQA; and

WHEREAS, the City of Ontario is the lead agency on the Project, and the City Council is the decision-making authority for the requested approval to construct and otherwise undertake the Project; and

WHEREAS, the City Council has reviewed and considered the EIR Addendum for the Project, has concluded that none of the conditions requiring preparation of a subsequent or supplemental EIR have occurred, and intends to take actions on the Project in compliance with CEQA and state and local guidelines implementing CEQA; and

WHEREAS, the EIR Addendum for the Project are on file in the Planning Department, located at 303 East B Street, Ontario, CA 91764, are available for inspection by any interested person at that location and are, by this reference, incorporated into this Resolution as if fully set forth herein; and

WHEREAS, all legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND RESOLVED by the City Council of the City of Ontario, as follows:

SECTION 1. ***Environmental Determination and Findings.*** As the decision-making authority for the Project, the City Council has reviewed and considered the information contained in the administrative record for the Project. Based upon the facts and information contained in the administrative record, including all written and oral evidence presented to the City Council, the City Council finds as follows:

(1) The environmental impacts of this project were reviewed in conjunction with an Addendum to Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001, certified by the Ontario City Council on April 18, 2006) in conjunction with File No. PSPA22-002; and

(2) The EIR Addendum and administrative record have been completed in compliance with CEQA, the State CEQA Guidelines, and the City of Ontario Local CEQA Guidelines; and

(3) The City's "Guidelines for the Implementation of the California Environmental Quality Act (CEQA)" provide for the use of a single environmental assessment in situations where the impacts of subsequent projects are adequately analyzed. This Application introduces no new significant environmental impacts; and

(4) All previously adopted mitigation measures shall be a condition of project approval, as they are applicable to the Project, and are incorporated herein by this reference; and

(5) The EIR Addendum contains a complete and accurate reporting of the environmental impacts associated with the Project, and reflects the independent judgment of the City Council; and

(6) There is no substantial evidence in the administrative record supporting a fair argument that the project may result in significant environmental impacts.

SECTION 2. ***Additional Environmental Review Not Required.*** Based on the Addendum, all related information presented to the City Council, and the specific findings set forth in Section 1, above, the City Council finds that the preparation of a subsequent or supplemental Environmental Impact Report is not required for the Project, as the Project:

(1) Does not constitute substantial changes to the Certified EIR that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and

(2) Does not constitute substantial changes with respect to the circumstances under which the Certified EIR was prepared, that will require major revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects; and

(3) Does not contain new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the Certified EIR was certified/adopted, that shows any of the following:

(a) The project will have one or more significant effects not discussed in the Certified EIR; or

(b) Significant effects previously examined will be substantially more severe than shown in the Certified EIR; or

(c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the Project, but the City declined to adopt such measures; or

(d) Mitigation measures or alternatives considerably different from those analyzed in the Certified EIR would substantially reduce one or more significant effects on the environment, but which the City declined to adopt.

SECTION 3. ***City Council Action.*** Based upon the findings and conclusions set forth in Sections 1 and 2, above, the City Council hereby finds that based upon the entire record of proceedings before it, and all information received, that there is no substantial evidence that the Project will constitute substantial changes to the Certified EIR, and does hereby approve the EIR Addendum, attached hereto as "Attachment A," and incorporated herein by this reference.

SECTION 4. ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 5: ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East "B" Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023- was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2023- duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

ATTACHMENT A:

Addendum to Countryside Specific Plan Environmental Impact Report

(Addendum to follow this page)

Supplemental Environmental Checklist

CITY OF ONTARIO PLANNING DEPARTMENT

303 East B Street, Ontario, California 91764 Phone: 909.395.2036 / Fax: 909.395.2420

1. Project Title/File No.: Barth Farms/PMTT22-021 & PSPA22-002

2. Lead Agency: City of Ontario, 303 East B Street, Ontario, California 91764, (909) 395-2036

3. Contact Person: Edmelynne Hutter, Senior Planner, 909-395-2429, ehutter@ontarioca.gov

4. Project Sponsor: The Landmark Company, 555 N. El Camino Real #A285, San Clemente California 92672, (858)610-0600

5. Project Location: The project site is located in southwestern San Bernardino County, within the City of Ontario. The City of Ontario is located approximately 40 miles from downtown Los Angeles, 20 miles from downtown San Bernardino, and 30 miles from Orange County. As illustrated on Figures 1 and 2, below, the project site is located on Assessor Parcel Numbers (APN): 0218-111-60 & 61, which is comprised of 23.1 acres of land generally located south of State Route 60 (SR-60), and west of Interstate 15 (I-15).

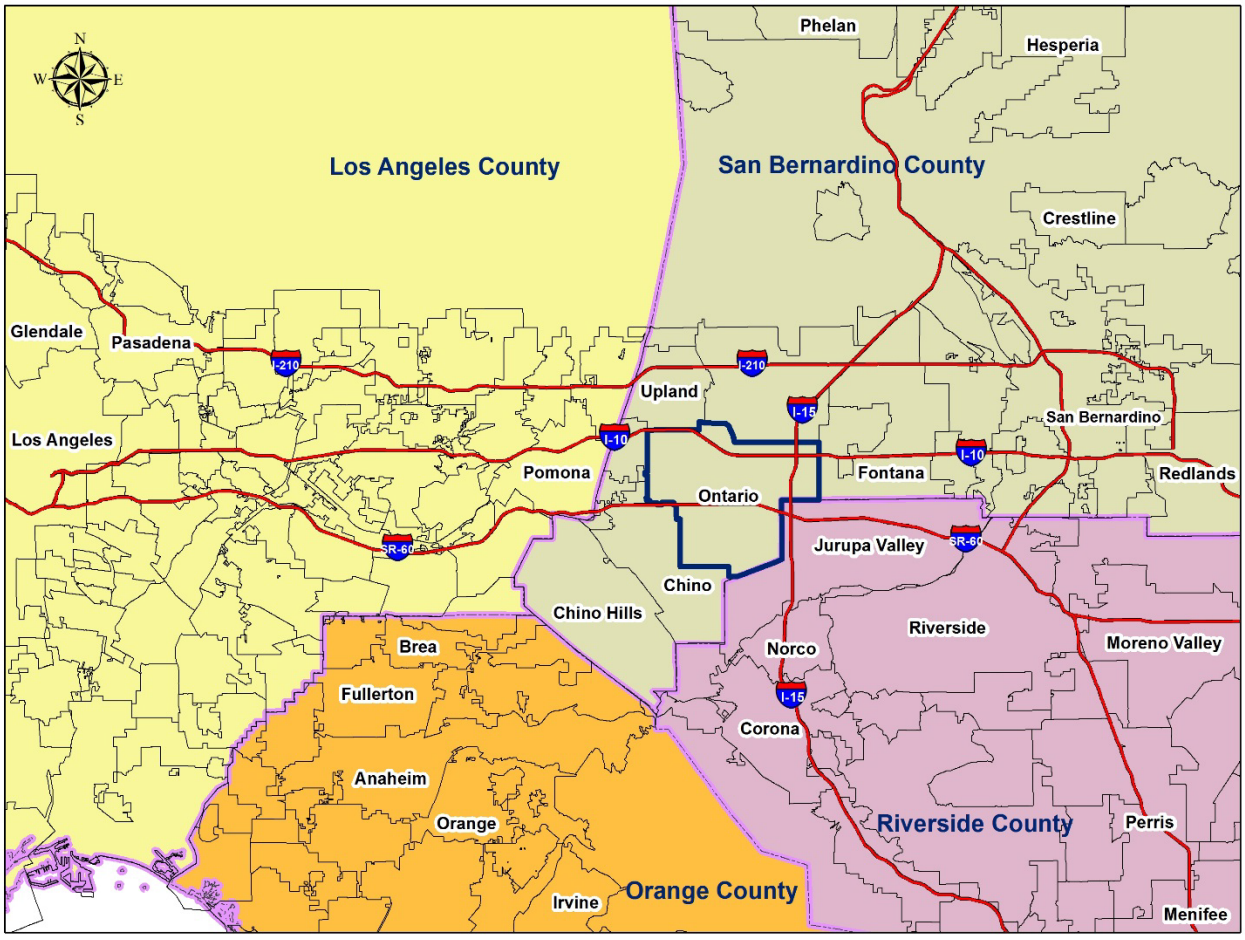


Figure 1: REGIONAL LOCATION MAP



Figure 2: Aerial Site Photograph

6. Policy Plan (General Plan) Designation: Existing: Countryside Specific Plan - Residential Development (RD) 6,000 square foot lots. The Ontario Plan (TOP) - Medium Density Residential (MDR; 11.1 to 25 du/ac) for northern parcel of project site and Low-Medium Density Residential (LMDR; 5.1-11.0 dwelling units/acre (du/ac)) for southern parcel of project site. Proposed: Medium Density Residential (MDR; 11.1 to 25 du/ac).

7. Zoning Designation: Existing: Countryside Specific Plan. Proposed: Countryside Specific Plan.

8. Description of Project: The project proposes the following entitlements:

    1. Specific Plan Amendment (SPA, File No. PSPA22-002) to the Countryside SP Neighborhood 2 from RD – 6,000 (6,000 square foot lots) with 106 units to Neighborhood 2A Single Family Cluster Detached (83 units), Neighborhood 2B Row Townhomes (126 units), and Neighborhood 2C (56 units) RD-3,000, for a combined total of 265 units. A private recreation area is proposed between Neighborhoods 2A, 2B, and 2C;
    2. Tentative Tract Map (File No. PMTT22-021) to subdivide a 23.2 acre site into 265265 lots, for development of 83 cluster single family detached, 126 townhouses, and 56 single family detached houses.

9. Project Setting: The project site consists of approximately 23.1 acres of land within southern Ontario. The site is generally rectangular in shape and is surrounded by residential establishment. The vacant site was historically used for agriculture uses, including row crop production and a nursery. The site is surrounded to the north by medium density residential housing and neighborhood commercial development, low density residential development to the south, neighborhood commercial and medium density residential development to the east and low density residential units to the west.

10. Project Background: On April 18, 2006, the Ontario City Council adopted the Countryside Specific Plan (SP) and certified the Environmental Impact Report (EIR) (SCH number 2004071001). The Countryside SP is comprised of "Residential - Low Density" land use designation and proposed a variety of housing types within a traditional neighborhood setting designed around a network of paseos, parks, and bicycle trails. The SP anticipated the development of approximately 819 residential units on approximately 178 acres and consists of eight neighborhoods of varying densities. Approximately 10.11 acres of the SP was proposed to be set aside as open space. The Countryside SP Certified EIR is incorporated by reference and available at the City of Ontario, 303 East B Street, Ontario, California 91764.

    On August 16, 2022, the Ontario City Council adopted The Ontario Plan (TOP) 2050 and certified the Supplemental EIR (SEIR) (SCH Number 2021070364). TOP 2050 is an update to TOP to guide the City's development and conservation for the next 30 years through 2050 with particular emphasis on conducting technical refinements to the Policy Plan to comply with state-required mandates; bring long-term growth and fiscal projections into alignment with current economic conditions; and advance the Tracking and Feedback system and Implementation Plan. TOP 2050 Certified SEIR is incorporated by reference and available at the City of Ontario, 303 East B Street, Ontario, California 91764.

11. Surrounding Land Uses:

	Existing Land Use	General Plan Designation	Zoning Designation	Specific Plan Land Use
Site:	Farming/ Nursery	LMDR/ MDR	RD-6,000	RD-6,000
North:	Multi-Family Residential	NC/ MDR	MDR-18/CC	NA
South:	Single Family Detached Residential, Farming	LDR	RD-5,000	RD-5,000
East:	Multi-Family Residential	NC/LDR	MDR-18/CN	NA
West:	Single Family Detached Residential, Park	LDR	RD-5,500	RD-5,500

12. Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement): State Water Resources Control Board for General Construction Stormwater Activity Permit.

13. Have California Native American tribes traditionally and culturally affiliated with the project

area requested consultation pursuant to Public Resources Code section 21080.3.1?
☒Yes ☐ No

If "yes", has consultation begun? ☐ Yes ☐ No ☒ Completed

NEW SIGNIFICANT ENVIRONMENTAL EFFECTS OR SUBSTANTIALLY MORE SEVERE SIGNIFICANT ENVIRONMENTAL EFFECTS COMPARED TO THOSE IDENTIFIED IN THE PREVIOUS CEQA DOCUMENT.

The environmental factors checked below were determined to be new significant environmental effects or to be previously identified effects that have a substantial increase in severity either due to a change in project, change in circumstances or new information of substantial importance, as indicated by the checklist and discussion on the following pages.

☐ Aesthetics	☐ Agriculture/Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use / Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance
☐ Tribal Cultural Resources	☐ Wildfire	☐ Energy

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ No substantial changes are proposed in the project and there are no substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous approved ND or MND or certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Also, there is no "new information of substantial importance" as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, the previously adopted ND or MND or previously certified EIR adequately discusses the potential impacts of the project without modification.

☒ No substantial changes are proposed in the project and there are no substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous approved ND or MND or certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Also, there is no "new information of substantial importance" as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, the previously adopted ND, MND or previously certified EIR adequately discusses the potential impacts of the project; however, minor changes require the preparation of an ADDENDUM.

☐ Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous ND, MND or EIR due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects, or there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). However, all new potentially significant environmental effects or substantial increases in the severity of previously identified significant effects are clearly reduced to below a level of significance through the incorporation of mitigation measures agreed to by the project applicant. Therefore, a SUBSEQUENT MND is required.

☐ Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous environmental document due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects, or there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). However, only minor changes or additions or changes would be necessary to make the previous EIR adequate for the project in the changed situation. Therefore, a SUPPLEMENTAL EIR is required.

☐ Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous environmental document due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects, or there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, a SUBSEQUENT EIR is required.

Signature: 	Date: April 3, 2023
Printed Name: Edmelynne V. Hutter	For: City of Ontario

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A finding of "No New Impact/No Impact" means that the potential impact was fully analyzed and/or mitigated in the prior CEQA document and no new or different impacts will result from the proposed activity. A brief explanation is required for all answers except "No New Impact/No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No New Impact/No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No New Impact/No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. A finding of "New Mitigation is Required" means that the project may have a new potentially significant impact on the environment or a substantially more severe impact than analyzed in the previously approved or certified CEQA document and that new mitigation is required to address the impact.

3. A finding of "New Potentially Significant Impact" means that the project may have a new potentially significant impact on the environment or a substantially more severe impact than analyzed in the previously approved or certified CEQA document that cannot be mitigated to below a level of significance or be avoided.

4. A finding of "Reduced Impact" means that a previously infeasible mitigation measure is now available, or a previously infeasible alternative is now available that will reduce a significant impact identified in the previously prepared environmental document.

5. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

6. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a. Earlier Analyses Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis. Describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the proposed action.

    c. Infeasible Mitigation Measures. Since the previous EIR was certified or previous ND or MND was adopted, discuss any mitigation measures or alternatives previously found not to be feasible that would in fact be feasible or that are considerably different from those previously analyzed and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measures or alternatives.

    d. Changes in Circumstances. Since the previous EIR was certified or previous ND or MND was adopted, discuss any changes in the project, changes in circumstances under which the project is undertaken and/or "new information of substantial importance" that cause a change in conclusion regarding one or more effects discussed in the original document.

7. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

8. Supporting Information Sources. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

9. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

10. The explanation of each issue should identify:

a. the significance criteria or threshold, if any, used to evaluate each question;

b. differences between the proposed activity and the previously approved project described in the approved ND or MND or certified EIR; and

c. the previously approved mitigation measure identified, if any, to reduce the impact to less than significance.

Issues	*New Potentially Significant Impact*	*New Mitigation is Required*	*No New Impact / No Impact*	*Reduced Impact*
1. AESTHETICS. Except as provided in Public Resources Code section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?)	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
2. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government	☐	☐	☒	☐

Issues	*New Potentially Significant Impact*	*New Mitigation is Required*	*No New Impact / No Impact*	*Reduced Impact*
Code section 51104(g))?				
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐
3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐
4. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

Issues	*New Potentially Significant Impact*	*New Mitigation is Required*	*No New Impact / No Impact*	*Reduced Impact*
5. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐
6. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐
7. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
8. GREENHOUSE GAS EMISSIONS. Would the project:				

Issues	*New Potentially Significant Impact*	*New Mitigation is Required*	*No New Impact / No Impact*	*Reduced Impact*
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of greenhouse gases?	☐	☐	☒	☐
9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐
10. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) Substantially increase the rate or amount of	☐	☐	☒	☐

Issues	New Potentially Significant Impact	New Mitigation is Required	No New Impact / No Impact	Reduced Impact
surface runoff in a manner which would result in flooding on- or offsite;				
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐
11. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☒	☐
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
12. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐
13. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
14. POPULATION AND HOUSING. Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of road or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of	☐	☐	☒	☐

Issues	*New Potentially Significant Impact*	*New Mitigation is Required*	*No New Impact / No Impact*	*Reduced Impact*
replacement housing elsewhere?				
15. PUBLIC SERVICES. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☒	☐
16. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which have an adverse physical effect on the environment?	☐	☐	☒	☐
17. TRANSPORTATION. Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐
18. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code	☐	☐	☒	☐

Issues	*New Potentially Significant Impact*	*New Mitigation is Required*	*No New Impact / No Impact*	*Reduced Impact*
section 5020.1(k), or				
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐
19. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐
20. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐
21. MANDATORY FINDINGS OF SIGNIFICANCE. (State CEQA Guidelines section 15065(a).)				

Issues	*New Potentially Significant Impact*	*New Mitigation is Required*	*No New Impact / No Impact*	*Reduced Impact*
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☒	☐
c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current project, and the effects of probable future projects.)	☐	☐	☒	☐
d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

EXPLANATION OF ISSUES

1. AESTHETICS. Would the project:

a. Have a substantial adverse effect on a scenic vista?

Discussion of Effects: The Initial Study for this Project determined no significant impacts within the area of aesthetics. The Initial Study of the Countryside Specific Plan (Countryside SP) Certified EIR indicated the project site does not contain any scenic vistas nor is the site located within or adjacent to a State-designated scenic highway and partial views of the San Gabriel Mountains to the north would be maintained. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Initial Study to the Countryside SP EIR.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Certified EIR analyses are necessary.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway?

Discussion of Effects: The City of Ontario is served by three freeways: I-10, I-15, and SR-60. I-10 and SR-60 traverse the northern and central portion of the City, respectively, in an east to west direction. I-15 traverses the northeastern portion of the City in a north–south direction. These segments of I-10, I-15, and SR-60 have not been officially designated as scenic highways by the California Department of Transportation. As outlined in the Initial Study of the Countryside SP

Certified EIR the project site is not located within or adjacent to a State-designated scenic highway and has no historic buildings, or other scenic resources. Therefore, it will not result in adverse environmental impacts.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analyses are necessary.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?

Discussion of Effects: The Initial Study of the Countryside SP Certified EIR determined no significant impacts within the area of aesthetics. Development of the residential component of the project would be compatible with the existing residential subdivisions and would not degrade the existing visual character or quality of the site or surrounding areas. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Initial Study to the Countryside SP EIR.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analyses are necessary.

d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Discussion of Effects: The Initial Study for of the Countryside SP Certified EIR determined no significant impacts within the area of aesthetics. The proposed development will introduce new sources of light and glare through the construction of new homes, however they will be required to comply with the requirements of the Ontario Municipal Code and would not substantially affect day or nighttime views. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Initial Study to the Countryside SP EIR.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analyses are necessary.

2. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Discussion of Effects: The project site is Neighborhood 2 of the Countryside SP. As outlined in the Countryside SP Certified EIR, Neighborhood 2 encompasses 23.2 acres designated as Prime Farmland. The conversion of Prime Farmland to nonagricultural uses from implementation of the Countryside SP was evaluated in the Countryside SP Certified EIR as significant and unavoidable and there was no feasible mitigation identified. The City Council adopted a Statement of Overriding Considerations addressing the impact (City Council Resolution No. 2006-013).

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Discussion of Effects: As outlined in the Countryside SP Certified EIR, Neighborhood 2 is within Williamson Act properties, contract no. 72-384, which encompasses 23.2 acres. The applicant has not filed plans for immediate cancellation of the existing Williamson Act contracts, but a Notice of Nonrenewal will be filed for contract number 72-384, which comprises Neighborhood 2. Any cancellation would be performed in accordance with Government Code Section 51282, subdivision (a). The development of residential uses on property that is under Williamson Act contract would conflict with the Act and this conflict would be significant and unavoidable. The conflict between proposed residential development uses and the Williamson Act and cancellation of these contracts from implementation of the Countryside SP was evaluated in the Countryside SP Certified EIR as significant and unavoidable and there was no feasible mitigation identified. The City Council adopted a Statement of Overriding Considerations addressing the impact (City Council Resolution No. 2006-013).

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?

Discussion of Effects: At the time the Countryside SP EIR was prepared, impacts to forest land or timberland were not included in the CEQA Guidelines Appendix G checklist and therefore it did not identify any significant impacts related to forest or timberland. The Project would not result in the rezoning of forest land, timberland, or timberland zoned Timberland Production because such land use designations do not exist within the City of Ontario. Therefore, no impacts to forest or timberland are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analyses are necessary.

d. Result in the loss of forest land or conversion of forest land to non-forest use?

Discussion of Effects: At the time the Countryside SP EIR was prepared, impacts to forest land or timberland were not included in the CEQA Guidelines Appendix G checklist and therefore it did not identify any significant impacts related to forest or timberland. Per the Ontario Plan 2050 (TOP 2050) Certified SEIR, there is currently no land in the City of Ontario that qualifies as forest land as defined in Public Resources Code section 12220(g). Neither TOP nor the City's Zoning Code provide designations for forest land. Consequently, the proposed Project would not result in the loss or conversion of forest land.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analyses are necessary.

e. Involve other changes in the existing environment, which, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use or conversion of forest land to non-forest use?

Discussion of Effects: As previously discussed, the project site encompasses 23.2 acres designated as Prime Farmland. The conversion of Prime Farmland to nonagricultural uses from implementation of the Countryside SP was evaluated in the Countryside SP Certified EIR as significant and unavoidable and there was no feasible mitigation identified. Additionally, there is currently no land in the City of Ontario that qualifies as forest land as defined in Public Resources Code Section 12220(g). Neither TOP nor the City's Zoning Code provide designations for forest land. Consequently, to the extent that the proposed Project would result in changes to the existing environment, those changes would not impact forest land.

Mitigation Required: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analyses are necessary.

3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a. Conflict with or obstruct implementation of the applicable air quality plan?

Discussion of Effects: The subject site was previously analyzed in the TOP 2050 Certified SEIR. The project site's northern parcel is designated as Medium Density Residential (MDR) and the southern parcel is designated as Low Medium Density Residential (LMDR), in TOP 2050, which allows for a combined total of 217-484 dwelling units on the 23.2-acre site. As the proposed project includes 265 units, it is consistent with these TOP land use designations and the associated number of dwelling units, for which impacts were evaluated in the TOP 2050 Certified SEIR. As outlined in the TOP 2050 Certified SEIR, buildout of TOP 2050 would be consistent with the AQMP under the first criteria, however, air pollutant emissions associated with buildout of TOP 2050 would cumulatively contribute to the nonattainment designations in the South Coast Air Basin (SoCAB) and TOP 2050 would be inconsistent with the AQMP. Mitigation Measures from TOP that would reduce impacts associated with inconsistency with the South Coast AQMD that are applicable to the project and shall be implemented include:

Mitigation Measure 3-1: Prior to discretionary approval by the City of Ontario for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City of Ontario Planning Department for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the South Coast AQMD-adopted thresholds of significance [a technical assessment was prepared as part of the Countryside SP Certified EIR indicating peak construction activities would exceed SCAQMD thresholds], the City of Ontario building department shall require feasible mitigation measures to reduce air quality emissions. Potential measures shall be incorporated as conditions of approval for a project and may include:

- Require fugitive dust control measures that exceed South Coast Air Quality Management District's Rule 403, such as:
  - Requiring use of nontoxic soil stabilizers to reduce wind erosion.
  - Applying water every four hours to active soil disturbance activities.
  - Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 4 interim or higher exhaust emission limits.
- Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limiting nonessential idling of construction equipment to no more than five consecutive minutes.
- Using Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufacturers can be found on the South Coast Air Quality Management District's website at: http//www/aqmd.gov/prdas/brochures/Super-Copmliant_AIM.pdf.

These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Planning Department.

Mitigation Measure 3-2: The City of Ontario shall evaluate new development proposals within the City and require all developments to include access or linkages to alternative modes of transportation, such as transit stops, bike paths, and/or pedestrian paths (e.g., sidewalks).

Mitigation Measure AQ-1: Prior to discretionary approval by the City of Ontario for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City of Ontario Planning Department for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology for assessing air quality impacts. If operational-related criteria air pollutants are determined to have the potential to exceed the South Coast AQMD-adopted thresholds of significance [a technical assessment was prepared as part of the Countryside SP Certified EIR indicating daily operations would exceed SCAQMD thresholds], the City of Ontario Planning Department shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational

activities. Possible mitigation measures to reduce long-term emissions could include, but are not limited to the following:

- For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plug-in of the anticipated number of refrigerated trailers to reduce idling time and emissions.
- Applicants for manufacturing and light industrial uses shall consider energy storage and combined heat and power in appropriate applications to optimize renewable energy generation systems and avoid peak energy use.
- Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with California Air Resources Board Rule 2845 (13 CCR Chapter 10 section 2485).
- Provide changing/shower facilities as specified in Section A5.106.4.3 of CALGreen (Nonresidential Voluntary Measures).
- Provide bicycle parking facilities per Section A4.106.9 of CALGreen (Residential Voluntary Measures).
- Provide preferential parking spaces for low-emitting, fuel-efficient, and carpool/van vehicles per Section A5.106.5.1 of the CALGreen (Nonresidential Voluntary Measures).
- Provide facilities to support electric charging stations per Section A5.106.5.3 and A5.106.5.2 of the CALGreen (Nonresidential Voluntary Measures; Residential Voluntary Measures).
- Applicant-provided appliances shall be Energy Star-certified appliances or appliances of equivalent energy efficiency (e.g., dishwashers, refrigerators, closes washers and dryers). Installation of Energy Star-certified or equivalent appliances shall be verified by the City during plan check.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analyses are necessary.

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Discussion of Effects: The subject site was previously analyzed in the TOP 2050 Certified SEIR. The project site's northern parcel is designated as Medium Density Residential (MDR) and the southern parcel is designated as Low Medium Density Residential (LMDR), in TOP 2050, which allows for a combined total of 217-484 dwelling units on the 23.2-acre site. As the proposed project includes 265 units, it is consistent with these TOP land use designations and the associated number of dwelling units, for which impacts were evaluated in the TOP 2050 Certified SEIR. As outlined in the TOP 2050 Certified SEIR, buildout of TOP 2050 would generate short-term emissions that would exceed South Coast AQMD's regional significance thresholds and cumulatively contribute to the nonattainment designations of the SoCAB and would be significant and unavoidable. TOP 2025 Mitigation Measures 3-2 and AQ-1 [above] would reduce air pollutant emissions to the extent feasible.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR

analyses are necessary.

c. Expose sensitive receptors to substantial pollutant concentrations?

Discussion of Effects: The Countryside SP Certified EIR determined toxic or carcinogenic air pollutants are not expected to occur in any meaningful amounts in conjunction with operation of the proposed land uses within the project site and no mitigation is required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analyses are necessary.

d. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?

Discussion of Effects: The Initial Study for of the Countryside SP Certified EIR determined no impacts as the project does not propose and would not facilitate uses that are significant sources of objectionable odors. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Initial Study to the Countryside SP Certified EIR.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analyses are necessary.

4. BIOLOGICAL RESOURCES. Would the project:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Discussion of Effects: The subject site was previously analyzed in the Countryside SP Certified EIR and categorized as entirely denuded/developed land with intensive disturbance resulting from a variety of land uses associated with the project site including row crops, residential and commercial activities and roads. According to the Countryside SP Certified EIR, no special-status botanical species were present nor any suitable habitat that would support them. No threatened or endangered species have been reported to occur within the project site, however some sensitive species such as loggerhead shrike (*Lanius ludovicianus*) and burrowing owl (*Athene cunicularia*), as well as migratory avian species and raptors, which may use portions of the site and adjacent areas during the breeding season are protected under the Migratory Bird Treaty Act (MBTA.) The loss of a special-status avian species, an occupied nest, or substantial interference with roosting and foraging opportunities for migratory Species of Special Concern or raptors as a result of construction or demolition activities, would constitute a potentially significant impact. However, this impact would be reduced to a less than significant level with implementation of Mitigation Measures BIO-1(a)-SP and BIO-4-SP, that are applicable to the project. A project-specific Delhi Sands Flower-Loving Fly (DSF) Habitat Suitability Assessment was prepared by ELMT Consulting, Inc. in December 2022. As outlined in this report, the project site is mapped by the US

Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) as sporting Delhi fine sand soils in a band running north to south on the western and eastern boundary of the project site with the middle of the site supporting Hilmar loamy fine sand. However, since the project site has been continuously farmed for several decades with a variety of crops and disked between rotation of crops with the disking across the band of Delhi Sand soils at a 90-degree angle, the band of Delhi Sand soils that may have historically been present on the site has been thoroughly integrated into the larger areas of clay soils found on the site. Due to these historic and ongoing land uses, no undisturbed native plant community exist on the site. Due to the long-standing regime of crop rotation and disking, the small bands of Delhi Sand soils that was mapped as historically occurring on the site, has been thoroughly mixed with the clay soils and clean Delhi Sands are no longer present. The site is considered unsuitable habitat for DSF. Therefore, no adverse impacts to special status species are anticipated.

Mitigation Measure BIO-1(a)-SP: To ensure that avian Species of Concern, protected migratory species (e.g., Migratory Bird Treaty Act), or raptor species are not injured or disturbed by construction in the vicinity of nesting habitat, the project applicant shall implement the following measures:

- When feasible, all tree removal shall occur between August 30 and February 15 to avoid the breeding season of any raptor species that could be using the area, and to discourage hawks from nesting in the vicinity of an upcoming construction area. This period may be modified with the authorization of the California Department of Fish and Game (CDFG) [now California Department of Fish and Wildlife, CDFW]; or if it is not feasible to remove trees outside this window then, prior to the beginning of mass grading, including grading for major infrastructure improvements, during the period between February 15 and August 30, all trees and potential burrowing owl habitat within 250 feet of any grading or earthmoving activities shall be surveyed for active raptor nests or burrows by a qualified biologist no more than 30 days prior to disturbance. If active raptor nests or burrows are found, and the site is within 250 feet of potential construction activity, a fence shall be erected around the tree or burrow(s) at a distance of up to 250 feet, depending on the species, from the edge of the canopy to prevent construction disturbance and intrusions on the nest area. The appropriate buffer shall be determined by the City in consultation with CDFG [now CDFW].
- No construction vehicles shall be permitted within restricted areas (i.e., raptor protection zones), unless directly related to the management or protection of legally protected species.
- In the event that a nest is abandoned, despite efforts to minimize disturbance, and if the nestlings are still alive, the developer shall contact CDFG [CDFW] and, subject to CDFG [CDFW] approval fund the recovery and hacking (controlled release of captive reared young) of the nestling(s).
- If legally protected species nest is located in a tree designated for removal, the removal shall be deferred until after August 30, or until the adults and young of the year are no longer dependent on the nest site as determined by a qualified biologist.

Mitigation Measure BIO-2(a)-SP: Prior to any groundbreaking within the Specific Plan Area, mitigation fees shall be paid to a land conservancy selected to oversee habitat land acquisition in accordance with the settlement agreement between the City, Sierra Club, and Endangered Habitat League.

Mitigation Measure BIO-4-SP: The project applicant, in consultation with the California

Department of Fish and Game (CDFG) [now CDFW], shall conduct a pre-construction survey within the phases of the project site that are scheduled for construction activities. The survey shall be conducted by a qualified biologist to determine if western burrowing owls are occupying the project site. The survey shall be conducted no more than three weeks prior to grading of the project site.

If the above survey does not identify burrowing owls on the project site, then no further mitigation would be required. However, should western burrowing owls be found on the project site, the following measures shall be required:

The applicant shall avoid all potential western burrowing owl burrows that may be disturbed by project construction during the breeding season between February 15 and August 30 (the period when nest burrows are typically occupied by adults with eggs or young). Avoidance shall include the establishment of a 300-foot diameter non-disturbance buffer zone around any occupied burrows. The buffer zone shall only occur outside of the breeding season (September 1 through February 14).

Based on approval by the CDFG [CDFW], preconstruction and non-breeding season exclusion measures may be implemented to preclude burrowing owl occupation of the project site prior to project-related disturbance, such as grading). Burrowing owls may be passively excluded from burrows in the construction area by placing one-way doors in the burrows according to current CDFG [CDFW] protocol. The one-way doors must be in place for a minimum of three days. All burrows that may be occupied by burrowing owls, regardless of whether they exhibit signs of occupation, must be cleared. Burrows that have been cleared through the use of one-way doors shall then be closed or backfilled to prevent owls from entering the burrow. The one-way doors shall not be used more than two weeks before construction to ensure that owls do not re-colonize the area of construction.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analyses are necessary.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Discussion of Effects: The project site was previously analyzed in the Countryside SP Certified EIR and does not contain any riparian habitat or other sensitive natural community identified by the California Department of Fish & Game [CDFW] or U.S. Fish & Wildlife Service. Therefore, no adverse environmental impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Certified Countryside SP EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Discussion of Effects: The project site was previously analyzed in the Countryside SP Certified EIR and no wetland habitat is present. Therefore, project implementation would have no impact on these resources.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Discussion of Effects: The project site was previously analyzed in the Countryside SP Certified EIR and contains row crops and a nursery property that are bounded on all four sides by development. As a result, there are no wildlife corridors connecting this site to other areas. Therefore, no adverse environmental impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Discussion of Effects: The project site was previously analyzed in the Countryside SP Certified EIR which concluded that the implementation of the Specific Plan, in accordance with the mitigation measures contained within the Countryside SP EIR, would ensure that the proposed project would be in substantial conformance with the local applicable policies protecting biological resources. The applicable mitigation measures from the Countryside SP Certified EIR for the proposed project site are outlined above and with implementation, no adverse environmental impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

f. Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan?

Discussion of Effects: The project site was previously analyzed in the Countryside SP Certified EIR and as outlined in the Initial Study, the project site is not located within an adopted HCP, NCCP or other approved habitat conservation plan. The project site is not located within the DSF HCP, a 19-acre area near the intersection of Greystone Drive and the eastern City boundary. As a result, no adverse environmental impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and

addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

5. CULTURAL RESOURCES. Would the project:

a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Discussion of Effects: The project site was previously analyzed in the Countryside SP Certified EIR and no historic or potentially historic resources were identified within the project site, as part of the Barth Farms property. Per the Cultural Resources Assessment (BCR Consulting, LLC., December 2022) of the project site, no cultural resources of any kind (including historic-period or prehistoric archaeological resources, or historic-period architectural resources) were identified. Therefore, no significant impact related to historical resources is anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Discussion of Effects: Per the Countryside SP Certified EIR, although an intensive pedestrian field survey was not conducted for Neighborhood 2 of the project site, the entire SP area has been subject to substantial disturbance over lengthy periods of time, as a result of livestock movement, livestock waste collection and disposal, agriculture, and other development that would have displaced potential surface and subsurface archaeological resources. Therefore, potential impacts to archaeological resources are not anticipated. Per the Cultural Resources Assessment (BCR Consulting, LLC., December 2022) an intensive pedestrian field survey of the project site was conducted and no cultural resources of any kind (including historic-period or prehistoric archaeological resources, or historic-period architectural resources) were identified. Therefore, no significant impact related to archaeological resources are anticipated. Per the Countryside SP Certified EIR, despite the lack of documented resources in the vicinity, the possibility of discovering archaeological remains during excavation for future projects within the Specific Plan area cannot be completely discounted. No provisions exist for the recovery of previously unknown archaeological resources as a result of ground-disturbing activities associated with site preparation and construction and therefore mitigation measures CUL-2 (a-c)-SP are applicable to the project and would reduce impacts to unknown archaeological resources to a less than significant level.

Mitigation Measure CUL-2(a)-SP: Prior to site preparation or grading activities, construction personnel shall be informed of the potential for encountering unique archaeological resources. This shall include the provision of written materials to familiarize personnel with the range of resources that might be expected, the type of activities that may result in impacts, and the legal framework of cultural resources protection. All construction personnel shall be instructed to stop work in the vicinity of a potential discovery until a qualified archaeologist assess the significance of the find and implements appropriate measures to protect or scientifically remove the find. Construction personnel shall also be informed that unauthorized collection of archaeological resources is prohibited.

Mitigation Measure CUL-2(b)-SP: Prior to site preparation and grading activities, the

applicant shall retain a qualified (SOPA certified) archaeologist to monitor earth-disturbing activities. The frequency of monitoring shall occur at the discretion of the archaeologist, based upon site condition or other relevant factors. The archaeologist shall also be available on-call to assess any potential resources that may be exposed or discovered when the archaeologist is not present.

Mitigation Measure CUL-2(c)-SP: For any potential archaeological resource uncovered during construction, a qualified archaeologist shall first determine whether it is a "unique archaeological resource" under Public Resources Code Section 21083.2(g). If the archaeological resource is determined to be a "unique archaeological resource," the archaeologist shall formulate a mitigation plan in consultation with the campus that satisfies the requirements of Section 21083.2 of CEQA. If the archaeologist determines that the archaeological resources is not a unique archaeological resource, the archaeologist may record the site and submit the recordation form to the California Historic Resources Information System South Central Coastal Information Center. The archaeologist shall prepare a report of the results of any study prepared as part of a mitigation plan, following accepted professional practice. Copies of the report shall be submitted to the University and to the California Historic Resources Information System San Bernardino Archaeological Information Center.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

c. Disturb any human remains, including those interred outside of dedicated cemeteries?

Discussion of Effects: Per the Countryside SP Certified EIR, no archaeological materials, including human burials, have been discovered in the Countryside Specific Plan Area. However, archaeological contexts are known in the general New Model Colony (Ontario Ranch) area, and the potential still exists for such resources to be present in the Countryside Specific Plan Area. Excavation during project related construction activities would have the potential to disturb unknown/undiscovered human remains. Human burials, in addition to being potential archaeological resources, have specific provisions for treatment in Section 5097 of the California Public Resources Code (P.R.C). Disturbing human remains could violate the health code, as well as destroy the resource, which would result in a potentially significant impact. As such, mitigation measure MM CUL-4-SP is proposed to reduce this impact to a less-than-significant level.

Mitigation Measure CUL-4-SP: In the event of the discovery of a burial, human bone, or suspected human bone, all excavation or grading in the vicinity of the find shall halt immediately, the area of the find shall be protected, and the University immediately shall notify the San Bernardino County Coroner of the find and comply with the provisions of P.R.C. Section 5097 with respect to Native American involvement, burial treatment, and re-burial, if necessary.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

6. ENERGY. Would the project:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Discussion of Effects: At the time the Countryside SP Certified EIR was prepared, impacts related to wasteful, inefficient, or unnecessary consumption of energy resources was not included in the CEQA Guidelines Appendix G checklist and therefore it did not identify any significant impacts related to wasteful, inefficient, or unnecessary consumption of energy. The subject site was previously analyzed in the TOP 2050 Certified SEIR. The TOP 2050 designates the project site's northern parcel as Medium Density Residential (MDR) and the southern parcel is designated as Low Medium Density Residential (LMDR), which allows for a combined total of 217-484 dwelling units on the 23.2-acre site. As the proposed project includes 265 units, it is consistent with these TOP land use designations and the associated number of dwelling units, for which impacts were evaluated in the TOP 2050 Certified SEIR. As outlined in the TOP 2050 Certified SEIR, regulatory compliance (e.g., Building Energy Efficiency Standards, CALGreen, Renewable Portfolio standard (RPS), and Corporate Average Fuel Economy (CAFE) standards) will increase building energy efficiency and vehicle fuel efficiency and reduce building energy demand and transportation-related fuel usage. Additionally, the TOP 2050 includes policies related to land use and transportation planning and design, energy efficiency, public and active transit, and renewable energy generation that will contribute to minimizing building and transportation-related energy demands overall and demands on nonrenewable sources of energy. Implementation of the policies in TOP 2050 and Community Climate Action Plan (CCAP) policies, in conjunction with regulatory requirements would endure that energy demand associated with growth under TOP 2050 would not be inefficient, wasteful, or unnecessary. As no significant energy impacts were identified, no mitigation measures are warranted.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analyses are necessary.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Discussion of Effects: At the time the Countryside SP Certified EIR was prepared, impacts related to wasteful, inefficient, or unnecessary consumption of energy resources was not included in the CEQA Guidelines Appendix G checklist and therefore it did not identify any significant impacts related to wasteful, inefficient, or unnecessary consumption of energy. The subject site was previously analyzed in the TOP 2050 Certified SEIR. The project site's northern parcel is designated as Medium Density Residential (MDR) and the southern parcel is designated as Low Medium Density Residential (LMDR), in TOP 2050, which allows for a combined total of 217-484 dwelling units on the 23.2-acre site. As the proposed project includes 265 units, it is consistent with these TOP land use designations and the associated number of dwelling units, for which impacts were evaluated in the TOP 2050 Certified SEIR. As outlined in the TOP 2050 Certified SEIR, the state's electricity grid is transitioning to renewable energy under California's RPS Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as Southern California Edison (SCE), whose compliance with RPS requirements would contribute to the State of California objective of transitioning to renewable energy. The land uses in the TOP 2050 would comply with the current and future iterations of the Building Energy Efficiency Standards and CALGreen. Furthermore, TOP 2050 includes Environmental Resources Element policies (AR3-1, ER3-2, ER3-3, ER3-4, ER3-5 and ER3-6) and Safety Element policies (S9-1, S9-2, and S9-3) which would support the statewide goal of transitioning the electricity grid to renewable sources and employ best practices regarding energy-saving

standards. The TOP 2050 would not conflict with or obstruct implementation of California's RPS program.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analyses are necessary.

7. GEOLOGY & SOILS. Would the project:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Discussion of Effects: Per the Countryside SP Certified EIR, the project site is located outside the Fault Rupture Hazard Zone (formerly Alquist-Priolo zone) and is approximately 6 miles from the nearest fault line, the Chino-Central Avenue Fault. The project site, however, is in a seismically active region and seismic hazards must be taken into account in the design and construction of the residential structures proposed in the SP. As determined by the Preliminary Geotechnical Evaluation (LGC Geotechnical, Inc., April 2022) for this Project, the subject site is not located within an Alquist-Priolo Earthquake Fault Zone and no faults were identified on the site during the site evaluation. The possibility of damage due to ground rupture is considered low since no active faults are known to cross the site. The Countryside SP Certified EIR concluded that implementation of mitigation measures MM G-1 and MM GEO-1-SP would reduce impacts from seismic hazards to less than significant levels. Mitigation measures MM G-1 and MM GEO-1-SP that are applicable to the project and shall be implemented include:

> Mitigation Measure G-1: The City shall develop (pull together from existing materials) a Grading and Geotechnical Investigation Standards manual which will be available to developers and consultants in order to ensure the minimum proper soils engineering and engineering geologic study for all sites where grading will occur. Together these standards and policies should effectively mandate proper studies before development approval, in which grading, foundations, and slope stability would be analyzed and any potential hazards identified. Mitigation of the potential hazards would occur through the proper application of recommendations arising from these studies. Topics shall include but not necessarily be limited to soils engineering and foundations, slope stability, erosion, liquefaction/dynamic settlement, shallow groundwater, and fault location/ activity. This manual shall be available at the permit stage prior to initial feasibility and design studies in order to enhance (streamline) the development review and environmental review processes.
>
> Mitigation Measure GEO-1-SP: A final design geotechnical report shall be prepared for the proposed development to provide structure-specific geotechnical recommendations. The final report shall address all issues initially covered int eh Preliminary Geotechnical Report. Final recommendations on earthwork, spread footings with slabs-on-grade, reinforced mat foundations, post-tensioned mats, friction piles, cathedral retaining (basement) walls, and measures to address soil corrosion shall be identified. The final report shall specify foundation recommendations to ensure issues associated with underlying soils are

addressed. Construction of the project shall comply with all recommendations in the final geotechnical report.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Certified Countryside SP EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

ii. Strong seismic ground shaking?

Discussion of Effects: As determined by the Preliminary Geotechnical Evaluation (LGC Geotechnical, Inc., April 2022) for this Project, no faults were identified on the site during the site evaluation. The possibility of damage due to ground rupture is considered low since no active faults are known to cross the site. The main seismic hazard that may affect the site is ground shaking from one of the active regional faults. The subject site will likely experience strong seismic ground shaking during its design life. The Countryside SP Certified EIR concluded that implementation of mitigation measures MM G-1 and MM GEO-1-SP would reduce impacts from seismic hazards to less than significant levels.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

iii. Seismic-related ground failure, including liquefaction?

Discussion of Effects: As identified in the Countryside SP Certified EIR, groundwater saturation of sediments is required for earthquake induced liquefaction. In general, groundwater depths shallower than 50 feet to the surface can cause the highest liquefaction susceptibility. The risk of liquefaction in the immediate project area is low due to a depth to groundwater of greater than 100 feet below ground (fbg). Therefore, the liquefaction potential within the project area is minimal. Implementation of The Ontario Plan strategies, Uniform Building Code and Ontario Municipal Code would reduce impacts to a less than significant level.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Certified Countryside SP Certified EIR analysis is necessary.

iv. Landslides?

Discussion of Effects: Per the Preliminary Geotechnical Evaluation (LGC Geotechnical, Inc., April 2022), regional geologic mapping and local topographic expressions do not indicate the presence of large-scale landslides within or adjacent to the project area. Therefore, the project would not expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving landslides due to the relatively flat topography of the project site making the chance of landslides remote. Implementation of The Ontario Plan strategies, Uniform Building Code and Ontario Municipal Code would reduce impacts to a less than significant level.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP

Certified EIR analysis is necessary.

b. Result in substantial soil erosion or the loss of topsoil?

Discussion of Effects: Soil erosion and loss of topsoil has been previously analyzed by the Countryside SP Certified EIR and found to be less than significant. All construction activity for this Project will comply with Chapter 29 of the CBC, which regulates excavation activities and construction of foundations and retaining walls, as well as Chapter 70 of the CBC, which regulates grading activities, including drainage and erosion control. Compliance with City permit and CBC requirements would minimize effects from erosion. The proposed project would also be implemented in accordance with SOI GPA Policies 21.2.1, 22.1.3 and 22.1.6 (SOI GPA EIR MM G-1). The noted policies and MM G-1 both address erosion impacts through investigation, monitoring, and mitigation, and are designed to reduce potentially substantial adverse effects resulting from soil erosion during all phases of project development, implementation, and operation. In addition, project-specific measures MM GEO-2(a)-SP, MM GEO-2(b)-SP, and MM GEO-2(c)-SP from the Countryside SP Certified EIR are applicable and shall be implemented to ensure that specific construction-related erosion risks are further reduced.

> Mitigation Measure GEO-2(a)-SP: Erosion control shall be employed and maintained on all vacant areas of the project site that have been graded.
>
> Mitigation Measure GEO-2(b)-SP: The project applicant shall submit a Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) for coverage under the Statewide General Construction Activity Stormwater Permit and shall comply with all applicable requirements, including the preparation of a Stormwater Pollution Prevention Plan (SWPPP). A copy of the NOI shall be submitted to the City prior to issuance of a grading permit.
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> Mitigation Measure GEO-2(c)-SP: An erosion control plan shall be reviewed and approved by the City of Ontario prior to issuance of grading permits.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Discussion of Effects: As outlined in the Countryside SP Certified EIR, slope instability is not expected to pose constraints on development because the SP area is relatively flat. The Project will not create greater landslide potential impacts than were identified in the Countryside SP Certified EIR. In addition, the Project would not result in the location of development on a geologic unit or soil that is unstable, or that would become unstable because as previously discussed, the potential for liquefaction and landslides associated with the project is less than significant. The Preliminary Geotechnical Evaluation (LGC Geotechnical, Inc., April 2022) also concludes project site soils are not generally susceptible to liquefaction due to the lack of groundwater in the upper 50 feet, isolated dry sand settlement is estimated to be 1-inch or less, and site soils are anticipated to have very low expansion potential. The Preliminary Geotechnical Evaluation indicates that the recommendations contained therein are considered preliminary and should be confirmed upon

completion of grading and earthwork operations. With implementation of The Ontario Plan strategies, Uniform Building Code, Ontario Municipal Code, and Mitigation Measure GEO-1-SP would reduce impacts to a less than significant level.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Discussion of Effects: According to the Countryside SP Certified EIR, the majority of Ontario, including the project site, is located on alluvial and eolian soil deposits. These types of soils are not considered to be expansive. The Preliminary Geotechnical Evaluation (LGC Geotechnical, Inc., April 2022) also concludes project site soils are anticipated to have very low expansion potential. With implementation of The Ontario Plan strategies, Uniform Building Code, Ontario Municipal Code, and Mitigation Measure GEO-1-SP would reduce impacts to a less than significant level.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Discussion of Effects: Per the Countryside SP Certified EIR, the area is served by the local sewer system and the use of septic tanks or alternative waste disposal systems is not proposed. There will be no impact to the sewage system. There would be no impact related to having soils incapable of inadequately supporting septic tanks or alternative waste disposal systems.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Discussion of Effects: Per the Countryside SP Certified EIR, potential disturbance or damage to undocumented archaeological resources, undocumented paleontological resources, or human remains could occur and would be reduced to less than significant levels through implementation of Mitigation Measure MM CUL-3(c)-SP.

Mitigation Measure CUL-3(c)-SP: For any potential paleontological resource uncovered during construction, a qualified paleontologist shall first determine whether it is a "unique resource". If the paleontological resource is determined to be a "unique resource," the paleontologist shall formulate a mitigation plan in consultation with the City that satisfies the requirements off the Conformable Mitigation Guidelines of the Society of Vertebrate Paleontology (News Bulletin Number 163, January 1995). If the paleontologist determines

that the paleontological resource is not a unique resource, the paleontologist may record the site and submit the recordation form to the Natural History Museum of San Bernardino County. The paleontologist shall prepare a report of the results of any study prepared as part of a mitigation plan, following accepted professional practice. Copies of the report shall be submitted to the City of Ontario and to the Natural History Museum of San Bernardino County.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

8. GREENHOUSE GAS EMISSIONS. Would the project:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Discussion of Effects: The subject site was previously analyzed in the TOP 2050 Certified SEIR. The project site's northern parcel is designated as Medium Density Residential (MDR) and the southern parcel is designated as Low Medium Density Residential (LMDR), in TOP 2050, which allows for a combined total of 217-484 dwelling units on the 23.2-acre site. As the proposed project includes 265 units, it is consistent with these TOP land use designations and the associated number of dwelling units, for which impacts were evaluated in the TOP 2050 Certified SEIR. As outlined in the TOP 2050 Certified SEIR, the Greenhouse Gas (GHG) evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG impacts are likely to occur from future development accommodated by TOP 2050. With implementation of the CCAP, the city would achieve the Executive Order (EO) S-03-05 GHG emissions reduction targets, resulting in an 80 percent decrease in GHG emissions in the city by 2050 from existing conditions, and would make substantial progress toward the State's carbon neutrality goals under EO B-55-18. The TOP 2050, which includes the CCAP, would reduce GHG emissions impacts compared to the TOP 2010, and impacts would be less than significant.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analyses are necessary.

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Discussion of Effects: The subject site was previously analyzed in the TOP 2050 Certified SEIR. The project site's northern parcel is designated as Medium Density Residential (MDR) and the southern parcel is designated as Low Medium Density Residential (LMDR), in TOP 2050, which allows for a combined total of 217-484 dwelling units on the 23.2-acre site. As the proposed project includes 265 units, it is consistent with these TOP land use designations and the associated number of dwelling units, for which impacts were evaluated in the TOP 2050 Certified SEIR. As outlined in the TOP 2050 Certified SEIR, future development under the TOP 2050 would be consistent with applicable plans adopted for the purpose of reducing GHG emissions, including California Air Resources Board's (CARB) Scoping Plan and Southern California Association of Governments (SCAG) Connect SoCal. Implementation of TOP 2050 would not obstruct implementation of the CARB Scoping Plan or interfere with SCAG's ability to implement the regional strategies in Connect SoCal and impacts are less than significant.

Mitigation Required: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analyses are necessary.

9. HAZARDS & HAZARDOUS MATERIALS. Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

Discussion of Effects: Per the Countryside SP Certified EIR, due to the current and historic uses of the site, including extensive dairy and agricultural operations, the potential exists for hazardous materials to be encountered over the entirety of the site. Specific Plan build out would result in grading of approximately 178 acres of land and demolition of various existing structures. Disturbance of soils and demolition of structures could result in the exposure of construction workers, residential occupants, or parkland/paseo users to health or safety risks if contaminated structures, soils, and/ or groundwater are encountered during construction or maintenance. Exposure to contaminated structures, soil, or groundwater could occur from any of the following: 1) asbestos-containing materials and lead-based paints in on-site structures, pipes, etc.; 2) pesticides/herbicides in the soil; 3) chlorinated solvent plume in the groundwater beneath the site; 4) soil contamination from polychlorinated biphenyl (PCB) in areas with transformers; 5) petroleum hydrocarbon (TPH)-contaminated areas of soil adjacent to above-ground storage tanks (ASTs) on the site; or 6) unknown contaminants not previously identified. The Countryside SP Certified EIR included Mitigation Measure MM HM-1, that requires completion of a Phase I Environmental Site Assessment (ESA) for all areas on-site to screen the site for further contamination potential. A Phase I ESA and Shallow Soil Sampling (Stantec, December 2022) was conducted for the proposed project site (Neighborhood 2) in compliance with Mitigation Measure MM HM-1. As the site was used for agriculture, application of pesticide and herbicide was anticipated and the potential for accumulation of organochloride pesticide (OCPs) and heavy metals (lead and arsenic) that are common with herbicide application in shallow soils. A shallow soils assessment indicated all OCPs, lead, and arsenic that were detected were below all applicable screening levels. The project site also has empty fuel tanks, waste oil drums, and an approximately 500-gallon diesel fuel storage tank. A shallow soil sampling was conducted to evaluate the potential release to the subsurface in these areas. There were no detections of TPH or volatile organic compounds (VOCs). Therefore, OCPs, arsenic, lead, TPH and VOCs are not considered a concern at the site and no further investigation or need for remediation is necessary. The proposed Project would not result in the routine handling, use, or disposal of hazardous materials, with the limited exception of standard household cleaning products inside residences, chlorine and filters used in pools, and the limited application of pesticides associated with residential landscaping and maintenance practices. As outlined in the Countryside SP Certified EIR, the standard conditions of approval for the City of Ontario include compliance with all applicable federal, State, and local regulations pertaining to the handling, storing, applying, and disposing of all pest control, herbicide, insecticide, and other similar substances as well as compliance by the applicant to certify that all deleterious materials, particularly organic residue from dairy, farming, or agricultural activity, have been removed, properly disposed of, and will not impact the development during the project's life. Further in the event of a disaster or an incident requiring complex coordination, pre-selected and trained hazardous materials personnel, in conjunction with City and County firefighters, would respond to any hazardous materials incident or illegal hazardous waste disposal complaint. Therefore, no significant long-term operational emissions hazard to the public, including any nearby school, or the environment is anticipated through the routine transport, use, or disposal of hazardous materials associated with the operation of residential development.

Mitigation: This impact would be less than significant per the Countryside SP Certified EIR and Phase I ESA and Shallow Soil Sampling (Stantec, December 2022) and no additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Discussion of Effects: The proposed Project does not include the use of hazardous materials or volatile fuels. In addition, there are no known stationary commercial or industrial land uses within close proximity to the subject site, which use/store hazardous materials to the extent that they would pose a significant hazard to visitors/occupants to the subject site, in the event of an upset condition resulting in the release of a hazardous material. As outlined above under threshold 9.a. above, per the Countryside SP Certified EIR, Specific Plan build out would result in grading of approximately 178 acres of land and demolition of various existing structures. Disturbance of soils and demolition of structures could result in the exposure of construction workers, residential occupants, or parkland/paseo users to health or safety risks if contaminated structures, soils, and/ or groundwater are encountered during construction or maintenance. The Countryside SP Certified EIR included Mitigation Measure MM HM-1, that requires completion of a Phase I ESA for all areas on-site to screen the site for further contamination potential. A Phase I ESA and Shallow Soil Sampling (Stantec, December 2022) was conducted for the proposed project site (Neighborhood 2) in compliance with Mitigation Measure MM HM-1 and confirmed that all OCPs, lead, and arsenic that were detected were below all applicable screening levels and there were no detections of TPH or VOCs. Therefore, OCPs, arsenic, lead, TPH and VOCs are not considered a concern at the site and no further investigation or need for remediation is necessary. The proposed Project would not result in the routine handling, use, or disposal of hazardous materials, with the limited exception of standard household cleaning products inside residences, chlorine and filters used in pools, and the limited application of pesticides associated with residential landscaping and maintenance practices. As outlined in the Countryside SP Certified EIR, the standard conditions of approval for the City of Ontario include compliance with all applicable federal, State, and local regulations pertaining to the handling, storing, applying, and disposing of all pest control, herbicide, insecticide, and other similar substances as well as compliance by the applicant to certify that all deleterious materials, particularly organic residue from dairy, farming, or agricultural activity, have been removed, properly disposed of, and will not impact the development during the project's life. Further in the event of a disaster or an incident requiring complex coordination, pre-selected and trained hazardous materials personnel, in conjunction with City and County firefighters, would respond to any hazardous materials incident or illegal hazardous waste disposal complaint. Therefore, no significant long-term operational emissions hazard to the public, including any nearby school, or the environment is anticipated through the routine transport, use, or disposal of hazardous materials associated with the operation of residential development.

Mitigation: This impact would be less than significant per the Countryside SP Certified EIR and Phase I ESA and Shallow Soil Sampling (Stantec, December 2022) and no additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances,

or waste within one-quarter mile of an existing or proposed school?

Discussion of Effects: Per the Countryside SP Certified EIR, the SP area is located within one-quarter mile of Ranch View Elementary School, which is located directly southeast of the proposed project site at 3300 Old Archibald Ranch Road. Construction and operation of the proposed project would develop residential units in a planned community and would not include the processing or storage any acutely hazardous materials. A Phase I ESA and Shallow Soil Sampling (Stantec, December 2022) was conducted for the proposed project site (Neighborhood 2) and concluded there are no contaminated soils or otherwise hazardous materials. As outlined in the Countryside SP Certified EIR, the standard conditions of approval for the City of Ontario include compliance with all applicable federal, State, and local regulations pertaining to the handling, storing, applying, and disposing of all pest control, herbicide, insecticide, and other similar substances as well as compliance by the applicant to certify that all deleterious materials, particularly organic residue from dairy, farming, or agricultural activity, have been removed, properly disposed of, and will not impact the development during the project's life. Further in the event of a disaster or an incident requiring complex coordination, pre-selected and trained hazardous materials personnel, in conjunction with City and County firefighters, would respond to any hazardous materials incident or illegal hazardous waste disposal complaint. Therefore, no significant long-term operational emissions hazard to the public, including any nearby school, or the environment is anticipated with the operation of residential development. As such, the proposed project would have less than significant impacts on the adjacent school.

Mitigation: This impact would be less than significant per the Countryside SP Certified EIR and Phase I ESA and Shallow Soil Sampling (Stantec, December 2022) and no additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Discussion of Effects: Per the California Environmental Protection Agency (Cal EPA) website calepa.ca.gov/sitecleanup/corteselist/ the following data resources provide information regarding facilities or sites identified as meeting the "Cortese List" requirements: List of Hazardous Waste and Substances sites from the California Department of Toxic Substances Control (DTSC) EnviroStor database, list of leaking underground storage tank sites from the State Water Board's GeoTracker database, list of solid waste disposal sites identified by the Water Board with waste constituents above hazardous waste levels outside the waste management unit, list of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) from the list from the State Water Board, and list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code identified by DTSC. Per the Phase I ESA and Shallow Soil Sampling (Stantec, December 2022), Neighborhood 2, the proposed project site, is not listed on the hazardous materials site compiled pursuant to Government Code Section 65962.5. Therefore, the project would not create a hazard to the public or the environment and no impact is anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

e. For a project located within the safety zone of the airport land use compatibility plan for ONT or Chino Airports, would the project result in a safety hazard for people residing or working in the project area?

Discussion of Effects: As outlined in the Initial Study of the Countryside SP Certified EIR, the southern boundary of the SP area is approximately 2.5 miles northwest of the Chino Airport. In addition, the SP area is not located within 2 miles of the Ontario International Airport. Therefore, the project would not result in a safety hazard for people residing or working in a safety zone of an airport land use compatibility plan.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Discussion of Effects: The closest airports and/or airstrips to the project site are the Chino Airport and the Ontario International Airport, there are no other airports or private airstrips in the vicinity of the project site. Therefore, the project would not result in a safety hazard for people residing or working in the vicinity of a private airstrip.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Discussion of Effects: The City's Safety Element, as contained within TOP 2050, includes policies and procedures to be administered in the event of a disaster. TOP seeks interdepartmental and inter-jurisdictional coordination and collaboration to be prepared for, respond to and recover from every day and disaster emergencies. In addition, the project will comply with the requirements of the Ontario Fire Department and all City requirements for fire and other emergency access. Because the project is required to comply with all applicable City codes, any impacts would be reduced to a less than significant level.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analyses are necessary.

h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Discussion of Effects: According to the Countryside SP Certified EIR, additional development of the projects area could increase exposure of people and structures to a risk of loss, injury, or death involving wildland fires due to its proximity to undeveloped land. Eucalyptus trees adjacent to the SP area are a source of fuel for wildland fires, and fuel management of these

eucalyptus stands has been limited due to lack of urban development in the area. The proposed project could place additional residential units in close proximity to the eucalyptus stands, a known fire hazard. If a wildland fire were to occur, the proposed project would increase the number of persons and residences threatened by such an event. However, the adjacent Cucamonga Creek Channel could serve as a fire brake. In addition, the expansion of the access and circulation within the projects area to include paseos and paved roads would also serve as fire brakes while improving the ability of the City to respond to a fire and reduce the potential hazard of wildland fires to people or structures. The mitigation measures in the Countryside SP Certified EIR applicable to the proposed project and shall be implemented to reduce impacts to less than significant are HM-5(a)-SP through HM-5(d)-SP, as outlined below.

> Mitigation Measure HM-5(a)-SP: Landscaping around development areas adjacent to open space shall minimize dense vegetation immediately adjacent to structural development. Specifically, 12 to 18 inches of bare ground shall be kept between structures and grasses or other vegetation.
>
> Mitigation Measure HM-5(b)-SP: In order to maintain a fire break between the undeveloped areas and structures, fuel management setbacks shall be 10 feet from each side of a road and 30 feet from structures.
>
> Mitigation Measure HM-5(c)-SP: Grass and low-to-ground vegetation (e.g., weeds) in proximity to structures shall be kept no more than 6 inches high.
>
> Mitigation Measure HM-5(d)-SP: Design of residential structures shall incorporate appropriate fire suppression systems into building design, which may include fire sprinkler systems, tempered or multiple pane windows, and fire-retardant materials for roofs, exterior walls and siding.

Mitigation: With implementation of mitigation measures MM HM-5(a-d)-SP, this impact would be less than significant per the Countryside SP Certified EIR and no additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

10. HYDROLOGY & WATER QUALITY. Would the project:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Discussion of Effects: Per the Countryside SP Certified EIR, implementation of Best Management Practices (BMPs) identified in both the Water Quality Management Plan (WQMP) and the Storm Water Pollution Prevention Plan (SWPPP) and in accordance with the NPDES permit will provide facilities and programs designed to control contaminants in urban runoff from entering the local and regional surface drainage systems and contributing to water quality degradation. Therefore, with the incorporation of mitigation measures applicable to the project (MM WQ-1 through WQ-8) and compliance with applicable permit requirements, all impacts related to water quality would be reduced to less than significant.

> Mitigation Measure WQ-1: Prior to the issuance of grading permits, project developers shall submit a final drainage plan for each proposed project for review and approval by the City Engineer.

Mitigation Measure WQ-2: Prior to the issuance of grading permits, project developers shall ensure that coordination between the City of Ontario and the San Bernardino County Flood Control District has been undertaken to demonstrate the ability of the project to meet County flood control requirements.

Mitigation Measure WQ-3: Prior to the issuance of building permits, project developers shall submit to the City Engineer proof of payment of the City's drainage fees, as applicable.

Mitigation Measure WQ-5: Prior to moving construction equipment on a site within the Sphere of Influence, project developers shall provide evidence to the City Engineer that a National Pollutant Discharge Elimination System (NPDES) permit has been obtained from the State Water Resources Control Board (SWRCB). Once obtained, the NPDES permit shall be retained on the construction site throughout the construction period, and a copy shall be filed with the City Engineer.

Mitigation Measure WQ-6: During construction of individual projects, the City Engineer shall ensure compliance with all terms and conditions outlined in the NPDES permit, including the implementation of Best Management Practices (BMPs) consistent with the California Stormwater Quality Association's Construction Handbook.

Mitigation Measure WQ-7: Prior to issuance of grading permits, project developers shall prepare a Storm Water Pollution Prevention Plan (SWPPP) for individual proposed projects. These plans shall be submitted to the City Engineer for review and comment prior to implementing any SWPPP provisions or starting any construction activity. A copy of the SWPPP shall be held by the construction contractor(s) on the construction site throughout development of each project. The City Engineer will monitor and enforce the provisions of the SWPPP.

Mitigation Measure WQ-8: During operation of facilities within the Sphere of Influence, the individual project owners and operators shall ensure that all pest control, herbicide, insecticide and other similar substances used as part of maintenance of project features are handled, stored, applied, and disposed of by those conducting facility maintenance in a manner consistent with all applicable federal, state and local regulations. The City Engineer shall monitor and enforce this provision.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Discussion of Effects: The subject site was previously analyzed in the TOP 2050 Certified SEIR. The project site's northern parcel is designated as Medium Density Residential (MDR) and the southern parcel is designated as Low Medium Density Residential (LMDR), in TOP 2050, which allows for a combined total of 217-484 dwelling units on the 23.2-acre site. As the proposed project includes 265 units, it is consistent with these TOP land use designations and the associated number of dwelling units, for which impacts were evaluated in the TOP 2050 Certified SEIR. As outlined in the TOP 2050 Certified SEIR, with implementation of City policies that promote Low Impact Development (LID) and infiltration for new development projects and compliance with the Chino Basin Watermaster's safe yield restrictions, the potential for the project to substantially decrease

groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin is less than significant.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analyses are necessary.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site;

Discussion of Effects: The project will result in altered on-site drainage patterns due to grading activities and changes in land use. However, the project has been previously analyzed by the Countryside SP Certified EIR and it is not anticipated to substantially alter the existing drainage pattern of the area, including the alteration of the course of a stream or river, in such a manner that would result in substantial erosion or siltation, flooding, or the exceedance of existing or planned stormwater drainage systems. Furthermore, all construction activities will take place under implementation of a Storm Water Pollution Prevention Plan (SWPPP) developed in compliance with the General Construction Activities Permit requirements, the Best Management Practices included in the SWPPP, and a stormwater monitoring program would reduce any impacts to below a level of significance. No streams or streambeds are present on the site and no changes in erosion off-site are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Discussion of Effects: Per the Countryside SP Certified EIR, implementation of the proposed project would not result in exacerbation of localized flooding due to construction of proposed storm drain improvements necessary to serve the site and adherence to the requirements of the NPDES permit and the WQMP. In order to ensure adequate drainage improvements, all features of the proposed system would be designed and constructed in accordance with the standards set by the City of Ontario and the San Bernardino County Flood Control District. In addition, plans for grading, drainage, and erosion control would be reviewed by the City Engineer prior to issuance of grading permits (Ontario SOI GPA EIR mitigation measure MM WQ-1). In addition, Ontario SOI GPA EIR mitigation measure MM WQ-2 would ensure that coordination between the City and San Bernardino County Flood Control District occurs to ensure the project meets the County flood control requirements. Therefore, with inclusion of the project features designed to minimize drainage, this impact would be less than significant with no further mitigation needed.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Discussion of Effects: Per the Countryside SP Certified EIR, proposed onsite storm drain improvements for the project site would consist of 24-inch pipes, minimum, which would collect and discharge storm water via 48-inch and 72-inch pipes to the Cucamonga Creek Channel and Deer Creek Channel. Both channels drain into the Cucamonga Basin, which is a completed detention basin and groundwater recharge facility designed to accommodate stormwater flows from the region, including the project site. It is not anticipated that the project would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or create or contribute stormwater runoff pollutants during construction and/or post-construction activity. In addition, the developer must submit to the City Engineer proof of payment of the City's drainage fees, as applicable prior to issuance of building permits (mitigation measure WQ-3). Because regional and project-site flood control facilities are available to accommodate the project's increased runoff and project-specific mitigation measure MM HYD-3-SP would ensure consistency with the City's Master Plan of Drainage, impacts are less than significant.

Mitigation Measure HYD-3-SP: All new storm drain infrastructure on site shall be consistent with the City's Master Plan of Drainage, or otherwise formal amendments or deviations shall be made via coordination and approval from the City.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

iv. Impede or redirect flood flows?

Discussion of Effects: Per the Countryside SP Certified EIR, implementation of the proposed project would not result in exacerbation of localized flooding due to construction of proposed storm drain improvements necessary to serve the site and adherence to the requirements of the NPDES permit and the WQMP. Therefore, this impact is less than significant.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Discussion of Effects: Per the Countryside SP Certified EIR, the proposed project would not place housing or structures within a 100-year flood hazard area. Further, the TOP 2050 Certified SEIR states that there are no large bodies of water that would result in a seiche during seismic activity. Additionally, the reservoirs/aboveground water tanks within the City are enclosed, thereby minimizing the possibility of a seiche. The project site is inland and approximately 30 miles from the ocean and is not at risk of flooding due to tsunamis. Therefore, the impacts associated with the release of pollutants due to inundation would be less than significant.

Mitigation: No additional mitigation required. The Project will not result in any new,

increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR and the TOP 2050 Certified SEIR. No changes or additions to the Countryside SP Certified EIR or the TOP 2050 Certified SEIR analysis is necessary.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Discussion of Effects: Per the TOP 2050 Certified SEIR, adherence to the State Construction General Permit, implementation of the SWPPP, and adherence to the City's Erosion and Sediment Control Plan requirements would ensure that surface and groundwater quality are not adversely impacted during construction. Projects approved under TOP 2050 would be required to comply with the Santa Ana River Basin Plan and to control pollutants in discharges of stormwater from preconstruction activities under the NPDES permit through preparation of a WQMP identifying BMPs for prevention of stormwater pollution during the post-construction phase, including site-design, source-control, and/or treatment BMPs. Therefore, the project would not obstruct or conflict with the Basin Plan or any groundwater management plan and impacts would be less than significant.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analyses are necessary.

11. LAND USE & PLANNING. Would the project:

a. Physically divide an established community?

Discussion of Effects: Per the Countryside SP Certified EIR, the Project site was originally identified as part of the ultimate development of the New Model Colony (NMC) area and development of the Countryside SP would not physically divide a planned community. No adverse impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

b. Conflict with applicable land use plan, policy or regulation of agencies with jurisdiction over the project (including, but not limited to general plan, airport land use compatibility plan, specific plan, or development code) adopted for the purpose of avoiding or mitigating an environmental effect?

Discussion of Effects: Although the proposed project involves an amendment to the Countryside SP for Neighborhood 2 from RD – 6,000 (6,000 square foot lots) with 106 units to Townhomes (126 units), Cluster Single Family Detached (83 units), and Single Family Detached (56 units), for a combined total of 265 units it was previously analyzed in the TOP 2050 Certified SEIR. The project site's northern parcel is designated as Medium Density Residential (MDR) and the southern parcel is designated as Low Medium Density Residential (LMDR), which allows for a combined total of 217-484 dwelling units on the 23.2-acre site. As the proposed project includes 265 units, it is consistent with these TOP land use designations and the associated number of dwelling units, for which impacts were evaluated in the TOP 2050 Certified SEIR. As outlined in the TOP 2050 Certified SEIR, one of the purposes of TOP 2050 is to adequately plan and accommodate

future growth. Implementation of TOP 2050 accommodates population growth through land use designations, goals, and policies that provide a vision and guide growth in the City. TOP 2050 accommodates future growth by providing for infrastructure and associated public services to accommodate the projected growth of the City. While buildout in accordance with TOP 2050 would substantially increase both population and employment in the City, impacts would be less than significant. The proposed project will not conflict with the TOP or other plans, policies, or regulations.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analyses are necessary.

c. Conflict with any applicable habitat conservation plan or natural community conservation plan?

Discussion of Effects: The project site was previously analyzed in the Countryside SP Certified EIR and as outlined in the Initial Study, the project site is not located within an adopted HCP, NCCP or other approved habitat conservation plan. The project site is not located within the DSF HCP, a 19-acre area near the intersection of Greystone Drive and the eastern City boundary. As a result, no adverse environmental impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

12. MINERAL RESOURCES. Would the project:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Discussion of Effects: The Initial Study of the Countryside SP Certified EIR determined the Project site is located within a mostly developed area surrounded by urban land uses and is not known to contain any mineral resources. Therefore, no impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Discussion of Effects: The Initial Study of the Countryside SP Certified EIR determined the site is not known to contain any mineral resources and no impact to mineral resources are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

13. NOISE. Would the project result in:

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Discussion of Effects: As outlined in the Countryside SP Certified EIR, upon completion of the project, noise levels within the project site would be dominated by vehicular traffic on the surrounding roadways. Future exterior noise levels at the residential units planned along the surrounding roadways (including Archibald Avenue, between Riverside Drive and Chino Avenue) of the project site would exceed the City's 65 dBA Community Noise Equivalent Level (CNEL) standard for outdoor activity areas. Future noise levels associated with the surrounding roadways would not exceed the City's 45 dBA CNEL interior noise standards for residential uses. Noise impacts associated with noise generated as a result of additional traffic from the proposed project's operation, for both on- and off-site, are considered potentially significant. However, implementation of mitigation measures MM N-1 through MM N-4 would reduce impacts to less than significant levels.

Mitigation Measure N-1: Prior to the issuance of building permits for the planning area in the Sphere of Influence area, an Acoustical Analysis Report shall be submitted to the City Engineer by the project developer. The report shall describe the cumulative effect of road noise on surrounding land uses and recommend mitigation measures, if necessary, to attenuate that noise. If necessary, the City shall establish a noise attenuation fee program that requires developers in the Sphere of Influence area to make a fair share contribution to noise mitigation along some of roads surrounding the Sphere of Influence. The City of Ontario shall evaluate the need for such a fee program and establish participation guidelines prior to the issuance of grading permits.

Mitigation Measure N-2: Prior to the issuance of building permits for the planning areas in the Sphere of Influence area, an Acoustical Analysis Report shall be submitted to the City Building Official and Planning Director by the project developer. The Report shall describe in detail the interior and exterior noise levels for residential uses on the site and the specific design and mitigation features to ensure compliance with the City's noise criteria of 65 dBA CNEL for outdoor living areas and 45 dBA CNEL for habitable rooms.

Mitigation Measure N-3: Prior to the issuance of building permits for planning areas in the Sphere of Influence area, the required location of noise barriers on the project site shall be detailed in the Acoustical Analysis Report. The Report shall specify the height, location, and types of barriers capable of achieving the desired mitigation affect.

Mitigation Measure N-4: Prior to the issuance of building permits for the planning areas in the Sphere of Influence area, the Acoustical Analysis Report shall identify those residential lots that may require mechanical ventilation to achieve interior noise standards. When the operable doors and windows are open for homes facing roadways, interior 45 dBA CNEL interior noise limit for these units may be exceeded. Therefore, a "windows closed" condition may be required for these units. Any proposed mechanical ventilation must meet the requirements of the Uniform Building Code (UBC) standard. It should be noted that the windows facing some roadways may be openable windows, but the homeowners would have the option to close the windows and still obtain adequate ventilation through the use of mechanical ventilation system. This mechanical ventilation system shall supply two air changes per hour to each habitable room, including 20 percent (one-fifth) fresh make-up air obtained directly from the outdoors. The fresh air inlet duct shall be of sound

attenuating construction and shall consist of a minimum of 10 feet of straight or curved duct or 6 feet plus one sharp 90-degree bend. The City Building Official shall ensure that the Acoustical Analysis Report identifies any requirements for mechanical ventilation for the individual onsite residential units.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Discussion of Effects: As outlined in the Countryside SP Certified EIR, the proposed Countryside Specific Plan will be constructed in several phases, over the course of several years, so not all of the neighborhoods would be under construction at one time. With the addition of sensitive receptors (new housing units) within close proximity to active construction, the potential for exposure to excessive vibration levels may exceed the Federal Transit Administration 85 VdB threshold at certain locations where new residential dwelling units are located within the project site. This is the case where the southern portion of Neighborhood 2 construction will occur in very close proximity to the northern existing residences in Neighborhoods 5 and 7. The Countryside SP Certified EIR concluded that because sensitive receptors (future residential units) may be in close proximity to active construction, there is a possibility that they would be exposed to groundbourne vibration levels that exceed 85 VdB, which is considered a significant and unavoidable construction-related (temporary) impact. However, mitigation measures were included in the Countryside SP Certified EIR to reduce these potential impacts as much as possible and are applicable to the project.

Mitigation Measure N-6: Construction on the Sphere of Influence site shall be limited to the hours of 7:00 A.M. to 7:00 P.M. Monday through Saturday, and shall be prohibited on Sundays and federal holidays.

Mitigation Measure N-8: Stockpiling and/or vehicle staging areas shall be located as far as practical from existing residential units on and off the proposed project site.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Certified Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Discussion of Effects: The Countryside SP Certified EIR determined impacts related to exposure of on- and off-site sensitive noise receptors to a substantial permanent increase in off-site ambient noise levels would be less than significant with incorporation of mitigation measures N-1 through N-5. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Initial Study to the Countryside SP Certified EIR.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and

addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Discussion of Effects: As outlined in the Countryside SP Certified EIR, noise levels generated from construction activities would result in temporary increase in ambient noise levels of over 5 dBA at the existing noise-sensitive receptors outside of and adjacent to the SP, and for a prolonged period of time as the SP construction would be completed in phases, considered a significant impact. Mitigation Measure MM NOI-1-SP is required to reduce construction noise, however even with the incorporation of MM NOI-1-SP, construction of development in the SP would result in a substantial and significant periodic increase in ambient noise levels in the project vicinity above existing levels and the impact would be significant and unavoidable. The project shall implement MM NOI-1-SP from the Countryside SP Certified EIR to reduce potential impacts from construction noise to the greatest extent feasible. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Initial Study to the Countryside SP Certified EIR.

Mitigation Measure NOI-1-SP: The project contractor(s) shall implement, but not be limited to, the following best management practices:

- Outdoor construction work on the project shall be limited to the hours of 7:00 A.M. to 7:00 P.M. on weekdays and Saturdays. No construction activities shall occur on Sundays or federal holidays.
- All construction equipment with a high noise generating potential, including all equipment powered by internal combustion engines, shall be muffled or controlled.
- All stationary noise generating equipment, such as compressors, shall be located as far as possible from existing houses.
- Machinery, including motors, shall be turned off when not in use.
- Mobile equipment shall not be allowed to run idle near existing residences.
- Neighbors within 200 feet of major construction areas shall be notified of the construction schedule in writing, prior to construction; the project sponsor shall designate a "disturbance coordinator" who shall be responsible for responding to any local complaints regarding construction noise: the coordinator (who may be an employee of the developer or general contractor) shall determine the cause of the complaint and shall require that reasonable measures warranted to correct the problem be implemented; a telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site fence and on the notification sent to neighbors adjacent to the site.
- Temporary noise barriers shall be installed where feasible and appropriate between the project construction areas and existing and future residences. Barriers shall be at least 10 feet in height.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

e. For a project located within the noise impact zones of the airport land use compatibility plan for ONT and Chino Airports, would the project expose people residing or working in the project area to excessive noise levels?

Discussion of Effects: The Initial Study of the Countryside SP Certified EIR determined the southern boundary of the Specific Plan area is approximately 2.5 miles northwest of the Chino Airport and not within 2 miles of the Ontario International Airport and is not located within the study-area noise contours of any airport or airstrip. As a result, no impacts from excessive noise levels related to airport operations would occur.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Discussion of Effects: The Initial Study of the Countryside SP Certified EIR determined the southern boundary of the Specific Plan area is approximately 2.5 miles northwest of the Chino Airport and not within 2 miles of the Ontario International Airport. As a result, no impacts from excessive noise levels related to airport operations would occur.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

14. POPULATION & HOUSING. Would the project:

a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of road or other infrastructure)?

Discussion of Effects: The subject site was previously analyzed in the TOP 2050 Certified SEIR. The project site's northern parcel is designated as Medium Density Residential (MDR) and the southern parcel is designated as Low Medium Density Residential (LMDR), which allows for a combined total of 217-484 dwelling units on the 23.2-acre site. As the proposed project includes 265 units, it is consistent with these TOP land use designations and the associated number of dwelling units, for which impacts were evaluated in the TOP 2050 Certified SEIR. As outlined in the TOP 2050 Certified SEIR, one of the purposes of TOP 2050 is to adequately plan and accommodate future growth. Implementation of TOP 2050 accommodates population growth through land use designations, goals, and policies that provide a vision and guide growth in the City. TOP 2050 accommodates future growth by providing for infrastructure and associated public services to accommodate the projected growth of the City. While buildout in accordance with TOP 2050 would substantially increase both population and employment in the City, impacts would be less than significant.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analyses are necessary.

b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Discussion of Effects: As outlined in the Countryside SP EIR, build out of the SP area would

result in replacement of existing dairy operations, agricultural fields, and nursery with residential uses and would displace at least five on-site housing units. However, this displacement is not considered substantial. Less than significant impacts related to the displacement of housing and population would occur.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Discussion of Effects: As outlined in the Countryside SP EIR, build out of the SP area would result in replacement of existing dairy operations, agricultural fields, and nursery with residential uses and would displace at least five on-site housing units. However, this displacement is not considered substantial. Less than significant impacts related to the displacement of housing and population would occur.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

15. PUBLIC SERVICES. Would the project:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i. Fire protection?

Discussion of Effects: The site is in a developed area currently served by the Ontario Fire Department and was previously analyzed by the Countryside SP Certified EIR. The Project will not require the construction of any new facilities or alteration of any existing facilities or cause a decline in the levels of service, which could cause the need to construct new facilities. The project is subject to the City's development impact fee program which funds fire services. with payment of development impact fees, less than significant impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

ii. Police protection?

Discussion of Effects: The site is in a developed area currently served by the Ontario Police Department and was previously analyzed by the Countryside SP Certified EIR. The Project will not require the construction of any new facilities or alteration of any existing facilities or cause a decline in the levels of service, which could cause the need to construct new facilities. The

project is subject to the City's development impact fee program which funds police services. With payment of development impact fees, less than significant impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

iii. Schools?

Discussion of Effects: The Countryside SP Certified EIR has determined impacts to school to be potentially significant. However, implementation of Mitigation Measure PS-1-SP would reduce this impact to a less-than-significant level.

> Mitigation Measure PS-1-SP: Consistent with current requirements, the developer shall pay statutory school fees in effect at the time of issuance of building permits to the MVD (Mountain View School District) and CJUHSD (Chaffey Joint Union High School District) for school facilities, thus ensuring that the new development would bear its fair share of the cost of housing additional students generated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

iv. Parks?

Discussion of Effects: The site is in a developed area, currently served by the City of Ontario. The Project will not require the construction of any new public facilities or alteration of any existing facilities. A private recreation area is proposed between Neighborhoods 2A, 2B, and 2C. To maintain the current level of service for parks in the City, the City requires payment of specific development impact fees (DIF) for recreational facilities. With payment of development impact fees, less than significant impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

v. Other public facilities?

Discussion of Effects: The site is in a developed area, currently served by the City of Ontario. The Project will not require the construction of any new facilities or alteration of any existing facilities. The City uses development impact fees collected at building permit issuance to provide funding for general public facilities. With payment of development impact fees, less than significant impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

16. RECREATION. Would the project:

a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Discussion of Effects: Per the Countryside SP Certified EIR, implementation of the proposed project would include the development of residential units in a previously non-residential area. The adopted and certified Specific Plan Area includes the development of a total of approximately 5.75 acres of parkland in three key areas in and around the project site. These parks would be informal play areas and passive recreational opportunities for residents and would be served by the landscaped paseos. A private recreation area is included in the proposed project, between Neighborhoods 2A, 2B, and 2C. To maintain the current level of service for parks in the City, the City requires payment of specific development impact fees (DIF) for recreational facilities. With payment of development impact fees, less than significant impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities that have an adverse physical effect on the environment?

Discussion of Effects: As stated above, with payment of development impact fees, less than significant impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

17. TRANSPORTATION. Would the project:

a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Discussion of Effects: As determined in the VMT Assessment, a review of the Project description did not identify any disruption to existing bicycle, pedestrian nor transit facilities; the proposed Project provides consistency related to regional active transportation plans, transit plans, and other mobility infrastructure plans in the New Model Colony (Ontario Ranch) area. New transit trips are anticipated to be generated by the Project, but the Project would not modify transit stop locations or change transit headways. Additional transit ridership demand could increase boarding and alighting activity at existing bus stops and transit terminals located near the Project site. The Project is consistent with the adopted plans regarding bicycle and pedestrian infrastructure and is not expected to decrease the performance or safety of these facilities. Therefore, the Project is considered to have a less-than-significant impact on active transportation and on public transit.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Discussion of Effects: At the time the Countryside SP Certified EIR was prepared, impacts related to vehicle miles traveled (VMT) was not included in the CEQA Guidelines Appendix G checklist and therefore it did not identify any significant impacts related to VMT. As determined in the VMT Assessment, the Project is consistent with CEQA Guidelines section 15064.3, subdivision (b) regarding policies to reduce VMT. The TOP 2050 Model forecast of total daily VMT/SP is the required method for estimating VMT. The proposed Project is forecast to reduce Home-Based Production (HB) VMT per resident, Origin/Destination (OD) VMT per Service Population (VMT/SP) and Boundary VMT/SP as compared to the approved project, and is forecast to produce VMT/SP below the City's impact thresholds; therefore, this project is anticipated to result in a less-than-significant transportation impact.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Discussion of Effects: As determined in the VMT Assessment, the Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). The City of Ontario has adopted engineering standards to ensure consistency in the geometric design of their mobility facilities. Additionally, all plans undergo an extensive review process at the City to ensure consistency with these adopted standards. This impact is considered less than significant.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

d. Result in inadequate emergency access?

Discussion of Effects: As determined in the VMT Assessment, the Project would not result in inadequate emergency access. The Project is proposing improvements at intersections consistent with the Ontario Plan Circulation Element Buildout, therefore increasing the capacity of the network, as identified in the Level of Service (LOS) assessment. With the proposed improvements, the Project is anticipated to provide roadway capacity sufficient to support emergency evacuation scenarios even with the increased density. Therefore, this impact is considered less than significant.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

18. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and

scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

Discussion of Effects: The project site was previously analyzed in the Countryside SP Certified EIR and no historic or potentially historic resources were identified within the project site, as part of the Barth Farms property. Per the Cultural Resources Assessment (BCR Consulting, LLC., December 2022) of the project site, no cultural resources of any kind (including historic-period or prehistoric archaeological resources, or historic-period architectural resources) were identified. Therefore, no significant impact related to historical resources is anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Discussion of Effects: Per the Countryside SP Certified EIR, although an intensive pedestrian field survey was not conducted for Neighborhood 2 of the project site, the entire SP area has been subject to substantial disturbance over lengthy periods of time, as a result of livestock movement, livestock waste collection and disposal, agriculture, and other development that would have displaced potential surface and subsurface archaeological resources. Therefore, potential impacts to archaeological resources are not anticipated. Per the Cultural Resources Assessment (BCR Consulting, LLC., December 2022) an intensive pedestrian field survey of the project site was conducted and no cultural resources of any kind (including historic-period or prehistoric archaeological resources, or historic-period architectural resources) were identified. The results of the Sacred Lands File Search, through the NAHC, did not indicate known Tribal Cultural Resources (TCR) within the project site boundary. Therefore, no significant impact related to Tribal Cultural Resources are anticipated. The City initiated consultation with the following Native American tribes in October 2022, pursuant to AB 52 and/or SB 18: Agua Caliente Band of Cahuilla Indians, Gabrieleño Band of Mission Indians – Kizh Nation, Gabrielino Tongva Indians of California, Fort Yuma Quechan Tribe, Yuhaaviatam of San Manuel Nation (formerly known as the San Manuel Band of Mission Indians) and none had comment or requested to consult further. Per the Countryside SP Certified EIR, despite the lack of documented resources in the vicinity, the possibility of discovering archaeological remains during excavation for future projects within the Specific Plan area cannot be completely discounted. No provisions exist for the recovery of previously unknown archaeological resources as a result of ground-disturbing activities associated with site preparation and construction and therefore mitigation measures CUL-2 (a-c)-SP are applicable to the project and would reduce impacts to unknown archaeological resources to a less than significant level.

Mitigation: Refer to mitigation measure CUL-2 (a-c)-SP above.

19. UTILITIES AND SERVICE SYSTEMS. Would the project:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Discussion of Effects: Per the Countryside SP Certified EIR, implementation of the proposed project would not require nor result in the construction of new or expanded water treatment facilities, the construction of which could cause significant environmental effects. The Countryside SP Certified EIR included Mitigation Measure UTIL-1-SP which required the developer of the first phases of development in the SP to prepare a Subarea 5 Sewer Plan in accordance with the New Model Colony (NMC) Sewer Master Plan, which discusses how the project will be served, how the area will be connected to the City's backbone system, and the area's impact on downstream facilities. Sewer improvements to serve the proposed project will be required to be constructed in accordance with the Subarea 5 Sewer Plan. In addition, the proposed project would not substantially increase electric power and natural gas demands beyond available supply. The project-generated demand for electricity and natural gas would be negligible in the context of overall demand within the City of Ontario and the state, and thus is not anticipated to require substantial upgrades or expansion of existing electricity systems. Implementation of MM UTIL-3-SP would further reduce impacts to less-than- significant levels. The Project will not have an impact on telecommunications facilities. Therefore, these impacts are less-than-significant.

> Mitigation Measure UTIL-3-SP: Project design and construction shall be coordinated with Southern California Edison and Southern California Gas Company, and improvements provided if necessary, in order to ensure that connections are adequate and capacity is available to accommodate estimate demand for gas and electric utilities.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Discussion of Effects: The subject site was previously analyzed in the TOP 2050 Certified SEIR. The project site's northern parcel is designated as Medium Density Residential (MDR) and the southern parcel is designated as Low Medium Density Residential (LMDR), in TOP 2050, which allows for a combined total of 217-484 dwelling units on the 23.2-acre site. As the proposed project includes 265 units, it is consistent with these TOP land use designations and the associated number of dwelling units, for which impacts were evaluated in the TOP 2050 Certified SEIR. As outlined in the TOP 2050 Certified SEIR, the 2020 Urban Water Management Plan (UWMP) states that there are sufficient water supplies through 2045 to meet project demands in normal years, single dry years, and multiple dry years through 2045 and there are sufficient water supplies to meet the demand for TOP 2050 buildout.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the TOP 2050 Certified SEIR. No changes or additions to the TOP 2050 Certified SEIR analysis are necessary.

c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Discussion of Effects: As stated in the Countryside SP Certified EIR, implementation of the proposed project would not increase wastewater generation such that existing and planned treatment facilities would be inadequate to serve the project's projected demand in addition to the provider's existing commitments. As part of previous New Model Colony (NMC) planning efforts, wastewater treatment requirements were assessed for future buildout to determine what infrastructure would be necessary. As a result, a new treatment plant RP-5 was proposed to accommodate wastewater demands of the NMC ultimate land uses and was constructed in 2003. The proposed project will be served by the RP-5 treatment plant. This is considered a less-than-significant impact.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Discussion of Effects: Per the Countryside SP Certified EIR, the approximate 4.5 tons per day (tpd) generated by the proposed project would represent 0.05 percent of daily tonnage to the El Sobrante Landfill. As discussed, the Solid Waste Department for the City of Ontario has indicated that the proposed project would dispose of solid waste at this landfill and capacity would be adequate for approximately 30 years. In addition, mitigation measure Mitigation Measure UTIL-2-SP would ensure that a project-related solid waste plan is prepared to ensure that an acceptable amount of project-related solid waste is diverted from landfills. Implementation of this mitigation measure would ensure that impacts are reduced to a less-than-significant level.

> Mitigation Measure UTIL-2-SP: Prior to issuance of building permits for the first project component, the Applicant shall submit a Solid Waste Management Plan to the City's Recycling Coordinator. This plan shall discuss how the project will implement source reduction and recycling methods in compliance with existing City programs. Additionally, this plan shall include how the project will address the construction and demolition-generated waste from the site. These methods shall include, but shall not be limited to, the following:
> - Provision of recycling bins for glass, aluminum, and plastic for visitors and employees of the proposed project
> - Provision of recycling bins for glass, aluminum, plastic, wood, steel, and concrete for construction workers during construction phases
> - Bins for cardboard recycling during construction
> - Scrap wood recycling during construction
> - Green waste recycling of landscape materials

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Discussion of Effects: Per the Countryside SP Certified EIR, this Project complies with federal, state, and local statues and regulations regarding solid waste. Therefore, no impacts are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

20. MANDATORY FINDINGS OF SIGNIFICANCE.

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat or a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Discussion of Effects: As outlined above under *Biological Resources*, no special-status botanical species were present nor any suitable habitat that would support them. No threatened or endangered species have been reported to occur within the project site, however some sensitive bird species and migratory avian species and raptors may use portions of the site and adjacent areas during the breeding season and are protected under the Migratory Bird Treaty Act (MBTA.) However, this potential impacts to birds and their nests are reduced to a less than significant with implementation of Mitigation Measures BIO-1(a)-SP and BIO-4-SP, that are applicable to the project. The proposed Project does not have the potential to reduce wildlife habitat, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. As outlined above under *Cultural Resources*, Per the Cultural Resources Assessment (BCR Consulting, LLC., December 2022) of the project site, no cultural resources of any kind (including historic-period or prehistoric archaeological resources, or historic-period architectural resources) were identified. The project would not eliminate important examples of the major periods of California history or prehistory. Therefore, less than significant impacts resulting from the Project are anticipated.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis are necessary.

b. Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?

Discussion of Effects: The Project does not have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

c. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current project, and the effects of probable future projects.)

Discussion of Effects: As outlined in the Countryside SP Certified EIR, buildout of the SP would result in cumulative impacts that are significant and unavoidable to the following: the loss of Prime Farmland and cancellation of Williamson Act contracts, air quality from construction and operational emissions of criteria pollutants, and regional loss of habitat for sensitive species and raptor foraging habitat.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

d. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Discussion of Effects: As outlined in the analysis above, the Project does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

Mitigation: No additional mitigation required. The Project will not result in any new, increased or substantially different impacts, other than those previously considered and addressed in the Countryside SP Certified EIR. No changes or additions to the Countryside SP Certified EIR analysis is necessary.

EARLIER ANALYSES

(Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or Negative Declaration. Section 15063(c)(3)(D)):

1) Earlier Analyzes Used. Identify earlier analyzes used and state where they are available for review.

a) Countryside Specific Plan Certified EIR

b) The Ontario Plan 2050 Certified SEIR

c) The Ontario Plan 2050

d) City of Ontario Zoning

All documents listed above are on file with the City of Ontario Planning Department, 303 East "B" Street, Ontario, California 91764, (909) 395-2036.

2) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of, and adequately analyzed in, an earlier document pursuant to applicable legal standards.

All effects from the above checklist were within the scope of, and adequately analyzed in, the Countryside Specific Plan Certified EIR and The Ontario Plan 2050 (TOP 2050) Certified SEIR.

ARCHIBALD AVENUE PROJECT

CITY OF ONTARIO, SAN BERNARDINO COUNTY, CALIFORNIA
ASSESSOR PARCEL NUMBERS (APNS) 0218-111-60 AND -61

Delhi Sands Flower-Loving Fly Habitat Suitability Assessment

Prepared For:

BCR Consulting
505 West 8th Street
Claremont, California 91711
Contact: *David Brunzell*

Prepared By:

ELMT Consulting, Inc.
2201 N. Grand Avenue #10098
Santa Ana, California 92711
Contact: *Thomas J. McGill, Ph.D.*

December 2022

ARCHIBALD AVENUE PROJECT

CITY OF ONTARIO, SAN BERNARDINO COUNTY, CALIFORNIA

Delhi Sands Flower-Loving Fly Habitat Suitability Assessment

The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.



Travis J. McGill
Director



Thomas J. McGill, Ph.D.
Managing Director

December 2022

Executive Summary

This report contains the findings of a habitat suitability assessment for the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*; DSF), a federally endangered species, for an approximately 23-acre Project Site located within Assessor Parcel Numbers (APNs) 0218-111-60 and -61, west of Archibald Avenue, north of Chino Avenue, and south of the State Route 60 in the City of Ontario, San Bernardino County, California. The purpose of this assessment was to examine the existing conditions on the proposed Project site and determine if the site supported clean Delhi Sand soils capable of supporting DSF. The habitat suitability assessment fieldwork was conducted by Thomas J. McGill, Ph.D. (ELMT Consulting) on October 31, 2022.

The project site is mapped by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey as supporting Delhi fine sand soils in band running north to south on the western and eastern boundary of the project site. The middle of the project site has been mapped as supporting Hilmar loamy fine sandy. Since the project site has been continuously farmed for several decades with a variety of crops and disked between rotation of crops with disking across the band of Delhi Sand soils occurring at a 90-degree angle, the band of Delhi Sands that may have historically been present has been thoroughly integrated the into the larger areas of clay soils found on the site. Due to these historic and current land uses, no undisturbed native plant communities exist on the site. The site supports one (1) land cover type that is classified as disturbed. Due to the long-standing regime of crop rotation and disking, the small bands of Delhi Sand soils that were mapped as historically occurring on the site, no longer occur, having been thoroughly mixed into the clay soils that surround the band of Delhi Sand soils. No clean Delhi Sands are present, and the site is considered unsuitable habitat for DSF.

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Appendix

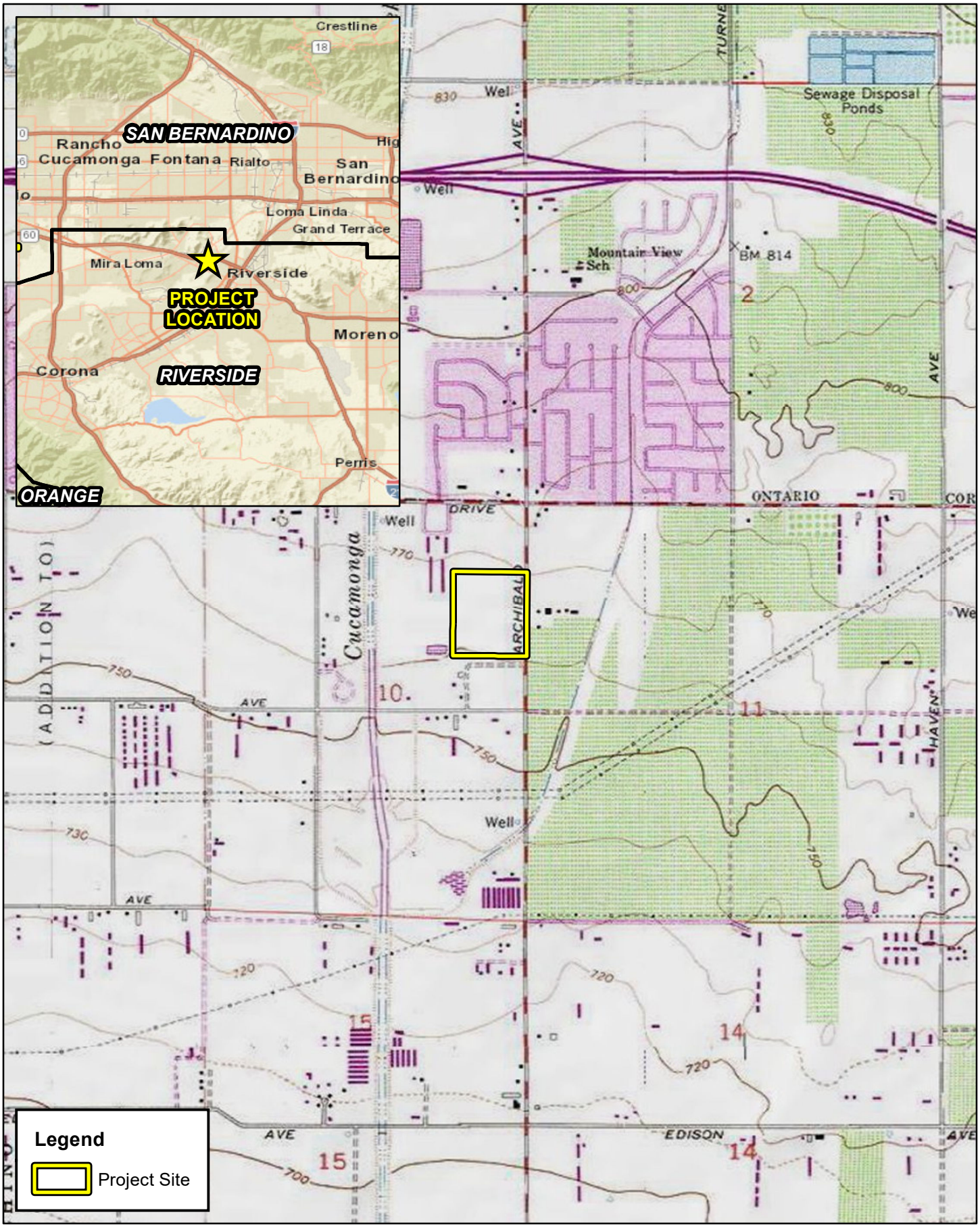
Appendix A Site Photographs

Section 1 Introduction

ELMT Consulting (ELMT) conduced a Delhi Sands Flower-loving Fly (DSF) Habitat Suitability Assessment for an approximately 23-acre Project Site located within APNs 0218-111-60 and -61, in the City of Ontario, San Bernardino County, California. Thomas J. McGill, Ph.D., inventoried the project site to determine the suitability ratings of the Delhi Sands habitats on October 31, 2022. This assessment was conducted to determine the extent to which the soils on the project site support clean Delhi fine sand soils capable of providing suitable habitat for DSF, quantify the amount of such habitat, and determine the general location and distribution of such soils within the project site boundaries.

1.1 PROJECT LOCATION

The project site is generally located west of Interstate 15 and south of State Route 60, east of State Route 83, and north of the State Route 91 in the City of Ontario, San Bernardino County, California. The site is depicted on Guasti quadrangle of the United States Geological Survey's (USGS) 7.5-minute map series within Section 10 of Township 2 South, Range 7 West (Exhibit 1, *Site Vicinity*). Specifically, the project site is located immediately west of Archibald Avenue, north of Chino Avenue, south of Riverside Drive, and east of the Cucamonga Creek Channel within APNs 0218-111-60 and -61 (Exhibit 2, *Project Site*).



DELHI SANDS FLOWER-LOVING FLY SUITABILITY ASSESSMENT
ARCHIBALD AVENUE PROJECT

Regional Vicinity

ELMT CONSULTING

0 0.25 0.5 1 Miles

Source: USA Topographic Map, San Bernardino County

Exhibit 7798



DELHI SANDS FLOWER-LOVING FLY SUITABILITY ASSESSMENT
ARCHIBALD AVENUE PROJECT

Project Site

ELMT CONSULTING

0 125 250 500 Feet

Source: ESRI Aerial Imagery, San Bernardino County

Exhibit 7799

Section 2 Background

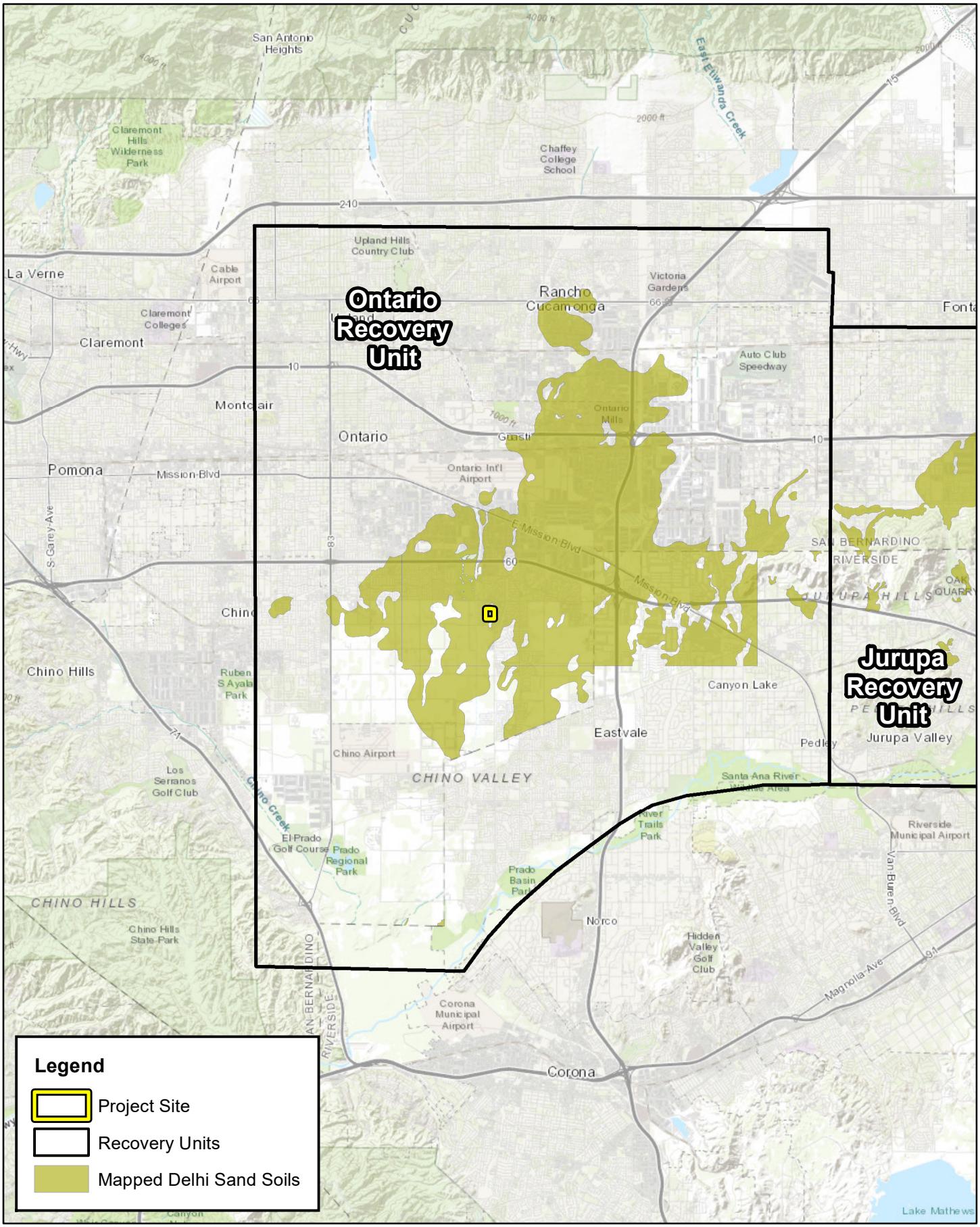
It has been generally acknowledged that DSF can be found to occur in Delhi sand soils, particularly clean dune formations composed of Aeolian sands. Conversely, soils and sands deposited by fluvial processes from the surrounding alluvial fans do not support DSF. These alluvial soils are composed of course sands, cobble and gravel (Tujunga soils) or coarse sands, silts and clays (Cieneba soils). In this part of San Bernardino County, the separation of soil types has been lost due to the mixing and cross contamination from years of agricultural activities, development, and other man-made disturbances.

Depending on the extent of mixing and contamination, some areas formally mapped as Delhi sand soils no longer have potential to support DSF populations. Conversely, some areas formally mapped as Cieneba soils may now supported wind deposited Delhi sand soils and have potential to support DSF. Six DSF experts (Ken Osborne, Greg Ballmer, Rudy Matoni, Karin Cleary-Rose, Alison Anderson and Tom McGill) used this criterion, the relative abundance of clean Delhi sand soils versus the amount of Cienba or other alluvial soils, to rate the suitability of the habitat to support DSF (Michael Brandman Associates, 2003). Soils high in gravel and alluvial materials, or high in fine materials such as silts and clays, were rated low, while soils that appear to be high in Aeolian deposited sands were rated high. This qualitative assessment of DSF habitat was further refined by considering the relative degree of soil compaction. Alluvial soils have a tendency to solidify to a hard surface pavement, while Aeolian soils are easier to penetrate and provide good substrate for DSF.

Although it has been common to attribute the presence of four common plant species California buckwheat (*Eriogonum fasciculatum*), California croton (*Croton californicus*), deer weed (*Acmispon glaber*), and telegraph weed (*Heterotheca grandiflora*) as indicators of habitat suitability, for the assessment, vegetation composition was not given much weight in making this habitat evaluation. These dominant plant species, and plant species composition of habitats, may not be directly relevant to larval development (due to likely predatory or parasitic nature of DSF larvae) (Osborne, et al. 2003). The known immature life histories of the nine asiloid fly families, including that to which the DSF is classified, are primarily predatory and/or parasitic on other invertebrate species (mainly insects) and the presence or absence of plant species appears not to be relevant to the life history of these flies.

Land with suitable DSF habitat includes only those areas with open, clean and unconsolidated Delhi Series soils that have not been permanently altered by residential, commercial, or industrial development, or other human actions. Areas known to contain Delhi sand soils and/or to be occupied by DSF have been divided by USFWS into three recovery units (Colton, Jurupa, and Ontario Recovery Units (USFWS, 1997)). These recovery units are defined as large geographic areas based on geographic proximity, similarity of habitat, and potential genetic exchange.

The project site is located within the Ontario Recovery Unit (Exhibit 2, *DSF Recovery Units*). The Project Site was originally in an agricultural preserve in south portion of the City of Ontario but I now surround by residential development on all four sides.



DELHI SANDS FLOWER-LOVING FLY SUITABILITY ASSESSMENT
ARCHIBALD AVENUE PROJECT

DSF Recovery Units

ELMT CONSULTING

Exhibit 7801

Section 3 Methodology

The criteria discussed in detail below were used to rate the relative abundance of clean Delhi sand soils verses the amount of Cieneba Tujunga, or other alluvial soils, to rate the suitability of the habitat to support DSF. Soils high in gravel and alluvial materials, or high in fine materials such as silts and clays, were rated low, while soils that appear to be high in Aeolian deposited sands were rated high. This qualitative assessment of DSF habitat was further refined by considering the relative degree of soil compaction. Alluvial soils have a tendency to solidify to a hard surface pavement, while Aeolian soils are loose sandy soils that are easier to penetrate and provide good substrate for DSF.

3.1 SOIL

Onsite and adjoining soils were researched prior to the field visit using the United States Department of Agricultural (USDA) Natural Resources Conservation Survey (NRCS) Soil Survey for San Bernardino County, California. In particular, the USDA NRCS was reviewed to determine the location of mapped Delhi fine sand soils on or within the immediate vicinity of the project site. The project site is underlain by Delhi fine sand and Hilmar loamy fine sand soils (refer to Exhibit 4, *Soils*).

3.2 VEGETATION

Vegetative resources and surrounding land uses were also assessed as part of determining baseline conditions by walking meander transects and recording all species observed and adjacent land uses. Common plant species observed during the field investigation were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unusual and less-familiar plants were photographed in the field and identified in the laboratory using taxonomic guides. Taxonomic nomenclature used in this study follows the 2012 Jepson Manual (Hickman 2012). In this report, scientific names are provided immediately following common names of plant species (first reference only).

3.3 HABITAT SUITABILITY ASSESSMENT

The scope of the updated habitat suitability assessment was to determine the continued presence and distribution of consolidated and unconsolidated soils and to further evaluate the quality of Delhi Sands across the site as it pertains to DSF. ELMT biologist Tom McGill surveyed the project site on October 31, 2022.

The habitat suitability assessment consisted of a visual and tactile inspection of all areas on the project site that contain Delhi sand soils. The soils within the project site are mapped as Delhi fine sands (Exhibit 3, *Soils*). The site was evaluated for the quality or purity of Delhi Sands and for its potential to support DSF. Areas were assigned one or more ratings ranging between 1 and 5, with 5 being the best quality and most suitable habitat:

1. Soils dominated by heavy deposits of alluvial material including coarse sands and gravels with little or no Delhi sand soils and evidence of soil compaction. Developed areas, non-Delhi sands

soils with high clay, silt, and/or gravel content. Delhi sands extensively and deeply covered by dumping of exotic soils, rubble, trash or organic debris. *Unsuitable.*

2. Delhi sand soils are present, but the soil characteristics include a predominance of alluvial materials (Tujunga Soils and Hilmar loamy sand), or predominance of other foreign contamination. Sever and frequent disturbance (such as maintenance yard or high use roadbed). *Very Low Quality*.

3. Although not clean, sufficient Delhi sand soils are present to prevent soil compaction. Moderately contaminated Delhi sands. Delhi sands with moderate to high disturbance (such as annual disking). Sufficient Delhi sands are present to prevent soil compaction (related to contamination by foreign soils). Some sandy soils exposed on the surface due to fossorial animal activity. *Low Quality*.

4. Abundant clean Delhi sand soils with little or no foreign soils (such as alluvial material, Tujunga soils or Hilmar loamy sand) present. Moderate abundance of exposed sands on the soil surface. Low vegetative cover. Evidence of moderate degree of fossorial animal activity by vertebrates and invertebrates. May represent high quality habitat with mild or superficial disturbance. *Moderate Quality*.

5. Sand dune habitat with clean Delhi sand soils. High abundance of exposed sands on the soil surface. Low vegetative cover. Evidence (soil surface often gives under foot) of high degree of fossorial animal activity by vertebrates and invertebrates. Sand associated plant and arthropod species may be abundant. *High Quality*.

It should be noted that habitat qualities often vary spatially within a site so that conditions on a site fall within a range of qualities. Further, overall habitat quality is affected by the overall habitat value of a site.



DELHI SANDS FLOWER-LOVING FLY SUITABILITY ASSESSMENT
ARCHIBALD AVENUE PROJECT

Soils

ELMT CONSULTING

0 125 250 500 Feet

Source: ESRI Aerial Imagery, Soil Survey Geographic Databases, San Bernardino County

Exhibit 7804

Section 4 Results

4.1 EXISTING CONDITIONS

The proposed project site is an undeveloped property in the City of Ontario. The site is bounded to the north, west, south, and east by existing development. The site has been actively farmed for several with a variety of crops and disked between rotation of crops. No native vegetation exists on the project site. The current crop in place during the assessment was wheat.

The project site is mapped by the as supporting Delhi fine sand soils in band running north to south on the western and eastern boundary of the project site. The project site has been subject to a variety of anthropogenic impacts for several decades due to farming of the site, including crop rotation, disking, irrigation and use of fertilizers, herbicides and insecticides. There is no indication of a band of intact band of clean Delhi Sand soils.

4.2 SUITABILITY ASSESSMENT

Dr. McGill examined of the soil quality on the project site on October 31, 2022, using the referenced DSF habitat suitability scale (Ballmer, Osborne, McGill 2003). Although a small portion of the project site is mapped by NRCS as supporting Delhi Sand soils, farming of the site, combined with disking the band of Delhi Sand soils at a 90-degree angle, has thoroughly mixed what Delhi Sands that may have historically existed on the project site, with the much larger areas of clay soils found on either side of the central band of Delhi Sand soils. Due to these historic and ongoing land uses, no undisturbed native plant communities exist on the site. The site supports one (1) land cover type that is classified as disturbed. It is evident that the long-standing regime of crop rotation and disking that the small band of Delhi Sand soils mapped within the center of the site, has been thoroughly mixed with the clay soils that surround this small band. No clean Delhi Sands are present and the site is considered unsuitable habitat for DSF (refer to Exhibit 5, *DSF Habitat Suitability*).



DELHI SANDS FLOWER-LOVING FLY SUITABILITY ASSESSMENT
ARCHIBALD AVENUE PROJECT

DSF Habitat Suitability

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, San Bernardino County

Exhibit 7806

Section 5 Summary and Conclusion

A small band of Delhi Sand soil was assessed on October 31, 2022, using the referenced DSF habitat suitability scale (Ballmer, Osborne, McGill 2003), to determine the band provided intact, clean Delhi Sand soils capable of supporting a population of DSF. Although the project site is mapped by NRCS as sporting Delhi Sand soils, farming of the site, combined with the disking of the band of Delhi Sand soils at a 90-degree angle has thoroughly mixed what Delhi Sands that may have historically on the site with the much larger areas of clay soils found on either side of the central band of Delhi Sand soils. Due to these historic and ongoing land uses, no undisturbed native plant community exist on the site. The small band of Delhi Sand soils that was mapped as historically occurring on the site, has been thoroughly mixed with the clay soils and clean Delhi Sands are no longer present. The site is considered unsuitable habitat for DSF and was assigned a habitat suitability rating of 1.

Section 6 References

Osborne, K.H. 2002a. Focused surveys for the Delhi Sand giant flower-loving fly (*Rhaphiomidas terminatus abdominalis*) on a 125-acre portion of the Fontana Business Center site. Submitted to USFWS October 15, 2002.

U.S. Department of Agriculture, Natural Resources Conservation Service. 2021. *Web Soil Survey.* Online at http://websoilsurvey.nrcs.usda.gov/app/.

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U.S. Fish and Wildlife Services. 1997. Final Recovery Plan for Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*) U.S. Fish and Wildlife Services, Portland, Or. 51 pages.

U.S. Fish and Wildlife Service. 2019. Recovery Plan Amendment for Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*).

U.S. Fish and Wildlife Services. 2008. Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*) 5-Year Review: Summary and Evaluation. Carlsbad, California. March 2008.

Appendix A Site Photographs



Photograph 1. Looking Northwest across the agricultural field from the southern boundary of the Site.



Photograph 2. Looking West from inside the eastern boundary of the Site.



Photograph 3. A close-up of the soils within center of the Site. Soils are dark, indicative of Clay Soils.



Photograph 4. Looking North at the center of the Site where Delhi Sand soils have been mapped.



Photograph 5. Closeup of the soils with the center of the site. Note the dark color and clumping of the soils, indicative of high clay content of the soils.



Photograph 6. Looking North from the center of the site, along the north boundary. Note the dark color and clumping of the soils, indicative of the high clay content of the soils.

CULTURAL RESOURCES ASSESSMENT

Assessor Parcel Number 0218-111-60
City of Ontario, San Bernardino County, California

Prepared for:

Jeff Ragland
RB Ontario LLC
858-610-0600
jeff@thelandmarkcompany.com

Prepared by:

David Brunzell, M.A., RPA
Contributions by Timothy Blood, M.A.
BCR Consulting LLC
Claremont, California 91711

Project No. RBO2201

Data Base Information:
Type of Study: Intensive Survey
Resources Recorded: None
Keywords: Archibald Ave, Negative Findings
USGS Quadrangle: 7.5-minute *Guasti, California* (1981)

BCRCONSULTING LLC

December 16, 2022

MANAGEMENT SUMMARY

BCR Consulting LLC (BCR Consulting) is under contract to RB Ontario LLC to complete a Cultural Resources Assessment of Assessor Parcel Number 0218-111-60 Project (the project) located in the City of Ontario (City), San Bernardino County, California. A cultural resources records search, intensive-level pedestrian field survey, Native American Heritage Commission (NAHC) Sacred Lands File Search, and vertebrate paleontological resources overview were conducted for the project in partial fulfillment of the California Environmental Quality Act (CEQA). The records search results revealed that 11 previous cultural resource studies have taken place, and five cultural resources have been identified within the half-mile research radius. None of the previous studies have assessed the project site for cultural resources and no cultural resources have been identified within its boundaries. No cultural resources of any kind were identified during the field survey. Therefore, no significant impact related to historical resources is anticipated and no further investigations are recommended for the proposed project unless:

- The proposed project is changed to include areas that have not been subject to this cultural resource assessment;
- Cultural materials are encountered during project activities.

The current study attempted to determine whether significant archaeological deposits were present on the proposed project site. Although none were yielded during the records search and field survey, ground-disturbing activities have the potential to reveal buried deposits not observed on the surface. Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a qualified archaeologist should be retained to assess the significance of the find. The qualified archaeologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register or the National Register of Historic Places (National Register), plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;
- historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- groundstone artifacts, including mortars, pestles, and grinding slabs;
- dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks;
- human remains.

Findings were negative during the Sacred Lands File search with the NAHC (see Appendix C). The City will initiate Assembly Bill (AB) 52 Native American Consultation for the project. Since the City will initiate and carry out the required Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during

the consultation process, and BCR Consulting staff is available to answer questions and address concerns as necessary.

According to CEQA Guidelines, projects subject to CEQA must determine whether the project would "directly or indirectly destroy a unique paleontological resource". The Paleontological Overview provided in Appendix D has recommended that:

> The geologic units underlying the project area are mapped primarily as alluvial fan deposits from the Holocene and late Pleistocene epochs (Morton and Miller, 2006). Pleistocene alluvial units are considered to be highly paleontologically sensitive. The Western Science Center does not have localities within the project area or within a 1 mile radius; however, WSC does have localities in similarly mapped localities across Southern California.
>
> Any fossil specimen from the Assessor Parcel Number 0218-111-60 Project would be scientifically significant. Excavation activity associated with the development of the project area would impact paleontologically sensitive Pleistocene alluvial units, and it is the recommendation of the Western science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils associated with the study area.

If human remains are encountered during any project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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INTRODUCTION

BCR Consulting LLC (BCR Consulting) is under contract to RB Ontario LLC to complete a Cultural Resources Assessment of Assessor Parcel Number 0218-111-60 Project (project) in the City of Ontario (City), San Bernardino County, California. The project occupies approximately 23 acres and is bounded by residential properties to the west, south, and north and Archibald Avenue borders the project site to the east. A cultural resources records search, intensive pedestrian field survey, vertebrate paleontological resources overview, and Sacred Lands File search with the Native American Heritage Commission (NAHC) were conducted for the project in partial fulfillment of the California Environmental Quality Act (CEQA). The project site is located in Section 10 of Township 2 South, Range 7 West, San Bernardino Baseline and Meridian. It is depicted on the United States Geological Survey (USGS) *Guasti, California* (1981) 7.5-minute topographic quadrangle (Figure 1).

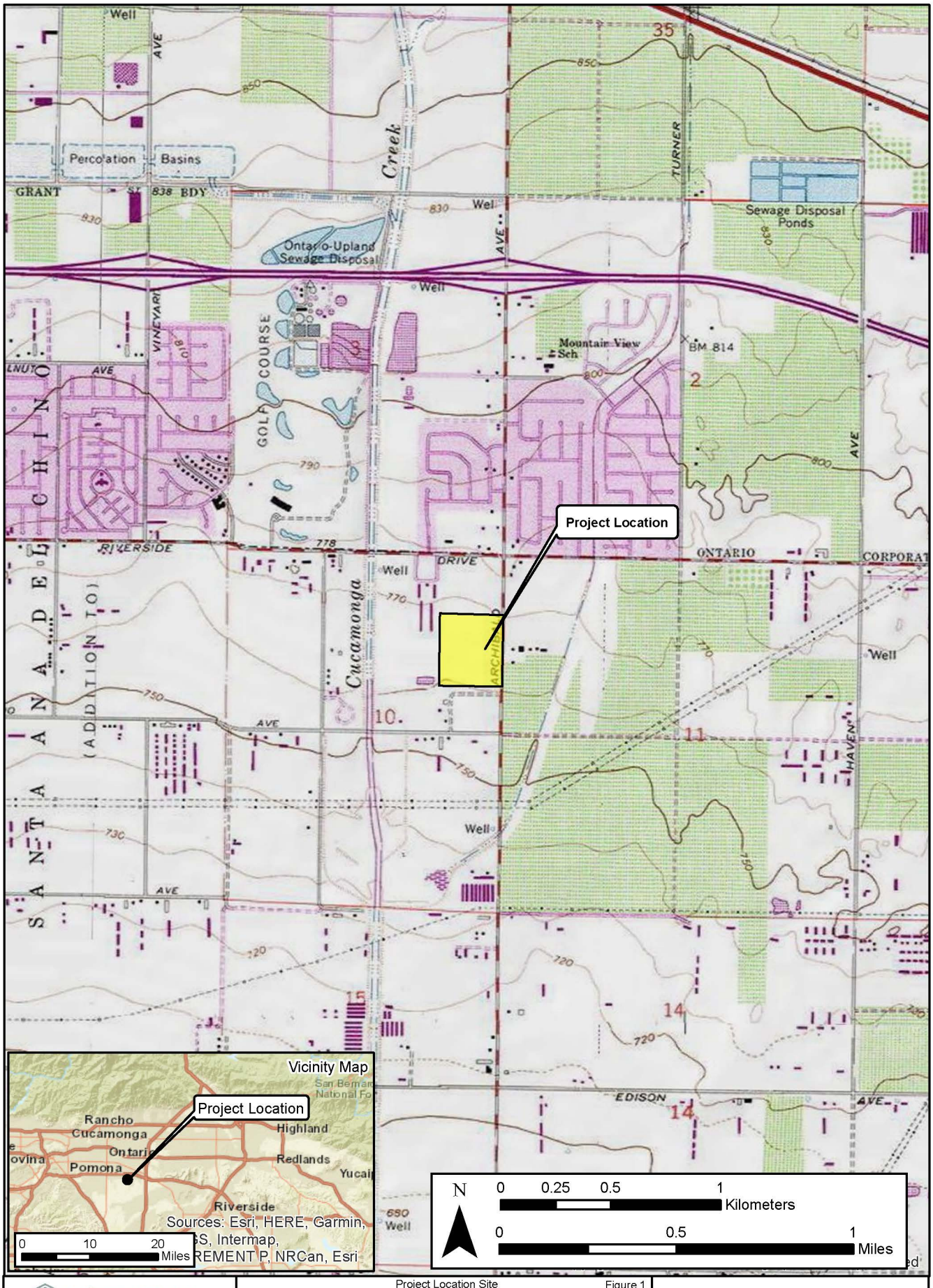
Regulatory Setting

The California Environmental Quality Act. CEQA applies to all discretionary projects undertaken or subject to approval by the state's public agencies (California Code of Regulations 14(3), § 15002(i)). Under CEQA, "A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (Cal. Code Regs. tit. 14(3), § 15064.5(b)). State CEQA Guidelines section 15064.5(a) defines a "historical resource" as a resource that meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources (California Register)
- Listed in a local register of historical resources (as defined at Cal. Public Res. Code § 5020.1(k))
- Identified as significant in a historical resource survey meeting the requirements of § 5024.1(g) of the Cal. Public Res. Code
- Determined to be a historical resource by a project's lead agency (Cal. Code Regs. tit. 14(3), § 15064.5(a))

A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing in the California Register of Historical Resources" (Cal. Code Regs. tit. 14(3), § 15064.5(a)(3)).

The significance of a historical resource is impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for the California Register. If an impact on a historical or archaeological resource is significant, CEQA requires feasible measures to minimize the impact (State CEQA Guidelines § 15126.4 (a)(1)). Mitigation of significant impacts must lessen or eliminate the physical impact that the project will have on the resource. Section 5024.1 of the Cal. Public Res. Code established the California Register. Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets



BCR CONSULTING LLC
Claremont Napa Tehachapi
www.bcrconsulting.net
909-625-7078

Project Location Site
Assessor Parcel Number 0218-111-60 Project
Reference: ESRI; USGS Quad: Guasti, California (1981)

Figure 1

RB Ontario LLC

7818

the criteria for listing in the California Register (Cal. Code Regs. tit. 14(3), § 15064.5(a)(3)). The eligibility criteria for the California Register are similar to those of the National Register of Historic Places (National Register), and a resource that meets one or more of the eligibility criteria of the National Register will be eligible for the California Register.

The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under CEQA. Criteria for Designation:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
2. Associated with the lives of persons important to local, California or national history.
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). Fifty years is normally considered sufficient time for a potential historical resource, and in order that the evaluation remain valid for a minimum of five years after the date of this report, all resources older than 45 years (i.e. resources from the "historic-period") will be evaluated for California Register listing eligibility, or CEQA significance. The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

Finally, CEQA requires that significant effects on unique archaeological resources be considered and addressed. CEQA defines a unique archaeological resource as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

CEQA Guidelines Section 15064.5 Appendix G includes significance criteria relative to archaeological and historical resources. These have been utilized as thresholds of significance here, and a project would have a significant environmental impact if it would:

a) cause a substantial adverse change in the significance of a historical resource as defined in section 10564.5;

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 10564.5;

c) Disturb any human remains, including those interred outside of formal cemeteries.

Tribal Cultural Resources. The Legislature added requirements regarding tribal cultural resources for CEQA in Assembly Bill 52 (AB 52) that took effect July 1, 2015. AB 52 requires consultation with California Native American tribes and consideration of tribal cultural resources in the CEQA process. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process. To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a Proposed Project. Since the City will initiate and carry out the required AB52 Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff are available to answer questions and address comments as necessary.

Paleontological Resources. CEQA provides guidance relative to significant impacts on paleontological resources, indicating that a project would have a significant impact on paleontological resources if it disturbs or destroys a unique paleontological resource or site or unique geologic feature. Section 5097.5 of the California Public Resources Code specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, California Penal Code Section 622.5 sets the penalties for damage or removal of paleontological resources. CEQA documentation prepared for projects would be required to analyze paleontological resources as a condition of the CEQA process to disclose potential impacts. Please note that as of January 2018 paleontological resources are considered in the geological rather than cultural category. Therefore, paleontological resources are not summarized in the body of this report. A paleontological overview completed by the Western Science Center is provided as Appendix D.

City of Ontario. The City has adopted the Ontario Development Code that establishes historic preservation activities and requirements. Properties may be designated at the local level as Historic Landmarks or Districts. Unless there is evidence for extraordinary importance, only properties over 50 years of age are eligible for inclusion. A property that meets one or more of the following criteria is eligible to be placed on the City's List of Historic Landmarks and Districts if:

1. It meets the criteria for listing in the NRHP; or
2. it meets the criterion for listing in the CRHR; or
3. it meets one of more of the following criteria:
   A. It exemplifies or reflects special elements of the City's history;
   B. It is identified with persons or events significant in local, state, or national history;
   C. It is representative of the work of a notable builder, designer, architect, or artist;
   D. It embodies distinguishing characteristics of a style, type, period, or method of construction;
   E. It is noteworthy example of the use of indigenous materials or craftsmanship;
   F. It embodies elements that represent a significant structural, engineering, or architectural achievement or innovation;
   G. It has a unique location, a singular physical characteristic, or is an established and familiar visual feature of a neighborhood, community of the City; or
   H. It is one of the few remaining examples in the City, region, state, or nation possessing distinguishing characteristics of an architectural or historical type or specimen.
   I. It has yielded or is likely to yield information important to the City's history or prehistory.

Landmarks and Districts listed in the National Register or the California Register are automatically listed as City Historic Landmarks and Districts. A City Landmark and/or District must also possess integrity.

NATURAL SETTING

The project is located in the Pomona Valley, which is bounded on the west by the San Jose Hills, on the south by the Chino Hills, on the north by the foothills of the San Gabriel Mountains (USGS 1981), and on the east by La Sierra and the Jurupa Mountains. Local rainfall ranges from 5 to 15 inches annually (Jaeger and Smith 1971:36-37). The area containing the project site exhibits a very gradual southerly slope, which lies on a flood plain that feeds the Santa Ana River approximately five miles to the south (USGS 1981). The native biology of the region is difficult to reconstruct due to weed abatement, development of agriculture, and municipal, and industrial impacts. However, the project site is situated in the Upper Sonoran Life Zone, which is locally present between approximately 500 and 5,000 feet AMSL. This zone typically comprises cismontane valleys and low mountain slopes dominated by mixed coastal sage scrub and chaparral vegetation communities (Williams 2008).

CULTURAL SETTING

Prehistoric Context

The project site is located within the traditional boundaries of the Gabrielino (Bean and Smith 1978; Kroeber 1925). The Gabrielino probably first encountered Europeans when Spanish explorers reached California's southern coast during the 15th and 16th centuries (Bean and Smith 1978; Kroeber 1925). The first documented encounter, however, occurred in 1769 when Gaspar de Portola's expedition crossed Gabrielino territory (Bean and Smith 1978). Other brief encounters took place over the years, and are documented in McCawley 1996 (citing numerous sources). The Gabrielino name has been attributed by association with the Spanish mission of San Gabriel, and refers to a subset of people sharing speech and customs with

other Cupan speakers (such as the Juaneño/Luiseño/Ajachemem) from the greater Takic branch of the Uto-Aztecan language family (Bean and Smith 1978). Gabrielino villages occupied the watersheds of various rivers (locally including the Santa Ana) and intermittent streams. Chiefs were usually descended through the male line and often administered several villages. Gabrielino society was somewhat stratified and is thought to have contained three hierarchically ordered social classes which dictated ownership rights and social status and obligations (Bean and Smith 1978:540-546). Plants utilized for food were heavily relied upon and included acorn-producing oaks, as well as seed-producing grasses and sage. Animal protein was commonly derived from rabbits and deer in inland regions, while coastal populations supplemented their diets with fish, shellfish, and marine mammals (Boscana 1933, Heizer 1968, Johnston 1962, McCawley 1996). Dog, coyote, bear, tree squirrel, pigeon, dove, mud hen, eagle, buzzard, raven, lizards, frogs, and turtles were specifically not utilized as a food source (Kroeber 1925:652).

History

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Period. The first European to pass through the area is thought to be a Spaniard called Father Francisco Garces. Having become familiar with the area, Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena (Beck and Haase 1974). Garces was followed by Alta California Governor Pedro Fages, who briefly explored the region in 1772. Searching for San Diego Presidio deserters, Fages had traveled through Riverside to San Bernardino, crossed over the mountains into the Mojave Desert, and then journeyed westward to the San Joaquin Valley (Beck and Haase 1974).

Mexican Period. In 1821, Mexico overthrew Spanish rule and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings, and released their neophytes (Beattie and Beattie 1974).

American Period. The American Period, 1848–Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought further diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that continue to this day (Beattie and Beattie 1974; Cleland 1941).

Ontario. Ontario, California was founded as a township in September 1882 by George and William B. Chaffey, named after their home of Ontario, Canada. The brothers purchased 6,218 acres of land with water rights and set aside 640 acres for the community of Ontario. Half of the initial 640 acres was deeded to the Chaffey Agricultural College as an endowment. On December 10, 1891, Ontario was incorporated as a city under the California Constitution with a City Council-City Manager form of government. In 1903, Ontario was proclaimed a "Model Irrigation Colony" by an Act of Congress. Ontario had many modern innovations, many of which still show their value today. An impressive two-hundred feet wide and eight miles long, Euclid Avenue (on the National Register List of Historic Places) was the stately back-bone of the colony.

Provisions for an electric railway, water rights for each landowner, a local educational institution, electric lights, one of the first long distance telephone lines, and public access to water and transportation set a new standard for rural communities and irrigation practices and ensured the success of the Model Colony. Water originating from the nearby San Gabriel Mountains was readily available. In addition to accessible water, climate conditions in Ontario were similar to those in the Mediterranean with dry, hot summers and cool, moist winters as regular occurrences. Ontario first developed as an agricultural community, largely, but not exclusively, devoted to the citrus industry. In addition to oranges, the production of peaches, walnuts, lemons, olives and grapes were also important to the growth of Ontario and neighboring cities (City of Ontario; Galvin & Associates 2004:7).

In 1923, airplane enthusiasts Waldo Waterman and Archie Mitchell established Latimer Field. From that point on, Ontario became an aviation town. Urban growth pushed the fliers east until they took up their permanent residence located at the Ontario World Airport. During WWII, this airport was a busy training facility for pilots. After WWII, construction boomed in Ontario as the city's growth more than doubled by the end of the 1950s. In 1954, four new schools were built, with land for three more being purchased. That same year, the Interstate 10 opened for public use, diminishing or altering commercial traffic through Ontario. The downtown area found competition in neighborhood shopping centers that featured large parking lots and national brand chain stores (Rounds 1999:125-126).

As the citrus industry declined, large tracts of orange groves gave way to new housing for settlers to the region. Following the 1960s and 1970s, the city's population had grown from 46,617 to 87,300 residents as Ontario expanded its boundaries eastward to encompass Guasti and the large tracts of vineyards beyond it (Rounds 1999:130). Ontario has become a diversified community with approximately 173,000 residents in 2015. Although the City boundaries have been extended from 0.38 square miles in 1891 to almost 50 square miles today, Ontario's Historic Downtown still retains the original subdivision pattern established by the Chaffey brothers (City of Ontario 2018).

The dry, arid climate made Ontario amenable to several agricultural products. While irrigation innovations brought abundant water to Ontario for its booming citrus industry, the cultivation of grape vineyards and wineries enjoyed similar success in the area. Secondo Guasti, an Italian immigrant who arrived in California in 1883, saw promise in the sandy sediment and subsurface water supply of the area south of Cucamonga and Ontario. Together with several other Italians,

Guasti purchased 2,000 acres of land for $60,000 to establish the Italian Vineyard Company (The Ontario City Library 2017:74; Rounds 1999:88). Guasti township, an unincorporated community comprising 1,200 mostly Italian and Mexican immigrants who worked on the vineyards and wine-making processes, was concurrently established. Secondo Guasti funded the construction of a fire station, a school, markets and shops, a dairy and farms, rows of clapboard houses for workers, and much more to be utilized by the community. Guasti's winery operation was modern by contemporary standards, with grapes being mechanically crushed and transported by conveyors, pumps, and hoses. In 1908 a narrow-gauge railroad brought grapes to the crusher, and in 1909 a refrigeration plant was installed to control fermentation temperatures. At its peak, the Italian Vineyard Company was renowned as the largest vineyard in the world, comprising nearly 5,000 acres of vineyards (Hees 2015).

Vineyards and wineries persisted as a specialty of the area through the first half of the 1900s. Even during the years of Prohibition, the vineyards continued to produce grapes for sacramental wine or home winemaking. Over the course of the ensuing decades, the vineyard workforces diversified from Italian immigrant labor to include Mexicans, Asians, and African Americans. Secondo Guasti passed away in 1927, leaving the company to his son Secondo II before his death in 1934. The Italian Vineyard Company's winery site was sold to Garrett & Company in 1945, then to the Biane family in 1957 who operated Brookside Winery on-site until the 1980s (Ontario City Library 2017: 73, 75). The success of vineyards and their production in the first half of the twentieth century would not carry over to the latter half. At its peak in the 1940s, the region contained 60 wineries and over 45,000 acres of vineyards (Weeks 2008: 49). By the 1950s, profits for the region's sweet wine began to decline as national tastes began to favor dry table wines. New, more profitable wineries began springing up along California's northern coastal regions that were more favorable to drier varieties of wine (Rounds 1999:128).

PERSONNEL

David Brunzell, M.A., RPA acted as the Project Manager and Principal Investigator for the current study. Mr. Brunzell also compiled the technical report and performed the cultural resources record searches through the South-Central Coastal Information Center (SCCIC). BCR Consulting Field Director Joseph Orozco, M.A., R.P.A., Crew Chief Timothy Blood, M.S., and Staff Archaeologist Doug Kazmier, B.A. completed the field survey. Mr. Blood also contributed to the technical report. The paleontological overview (provided in Appendix D) was completed by Professional Paleontologist Brittney Elizabeth Stoneburg, Collections Manager for the Western Science Center.

METHODS

Research

Mr. Brunzell completed an archaeological records search using SCCIC records at California State University, Fullerton for the current project. This archival research reviewed the status of all recorded historic and prehistoric cultural resources, and survey and excavation reports completed within the project site boundaries and within a half-mile radius of it. Additional resources reviewed included the National Register of Historic Places (National Register), the California Register, and documents and inventories published by the California Office of Historic Preservation. These include the lists of California Historical Landmarks, California

Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures.

Field Survey

An intensive-level cultural resources field survey of the project site was conducted on October 31, 2022. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across the accessible project site. Soil exposures were carefully examined for evidence of cultural resources. Digital photographs were taken at various points within the project site. A hand-held global positioning system (GPS) unit was available for mapping purposes, and detailed notes were taken to record field conditions and any discoveries.

RESULTS

Research

Data from the SCCIC revealed that 11 previous cultural resource studies have taken place, and five cultural resources have been recorded within one half-mile of the project site. The project site has never previously been assessed for cultural resources, and no cultural resources have been previously identified within its boundaries. The records search results are summarized in Table A and a complete bibliography is provided in Appendix A.

Table A. Cultural Resources and Reports Within One Half-Mile of the Project Site

USGS 7.5 Min Quad	Cultural Resources Within One Half-Mile of Project	Studies Within One Half-Mile
Guasti (1981)	P-36-13241: Hist.-Period Residence (1/2 Mile NW) P-36-13242: Hist.-Period Residence (1/2 Mile NW) P-36-13243: Hist.-Period Residence (1/2 Mile NW) P-36-13244: Hist.-Period Residence (1/4 Mile W) P-36-25440: Hist.-Period Transmission Line (1/4 Mile S)	SB-317, 655, 800, 1029, 4150, 4171, 4174, 4675, 5424, 5976, 7968

Limited additional land-use research was performed to help characterize potential for the project site to contain any historic-period resources. Aerial photos show that the buildings, structures, and facilities that occupy the project site were constructed between 1985 and 1994 (United States Department of Agriculture 1985, 1994). Since the buildings are less than 45 years old, they are not historic in age and do not warrant further consideration under CEQA, or as a City landmark or District. Research has not yielded any evidence for historic or prehistoric resources located within the project site boundaries.

Field Survey

During the field survey BCR Consulting personnel carefully inspected the project site, and identified no cultural resources within its boundaries. Surface visibility was averaged approximately 40 percent within the project site. Ground disturbances were severe and resulted from a variety of natural and artificial factors, including pavement installation and modular building and agricultural development, as well as mechanical weed abatement, surface erosion, and adjacent road and residential construction. No historic-period or prehistoric cultural resources of any kind were identified within the project site boundaries.

RECOMMENDATIONS

BCR Consulting conducted a cultural resources assessment of Assessor Parcel Number 0218-111-60 located in the City of Ontario, San Bernardino County, California. No cultural resources of any kind (including historic-period or prehistoric archaeological resources, or historic-period architectural resources) were identified. Therefore, no significant impact related to historical resources is anticipated and no further investigations are recommended unless:

- The proposed project is changed to include areas that have not been subject to this cultural resource assessment;
- Cultural materials are encountered during project activities.

The current study attempted to determine whether significant archaeological deposits were present on the proposed project site. Although none were yielded during the records search and field survey, ground-disturbing activities have the potential to reveal buried deposits not observed on the surface. Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a qualified archaeologist should be retained to assess the significance of the find. The qualified archaeologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register or the National Register of Historic Places (National Register), plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- historic-period artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;
- historic-period structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- groundstone artifacts, including mortars, pestles, and grinding slabs;
- dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks;
- human remains.

Findings were negative during the Sacred Lands File search with the NAHC (see Appendix C). The City will initiate Assembly Bill (AB) 52 Native American Consultation for the project. Since the City will initiate and carry out the required Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff is available to answer questions and address concerns as necessary.

According to CEQA Guidelines, projects subject to CEQA must determine whether the project would “directly or indirectly destroy a unique paleontological resource”. The Paleontological Overview provided in Appendix D has recommended that:

The geologic units underlying the project area are mapped primarily as alluvial fan deposits from the Holocene and late Pleistocene epochs (Morton and Miller, 2006). Pleistocene alluvial units are considered to be highly paleontologically sensitive. The Western Science Center does not have localities within the project area or within a 1 mile radius; however, WSC does have localities in similarly mapped localities across Southern California.

Any fossil specimen from the Assessor Parcel Number 0218-111-60 Project would be scientifically significant. Excavation activity associated with the development of the project area would impact paleontologically sensitive Pleistocene alluvial units, and it is the recommendation of the Western science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils associated with the study area.

If human remains are encountered during any project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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APPENDIX A

RECORDS SEARCH BIBLIOGRAPHY

Report List

RBO2201

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SB-00317	NADB-R - 1060317; Voided - 76-4.2	1976	MARTZ, PATRICIA	DESCRIPTION AND EVALUATION OF THE CULTURAL RESOURCES: CUCAMONGA, DEMENS, DEER AND HILLSIDE CREEK CHANNELS, SAN BERNARDINO AND RIVERSIDE COUNTIES, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, UCR	36-000270, 36-000895, 36-000897, 36-000898, 36-000899, 36-000900, 36-000901, 36-000902, 36-015231
SB-00655	NADB-R - 1060655; Voided - 78-6.2	1978	COTTRELL, MARIE G.	REPORT OF ARCHAEOLOGICAL AND PALEONTOLOGICAL RESOURCE ASSESSMENT CONDUCTED FOR A 900-ACRE PARCEL LOCATED IN THE SOUTHWEST OF ONTARIO IN SAN BERNARDINO COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESOURCE MANAGEMENT CORPORATION	
SB-00800	NADB-R - 1060800; Voided - 79-6.7	1979	HEARN, JOSEPH E.	ARCHAEOLOGICAL - HISTORICAL RESOURCES ASSESSMENT FOR CHINO AVENUE/WALKER AVENUE TO CUCAMONGA CHANNEL	SAN BERNARDINO COUNTY MUSEUM ASSOCIATION	
SB-01029	NADB-R - 1061029; Voided - 80-9.15	1980	FOSTER, JOHN M. and ROBERTA S. GREENWOOD	CULTURAL RESOURCE OVERVIEW FOR THE SERRANO SUBSTATION TO MIRA LOMA SUBSTATION TRANSMISSION ROUTE ALTERNATIVE CORRIDOR RIGHT-OF-WAY	GREENWOOD AND ASSOCIATES	36-000270, 36-000897, 36-000898, 36-000899, 36-000900, 36-000902, 36-001543, 36-001570, 36-001608, 36-002067, 36-002068, 36-002259, 36-002260, 36-002317, 36-003023, 36-003690, 36-004032, 36-060002
SB-04150	NADB-R - 1064150	2002	BUDINGER, FRED E.	PROPOSED WIRELESS DEVICE MONOPINE & EQUIPMENT CABINET; WHISPER LAKE SITE, 2450 RIVERSIDE DR, ONTARIO, CA. 12PP	TETRA TECH, INC	
SB-04171	NADB-R - 1064171	2001	MAXWELL, PAMELA	CULTURAL RESOURCES EVALUATION: CUCAMONGA AND DEER CREEK CHANNELS ECOSYSTEM RESTORATION. 10PP	CORPS OF ENGINEERS	
SB-04174	NADB-R - 1064174	1998	HEKIMIAN, KENNETH K.	PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT FOR VACANT COMMERCIAL PROPERTY LOCATED AT THE NW CORNER OF S. ARCHIBALD AVE & E. RIVERSIDE DR, ONTARIO, CA. 12PP	HVN ENVIRONMENTAL SERVICE CO	
SB-04675	NADB-R - 1064675	2006	ENCARNACION, DEIRDRE	HISTORICAL/ARHAEOLOGICAL RESOURCES SURVEY REPORT, PLANNING AREA 5, ARCHIBALD AVENUE AND CHINO AVENUE, CITY OF ONTARIO, SAN BERNARDINO COUNTY, CALIFORNIA		

Report List

RBO2201

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SB-05424	NADB-R - 1065424	2006	Tang, Bai "Tom", Deirdre Encarnacion, Daniel Ballester, Josh Smallwood, and Terri Jacquemain	Historica/Archaeological Resources Survey Report: Planning Area 4, Riverside Drive and Walker Avenue, City of Ontario, San Bernardino County, California.	CRM Tech	36-013229, 36-013230, 36-013231, 36-013232, 36-013233, 36-013234, 36-013235, 36-013236, 36-013237, 36-013238, 36-013239, 36-013240, 36-013241, 36-013242, 36-013243, 36-013244
SB-05976	NADB-R - 1065976	2007	Wetherbee, Matthew, Sarah Siren and Gavin Archer	Cultural Resource Assessment New Model Colony East Backbone Infrastructure, City of Ontario, San Bernardino County, California.	Stantec	36-012533
SB-07968		2011	Holm, Lisa and John Holson	Supplemental Archaeological Survey Report: Tehachapi Renewable Transmission Project Segement 8 East (Phases 2 and 3) and West (Phase 4), Los Angeles and San Bernardino Counties, California	Pacific Legacy, Inc.	36-012533, 36-012621, 36-012622

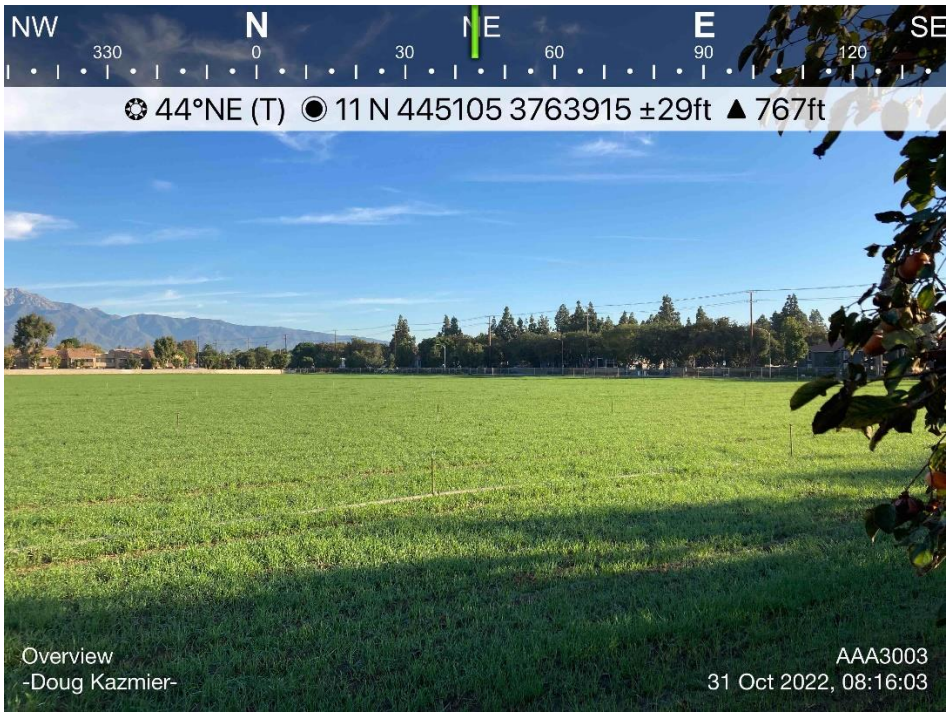
Resource List

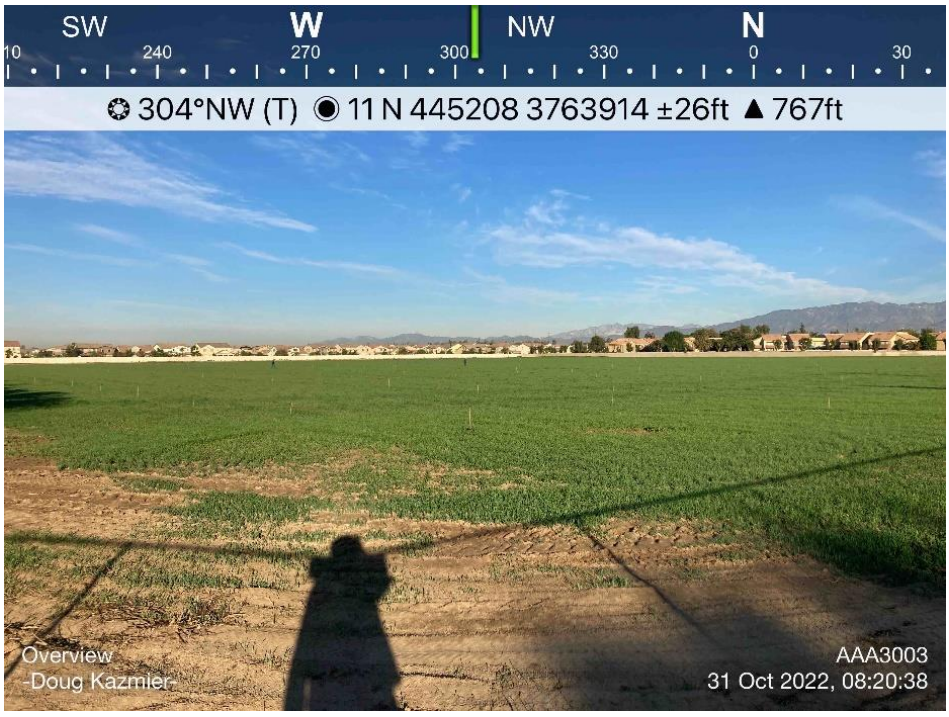
RBO2201

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-36-013241		Resource Name - CRM Tech 1790-13	Building	Historic	HP02	2006 (Josh Smallwood, CRM Tech)	SB-05424
P-36-013242		Resource Name - CRM Tech 1790-14	Building	Historic	HP02	2006 (Josh Smallwood, CRM Tech)	SB-05424
P-36-013243		Resource Name - CRM Tech 1790-15	Building	Historic	HP02	2006 (Josh Smallwood, CRM Tech)	SB-05424
P-36-013244		Resource Name - CRM Tech 1790-16	Building	Historic	HP02	2006 (Josh Smallwood, CRM TECH)	SB-05424
P-36-025440		Resource Name - Chino-Mira Loma No. 1 Transmission Line	Structure	Historic	HP11	2010 (Wendy Tinsley Becker, Urbana Preservation & Planning)	SB-06037

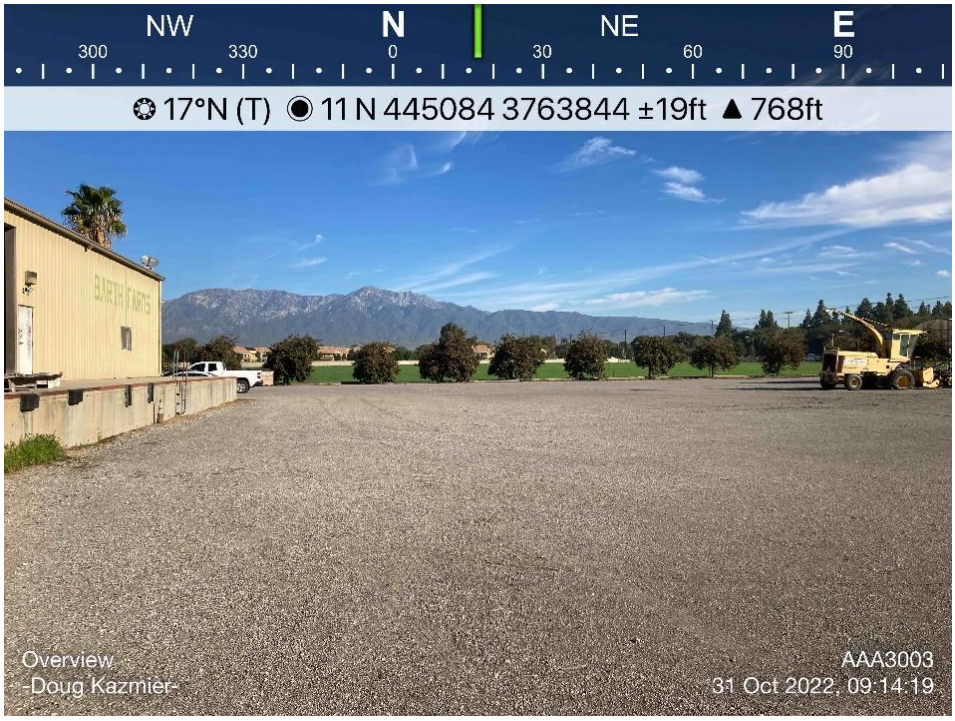
APPENDIX B

PROJECT PHOTOGRAPHS


NW N NE E SE
330 0 30 60 90 120
44°NE (T) 11 N 445105 3763915 ±29ft 767ft
Overview
-Doug Kazmier-
AAA3003
31 Oct 2022, 08:16:03


SW W NW N
10 240 270 300 330 0 30
304°NW (T) 11 N 445208 3763914 ±26ft 767ft
Overview
-Doug Kazmier-
AAA3003
31 Oct 2022, 08:20:38


N NE E SE
0 30 60 90 120 150
73°E (T) 11 N 445080 3763843 ±19ft 768ft
Overview
-Doug Kazmier-
AAA3003
31 Oct 2022, 09:14:09


NW N NE E
300 330 0 30 60 90
17°N (T) 11 N 445084 3763844 ±19ft 768ft
Overview
-Doug Kazmier-
AAA3003
31 Oct 2022, 09:14:19

APPENDIX C

NATIVE AMERICAN HERITAGE COMMISSION CORRESPONDENCE

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
[Vacant]

COMMISSIONER
[**Vacant**]

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

December 7, 2022

David Brunzell
BCR Consulting LLC

Via Email to: bcrllc2008@gmail.com

Re: Assessor Parcel Number 0218-111-60 Project (RBO2201), San Bernardino County

Dear Mr. Brunzell:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cameron.vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

Attachment

7838

Native American Heritage Commission
Native American Contact List
San Bernardino County
12/7/2022

Agua Caliente Band of Cahuilla Indians
Reid Milanovich, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919
laviles@aguacaliente.net

Agua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
84-001 Avenue 54 — Cahuilla
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161
hhaines@augustinetribe.com

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway — Cahuilla
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880
jstapp@cabazonindians-nsn.gov

Cahuilla Band of Indians
Daniel Salgado, Chairperson
52701 U.S. Highway 371 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 — Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 — Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 — Gabrielino
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490 — Gabrielino
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino Tongva Indians of California Tribal Council
Christina Conley, Tribal Consultant and Administrator
P.O. Box 941078 — Gabrielino
Simi Valley, CA, 93094
Phone: (626) 407 - 8761
christina.marsden@alumni.usc.edu

Gabrielino-Tongva Tribe
Charles Alvarez,
23454 Vanowen Street — Gabrielino
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com

Los Coyotes Band of Cahuilla and Cupeño Indians
Ray Chapparosa, Chairperson
P.O. Box 189 — Cahuilla
Warner Springs, CA, 92086-0189
Phone: (760) 782 - 0711
Fax: (760) 782-0712

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Assessor Parcel Number 0218-111-60 Project (RBO2201), San Bernardino County.

Morongo Band of Mission Indians
Ann Brierty, THPO
12700 Pumarra Road — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 755 - 5259
Fax: (951) 572-6004
abrierty@morongo-nsn.gov

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road — Cahuilla
Banning, CA, 92220 — Serrano
Phone: (951) 755 - 5110
Fax: (951) 755-5177
abrierty@morongo-nsn.gov

Pala Band of Mission Indians
Shasta Gaughen, Tribal Historic Preservation Officer
PMB 50, 35008 Pala Temecula Rd. — Cupeno, Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@palatribe.com

Pechanga Band of Indians
Mark Macarro, Chairperson
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6000
Fax: (951) 695-1778
epreston@pechanga-nsn.gov

Pechanga Band of Indians
Paul Macarro, Cultural Resources Coordinator
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6306
Fax: (951) 506-9491
pmacarro@pechanga-nsn.gov

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

Ramona Band of Cahuilla
Joseph Hamilton, Chairperson
P.O. Box 391670 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
admin@ramona-nsn.gov

Ramona Band of Cahuilla
John Gomez, Environmental Coordinator
P. O. Box 391670 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
jgomez@ramona-nsn.gov

Rincon Band of Luiseno Indians
Cheryl Madrigal, Tribal Historic Preservation Officer
One Government Center Lane — Luiseno
Valley Center, CA, 92082
Phone: (760) 297 - 2635
crd@rincon-nsn.gov

Rincon Band of Luiseno Indians
Bo Mazzetti, Chairperson
One Government Center Lane — Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
bomazzetti@aol.com

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San Manuel Band of Mission Indians
Jessica Mauck, Director of Cultural Resources
26569 Community Center Drive — Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
Jessica.Mauck@sanmanuel-nsn.gov

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosa-nsn.gov

Serrano Nation of Mission Indians
Wayne Walker, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

Serrano Nation of Mission Indians
Mark Cochrane, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

Soboba Band of Luiseno Indians
Isaiah Vivanco, Chairperson
P. O. Box 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 654 - 5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Torres-Martinez Desert Cahuilla Indians
Cultural Committee,
P.O. Box 1160 — Cahuilla
Thermal, CA, 92274
Phone: (760) 397 - 0300
Fax: (760) 397-8146
Cultural-Committee@torresmartinez-nsn.gov

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APPENDIX D

PALEONTOLOGICAL OVERVIEW

WESTERN SCIENCE CENTER

November 15th, 2022

BCR Consulting, LLC
Joseph Orozco
505 W. 8th St.
Claremont, CA 91711

Dear Mr. Orozco,

This letter presents the results of a record search conducted for the Assessor Parcel Number 0218-111-60 Project located in the city of Ontario, San Bernardino County, CA. The project site is located north of Chino Avenue, south of East Riverside Drive, and west of South Archibald Avenue, on Township 2 South, Range 7 West, on Section 10 of the *Guasti, CA* USGS 7.5 minute quadrangle.

The geologic units underlying the project area are mapped primarily as alluvial fan deposits from the Holocene and late Pleistocene epochs (Morton and Miller, 2006). Pleistocene alluvial units are considered to be highly paleontologically sensitive. The Western Science Center does not have localities within the project area or within a 1 mile radius; however, WSC does have localities in similarly mapped localities across Southern California.

Any fossil specimen from the Assessor Parcel Number 0218-111-60 Project would be scientifically significant. Excavation activity associated with the development of the project area would impact the paleontologically sensitive Pleistocene alluvial units, and it is the recommendation of the Western Science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils associated with the study area.

If you have any questions, or would like further information, please feel free to contact me at bstoneburg@westerncentermuseum.org.

Sincerely,

Brittney Elizabeth Stoneburg, MSc
Collections Manager

Assessor Parcel Number 0218-111-60

project area + 1 mile radius

Legend

- 1 Mile Radius
- Assessor Parcel Number 0218-111-60
- Q: Quaternary alluvium and marine deposits (Pliocene to Holocene

Ontario Soccer Park
Ontario Home Furnishings Shopping...
E Philadelphia St
CYA Counselor Ineasie M. Baker Mem Fwy
Planet Fitness
Ontario Police Department
E Walnut St
S Vineyard Ave
Westwind Park
Country Meadows Manufactured
East Riverside Dr
Whispering Lakes Golf Course
E Riverside Dr
Colony High School
Riverside Dr
Chino Ave
S Archibald Ave
E Chino Ave
S Turner Ave
Haven Ave
Hamner Ave
ONTARIO RANCH
Ontario Ranch Rd
60
15

FEHR PEERS

Memorandum

Date: April 24, 2023

To: Jeff Ragland, The Landmark Company

From: Paul Herrmann, P.E.
Biling Liu
Raymond Poss

Subject: Countryside Specific Plan (Neighborhood 2 Development) Project Vehicle Miles Traveled (VMT) Assessment and Impact Determination

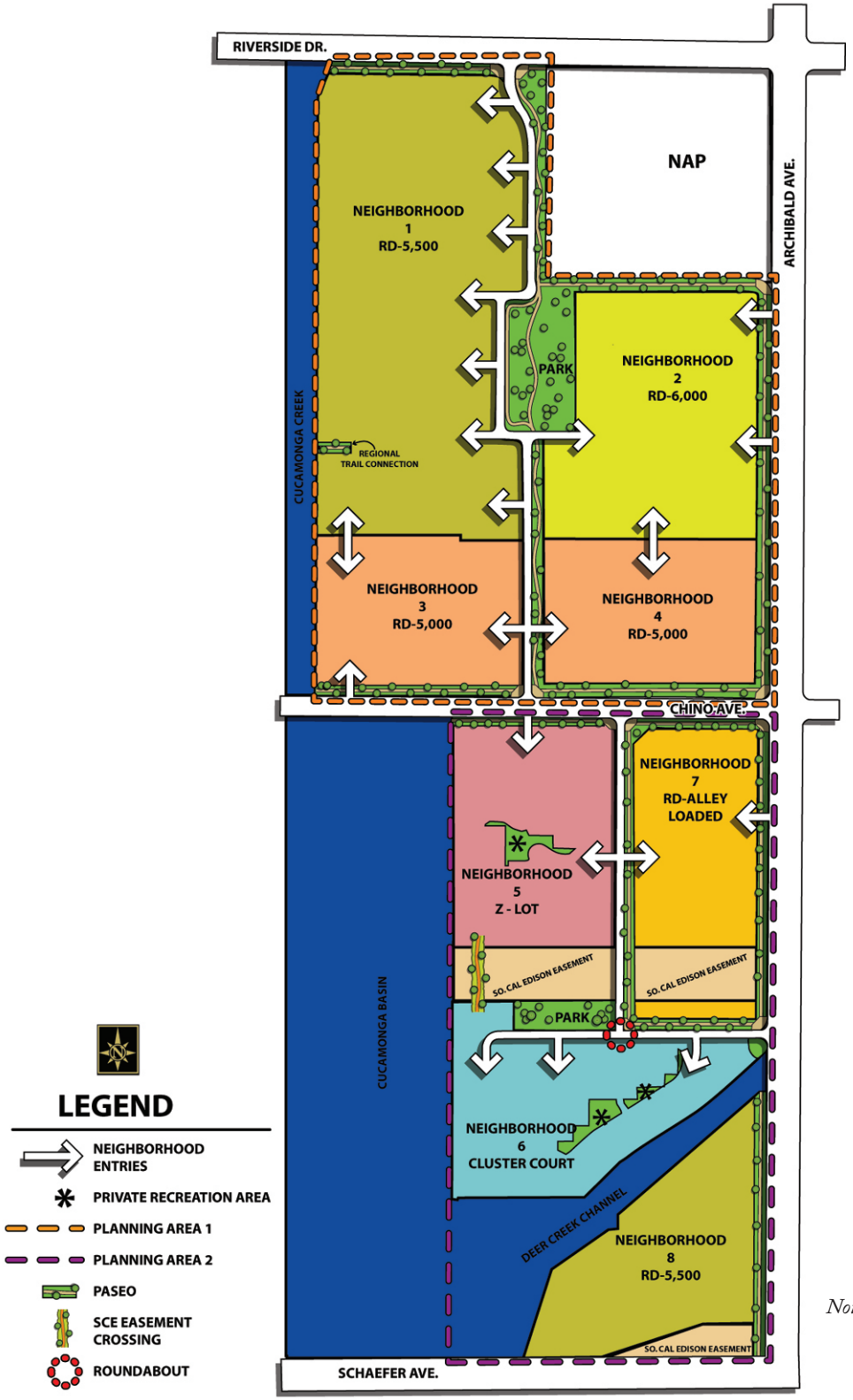
OC22-0942

Fehr & Peers has completed a Vehicle Miles Traveled (VMT) Assessment and impact determination for the Countryside Specific Plan Amendment Project (Project) located in the New Model Colony area of Ontario, California. This VMT analysis is consistent with requirements of Senate Bill 743 (SB 743), the Office of Planning and Research's (OPR's) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018), and the City of Ontario's adopted VMT Impact Analysis Resolution (No. 2020-071). The assessment concludes that the Project would result in a less-than-significant transportation impact.

The remainder of this memorandum is divided into six sections: Project Description, Analysis Approach, Traffic Modeling Methodology, VMT Estimates, Active Transportation and Public Transit Review, and Transportation Impact Analysis.

Project Description

The City of Ontario approved the Countryside Specific Plan (Specific Plan) and certified the associated *Countryside Specific Plan Final Environmental Impact Report* in March of 2006. The Approved Specific Plan is part of the Ontario New Model Colony. The Project area is bounded by the Carmel at the Colony Apartments to the North, Archibald Avenue to the West, and Colonial Ave to the West. **Figure 1** shows the approved Specific Plan land use map. The approved Specific Plan allows up to 825 Single Family Dwelling Units (SF DUs).



Note: Roundabout location and dimensions to be determined as part of tentative tract map approval.

Exhibit 10
Land Use Plan

Figure 2 shows the proposed Specific Plan land use plan. The Project proposes to expand neighborhood 2 in the Planning Area 2 from 106 SF DUs to 82 SF DUs and 192 Multi-Family (MF) DUs. This increases the development yield of the Approved Specific Plan area from 825 DUs to 993 DUs. These changes are outlined in **Table 1** below.

Table 1: Approved and Proposed Land Use Plan

Area	Approved Plan	Proposed Plan	
	SF DUs	SF DUs	MF DUs
Neighborhood 2	106	82	192
Specific Plan Total	**825**	**801**	**192**
Total DUs	**825**	**993**	

Analysis Approach

The proposed Specific Plan is an amendment to an approved Environmental Impact Report (EIR), so a plan-to-plan comparison was prepared to compare the VMT forecasts for the proposed Specific Plan to the adopted Specific Plan. The adopted Specific Plan covers Planning Areas 1 and 2. The proposed Specific Plan includes amendments to Neighborhood 2 of Planning Area 1. For an 'apples-to-apples' comparison, VMT was estimated for Neighborhood 2 under the adopted and proposed specific plans, and VMT was estimated for the entire Countryside Specific Plan area under the adopted and proposed specific plans.

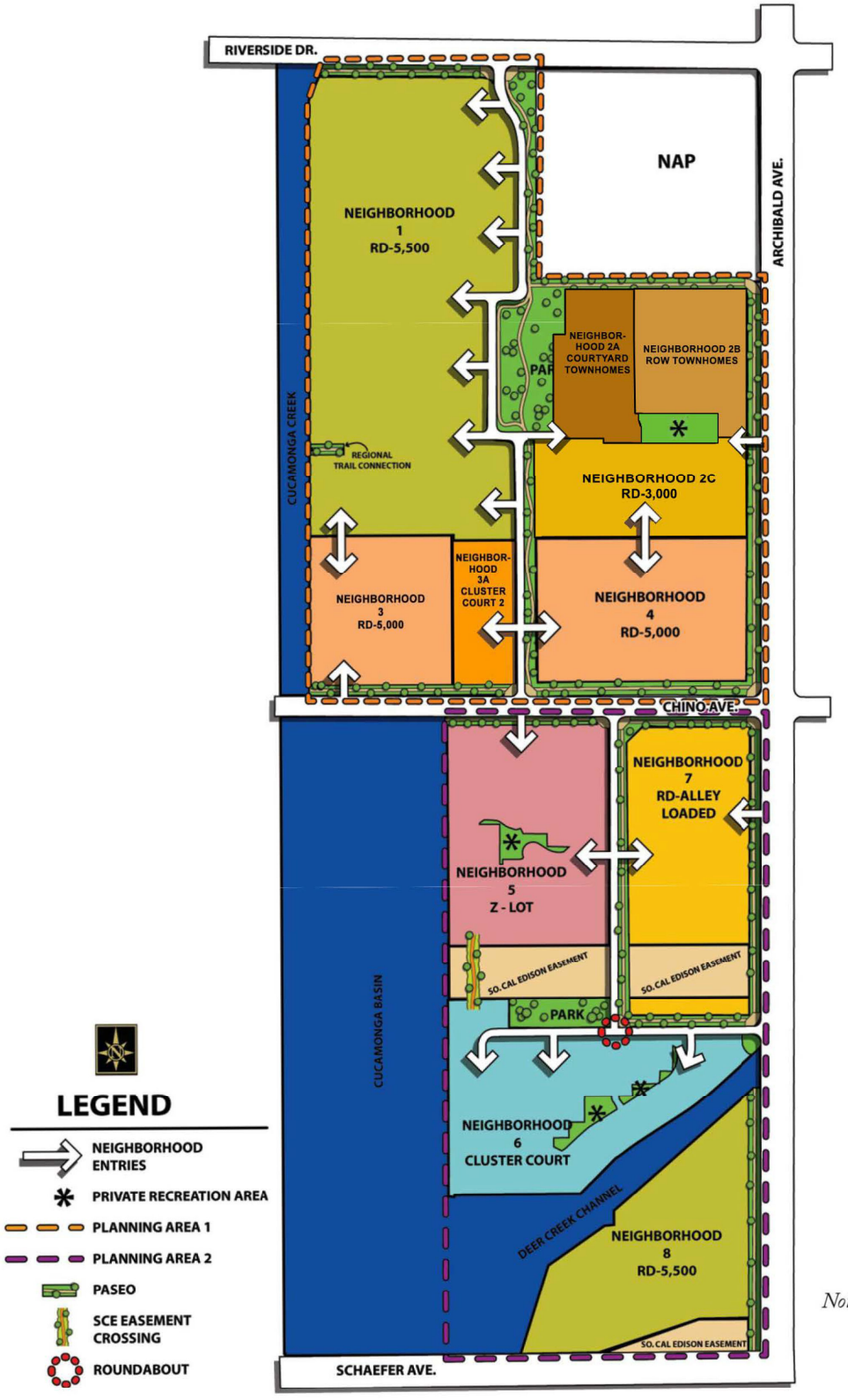
Traffic Modeling Methodology

The Ontario Plan (TOP) Model was utilized to estimate VMT for the Project. The TOP Model began as the San Bernardino Traffic Analysis Model (SBTAM)[1] and was updated for use in the City's General Plan Update EIR adopted in 2022. The roadway network and socio-economic data within the City of Ontario were updated to be consistent with the TOP EIR scenario modeling for Base Year (2019) and General Plan Buildout (2050). Outside of the City of Ontario, this model assumes datasets consistent with the 2016 Southern California Association of Governments (SCAG)

[1] SBTAM is a derivative of the SCAG regional travel demand forecasting model and underwent a subarea model development to add detail and refinement within San Bernardino County.

Revised Graphic

Countryside



Note: Roundabout location and dimensions to be determined as part of tentative tract map approval.

Exhibit 10
Land Use Plan Revised Graphic

Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) with a base year of 2012 and future year of 2040[2]. As recommended in the SBTAM model documentation, model assignment parameters were set to run up-to five loops with a minimum convergence criterion[3] of 0.01.

VMT Analysis Methodology

There are multiple ways to estimate VMT for a residential project. Total VMT gives an estimate of the total travel, while VMT per person measures the efficiency of travel. VMT for residential projects is typically presented in the following ways:

- Total VMT and VMT per Service Population[4] (VMT/SP) from the project, using Origin/Destination (OD) method which tracks all trips starting and ending at the project
- Home-Based Production (HB) VMT and HB VMT per resident from the project, using the Production/Attraction (PA) method which tracks all resident trips produced by the project
- Total VMT and VMT/SP within a designated boundary, such as within City limits or 5-mile radius, using the Boundary method which measures effect of the project on VMT within a given area

The City of Ontario's VMT Resolution requires use of SBTAM to forecast total daily VMT/SP to estimate VMT per the following thresholds of significance:

- A significant impact would occur if the project VMT/SP (for the land use plan) exceeds the Citywide average for service population under General Plan Buildout Conditions (using the OD method)
- A significant impact would occur if the project caused total daily VMT/SP within the City to be higher than the no project alternative under cumulative conditions (using the Boundary method)

For purposes of this assessment, HB VMT and HB VMT per resident was also estimated using the PA method to provide additional information for the decision makers.

VMT and VMT per person estimates were calculated using these three methodologies using the City's recommended VMT assessment tool, the TOP Model. There are limitations in the TOP Model, which is a typical four-step travel demand forecasting model. The model steps, which convert person trips to vehicle

[2] Please note that SBTAM does not have an available dataset consistent with the SCAG 2020 RTP/SCS. At the time of this analysis, SBTAM was in the process of being updated with the SCAG 2020 RTP/SCS data, but the data was not available. This analysis uses the most current, available SBTAM model version consistent with the City of Ontario's VMT Impact Resolution.

trips, limit the ability to separate trips by trip purpose (e.g. residential-based trips or work-based trips) while also accounting for all modal trips, as noted further below.

Origin/Destination (OD) VMT

The OD method for calculating VMT sums all weekday VMT generated by trips with at least one trip end in the study area and tracks those trips to their estimated origins/destinations. The OD method is completed after the final loops of assignment in the travel demand model (after person trips have been converted to total vehicle trips). Origins are all vehicle trips that start in a specific traffic analysis zone, and destinations are all vehicle trips that end in a specific traffic analysis zone. OD VMT is typically presented as total VMT or as total VMT/SP.

The OD method accounts for trips that begin or end outside of the travel demand model. OD trip matrices do not separate trips by trip purpose, and therefore VMT cannot be calculated by Home-Based-Work (HBW) attraction VMT per employee or HB production VMT per resident, but only by total VMT. It should also be noted that, although VMT includes trips to/from the City that originate or are destined to locations outside of the model area, those trip lengths are artificially truncated at the model boundary.

Production/Attraction (PA) VMT

The PA method for calculating VMT sums all weekday VMT generated by HB production and HBW attraction trips with at least one trip end in the study area by trip purpose. The PA method tracks trips with at least one trip end in the analysis area to/from their ultimate destination unless that destination is outside of the model boundary area. Productions are land use types that generate trips (residences), and attractions are land use types that attract trips (employment). Productions and attractions are converted from person trips to vehicle trips for the purposes of calculating VMT. PA VMT can be presented as HB VMT per Resident or HBW VMT per Employee.

The PA method allows project VMT to be evaluated based on trip purpose which is consistent with OPR recommendations in the Technical Advisory. For example, a single-use project such as an office building

[3] Convergence criteria refers to the acceptable difference in the traffic volumes produced by different loops of the vehicle assignment. A convergence criteria of 0.01 indicates that the model is producing similar outputs with an allowance of 1% difference between each loop. This criterion is outlined in the model documentation as the recommended convergence criteria for the model.

[4] Service Population (SP) is the sum of population and employment.

could be analyzed based only on the commute VMT, or HBW attraction VMT per employee; and a residential project could be analyzed based on the HB production VMT per resident.

PA matrices do not include external trips that have one trip end outside of the model boundary (IX-XI trips), airport traveler trips, or truck trips, and therefore do not include those trips in the VMT estimates. This is not consistent with the OPR recommendations that suggest full accounting of VMT should be completed.

Boundary Method VMT

The boundary method is the sum of all weekday VMT (volume on each roadway segment times the segment length) on a roadway network within a designated boundary. Boundary method VMT estimates VMT by multiplying the number of trips on each roadway segment by the length of each segment. This approach consists of all trips, including those trips that do not begin or end in the designated boundary and is another way to summarize VMT. This is the only VMT method that captures the effect of cut-through and/or displaced traffic.

Boundary VMT can be presented as total VMT or as total VMT/SP. The boundary utilized in the assessment below is the Ontario City Limits Boundary per the requirements of the City's VMT Resolution. To provide additional information, a 5- and 10-mile radius boundary is also presented.

VMT Estimates

Both OD and PA Project-level VMT estimates for the two specific plan alternatives were performed using the Adopted General Plan Buildout (2050) scenario of the TOP model using the Socio-Economic Data (SED) input data shown in **Table 2**. The original SED in the Project TAZs were referenced to estimate persons per household assumptions for the Project. Land uses were coded into a separate TAZ to represent the Project.

Table 2: Land Use and VMT Data Summary

Land Use	Adopted Specific Plan		Proposed Specific Plan	
	Neighborhood 2	Full Plan	Neighborhood 2	Full Plan
SF DUs	106	825	82	801
MF DUs	0	0	192	192
Total DUs	106	825	274	993
Total Population	404	3,143	825	3,564
HB VMT	6,410	49,869	11,051	54,502
HB VMT/Resident	15.87	15.87	13.40	15.29
OD VMT	12,771	83,535	23,071	93,843
OD VMT/SP	31.61	26.58	27.69	26.33
Citywide SP		705,054		705,475
Citywide Boundary VMT		8,512,227		8,511,538
Citywide Boundary VMT/SP		12.07		12.06
5-Mile Boundary VMT		12,561,684		12,560,402
5-Mile SP		742,736		743,157
5-Mile Boundary VMT/SP		16.91		16.90
10-Mile Boundary VMT		40,421,127		40,420,884
10-Mile SP		2,178,603		2,179,024
10-Mile Boundary VMT/SP		18.55		18.55

Notes:
1. DUs = Dwelling Units.
2. SF = Single Family.
3. MF = Multi-Family.
4. HB VMT = Home-Based Production VMT.
5. OD VMT = Origin/Destination VMT.
6. SP = Service Population; the sum of population and employment.

Source: TOP Model, 2022

As shown in **Table 2**, the following VMT metrics are reduced (e.g. VMT is reduced) when comparing the proposed plan to the approved plan for both Neighborhood 2 isolated and for the full plan:

- HB VMT per resident
- OD VMT/SP
- Boundary VMT/SP within City limits, 5-mile radius and 10-mile radius

However, due to the increase in total housing units, the total OD VMT estimated for the proposed Specific Plan is higher with the Proposed Project.

The proposed Project was also compared to the City thresholds of significance:

- The Project OD VMT/SP (27.69) and the full specific plan OD VMT/SP (26.33) do not exceed the Citywide average OD VMT/SP (29.42) under General Plan Buildout Conditions
- The Project did not cause total daily VMT/SP (12.06) within the City to be higher than the no project alternative (12.07) under cumulative conditions (using the City Limit Boundary)

The proposed Project is forecast to reduce HB VMT per resident, OD VMT/SP and Boundary VMT/SP as compared to the approved project, and is forecast to produce VMT/SP below the City's impact thresholds; therefore, this project is anticipated to result in a **less-than-significant** transportation impact.

Active Transportation and Public Transit Review

Potential impacts to public transit, pedestrian facilities and travel, and bicycle facilities and travel were evaluated to determine if the Project conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decreases the performance[5] or safety of such facilities.

In general, the New Model Colony Area has been undergoing major re-development over the past decade as it shifts from agricultural to residential land uses. There are limited active transportation facilities and

[5] Per the OPR Technical Advisory, decrease of performance does not include increase in users.

transit service in undeveloped areas. Bicycle and pedestrian facilities are proposed as part of the Ontario General Plan and Bicycle Master Plan on most roadways throughout the New Model Colony area.

Bicycle Facilities Review

There are four bicycle facility classifications recognized by the City of Ontario and are classified as follows:

Class I Bikeways (Bike Paths)

Class I bicycle facilities are bicycle trails or paths that are off-street and separated from automobiles. They are a minimum of eight feet in width for two-way travel and include bike lane signage and designated street crossings where needed. A Class I Bike Path may parallel a roadway (within the parkway) or may be a completely separate right-of-way that meanders through a neighborhood or along a flood control channel or utility right-of-way.

Class II Bikeways (Bike Lanes)

Class II bicycle facilities are striped lanes that provide bike travel and can be either located next to a curb or parking lane. If located next to a curb, a minimum width of five feet is recommended. However, a bike lane adjacent to a parking lane can be four feet in width. Bike lanes are exclusively for the use of bicycles and include bike lane signage, special lane lines, and pavement markings.

Class III Bikeways (Bike Routes)

Class III Bikeways are streets providing for shared use by motor vehicles and bicyclists. While bicyclists have no exclusive use or priority, signage both by the side of the street and stenciled on the roadway surface alerts motorists to bicyclists sharing the roadway space and denotes that the street is an official bike route.

Class IV Bikeways (Cycle Tracks)

Class IV bicycle facilities, sometimes called cycle tracks or separated bikeways, provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and are protected from vehicular traffic via separations (e.g. grade separation, flexible posts, inflexible physical barriers, on-street parking). California Assembly Bill 1193 (AB 1193) legalized and established design standards for Class IV bikeways in 2015.

Existing and proposed bicycle facilities in the study area are shown in **Figure 3**. Adjacent to the Project Site, a Class I bike path is proposed along Archibald. Within the Project limits, a Class I multi-purpose bike trail is provided adjacent to Colonial Avenue between Riverside Drive and just south of Darien Street. This

trail is proposed to extend to Chino Avenue to connect with additional proposed trails on Chino Avenue and adjacent to kinglet Avenue and Dolomite Street to connect with Archibald Avenue. Another Class I facility is proposed on Schaefer Avenue between the Deer Creek Channel and Archibald Avenue.

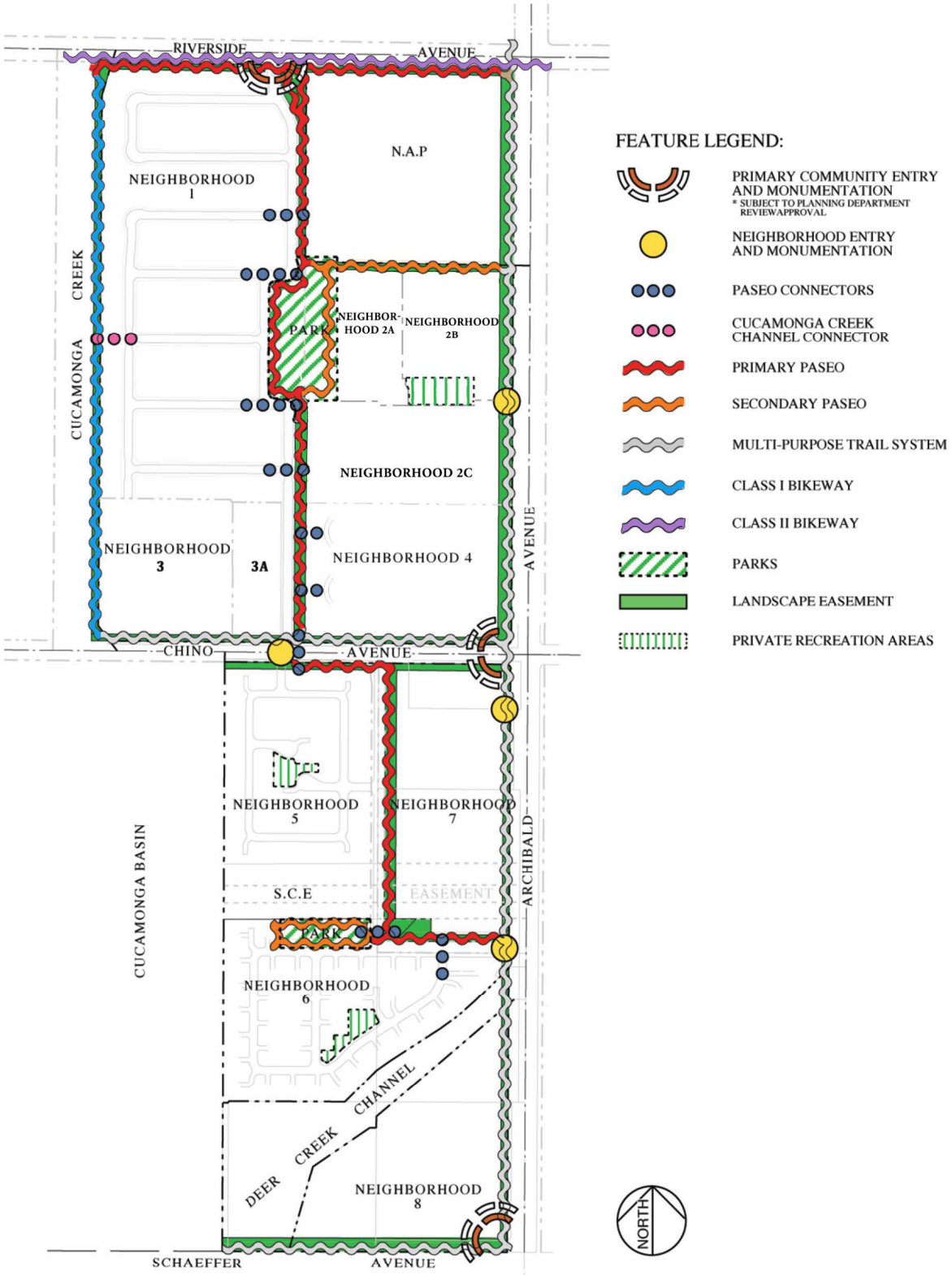
Pedestrian Facilities Review

Pedestrian facilities include sidewalks, crosswalks, pedestrian signals, and multi-use trails. The portions of the New Model Colony area that have already been re-developed have accessible pedestrian facilities. At existing signalized intersections, adjacent to and within the Project site, crosswalks and pedestrian push-button actuated signals are provided. At existing unsignalized intersections, adjacent to and within the Project site, striped crosswalks are generally provided. Under the assumption that pedestrian facilities will continue to be constructed as the New Model Colony area develops, the Project will be part of a safe and efficient pedestrian network.

The Project proposes to develop a network of paved sidewalks separated from vehicular travel lanes by landscaped parkway throughout the Project site. Sidewalks are proposed on the Project-side of Archibald Avenue. A multi-purpose bike and pedestrian paseo is proposed along the perimeter of the Project and connecting to the Cucamonga Creek Channel.

Revised Graphic

Countryside



Revised Graphic

Exhibit 11
Parks and Paseo Concept

Public Transit Review

There are bus and regional rail service options available in the City of Ontario. Since the New Model Colony and Ontario Ranch areas are mostly undeveloped at this time, limited routes and transit options are available near the Project site. It is anticipated that new routes will be proposed to support the future development, but those routes have not been identified at this time. Existing transit routes in the study area are shown on **Figure 4**.

Bus Service

Omnitrans

Omnitrans provides local and express services to San Bernardino County, which includes the City of Ontario. The only Omnitrans route that provides service near the Project site is Route 87 north and east of the Project site. The closest bus stop is at Riverside Drive and Archibald Avenue.

Route 87 operates Monday to Saturday between 4:35 AM and 9:50 PM with one-hour headways and provides service to Rancho Cucamonga and Eastvale through the Ontario Ranch area along Riverside Drive and Archibald Avenue

Rail Service

Metrolink

Commuter train service in the City of Ontario is provided by Metrolink, which provides service throughout the Southern California region. The Ontario-East Metrolink Station is located near the corner of Mission Boulevard and Haven Avenue, approximately 3.4 miles northeast of the Project site. The Metrolink railroad runs east-west through the middle of the city, with grade separations at Milliken and Haven Avenues. This same rail line is occasionally used by freight trains when the Union Pacific Railroad line (running east-west south of the I-10 freeway) is closed or restricted for limited periods. Local freight train traffic in the city includes switches on various spur lines serving the industrial areas at the southern section of the city.

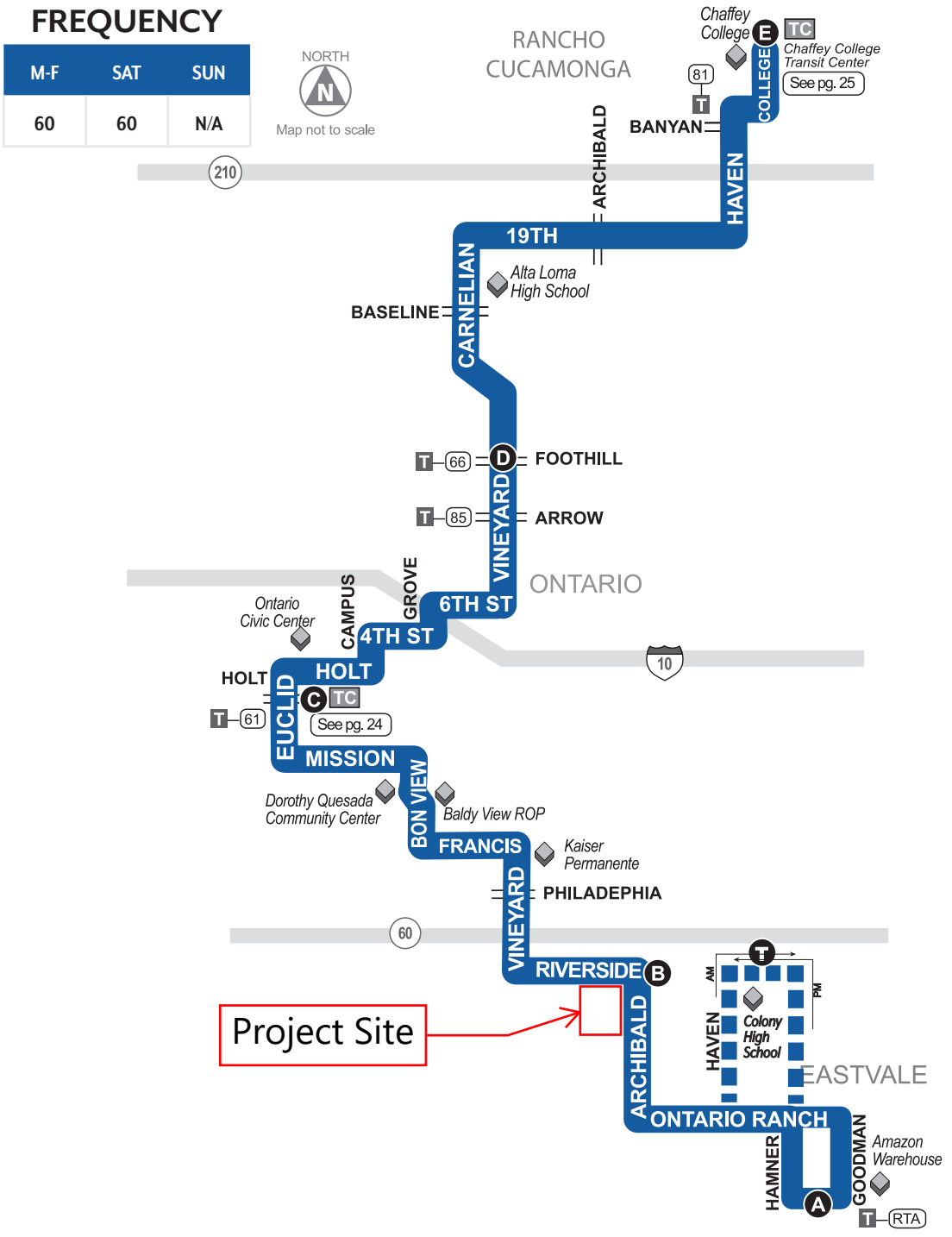
Riverside Line links downtown Riverside to Union Station in downtown Los Angeles with a stop at the Ontario Train Station. There are five morning trains and one afternoon train to Union Station on weekdays. There are five afternoon trains from Ontario to Riverside on weekdays.

87 CHAFFEY COLLEGE - ONTARIO - EASTVALE

Bus Route
Tripper Service
A Timepoint - Look for the matching symbol in the timetable section.
Metrolink Station
P Park-and-Ride
Point of interest
H Medical Center
T Transfer Point
1,2 Connection Route(s)
TC Transit/Transfer Center

FREQUENCY

M-F	SAT	SUN
60	60	N/A



Amtrak

Amtrak is a passenger railroad service that provides medium and long-distance inter-city rail service throughout the United States. Locally, a station is provided northwest of the Project on the corner of Euclid Avenue at Holt Boulevard. Two lines are available at the Ontario Station.

Sunset Limited Line provides intercity rail service three times per week between Los Angeles and New Orleans, Louisiana, with California stops in Los Angeles, Pomona, Ontario and Palm Springs. The service is available at the Ontario Train Station at 10:54 PM from Los Angeles.

Texas Eagle Line provides intercity rail service three times per week between Los Angeles and Chicago, Illinois, with California stops in Los Angeles, Pomona, Ontario and Palm Springs. The service is available at the Ontario Train Station at 10:54 PM from Los Angeles.

Transportation Impact Analysis

This assessment answers the following four questions from Appendix G. For purposes of this EIR, a project would normally have a significant effect on the environment if the project would:

T-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
T-2 Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b) regarding policies to reduce vehicle miles travelled (VMT).
T-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
T-4 Result in inadequate emergency access.

T-1 Assessment

A review of the Project description did not identify any disruption to existing bicycle, pedestrian nor transit facilities; the proposed Project provides consistency related to regional active transportation plans, transit plans, and other mobility infrastructure plans in the New Model Colony area. New transit trips are anticipated to be generated by the Project, but the Project would not modify transit stop locations or change transit headways. Additional transit ridership demand could increase boarding and alighting activity at existing bus stops and transit terminals located near the Project site. The Project is consistent with the adopted plans regarding bicycle and pedestrian infrastructure and is not expected to decrease

the performance or safety of these facilities. Therefore, the Project is considered to have a **less-than-significant** impact on active transportation and on public transit.

T-2 Assessment

The Project is consistent with CEQA Guidelines section 15064.3, subdivision (b) regarding policies to reduce VMT. The TOP 2050 Model forecast of total daily VMT/SP is the required method for estimating VMT. The proposed Project is forecast to reduce HB VMT per resident, OD VMT/SP and Boundary VMT/SP as compared to the approved project, and is forecast to produce VMT/SP below the City's impact thresholds; therefore, this project is anticipated to result in a **less-than-significant** transportation impact.

T-3 Assessment

The Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). The City of Ontario has adopted engineering standards to ensure consistency in the geometric design of their mobility facilities. Additionally, all plans undergo an extensive review process at the City to ensure consistency with these adopted standards. This impact is considered **less than significant**.

T-4 Assessment

The Project would not result in inadequate emergency access. The Project is proposing improvements at intersections consistent with the Ontario Plan Circulation Element Buildout, therefore increasing the capacity of the network, as identified in the Level of Service (LOS) assessment[6]. With the proposed improvements, the Project is anticipated to provide roadway capacity sufficient to support emergency evacuation scenarios even with the increased density. Therefore, this impact is considered **less than significant**.

Conclusion

The Project proposes increased density as compared to the approved plan and/or what is zoned in the City's General Plan. Densification in urban areas is a strategy promoted by the State to reduce VMT. VMT estimates were prepared to provide comparisons between approved and proposed which indicate that the proposed Project has a lower VMT/SP. The Project's forecast VMT is also lower than the City's threshold of significance. Therefore, the Project is more efficient from a VMT perspective and is anticipated to result in a **less-than-significant** transportation impact. The Project is also anticipated to

[6] Countryside Specific Plan Amendment (Neighborhood 2 Development) Traffic Study, LLG, November 23 2022.

result in a **less-than-significant** impact related to consistency with regional plans, design, and emergency evacuation.

LINSCOTT LAW & GREENSPAN engineers

TRAFFIC STUDY

COUNTRYSIDE SPECIFIC PLAN AMENDMENT (NEIGHBORHOOD 2 DEVELOPMENT)

Ontario, California

November 23, 2022

Prepared for:

RB ONTARIO, LLC
AGENTS FOR THE LANDMARK COMPANIES
11766 Wilshire Boulevard, Suite 820
Los Angeles, CA 90025

LLG Ref. 2-22-4592-1





Prepared by:
Shane S. Green, P.E.
Senior Transportation Engineer
&
Megan A. Lam
Transportation Engineer II

Under the Supervision of:
Richard E. Barretto, P.E.
Principal

Linscott, Law & Greenspan, Engineers
2 Executive Circle
Suite 250
Irvine, CA 92614
949.825.6175 T
949.825.6173 F
www.llgengineers.com

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TRAFFIC STUDY

COUNTRYSIDE SPECIFIC PLAN AMENDMENT (NEIGHBORHOOD 2 DEVELOPMENT)

Ontario, California

November 23, 2022

1.0 INTRODUCTION

1.1 Senate Bill 743

Senate Bill (SB) 743 (2013), codified in Public Resources Code section 21099, changed the methodology for analyzing transportation impacts under the California Environmental Quality Act (CEQA). SB 743 directed the Office of Planning and Research (OPR) to prepare proposed revisions to the CEQA Guidelines establishing new criteria for determining the significance of transportation impacts. The Secretary of the Natural Resources Agency subsequently certified CEQA Guideline 15064.3, establishing vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. Upon certification of the new Guideline, automobile delay, as measured by "level of service" and other similar metrics, is no longer considered a significant impact on the environment under CEQA. (Public Resources Code 21099(b)(2).) However, the amendments to the Public Resources Code and the Guidelines did not relieve a public agency of the requirement to analyze a project's potentially significant transportation impacts related to air quality, noise, safety, or other secondary impacts associated with transportation. (Pub. Res. Code 21099(b)(3).) Consequently, this study has been commissioned to provide an evidentiary basis for analyzing the secondary impacts of the project associated with transportation and as detailed more fully below, the project's consistency with the City's General Plan, known as The Ontario Plan 2050 (TOP 2050).

1.2 Traffic Study

This Traffic Study addresses the potential traffic and circulation needs associated with the proposed amendment to the current (2008) Countryside Specific Plan (CSP) (herein after referred to as Project) in the City of Ontario. The Countryside Specific Plan was approved by the City of Ontario in April 2006, with subsequent Specific Plan Amendments approved in June 2006 and August 2008. The Countryside Specific plan comprises approximately 178 acres of land that is located westerly of Interstate 15 (I-15), and southerly of State Route 60 (SR-60). The Specific Plan area lies within the 8,200-acre Ontario Ranch, in the southcentral portion of The Ontario Plan (TOP). The proposed Project within the Countryside Specific Plan includes an amendment related to Planning Area 1, Neighborhood 2, which now allows for the development of up to 106 single-family detached homes (RD – 6,000 SF lots). The Project would consist of the development of 274 residential unit within Neighborhood 2.

This report documents the findings and recommendations of a traffic study conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the nature and extent of the traffic that would be associated with the Project and consider whether any roadway network improvements would be required to ensure the Project's consistency with the TOP 2050.

1.2.1 *Scope of Work*

The traffic analysis evaluates the existing operating conditions at twelve (12) key study intersections within the Project vicinity, estimates the trip generation potential of the proposed Project and forecasts future operating conditions without and with the additional traffic generated by the proposed Project. Where necessary, roadway and/or intersection improvements are identified. The Scope of Work for this traffic study, which is included in ***Appendix A***, was developed in conjunction with City of Ontario staff.

The Project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing peak hour traffic information has been collected at twelve (12) key study intersections for use in the preparation of intersection level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity of the proposed Project has been researched at the City of Ontario and City of Chino. Based on our research, there are twenty-one (21) cumulative projects in the City of Ontario and City of Chino. These twenty-one (21) planned and/or approved cumulative projects were considered in the cumulative traffic analysis for this Project.

This traffic report analyzes existing and future weekday AM peak hour and PM peak hour traffic conditions for a near-term (Year 2026) and long-term (Year 2050) traffic setting upon completion of the proposed Project. Peak hour traffic forecasts for the Year 2026 horizon year have been projected by increasing existing traffic volumes by an annual growth rate of 2.0% per year and adding traffic volumes generated by twenty-one (21) cumulative projects. Long-term (Year 2050) traffic projections were derived from The Ontario Plan 2050 (TOP 2050) Model by San Bernardino County Traffic Analysis Model (SBTAM).

1.3 Study Area

The twelve (12) study intersections were selected for evaluation based on the requirements of the City of Ontario (i.e. “50 peak hour trip criterion”), as well as proximity to the Project site. The twelve (12) existing key study intersections listed below provide local access to the study area and define the extent of the boundaries for this traffic impact investigation. The jurisdictions where the study intersections are located are identified as well:

Key Intersection	Jurisdiction
1. Archibald Avenue at SR-60 WB Ramps	Caltrans/Ontario
2. Archibald Avenue at SR-60 EB Ramps	Caltrans/Ontario
3. Archibald Avenue at Riverside Drive	Ontario
4. Archibald Avenue at Citrine Hills/Project Driveway	Ontario
5. Archibald Avenue at Chino Avenue	Ontario
6. Archibald Avenue at Schaefer Avenue	Ontario
7. Archibald Avenue at Ontario Ranch Road	Ontario
8. Vineyard Avenue at Riverside Drive	Ontario
9. Turner Avenue at Riverside Drive	Ontario
10. Kinglet Avenue at Chino Avenue	Ontario
11. Old Archibald Avenue at Chino Avenue	Ontario
12. Turner Avenue at Chino Avenue	Ontario

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the proposed Project and depicts the study locations and surrounding street system. The Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with area growth, cumulative projects and the proposed Project. When necessary, this report recommends roadway network improvements and/or circulation enhancements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service and/or accommodate added traffic volumes generated by the Project.

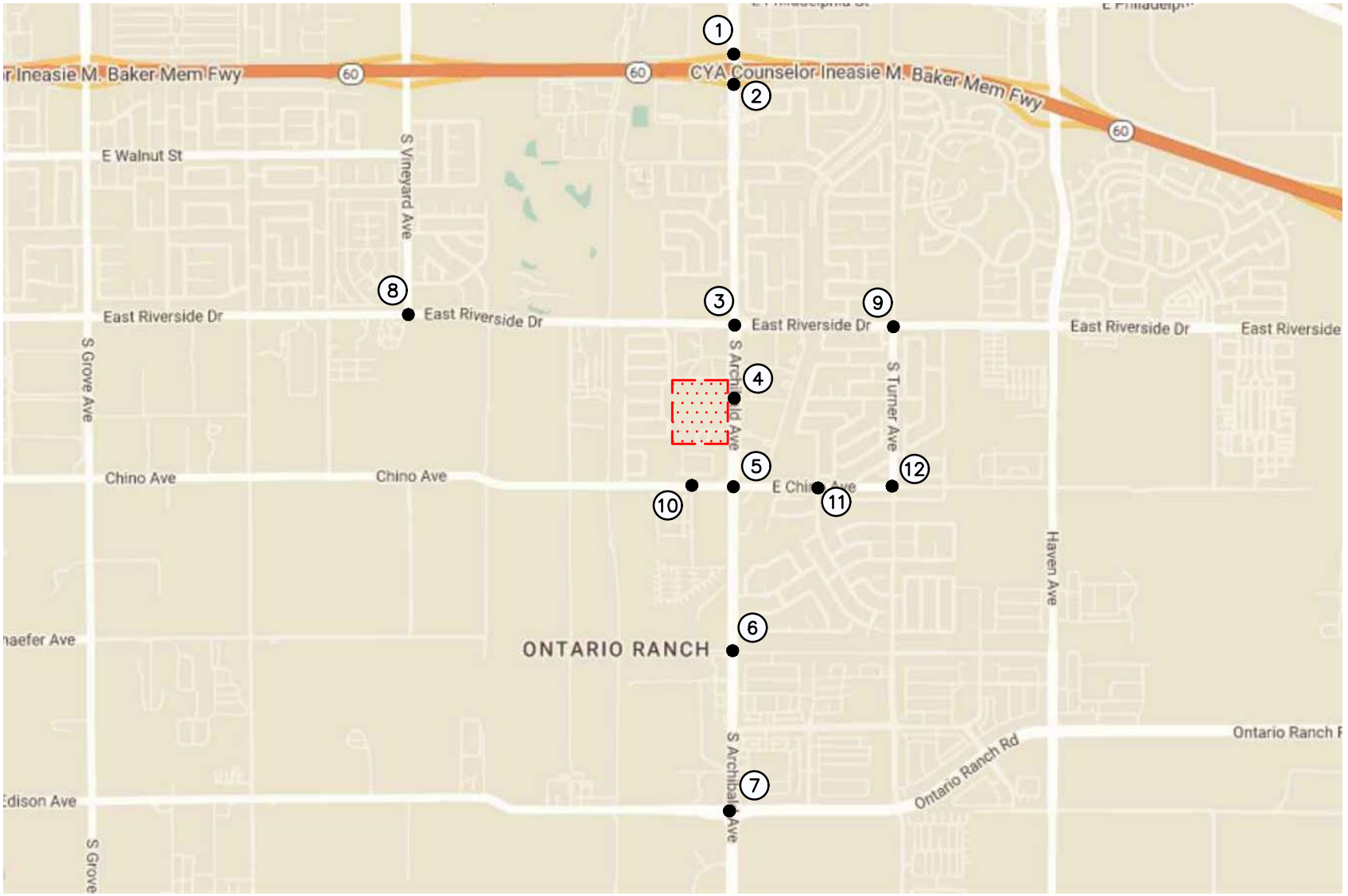
Included in this Traffic Study are:

- Existing traffic counts,
- Estimated Project traffic generation/distribution/assignment,
- Estimated cumulative projects traffic generation/distribution/assignment,
- AM and PM peak hour capacity analyses for existing conditions,
- AM and PM peak hour capacity analyses for existing plus Project conditions,
- AM and PM peak hour capacity analyses for near-term (Year 2026) conditions without and with Project traffic,
- AM and PM peak hour capacity analyses for long-term (Year 2050) conditions without and with Project traffic,
- Caltrans Off-Ramp queueing assessment,
- Turn pocket queueing assessment at signalized intersections,
- Area Traffic Improvements and Circulation Enhancements, and
- Site Access and Internal Circulation

1.4 Traffic Analysis Scenarios

The following scenarios are those for which volume/capacity calculations have been performed at the twelve (12) key intersections for near-term (Year 2026) and long-term (2050) conditions:

(a) Existing traffic;
(b) Existing plus Project conditions;
(c) Traffic in (b) plus recommended improvements (as required);
(d) Existing traffic plus ambient growth to the Year 2026 plus cumulative Project traffic;
(e) Traffic in (d) plus Project conditions;
(f) Traffic in (e) plus recommended improvements (as required);
(g) Long-term (Year 2050) Buildout traffic;
(h) Traffic in (g) plus Project conditions; and
(i) Traffic in (h) plus recommended improvements (as required).



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LINSCOTT LAW & GREENSPAN engineers

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SOURCE: GOOGLE

KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 1-1

VICINITY MAP

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

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2.0 PROJECT DESCRIPTION

The Countryside Specific Plan (CSP) was approved by the City of Ontario in April 2006, with subsequent Specific Plan Amendments approved in June 2006 and August 2008. The Countryside Specific Plan comprises approximately 178 acres of land that is located westerly of Interstate 15 (I-15), and southerly of State Route 60 (SR-60). The Specific Plan area lies within the 8,200-acre Ontario Ranch, in the southcentral portion of The Ontario Plan (TOP). The Specific Plan is located south of Riverside Drive, east of the Cucamonga Creek Channel and Basin, west of Archibald Avenue, and north of Schaefer Avenue; Chino Avenue bisects the Specific Plan, resulting in Planning Area 1 to the north and Planning Area 2 to the south.

The 2008 Specific Plan allows for the development of up to 825 single family detached residential units within nine (9) neighborhoods. The 2022 Specific Plan Amendment concept provides for a maximum of 993 dwelling units (single family detached and attached residential types) within eleven (11) neighborhoods. The proposed Project within the Countryside Specific Plan includes an amendment related to Planning Area 1, Neighborhood 2, which now allows for the development of up to 106 single-family detached homes (RD – 6,000 SF lots).

Planning Area 1 – Neighborhood 2: Proposed Project

The Project would consist of the development of 274 residential unit within Neighborhood 2 that would consist of 96 Courtyard townhomes within Neighborhood 2A, 96 Row Townhomes within Neighborhood 2B and an additional 82 single-family detached homes within Neighborhood 2C. It is our understanding that the Project evaluated herein is consistent with the land uses shown in the adopted 2050 TOP. The Proposed Specific Plan Land Use designation for the Project is illustrated at ***Figure 2-1***.

The Project Site Plan (TTM No. 20536), prepared by X Engineering & Consulting, Inc., is illustrated ***Figure 2-2***, and the Project Land Use Summary is shown in ***Table 2-1***. A review of *Table 2-1* indicates that the Specific Plan Amendment (SPA) related to Neighborhood 2 would amend the 2008 Specific Plan and allow for a maximum of 274 dwelling units instead of 106 dwelling units as now allowed/entitled.

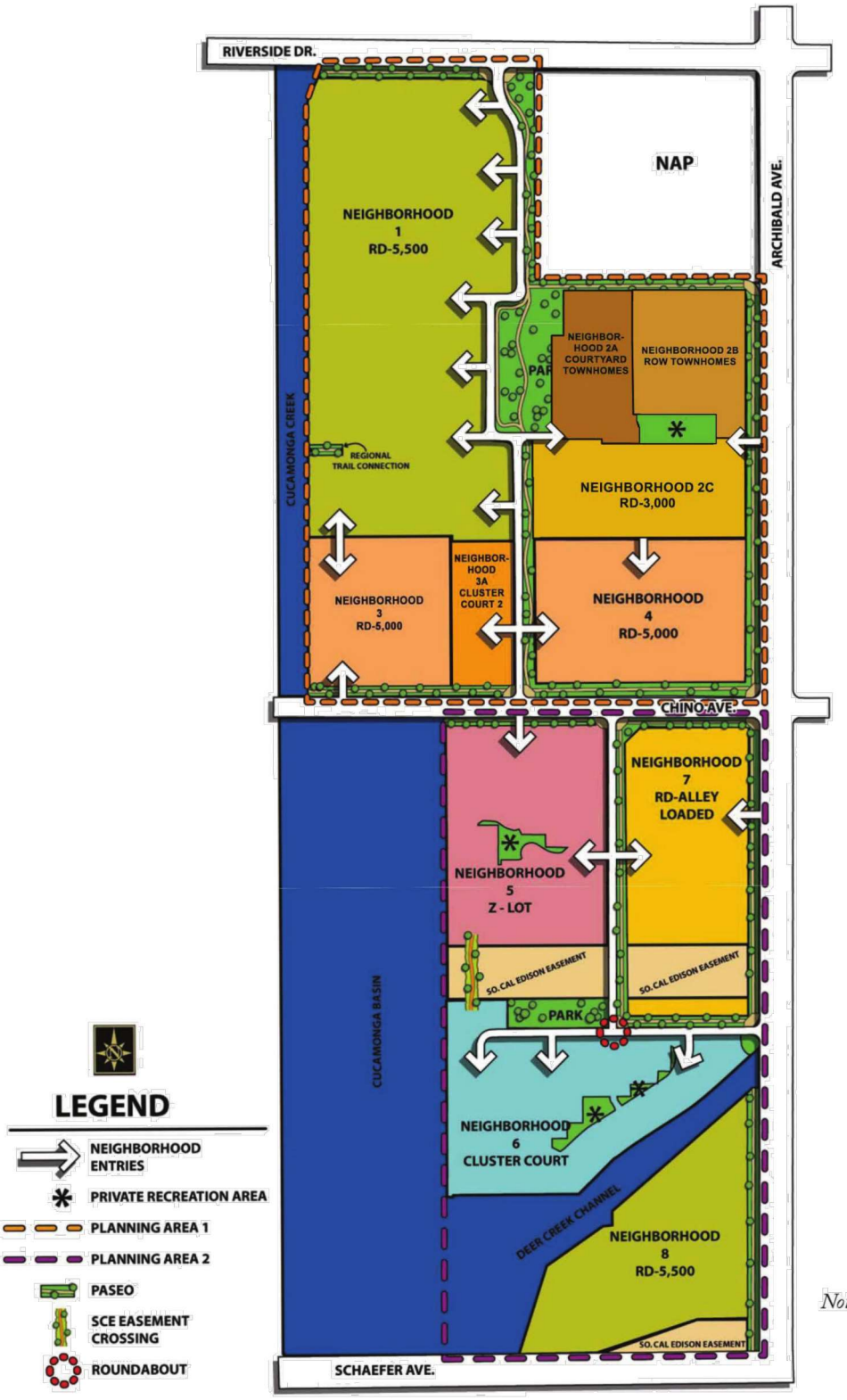
The Project is expected to be constructed and open in the next couple years or so by Year 2026 but is dependent on several factors, including the timing of Project approval. Project funding, market conditions and/or the current environment which could delay Project completion. The Project, like most other proposed development, have experienced delays. As such, subject to confirmation by the Project Applicant, Year 2026 will be utilized to assess the Project's anticipated traffic impacts within a near-term traffic setting upon completion and full buildout/occupancy of the proposed residential development.

2.1 Site Access

As shown in *Figure 2-2*, access to the Project site, as currently proposed and allowed in the 2008 Specific Plan, will be provided via one (1) full access signalized driveway on Archibald Avenue opposite the Citrine Hills residential development, with secondary "cross access" provided through the adjacent residential communities as planned in the Countryside Specific Plan. It is noted that Archibald Avenue at Citrine Hills is currently unsignalized. The secondary access point would provide vehicular, pedestrian and bicycle connectivity to the south to access Chino Avenue. The Project Master Circulation Plan is presented at ***Figure 2-3***. From a review of the current of the adjacent neighborhoods to the south, it is assumed that secondary vehicular access from Chino Avenue would be provided via the intersection of Chino Avenue and Kinglet Avenue through the area of Neighborhood 4 that is now developed.

2.2 Pedestrian and Bicycle Circulation

The Project would construct bicycle and pedestrian access improvements within the Project site and frontage consistent with the Specific Plan Pedestrian and Bicycle Trails plan, are illustrated in ***Figure 2-4.***



Note: Roundabout location and dimensions to be determined as part of tentative tract map approval.

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SOURCE: COUNTRYSIDE SPECIFIC PLAN

LINSCOTT LAW & GREENSPAN engineers

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FIGURE 2–1

PROPOSED LAND USE PLAN

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO



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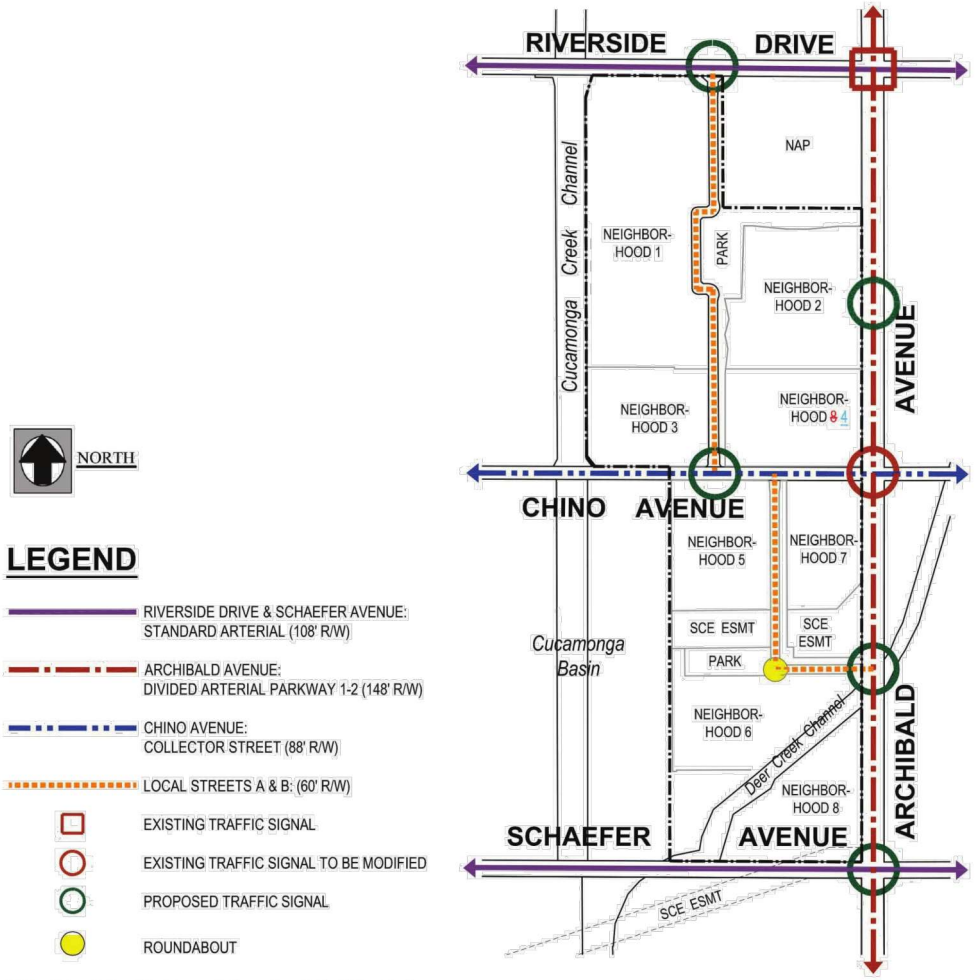
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SOURCE: X ENGINEERING & CONSULTING INC.

FIGURE 2-2

PROPOSED SITE PLAN

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO



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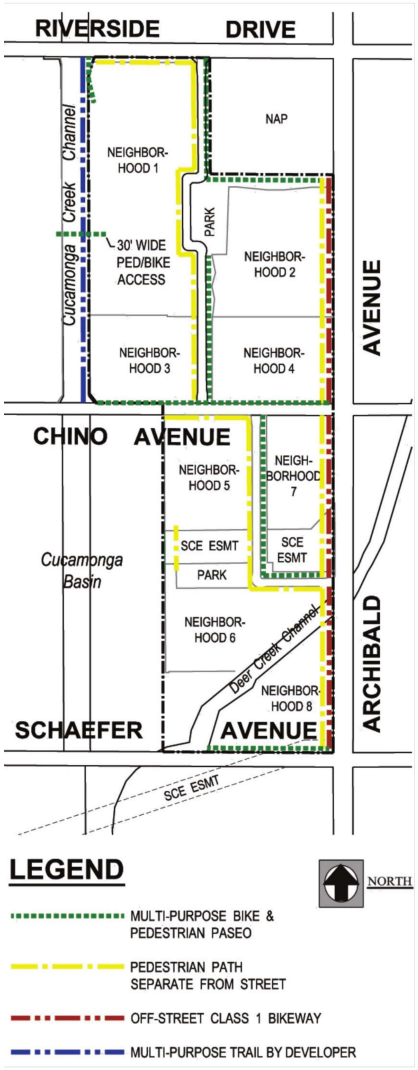
SOURCE: COUNTRYSIDE SPECIFIC PLAN

FIGURE 2-3

MASTER CIRCULATION PLAN

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

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LINSCOTT LAW & GREENSPAN engineers

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SOURCE: COUNTRYSIDE SPECIFIC PLAN

FIGURE 2-4

PEDESTRIAN AND BICYCLES TRAILS PLAN

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

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TABLE 2-1

PROJECT LAND USE SUMMARY

Neighborhood	Acres	Dwelling Units	Type	Net Density
Neighborhood 2 – Entitled	20.46	106	RD 6000	5.18 du/acre
Neighborhood 2A – Proposed	4.91	96	RD Courtyard Townhomes	19.55 du/acre
Neighborhood 2B – Proposed	5.46	96	RD Row Townhomes	17.58 du/acre
Neighborhood 2C – Proposed	8.94	82	RD 3000	9.17 du/acre
Project Subtotal	**19.31**	**274**	--	--

3.0 EXISTING CONDITIONS

State-Route 60 (SR-60) provides primary regional access to the proposed Project site via the freeway interchange at Archibald Avenue. Local access is provided via the intersections of Archibald Avenue at Riverside Drive and Archibald Avenue at Chino Avenue. The principal local network of streets serving the Project site consists of Archibald Avenue, Riverside Drive, Chino Avenue, and Ontario Ranch Road. The following discussion provides a brief synopsis of these key area streets.

3.1 Existing Street Network

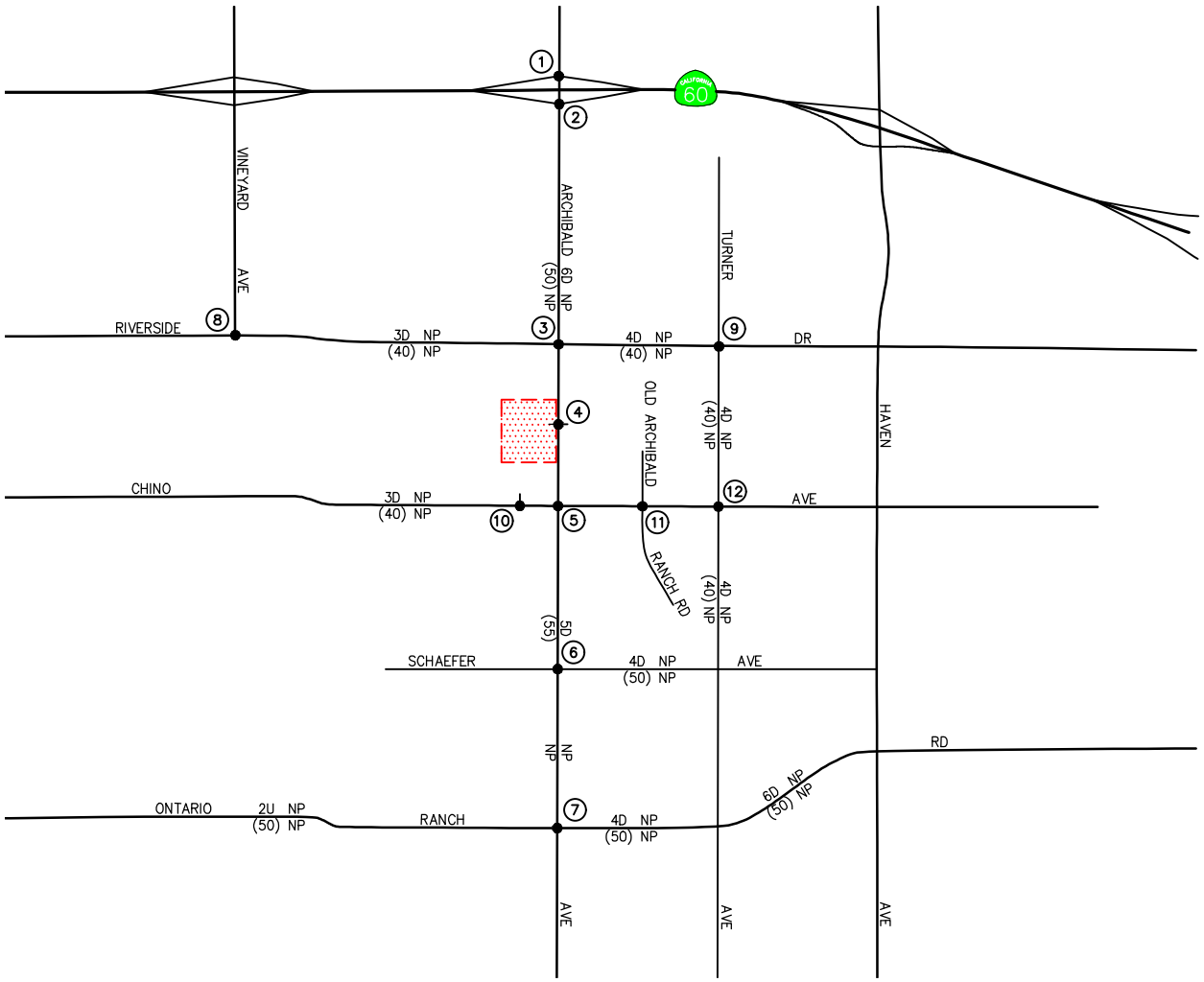
Archibald Avenue is a six-lane divided roadway north of Riverside Drive, and a five-lane divided roadway south of Riverside Drive, oriented in the north-south direction. Parking is generally not permitted on either side of the roadway within the vicinity of the Project. The posted speed limit on Archibald Avenue is 45 miles per hour (mph) north of Riverside Drive, and 55 mph south of Riverside Drive, within the vicinity of the project. Traffic signals control the study intersections of Archibald Avenue at SR-60 EB Ramps, SR-60 WB Ramps, Riverside Drive, Chino Avenue, Schaefer Avenue, and Ontario Ranch Road. Archibald Avenue is classified as a principal arterial in *The Ontario Plan*.

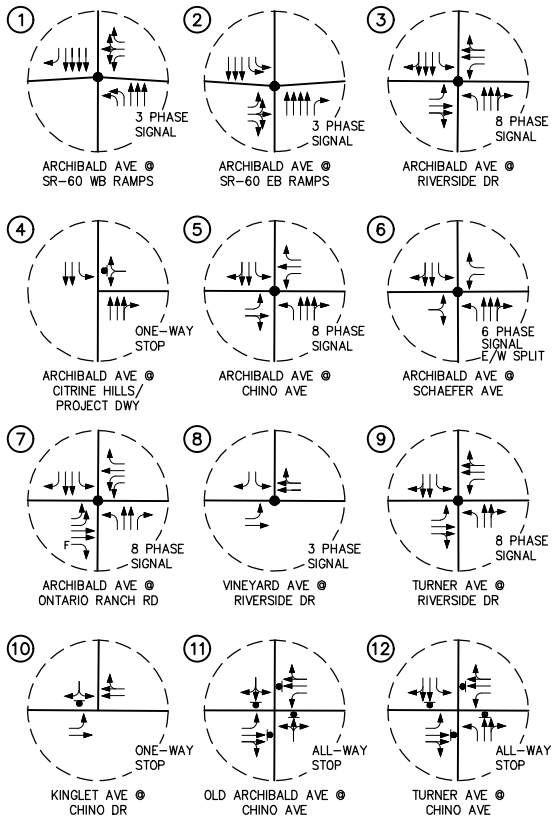
Riverside Drive is a four-lane divided roadway east of Archibald Avenue, and a three-lane divided roadway west of Archibald Avenue, oriented in the east-west direction. The posted speed limit on this roadway is 40 mph west of Archibald Avenue and 50 mph east of Archibald Avenue. Parking is generally not permitted on either side of the roadway within the vicinity of the Project. Traffic signals control the study intersections of Riverside Drive at Vineyard Avenue, Archibald Avenue and Turner Avenue. Riverside Drive is classified as a minor arterial in *The Ontario Plan*.

Chino Avenue is a four-lane divided roadway east of Archibald Avenue and a three-lane divided roadway west of Archibald Avenue, oriented in the east-west direction. Parking is generally not permitted on either side of the roadway within the vicinity of the Project. The posted speed limit on Chino Avenue is 40 mph within the vicinity of the project. Traffic signals control the study intersection of Chino Avenue at Archibald Avenue. Chino Avenue is classified as a collector street in *The Ontario Plan*.

Ontario Ranch Road is a four-lane divided roadway east of Archibald Avenue, and a two-lane divided roadway west of Archibald Avenue, oriented in the east-west direction. The posted speed limit on Ontario Ranch Road is 50 mph. Parking is generally not permitted on either side of the roadway within the vicinity of the Project. Traffic signals control the study intersections of Ontario Ranch Road at Archibald Avenue. Ontario Ranch Road is classified as a principal arterial in *The Ontario Plan.*

Figure 3-1 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. This figure identifies the number of travel lanes for key arterials, as well as intersection configurations and controls for the key area study intersections. ***Figure 3-2*** presents the City of Ontario Master Plan of Streets.





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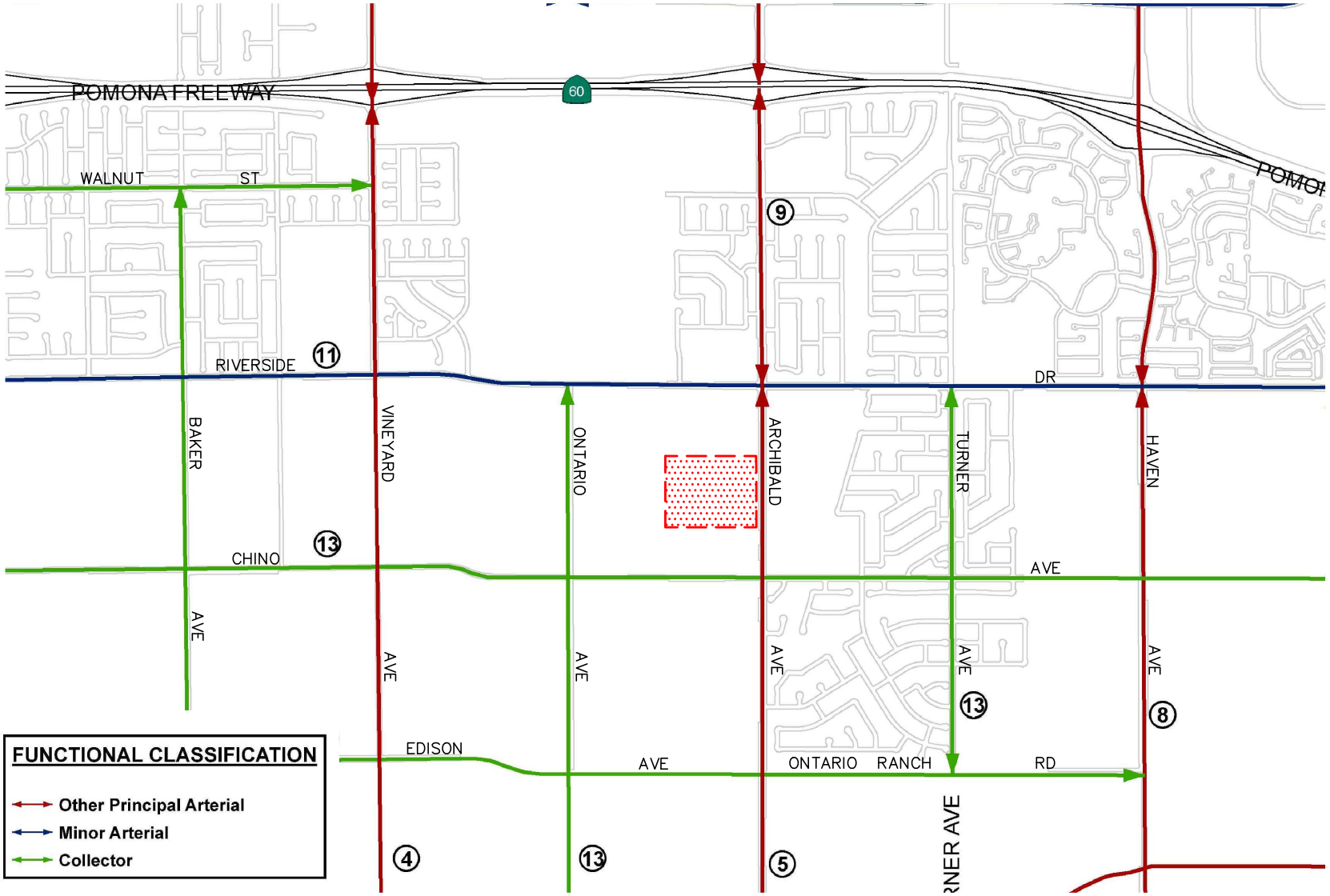
KEY

- ← = APPROACH LANE ASSIGNMENT
- ● = TRAFFIC SIGNAL, ▼ = STOP SIGN
- P = PARKING, NP = NO PARKING
- U = UNDIVIDED, D = DIVIDED
- 2 = NUMBER OF TRAVEL LANES
- (XX)= POSTED SPEED LIMIT (MPH)
- F = FREE-RIGHT, OL = OVERLAP
- = PROJECT SITE

FIGURE 3-1

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: THE ONTARIO PLAN

KEY

= PROJECT SITE

FIGURE 3-2

CITY OF ONTARIO MASTER PLAN OF STREETS

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

7883

3.2 City of Ontario Multipurpose Trails and Bikeways

Figure 3-3 presents the City of Ontario Multipurpose Trails and Bikeways. Review of *Figure 3-3* indicates that within the vicinity of the proposed Project, Class I bike lanes (multipurpose trail) are proposed along Archibald Avenue (south of Riverside Drive), Vineyard Avenue (south of Riverside Drive), Chino Avenue, Haven Avenue, and along the Cucamonga Channel. Class II bike lanes are proposed along Riverside Drive, Archibald Avenue (north of Riverside Drive), and Ontario Ranch Road. Class II buffered bike lanes are proposed along Vineyard Avenue (north of Riverside Drive).

3.3 Public Transit

Public transit bus service is provided in the Project area by Omnitrans, a public transportation agency in San Bernardino County. ***Figure 3-4*** presents the OmniTrans transit system map. Review of *Figure 3-4* indicates that one (1) bus route operates within the vicinity of the Project site along Archibald Avenue and Riverside Drive:

- **Omnitrans Route 87 (Eastvale to Rancho Cucamonga):** Route 87 is a local bus route serving the Cities of Eastvale, Ontario, and Rancho Cucamonga. The major routes of travel include Ontario Ranch Road, Archibald Avenue, and Riverside Drive. Nearest to the project site are bus stops along Riverside Drive at the intersection of Archibald Avenue, as well as along Archibald Avenue south of the Project site. Route 87 operates on approximate 60-minute headways during weekdays and weekends.

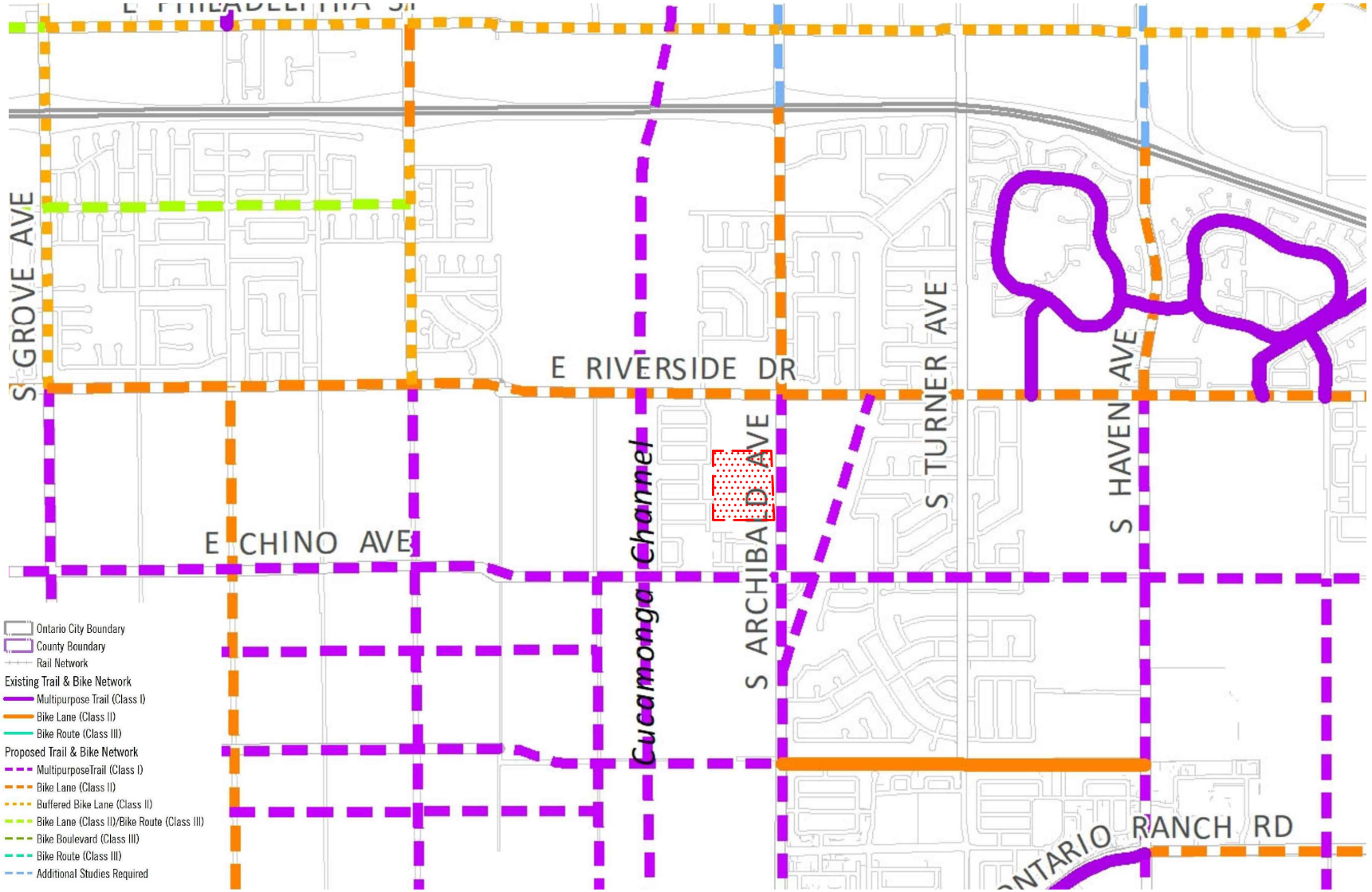
3.4 Existing Traffic Volumes

Twelve (12) key study intersections have been identified as the locations at which to evaluate existing and future traffic operating conditions. Some portion of potential Project-related traffic will pass through each of these intersections and their analysis will reveal the expected relative effect of the Project. These key intersections were selected for evaluation based on coordination with City of Ontario staff.

Existing AM and PM peak hour traffic volumes for the twelve (12) existing key study intersections evaluated in this report were collected by *Counts Unlimited* in September 2022. ***Figures 3-5*** and ***3-6*** illustrate the existing AM and PM peak hour traffic volumes at the twelve (12) key study intersections evaluated in this report, respectively. The traffic volumes illustrated in *Figures 3-5* and *3-6* are comprised of passenger vehicles, large 2-axle trucks, 3-axle trucks and 4+-axle trucks. The truck traffic turning movements were converted to passenger car equivalents (P.C.E.'s) using SANBAG approved factors. P.C.E. factors of 1.5, 2.0 and 3.0 were utilized for large 2-axle trucks, 3-axle trucks and 4+-axle trucks, respectively. ***Appendix B*** contains copies of the existing traffic counts.

3.5 Existing Intersection Operating Conditions

In conformance with the City of Ontario guidelines and San Bernardino County CMP requirements, AM peak hour and PM peak hour operating conditions were evaluated using the methodology outlined in the *Highway Capacity Manual 6th Edition (HCM 6)* for signalized and unsignalized



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SOURCE: THE ONTARIO PLAN

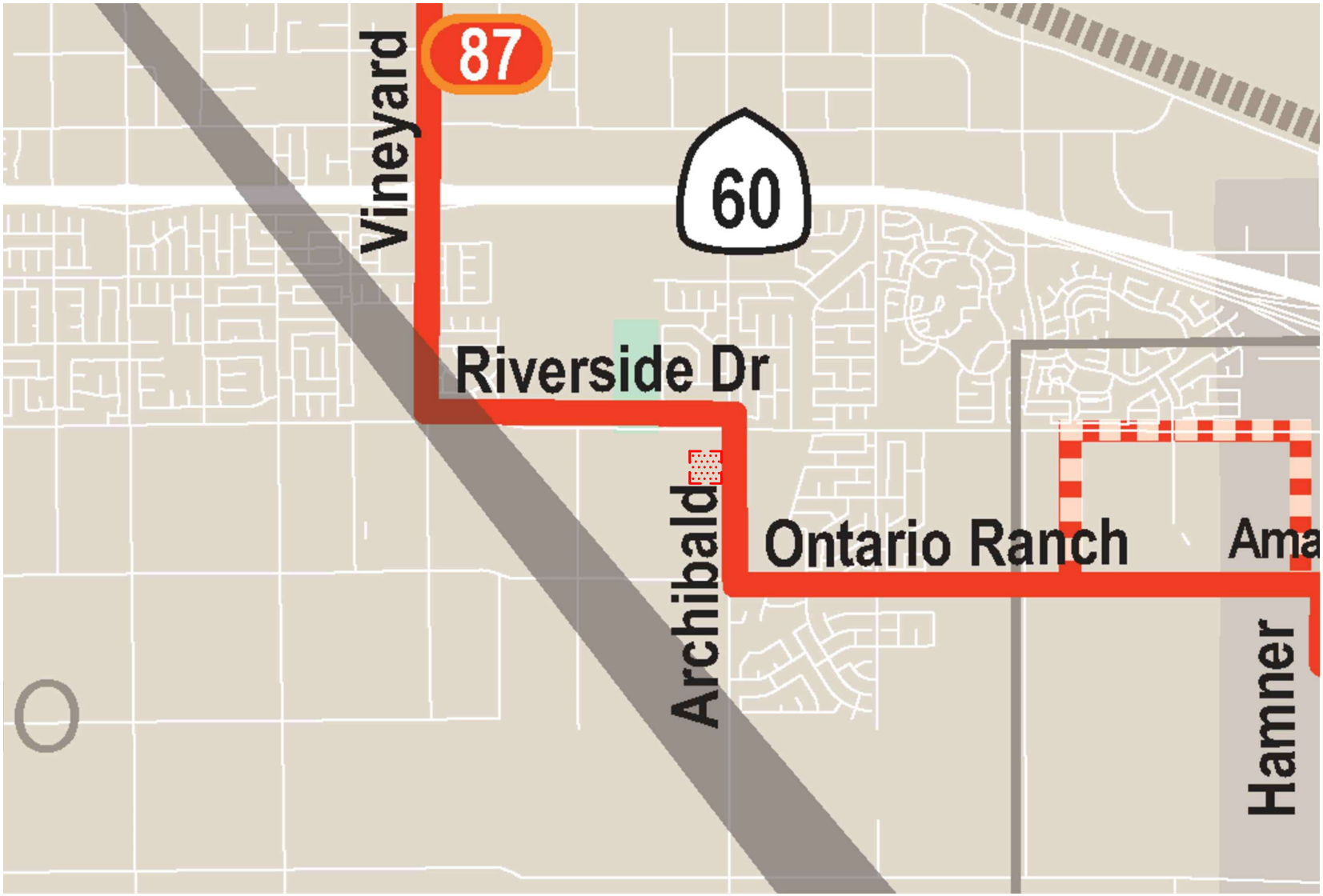
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FIGURE 3-3

CITY OF ONTARIO MULTIPURPOSE TRAILS AND BIKEWAYS

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO



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SOURCE: OMNITRANS

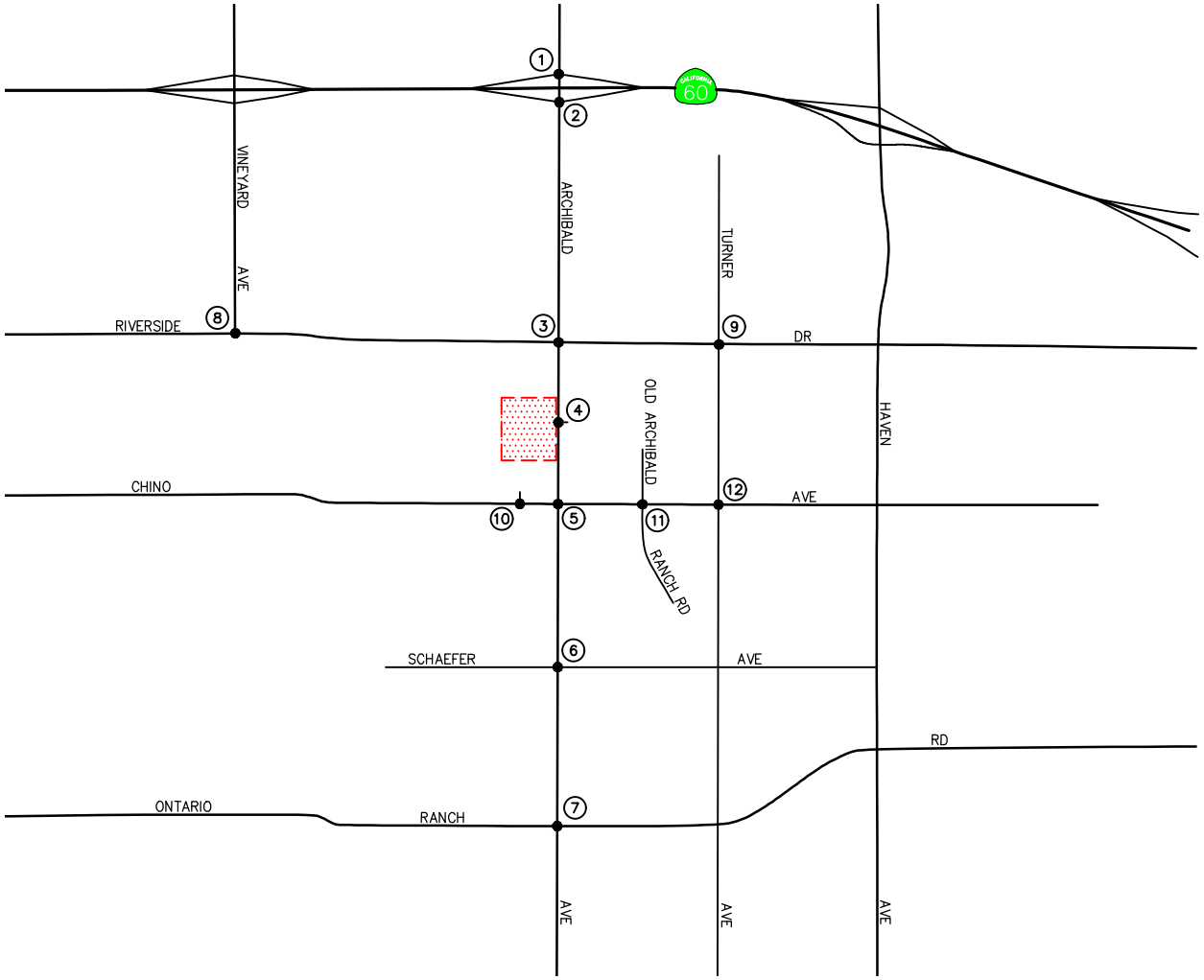
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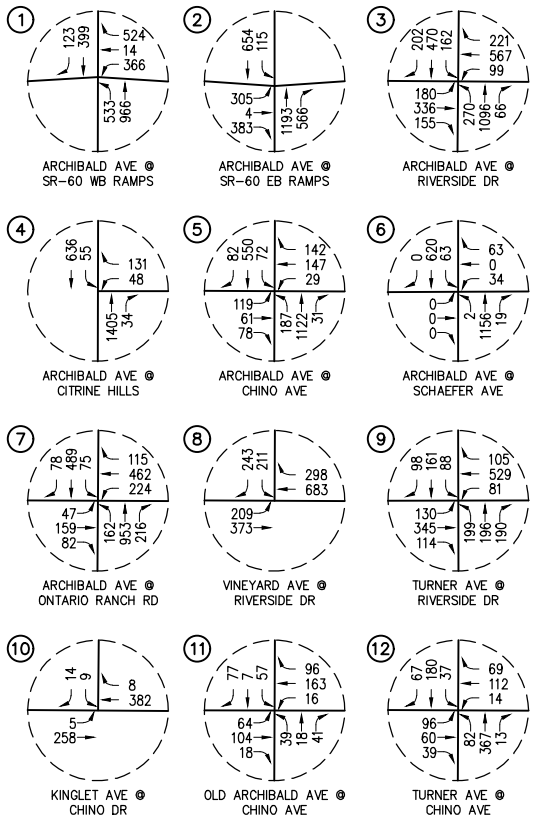
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FIGURE 3-4

OMNITRANS TRANSIT SYSTEMS MAP

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





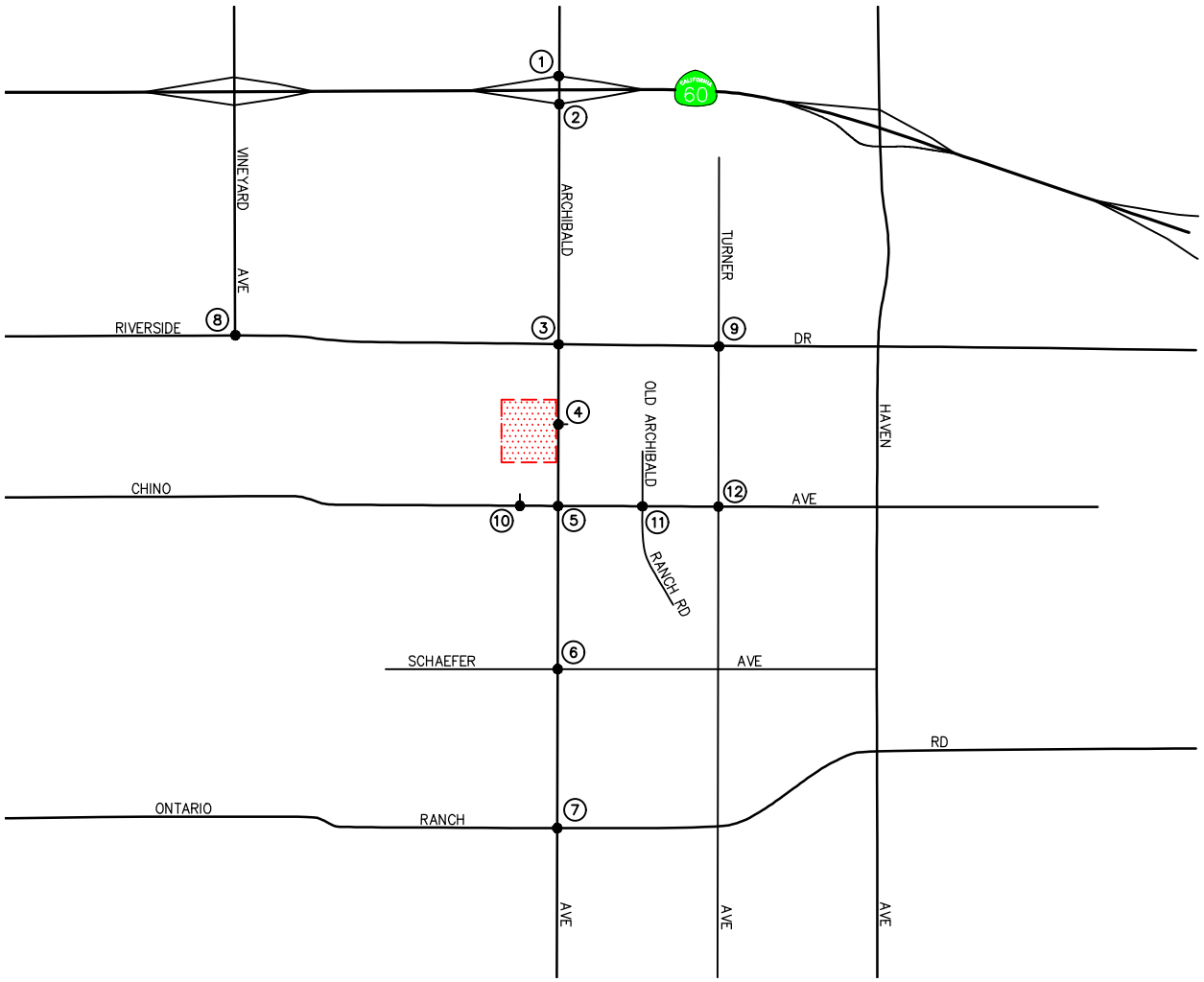
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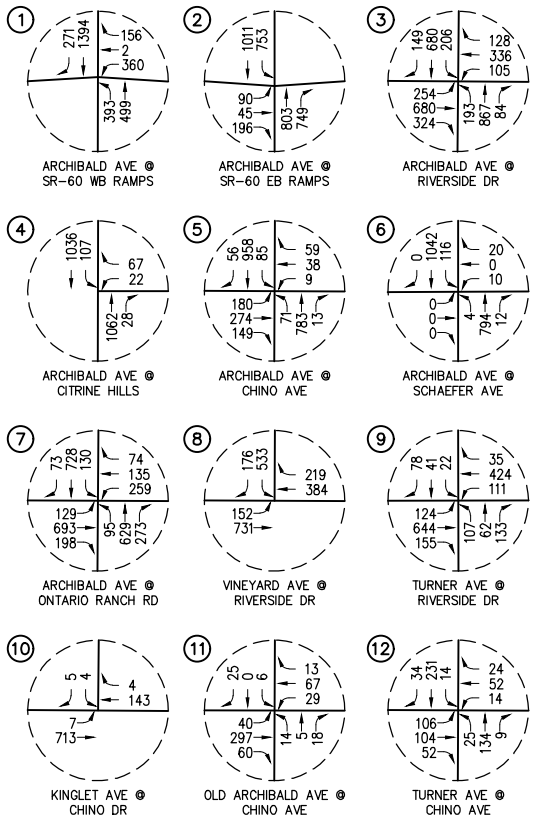
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FIGURE 3-5

EXISTING AM PEAK HOUR TRAFFIC VOLUMES
COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





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FIGURE 3-6

EXISTING PM PEAK HOUR TRAFFIC VOLUMES
COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

intersections. It is noted that the HCM operations method of analysis is also utilized by Caltrans when calculating LOS.

3.5.1 *Highway Capacity Manual 6 (HCM6) Method of Analysis (Signalized Intersections)*

In conformance with City of Ontario requirements, AM and PM peak hour operating conditions for the key study intersections were evaluated using the HCM operations method of analysis. Based on the HCM operations method of analysis, level of service for signalized intersections and approaches is defined in terms of control delay, which is a measure of the increase in travel time due to traffic signal control, driver discomfort, and fuel consumption. Control delay includes the delay associated with vehicles slowing in advance of an intersection, the time spent stopped on an intersection approach, the time spent as vehicles move up in the queue, and the time needed for vehicles to accelerate to their desired speed. LOS criteria for traffic signals are stated in terms of the control delay in seconds per vehicle. The LOS thresholds established for the automobile mode at a signalized intersection are shown in ***Table 3-1***.

3.5.2 *Highway Capacity Manual 6 (HCM 6) Method of Analysis (Unsignalized Intersections)*

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore a greater delay. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable, which can reduce users' delay tolerance.

Two-way stop-controlled intersections are comprised of a major street, which is uncontrolled, and a minor street, which is controlled by stop signs. Level of service for a two-way stop-controlled intersection is determined by the computed or measured control delay. The control delay by movement, by approach, and for the intersection as a whole is estimated by the computed capacity for each movement. LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. The worst side street approach delay is reported. LOS is not defined for the intersection as a whole or for major-street approaches, as it is assumed that major-street through vehicles experience zero delay. The HCM control delay value range for two-way stop-controlled intersections is shown in ***Table 3-2***.

All-way stop-controlled intersections require every vehicle to stop at the intersection before proceeding. Because each driver must stop, the decision to proceed into the intersection is a function of traffic conditions on the other approaches. The time between subsequent vehicle departures depends on the degree of conflict that results between the vehicles and vehicles on the other approaches. This methodology determines the control delay for each lane on the approach, computes a weighted average for the whole approach, and computes a weighted average for the intersection as a whole. Level of service (LOS) at the approach and intersection levels is based solely on control delay. The HCM control delay value range for all-way stop-controlled intersections is shown in *Table 3-2*.

TABLE 3-1
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM 6)[1]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	$\leq$ 10.0	LOS A describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume –to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	> 10.0 and $\leq$ 20.0	LOS B describes operations with a control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume – to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
C	> 20.0 and $\leq$ 35.0	LOS C describes operations with a control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e. one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	> 35.0 and $\leq$ 55.0	LOS D describes operations with a control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	> 55.0 and $\leq$ 80.0	LOS E describes operations with a control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable and the cycle length is long. Individual cycle failures are frequent.
F	$\geq$ 80.0	LOS F describes operations with a control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor and the cycle length is long. Most cycles fail to clear the queue.

[1] Source: *Highway Capacity Manual 6th Edition,* Chapter 19 (Signalized Intersections).

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS[2]

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

2 Source: *Highway Capacity Manual 6th Edition*, Chapter 20: Two-Way Stop-Controlled Intersections and Chapter 21: All-Way Stop-Controlled Intersections.

3.5.3 *Level of Service (LOS) Standards and Thresholds*

City of Ontario Criteria

According to the City of Ontario General Plan Infrastructure Element indicates that Level of Service (LOS) D is to be used for the sizing of roadway segments, while LOS E should be maintained at intersections. This criterion would apply to all twelve (12) of the study locations.

Caltrans Criteria

Caltrans District 8 has established that LOS D is the operating standard for all Caltrans facilities. Caltrans has determined that all state-owned facilities that operate below LOS D should be identified and improved to an acceptable LOS. The *Caltrans Traffic Impact Study Guidelines dated December 2002* does state that if an existing state-owned facility operates at less than LOS D, the existing service level should be maintained. The Caltrans criterion would apply to the following two (2) study locations under their jurisdiction:

1. Archibald Avenue at SR-60 WB Ramps (Caltrans/Ontario)
2. Archibald Avenue at SR-60 EB Ramps (Caltrans/Ontario)

3.5.4 *Existing Level of Service Results*

Table 3-3 summarizes the existing peak hour service level calculations for the twelve (12) key study intersections based on existing traffic volumes and current street geometry. Review of *Table 3-3* indicates that one intersection, Archibald Avenue at Citrine Hills (#4), currently operates at unacceptable LOS during the AM peak hour. It is noted that this intersection is expected to be signalized as a part of the development of the Project. The remaining study intersections currently operate at an acceptable level of service during the AM and PM peak hours.

Appendix C presents the Delay/LOS calculation worksheets for the key study intersections.

TABLE 3-3
EXISTING PEAK HOUR LEVELS OF SERVICE

Key Intersections	Time Period	City/ Jurisdiction	Control Type	Delay (sec/veh)	LOS
1. Archibald Avenue at SR-60 WB Ramps	AM	Caltrans/	3∅ Traffic	23.4	C
	PM	Ontario	Signal	18.5	B
2. Archibald Avenue at SR-60 EB Ramps	AM	Caltrans/	3∅ Traffic	15.9	B
	PM	Ontario	Signal	24.8	C
3. Archibald Avenue at Riverside Drive	AM	Ontario	8∅ Traffic	47.3	D
	PM		Signal	41.9	D
4. Archibald Avenue at Citrine Hills	AM	Ontario	One-Way	**132.1**	**F**
	PM		Stop	42.5	E
5. Archibald Avenue at Chino Avenue	AM	Ontario	8∅ Traffic	23.5	C
	PM		Signal	28.1	C
6. Archibald Avenue at Schaefer Avenue	AM	Ontario	6∅ Traffic	7.3	A
	PM		Signal	6.9	A
7. Archibald Avenue at Ontario Ranch Road	AM	Ontario	8∅ Traffic	37.3	D
	PM		Signal	35.5	D
8. Vineyard Avenue at Riverside Drive	AM	Ontario	3∅ Traffic	22.7	C
	PM		Signal	28.5	C
9. Turner Avenue at Riverside Drive	AM	Ontario	8∅ Traffic	34.8	C
	PM		Signal	23.6	C
10. Kinglet Avenue at Chino Avenue	AM	Ontario	One-Way	11.6	B
	PM		Stop	11.0	B
11. Old Archibald Avenue at Chino Avenue	AM	Ontario	All-Way	11.4	B
	PM		Stop	8.7	A
12. Turner Avenue at Chino Avenue	AM	Ontario	All-Way	12.9	B
	PM		Stop	9.8	A

Note:
- **Bold LOS values** indicate adverse service levels based on City LOS standards.
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions.
- ∅ = Phase

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic characteristics of the proposed Project, a multi-step process has been utilized. The first step is trip generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the Project development tabulation.

The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and Project traffic assignments developed, the effect of the proposed Project's added traffic is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast Project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Trip Generation

The trip generation potential of the Entitled Land Use, as allowed in the 2008 Specific Plan, and the Project, as proposed in the 2022 Specific Plan Amendment, has been estimated using trip rates contained in the 11th Edition of *Trip Generation,* published by the Institute of Transportation Engineers (ITE), [Washington, D.C., 2021].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the Entitled Land Use and the proposed Project and also presents the Project's forecast peak hour and daily traffic volumes. As shown in the upper portion of *Table 5-1,* ITE Land Use 210: Single Family Detached Housing and/or ITE Land Use 215: Single Family Attached Housing trip rates will be used to forecast the trip generation potential of the Entitled Land Use and proposed Project.

For the Entitled Land Use, a review of the middle portion of this table indicates that 106 single family detached homes generates 1,000 daily trips, with 74 trips (19 inbound, 55 outbound) produced in the AM peak hour and 100 trips (63 inbound, 37 outbound) produced in the PM peak hour on a typical weekday.

The lower half of *Table 5-1* indicates that the proposed Project is forecast to generate 2,155 daily trips, with 149 trips (43 inbound, 106 outbound) produced in the AM peak hour and 187 trips (111 inbound, 76 outbound) produced in the PM peak hour on a typical weekday.

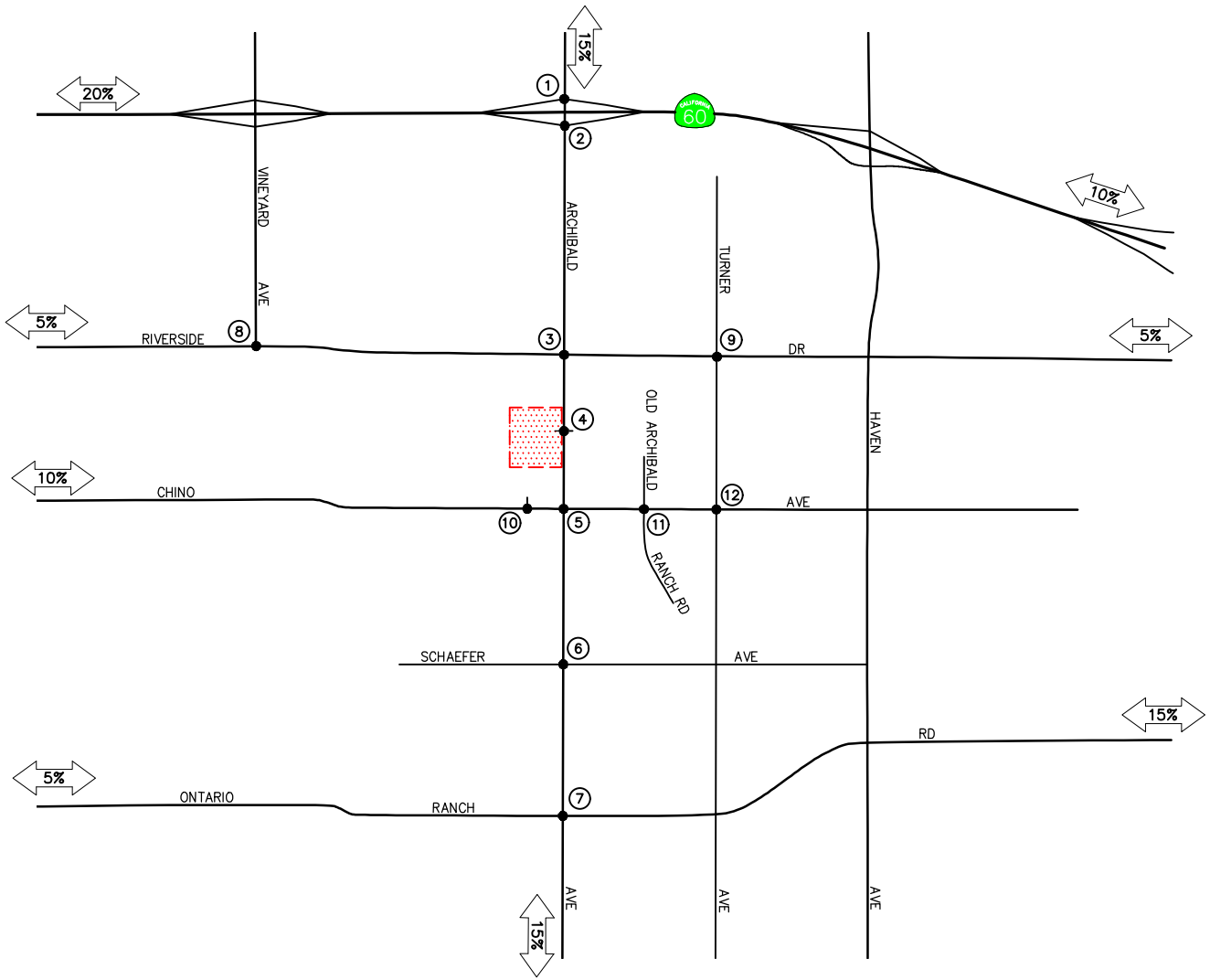
A comparison of the proposed Project's trip generation to that of the Entitled Land Use indicates that the Project will result in 1,155 more daily trips, 75 more AM peak hour trips and 87 more PM peak hour trips.

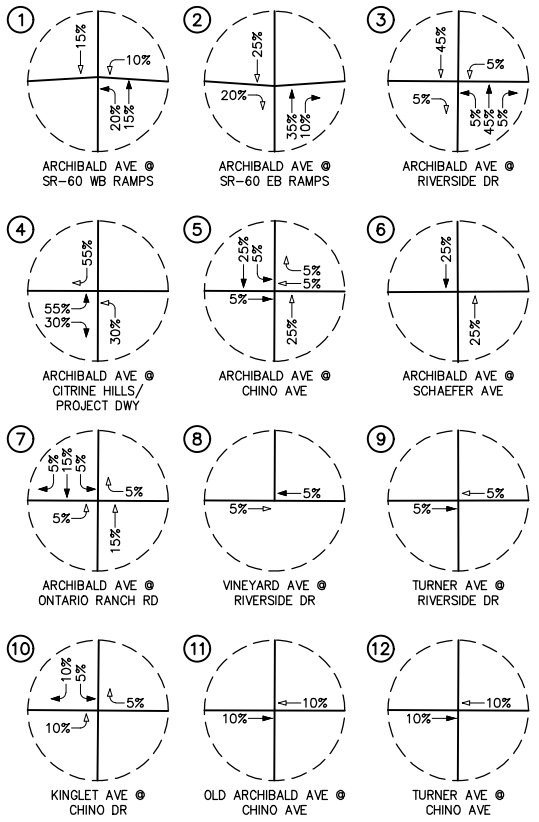
5.2 Project Trip Distribution and Assignment

Figure 5-1 illustrates the general, directional traffic distribution pattern for the proposed Project, while ***Table 5-2*** presents a tabular summary of the traffic distribution pattern. Project traffic volumes both entering and exiting the Project site have been distributed and assigned to the adjacent street system based on the following considerations:

- location of site access points in relation to the surrounding street system,
- the site's proximity to major traffic carriers and regional access routes,
- physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns,
- presence of traffic congestion in the surrounding vicinity, and
- ingress/egress availability at the Project site.

The anticipated AM and PM peak hour traffic volumes associated with the proposed Project are presented in ***Figures 5-2*** and ***5-3***, respectively. The traffic volume assignments presented in *Figures 5-2* and *5-3* reflect the traffic distribution characteristics shown in *Figure 5-1* and the traffic generation forecast presented in the lower portion of *Table 5-1*.





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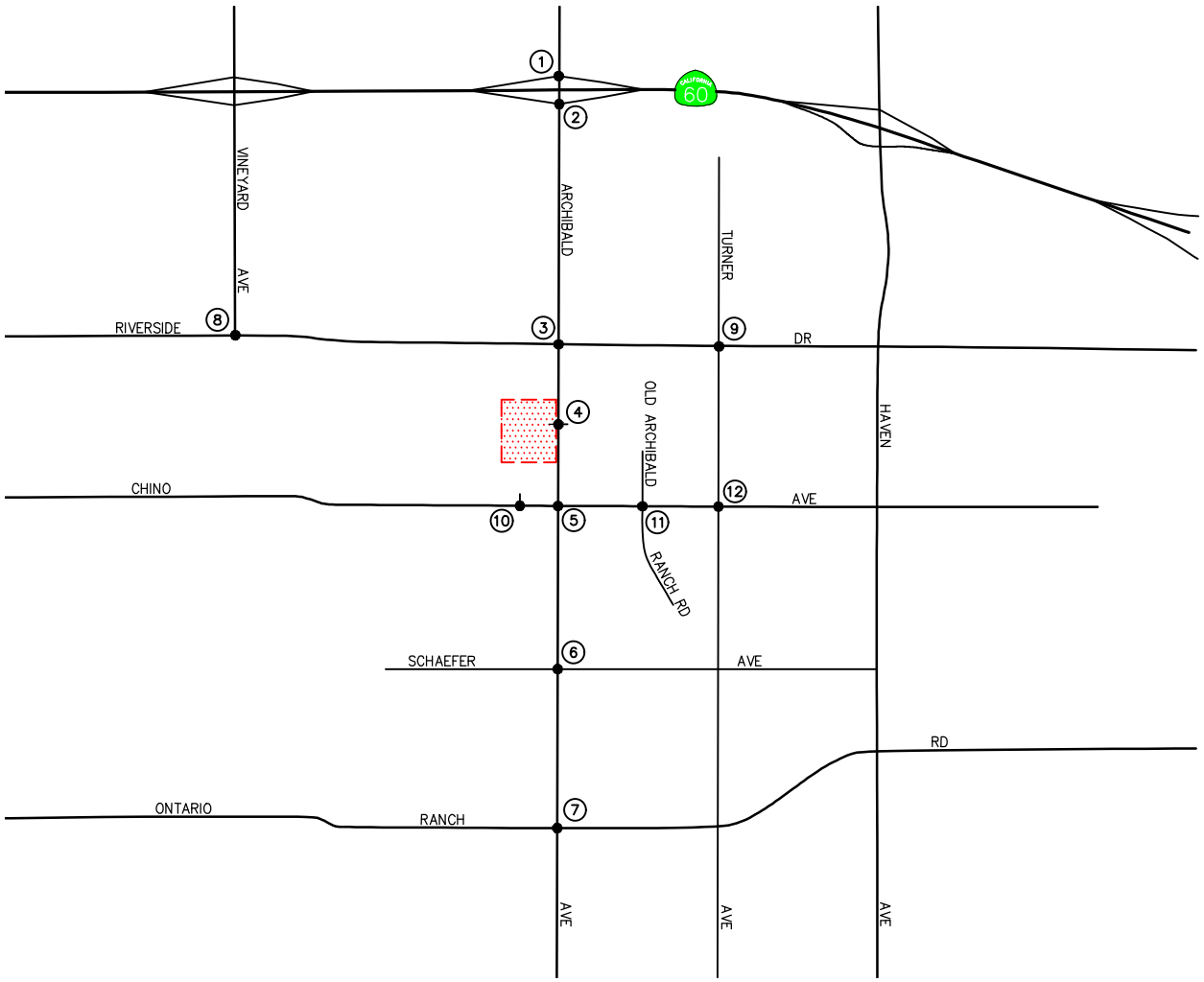
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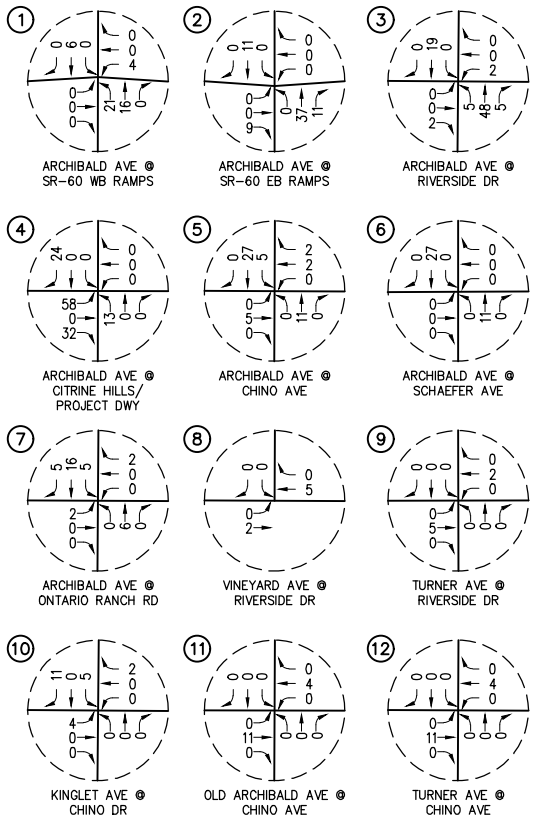
FIGURE 5-1

PROJECT TRIP DISTRIBUTION PATTERN

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

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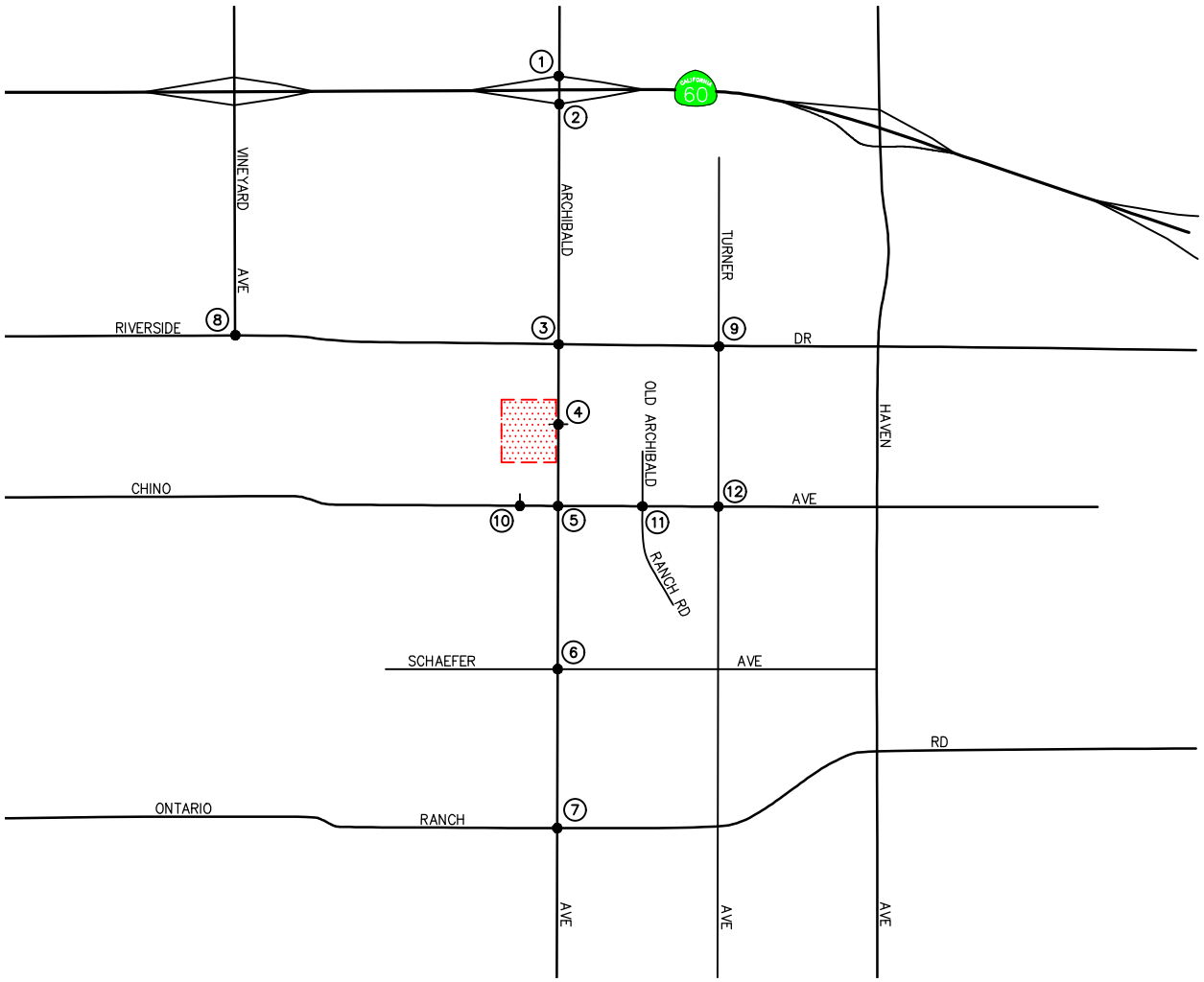
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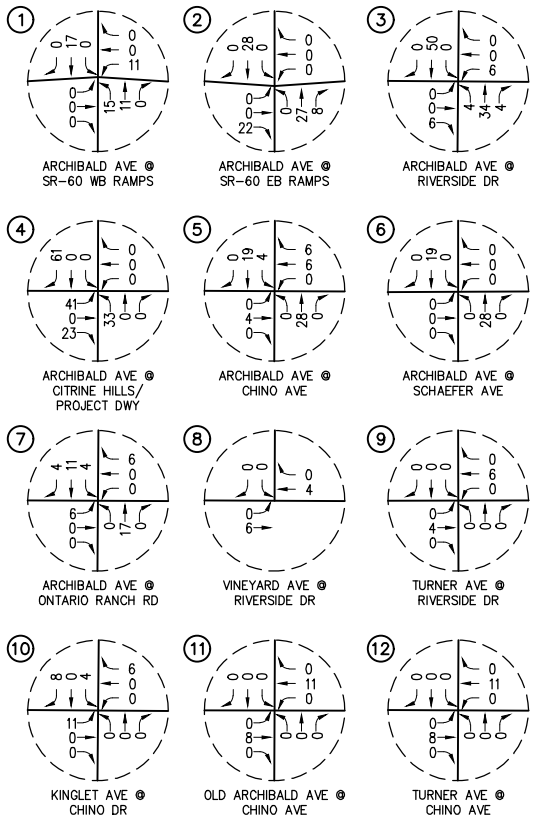
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FIGURE 5-2

AM PEAK HOUR PROJECT TRAFFIC VOLUMES

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





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FIGURE 5-3

PM PEAK HOUR PROJECT TRAFFIC VOLUMES

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

TABLE 5-1
PROJECT TRAFFIC GENERATION RATES AND FORECAST[3]

ITE Land Use / Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Rates:							
▪ 210: Single Family Detached Housing (TE/DU)	9.43	26%	74%	0.70	63%	37%	0.94
▪ 215: Single Family Attached Housing (TE/DU)	7.20	31%	69%	0.48	57%	43%	0.57
Entitled Land Use Trip Generation:							
▪ 210: Neighborhood 2 (106 DU)	1,000	19	55	74	63	37	100
Project Trip Generation:							
▪ 215: Neighborhood 2A (96 DU)	691	14	32	46	31	24	55
▪ 215: Neighborhood 2B (96 DU)	691	14	32	46	31	24	55
▪ 210: Neighborhood 2C (82 DU)	773	15	42	57	49	28	77
Total Project Trip Generation:	**2,155**	**43**	**106**	**149**	**111**	**76**	**187**
Proposed Project vs. Entitled Land Use Trip Generation Comparison	**+1,115**	**+24**	**+51**	**75**	**+48**	**+39**	**+87**

Notes:
TE/DU = Trip End per Dwelling Unit

[3] Source: *Trip Generation*, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021).

TABLE 5-2
PROJECT DIRECTIONAL DISTRIBUTION PATTERN

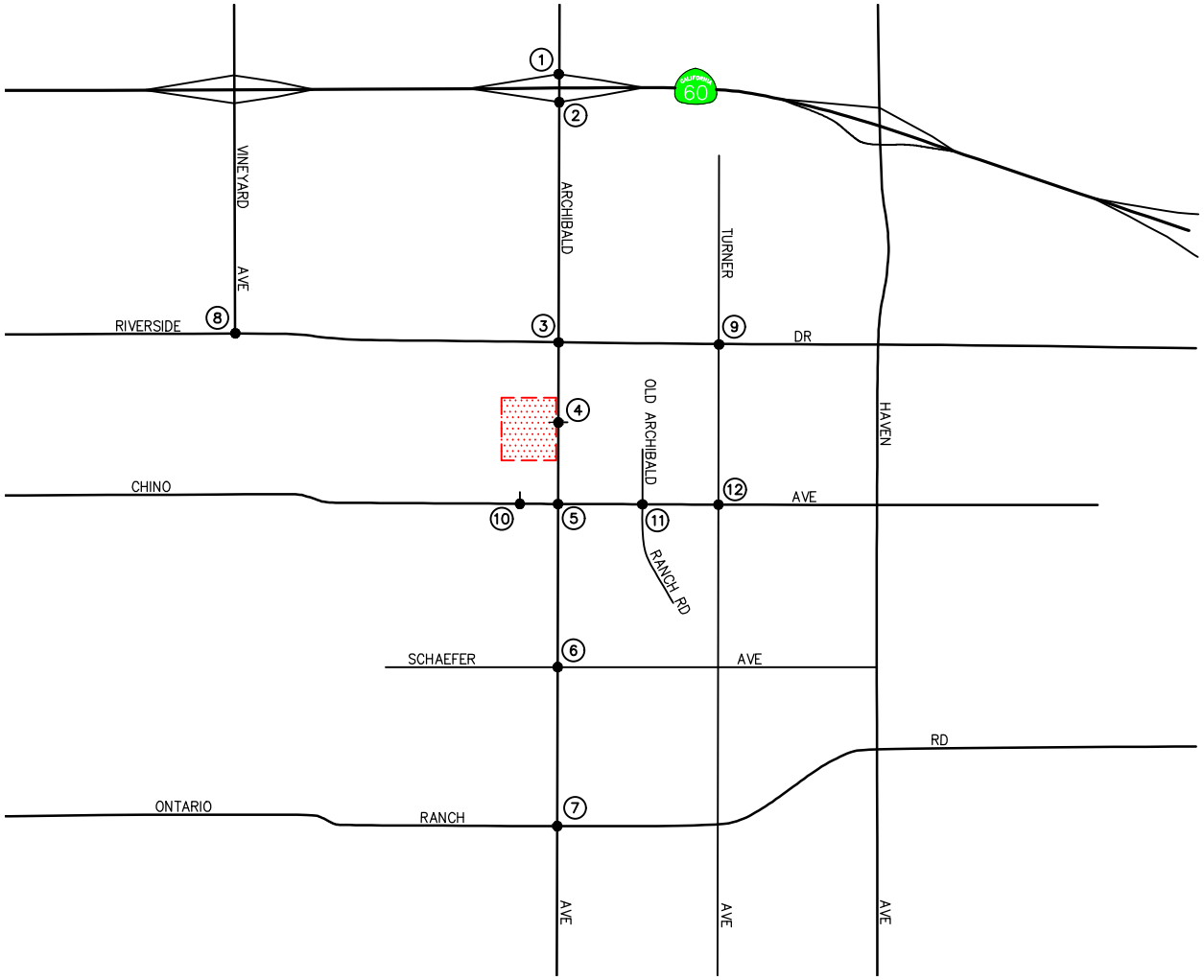
Distribution Percentage	Orientation/Direction
15%	To/from the north via Archibald Ave
15%	To/from the south via Archibald Ave
10%	To/from the east via SR-60 Freeway
20%	To/from the west via SR-60 Freeway
5%	To/from the east via Riverside Dr
5%	To/from the west via Riverside Dr
10%	To/from the west via Chino Ave
15%	To/from the east via Ontario Ranch Rd
5%	To/from the west via Ontario Ranch Rd
100%	**Total**

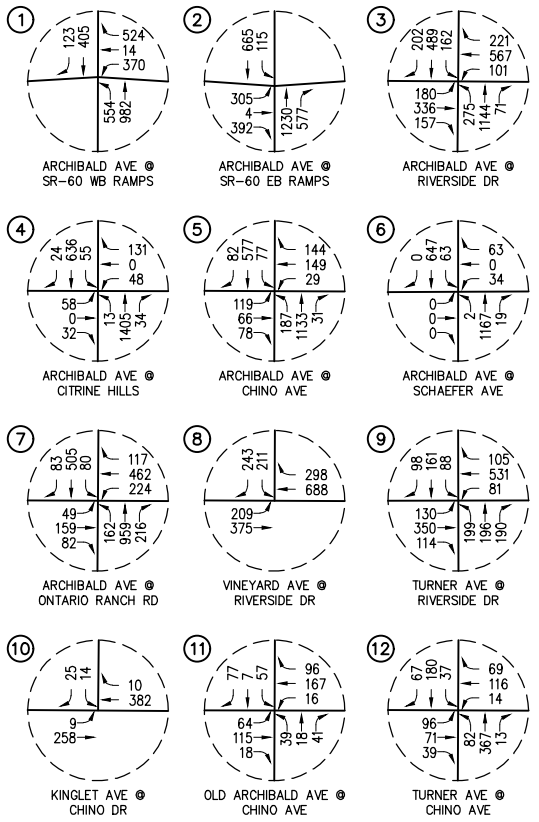
5.3 Existing With Project Traffic Conditions

The Existing With Project traffic conditions have been generated based upon existing conditions and estimated traffic generated from the proposed Project.

These forecast traffic conditions have been prepared to assess if circulation enhancements would be necessary to offset the effect of added Project-related traffic upon the circulation system as it currently exists. This traffic volume scenario and the related intersection capacity analyses will identify the roadway improvements necessary to accommodate the Project, if any.

Figures 5-4 and ***5-5*** present projected AM and PM peak hour traffic volumes at the twelve (12) key study intersections with the addition of the trips generated by the proposed Project to existing traffic volumes, respectively.





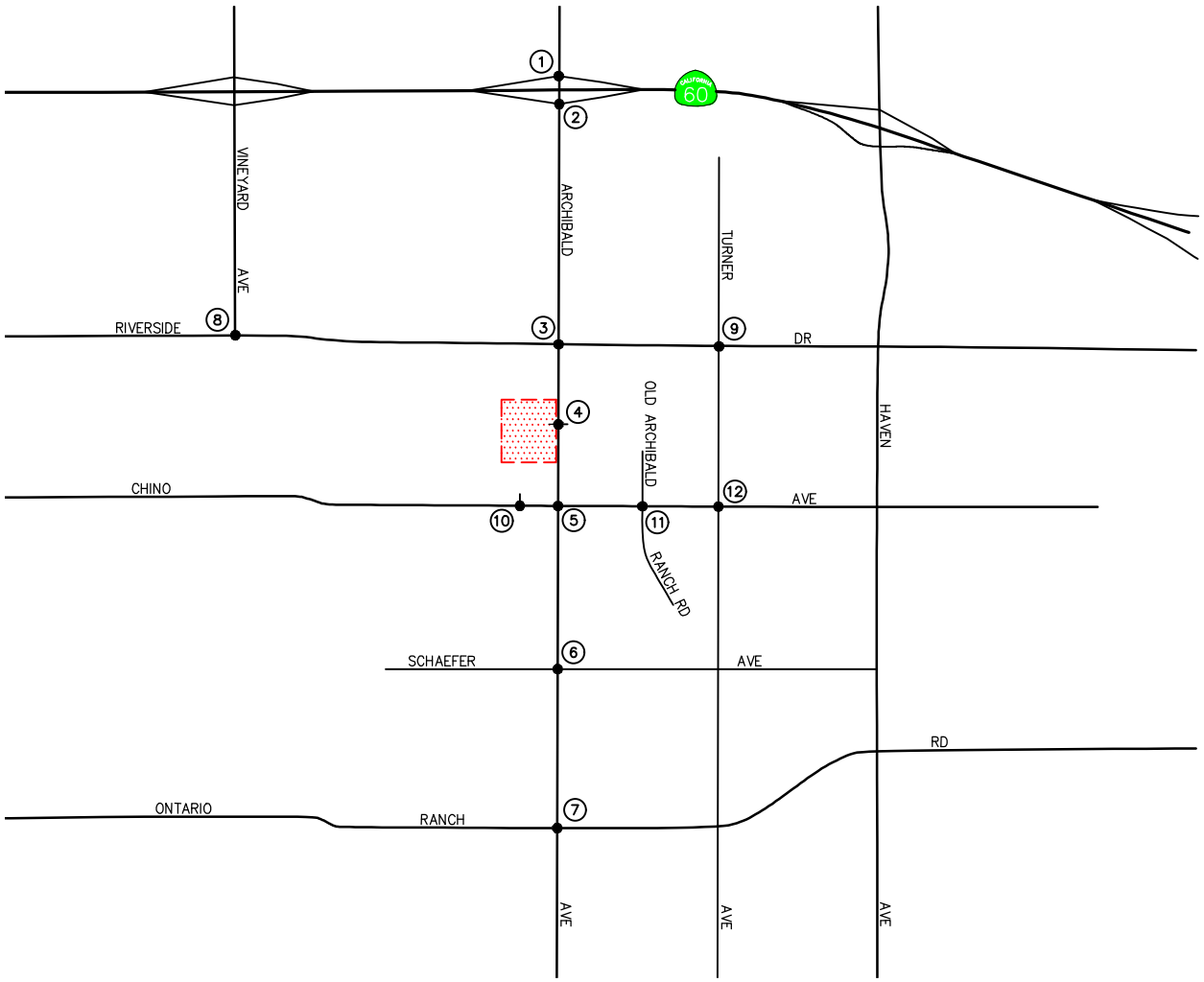
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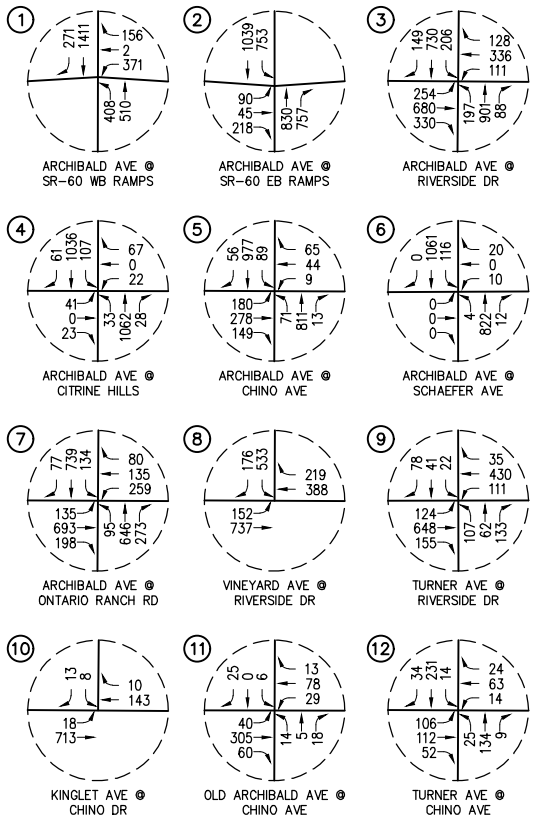
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FIGURE 5-4

EXISTING WITH PROJECT AM PEAK HOUR TRAFFIC VOLUMES
COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





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FIGURE 5-5

EXISTING WITH PROJECT PM PEAK HOUR TRAFFIC VOLUMES

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Ambient Traffic Growth

Horizon year, background traffic growth estimates have been calculated using an ambient growth factor. The ambient traffic growth factor is intended to include unknown and future related projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area in other jurisdictions. The future growth in traffic volumes has been calculated at two percent (2%) per year. Applied to the Year 2022 existing traffic volumes, this factor results in a 8% growth in existing volumes to the near-term horizon Year 2026.

6.2 Cumulative Projects Description and Location

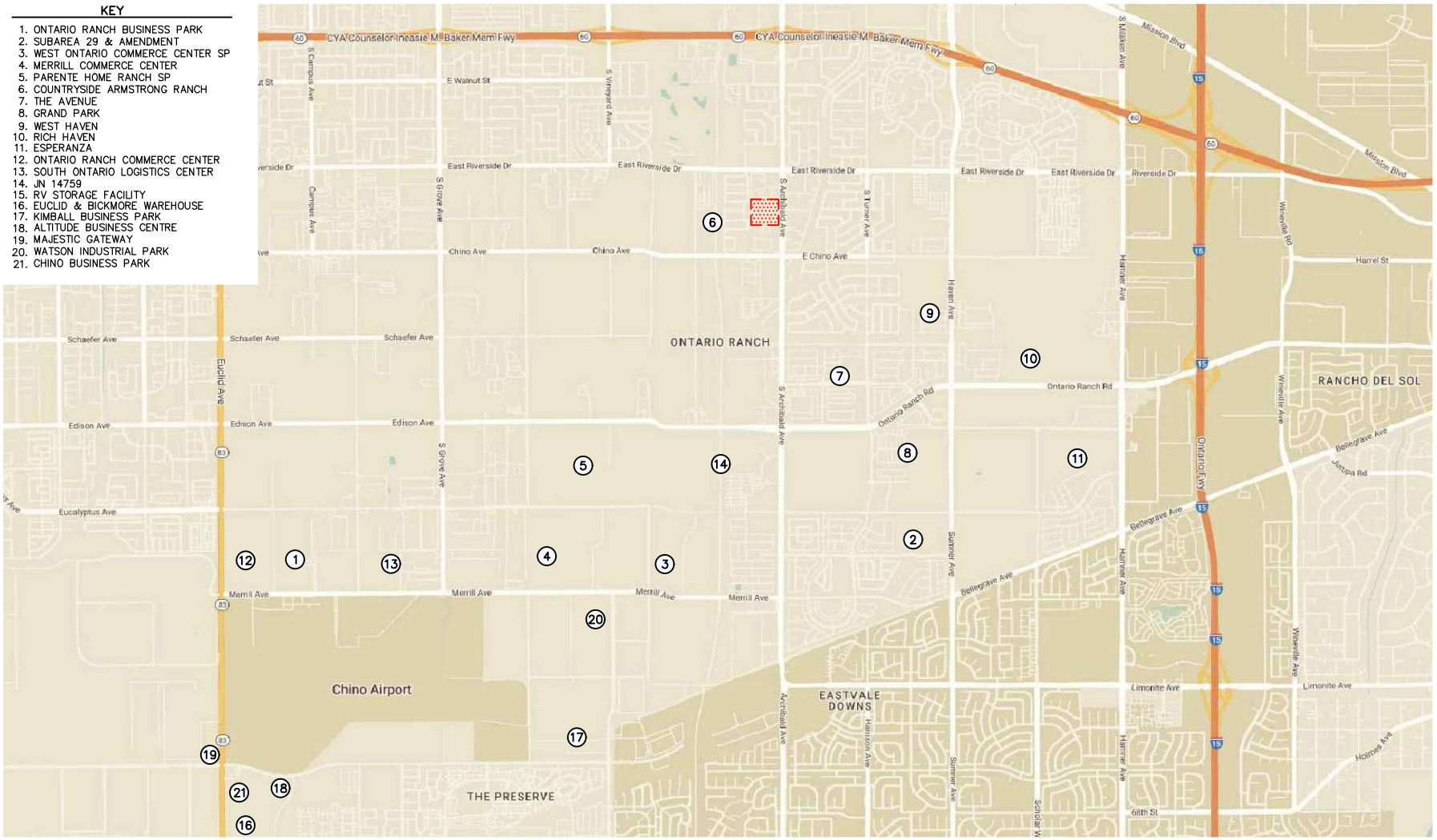
In order to make a realistic estimate of future on-street conditions prior to implementation of the proposed Project, the status of other known development projects (cumulative projects) in the vicinity of the proposed Project has been researched at the City of Ontario and the City of Chino. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development. Based on our research, there are fifteen (15) cumulative projects in the City of Ontario and six (6) cumulative projects in the City of Chino within the vicinity of the Project site. These twenty-one (21) planned and/or approved cumulative projects have been included as part of the cumulative background setting.

Table 6-1 provides the location and a brief description for each of the twenty-one (21) cumulative projects. ***Figure 6-1*** graphically illustrates the location of the cumulative projects. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

6.3 Cumulative Projects Trip Generation and Assignment

Table 6-2 presents the trip generation potential for all twenty-one (21) cumulative projects. As shown, the cumulative projects are forecast to generate a total of 248,305 daily trips, with 18,381 trips (10,510 inbound and 7,871 outbound) forecast during the AM peak hour and 22,614 trips (10,608 inbound and 12,006 outbound) forecast during the PM peak hour.

Distribution patterns for each of the cumulative projects were developed based on the location of the trip attractors, type of land use, the site's proximity to major traffic carriers and freeways and previously completed traffic studies. The AM and PM peak hour traffic volumes associated with the twenty-one (21) cumulative projects in Year 2026 are presented in ***Figures 6-2*** and ***6-3***, respectively.

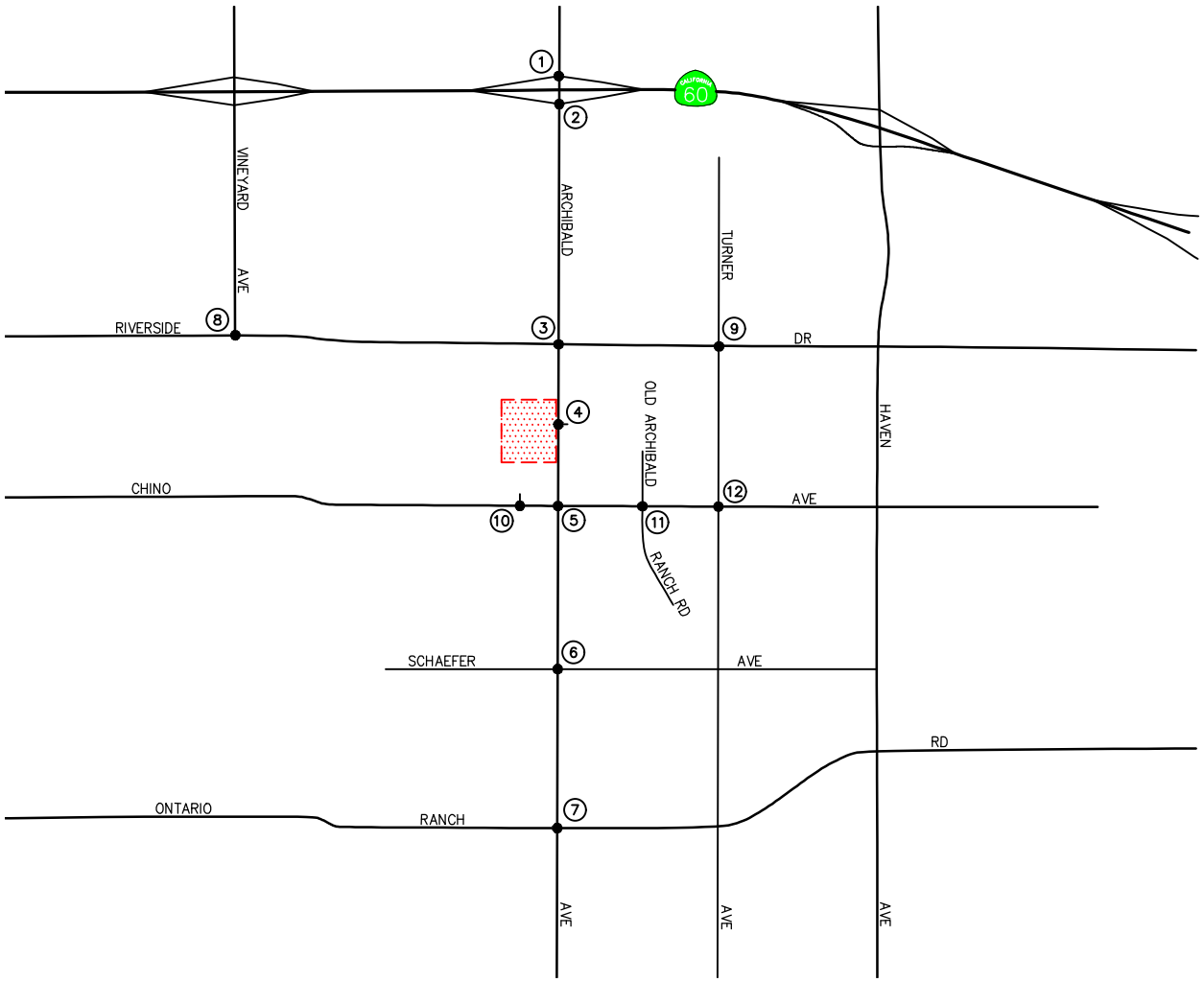


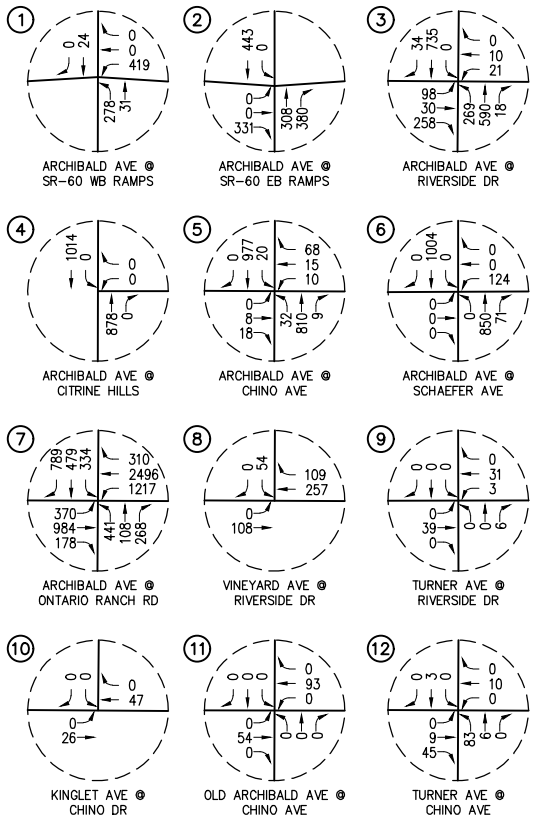
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FIGURE 6-1

LOCATION OF CUMULATIVE PROJECTS

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





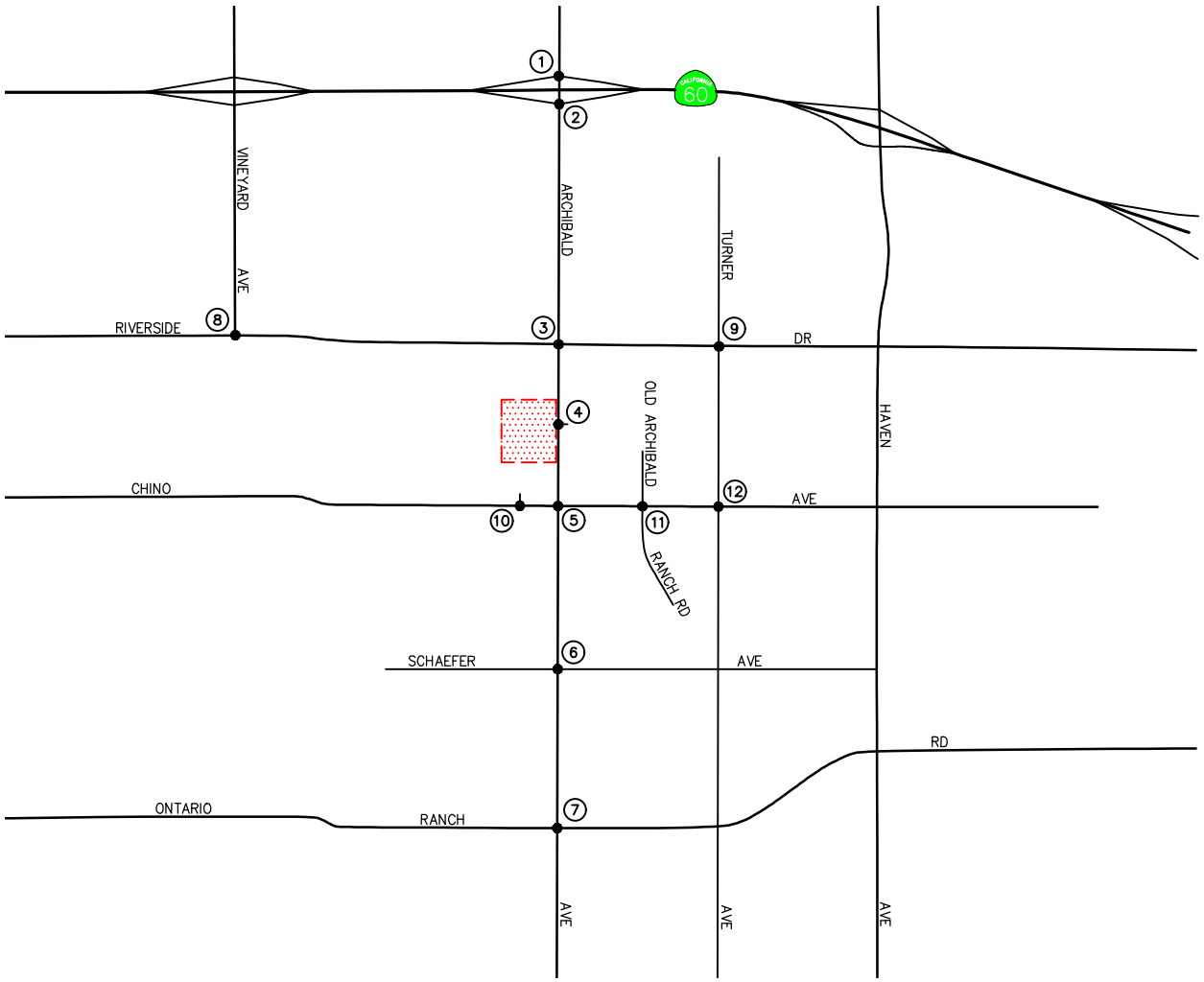
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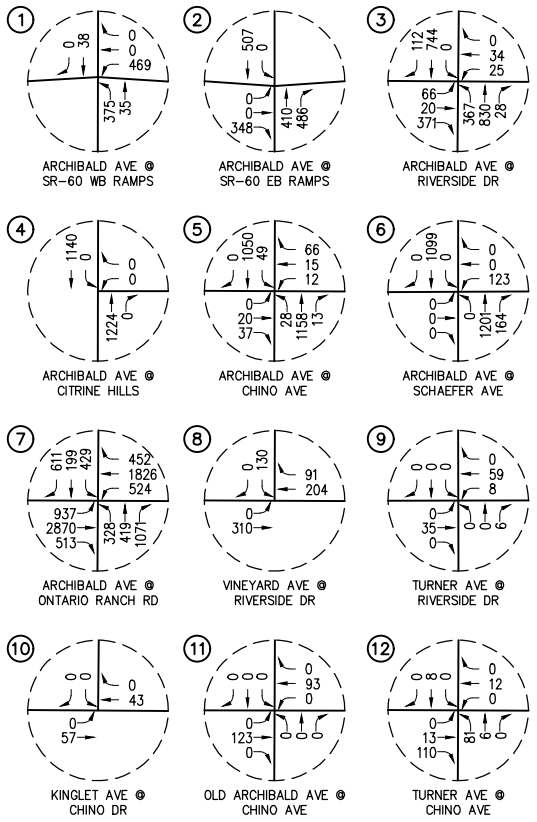
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KEY
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= PROJECT SITE

FIGURE 6-2

AM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES
COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





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FIGURE 6-3

PM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES
COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[4]

No.	Cumulative Project	Location/Address	Description
City of Ontario			
1.	Ontario Ranch Business Park	7417-7475 Eucalyptus Avenue	227,951 SF business park, 913,053 SF high-cube fulfillment center warehouse, 179,135 SF high-cube cold storage warehouse, and 320,551 SF warehouse
2.	Subarea 29 & Amendment	SWC and SEC of South Archibald Avenue at Eucalyptus Avenue	87,000 SF shopping center
3.	West Ontario Commerce Center SP	NEC of Carpenter Avenue at Merrill Avenue	1,976,535 SF high-cube warehouse and 115,760 SF business park
4.	Merrill Commerce Center	NWC of Carpenter Avenue at Merrill Avenue	7,014,000 SF high-cube fulfillment warehouse and 1,441,000 SF business park
5.	Parente Home Ranch SP	SEC of Walker Avenue at Ontario Ranch Road	270 DU single family detached, 1,872 DU condo/townhouse, 462,281 SF general office, and 194,278 SF shopping center
6.	Countryside Armstrong Ranch	SEC of Ontario Avenue at East Riverside Drive	819 DU single family detached
7.	The Avenue	NWC and NEC of South Archibald Avenue at Ontario Ranch Road	2,020 DU single family detached
8.	Grand Park	SEC of South Archibald Avenue at Ontario Ranch Road	484 DU single family detached and 843 DU multi-family attached
9.	West Haven	NEC of South Turner Avenue and Schaefer Avenue	149 DU single family detached, 654 DU multifamily housing, and 87,000 SF shopping center
10.	Rich Haven	NEC of Haven Avenue/Sumner Avenue at Edison Avenue	2,732 DU single family detached, 1,524 DU multi-family attached, 317,400 SF shopping center
11.	Esperanza	SWC of Hamner Avenue at Edison Avenue	914 DU single family detached and 496 DU multi-family attached
12.	Ontario Ranch Commerce Center	SEC of Euclid Avenue at Eucalyptus Avenue	1,447,123 SF high-cube fulfillment warehouse and 457,904 SF business park
13.	South Ontario Logistics Center	NEC of Grove Avenue at Merrill Avenue	464,820 SF business park, 3,056,266 SF fulfillment center warehouse, 611,253 SF high-cube cold storage warehouse, and 930,125 SF warehousing

Notes:
- SF = Square-feet
- DU = Dwelling units

[4] Source: City of Ontario and City of Chino Planning Departments.

TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[5]

No.	Cumulative Project	Location/Address	Description
City of Ontario (Continued)			
14.	JN 14759	SWC of Archibald Avenue at Edison Avenue/Ontario Ranch Road	804 DU single family detached, 2,046 DU multifamily housing, 58.86 acre park, and 15,000 SF shopping center
15.	RV Storage Facility	South of Schaefer Avenue, West of Campus Avenue, and East of Sultana Avenue	120,688 SF self-storage 635 RV storage spaces 1,422 sprinter van storage spaces
City of Chino			
16.	Euclid & Bickmore Warehouse	NEC of Euclid Avenue at Bickmore Avenue	205,820 SF warehousing, 51,030 SF general light industrial, and 110,620 SF business park
17.	Kimball Business Park	NEC of Flight Avenue at Enterprise Way	146,550 SF business park
18.	Altitude Business Centre	SEC of Mayhew Avenue at Kimball Avenue	715,000 SF warehousing, 255,000 SF light industrial, 233,000 SF business park, and 110,000 SF self-storage
19.	Majestic Gateway	NWC of Euclid Avenue at Kimball Avenue	25,000 SF specialty retail, 13,000 SF pharmacy/drugstore with drive-thru, and 8,600 SF fast-food with drive-thru
20.	Watson Industrial Park	SEC of Flight Avenue at Merrill Avenue	3,889,900 SF high-cube warehouse
21.	Chino Business Park	SEC of Euclid Avenue at Kimball Avenue	165,500 SF general light industrial and 21,500 SF business park

Notes:
- SF = Square-feet
- DU = Dwelling units

[5] Source: City of Ontario and City of Chino Planning Departments.

TABLE 6-2
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[6,7]

Cumulative Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1. Ontario Ranch Business Park	10,783	1,012	220	1,232	533	965	1,498
2. Subarea 29 & Amendment	5,287	85	51	136	133	138	271
3. West Ontario Commerce Center SP	3,496	223	42	265	67	193	260
4. Merrill Commerce Center	32,410	2,495	502	2,997	878	2,002	2,880
5. Parente Home Ranch SP	26,645	939	849	1,788	1,100	1,244	2,344
6. Countryside Armstrong Ranch	7,723	149	424	573	485	285	770
7. The Avenue	7,619	147	419	566	479	281	760
8. Grand Park	9,331	151	457	608	500	294	794
9. West Haven	10,751	168	308	476	409	301	710
10. Rich Haven	46,607	792	1,970	2,762	2,476	1,635	4,111
11. Esperanza	11,962	214	624	838	700	412	1,112
12. Ontario Ranch Commerce Center	16,260	1,581	339	1,920	825	1,499	2,324
13. South Ontario Logistics Center[8]	14,446	759	216	975	301	839	1,140
14. JN 14759[9]	22,236	364	1,052	1,416	1,175	706	1,881
15. RV Storage Facility	3,117	56	25	81	50	52	102
16. Euclid & Bickmore Warehouse	2,152	206	38	244	59	166	225
17. Kimball Business Park	1,823	168	30	198	47	132	179
18. Altitude Business Centre	6,234	607	119	726	176	503	679
19. Majestic Gateway	6,111	151	138	289	151	144	295
20. Watson Industrial Park	2,023	87	19	106	29	88	117
21. Chino Business Park	1,289	156	29	185	35	127	162
Cumulative Projects Total Trip Generation Potential	**248,305**	**10,510**	**7,871**	**18,381**	**10,608**	**12,006**	**22,614**

6 Unless otherwise noted, Source: *Trip Generation*, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021).

7 It should be noted that the trip generation in *Table 6-2* reflects the remaining square footage and/or dwelling units to be constructed and/or occupied in the Tracts under construction based on LLG research/reconnaissance.

8 Source: *South Ontario Logistics Center Specific Plan Traffic Analysis*, prepared by Urban Crossroads.

9 Source: *JN 14759*, prepared by Urban Crossroads.

6.4 Year 2026 Traffic Conditions

Figures 6-4 and ***6-5*** present the Year 2026 Without Project AM and PM peak hour cumulative traffic volumes at the twelve (12) key study intersections, respectively. Please note that the cumulative traffic volumes represent the accumulation of existing traffic, ambient growth traffic and cumulative projects traffic.

Figures 6-6 and ***6-7*** illustrate the Year 2026 forecast AM and PM peak hour traffic volumes with the inclusion of the trips generated by the proposed Project, respectively.

6.5 Year 2050 Traffic Conditions

Long-term (Year 2050) traffic volume forecasts for this traffic analysis were determined through utilization of The Ontario Plan 2050 (TOP 2050) Model by San Bernardino County Traffic Analysis Model (SBTAM) developed by SANBAG. The future Year 2050 traffic volumes were post-processed based on the relationship of SBTAM TOP's Year 2019 base year validation model run output to the base year ground traffic counts. The projected volume was reviewed carefully and adjustments were applied as warranted based on local conditions and professional judgment. Copies of the traffic model post-processing worksheets for Year 2050 are contained in ***Appendix D***.

6.5.1 *Volume Adjustment*

Using the SBTAM TOP 2050, projected traffic volumes were obtained for each intersection. The first step is to obtain the approach and departure volumes from the model for each leg of the analyzed intersections. The next step is to determine the difference between the base year peak hour model volumes and the build-out peak hour model volumes. This "difference" represents the projected growth in traffic on each approach from the base year to the build-out using the SBTAM.

6.5.2 *B-turn Methodology*

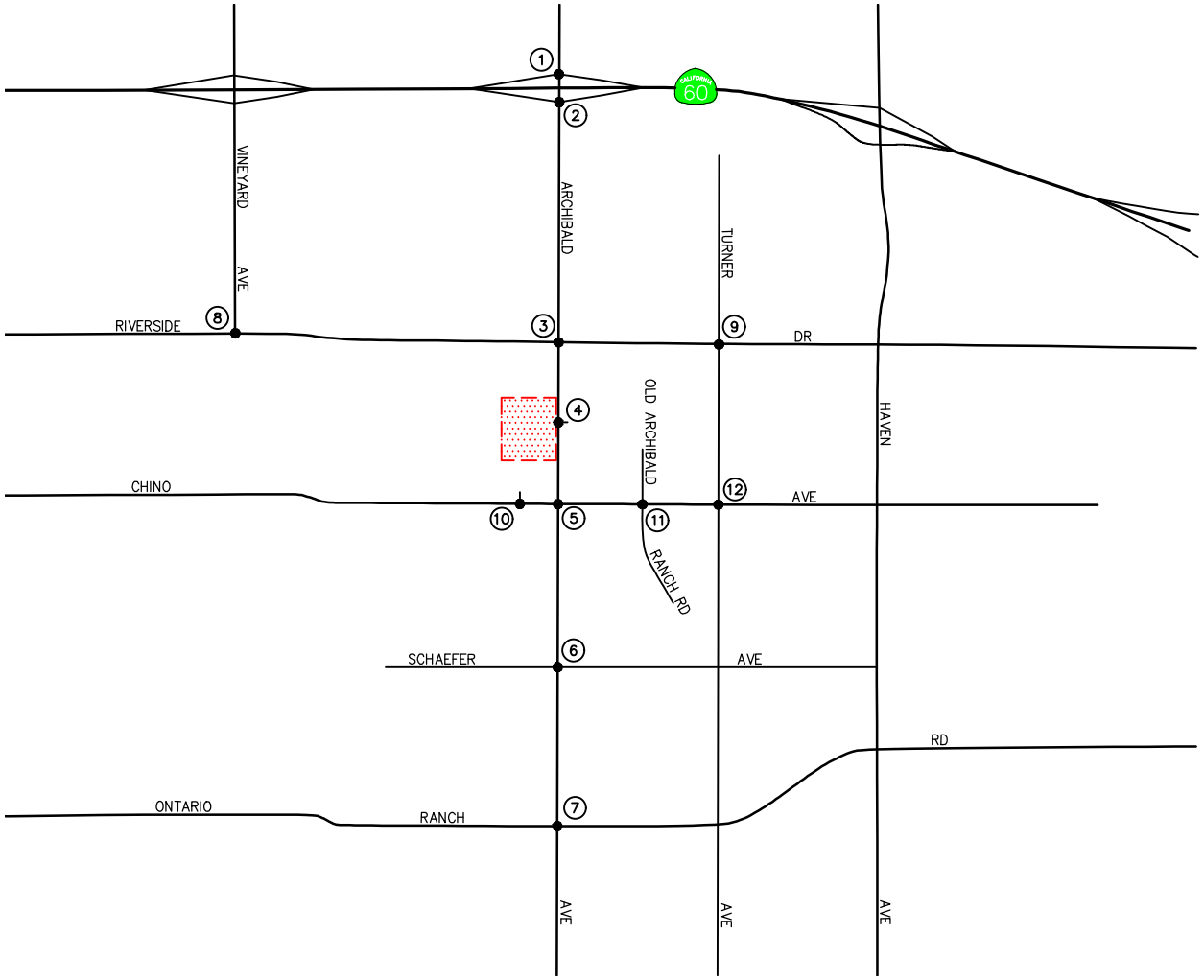
The base year turning movement counts for each intersection must be converted to approach and departure volumes for each leg of the intersection. Once the base counts are in this format, the difference between the build-out model and base model are then added to the base year counts for each corresponding approach and departure volume. This step provides the adjusted volumes that will be used to determine the build-out turning movement volumes. The next process in the forecasting of future turning volumes applies the B-turn methodology. The B-turn methodology is generally described in the *"National Cooperative Highway Research Program Report (NCHRP) 255: Highway Traffic Data for Urbanized Area Project Planning and Design", Chapter 8*. The B-turn method uses the base year turning percentages (from traffic counts) and proceeds through an iterative computational technique to produce a final set of future year turning volumes. The computations involve alternatively balancing the rows (approaches) and the columns (departures) of a turning movement matrix until an acceptable convergence is obtained. Future year link volumes are fixed using this method and the turning movements are adjusted to match. The results must be checked for reasonableness and manual adjustments are sometimes necessary.

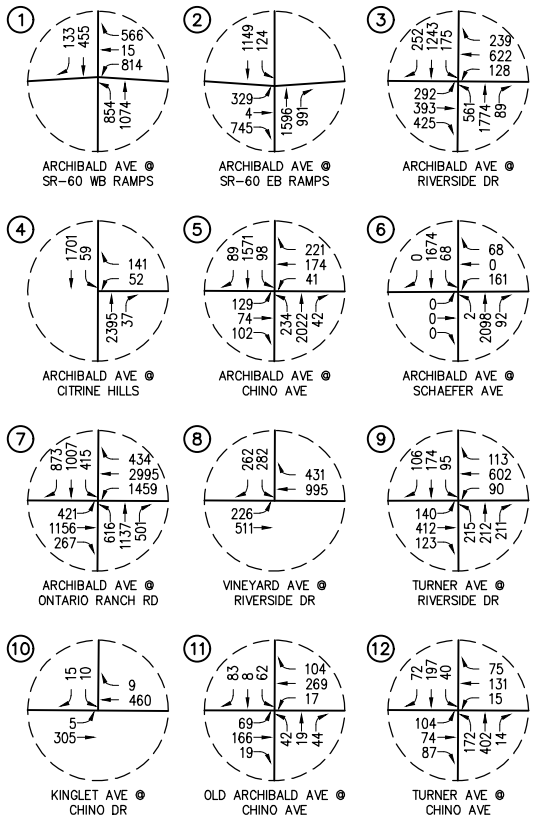
Projected volumes were carefully reviewed and adjustments were applied as warranted based on local conditions and professional engineering judgment. Please note that the post-processing methodology utilized in this report is consistent with SCAG/SANBAG requirements.

6.6 Year 2050 Traffic Volumes

The anticipated AM and PM peak hour traffic volumes, at the key study intersections, associated with Year 2050 Without Project traffic conditions are presented in ***Figures 6-8*** and ***6-9***, respectively.

Figures 6-10 and ***6-11*** illustrate the Year 2050 With Project traffic conditions during the AM peak hour and PM peak hour, respectively.





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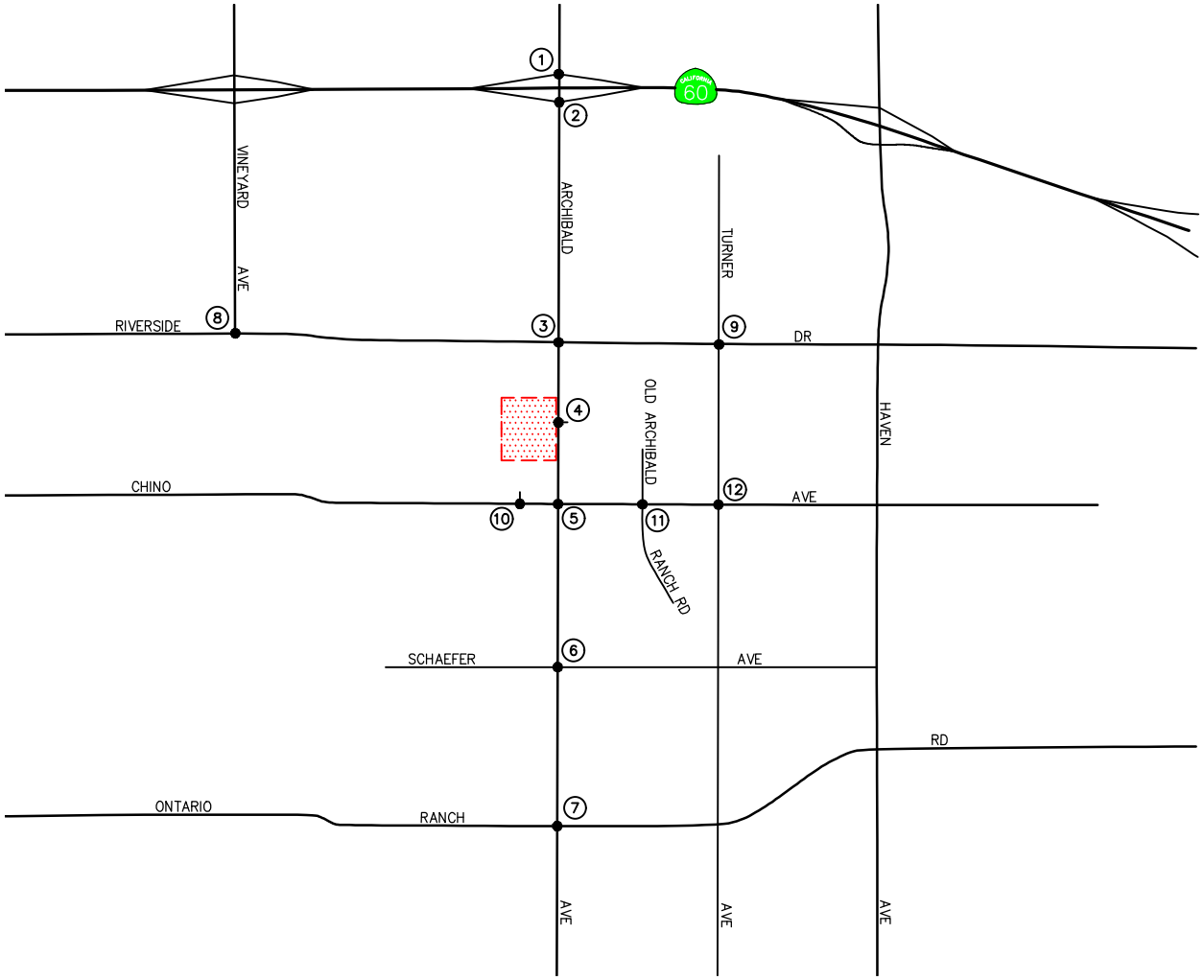
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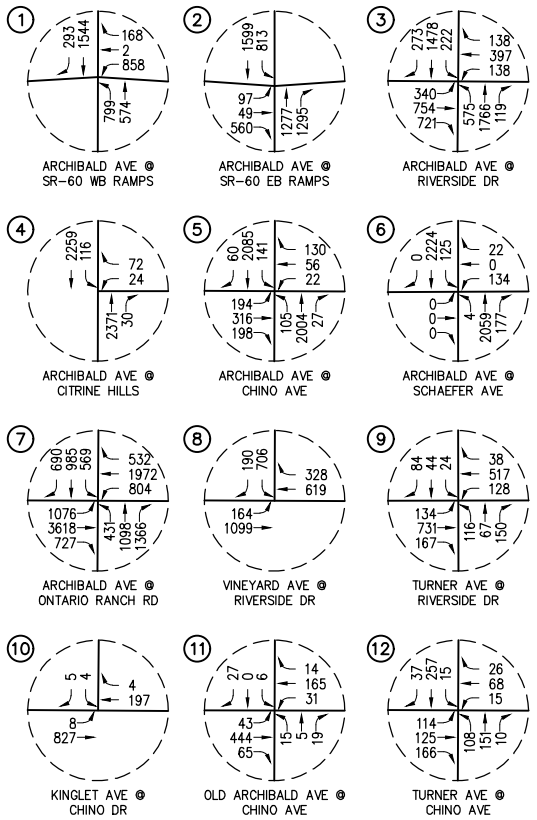
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FIGURE 6-4

YEAR 2026 WITHOUT PROJECT AM PEAK HOUR TRAFFIC VOLUMES

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





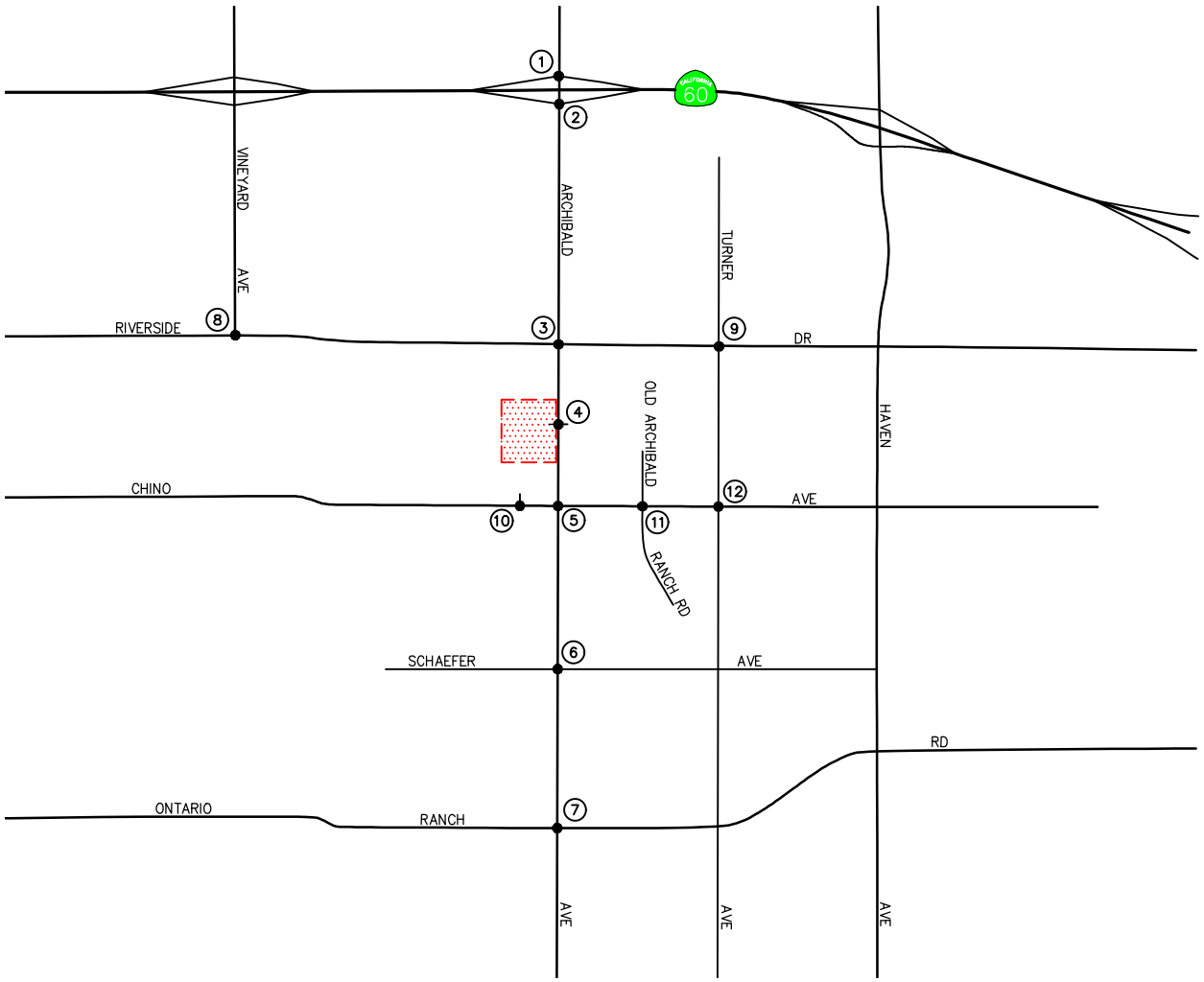
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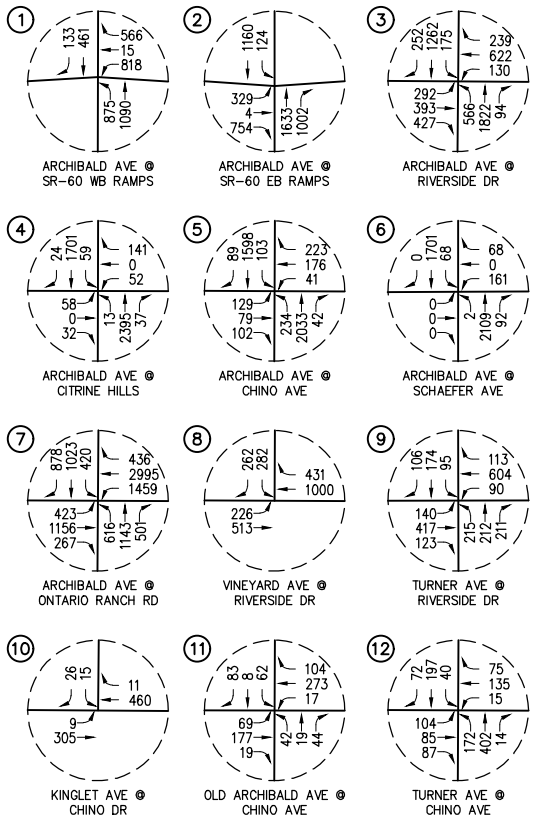
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FIGURE 6-5

YEAR 2026 WITHOUT PROJECT
PM PEAK HOUR TRAFFIC VOLUMES
COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





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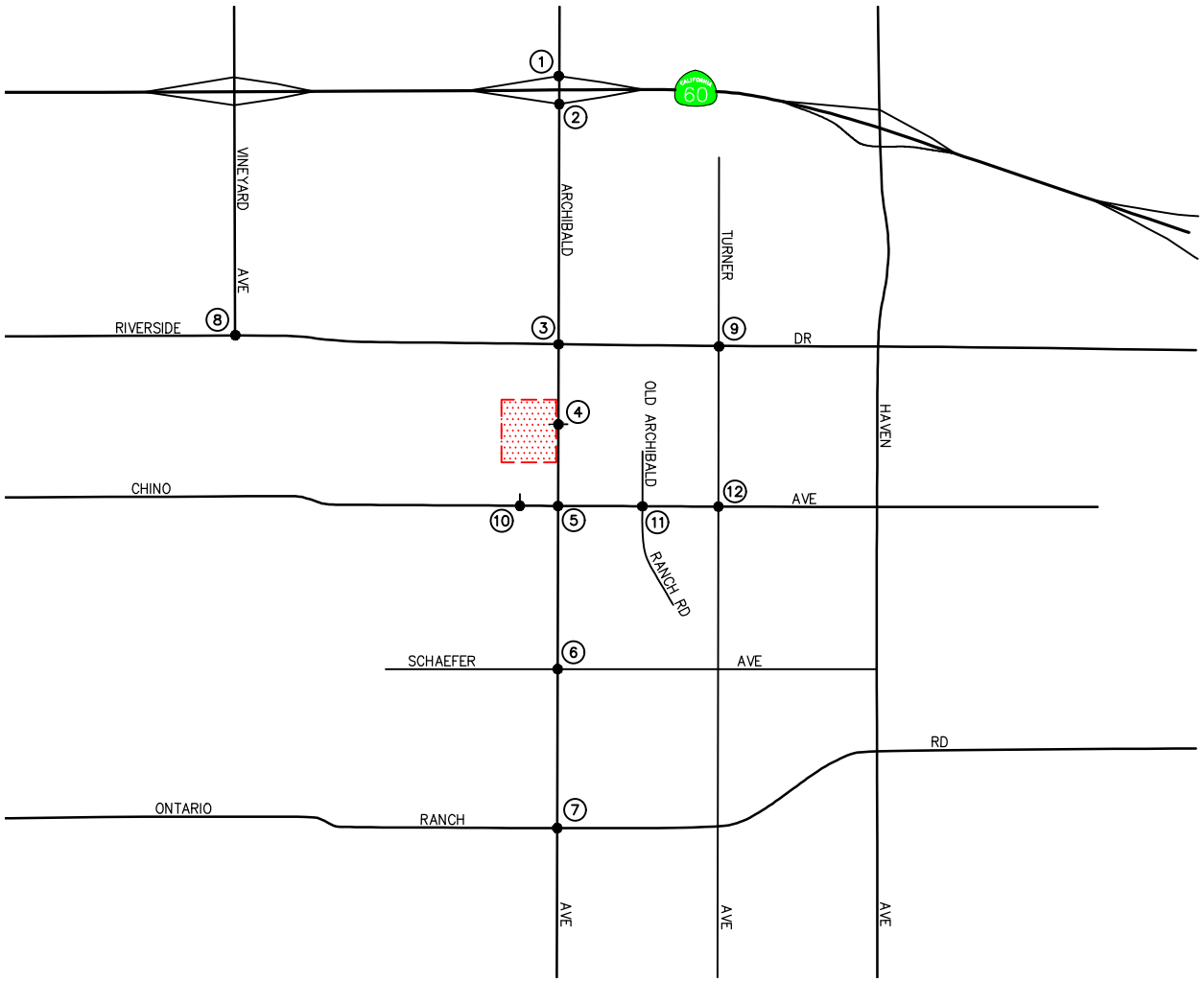
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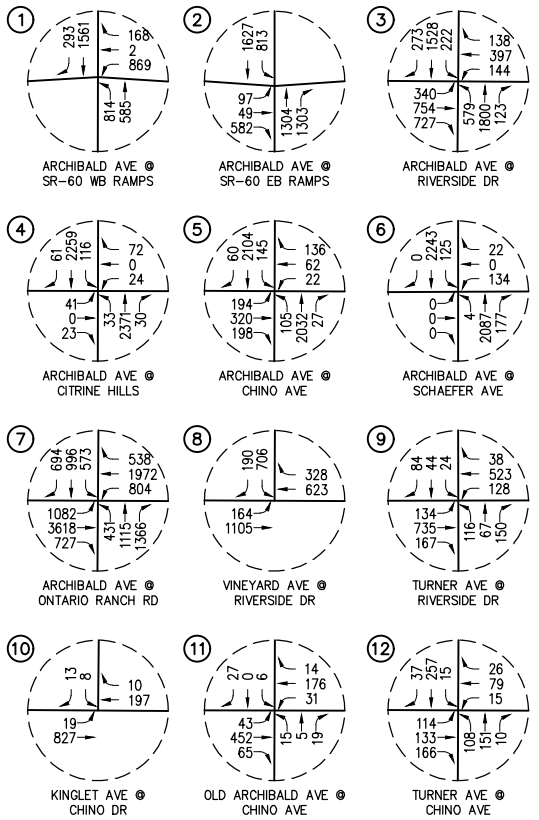
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FIGURE 6-6

YEAR 2026 WITH PROJECT AM PEAK HOUR TRAFFIC VOLUMES

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





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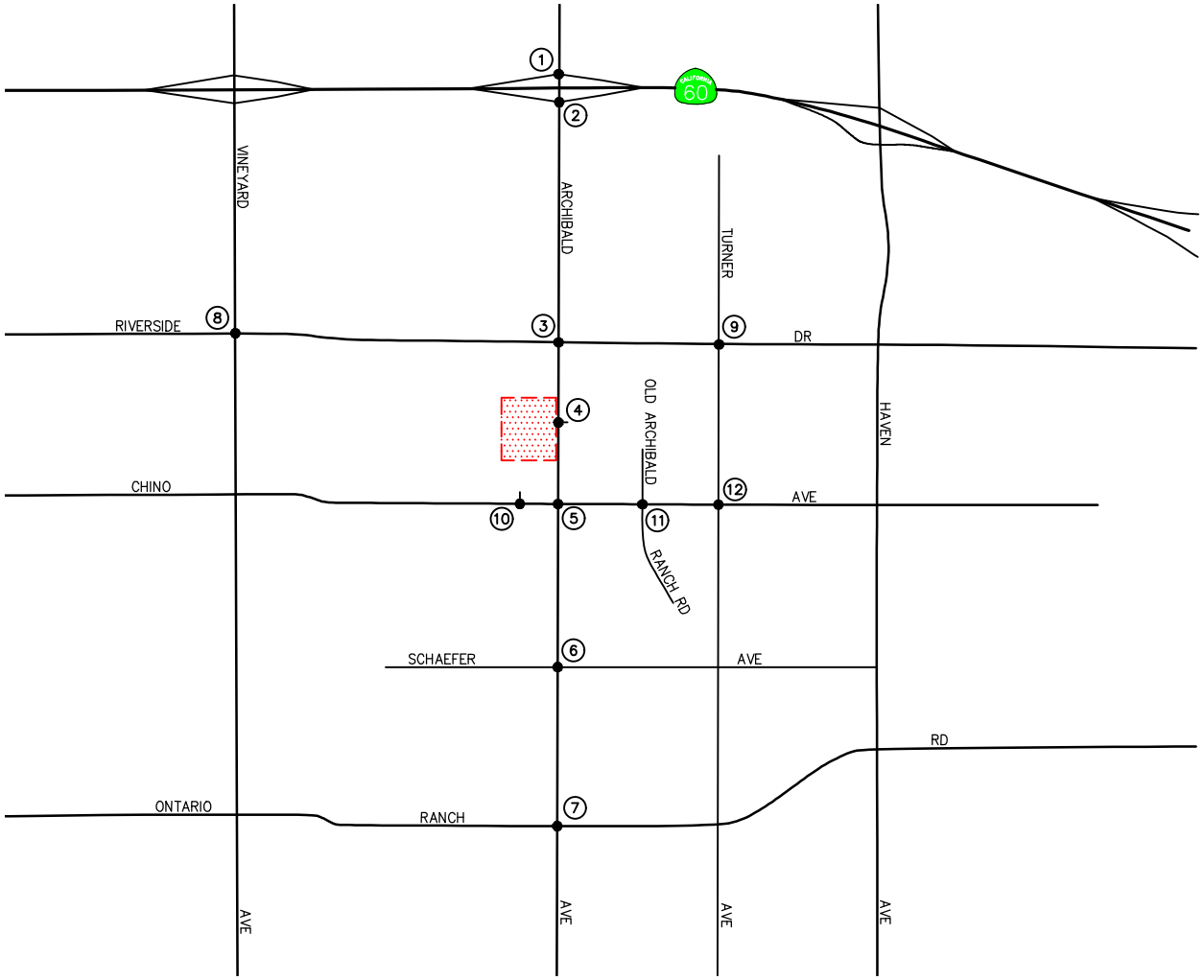
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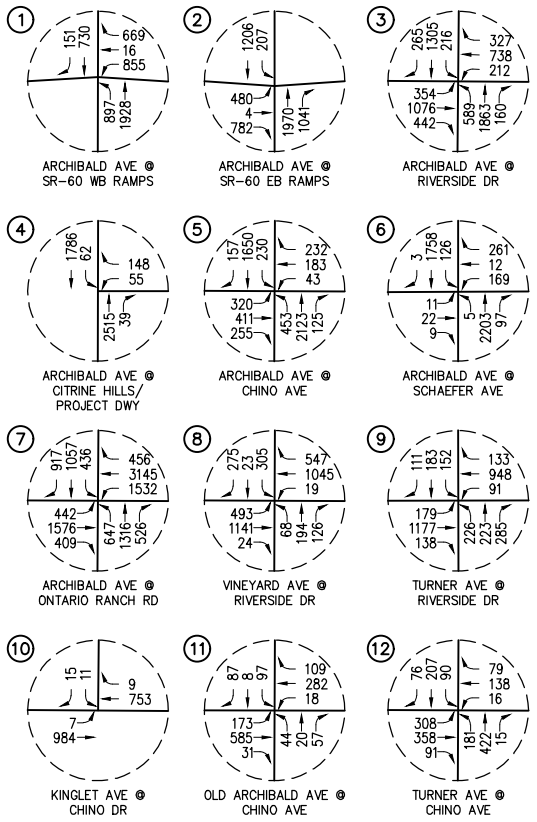
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FIGURE 6-7

YEAR 2026 WITH PROJECT PM PEAK HOUR TRAFFIC VOLUMES

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





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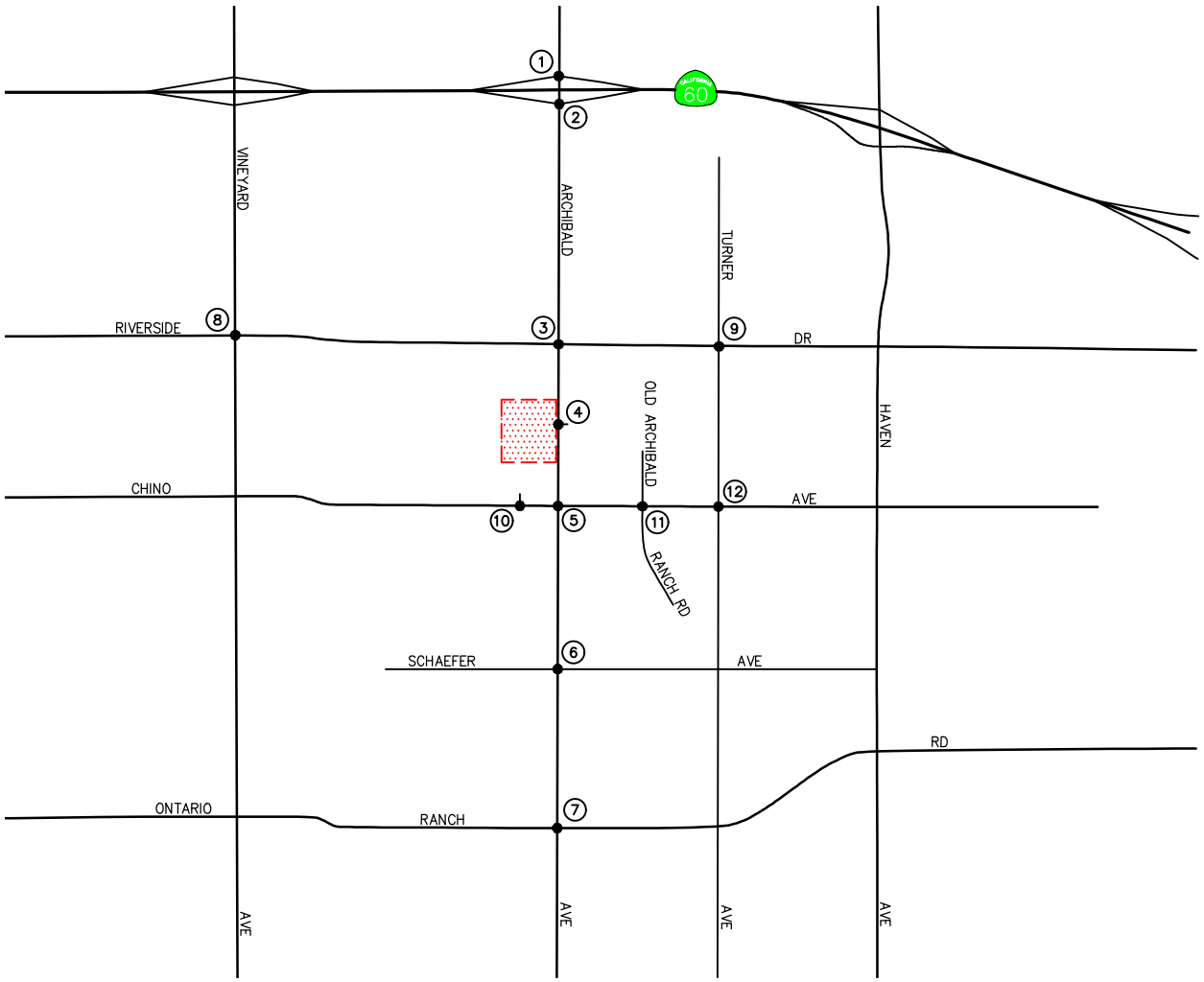
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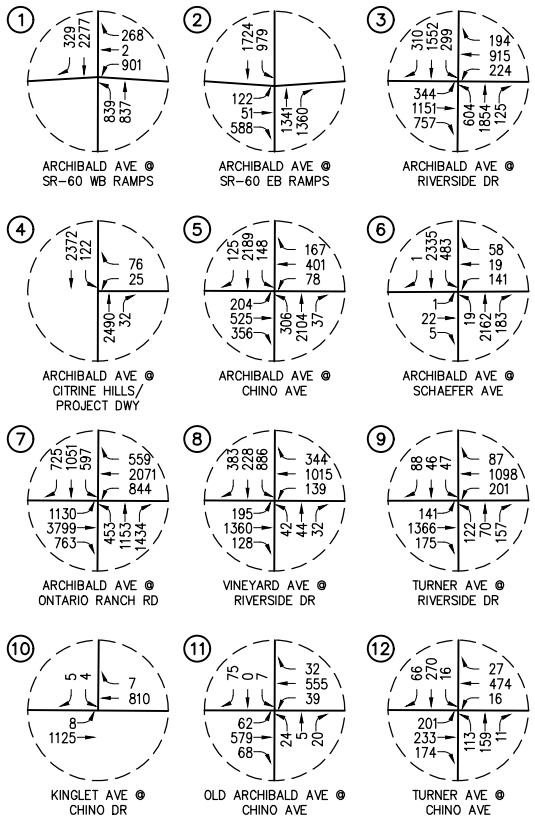
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FIGURE 6-8

YEAR 2050 WITHOUT PROJECT AM PEAK HOUR TRAFFIC VOLUMES

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





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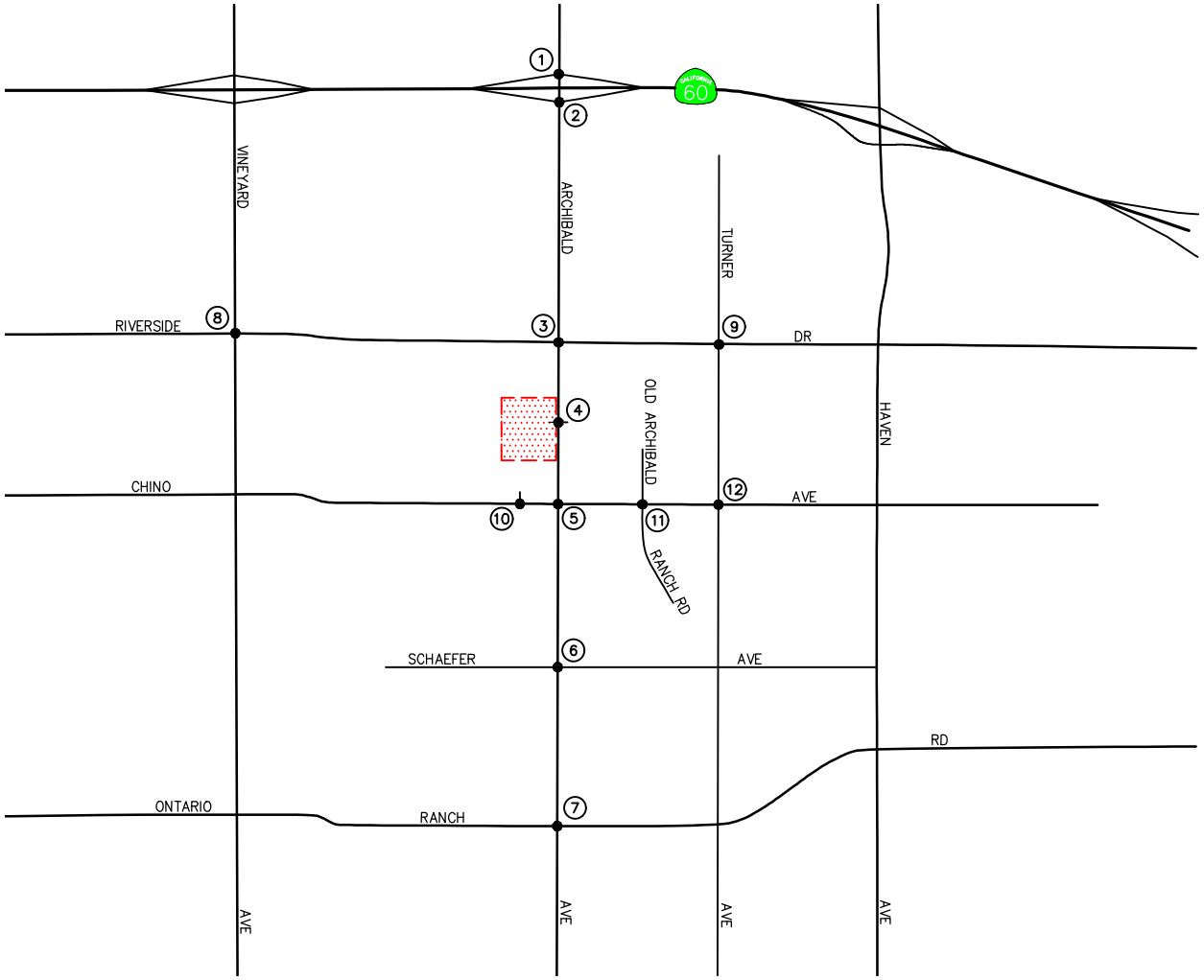
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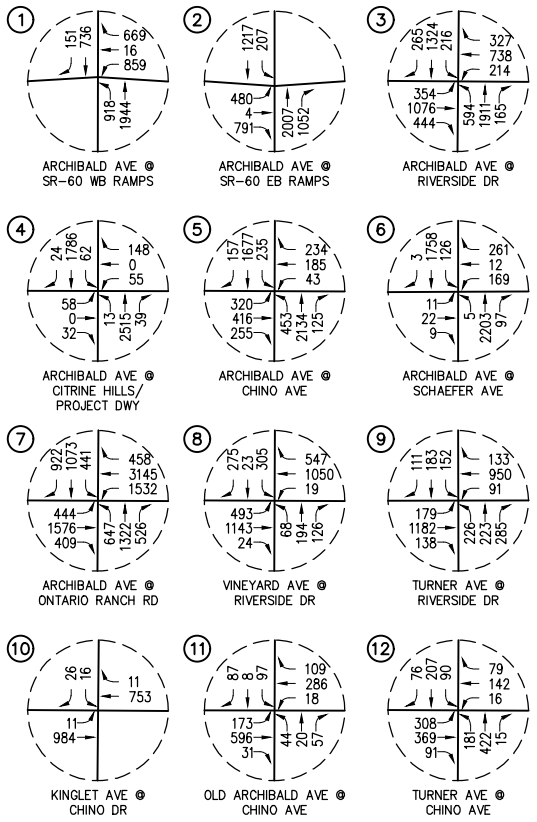
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FIGURE 6-9

YEAR 2050 WITHOUT PROJECT PM PEAK HOUR TRAFFIC VOLUMES

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





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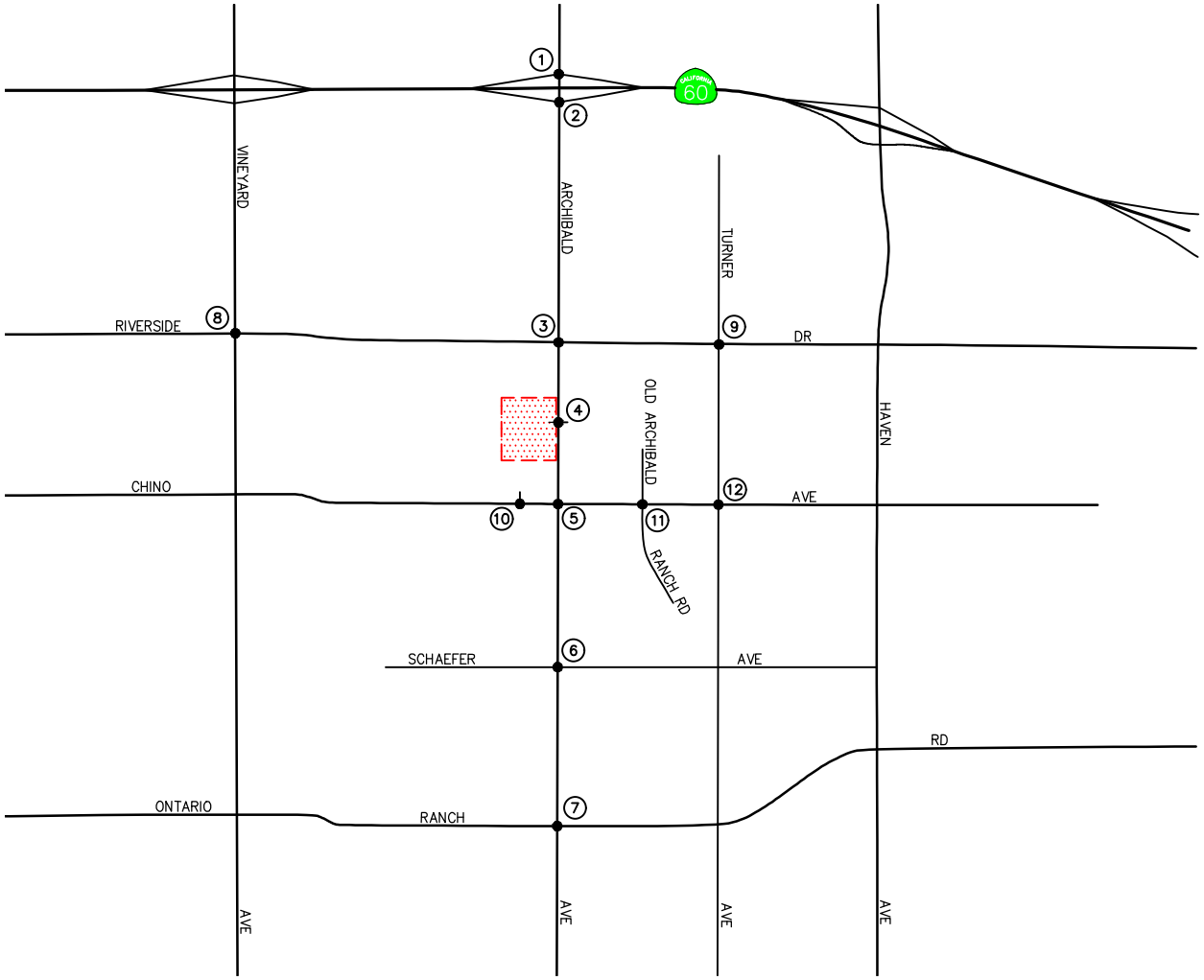
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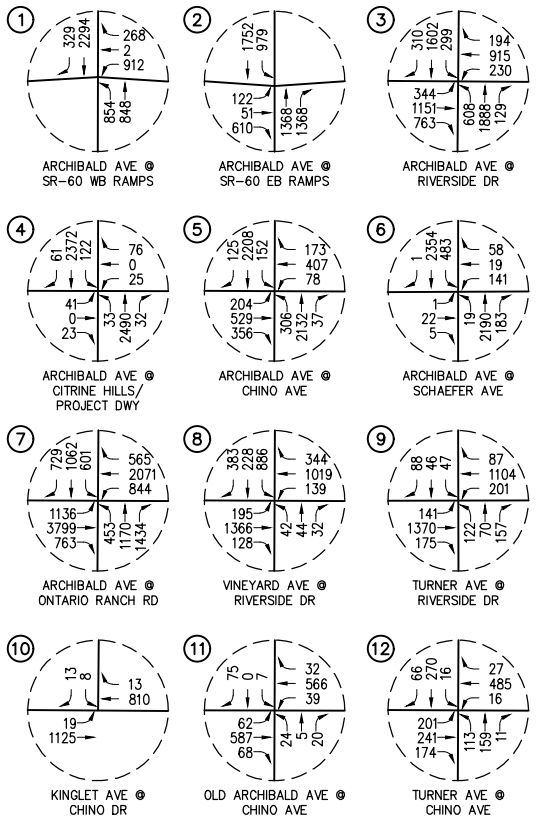
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FIGURE 6-10

YEAR 2050 WITH PROJECT AM PEAK HOUR TRAFFIC VOLUMES

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO





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FIGURE 6-11

YEAR 2050 WITH PROJECT PM PEAK HOUR TRAFFIC VOLUMES

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

7.0 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

7.1 Existing With Project Traffic Analysis

Table 7-1 summarizes the peak hour level of service results at the twelve (12) key study intersections for Existing traffic conditions. The first column (1) of HCM//LOS values in *Table 7-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-3*). The second column (2) lists Existing With Project traffic conditions. The third column (3) indicates whether the traffic associated with the Project will exceed the LOS thresholds defined in this report. The fourth column (4) indicates the anticipated LOS with planned and/or recommended improvements, if any.

7.1.1 *Existing With Project Traffic Conditions*

Review of columns (2) and (3) of *Table 7-1* indicates that all twelve (12) key study intersections are forecast to operate at acceptable LOS with the addition of Project generated traffic to existing traffic.

Appendix C presents the Existing With Project Delay/LOS calculations for the key study intersections for the AM peak hour and PM peak hour.

TABLE 7-1
EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With Project Traffic Conditions		(3) Exceeds LOS Thresholds	(4) Existing With Project Traffic Conditions With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Archibald Avenue at SR-60 WB Ramps	D	AM	23.4	C	23.5	C	No	--	--
		PM	18.5	B	18.7	B	No	--	--
2. Archibald Avenue at SR-60 EB Ramps	D	AM	15.9	B	15.9	B	No	--	--
		PM	24.8	C	24.8	C	No	--	--
3. Archibald Avenue at Riverside Drive	E	AM	47.3	D	47.8	D	No	--	--
		PM	41.9	D	42.3	D	No	--	--
4. Archibald Avenue at Citrine Hills/Project Driveway	E	AM	**132.1**	**F**	11.5	B[10]	No	--	--
		PM	42.5	E	10.7	B[10]	No	--	--
5. Archibald Avenue at Chino Avenue	E	AM	23.5	C	23.6	C	No	--	--
		PM	28.1	C	28.5	C	No	--	--
6. Archibald Avenue at Schaefer Avenue	E	AM	7.3	A	7.3	A	No	--	--
		PM	6.9	A	6.9	A	No	--	--
7. Archibald Avenue at Ontario Ranch Road	E	AM	37.3	D	37.4	D	No	--	--
		PM	35.5	D	35.6	D	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[10] Represents anticipated LOS with the proposed installation of a traffic signal at this intersection/Project Driveway.

TABLE 7-1 (CONTINUED)
EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection		Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With Project Traffic Conditions		(3) Exceeds LOS Thresholds	(4) Existing With Project Traffic Conditions With Improvements	
				Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
8.	Vineyard Avenue at Riverside Drive	E	AM	22.7	C	22.7	C	No	--	--
			PM	28.5	C	28.7	C	No	--	--
9.	Turner Avenue at Riverside Drive	E	AM	34.8	C	34.8	C	No	--	--
			PM	23.6	C	23.6	C	No	--	--
10.	Kinglet Avenue at Chino Avenue	E	AM	11.6	B	11.7	B	No	--	--
			PM	11.0	B	10.9	B	No	--	--
11.	Old Archibald Avenue at Chino Avenue	E	AM	11.4	B	11.5	B	No	--	--
			PM	8.7	A	8.7	A	No	--	--
12.	Turner Avenue at Chino Avenue	E	AM	12.9	B	12.8	B	No	--	--
			PM	9.8	A	9.9	A	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

7.2 Year 2026 Traffic Analysis

Table 7-2 summarizes the weekday AM peak hour and PM peak Level of Service results at the twelve (12) key study intersections for the Year 2026. The second column (2) of *Table 7-2* lists projected cumulative traffic conditions (existing plus ambient plus cumulative projects traffic) based on existing intersection geometry, while the third column (3) presents forecast Year 2026 cumulative conditions with the addition of Project traffic. The fourth column (4) of *Table 7-2* indicates whether the traffic associated with the Project will exceed the LOS thresholds defined in this report. The fifth column (5) indicates the anticipated LOS with planned and/or recommended improvements, if any.

7.2.1 *Year 2026 Without Project Traffic Conditions*

Review of column (2) of *Table 7-2* indicates that six (6) of the twelve (12) key study intersections are forecast to operate adversely with the addition ambient traffic growth and related projects traffic based on the LOS standards specified in this report. The remaining key study intersections are forecast to continue to operate at LOS D or better during the weekday AM and PM peak hours with the addition of ambient traffic growth and cumulative project traffic.

Appendix E presents the Year 2026 Without Project Delay/LOS calculations for the key study intersections for the AM peak hour and PM peak hour.

7.2.2 *Year 2026 With Project Traffic Conditions*

Review of columns (3) and (4) of *Table 7-2* indicates that traffic associated with the proposed Project will have an effect on the LOS at five (5) of the twelve (12) intersections, thus necessitating intersection improvements based on the City's LOS standards. These intersections include Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), Archibald Avenue at Chino Avenue (#5), Archibald Avenue at Ontario Ranch Road (#7), and Vineyard Avenue at Riverside Drive (#8).

Relative to Archibald Avenue at Citrine Hills/Project Driveway (#4), although this intersection is forecast to operate at LOS F without the Project, a five-phase traffic signal will be installed at the intersection as a project design feature which will improve the overall service levels at the intersection.

As shown in column (5) of *Table 7-2*, the implementation of planned and/or recommended improvements (detailed in *Section 9.0*) at the four (4) intersections of Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), Archibald Avenue at Chino Avenue (#5), and Vineyard Avenue at Riverside Drive (#8) will improve the service levels to an acceptable LOS based on the City's LOS standards. The intersection of Archibald Avenue at Ontario Ranch Road (#7) is forecast to continue to operate adversely with the implementation of planned and/or recommended improvements, however, the improvements offset the Project's cumulative effects on traffic under near-term (Year 2026) traffic conditions.

Appendix E presents the Year 2026 With Project Delay/LOS calculations for the key study intersections for the AM peak hour and PM peak hour.

TABLE 7-2
YEAR 2026 PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2026 Without Project Traffic Conditions		(3) Year 2026 With Project Traffic Conditions		(4) Exceeds LOS Thresholds	(5) Year 2026 With Project Traffic Conditions with Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Archibald Avenue at	D	AM	23.4	C	29.3	C	30.5	C	No	--	--
SR-60 WB Ramps		PM	18.5	B	37.9	D	40.7	D	No	--	--
2. Archibald Avenue at	D	AM	15.9	B	30.6	C	31.5	C	No	18.7	B
SR-60 EB Ramps		PM	24.8	C	**99.4**	**F**	**101.1**	**F**	**Yes**	22.1	C
3. Archibald Avenue at	E	AM	47.3	D	**119.5**	**F**	**123.0**	**F**	**Yes**	46.3	D
Riverside Drive		PM	41.9	D	**175.2**	**F**	**182.6**	**F**	**Yes**	57.8	E
4. Archibald Avenue at	E	AM	**132.1**	**F**	**--[11]**	**F**	14.4	B	No	--	--
Citrine Hills/Project Driveway		PM	42.5	E	**--[11]**	**F**	16.0	B[12]	No	--	--
5. Archibald Avenue at	E	AM	23.5	C	43.0	D	46.0	D[12]	No	31.9	C
Chino Avenue		PM	28.1	C	**88.3**	**F**	**92.4**	**F**	**Yes**	54.9	D
6. Archibald Avenue at	E	AM	7.3	A	11.7	B	11.8	B	No	--	--
Schaefer Avenue		PM	6.9	A	14.6	B	14.8	B	No	--	--
7. Archibald Avenue at	E	AM	37.3	D	**827.3**	**F**	**827.9**	**F**	**Yes**	**302.1**	**F**
Ontario Ranch Road		PM	35.5	D	**784.8**	**F**	**785.8**	**F**	**Yes**	**298.8**	**F**

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[11] The intersection delay (sec/veh) calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

[12] Represents anticipated LOS with the proposed installation of a traffic signal at this intersection/Project Driveway.

TABLE 7-2 (CONTINUED)
YEAR 2026 PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2026 Without Project Traffic Conditions		(3) Year 2026 With Project Traffic Conditions		(4) Exceeds LOS Thresholds	(5) Year 2026 With Project Traffic Conditions with Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
8. Vineyard Avenue at Riverside Drive	E	AM	22.7	C	27.7	C	27.8	C	No	25.4	C
		PM	28.5	C	**82.7**	**F**	**82.9**	**F**	**Yes**	34.4	C
9. Turner Avenue at Riverside Drive	E	AM	34.8	C	31.3	C	31.3	C	No	--	--
		PM	23.6	C	24.3	C	24.3	C	No	--	--
10. Kinglet Avenue at Chino Avenue	E	AM	11.6	B	11.9	B	12.0	B	No	--	--
		PM	11.0	B	11.3	B	11.2	B	No	--	--
11. Old Archibald Avenue at Chino Avenue	E	AM	11.4	B	10.4	B	10.5	B	No	--	--
		PM	8.7	A	9.7	A	9.8	A	No	--	--
12. Turner Avenue at Chino Avenue	E	AM	12.9	B	11.9	B	11.9	B	No	--	--
		PM	9.8	A	10.9	B	10.9	B	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

7.3 Year 2050 Traffic Analysis

Table 7-3 summarizes the weekday AM peak hour and PM peak Level of Service results at the twelve (12) key study intersections for the Year 2050 scenario. The structure of this table is similar to that of *Table 7-2.* The second column (2) lists forecast Year 2050 traffic conditions based on existing intersection geometry and/or planned improvements/traffic control, but without any traffic generated from the proposed Project. The third column (3) presents forecast Year 2050 traffic conditions with the addition of traffic generated by the Project. The fourth column (4) indicates whether the traffic associated with the Project will exceed the LOS thresholds previously mentioned. The fifth column (5) indicates the anticipated level of service with recommended improvements to accommodate long-term (Year 2050) traffic volumes.

7.3.1 *Year 2050 Without Project Traffic Conditions*

Review of column (2) of *Table 7-3* indicates that six (6) of the twelve (12) key study intersections are forecast to operate adversely under Year 2050 Without Project traffic conditions based on the LOS standards specified in this report. The remaining key study intersections are forecast to continue to operate at LOS D or better during the weekday AM and PM peak hours under Year 2050 Without Project traffic conditions. ***Appendix F*** presents the Year 2050 Without Project Delay/LOS calculations for the key study intersections for the AM peak hour and PM peak hour.

7.3.2 *Year 2050 With Project Traffic Conditions*

Review of columns (3) and (4) of *Table 7-3* indicates that traffic associated with the proposed Project will have an effect on the LOS at five (5) of the twelve (12) intersections, thus necessitating intersection improvements based on the City's LOS standards. These intersections include Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), Archibald Avenue at Chino Avenue (#5), Archibald Avenue at Ontario Ranch Road (#7), and Vineyard Avenue at Riverside Drive (#8).

Relative to Archibald Avenue at Citrine Hills/Project Driveway (#4), although this intersection is forecast to operate at LOS F without the Project, a five-phase traffic signal will be installed at the intersection as a project design feature which will improve the overall service levels at the intersection.

As shown in column (5) of *Table 7-3*, the implementation of planned and/or recommended improvements (detailed in *Section 9.0*) at the four (4) intersections of Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), Archibald Avenue at Chino Avenue (#5), and Vineyard Avenue at Riverside Drive (#8) will improve the service levels to an acceptable LOS based on the City's LOS standards. The intersection of Archibald Avenue at Ontario Ranch Road (#7) is forecast to continue to operate adversely with the implementation of planned and/or recommended improvements, however, the improvements offset the Project's cumulative effects on traffic under long-term (Year 2050) traffic conditions.

Appendix F presents the Year 2050 With Project Delay/LOS calculations for the key study intersections for the AM peak hour and PM peak hour.

TABLE 7-3

YEAR 2050 PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2050 Without Project Traffic Conditions		(3) Year 2050 With Project Traffic Conditions		(4) Exceeds LOS Thresholds	(5) Year 2050 With Project Traffic Conditions with Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Archibald Avenue at SR-60 WB Ramps	D	AM	23.4	C	29.5	C	29.8	C	No	--	--
		PM	18.5	B	45.0	D	46.5	D	No	--	--
2. Archibald Avenue at SR-60 EB Ramps	D	AM	15.9	B	35.7	D	36.5	C	No	20.4	C
		PM	24.8	C	**108.3**	**F**	**110.7**	**F**	**Yes**	23.7	C
3. Archibald Avenue at Riverside Drive	E	AM	47.3	D	**168.1**	**F**	**171.9**	**F**	**Yes**	58.0	E
		PM	41.9	D	**257.2**	**F**	**266.2**	**F**	**Yes**	70.1	E
4. Archibald Avenue at Citrine Hills/Project Driveway	E	AM	**132.1**	**F**	**--**[13]	**F**	14.2	B[14]	No	--	--
		PM	42.5	E	**--**[13]	**F**	15.6	B[14]	No	--	--
5. Archibald Avenue at Chino Avenue	E	AM	23.5	C	**140.5**	**F**	**144.7**	**F**	**Yes**	71.7	E
		PM	28.1	C	**198.3**	**F**	**201.2**	**F**	**Yes**	76.2	E
6. Archibald Avenue at Schaefer Avenue	E	AM	7.3	A	17.1	B	17.2	B	No	--	--
		PM	6.9	A	28.7	C	29.1	C	No	--	--
7. Archibald Avenue at Ontario Ranch Road	E	AM	37.3	D	**793.9**	**F**	**794.7**	**F**	**Yes**	**286.3**	**F**
		PM	35.5	D	**783.2**	**F**	**783.2**	**F**	**Yes**	**293.6**	**F**

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

[13] The intersection delay (sec/veh) calculated exceeded the capabilities of HCM 6th Edition, therefore only the adverse LOS F condition was reported.

[14] Represents anticipated LOS with the proposed installation of a traffic signal at this intersection/Project Driveway.

TABLE 7-3 (CONTINUED)
YEAR 2050 PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2050 Without Project Traffic Conditions		(3) Year 2050 With Project Traffic Conditions		(4) Exceeds LOS Thresholds	(5) Year 2050 With Project Traffic Conditions with Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
8. Vineyard Avenue at Riverside Drive	E	AM	22.7	C	**158.4**	**F**	**159.3**	**F**	**Yes**	70.3	E
		PM	28.5	C	**320.6**	**F**	**322.0**	**F**	**Yes**	62.4	E
9. Turner Avenue at Riverside Drive	E	AM	34.8	C	35.1	D	35.2	D	No	--	--
		PM	23.6	C	29.5	C	29.8	C	No	--	--
10. Kinglet Avenue at Chino Avenue	E	AM	11.6	B	20.8	C	21.2	C	No	--	--
		PM	11.0	B	22.8	C	22.5	C	No	--	--
11. Old Archibald Avenue at Chino Avenue	E	AM	11.4	B	15.5	C	15.7	C	No	--	--
		PM	8.7	A	14.0	B	14.2	B	No	--	--
12. Turner Avenue at Chino Avenue	E	AM	12.9	B	15.3	C	15.3	C	No	--	--
		PM	9.8	A	14.6	B	14.8	B	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards mentioned in this report

8.0 INTERSECTION QUEUING ANALYSIS

8.1 Caltrans Off-Ramp Queueing Analysis

The *Caltrans Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance*, dated July 2020, provides direction on a simplified safety analysis approach that reduces the risk to all road users and that focuses on multi-modal conflict analysis as well as access management issues. District traffic safety staff are encouraged to consider the proposed Project's potential influence on safety on state roadways, including the following factors:

- Increased presence of pedestrians and bicyclists
- Degradation of the walking and bicycling environment and experience
- New pedestrian and bicyclist connection desires
- Multimodal conflict points, especially at intersections and project access locations
- Change in traffic mix such as an increase in bicyclists or pedestrians where features such as shoulders or sidewalks may not exist or are inconsistent with facility design (sidewalks, bike and multi-user paths, multimodal roadways, etc.)
- Increased vehicular speeds
- Transition between free flow and metered flow
- Increased traffic volumes
- Queuing at off-ramps resulting in slow or stopped traffic on the mainline or speed differentials between adjacent lanes
- Queuing exceeding turn pocket length that impedes through-traffic

The proposed Project does not take direct access from a State facility; however, an evaluation of the Project's potential impacts on queuing at Caltrans intersections was prepared in order to determine if the Project would cause, or contribute towards, slowing or stopped traffic on freeway mainline travel lanes, off-ramps, and State highway lanes that could result in unsafe speed differentials between adjacent lanes.

As such, a Caltrans queueing analysis was conducted for the freeway off-ramps at the intersections of Archibald Avenue at SR-60 WB Ramps (#1) and Archibald Avenue at SR-60 EB Ramps (#2) using the Highway Capacity Manual (HCM) 95th percentile queue methodology for signalized intersections. The queuing analysis was based on the forecast weekday AM and PM intersection turning movement volumes utilized in the level of service analyses. The existing lane configurations and storage lengths were determined based on a review of aerial maps of the subject intersections obtained from Google Earth and on field reviews conducted by LLG Engineers. An average vehicle length of 25 feet is assumed for purposes of this analysis.

8.1.1 *Existing with Project Caltrans Queueing Analysis*

Table 8-1 presents the queueing analyses results for the two (2) Caltrans study intersections. Column (1) presents the queuing results for existing AM and PM peak hour traffic conditions. Column (2) presents the results for Existing With Project traffic conditions. Column (3) presents the anticipated queueing results for with planned and/or recommended improvements, if any.

Review of columns (1) and (2) of *Table 8-1* indicates that the two (2) study intersections have queues that are adequately accommodated by the existing storage provided for Existing With Project traffic conditions. *Appendix C* presents the Existing and Existing With Project queueing calculations for the key study intersections for the AM peak hour and PM peak hour.

8.1.2 *Year 2026 Caltrans Queueing Analysis*

Table 8-2 presents the queueing analyses results for the two (2) Caltrans study intersections. Column (1) presents the queuing results for Year 2026 AM and PM peak hour traffic conditions. Column (2) presents the results for Year 2026 With Project traffic conditions. Column (3) presents the anticipated queueing results for with planned and/or recommended improvements, if any.

Review of columns (1) and (2) of *Table 8-2* indicates that the two (2) study intersections have queues that are adequately accommodated by the existing storage provided for Year 2026 With Project traffic conditions. *Appendix E* presents the Year 2026 Without Project and Year 2026 With Project calculations for the key study intersections for the AM peak hour and PM peak hour.

8.1.3 *Year 2050 Caltrans Queueing Analysis*

Table 8-3 presents the queueing analyses results for the two (2) Caltrans study intersections. Column (1) presents the queuing results for Year 2050 AM and PM peak hour traffic conditions. Column (2) presents the results for Year 2050 With Project traffic conditions. Column (3) presents the anticipated queueing results for with planned and/or recommended improvements, if any.

Review of columns (1) and (2) of *Table 8-3* indicates that the two (2) study intersections have queues that are adequately accommodated by the existing storage provided for Year 2050 With Project traffic conditions. *Appendix F* presents the Year 2050 Without Project and Year 2050 With Project calculations for the key study intersections for the AM peak hour and PM peak hour.

TABLE 8-1

EXISTING PEAK HOUR CALTRANS OFF-RAMP QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Existing Traffic Conditions				(2) Existing with Project Traffic Conditions				(3) Existing with Project Traffic Conditions with Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
1. Archibald Avenue at SR-60 WB Ramps													
Westbound Left -Turn	360	295	Yes	196	Yes	297	Yes	198	Yes	--	--	--	--
Westbound Left/Through/Right	1,325	295	Yes	196	Yes	297	Yes	198	Yes	--	--	--	--
Eastbound Right-Turn	360	284	Yes	160	Yes	286	Yes	157	Yes	--	--	--	--
2. Archibald Avenue at SR-60 EB Ramps													
Eastbound Left -Turn	325	236	Yes	125	Yes	238	Yes	117	Yes	--	--	--	--
Eastbound Left/Through/Right	1,265	221	Yes	188	Yes	222	Yes	198	Yes	--	--	--	--
Eastbound Right-Turn	325	212	Yes	169	Yes	214	Yes	178	Yes	--	--	--	--

TABLE 8-2

YEAR 2026 PEAK HOUR CALTRANS OFF-RAMP QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Year 2026 without Project Traffic Conditions				(2) Year 2026 with Project Traffic Conditions				(3) Year 2026 with Project Traffic Conditions With Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
1. Archibald Avenue at SR-60 WB Ramps													
Westbound Left -Turn	360	441	Yes[15]	301	Yes	463	Yes[15]	330	Yes	--	--	--	--
Westbound Left/Through/Right	1,325	441	Yes	539	Yes	463	Yes	591	Yes	--	--	--	--
Eastbound Right-Turn	360	411	Yes[15]	144	Yes	432	Yes[15]	159	Yes	--	--	--	--
2. Archibald Avenue at SR-60 EB Ramps													
Eastbound Left -Turn	325	406	Yes[15]	129	Yes	406	Yes[15]	127	Yes	--	--	--	--
Eastbound Left/Through/Right	1,265	557	Yes	720	Yes	578	Yes	725	Yes	--	--	--	--
Eastbound Right-Turn	325	444	Yes[15]	635	Yes[15]	451	Yes[15]	640	Yes[15]	--	--	--	--

[15] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated within the off-ramp.

TABLE 8-3

YEAR 2050 PEAK HOUR CALTRANS OFF-RAMP QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Year 2050 without Project Traffic Conditions				(2) Year 2050 with Project Traffic Conditions				(3) Year 2050 with Project Traffic Conditions With Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
1. Archibald Avenue at SR-60 WB Ramps													
Westbound Left -Turn	360	509	Yes[16]	425	Yes[16]	496	Yes[16]	431	Yes[16]	--	--	--	--
Westbound Left/Through/Right	1,325	509	Yes	686	Yes	496	Yes	712	Yes	--	--	--	--
Eastbound Right-Turn	360	479	Yes[16]	276	Yes	465	Yes[16]	276	Yes	--	--	--	--
2. Archibald Avenue at SR-60 EB Ramps													
Eastbound Left -Turn	325	612	Yes[16]	164	Yes	623	Yes[16]	164	Yes	--	--	--	--
Eastbound Left/Through/Right	1,265	612	Yes	738	Yes	623	Yes	793	Yes	--	--	--	--
Eastbound Right-Turn	325	563	Yes[16]	658	Yes[16]	572	Yes[16]	714	Yes[16]	--	--	--	--

[16] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated within the off-ramp.

8.2 City of Ontario Turn Pocket Queueing Analysis

A vehicle queueing analysis was conducted at each signalized study intersection in addition to the intersection level of service analyses. The queueing analysis was prepared for the left-turn and right-turn pockets at each signalized intersection and was based on the Highway Capacity Manual (HCM) 95th percentile queue methodology for signalized intersections.

The queuing analysis was based on the forecast weekday AM and PM intersection turning movement volumes utilized in the level of service analyses. The existing lane configurations and storage lengths were determined based on a review of aerial maps of the subject intersections obtained from Google Earth and on field reviews conducted by LLG Engineers. An average vehicle length of 25 feet is assumed for purposes of this analysis.

8.2.1 *Existing with Project Turn Pocket Queueing Analysis*

Table 8-4 presents the queueing analyses results for the nine (9) signalized study intersections. Column (1) presents the queuing results for existing AM and PM peak hour traffic conditions. Column (2) presents the results for Existing With Project traffic conditions. Column (3) presents the anticipated queueing results for with planned and/or recommended improvements, if any.

Review of columns (1) and (2) of *Table 8-4* indicates that five (5) out of the nine (9) signalized study intersections have queues which exceed the provided storage for Existing With Project traffic conditions. However, for all of the deficient approaches/intersections, the proposed Project either does not contribute to or adds less than one (1) vehicle to the queue, and therefore it has been concluded that improvements related to queueing are not required for Existing With Project traffic conditions.

Appendix C presents the Existing and Existing With Project queueing calculations for the key study intersections for the AM peak hour and PM peak hour.

8.2.2 *Year 2026 Turn Pocket Queueing Analysis*

Table 8-5 presents the queueing analyses results for the nine (9) signalized study intersections. Column (1) presents the queuing results for Year 2026 AM and PM peak hour traffic conditions. Column (2) presents the results for Year 2026 With Project traffic conditions. Column (3) presents the anticipated queueing results for with planned and/or recommended improvements, if any.

Review of columns (1) and (2) of *Table 8-5* indicates that seven (7) out of the nine (9) signalized study intersections have queues which exceed the provided storage for Year 2026 With Project traffic conditions. However, for a number of deficient approaches, the proposed Project either does not contribute to or adds less than one (1) vehicle to the queue, and therefore it has been concluded that improvements are not required for those approaches. As such, the following four (4) intersections/approaches require improvements related to queuing:

- No. 1: Archibald Avenue at SR-60 WB Ramps
  - Northbound Left-Turn
- No. 2: Archibald Avenue at SR-60 EB Ramps
  - Northbound Right-Turn
- No. 3: Archibald Avenue at Riverside Drive
  - Northbound Left-Turn
  - Westbound Left-Turn
- No. 7: Archibald Avenue at Schaefer Avenue
  - Southbound Left-Turn
  - Southbound Right-Turn
  - Eastbound Left-Turn
  - Westbound Right-Turn

Review of column (3) of *Table 8-5* indicates that the implementation of planned and/or recommended improvements (detailed in *Section 9.0*) at the intersections of Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), and Archibald Avenue at Ontario Ranch Road (#7) will offset the Project's cumulative effects and help improve the queues under near-term (Year 2026) traffic conditions.

The deficient queues for the northbound left-turn at Archibald Avenue at SR-60 WB Ramps (#1) is considered unavoidable since lengthening the turn pocket is considered infeasible. As such, improvements at this location are not recommended.

It should be noted that although the intersections of Archibald Avenue at Chino Avenue (#5), and Vineyard Avenue at Riverside Drive (#8) does not require improvements related to queueing, the implementation of planned and/or recommended improvements at the intersection will help improve the queues at the intersections.

Appendix E presents the Year 2026 Without Project and Year 2026 With Project calculations for the key study intersections for the AM peak hour and PM peak hour.

8.2.3 *Year 2050 Turn Pocket Queueing Analysis*

Table 8-6 presents the queueing analyses results for the nine (9) signalized study intersections. Column (1) presents the queuing results for Year 2050 AM and PM peak hour traffic conditions. Column (2) presents the results for Year 2050 With Project traffic conditions. Column (3) presents the anticipated queueing results for with planned and/or recommended improvements, if any.

Review of columns (1) and (2) of *Table 8-6* indicates that eight (8) out of the nine (9) signalized study intersections have queues which exceed the provided storage for Year 2050 With Project traffic conditions. However, for a number of deficient approaches, the proposed Project either does not contribute to or adds less than one (1) vehicle to the queue, and therefore it has been concluded that improvements are not required for those approaches. As such, the following five (5) intersections/approaches require improvements related to queuing:

- No. 1: Archibald Avenue at SR-60 WB Ramps
  - Northbound Left-Turn
- No. 2: Archibald Avenue at SR-60 EB Ramps
  - Northbound Right-Turn
- No. 3: Archibald Avenue at Riverside Drive
  - Northbound Left-Turn
  - Westbound Left-Turn
- No. 5: Archibald Avenue at Chino Avenue
  - Southbound Left-Turn
- No. 7: Archibald Avenue at Schaefer Avenue
  - Southbound Left-Turn
  - Southbound Right-Turn
  - Eastbound Left-Turn
  - Westbound Right-Turn

Review of column (3) of *Table 8-6* indicates that the implementation of planned and/or recommended improvements (detailed in *Section 9.0*) at the intersections of Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), Archibald Avenue at Chino Avenue (#5), and Archibald Avenue at Ontario Ranch Road (#7) will offset the Project's cumulative effects and help improve the queues under long-term (Year 2050) traffic conditions.

The deficient queues for the northbound left-turn at Archibald Avenue at SR-60 WB Ramps (#1) is considered unavoidable since lengthening the turn pocket is considered infeasible. As such, improvements at this location are not recommended.

It should be noted that although the intersection of Vineyard Avenue at Riverside Drive (#8) does not require improvements related to queueing, the implementation of planned and/or recommended improvements at the intersection will help improve the queues at the intersection.

Appendix F presents the Year 2050 Without Project and Year 2050 With Project calculations for the key study intersections for the AM peak hour and PM peak hour.

TABLE 8-4
EXISTING PEAK HOUR TURN POCKET QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Existing Traffic Conditions				(2) Existing with Project Traffic Conditions				(3) Existing with Project Traffic Conditions with Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
1. Archibald Avenue at SR-60 WB Ramps													
Northbound Left-Turn[17]	305	258	Yes	200	Yes	265	Yes	206	Yes	--	--	--	--
Southbound Right-Turn	125	80	Yes	130	Yes[18]	81	Yes	135	Yes[18]	--	--	--	--
2. Archibald Avenue at SR-60 EB Ramps													
Northbound Right-Turn	250	272	Yes[18]	**703**	**No**	281	Yes[18]	**707**	**No**	--	--	--	--
Southbound Left-Turn	305	59	Yes	**404**	**No**	59	Yes	**389**	**No**	--	--	--	--
3. Archibald Avenue at Riverside Drive													
Northbound Left-Turn	205	**405**	**No**	250	Yes[18]	**413**	**No**	255	Yes[18]	--	--	--	--
Southbound Left-Turn	150	260	Yes[18]	263	Yes[18]	260	Yes[18]	272	Yes[18]	--	--	--	--
Eastbound Left-Turn	150	**276**	**No**	**314**	**No**	**276**	**No**	**314**	**No**	--	--	--	--
Westbound Left-Turn	150	167	Yes[18]	158	Yes[18]	170	Yes[18]	174	Yes[18]	--	--	--	--
4. Archibald Avenue at Citrine Hills/Project Driveway[19]													
Northbound Left-Turn	100	--	--	--	--	25	Yes	36	Yes	--	--	--	--
Southbound Left-Turn	195	--	--	--	--	59	Yes	120	Yes	--	--	--	--
5. Archibald Avenue at Chino Avenue													
Northbound Left-Turn	225	204	Yes	85	Yes	204	Yes	85	Yes	--	--	--	--
Southbound Left-Turn	110	82	Yes	105	Yes	89	Yes	109	Yes	--	--	--	--
Eastbound Left-Turn	150	141	Yes	**205**	**No**	141	Yes	**206**	**No**	--	--	--	--
Westbound Left-Turn	160	32	Yes	25	Yes	32	Yes	25	Yes	--	--	--	--
Westbound Right-Turn	160	154	Yes	55	Yes	156	Yes	61	Yes	--	--	--	--

[17] Movement consists of dual left-turn lanes.

[18] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated within the transition area of the turn pocket.

[19] The proposed Project will include the installation of a five-phase traffic signal at the intersection of Archibald Avenue at Citrine Hills and restriping the intersection to accommodate a northbound left-turn pocket into the Project site.

TABLE 8-4 (CONTINUED)
EXISTING PEAK HOUR TURN POCKET QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Existing Traffic Conditions				(2) Existing with Project Traffic Conditions				(3) Existing with Project Traffic Conditions with Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
6. Archibald Avenue at Schaefer Avenue													
Northbound Left -Turn	325	25	Yes	25	Yes	25	Yes	25	Yes	--	--	--	--
Southbound Left-Turn	305	71	Yes	139	Yes	71	Yes	140	Yes	--	--	--	--
Westbound Left-Turn	195	35	Yes	25	Yes	35	Yes	25	Yes	--	--	--	--
Westbound Right-Turn	190	68	Yes	25	Yes	68	Yes	25	Yes	--	--	--	--
7. Archibald Avenue at Ontario Ranch Road													
Northbound Left-Turn	495	242	Yes	149	Yes	242	Yes	149	Yes	--	--	--	--
Northbound Right-Turn	280	190	Yes	236	Yes	190	Yes	237	Yes	--	--	--	--
Southbound Left-Turn	325	125	Yes	193	Yes	137	Yes	199	Yes	--	--	--	--
Southbound Right-Turn	50	69	Yes[20]	53	Yes[20]	73	Yes[20]	56	Yes[20]	--	--	--	--
Eastbound Left-Turn[21]	250	34	Yes	91	Yes	36	Yes	96	Yes	--	--	--	--
Eastbound Right-Turn[22]	385	25	Yes	25	Yes	25	Yes	25	Yes	--	--	--	--
Westbound Left-Turn[21]	465	169	Yes	190	Yes	169	Yes	190	Yes	--	--	--	--
Westbound Right-Turn	460	124	Yes	77	Yes	127	Yes	83	Yes	--	--	--	--
8. Vineyard Avenue at Riverside Drive													
Southbound Left-Turn	110	220	Yes[23]	**475**	**No**	220	Yes[23]	**475**	**No**	--	--	--	--
Southbound Right-Turn	110	252	Yes[23]	125	Yes[23]	252	Yes[23]	125	Yes[23]	--	--	--	--
Eastbound Left-Turn	55	231	Yes[23]	184	Yes[23]	231	Yes[23]	184	Yes[23]	--	--	--	--

[20] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated within the transition area of the turn pocket.

[21] Movement consists of dual left-turn lanes.

[22] Right-turn is a free movement.

[23] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated upstream of the turn pocket.

TABLE 8-4 (CONTINUED)
EXISTING PEAK HOUR TURN POCKET QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Existing Traffic Conditions				(2) Existing with Project Traffic Conditions				(3) Existing with Project Traffic Conditions with Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
9. Turner Avenue at Riverside Drive													
Northbound Left-Turn	145	**287**	**No**	125	Yes	**287**	**No**	130	Yes	--	--	--	--
Southbound Left-Turn	105	145	Yes[24]	25	Yes	145	Yes[24]	25	Yes	--	--	--	--
Eastbound Left-Turn	100	208	Yes[25]	142	Yes[25]	208	Yes[25]	142	Yes[25]	--	--	--	--
Westbound Left-Turn	100	136	Yes[24]	129	Yes[24]	136	Yes[24]	129	Yes[24]	--	--	--	--

[24] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated within the transition area of the turn pocket.

[25] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated upstream of the turn pocket.

TABLE 8-5
YEAR 2026 PEAK HOUR TURN POCKET QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Year 2026 without Project Traffic Conditions				(2) Year 2026 with Project Traffic Conditions				(3) Year 2026 with Project Traffic Conditions with Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
1. Archibald Avenue at SR-60 WB Ramps													
Northbound Left-Turn[26]	305	**361**	**No**	**403**	**No**	**387**	**No**	**446**	**No**	--	--	--	--
Southbound Right-Turn	125	122	Yes	**319**	**No**	129	Yes[27]	**341**	**No**	--	--	--	--
2. Archibald Avenue at SR-60 EB Ramps													
Northbound Right-Turn[28]	250	**1072**	**No**	**2715**	**No**	**1113**	**No**	**2832**	**No**	25	Yes	25	Yes
Southbound Left-Turn	305	93	Yes	**890**	**No**	93	Yes	**890**	**No**	65	Yes	**343**	**No**
3. Archibald Avenue at Riverside Drive													
Northbound Left-Turn[29]	205	**1262**	**No**	**1501**	**No**	**1286**	**No**	**1521**	**No**	**474**	**No**	**552**	**No**
Southbound Left-Turn	150	**362**	**No**	**600**	**No**	**412**	**No**	**600**	**No**	262	Yes[27]	**357**	**No**
Southbound Right-Turn[30]	315	--	--	--	--	--	--	--	--	235	Yes	257	Yes
Eastbound Left-Turn[29]	150	**693**	**No**	**892**	**No**	**693**	**No**	**892**	**No**	**249**	**No**	**311**	**No**
Eastbound Right-Turn[30]	935	--	--	--	--	--	--	--	--	409	Yes	934	Yes
Westbound Left-Turn	150	218	Yes[27]	**385**	**No**	224	Yes[27]	**419**	**No**	205	Yes[27]	**309**	**No**
4. Archibald Avenue at Citrine Hills/Project Driveway[31]													
Northbound Left-Turn	100	--	--	--	--	25	Yes	50	Yes	--	--	--	--
Southbound Left-Turn	195	--	--	--	--	73	Yes	183	Yes	--	--	--	--

[26] Movement consists of dual left-turn lanes.

[27] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated within the transition area of the turn pocket.

[28] Year 2026 with Project traffic conditions with improvements includes modifying the traffic signal to accommodate a free-right turn in the northbound direction.

[29] Year 2026 with Project traffic conditions with improvements includes the construction of a second left-turn lane. It is assumed that the storage for each lane is consistent with the existing storage.

[30] Year 2026 with Project traffic conditions with improvements includes the construction of a southbound and eastbound right-turn lane.

[31] The proposed Project will include the installation of a five-phase traffic signal at the intersection of Archibald Avenue at Citrine Hills and restriping the intersection to accommodate a northbound left-turn pocket into the Project site.

TABLE 8-5 (CONTINUED)

YEAR 2026 PEAK HOUR TURN POCKET QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Year 2026 without Project Traffic Conditions				(2) Year 2026 with Project Traffic Conditions				(3) Year 2026 with Project Traffic Conditions with Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
5. Archibald Avenue at Chino Avenue													
Northbound Left-Turn	225	**406**	**No**	230	Yes[32]	**371**	**No**	230	Yes[32]	253	Yes[32]	197	Yes
Southbound Left-Turn	110	157	Yes[33]	232	Yes[33]	186	Yes[33]	246	Yes[33]	135	Yes[33]	246	Yes[33]
Eastbound Left-Turn	150	**229**	**No**	**272**	**No**	**220**	**No**	**357**	**No**	157	Yes[32]	**271**	**No**
Westbound Left-Turn	160	60	Yes	34	Yes	63	Yes	34	Yes	49	Yes	34	Yes
Westbound Right-Turn	160	286	Yes[33]	174	Yes[33]	300	Yes[33]	174	Yes[33]	241	Yes[33]	164	Yes[33]
6. Archibald Avenue at Schaefer Avenue													
Northbound Left -Turn	325	25	Yes	25	Yes	25	Yes	25	Yes	--	--	--	--
Southbound Left-Turn	305	78	Yes	194	Yes	83	Yes	195	Yes	--	--	--	--
Westbound Left-Turn	195	170	Yes	196	Yes[33]	181	Yes	196	Yes[33]	--	--	--	--
Westbound Right-Turn	190	67	Yes	29	Yes	71	Yes	29	Yes	--	--	--	--
7. Archibald Avenue at Ontario Ranch Road													
Northbound Left-Turn[34]	495	**2550**	**No**	**1696**	**No**	**2550**	**No**	**1733**	**No**	**1111**	**No**	**596**	**No**
Northbound Right-Turn[35]	280	**877**	**No**	**5262**	**No**	**764**	**No**	**5302**	**No**	25	Yes	25	Yes
Southbound Left-Turn[34]	325	**1286**	**No**	**2192**	**No**	**1465**	**No**	**2210**	**No**	**767**	**No**	**1093**	**No**
Southbound Right-Turn	50	**2097**	**No**	**1164**	**No**	**2122**	**No**	**1185**	**No**	**1284**	**No**	**623**	**No**
Eastbound Left-Turn[36]	250	**767**	**No**	**2139**	**No**	**773**	**No**	**2186**	**No**	**627**	**No**	**1999**	**No**
Eastbound Right-Turn[37]	385	25	Yes	25	Yes	25	Yes	25	Yes	25	Yes	25	Yes
Westbound Left-Turn[21]	465	**2948**	**No**	**1563**	**No**	**2948**	**No**	**1563**	**No**	**2880**	**No**	**1483**	**No**
Westbound Right-Turn	460	426	Yes	**662**	**No**	428	Yes	**630**	**No**	382	Yes	**571**	**No**

32 Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated within the transition area of the turn pocket.

33 Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated upstream of the turn pocket.

34 Year 2026 with Project traffic conditions with improvements includes the construction of a second left-turn lane. It is assumed that the storage for each lane is consistent with the existing storage.

35 Year 2026 with Project traffic conditions with improvements includes modifying the traffic signal to accommodate a free-right turn in the northbound direction.

36 Movement consists of dual left-turn lanes.

37 Right-turn is a free movement.

TABLE 8-5 (CONTINUED)

YEAR 2026 PEAK HOUR TURN POCKET QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Year 2026 without Project Traffic Conditions				(2) Year 2026 with Project Traffic Conditions				(3) Year 2026 with Project Traffic Conditions with Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
8. Vineyard Avenue at Riverside Drive													
Southbound Left-Turn[38]	110	274	Yes[39]	**1173**	**No**	274	Yes[39]	**1226**	**No**	132	Yes[39]	**425**	**No**
Southbound Right-Turn	110	246	Yes[39]	181	Yes[39]	246	Yes[39]	184	Yes[39]	261	Yes[39]	220	Yes[39]
Eastbound Left-Turn	55	236	Yes[39]	239	Yes[39]	236	Yes[39]	242	Yes[39]	236	Yes[39]	239	Yes[39]
9. Turner Avenue at Riverside Drive													
Northbound Left-Turn	145	**240**	**No**	136	Yes	**240**	**No**	136	Yes	--	--	--	--
Southbound Left-Turn	105	118	Yes[40]	27	Yes	118	Yes[40]	27	Yes	--	--	--	--
Eastbound Left-Turn	100	171	Yes[39]	154	Yes[39]	171	Yes[39]	154	Yes[39]	--	--	--	--
Westbound Left-Turn	100	114	Yes[39]	148	Yes[39]	114	Yes[39]	148	Yes[39]	--	--	--	--

[38] Year 2026 with Project traffic conditions with improvements includes the construction of a second left-turn lane. It is assumed that the storage for each lane is consistent with the existing storage.

[39] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated upstream of the turn pocket.

[40] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated within the transition area of the turn pocket.

TABLE 8-6
YEAR 2050 PEAK HOUR TURN POCKET QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Year 2050 without Project Traffic Conditions				(2) Year 2050 with Project Traffic Conditions				(3) Year 2050 with Project Traffic Conditions with Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
1. Archibald Avenue at SR-60 WB Ramps													
Northbound Left-Turn[41]	305	**415**	**No**	**503**	**No**	**401**	**No**	**524**	**No**	--	--	--	--
Southbound Right-Turn	125	**155**	**No**	**345**	**No**	**149**	**No**	**345**	**No**	--	--	--	--
2. Archibald Avenue at SR-60 EB Ramps													
Northbound Right-Turn[42]	250	**1151**	**No**	**2966**	**No**	**1190**	**No**	**3007**	**No**	25	Yes	25	Yes
Southbound Left-Turn	305	174	Yes	**1128**	**No**	174	Yes	**1128**	**No**	116	Yes	**415**	**No**
3. Archibald Avenue at Riverside Drive													
Northbound Left-Turn[43]	205	**1357**	**No**	**1617**	**No**	**1382**	**No**	**1637**	**No**	**583**	**No**	**620**	**No**
Southbound Left-Turn	150	**528**	**No**	**410**	**No**	**528**	**No**	**409**	**No**	**414**	**No**	**622**	**No**
Southbound Right-Turn[44]	315	--	--	--	--	--	--	--	--	260	Yes	313	Yes
Eastbound Left-Turn[43]	150	**849**	**No**	**909**	**No**	**849**	**No**	**852**	**No**	**276**	**No**	**261**	**No**
Eastbound Right-Turn[44]	935	--	--	--	--	--	--	--	--	401	Yes	886	Yes
Westbound Left-Turn	150	**509**	**No**	**629**	**No**	**519**	**No**	**658**	**No**	**406**	**No**	**485**	**No**
4. Archibald Avenue at Citrine Hills/Project Driveway[45]													
Northbound Left-Turn	100	--	--	--	--	25	Yes	50	Yes	--	--	--	--
Southbound Left-Turn	195	--	--	--	--	75	Yes	189	Yes	--	--	--	--

41 Movement consists of dual left-turn lanes.

42 Year 2050 with Project traffic conditions with improvements includes modifying the traffic signal to accommodate a free-right turn in the northbound direction.

43 Year 2050 with Project traffic conditions with improvements includes the construction of a second left-turn lane. It is assumed that the storage for each lane is consistent with the existing storage.

44 Year 2050 with Project traffic conditions with improvements includes the construction of a southbound and eastbound right-turn lane.

45 The proposed Project will include the installation of a five-phase traffic signal at the intersection of Archibald Avenue at Citrine Hills and restriping the intersection to accommodate a northbound left-turn pocket into the Project site.

TABLE 8-6 (CONTINUED)
YEAR 2050 PEAK HOUR TURN POCKET QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Year 2050 without Project Traffic Conditions				(2) Year 2050 with Project Traffic Conditions				(3) Year 2050 with Project Traffic Conditions with Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
5. Archibald Avenue at Chino Avenue													
Northbound Left-Turn	225	**1077**	**No**	**826**	**No**	**1077**	**No**	**826**	**No**	**728**	**No**	**556**	**No**
Southbound Left-Turn	110	**435**	**No**	**308**	**No**	**458**	**No**	**325**	**No**	**371**	**No**	**250**	**No**
Eastbound Left-Turn	150	**440**	**No**	**285**	**No**	**440**	**No**	**287**	**No**	**533**	**No**	**369**	**No**
Eastbound Right-Turn[46]	300	--	--	--	--	--	--	--	--	178	Yes	298	Yes
Westbound Left-Turn	160	66	Yes	126	Yes	66	Yes	126	Yes	66	Yes	126	Yes
Westbound Right-Turn	160	**422**	**No**	201	Yes[47]	**430**	**No**	207	Yes[47]	376	Yes[47]	211	Yes[47]
6. Archibald Avenue at Schaefer Avenue													
Northbound Left -Turn	325	25	Yes	26	Yes	25	Yes	27	Yes	--	--	--	--
Southbound Left-Turn	305	171	Yes	**515**	**No**	149	Yes	**531**	**No**	--	--	--	--
Westbound Left-Turn	195	164	Yes	179	Yes	164	Yes	189	Yes	--	--	--	--
Westbound Right-Turn	190	259	Yes[47]	68	Yes	259	Yes[47]	72	Yes	--	--	--	--
7. Archibald Avenue at Ontario Ranch Road													
Northbound Left-Turn[48]	495	**2666**	**No**	**1769**	**No**	**2667**	**No**	**1769**	**No**	**1156**	**No**	**615**	**No**
Northbound Right-Turn[49]	280	**903**	**No**	**5609**	**No**	**825**	**No**	**5608**	**No**	25	Yes	25	Yes
Southbound Left-Turn[48]	325	**1445**	**No**	**2282**	**No**	**1573**	**No**	**2304**	**No**	**795**	**No**	**1136**	**No**
Southbound Right-Turn	50	**2175**	**No**	**1203**	**No**	**2206**	**No**	**1220**	**No**	**1326**	**No**	**643**	**No**
Eastbound Left-Turn[50]	250	**797**	**No**	**2229**	**No**	**802**	**No**	**2245**	**No**	**646**	**No**	**2081**	**No**
Eastbound Right-Turn[51]	385	25	Yes	25	Yes	25	Yes	25	Yes	25	Yes	25	Yes
Westbound Left-Turn[21]	465	**3005**	**No**	**1628**	**No**	**3005**	**No**	**1628**	**No**	**3005**	**No**	**1496**	**No**
Westbound Right-Turn	460	442	Yes	**682**	**No**	444	Yes	**700**	**No**	396	Yes	**592**	**No**

[46] Year 2050 with Project traffic conditions with improvements includes the construction of an eastbound right-turn lane.

[47] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated upstream of the turn pocket.

[48] Year 2050 with Project traffic conditions with improvements includes the construction of a second left-turn lane. It is assumed that the storage for each lane is consistent with the existing storage.

[49] Year 2050 with Project traffic conditions with improvements includes modifying the traffic signal to accommodate a free-right turn in the northbound direction.

[50] Movement consists of dual left-turn lanes.

[51] Right-turn is a free movement.

TABLE 8-6 (CONTINUED)
YEAR 2050 PEAK HOUR TURN POCKET QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Year 2050 without Project Traffic Conditions				(2) Year 2050 with Project Traffic Conditions				(3) Year 2050 with Project Traffic Conditions with Improvements			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)
8. Vineyard Avenue at Riverside Drive[52]													
Northbound Left-Turn	110	110	Yes	64	Yes	110	Yes	64	Yes	110	Yes	64	Yes
Southbound Left-Turn[53]	110	**706**	**No**	**2980**	**No**	**706**	**No**	**2980**	**No**	**293**	**No**	**619**	**No**
Southbound Right-Turn[54]	295	--	--	--	--	--	--	--	--	289	Yes	294	Yes
Eastbound Left-Turn	55	**1106**	**No**	**480**	**No**	**1106**	**No**	**480**	**No**	**943**	**No**	**331**	**No**
Eastbound Right-Turn[54]	150	--	--	--	--	--	--	--	--	25	Yes	149	Yes
Westbound Left-Turn	270	30	Yes	**368**	**No**	30	Yes	**368**	**No**	30	Yes	268	Yes
Westbound Right-Turn[54]	1,060	--	--	--	--	--	--	--	--	1057	Yes	461	Yes
9. Turner Avenue at Riverside Drive													
Northbound Left-Turn	145	**260**	**No**	154	Yes[55]	**260**	**No**	158	Yes[55]	--	--	--	--
Southbound Left-Turn	105	**194**	**No**	55	Yes	**194**	**No**	58	Yes	--	--	--	--
Eastbound Left-Turn	100	219	Yes[55]	171	Yes[55]	219	Yes[55]	181	Yes[55]	--	--	--	--
Westbound Left-Turn	100	121	Yes[55]	228	Yes[55]	121	Yes[55]	237	Yes[55]	--	--	--	--

[52] Consistent with *The Ontario Plan (TOP)*, Year 2050 Buildout traffic conditions includes the extension of Vineyard Avenue south of Riverside Drive.

[53] Year 2050 with Project traffic conditions with improvements includes the construction of a second left-turn lane. It is assumed that the storage for each lane is consistent with the existing storage.

[54] Year 2050 with Project traffic conditions with improvements includes the construction of a southbound, eastbound, and westbound right-turn lane.

[55] Although the anticipated queue exceeds the striped storage, the spillover queue can be accommodated upstream of the turn pocket.

9.0 AREA-WIDE TRAFFIC IMPROVEMENTS

For the intersections where projected traffic volumes are expected to result in poor operating conditions, this report recommends (identifies) improvements, which change the intersection geometry to increase capacity. These capacity enhancing improvements usually involve roadway widening and/or restriping to reconfigure or add lanes to various approaches of a key intersection. The proposed improvements are expected to offset the impact of future traffic and improve Levels of Service to an acceptable range and/or to pre-Project conditions.

Transportation improvements throughout San Bernardino County are funded through a combination of direct implementation of recommended improvements by the Project, fair share contributions or development impact fee programs. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

9.1 Project Specific Improvements

The following Project design features are to be implemented in conjunction with development of the proposed Project to ensure adequate access and egress to the site is provided and have been included in Existing With Project, Year 2026 With Project and Year 2050 With Project traffic conditions:

- No. 4 – Archibald Avenue at Citrine Hills/Project Driveway: Construct west leg and provide one shared eastbound left-turn/through/right-turn lane and one inbound lane. Widen and/or restripe to provide an exclusive northbound left-turn lane. Install a five-phase traffic signal.

9.2 Year 2050 Planned Improvements

The following improvements are planned to be implemented by The City of Ontario by Year 2050 traffic conditions and have been included as part of the background traffic conditions:

- No. 8 – Vineyard Avenue at Riverside Drive: Construct south leg and provide one exclusive northbound left-turn lane, a northbound shared through/right lane, and one receiving lane. Restripe the southbound right-turn lane to a shared through/right lane. Widen and/or restripe to provide an exclusive westbound left-turn lane. Modify the existing traffic signal to incorporate eight-phase operation.

9.3 Recommended Improvements

9.3.1 *Existing With Project Recommended Improvements*

The results of the intersection level of service analyses for Existing With Project peak hour traffic conditions indicate that the twelve (12) study intersections are forecast to continue to operate at acceptable service levels. As there are no deficiencies, no traffic improvements are required under this traffic scenario.

9.3.2 *Year 2026 With Project Recommended Improvements*

The following improvements listed below have been identified to either improve the service levels to an acceptable LOS or to offset the effect of cumulative traffic and Project traffic, for Year 2026 With Project traffic conditions:

- No. 2 – Archibald Avenue at SR-60 EB Ramps: Construct a third departure lane on the freeway on-ramp. Modify the existing traffic signal to include a free movement for the northbound right-turn. These improvements are subject to the approval of the Caltrans.

- No. 3 – Archibald Avenue at Riverside Drive: Widen and/or restripe the south leg to provide a second northbound left-turn lane. Widen and/or restripe the north leg to provide an exclusive southbound right-turn lane. Widen and/or restripe the west leg to provide a second eastbound left-turn lane, a third eastbound through lane, an exclusive eastbound right-turn lane, and a third westbound departure lane. Widen and/or restripe the east leg to provide a third westbound through lane and a third eastbound departure lane. Modify the existing traffic signal and provide an eastbound right-turn overlap phase. These improvements are subject to the approval of the City of Ontario.

- No. 5 – Archibald Avenue at Chino Avenue: Widen and/or restripe the north leg to provide a third southbound through lane. Widen and/or restripe the south leg to provide a third southbound departure lane. Modify the existing traffic signal as needed. These improvements are subject to the approval of the City of Ontario.

- No. 7 – Archibald Avenue at Ontario Ranch Road: Restripe the south leg to provide a second northbound left-turn lane, a third northbound through lane, and a third southbound departure lane. Widen and/or restripe the north leg to provide a second southbound left-turn lane, a third southbound through lane, and a third northbound departure lane. Widen and/or restripe the west leg to provide two additional eastbound through lanes and three additional westbound departure lanes. Widen and/or restripe the east leg to provide three additional westbound through lanes and two additional eastbound departure lanes. Modify the existing traffic signal and provide a northbound free-right turn, a southbound right-turn overlap phase, and a westbound right-turn overlap phase. These improvements are subject to the approval of the City of Ontario.

- No. 8 – Vineyard Avenue at Riverside Drive: Widen and/or restripe the north leg to provide a second southbound left-turn lane. Widen and/or restripe the east leg to provide a second eastbound departure lane. Modify the existing traffic signal as needed. These improvements are subject to the approval of the City of Ontario.

9.3.3 *Year 2050 With Project Recommended Improvements*

The following improvements listed below have been identified to either improve the service levels to an acceptable LOS or to offset the effect of cumulative traffic and Project traffic, for Year 2050 With Project traffic conditions:

- No. 2 – Archibald Avenue at SR-60 EB Ramps: *(Same as those identified in Section 9.3.2)* Construct a third departure lane on the freeway on-ramp. Modify the existing traffic signal to include a free movement for the northbound right-turn. These improvements are subject to the approval of the Caltrans.

- No. 3 – Archibald Avenue at Riverside Drive: *(Same as those identified in Section 9.3.2)* Widen and/or restripe the south leg to provide a second northbound left-turn lane. Widen and/or restripe the north leg to provide an exclusive southbound right-turn lane. Widen and/or restripe the west leg to provide a second eastbound left-turn lane, a third eastbound through lane, an exclusive eastbound right-turn lane, and a third westbound departure lane. Widen and/or restripe the east leg to provide a third westbound through lane and a third eastbound departure lane. Modify the existing traffic signal and provide an eastbound right-turn overlap phase. These improvements are subject to the approval of the City of Ontario.

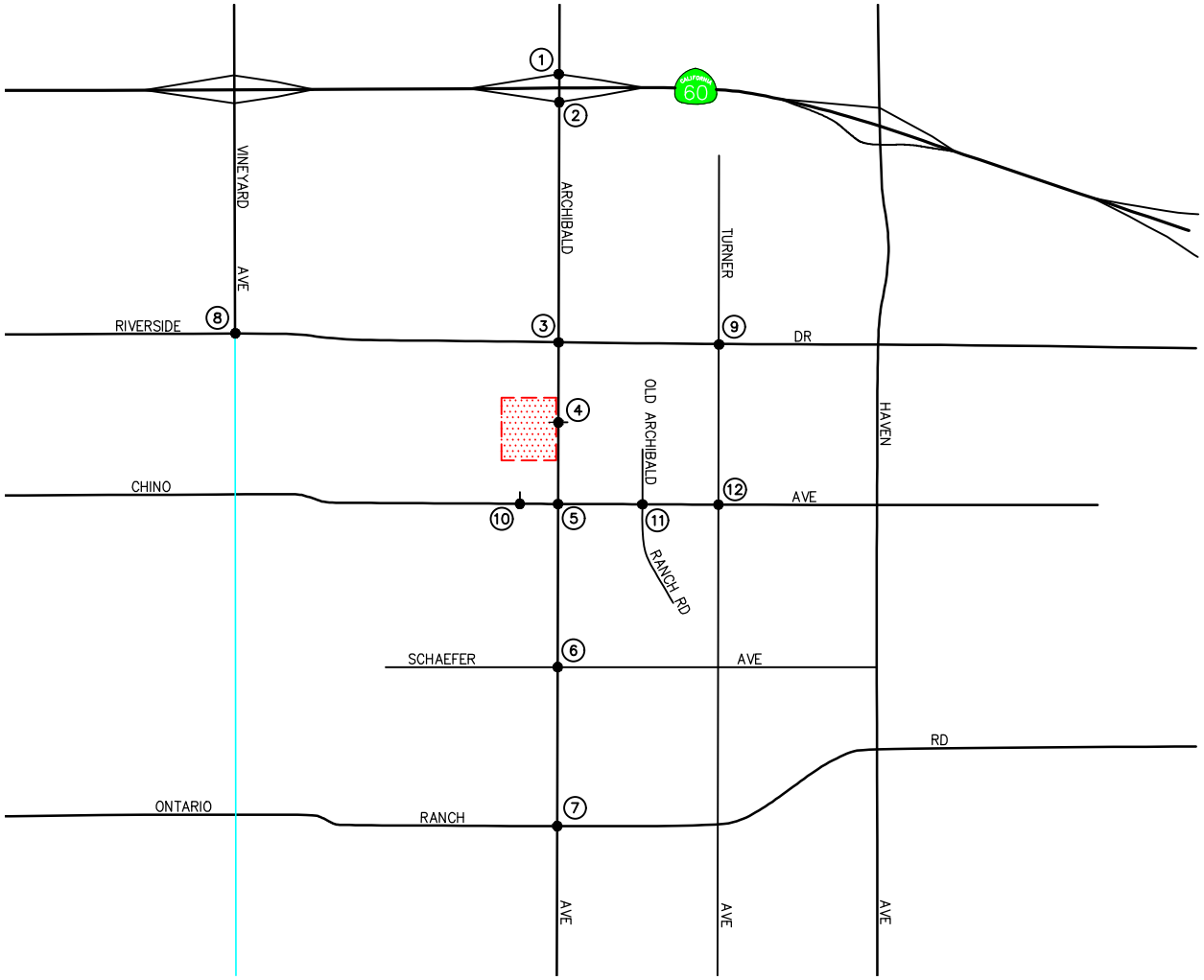
- No. 5 – Archibald Avenue at Chino Avenue: Widen and/or restripe the north leg to provide a third southbound through lane. Widen and/or restripe the south leg to provide a third southbound departure lane. Widen and/or restripe the west leg to provide an exclusive eastbound right-turn lane. Modify the existing traffic signal and provide an eastbound right-turn overlap phase. These improvements are subject to the approval of the City of Ontario.

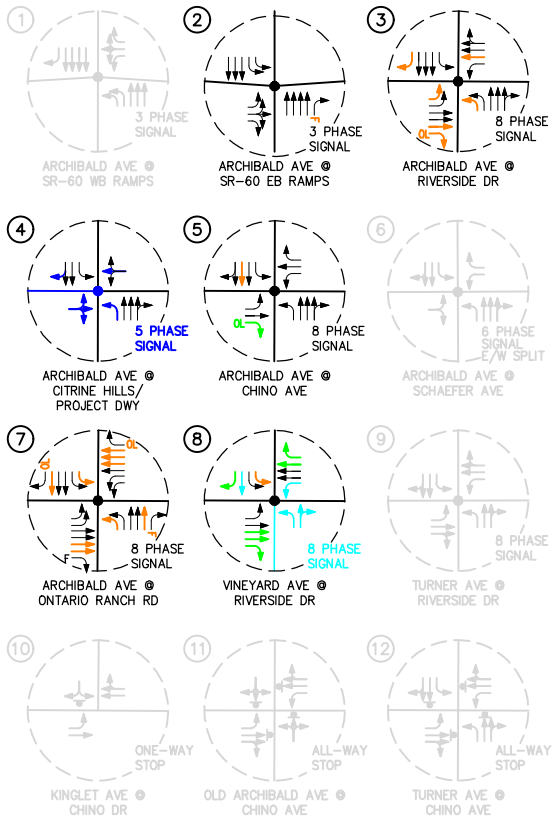
- No. 7 – Archibald Avenue at Ontario Ranch Road: *(Same as those identified in Section 9.3.2)* Restripe the south leg to provide a second northbound left-turn lane, a third northbound through lane, and a third southbound departure lane. Widen and/or restripe the north leg to provide a second southbound left-turn lane, a third southbound through lane, and a third northbound departure lane. Widen and/or restripe the west leg to provide two additional eastbound through lanes and three additional westbound departure lanes. Widen and/or restripe the east leg to provide three additional westbound through lanes and two additional eastbound departure lanes. Modify the existing traffic signal and provide a northbound free-right turn, a southbound right-turn overlap phase, and a westbound right-turn overlap phase. These improvements are subject to the approval of the City of Ontario.

- No. 8 – Vineyard Avenue at Riverside Drive: Widen and/or restripe the north leg to provide a second southbound left-turn lane and an exclusive southbound right-turn lane. Widen and/or restripe the west leg to provide two eastbound through lanes, an exclusive eastbound right-turn lane, and a third westbound departure lane. Widen and/or restripe the east leg to provide a third westbound through lane, an exclusive westbound right-turn

lane, and two additional eastbound departure lanes. Modify the existing traffic signal to provide an eight-phase signal. These improvements are subject to the approval of the City of Ontario.

Figure 9-1 graphically illustrates the recommended improvements for Year 2026 With Project and Year 2050 With Project traffic conditions.





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KEY

= PROJECT DESIGN FEATURE
= YEAR 2026 RECOMMENDED IMPROVEMENT
= YEAR 2050 RECOMMENDED IMPROVEMENT
= YEAR 2050 PLANNED IMPROVEMENT
= PROJECT SITE

FIGURE 9-1

PLANNED AND RECOMMENDED IMPROVEMENTS

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

10.0 PROJECT FAIR SHARE ANALYSIS

The transportation improvements associated with the development of the proposed Project were determined based on the future conditions analysis with and without the proposed Project. The key study locations forecast to operate at adverse levels of service are discussed below. As such, the proposed Project's "fair-share" of the recommended traffic improvements has been calculated for the key study locations that are forecast to operate at adverse levels of service in the Year 2026 and Year 2050 traffic conditions.

10.1 Year 2026 With Project Traffic Conditions

Table 10-1 presents the AM and PM peak hour Project fair share percentage at the key study intersections that are forecast to operate at adverse levels of service in the Year 2026 With Project traffic conditions. As presented in *Table 10-1*, the first column (1) presents a total of all intersection peak hour movements for existing conditions. The second column (2) presents Project traffic. The third column (3) presents future Year 2026 traffic conditions with Project traffic. The fourth column (4) represents the Project's fair share based on the following formula:

- Project Fair Share (4) = Column (2)/[Column (3) – Column (1)]*100

The Project fair share percentage (worse time period impacted) for the five (5) intersections forecast to operate at adverse levels of service for the Year 2026 With Project traffic conditions are shown below:

- 2. Archibald Avenue at SR-60 EB Ramps 3.99%
- 3. Archibald Avenue at Riverside Drive 3.44%
- 5. Archibald Avenue at Chino Avenue 2.45%
- 7. Archibald Avenue at Ontario Ranch Road 0.46%
- 8. Vineyard Avenue at Riverside Drive 1.09%

10.2 Year 2050 With Project Traffic Conditions

Table 10-2 presents the AM and PM peak hour Project fair share percentage at the key study intersections that are forecast to operate at adverse levels of service in the Year 2050 With Project traffic conditions and is similar in set up to *Table 10-1.*

The Project fair share percentage (worse time period impacted) for the five (5) intersections forecast to operate at adverse levels of service for the Year 2050 With Project traffic conditions are shown below:

- 2. Archibald Avenue at SR-60 EB Ramps 3.27%
- 3. Archibald Avenue at Riverside Drive 2.35%
- 5. Archibald Avenue at Chino Avenue 1.66%
- 7. Archibald Avenue at Ontario Ranch Road 0.43%
- 8. Vineyard Avenue at Riverside Drive 0.38%

TABLE 10-1

YEAR 2026 WITH PROJECT TRAFFIC CONDITIONS INTERSECTION FAIR SHARE CONTRIBUTION

	Key Intersection	Impacted Time Period	(1) Existing Traffic	(2) Project Traffic	(3) Year 2026 With Project Traffic	(4) Project Fair Share Responsibility
2.	Archibald Avenue at	AM	--	--	--	--
	SR-60 EB Ramps	PM	3,647	85	5,775	3.99%
3.	Archibald Avenue at	AM	3,824	81	6,274	3.31%
	Riverside Drive	PM	**4,006**	**104**	**7,025**	**3.44%**
5.	Archibald Avenue at	AM	--	--	--	--
	Chino Avenue	PM	2,675	67	5,405	2.45%
7.	Archibald Avenue at	AM	3,062	36	11,317	0.44%
	Ontario Ranch Road	PM	**3,416**	**48**	**13,916**	**0.46%**
8.	Vineyard Avenue at	AM	--	--	--	--
	Riverside Drive	PM	2,195	10	3,116	1.09%

Notes:

- Net Project Percent Increase (4) = Column (2) / [Column (3) – Column (1)]
- **Bold Project Fair Share Responsibility** is based on worse case

TABLE 10-2

YEAR 2050 WITH PROJECT TRAFFIC CONDITIONS INTERSECTION FAIR SHARE CONTRIBUTION

Key Intersection	Impacted Time Period	(1) Existing Traffic	(2) Project Traffic	(3) Year 2050 With Project Traffic	(4) Project Fair Share Responsibility
2. Archibald Avenue at SR-60 EB Ramps	AM	--	--	--	--
	PM	3,647	85	6,250	3.27%
3. Archibald Avenue at Riverside Drive	AM	3,824	81	7,628	2.13%
	PM	**4,006**	**104**	**8,433**	**2.35%**
5. Archibald Avenue at Chino Avenue	AM	2,620	52	6,234	1.44%
	PM	**2,675**	**67**	**6,707**	**1.66%**
7. Archibald Avenue at Ontario Ranch Road	AM	3,062	36	12,495	0.38%
	PM	**3,416**	**48**	**14,627**	**0.43%**
8. Vineyard Avenue at Riverside Drive	AM	2,017	7	4,267	0.31%
	PM	**2,195**	**10**	**4,806**	**0.38%**

Notes:

- Net Project Percent Increase (4) = Column (2) / [Column (3) – Column (1)]
- **Bold Project Fair Share Responsibility** is based on worse case

11.0 SITE ACCESS AND INTERNAL CIRCULATION EVALUATION

11.1 Site Access

Access to the Project site, as currently proposed and allowed in the 2008 Specific Plan, will be provided via one (1) full access signalized driveway on Archibald Avenue opposite the Citrine Hills residential development, with secondary "cross access" provided through the adjacent residential communities as planned in the Countryside Specific Plan. It is assumed that secondary vehicular access from Chino Avenue would be provided via the intersection of Chino Avenue and Kinglet Avenue through the area of Neighborhood 4 that is now developed.

Tables 7-1, 7-2, and 7-3 summarize the intersection operations for the primary access off Archibald Avenue at Citrine Road/Project Driveway (#4), as well as the secondary access off Kinglet Avenue at Chino Avenue (#10), for Existing With Project, Year 2026 With Project and Year 2050 With Project traffic conditions upon completion of the proposed Project. Review of *Tables 7-1, 7-2 and 7-3* shows that Archibald Avenue at Citrine Road/Project Driveway (#4) and Kinglet Avenue at Chino Avenue (#10) are both forecast to operate at acceptable LOS C or better during the AM and PM peak hours.

A queueing evaluation for Archibald Avenue at Citrine Road/Project Driveway (#4) was also completed to validate the storage requirements of the proposed Project. ***Table 11-1*** presents the queueing results at the Project driveway based on Year 2050 With Project traffic conditions. Review of *Table 11-1* indicates that the provided storage for the northbound left-turn and the eastbound left/through/right turn are adequate to accommodate the anticipated queues. *Appendix F* presents the Year 2050 With Project queuing calculations for the key study intersections for the AM peak hour and PM peak hour.

11.2 Internal Circulation

Access to the Project site for small service/delivery trucks (i.e. UPS and FedEx), trash trucks, and fire trucks will be provided via the Project driveway along Archibald Avenue, which has been evaluated in this report. Our evaluation of the circulation shown on the Project site plan was performed using the *Turning Vehicle Templates*, developed by Jack E. Leisch & Associates and *AutoTURN for AutoCAD* computer software that simulates turning maneuvers for various types of vehicles.

Figures 11-1, 11-2, and ***11-3*** illustrate the turning movements required of an SU-30 truck, a trash truck, and a fire truck as it accesses the project site, respectively. Overall, the turning maneuvers for an SU-30 truck, a trash truck, and a fire truck are considered adequate.

11.3 Sight Distance Evaluation

At intersections and/or project driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time must be provided for the waiting vehicle to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter

their speed. A sight distance evaluation has been performed for project driveway along Archibald Avenue.

The Sight Distance Evaluation prepared for the project driveways are based on the criteria and procedures set forth by the California Department of Transportation (Caltrans) in the State's *Highway Design Manual (HDM)*. Corner sight distance was utilized for the evaluation. Corner sight distance is defined in the Caltrans HDM to be the distance required by the driver of a vehicle, traveling at a given speed, to maneuver their vehicle and avoid an object without radically altering their speed. Line of sight for corner sight distance is to be determined from a 3½ foot height at the location of the driver of a vehicle on a minor road to a 4¼ foot object height in the center of the approaching lane of the major road.

Based on the criteria set forth in Table 405.1A of the Caltrans HDM and a posted speed limit of 55 mph on Archibald Avenue, a corner sight distance of 526 feet for right-turning vehicles is required. ***Figure 11-4*** presents the results of the sight distance evaluation at the Project driveway based on the application of the corner sight distance criteria. The figure illustrates the limited use areas. As shown, the sight lines at the proposed Project driveway are expected to be adequate as long as obstructions within the sight triangles are minimized.



SU–30

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8

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LINSCOTT LAW & GREENSPAN engineers

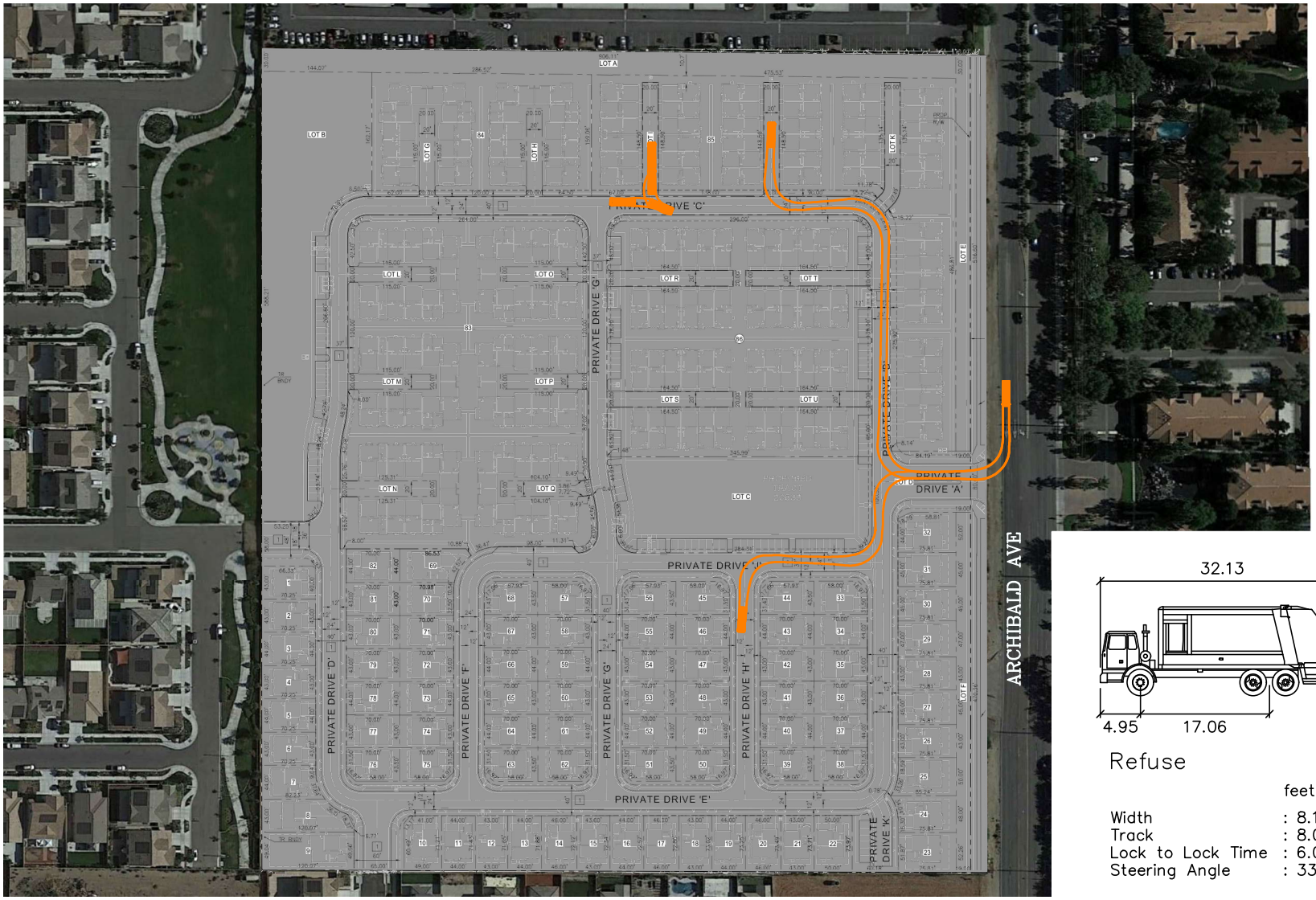
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SOURCE: X ENGINEERING & CONSULTING INC.

FIGURE 11–1

SU–30 TRUCK TURNING ANALYSIS

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO



Refuse

	feet
Width	: 8.16
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 33.2

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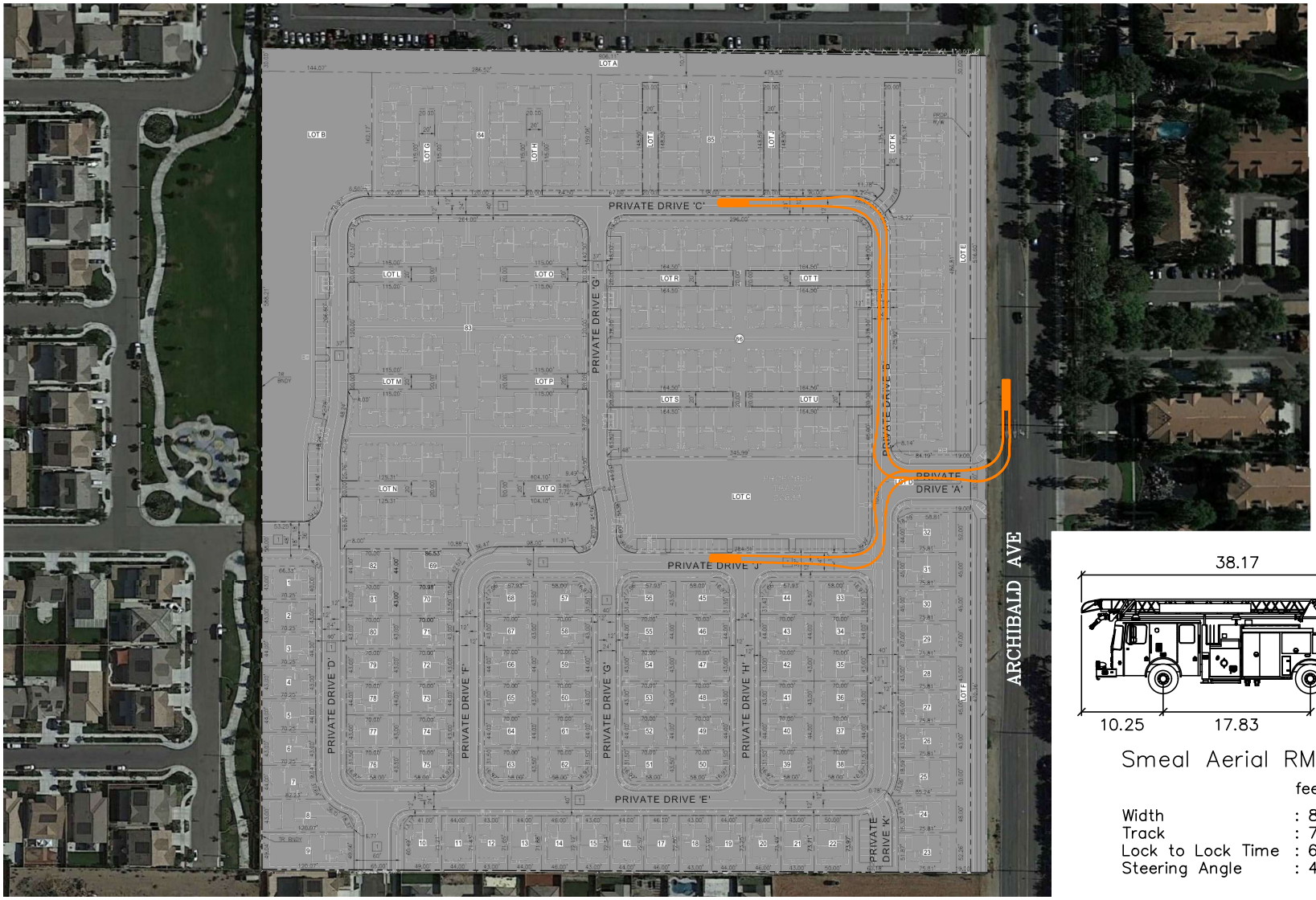
SOURCE: X ENGINEERING & CONSULTING INC.

FIGURE 11–2

TRASH TRUCK TURNING ANALYSIS

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

7958



Smeal Aerial RM 75ft

	feet
Width	: 8.33
Track	: 7.92
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

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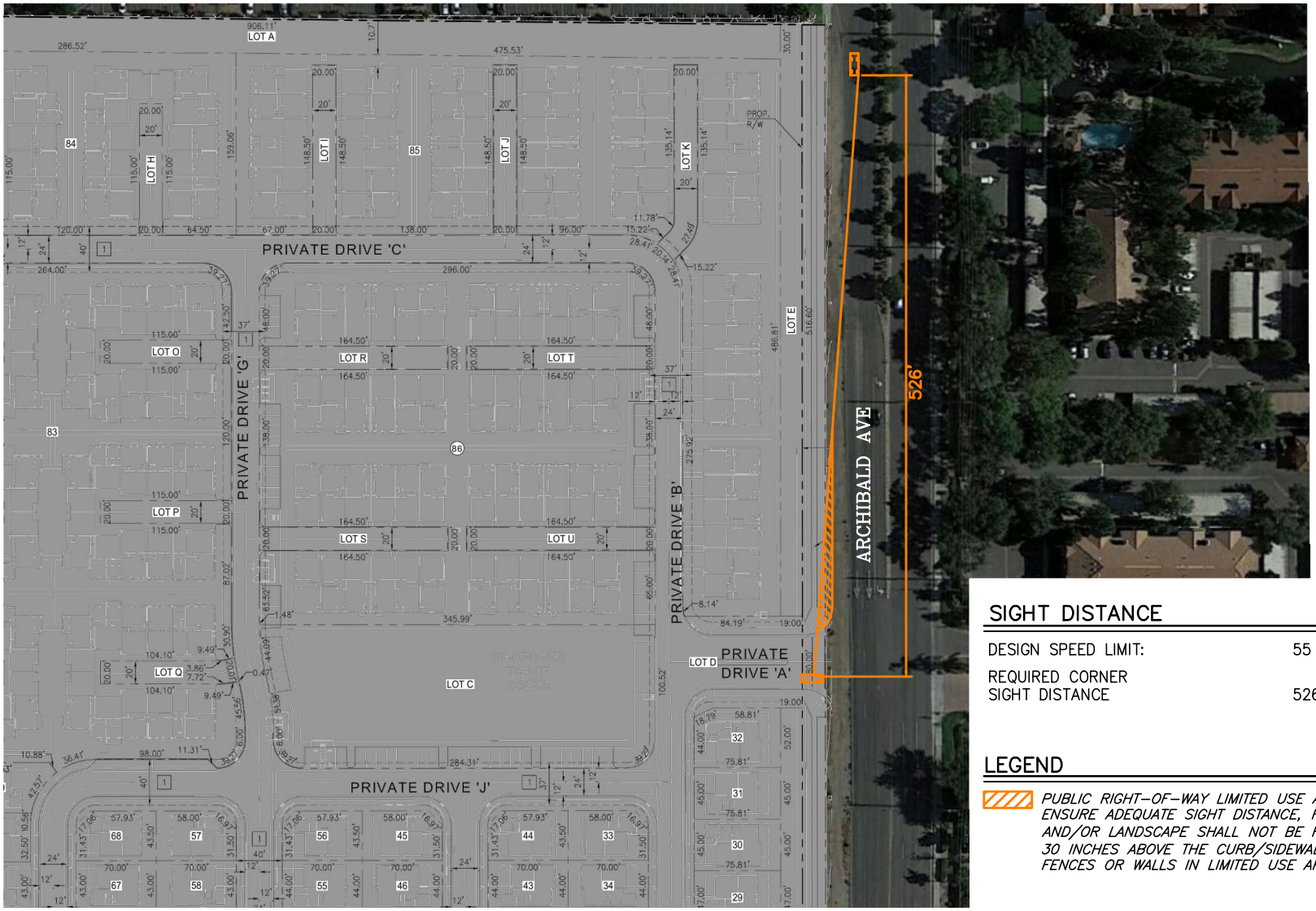
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SOURCE: X ENGINEERING & CONSULTING INC.

FIGURE 11–3

FIRE TRUCK TURNING ANALYSIS

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO



SIGHT DISTANCE

DESIGN SPEED LIMIT:	55 MPH
REQUIRED CORNER SIGHT DISTANCE	526 FEET

LEGEND

PUBLIC RIGHT-OF-WAY LIMITED USE AREA: TO ENSURE ADEQUATE SIGHT DISTANCE, HARDSCAPE AND/OR LANDSCAPE SHALL NOT BE HIGHER THAN 30 INCHES ABOVE THE CURB/SIDEWALK. NO FENCES OR WALLS IN LIMITED USE AREA.

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LINSCOTT LAW & GREENSPAN engineers

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SOURCE: X ENGINEERING & CONSULTING INC.

FIGURE 11-4

SIGHT DISTANCE ANALYSIS

COUNTRYSIDE SPECIFIC PLAN AMENDMENT, ONTARIO

7960

TABLE 11-1
PROJECT DRIVEWAY QUEUING ANALYSIS

Key Intersections	Storage Provided (feet)	(1) Year 2050 with Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour	
		Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No)	Max. Queue/ Min. Storage Required	Adequate Storage (Yes/No
4. Archibald Avenue at Citrine Hills/Project Driveway[56]					
Northbound Left-Turn	100	25	Yes	50	Yes
Eastbound Left/Through/Right	115	97	Yes	89	Yes

[56] The proposed Project will include the installation of a five-phase traffic signal at the intersection of Archibald Avenue at Citrine Hills and restriping the intersection to accommodate a northbound left-turn pocket into the Project site.

12.0 SUMMARY OF FINDINGS AND CONCLUSIONS

- ***Project Location*** – The Countryside Specific Plan comprises approximately 178 acres of land that is located westerly of Interstate 15 (I-15), and southerly of State Route 60 (SR-60). The Specific Plan area lies within the 8,200-acre Ontario Ranch, in the southcentral portion of The Ontario Plan (TOP). The Specific Plan is located south of Riverside Drive, east of the Cucamonga Creek Channel and Basin, west of Archibald Avenue, and north of Schaefer Avenue; Chino Avenue bisects the Specific Plan, resulting in Planning Area 1 to the north and Planning Area 2 to the south.

- ***Project Description*** - The 2008 Specific Plan allows for the development of up to 825 single family detached residential units within nine (9) neighborhoods. The 2022 Specific Plan Amendment concept provides for a maximum of 993 dwelling units (single family detached and attached residential types) within eleven (11) neighborhoods. The proposed Project within the Countryside Specific Plan includes an amendment related to Planning Area 1, Neighborhood 2, which now allows for the development of up to 106 single-family detached homes (RD – 6,000 SF lots).

  The Project would consist of the development of 274 residential unit within Neighborhood 2 that would consist of 96 Courtyard townhomes within Neighborhood 2A, 96 Row Townhomes within Neighborhood 2B and an additional 82 single-family detached homes within Neighborhood 2C. It is our understanding that the Project evaluated herein is consistent with the land uses shown in the adopted 2050 TOP.

  The Project is expected to be constructed and open in the next couple years or so by Year 2026 but is dependent on several factors, including the timing of Project approval. Project funding, market conditions and/or the current environment which could delay Project completion. The Project, like most other proposed development, have experienced delays. As such, subject to confirmation by the Project Applicant, Year 2026 will be utilized to assess the Project's anticipated traffic impacts within a near-term traffic setting upon completion and full buildout/occupancy of the proposed residential development.

  Access to the Project site, as currently proposed and allowed in the 2008 Specific Plan, will be provided via one (1) full access signalized driveway on Archibald Avenue opposite the Citrine Hills residential development, with secondary "cross access" provided through the adjacent residential communities as planned in the Countryside Specific Plan. It is noted that Archibald Avenue at Citrine Hills is currently unsignalized. The secondary access point would provide vehicular, pedestrian and bicycle connectivity to the south to access Chino Avenue. From a review of the current of the adjacent neighborhoods to the south, it is assumed that secondary vehicular access from Chino Avenue would be provided via the intersection of Chino Avenue and Kinglet Avenue through the area of Neighborhood 4 that is now developed.

  The Project would construct bicycle and pedestrian access improvements within the Project site and frontage consistent with the Specific Plan Pedestrian and Bicycle Trails plan.

- ***Study Scope*** – The twelve (12) study intersections were selected for evaluation based on the requirements of the City of Ontario (i.e. "50 peak hour trip criterion"), as well as proximity to the Project site. The twelve (12) existing key study intersections listed below provide local access to the study area and define the extent of the boundaries for this traffic impact investigation. The jurisdictions where the study intersections are located are identified as well:

Key Intersection	Jurisdiction
13. Archibald Avenue at SR-60 WB Ramps	Caltrans/Ontario
14. Archibald Avenue at SR-60 EB Ramps	Caltrans/Ontario
15. Archibald Avenue at Riverside Drive	Ontario
16. Archibald Avenue at Citrine Hills/Project Driveway	Ontario
17. Archibald Avenue at Chino Avenue	Ontario
18. Archibald Avenue at Schaefer Avenue	Ontario
19. Archibald Avenue at Ontario Ranch Road	Ontario
20. Vineyard Avenue at Riverside Drive	Ontario
21. Turner Avenue at Riverside Drive	Ontario
22. Kinglet Avenue at Chino Avenue	Ontario
23. Old Archibald Avenue at Chino Avenue	Ontario
24. Turner Avenue at Chino Avenue	Ontario

This traffic report analyzes existing and future weekday AM peak hour and PM peak hour traffic conditions for a near-term (Year 2026) and long-term (Year 2050) traffic setting upon completion of the proposed Project. Peak hour traffic forecasts for the Year 2026 horizon year have been projected by increasing existing traffic volumes by an annual growth rate of 2.0% per year and adding traffic volumes generated by twenty-one (21) cumulative projects. Long-term (Year 2050) traffic projections were derived from The Ontario Plan 2050 (TOP 2050) Model by San Bernardino County Traffic Analysis Model (SBTAM).

- ***Existing Traffic Conditions*** – Eleven (11) of the twelve (12) study intersections currently operate at an acceptable level of service during the AM and PM peak hours. The intersection of Archibald Avenue/Citrine Hills currently operates at unacceptable LOS F during the AM peak hour.

Project Trip Generation – For the Entitled Land Use, a review of the middle portion of this table indicates that 106 single family detached homes generates 1,000 daily trips, with 74 trips (19 inbound, 55 outbound) produced in the AM peak hour and 100 trips (63 inbound, 37 outbound) produced in the PM peak hour on a typical weekday.

The proposed Project is forecast to generate 2,155 daily trips, with 149 trips (43 inbound, 106 outbound) produced in the AM peak hour and 187 trips (111 inbound, 76 outbound) produced in the PM peak hour on a typical weekday.

A comparison of the proposed Project's trip generation to that of the Entitled Land Use indicates that the Project will result in 1,155 more daily trips, 75 more AM peak hour trips and 87 more PM peak hour trips.

- ***Related Projects Traffic Characteristics*** – Twenty-one (21) related projects located within the City of Ontario and City of Chino were considered as part of the cumulative background setting. The cumulative projects are forecast to generate a total of 248,305 daily trips, with 18,381 trips (10,510 inbound and 7,871 outbound) forecast during the AM peak hour and 22,614 trips (10,608 inbound and 12,006 outbound) forecast during the PM peak hour.

- ***Existing With Project Traffic Conditions*** – The results of the traffic analysis indicates that the addition of proposed Project-generated traffic will not require improvements at any of the twelve (12) key study intersections.

- ***Year 2026 With Project Traffic Conditions*** – The results of the traffic analysis indicates that traffic associated with the proposed Project will have an effect on the LOS at five (5) of the twelve (12) intersections, thus necessitating intersection improvements based on the City's LOS standards. These intersections include Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), Archibald Avenue at Chino Avenue (#5), Archibald Avenue at Ontario Ranch Road (#7), and Vineyard Avenue at Riverside Drive (#8). The remaining key study intersections are forecast to operate at an acceptable LOS or remain the same with the addition of Project generated traffic.

  Key Intersection

  2. Archibald Avenue at SR-60 EB Ramps
  3. Archibald Avenue at Riverside Drive
  5. Archibald Avenue at Chino Avenue
  7. Archibald Avenue at Ontario Ranch Road
  8. Vineyard Avenue at Riverside Drive

  The implementation of planned and/or recommended improvements at the four (4) intersections of Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), Archibald Avenue at Chino Avenue (#5), and Vineyard Avenue at Riverside Drive (#8) will improve the service levels to an acceptable LOS based on the City's LOS standards. The intersection of Archibald Avenue at Ontario Ranch Road (#7) is forecast to continue to operate adversely with the implementation of planned and/or recommended improvements, however, the improvements offset the Project's cumulative effects on traffic under near-term (Year 2026) traffic conditions.

- ***Year 2050 With Project Traffic Conditions*** – The results of the traffic impact analysis indicates that traffic associated with the proposed Project will have an effect on the LOS at five (5) of the twelve (12) intersections, thus necessitating intersection improvements based on the City's LOS standards. These intersections include Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), Archibald Avenue at Chino Avenue (#5), Archibald Avenue at Ontario Ranch Road (#7), and Vineyard Avenue at Riverside Drive (#8).

Relative to Archibald Avenue at Citrine Hills/Project Driveway (#4), although this intersection is forecast to operate at LOS F without the Project, a five-phase traffic signal will be installed at the intersection as a project design feature which will improve the overall service levels at the intersection. The remaining key study intersections are forecast to operate at LOS D or better during the weekday AM and PM peak hours with the addition of Project traffic.

Key Intersection
Archibald Avenue at SR-60 EB Ramps
Archibald Avenue at Riverside Drive
Archibald Avenue at Chino Avenue
Archibald Avenue at Ontario Ranch Road
Vineyard Avenue at Riverside Drive

The implementation of planned and/or recommended improvements (detailed in *Section 9.0*) at the four (4) intersections of Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), Archibald Avenue at Chino Avenue (#5), and Vineyard Avenue at Riverside Drive (#8) will improve the service levels to an acceptable LOS based on the City's LOS standards. The intersection of Archibald Avenue at Ontario Ranch Road (#7) is forecast to continue to operate adversely with the implementation of planned and/or recommended improvements, however, the improvements offset the Project's cumulative effects on traffic under long-term (Year 2050) traffic conditions.

- ***Existing with Project Caltrans Queuing Analysis–*** The results of the Existing with Project Caltrans Queuing Analysis indicates that the two (2) study intersections have queues that are adequately accommodated by the existing storage provided for Existing With Project traffic conditions.
- ***Year 2026 Caltrans Queuing Analysis–*** The results of the Existing with Project Caltrans Queuing Analysis indicates that the two (2) study intersections have queues that are adequately accommodated by the existing storage provided for Year 2026 With Project traffic conditions.
- ***Year 2050 Project Caltrans Queuing Analysis–*** The results of the Existing with Project Caltrans Queuing Analysis indicates that the two (2) study intersections have queues that are adequately accommodated by the existing storage provided for Year 2050 With Project traffic conditions.
- ***Existing with Project Turn Pocket Queuing Analysis*** – The results of the Existing with Project Turn Pocket Queuing Analysis *4* indicates that five (5) out of the nine (9) signalized study intersections have queues which exceed the provided storage for Existing With Project traffic conditions. However, for all of the deficient approaches/intersections, the proposed Project either does not contribute to or adds less than one (1) vehicle to the queue, and therefore it has been concluded that improvements related to queueing are not required for Existing With Project traffic conditions.
- ***Year 2026 Turn Pocket Queuing Analysis–*** The results of the Existing with Project Turn Pocket Queuing Analysis indicates that seven (7) out of the nine (9) signalized study intersections have

queues which exceed the provided storage for Year 2026 With Project traffic conditions. However, for a number of deficient approaches, the proposed Project either does not contribute to or adds less than one (1) vehicle to the queue, and therefore it has been concluded that improvements are not required for those approaches. As such, the following four (4) intersections/approaches require improvements related to queuing:

- No. 1: Archibald Avenue at SR-60 WB Ramps
  - Northbound Left-Turn
- No. 2: Archibald Avenue at SR-60 EB Ramps
  - Northbound Right-Turn
- No. 3: Archibald Avenue at Riverside Drive
  - Northbound Left-Turn
  - Westbound Left-Turn
- No. 7: Archibald Avenue at Schaefer Avenue
  - Southbound Left-Turn
  - Southbound Right-Turn
  - Eastbound Left-Turn
  - Westbound Right-Turn

The implementation of planned and/or recommended improvements (detailed in *Section 9.0*) at the intersections of Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), and Archibald Avenue at Ontario Ranch Road (#7) will offset the Project's cumulative effects and help improve the queues under near-term (Year 2026) traffic conditions.

- ***Year 2050 Turn Pocket Queuing Analysis***– The results of the Year 2050 Turn Pocket Queuing Analysis indicates that eight (8) out of the nine (9) signalized study intersections have queues which exceed the provided storage for Year 2050 With Project traffic conditions. However, for a number of deficient approaches, the proposed Project either does not contribute to or adds less than one (1) vehicle to the queue, and therefore it has been concluded that improvements are not required for those approaches. As such, the following five (5) intersections/approaches require improvements related to queuing:

  - No. 1: Archibald Avenue at SR-60 WB Ramps
    - Northbound Left-Turn
  - No. 2: Archibald Avenue at SR-60 EB Ramps
    - Northbound Right-Turn
  - No. 3: Archibald Avenue at Riverside Drive
    - Northbound Left-Turn
    - Westbound Left-Turn
  - No. 5: Archibald Avenue at Chino Avenue
    - Southbound Left-Turn

- No. 7: Archibald Avenue at Schaefer Avenue
  - Southbound Left-Turn
  - Southbound Right-Turn
  - Eastbound Left-Turn
  - Westbound Right-Turn

The implementation of planned and/or recommended improvements (detailed in *Section 9.0*) at the intersections of Archibald Avenue at SR-60 EB Ramps (#2), Archibald Avenue at Riverside Drive (#3), Archibald Avenue at Chino Avenue (#5), and Archibald Avenue at Ontario Ranch Road (#7) will offset the Project's cumulative effects and help improve the queues under long-term (Year 2050) traffic conditions.

- ***Project Specific Improvements -*** The following Project design features are to be implemented in conjunction with development of the proposed Project to ensure adequate access and egress to the site is provided and have been included in Existing With Project, Year 2026 With Project and Year 2050 With Project traffic conditions:
  - No. 4 – Archibald Avenue at Citrine Hills/Project Driveway: Construct west leg and provide one shared eastbound left-turn/through/right-turn lane and one inbound lane. Widen and/or restripe to provide an exclusive northbound left-turn lane. Install a five-phase traffic signal.

- ***Year 2050 Planned Improvements -*** The following improvements are planned to be implemented by The City of Ontario by Year 2050 traffic conditions and have been included as part of the background traffic conditions:
  - No. 8 – Vineyard Avenue at Riverside Drive: Construct south leg and provide one exclusive northbound left-turn lane, a northbound shared through/right lane, and one receiving lane. Restripe the southbound right-turn lane to a shared through/right lane. Widen and/or restripe to provide an exclusive westbound left-turn lane. Modify the existing traffic signal to incorporate eight-phase operation.
- ***Existing With Project Recommended Intersections Improvements*** – The results of the intersection level of service analyses for Existing With Project peak hour traffic conditions indicate that the twelve (12) study intersections are forecast to continue to operate at acceptable service levels. As there are no deficiencies, no traffic improvements are required under this traffic scenario.

- ***Year 2026 With Project Recommended Intersections Improvements*** – The following improvements listed below have been identified to either improve the service levels to an acceptable LOS or to offset the effect of cumulative traffic and Project traffic, for Year 2026 With Project traffic conditions:
  - No. 2 – Archibald Avenue at SR-60 EB Ramps: Construct a third departure lane on the freeway on-ramp. Modify the existing traffic signal to include a free movement for the northbound right-turn. These improvements are subject to the approval of the Caltrans.

- No. 3 – Archibald Avenue at Riverside Drive: Widen and/or restripe the south leg to provide a second northbound left-turn lane. Widen and/or restripe the north leg to provide an exclusive southbound right-turn lane. Widen and/or restripe the west leg to provide a second eastbound left-turn lane, a third eastbound through lane, an exclusive eastbound right-turn lane, and a third westbound departure lane. Widen and/or restripe the east leg to provide a third westbound through lane and a third eastbound departure lane. Modify the existing traffic signal and provide an eastbound right-turn overlap phase. These improvements are subject to the approval of the City of Ontario.

- No. 5 – Archibald Avenue at Chino Avenue: Widen and/or restripe the north leg to provide a third southbound through lane. Widen and/or restripe the south leg to provide a third southbound departure lane. Modify the existing traffic signal as needed. These improvements are subject to the approval of the City of Ontario.

- No. 7 – Archibald Avenue at Ontario Ranch Road: Restripe the south leg to provide a second northbound left-turn lane, a third northbound through lane, and a third southbound departure lane. Widen and/or restripe the north leg to provide a second southbound left-turn lane, a third southbound through lane, and a third northbound departure lane. Widen and/or restripe the west leg to provide two additional eastbound through lanes and three additional westbound departure lanes. Widen and/or restripe the east leg to provide three additional westbound through lanes and two additional eastbound departure lanes. Modify the existing traffic signal and provide a northbound free-right turn, a southbound right-turn overlap phase, and a westbound right-turn overlap phase. These improvements are subject to the approval of the City of Ontario.

- No. 8 – Vineyard Avenue at Riverside Drive: Widen and/or restripe the north leg to provide a second southbound left-turn lane. Widen and/or restripe the east leg to provide a second eastbound departure lane. Modify the existing traffic signal as needed. These improvements are subject to the approval of the City of Ontario.

- ***Year 2050 With Project Recommended Intersections Improvements*** The following improvements listed below have been identified to either improve the service levels to an acceptable LOS or to offset the effect of cumulative traffic and Project traffic, for Year 2050 With Project traffic conditions:

  - No. 2 – Archibald Avenue at SR-60 EB Ramps: *(Same as those identified in Section 9.3.2)* Construct a third departure lane on the freeway on-ramp. Modify the existing traffic signal to include a free movement for the northbound right-turn. These improvements are subject to the approval of the Caltrans.

  - No. 3 – Archibald Avenue at Riverside Drive: *(Same as those identified in Section 9.3.2)* Widen and/or restripe the south leg to provide a second northbound left-turn lane. Widen and/or restripe the north leg to provide an exclusive southbound right-turn lane. Widen and/or restripe the west leg to provide a second eastbound left-turn lane, a third eastbound through lane, an exclusive eastbound right-turn lane, and a third westbound

departure lane. Widen and/or restripe the east leg to provide a third westbound through lane and a third eastbound departure lane. Modify the existing traffic signal and provide an eastbound right-turn overlap phase. These improvements are subject to the approval of the City of Ontario.

- No. 5 – Archibald Avenue at Chino Avenue: Widen and/or restripe the north leg to provide a third southbound through lane. Widen and/or restripe the south leg to provide a third southbound departure lane. Widen and/or restripe the west leg to provide an exclusive eastbound right-turn lane. Modify the existing traffic signal and provide an eastbound right-turn overlap phase. These improvements are subject to the approval of the City of Ontario.

- No. 7 – Archibald Avenue at Ontario Ranch Road: *(Same as those identified in Section 9.3.2)* Restripe the south leg to provide a second northbound left-turn lane, a third northbound through lane, and a third southbound departure lane. Widen and/or restripe the north leg to provide a second southbound left-turn lane, a third southbound through lane, and a third northbound departure lane. Widen and/or restripe the west leg to provide two additional eastbound through lanes and three additional westbound departure lanes. Widen and/or restripe the east leg to provide three additional westbound through lanes and two additional eastbound departure lanes. Modify the existing traffic signal and provide a northbound free-right turn, a southbound right-turn overlap phase, and a westbound right-turn overlap phase. These improvements are subject to the approval of the City of Ontario.

- No. 8 – Vineyard Avenue at Riverside Drive: Widen and/or restripe the north leg to provide a second southbound left-turn lane and an exclusive southbound right-turn lane. Widen and/or restripe the west leg to provide two eastbound through lanes, an exclusive eastbound right-turn lane, and a third westbound departure lane. Widen and/or restripe the east leg to provide a third westbound through lane, an exclusive westbound right-turn lane, and two additional eastbound departure lanes. Modify the existing traffic signal to provide an eight-phase signal. These improvements are subject to the approval of the City of Ontario.

- ***Project Site Evaluation -*** Access to the Project site, as currently proposed and allowed in the 2008 Specific Plan, will be provided via one (1) full access signalized driveway on Archibald Avenue opposite the Citrine Hills residential development, with secondary "cross access" provided through the adjacent residential communities as planned in the Countryside Specific Plan. It is assumed that secondary vehicular access from Chino Avenue would be provided via the intersection of Chino Avenue and Kinglet Avenue through the area of Neighborhood 4 that is now developed.

  A queueing evaluation for Archibald Avenue at Citrine Road/Project Driveway (#4) was also completed to validate the storage requirements of the proposed Project. The provided storage

for the northbound left-turn and the eastbound left/through/right turn are adequate to accommodate the anticipated queues.

- ***Internal Circulation Evaluation -*** Access to the Project site for small service/delivery trucks (i.e. UPS and FedEx), trash trucks, and fire trucks will be provided via the Project driveway along Archibald Avenue, which has been evaluated in this report. Our evaluation of the circulation shown on the Project site plan was performed using the *Turning Vehicle Templates*, developed by Jack E. Leisch & Associates and *AutoTURN for AutoCAD* computer software that simulates turning maneuvers for various types of vehicles.

  Overall, the turning maneuvers for an SU-30 truck, a trash truck, and a fire truck are considered adequate.

- ***Sight Distance Evaluation -*** At intersections and/or project driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time must be provided for the waiting vehicle to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed. A sight distance evaluation has been performed for project driveway along Archibald Avenue.

  Based on the criteria set forth in Table 405.1A of the Caltrans HDM and a posted speed limit of 55 mph on Archibald Avenue, a corner sight distance of 526 feet for right-turning vehicles is required. The sight lines at the proposed Project driveway are expected to be adequate as long as obstructions within the sight triangles are minimized.

RESOLUTION NO.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING FILE NO. PSPA22-002, A SPECIFIC PLAN AMENDMENT FOR THE FOLLOWING CHANGES: [1] DIVIDE PLANNING AREA 1 NEIGHBORHOOD 2 INTO DIFFERENT SUBAREAS: NEIGHBORHOODS 2A, 2B, AND 2C; [2] INCREASE THE PLANNING AREA 1 UNIT COUNT FROM 442 UNITS TO 601 UNITS AND DENSITY FROM 5.56 DU/AC TO 7.74 DU/AC; [3] CHANGE PLANNING AREA 1 USES TO INCLUDE ATTACHED HOMES AND ELIMINATING THE RD 6000-SQUARE-FOOT LOT SIZE; AND [4] VARIOUS TEXT CHANGES TO BE CONSISTENT WITH THE ONTARIO PLAN 2050 POLICY PLAN, AND MAKING FINDINGS IN SUPPORT THEREOF—APN: 0218-111-60 AND 0218-111-61

WHEREAS, RB ONTARIO LLC (hereinafter referred to as "Applicant") has filed an Application for the approval of a Specific Plan Amendment, File No. PSPA22-002, as described in the title of this Resolution (hereinafter referred to as "Application" or "Project"); and

WHEREAS, the Application applies to 23.2 acres of land generally located on the west side of Archibald Avenue, approximately 875 feet south of Riverside Drive, within the Countryside Specific Plan, and is presently improved with agricultural uses; and

WHEREAS, the properties to the north and east of the Project site are within the MDR-18 (Medium Density Residential – 11.1 – 18.0 du.ac) and are developed with multiple family dwellings. The properties to the south and west are within Planning Area 1 of the Countryside Specific Plan, and are developed with single-family detached dwellings; and

WHEREAS, on May 2, 2006, the City Council adopted Ordinance No. 2828, approving the Countryside Specific Plan (File No. PSP04-001), establishing a master plan for the development of 178 acres of land, inclusive of the Project site; and

WHEREAS, the Countryside Specific Plan has been amended over the years to reflect updated policies in The Ontario Plan and market conditions; and

WHEREAS, the Project request consists of dividing Planning Area 1-Neighborhood 2 into different subsets (Neighborhoods 2A, 2B and 2C), increasing the unit count in Planning Area 1 from 442 units to 601 units and increasing the density from 5.56 dwelling units/acre to 7.74 dwelling units/acre, changing Planning Area 1-Neighboorhood 2 uses to include Attached Homes, eliminating the RD-6000-square-foot lot size, and various text changes to be consistent with The Ontario Plan 2050 Policy Plan; and

WHEREAS, the Countryside Specific Plan Environmental Impact Report (State Clearinghouse No. 2004071001) was certified on April 18, 2006 (hereinafter referred to as "Certified EIR"), in which development and use of the Project site was discussed; and

WHEREAS, the Planning Director of the City of Ontario prepared and approved for attachment to the certified Environmental Impact Report, an Addendum to the Certified EIR (hereinafter referred to as "EIR Addendum") in accordance with the requirements of the California Environmental Quality Act of 1970, together with State and local guidelines implementing said Act, all as amended to date (collectively referred to as "CEQA"); and

WHEREAS, the environmental impacts of this project were thoroughly analyzed in the EIR Addendum, which concluded that implementation of the Project could result in a number of significant effects on the environment that were previously analyzed in the Certified EIR, and that the Certified EIR identified mitigation measures that would reduce each of those significant effects to a less-than-significant level; and

WHEREAS, the City's "Local Guidelines for the Implementation of the California Environmental Quality Act (CEQA)" provide for the use of a single environmental assessment in situations where the impacts of subsequent projects are adequately analyzed; and

WHEREAS, the Application is a project pursuant to the California Environmental Quality Act — Public Resources Code Section 21000 et seq. — (hereinafter referred to as "CEQA") and an EIR Addendum has been prepared to determine possible environmental impacts; and

WHEREAS, Ontario Development Code Table 2.02-1 (Review Matrix) grants the City Council the responsibility and authority to review and act on the subject Application; and

WHEREAS, the Project has been reviewed for consistency with the Housing Element of the Policy Plan component of The Ontario Plan, as State Housing Element law (as prescribed in Government Code Sections 65580 through 65589.8) requires that development projects must be consistent with the Housing Element, if upon consideration of all its aspects, it is found to further the purposes, principals, goals, and policies of the Housing Element; and

WHEREAS, the Project is located within the Airport Influence Area of Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and is subject to, and must be consistent with, the policies and criteria set forth in the Ontario International Airport Land Use Compatibility Plan (hereinafter referred to as "ALUCP"), which applies only to jurisdictions within San Bernardino County, and addresses the noise, safety, airspace protection, and overflight impacts of current and future airport activity; and

WHEREAS, City of Ontario Development Code Division 2.03 (Public Hearings) prescribes the manner in which public notification shall be provided and hearing procedures to be followed, and all such notifications and procedures have been completed; and

WHEREAS, on May 23, 2023, the Planning Commission of the City of Ontario conducted a hearing to consider the EIR Addendum and the Project, and concluded said hearing on that date, voting to issue Resolution No. PC23-039, recommending the City Council adopt the EIR Addendum, and voting to issue Resolution No. PC23-040, recommending the City Council approve the Application; and

WHEREAS, as the first action on the Project, on June 20, 2023, the City Council issued a Resolution adopting the EIR Addendum, finding that the proposed Project introduces no new significant environmental impacts and applying all previously adopted mitigation measures to the Project, which were incorporated by reference; and

WHEREAS, on June 20, 2023, the City Council of the City of Ontario conducted a hearing to consider the Project, and concluded said hearing on that date; and

WHEREAS, all legal prerequisites to the adoption of this Resolution have occurred.

NOW, THEREFORE, IT IS HEREBY FOUND, DETERMINED, AND RESOLVED by the City Council of the City of Ontario, as follows:

SECTION 1: ***Housing Element Compliance.*** Pursuant to the requirements of California Government Code Chapter 3, Article 10.6, commencing with Section 65580, as the decision-making body for the Project, the City Council finds that based upon the facts and information contained in the Application and supporting documentation, at the time of Project implementation, the project is consistent with the Housing Element of the Policy Plan (General Plan) component of The Ontario Plan, as the project site is not one of the properties in the Housing Element Sites Inventory contained in Tables B-1 and B-2 of the Housing Element Technical Report.

SECTION 2: ***Airport Land Use Compatibility Plan ("ALUCP") Compliance.*** The California State Aeronautics Act (Public Utilities Code Section 21670 et seq.) requires that an Airport Land Use Compatibility Plan be prepared for all public use airports in the State; and requires that local land use plans and individual development proposals must be consistent with the policies set forth in the adopted Airport Land Use Compatibility Plan.

On April 19, 2011, the City Council of the City of Ontario approved and adopted the Ontario International Airport Land Use Compatibility Plan, establishing the Airport Influence Area for Ontario International Airport, which encompasses lands within parts of San Bernardino, Riverside, and Los Angeles Counties, and limits future land uses and development within the Airport Influence Area, as they relate to noise, safety, airspace protection, and overflight impacts of current and future airport activity. As the decision-making body for the Project, the City Council has reviewed and considered the facts and information contained in the Application and supporting documentation against the ONT ALUCP compatibility factors, including [1] Safety Criteria (ONT ALUCP Table 2-2) and Safety Zones (ONT ALUCP Map 2-2), [2] Noise Criteria (ONT ALUCP Table 2-3) and Noise Impact Zones (ONT ALUCP Map 2-3), [3] Airspace protection Zones (ONT ALUCP Map 2-4), and [4] Overflight Notification Zones (ONT ALUCP Map 2-5). As a result, the City Council, therefore, finds and determines that the Project, when implemented in

conjunction with the conditions of approval, will be consistent with the policies and criteria set forth within the ONT ALUCP; and

SECTION 3: ***Concluding Facts and Reasons.*** Based upon the substantial evidence presented to the City Council during the above-referenced hearing, and upon the specific findings set forth in Sections 1 and 2, above, the City Council hereby concludes as follows:

(1) ***The proposed Specific Plan, or amendment thereto, is consistent with the goals, policies, plans and exhibits of the Vision, Policy Plan (General Plan), and City Council Priorities components of The Ontario Plan.*** The proposed Specific Plan Amendment is consistent with the Vision, Policy Plan (General Plan), and City Council Priorities components of The Ontario Plan 2050, in that the Specific Plan Amendment contributes towards the legislative framework for the implementation of The Ontario Plan components, guiding growth and development within the Project area to achieve optimum results from the City's physical, economic, environmental, and human resources.

(2) ***The proposed Specific Plan, or amendment thereto, would not be detrimental to the public interest, health, safety, convenience, or general welfare of the City.*** The development standards and guidelines established by the proposed Specific Plan Amendment have been created with the intent to safeguard and further the public interest, health, safety, convenience, and/or general welfare, and to ensure that the purposes of The Ontario Plan 2050 and the proposed Specific Plan Amendment, are maintained.

(3) ***In the case of an application affecting specific properties, the proposed Specific Plan, or amendment thereto, will not adversely affect the harmonious relationship with adjacent properties and land uses.*** The location of the proposed Specific Plan Amendment, and the proposed conditions under which future developments will be constructed and maintained, is consistent with the Policy Plan component of The Ontario Plan 2050 and the City's Development Plan, and, therefore, will not adversely affect the harmonious relationship with adjacent properties and land uses

(4) ***In the case of an application affecting specific properties, the subject site is physically suitable, including, but not limited to, parcel size, shape, access, and availability of utilities, for the request and anticipated development.*** The proposed Specific Plan Amendment has been reviewed by all City departments, which have established that the project site is physically suitable for the anticipated development in terms of parcel size, shape, and availability of utilities.

SECTION 4: ***City Council Action.*** Based upon the findings and conclusions set forth in Sections 1 through 3, above, the City Council hereby APPROVES the herein described Application.

SECTION 5: ***Indemnification.*** The Applicant shall agree to defend, indemnify and hold harmless, the City of Ontario or its agents, officers, and employees from any claim, action or proceeding against the City of Ontario or its agents, officers or employees

to attack, set aside, void, or annul this approval. The City of Ontario shall promptly notify the applicant of any such claim, action, or proceeding, and the City of Ontario shall cooperate fully in the defense.

SECTION 6: ***Custodian of Records.*** The documents and materials that constitute the record of proceedings on which these findings have been based are located at the City of Ontario City Hall, 303 East "B" Street, Ontario, California 91764. The custodian for these records is the City Clerk of the City of Ontario.

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 20th day of June 2023.

_____
PAUL S. LEON, MAYOR

ATTEST:

_____
SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

_____
BEST, BEST & KRIEGER LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2023 was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held June 20, 2023 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. ____ duly passed and adopted by the Ontario City Council at their regular meeting held June 20, 2023.

_____
SHEILA MAUTZ, CITY CLERK

(SEAL)

<u>ATTACHMENT A</u>:

File No. PSPA22-002;
AMENDMENT TO COUNTRYSIDE SPECIFIC PLAN

(Document follows this page)

Added text in blue underline; deleted text in ~~red strike through.~~
All page numbers in the Table of Contents and on individual pages will be update after approval of the draft submittal.



DRAFT AMENDMENT

Countryside Specific Plan

April 18, 2006

Amended June 20, 2006

Amended August, 2008

~~Updated with amendments August, 2008~~

Amended XX, 2023

MeritageHomes

ADOPTION

COUNTRYSIDE
FILE NUMBER: PSP04-001
City Council Ordinance Number:2828 *Adopted April 18, 2006*

AMENDMENTS

File No. PSPA06-063
City Council Ordinance Number: 2830 *Adopted June 20, 2006*
This amendment changed the land use designation for Neighborhood 7 from conventional single-family product on a minimum lot size of 5,000 sq ft to a single-family alley loaded product on a minimum lot size of 2,925 sq ft. The unit count, however, is maintained as allocated under the approved Specific Plan.

Countryside

Countryside Specific Plan

Submitted by:
Meritage Homes
19600 Fairchild Road
Irvine, California 92612

Submitted to:
City of Ontario
303 East 'B' Street
Ontario, California 91764

April 18, 2006
Amended June 20, 2006
Amended XX XX, 2022

Countryside

Countryside Specific Plan

Consultant Team

L.D. King, Inc.
2151 Convention Center Way
Suite 100
Ontario, California 91764

The Galloway Group
20321 SW Birch St.
Suite 200
Newport Beach, California 92660

Architerra Design Group, Inc.
10221-A Trademark Street
Rancho Cucamonga, California 91730

William Hezmalhalch Architects, Inc.
2850 Redhill Avenue
Suite 200
Santa Ana, California 92705

Amended by:
Daneilian Associates
60 Corporate Park
Irvine, California 92606

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Section 1. Introduction

1.1 Community Vision

The Countryside Specific Plan, located within the Ontario Ranch of the City of Ontario, is a proposal for development of a planned community designed to blend with and become a part of the overall existing larger community of Ontario. The vision for Countryside is to create a livable community combining safe and pleasant neighborhoods, designed at a human scale, within walking distance to parks and surrounding commercial and recreational facilities.

The vision for Countryside implements key design objectives found in established, traditional neighborhoods in Ontario and throughout other older, established neighborhoods in California, including:

- Provision of pedestrian and bicycle mobility.
- Opportunities for neighborhood interaction through provision of informal parks, gathering areas and a network of paseos and sidewalks.
- Connectivity among neighborhoods and the surrounding commercial and recreational land uses.
- Provision for a range of housing types.
- Exceptional architectural and landscape design.

1.2 Project Summary

The Countryside Specific Plan is comprised of 178 acres of land designated as Planning Subarea 5 within the Ontario Ranch of the City of Ontario. The regional location of the Countryside Specific Plan area is illustrated in Exhibit 1, "Regional Context Map" and is further described in the "Project Vicinity Map," Exhibit 2.

Planning Subarea 5 is located south of Riverside Drive, east of the Cucamonga Creek Channel and the Cucamonga Basin, west of Archibald Avenue and north of Schaefer Avenue as illustrated on the "Project Location Map," Exhibit 3. The Countryside Specific Plan ~~is a proposal by~~ for Meritage Homes ~~hereinafter referred to as the project applicant,~~ was adopted on April 18, 2006, amended June 20, 2006 and August, 2008 for the development of up to ~~819~~ 825single family detached residential dwelling units within ~~eight~~ nine distinctive residential neighborhoods offering a variety of housing types within a livable community setting. The current amendment proposes development of up to 984 single family detached and attached homes distributed in eleven neighborhoods. Countryside provides for connectivity of all residential neighborhoods to centrally located parks and to surrounding commercial and recreational facilities through a network of pedestrian sidewalks, bicycle trails, and landscaped paseos.

Approximately 119 acres of Countryside are controlled by the applicant and other development entities and proposed for development of a variety of housing types. The remaining 59.03 acres comprising Countryside are included in the Specific Plan pursuant to the City of Ontario General Plan requirement to comprehensively plan for the entire Planning Subarea 5. Ownerships within the Countryside Specific Plan are illustrated on the "Ownership Map," Exhibit 4.

1.3 Project Setting

The Countryside Specific Plan includes all of Planning Subarea 5 of the City of Ontario Ontario Ranch. Countryside is comprised of two planning areas. Planning Area 1, consisting of 95.6 gross acres, is bounded by Riverside Drive on the north, Archibald Avenue on the east, Chino Avenue on the south, and the Cucamonga Creek Channel on the west.

Countryside

Planning Area 2, consisting of 82.43 gross acres, is bounded by Chino Avenue on the north, Archibald Avenue on the east, Schaefer Avenue on the south, and the Cucamonga Basin on the west.

The City of Ontario General Plan Amendment for the Ontario Ranch designates Subarea 5 (Specific Plan Area) for Residential Low Density land use with a maximum density of 4.6 dwelling units per gross acre and a maximum development capacity of 819 dwelling units. The General Plan Amendment further requires that a Specific Plan be approved for all development within the Specific Plan Area in accordance with the policies adopted for Planning Subarea 5. The project setting for Countryside is illustrated on Exhibit 5, "Project Setting."

1.4 Project Description

The Countryside Specific Plan is a comprehensive plan for the development of a residential community of up to ~~825~~984 single family detached and attached residential dwelling units. A central feature of the community is a network of landscaped paseos linking parks around which residential uses will be developed. The paseos offer connectivity throughout the entire community providing a network of multipurpose pedestrian and bicycle paths within the paseos and connecting to the community's local street system. Residents of Countryside will be able to walk or bike to adjacent commercial uses located east of the Specific Plan Area and to recreational uses located north and northwest of the Specific Plan Area.

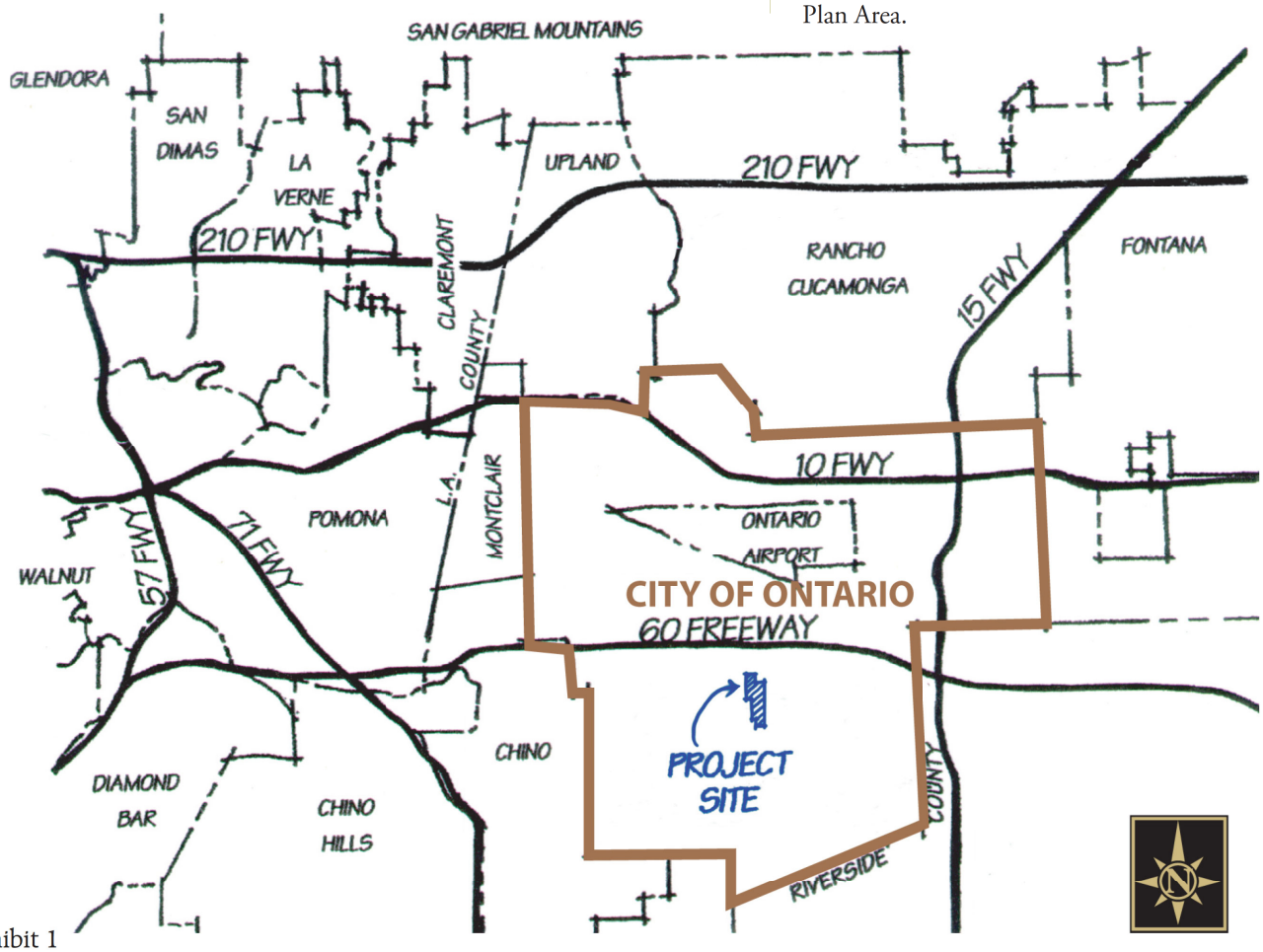


Exhibit 1
Regional Context Map

1.4.1 Residential

Residential land use comprises ~~129.47~~128.74 net acres of Countryside offering a variety of residential housing types including conventional single family detached homes on lots ranging from ~~5,000~~3,000 square feet to ~~6,000~~5,500 square feet, single family detached, cluster court homes with minimum ~~3,000~~ 2,000 square foot lots, single family detached Z-Lot homes on lots with minimum 3,500 square foot lots, ~~and~~ single family detached alley loaded homes with minimum lot sizes of 2,275 square feet, and attached row townhomes with minimum unit size of 1,500 square feet. Up to ~~819~~ 825 detached residential dwelling units are permitted for development within Planning Subarea 5, pursuant to the Ontario Ranch General Plan Amendment, Countryside Specific Plan and subsequent Specific Plan Amendments. The current amendment proposes up to 159 additional single family detached and attached homes.

1.4.2 Parks

Countryside includes the development of ~~5.61~~ 6.82 acres of parks within the Specific Plan Area. Two public parks will be improved as active recreational areas with open play areas, picnic tables, and informal gathering areas.

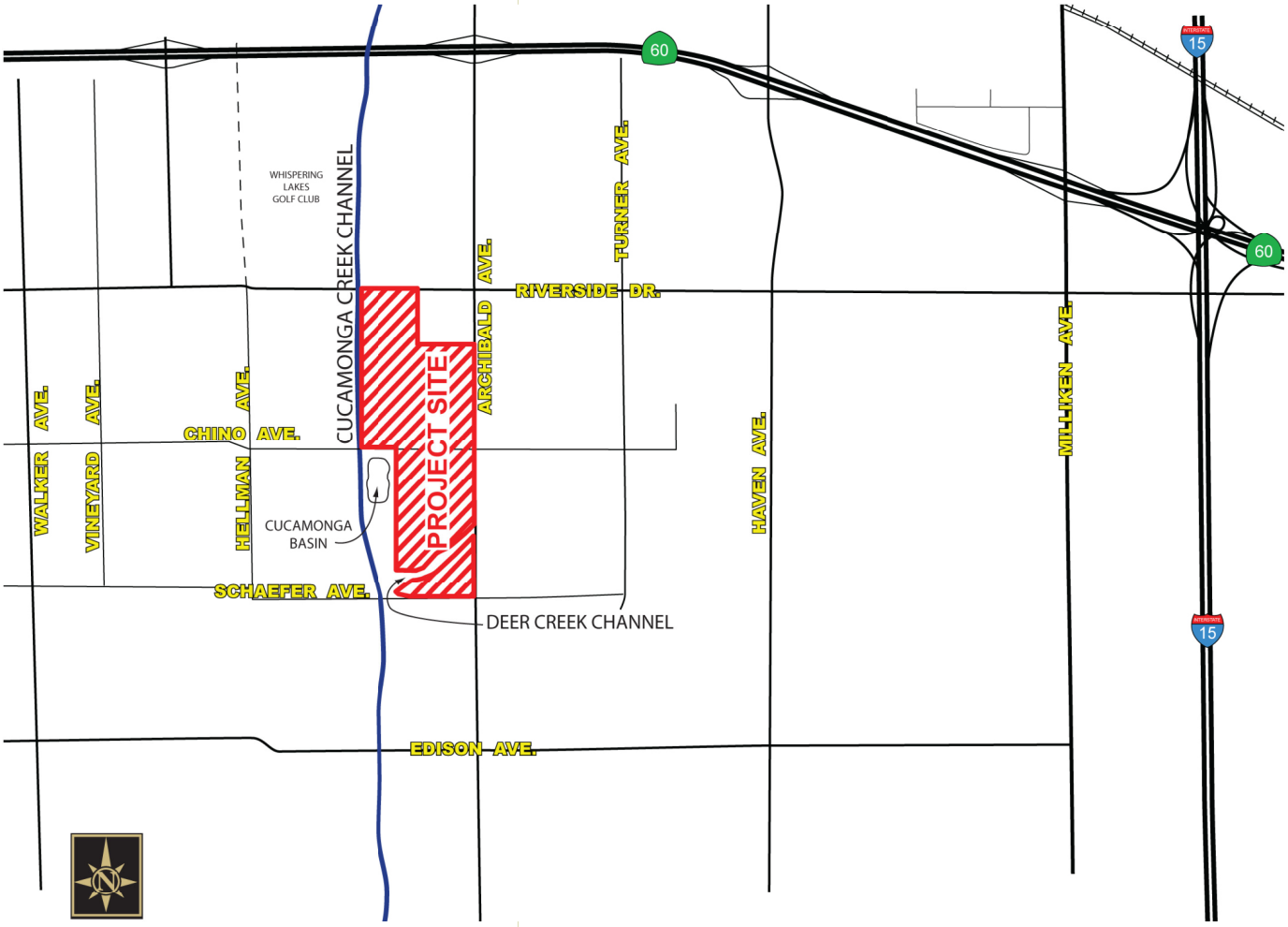


Exhibit 2
Project Vicinity Map

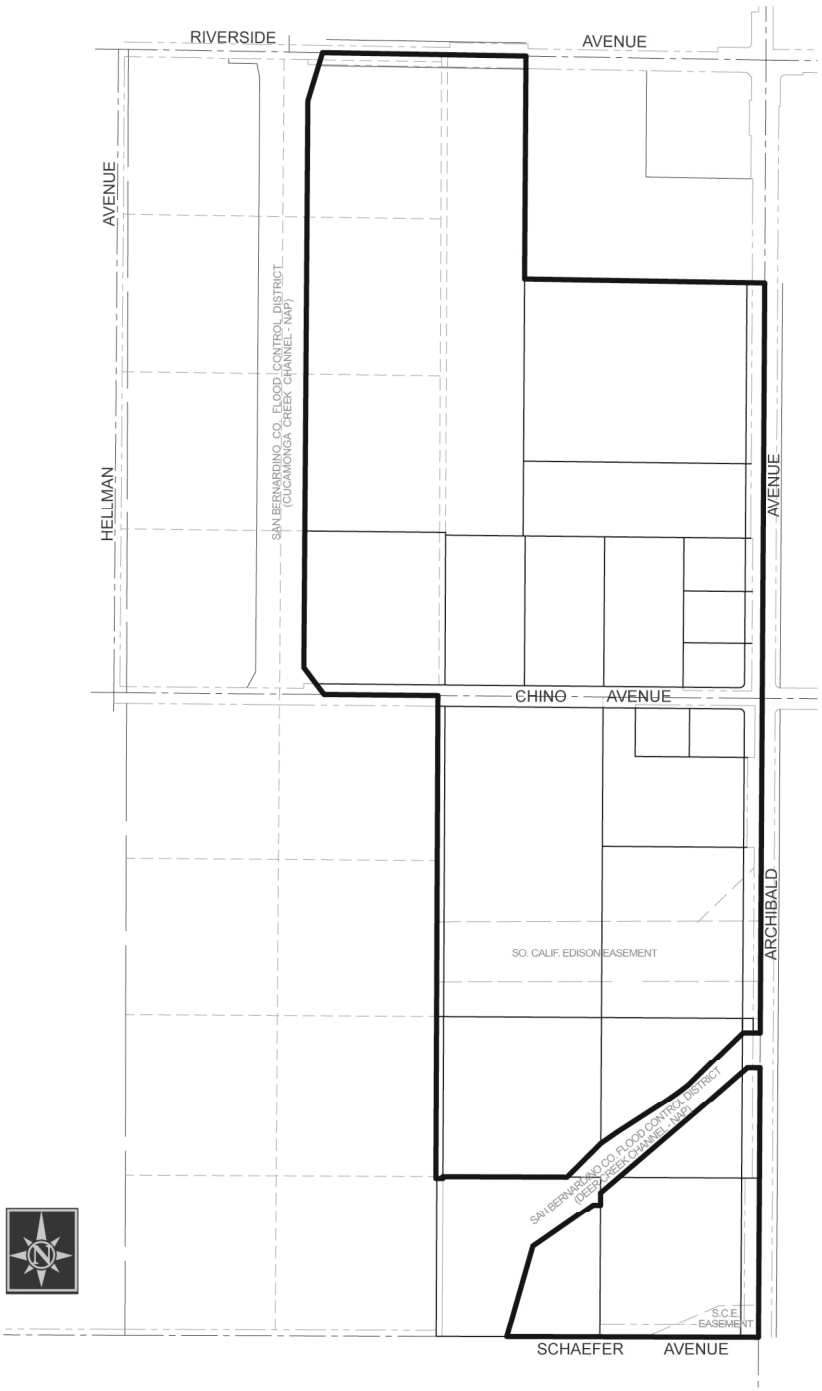


Exhibit 3
Project Location Map

In addition, private recreation areas will be provided in Neighborhoods 2, 5 and 6, to be developed with pools, spas and passive recreational facilities.

1.4.3 Paseos and Trails

A signature feature of the Countryside Specific Plan is the provision of an 3.78 acre landscaped paseo system through the community. The paseo system links each neighborhood within Countryside to parks, providing pedestrian and bicycle connectivity to planned and existing trails located within the public rights-of-way adjacent to Countryside, and to facilities surrounding the Specific Plan Area.

The City of Ontario has adopted a master plan for bikeways connecting the Specific Plan Area to existing bikeways within the remainder of the City. As part of the development of Countryside, off-street bike and pedestrian trails will be developed as part of the improvement of Archibald Avenue, Chino Avenue and Schaefer Avenue connecting Countryside to the existing and planned City of Ontario bikeway system consistent with the General Plan.

The developer of Countryside will construct a bike trail within the Cucamonga Creek right-of-way adjacent to the Specific Plan Area. As part of the Countryside project, a 30-foot wide trail connec-tion will be provided through the project to allow pedestrian and bicycle access to the City trail.

1.4.4 Enhanced Parkways

Enhanced parkways will be developed in addition to the right-of-way improvements of all master plan streets adjacent to Countryside. Archibald Avenue will be improved with 45-feet of enhanced parkway to include an 8-foot wide off-street multipurpose trail within the public right

PROPERTY OWNERSHIP

① LEVINE INVESTMENTS, LIMITED PARTNERSHIP
② BARTH ROBERT B & YANG KTR
③ HUGHES PAUL A & DONNA L TR
④ JLC MARKETS INC
⑤ CHEZ DAVID V
⑥ PETTY ROBERT D & CAROL
⑦ ROSSETTI CONSTRUCTION CO
⑧ ZWART CASETR & BETTY L TR
⑨ RIBEIRO MARILIA
⑩ PIMENTEL EUGENIO & MALVETE
⑪ ANAHEIM DISTRICT ADVISORY BOARD
⑫ VAN VEEN JOHN TR & LOUISE TR
⑬ VAN VEEN JOHN & LOUISE
⑭ CHEZ JOSEPH C & JOE
⑮ VAN VEEN JOHN & LOUISE FAMILY TRUST
⑯ FOSTER HOWARD D & ANNA M
⑰ PARENTE MARY BORBA TR
⑱ PETTY ROBERT D



Exhibit 4
Ownership Map

Countryside



Exhibit 5
Project Setting

of way and neighborhood edge, and a 5-foot wide sidewalk within the public right of way. Riverside Drive and Schaefer Avenue will be improved with a 23-foot wide landscaped parkway adjacent to the sidewalk. Chino Avenue will be improved with an 18-foot wide landscaped parkway adjacent to the sidewalk.

1.5 Purpose and Objectives

1.5.1 Purpose

The Countryside Specific Plan comprehensively plans for residential and recreational land uses within the Specific Plan Area. The Countryside Specific Plan establishes the zoning for the Specific Plan Area and defines the development regulations, requirements, and design guidelines governing development of the Specific Plan Area. The Countryside Specific Plan establishes the procedures and requirements to approve development within the Specific Plan Area to insure that the City of Ontario Ontario Ranch General Plan Amendment is implemented.

1.5.2 Objectives

The General Plan Amendment establishes policies and objectives as guiding principles for development of Planning Subarea 5 as summarized below:

- To provide neighborhoods distinct from each other, with public and private amenities, linked by a network of pedestrian trails.
- To create a community sense of place, walkability and livability.
- To provide a mix of housing types in response to evolving market demands.
- Residential development incorporating:
- Short blocks that promote ease of access and neighborhood activity.
- Use of variable setback, reduced garage emphasis, and architecture forward.
- Landscaped parkways separating sidewalks from the street.
- Establish clearly defined edges and entries that contribute to a distinct neighborhood identity.
- Promote development of local street patterns that create and unify neighborhoods, rather than divide them.
- Establish a pattern of blocks that promote access and neighborhood activity.

The Countryside Specific Plan addresses the General Plan Amendment Policies and Objectives as follows:

- Plans for a quality residential community comprised of eight distinctive marketable neighborhoods of varying density and lot sizes within the Specific Plan Area, supported by open space and recreational uses.
- Establishes appropriate relationships among new residential neighborhoods as well as with existing adjacent land uses.
- Develops linkages and connectivity between the residential uses planned for Countryside with the retail commercial, service commercial, and public recreational facilities within close proximity to Countryside.
- Creates an environment encouraging interaction among its residents through an organized yet simple system of streets, entries, and paseos allowing residents to either walk or bike to open space, recreation, and public facilities.
- Utilizes residential and landscape design guidelines and development regulations designed to orient residential neighborhoods to park and open space uses and promote development of traditional streetscapes to encourage neighborhood interaction.
- Develops a pedestrian and bicycle oriented circulation system comprised of off-street and on-street bicycle trails and off-street pedestrian walkways linking each neighborhood to open space, recreational areas, and the surrounding community.

- Provides for the development of ~~5.61~~6.82 acres of public and private parks and 3.78 acres of landscaped paseos, connecting the community internally and providing informal gathering areas for residents.
- Provides for the comprehensive planning, financing, and construction of infrastructure to serve the Specific Plan Area through the use of private and public funding mechanisms and participation in the City's adopted fee programs.

1.6 Authority of the Specific Plan

State of California Government Code, Title 7, Division 1, Chapter 3, Article 8, Section 65450-57 grants authority to cities to adopt specific plans for purposes of implementing the goals and policies of their General Plans. The Government Code specifies that specific plans may be adopted either by resolution or by ordinance and that the specific plan is required to be consistent with the General Plan. The Government Code sets forth the minimum requirements and review procedures for specific plans including provision of a land use plan, infrastructure and public services plan, criteria and standards for development, and implementation measures. The Government Code also states that specific plans may address any other subjects which, in the judgment of the city, are necessary or desirable for implementation of the General Plan.

The City of Ontario has prezoned the Specific Plan Area as "SP" (Specific Plan Ag Preserve). The General Plan includes policies requiring that a specific plan be approved for the Specific Plan Area to implement the "SP" zone.

The Countryside Specific Plan is designed to meet the requirements of the State of California Government Code and the City of Ontario General Plan. The City of Ontario will adopt the Countryside Specific Plan by ordinance establishing the zoning regulations for the development of the Specific Plan Area. The requirements of the Countryside Specific Plan shall take precedence over the City of Ontario Zoning Ordinance. In instances where the Specific Plan is silent, the City of Ontario Zoning Ordinance shall prevail.

1.7 Development Approval Components

The adoption of the Countryside Specific Plan is the first step in a process leading to the development of the Specific Plan Area. The components of the development approval process for Countryside are discussed as follows:

1.7.1 Specific Plan

The Countryside Specific Plan, when adopted, will serve as a legal document which implements the General Plan land use designation of "Residential-Low Density" and will serve as the zoning for the Specific Plan Area. The Specific Plan will serve as a "blueprint" for development by establishing the distribution of land use and the criteria for development of each land use as set forth herein. The Specific Plan establishes the development requirements and guidelines to be applied to each phase of development within the Specific Plan Area.

1.7.2 Subdivision Maps

Tentative Tract Maps for the development of Neighborhoods 1, 5 and 6 will be reviewed and approved by the City concurrently with or subsequent to the approval of the Countryside Specific Plan. Tentative Tract Maps for Countryside are prepared pursuant to the applicable provisions of the State of California Subdivision Map Act (Government Code Section 66410 through 66499),

the City of Ontario Subdivision Ordinance, and consistent with the applicable provisions contained within the Countryside Specific Plan. Tentative tract maps, approved in conjunction with or subsequent to the Specific Plan, will provide for development by the applicant of Neighborhoods 1, 5 and 6 consisting of 77 gross acres. Additional subdivision maps for Neighborhoods 2, 3, 3A, 4, 7 and 8 will be submitted for City review and approval pursuant to the requirements of the Countryside Specific Plan.

1.7.3 Development Agreement Required

Unless done in a coordinated manner and with adequate fiscal planning, development projects within the Ontario Ranch are likely to present a challenge in their implementation because of the lack of existing public facilities including street, sewerage, transportation, drinking water, school and utility facilities. California law has established a mechanism for ensuring the adequate provision of such facilities while at the same time providing assurances to applicants that, upon approval of the project, the applicants can proceed with their projects. Approval of this Specific Plan without a development agreement may result in a waste of resources, escalate the cost of housing to the consumer, and discourage investment in and commitment to comprehensive planning as envisioned by the City, which seeks to make maximum efficient utilization of resources at the least economic cost to the public.

Therefore, a statutory development agreement, authorized pursuant to California Government Code sections 65864 et seq., shall be required as part of the approval of this Specific Plan. For the above-mentioned reasons, the development agreement for this Specific Plan shall include, among other things, methods for financing acquisition and construction of infrastructure, acquisition and development of adequate levels of parkland, and schools, as well as the provision of adequate housing opportunities for various segments of the community consistent with the regional housing needs assessment. Such development agreement shall have been fully approved before the issuance of the first building permit for this project.

1.8 Relationship of the Specific Plan to the City of Ontario General Plan

California Government Code (Title 7, Division 1, Chapter 3, Article 8, Section 65450-65457) permits the adoption and administration of a specific plan as an implementation tool for elements contained in the local general plan. Specific plans must demonstrate consistency in regulations, guidelines, and programs with the goals and policies set forth in the general plan.

The City's Ontario Ranch General Plan Amendment sets forth the following topics to address the state mandated general plan elements:

- Community Development
- Infrastructure and Public Services
- Aesthetic, Cultural, Open Space, and Recreational Resources
- Natural Resources
- Hazards

The Countryside Specific Plan is consistent with the goals, objectives, and policies of the General Plan as described in Section 8, "General Plan Consistency."

1.9 CEQA Compliance

An Environmental Impact Report (EIR) has been prepared by the City of Ontario for the Countryside Specific Plan in accordance with the California Environmental Quality Act (CEQA) and City requirements to provide a detailed analysis of potential environmental impacts associated with the development of Countryside. The EIR prepared for the Countryside Specific Plan addresses the potential impacts associated with the project at a programmatic level for the entire Specific Plan Area and at a project level for Neighborhoods 1, 5 and 6. The EIR includes recommended mitigation measures to reduce potential significant impacts to a less than significant level. The EIR has been prepared to fulfill the requirement for environmental determinations for most subsequent discretionary and ministerial applications for development within the Countryside Specific Plan.

1.10 Severability

If any regulation, condition, program, or portion of the Countryside Specific Plan is held invalid or unenforceable, such portions shall be deemed separate, distinct, and independent provisions and the invalidity of such portions or provisions shall not affect the validity and enforceability of the remaining portions and provisions therein.

Section 2. Existing Conditions

This section describes the existing land uses and physical site conditions on and around the Specific Plan Area.

2.1 Existing Land Use

The Specific Plan Area has historically been used for agricultural and dairy farming purposes and still contains structures and facilities associated with these activities. Notices of non-renewal of Williamson Act contracts have been filed on all properties currently under the Williamson Act within Countryside ~~with the exception of property located within Neighborhood 2~~, as illustrated on Exhibit 6, "Williamson Act Status."

The Specific Plan Area is bounded by existing residential and recreational land uses to the north, existing single and multifamily residential, vacant land and commercial land uses to the east, the Cucamonga Creek Channel and Basin to the west and vacant agricultural land to the south. Existing land uses within the Specific Plan Area and surrounding the Specific Plan are illustrated on Exhibit 7, "Existing and Surrounding Land Uses."

The majority of the Specific Plan Area is in active agricultural use, including active dairy farms, horse training ranches, calf rearing operations, row crops, and packing houses. A limited number of single-family residential units and outbuildings, associated with those activities, exist along Riverside Drive, Archibald Avenue, and Chino Avenue. Several hundred feet of eucalyptus tree windrows, approximately 50-feet tall, are located in the east-central portion of the Specific Plan Area.

2.2 Topography

The Specific Plan Area is located on gently sloping undeveloped terrain with a relatively uniform slope as illustrated on Exhibit 8, "Existing Site Topography." The existing ground on the northerly half of the Specific Plan Area slopes southerly away from Riverside Drive at an approximate 2% grade. The southerly half of the Specific Plan Area slopes southerly from Chino Avenue at approximately 1%.

2.3 Surrounding Land Uses

Land uses adjacent to the Countryside Specific Plan area include:

North:
Existing Single Family Homes and Westwind Park

Northwest:
Whispering Lakes Golf Course

West:
Cucamonga Creek and Cucamonga Basin Flood Control Facilities

South:
Vacant Land and Agricultural Operations

East:
Multifamily and Single Family Residential Homes and Commercial Uses

The City of Ontario General Plan designates the undeveloped areas located to the south and west of the Countryside Specific Plan area as "Residential – Low Density." Surrounding land use characteristics are illustrated on Exhibit 7, "Existing and Surrounding Land Uses."

Countryside

Revised Graphic

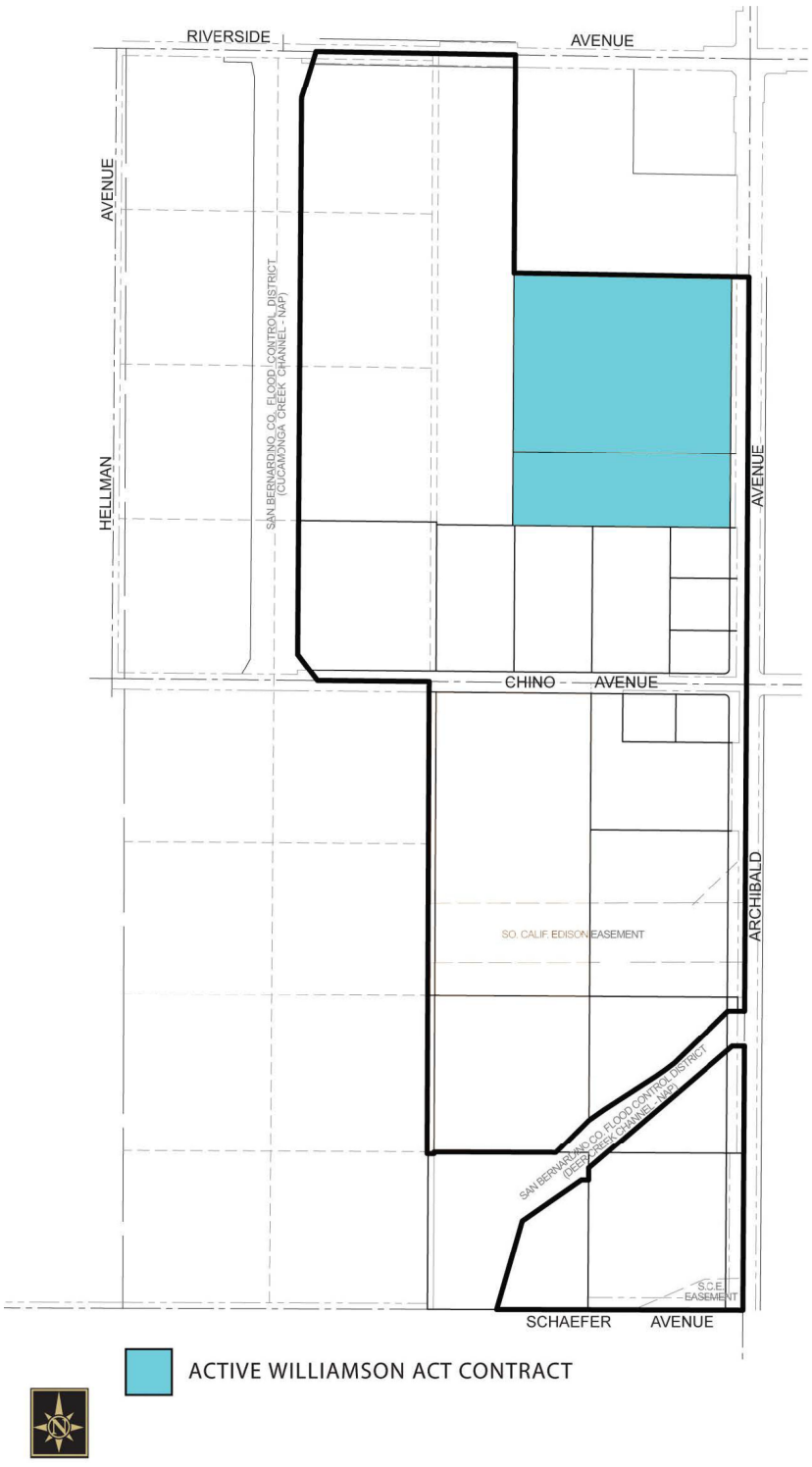


Exhibit 6
Williamson Act Status

Revised Graphic

2.4 General Plan Land Use and Zoning

The City of Ontario General Plan designates Planning Subarea 5, the Countryside Specific Plan Area, as "Residential-Low Density" with a maximum development capacity of 819 single family residential units at a maximum density of 4.6 dwelling units per gross acre.

The Specific Plan Area is prezoned as "SP" (Specific Plan Ag Preserve). The General Plan includes policies requiring that a specific plan be approved for the Specific Plan Area in order to implement the SP zone.

2.5 Existing Access and Circulation

Regional access to the Specific Plan Area is provided from State Route 60, the Pomona Freeway, located one mile north of the Specific Plan Area and from Interstate 15 located approximately one and one-half miles east of the Specific Plan Area. Access to the Specific Plan Area is provided from arterial streets adjacent to the Countryside Specific Plan area. Riverside Drive abuts the Specific Plan Area on the north and is currently improved with four travel lanes extending from Archibald Avenue westerly to, and beyond, Cucamonga Creek Channel. Archibald Avenue abuts the Specific Plan Area on the east and is currently improved with two southbound and three northbound travel lanes extending from Riverside Drive to Schaefer Avenue. Chino Avenue bisects the Countryside Specific Plan area and is currently improved with two travel lanes between Archibald Avenue to the Cucamonga Creek Channel. Schaefer Avenue abuts the Specific Plan Area on the south and is not improved adjacent to the Specific Plan Area.



Exhibit 7

Existing and Surrounding Land Uses

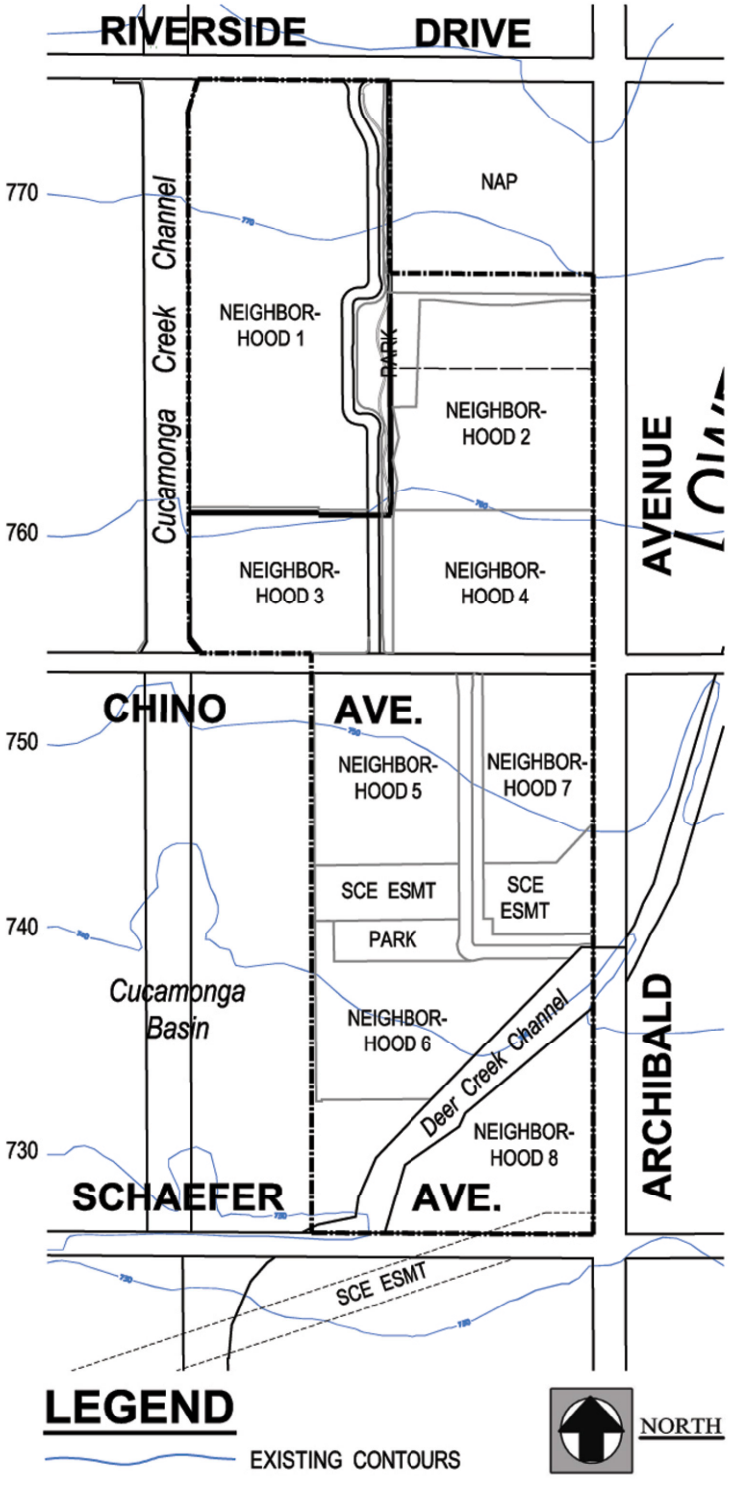


Exhibit 8
Existing Site Topography

2.6 Existing Infrastructure and Utilities

Existing infrastructure and utility lines within and surrounding the Specific Plan Area are described below and are illustrated on Exhibit 9, "Existing Infrastructure."

2.6.1 Water

Planning Area 1 of the Specific Plan Area is within the Phillips Pressure Zone of the City of Ontario water distribution system. Existing storage facilities for the Phillips Pressure Zone are located near State Street and Campus Avenue and near the intersection of Milliken Avenue and Interstate 10. There are two existing water distribution mains located adjacent to the Specific Plan Area; a 10-inch main is located in Riverside Drive and a 12-inch main is located in Archibald Avenue. Planning Area 2 of the Specific Plan Area is within the City's Francis Pressure Zone.

The existing water main located in Riverside Drive adjacent to the Specific Plan Area provides water to the existing residential development at the southwest corner of Riverside Drive and Archibald Avenue, adjacent to the Specific Plan Area. The water main in Archibald Avenue serves the existing residential and commercial sites to the east of Archibald Avenue. On-site residential uses within the Specific Plan Area are served by private wells. There are two existing wells on the Specific Plan Area. One is located in the northeast corner of the project within Neighborhood 1 and the second is located west of Archibald Avenue within Neighborhood 6. The City's Water Master Plan identifies new water facilities necessary to serve the Specific Plan Area.

2.6.2 Sewer

Wastewater disposal within the Specific Plan Area is currently provided through septic tanks and subsurface disposal fields. Prior to grading operations, existing septic tanks and subsurface disposal fields will need to be abandoned in accordance with Department of Health Services requirements. A 15-inch sewer main currently exists in Archibald Avenue which carries wastewater flows from the existing development, located south of Riverside Drive and adjacent to Archibald Avenue, to a sewer lift station located at the northeast corner of Schaefer Avenue and Archibald Avenue. The existing lift station pumps the wastewater from existing residential development, located easterly of the Specific Plan Area. The lift station pumps the waste water via an existing 10-inch force main northerly in Archibald Avenue, westerly in Riverside Drive and northerly adjacent to the Cucamonga Creek Channel to Regional Plant 1 (RP1). RP1 treats the wastewater from the entire City of Ontario located outside of the Ontario Ranch and portions of the surrounding cities of Montclair, Upland, Rancho Cucamonga and Fontana.

An existing 12-inch sewer line is also located in Riverside Drive. The existing sewer mains located in Riverside Drive adjacent to the Specific Plan Area provide sanitary sewer service to the existing residential development at the southwest corner of Riverside Drive and Archibald Avenue, adjacent to the Specific Plan Area. The City's Sewer Master Plan identifies new facilities necessary to serve the Specific Plan Area.

2.6.3 Storm Drainage

The Specific Plan Area is bordered on the west by the Cucamonga Creek Channel, a major rectangular concrete lined channel and the Cucamonga

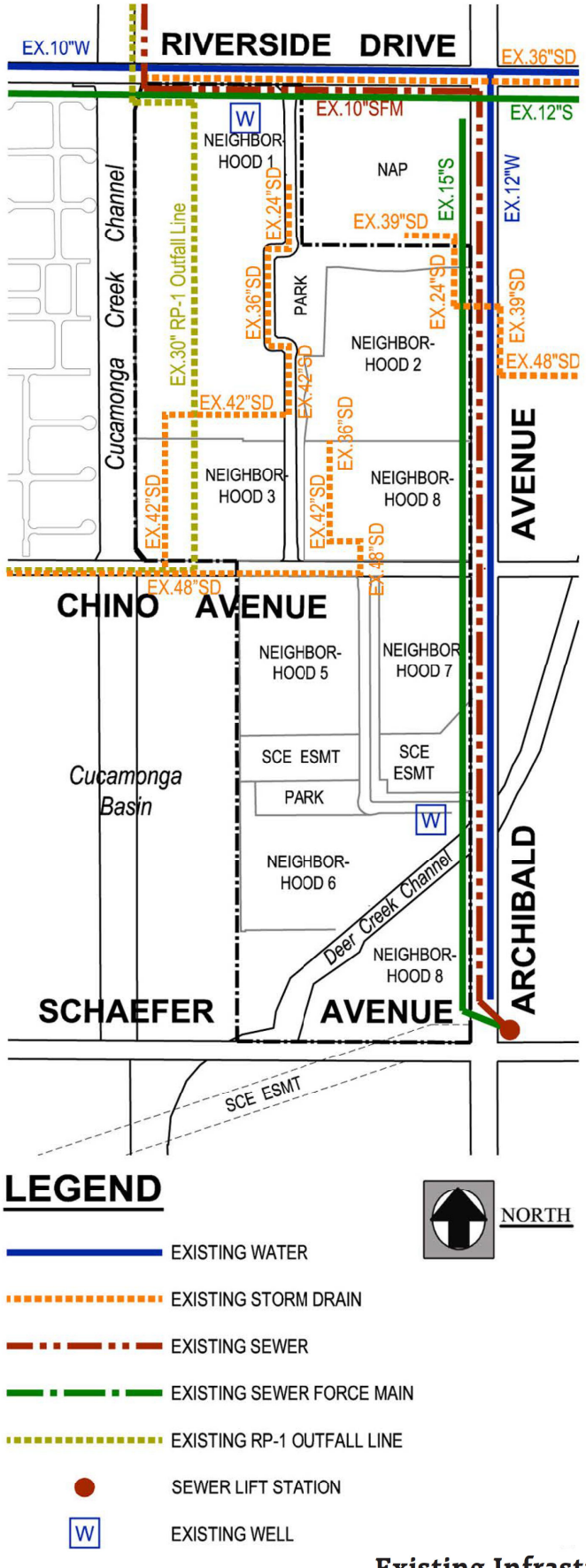


Exhibit 9
Existing Infrastructure

Basin, a regional flood control facility serving Ontario. The Deer Creek Channel is a concrete lined flood control channel, which crosses the southerly portion of the Specific Plan Area.

Riverside Drive intercepts storm flows from the developed property to the north of the Specific Plan Area. An existing 36-inch storm drain in Riverside Drive discharges this flow into the Cucamonga Creek Channel. An existing 24-inch storm drain located in Archibald Avenue collects the storm water run-off from the adjacent developed parcels of land near the southwest corner of Archibald Avenue and Riverside Drive and discharges it easterly into the Deer Creek Channel.

Storm water run-off from the Specific Plan Area is generally by sheet flow to the south where it is intercepted by Chino Avenue for Planning Area 1 and by the Cucamonga Creek Channel for Planning Area 2. Chino Avenue slopes gently to the west, and storm water is carried along the north side of the street to the Cucamonga Creek Channel where it is intercepted. During storms which create larger amounts of runoff, storm water may sheet flow over Chino Avenue into one of the Lower Cucamonga Basins, which were designed for storm water detention and ground water recharge.

2.6.4 Utilities

2.6.4.1 Electricity

Electricity is provided to the Specific Plan Area by Southern California Edison (SCE). SCE has some overhead facilities in the area servicing the farms and dairies. The development of the Countryside Specific Plan will increase electrical power requirements, and SCE will develop the required distribution system.

2.6.4.2 Natural Gas

The Southern California Gas Company (SCG) provides natural gas service to the Specific Plan Area. Existing gas lines are located in Riverside Drive and Archibald Avenue.

2.6.4.3 Communication Systems

Telephone service is provided by Verizon. Currently, telephone service is provided to the existing adjacent developments and to the dairies and farms currently occupying the Specific Plan Area.

2.6.5 Wells

There are two known existing wells within the Specific Plan Area. Upon development of the well site areas, these wells, or any other wells found on the property, will be abandoned per California Department of Water Resources Health Guidelines and the City of Ontario Guidelines. In addition, a well use/destruction plan, as approved by the City, and schedule for all existing wells will be required. If a private well is actively used for water supply, the Developer shall submit a plan, for City approval, to abandon the well and connect users to the City's water system (residential to the domestic water system and agricultural to the recycled water system) when available. If a water connection is not available an alternated source will be proposed by the developer and approved by the City.

2.6.6 Recycled Water

A portion of the RP-1 Outfall line owned by the Inland Empire Utilities Agency, IEUA, lies within the Specific Plan area. The RP-1 Outfall line extends from Riverside Drive to Chino Avenue approximately 430 feet east of the Cucamonga Creek Channel. Any issues regarding the protection of, or proposed relocation of the RP-1 Outfall line within the Specific Plan area will be coordinated through IEUA. The relocation of the RP-1 Outfall

will require the approval of IEUA. The City's Recycled Water Master Plan identifies new facilities necessary to serve the Specific Plan Area.

2.7 Physical Site Conditions

This section describes the existing physical site conditions identified in the EIR prepared for the Ontario Ranch General Plan Amendment. As part of the preparation of the Countryside EIR, more detailed information will be provided regarding these site conditions.

2.7.1 Geology and Soils

The City of Ontario General Plan EIR identifies the Specific Plan Area as underlain by Pleistocene age (older than 12,000 years) and Holocene age (less than 12,000 years old) alluvial deposits. The youngest surficial deposit is eolian sands (Qhs), comprising wind-blown sands having fine to medium sized grains. These loose sands form sheets and low dune deposits that have been stabilized by vegetation. These deposits are exposed in the eastern portion of the Ontario Ranch area and extend westward to an area defined generally by a diagonal line extending from Harrison Avenue in Riverside County on the south to Vineyard Avenue on the north.

It is expected that most of these materials will be uncemented and subject to consolidation when saturated under structural loads. Erosion potential is considered high. Foundation and backfill suitability should be satisfactory with proper over-excavation, mixing with a finer grained binder material, and compaction.

In August 2003, Petra Geotechnical prepared a report of potential methane issues associated with previous onsite calf ranch operations within Neighborhood 1. In March 2004, a similar report on potential methane issues was prepared for Neighborhoods 5 and 6. The reports will be evaluated in the project EIR regarding any potential significant concentrations of methane due to the historic ranch operations on the Specific Plan Area.

Petra Geotechnical recommended that these areas be tested for methane concentrations following completion of grading operations for the proposed residential development. Remaining areas formerly used for pasture croplands were not considered as potential methane generation areas and did not require additional testing.

The Specific Plan Area contains delhi series soils, as mapped by the United States Department of Agriculture, Soil Conservation Service in 1971 and 1980. Delhi series soils have been used for agriculture, primarily for grapes and citrus, since the 1800's.

2.7.2 Seismicity

The General Plan EIR identified numerous earthquake faults within a 50-mile radius of the Specific Plan Area. Major mapped faults include, but are not limited to, the Chino, Whittier-North Elsinore, and Cucamonga Faults. For the "maximum probable earthquake" (MPE), defined as the 100-year event, normally considered in the design of non-critical structures, the values range from about 0.13 to 0.20 g (i.e., the unit force of gravity). In the design of certain critical or important facilities such as hospitals and dams, the "maximum credible earthquake" (MCE) event is considered. For the three faults, the MCE should yield an estimated peak horizontal acceleration in the range of 0.33 to 0.52 g.

A zone of concentrated, relatively low magnitude seismicity extends to the southwest from the San

Jacinto fault zone (Rialto-Colton branch) along what is referred to an "inferred fault near Fontana." Where the "inferred fault" (Fontana trend) stops, this zone of microseismicity continues in a southwesterly to westerly direction terminating in the Sphere of Influence area. It is expected that the MPE for this fault structure could produce horizontal accelerations in the range of 0.3 to 0.5 g. More distant faults are capable of larger earthquakes with a higher probability of occurrence. The San Andreas fault is expected to generate a MCE events every 150 to 200 years, yielding a peak horizontal ground acceleration of approximately 0.21 to 0.26 g.

2.7.3 Hydrology

Since most of the Specific Plan Area is presently in agricultural use, only a limited portion of the Specific Plan Area is now covered with impervious surfaces. Normal rainfall to the area is, therefore, able to percolate through on site soils and does not result in high volumes of surface runoff, as typically associated with urban areas. During periods of heavy rainfall, when ground surfaces are saturated, surface runoff is collected in the existing storm drains, culverts, and retention basins located within the Specific Plan Area.

With the exception of major flood control channels such as the Cucamonga Creek Channel and Deer Creek Channel, intended primarily to carry urban runoff originating from those developed areas located to the north of the Specific Plan Area, the existing storm drain system surrounding the Specific Plan Area is generally unimproved and consists primarily of open earthen swales along area roadways or curbed roadway surfaces.

Ground waters within and surrounding the Specific Plan Area as a whole contain high concentrations of salt attributable to historic agricultural activities such as dairy farming. The high organic content of on-site soils has contributed incrementally to the degradation of surface and ground water quality. Removal of the organic materials which constitute by-products of those dairy operations and compliance with National Pollution Discharge Elimination System (NPDES) and other storm water permit requirements will beneficially impact regional water quality.

2.7.4 Vegetation

The Specific Plan Area has been extensively used for agricultural operations, including both dairy use and the cultivation of row crops. Those areas not in active agricultural production are occupied by rural residential housing, farm buildings, and other ancillary facilities. The natural vegetation and soils conditions that once occurred throughout the Specific Plan Area have been significantly altered through human uses.

Section 3. Land Use

The Countryside Specific Plan is a proposal for development of a comprehensively planned community of residential and open space uses on 178.03 gross acres. The "Land Use Plan" for Countryside, as depicted in Exhibit 10 and further described in Table 1, "Countryside Specific Plan Statistical Summary," and Table 2, "Land Use Summary" is designed to respond to both on-site and off-site conditions, as well as anticipated market conditions. Countryside will provide a strong community identity for residents and visitors through a comprehensive community landscape theme, signage, varied architecture, and other community elements. Countryside also provides for the necessary infrastructure and public facilities to support project development.

3.1 Residential Use

Residential land uses within Countryside comprise approximately ~~129.47~~128.74 net acres. Countryside will provide for the development of up to ~~825~~984 single family detached and atttached residential units. Residential land use areas are contained within eight distinctive neighborhoods linked by a network of landscaped paseos connecting all the neighborhoods to centrally located parks in both Planning Area 1 and Planning Area 2.

3.1.1 Variety of Housing Types

Countryside provides a variety of conventional low density single family detached residential products as well as higher density single family detached Z-Lot residential, alley loaded, ~~and~~ motor court cluster, and row townhome residential products. Altogether a total of ~~825~~984 residential units will be developed at an overall density of ~~6.32~~7.64 dwelling units per net acre.

Planning Area 1	Gross Acres (1)
Neighborhood 1	41.77
Neighborhood 2A	7.84
Neighborhood 2B	9.46
Neighborhood 2C	7.22
Neighborhood 3	9.37
Neighborhood 3A	4.79
Neighborhood 4	15.14
Subtotal Planning Area 1:	**95.60**
Planning Area 2	
Neighborhood 5 (2)	18.73
Neighborhood 6	16.93
Neighborhood 7 (2)	20.23
Neighborhood 8 (2)	16.85
Deer Creek Channel	9.69
Subtotal Planning Area 2:	**82.43**
Total:	**178.03**

Notes: (1) Gross acres measured to centerline of street/property boundary.

(2) Includes SCE Easement.

Table 1

Countryside Specific Plan Statistical Summary

3.1.1.1 RD – 5,000 Square Foot Lots

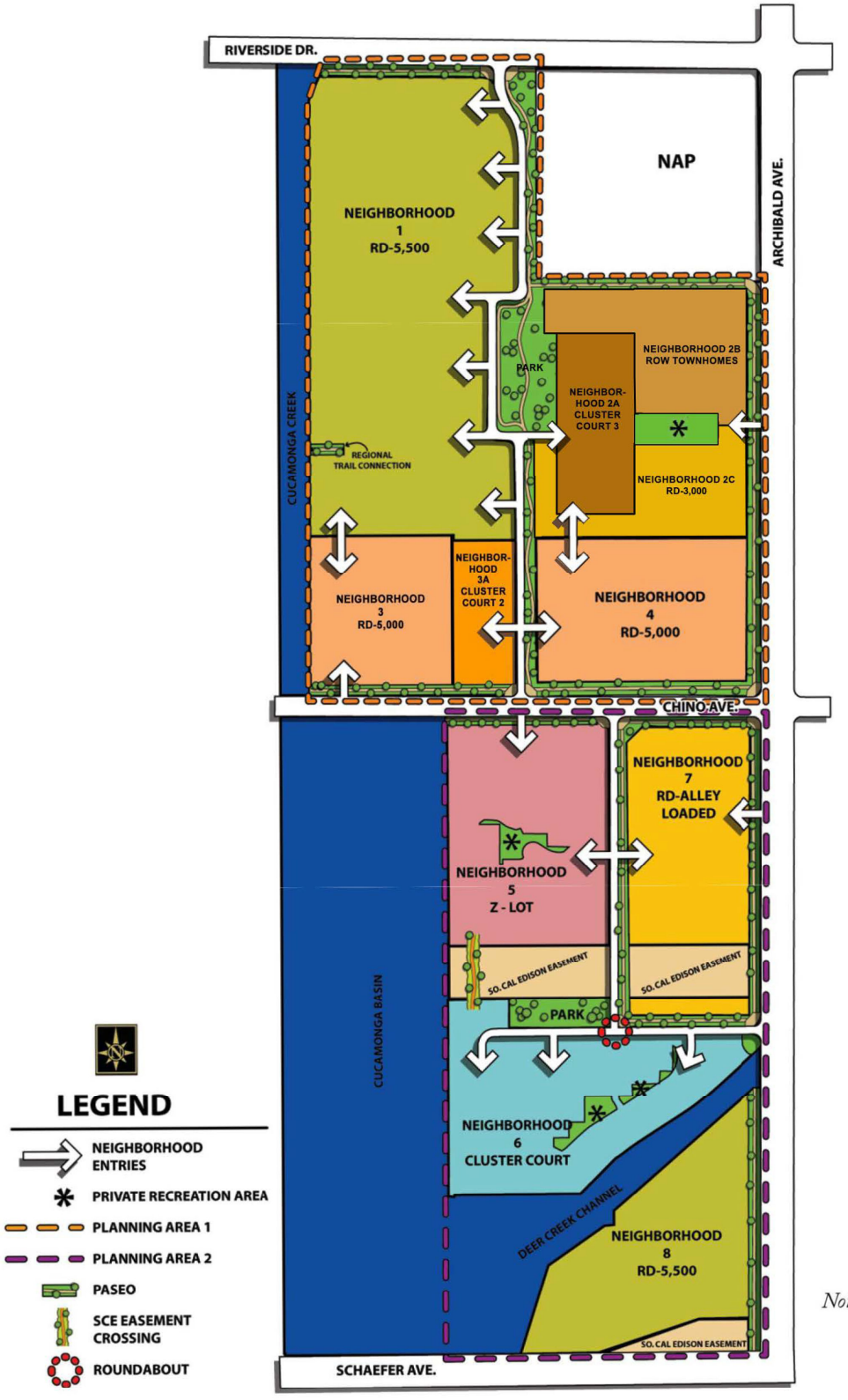
The Specific Plan allows for development of up to 112 dwelling units with minimum lot sizes of 5,000 square feet at an average density of 5.42 dwelling units per net acre. The 5,000 square foot lots will be developed in Neighborhoods 3 and 4.

3.1.1.2 RD – 5,500 Square Foot Lots

The Specific Plan allows for development of up to 271 dwelling units with minimum lot sizes of 5,500 square feet at an average density of 5.84 dwelling units per net acre. The 5,500 square foot lots will be constructed in Neighborhoods 1 and 8.

Revised Graphic

Countryside



Note: Roundabout location and dimensions to be determined as part of tentative tract map approval.

Exhibit 10
Land Use Plan Revised Graphic

RESIDENTIAL LAND USES				
	Acres (Net)	DUs	Type	Net Density
PLANNING AREA 1- NORTH OF CHINO AVENUE				
Neighborhood 1	34.09	187	RD 5,500	5.49 du/acre
~~Neighborhood 2~~	~~20.46~~	~~106~~	~~RD 6,000~~	~~5.18 du/aacre~~
Neighborhood 2A	6.30	83	RD Cluster Court 3	13.17 du/acre
Neighborhood 2B	7.03	126	RD Row Townhomes	17.92 du/acre
Neighborhood 2C	6.40	56	RD 3,000	8.75 du/acre
Neighborhood 3	8.22	39	RD 5,000	4.74 du/acre
Neighborhood 3A	3.16	37	RD Cluster Court-2	11.71 du/acre
Neighborhood 4	12.43	73	RD 5,000	5.87 du/acre
Subtotal Planning Area 1:	~~78.36~~77.63	~~442~~ 601		~~5.56~~ 7.74du/acre
PLANNING AREA 2- SOUTH OF CHINO AVENUE				
Neighborhood 5	12.76	98	RD Z-Lot	7.68 du/acre
Neighborhood 6	14.82	141	RD Cluster Court	9.51 du/acre
Neighborhood 7	11.21	60	RD Alley Loaded	5.35 du/acre
Neighborhood 8	12.32	84	RD 5,500	6.82 du/acre
Subtotal Planning Area 2:	51.11	383		7.49 du/acre
Subtotal Residential (Net)	~~129.47~~128.74	~~825~~984		~~6.37~~7.64 du/acre
OTHER LAND USES (ACRES GROSS)				
Park	~~5.61~~ 6.82 (1)			
Paseo	3.78			
Neighborhood Buffers	3.73			
Streets	19.10			
SCE Easement	7.31			
Deer Creek Channel	9.03			
Subtotal Other:	~~48.49~~49.53			
PROJECT TOTAL:	**178.03 AC (GROSS)**	~~825~~**984**		

Notes:

1. *Includes 0.97 acres of private recreation area in Neighborhood 2, 0.46 acres of private recreation area in Neighborhood 5 and 0.42 acres of private recreation area in Neighborhood 6.*

Table 2
Land Use Summary

Countryside

3.1.1.3 RD – ~~6,000~~ 3,000 Square Foot Lots

The Specific Plan allows for the development of up to ~~106~~ 56 dwelling units on minimum lot sizes of ~~6,000~~ 3,000 square feet at a density of ~~5.18~~8.75 dwelling units per net acre. The ~~6,000~~3,000 square foot lots will be developed in Neighborhood 2C.

3.1.1.4 RD - Z-Lot Residential

The Specific Plan allows for the development of up to 98 residential dwelling units in a Z-Lot housing type on minimum lot sizes of 3,500 square feet at a density of 7.68 dwelling units per net acre. This product type will be developed in Neighborhood 5. As part of the development of this neighborhood, a private recreational amenity will also be developed to serve the residents.

3.1.1.5 RD – Cluster Court Residential

The Specific Plan allows for the development of up to 141 single family detached cluster court style residential dwelling units on minimum lot sizes of 3,000 square feet at a density of 9.51 dwelling units per net acre. This product type will be developed in Neighborhood 6. As part of the development of this neighborhood, a private rec-reational amenity will also be developed to serve the residents.

3.1.1.6 RD – Alley Loaded Residential

The Specific Plan allows for the development of up to 60 single family detached alley loaded residential dwelling units on minimum lot sizes of 2,925 square feet at a density of 5.35 units per net acre. This product type will be developed in Neighborhood 7. As part of the development of this neighborhood, a private recreational amenity will also be developed to serve the residents.

3.1.1.7 RD – Cluster Court 2 Residential

The Specific Plan allows for the development of up to 37 single family detached cluster court style residential dwelling units on minimum lot sizes of 3,000 square feet at a density of 11.71 dwelling units per net acre. This product type will be developed in Neighborhood 3A. As part of the development of this neighborhood, a private rec-reational amenity will also be developed to serve the residents.

3.1.1.8 RD – Row Townhomes

The Specific Plan allows for the development of up to 126 row townhome style residential dwelling units with a square footage range of 1,500 square feet to 1,700 square feet and a density of 17.92 dwelling units per net acre. This product type will be developed in Neighborhood 2B. As part of this neighborhood, a 0.99 acre park will also be developed for the residents.

3.1.1.9 RD – Cluster Court 3 Residential

The Specific Plan allows for the development of up to 83 cluster court style residential dwelling units on minimum lot sizes of 2,000 square feet and at a density of 13.17 dwelling units per net acre. This product type will be developed in Neighborhood 2A.

3.1.2 Traditional Neighborhood Design

Countryside offers a strong identity for residents and visitors through a traditional approach to street design, architecture, and landscape design elements. A traditional grid street design in residential neighborhoods includes gentle curves adding visual interest, enhancing the pedestrian orientation of neighborhoods. Sidewalks separated by a landscaped parkway promote pedestrian mobility and encourage opportunities for neighbors to meet and greet each other along the street.

The architecture of residences within Countryside will be designed to focus on human-scale details to enhance the pedestrian friendly character of the residential neighborhoods. Such features may include the use of front porches, railings, enhanced entries, a mix of materials and textures, and authentic detailing on elements such as windows and doors, columns, balconies, and lighting.

Innovative residential architecture and garage designs, as described below, will be utilized in order to bring architecture forward to the street and minimize the visual impact of garage doors on the street scene.

- Varying garage setback requirements.
- Split garages.
- Side-on garages.
- Tandem garages.
- Motor court residential design which hides garages from the street.
- Alley served garages.

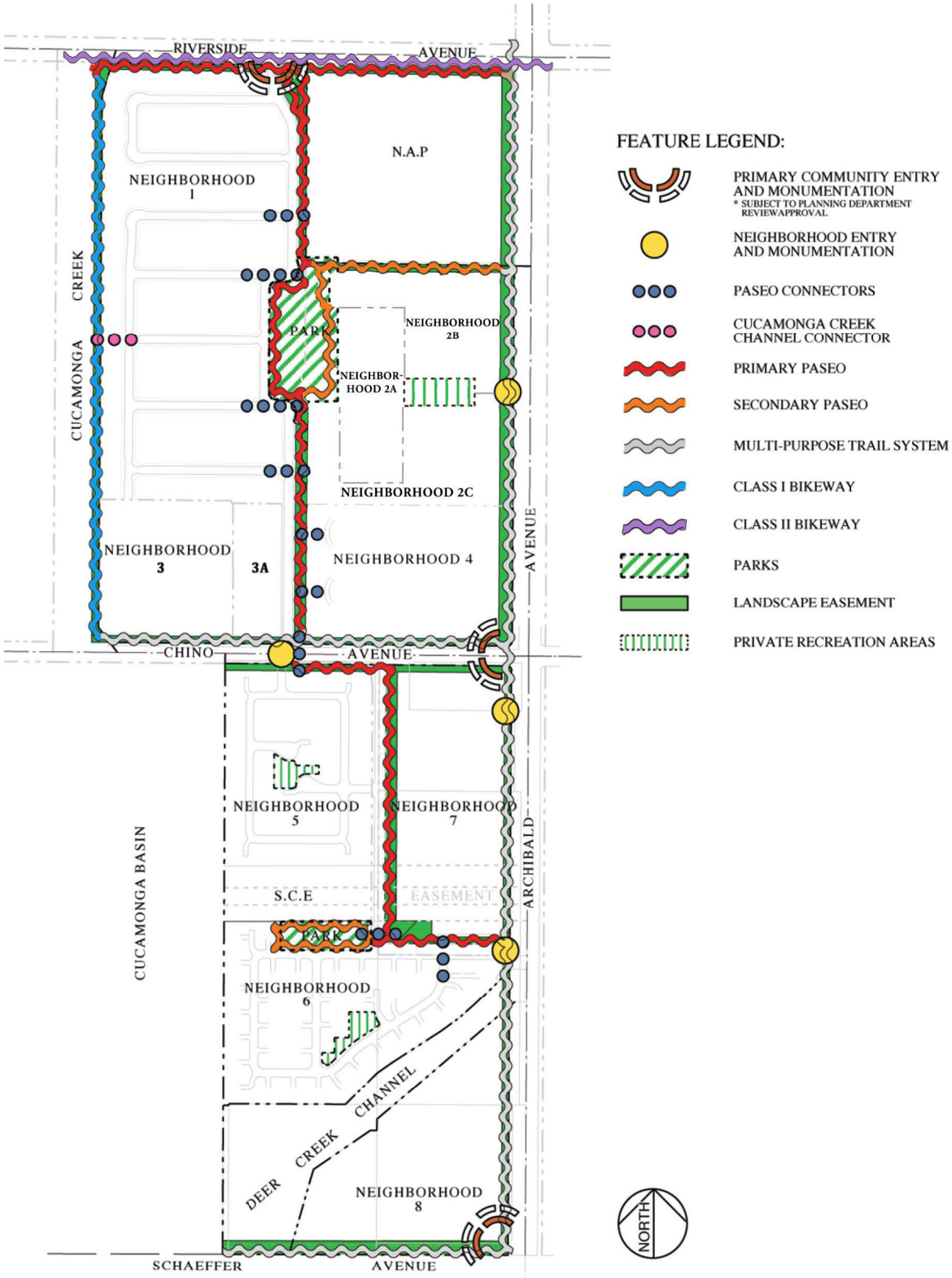
3.2 Parks and Paseos

Approximately 3.78 acres within Countryside will be developed as a landscaped neighborhood paseo, providing connectivity within the community and a unifying element linking Planning Area 1 and Planning Area 2. A thirteen foot wide multi-use trail will meander through the paseo area winding through large shade trees and planting masses. The paseo will provide bicycle and pedestrian access to both local parks within the community and to Westwind Park and Whispering Lakes Golf Course to the north and north-west, commercial uses to the east, and public school facilities to the southeast. Two centrally located parks totaling 4.73 acres will be developed within each planning area of Countryside to provide informal play areas and passive recreational opportunities for residents. These parks will be served by the landscaped paseos leading pedestrians and bicyclists to a central focal point and providing for informal gathering spots for neighbors along the length of the paseo and within the park.

Private recreational amenities totaling ~~.88~~1.87 acres will be developed within Neighborhoods 2, 5 and 6 to be improved with active facilities such as swimming pools. These amenity areas could also include a small recreational building. Pocket parks will be provided in Neighborhood 7 for passive recreational activities. Exhibit 11, "Parks and Paseo Concept" illustrates the central parks and private recreation areas planned for Countryside.

Revised Graphic

Countryside



Revised Graphic

Exhibit 11
Parks and Paseo Concept

Section 4. Infrastructure and Services

The infrastructure, utilities and public services to be provided as part of the development of the Countryside Specific Plan are discussed in this section.

1.1 Circulation

The circulation plan for Countryside reinforces the concept of traditional neighborhood design. In addition to providing safe and efficient movement of vehicular traffic through the project, it also provides a safe environment for pedestrian movement and bicycle traffic reducing the reliance on the automobile as a means of travel. The "Master Circulation Plan," Exhibit 12 establishes the hierarchy and general location of roadways within Countryside.

The minimum design speeds to be used for centerline curve radii, superelevation, corner sight distance, vertical and horizontal alignment and sight distance, etc. are listed below:

Archibald Avenue	50 m.p.h.
Schaefer Avenue	45 m.p.h.
Chino Avenue	40 m.p.h.
Riverside Drive	45 m.p.h.

4.1.1 Streets

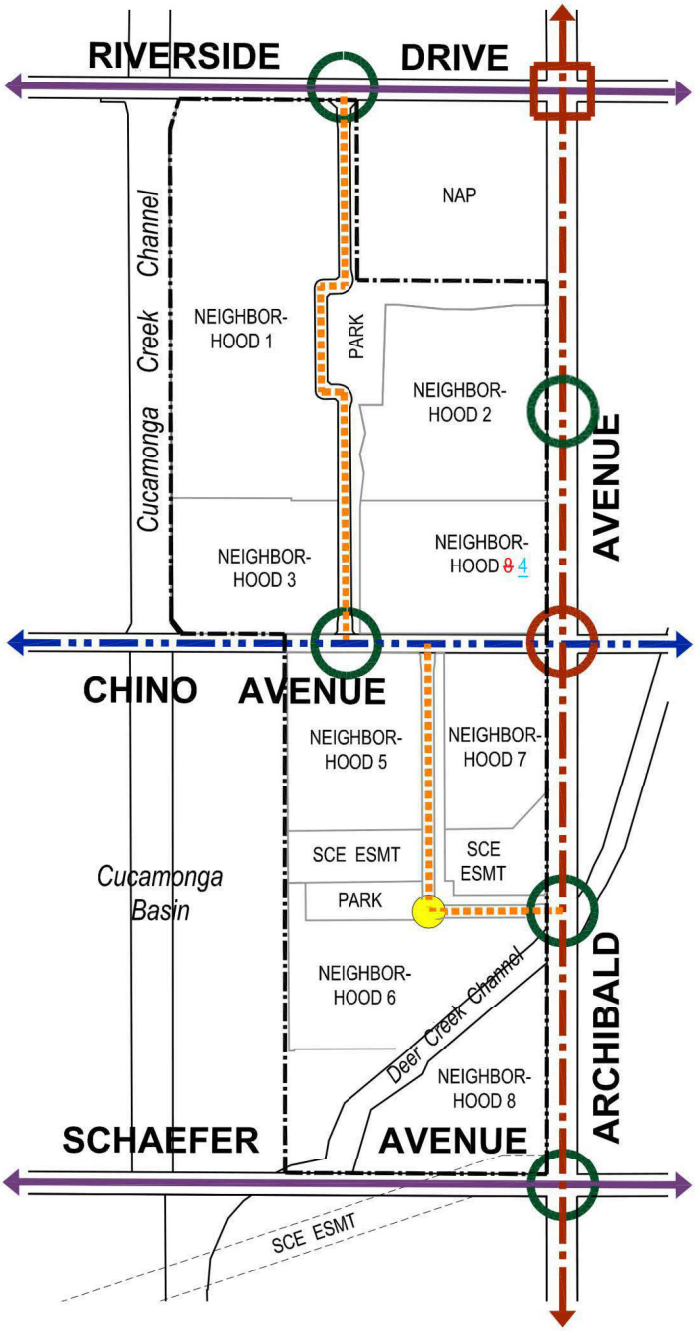
Countryside is bounded by three of the City of Ontario Master Plan streets that will provide access to and from the Specific Plan Area. Additional rights-of-way may be needed at critical intersections to accommodate additional left and right turn lanes. The NMC traffic study will verify the need. Within the Specific Plan Area, local and neighborhood streets of varying design will provide access and circulation through the community. Some neighborhoods will be served by private alleys located in the rear of these homes in order to maintain a traditional "architecture forward" streetscape for the community.

4.1.1.1 Archibald Avenue

Archibald Avenue abuts the Specific Plan Area on the east. Archibald Avenue is a designated Divided Arterial Parkway 1-2 street with a total right-of-way of 128-feet. The Archibald Avenue cross section between Riverside Drive and Chino Avenue will match the existing section. The existing cross section includes 80-feet of paved area with a 14-foot raised median. A 27-foot wide parkway will be provided on the west side. The 27-foot wide parkway will include a 5-foot meandering sidewalk separated from the street by a minimum of 7-feet of landscaped parkway along with the easterly 3-feet of the 8-foot ~~multi-use~~ multipurpose trail. A 19-foot wide landscaped neighborhood edge adjacent to the public right-of-way will be provided on the west side. The 19-foot wide parkway will include the westerly 5-feet of the 8-foot ~~multi-use~~ multipurpose trail and a 14-foot landscaped area between the trail and property line. The Archibald Avenue cross section between Chino Avenue and Schaefer Avenue will include 80-feet of paved area with a 15-foot raised median, 7-feet of the east side of the centerline and 8-feet on the west side of the centerline. A 27-foot wide parkway will be provided on the west side. The 27-foot wide parkway will include a 5-foot meandering sidewalk separated from the street by a minimum of 7-feet of landscaped parkway along with the easterly 3-feet of the 8-foot ~~multi-use~~ multipurpose trail. A 19-foot wide landscaped neighborhood edge adjacent to the public right-of-way will be provided on the west side. The 19-foot wide parkway will include the westerly 5-feet of the 8-foot ~~multi-use~~ multipurpose trail and a 14-foot landscaped area between the trail and property line. Parking will be prohibited on Archibald Avenue.

Revised Graphic

Countryside



NORTH

LEGEND

- RIVERSIDE DRIVE & SCHAEFER AVENUE: STANDARD ARTERIAL (108' R/W)
- ARCHIBALD AVENUE: DIVIDED ARTERIAL PARKWAY 1-2 (148' R/W)
- CHINO AVENUE: COLLECTOR STREET (88' R/W)
- LOCAL STREETS A & B: (60' R/W)
- EXISTING TRAFFIC SIGNAL
- EXISTING TRAFFIC SIGNAL TO BE MODIFIED
- PROPOSED TRAFFIC SIGNAL
- ROUNDABOUT

Note: Roundabout location and dimensions to be determined as part of tentative tract map approval.

Exhibit 12
Master Circulation Plan Revised Graphic

The right-of-way improvements required for Archibald Avenue are illustrated in Exhibit 13, "Arterial Street Cross Sections – Archibald Avenue." The developer of Countryside will be responsible, at a minimum, for the improvement of the westerly half-width of right-of-way of Archibald Avenue between Riverside Drive and Schaefer Avenue and the full median improvements between Chino Avenue and Schaefer Avenue.

4.1.1.2 Riverside Drive

Riverside Drive is a designated Standard Arterial and bounds the Specific Plan Area on the north. Riverside Drive has a total right-of-way of 108-feet with 84-feet of paved area including Class II bike path, and a 12-foot parkway including a 5-foot sidewalk separated from the street by a 7-foot landscaped parkway. In addition to the dedicated right-of-way, a 23-foot wide landscaped buffer will be provided between the back of sidewalk and the residential community wall. Parking will be prohibited on Riverside Drive. Riverside Drive is illustrated on Exhibits 14, "Arterial Street Cross Section –Riverside Drive." The developer of Countryside will be responsible for the improvement of a minimum of one half width of Riverside Drive adjacent to the Specific Plan Area between the Cucamonga Creek Channel and the boundary of the existing residential development located easterly of the Specific Plan Area.

4.1.1.3 Schaefer Avenue

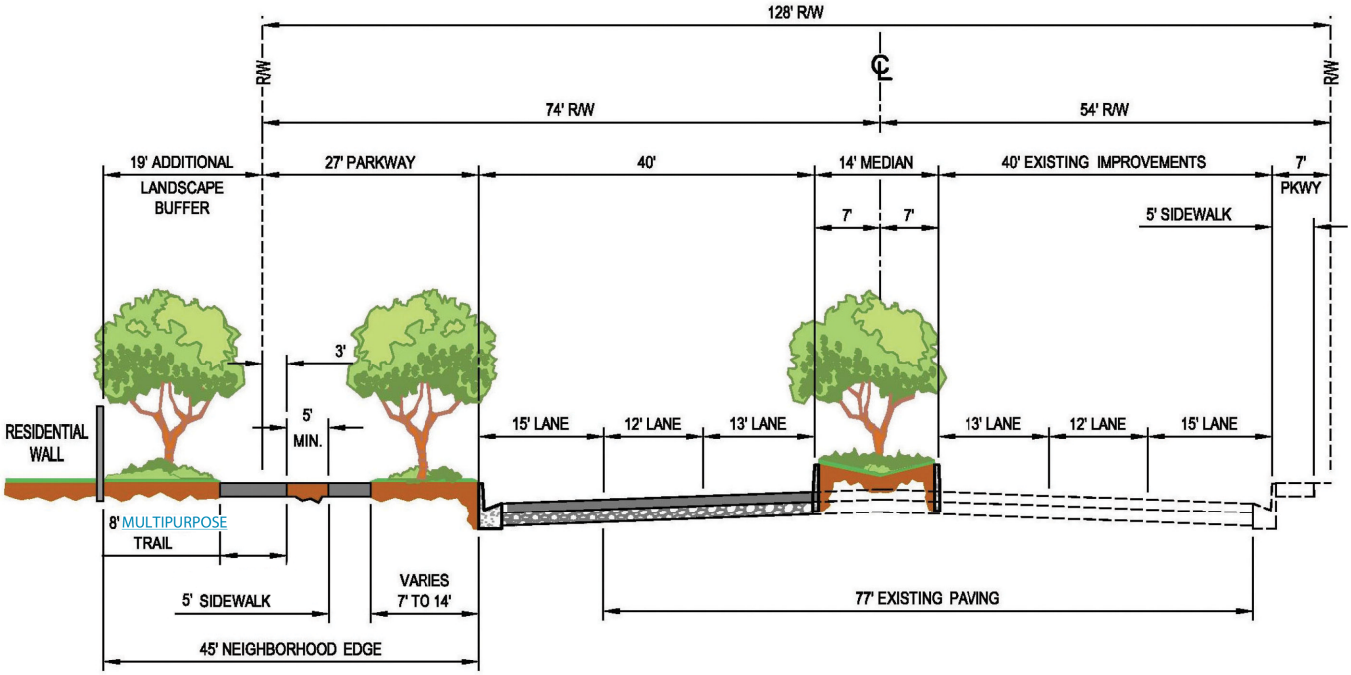
Schaefer Avenue abuts the Specific Plan Area on the south. Schaefer Avenue is a designated Collector Street with a total right-of-way of 108-feet with 84-feet of paved area and a 12-foot parkway on each side of the street to include a 5-foot sidewalk separated from the street by a 7-foot landscaped parkway. In addition to right-of-way improvements, a landscaped buffer of 23-feet in width will be developed between the sidewalk and the residential community wall. This buffer will include a multiputpose trail. Parking will be prohibited on Schaefer Avenue. The right-of-way improvements required for Schaefer Avenue are illustrated in Exhibit 15, "Arterial Street Cross Section – Schaefer Avenue." The developer of the residential area will be responsible, at a minimum, for the northerly one half width improvement of the right-of-way of Schaefer Avenue between Archibald Avenue and the easterly boundary of the Cucamonga Creek Channel, the landscaped buffer area adjacent to the residential area, and a fair share of the cost to construct a crossing at the Cucamonga Creek Channel.

4.1.1.4 Chino Avenue

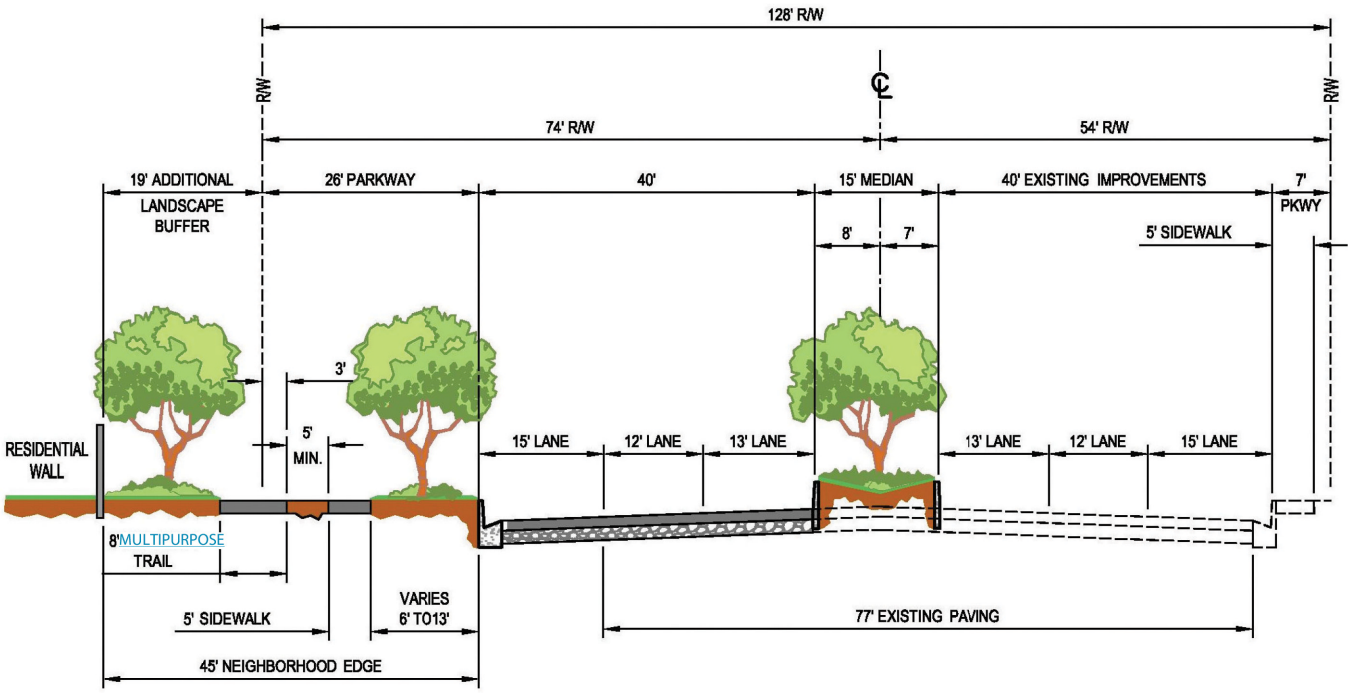
Chino Avenue separates Planning Areas 1 and 2. Chino Avenue is a designated Collector Street with a total right-of-way of 88-feet with 64-feet of paved area and a 12-foot parkway on each side of the street to include a 5-foot sidewalk separated from the street by a 7 foot landscaped parkway. Adjacent to the right-of-way on Chino Avenue, an 18-foot wide landscaped buffer with multipurpose trail will be developed. Parking will be prohibited on Chino Avenue. The right-of-way improvements required for Chino Avenue are illustrated in Exhibit 16, "Collector Street Cross Section." The developer of Countryside will be responsible, at a minimum, for the full improvement of Chino Avenue from the Cucamonga Creek Bridge easterly to Archibald Avenue and may be responsible for the widening of the existing bridge on Cucamonga Creek.

4.1.1.5 Local Streets

Public local streets within Countryside are designed to distribute vehicular traffic from the public arterial streets adjacent to the Specific Plan Area into and through residential neighborhoods. Local Street A will have a total right of way of 60 feet with 40 feet of travel area and 10 foot wide



Riverside Drive to Chino Avenue

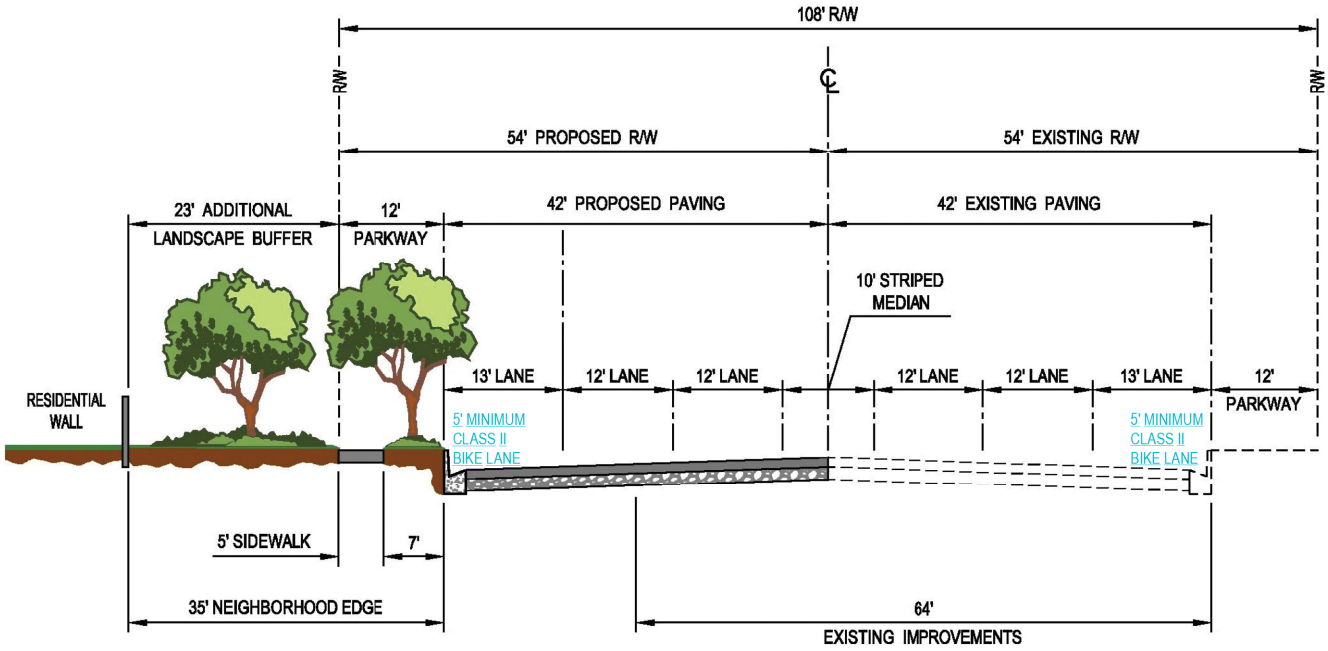


Chino Avenue to Schaefer Avenue

Divided Arterial Parkway 1-2 with Bikeway, Parking Prohibited

Exhibit 13

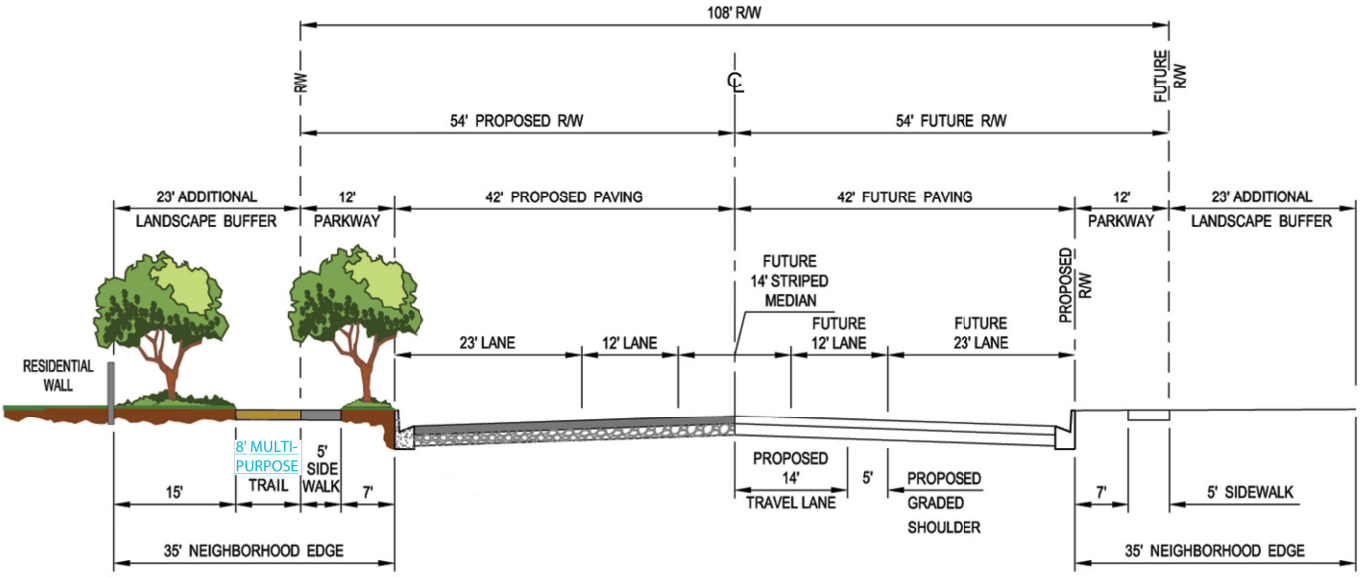
Arterial Street Cross Sections – Archibald Avenue



Parking Prohibited

Exhibit 14

Arterial Street Cross Section – Riverside Drive



Parking Prohibited

Exhibit 15

Arterial Street Cross Section – Schaefer Avenue

parkways on each side of the street including a 5 foot wide sidewalk separated from the street by a 5 foot wide landscaped parkway. Street B and other local streets within Countryside will have a total right-of-way of 60-feet with 36-feet of paved area and a 12-foot parkway to include a 5-foot sidewalk separated from the street by a 7-foot landscaped area. Parking is permitted on local streets. Local streets proposed for the Countryside Specific Plan are illustrated on Exhibit 17, "Local and Neighborhood Street Section."

4.1.1.6 Private Neighborhood Streets

Within Neighborhoods 2A, 2B, 2C, 5 and 6 private neighborhood streets are planned with a total paved width of 36-feet and 5-foot wide sidewalks separated from the street by a 4-foot wide landscaped parkway. Parking is permitted on the private neighborhood streets.

4.1.1.7 Private Drive Aisles and Alleys

Within Neighborhoods 2A, 2B, 5 and 6 private drive aisles are planned with a total paved width of 20-feet and a 5-foot wide landscaped parkway on one side. Parking is prohibited on the Private Drive Aisles. Within Neighborhood 7 private alleys are planned. Parking is prohibited on private alleys.

Private neighborhood streets, private drive aisles, and Private Alleys planned for Countryside are illustrated on Exhibit 18, "Private Street Sections."

4.1.2 Traffic Calming

The Countryside Specific Plan includes design features within residential neighborhoods to encourage drivers to proceed slowly and reduce traffic noise on streets contributing to safe and livable neighborhoods in which to walk, bike, and drive.

Traffic calming within Countryside is designed to address the following goals:

- Reduction in traffic speeds.
- Reduction in traffic related noise.
- A safe and pedestrian friendly circulation system to encourage walking.

The following design features will be implemented in the roadways within Countryside.

Local and Neighborhood Street Design

Local and neighborhood streets within Countryside are designed in a grid with landscaping on either side within parkways to add interest in the street encouraging drivers to slow their travel speed and observe their surroundings. Traffic speeds on local and neighborhood residential streets will be reduced by incorporating tapered intersections for local streets, as illustrated in Exhibit 19, "Local and Neighborhood Street Tapers."

Landscaping

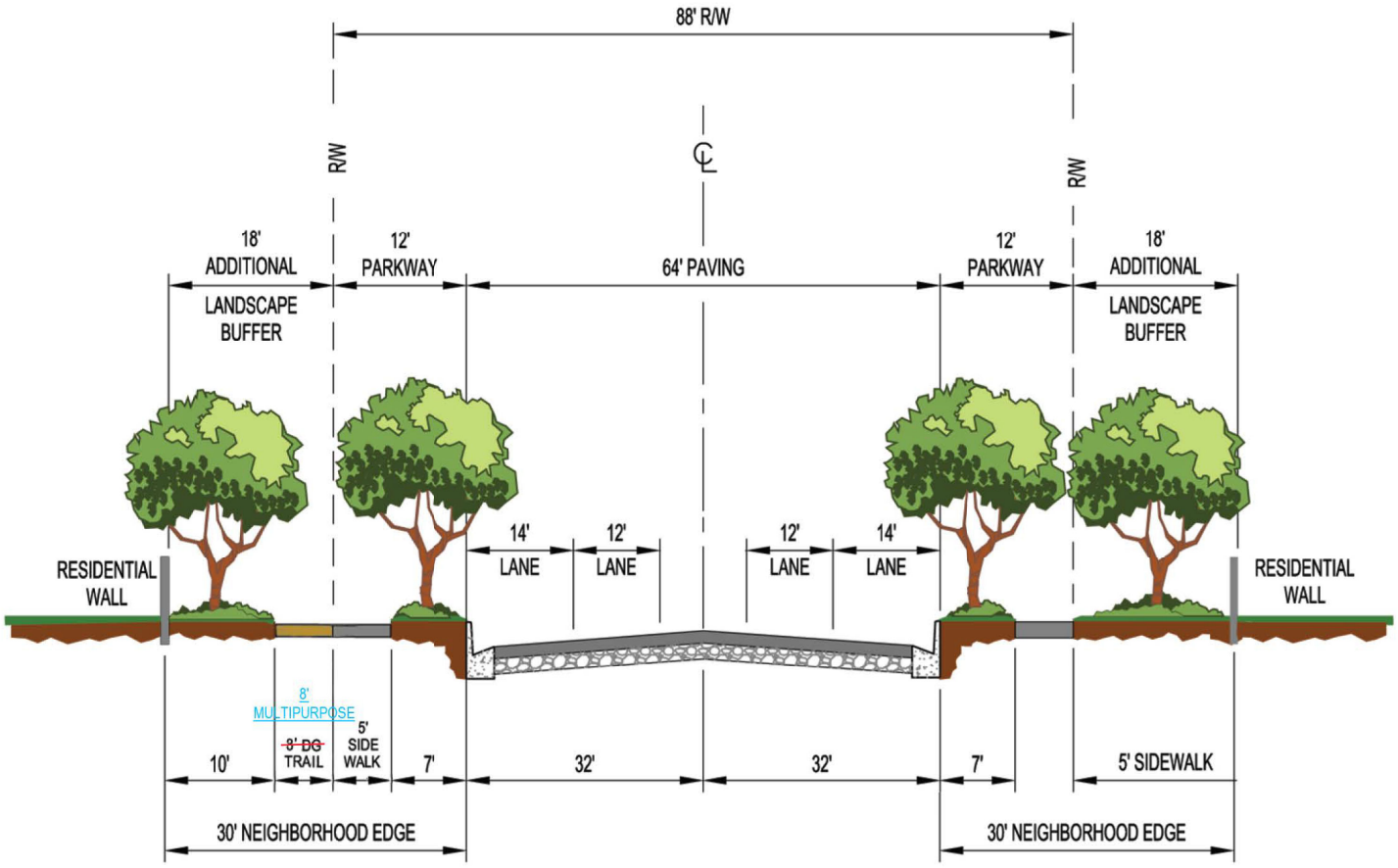
Landscaping adjacent to streets within the Specific Plan Area will combine the use of shade trees, low shrubs, and groundcover adjacent to sidewalks to create a more intimate streetscape encouraging drivers to slow down and observe their surroundings. The landscape concept for Countryside is designed to contribute to a sense of the street system as a pedestrian protected area to promote slower traffic speeds.

Roundabouts

Roundabouts will be incorporated into street design wherever feasible as a traffic calming and traffic noise reduction device. The use of roundabouts rather than conventional all way stop intersections maintains traffic flow by requiring traffic entering

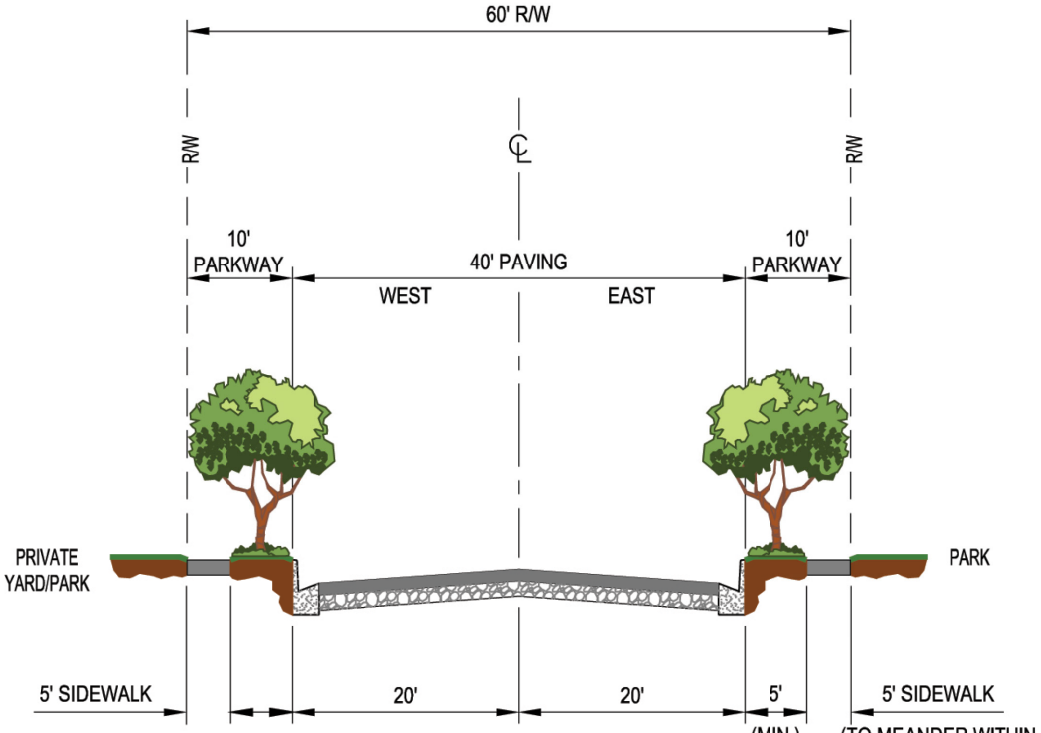
Countryside

Revised Graphic

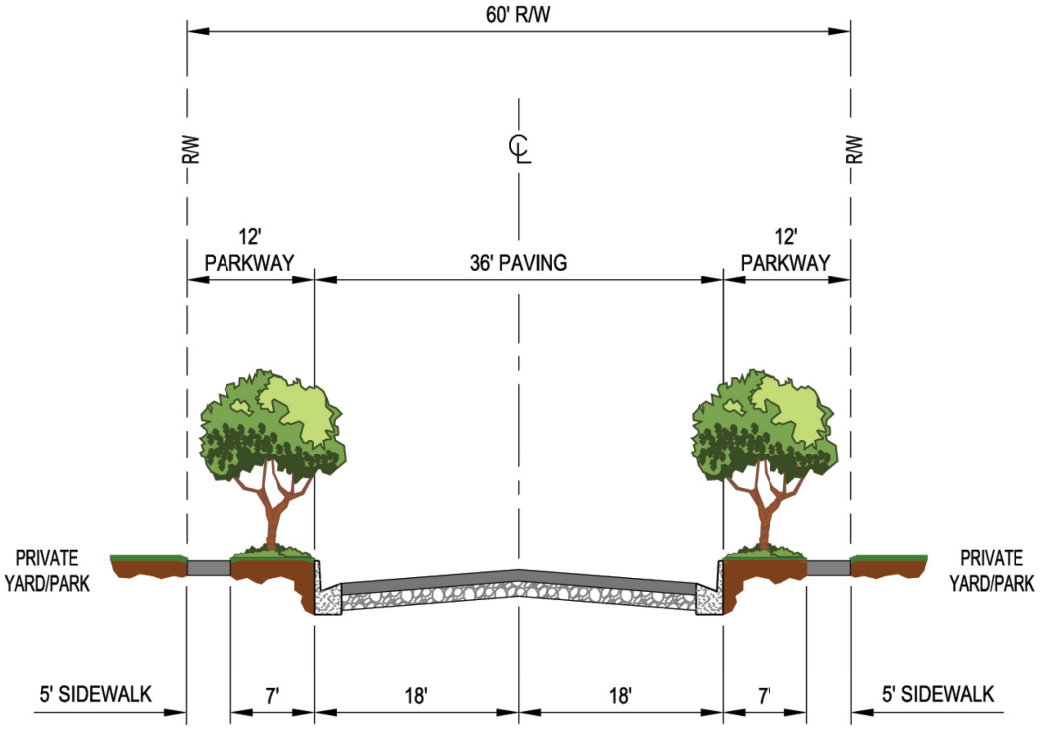


Parking Prohibited

Exhibit 16
Chino Avenue Street Cross Section Revised Graphic

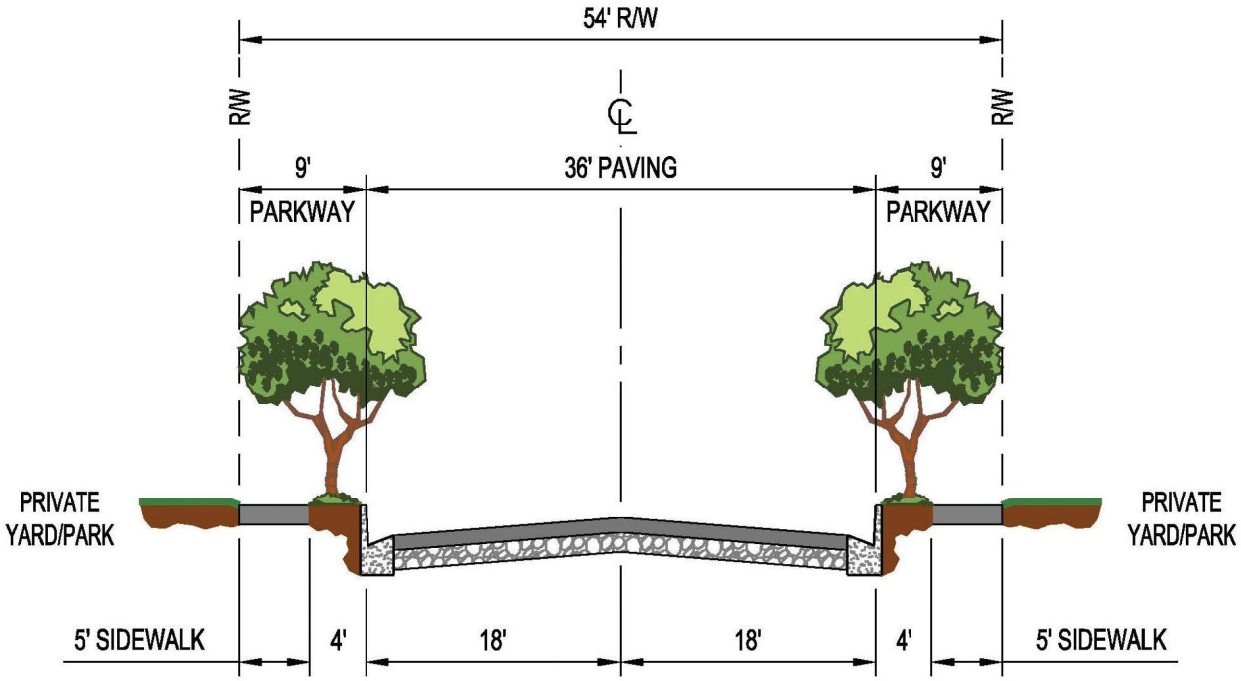


"A" STREET
(From Riverside Drive to Chino Avenue)
Parking Permitted

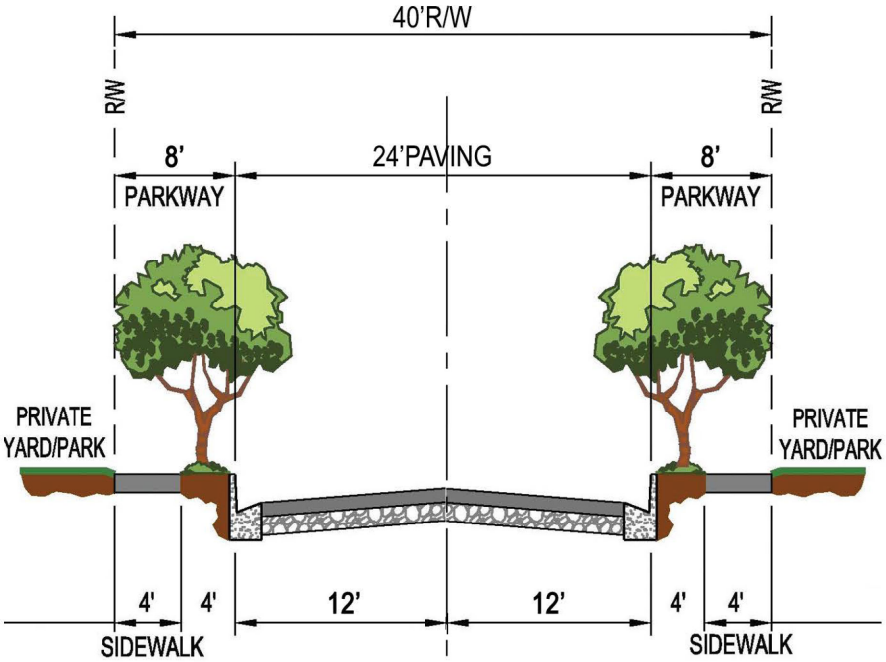


"B" STREET
(Including all other Local Street Sections)
Parking Permitted

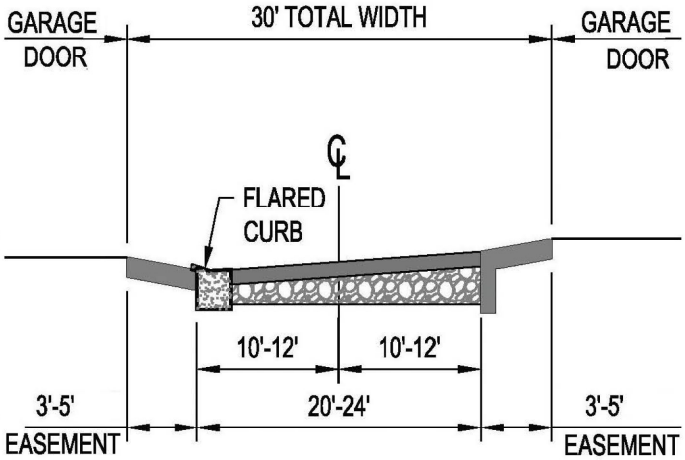
Exhibit 17
Local and Neighborhood Street Section



Private Neighborhood Streets
Parking Permitted



New Graphic Private Drive
Parking Prohibited



Private Alley
Parking Prohibited

Exhibit 18
Private Street Sections

the roundabout to yield to traffic traveling within the roundabout. The lack of stop signs allows entering traffic to merge with the flow of traffic.

4.1.3 Pedestrian and Bicycle Circulation

Pedestrian and bicycle mobility are key elements to the Countryside land use plan. A landscaped paseo will be developed in a north-south alignment through Countryside offering pedestrian and bicycle accessibility between local parks within Countryside Planning Areas 1 and 2 from Riverside Drive to Schaefer Avenue. The paseo will connect to a multipurpose trail to be developed within the enhanced parkway on the westerly side of Archibald Avenue between Riverside Drive and Schaefer Avenue. Development of the Archibald Avenue trail will provide a link in the ~~City of Ontario Bikeway Master Plan~~Figure M-3 Multipurpose Trails and Bikeway Corridor Plan. The Countryside paseo network and the Archibald Avenue trail will provide connectivity between Countryside and commercial uses located to the east of the Specific Plan Area as well as to Westwind Park and Whispering Lakes Golf Course located to the north and northwest of the Specific Plan Area.

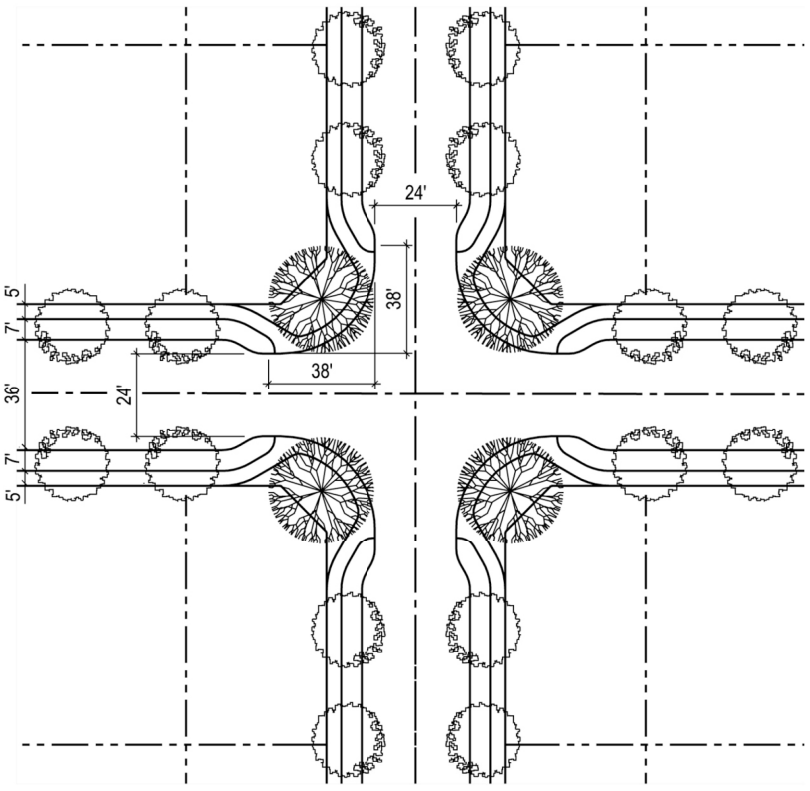
Off-street pedestrian circulation will be provided throughout Countryside through a network of sidewalks separated from vehicular travel lanes by a landscaped parkway. Pedestrian access points from sidewalks will be provided to the landscaped paseo through the local street system.

The developer will construct a bike trail within the right-of-way of the east side of the Cucamonga Channel, between Riverside Drive and Chino Avenue. The Countryside Specific Plan will provide a 30-foot wide connection within the Specific Plan Area to allow public access to this Cucamonga Channel trail.

The pedestrian and bicycle trail system for Countryside is illustrated in Exhibit 20, "Pedestrian and Bicycle Trails."

4.2 Water Master Plan

Domestic and recycled water for the Countryside Specific Plan will be provided by the City of Ontario. The Ontario Ranch Water Master Plan identifies new water facilities within the Phillips and Francis Zones. The improvements in the Phillips Zone include a reservoir at the southeast corner of the I-10 freeway and Milliken Avenue, an 18-inch transmission main from the reservoir to Riverside Drive, one groundwater well and recycled water lines. The improvements in the Francis Zone include a reservoir on Jurupa Street,



Note: Final taper design shall be subject to approval by the Engineering, Fire and Planning Departments.

Exhibit 19
Local and Neighborhood Street Tapers

Countryside

Revised Graphic

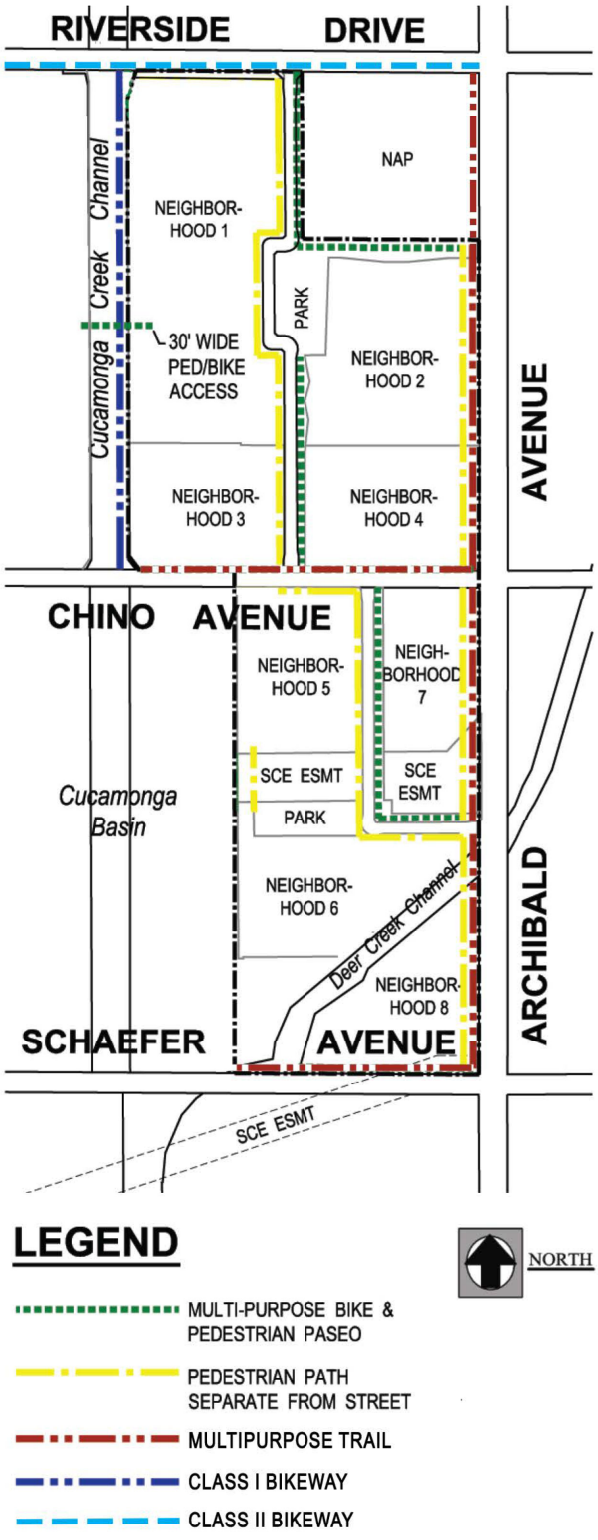


Exhibit 20
Pedestrian and Bicycle Trails Revised Graphic

two pressure reducing stations, an Ontario / CDA interconnect, a transmission main from the reservoir on Jurupa Street to Riverside Drive, a 30-inch main transitioning to a 24-inch main in Milliken Avenue from Riverside Drive to Merrill Avenue, 24-inch transmission lines in Merrill Avenue from Milliken Avenue to Archibald Avenue and within Archibald Avenue from Merrill Avenue to Edison Avenue, a 12-inch main in Archibald Avenue from Edison Avenue to Schaefer Avenue and recycled water mains. Construction of these Master Plan improvements is required to provide water service to the Countryside Specific Plan.

4.2.1 Domestic Water

Domestic water for the Countryside Specific Plan will be provided by the City of Ontario. Planning Area (PA1) lies within the Phillips Street Pressure Zone, also known as the 1010' Zone. PA1 will utilize an existing 10-inch water main in Riverside Drive and an existing 12-inch main in Archibald Avenue. New domestic water mains to be constructed as part of the development of Countryside PA1 will include an 18-inch main in Riverside Drive, between Mill Creek Avenue and Milliken Avenue; an 18-inch main in Mill Creek Avenue, connecting to the existing 16-inch water line at the southerly boundary of the high school and extending south to Chino Avenue, and an 18-inch main in Chino Avenue, between Mill Creek Avenue and the Cucamonga Creek Channel. Within the Specific Plan Area a network of 8-inch water lines will be installed. The on site water system will provide a loop system which will include connections to two different transmission mains.

Planning Area 2 (PA2) lies within the Francis Street Pressure Zone, also known as the 925' Zone. New domestic water mains to be constructed as part of the development of PA2

will include a 12-inch main in Chino Avenue, Archibald Avenue and Schaefer Avenue. Within the planning area, a network of 8-inch and 12-inch water lines will be installed. The on site water system will provide a loop system which will include connections to two different transmission mains. The master plan for domestic water for Countryside is illustrated on Exhibit 21, "Conceptual Domestic Water Master Plan."

4.2.2 Recycled Water

New recycled water lines, in conformance with the City's Recycled Water Master Plan, will be constructed as part of the development of Countryside. Inland Empire Utilities Agency (IEUA) will supply the recycled water from their facilities in Westwind Park, located north of Riverside Drive and east of Cucamonga Creek Channel.

Countryside Planning Area 1 (PA1) lies within the NMC Recycled Water 1050' Zone. New recycled water mains to be constructed as part of the development of PA1 will include a 30-inch main from Westwind Park to Riverside Drive, a 16-inch main in Riverside Drive to Archibald Avenue, a 20-inch main in Archibald Avenue from Riverside Drive to Chino Avenue and an 8-inch main in Chino Avenue from Archibald Avenue to the Cucamonga Creek Channel. Within the planning area, a network of 8-inch water lines or smaller as approved by the City, will be installed. The RP-1 Outfall Line, which is owned by the Inland Empire Utilities Agency, IEUA, extends across PA1 from Riverside Drive to Chino Avenue approximately 430 feet east of the Cucamonga Creek Channel. With the approval of IEUA, the RP-1 Outfall line will be relocated easterly within the proposed north/south collector street, with connections constructed at Riverside Drive and Chino Avenue to the satisfaction of IEUA. The proposed relocation of the RP-1 Outfall line is shown on Exhibit 22.

Countryside Planning Area 2 (PA2) lies within the NMC Recycled Water ~~900'~~ 930' Zone. New recycled water mains to be constructed as part of the devel-opment of PA2 will include a 10-inch main from Westwind Park to Riverside Drive, a 10-inch main in Riverside Drive to Archibald Avenue, a 10-inch main in Archibald Avenue from Riverside Drive to Schaefer Avenue, a 24-inch main in Archibald Avenue from Chino Avenue to Schaefer, a 30-inch main in Chino Avenue from Archibald Avenue to the Cucamonga Creek Channel and a 12-inch main in Schaefer Avenue from Archibald Avenue to the Cucamonga Creek Channel. Within the planning area, a network of 8-inch water lines or smaller as approved by the City, will be installed.

On site recycled water lines will be installed as required by the City Engineer and the Recycled Water Master Plan. The parks, paseos and landscape areas that will be irrigated with recycled water and the calculated recycled water demands are containcd in thc Countrysidc Watcr and Rccycled Hydraulic Analysis report. The City's goal is to maximize the use of recycled water, including but not limited to, irrigation of parks, schools, street landscaping, recreational trails, common area residential landscaping and landscaped edges abutting commercial and industrial development areas. The parks and landscaped areas to be irrigated with recycled water, along with the calculated recycled water demands for these areas, are described in the "Countryside Water and Recycled Water Hydrau-lic Analysis" on file at the City of Ontario.

There may be an interim period where recycled water supply does not have adequate pressure depending on the timing of development and construction of a regional booster station. If this is the case, the recycled water system will connect to the potable system initially, until such point that recycled water service is available.

Countryside

Revised Graphic

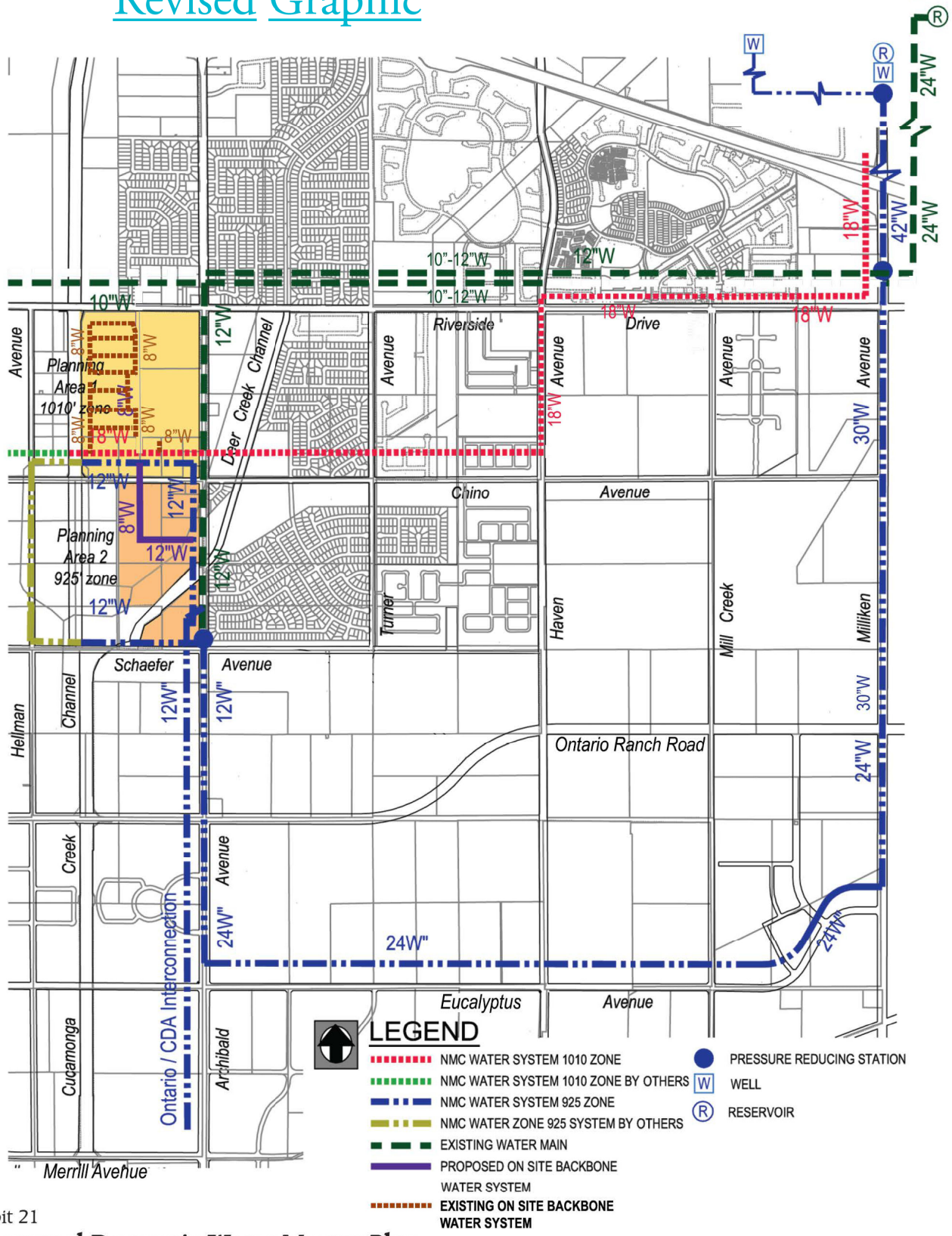


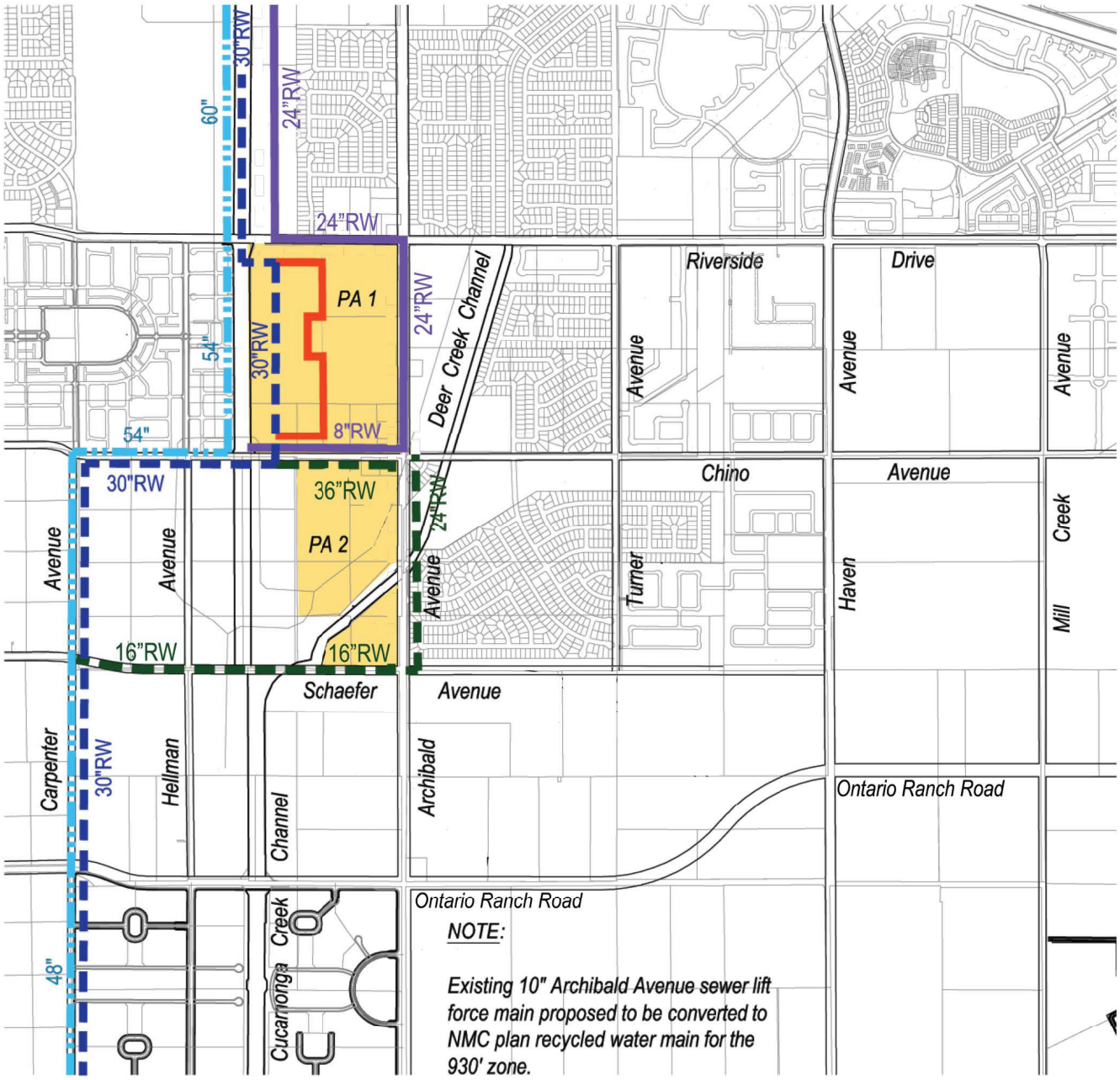
Exhibit 21

Conceptual Domestic Water Master Plan

Revised Graphic

8025

Revised Graphic



LEGEND

- NMC MASTER PLAN RECYCLED WATER 930' ZONE
- NMC MASTER PLAN RECYCLED WATER 1050' ZONE
- EXISTING 30" RP-1 IEUA OUTFALL LINE
- PROPOSED RELOCATION ALIGNMENT OF 30" RP-1 IEUA OUTFALL LINE (REQUIRES APPROVAL BY IEUA)
- PROPOSED ON SITE RECYCLED WATER MAIN
- PROPOSED PARALLEL RP-1 IEUA OUTFALL LINE
- PA 1 — PLANNING AREA 1 (PROPERTY NORTH OF CHINO AVE)
- PA 2 — PLANNING AREA 2 (PROPERTY SOUTH OF CHINO AVE)

Revised Graphic

Exhibit 22
Conceptual Recycled Water

The Master Plan for recycled water for Countryside is illustrated on Exhibit 22, "Conceptual Recycled Water."

4.3 Sewer Master Plan

Sewer service for the Countryside Specific Plan will be provided by the City of Ontario. The City's Sewer Master Plan identifies new sewer facilities extending along the easterly boundary of the Specific Plan Area in Archibald Avenue from Schaefer Avenue to Chino Avenue and in Chino Avenue to Hellman Avenue. Completion of these Master Plan improvements is required to provide sewer service to the Countryside Specific Plan. These Master Plan improvements will be constructed by Inland Empire Utilities Agency (IEUA) and are part of a sewer trunk main referred to as the Eastern Trunk Sewer. The Eastern Trunk sewer will extend southerly in Archibald Avenue from Chino Avenue to a connection with an existing sewer main in Kimball Avenue. On site sewer will be provided by 8-inch and 10-inch sewer systems ~~an 8-inch sewer system~~ draining to the 33-inch sewer main in Archibald Avenue or the 36-inch sewer main in Chino Avenue.

The Sewer Master Plan for the Countryside Specific Plan is illustrated on Exhibit 23, "Conceptual Sewer Master Plan."

4.4 Drainage

The City's Drainage Master Plan identifies new storm drain facilities to serve the Specific Plan Area.

The developer of Countryside will construct all required in-tract storm drain improvements necessary to serve the Specific Plan Area. The in-tract storm drain system will consist of minimum 24-inch pipes. Storm water from PA 1 will be collected and discharged into the Cucamonga Creek Channel. Storm water from areas southerly of Chino Avenue to PA 2 will be collected and discharged to the Deer Creek Channel.

The Drainage Master Plan for Countryside is illustrated in Exhibit 24, "Conceptual Storm Drain Master Plan." The size and location of storm drain facilities may be modified based on the approved final design.

4.4.1 NPDES Compliance

The grading and drainage of the Countryside Specific Plan area shall be designed to detain, filter and treat surface runoff, in a manner and combination which is practical, to comply with the most recent requirements of the San Bernardino County NPDES Storm Water Program's Quality Management (WQMP) for significant new development projects. The objective of the WQMP for this project is to minimize the detrimental effects of urbanization on the beneficial uses of receiving waters, including effects caused by increased pollutants and changes in hydrology. These effects may be minimized through the implementation of site designs that reduce runoff and pollutant transport by minimizing impervious surfaces and maximizing on-site infiltration, Source Control Best Management Practices (BMP's) and/or either on-site Structural Treatment Control BMP's, or participation in regional or watershed-based Treatment Control BMP's.

Prior to the issuance of a grading or construction permit, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared. The SWPPP will be prepared to comply with the California State Water Resources Control Board's (State Water Board) current, "General Permit to Discharge Storm Water Associated With Construction Activity" and the current Area Wide Urban Storm Water Runoff (Regional NPDES Permit). The SWPPP will

Revised Graphic

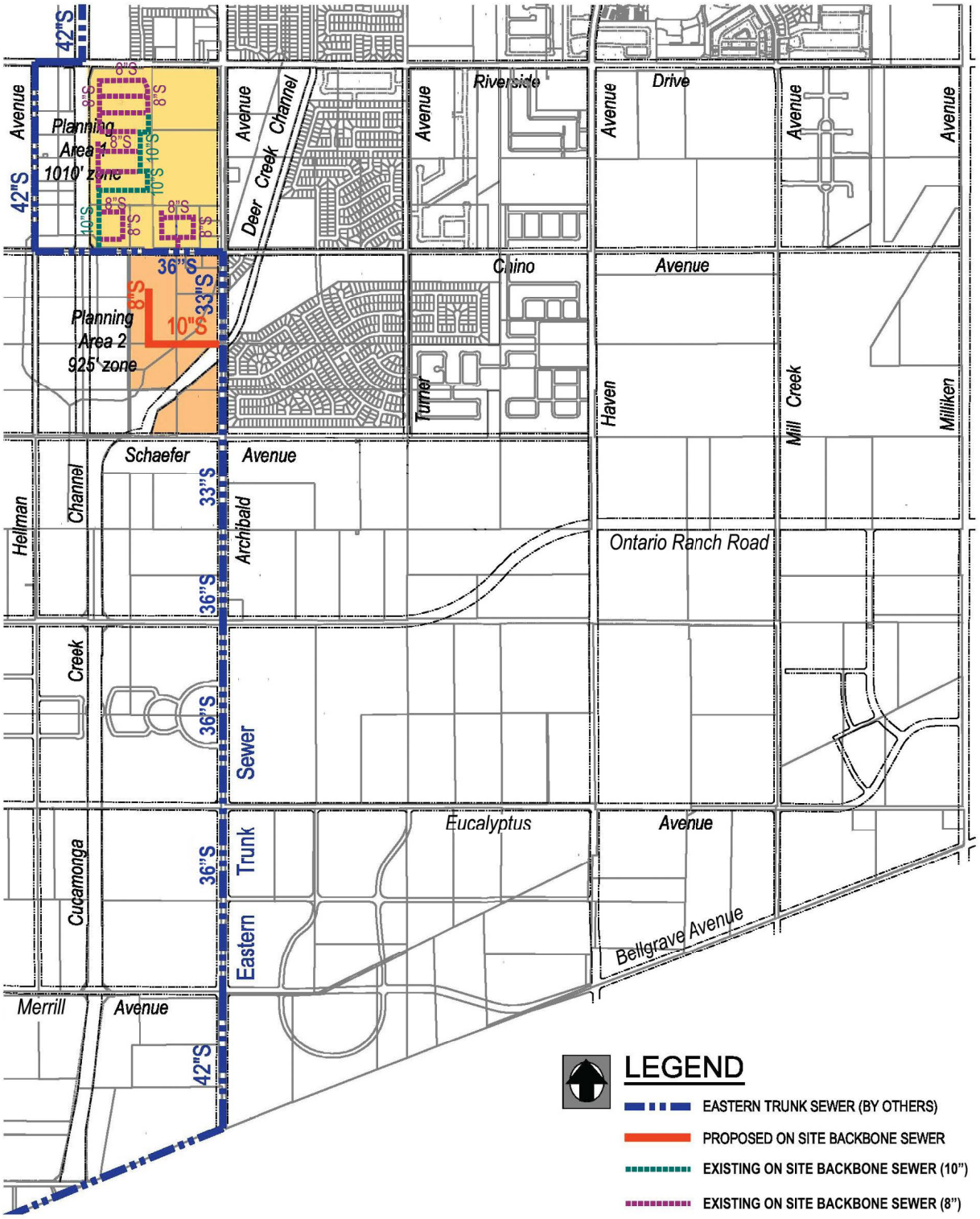


Exhibit 23

Conceptual Sewer Master Plan

Revised Graphic

8028

Revised Graphic

Countryside

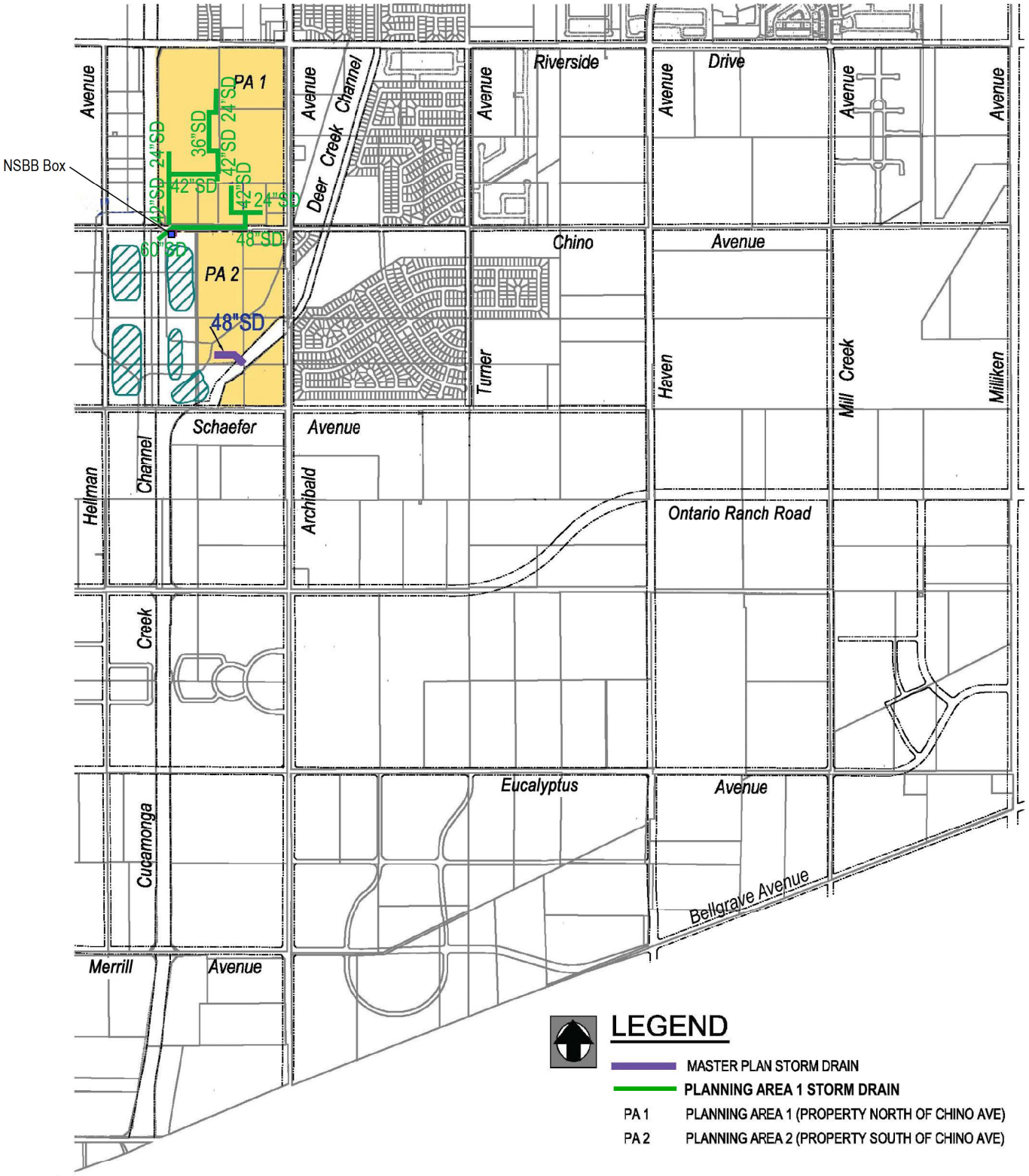


Exhibit 24

Conceptual Storm Drain Master Plan Revised Graphic

identify and detail all appropriate Best Management Practices (BMP's) to be implemented or installed during construction of the project.

In addition to the preparation of a SWPPP for construction-related activities, and as part of the approval of any grading plans within the Specific Plan Area, the applicant will be required to submit a Water Quality Management Plan (WQMP) on the regional model form provided by the City. The WQMP shall identify and detail all Site Design BMP's, Source Control BMP's and Treatment Control BMP's to be implemented or installed at the development site in order to reduce storm water pollutants and site runoff.

A ~~proposed~~ regional runoff treatment facility for the sub-watershed area that this project lies within is constructed ~~being considered for construction~~. This regional treatment facility ~~would be~~ is part of an overall solution for storm water treatment. ~~If an approved r~~Regional storm water treatment facility ~~is constructed, it~~ may serve as an alternative to completion of on-site treatment of all pollutants of concern. ~~If the regional storm water treatment facility is not completed and operational prior to construction of this project, all necessary on-site treatment control BMP's and/or temporary water control devices will be installed pursuant to the requirements of the current regional NPDES Permit and the approved Water Quality Management Plan for this project.~~

All Priority Land Use (PLU) areas within the specific plan area shall comply with the statewide trash provisions adopted by the State Water Resources Control Boards (SWRCB) and trash requirements in the most recent San Bernardino Area-wide MS4 Permit.

4.5 Schools

The Mountain View School District is the school district serving the K-8 school needs of the Countryside Specific Plan. Chaffey Joint Union High School District serves the 9-12 school needs of the Countryside Specific Plan. Colony High School is located east of the Specific Plan Area, at the corner of Riverside Drive and Mill Creek Avenue, and will serve the high school students generated from the project. Additional elementary and middle schools are needed to serve the needs of school age children within the Ontario Ranch Elementary school sites have been identified in Planning Subarea 4, located west of the Specific Plan Area, and in Subarea 18, located south of the Specific Plan Area. A middle school site has been identified in Planning Subarea 18, located south of the Specific Plan Area. The existing and planned school facilities, which will be available to serve Countryside, are illustrated in Exhibit 25, "School Locations." The developer of Countryside will be required to pay school fees as required by State of California.

4.6 Public Utilities

4.6.1 Telephone

Verizon is the current telephone service provider to the Specific Plan Area. Proposed on-site facilities will be placed underground.

4.6.2 Natural Gas

The Gas Company will provide natural gas to the Specific Plan Area. Gas mains will be installed to the Specific Plan Area by the Gas Company as necessary.

4.6.3 Electricity

Southern California Edison will provide electricity to the Specific Plan Area from existing facilities in the vicinity of the Specific Plan Area. Proposed new facilities to serve the project will be owned and operated by the City of Ontario and located underground. Relocation or undergrounding of existing overhead lines. New facilities to be placed underground.

4.6.4 Telecommunications

The City of Ontario will be providing OntarioNet, fiber-to-the-home. OntarioNet is a fiber optic telecommunications system capable of providing advanced Internet/data services to all homes and businesses within the Ontario Ranch. OntarioNet will provide community related services including: traffic management; online civic services; meter reading; educational services; and a variety of other community services. Based on the demographics of the Ontario Ranch and the traffic issues into Orange and Los Angeles Counties, the demand for telecommuting in the Ontario Ranch is anticipated to be significant. OntarioNet and the high speed data services it provides will allow residents of the Countryside Specific Plan to effectively telecommute to their jobs and in general provide a significant economic benefit to Ontario. The Head-End Facility will be provided at the Colony High School.

4.6.5 Solid Waste

The City of Ontario provides solid waste collection services for the City and will service the Specific Plan Area.

4.7 Grading Concept

The existing ground on the northerly half of the Specific Plan Area slopes southerly away from Riverside Drive at an approximate 2% grade. The southerly half of the Specific Plan Area slopes southerly, away from Chino Avenue, at approximately 1%. The grading operation for the Countryside Specific Plan will generally consist of the removal of any manure remaining from dairy operations, clearing and grubbing, demolition of existing structures, and moving of surface soils to construct building pads and streets. Grading within Countryside will provide for a balance of cut/fills for the site.

Where slope conditions are present, the property shall be located at the top of a slope. Dwelling units and structures adjacent to the slopes areas should be sited to:

- Use the natural ridgeline as a backdrop for structures.
- Use landscape plant materials as a backdrop; and
- Use structure to maximize concealment of cut slope.

If retaining walls are required, the following criteria shall be used:

- Exposed walls and fences facing roadways shall be no greater than 5-feet in height, except as necessary for acoustical purposes to satisfy the intent of the noise ordinance.
- Where retaining walls or fences face roadways, they shall be built, when feasible, of decorative materials consistent with the wall theme of the neighborhood.

Grading plans for each tract within Countryside will be reviewed and approved by the City of Ontario Building, Planning, and Engineering Departments prior to the issuance of grading permits. All grading plans and activities will conform to the City grading ordinance and dust and erosion control requirements.

The conceptual grading plan for Countryside is illustrated in Exhibit 26, "Conceptual Grading Plan."

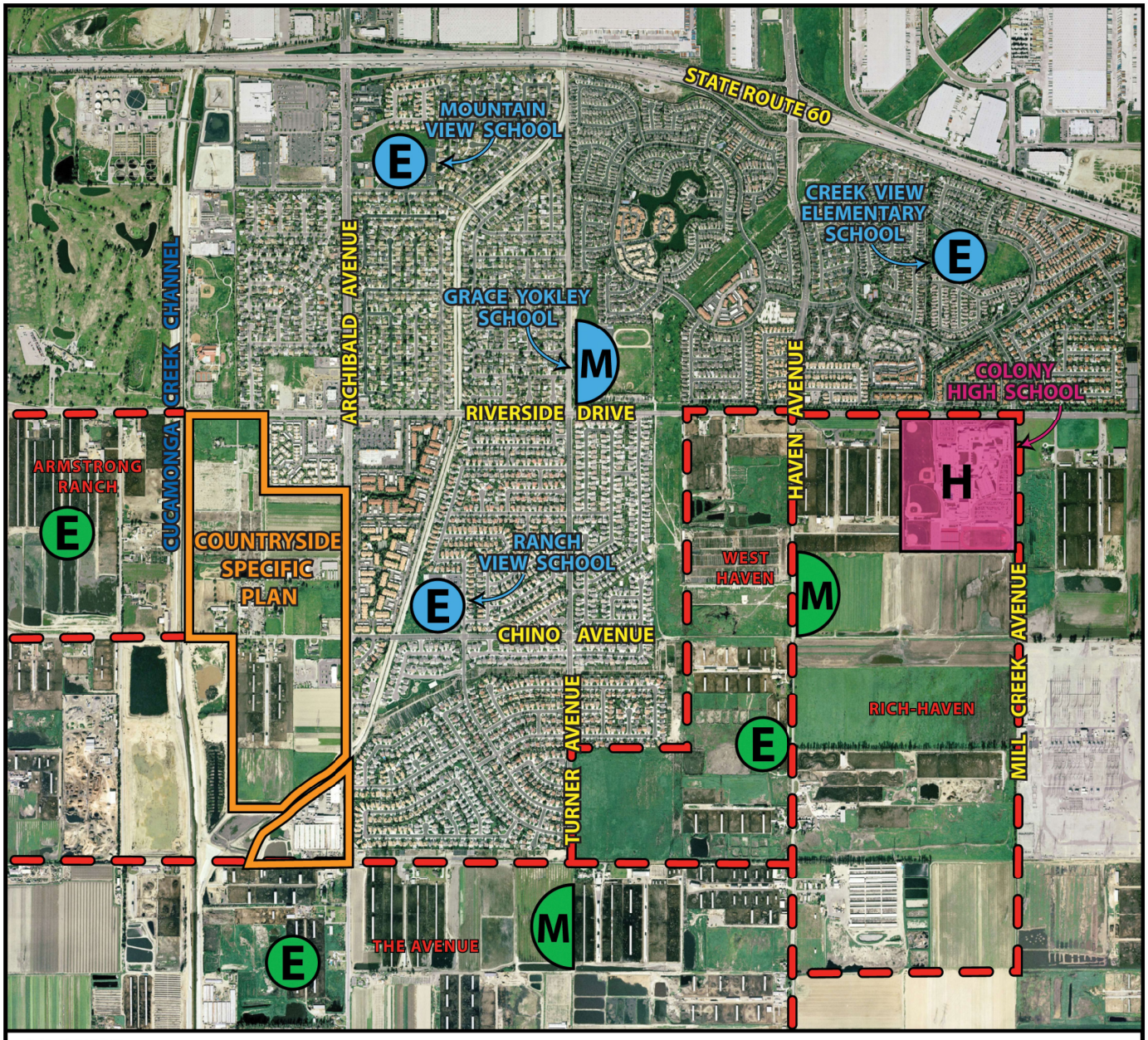


Exhibit 25
School Locations

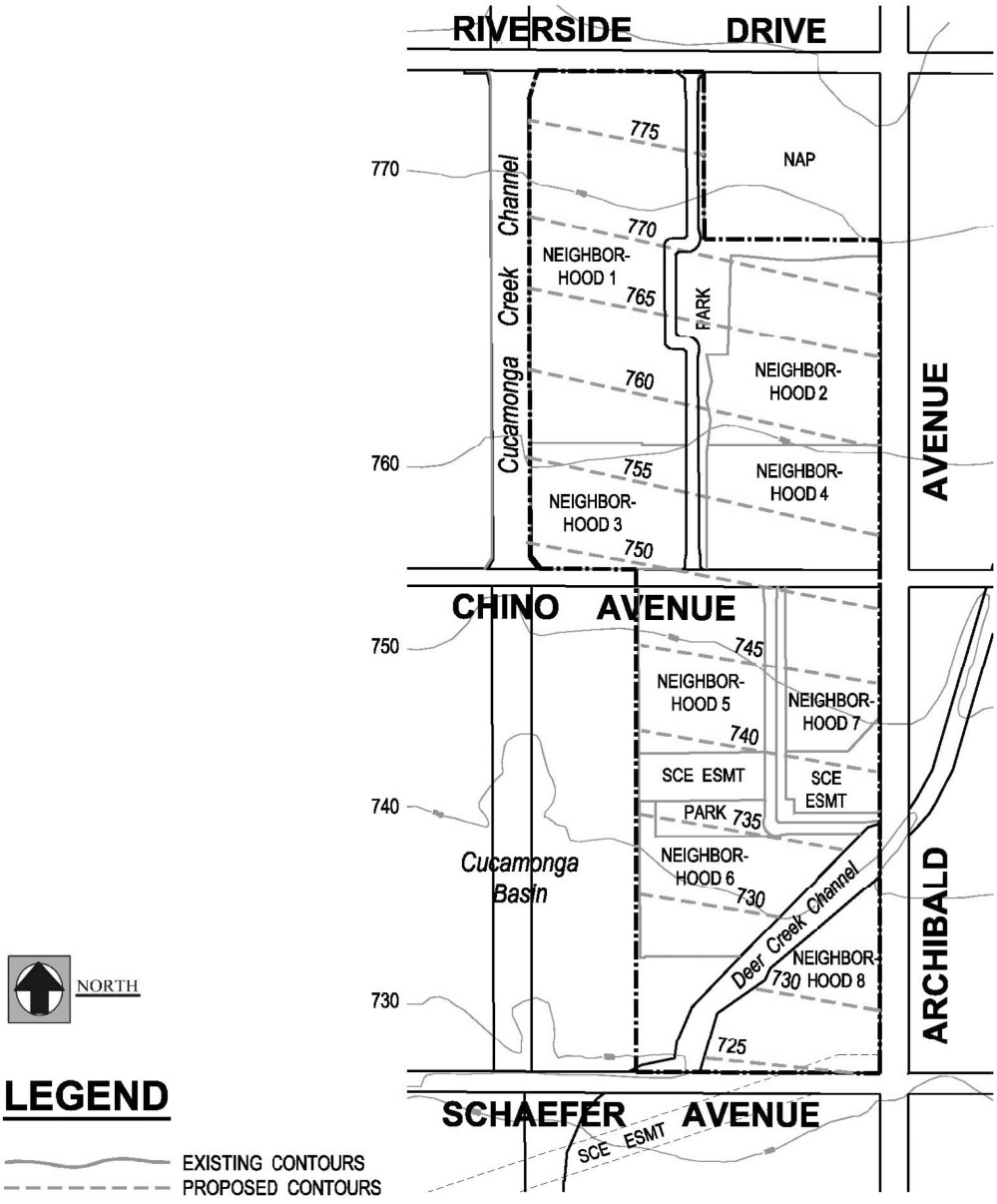


Exhibit 26
Conceptual Grading Plan

Section 5. Development Regulations

5.1 Introduction

The provisions contained herein will regulate design and development within the Countryside Specific Plan area. The regulations contained herein provide for the development of residential uses and landscaping.

5.2 Definition Of Terms

The meaning and construction of words, phrases, titles, and terms shall be the same as provided in the City of Ontario Development Code Article 2, "Definitions" unless otherwise specifically provided herein.

5.3 Applicability

The development regulations contained herein provide specific standards for land use development within the Countryside Specific Plan. Application of the following regulations is intended to encourage the most appropriate use of the land, ensure the highest quality of development, and protect the public's health, safety, and general welfare. The adoption of the Countryside Specific Plan by ordinance, supersedes otherwise applicable City of Ontario zoning regulations unless stated herein to the contrary. Whenever the provisions and development standards contained herein conflict with those contained in the City of Ontario Development Code, the provisions of the Countryside Specific Plan shall take precedence. Where the Specific Plan is silent, City codes shall apply. These regulations shall reinforce specific site planning, architectural design, and landscape design guidelines contained in Section 6, "Design Guidelines" of the Specific Plan.

5.4 Administration

The Countryside Specific Plan is adopted by ordinance and will serve as the implementation tool for the General Plan as well as the zoning for the Specific Plan Area. The Countryside Specific Plan addresses general provisions, permitted uses, development standards, and design guidelines.

5.5 Methods And Interpretation

Development within the Countryside Specific Plan shall be implemented through the approval by the City of Ontario of tract maps and development plans. The administration process described below provides for the mechanisms for review and approval of development projects within Countryside consistent with the Specific Plan objectives.

5.6 General Site Development Criteria

The following general site development criteria shall apply to all land development proposed in Countryside.

a) Gross Acres - Except as otherwise indicated, gross acres for all development areas are measured to the centerline of streets.

b) Grading - Development within the Specific Plan Area shall utilize grading techniques as approved by the City of Ontario. Grading concepts shall respond to the design guidelines included in the Specific Plan which guide the development of land use toward the goal of providing for a livable community with streets and entries designed for walking and resident interaction.

c) Building Modification - Additions and/or alterations permitted by this Specific Plan shall match the architectural style of the primary unit and shall be constructed of the same materials and colors as the primary unit.

d) Utility Lines - All new public utility distribution lines of less than 66 kV shall be subsurface throughout the planned community.

e) Technology - All homes shall accommodate the most modern technology for computer internet access, phone, fax, and television. Broadband fiber optics cable will be installed to all the properties per the approved Fiber Optic Master Plan.

f) Density -The Countryside Land Use Plan allocates a number of total number of units to each residential neighborhood as indicated in Table 2, "Land Use Summary" included in Section 3, "Land Use," of the Specific Plan. Variations in the number and type of dwelling units within each residential neighborhood may occur at the time of final design of the neighborhood depending upon the residential product identified for development. Changes in allocation of residential units up to a maximum of a net change of fifteen percent (15%) are permitted among the residential neighborhoods within the Specific Plan, provided that the total number of units established for the Specific Plan area is not exceeded.

g) Maximum Number of Dwelling Units - The maximum number of residential dwelling units permitted within the Countryside Specific Plan shall be ~~819~~984 dwelling units.

h) Streets - Local Streets within residential neighborhoods shall be public. Neighborhood streets within Neighborhoods 2, 5 and 6 shall be private.

i) Alleys and drive aisles within residential neighborhoods shall be private.

5.7 Residential Development Standards

5.7.1 General

This category includes the development of single family detached dwelling units. The purpose of the residential standards for single family detached housing is to establish the minimum criteria for the development of these product types on individual lots within the neighborhoods specified within Countryside.

5.7.2 Permitted Uses

a) Single family detached dwellings including live/work units and their accessory uses.

b) Public or private parks, recreational buildings, greenbelts, or open space.

c) Accessory uses to include the following:

- Garages.
- Granny Flats (i.e. Second Dwelling Units, in accordance the City's Development Code.)
- Home occupations.
- Swimming pools, spas, sports courts, and other similar outdoor recreational amenities.
- Patios and patio covers.
- Storage, garden structures, cabanas, and greenhouses.
- Monument signage.
- Model home and subdivision sales trailers; temporary construction parking, offices, and facilities; real estate signs, signage indicating future development and directional signage in accordance with the City's Development Code.
- Second story additions to existing single story dwelling units.
- Child care facilities/Day care facilities up to 7 children, in accordance with the City of Ontario Development Code.

5.7.3 Conditionally Permitted Uses

a) Places of worship including but not limited to churches and synagogues.

b) Child Care facilities / Day Care facilities – serving 8-14 children.

5.7.4 Temporary Uses

a) Temporary uses shall be permitted pursuant to Article 13 of the City's Development Code.

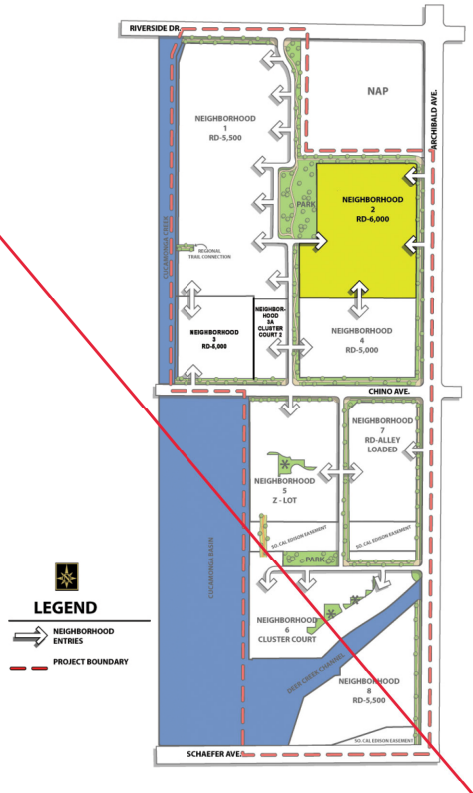
5.7.5 Free Standing Satellite Dish / Antennas

a) Free standing satellite dishes and/or antennas are permitted pursuant to Article 32, Section 9.1.3289 of the City of Ontario Development Code.

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Countryside

Total Maximum Number of Dwelling Units	106	
Maximum Density (Net)	**5.18 DU/NET AC**	
LOT CRITERIA		
• Min. Lot Width at Front PL for Standard Lot	55’	
• Min. Lot Width at Front PL for Lots on Cul-de-sacs or Knuckles	35’	
• Min. Lot Width at Front Building Setback Line for Lots on Cul-de-sacs or Knuckles	55’	
• Min. Lot Width on Corner	60’	
• Min. Lot Depth on Standard Lot	100’	
• Min. Lot Depth on Corner Lot	100’	
• Minimum Lot Size	6,000 SF	
MINIMUM SETBACKS (1)		
• All front and corner side setbacks are measured from the property line at back of sidewalk. All other setbacks are measured from property line unless otherwise noted.		
FRONT -		**RD 6,000**
• Living Area – 1st Story	15’	
• Living Area – 2nd Story	20’	
• **PORCH** (2)	12’	
• **FRONT ENTRY GARAGE** (3)	20’	
• Side On Garage	15’	
SIDE (4) (5)		
• From Interior PL	5’	
• From Residential Street	10’	
REAR		
• Main Structure	20’	
• Garage (Single Story Plate Line)	10’	
• Patio Cover / 2nd Story Deck	5’	
LOT COVERAGE		
• Maximum Coverage	50%	
MAXIMUM BUILDING HEIGHT		
• Main Structure	35’	
WALLS, FENCES AND HEDGES		
• Maximum Height in Traffic Safety Site Area and/or Front or Corner Side Yard Areas	3’ (6)	
• Maximum Height at Interior or Rear Property Line	6’ (6) (7)	
• Maximum Height of Retaining Walls	3’	
PARKING		*Footnotes: Please refer to Footnotes listed on Page 5.57.*
• Minimum Number of Parking Spaces Required	2 Garage Spaces (20’ x 20’)	

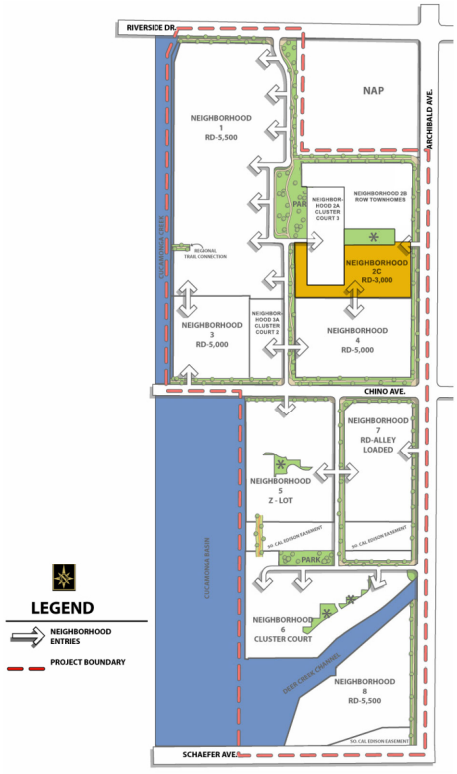


Site Development Standards – RD 6,000

New Page

Countryside

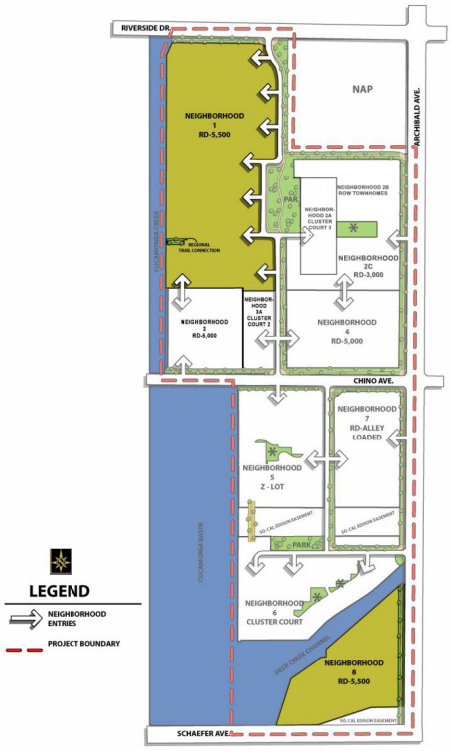
Total Maximum Number of Dwelling Units	56	
Maximum Density (Net)	8.75 DU/NET AC	
LOT CRITERIA		
• Min. Lot Width at Front PL for Standard Lot	40'	
• Min. Lot Width at Front PL for Lots on Cul-de-sacs or Knuckles	35'	
• Min. Lot Width at Front Building Setback Line for Lots on Cul-de-sacs or Knuckles	40'	
• Min. Lot Width on Corner	40'	
• Min. Lot Depth on Standard Lot	70'	
• Min. Lot Depth on Corner Lot	70'	
• Minimum Lot Size	3,000 SF	
MINIMUM SETBACKS (1)		
• All front and corner side setbacks are measured from the back of sidewalk of private drive. All other setbacks are measured from property line unless otherwise noted.		
FRONT -		**RD 3,000**
• Living Area – 1st Story	10'	
• Living Area – 2nd Story	10'	
• Porch (2)	8'	
• Front Entry Garage (3)	18'	
• Side On Garage	15'	
SIDE (4) (5)		
• From Interior PL	4'	
• From Back of Sidewalk of Private Street/Drive Aisle	9'	
REAR		
• Main Structure (Living Area)	10'	
• Garage (Single Story Plate Line)	10'	
• Patio Cover / 2nd Story Deck	5'	
LOT COVERAGE		
• Maximum Coverage	55%	
MAXIMUM BUILDING HEIGHT		
• Main Structure	35'	
WALLS, FENCES AND HEDGES		
• Maximum Height in Traffic Safety Site Area and/or Front or Corner Side Yard Areas	3' (6)	
• Maximum Height at Interior or Rear Property Line	6' (6) (7)	
• Maximum Height of Retaining Walls	4'	
PARKING		
• Minimum Number of Parking Spaces Required	2 Garage Spaces (20' x 20')	



Footnotes: Please refer to Footnotes listed on Page 5.57.x.xx

Site Development Standards – RD 3,000

Total Maximum Number of Dwelling Units	271	
Maximum Density (Net)	**5.84 DU/NET AC**	
LOT CRITERIA		
• Min. Lot Width at Front PL for Standard Lot	50’	
• Min. Lot Width on Corner	60’	
• Min. Lot Width at Front PL for Lots on Cul-de-sacs or Knuckles	35’	
• Min. Lot Width at Front Building Setback Line for Lots on Cul-de-sacs or Knuckles	50’	
• Min. Lot Depth on Standard Lot	100’	
• Min. Lot Depth on Corner Lot	100’	
• Minimum Lot Size	5,500 SF	
MINIMUM SETBACKS (1)		
• All front and corner side setbacks are measured from the property line at back of sidewalk. All other setbacks are measured from property line unless otherwise noted.		
FRONT		**RD 5,500**
• Living Area – 1st Story	15’	
• Living Area – 2nd Story	20’	
• Living Area – 3rd Story	25’	
• Porch (2)	10’	
• Front Entry Garage (3) (8)	18’	
• Side On Garage (9)	10’	
SIDE (4) (5)		
• From Interior PL	5’	
• From Residential Street	10’	
REAR		
• Main Structure (1st Story)	20’	
• Main Structure (2nd Story)	20’	
• Garage (Single Story Plate Line)	10’	
• Patio Cover / 2nd Story Deck	5’	
LOT COVERAGE		
• Maximum Coverage	50%	
MAXIMUM BUILDING HEIGHT		
• Main Structure	35’	
WALLS, FENCES AND HEDGES		
• Maximum Height in Traffic Safety Site Area and/or Front or Corner Side Yard Areas	3’ (6)	
• Maximum Height at Interior and Rear Property Line	6’ (6) (7)	
• Maximum Height of Retaining Walls	3’	
PARKING		
• Minimum Number of Parking Spaces Required	2 Garage Spaces (20’ X 20’)	



Footnotes: Please refer to Footnotes listed on Page ~~5.57~~ x.xx.

Site Development Standards – RD 5,500

Countryside

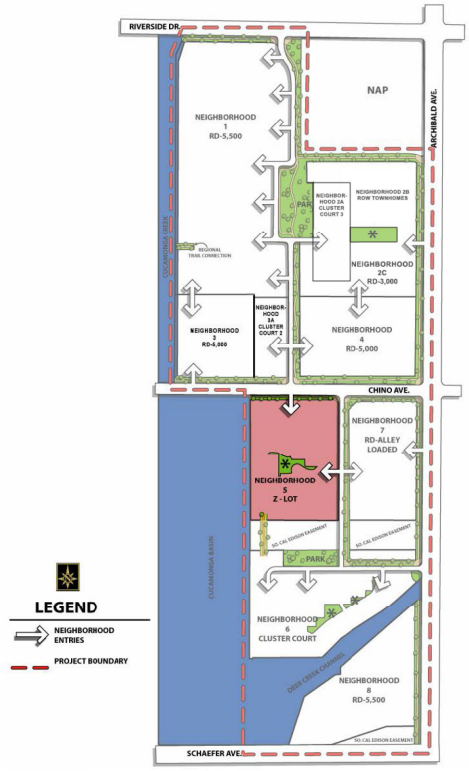
Total Maximum Number of Dwelling Units	112	
Maximum Density (Net)	**5.42 DU/NET AC**	
LOT CRITERIA		
• Min. Lot Width at Front PL for Standard Lot	45’	
• Min. Lot Width at Front PL for Lots on Cul-de-sacs or Knuckles	35’	
• Min. Lot Width at Front Building Setback Line for Lots on Cul-de-sacs or Knuckles	45’	
• Min. Lot Width on Corner	50’	
• Min. Lot Depth on Standard Lot	90’	
• Min. Lot Depth on Corner Lot	90’	
• Minimum Lot Size	5,000 SF	
MINIMUM SETBACKS (1)		
• All front and corner side setbacks are measured from the property line at back of sidewalk. All other setbacks are measured from property line unless otherwise noted.		
FRONT		**RD 5,000**
• Living Area – 1st Story	15’	
• Living Area – 2nd Story	18’	
• Living Area – 3rd Story	25’	
• Porch with Swing in Garage (2)	10’	
• Front Entry Garage (3) (8)	18’	
• Side On Garage (9)	10’	
SIDE (4)		
• From Interior PL (5)	5’	
• From Residential Street	10’	
REAR		
• Main Structure 1st Floor	20’	
• Main Structure 2nd Floor	20’.	
• Garage (Single Story Plate Line)	10’	
• Patio Cover / 2nd Story Deck	5’	
Lot Coverage		
• Maximum Coverage	50%	
MAXIMUM BUILDING HEIGHT		
• Main Structure	35’	
WALLS, FENCES AND HEDGES		
• Maximum Height in Traffic Safety Site Area and/or Front or Corner Side Yard Areas	3’ (6)	
• Maximum Height at Interior and Rear Property Line	6’ (6) (7)	
• Maximum Height of Retaining Walls	3’	
PARKING		
• Minimum Number of Parking Spaces Required	2 Garage Spaces (20’ x 20’)	



Footnotes: Please refer to Footnotes listed on Page ~~5.57~~ x.xx

Site Development Standards – RD 5,000

Total maximum number of Dwelling Units	98	
Maximum Density (Net)	**7.68 DU/NET AC**	
LOT CRITERIA		
• Min. Lot Width at Front Setback Line	40’	
• Min. Lot Width at Front PL for Lots on Cul-de-sacs or Knuckles	35’	
• Min. Lot Width at Front Building Setback Line for Lots on Cul-de-sacs or Knuckles	40’	
• Min. Lot Depth on Standard Lot	85’	
• Minimum Lot Size	3,400 SF	
MINIMUM SETBACKS (1)		
• All front and corner side setbacks are measured from the property line at back of sidewalk. All other setbacks are measured from property line unless otherwise noted.		
FRONT		**Z-LOT**
• Living Area – 1st Story	10’	
• Living Area – 2nd Story	15’	
• Living Area – 3rd Story	25’	
• Porch (2)	8’	
• Front Entry Garage (3)	18’	
• Side On Garage	N/A	
SIDE (4) (5)(13)		
• From Interior PL to Living Area	4’	
• From Interior PL to Garage	3.5’	
• From Residential Street	10’	
REAR		
• Main Structure	10’	
• Garage (Single Story Plate Line)	5’	
• Patio Cover / 2nd Story Deck	5’	
LOT COVERAGE		
• Maximum Coverage	55%	
MAXIMUM BUILDING HEIGHT		
• Main Structure	35’	
WALLS, FENCES AND HEDGES		
• Maximum Height in Traffic Safety Site Area and/or Front or Corner Side Yard Areas	3’	
• Maximum Height Interior and Rear Property Line	**6’** (6) (7)	
• Maximum Height of Retaining Walls	3’	
PARKING		
• Min. No. of Parking Spaces Required	2 Garage Spaces (20’ x 20’)	



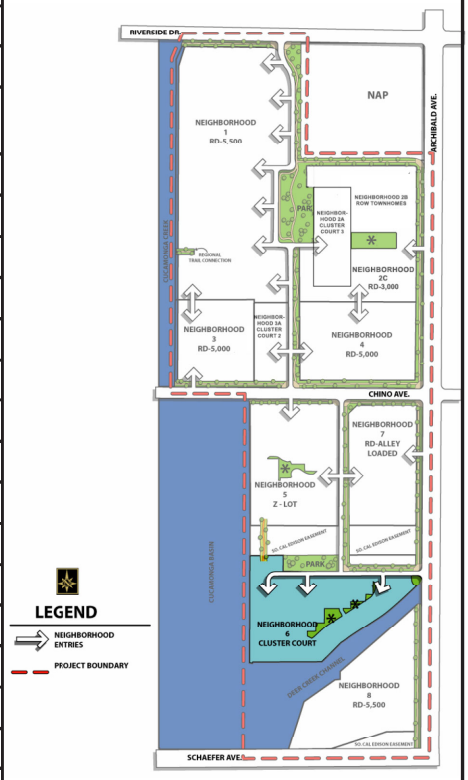
Footnotes: Please refer to Footnotes listed on Page ~~5.57~~ x.xx

Site Development Standards – RD Z-Lot

Countryside

Total maximum number of Dwelling Units	141
Maximum Density (Net)	**9.51 DU/NET AC**
Maximum Number of Units per Cluster	4
LOT CRITERIA (refer to Cluster Exhibits A-C)	
• Min Lot Width at Front P/L	53'
• Min. Lot Width at Front PL for Lots on Cul-de-sacs or Knuckles	35'
• Min. Lot Width at Front Building Setback Line for Lots on Cul-de-sacs or Knuckles	53'
• Min Lot Width at Front P/L- Corner Lot	60'
• Min Lot Depth	54'
MINIMUM SETBACKS	
FRONT	
• Living Area	10'
SIDE (4)	4'
Side Corner Lot (4)	10'
REAR	4'
Porch (2)	8'
Garage	10'
MINIMUM SETBACKS/REAR OF CLUSTER (All setbacks measured from property line; refer to cluster exhibits a-c) (1)	
FRONT	
• Living Area – 1st Story	4'
• Living Area – 2nd Story	8'
SIDE (4)	4'
Rear	10'
Covered Entry	4'
Garage Side & Rear	4'
MINIMUM BUILDING SEPARATION	
Front of Garage to Front of Garage	30'
Covered Entry to Covered Entry	8'
Garage Side & Rear	8'
Minimum Private Open Space	150 S.F./10' min. dimension
LOT COVERAGE	
• Maximum Coverage	55%
MAXIMUM BUILDING HEIGHT	
• Main Structure	35'
WALLS, FENCES AND HEDGES	
• Maximum Height in Traffic Safety Site Area and/or Front or Corner Side Yard Areas	3'
• Maximum Height at Interior and Rear Property Line	6' (6) (7)
• Maximum Height of Retaining Walls	3' (6)
PARKING	
• Minimum Number of Parking Spaces Required	2 Garage Spaces (20' x 20')

CLUSTER COURTS

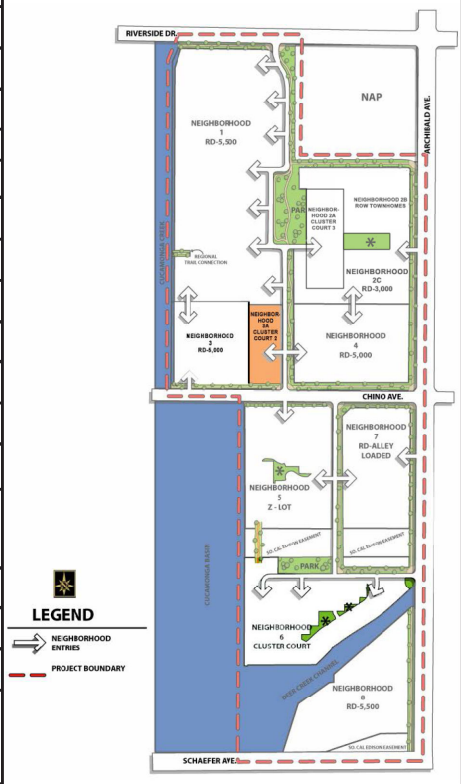


Footnotes: Please refer to Footnotes listed on Page ~~5.57~~ x.xx

Site Development Standards – RD Cluster Court

Total maximum number of Dwelling Units	37
Maximum Density (Net)	**11.71 DU/NET AC**
Maximum Number of Units per Cluster	10
LOT CRITERIA (refer to Cluster Exhibits D-E)	
• Min Lot Width at Front P/L	44’
• Min. Lot size	2,000 S.F.
• (assumes single unit built where unique site constraints exist)	

MINIMUM SETBACKS/FRONT OF CLUSTER (All setbacks measured from property line; refer to cluster exhibits d) [1]		**CLUSTER COURTS 2**
FRONT		
• Living Area – 1st Story	10’	
• Porch with single story plate line [2][11]	8’	
• Second story plate line [10]	12’	
SIDE [4]		
• To Property Line	4’	
• Building to Building	8’	
• Garage to Garage (across drive)	34’	
• Building to Building (across drive)	32’	
• Patio Cover	3’	
REAR		
• To Property Line	10’ [12]	
LOT COVERAGE		
• Maximum Dwelling Units Per Cluster	10	
MAXIMUM BUILDING HEIGHT		
• Main Structure	35’	
WALLS, FENCES AND HEDGES		
• Maximum Height in Traffic Safety Site Area and/or Front or Corner Side Yard Areas	3’	
• Maximum Height at all other locations	6’ [6][7]	
• Maximum Height of Retaining Walls	3’ [6]	
PARKING		
• Minimum Resident Parking Spaces Required	2 Garage Spaces (20’ x 20’)	
• Driveways may be <5’ or> 18’. No driveway between 5 feet and 18 feet is allowed. • Recreational Vehicle (RV) storage is prohibited in front or corner side yards. RV Street parking, • over 72 hours, is prohibited.		
DRIVES		
• Private lanes shall be enhanced with a combination of pavers, colored concrete or similar decorative material, subject to the review of and approval by the Planning Director.		

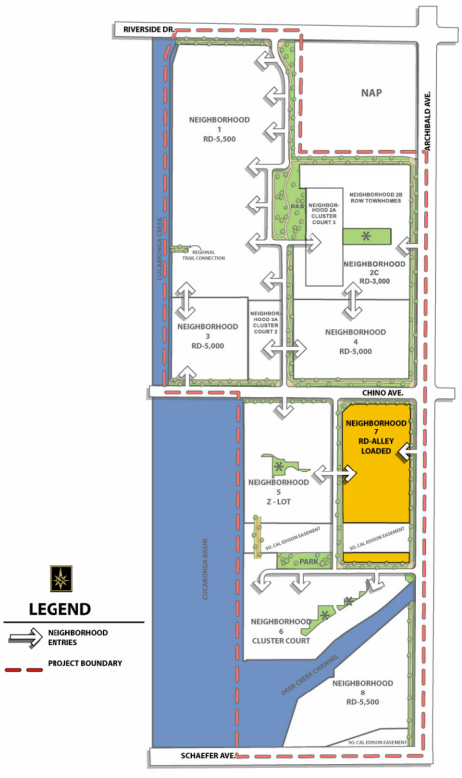


Footnotes: Please refer to Footnotes listed on Page 5.57.xx

Site Development Standards – RD Cluster Court 2

Countryside

Total maximum Number of Dwelling Units	60	
Maximum Density (Net)	**5.35 DU/NET AC**	
LOT CRITERIA		
• Min. Lot Width at Front PL for Standard Lot	45’	
• Min. Lot Width at Front PL for Lots on Cul-de-sacs or Knuckles	35’	
• Min. Lot Width at Front Building Setback Line for Lots on Cul-de-sacs or Knuckles	45’	
• Min. Lot Width on Corner	50’	
• Min. Lot Depth on Standard Lot	65’	
• Min. Lot Depth on Corner Lot	65’	
• Minimum Lot Size	2,925 S.F	
MINIMUM SETBACKS (1)		
• All front and corner side setbacks are measured from the property line at back of sidewalk. All other setbacks are measured from property line unless otherwise noted.		
FRONT		**RD ALLEY LOADED**
• Living Area – 1st Story	12’	
• Living Area – 2nd Story	15’	
• Porch (2)	8’	
• Porch Corner Lot Streetside	8’	
SIDE (4)	4’	
• From Interior PL (5)	5’	
• From Residential Street	10’	
REAR (FROM ALLEY R/W)		
• Main Structure (1st Story)	5’	
• Garage	5’	
• Patio Cover / 2nd Story Deck	5’	
LOT COVERAGE		
• Maximum Coverage	60%	
MAXIMUM BUILDING HEIGHT		
• Main Structure	35’	
WALLS, FENCES AND HEDGES		
• Maximum Height in Traffic Safety Site Area and/or Front or Corner Side Yard Areas	3’ (6)	
• Maximum Height at Interior and Rear Property Line	6’ (6) (7)	
• Maximum Height of Retaining Walls	3’	
PARKING		
• Minimum Number of Parking Spaces Required	2 Garage Spaces (20’ x 20’)	

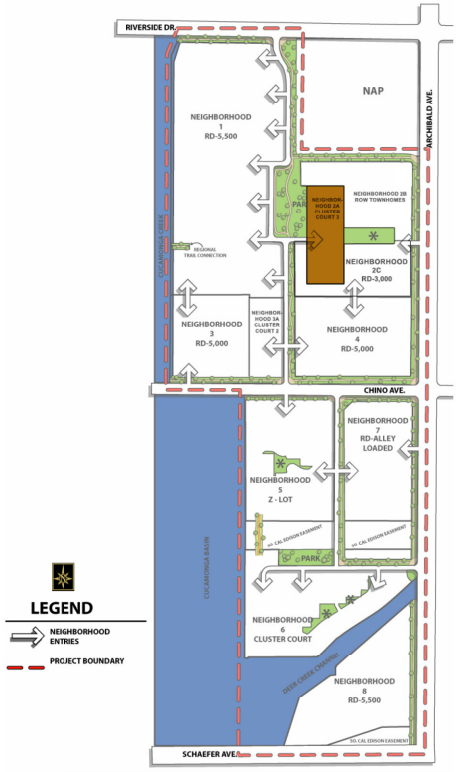


Footnotes: Please refer to Footnotes listed on Page 5.57 x.xx

Site Development Standards – RD Alley Loaded

Total Maximum Number of Dwelling Units	83
Maximum Density (Net)	13.17 DU/NET AC
Maximum Number of Units per Cluster	8
LOT CRITERIA	
• Minimum Lot Width at Front P/L	33’
• Minimum Lot Size (Assumes single unit built where unique site constrains exist)	2,000 S.F.

MINIMUM SETBACKS/FRONT OF CLUSTER (1)		
• All front and corner side setbacks are measured from the back of the sidewalk of private drive or drive isle. All other setbacks are measured from property line unless otherwise noted.		
FRONT		**RD CLUSTER COURTS 3**
• Living Area	6’	
• Porch (2)– Private Residential Street	4’	
SIDE (4)		
• Living Area	4’	
• Porch	3’	
REAR		
• Living Area	10’	
• Garage	5’	
MINIMUM BUILDING SEPARATION		
• Front-Front	26’	
• Side-Side	8’	
• Garage-Garage (across drive)	26’	
• 2nd Story (across drive)	26’	
LOT COVERAGE		
• Maximum Coverage	60%	
MAXIMUM BUILDING HEIGHT		
• Main Structure	35’	
WALLS, FENCES AND HEDGES		
• Maximum Height in Traffic Safety Site Area and/or Front Corner Side Yard Areas	3’ (6)	
• Maximum Height Interior and Rear Property Line	6’ (6) (7)	
• Maximum Height of Retaining Walls	3’	
PARKING		
• Minimum Number of Resident Parking Spaces Required	2 Garage Spaces (20’ x 20’)	
• Guest Spaces	[1] Portion of dwellings < 50: 0.25 spaces per dwelling [2] Portion of 50 to 100 dwellings: 0.20 spaces per dwelling [3] Portion of dwellings > 100: 0.17 spaces per dwelling; and [4] A minimum of 3 guest spaces shall be provided for developments consisting of more than 8 dwellings.	



Site Development Standards - RD Cluster Court 3

New Page

start page number revisions

New Page

Total Maximum Number of Dwelling Units	126	
Maximum Density (Net)	17.92 DU/ NET AC	
LOT CRITERIA		
• Minimum Lot Size	1,400 S.F. per Unit	
MINIMUM SETBACKS (1)		
• All front and corner side setbacks are measured from the back of the sidewalk of private drive or drive isle. All other setbacks are measured from property line unless otherwise noted.		
FRONT		**RD TOWNHOMES**
• Living Area - 1st Story	10’	
• Living Area - 2nd Story	10’	
• Porch (2)	5’	
SIDE (4)		
• From PL (5) (Living Area)	12’	
• From Private Residential Street/Drive Aisle	6’	
REAR (FROM ALLEY LOT LINE)		
• Living Area (1st Story)	5’	
• Garage	4.5’	
• 2nd Story	3’	
MINIMUM BUILDING SEPARATION		
• Front-Front; Front-Side; Side-Side	20’	
• Garage-Garage (across drive)	29’	
• 2nd Story (across drive)	26’	
LOT COVERAGE		
• Maximum Coverage	60%	
MAXIMUM BUILDING HEIGHT		
• Main Structure	35’	
WALLS, FENCES AND HEDGES		
• Maximum Height in Traffic Safety Site Area and/or Front Corner Side Yard Areas	3’ (6)	
• Maximum Height Interior and Rear Property Line	6’ (6) (7)	
• Maximum Height of Retaining Walls	3’	
PARKING		
• Minimum Number of Resident Parking Spaces Required	2 Garage Spaces (20’ x 20’)	
• Minimum Number of Guest Parking Spaces Required	[1] Portion of dwellings < 50: 0.25 spaces per dwelling [2] Portion of 50 to 100 dwellings: 0.20 spaces per dwelling [3] Portion of dwellings > 100: 0.17 spaces per dwelling; and [4] A minimum of 3 guest spaces shall be provided for developments consisting of more than 8 dwellings.	



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Site Development Standards – RD Townhomes

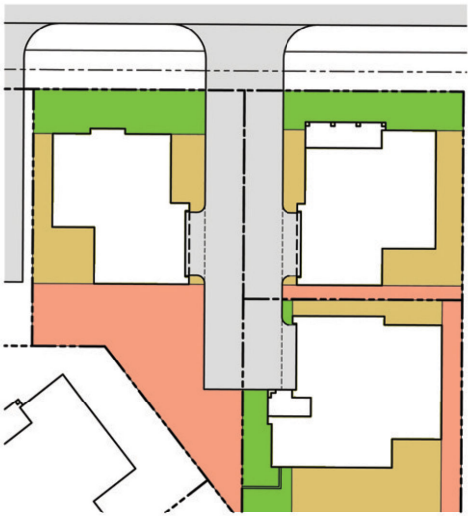


Exhibit A - Cluster Development 3-Pak

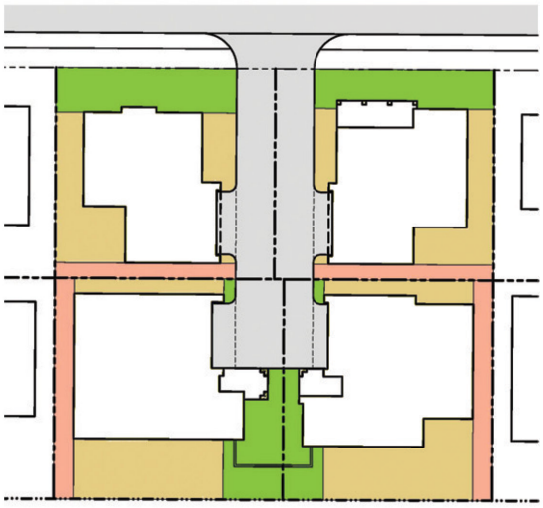


Exhibit B - Cluster Development 4-Pak



Exhibit C - Cluster Development Single

Footnotes:

1. Architectural projections may project a maximum of 3-feet into required front, rear or side setback areas; however, in no case shall such projection be closer than 3-feet to any property line. An architectural projection is defined as an element that articulates the building elevation such as eaves, window and door pop out surrounds, media niches, bay windows, pot shelves, chimneys, enhanced window sills, shutter details, window trim, balconies and entry gates, and other similar elements.
2. The minimum depth of a porch shall be 7-feet. A minimum area of 70 square feet clear space is required.
3. When front entry garages are plotted adjacent to one another on adjoining lots, the front plane of one garage must be offset a minimum of 2-feet from the garage on the adjacent lot. Garages designed as non-forward facing garages shall be set back a minimum of 5-feet behind the main living area.
4. Side yard slopes may not encroach more than 50% into side yard setback areas.
5. Single story elements (Such as porches open on three sides, stairwells and porte cocheres) may project up to 3-feet into required yards. Porch elements with single story plate lines may project up to 6-feet into required corner side yard setback along residential streets; in no case shall such projection be closer than 5-feet from the back of sidewalk.
6. Solid masonry walls or wood fencing materials may be permitted on the front property line (or front parcel line in the case of RD-Cluster Court and RD-Cluster Court 2). Fences, walls, hedges or similar view obstructing structures or plants that reduce safe ingress or egress of vehicles or pedestrians shall not exceed 3-feet in height in any required front or corner side yard setback.
7. Walls may exceed 6-feet in height for noise attenuation purposes subject to an acoustical study and City approval.
8. Front facing garages located forward of a porch or front facing building elevation plane shall be set back a minimum of 20-feet from the back of sidewalk.
9. Side on garages permitted only on lots with a minimum width of 53-feet.
10. Maximum single porch width shall be 13' wide.
11. Limit of 1 Bay window alcove projection per home with single story plate line.
12. 5' Rear setback subject to Planning Director approval.
13. Z-lot dwellings, with forward garage floor plans, shall have a minimum of 3.5' interior side setback along the garage side elevation of the dwelling.



Exhibit D - Cluster Development 10-Pak

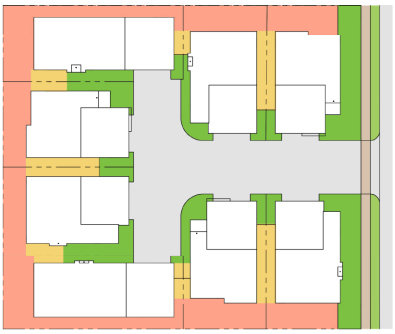


Exhibit D - Cluster Court 3

New Graphic

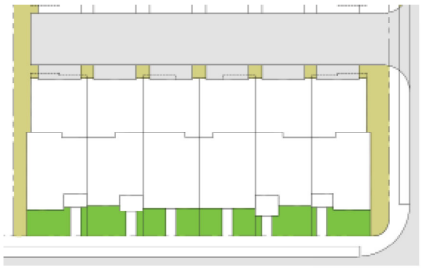


Exhibit E - Townhomes

New Graphic

5.8 Landscape Standards

5.8.1 General Provisions

a) All landscape plans, streetscape plans and graphic designs with regard to the identity of Countryside, neighborhood identity or entry monumentation shall conform to the design guidelines and regulations as set forth herein and shall be subject to review and approval by the City of Ontario.

b) The Landscape/Streetscape improvements for the Countryside Specific Plan shall establish a landscape theme reminiscent of the regional landscape character of the surrounding area.

5.8.2 Landscape Standards

a) Landscaping within the Countryside Specific Plan shall be provided in accordance with the Design Guidelines for Streetscapes and Entries utilizing plant materials specified in Section 6, "Design Guidelines" established for the Countryside Specific Plan.

b) Boundary landscaping will be required adjacent to residential, commercial, and business park/ light industrial areas. Landscaping shall generally be placed along the entire property line.

c) Landscaping and irrigation systems, within the public rights-of-way of the Countryside Specific Plan area, shall be installed by the developer.

d) Freestanding perimeter walls and view fencing shall be provided within and at the perimeter of the Specific Plan Area. Such walls and fences will be constructed concurrently with the construction of improvements required for development of the neighborhoods of the Specific Plan.

e) Front yard landscaping and irrigation for RD-5,000, RD-5,500, and RD-~~6,000~~3,000 homes shall be installed by the builder and maintained by the homeowner. Front yard landscaping and irrigation for RD Z-Lot, Alley Loaded, RD Cluster Court, ~~and~~ RD Cluster Court 2 homes, RD Cluster Court 3 homes and RD Row Townhomes shall be installed by the builder and maintained by a Homeowners' Association (HOA). At a minimum, the builder shall install turf, trees and shrubs in the front yards of these areas.

f) Walls and Fencing

- Perimeter walls shall be constructed along the boundaries of Archibald Avenue, Riverside Drive, Chino Avenue and Schaefer Avenue a design consistent with the Wall and Fence Master Plan as discussed in Section 6, "Design Guidelines" and shall not exceed 6-feet in height from finished grade. Perimeter walls may exceed 6-feet in height if required for sound attenuation. Perimeter walls shall be constructed of either decorative masonry or other permanent, durable, low maintenance material approved by the City. Fencing utilized within the Specific Plan Area, such as split rail fencing, shall be constructed of durable materials with a wood like appearance and will be subject to approval by the City.
- Residential side and rear yard walls and fencing shall not exceed 6-feet in height from highest adjacent finished grade. Walls and fencing within the residential front yard setback area shall not exceed feet in height. Walls shall be of masonry decorative construction or other permanent low maintenance materials approved by the City. Front yard fences may be constructed of any durable materials with a wood like appearance, subject to approval by the City. View fencing may be of a decorative wrought iron or other durable material approved by the City.

g) All perimeter wall and fence materials throughout Countryside will be of uniform manufacture with colors specified for the overall design theme.

h) The developer will provide site inspection of all construction and installation of open space areas in accordance with City of Ontario requirements.

i) Non-toxic vegetation shall be utilized adjacent to all public open space areas.

5.9 Signage

A Master Sign Program shall be submitted by the developer(s) for Countryside and approved by the City of Ontario pursuant to Article 31 of the City's Development Code to address residential project entries, residential neighborhood identification signs, and way finding signs within Countryside. All other signs shall be subject to the approval of a sign permit pursuant to the City's Development Code. No project signs shall be permitted in the public right-of-way.

5.9.1 Master Sign Program Contents

All sign programs shall address, at a minimum, the following:

a) Permitted signs.

b) Prohibited signs.

c) The hierarchy of signage.

d) Definition of types of signs.

e) Locations and dimensions for monument signs, neighborhood identification signs, and public facilities signs.

f) Locations and dimensions of directional signage.

g) Provisions for size, location, and duration of display of temporary signs.

h) Permitted sign types, styles, construction materials, colors, and lettering styles.

i) Requirements for a sign permit application.

j) Procedures for obtaining approval of a sign permit.

k) Procedures for amendments to the sign program.

Section 6. Design Guidelines

6.1 Preface

These design guidelines define the fundamental techniques needed to create a great neighborhood in Countryside. It is the integration of good site-planning techniques, well defined architecture and attractive landscape architecture combined that creates a community of neighborhoods quality and character. The Design Guidelines include architecture and landscape criteria to implement the community of Countryside.

6.2 Vision Statement For Community

Vision for Countryside will be implemented by the following concepts:

1. To provide well designed, safe and pleasant neighborhoods in which to live.
2. To provide a range of diverse housing types.
3. To provide exceptional architectural and landscape design.
4. To provide a new neighborhood that becomes part of the overall fabric of the existing, larger community.

6.3 Architectural Design Criteria

6.3.1 Core Criteria

The following architectural core criteria have been created to assist in developing architectural styles that are economically feasible to the builder, as well as aesthetically appealing to the homebuyer.

- The home, not the garage, will remain the primary emphasis of the front elevation.
- A variety of compatible architectural styles.
- A degree of individuality in the neighborhoods.
- Detailing will remain true to the style.
- Colors will be used to reinforce architectural style.
- Roof forms will play a major role in defining the architectural style.

6.3.2 Design Character

The design character of the neighborhoods will be one of continuity, individuality and compatibility. These concepts bring about welcoming neighborhood designs that are embraced by the greater community. The architectural styles selected for Countryside have a historic background and context in keeping with the character of Ontario.

6.3.3 Design Intent

These guidelines are not intended to be overly restrictive or limiting, but to be helpful in achieving neighborhoods with a higher level of quality living.

6.3.4 Authenticity

The design criteria within these guidelines is offered to prevent "false front" architecture. The massing and detail character of the architectural styles should be as authentic to the selected styles as possible. The master developer designated styles are attractive and compatible with each other, while meeting the demands of modern-day, merchant-built homes.

6.4 Design Fundamentals

The important elements of a good neighborhood below are greatly encouraged throughout the community:

1. Architecture forward.
2. Varied garage placement.
3. Eclectic variety of compatible architectural styles.
4. Variable lot setbacks.
5. Enhanced side elevations at primary corners or from highly visible public viewing locations such as parks.
6. Varied floor plans and elevations in single-family detached residential homes should be incorporated as follows. When a side elevation of a home faces the street or is adjacent to a common public walkway, the elevation will be detailed with architectural enhancements. Reverse floor plans and elevations are considered as a separate floor plan and/or elevation for purposes of implementing the table below.
7. Street tree program.
8. Plotting techniques.
9. Pedestrian connections.
10. Color: over time, the addition and deletion of color schemes create a unique feel.

NUMBER OF DWELLING UNITS	NUMBER OF DIFFERING FLOOR PLANS AND ELEVATIONS
5-10	As required by Planning Commission
11-25	2
26-50	3
51-75	3
76-100	4
Over 100	4; +1 additional floor plan with 4 elevations for each additional 50 units exceeding 100

6.5 Garage Treatments

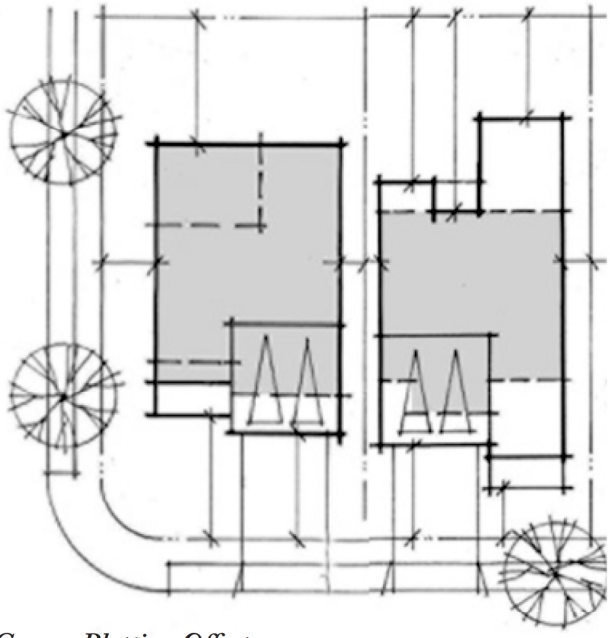
The home and front yard, rather than the garage, should be the primary emphasis of the front elevation. The number of homes with a front facing garages located forward of the porch or front building elevation plane should be limited to no more than 25% of the total number of units in each builder's plan package and shall be setback from the property line a minimum of 20-feet. It is the intent of the City to minimize garage visibility though techniques such as varying garage-door patterns and utilizing deep recessed door techniques, varying colors, splitting one large door into two single doors or using alternative garage configurations, such as corner garages, and full recess garages. Garage doors should match the style of the house.

6.5.1 Garage Wall-Plane Furr-out

Furr-out garage wall plane 12" to 18" for front loaded street facing garages when the garage door is at the minimum setback. No more than 25% of the homes plotted shall use this solution. With other garage configurations a range of 6" to 12" is recommended.

6.5.2 Porte-Cochère

A recessed garage plan with a porte-cochère creates an additional screened parking space and an occasional outdoor private space.



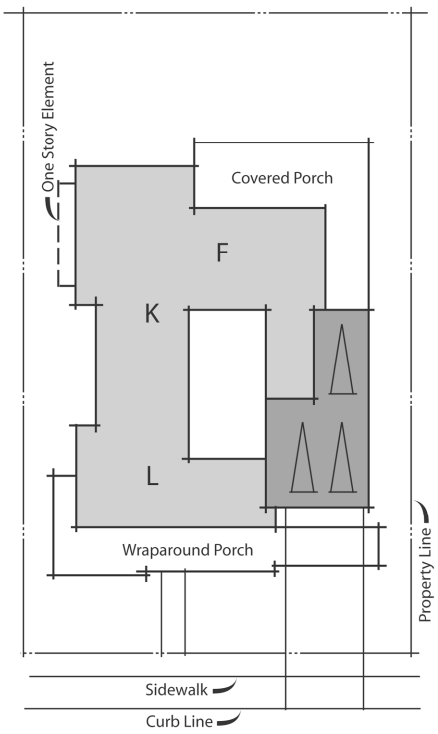
Garage Plotting Offsets

6.5.3 Three-Car Garage Treatment

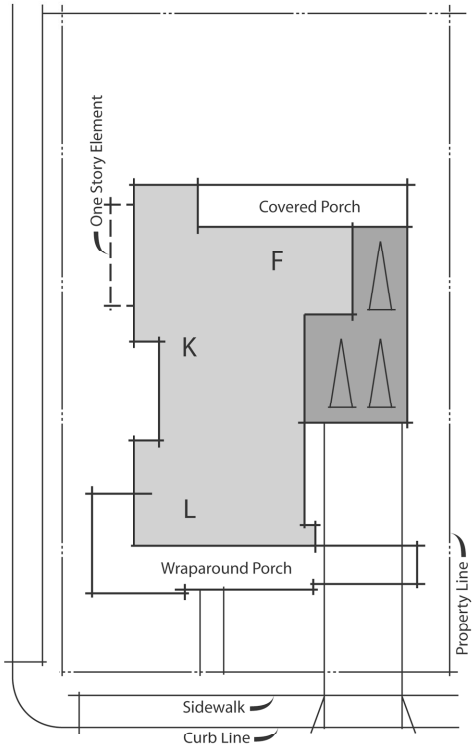
When a plan has a three-car garage, the third car bay shall be offset 5'. Additionally, furr-out garage face wall at three bays at least 12". Three individual garage door bays are preferred over two. Front garage wall face cannot exceed 50% of the entire front façade of the home.

6.5.4 Garage Plotting Offsets

When houses are reversed plotted and the garages are adjacent to each other, a 2' offset between garage setbacks as illustrated in the diagram to the right.



Shallow-recess Garages



Mid-recess Garages

6.6 Garage Configurations

6.6.1 Shallow-recess Garages

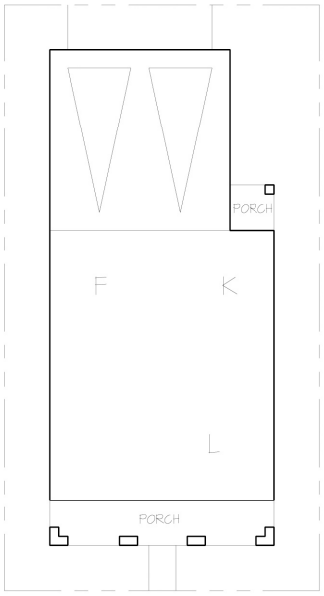
When garages are less than 20' behind property line, no garage face can be less than 3' behind the front building elevation plane or full porch (porch depth minimum is 7'-0").

6.6.2 Mid-recess Garages

Create plans that place garage at varied locations on the homesite.

6.6.3 Rear Loaded Garages

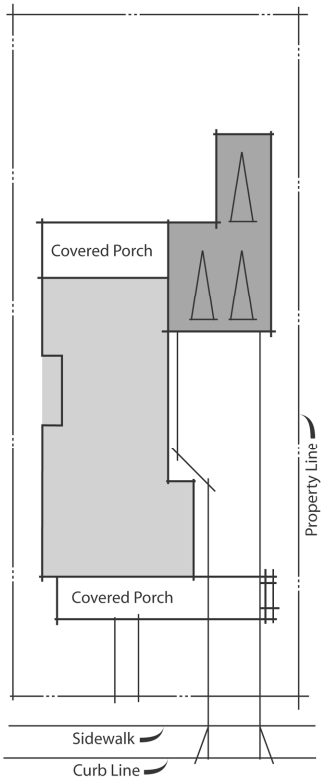
Garages served by an alley at the rear of a residential unit creates a more traditional streetscene with garage placement behind the building hidden from the street. Garage doors on rear loaded garages should be recessed a minimum of 8 inches.



Rear Loaded Garages

6.6.4 Deep-recess Garages

Set the garage back to the rear of the lot or detached. This achieves more living space toward the street and creates additional usable sideyard outdoor space.

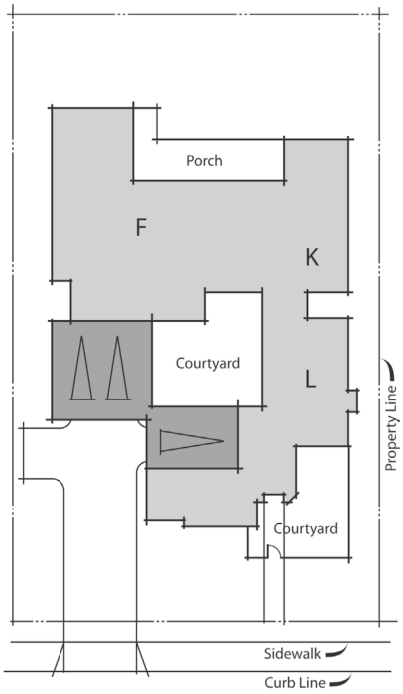


Deep-recess Garages

Countryside

6.6.5 Side On Garages

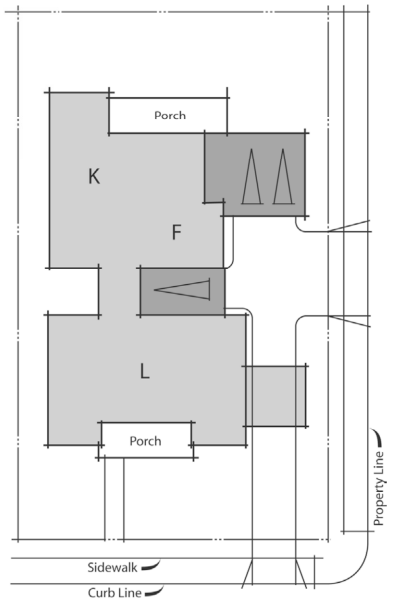
Side On garages greatly reduce the impact of the garages on the streetscape. Side On garages are prohibited on homesites less than 53-feet wide and cannot be accessed from the side on corner lots.



Side On Garages

6.6.6 Corner-Lot Garages

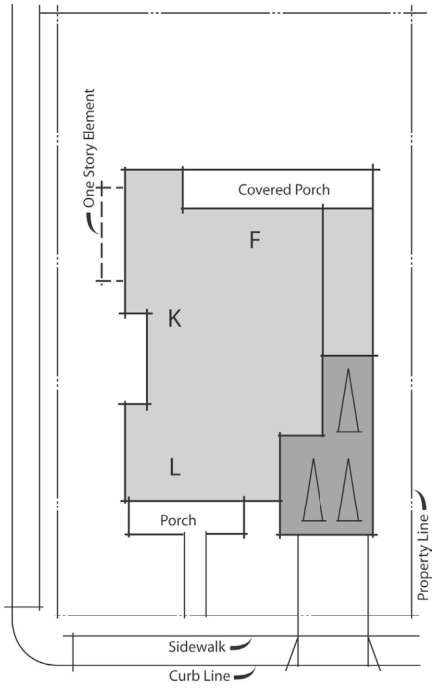
This corner-lot garage treatment can be derived from a plan layout where only the garage changes from an interior-lot plan to a corner-lot plan. This allows for substantial street scene variation while the architecture wraps the exterior lot frontage.



Corner-Lot Garages

6.6.7 Forward Facing Garages

When garages are forward of the porch or front facing building elevation, a minimum driveway length of 20-feet shall be maintained from back of sidewalk (property line) to face of garage door. This configuration should be enhanced with front yard garden walls that begin at the back of the sidewalk.



Forward Facing Garages

6.7 Setback Fundamentals

To provide more interesting neighborhood streetscenes, variable frontyard setbacks are required and variable side yard setbacks are encouraged.

- Varied setbacks along streets
- Reverse plotting along streets
- Enhanced corner sideyard setbacks - see Product Criteria for more specific information
- Variable lot width programs are encouraged
- Corner lot criteria - see Architectural Massing below for more information

6.8 Architectural Massing

6.8.1 Corner Homesite Placement

At least one home plan per neighborhood shall be designed specifically for corner homesites or side-on condition homesites. This home shall require wrap-around architecture on the side facing the street.

Neighborhood quality will be exemplified by adding a home plan designed specifically as an end of the block home, or by enhancing a corner home with additional architectural details as found on the front elevation.

6.8.2 Roof Forms

Rows of homes seen from a distance or along arterial roads are perceived by their contrast against the skyline or background, where the dominant impact is the shape of the building and roof line. Rear elevations and roof planes should be articulated to minimize the visual impact of repetitious flat planes, and similar building silhouettes. Varied rear elevation forms should be provided.

6.9 Streetscape Massing and Plotting

Special architectural treatments (i.e.: feature-entry location, feature-window detail, etc.) shall be provided at street corners and other important focal points.

Front doors and living room windows shall orient toward and be visible from the street.

Buildings shall be designed to create varied setbacks or offsets.

The architectural style chosen for each home or building should be compatible with its massing in order to avoid making the style seem applied or superficial. Authenticity to style is required.

Embellished elevations (upgraded materials, details, massing, etc.) are encouraged at areas of the building that face a public area or view such as a street or park. This applies to the front, side and rear elevations.

6.10 Colors And Materials

The colors and materials used at Countryside will reflect a general contextual theme of harmony and neighborhood character. The architectural style will contribute to this goal as each color palette chosen for each architectural style historic lineage shares this "common sense" approach to the use of materials and colors indigenous to the region. New interpretations of these classic combinations of materials and inherent colors are encouraged as they relate to a general feeling of neighborhood unity.

6.10.1 Criteria

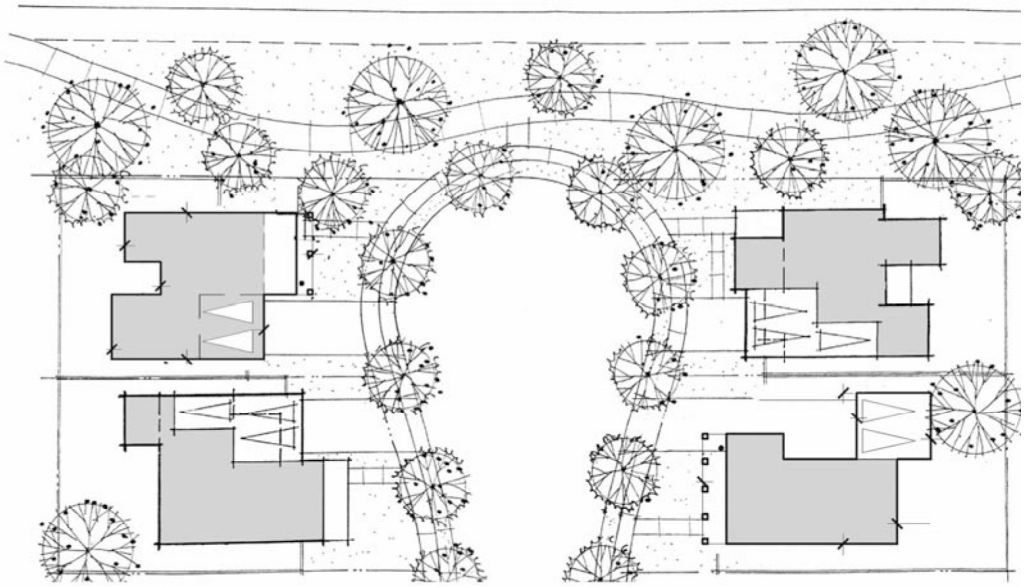
A variety of natural looking materials and colors will provide the diversity required for visual interest while unifying the homes with their settings and creating a timeless appeal. The primary purpose of the architectural color palette selection is to avoid monotony and provide a variety of color schemes while still maintaining a common theme or unifying concept.

1. Each color scheme shall incorporate a minimum of three colors (or example, one body color, one trim color and one accent colors).
2. Each neighborhood shall have a minimum of three different roofing colors consistent with the architectural style of the home.
3. Individual color schemes must be appropriate to the architectural styles with a harmonious selection of accent materials, roof profiles and colors.
4. No adjacent single family detached home shall have the same color scheme. Color palettes that reflect traditional architectural themes are the basis for successful modern interpretations. Current color trends integrated within a historically referenced framework create dynamic, yet timeless color combinations.

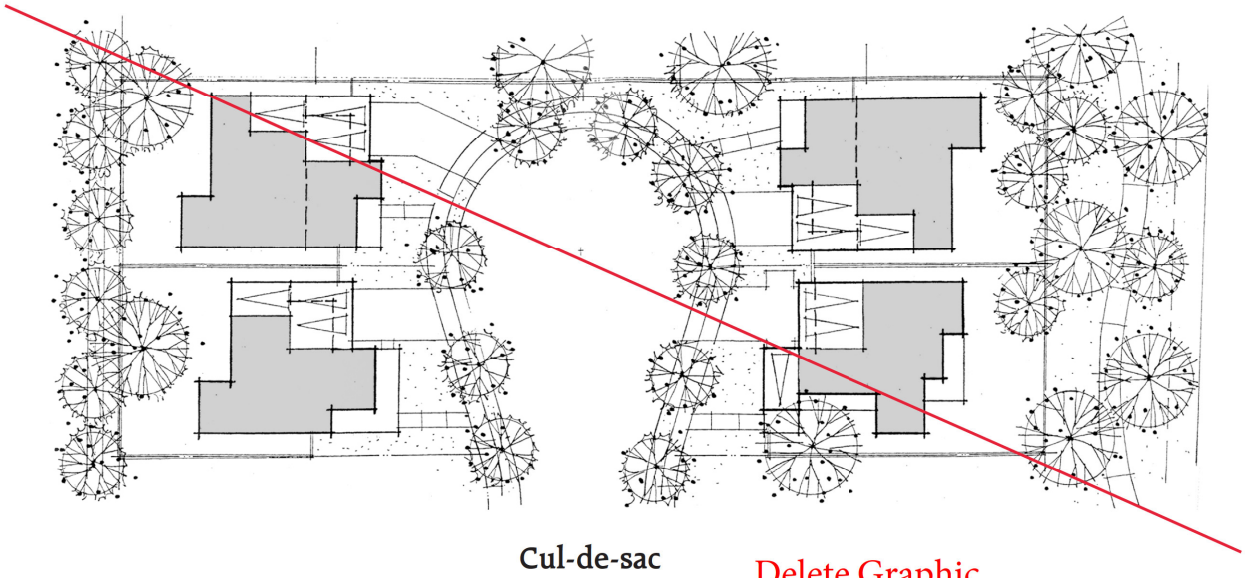
6.11 Motorcourts

Motorcourts within Single Family Detached Cluster product areas shall be enhanced with decorative paving to create a pedestrian friendly travel area for access to rear units.

6.11 Product Setback Diagrams and Demonstration Plotting



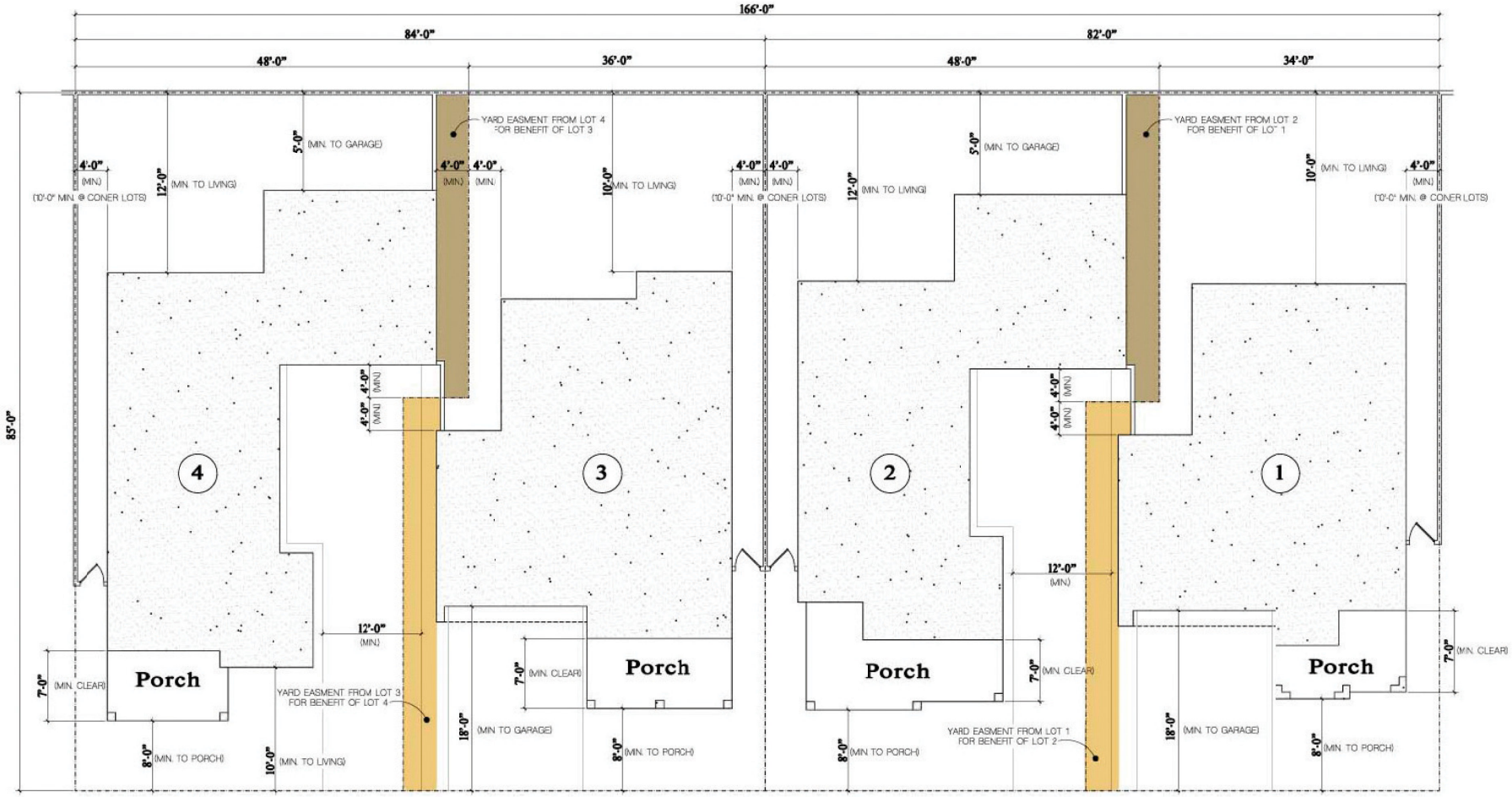
Cul-de-sac
55' X 100' Product



Cul-de-sac
60' X 100' Product

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Countryside

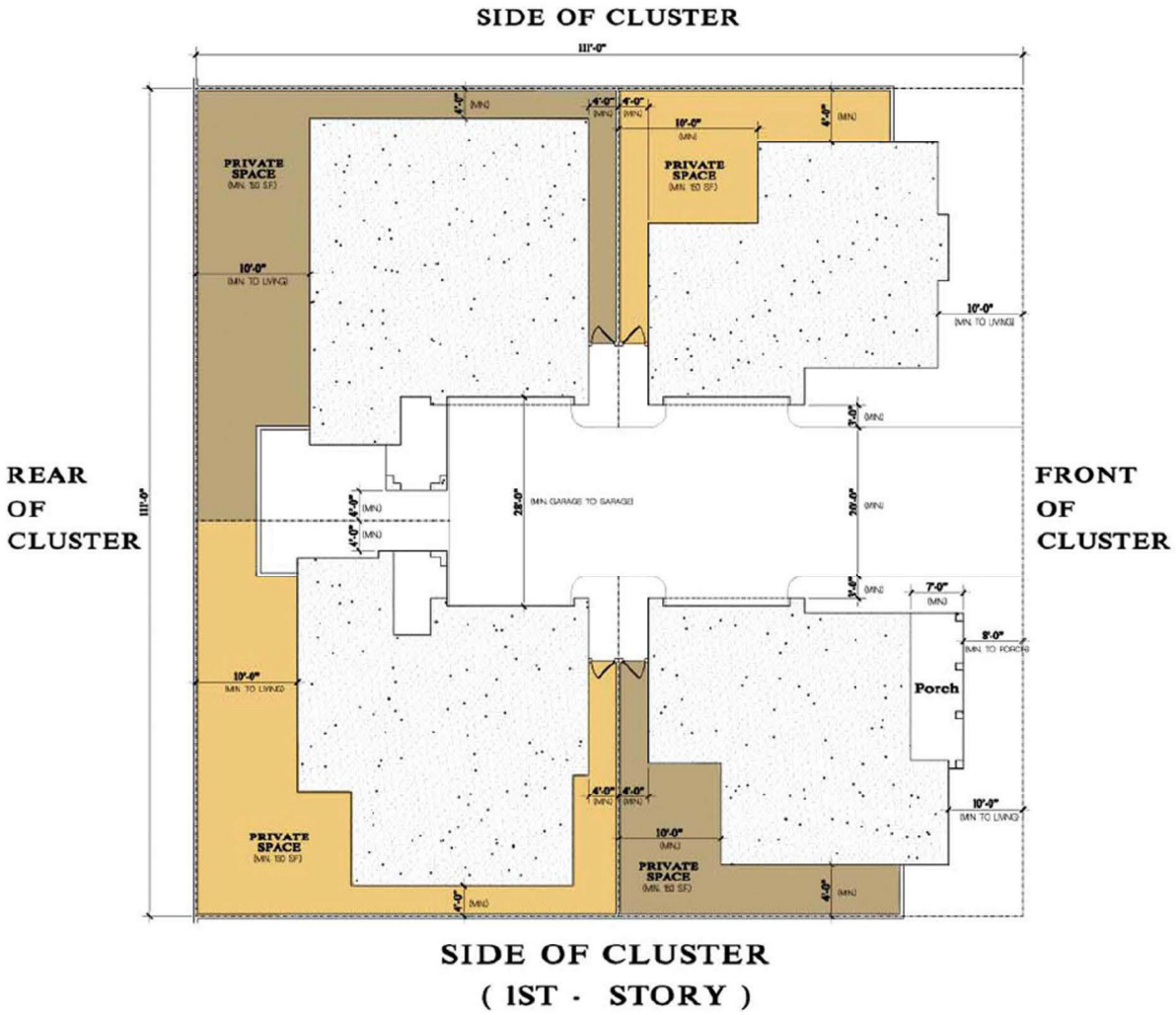


Z-Lot Typical Plotting

Countryside



Axonometric Z-Lot



Cluster Court SFD

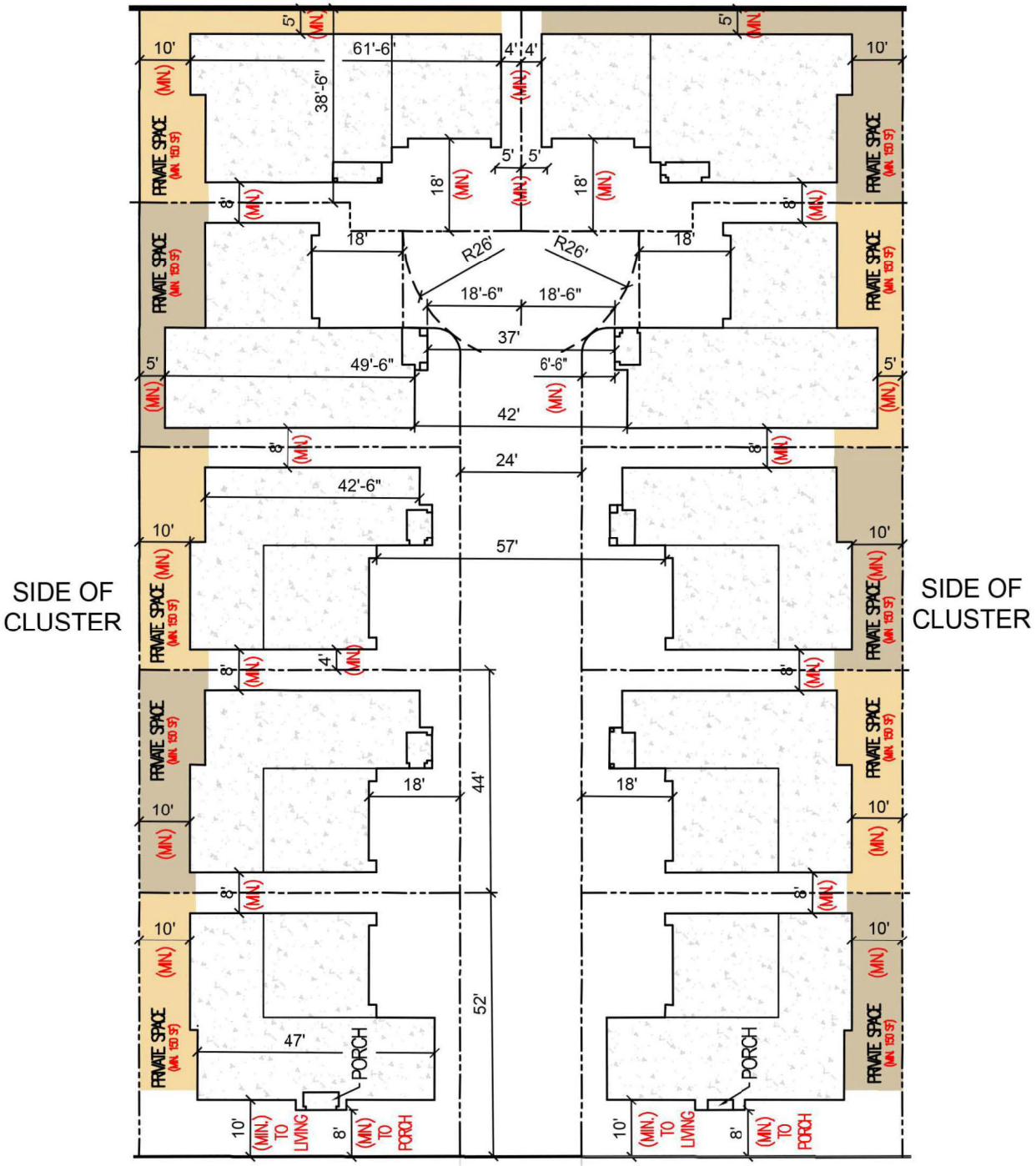
Countryside



Axonometric Cluster

Countryside

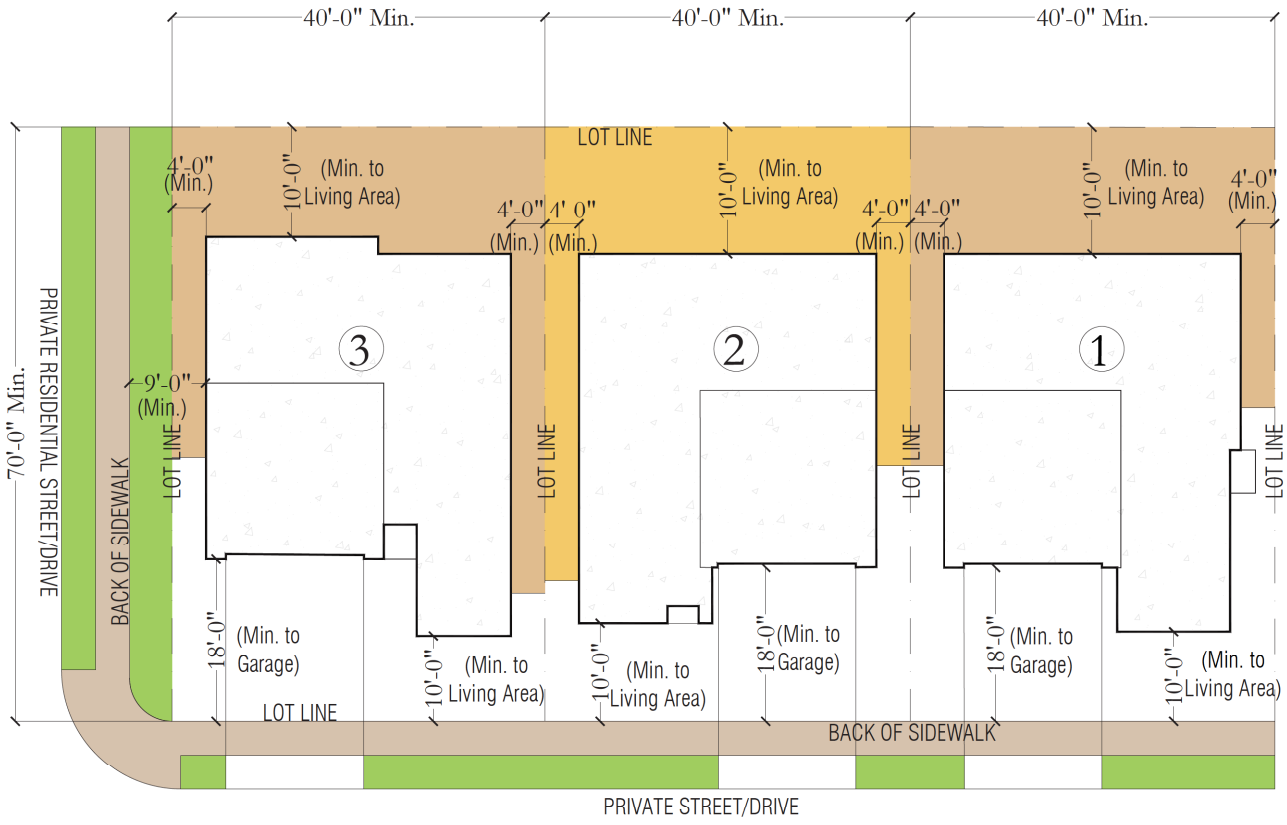
REAR OF CLUSTER



Cluster Court 2 SFD - 10 Pak

8064

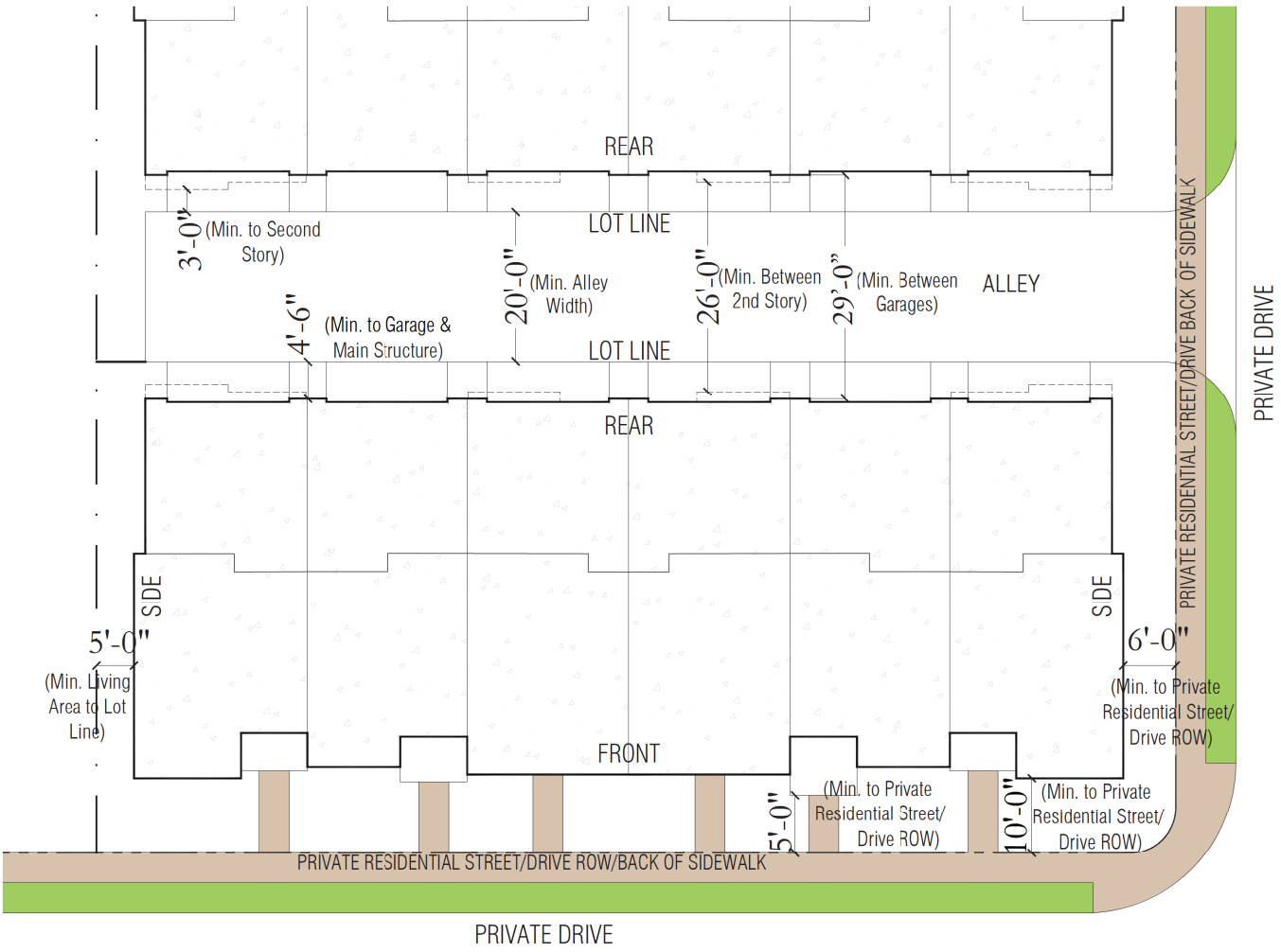
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3000 SF Lots New Page

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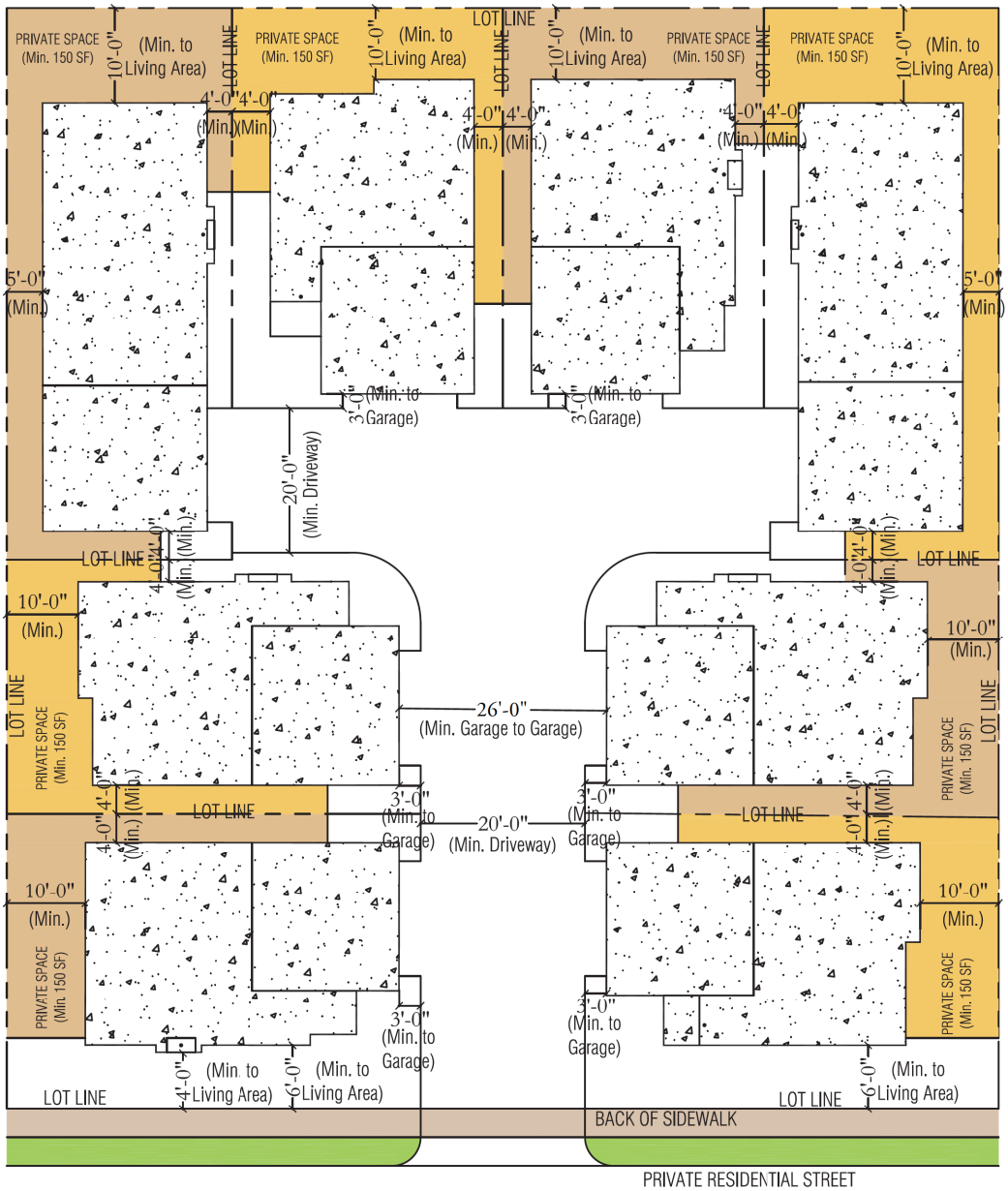


Row Townhomes Typical Plotting New Page

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Countryside

REAR OF CLUSTER



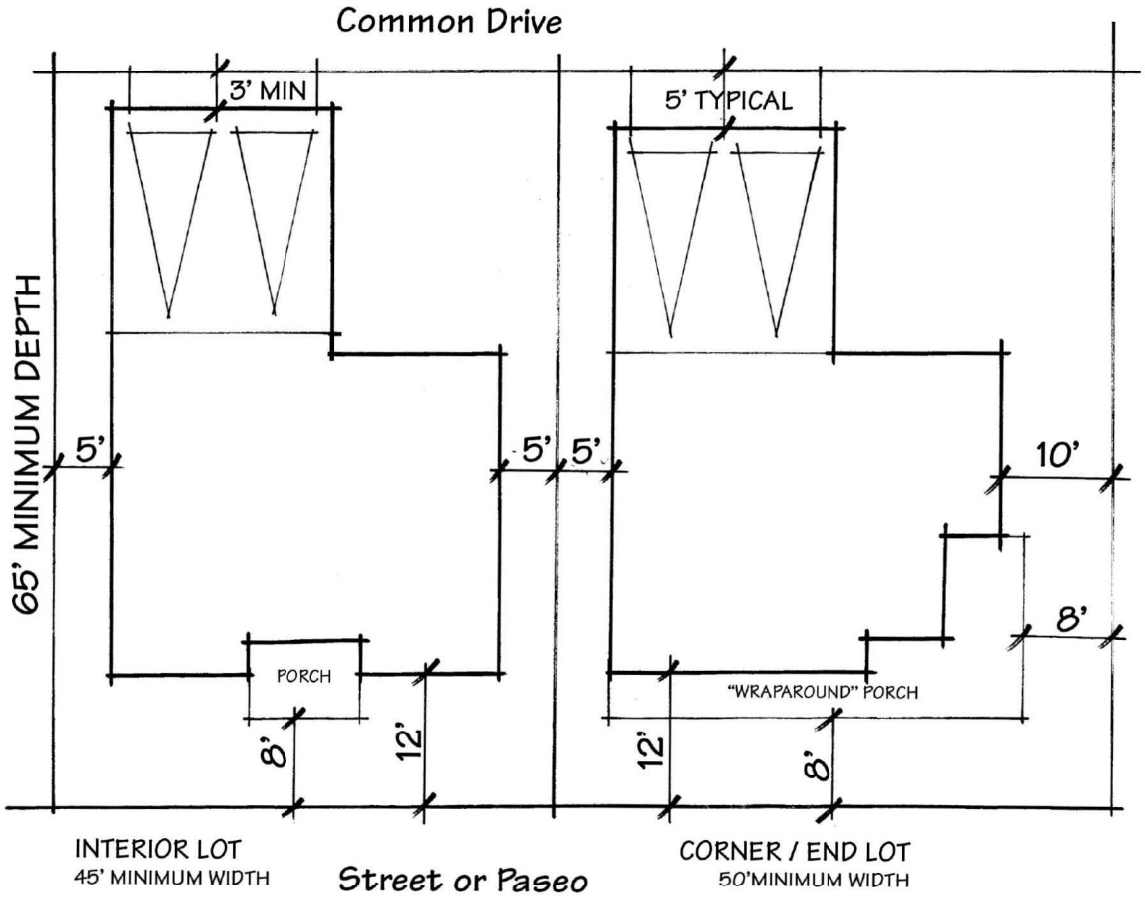
SIDE OF CLUSTER

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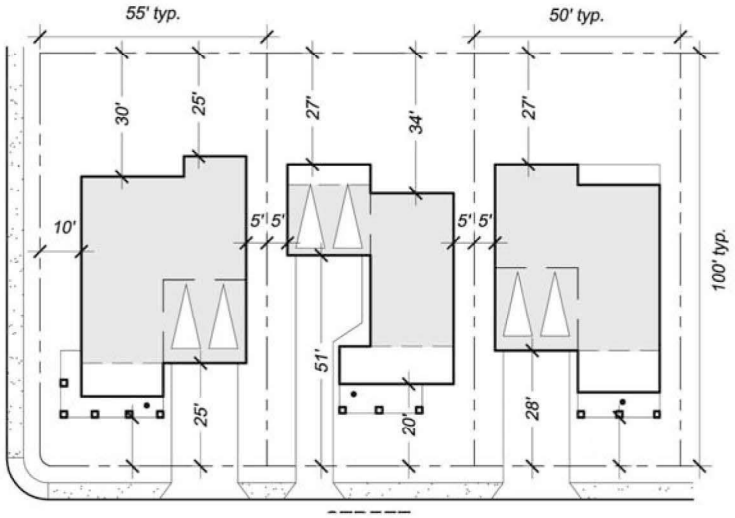
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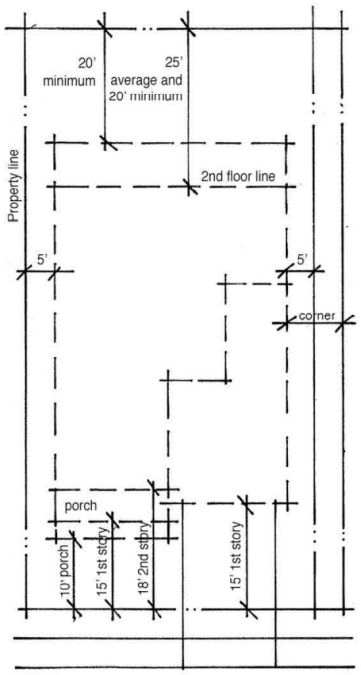
Cluster Court 3 SFD - 8 Pack



Alley Loaded Typical Plotting

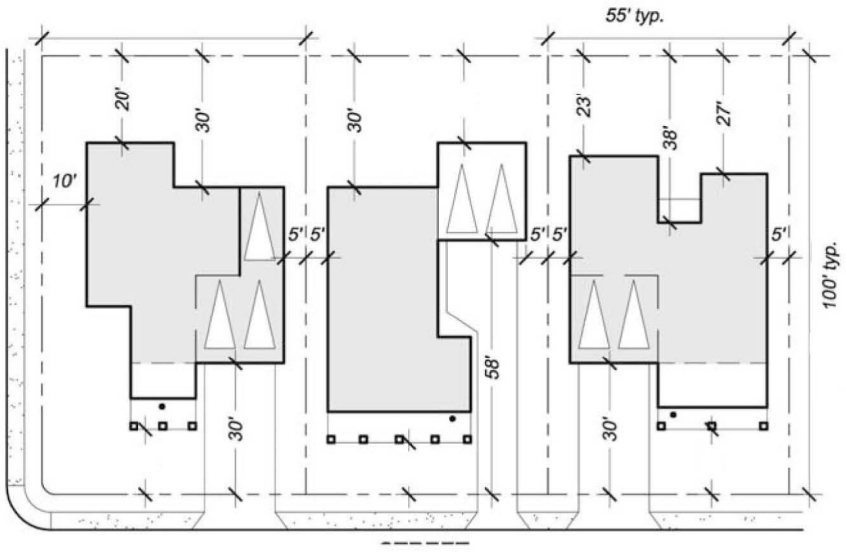


Demonstration Plotting Per Development Standards

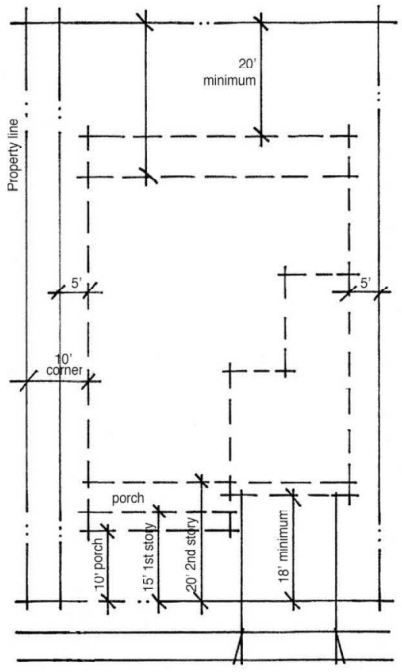


Setback Criteria Diagram Per Development Standards

5000' SF Lots



Demonstration Plotting

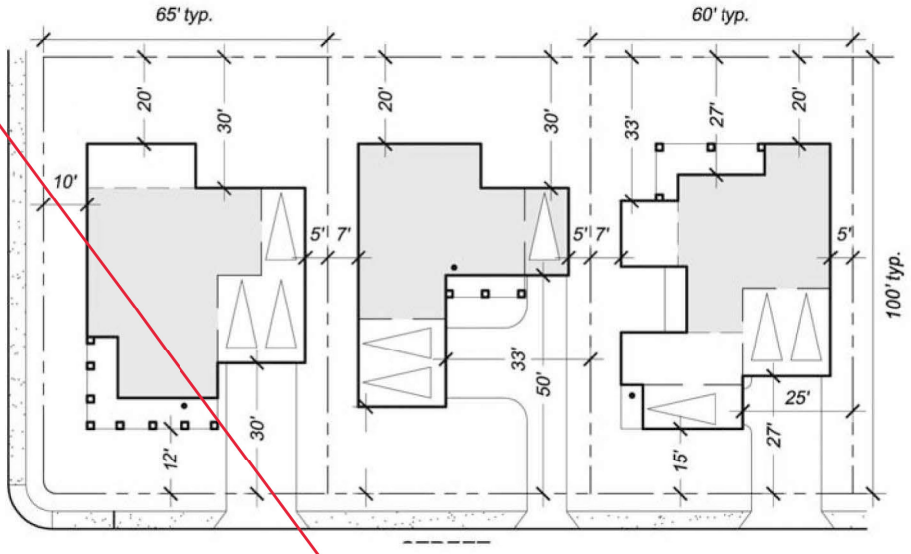


Setback Criteria Diagram

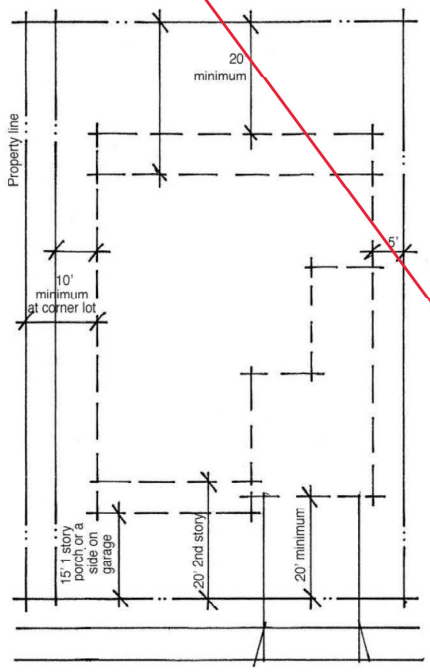
5500' SF Lots

Countryside

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Demonstration Plotting



Setback Criteria Diagram Per Development Standards

6000' SF Lots

8071

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Countryside

6.12 Architectural Styles

6.12.1 Introduction

The style matrices developed on the following pages will provide the builder and their design consultants the tools to create architectural designs appropriate and authentic to each style without using architectural gimmicks or sacrificing the integrity of an architectural style or the implied historical heritage. Each master developer designated architectural style is defined by elements that are defined as "Common Features" that typically characterize each architectural style.



American Farmhouse



Colonial



Monterey



Craftsman



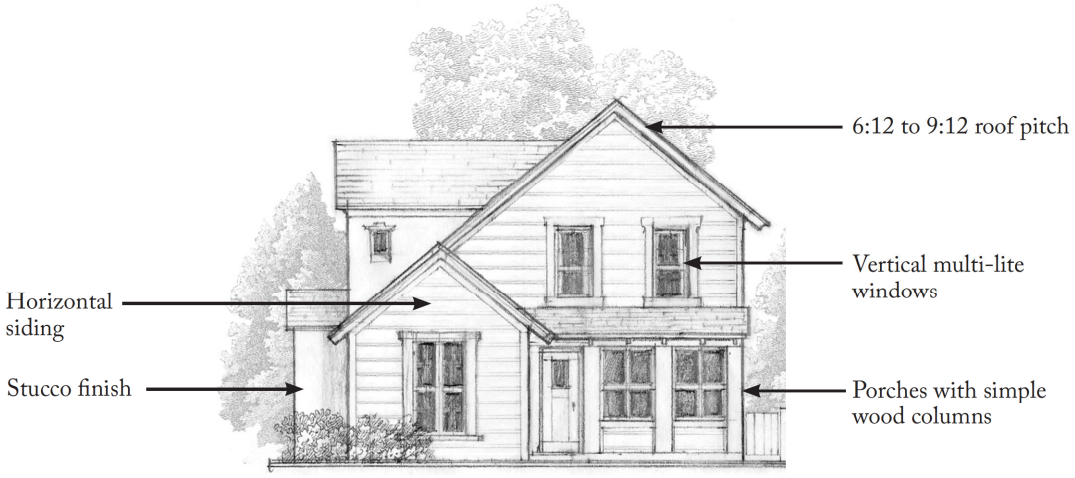
Spanish



Cottage

6.12.2 American Farmhouse

Some identifying features of this style are large porches and exterior surfaces covered with board and batten, clapboard or stucco.



Elements	Common Features
Form	• Simple plan form massing and simple roof
Roof	• 6:12 to 9:12 roof pitch • Front-to-back or side to side main gable roof • Architectural quality asphalt shingles or smooth, flat concrete tiles • 12” to 18” overhangs
Walls	• Light to medium sand finish stucco or blended siding and stucco • Use of board and batten in selected areas
Windows	• Vertical, multi-lite windows at front elevations and in high visibility, public view areas • Single paned windows on sides and rear elevations • White vinyl frame windows
Details	• Porches with simple wood columns or wood railings • Stucco finish or horizontal siding wrapped chimney • Min. 2” x 4” wood appearance window and door trim.
Colors	• White or dark field colors • Light earth tone bodies with contrasting cool or warm trims • White or dark color accent trims



Historical Example



Contemporary Example



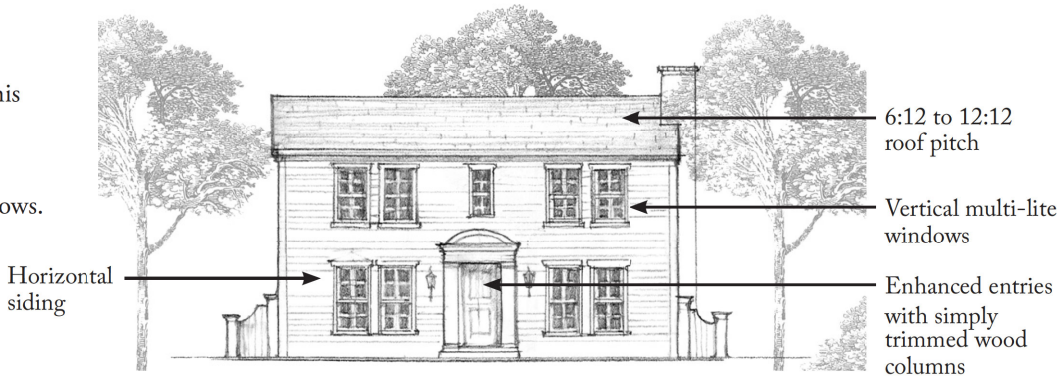
Window Accents appropriate to Style



Post and Rail Porch

6.12.3 Colonial

Some identifying features of this style are slender columns with restrained capitals, clapboard siding, porticos, and bay windows.



Elements	Common Features
Form	• Simple plan form massing and simple roof
Roof	• 6:12 to 12:12 roof pitch • 12" to 24 inch overhangs • Front-to-back dominant gable roof • Architectural quality asphalt shingles or smooth, flat, concrete tiles • Front-to-back dominant gable roof with multiple intersecting gable roofs
Walls	• Light sand finish stucco or blended siding and stucco • Horizontal siding or smooth finish stucco
Windows	• Vertical multi-lite windows at front elevations and in high visibility, public view areas • Single paned windows on sides and rear elevations • Min. 2" x 4" wood appearance window and door trim • White vinyl frame windows • Style driven windows and door trim surrounds • Single hung windows wherever feasible
Details	• Enhanced entries with simply trimmed wood columns • Stucco finish or horizontal siding wrapped chimney • Shutters • Classical wood columns • Cornice gable end trim • Full porches with wood railings • Round attic vents • Brick accents • Shutters & layered header trim at front elevation • Brick veneer wainscot • Brick chimney wrap • Decorative, round attic vents • Brick accents and wainscot at first floor
Colors	• Pastels to cool colors with white trims • Dark color shutters • White trim & fascias



Historical Example



Contemporary Example



Colonial Form and Details



Forward Facing Gable

6.12.4 Craftsman

Some identifying features of this style are wide-gabled roofs, bricks or stone used on foundations, chimneys and railings, earth tone colors and heavy beams.



Elements	Common Features
Form	• Simple, two-story, boxed massing with vertical and horizontal breaks • Varied plan shapes
Roof	• 3.5:12 to 4.5:12 roof pitch • Architectural-quality asphalt shingles; flat, concrete tiles • Basic side-to-side or front-to-back gable roof with cross gables • Varied porch roofs – shed or gabled • 18" to 36" overhangs
Walls	• Blended siding and stucco • Light to medium sand finish • Smooth finish stucco with stone veneer base accent or plain texture shingle siding • Battered wall accents
Windows	• Vertically hung, upper mullioned windows at front elevation and in high visibility areas • Often ganged in pairs • Single pane windows at sides and rears • Single hung windows at front elevation where feasible
Details	• Entry porches with heavy, square (or battered) columns or posts on stone piers • Arts and Crafts style lighting fixtures • Shaped wood appearance header trim at windows and doors • Simple knee braces • Out-lookers • Styled columns • Battered columns • Blended stone and brick chimney • Layered wood trims at doors and windows • Stone and brick accents • Open eave overhangs with shaped roof rafter tails • Decorative ridge beams and purlins • Triangular knee braces
Colors	• Light, earth tone colors • Dark accents • Deep earth tones



Historical Example



Contemporary Example



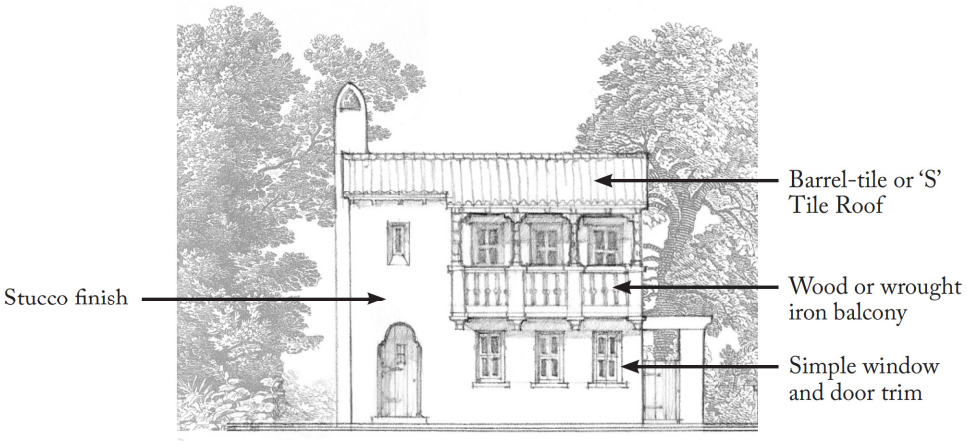
Typical Column Detailing appropriate to Style



Enhanced Exterior Lighting Detail appropriate to Style

6.12.5 Monterey

This style is a fusion of Spanish details and Colonial form. Some identifying features are low pitched gable roofs with second story balconies that are usually cantilevered and covered by a principle roof.



Elements	Common Features
Form	• Simple-box plan form and/or with one-story break
Roof	• Main front-to-back gable roof at 4:12 to 7:12 and shed roof break over balcony at 3.5 to 4.5:12 roof pitch • 12" to 24" overhangs • Barrel or 'S'tile roofs
Walls	• Light sand finish • Vertical siding accents at upper or lower story • Smooth finish stucco
Windows	• Simplified Colonial-style window and door trim • Single pane windows at sides and rears • White or colored vinyl frame windows • Decorative door and window trim
Details	• Wrought iron or wood balcony and railing • Simple chimney top treatment • Round tile attic vents • Shutters
Colors	• Whites and painted brick • White or dark brown trims, balconies



Historical Example



Contemporary Example



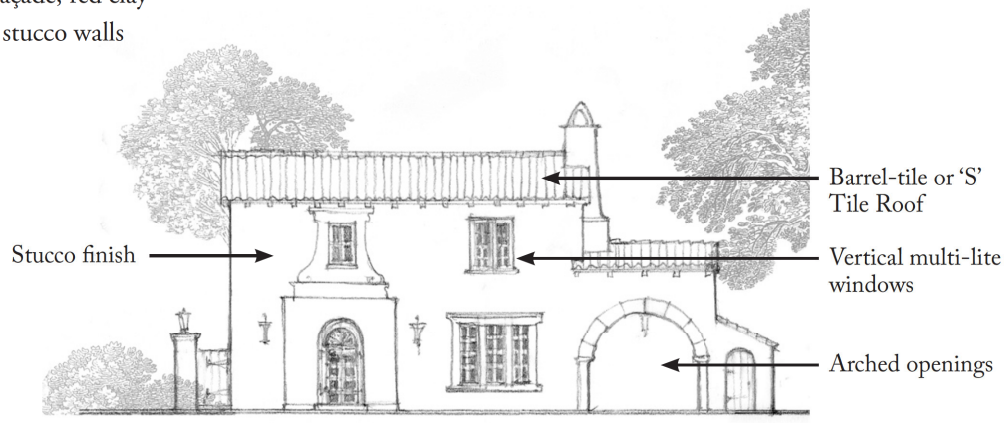
Balcony Detailing appropriate to Style



Window and Shutter Detail

6.12.6 Spanish

Some identifying features of this style are large distinctive (sometimes arched) windows on the front façade, red clay roofs and light colored stucco walls



Elements	Common Features
Form	• Two-story massing with strong one-story element • Simply articulated, two-story boxed plan massing
Roof	• 4:12 to 5:12 roof pitch • 12" to 18" overhang or tight rake • Barrel or 'S' shape concrete tiles • Shed roof over porch • Simple hip or gabled roof with one intersecting gable
Walls	• Light sand finish or light lace finish stucco • Smooth finish stucco
Windows	• Vertically hung nine and twelve paned windows at front elevation and in high visibility areas • Often ganged in pairs • Single pane windows at sides and rears • White or color, vinyl clad windows • Recessed, arched, feature window, door entrance • Wood or precast columns & posts • White or color vinyl frame windows
Details	• Stucco over foam window and door trim • Arched stucco entry elements • Balconies and accent details • Exposed rafter tails at feature areas • Entry door design to complement style
Colors	• White tone body with bright accent trim • Dark brown trims



Historical Example



Contemporary Example



Simple Covered Entry with Arched Columns appropriate to Style



Entry Form, Window Type and Pot Shelf

6.12.7 Cottage

Some identifying features of this style are the picturesque architecture, the front facing gables with steep pitched roofs, and the vertical windows.



Elements	Common Features
Form	• Romantic and picturesque architecture • Simple volumes, front facing gables
Roof	• 12:12 roof pitch (MAX) • 12" to 18" overhang or tight rake • Flat concrete tiles • Inviting porch or entry gable • Large simple roof planes • Main Gable or Hipped Roof • Secondary sloped roof or high pitched roof
Walls	• Stucco finish • Decorative stone or brick veneer accents
Windows	• Vertically-hung windows • White or color wood accented framed windows • Shutters • Bay Windows • Focal Arched Window
Details	• Wood window and door trims • Entry door design to complement style • Front facing gables
Colors	• White tone body with white accent trim • White, off-white, light earth tone shades • Light or dark accent shades in contrast with field color

Countryside



Historical Example



Contempory Example



Front Facing Gables and Steep Roof Pitches appropriate to Style



Simple Entry with Welcoming Porch

New Page

6.12.8 Mediterranean

Some identifying features of this style are stucco finish, arched windows on front façade, roof tiles and light colored walls.



Elements	Common Features
Form	• Asymmetrical and symmetrical massing • Courtyard • Well proportioned exterior openings
Roof	• Shallow roof pitches 4:12 to 8:12 • Simple hip or gable roof • 12" to 18" overhang or tight rake • Barrel or S-shape concrete tiles • Clean, uncomplicated roof solutions of hip or gables
Walls	• Stucco finish • Stone accent at entries and
Windows	• Vertically hung multi-paned • Color wood accented framed windows • Accent shutters
Details	• Closed or exposed eaves • Prominent entry • Wrought iron details • Wood window and door trims • Entry door design to complement style • Appropriately styled door hardware • Complementary outdoor lights
Colors	• Light shade body • Light or dark trims

start page number revision

New Page

Countryside



Historical Example



Contemporary Example



Informal Massing with Courtyard Entry



Exposed Eaves Detail and Chimney

New Page

6.12.8 Transitional

The massing, materials and details are based on the parent architectural style. Some identifying features of this style are clean lines and simplified architectural details, blending of modern and traditional materials, and oversized windows.



Elements	Common Features
Form	• Simple form • Symmetrical or asymmetrical massing
Roof	• Variable roof pitch • Predominant front facing gable with side facing gables • 12” to 18” overhang or tight rake • Flat or S-shape concrete tiles or metal standing seam • Asymmetrical forms
Walls	• Stucco finish, board and batten • Contrasting material such as wood siding or smooth stone
Windows	• Square or vertically proportioned • Color accented framed windows • Accent shutters
Details	• Simplified details • Wood window and door trims • Entry door design to complement style • Appropriately styled door hardware • Complementary outdoor lights
Colors	• Light shade body • Light or dark accent shades in contrast with body color

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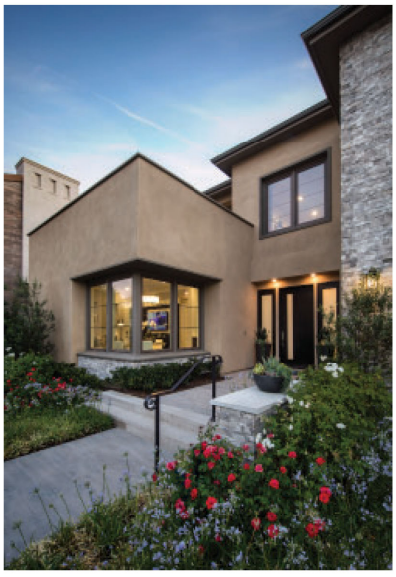
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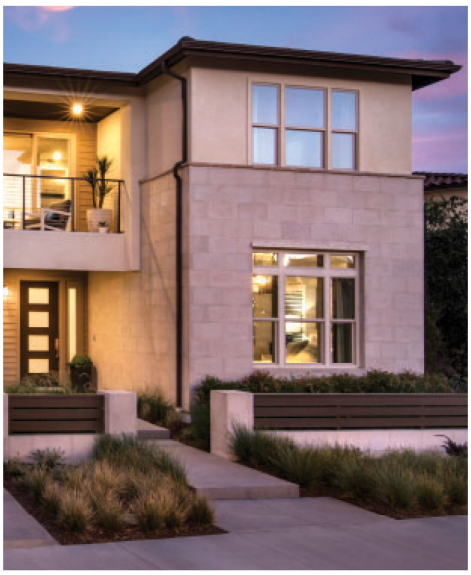
Contemporary Example



Contemporary Example



Simple Massing with Oversized Corner Window



Smooth Stucco and Light Stone

6.13 Design Guidelines For Landscape Architectural Character

The following design guidelines have been developed and organized to help define the basic landscape design principles for the Countryside Specific Plan. Careful attention has been given to creating an appropriate and appealing landscape architectural design, which will compliment and enhance the overall character of the Countryside Community. Observing these guidelines will help to assure the "design vision," and integrity, of this planned community.

All landscape plans, streetscape plans, and graphic designs with regard to community identity, neighborhood identity, or entry monumentation shall conform to the guidelines as set forth herein, and will be subject to review and approval by the City of Ontario.

6.14 Perimeter Streetscape Design

Streetscape design guidelines establish a hierarchy for the landscape development along the surrounding roadways, as well as establishing a framework for consistency of design within the community. Four major arterial roadways surround the Countryside Specific Plan area: Archibald Avenue to the East, Riverside Avenue to the North, Schaefer Avenue to the South, with Chino Avenue, running East/West, bisecting the Countryside Specific Plan Area. Landscape easements associated with these roadways have been defined, as noted in the City of Ontario Ontario Ranch General Plan Amendment.

Landscape development surrounding this community will help to set the character, while maintaining consistency with the City of Ontario's pedestrian pathway system illustrated in the Trails and Bikeways section of the Ontario Ranch General Plan Amendment.

6.15 Archibald Avenue

Archibald Avenue streetscape shall include the following as illustrated on Exhibit 27, "Conceptual Landscape Plan, and Exhibit 28, " Archibald Avenue Street Sections."

- A ~~2~~7-foot wide landscaped parkway and 5-foot buffer between the sidewalk and multipurpose trail planted with a single row of street trees per the City of Ontario Street Tree Master Plan.
- An 8-foot wide bikeway/pedestrian path along the west side of the street.
- A 5-foot wide sidewalk.
- An additional 19-foot wide landscaped buffer with a single row of street trees per the City of Ontario Street Tree Master Plan.
- A 14-foot wide landscaped median.
- Background trees and shrub masses planted in series of layers (foreground, midground, background) to help define borders and plant groupings while combining interesting foliage textures and color within the neighborhood edge.
- Monumentation as shown in the Conceptual Landscape Master Plan, Exhibit 27, "Conceptual Landscape Master Plan."

6.16 Riverside Drive and Schaefer Avenue

Riverside Drive & Schaefer Avenue streetscape shall include the following as illustrated on Exhibit 27, "Conceptual Landscape Master Plan" and Exhibits 29 " Riverside Drive Street Section" and Exhibit 30, "Schaefer Avenue Street Section."

- A ~~12~~ 7-foot wide landscaped parkway with a single row of street trees per the City of Ontario Street Tree Master Plan along both sides of the street.

Revised Graphic

Countryside

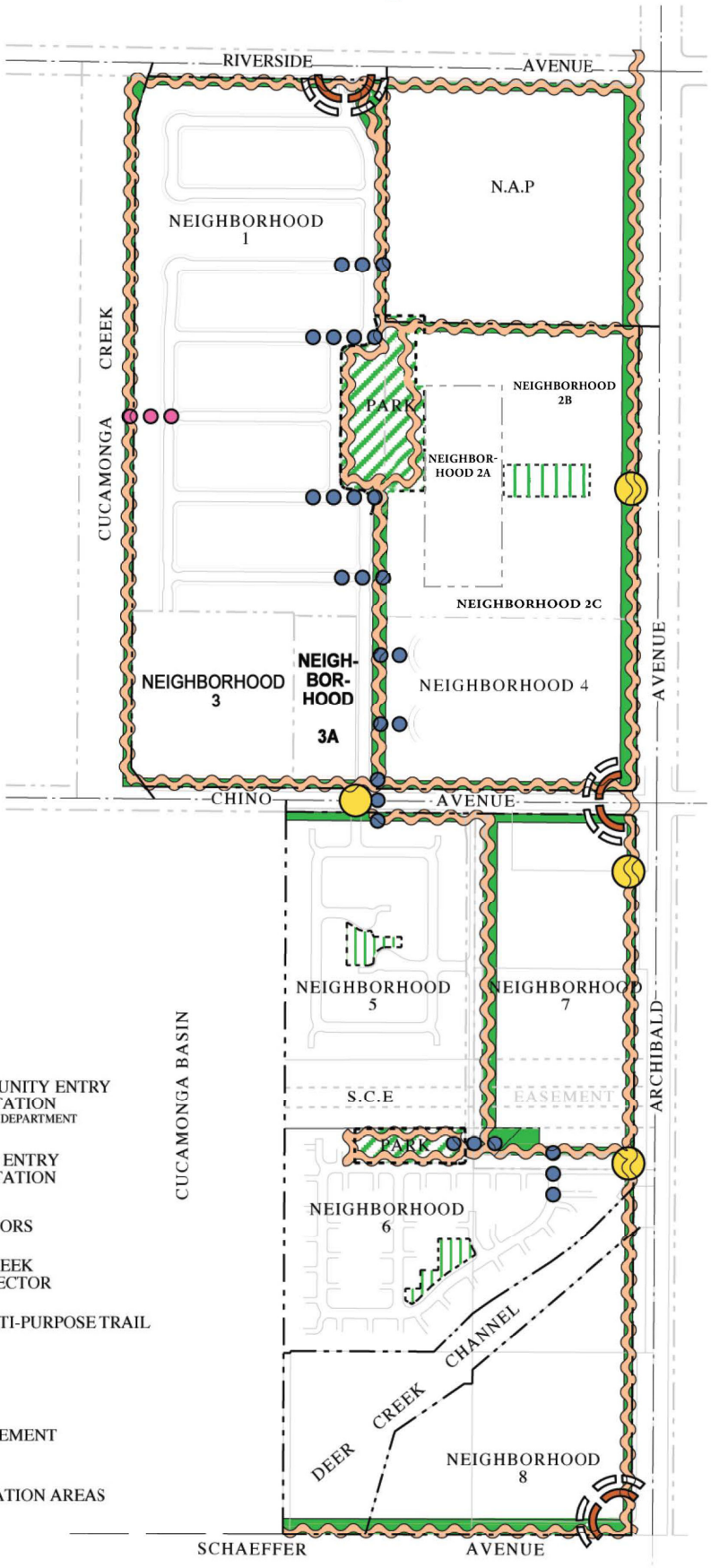
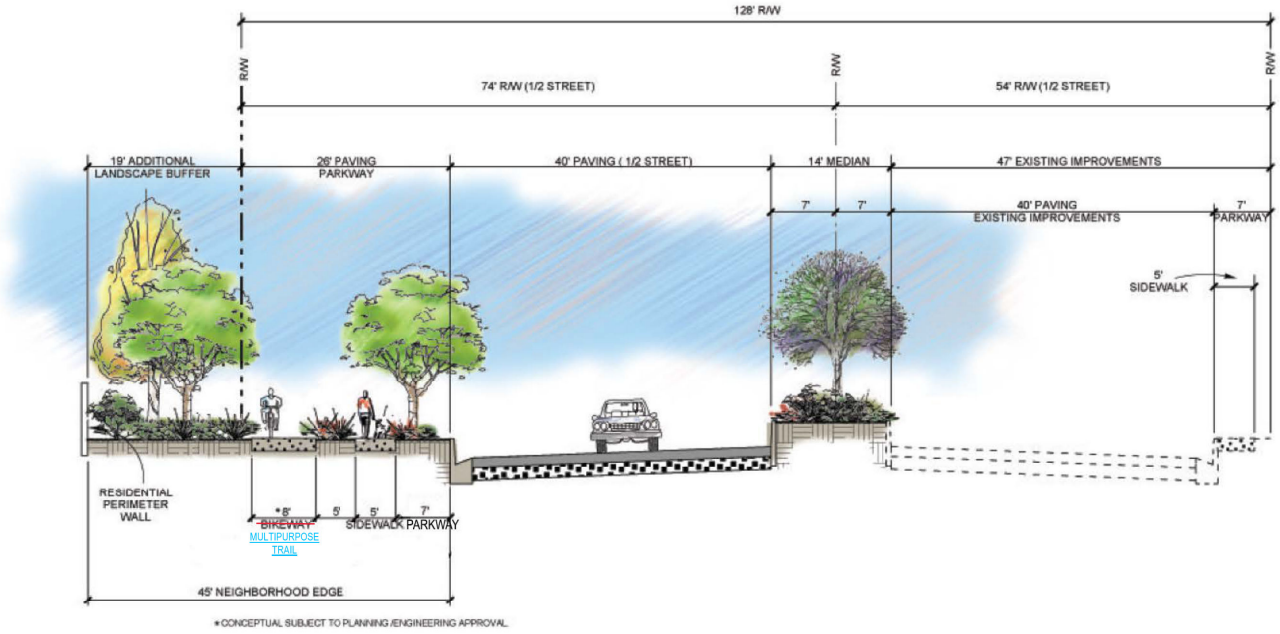


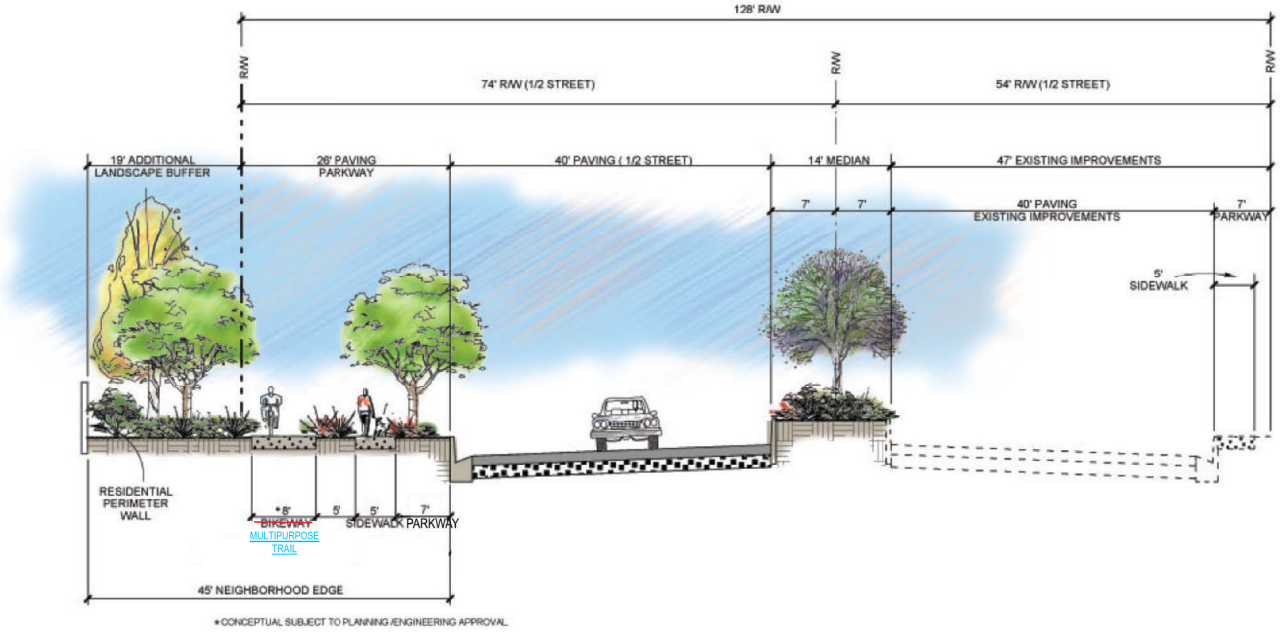
Exhibit 27

Conceptual Landscape Master Plan Revised Graphic

Revised Graphic



Riverside Drive to Chino Avenue



Chino Avenue to Schaefer Avenue

Exhibit 28

Revised Graphic **Archibald Avenue Street Sections**

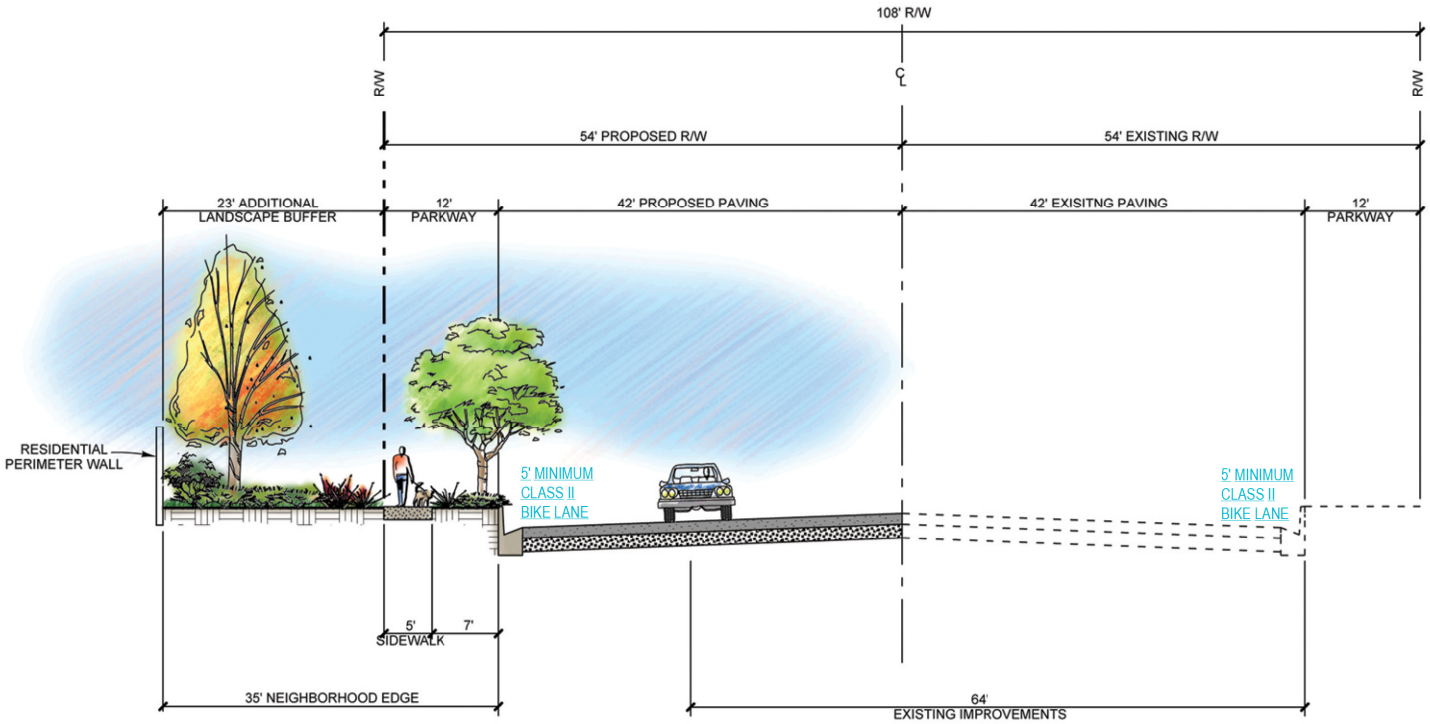


Exhibit 29
Riverside Drive Street Section

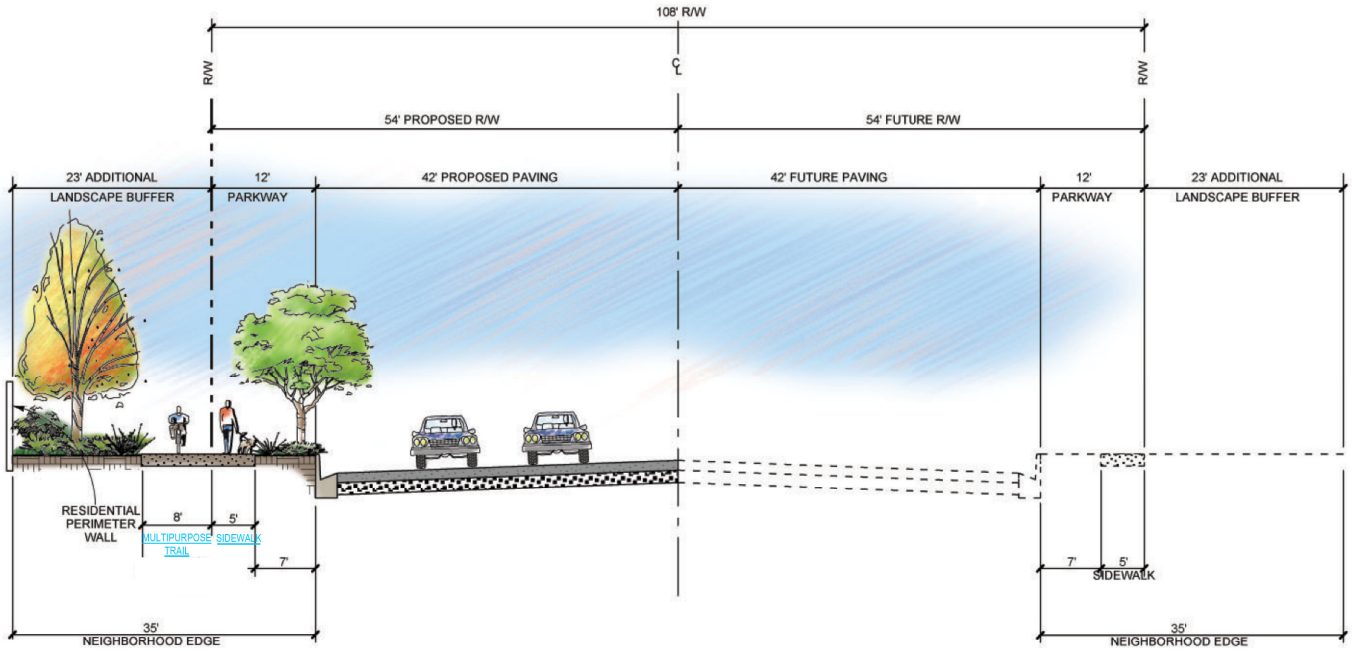


Exhibit 30

Schaefer Avenue Street Section

- A 5-foot wide lineal sidewalk along both sides of the street.
- A landscape easement of 35-feet taken from face of curb to perimeter wall on both sides of the street.
- Background trees and shrub masses planted in series of layers (foreground, midground, background) to help define borders and plant groupings while combining interesting foliage textures and color within the neighborhood edge.
- Monumentation as shown in the Conceptual Landscape Master Plan, Exhibit 27, "Conceptual Landscape Master Plan."

6.17 Chino Avenue

The streetscape shall include the following as illustrated on Exhibit 31, "Chino Avenue Street Section."

- A 12-foot wide landscaped parkway with a single row of street trees per the City of Ontario Street Tree Master Plan along both sides of the street.
- A 5-foot wide lineal sidewalk along both sides of the street.
- A landscape easement of 30-feet taken from face of curb to perimeter wall on both sides of Chino Avenue.
- Background trees and shrub masses planted in series of layers (foreground, midground, background) to help define borders and plant groupings while combining interesting foliage textures and color.
- Monumentation as shown in the Conceptual Landscape Master Plan, Exhibit 27, "Conceptual Landscape Master Plan."

6.18 Interior Streetscape Design

Streetscape design within the interior of the Countryside Specific Plan community shall be consistent in character with the perimeter streetscapes. Connectivity from perimeter inward toward the centralized community open space/ park areas are of great importance, and should help to promote pedestrian circulation among community residences.

Where interior streetscapes interface with community parks and open space, special consideration shall be taken to integrate pedestrian circulation into these areas via a streetside pedestrian paseo system that links city sidewalk to active walking trails and open space areas as illustrated on Exhibit 27, "Conceptual Landscape Master Plan."

6.19 Primary Local Streets

Primary Local streetscapes shall include the following as illustrated in Exhibit 32, "Local and Neighborhood Street Sections Primary Local Streets – A & B."

- A 5 to 7-foot wide landscaped parkway with a single row of street trees per the City of Ontario Street Tree Master Plan along both sides of the street.
- A 5-foot wide lineal sidewalk along both sides of the street.
- Potential Neighborhood Monumentation as shown in the Conceptual Landscape Master Plan, Exhibit 27, "Conceptual Landscape Master Plan."

6.20 Private Neighborhood Streets and Alleys

Private Neighborhood streetscapes shall include the following as illustrated on Exhibit 33, "Private Neighborhood Street and Alley Sections."

- A 9-foot wide landscaped parkway with a single row of street trees per the City of Ontario Street Tree Master Plan along both sides of private neighborhood streets and a 5 foot wide landscaping easement along both sides of private alleys.
- A 5-foot wide lineal sidewalk along both sides of private neighborhood street.

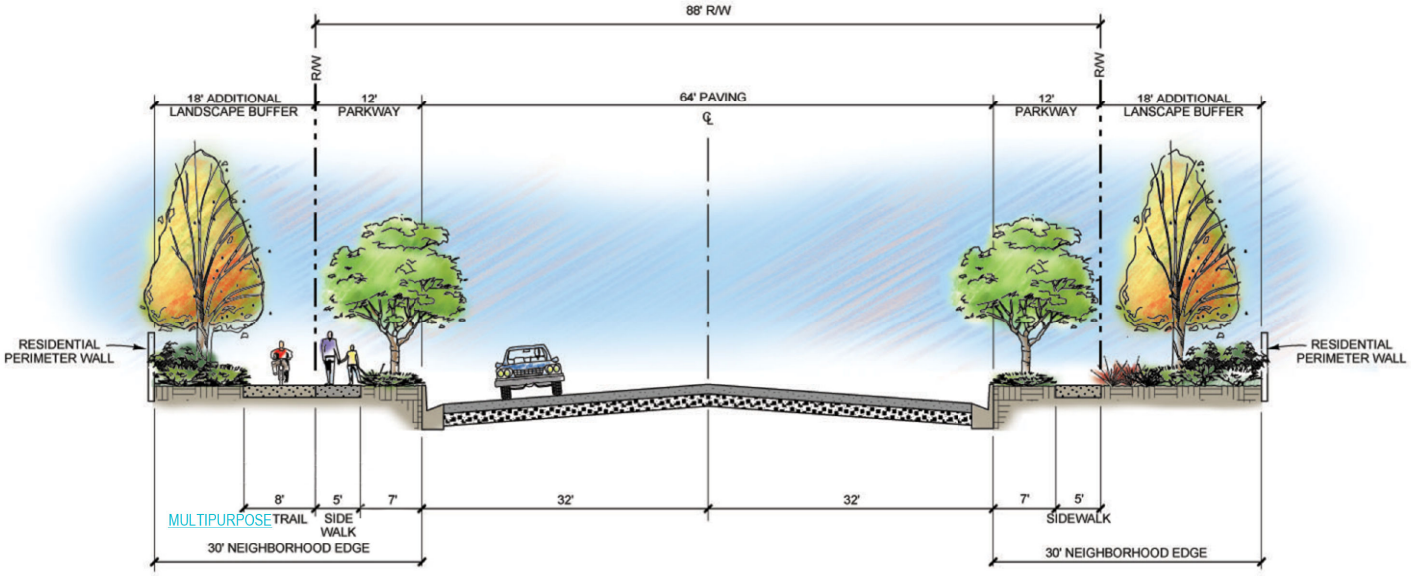
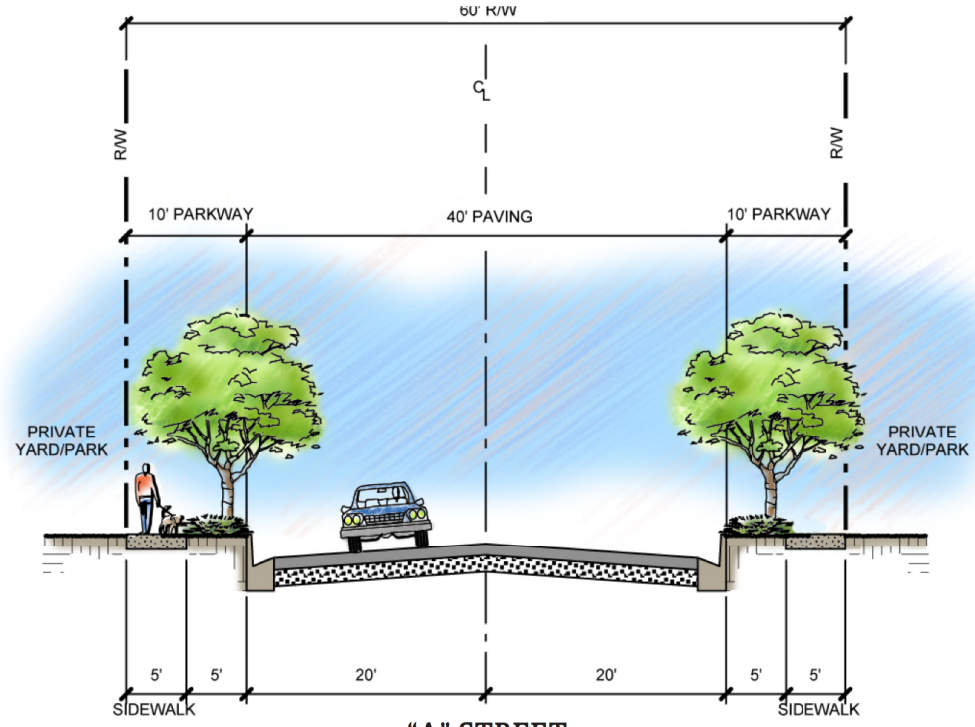
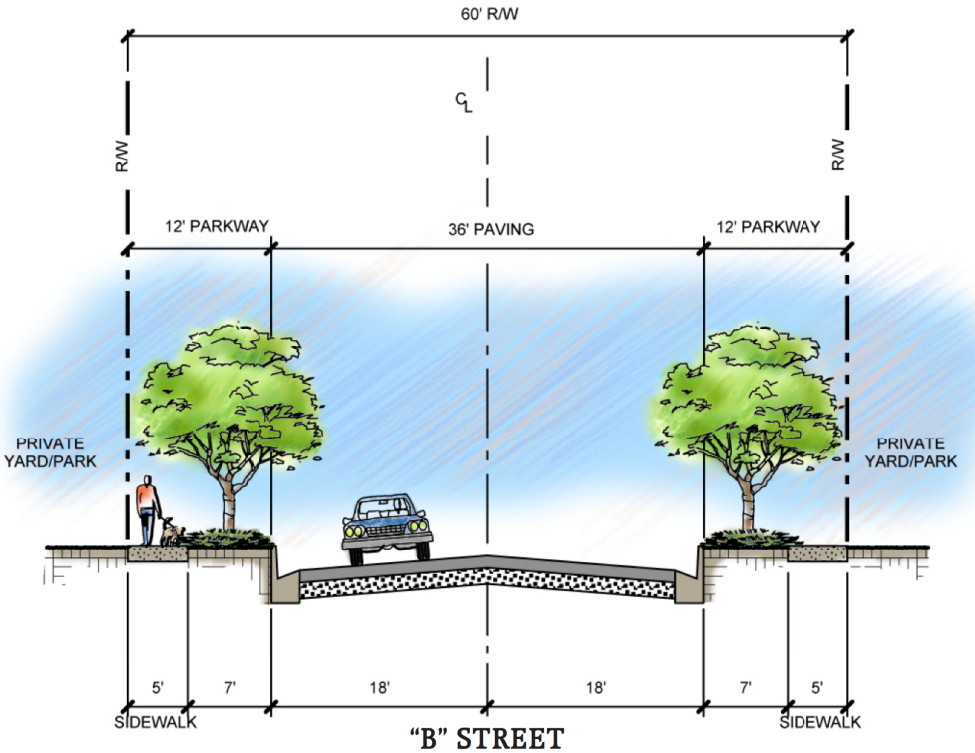


Exhibit 31

Chino Avenue Street Section

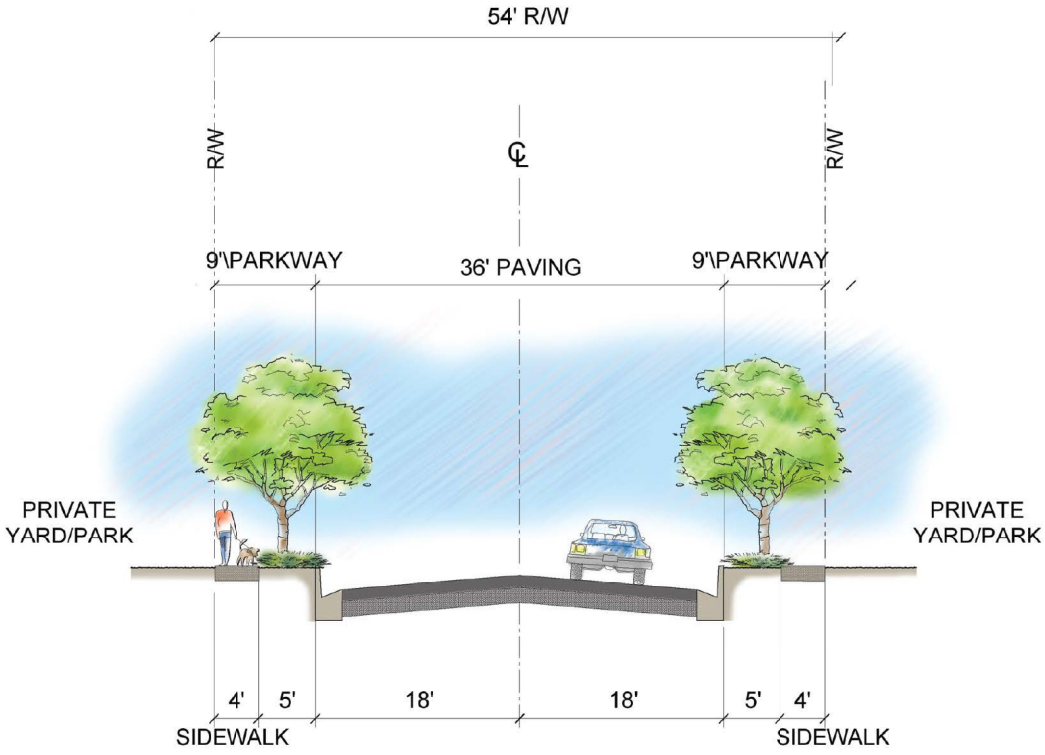


"A" STREET
(From Riverside Drive to Chino Avenue)

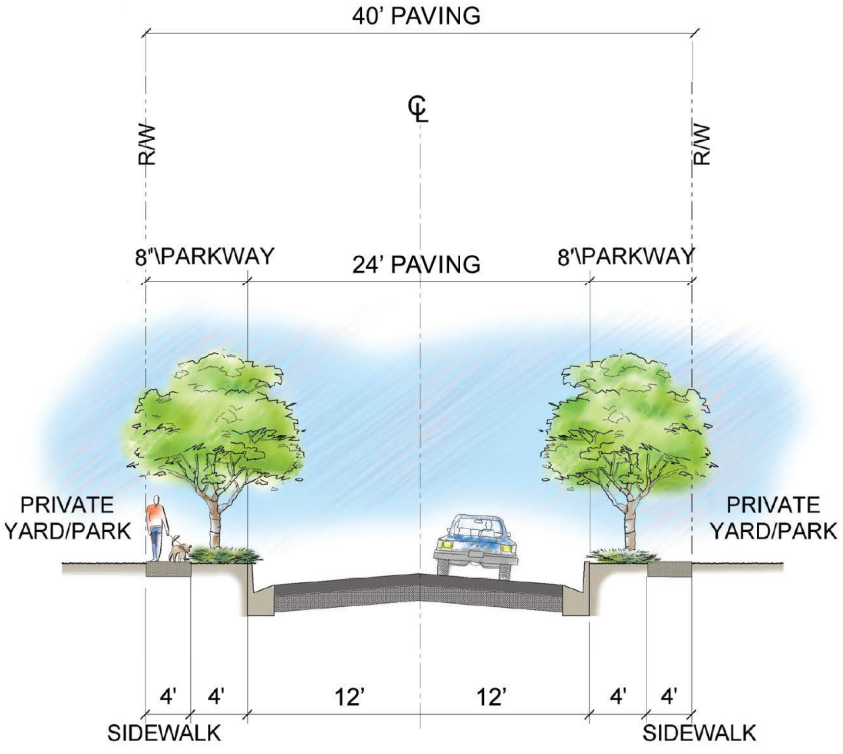


"B" STREET
(Including all other Local Street Sections)

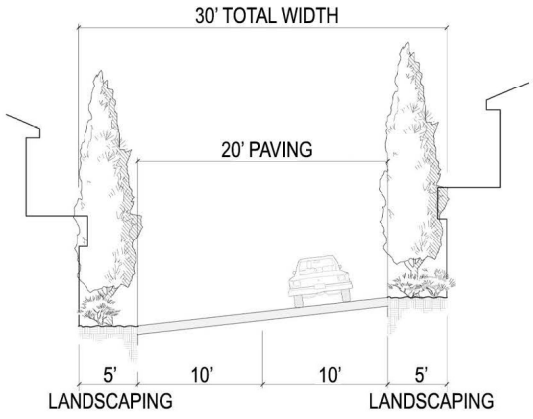
Exhibit 32
Local and Neighborhood Street Sections Primary Local Streets – A & B



Neighborhood Street



Private Drive



Alley

Exhibit 33

Private Neighborhood Street and Alley Sections

Countryside

6.21 Entries and Monumentation

Entry monumentation for Countryside has been developed to provide a visual hierarchy from the community periphery into each distinct neighborhood. Special design consideration has be given to key entry points along the perimeter of the Community providing a sense of identity and a welcoming feeling for pedestrian, bicycle and vehicular traffic alike. Two basic monument treatments are used in the Countryside Specific Plan: the Primary Community Entry and Monumentation, and Neighborhood Entry and Monumentation.

6.22 Primary Community Entry and Monumentation

The Primary Community Entry and Monumentation shall include the following as illustrated on Exhibit 27, "Conceptual Landscape Master Plan" and Exhibit 34, "Primary Community Entry and Monumentation" and Exhibit 35, "Primary Entry and Monumentation Elevations."

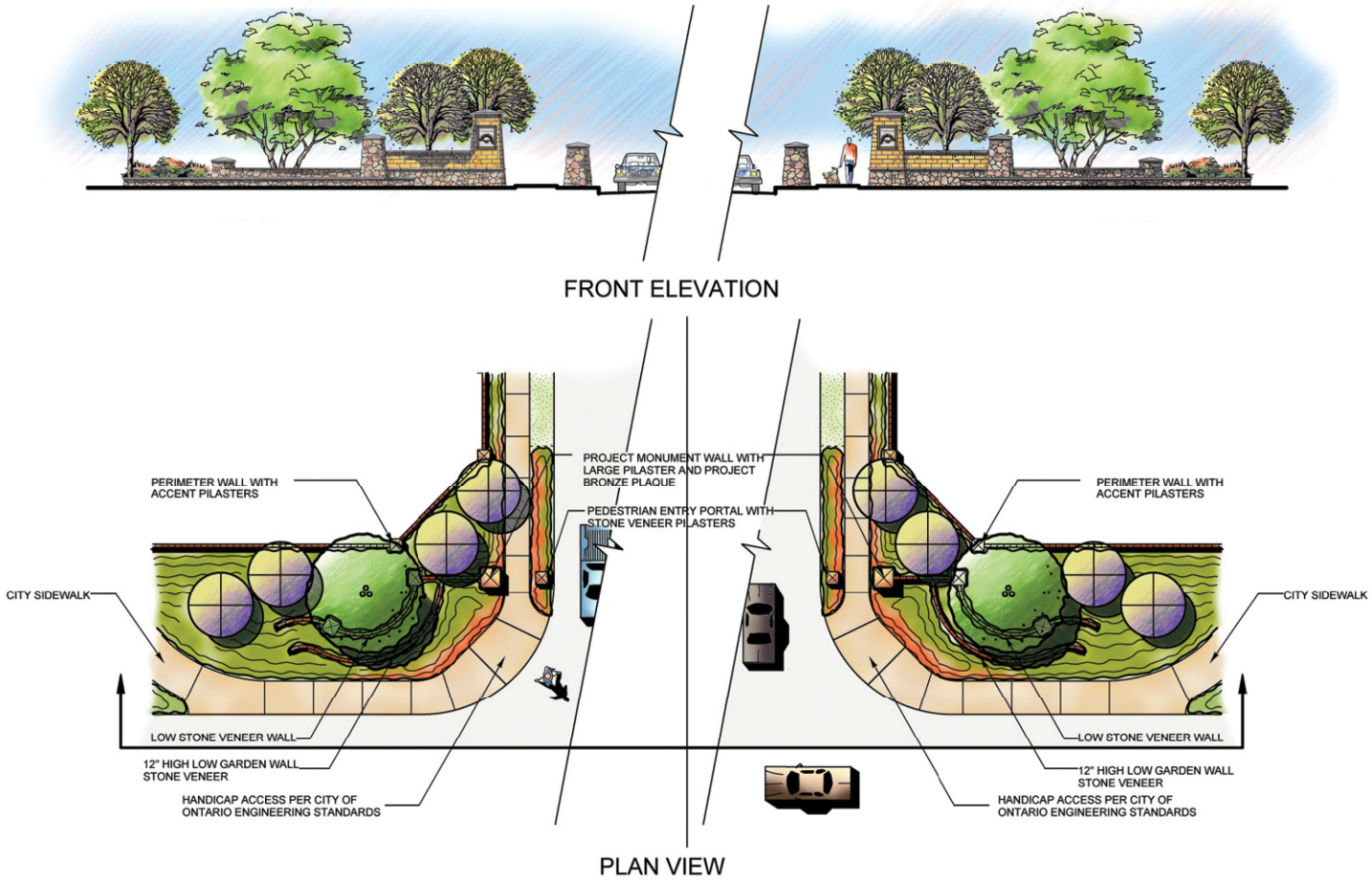
- Freestanding curved monument walls at each corner with anchoring large entry pilaster.
- Identification field for potential sign lettering placement.
- Large pilaster with community logo/plaque.
- Architectural concrete caps, trim, and bases to help delineate each veneered material used.
- Short curved wall in front of main freestanding wall to create layering effect of monumentation.
- Use of "real" veneer materials rather than faux concrete veneers.
- Use of large specimen trees to flank each side of entry drive at site entry.
- Seasonal perennial flowering to allow for seasonal flowering interest throughout the year.
- Enhanced pedestrian paving at street crossing and at monument location as approved by the City Engineer.
- Accent trees and shrub masses planted in series of layers (foreground, midground, background) to help define borders and plant groupings while combining interesting foliage textures and color.
- Accent lighting of landscape/monumentation.

6.23 Neighborhood Entry and Monumentation

Neighborhood entries and monumentation should occur on interior corner entries within the Countryside Specific Plan Community. These entries should be used to help continue the landscape character theme into the "heart" of the community. Each neighborhood built within the Countryside Specific Plan will have the opportunity to identify their "in tract" project name/theme utilizing the neighborhood entry monumentation.

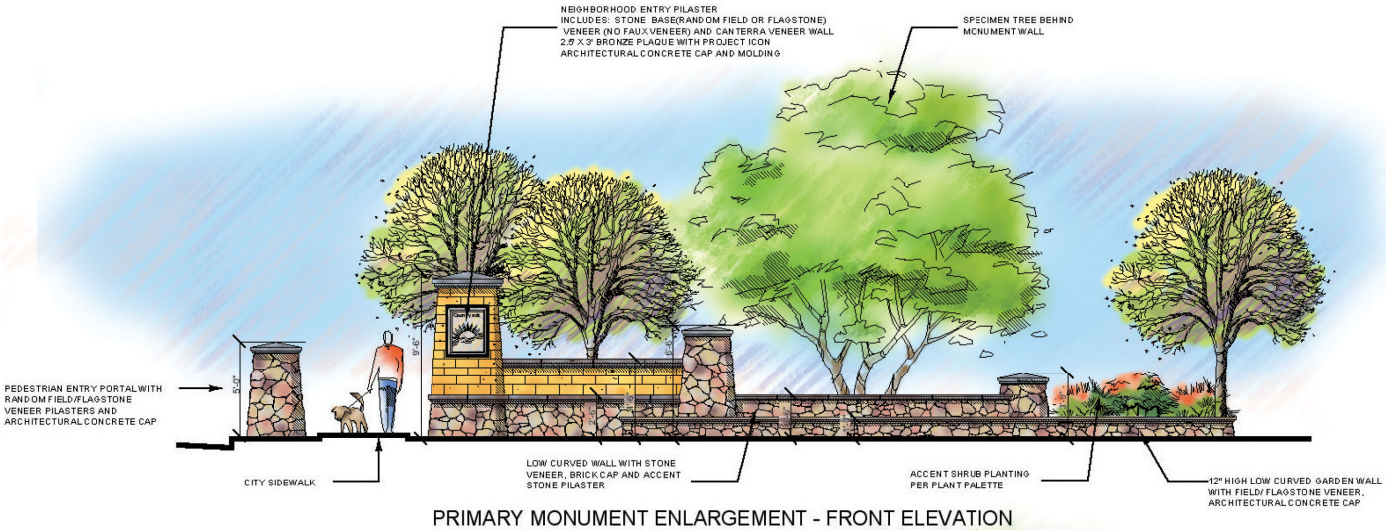
The Neighborhood Entry and Monumentation shall include the following as illustrated on Exhibit 27, "Conceptual Landscape Plan" and Exhibits 36 and 37, "Neighborhood Entry and Monumentation."

- Freestanding large entry pilaster set within the landscaped parkway. This pilaster should embody the same character as that of the Primary Community Entry Monument but is slightly reduced in scale to create a "pedestrian gateway" into each neighborhood. The logo/plaque identifying the Countryside Specific Plan community shall be set onto entry pilaster.
- Identification field for potential sign lettering placement on enhanced perimeter corner cut wall.
- Architectural concrete caps, trim, and bases to help delineate each veneered material used.
- Enhancement of corner cut wall and use of accent pilasters to anchor each side.

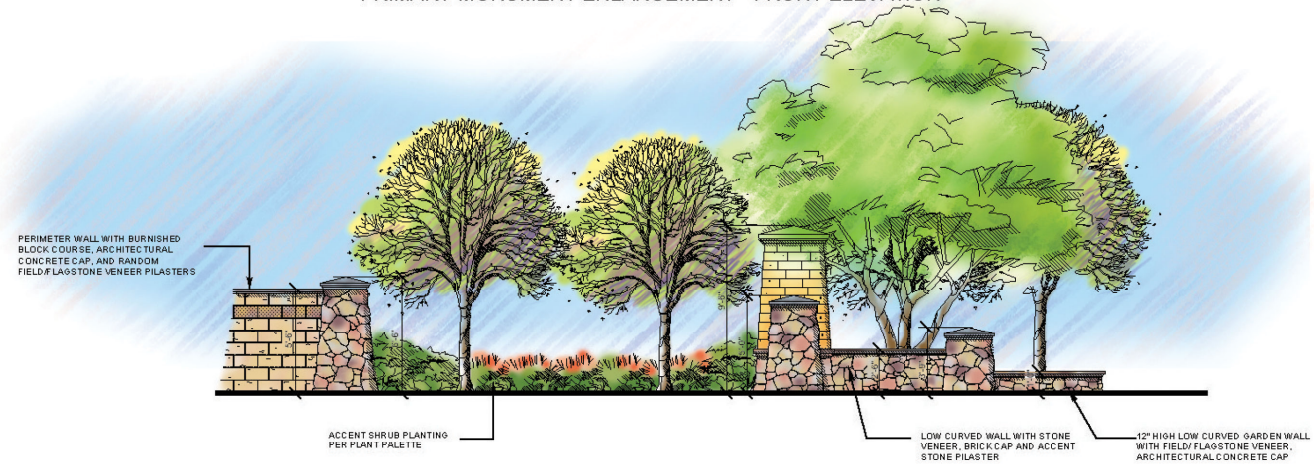


Exhibits 34

Primary Community Entry and Monumentation



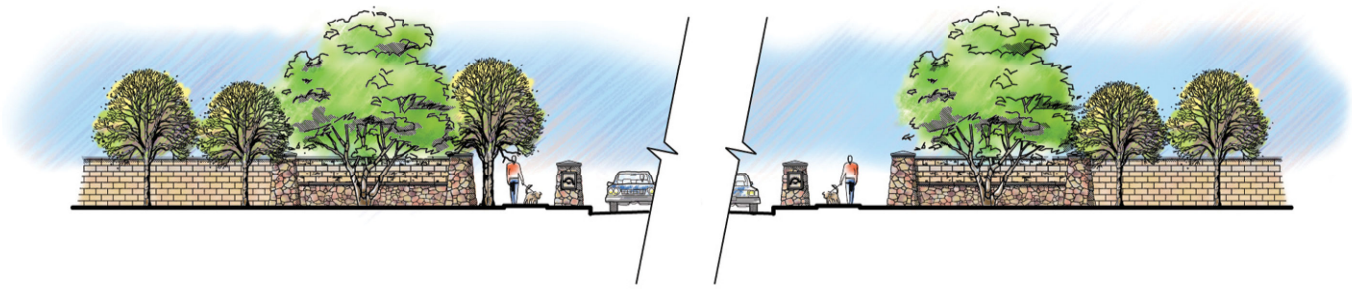
PRIMARY MONUMENT ENLARGEMENT - FRONT ELEVATION



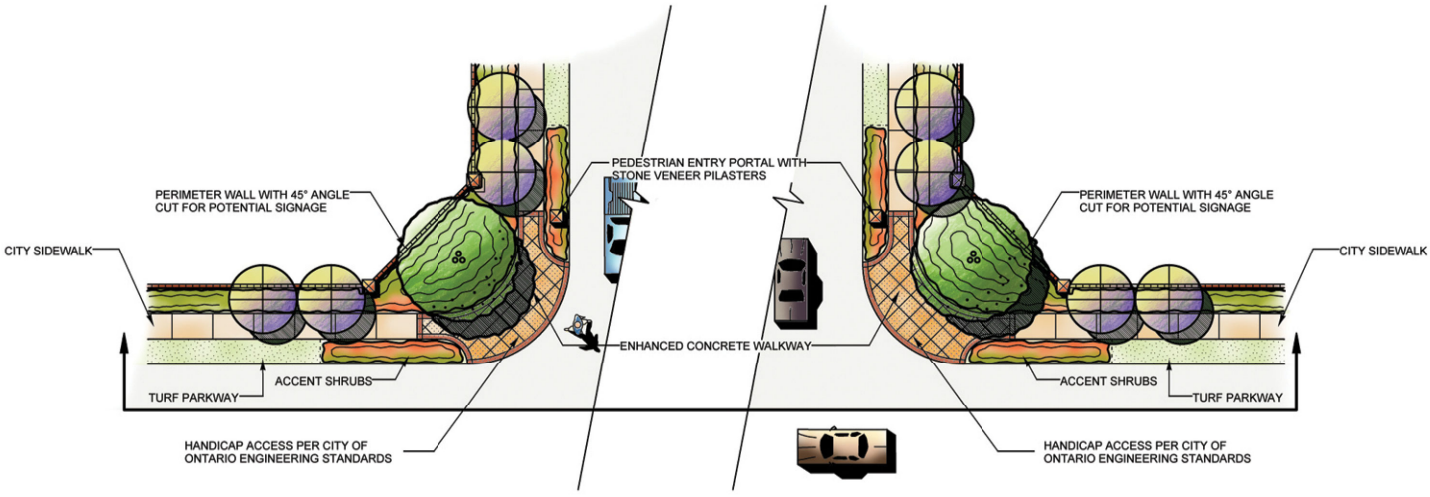
PRIMARY MONUMENT ENLARGEMENT - SIDE ELEVATION

Exhibit 35

Primary Entry and Monumentation Elevations



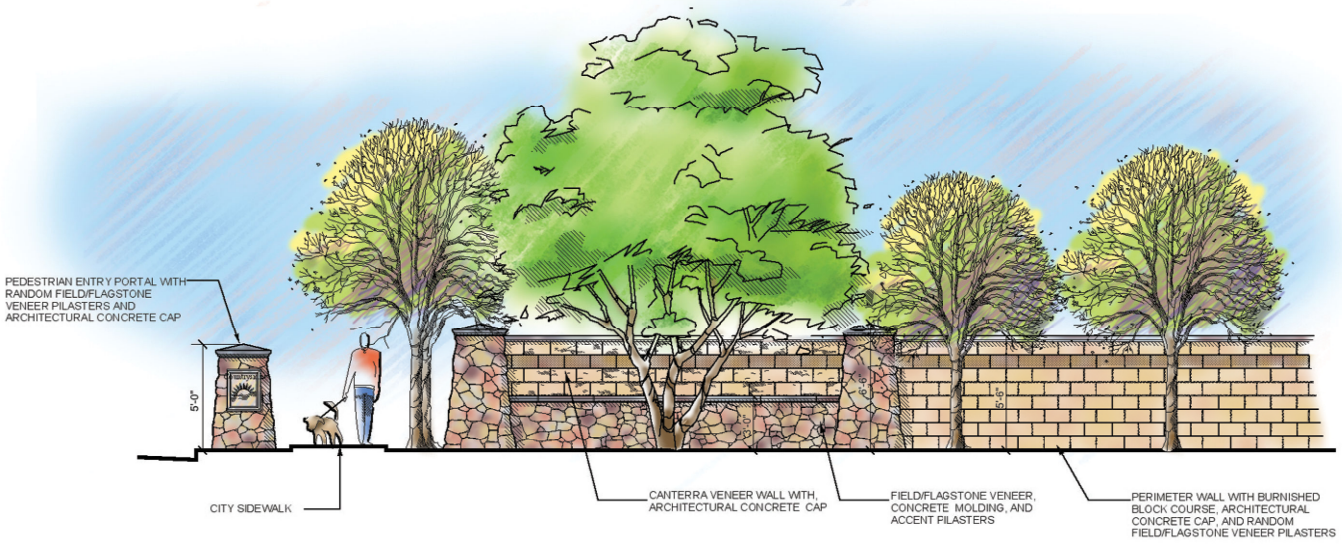
FRONT ELEVATION



PLAN VIEW

Exhibits 36

Neighborhood Entry and Monumentation



FRONT ELEVATION

Exhibits 37

Neighborhood Entry and Monumentation Elevation

- Use of "real" veneer materials rather than faux concrete veneers.
- Seasonal perennial flowering to allow for seasonal flowering interest throughout the year.
- Enhanced pedestrian paving at street crossing and at monument location as approved by the City Engineer.
- Accent trees and shrub masses planted in series of layers (foreground, midground, background) to help define borders and plant groupings while combining interesting foliage textures and color.
- Accent lighting of landscape/monumentation.

6.24 Parks , Paseos, And Private Recreation Areas

The Countryside Specific Plan will have two neighborhood parks, one centrally located within Planning Area 1 of the Specific Plan area, the other located adjacent to an Edison Utility Easement within Planning Area 2. These neighborhood parks will provide opportunities for community interaction and recreation while promoting neighborhood and community identity. Linking the two parks, and providing access from the surrounding neighborhoods, is a network of landscaped, tree-shaded pedestrian paseos. Within Neighborhoods 5 and 6 private recreational areas will be provided.

6.25 The Neighborhood Parks/ Private Recreation Areas

Each neighborhood park consists of the following as illustrated in Exhibit 27, "Conceptual Landscape Plan" and Exhibits 38 and 39, "Neighborhood Park Concepts."

- Children's Tot Lot Play Area - Play structures and equipment should be staged to provide for separated use based on age, yet allow for the possibility of interaction. The Tot Lot should also follow ADA guidelines and provide access depending upon equipment selected. Seating areas shall be located near the Tot Lot to provide areas for parental supervision.
- Barbecue Picnic Facilities – Each park should provide individual barbecue picnic facilities scattered throughout a looped concrete walkway system. Barbecue facilities (minimum of 50%) should be located adjacent to the walkway system for ADA accessibility; the remaining percentage set in open turf areas. Each barbecue picnic facility shall provide a picnic table, freestanding barbecue, hot coal container, and trash receptacle.

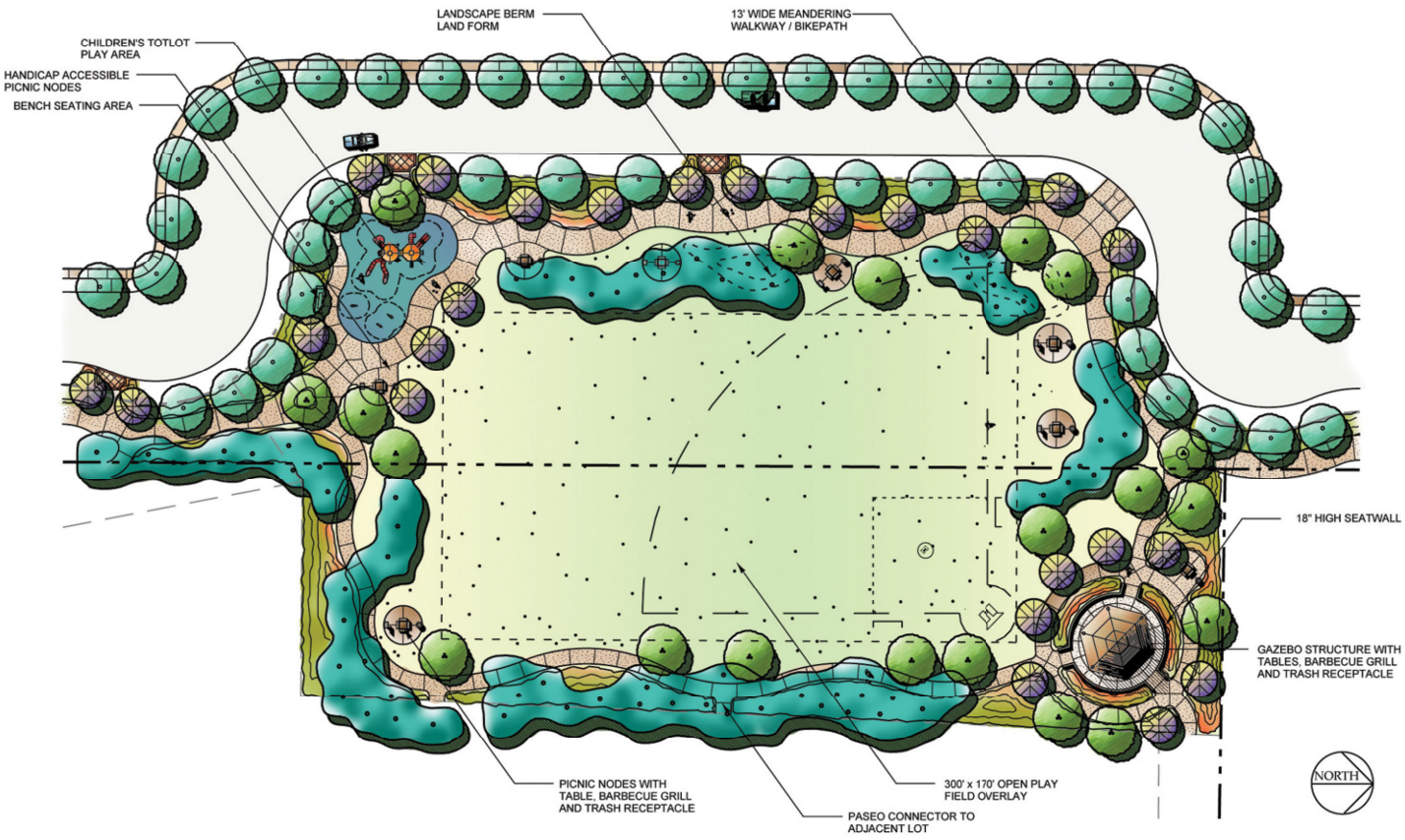
These barbecue facilities can be placed on concrete or any other ADA acceptable surfacing. The design of each neighborhood park open space should take into account pedestrian circulation and the linkage into the surrounding community.

- Open Turf Areas - The open space turf areas should be arranged to accommodate passive play opportunities and small scale, unorganized group athletics and activities. No sports lighting should be permitted in the parks.

Landscaping - Landscaping within the each neighborhood park shall harmonize with the surrounding streetscapes. Large specimen trees should be used within the open turf areas to help provide shade and screening. Landform berming should be incorporated to provide interest and opportunities for screening. Accent trees should also be used at pedestrian entries and around the Tot Lot for color and seasonal interest.

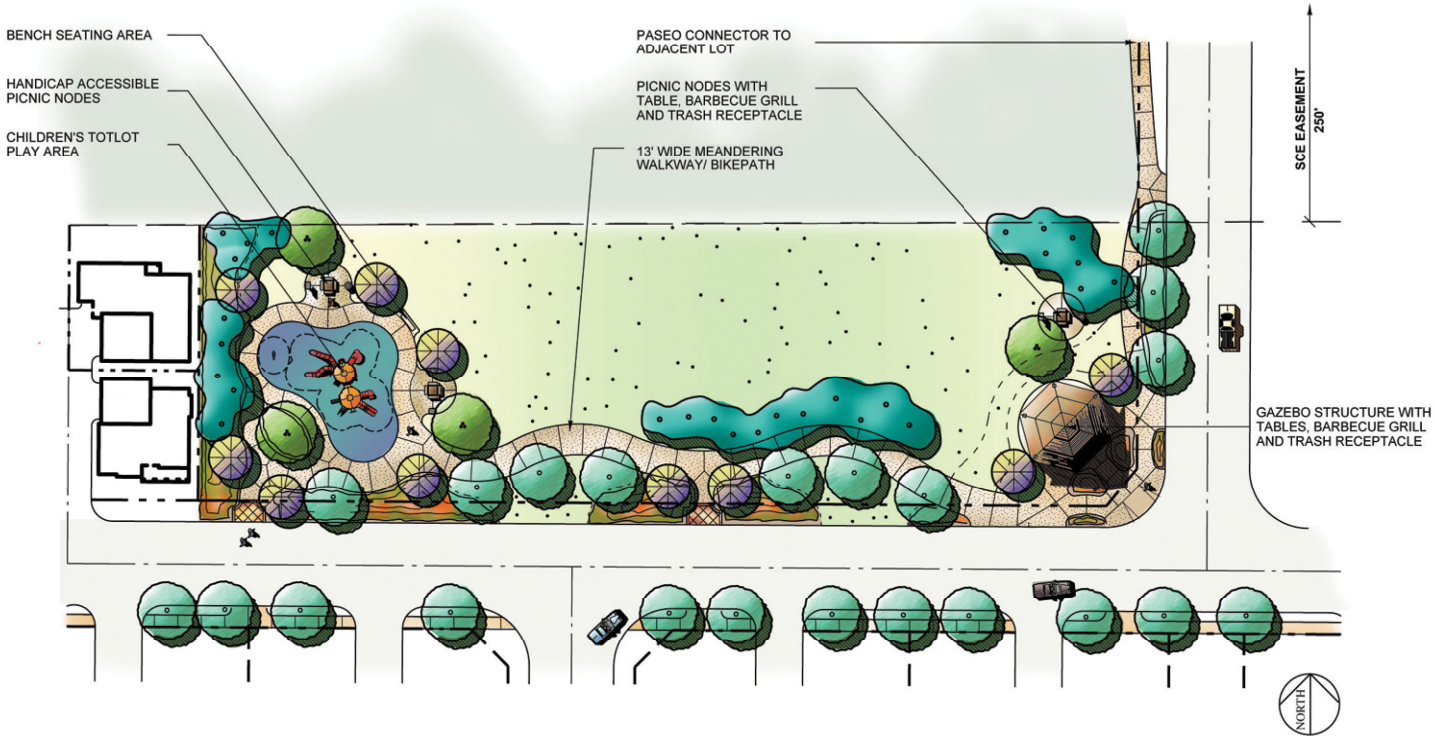
- Large Group Shade Structure - A large shade structure shall be implemented into each park. This shade structure should be located within view of the community and is intended to serve as a group picnic facility. This group facility will include picnic tables, a minimum of two (2) freestanding barbecues, hot coal containers, and trash receptacles.

Each private recreation area to be provided as part of the development of Neighborhoods 2, 5 and 6



Exhibits 38

Neighborhood Park Concept - Planning Area 1



Exhibits 39

Neighborhood Park Concept - Planning Area 2

will be improved with a pool and recreation building offering restroom facilities and pool equipment. Where feasible, picnic areas and open turf play areas will also be provided. Private recreation areas within Neighborhoods 2, 5 and 6 are illustrated in Exhibit 27, "Conceptual Landscape Plan" and Exhibits 40-42, "Private Recreation Areas."

6.26 Paseo Trail System

Pedestrian circulation is highly encouraged within the Countryside Specific Plan. Landscape easements are provided along major roadways and are encouraged within the neighborhoods. Exhibits 43 through 45 illustrate the "Paseo Concepts and Plan" for Countryside.

- Paseo Trail System - A Paseo walkway system shall be designed to provide connections to adjacent neighborhoods as well as linking the community and giving access to the community perimeters.
- Entry points to the paseo shall have adequate signage.
- Landscaping - Landscaping along the Paseo Trail System should harmonize with the surrounding streetscapes.
- Meandering sidewalks a minimum width of 5'-0" are encouraged.
- Entry points shall have adequate directional signage.
- Seating nodes should be located along the paseo paths at regular intervals. These seating nodes should include a bench, trash receptacle, and enhanced landscaping to help accentuate each node.
- Bike racks and water fountains should be provided where feasible at strategic locations.
- The locations of drop off areas should be coordinated with the overall design of the parks.
- Decorative security lighting shall be incorporated into the paseo design at regular intervals along the pedestrian path and at seating nodes. Final lighting layout, foot candle requirements, and fixture selection is subject to the review and approval by the City of Ontario.
- Use of enhanced paving at paseo connections where pedestrian circulation crosses roadways is encouraged and may be permitted subject to approval by the City Engineer.
- Utilization of the Southern California Edison Corridor (SCE) for sidewalk/bikeways and interface w/ park walkway circulation is important. Final approval of paseo configuration and design will be approved by the City of Ontario and SCE.

6.27 Community Walls and Fencing

Walls are a major component in achieving an overall community theme within the Countryside Specific Plan. A strong cohesive appearance is achieved through the use of "community walls" and general overall wall guidelines.

All walls that adjoin community street scenes and are located along the boundary edges of the Paseo and to the opposite side of the SCE corridor shall be deemed "community walls." All wall and fencing designs and layout shall be approved by the City of Ontario prior to construction. The proposed location and types of walls and fencing proposed for Countryside are illustrated on Exhibit 46, "Wall and Fence Plan."

6.27.1 Community Walls

Community walls that bound the perimeter of the project should be decorative in nature. These walls should be constructed of split-face block masonry and be of a color that blends with the Countryside color palette. A decorative horizontal course of block shall be placed towards the top of the wall. It is recommended that decorative horizontal course contrast in texture from that of the split face wall. Decorative block course options

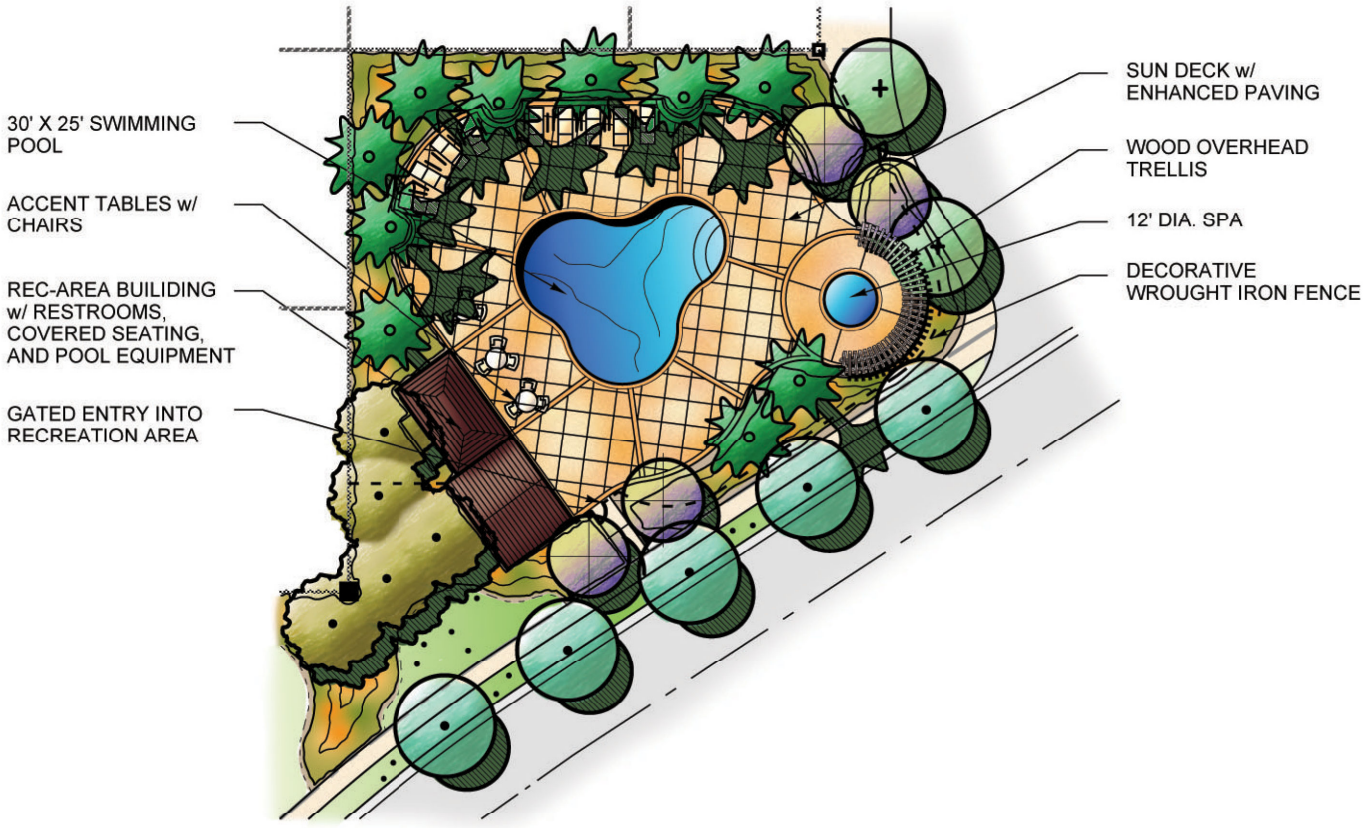


Exhibit 40
Private Recreation Area

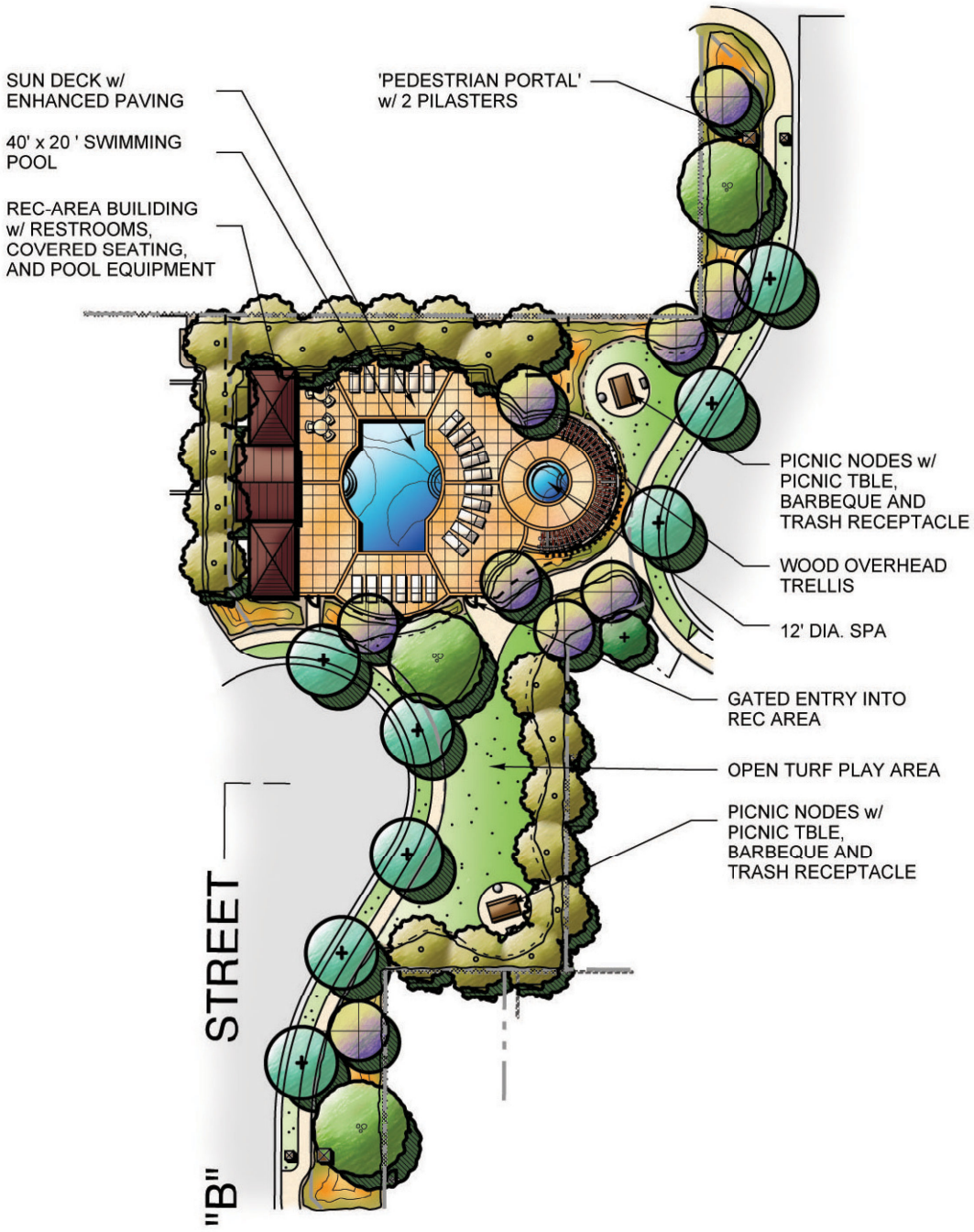


Exhibit 41
Private Recreation Area

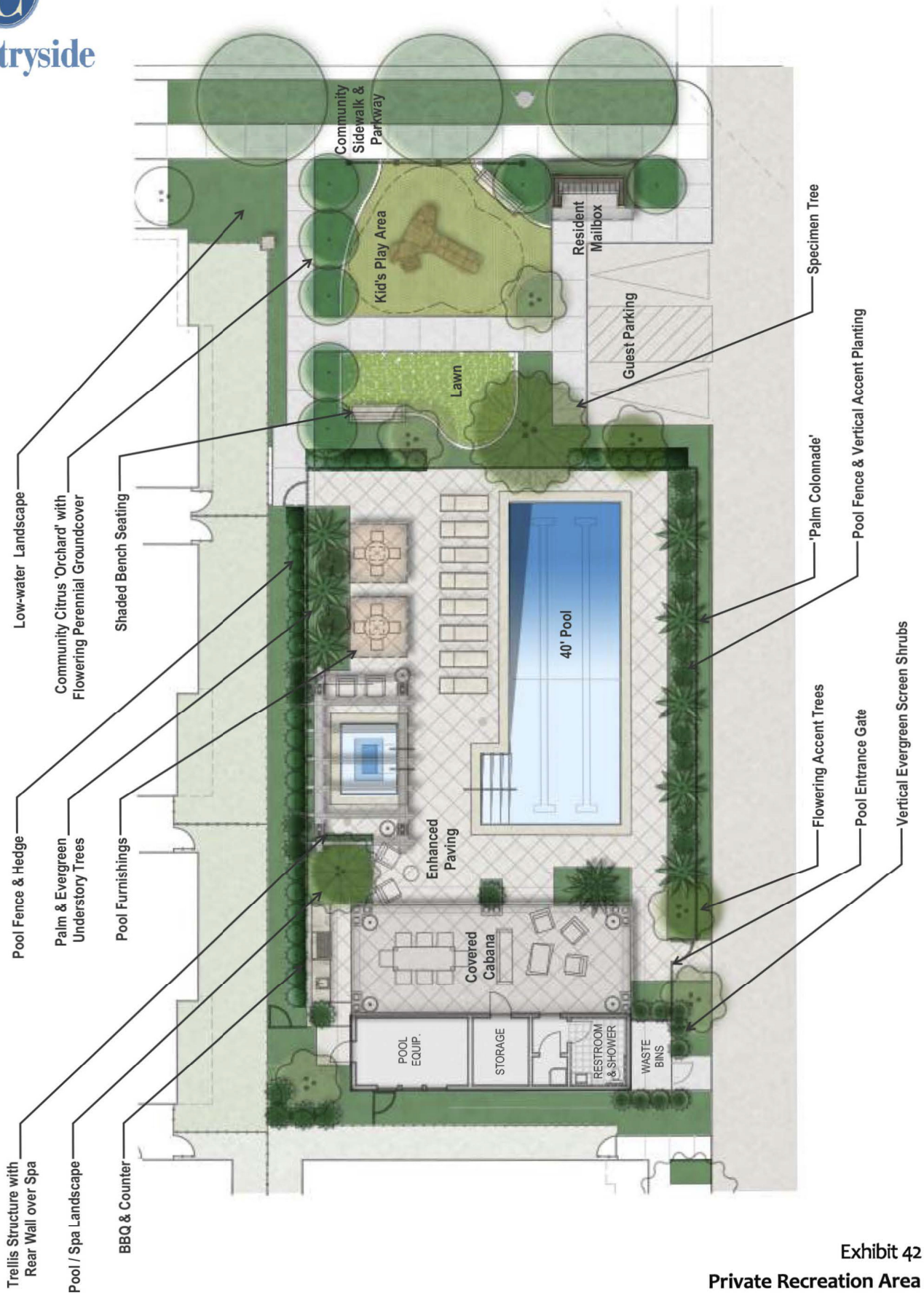


Exhibit 42
Private Recreation Area

Revised Graphic

Countryside

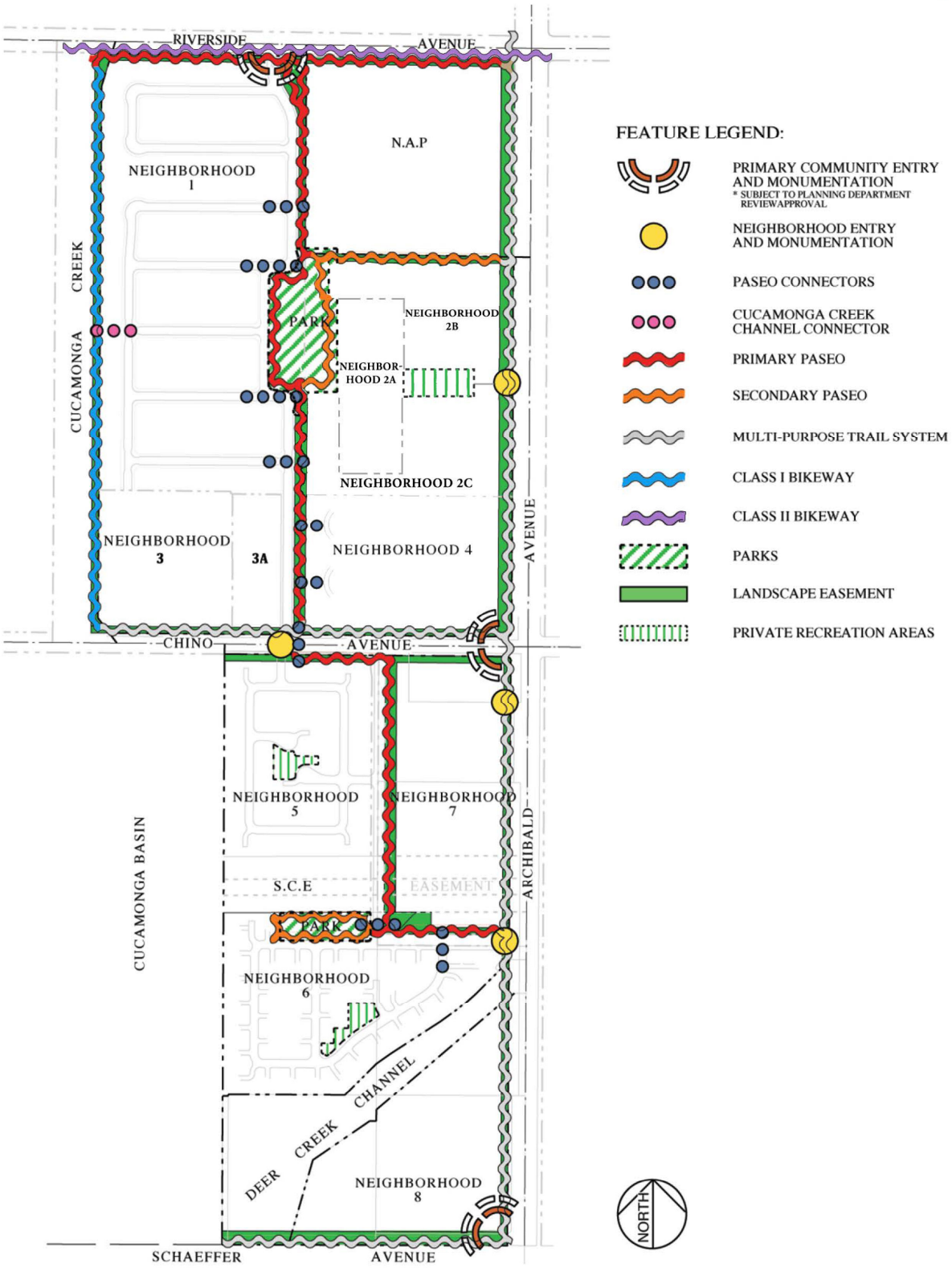
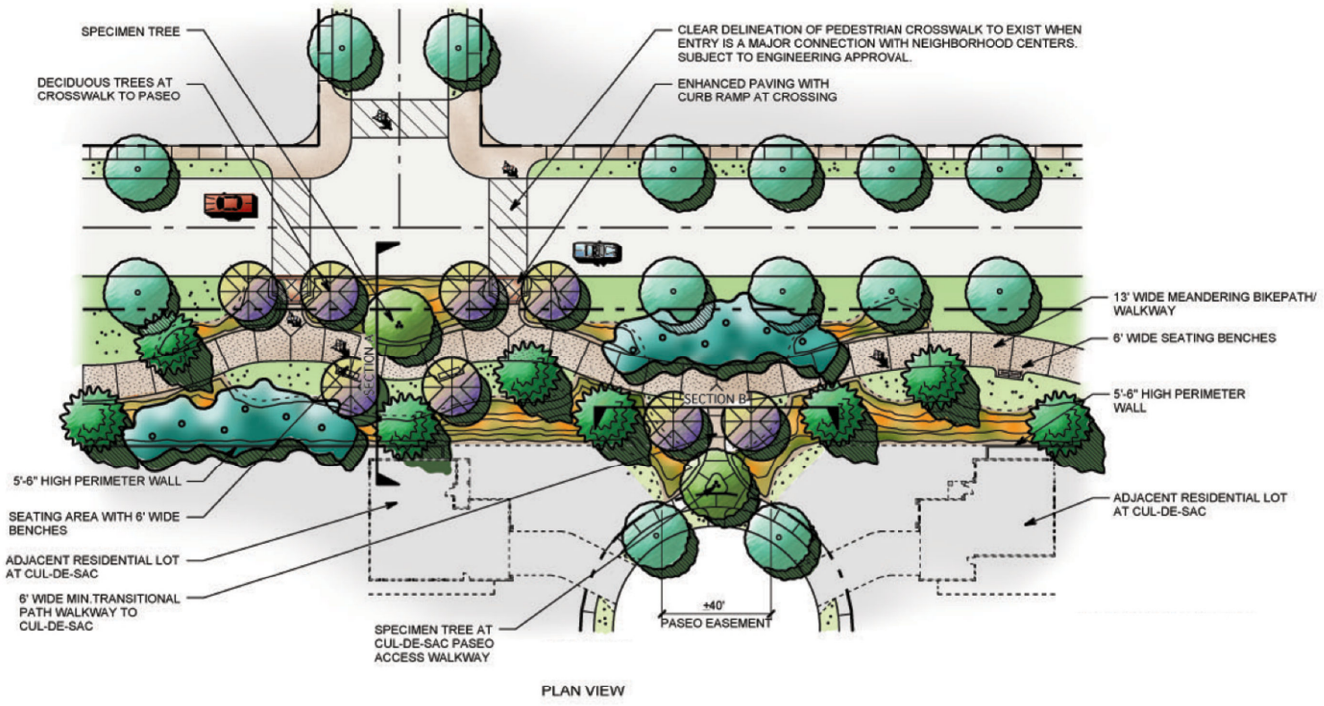
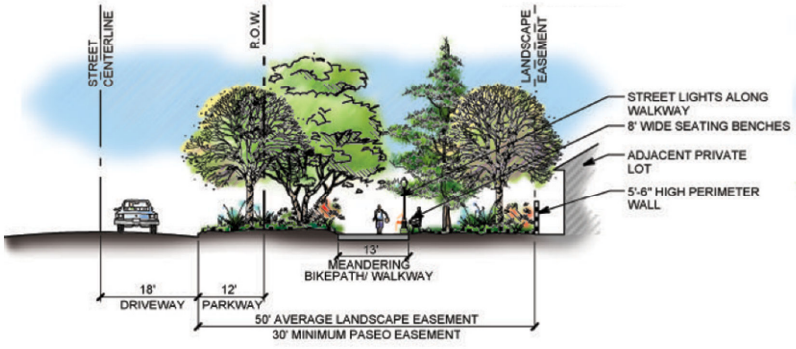


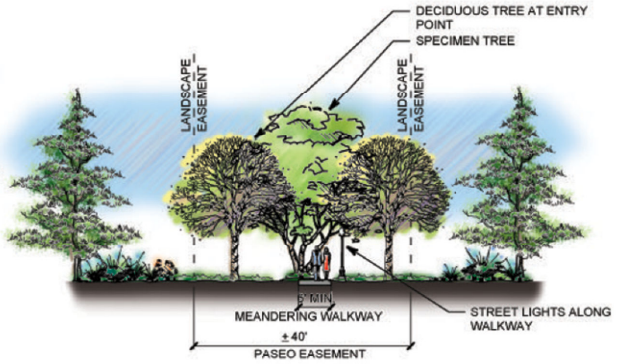
Exhibit 43
Paseo Plan Revised Graphic



PLAN VIEW



SECTION A



SECTION B

Exhibit 44

Paseo Concept

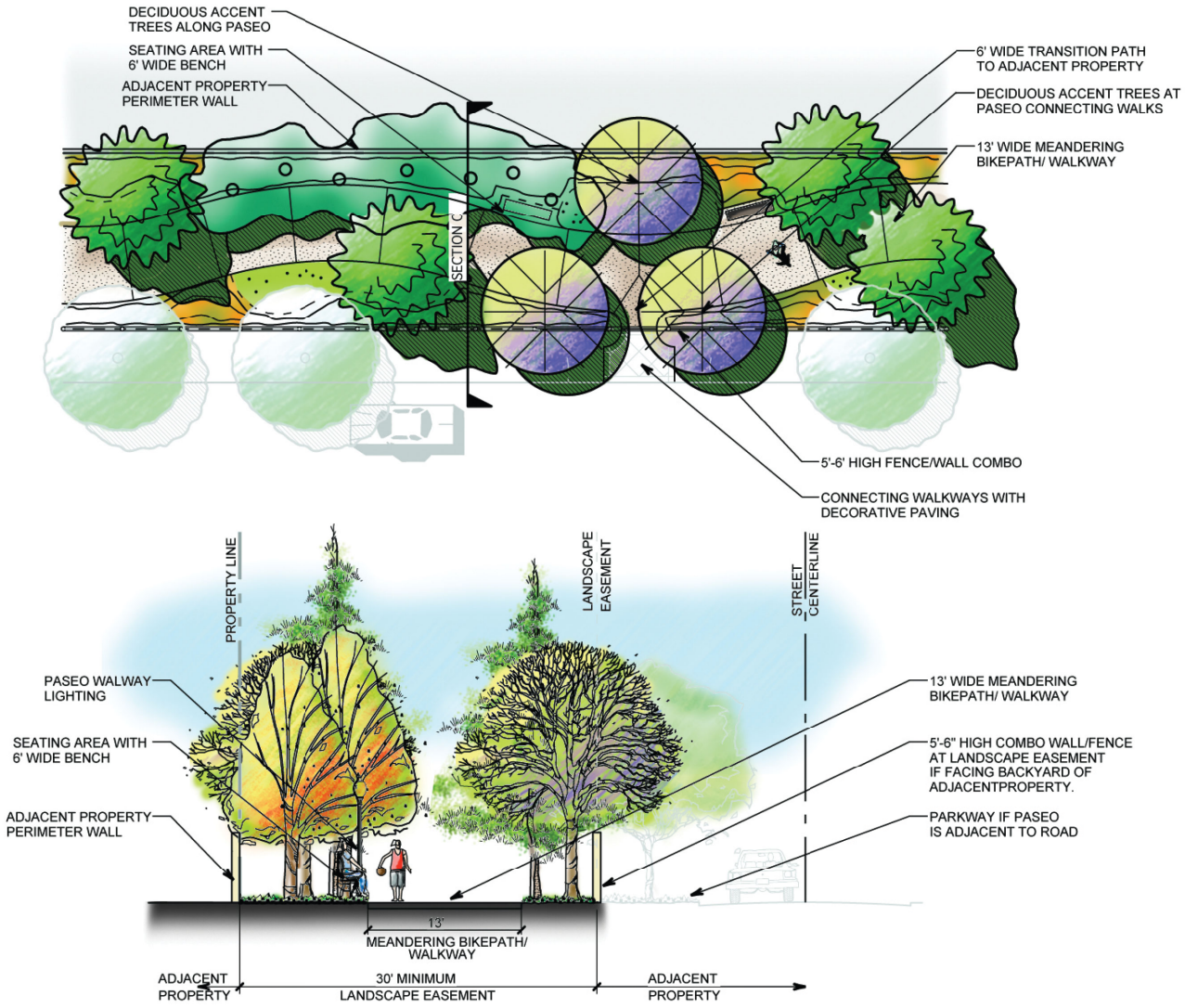
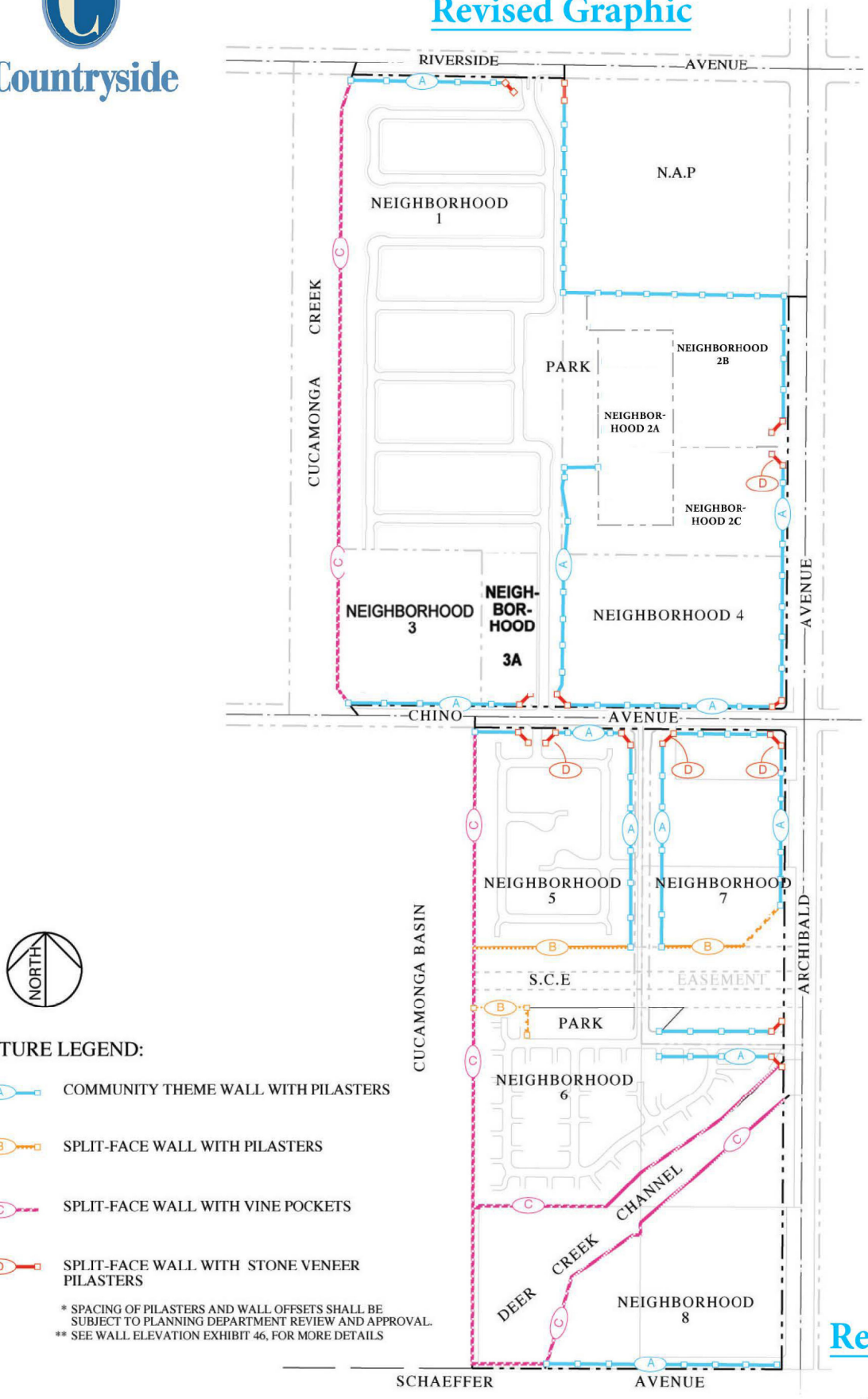


Exhibit 45
Paseo Concept

Countryside

Revised Graphic



Revised Graphic

Exhibit 46

Wall and Fence Plan

include: burnished, colored precision, fluted, or shot blast textured block. Decorative accent pilasters spaced at equal intervals are highly encouraged and should match the wall design. At key community entries, where the community wall angles at a 45° angle, decorative veneered pilasters shall be constructed to help blend in with the Countryside monumentation. Exhibit 47, "Wall Details" illustrates the concept for Community Wall Design within Countryside.

6.27.2 Interior Walls

Where privacy or protection of common area views dictates, walls shall be constructed of precision block consistent in color with any adjacent wall. Reverse frontage walls and any wall return visible from the street shall be constructed of split-face block, and of a color that blends with the Countryside color palette. Decorative caps and the use of pilasters to help enhance the perimeter appeal of the walls are encouraged. Walls visible from the community streets may not be made of exposed or painted precision block or slumped block. Final approval of fencing design, including colors and styles are subject to City of Ontario design review processing.

6.27.3 Exterior Walls Adjacent to Deer Creek Channel

Walls adjacent to the Deer Creek Channel shall be constructed of split-face block with open half-block course at bottom for clinging vine to grow through. Half-block openings shall coincide with the vine on center spacing noted in planting plans.

6.27.4 View Fencing

View fences shall be utilized to allow open views but not physical access in certain instances. View fences shall be 5'-6" high minimum and made of tubular steel construction. Tubular steel view fencing shall incorporate the use of pilasters designed to be consistent with the materials of the interior walls. View fencing locations and design will be subject to review and approval by the City of Ontario.

6.28 Outdoor Lighting

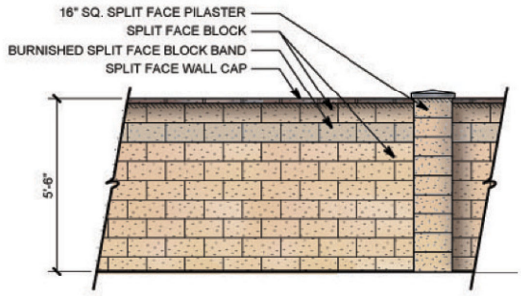
Lighting standards within Countryside shall be consistent in style, color, and materials in order to maintain uniformity throughout. Lighting should be subtle, providing a soft wash of light over illuminated objects such as monumentation. Hierarchy shall be established by using a variety of lighting fixtures and illumination levels based on lighting design intent. Lighting styles shall tie into architectural styles and provide sufficient illumination for the safety and well being of the community. Accent lighting of landscape and monumentation shall be incorporated into the areas.

6.28.1 Entry Monuments

Avoid intensely bright or "hot" lighting of monuments; rather, each should be lit to provide a soft wash of light across the monument signage. Specimen trees should be uplit with several fixtures into the canopy to avoid creating dark sides of the trees.

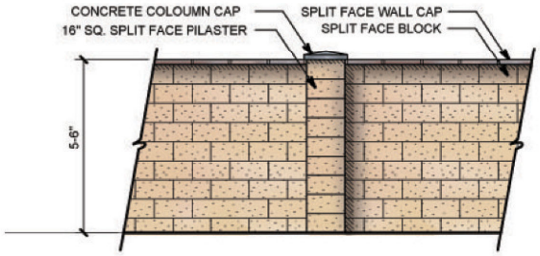
6.28.2 Community Parks/Paseo Lighting

Lighting of the pathways, tot lot, and select landscaped areas within the Parks and Paseo Trail System should be considered for safety and security. Utilization of a traditional Globe/Acorn Post mounted light fixture should be considered for both the park open space areas as well as interior street lighting fixtures. Keeping with the character of traditional materials, this will help to create a better sense of scale to the pedestrian.



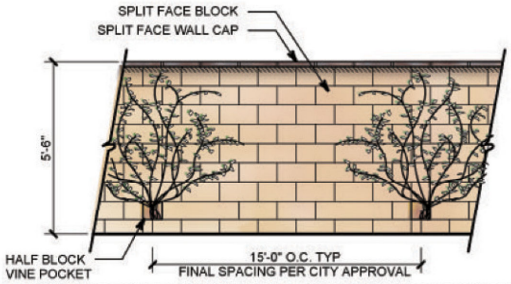
A SPLIT FACE WALL AND PILASTER

SINGLE SIDE SPLIT FACE BLOCK WALL ALONG PASEO PERIMETER. PILASTER SPACING AND WALL OFFSETS SHALL BE SUBJECT TO PLANNING DEPARTMENT REVIEW AND APPROVAL.)

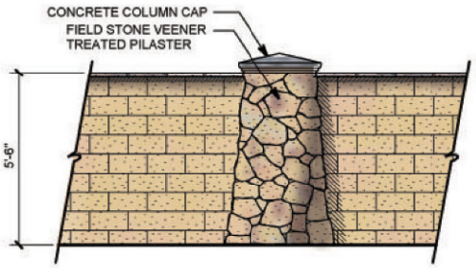


B SPLIT FACE WALL AND PILASTER

INTERIOR PRIVACY WALLS LOCATED BETWEEN HOUSES AND ALONG THE STREET SIDE OF CORNER LOTS, TO BE SPLIT FACE MASONRY WITH DECORATIVE CAP. (USE SPLIT FACE ON 2 SIDES WHERE BOTH SIDES ARE VISIBLE FROM STREET. PILASTER SPACING AND WALL OFFSETS SHALL BE SUBJECT TO PLANNING DEPARTMENT REVIEW AND APPROVAL.)

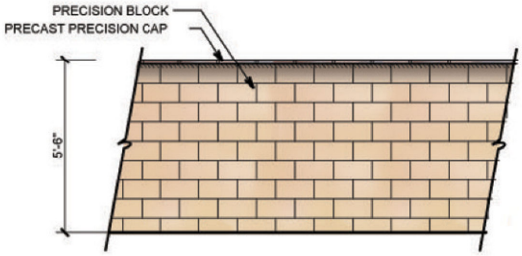


C SPLIT-FACE BLOCK WALL WITH VINE POCKETS



D SPLIT-FACE BLOCK WALL WITH STONE VENEER PILASTER

TO BE USED ALONG NEIGHBORHOOD ENTRY CORNERS.



E PRECISION BLOCK WALL

INTERIOR PRIVATE BLOCK WALL IS TYPICALLY USED WHERE PRIVACY IS DESIRED AT PROPERTY LINE LOCATIONS WHERE NOT VISIBLE FROM PUBLIC VIEW. OVERALL WALL/FENCE HEIGHT SHALL BE 5'-6" FEET.

Exhibit 47

Wall Details

Countryside

6.29 Landscape Design

6.29.1 Public Landscapes

- Landscape plantings in public areas should reflect a commitment to both developing a "sense of place" and maintaining harmony with the Ontario Ranch.
- A landscape architect licensed in California and experienced and familiar with wrought tolerant landscaping shall be retained to prepare planting and irrigation plans for all public areas. Arrangement of plants should incorporate the concepts of mass planting; plants should be placed to allow them to grow to their natural sizes and forms, and sheared hedges should be kept to a minimum.

The plant palette at the end of this section offers suggested plants palette for Countryside and, while this list is by no means all inclusive, plantings in public areas should draw primarily from this palette for visual continuity throughout the Countryside Specific Plan Community.

6.29.2 Front Yard Landscapes

Plantings in front yards may vary substantially from the Countryside palette, but should retain some of the character and style of the public plantings. No more than ~~60~~25% of the total square footage of any front yard shall be lawn; the bal-ance shall be composed of shrubs and ground covers, with an emphasis on drought tolerant plant species. Turf areas shall be sized and shaped to optimize efficient irrigation. If turf is used in isolated areas such as driveway strips, subsurface irrigation or microspray heads shall be required to avoid overspray. Irregular shapes that cannot be irrigated efficiently shall be avoided.

6.29.3 Soil Testing

Soil samples shall be taken from several locations after the completion of rough grading operations, and a reputable soil testing laboratory shall perform an agronomic soils test. The test shall assess soil fertility needs for water-wise California native and Mediterranean plant types. No planting shall take place until the soil has been properly prepared based on the recommendations of the soils testing laboratory. Organic soil amendments shall be incorporated as necessary to achieve a recommended percolation rate of one inch per hour.

6.29.4 Slope Landscaping

All manufactured and cut/fill slopes which exceed 3-feet in height shall be planted with an effective mixture of ground cover, shrubs, and trees. Such slopes shall also be irrigated as necessary to ensure germination and establishment in conformance with the fuel modification guidelines of the City.

6.29.5 Interior Slopes: Residential Interior

- Interior slopes may be more ornamental in character than exterior slopes. They may have a somewhat broader range of plant materials than exterior slopes, but should still be chosen primarily from the Countryside plant palette are subject to the City of Ontario fuel modification restrictions and shall be irrigated in accordance with the provisions of Section 6.31 below.
- All manufactured and cut/fill slopes which exceed 3-feet in height shall be planted with an effective mixture of ground cover, shrubs, and trees. Such slopes shall also be irrigated as necessary to ensure germination and establishment in conformance with the fuel modification guidelines established by the City of Ontario.

6.30 Streetscape Landscaping

6.3.1 Streetscape Development Standards

- ~~Turf grass shall not exceed 30% of streetscape planting and shall be located adjacent to the sidewalk or curb line.~~
- All new plantings within Countryside shall draw substantially from the Countryside Plant Palette included in this document.
- All streetscape landscaping within Countryside will be implemented by the Developer in accordance with this Specific Plan.
- The Developer shall install all primary and secondary improvements concurrently with the construction of the roadway on which they front. Neighborhood intersections shall be constructed as each neighborhood street is built.
- The Developer shall provide site inspection of all construction and installation of entries and intersections in accordance with the City of Ontario requirements.

6.31 Irrigation Design

Irrigation for both public and private landscapes should be designed to be as water efficient as possible. All irrigation systems shall have automatic controllers designed to properly water plant materials given the site's soil conditions, and irrigation systems for all public landscapes shall have automatic rain shut-off devices. Drip irrigation is encouraged. Spray systems shall have low volume (gpm), matched precipitation heads.

All irrigation products specified shall achieve an irrigation operational distribution uniformity of 70% or greater in all turf areas and 80% in all other landscaped areas.

Turf areas shall be irrigated with equipment that has a precipitation rate of one (1) inch or less per hour as specified by the manufacturer. Stream rotator heads are preferred; use of standard spray heads shall be avoided. Non-turf shrub areas shall be irrigated with low volume micro spray or point application devices, where manufacturer's specification indicates output measured and expressed in gallons per hour (gph). Maximum flow shall be 60 gph (1 gpm) for each point.

6.32 Landscape Maintenance

- All public landscapes of master planned roadways (Riverside Drive, Archibald Avenue, Schaefer Avenue and Chino Avenue), including slopes, street trees, lighting, and irrigation systems, shall be maintained by the City of Ontario Landscape Maintenance District.
- Front yard landscapes shall be the responsibility of the homeowner or HOA who shall maintain the front yard landscape in a healthy condition at all times.
- All manufactured and cut/fill slopes which exceed 3-feet in height shall be planted with an effective mixture of groundcover, shrubs, and trees. Such slopes shall also be irrigated as necessary to ensure germination and establishment in conformance with the fuel modification guidelines of the City of Ontario.

6.33 Community Plant Palette

BOTANIC NAME	COMMON NAME	Archibald Avenue (Per NMC Streetscape Master Plan)	Chino Avenue (Per NMC Streetscape Master Plan)	Local Private Street	Local Streets	Riverside Avenue (Per NMC Streetscape Master Plan)	Schaefer Avenue (Per NMC Streetscape Master Plan)	Primary Community Entries	Neighborhood Community Entries	Paseo Trail Systems	SCE Easement	Neighborhood Parks	Alleys
TREES													
STREET TREES													
Per City of Ontario Street Tree Master Plan													
ENTRY ACCENT TREES													
Chionanthus retuses	*Chinese Fringe Tree*							•		•		•	
Lagerstroemia indica hybrids	*Crape Myrtle*							•	•	•		•	
~~*Magnolia soulangeana*~~ *Quyercus suber*	~~*Saucer magnolia*~~ *Cork Oak*									•		•	
~~*Pyrus Calleryana 'Aristocrat'*~~ *Chitalpa tashkentensis*	~~*Ornamental Pear*~~ *Chitalpa*							•	•	•		•	
EVERGREEN BACKGROUND TREES													
Quercus ilex	*Holly Oak*									•			
Pinus canariensis	*Canary Island Pine*									•		•	
Melaleuca linarifolia	*Flaxleaf Paperback*									•			
UPRIGHT TREES													
Melaleuca quinquinervia	*Cajeput Tree*									•			
Tristania ~~*laurina*~~ *conferta*	~~*Water Gum*~~ *Brisbane Box*												•
~~*Populus nigra 'Italica'*~~ *Gingko biloba*	~~*Lombardy Poplar*~~ *Gingko*											•	
SPECIMEN TREES (ACCENT ONLY)													
Schinus molle	*California Pepper*							•	•			•	
Quercus agrifolia	*Coast Live Oak*							•	•			•	

BOTANIC NAME	COMMON NAME	Archibald Avenue (Per NMC Streetscape Master Plan)	Chino Avenue (Per NMC Streetscape Master Plan)	Local Private Street	Local Streets	Riverside Avenue (Per NMC Streetscape Master Plan)	Schaefer Avenue (Per NMC Streetscape Master Plan)	Primary Community Entries	Neighborhood Community Entries	Paseo Trail Systems	SCE Easement	Neighborhood Parks	Allevs
SHRUBS													
LARGE SHRUBS (6' AND LARGER)													
Arbutus unedo 'Compacta'	*Compact Strawberry Tree*							•				•	
Arctostaphylos d. 'Howard McMinn'	*McMinn Manzanita*										•		
**Buddleia species*	*White Butterfly Bush*										•		
Ceanothus species and hybrids	*Wild Lilac*										•	•	
Cotoneaster lacteus	*Cotoneaster*					•	•			•			
~~Grevillea species~~ Callistemon species	*~~Grevillea~~ Bottlebrush*	•	•					•				•	
Ilex aquifolium	*English Holly*					•	•						•
Melaleuca nesophila	*Pink Melaleuca*											•	•
Myrtus communis 'Compacta'	*Dwarf Myrtle*			•	•	•	•						
Phormium hybrids	*Hybrid New Zealand Flax*	•						•	•				
Pittosporum tobira 'Variegata'	*Variegated Tobira*	•	•	•	•								
Oleander species	*Oleander*	•										•	
Rhamnus c. 'Mound San Bruno'	*Coffeeberry*							•	•	•			
Viburnum tinus 'Spring Bouquet'	*Spring Boquet Laurustinus*	•	•	•	•								
MEDIUM SHRUBS (3'-6')													
Baccharis 'Centennial'	*Coyote Bush*	•	•							•			
Buxus japonica	*Japanese Boxwood*	•	•	•	•								•
Callistemon 'Little John'	*Dwarf Callistemon*									•	•		
Camelia species	*Camelia*											•	
Ceanothus griseus horizontalis	*Carmel Creeper*										•	•	
Cistus purpureus	*Common Rockrose*	•	•			•	•	•	•				
Cistus species	*Rockrose*	•	•			•	•	•	•				
Dodonea microzyga	*Brilliant Hop-Bush*										•	•	
Echium fastuosum	*Pride of Madeira*	•						•					
Grevillea lanigera	*Wooly Grevillea*									•		•	
Kniphofia uvaria	*Red Hot Poker*	•							•	•		•	•
Mahonia aquifolium	*Oregon grape*					•	•						•
Nandina domestica	*Heavenly Bamboo*	•						•	•	•		•	•
Ribes speciosum	*Fuschia-flowering Gosseberry*									•		•	
Rosmarinus officinalis and hybrids	*Rosemary*	•	•	•	•	•						•	
Salvia Greggii	*Autumn Sage*							•	•	•	•	•	
Westringia 'Wynyabbie Gem'	*Wynyabbie Gem Coast Rosemary*							•	•	•			

Countryside

BOTANIC NAME	COMMON NAME	Archibald Avenue (Per NMC Streetscape Master Plan)	Chino Avenue (Per NMC Streetscape Master Plan)	Local Private Street	Local Streets	Riverside Avenue (Per NMC Streetscape Master Plan)	Schaefer Avenue (Per NMC Streetscape Master Plan)	Primary Community Entries	Neighborhood Community Entries	Paseo Trail Systems	SCE Easement	Neighborhood Parks	Alleys
SHRUBS													
SMALL SHRUBS AND PERENNIALS													
Achillea hybrids	*Yarrow Mixture*							●	●				
Anigozanthos species	*Kangaroo Paws*							●	●			●	
**Artemesia 'Powis Castle'*	*Powis Castle Wormwood*										●		
Bergenia cordifolia	*Bergenia*			●	●			●	●			●	●
Cistus salvifolius	*White Rockrose*									●			
Epilobium c. 'Catalina'	*California Fushia*									●	●		
Eriogonum fasciculatum	*California Buckwheat*									●	●		
Helictotrichon sempervirens	*Blue Oat Grass*	●						●	●				
Hemerocallis hybrids (evergreen)	*Daylily - mixed colors*	●	●	●	●			●	●	●		●	●
Heuchera sanguinea	*Coral Bells*			●	●			●	●	●		●	●
Mahonia aquifolium 'Compacta'	*Compact Oregon Grape*					●	●						
Mahonia repens	*Creeping Oregon Grape*					●	●						
**Muhlenbergia rigens*	*Deer Grass*	●						●	●			●	
**Muhlenbergia lindheimeri*	*Lindheimer's Muhly*	●						●	●			●	
**Penstemon species*	*Beard Tongue*	●						●	●			●	
**Sesleria autumnalis*	*Autumn Moor Grass*									●	●		

BOTANIC NAME	COMMON NAME	Archibald Avenue (Per NMC Streetscape Master Plan)	Chino Avenue (Per NMC Streetscape Master Plan)	Local Private Street	Local Streets	Riverside Avenue (Per NMC Streetscape Master Plan)	Schaefer Avenue (Per NMC Streetscape Master Plan)	Primary Community Entries	Neighborhood Community Entries	Paseo Trail Systems	SCE Easement	Neighborhood Parks	Alleys
GROUNDCOVER / VINES													
GROUNDCOVERS													
Arctostaphylos edmundsii	*Liitle Sur Manzanita*										●	●	
Arctostaphylos 'Indian Hill'	*Manzanita*										●	●	
Campanula Poschcharskyana	*Serbian Bellflower*									●	●		
Carex tumulicola	*Berkely Sedge*							●	●	●			
Festuca mairei	*Atlas Fescue*	●		●	●			●	●	●			
Geranium incanum	*Carpet Geranium*	●	●			●	●					●	
Pelargonium peltatum	*Ivy Geranium*	●	●			●	●					●	
Rosmarinus o. 'Prostatus'	*Prostrate Rosemary*	●	●	●	●							●	
Teucrium x lucidrys	*Bush Germander*			●	●							●	
VINES													
Bigonia c. 'Tangerine Beauty'	*Crossvine*									●			●
Bougainvillea hybrids	*Bougainvillea*											●	
Clytostoma callistegioides	*Purple Trumpet Vine*									●			
Distictis buccinatoria	*Red Blood Trumpet Vine*								●		●		
Jasminum polyanthum	*Pink Jasmine*											●	●
**Macfadyena unguis-cati*	*Cat's Claw Vine*										●	●	
**Parthenocissus tricuspidata*	*Boston Ivy*	●	●	●	●	●	●					●	

Section 7. Implementation

The City of Ontario will adopt the Countryside Specific Plan by ordinance. Following approval by the City, the Countryside Specific Plan will serve as the implementation tool for the Ontario Ranch General Plan Amendment as well as the zoning for the Specific Plan Area. The Specific Plan addresses general provisions, permitted uses, development standards, and community design guidelines.

7.1 Methods and Interpretation

Development within the Countryside Specific Plan shall be implemented through the approval by the City of tentative and final tract maps and through development plans approved through the Development Plan Review process as established in Article 8, of the City of Ontario Comprehensive Development Code. The implementation process described below provides for the mechanisms for review and approval of development projects within the Countryside Specific Plan area.

7.2 Applicability

All development proposals within the Countryside Specific Plan shall be subject to the implementation procedures established herein and as established in Section 9-1.0425 of the City's Development Code. Whenever the provisions and development standards contained herein conflict with those contained in the City of Ontario Development Code, the provisions of the Countryside Specific Plan shall take precedence.

7.3 Interpretation

Unless otherwise provided, any ambiguity concerning the content or application of the Countryside Specific Plan shall be resolved by the City of Ontario Planning Director (Director) or his/her designee in a manner consistent with the goals, policies, purpose and intent established in this Specific Plan.

7.4 Implementation of Design Guidelines

Adoption of the Countryside Specific Plan by the City includes adoption of the design guidelines contained herein, which shall be the design criteria by which development projects within the Countryside Specific Plan area will be reviewed during Development Plan Review. The design guidelines are intended to be flexible in nature while establishing basic evaluation criteria for the review by the City of developer projects during Development Plan Review.

Any major deviation from the design guidelines within the Countryside Specific Plan shall require approval by the Planning Commission. The determination of a major deviation from the design guidelines shall be made by the Director.

7.5 Development Review Process

7.5.1 Subdivision Maps

All development proposals within the Countryside Specific Plan will require approval by the City of subdivision maps to subdivide parcels for development purposes. All tentative and final tract maps will be reviewed and approved pursuant to applicable provisions of the City of Ontario Subdivision Ordinance and consistent with the applicable

provisions of Land Use, Infrastructure, Design Guidelines, and Development Regulations contained within the Countryside Specific Plan.

7.5.2 Development Plan

All development projects within Countryside shall be subject to the Development Plan Review Process as established in Article 8 of the City's Development Code. Pursuant to these provisions, the Development Plan Review process constitutes a design review of project architecture, site plans, and landscape plans. Adoption of the Specific Plan by the City includes adoption of the design guidelines contained within the Specific Plan and which provide direction for the design of development projects within Countryside. Where the Countryside development regulations and design guidelines are silent, the applicable development regulations and design guidelines contained within the City's Development Code shall apply. The design guidelines are intended to be flexible in nature while establishing basic evaluation criteria for the review by the City of developer projects during design review.

All development project applications shall include a landscape and irrigation plan describing plant materials and their growth habits, plant size and spacing, methods of irrigation and landscaping maintenance, site plans, architectural elevations, floor plans, grading plans and other requirements as specified by the City.

7.6 Density Allocations

The Countryside Land Use Plan allocates density to each residential neighborhood. Variations in density allocations per neighborhood may occur at the time of final design of the neighborhood depending upon the residential product identified for development. Variations in allocation of density within the neighborhoods of the Countryside Specific Plan is permitted provided the density variation does not exceed a net of 15% and the maximum dwelling unit count of ~~825~~984 units established for the Specific Plan is not exceeded.

7.7 Specific Plan Modifications, Amendments, Variances, Conditional Use Permits

7.7.1 Minor Modifications

The following constitute minor modifications to the Specific Plan, not requiring a Specific Plan Amendment, and are subject to review and approval by the Director. The Director shall have the discretion to refer any such request for modification to the Planning Commission or the City Council.

a) Change in utility and/or public service provider.

b) A change of more than fifteen percent (15%) net to the number of units within an individual neighborhood provided the total number of units for the entire Specific Plan area does not exceed that established in the Specific Plan.

c) Adjustment of a neighborhood boundary provided the total acreage of the affected phase area does not increase or decrease by more than fifteen percent (15%) net of the total stated in the approved Specific Plan.

d) Minor changes to landscape materials, wall materials, wall alignment, entry design, and streetscape design which are consistent with the conceptual design set forth in the design guidelines contained within the Specific Plan.

e) Minor changes to the design guidelines, provided the design is consistent with the intent of the guideline.

f) Other modifications of a similar nature to those listed above, which are deemed minor by the Director, which are in keeping with the purpose and intent of the approved Countryside Specific Plan and which are in conformance with the General Plan.

7.7.2 Specific Plan Amendments

Amendments to the Countryside Specific Plan may be requested by the applicant or by the City at any time pursuant to Section 65453 (a) of the Government Code. Amendments shall be processed pursuant to the provisions of the Government Code for Specific Plan Amendments. In the event the proposed amendment requires supplemental environmental analysis pursuant to the California Environmental Quality Act (CEQA), the applicant(s) are responsible for preparing the necessary CEQA documentation.

7.7.3 Variances

Variances and Administrative Exceptions to the development regulations contained in the Countryside Specific Plan with respect to landscaping, screening, site area, site dimensions, yards and projections into yards, heights of structures, distances between buildings, open space and off-street parking and loading can be considered pursuant to Article 10, "Variances and Administrative Exceptions" of the City of Ontario Development Code.

7.7.4 Conditional Use Permits

Uses specified as conditionally permitted uses within Section 5, "Development Regulations," of the Countryside Specific Plan shall be reviewed and approved by the City pursuant to the requirements of Article 9, "Conditional Use Permits."

7.8 Appeals

Appeals from any determination of the Director shall be made to the Planning Commission. The applicant(s) or any other entity shall have the right to appeal the decision of the Planning Commission on any determination by filing an application on forms provided by the City of Ontario within ten (10) days following the final date of action for which an appeal is made. Appeals shall be processed consistent with the provisions of Article 5, "Appeals" of the City of Ontario Development Code.

7.9 Compliance with Mitigation Monitoring Plan

Certification of an Environmental Impact Report (EIR) shall be required prior to approval of the Countryside Specific Plan. Development within the Countryside Specific Plan area shall comply with all approved mitigation measures as described in the Mitigation Monitoring Program included as part of the Countryside EIR.

7.10 Project Financing

The financing of construction, operation and maintenance of public improvements and facilities (the "facilities"), and public services will include funding through a combination of financing mechanisms. Final determination as to the facilities to be constructed and as to maintenance responsibilities, whether publicly or privately maintained, will be made prior to recordation of the final maps. In order for the project to be fiscally self-sufficient, the following financing options can be considered for implementation:

- Private capital investment for the construction of facilities.
- Community Facilities District (CFD) established pursuant to the Mello-Roos Community

Facilities District Act of 1982, or other special district, to provide funding for the construction of a variety of public facilities and the provision of public services.

- Individual private property owner.
- Private property owners or Home Owners Association.
- Community Facilities District (CFD) established pursuant to the Mello-Roos Community Facilities District Act of 1982, or other special district.

City Council approval is a prerequisite for the implementation of any and all special district financing mechanisms. The use of the Mello-Roos Community Facilities District Act of 1982 (the "Act") to finance public facilities and services will be at the City's sole discretion. Moreover, the use of the Act must be consistent with the City's adopted goals and policies concerning the use of the act.

7.11 Project Phasing

Phasing of the Countryside Specific Plan will meet the following objectives:

- Orderly build-out of the community based upon market and economic conditions.
- Provision of adequate infrastructure and public facilities concurrent with development of each phase.
- Protection of public health, safety and welfare.
- Accommodation of continued agricultural operations within the proposed land use area.

7.11.1 Residential Development

The phasing of residential development areas will be determined by the developer. The development of residential uses will be implemented through the approval of tentative and final tract maps and development permits for each neighborhood as developed.

All or a portion of Neighborhood 1 will comprise the initial phase of development in Countryside through the implementation of Tentative Tract Map 16045. Open space amenities to include a portion of the local park and the development of the paseo within Neighborhood 1 will be constructed in conjunction with the development of residential phases. All or a portion of Neighborhoods 5 and 6 will comprise the second phase of development within Countryside. Development of Neighborhoods 3 and 4 will likely comprise the third phase of development of Countryside. Neighborhoods 2, 7 and 8 are the final phases of development of the Countryside Specific Plan. Appropriate levels of infrastructure and community facilities will be installed and public services will be available to serve each subsequent phase of residential development as it occurs.

7.11.2 Community Facilities and Services

The timing for installation of community facilities and payment of impact fees for public improvements and services for the Countryside Specific Plan will be determined as part of the City's approval of tentative tract maps in accordance with the provisions of the adopted City development impact fee ordinances. Community facilities, such as bike trails, will be developed in conjunction with construction of the public street improvements. Those portions of the paseo adjacent to individual tracts within each neighborhood will be constructed in a timely manner as development progresses.

7.12 Maintenance

The public and private improvements constructed within Countryside will be maintained through a combination of public and private entities as described in Table 4, "Maintenance Responsibilities."

1. All local streets within Neighborhoods 1, ~~2,~~ 3, 3A, 4, 7 and 8 within Countryside will be dedicated as public streets to the City of Ontario and will be maintained by the City.
2. All Neighborhood Streets, private alleys, and private drive aisles within Neighborhoods 2A, 2B, 2C, 3A, 5, 6 and 7 will be private and maintained by a homeowner's association(s).
3. Landscape improvements within the parkways, of master plan roadways and streetlights within Countryside shall be maintained either by the City or through a special maintenance district established by the City for the Ontario Ranch.
4. Parkway improvements within the right-of-way of local streets adjacent to residential areas and along private Neighborhood Streets, shall be maintained by homeowners associations.
5. Private recreational areas within Neighborhoods 2, 3A, 5 and 6 shall be maintained by homeowners associations.
6. All on-site master planned facilities, such as water, sewer, and storm drains within street rights-of-way, utility easements, and Water Quality Management Plan shall be privately constructed and maintained by the City. During the course of maintenance of the potable/ recycled water and sewer, storm drain systems, the City will pave the streets and restore the landscaping per City standards. This applies to all areas where public infrastructure is located (public/private streets, lanes/alleys, landscaping, easements, etc.) The HOA will be responsible to restore the streets and landscape areas to their original condition, specifically those areas which have architectural enhance-ments. Access easements across private streets shall be granted by the developer to the City for maintenance purposes.
7. Off-site infrastructure improvements such as water, sewer, and storm drain facilities will be dedicated to and maintained by the City.
8. Pocket parks and paseos will maintained either by a homeowner's association or by a special maintenance district.
9. NPDES facilities (including the dry wells) shall be privately constructed and maintained by the HOA including structures and connections to underground facilities.

7.13 Homeowner Association

Individual homeowner associations will be established for the maintenance of common area landscape improvements within the each single family residential development. Private improvements to be maintained by these homeowner associations include:

- Parkway improvements along local streets adjacent to residences.
- Courts and landscaping within the motor court residential areas.
- Walkways, recreational facilities, and common areas distinct to individual residential types and neighborhoods.
- On-site private NPDES interim detention basins and dry wells.
- Internal slopes fronting streets and slope areas in the rear of homes.
- All internal open spaces, parks, and common areas at neighborhood entries.
- Landscaping adjacent to private drive aisle and alley right of way.

Countryside

	City/ CFD	Private Homeowner Association	Private Homeowner	Utility Entity
Master Plan Roadways (Curb-to-Curb) (Riverside Drive, Archibald Ave., Chino Ave., & Schaefer Ave.)	●			
Interior Project Streets (Curb-to-Curb for Primary Entry Streets, Secondary Entry Streets, & Neighborhood Streets)	●			
Parkways of Master Plan Roadways (Curb to Perimeter Walls, including Landscape, Sidewalk, & Street Lights)	●			
Monument signs within the Neighborhood Edge on Master Plan Roadways		●		
Parkways of Interior Local Streets (Landscaping, & Sidewalks)		●		
Interior Streets within a Gated Community or Multi-Family Development		●		
Street lights on private streets		●		
Traffic Signals, & Street Lights on Public Streets	●			
Traffic Control Signs	●			
Alleys, Alley Landscaping, & Lighting		●		
Interior Tract Graffiti Removal		●		
Private Recreation Areas		●		
Offsite, & Onsite Water, Sewer, & Storm Drain Improvements (Excluding Laterals) (1)	●			
Community Trail within SCE Corridor, Cucamonga Creek Flood Control Right of Way or Easement Trail	●			
Pocket Parks, Linear Parks, & Paseo		●		
Neighborhood Park		●		
Front Yard/Corner Streetside Landscaping Areas (Conventional Neighborhoods 1-4 & 8)		●		
All Public Non-Exclusive Use Landscaped Areas for RD Z-Lot, RD Alley, RD-Cluster & RD-Cluster 2		●		
Private Exclusive Use Landscaped Areas for RD Z-Lot, RD Alley, RD-Cluster & RD-Cluster 2			●	
Private Interior Yard Walls		●	●	
Community Theme Wall on Master Planned Roadways (Outside Face for Graffiti Removal & Paint)	●			
Community Theme Wall (Surface Interior Opposite Streetside - Structural Integrity, & Face Repairs)		●		
Monument Signs within Neighborhood Edges on Master Plan Roadways	●			
Monument Signs within Tract Entry				
Electricity, & Natural Gas				●
Police, & Fire	●			
Communication Systems	●			
NPDES Facilities (Onsite) W.Q.M.P. (2)		●		
NPDES Facilities on Private Property/Interim Detention Basin		●		

Table 4

Maintenance Responsibilities

(1) Including restoration work following public street repairs.

(2) All facilities within public roads and/or easements.

Section 8.
General Plan Consistency

California Government Code (Title 7, Division 1, Chapter 3, Article 8, Section 65450-65457) permits the adoption and administration of specific plans as an implementation tool for elements contained in the local general plan. Specific plans must demonstrate consistency in regulations, guidelines, and programs with the goals and policies set forth in the general plan.

The Countryside Specific Plan has been prepared in conformance with the goals and policies of the City of Ontario General Plan. The "City of Ontario Ontario Ranch Specific Plan Policy Matrix" which follows, describes the manner in which the Specific Plan complies with the General Plan.

Note:
General Plan Consistency analyzed based on current City of Ontario General Plan.
In The Ontario General Plan 2050 update, the land use designation for the planning areas in the SPA is anticipated to be revised from Low Density (2.1-5 du/ac) to Low-Medium Density (5.1-11 du/ac) and Medium Density (11.1-25 du/ac).
The Specific Plan Policy Matrix will be revised to reflect consistency with the updated General Plan.

Countryside

Ontario Sphere of Influence
Specific Plan Policy Matrix

Following are policies from the Ontario SOI General Plan; they are intended to achieve the "vision" for the Sphere of Influence planning area as outlined in Chapter 2 of the SOI General Plan. The policy matrix is divided into five (5) parts, consisting of the five (5) elements of the SOI General Plan Amendment: I. Community Development; II Infrastructure; III Aesthetic, Cultural, Open Space, and Recreational Resources; IV Natural Resources and V Hazards. The following matrix is intended to determine the adequacy of the proposed Specific Plan in meeting the policies of the SOI General Plan. The checklist shall be completed and submitted with the Specific Plan application. Check if the Specific Plan fully complies or partially complies with each respective policy, or if not applicable. A complete explanation is required in instances whereby the proposed plan does not fully comply with a policy or if not applicable.

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
PART I: COMMUNITY DEVELOPMENT					
1.1 Role of Sphere of Influence General Plan					
1.1.1, 1.1.5	The proposed Specific Plan reflects the types, organization and distribution of land uses depicted on the Sphere of Influence General Plan Land Use Plan (Figure 3-5) and Development Capacity Table (Table 3-3). The Plan incorporates the minimum and does not exceed the maximum amount of development prescribed in Table 3-4 of the SOI General Plan, where applicable, including other uses such as greenways that are specified by the SOI General Plan policies, but not tabulated in Table 3-4	X		1.4 & 3	
Comments:					

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.1.4	The Proposed Specific encompasses subarea boundaries designated on Figure 3-6 of the Sphere of Influence General Plan and sufficient land to constitute a significant portion of a distinct and cohesive neighborhood or district, as depicted on Figure 3-7 of the Sphere of Influence General Plan.	X		1	
Comments:					
	Subarea boundaries may be modified on the basis of the following conditions (check all that apply if subarea boundaries are not entirely reflected by proposed Specific Plan): *Note adjustments to subarea boundaries shall be accompanied by an equivalent adjustment of the development capacity, maintaining the overall coverage densities depicted on the SOI General Plan Land Use Plan.* • to achieve unified districts and neighborhoods; • to account for defined market demands regarding the types and scale/acreage of development that should be accommodated; • to reflect the location of major roads, utility corridors and easements, flood control improvements, natural resource areas, and public properties; • to reflect property subdivisions and ownerships; and • to consider appropriate infrastructure and public service phasing.				X
Comments:	*The project applicant does not propose to modify the subarea boundary.*				
1.2	***Structure and Organization of Land Use:***				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.2.1	The proposed plan provides for integrated development of distinct residential neighborhoods and major regional serving activity centers and corridors that are differentiated by their functional role, uses, and character. Each is conceived as a uniquely identifiable place, rather than a fragment of a continuous/undifferentiated urban area.	X		1 and 3	
Comments:					
1.2.2	The plan provides for a balance of land uses within each neighborhood and district in accordance with phasing policies of the NMC General Plan .	X		3 and 7	
Comments:					
1.2.3	The plan links neighborhoods, centers, and corridors by transportation, utility, and greenways/open space networks. These may also be used to establish clear boundaries between distinct neighborhoods and/or centers.	X		1, 3, and 4	
Comments:					
1.2.4	The plan includes major amenities that provide identity and enhances character including a large scale park ("Village Green"), lake / streams, and golf courses.				X
Comments:	*The Countryside Specific Plan is not located within a subarea designated for a village green, lake/stream or golf course .*				
1.2.5	The plan includes an educational campus as the "centerpiece" of community identity and organization.				X
Comments:	*The Countryside Specific Plan is not located within a subarea or designated for an educational campus .*				

Specific Plan Policy Matrix

Countryside

Policy	Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.2.6 The plan includes elements that provide linkages and continuity with uses abutting the Sphere of Influence, including:				
• continuity and linkage of transportation and utility infrastructure	X		4	
• continuity of street trees and landscaped median along Euclid Avenue				X
• Pedestrian linkages to residential areas north of Riverside Drive	X		1,3 & 4	
• continuity of commercial centers at the Riverside Drive/ Euclid Avenue and Riverside Drive/Milliken Avenue intersections; and				X
• relationship to existing and planned land uses on the west side of Euclid Avenue (City of Chino), north side of Riverside Drive (City of Ontario), and east side of Milliken Avenue (Riverside County)--by the use of complementary and/or transitional land uses and densities and streetscape improvements.	X		1,3,4 & 6	
Comments:				
1.2.7 The Specific Plan establishes clearly defined "edges" for the Sphere of Influence, including landscape setbacks, transitional densities, and other suitable techniques that avoid the use of walls and creation of "walled" enclave.	X		3,4, and 6	
Comments:				
1.2.8 The Specific Plan includes measures to minimize potential impacts of environmental hazards including flooding, and noise. The Plan provides for the use of electrical, transmission corridors, flood channels, and similar elements to form "edges" for residential neighborhoods and centers and/ or accommodates public greenways / corridors.	X		3,4,and 6	
Comments:				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.3	***Residential Neighborhoods***				
1.3.1	The Specific Plan accommodates single and multi-family housing, local serving commercial services (e.g., grocery stores, barber and beauty shops, small dining establishments, etc.), community and religious facilities, schools, parks, open spaces, and similar uses within "Residential Neighborhoods."	X		1 and 3	
Comments:					
1.3.2	The Specific Plan includes priority areas for executive housing as provided for in the SOI General Plan (refer to Figure 3-8, SOI General Plan). Of the target 500 acres of executive housing provided in the General Plan, 20% or 100 acres shall be provided in the areas north of Schaefer Avenue. The following standards must be met in establishing an area large enough to achieve a distinctive identity and critical mass for executive housing (check all that apply): • *Development with lots of 10,000 square feet or greater:* 80 contiguous acres minimum • *Development adjacent to a golf course:* 50 contiguous acres minimum • *Developments adjacent to a large open space, lake, park, or Village Green:* 20 contiguous acres minimum				X
Comments:	*The Countryside Specific Plan is not designated for the development of executive housing as described in the NMC General Plan .*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.3.3	The Plan accommodates a mix of land uses and a diversity of housing types and parcel sizes within each "Residential Neighborhood" with each designed to create a unified and distinct character. Each neighborhood may incorporate one or more planning subareas depicted in Figure 3-7 of the SOI General Plan. Refer to Figures 3-9 and 3-10 for examples on the use of Residential Neighborhoods.	X		1 and 3	
Comments:					
1.3.4	The Plan incorporates a focal point of activity and identity within each "Residential Neighborhood" that consolidates local serving retail and services, public meeting facilities, schools, parks, common areas (for community events, farmers markets, and other celebrations), religious facilities, and other pertinent uses.	X		1,3,4 & 6	
Comments:					
1.3.5	The plan incorporates supporting recreational, educational, retail, cultural, and institutional uses within each "Residential Neighborhood" based on appropriate service standards. *To the extent feasible, these uses shall be integrated in "Neighborhood Centers"*				X
Comments:	*The Countryside Specific Plan is not designated for Neighborhood Center land uses.*				
1.3.6	The Plan includes provisions to increase residential densities and reduce block sizes adjacent to "Neighborhood Centers" and other key activity centers, as appropriate				X
Comments:	*The Countryside Specific Plan is not designated for Neighborhood Center land uses.*				
1.3.7	The Plan includes provisions for greenways for pedestrians and biking that links housing with parks, "Neighborhood Centers," amenities, and adjacent neighborhood and activity centers	X		1,3, 4 & 6	

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:					
1.3.8	The Plan establishes clearly defined "edges" and "entries" that contribute to a distinct neighborhood identity (refer to Figures 3-11, 3-12, and 3-13 of the SOI General Plan)	X		4 and 6	
Comments:					
1.4	***Housing Diversity/Quality***				
1.4.1	The Plan accommodates single and multi-family housing, parks, and open spaces in areas designated as "Residential-Low Density" by the SOI General Plan.	X		1,3,4 & 6	
Comments:					
1.4.2	The Plan provides for a variety of housing types to serve the needs of residents, including large lot, estate, executive, affordable, live / work housing.		X	1 and 3	
Comments:					
1.4.3	The Plan provides for an overall average density of 4.6 units per gross acre in areas designated as "Residential-Low Density" by the SOI General Plan Land Use Plan, within which a variety of parcel sizes and housing types area allowed. Densities may be varied throughout a planning subarea, as long as the average density is not exceeded.	X		1 and 3	
Comments:					

Specific Plan Policy Matrix

Countryside

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.4.4	The plan provides design standards emphasizing neighborhood livability, and socialization, through such elements as (*refer to Figures 3-7, 3-9 and 3-14, SOI General Plan*):			3,4, and 6	
•	Establishment of a pattern of blocks that promotes access and neighborhood activity, while maintaining safety;	X			
•	use of variable setbacks and parcel sizes to accommodate a diversity of housing unit types and respond to changing market conditions and resident needs;	X			
•	minimizing the width of streets to slow traffic and promote "intimacy," while maintaining acceptable fire protection and traffic flows;	X			
•	orientation of housing toward the street and reducing the visual and physical dominance of garages (introducing the street frontage as the "outdoor living room"); and	X			
•	use of extensively landscaped parkways, with sidewalks separated from the curb.	X			
Comments:					
1.4.5	The Plan includes standards to achieve variable residential densities and housing types along a block where appropriate (e.g., single family attached units placed adjacent to duplexes, which could be adjacent to townhomes).	X		3 and 6	
Comments:					
1.4.6	The Plan includes provisions for small clusters of multi-family housing (generally, of a maximum of 2 - 5 acres) within areas designated as "Residential-Low Density" by the SOI General Plan Land Use Plan, that are integrated within the overall pattern of residential development, avoiding large scale, segregated concentrations of high density uses (refer to Figures 3-9 and 3-10 - SOI General Plan)	X		3	

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:					
1.4.7	The plan includes standards for multi-family housing in areas designated as "Residential Low Density" by the SOI General Plan Land Use Plan to convey a high level of visual quality and distinctive low density neighborhood including, but not limited to: • modulation of building volumes, masses, and heights and articulation of elevations to convey the sense of individual units or smaller structures (precluding "big stucco boxes"); • orientation of the building elevation and use of clear visual and physical linkages to the primary street frontage; • inclusion of visually well-defined entries that promote individual identity, while maintaining adequate security; • integration of balconies and stairways as distinctive architectural elements, rather than "appendages"; • inclusion of common open space and recreational facilities that are accessible to all residents (with requirements for on-going maintenance of these by residents); • use of landscaped setbacks along primary street frontages that maintains the predominant single family neighborhood character; and • linkage of the development with adjacent sites (avoiding "walled enclaves").	X		6	
Comments:					

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.4.8	The proposed plan includes provisions to avoid the use of walls to separate residential areas from arterial and other high traffic volume streets by the use of expanded landscaped setbacks, frontage roads with landscaped medians, natural drainage swales, and other appropriate techniques (refer to Figure 3-13, SOI General Plan). Where used, walls shall be attractively designed and landscaped and setbacks used to promote a high level of visual quality.	X		3,4 and 6	
Comments:					
1.4.9	The Plan includes measures addressing all of the use and development restrictions as specified by Referral Areas A, B, and C, and Safety Zones I, II, and III, and of the adopted Chino Airport Comprehensive Land Use Plan. This includes prohibited land uses, interior noise levels, maximum persons per acre, avigation easements, and non-hazardous operations and materials. In addition, a noise impact notification area shall be implemented for all land uses within two miles of the Chino Airport. These measures are consistent with Federal Aviation Administration (FAA) rules, will help protect the long-term operation of the Chino Airport, and will prevent the kind of aircraft noise and other impacts created by flight patterns such as have been experienced by the City around the Ontario International Airport.				X
Comments:	*The Countryside Specific Plan is not located within a two-mile proximity to the Chino Airport.*				
1.4.10	The proposed plan includes provisions for the implementation of a Noise Impact Notification Area (NINA) and a requirement for avigation easements for all schools within two miles of the Chino Airport.				X
Comments:	*The Countryside Specific Plan is not located within a two-mile proximity to the Chino Airport.*				
1.4.11	The plan includes provisions requiring residential units to be set back from power transmission line easements in accordance with the California Department of Education's limits for locating school sites.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The Countryside Specific Plan does not proposed development of a school. In addition, the residential units, within the Specific Plan, will be set back an appropriate distance from the power lines.*				
1.5	***Neighborhood Centers***				
1.5.1	The proposed plan accommodates local serving commercial (food and beverage sales, small retail shops, personal services, etc.), small restaurants, community/public meeting facilities, libraries, government facilities, cultural facilities, parks, schools (refer to Policy 1.6.1 below), religious facilities, public plazas and performance spaces, and similar uses in areas designated as "Neighborhood Center."				X
Comments:	*The NMC General Plan does not designate the subarea for "Neighborhood Centers".*				
1.5.2	The plan accommodates multi-family housing and mixed use structures that incorporate housing units above ground level retail shops, offices, or community facilities, in areas designated as "Neighborhood Center" by the SOI General Plan Land Use Plan.				X
Comments:	*The NMC General Plan does not designate the subarea for "Neighborhood Centers".*				
Density/Intensity The plan provides for the following densities/intensities for Neighborhood Centers (Policies 1.5.1 to 1.5.6): 1.5.3	The Plan includes provisions insuring neighborhood centers contain 50,000 to 100,000 square feet of local serving commercial uses for each 3,500 to 4,000 residential units.				X
Comments:	*The Countryside Specific Plan is not designated for the above listed land uses.*				
1.5.4	The Plan includes provisions for the development of commercial and public uses at intensities that allow for the use of surface parking, generally at a maximum floor area ratio of 0.35:1.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The Countryside Specific Plan is not designated for the above listed land uses.*				
1.5.5	The Plan includes provisions for the development of multi-family housing at a maximum overall average density of 12 units per gross acre.				X
Comments:	*The NMC General Plan designates the Countryside Specific Plan for Residential Low Density (4.6 DU/AC) land use.*				
1.5.6	The Plan includes provisions for the development of mixed use structures at a maximum floor area ratio of 1.5:1.				X
Comments:	*The Countryside Specific Plan is designated for Residential Low Density (4.6 DU/AC) land use.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Design and Development Principles for Neighborhood Centers (policies 1.5.7 to 1.5.13):					X
1.5.7	Provisions insuring "Neighborhood Centers" are designed and developed as pedestrian oriented "villages" including the following policies: (refer to Figures 3-10 and 3-16 - SOI General Plan) • integration of multiple uses into a cohesive place; • use of multiple building volumes, masses, and heights and extensively articulated facades; • siting of buildings around common pedestrian areas, plazas, and public open spaces; • development of public spaces that support casual gatherings, outdoor dining and retail, entertainment, artistic exhibitions and performances, community events, and similar functions; • establishment of a continuous or semi-continuous business frontage along pedestrian spaces and design of ground elevations to be "pedestrian-friendly" (extensive windows, projecting signage, lighting, etc.); • siting of a portion of development along the primary street frontage, with parking partially or fully screened by the buildings; • development of clearly defined walkways from parking areas (paving materials, landscape, signage, etc.); and • design of buildings and sites to complement adjacent low density residential areas.				
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Neighborhood Centers".*				
1.5.8	The Plan includes provisions insuring integration of public uses, such as community meeting rooms and auditoriums, with commercial uses in the designated "Neighborhood Centers".				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Neighborhood Centers".*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.5.9	The Plan includes provisions insuring linkages between multi-family residential development (single family attached, townhomes, or apartments) to "Neighborhood Centers". Include design standards insuring multi-family residential developments complement the "village" character in accordance with Policy 1.4.7.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Neighborhood Centers".*				
1.5.10	The Plan includes provisions insuring "Neighborhood Centers" are developed as a low rise environment, 1 to 2 stories, except mixed use structures that may be developed to a maximum height of 3 stories.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Neighborhood Centers".*				
1.5.11	The Plan includes provisions to promote the consolidation of school campuses within or linked to "Neighborhood Centers" sharing common facilities such as play fields, gymnasiums, auditoriums, and other facilities, where feasible.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Neighborhood Centers".*				
1.5.12	The Plan includes provisions to Integrate public libraries and neighborhood parks with "Neighborhood Centers" and schools.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Neighborhood Centers".*				
1.5.13	The Plan includes provisions to link "Neighborhood Centers" with adjacent residential areas by the use of greenways, pedestrian walkways, and bicycle paths.				X
Comments:	*The Countryside Specific Plan is not designated by the NMC General Plan for the above listed land uses.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.6 Schools					
1.6.1	The plan includes provisions to accommodate the development of school administration, classrooms, athletic facilities, and supporting uses in areas designated as "Elementary," "Middle," and "High School" in addition to those accommodated in designated "Neighborhood Centers." *The number of schools depicted on the SOI General Plan Land Use Plan are based on the use of current (1997) school standards and may vary to reflect changes in these over the SOI's development period. Locations are conceptualized and may be varied, provided that the intent of the SOI General Plan policies for consolidation with parks, other schools, and community facilities are attained.*				X
Comments:	*The Countryside Specific Plan is not designated for development of a school site.*				
1.6.2	The plan provides schools to meet resident needs in accordance with pertinent School District standards.	X		4	
Comments:					
1.6.3	The plan meets the policy to distribute schools throughout the Sphere of Influence to promote accessibility from all "Residential Neighborhoods."				X
Comments:	*The Countryside Specific Plan will be accessible to a school site adjacent to the community.*				
1.6.4	The plan includes provisions to promote the consolidation of school campuses sharing common facilities such as play fields, gymnasiums, auditoriums, and other facilities, where feasible.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for a school site.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.6.5	The plan includes provisions to integrate public schools with other community-serving uses such as parks, libraries, public meeting rooms, day-care, and similar uses (**see Figure 3-10 - SOI GPA**).				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for a school site.*				
1.6.6	The plan includes provisions to link the public schools with adjacent housing, parks, and other schools by a pedestrian greenways network (see **Figure 3-10 – SOI GPA**).	X		3 and 4	
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for a school site.*				
1.6.7	The Plan includes provisions requiring educational facilities to be set back from power transmission line easements in accordance with the California Department of Education's limits for locating school sites.				X
1.7	***Multi-Family Residential Corridors and Centers***				
1.7.1	The plan accommodates multi-family residential units (small lot detached, single family attached, townhomes, and apartments) in areas designated as "Residential-Medium Density" and "Residential-High Density" by the SOI General Plan Land Use Plan.				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for the above listed land uses.*				
1.7.2	The plan requires the inclusion of sufficient on-site recreational amenities in higher density developments to meet resident needs.	X		3 and 6	
Comments:					

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.7.3	The plan encourages the inclusion of community oriented uses such as public meeting rooms, plazas/courtyards, day-care facilities, and similar uses. These may be developed as single purpose buildings or incorporated with residential uses.	X		5	
Comments:					
1.7.4	The Plan accommodates an overall average density of 12 units per gross acre in areas designated as "Residential Medium Density" and 18 units per gross acre in areas designated as "Residential-High Density" by the SOI General Plan, within which a variety of parcel sizes and housing types would be allowed. Densities may be varied throughout a planning subarea, as long as the average density is not exceeded.				X
Comments:	*The General Plan designates the Countryside Specific Plan for Residential Low-Density uses (4.6 D.U./A.C.)*				
1.7.5	The Plan includes provisions to establish visual and physical linkages among individually developed multi-family sites to create a cohesive and continuous corridor, rather than independent "islands." This may be achieved through the fronting of buildings adjacent or in immediate proximity to the street, use of a consistent landscaped setback incorporating common street trees or other vegetation, minimization of side property setbacks to achieve building continuity (a common "building wall") along the street frontage, location of all parking to the rear of street-facing buildings, use of interconnecting pedestrian walkways, and similar techniques (see **Figure 3-17 in the SOI GPA**).				X
Comments:	*The General Plan Amendment does not designate the Countryside Specific Plan for the above listed land uses.*				
1.7.6	The Plan includes standards and guidelines to promote visual interest in the design of building elevations in accordance with Policy 1.4.7 (except for the use of extensive landscaped setbacks).	X		6	
Comments:					

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.7.7	The Plan includes provisions to link community serving facilities in multi-family corridors with adjacent residential neighborhoods.	X		3 and 4	
Comments:					
1.7.8	The Plan includes provisions insuring sidewalks are developed in multi-family corridors as per City Standards to facilitate and be attractive for pedestrian activity.	X		4	
Comments:					
1.7.9	The Plan includes provisions requiring residential units be set back from power transmission line easements in accordance with the California Department of Education's limits for locating school sites.				X
Comments:	*The Countryside Specific Plan is not proposing the development of a school site.*				
1.8	***Town Center***				
1.8.1	The plan includes provisions for the development of retail, commercial, professional offices, entertainment, art galleries, dining establishments, hotels, and similar uses in areas designated as "Town Center" by the SOI General Plan Land Use Plan.				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				
1.8.2	The Plan includes provisions requiring integration of multi-family housing (townhomes and apartments) with retail, office, and other uses within the Town Center.				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.8.3	The Plan includes provisions for mixed-use buildings that integrate housing with retail commercial, office, and similar uses and special housing types (e.g., artist live/work facilities and home occupations) within the Town Center.				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				
1.8.4	The Plan includes provisions for government office, cultural uses (libraries, museums, performance venues, etc.), religious facilities, schools, recreational facilities, multi-modal transportation hub, and similar public and quasi-public uses, within the Town Center area.				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				
1.8.5	The Plan includes provisions for community meeting rooms, day-care facilities, and public and private plazas, courtyards, and open spaces within the Town Center area.				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				
1.8.6	The Plan accommodates development within the Town Center at building heights, generally, of 1 to 3 stories and a maximum floor area ratio of 0.5, except for mixed use structures that integrate housing with retail, office, public, and other uses that may be developed up to four stories and a floor area ratio of 2.0:1.				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				
1.8.7	The Plan accommodates free-standing residential uses at a maximum overall average density of 18 units per gross acre.				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				

Specific Plan Policy Matrix

Countryside

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.8.8	The Plan includes standards to integrate development of individual parcels to create a cohesive pedestrian oriented center. The following design considerations are included (as illustrated by **Figures 3-18** and **3-19 of the SOI GPA**): • integration of multiple buildings and uses into a cohesive development pattern; • siting of buildings to create a common/semi-continuous "building wall" directly fronting sidewalks, plazas, and other open spaces—areas may be excepted to incorporate courtyards and corridors; • location of parking to the rear of street facing structures, subterranean, or in structures; • use of multiple building volumes, masses, heights, and highly articulated facades to promote visual interest and convey the sense of individual storefronts/businesses; • use of vertical setbacks above the second level to reduce visual impacts along sidewalks and street frontages; • design of the ground floor of structures along the street frontage of commercial and mixed use buildings to enhance pedestrian activity (extensive windows, clearly defined entries, modulation of facades, outdoor patios and seating, etc.) (as illustrated by **Figures 3-20, 3-21,** and **3-22 of the SOI GPA**); • integration of consistent and well-designed building and public signage; • develop sidewalks and other public spaces to support casual gatherings, outdoor dining and retail, entertainment, arts exhibitions and performances, community events, and similar functions; and • incorporate streetscape amenities along the street frontages (benches, trees, planters, decorative paving, pedestrian oriented signage and lighting, trash receptacles, fountains, information kiosks, telephones, news racks, banners, public art, and similar elements).				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.8.9	The plan incorporates at least one major public plaza/square as a centerpiece of community activity and identity of sufficient size to accommodate events and celebrations, outdoor performances, community meetings, picnics, farmers markets, and similar functions.				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				
1.8.10	The plan includes provisions to consolidate parking facilities, with retail uses located along the street frontage.				X
1.8.11	The Plan includes standards to site and design multi-family housing to create a cohesive and continuous corridor, rather than independent "islands" in accordance with Policy 1.7.5; and promote a high quality of design in accordance with Policy 1.4.7 (except for the use of extensive landscaped setbacks).				X
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				
1.8.12	The plan includes provisions to integrate a diversity of housing types within any block rather than a singular type (e.g., duplexes, townhomes, and courtyard units).	X		3	
Comments:	*The General Plan does not designate the Countryside Specific Plan for "Town Center" uses.*				
1.8.13	The plan includes provisions to integrate public meeting facilities and other community services with retail and other high activity uses.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for community facilities and retail uses.*				
1.8.14	The design of internal local streets emphasizes pedestrian activity (15' plus width sidewalks) and reduces traffic speed using such techniques as reduced width, angled parking, landscaped "pullouts"/ chokers, or traffic circles.	X		4	

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:					
1.8.15	The plan includes provisions to establish clearly defined "entries" to the Town Center, including the use of signage, art (banners, sculptures, etc.) landscape, fountains, lighting, building massing, and other techniques.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for the above uses.*				
1.8.16	The plan establishes pedestrian, bicycle, greenways, and other corridors that link the Town Center with adjacent "Residential Neighborhoods" and, if developed, educational campus.				X
1.9	***Regional Centers***				
1.9.1	The plan accommodates regional serving retail commercial, professional offices, entertainment, dining, hotel/motel, conference facilities, hospitals and supporting medical offices, research laboratories, and facilities, financial institutions, sports stadiums/arenas and facilities, and similar uses.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Regional Center" uses.*				
1.9.2	The Plan accommodates multi-family housing, mixed uses that incorporate housing and retail/offices, and live/work facilities that is integrated with other regional serving uses.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Regional Center" uses.*				
1.9.3	The Plan encourages the inclusion of community meeting rooms, day-care, and other public facilities.	X		5	
Comments:					

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.9.4	The Plan accommodates buildings at a height of 1 to 3 stories, with 4 stories allowed for mixed use structures. This would accommodate a maximum floor area ratio of 0.5:1 for commercial/office uses and 2.0:1 for mixed use buildings. Sports stadium/arena, hotel/conference facilities, and other "specialty" uses may require additional height.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Regional Center" uses.*				
1.9.5	The Plan accommodates free-standing multi-family residential uses at an overall average density of 18 units per gross acre.				X
Comments:	*The NMC General Plan designates the Countryside Specific Plan for Residential Low Density (4.6 D.U./A.C.) land use.*				

Specific Plan Policy Matrix

Countryside

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.9.6	The Plan includes provisions to integrate development of individual parcels to create a cohesive center, which considers the (see **Figure 3-16, SOI General Plan**): • development of sidewalks, plazas, and other public spaces around which individual buildings and businesses are grouped and incorporate pedestrian oriented amenities (benches, public art, fountains, pedestrian scaled lighting and signage, and similar); • inclusion of one or more public "square" to serve as a gathering place for public activity and events; • use of modulated building volumes, masses, and heights and articulated facades to create the sense of individual businesses, rather than undifferentiated "boxes"; • integration of consistent and well-designed building and public signage; • siting of a portion of buildings on the site's peripheral streets to provide identity and connectivity with adjacent uses; • inclusion of sidewalks of sufficient width to accommodate pedestrian activity and outdoor restaurants, news stands, and other uses; • opening of the street and sidewalk/plaza facing building elevations to promote visual interest and pedestrian activity (extensive windows, clearly defined entries, and so on); • extensive use of landscape to enhance the environmental character; and • design of parking structures to be visually integrated with and continue the principal design character of commercial buildings.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Regional Center" uses.*				
1.9.8	The Plan includes provisions to link Regional Centers with surrounding residential neighborhoods and centers through the street and highway network, distinctively paved pedestrian walkways and crosswalks, common "palette" of street trees and landscape and street furniture, well designed signage, and similar elements.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Regional Center" uses.*				
1.10	***Community Centers***				
1.10.1	The Plan accommodates large scale retail commercial (e.g., garden supply, furniture warehouses, discount retail, "big box," and similar uses), professional offices, entertainment, dining, hotel and conference facilities, and similar uses in areas designated as "Community Commercial" by the SOI General Plan.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Community Center" uses.*				
1.10.2	The Plan accommodates multi-family housing and live/work facilities that is integrated with other region serving uses.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Community Center" uses.*				
1.10.3	The plan accommodates a community center of approximately 150,000 to 225,000 square feet of commercial uses for each 9,000 to 15,000 residents.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Community Center" uses.*				
1.10.4	The plan includes provisions limiting buildings to 1 to 2 stories and a maximum floor area ratio of 0.35:1 with surface parking.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Community Center" uses.*				
1.10.5	The plan includes provisions to accommodate free-standing residential uses at an overall average density of 18 units per gross acre.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The NMC General Plan designates the Countryside Specific Plan for Residential Low Density (4.6 D.U./A.C.) land use.*				
1.10.6	The plan includes provisions to integrate development of individual parcels to create a cohesive center considering the design and development principles defined by Policy 1.9.6.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Community Center" uses.*				
1.10.7	The plan includes provisions to site and design development of multi-family housing to convey a high level of visual quality in accordance with Policy 1.4.7.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Community Center" uses.*				
1.10.8	The plan includes provisions to link Community Centers with surrounding residential neighborhoods and centers through the street and highway network, distinctively paved pedestrian walkways and crosswalks, common "palette" of street trees and landscape and street furniture, well designed signage, and similar elements.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Community Center" uses.*				
1.11	***Educational Campus***				
1.11.1	The plan accommodates educational, administrative, academic, vocational, medical, research, athletic, student housing, services, cultural (library, museum, performance, etc.), and other supporting uses.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for educational campus uses.*				
1.11.2	The plan includes research and educational uses that reflect the agricultural history of the Sphere of Influence and promotes water fowl habitat restoration and management.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for educational campus uses.*				
1.11.3	The plan includes provisions for public meeting rooms, auditoriums, concert facilities, museums, libraries, and recreational facilities (e.g., sports fields) that are accessible to and serve adjacent residential neighborhoods.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for educational campus uses.*				
1.11.4	The Plan includes provisions to site and design development to convey a "campus" environment including the clustering of buildings on common plazas and courtyards, linkage of all areas by walkways, and extensive use of landscape.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for educational campus uses.*				
1.11.5	The plan includes provisions to site buildings and design the campus to promote continuity with the development fabric of the adjacent Town Center and business parks (e.g., continuity of a "Main Street" and overall street pattern, location of administrative offices as a visual terminus for the Town Center, continuity of greenways, etc.). Avoid the establishment of a isolated, "walled" environment.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for educational campus uses.*				
1.11.6	The plan includes provisions for walkways, bicycle paths, greenways, and other elements that link the campus with surrounding uses.	X		6.26	
Comments:	*The Countryside Specific Plan is not designated for the above uses.*				
1.12	***Business and Industrial Parks***				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.12.1	The plan accommodates light manufacturing, research and development, technology development, medical, entertainment facilities and production, innovative technology production, and similar primary uses.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Business and Industrial Park" use.*				
1.12.2	The plan accommodates limited supporting uses such as retail sales, product exhibition, galleries and arts exhibition, financial institutions, restaurants, health clubs, personal services, day-care, and professional offices.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Business and Industrial Park" use.*				
1.12.3	The plan accommodates "high impact" entertainment and commercial recreation uses that are not suitable in commercial districts due to their noise, traffic, or other characteristics that may conflict with residential or commercial uses.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Business and Industrial Park" use.*				
1.12.4	The plan accommodates live/work facilities for artists and professionals associated with other uses in the business park.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Business and Industrial Park" use.*				
1.12.5	The plan discourages the development of extensive warehouse development.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Business and Industrial Park" use.*				
1.12.6	The plan includes provisions limiting building heights at 1 to 3 stories and a maximum floor area ratio of 0.4:1.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Business and Industrial Park" use.*				
1.12.7	The plan includes site and design provisions to establish a cohesive and integrated district considering the following (see **Figure 3-19 of the SOI GPA**): • development of a network of pedestrian walkways and plazas around buildings sited and concentrated to connect a site with abutting properties; • location of parking to the rear of buildings fronting pedestrian plazas or in structures; inclusion of restaurants, retail shops, services, and other "high activity" uses in the ground floor of structures facing pedestrian areas; • inclusion of restaurants, retail shops, services, and other "high activity" uses in the ground floor of structures facing pedestrian areas; • inclusion of design elements that visually tie individual buildings and sites together such as walkways, trellises, arcades, landscape, signage, and lighting; and • incorporation of monuments, signs, landscape, and other elements that clearly define entry points and activity locations.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Business and Industrial Park" use.*				
1.12.8	The plan includes site and design provisions requiring business and industrial park projects to convey visual interest and character considering: • modulation of building volumes, masses, and heights to reduce bulk; • architectural treatment of all visible elevations; • use of consistent and well-designed building and site signage; and • incorporation of extensive landscape along street frontages, common open spaces, and parking lots.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Business and Industrial Park" use.*				
1.13 Lake/Water Element					
1.13.1	The plan includes provisions for a lake and/or streams for visual and recreational use that are abutted by commercial, residential, and other appropriate uses.				X
Comments:	*The Countryside Specific Plan is not designated for the above uses.*				
1.13.2	The plan includes provisions to site and design development to take advantage of lake views and access including the location of buildings to "open onto" the lake and/or streams--for example, the Town Center's public plazas and outdoor restaurants should extend to the waterfront.				X
Comments:	*The Countryside Specific Plan is not designated for the above uses by the NMC General Plan.*				
1.13.2	The plan incorporates pedestrian walkways/promenades and public parks along the lake frontage.				X
Comments:	*The Countryside Specific Plan is not designated for the above uses by the NMC General Plan.*				
1.13.3	The plan provides visual "windows" to the lake from surrounding streets and public places.				X
Comments:	*The Countryside Specific Plan is not designated for the above uses by the NMC General Plan.*				
1.13.4	The plan links residential neighborhoods adjacent to the lake by a network of pedestrian walkways, greenways, and bike paths.				X
Comments:	*The Countryside Specific Plan is not designated for the above uses by the NMC General Plan.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.14.1	The plan includes provisions for one or more golf courses (minimum of 150 acres each) with supporting club houses, retail services, and overnight accommodations within "Residential Neighborhoods."				X
Comments:	*The Countryside Specific Plan is not designated for the above uses by the NMC General Plan.*				
1.14	***Golf Course(s)***				
1.14.2	The plan includes provisions for neighborhood-oriented facilities, such as public meeting rooms, within the club house.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Golf Course" uses.*				
1.14.3	The plan includes provisions for executive homes and other residential uses in concert with golf courses.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Golf Course" uses.*				
1.14.4	The plan integrates golf courses with surrounding residential neighborhoods, orienting supporting facilities and housing to the course.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Golf Course" uses.*				
1.14.5	The plan links adjacent residential neighborhoods to the golf course by a network of pedestrian walkways, greenways, and bike paths.				X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Golf Course" uses.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.14.6 The plan incorporate ponds and streams that assist in flood control and, as appropriate, are linked to the lake.					X
Comments:	*The NMC General Plan does not designate the Countryside Specific Plan for "Golf Course" uses.*				
1.14.7 The plan provides visual "windows" to the golf course(s) from surrounding streets and public places.					X
1.15 Major Community Park - "Village Green"					
1.15.1 Require that a minimum of 160 acres be designated by pertinent subarea Specific Plans for the development of a 'Village Green" that accommodates a diversity of active and passive recreational uses (athletic fields, picnic areas, performance venues, and botanical gardens), and that these lands be dedicated for this purpose through the development approval process.					X
Comments:	*The Countryside Specific Plan is not designated by the NMC General Plan for a "Village Green.*				
1.15.2 Require that the land acquisition and development of the "Village Green" be equitably funded by all development within the Sphere of Influence.					X
Comments:	*The Countryside Specific Plan is not designated by the NMC General Plan for a "Village Green".*				
1.15.3 Allow the acreage allocated for the development of a "Village Green" to contribute to the total parks and recreational requirement of 5 acres per thousand residents.					X
Comments:	*The Countryside Specific Plan is not designated by the NMC General Plan for a "Village Green" for the above uses.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.15.4	The plan uses the "village green" as an organizational element for the siting and design of development, such as the orientation and linkage of multi-family housing and commercial uses to the park (e.g., restaurants "opening" to the park) (see **Figure 3-17 of the SOI GPA**)				X
Comments:	*The Countryside Specific Plan is not designated by the NMC General Plan for a "Village Green" for the above uses.*				
1.15.5	The plan links residential neighborhoods adjacent to the "village green" by a network of pedestrian walkways, greenways, and bike paths.				X
Comments:	*The Countryside Specific Plan is not designated by the NMC General Plan for a "Village Green" for the above uses.*				
1.15.6	The plan incorporates ponds and streams as part of the "village green", that are linked to the lake, as appropriate.				X
Comments:	*The Countryside Specific Plan is not designated by the NMC General Plan for a "Village Green" for the above uses.*				
1.16	***Greenways and Open Spaces***				
1.16.1	The plan includes provisions for greenway corridors containing pedestrian paths, bicycle trails, and other recreational/open space amenities.	X		3,4and 6	
Comments:					
1.16.2	The plan includes an area-wide greenway network that links all residential neighborhoods, activity centers, and amenities and directly connect to and abut parks and schools as nodes along its length.	X		3, 4 and 6	
Comments:					

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.16.3	The plan includes provisions for joint use of SCE easement-owned corridors, storm drainage, and other infrastructure rights-of-way for greenways, where feasible and compatible with the intended primary use.	X		3,4 and 6	
Comments:					
1.16.4	The plan includes provisions for joint use of SCE fee-owned rights-of-way for greenways, where feasible and compatible with SCE's secondary land use licensing program.	X		3,4and 6	
Comments:					
1.16.5	The plan includes provisions for drainage channels to be designed as an open space amenity, maintaining them as natural open landscaped swales where feasible. When concrete channels are used, consider the development of landscaped greenways along their length.	X		3 and 4	
Comments:					
1.16.6	The plan includes provisions for drainage detention basins to accommodate passive and active recreational uses during dry periods, locating these adjacent to and extending local park uses.				X
Comments:	*The City is the entity responsible for implementing this policy.*				
1.16.7	The plan includes provisions for principal roadways including Grove Avenue, Vineyard Avenue, Archibald Avenue, Haven Avenue, Euclid Avenue, Milliken Avenue, and Edison Avenue to be designed as "parkways" with expanded right-of-ways containing landscaped medians and frontages, pedestrian paths, and other elements.	X		4	
Comments:					

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.16.8	The plan incorporates extensive landscaping along street frontages in "urbanized" areas.	X		4 and 7	
Comments:					
1.16.9	The plan includes design provisions for public greenways and open spaces to ensure public safety through the avoidance of physically and visually isolated spaces, maintenance of visibility and accessibility, use of lighting, and other "defensible" space concepts.	X		3 and 6	
Comments:					
1.17	***Electrical Energy Transmission Corridors***				
1.17.1	The plan includes pedestrian and bicycle trails in electrical energy transmission corridors to link neighborhoods and districts.	X		3,4 and 6	
Comments:					
1.17.2	The plan accommodates such uses as parking lots, storage, commercial recreation, nurseries, greenways/trails, and complementary and compatible uses in electrical energy transmission corridors in areas designated as "Neighborhood Centers," "Community Commercial," "Town Center," and "Industrial/Business Parks" by the SOI General Plan.				X
Comments:	*The Countryside Specific Plan is not designated for the above listed uses by the NMC General Plan.*				
1.17.3	The plan accommodates development in electrical energy transmission corridors in areas abutting the Village Green, parks, lake, and other major open space/recreational amenities of uses that promote continuity with the amenity such as extensive landscape, tree farms and nurseries, buffers, and similar uses.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The Countryside Specific Plan is not designated for the above listed uses by the NMC General Plan.*				
1.17.4	The plan accommodates development in electrical energy transmission corridors in areas traversing "Residential Neighborhoods" of uses that serve as transitions among neighborhoods, pedestrian and biking trails, landscaped buffers, recreational facilities, and similar uses that are feasible and compatible with Southern California Edison's secondary land use licensing program. At the corridor's intersection with arterials and collectors, consider the accommodation of uses that support the primary residential activity (e.g. parking lots for churches), which shall be designated by the Specific Plan.	X		3, 4 and 6	
Comments:					
1.17.5	The plan includes provisions for development located in electrical energy transmission corridors be designed to complement, be compatible with, and promote continuity and cohesiveness with abutting land uses. They should not be designated to create "walls" or barriers among uses.	X		3 and 6	
Comments:					
1.17.6	The Plan includes provisions encouraging Southern California Edison Company and private owners to visually improve, respectively, fee-owned and easement-owned rights-of-way that are retained for electrical transmission purposes to ensure their compatibility with abutting uses. This should emphasize the incorporation of landscape, parklands, and greenways.	X		3, 4 and 6	
Comments:					
1.18	***Phasing***				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
1.18.1	The plan includes a phasing plan to ensure adequate supporting public services, retail, parks, schools, and other uses are in place to support residential uses. These should establish increments of residential development that "trigger" and cannot be exceeded until the construction of appropriate improvements has been initiated. Standards for schools, infrastructure, and other public services should be determined in collaboration with pertinent service agencies. Standards for local serving retail, parks, and other uses should be confirmed by the City and reflect other policies contained in this Plan.	X		7	
Comments:					
1.18.2	A fiscal impact analysis for the proposed Specific Plan has been prepared describing annual costs and revenues associated with development phasing for at least a ten year period as input to the definition of land use balance thresholds and limits.	X			
Comments:	*To be prepared by City as part of project review*				
1.18.3	Require that developers commit to the provision of supporting uses and services through Development Agreements, Conditions of Development, bonds, and other appropriate techniques.	X			
Comments:	*Agreements separate from the specific plan will be executed by the developer with the City.*				
2.1	***Agriculture***				
2.1.1	The Plan includes provisions recognizing the right of operation including the choice of cultivation procedures, crops or livestock types, crop rotation and all other functions within the traditional scope of agricultural management decisions. These rights and choices shall be exercised in a manner which is consistent with applicable environmental and resource protection policies and regulations.	X			

Specific Plan Policy Matrix

Countryside

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*Per project EIR.*				
2.1.2	Adopt and enforce the provisions of the Right-to-Farm Ordinance and the State nuisance law (California Code Subsection 3482). Such an ordinance would require nonagricultural residents be made aware of the local agricultural operations, their practices, and the potential agriculturally related impacts (noise, odor, etc.). See **Appendix A, SOI GPA for** a "Right to Farm" Ordinance example. ***City Initiated, not required for SP's***				X
Comments:	*The City of Ontario is the responsible entity for adopting and enforcing provisions of a Right to Farm Ordinance.*				
2.2.1	The plan discourages the placement of new non-agricultural land uses in such a manner that agricultural fields or parcels become isolated or difficult to economically and conveniently farm.	X		3	
Comments:					
2.2.2	The Plan encourages the infilling of development in previously urbanized areas or immediately adjacent to existing urban development as an alternative to isolated, "leapfrog" projects	X			
Comments:	*Per Ontario Ranch General Plan Amendment.*				
2.2.3	The Plan discourages the premature parcelization of large holdings which are not infill or urban perimeter properties.				X
Comments:	*The proposed Countryside Specific Plan conforms with the NMC Master Plan of development as depicted in the General Plan Land Use Policy Map.*				
2.3.1	The plan includes provisions to limit premature introduction of urban uses into farming areas that may create the potential for conflict with continued agricultural use.				X

Specific Plan Policy Matrix

Countryside

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The proposed Countryside Specific Plan conforms with the NMC Master Plan of development as depicted in the General Plan Land Use Policy Map.*				
2.3.2	The plan includes a Transitional Roadway Plan that minimizes farm product transport/farm equipment conflicts with urban use related transport. Said plan includes the following: • existing routes essential to the transportation of farm products through remaining agricultural areas and through non-agricultural areas as needed to access regional transportation routes; • prioritize those roads that will be first to convert to primarily serving urban uses; and • roadway signage and markings to inform drivers that farm transport vehicles and machinery may be using the roads.				X
Comments:	*The Countryside Specific Plan proposes a Land Use and Circulation Plan which allows agricultural transport needs.*				
2.3.3	The plan provides measures to prevent urban runoff flooding and silting from impacting agricultural operations.	X		4	
Comments:					
2.3.4	Inform new residents and property owners that existing agricultural uses may create nuisances such as flies, odors, dust, noise, night light, and chemical spraying.	X			
Comments:	*To be included in real estate sales package*				
2.3.5	The Plan includes provisions to protect agricultural lands from trespass, theft, vandalism, roaming dogs, and comparable impacts from urban uses.	X		3	
Comments:					

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
2.4.1	Oppose regulations that impact agricultural operations unless they are justified on the basis of sound environmental concerns.				X
Comments:	*The City of Ontario is the entity responsible for review and input on the types of regulations imparking agricultural operations.*				
2.4.2	Assist farmers and agricultural land owners in their efforts to understand and abide by regulations and to process applications for permits and licenses.				X
3.1	***Housing***				
3.1.1	Provide for the development of an estimated 20,396 single family and 10,792 multi-family dwelling units to sustain sound economic development (applies to entire 8,069 acre Sphere of Influence).				X
Comments:	*The City is the entity responsible for implementing the policy above.*				
3.1.2	Ensure that the densities and characteristics of residential projects fulfill the intent of applicable land use designations.	X		3	
Comments:					
3.2.1	The plan includes provisions for infrastructure needed to support anticipated residential development and ensures the proper integration of all services.	X		5 and 7	
Comments:					
3.2.2	Maintain internal consistency among the General Plan's elements to provide the necessary services and infrastructure for urban development.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The City is the entity responsible for implementing the policy above.*				
3.3.1	The plan allows flexibility in the type of units developed on vacant, residentially designated properties in master-planned communities and other planned developments.	X		5	
Comments:					
3.3.2	The plan includes a mix of housing types.	X		3 and 5	
Comments:					
3.3.3	The plan encourages the development of residential uses in association with compatible nonresidential uses (i.e. mixed-use).				X
Comments:	*The Countryside Specific Plan is not designated for mixed-use development, by the NMC General Plan.*				
3.3.4	The plan provides housing opportunities for upper-income residents by designating sites in selected areas for large-lot development or sites adjacent to significant amenities.	X		3	
Comments:					
3.4.1	The plan includes comprehensive design guidelines and development standards ensuring residential design that is functional, people and pedestrian-oriented, aesthetically pleasing, and contributes to a sense of community through the sensitive arrangement of buildings, open space (public and private), and circulation (vehicular and pedestrian).	X		5 and 6	
Comments:					

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
3.5.1	The plan includes provisions to integrate development with neighborhoods in a way that minimizes adverse impacts on privacy, noise levels, and traffic.	X		3,5 and 6	
Comments:					
3.5.2	The plan includes provisions for physical design elements of development (e.g., scale, street and circulation design, architectural elements) to complement and respect that of surrounding residential neighborhoods.	X		4,5 and 6	
Comments:					
3.5.3	Where the new development's site design characteristics and standards will differ from those within an adjacent neighborhood, use design features (street trees, sidewalk siting and materials, etc.) that are common in both the neighborhoods as measures to transition from the surrounding neighborhood to the new neighborhood.	X		3 and 6	
Comments:					
3.6 & 3.7 Affordable Housing					
3.6.1	Designate sufficient vacant land with maximum densities high enough to facilitate the development of housing affordable to lower-income households.				X
Comments:	*The City is the entity responsible for implementing the policy above.*				
3.7.1	The Plan includes the provisions for affordable to very low, low, and moderate income households.	X			

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The plan will accommodate housing needs of moderate income households within the community. The developers of Countryside will participate in the inclusionary housing impact fee program adopted by the City and as established in the Development Agreement executed between the City and the developer for the Plan.*				
3.7.2	The plan implements housing programs that comply with the State of California Housing and Community Development requirements, and ensures compliance and attainment of the regional housing need assessment "affordable" unit target.				X
Comments:	*The City is the entity responsible for implementing the policy above.*				
3.8	***Housing for Special Needs***				
3.8.1	The plan includes provisions for multi-family units specifically designed for the elderly located near Neighborhood Centers that provide access to transit and pedestrian access to amenities, goods, and services (i.e., recreational areas, commercial districts, and medical services).				X
Comments:	*The Countryside Specific Plan is not located proximate to a Neighborhood Center.*				
3.8.2	The plan includes provisions for rental units specifically designed for students to be located near the educational campus area.				X
Comments:	*The Countryside Specific Plan is not located near or proximate to an educational campus.*				
PART II INFRASTRUCTURE AND PUBLIC SERVICE					
5.1	***Water Sources***				
5.1.3	Require Specific Plans and large development projects to prepare a water system planning study.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*Specific plan incorporates City Master Plan recommendations for water*				
5.1.4	Consider requiring the planning and construction of a dual pipe system to supply reclaimed water throughout the Sphere of Influence.	X		4	
Comments:					
5.2.1	Require new development to construct and dedicate water supply facilities.	X		4	
Comments:					
5.2.2	Designate, preserve, and acquire land, as necessary, for water wells and storage facilities.	X		4.2	
Comments:	*Project will participate In City's Development Impact Fee Program to construct these facilities*				
5.3.1	The Plan requires improvements to the water supply facilities necessitated by new development be borne by the new development benefiting from the improvements, either through the payment of fees, or the actual construction of the improvements.	X		4 and 7	
Comments:					
6.1	***Wastewater System and Treatment***				
6.1.1	Enable the planning for and construction of a wastewater system to support new development, as shown in **Figure 4-11 of the SOI GPA**.	X			
Comments:	*The plan will comply with the City's Master Plan requirements for sewer improvements*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
6.2.1	The Plan requires new developments to connect to the sewer system.	X		7	
Comments:					
6.2.2	The Plan includes provisions requiring that sewer capacity and facilities are available before building permits are issued for new development.	X		7	
Comments:					
6.3.1	The Plan includes provisions requiring the costs of improvements to the existing wastewater collection facilities necessitated by new development be borne by the new development benefiting from the improvements; either through the payment of fees, or by the actual construction of the improvements.	X		7	
Comments:					
7.1	***Storm Drainage and Flood Control***				
7.1.2	Require Specific Plan and development projects to prepare a storm drainage planning study for the affected drainage area.				X
Comments:	*Per Project EIR.*				
7.1.4	Permit the joint use of detention basins for non-intensive recreational purposes, in accordance with City policy.				X
Comments:	*The Countryside Specific Plan does not propose the use of permanent detention basins.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
7.1.5	Require that the refined backbone infrastructure plan will be used in the development process to ensure that each project will construct adequate drainage facilities. A detailed drainage master plan must be in place and must have San Bernardino County Flood Control District concurrence prior to any major development approval.	X			
Comments:	*The plan will comply with the City's Master Plan of Drainage.*				
7.1.6	Strategically locate detention basins to mitigate downstream drainage concern as development occurs. Siting of these facilities will take into consideration potential impacts to flight paths of the crosswind runways of the Chino Airport. Detention basins shall be located as required to bring storm water flows to a safe and acceptable level downstream of Merrill Avenue. However, basins shall not be located within Referral Areas A and B and Safety Zones I and II around the Chino Airport so as to prevent potentially significant wildlife hazards to aircraft operations.				X
Comments:	*The Countryside Specific Plan does not propose the development of permanent detention basins.*				
7.1.7	The plan includes provisions requiring development plans to be consistent with and implement the Master Plan of drainage for the area as finally adopted.	X		4	
Comments:					
7.2.1	The Plan requires new development to control surface run-off through onsite measures.	X		4	
Comments:					
7.2.2	The Plan requires new development to construct and dedicate flood control and storm drainage facilities.	X		4	
Comments:	*In-tract to be required as mitigation EIR and TTM.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
7.2.3	Designate, preserve, and acquire land, as necessary, for storm drainage and flood control facilities.	X			
Comments:	*The plan complies with the City's Master Plan of drainage*				
7.2.6	The Plan requires developers of each proposed project to submit a final drainage plan for the City Engineer's review and approval.	X			
Comments:	*To be submitted as part of the tentative tract map submittal for the project to be included in EIR.*				
7.2.8	The plan requires developers to recommend measures which ensure that all structures located within the boundaries of the Sphere of Influence, subject to flooding from 100-year storm events, are constructed on a pad of earth elevated at least one foot above 100-year flood elevations. The recommended measures must be approved, monitored, and enforced by the City Engineer.	X			
Comments:	*Per project EIR.*				
7.2.9	The Plan requires developers to provide evidence to the City Engineer that a National Pollutant Discharge Elimination System (NPDES) permit has been obtained form the State Water Resources Control Board (SWRCB) prior to moving construction equipment onto a Sphere of Influence site. Once obtained, the NPDES permit shall be retained on the construction site throughout the construction period, and a copy shall be filed with the City Engineer.	X			
Comments:	*Per approval of Tentative Tract Maps for the project.*				
7.2.10	The plan includes provisions to ensure compliance with all the terms and conditions outlined in the National Pollutant Discharge Elimination System (NPDES) permit, including the implementation of Best Management Practices (BMPs).	X			

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*Per approval of Tentative Tract Maps for the project.*				
7.2.11	The Plan includes provisions requiring developers to prepare a Storm Water Pollution Prevention Plan (SWPPP) for individual proposed projects prior to the issuance of grading permits. These plans shall be submitted to the City Engineer for review and comment prior to implementing any SWPPP provisions or starting any construction activity. A copy of the SWPPP shall be held by the construction contractor(s) on the construction site throughout development of each project. The City Engineer will monitor and enforce the provisions of the SWPPP.	X			
Comments:	*Per approval of Tentative Tract Maps for the project.*				
8.1	***Schools***				
8.1.2	The Plan accommodates sufficient schools to meet School District criteria as shown in **Table 4-10 of the SOI GPA**. Based on these, the Land Use Plan's buildout will necessitate an estimated 20 elementary school sites, 5 middle school sites, and 3 high school sites within the total Sphere of Influence, with the number of schools in each planning subarea indicated in **Table 3-4 of the SOI GPA**. The required number of schools to be constructed may vary due to modifications of the school district's standards to account for demographic changes, the number and types of dwelling units, resident characteristics, and other pertinent criteria.	X		5	
Comments:					
8.1.3	Locate schools within a designated Neighborhood Center to the extent feasible, as illustrated in **Figures 3-8 and 3-9 of the SOI GPA**.				X
Comments:	*The SOI-GPA does not designate the Countryside Specific Plan for Neighborhood Center uses.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
8.1.4	Encourage schools to be located as neighborhood focal points, with linkage to recreational uses, pedestrian paths, and bike ways, when locating schools in a Neighborhood Center is not feasible.				X
Comments:	*The SOI-GPA does not designate the Countryside Specific Plan for Neighborhood Center uses.*				
8.1.5	Encourage the consolidation or location of school campuses adjacent to one another, thereby enabling a joint use of recreational space, library, auditoriums, and other facilities.				X
Comments:	*The SOI-GPA does not designate the Countryside Specific Plan for campus uses.*				
8.1.6	Locate schools to avoid impacts attributable to Chino Airport. To ensure efficient accessibility of schools from residential neighborhoods, work with the California Department of Transportation, Division of Aeronautics, and Department of Education to permit schools to be developed at acceptable locations within the Airport's two-mile radius.				X
Comments:	*The Countryside Specific Plan is not located within a two (2) mile radius of the Chino Airport.*				
8.1.8	Encourage the school districts to design schools so that their periphery maintains an appropriate transition with adjoining residential neighborhoods; avoiding the use of walls, fences, and landscape which establish a visual barrier.				X
Comments:	*The City is the responsible entity for implementing the above policy.*				
8.1.11	Locate preschool and day-care facilities in appropriate areas throughout the Sphere of Influence to meet the needs of a growing population. Require specific planned areas to designate sites for day-care facilities.	X		5.7.3	X
Comments:	*Per Project EIR to be circulated by the City of Ontario.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
9.1 Police Protection					
9.1.3	The plan identifies appropriate sites for the construction of a police station within the neighborhood Centers, Town Center, or other activity nodes.				X
Comments:	*The Countryside Specific Plan is not located in an area designated for neighborhood centers, town center or other activity nodes.*				
9.1.4	The plan encourages consolidation of public facilities, thereby creating mini civic centers comprised of police stations, libraries, fire stations, schools, parks, and administrative offices, etc.				X
Comments:	*The Countryside Specific Plan is not designated for public facilities in the General Plan.*				
9.2.1	The plan incorporates defensible space designs. These designs should help ensure maximum visibility and security for entrances, pathways, and corridors, as well as open space (both public and private) and parking lots/structures.	X		3 and 6	
Comments:					
9.2.2	The plan includes lighting provisions providing adequate exterior illumination to facilitate security surveillance around commercial, industrial, multi-family, and public structures.				X
Comments:	*The Countryside Specific Plan does not propose development of the above listed uses by the NMC General Plan.*				
10.1 Fire Protection and Emergency Medical Service					
10.1.2	Require that a total of three fire stations be incorporated within the Neighborhood centers, Town center, or other activity nodes.				X
Comments:	*The Countryside Specific Plan is not designated for public facilities in the NMC General Plan.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
10.1.3	The plan encourages the consolidation of public facilities thereby creating mini civic centers comprised of police stations, libraries, fire stations, schools, parks, and administrative offices, etc.				X
Comments:	*The Countryside Specific Plan is not designated for public facilities in the NMC General Plan.*				
11.1 Circulation					
11.1.1	The plan promotes the timely development of the backbone circulation plan, as shown in **Figure 4-14 – SOI GPA** that is phased and based on projected needs generated by the implementation of the SOIGPA Land Use Plan and the surrounding uses.	X		4 and 7	
Comments:					
11.1.2	Develop a detailed master plan to phase the backbone transportation infrastructure in a logical manner. The master plan should address coordination with each of the Specific Plan's master planning efforts and funding mechanisms including cost sharing and future credits.	X		4 and 7	
Comments:					
11.1.3	Implement hierarchy of roadways and roadway classifications, as shown in **Figure 4-15, Figure 4-16, and Figure 4-17 of the SOI GPA**, that provides for efficient movement of regional through traffic and also protects the residential neighborhoods from intrusion of through traffic.	X		4 and 7	
Comments:					
11.1.4	Reserve adequate rights-of-way for roadways to implement the hierarchy of local roads within the Sphere of Influence that is consistent with the planned land uses.	X		3 and 4	

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:					
11.1.5	The plan establishes safe and efficient truck routes that minimize exposure to noise sensitive land uses and reduce other adverse impacts to adjacent land uses, (see **Figure 4-18 – SOI GPA**.)				X
Comments:	*The Countryside Specific Plan does not have designate truck routes within its boundaries.*				
11.1.6	The plan consider the development of high-capacity, regional traffic serving facilities in the east-west and north-south direction through the Sphere of Influence, such as Edison Avenue, Euclid Avenue, Archibald Avenue, and Milliken Avenue.	X		4	
Comments:					
11.1.7	The plan identifies appropriate intelligent transportation system (ITS) elements to be incorporated into the Sphere of Influence's transportation infrastructure. The ITS elements include such technologies as changeable message signs, closed circuit television, highway advisory radio, loop detectors, fiber optic communications connections, and links to regional traffic management centers.				X
Comments:	*The City is the responsible entity for implementing the policy above.*				
11.1.8	The plan incorporates a transitional Roadway Plan that minimizes agricultural vehicle-urban vehicle conflicts, minimizes agricultural vehicles impact on non-agricultural uses, and transitions the Sphere of Influence's roadways from agricultural oriented to urban oriented.	X		4	
Comments:					

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
11.1.9	The plan augments and implements the comprehensive Citywide Traffic Model within the Sphere of Influence area to reflect the Sphere of Influence land uses and the proposed circulation system.	X			
Comments:	*Per the project EIR traffic study.*				
11.2.1	The plan maintains a level of service not to exceed LOS D for intersections during the peak hours.	X			
Comments:	*Per the project EIR traffic study*				
11.2.2	The plan maintains a peak period level of service not to exceed LOS D for collector and arterial roadways.	X			
Comments:	*Per the project EIR traffic study*				
11.2.3	The plan maintains a peak period level of service not to exceed LOS C for residential streets.	X			
Comments:	*Per the project EIR traffic study*				
11.3.1	Coordinate with Riverside County and Caltrans to ensure the timely design and implementation of the Galena Interchange on the I-15 Freeway.				X
Comments:	*The City is the responsible entity for implementing the policy above.*				
11.3.2	Coordinate with Caltrans and monitor traffic growth around freeway interchanges to determine the need, timing, and design for ramp improvements and additional right-of-way needs at the Route 60 Freeway interchanges.				X

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*The City is the responsible entity for implementing the policy above.*				
11.3.3 Actively support the County of San Bernardino's Congestion Management Plan.					X
Comments:	*The City is the responsible entity for implementing the policy above.*				
11.3.4 Support and implement locally applicable portions of the Regional Mobility Plan and Air Quality Management Plan.					X
Comments:	*The City is the responsible entity for implementing the policy above.*				
11.3.5 Coordinate the development of the Sphere of Influence's circulation plan with adjacent jurisdictions and regional agencies, including City of Chino to the west and Riverside County to the east and south, for proper future connectivity and service to regional trips.					X
Comments:	*The City is the responsible entity for implementing the policy above.*				
11.3.6 Specific Plans for proposed developments within the SOI shall not be approved and adopted until such time as the San Bernardino County Congestion Management Program Traffic Impact Analysis (CMP TIA) for the Sphere of Influence General Plan Amendment has been completed and approved. This CMP TIA shall identify improvement measures to mitigate impacts of the traffic generated by the Sphere of Influence on transportation systems in the City of Ontario, the unincorporated San Bernardino County and all neighboring cities, which fall within the five-mile radius (designated impact area) of the Sphere of Influence boundaries, per CMP TIA guidelines.					X
Comments:	*Approved by SANBAG.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
11.3.7	The Plan includes a separate traffic and circulation studies to: • Assess internal circulation system need and to develop a traffic circulation plan for the Specific Plan area; • Identify regional transportation infrastructure connectivity requirements; and • Identify specific traffic impacts related to the buildout of the Specific Plan on the surrounding areas (outside the Specific Plan) and to identify traffic improvement measures to mitigate these impacts.	X			
Comments:	*Per project EIR traffic study*				
11.3.8	Circulate all relevant traffic and circulation studies prepared for proposed Specific Plan developments within the Sphere of Influence area to all neighboring local jurisdictions that may be potentially impacted by the traffic generated from the buildout of the Specific Plan's land uses.	X			

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
11.3.9	For the following arterial segments outside the Sphere of Influence: • Euclid Avenue – Riverside Drive to Philadelphia Street • Grove Avenue – Saint Andrews Street to 4th Street • Vineyard Avenue – Riverside Drive to Route 60 • Archibald Avenue - Riverside Drive to Philadelphia Street • Haven Avenue – Creekside to Route 60; Mission Boulevard to Airport Drive • Milliken Avenue – Riverside Drive to Mission Boulevard Provide additional through-traffic lanes by: • widening the roads to accommodate the ultimate number of lanes designated in the General Plan; • modifying functional classification for arterials to accommodate additional traffic lanes; • restriping; and • using parking restrictions and other measures, where feasible.		X X			
Comments:	*Per project EIR traffic study recommendations.*				
11.4.1	Require each major development phase or Specific Plan to develop a master plan of streets and conduct a comprehensive traffic impact study, as appropriate.	X		4	
Comments:	*Per project EIR.*				
11.4.2	As condition of development for each planning area, require that proper connecting facilities and capacity be provided to the regional transportation system to minimize impacts to existing roadways.	X			

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*Per Project EIR traffic study*				
11.4.3	Require that development within the Sphere of Influence be consistent with the provisions of the County-wide Congestion Management Program.	X			
Comments:	*Per project EIR traffic study*				
11.4.4	The plan prohibits future development from providing backout driveways onto arterial roadways.	X		4	
Comments:					
11.4.5	The plan discourages future development from providing backout driveways onto collector roadways.	X		4	
Comments:					
11.4.6	The plan considers the use of alley ways (20-feet recommended width) to add flexibility to frontage designs and assist in the creation of more pedestrian oriented front areas.	X		3 and 4	
Comments:					
11.4.7	The plan promotes development of local street patterns that create and unify neighborhoods, rather than divide them, through the following means: • local street patterns should provide access between subdivisions within a neighborhood, with the exception of through traffic which should be directed onto major and secondary arterials; and • the local street system should be logical and understandable for the user. Creation of circuitous and confusing travel paths between internal neighborhood areas and adjacent arterials should be avoided.	X		3 and 4	

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:					
11.4.8	The plan includes measures requiring developers to provide all required onsite infrastructure and contribute their proportional share to offsite improvements. (I-30, I-31, and I-32)	X		3 and 7	
Comments:					
11.4.9	The plan includes an impact fee system in order to offset the cost of transportation required by new development.	X			
Comments:	*The developer will participate in the adopted Development Impact Fee program as required.*				
11.4.10	Consider whether it is appropriate to establish a transportation benefits district.				X
Comments:	*The City is the entity responsible for implementing the policy above.*				
11.5.1	The plan includes a comprehensive Transportation Mobility Plan to improve the movement of pedestrians, bicyclists, public transit, truck and automobile, freight, passenger rail, etc., within the Sphere of Influence.				X
Comments:					
11.5.2	The plan Integrates the Transportation Mobility Plan with the Congestion Management Planning process to identify and develop necessary transportation services, and assist land use and urban design decision making.				X
Comments:	*The City is the entity responsible for implementing the policy above.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
11.5.3 The plan promotes a variety of transportation modes.		X		3 and 4	
Comments:	*The City is the entity responsible for implementing the policy above.*				
11.5.4 The plan explores the possibility of developing transit centers within the appropriate Specific Plan areas such as the Town Center, educational campus, and adjacent to the Regional Centers along Milliken Avenue and Euclid Avenue.					X
Comments:	*The Countryside Specific Plan is not designated for the above listed land uses by the NMC General Plan.*				
11.5.5 Analyze cost/benefit ratios in determining future publicly financed transportation improvements.					X
Comments:	*Per City Fiscal Impact Study.*				
11.5.6 Consult and coordinate with the various transit agencies in order to bring about improved transit service to the Sphere of Influence.					X
Comments:	*The City is the entity responsible for implementing the policy above.*				
11.5.7 Through coordination with transit agencies, the plan provide transit friendly design with the objective of maximizing the potential for transit use.		X		4	
Comments:					
11.5.8 The plan includes provisions requiring development to fund transit facilities, such as transit centers, bus shelters and turnouts, where feasible.		X		4	
Comments:					

Specific Plan Policy Matrix

Policy	Fully Complies	Partially Complies	S.P Sec. No.	N/A
11.5.9 The plan includes provisions requiring that development provide for transit-friendly features such as buildings located close to streets, bus amenities, etc.	X		3 and 4	
Comments:				
11.5.10 The plan encourages the development of connections with commuter rail stations in the vicinity of the Sphere of Influence.				X
Comments: *The City is the entity responsible for implementing the policy above.*				
11.6.1 The plan encourages nonresidential developments to provide employee incentives for using alternatives to the conventional single occupant automobile (i.e., carpools, vanpools, buses, bicycles, walking, telecommuting, etc.).				X
Comments: *The Countryside Specific Plan does not include non-residential land uses as designated by the NMC General Plan.*				
11.6.2 The plan supports national, state, and regional legislation directed at encouraging the use of carpools and vanpools.	X			
Comments: *The Countryside Specific Plan is not designated for non-residential land uses in the NMC General Plan .*				
11.6.3 The plan encourages the establishment of Transportation Management Associations (TMAs) within the commercial and industrial areas of the Sphere of Influence.				X
11.6.4 The plan promotes the use of alternative transportation modes to the single occupancy vehicle within the Sphere of Influence, such as carpooling, bus and rail transit and explore the feasibility of linking such systems with other regional transportation systems.				
Comments: *The City is the entity responsible for implementing the policies above.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
11.6.5 The plan promotes ridesharing through publicity and provision of information to the public.					X
Comments:	*The City is the entity responsible for implementing the policy above.*				
11.6.6 The plan encourages the preservation and development of freight and passenger/commuter rail that occur or would occur in the region.					X
Comments:	*The City is the entity responsible for implementing the policy above.*				
11.6.7 The plan encourages a telecommunications center within the planning area to reduce vehicle miles traveled.					X
Comments:	*The City is the entity responsible for implementing the policy above.*				
11.6.8 Develop a program for traffic signal coordination and synchronization for the arterial street system in coordination with and connecting to the City's signal system.		X			
Comments:	*Per the recommendations of the project EIR traffic study*				
11.7.1 The plan requires parking to be consolidated along parkways, arterials, and pertinent collectors, eliminating the number of ingress and egress points. Prime candidate locations for consolidated parking are the "Neighborhood Centers", "Town Center", "Business Parks", and "Regional Centers". (I-7 and I-10)					X
Comments:	*The Countryside Specific Plan is not designated for the above listed land uses in the GPA.*				
11.7.2 The plan requires that sufficient and secure bicycle parking be provided in all parking areas.					X
Comments:	*The Countryside Specific Plan does not propose any non-residential land uses.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
11.7.3	The plan promotes sharing of off-street parking facilities.				X
Comments:	*The Countryside Specific Plan does not propose any non-residential land uses.*				
PART III AESTHETIC, CULTURAL, OPEN SPACE & RECREATIONAL RESOURCES					
12.1 Parks & Open Space					
12.1.1	Provide a minimum 509 acres of parkland consisting of a mix of mini, neighborhood, community and "village green" facilities to achieve a standard of 5 acres of parkland per 1,000 residents. The actual park acreage may vary as a result of future modifications of the City standards.	X			
Comments:	*The project developers will participate in the development impact fee program as required for park fees.*				
12.1.2	Update the Parks and Bike Trail Master Plan to provide specific criteria and guidelines for the siting, design and programming of parks and recreational facilities. Consider the following when creating the criteria for acquiring or receiving dedicated parkland: • The usability of proposed parklands and the ease of accessibility for future users; and • Balance of passive and active recreational opportunities and facilities designed to meet the existing and future needs of all user groups.				X
Comments:	*The City is the entity responsible for implementing the policy above.*				

Countryside

Policy	Fully Complies	Partially Complies	S.P Sec. No.	N/A
12.1.3 The plan incorporate a comprehensive and unified parks and recreation plan that: • identifies mini, neighborhood, and community park sites in accordance with the service standards and updated Parks and Bike Trail Master Plan criteria; • integrates neighborhood parks with Neighborhood Centers and schools (see **Figure 5-2**); • links parks by pedestrian greenway and bike trail networks (see **Figure 5-3**); • incorporates passive and active recreational uses as specified in the Parks and Bike Trail Master Plan; and • defines a park acquisition and improvement financing plan. (I-3 and I-34)	X		3	
Comments:				
12.1.4 The plan encourages: • golf course site(s) be developed in the Sphere of Influence; • school and park facilities be located in a manner that permits shared use of auditoriums, playing fields, and so on; • public facilities (auditoriums, amphitheaters, day-care centers, public meeting rooms) be integrated into park design; and • drainage channels be developed as an open space amenity. (I-3, I-7, and I-47)				X
Comments: *The Countryside Specific Plan is not designated for the above land uses within the GPA. The City will be the responsible entity for developing open space amenities within the drainage channel adjacent to the Specific Plan Area.*				
12.1.5 The plan requires Subarea 22 (Town Center) Specific Plan to locate park(s) and/or public open space along the lake, if the lake is developed.				X
Comments: *The Countryside Specific Plan is not designated for the above listed land uses in the NMC General Plan .*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
12.1.6	The Plan require that Subarea 16 and Subarea 17 Specific Plans identify sites for the development of a linear "village green" park. The Village Green will act as a recreational focal point serving the entire Sphere of Influence. The Village Green shall incorporate a diversity of passive and active uses including athletic fields, picnic areas, botanical gardens, museums, and performance venues.				X
Comments:	*The Countryside Specific Plan is located within Planning Subarea 5 of the NMC General Plan .*				
12.1.7	The plan require that residential neighborhoods located next to a park provide pedestrian greenway and bike trails to the park.	X		3 and 4	
Comments:					
12.1.8	The plan encourages storm drainage detention basins to be designed to accommodate passive and active recreational uses during the dry periods (see **Figure 5-4 SOI GPA**).				X
Comments:	*The Countryside Specific Plan does not propose the use of permanent detention basins.*				
12.1.9	The plan requires the use of extensive landscaping along street frontages. Landscaping elements should include tree and plant specimens currently found within the Sphere of Influence. (I-7 and I-10)	X		4, 5 and 6	
Comments:					
12.1.10	The plan requires the dedication and development of future community and neighborhood park sites before a significant proportion of the new population to be served by the park exists. (I-7 and I-10)	X		7	

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:					
12.1.11	The plan requires that new multi-family residential developments of five or more units provide recreational or open space facilities onsite and contribute appropriate fees that aid in the public development of other facilities to offset additional demands generated by their resident population. (I-7 and I-10)	X			
Comments:	*Per Conditions of Approval of Tentative Tract Maps.*				
12.1.12	The plan requires that large-scale commercial developments, such as the Town Center, Community Centers, Regional Centers, provide open space facilities within the development for passive or active recreation or contribute fees for the public development of such uses. (I-7 and I-10)				X
Comments:	*The Countryside Specific Plan is not designated for the above listed in the NMC General Plan.*				
12.1.13	The plan encourages industrial and business parks to incorporate employee recreational facilities within their developments or contribute fees for the public development of such uses. (I-7 and I-10)				X
Comments:	*The Countryside Specific Plan is not designated for the above listed in the NMC General Plan.*				
12.1.14	The plan encourages agricultural industry representatives and local university(ies) to provide educational and recreational programs that reflect the Sphere of Influence's agricultural history. (I-50)				X
Comments:	*The City is the entity responsible for implementing the policy above.*				

Specific Plan Policy Matrix

Policy	Fully Complies	Partially Complies	S.P Sec. No.	N/A
13.1.1 The plan incorporates a comprehensive network of greenways, pedestrian paths, and bike trails (see **Figures 5-3 and 5-5 – SOI GPA**), linking the Town Center, educational campus (if developed), Regional Centers, Community Commercial, Neighborhood Centers, "Village Green," neighborhood parks, and schools. (I-7 and I-10)	X		4	
Comments:				
13.1.2 Require developments to link their internal trail system with the surrounding Sphere of Influence network.	X		3 and 4	
Comments:				
13.1.3 The plan encourages infrastructure rights-of-ways or easements to be designed and developed to accommodate trails and bikeways where feasible and where compatible with the intended primary use. (I-47)	X		3 and 4	
Comments:				
13.1.4 The plan includes provisions providing for joint use of SCE easement-owned rights-of-way for trails and bikeways where feasible and compatible with the intended primary use. (I-10 and I-47)	X		3 and 4	
Comments:				
13.1.5 The plan includes provisions providing for joint use SCE's fee-owned rights-of-way for trails and bikeways where feasible and compatible with SCE's secondary land use licensing program. (I-10 and I-47)	X		3 and 4	

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:					
13.1.6	Work with the surrounding jurisdictions to ensure trail connections between the Sphere of Influence and other regional recreational destinations or amenities. (I-51)				X
Comments:	*The City is the entity responsible for implementing the policies above.*				
14.1.1	The plan includes measures to extensively landscape Euclid Avenue, Grove Avenue, Vineyard Avenue, Archibald Avenue, Milliken Avenue, and Edison Avenue by the use of "enhanced parkways" with landscaped medians and rights-of-way (see **Figure 5-3 – SOI GPA**). (I-7 and I-10)	X		4 and 6	
Comments:					
14.1.2	The plan requires that comprehensive street tree and landscape plans be established to uniquely identify parkways, neighborhoods, centers, and districts. (I-7)	X		6	
Comments:	*Per City master plan of streetscapes*				
14.1.3	The plan requires that the landscaping within the public medians and rights-of-way as well as along the private developments' street frontage is well designed and properly maintained, minimizes water usage, and maximizes visual continuity while permitting individual expression. (I-25)	X		5 and 6	
Comments:					
14.1.4	The plan requires that the individual developments transition their landscaping with the neighboring properties' landscaping, thereby enhancing visual continuity along streets. (I-10)	X		6	

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:					
14.1.5	The plan requires that view corridors be provided from public places towards the San Gabriel Mountains, where possible. (I-7)	X		3	
Comments:					
15.1	***Historic and Cultural Resources***				
15.1.1	Validate the location of pending historical resources. (I-10)	X			
Comments:	*Per project EIR cultural resources study*				
15.1.2	The plan includes provisions requiring all development projects, including infrastructure construction, to conduct Phase I surveys and resource investigations in accordance with CEQA requirements to determine if additional cultural, historic, or archaeological resources are located within their area. If the development project involves the use of federal funds, conduct the study in accordance with federal requirements. File all site records, survey reports, etc. with the San Bernardino County Museum Archaeological Information Center. (I-10)	X			
Comments:	*Per project EIR*				

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
15.1.3	The plan includes provisions requiring all development projects to conduct Phase II evaluation studies (for archaeological resources and standing structures in accordance with CEQA requirements) if necessitated by the Phase I studies' findings. If the development project will involve the use of federal funds, conduct the study in accordance with federal requirements. File all site records, survey reports, etc. with the San Bernardino County Museum Archaeological Information Center. (I-10)	X			
Comments:	*Per project EIR*				
15.1.4	The plan includes provisions requiring development projects to propose avoidance or preservation plans for any archaeological or historic site, as necessary. (I-10)	X			
Comments:	*Per project EIR*				
15.1.5	The plan includes provisions require new development to be compatible with adjacent archaeological sites or historical structures in terms of buffering, scale, massing, and building materials, as necessary. (I-10)	X			
Comments:	*Per project EIR*				
15.1.6	Conduct an intensive archaeological field survey under the supervision of a Society of Professional Archaeologists (S.O.P.A.) certified archaeologist for each proposed project not previously surveyed within the past ten years. A technical report following format and content guidelines proposed by the Office of Historic Preservation must be completed. (I-10)	X			
Comments:	*Per project EIR*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
15.1.7	The plan includes provisions requiring that each project resulting in an adverse impact on a known significant resource prepare an appropriate planning approach to reduce the impact to a level of insignificance. (I-10)	X			
Comments:	*Per project EIR mitigation measures*				
15.1.8	The plan includes provisions requiring that a qualified archaeologist be retained in order to monitor the grading, identify any cultural resources that may be exposed, complete a preliminary evaluation of the resource, and recommend appropriate resource management for the treatment of the resource. (I-10)	X			
Comments:	*Per adopted mitigation monitoring program*				
16.1	***Libraries***				
16.1.1	The plan includes provisions requiring that library site(s) be developed within the Neighborhood Centers and Town Centers, and near transit facilities, bike paths, and pedestrian paths. (I-7)				X
Comments:	*The Countryside Specific Plan is not designated for the above listed in the NMC General Plan.*				
16.1.2	The plan encourages consolidation of public facilities thereby creating "mini civic centers" comprised of police station(s), library(ies), fire stations, schools, parks, and administrative offices, etc. (I-7)				X
Comments:	*The Countryside Specific Plan is not designated for the above listed in the NMC General Plan.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
16.1.3	Construct a minimum of 61,107 square feet library facilities in order to provide the estimated 101,845 Sphere of Influence residents with adequate library facilities based on the City's current standard of 0.6 square feet per resident, or as modified to reflect technology. (I-10 and I-30)				X
Comments:	*The Countryside Specific Plan is not designated for the above listed in the NMC General Plan.*				
16.1.4	The plan encourages the installation of new technology including a fiber optic network for telecommunications. (I-22)	X		4	
Comments:					
16.1.5	The plan encourages the joint use of school libraries and public library facilities. (I-47)				X
Comments:	*The Countryside Specific Plan is not designated for the above listed in the NMC General Plan.*				
PART IV NATURAL RESOURCES					
17.1	***Aggregate Resources***				
17.1.1	Identify the locations of aggregate resources and coordinate their location with the appropriate land use designations. (I-19 and I-23)	X			
Comments:	*Per project EIR*				
18.1	***Biological Resources***				

Specific Plan Policy Matrix

Policy	Fully Complies	Partially Complies	S.P Sec. No.	N/A
18.1.1 Work with and encourage the Army Corps of Engineers, Chino Basin SAPA, and County Flood Control to retain a minimum of 160 acres of surface water in the El Prado Basin. This water shall serve as the habitat mitigation for waterfowl to offset the discontinued use of State mandated dairy manure water retention basins. (I-36 and I-47)				X
Comments: *Per Project EIR.*				
18.1.2 Ensure that development projects proposed for areas that support and retain waterfowl and raptor habitat: • incorporate fences, walls, vegetative cover, or other measures to buffer waterfowl areas from the built environment; • locate and design roads and utilities in such a manner that they will not conflict or impact habitat areas; and • permit only the following uses: ✣ educational and research facilities (excluding buildings); ✣ passive (non-motorized, non-consumptive) recreation; ✣ trails on public land(s) if located outside of a undeveloped buffer zone; ✣ fish and wildlife management activities; and ✣ flood control projects where no other viable methods are available to protect the public safety. (I-7 and I-10)				X
Comments: *Per Project EIR.*				

Specific Plan Policy Matrix

Policy	Fully Complies	Partially Complies	S.P Sec. No.	N/A
18.1.3 The plan includes measures to ensure that development projects that incorporate onsite mitigation for the loss of existing waterfowl and raptor habitat: • are reviewed by a City-approved biologist who conducts an onsite assessment to determine whether the mitigation is sufficient based upon the quality, location, or size of the area to be lost; • include a Biological Assessment Report that addresses the proposed project's impact on state and federally listed and candidate plants and animals; California Department of Fish and Game Special Animals; waterfowl or raptor habitat and any other special interest species or communities identified in the General Plan Analyses of Existing Conditions and Trends Report, or those hereafter named by state or federal trustee agencies; • assess project conformance to specific habitat objectives described above; • identify mitigation measures necessary to eliminate significant adverse impacts to sensitive biological resources; and • define a program for monitoring and evaluating the effectiveness of the specified mitigation measures. (I-7 and I-10)	X			
Comments: *Per project EIR biology study*				
18.1.4 Periodically update the Biological Habitat Map (see **Figure 6-5 – SOI GPA**) and data base to maintain current information regarding waterfowl and raptor habitat. (I-6 and I-41)				X
Comments: *The City of Ontario is the entity responsible for updating the Biological Habitat Map.*				
18.1.5 The plan includes sufficient technical data to enable an adequate assessment of the potential for impacts on biological resources. Such technical data shall include species lists, habitat use, acreage of habitat, and descriptions of any vegetation. (I-7 and I-10)	X			
Comments: *Per project EIR biology study*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
18.1.6	The plan assesses impacts on local biological resources and recommend appropriate mitigation measures, if necessary to account for specific development characteristics or site conditions that are not adequately addressed by the Sphere of Influence General Plan Environmental Impact Report. (I-7 and I-10)	X			
18.1.7	The plan includes provisions encouraging development plans take all reasonable measures to avoid creating significant impacts. (I-7 and I-10)	X			
Comments:	*Per project EIR*				
18.1.8	The plan includes provisions encouraging development plans take all reasonable measures to avoid altering the biological integrity. Reasonable measures may include but are not limited to vegetative restoration, control of alien plants and animals, and use of landscaping buffers. (I-7 and I-10)	X			
Comments:	*Per project EIR*				
18.1.9	The plan includes provisions for enhancing the ponded areas adjacent to the flood control channel (i.e., planting native trees to serve as buffers). (I-36)	X			
Comments:	*Per project EIR*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
18.1.10 The plan includes provisions requiring dedicated open space easements as a condition of approval for development projects proposed adjacent to waterfowl and raptor habitat areas that are voluntarily retained in the Sphere of Influence. These open space easements shall assure that the biological habitats are buffered and protected from degradation and shall be used only for passive recreational/educational purposes. (I-7 and I-10)		X			
Comments:	*Per project EIR*				
11.3.9 Ensure that development projects located adjacent to waterfowl or raptor habitat areas that are voluntarily retained in the Sphere of Influence: • Maintain a 100-foot buffer (minimum) from the edge of the habitat on the subject property; • maintain connection to other preserved habitats, where they exist; and • dedicate open space easements to the City, homeowner associations, or other responsible party. (I-7 and I-10)		X			
Comments:	*Per project EIR*				
18.1.12 Establish an onsite "Wildlife Habitat" or Waterfowl and Raptor Conservation Area (WRCA) in the areas adjacent to the Chino Basin Flood Control Ponds located to the south of Chino Avenue, west of Archibald Avenue, north of Scaefer and east of Whispering Lakes Lane consisting of approximately 145 acres adjacent to the 85 acres of existing county-owned detention basins. (I-6). *Refer to p. 6-27, SOIGPA for complete discussion on the two approaches to establishing the WRCA.*					X
Comments:	*Per Project EIR.*				

Specific Plan Policy Matrix

Policy	Fully Complies	Partially Complies	S.P Sec. No.	N/A
18.2 Recovery of Delhi sands flower-loving fly				
18.2.1 Monitor the efforts of the Department of Fish and Wildlife to study the recovery of the Federally listed Delhi sands flower-loving fly. Assess the impacts of recovery recommendations for development in the Sphere of Influence. (I-5 and I-47)	X			
Comments: *Per Project EIR.*				
18.2.2 The City shall cooperate with the U.S. Fish and Wildlife Service in the following ways to mitigate potential impact to the DSFLF: • cooperate with USFWS to ensure, through the Specific Plan Process, that potential recovery areas are appropriately mitigated; • establish a standard for buffers for protecting DSFLF restoration areas, in cooperation with USFWS; and • work with rights-of-way owners and USFWS to explore the possibility of creating DSFLF habitat within these undeveloped strips. (I-5 and I-47)	X			
Comments: *Per Project EIR.*				
18.3 Increased public awareness of local biological resources				
18.3.1 Sponsor or co-sponsor "balanced" educational programs that: • promote awareness of local biological resources; • inform about protection and preservation programs; • foster community attitudes and behaviors that help protect local plants and wildlife; and • encourage community involvement in protection programs. (I-50)				X
Comments: *The City is the entity responsible for implementing the Policy Matrix.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
PART IV HAZARDS					
19.1 Geologic and Seismic Hazards					
19.1.1	The Plan includes requirements to validate the presence of unstable soils, areas of liquefaction potential, unique geological features, and shallow water tables.	X			
Comments:	*Per Project EIR.*				
19.2.1	Identifies the location and type of utilities within the area and identifies emergency procedures in case of breaks, rupture, or other disruption.	X			
Comments:	*Per Project EIR.*				
19.2.2	Identifies the location and type of utilities within the area and identify emergency procedures in case of breaks, rupture, other disruption.	X			
Comments:	*Per Project EIR.*				
19.3.1	Determine portions of the Sphere of Influence are subject to subsidence.	X			
Comments:	*Per Project EIR.*				
19.3.2	Update planning (including setbacks requirements), building (including design considerations), grading, and engineering requirements, as necessary, to protect life and property located near potential subsidence and fissure zones.				X
Comments:					

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
20.1 Protection from Fire Hazards					
20.1.1	Requires two viable points of ingress and egress from development projects.	X		3 and 4	
Comments:					
20.2.1	The Plan includes procedures to ensure that manure storage practices are not conducive to the generation of fires due to spontaneous combustion.	X			
Comments:	*Per Project EIR.*				
21.1 Dust, Wind and Blow Sand					
21.1.1	The Plan requires that structures be sited and designed to prevent adverse funneling of wind onsite and on adjacent properties.	X			
Comments:	*Per Project EIR.*				
21.2.1	The Plan requires provisions to construction for adherence to Soil Erosion Control Area or City-mandated dust control programs.	X			
Comments:	*Per Project EIR*				
21.2.2	The Plan requires that technical information and mitigation methods examples, regarding wind blown sand, available to the general public.	X			
Comments:	*Per Project EIR.*				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
21.2.3	The Plan provides provisions to coordinate with other jurisdictions to maximize wind blown sand control planning.	X			
Comments:	*Per Project EIR.*				
22.1 Soils					
22.1.1	The Plan requires that geologic deposit technical information, erosion potential identification methods, and erosion control examples are made available to developers.	X			
Comments:	*Per Project EIR.*				
22.1.2	The Plan requires that soils engineering problem information, identification methods, and mitigation method examples are made available to developers.	X			
Comments:	*Per Project EIR.*				
22.1.3	The Plan includes provisions requiring proposed development projects to determine if the project would be located in or near areas with significant erosion potential or soil engineering problems. Require proposed project applications to include a detailed discussion regarding the types of soil and locations, erosion potential or soil engineering problems, and erosion control plans. Mitigation plans must address methods to be used during all phases of project development, implementation, and operation.	X			
Comments:	*Per Project EIR.*				
22.1.4	The Plan requires establishment and implementation of a procedure to be used to evaluate the suitability of developer proposed erosion control methods.	X			

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*Per Project EIR.*				
22.1.5	The Plan includes provisions requiring development applicants to certify that all deleterious materials, particularly organic residue from dairy, farming, or agricultural activity, have been removed, properly disposed, and will not impact the development during the project's life.	X			
Comments:	*Per Project EIR.*				
22.1.6	The Plan requires creation (pulled together from existing materials) of a Grading and Geotechnical Investigation Standards manual that will be available to developers and consultants in order to ensure the minimum proper soils engineering and engineering geologic study for all sites where grading will occur. Together these standards and policies should effectively mandate proper studies before development approval, in which grading, foundations, and slope stability would be analyzed and any potential hazards identified. Mitigation of the potential hazards would occur through the proper application of recommendations arising from these studies. Topics shall include but not necessarily be limited to soils engineering and foundations, slope stability, erosion, liquefaction/dynamic settlement, shallow groundwater, and fault location/activity. This manual shall be available at the permit stage prior to initial feasibility and design studies in order to enhance (streamline) the development review and environmental review processes.	X			
Comments:	*Per Project EIR.*				
22.2.1	Determine if the manure stockpiles have the potential to create a nuisance, structural, or groundwater contamination problems. If so, require proper mitigation.	X			
Comments:	*Per Project EIR.*				
23.1	***Hazardous Materials & Waste***				

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
23.1.1	Require phase I Environmental Assessments for the presence of hazardous materials prior to the demolition of any buildings or the construction of new development on any properties within the Sphere of Influence. If hazardous materials are found, implement measures for their safe removal or containment, meeting applicable regulatory standards, prior to demolition of affected structures and/or construction on the affected areas.	X			
Comments:	*Phase I study completed by developer.*				
23.1.3	Require projects to comply with policies set forth in the City of Ontario General Plan regarding the handling, transporting, treating generating and storage of hazardous materials.	X			
Comments:	*Per Project EIR.*				
24.1	***Noise***				
24.1.1	Monitor and update available data regarding the community's existing and projected ambient and stationary noise levels as show on **Figures 7-4 and 7-6 of the SOI GPA.**				X
Comments:	*The City is the entity responsible for implementing the policy above.*				
24.2.1	Site housing, health care facilities, schools, libraries, religious facilities, and other "noise sensitive" land uses in areas where existing or future noise levels are below an Ldn of 60 (dB(A) exterior and an Ldn of 45 dB(A) interior limits.				X
Comments:	*The City is the entity responsible for implementing the policy above.*				
24.2.2	The Plan permits the locations of commercial, industrial, and recreational uses in areas where the ambient noise levels exceed an Ldn of 60 dB(A), if they area able to reduce the interior noise levels to within the 45 dB(A) Ldn level.	X			

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
Comments:	*Per project EIR noise study*				
24.2.3	The Plan requires that • Dining and other high noise-generating entertainment uses in commercial areas are not located directly adjacent to any residences, schools, health-care facilities, or other noise sensitive" land uses; and • The entertainment and restaurant/bar uses' outdoor dining areas, waiting areas, entries, and kitchens are located in such a manner that the noise levels emanating from these uses are not discernible from ambient noise levels at a distance of fifty (50) feet from the establishment in which it is being conducted or within ten (10) feet of any residence (whichever is more restrictive).				X
Comments:	*The Countryside Specific Plan does not propose the above land uses, pursuant to the NMC General Plan.*				
24.2.4	The Plan requires that the facilities for active recreational uses that are likely to draw cheering crowds, elicit loud play, or have amplified game announcements (i.e., stadiums, soccer fields, tennis courts, basketball courts, etc) be located within the park's interior and away from surrounding residential and "noise sensitive" uses.				X
Comments:	*The Countryside Specific Plan does not propose the above land uses, pursuant to the NMC General Plan.*				

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
24.2.5 The Plan requires educational, recreational, commercial, and industrial land uses (including educational campuses, parks, stadiums, and public event facilities) be designed in such a manner that: • Locate and orient vehicle access points away from residential and/or noise sensitive parcels. • Locate loading and shipping facilities away from adjacent noise sensitive uses; • Incorporate structural building materials that mitigate sound transmission; • Minimize the use of outside speakers and amplifiers; • Configure interior spaces to minimize sound amplification and transmission; and • Incorporate fences, walls, landscaping and other noise buffers and barriers between incompatible uses, as appropriate.					X
Comments:	*The Countryside Specific Plan does not propose the above land uses pursuant to the NMC General Plan.*				
24.2.6 The Plan requires mixed-use buildings: • Be constructed soundly to prevent adverse noise transmission between differing uses or tenants located in the same commercial structure and individual dwelling units in multi-family residential structures; and • Designed for concurrent commercial and residential and uses to minimize to the greatest degree practicable (through design and construction techniques) the transfer or transmission of noise and vibration from the commercial land use to the residential land use,					X
Comments:	*The Countryside Specific Plan does not propose the above land uses.*				

Specific Plan Policy Matrix

Countryside

Policy	Fully Complies	Partially Complies	S.P Sec. No.	N/A
24.2.7 The Plan requires that, prior to the issuance of grading permits, an Acoustical Analysis Report be submitted to the City Engineer by the project developer. The report shall: • Describe the cumulative effect of road noise on surrounding land uses and recommend mitigation measures; • describe in detail the interior and exterior noise levels for residential uses on the site and the specific design and mitigation features to ensure compliance with the City's noise criteria of 65 dB(A) CNEL for outdoor living areas and 45dB(A) CNEL in habitable rooms; • specify the noise barriers' height, location, and types capable of achieving the desired mitigation affect; and • identify those residential lots that may require mechanical ventilation to achieve interior noise standards. When the operable doors and windows are open for homes facing these roadways, the interior 45 dB(A) CNEL interior noise limit for these units may be exceeded. Therefore, a "windows closed" condition may be required for these units. Any proposed mechanical ventilation must meet the requirements of the Uniform Building Code (UBC) standard. It should be noted that the windows facing some roadways may be openable windows, but the homeowners would have the option to close the windows and still obtain adequate ventilation through the use of a mechanical ventilation system. This mechanical ventilation system shall supply two air changes per hour to each habitable room, including 20 percent (one-fifth) fresh make-up air obtained directly form the outdoors. The fresh air inlet duct shall be of sound attenuating construction and shall consist of a minimum of ten feet of straight or curved duct or six feet plus one sharp 90 degree bend. The City Engineer shall ensure that the Acoustical Analysis Report identifies any requirements for mechanical ventilation for individual onsite residential units. (I-7 and I-10)	X			
Comments:	*Per project EIR Noise Study.*			

Specific Plan Policy Matrix

Policy		Fully Complies	Partially Complies	S.P Sec. No.	N/A
24.2.8	The Plan requires that all prospective owners and occupants of residential units be formally notified prior to purchase, lease, or rental, that certain units (without windows and doors closed), and outdoor areas could be subject to noise levels above City standards for residential uses. Such notification shall be in language approved by the City Planning Department, and shall be formalized in written Covenants, Conditions, and Restrictions (CC&Rs) recorded on the title of each residential lot in the project. In addition, each advertisement, solicitation, and sales brochure or other literature regarding the project shall contain the approved notification language. (I-7 and I-10)				X
Comments:	*Per Project EIR.*				
24.2.9	The Plan limits construction in the Sphere of Influence to the hours of 7:00 AM to 7:00 PM Monday through Saturday, and prohibited on Sundays and Federal holidays. (I-7 and I-10)	X			
Comments:	*Per City noise ordinance.*				
24.2.10	The Plan requires all project construction vehicles or equipment, fixed or mobile, be equipped with properly operating and maintained muffler. (I-7 and I-10)	X			
Comments:	*Per City noise ordinance.*				
24.2.11	The Plan requires that stockpiling and/or vehicle staging areas be located as far as practical from existing residential units on and off the Specific Plan Area. (I-7 and I-10)	X			
Comments:	*Per City requirements.*				
24.2.12	The Plan requires to, whenever feasible, schedule the noisiest construction operations to occur together to avoid continuing periods of the greatest annoyance. (I-7 and I-10)	X			

Specific Plan Policy Matrix

Countryside

Policy	Fully Complies	Partially Complies	S.P Sec. No.	N/A
25.1 Air Quality				
25.1.1 Continue to enforce the following: • During all construction activities, construction contractors shall use low emission mobile construction equipment where feasible to reduce the release of undesirable emissions. • During all construction activities, construction contractors shall encourage rideshare and transit programs for project construction personnel to reduce automobile emission. • During all grading and site disturbance activities, construction contractors shall water active sites at least twice a day, and clean construction equipment in the morning and/or evening to reduce particulate emissions and fugitive dust. • During all construction activities, construction contractors shall, as necessary, wash truck tires leaving the site to reduce the amount of particulate matter transferred to paved streets as required by SCAQMD Rule 403. • During all construction activities, construction contractors shall sweep on and offsite streets if silt is carried to adjacent public thoroughfares, as determined by the City Engineer to reduce the amount of particulate matter on public streets. • During all construction activities, construction contractors shall limit traffic speeds on all unpaved road surfaces to 15 miles per hour or less to reduce fugitive dust. • During grading and all site disturbance activities, at the discretion of the City Planner, construction contractors shall suspend grading operations during first and second stage smog alerts to reduce fugitive dust. • During grading and all site disturbance activities, at the discretion of the City Planner, construction contractors shall suspend all grading operations when wind speeds (including instantaneous gusts) exceed 25 miles per hour to reduce fugitive dust. • During all construction activities, the construction contractors shall maintain construction equipment engines by keeping them tuned.	X			

Policy	Fully Complies	Partially Complies	S.P Sec. No.	N/A
• During all construction activities, the construction contractors shall use low sulfur fuel for stationary construction equipment as required by AQMD Rules 431.1 and 431.2 to reduce the release of undesirable emissions. • During all construction activities, the construction contractors shall use existing onsite electrical power sources to the maximum extent practicable. Where such power is not available, the Contractor shall use clean fuel generators during the early stages of construction to minimize or eliminate the use of portable generators and reduce the release of undesirable emissions. • During all construction activities, the construction contractors shall use low emission, on site stationary equipment (e.g., clean fuels) to the maximum extent practicable to reduce emissions, as determined by the City Engineer. • During all construction activities, the construction contractors, in conjunction with the City Engineer, shall locate construction parking to minimize traffic interference on local roads. • During all construction activities, the construction contractors shall ensure that all trucks hauling dirt, sand, soil, or other loose materials are covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer) in accordance with the requirements of the California Vehicle Code Section 23114 to reduce spilling of material on area roads. (I-14)				
Comments:	*To included in project mitigations and/or conditions of approval on the tentative tract maps.*			

Specific Plan Policy Matrix